KENSINGTON HEIGHTS

Kensington Hts.

DEVELOPED BY

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

NOVEMBER 1995

SISUL ENGINEERING
375 PORTLAND AVE.
GLADSTONE, OR. 97027

N

VICINITY MAP

AS-BUILT

INDEX

SHEET	DESCRIPTION
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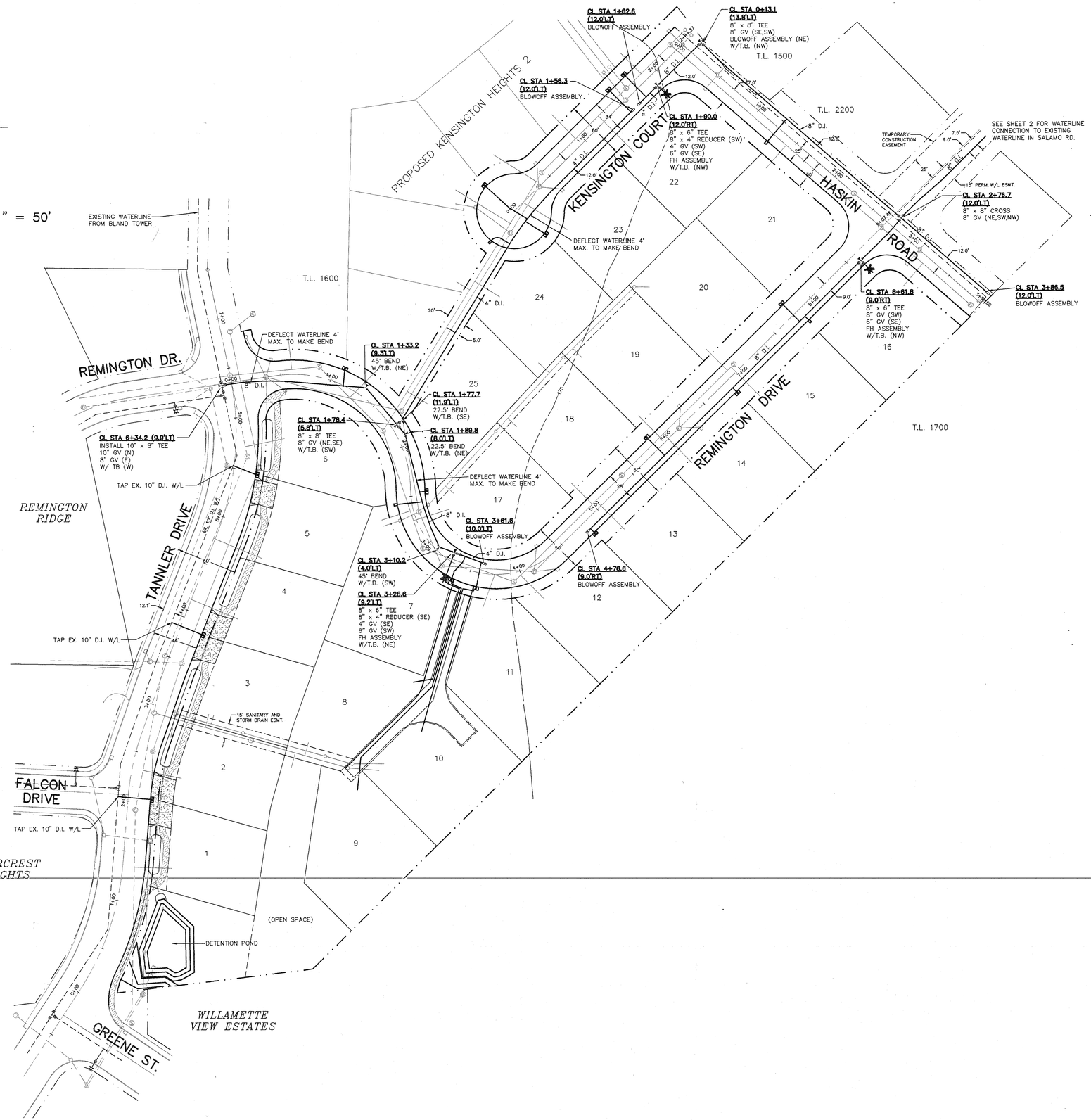
8	GRADING AND EROSION CONTROL PLAN
9	CROSS SECTIONS AND DETENTION POND DETAILS
10	CROSS SECTIONS
11	DETAILS

MOST RECENT REVISION TO THIS SET OF PLANS:

_____

AS-BUILT

SCALE: 1" = 50'



PRELIMINARY

REGISTERED PROFESSIONAL ENGINEER 16,591 OREGON MAY 18, 1993 PATRICK A. SISUL

REVISIONS	BY
AS-BUILT 12/09/96	LD

KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Waterline Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

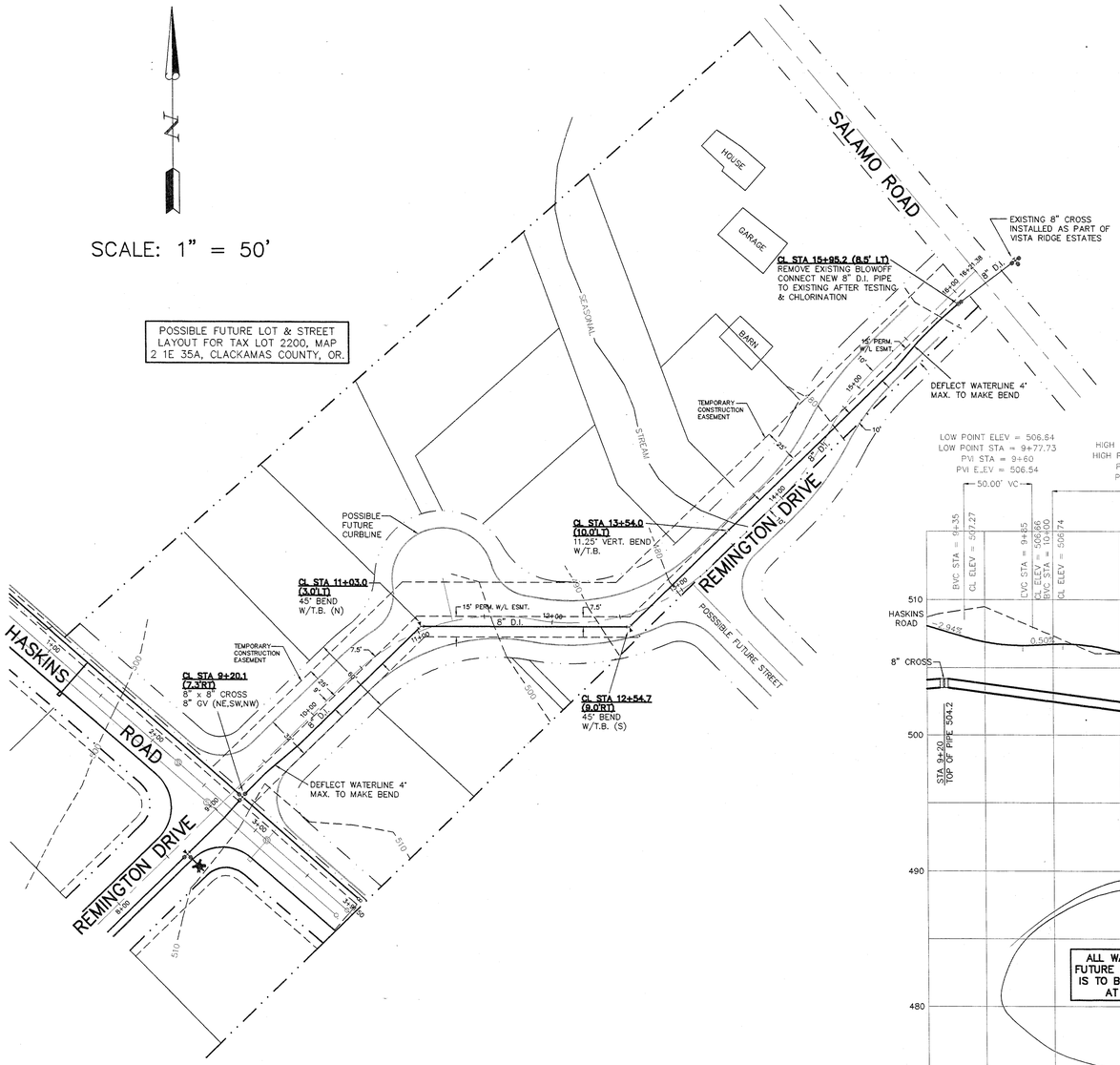
DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	1 OF 10 SHEETS

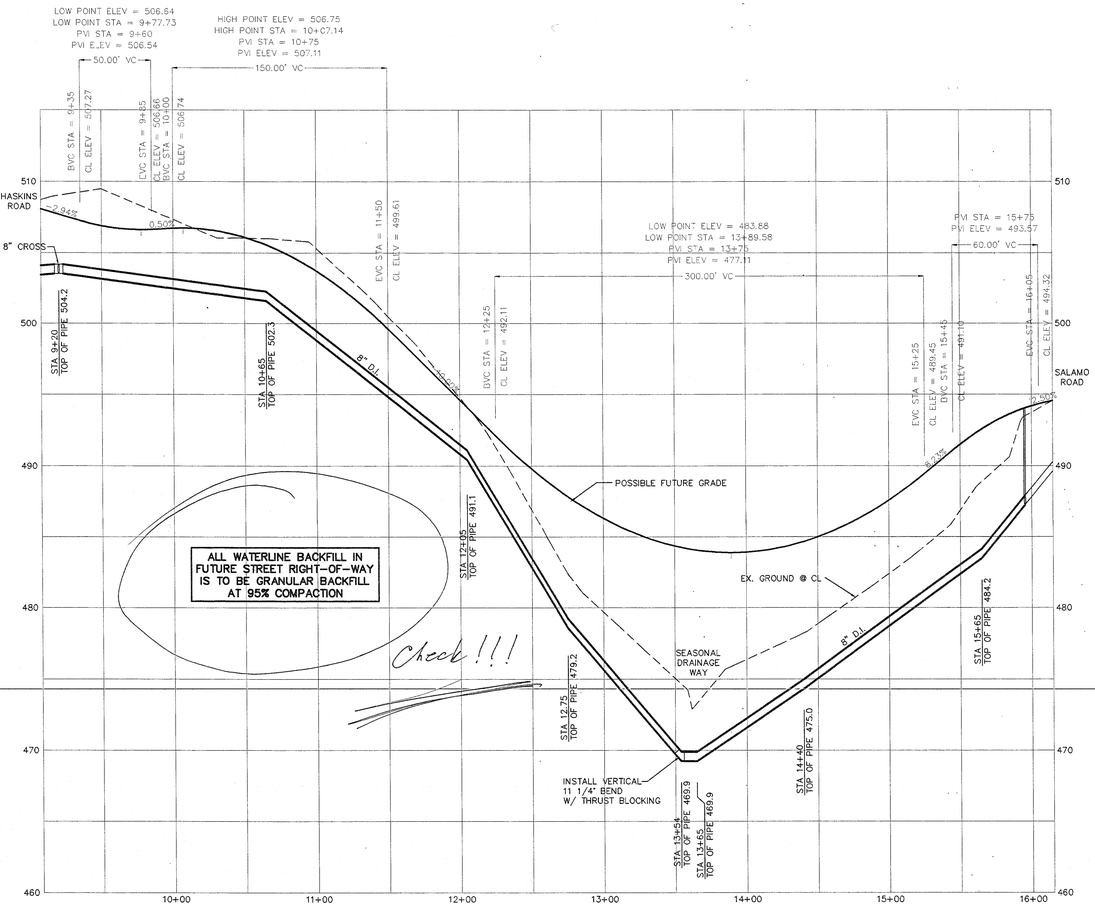
AS-BUILT

REVISIONS	BY
AS-BUILT 12/09/96	LD

SCALE: 1" = 50'

POSSIBLE FUTURE LOT & STREET LAYOUT FOR TAX LOT 2200, MAP 2 1E 35A, CLACKAMAS COUNTY, OR.





REMINGTON DRIVE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

PRELIMINARY

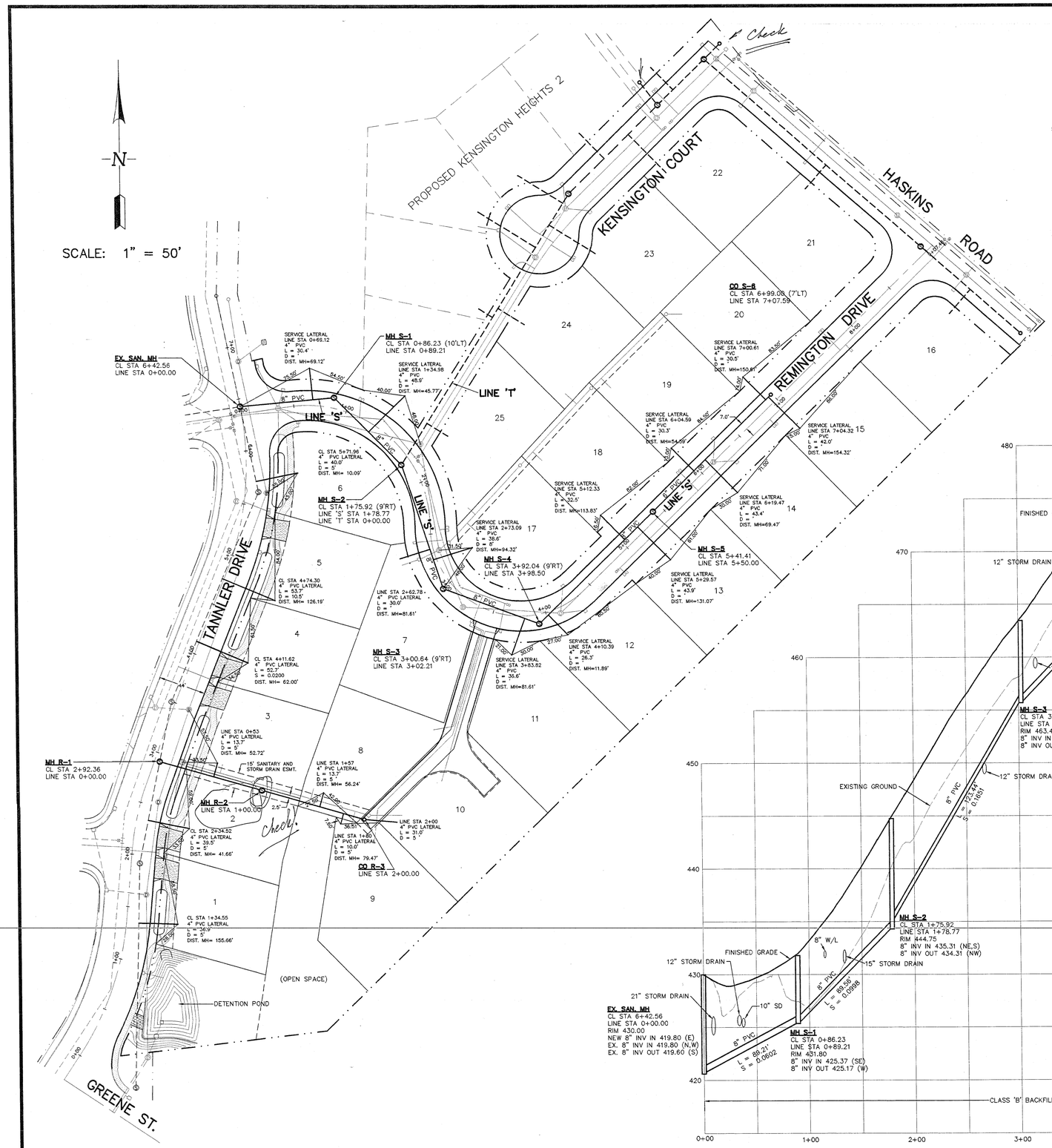
KENSINGTON HEIGHTS

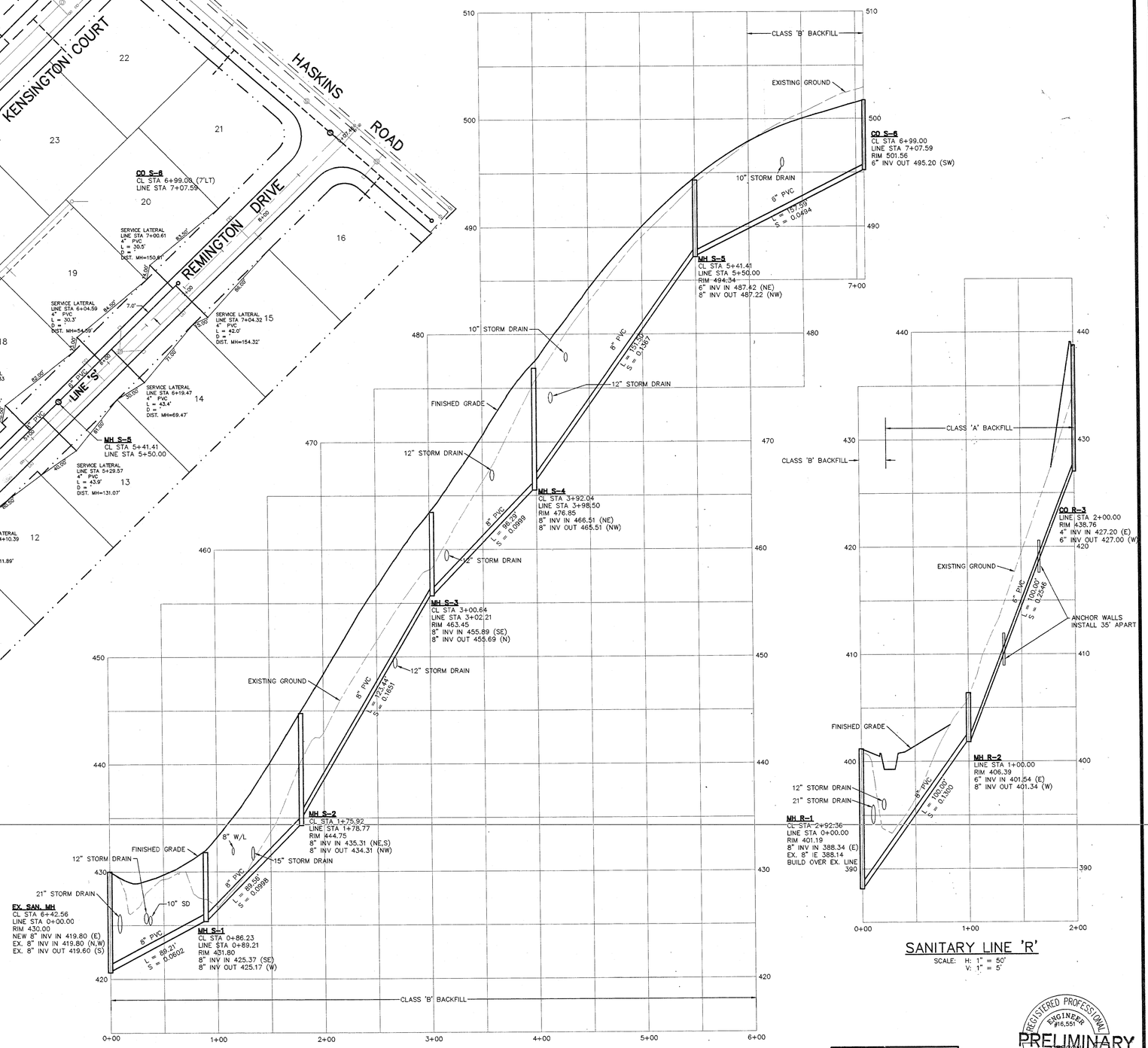
RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Offsite Waterline Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	2
OF	11 SHEETS





SANITARY LINE 'S'

SCALE: H: 1" = 50'
V: 1" = 5'

SANITARY LINE 'R'

SCALE: H: 1" = 50'
V: 1" = 5'

AS-BUILT

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

PRELIMINARY

REVISIONS	BY
REVISE PER DEQ REVIEW SHOW SAN LAT. STA'S REVISE TANNLER SD.	PS 3/20/96
AS-BUILT 10/20/96	GAM
AS-BUILT 12/9/96	LD

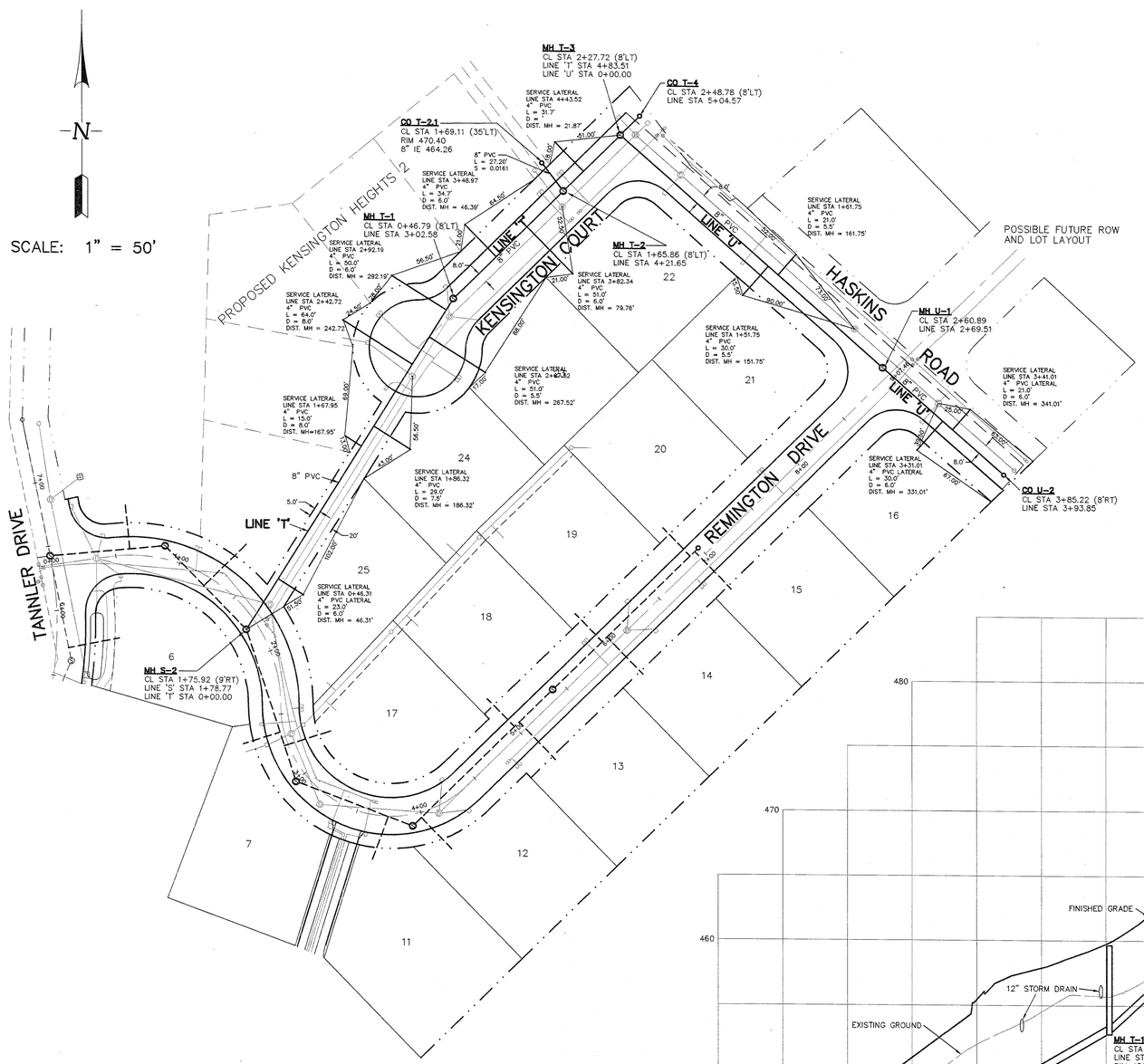
KENSINGTON HEIGHTS

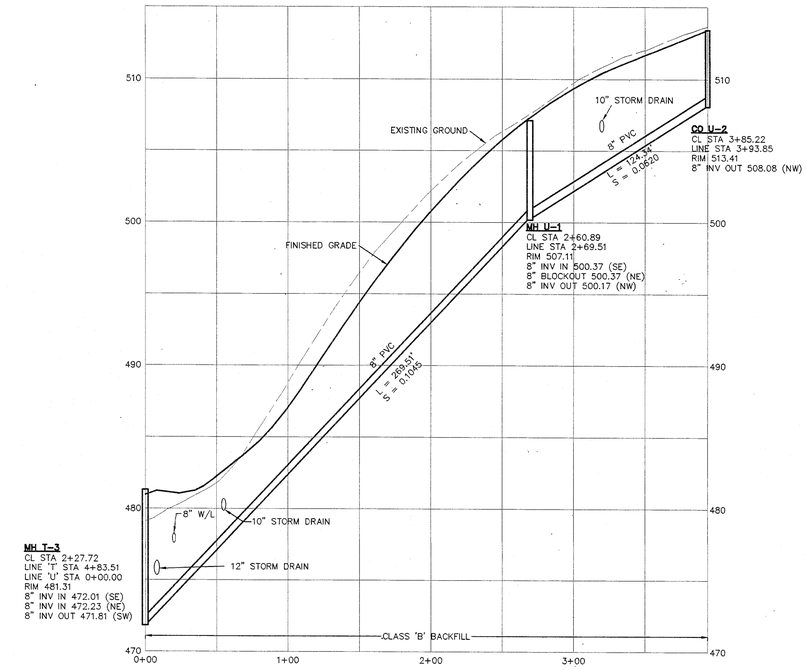
RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Sanitary Sewer Plan
Lines 'R' & 'S'

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	3
OF 11	SHEETS





SANITARY LINE 'U'

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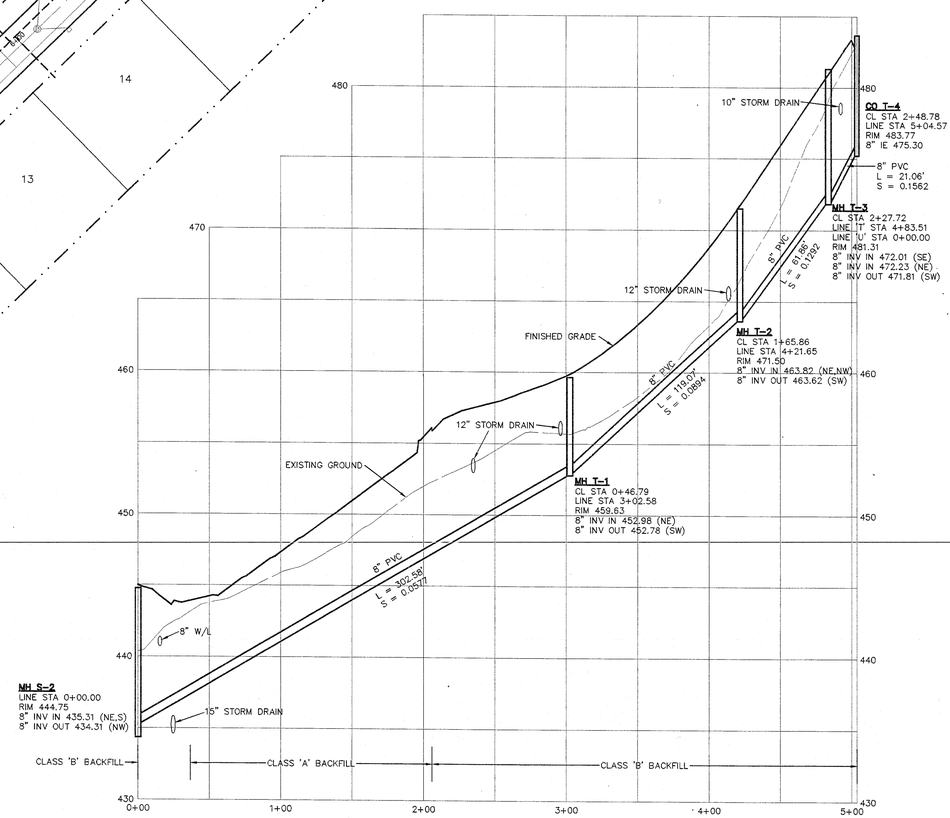


SANITARY LINE 'T'

SCALE: H: 1" = 50'
V: 1" = 5'

AS-BUILT

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

PRELIMINARY

REVISIONS	BY
REVISE PER DEQ REVIEW SHOW SAN LATERAL STATIONS	PS 2/20/96
AS-BUILT 10/20/96	GAM
AS-BUILT 12/5/96	LD

KENSINGTON HEIGHTS
RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Sanitary Sewer Plan
Lines 'T' & 'U'

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	4
OF 11	SHEETS

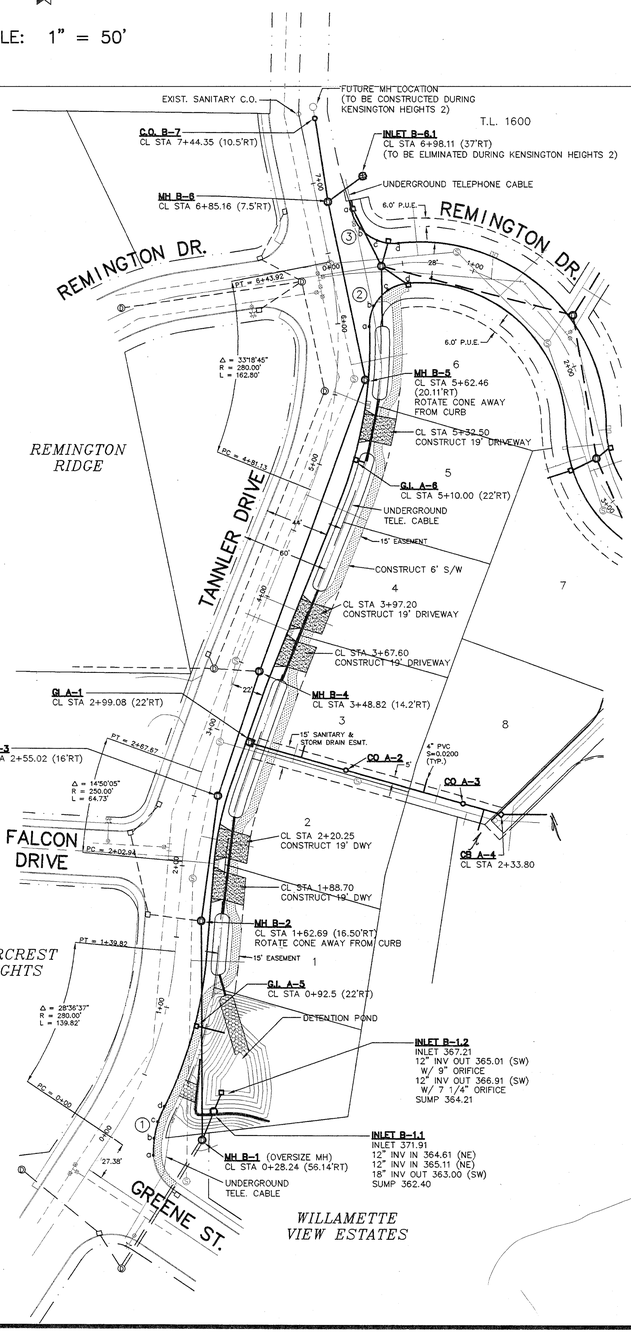
CURB RETURN DATA
(ELEVATIONS ARE TOP OF CURB)

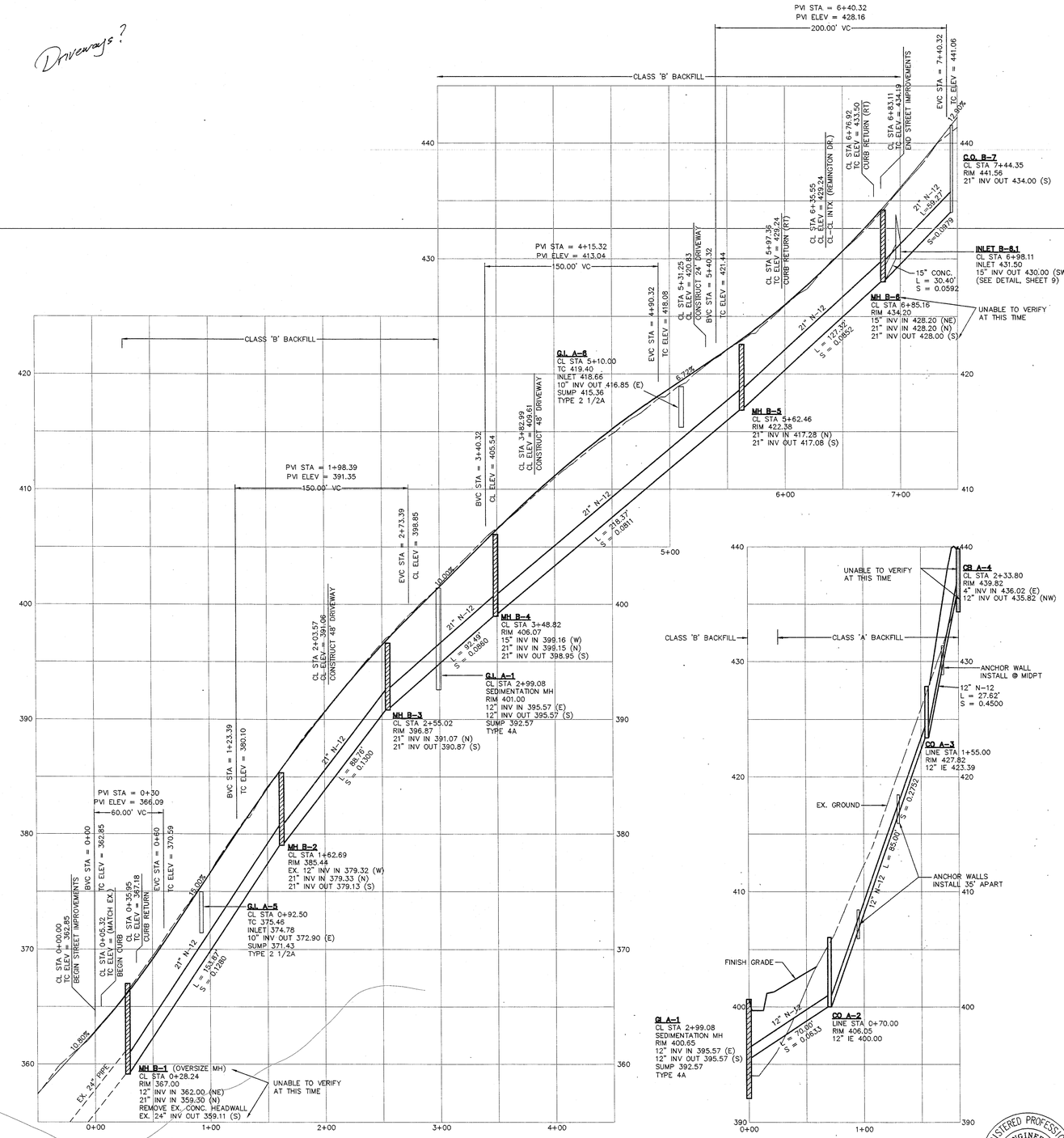
CURB	DATA	a	b	c	d
1	Δ = 31°13'13" R = 65.00' L = 35.42'	363.30 TANNLER DR. MATCH EX. (PCC)	364.42	365.52	367.18 TANNLER DR. STA 0+35.95
2	Δ = 86°57'22" R = 30.00' L = 45.53'	425.78 TANNLER DR. STA 5+97.36	427.29	428.74	429.61 REMINGTON DR. STA 0+52.60
3	Δ = 85°27'22" R = 30.00' L = 44.74'	433.50 TANNLER DR. STA 6+76.92	431.55	429.52	429.43 REMINGTON DR. STA 0+48.70

N

SCALE: 1" = 50'

Driveways?





TANNLER DRIVE

SCALE: H: 1" = 50'
V: 1" = 5'

STORM LINE 'A'

SCALE: H: 1" = 50'
V: 1" = 5'

AS-BUILT

PRELIMINARY

REGISTERED PROFESSIONAL ENGINEER #16,591 OREGON MAY 18, 1993 PATRICK A. SISUL

REVISIONS	BY
REVISE PER CITY REVIEW, MODIFY SD & DETENTION ALONG TANNLER DR.	PS 3/20/96
AS-BUILT 10/20/96	GAM
AS-BUILT 12/09/96	LD

KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

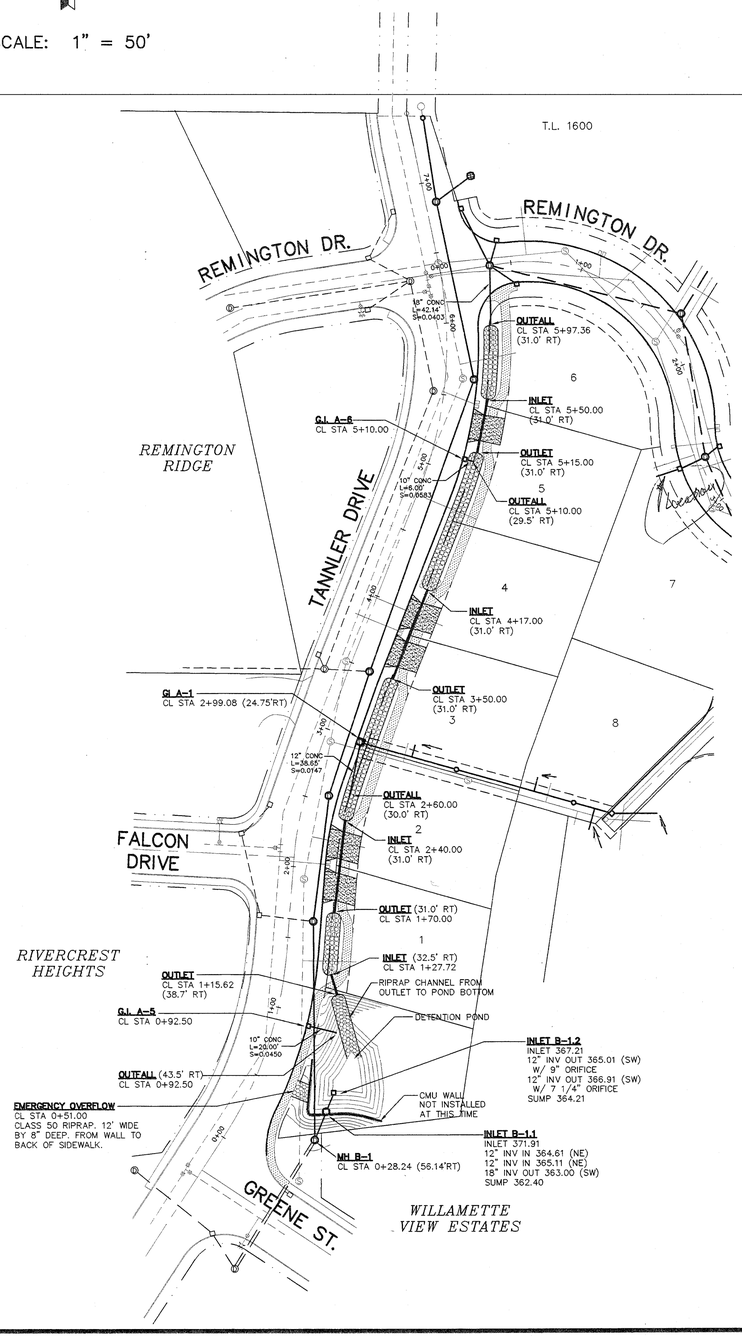
Tannler Drive Street and Storm Drain Plan

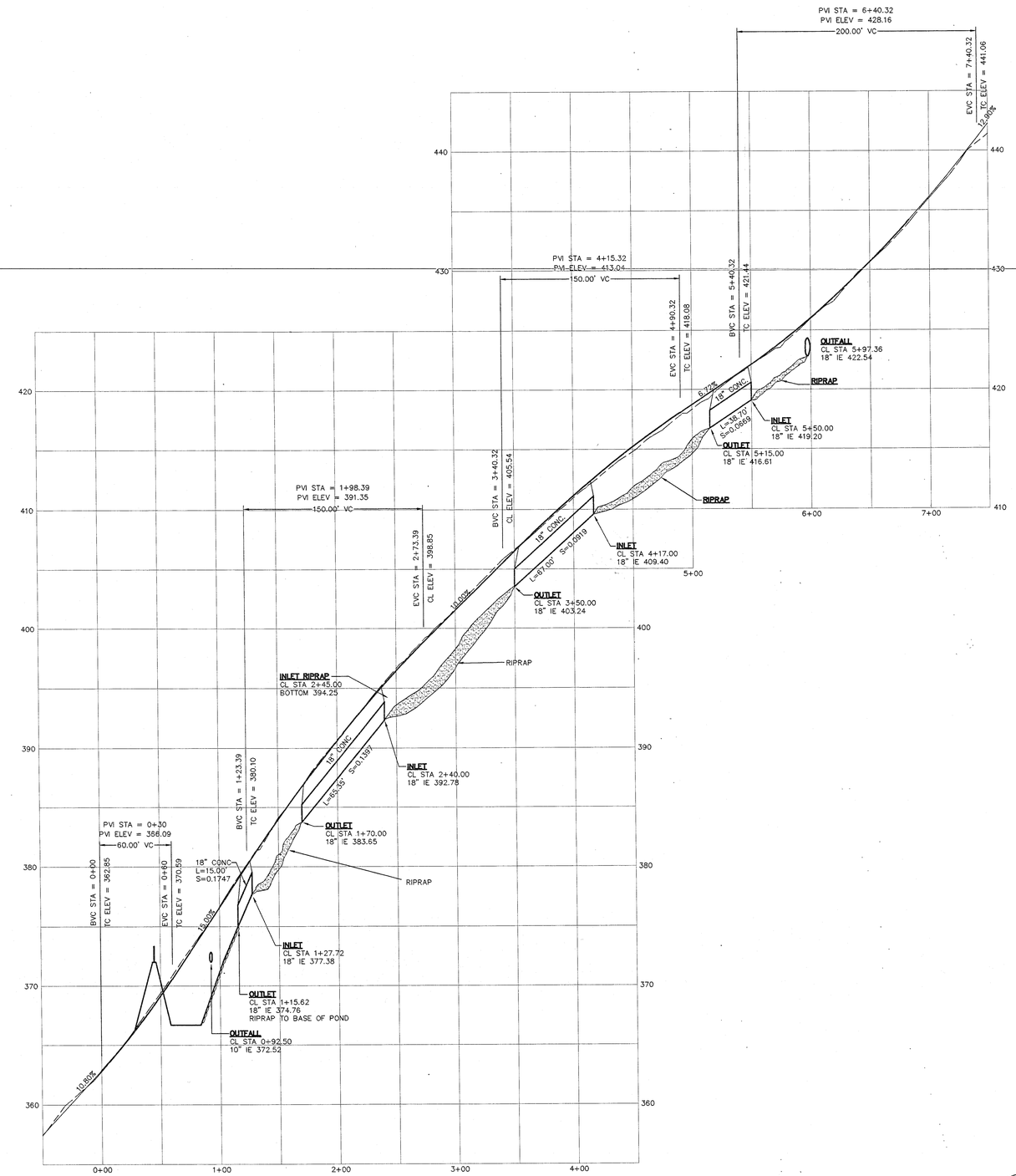
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	WCS
JOB	93-34C
SHEET	5
OF	11 SHEETS

N

SCALE: 1" = 50'





TANNLER DRIVE WATER QUALITY SWALE

SCALE: H: 1" = 50'
V: 1" = 5'

AS-BUILT

REGISTERED PROFESSIONAL ENGINEER
#16,551-P
OREGON
MAY 18, 1993
PATRICK A. SISUL

PRELIMINARY

REVISIONS	BY
AS-BUILT 10/20/96	GAM
AS-BUILT 12/05/96	LD

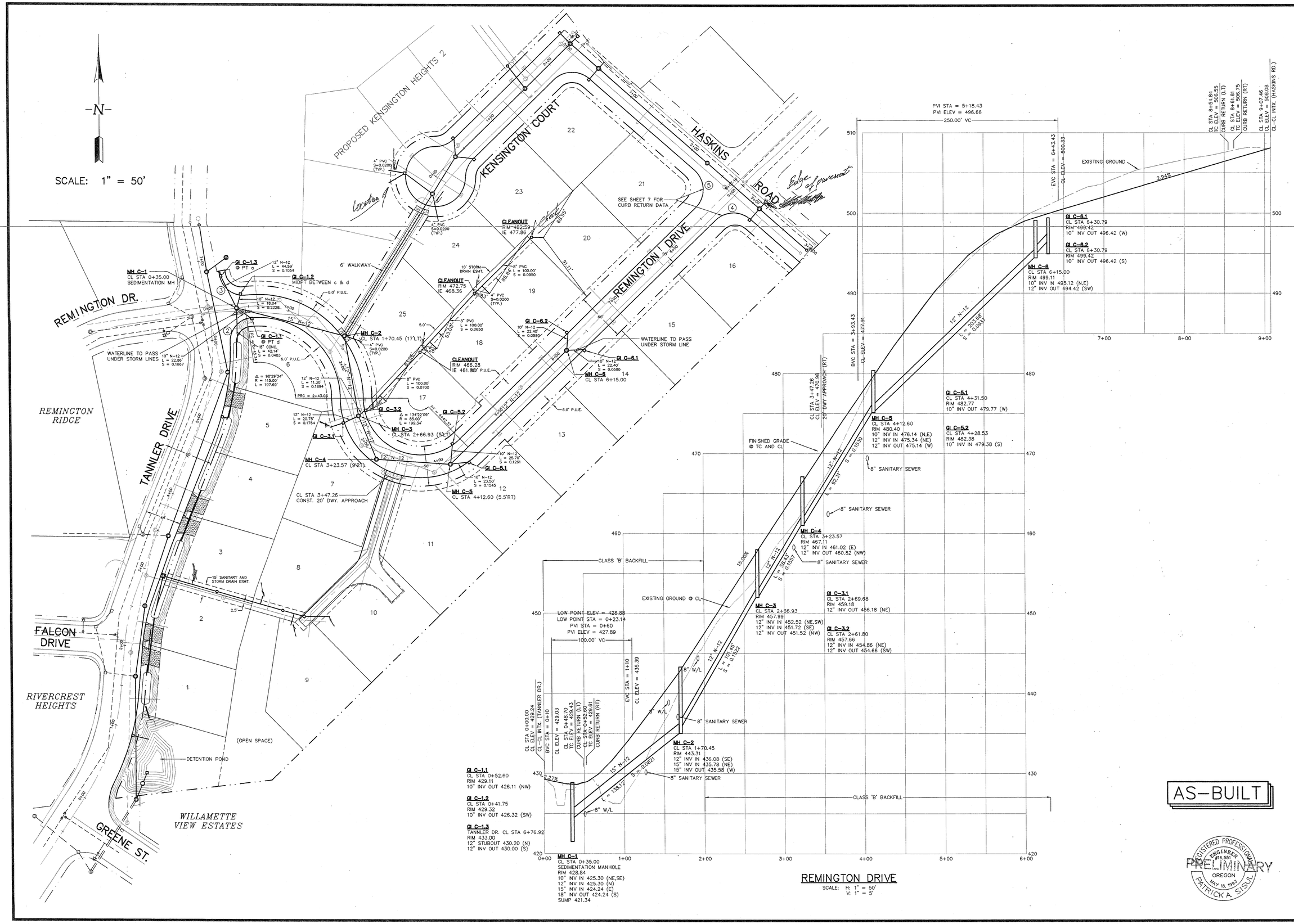
KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Tannler Drive
Water Quality Facility

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	MAR. 1996
SCALE	1" = 50'
DRAWN	WCS
JOB	93-34C
SHEET	5A
OF	11 SHEETS



AS-BUILT

REVISIONS	BY
REVISE TANNLER DR. STORM DRAIN, CB LEADS TO 10" DIAM.	PS 3/25/96
AS-BUILT 10/20/96	GAM
AS-BUILT 12/09/96	LD

KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Remington Drive: Street and Storm Drain Plan

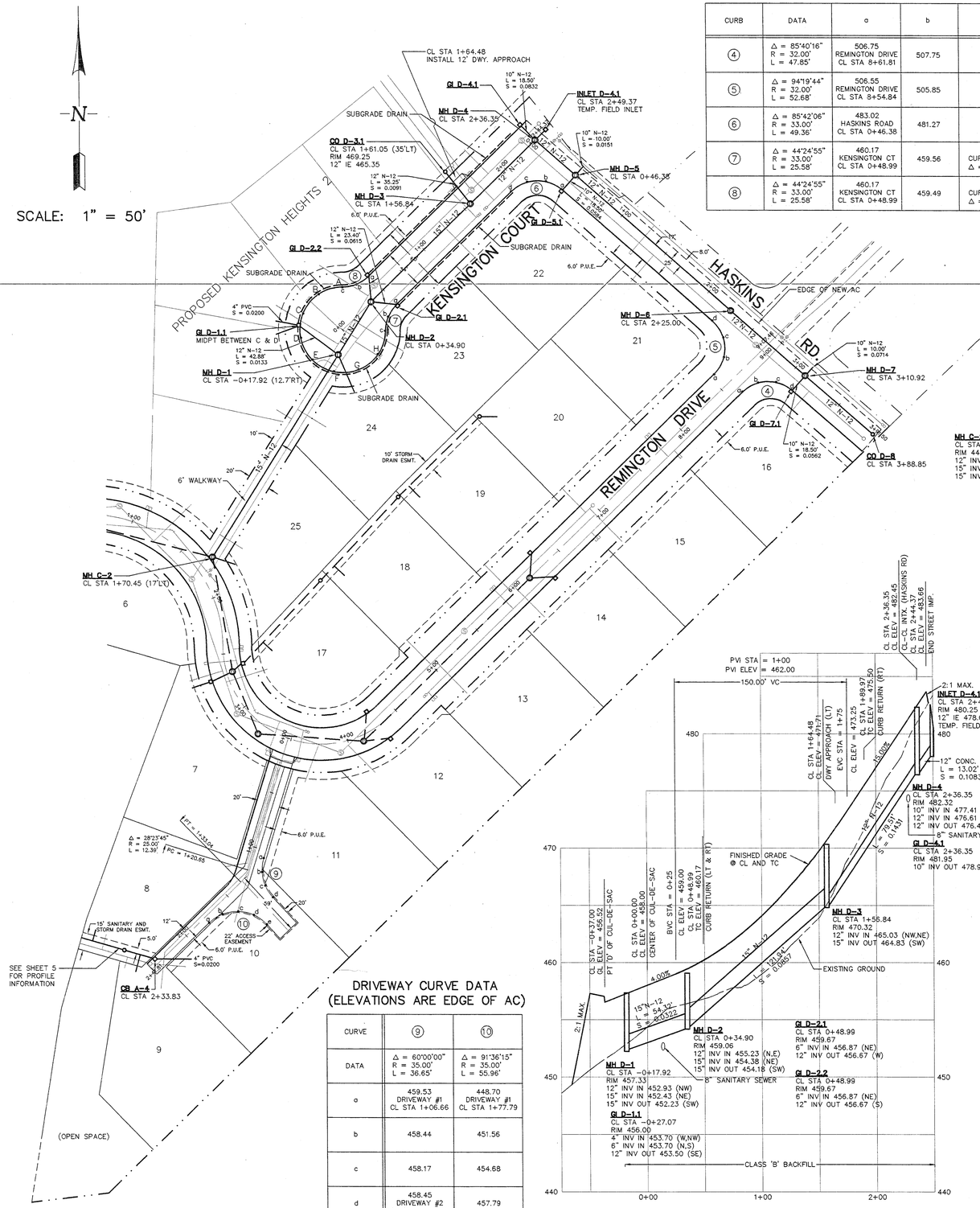
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	6 OF 11 SHEETS

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

PRELIMINARY

SCALE: 1" = 50'



CURB RETURN DATA (ELEVATIONS ARE TOP OF CURB)

CURB	DATA	a	b	c	d
4	Δ = 85°40'16" R = 32.00' L = 47.85'	506.75 REMINGTON DRIVE CL STA 8+61.81	507.75	509.34	510.59 HASKINS ROAD CL STA 3+10.92
5	Δ = 94°19'44" R = 32.00' L = 52.68'	506.55 REMINGTON DRIVE CL STA 8+54.84	505.85	504.75	503.86 HASKINS ROAD CL STA 2+18.65
6	Δ = 85°42'06" R = 33.00' L = 49.36'	483.02 HASKINS ROAD CL STA 0+46.38	481.27	478.45	475.50 KENSINGTON CT CL STA 1+89.97
7	Δ = 44°24'55" R = 33.00' L = 25.58'	460.17 KENSINGTON CT CL STA 0+48.99	459.56	459.14 CURBLINE PRC Δ = 00°00'00"	
8	Δ = 44°24'55" R = 33.00' L = 25.58'	460.17 KENSINGTON CT CL STA 0+48.99	459.49	458.82 CURBLINE PRC Δ = 00°00'00"	

CUL-DE-SAC DATA

POINT	RADIUS	DELTA ANGLE FROM PRC	TC ELEV.
A	37'	00°00'00"	458.82
B	37'	33°36'14"	457.51
C	37'	67°12'28"	456.57
D	37'	100°48'41"	456.57
E	37'	134°24'55"	457.02
F	37'	168°01'09"	457.56
G	37'	201°37'23"	458.08
H	37'	235°43'36"	458.61
I	37'	268°49'50"	459.14

DRIVEWAY CURVE DATA (ELEVATIONS ARE EDGE OF AC)

CURVE	9	10
DATA	Δ = 60°00'00" R = 35.00' L = 36.65'	Δ = 91°36'15" R = 35.00' L = 55.96'
a	459.53 DRIVEWAY #1 CL STA 1+06.66	448.70 DRIVEWAY #1 CL STA 1+77.79
b	458.44	451.56
c	458.17	454.68
d	458.45 DRIVEWAY #2 CL STA 0+28.72	457.79
e		459.81 DRIVEWAY #2 CL STA 0+42.32

STORM LINE 'D'

SCALE: H: 1" = 50'
V: 1" = 5'

DRIVEWAY

SCALE: H: 1" = 50'
V: 1" = 5'

KENSINGTON COURT

SCALE: H: 1" = 50'
V: 1" = 5'

HASKINS ROAD

SCALE: H: 1" = 50'
V: 1" = 5'

AS-BUILT

PRELIMINARY

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

REVISIONS	BY
REVISE MH D-1, MODIFY SD LEADS TO 10"	PS 8/20/96
AS-BUILT 10/20/96	CAM
AS-BUILT 12/09/96	LD

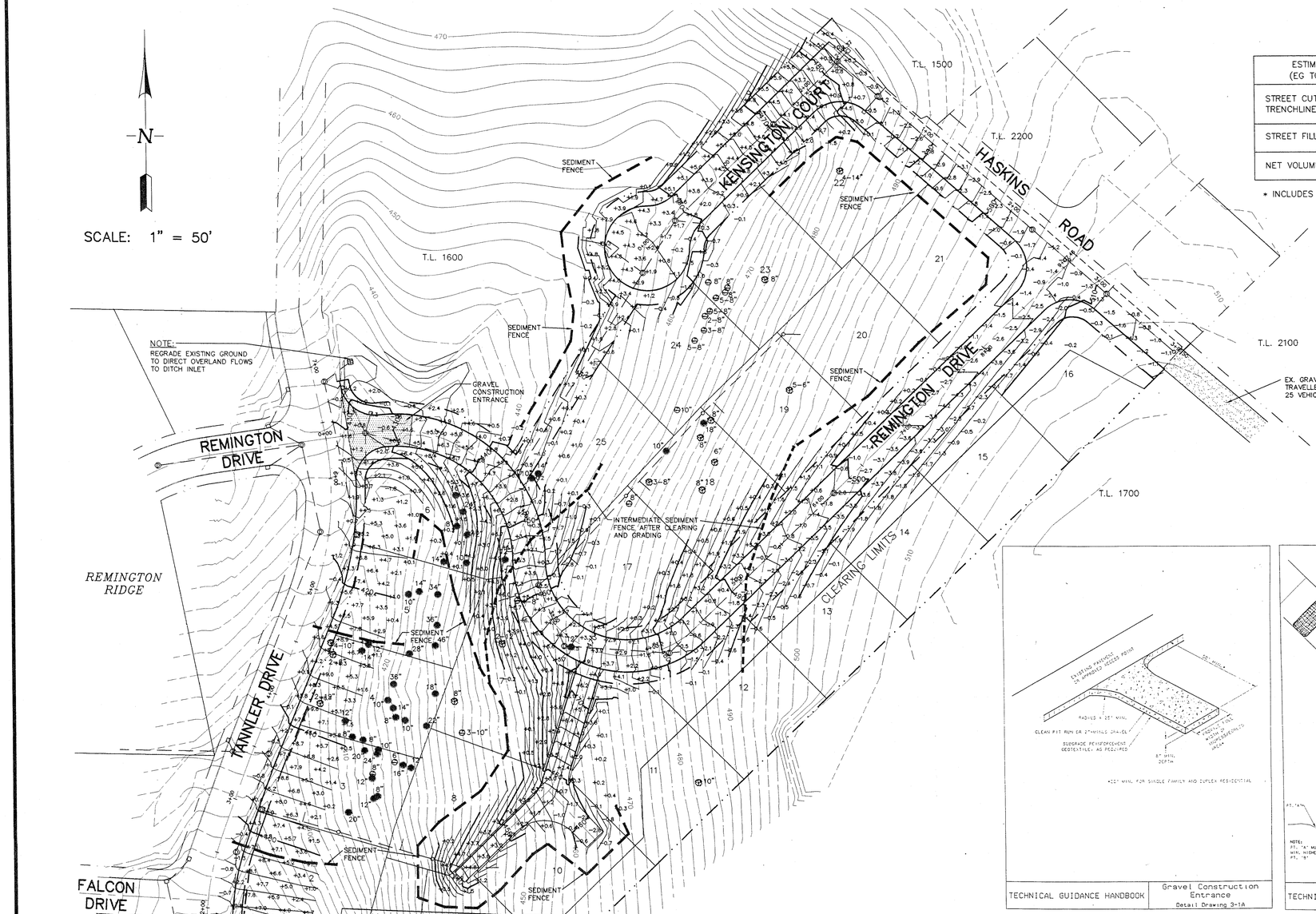
KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Kensington Court, Haskins Road
Street and Storm Drain Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

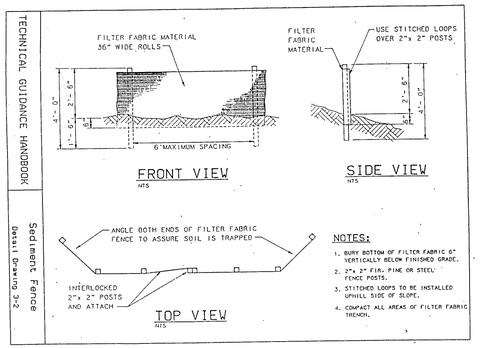
DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	7
OF 11	SHEETS

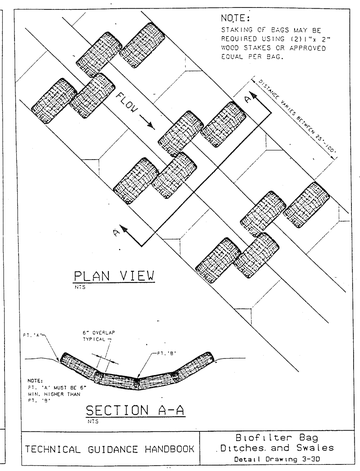


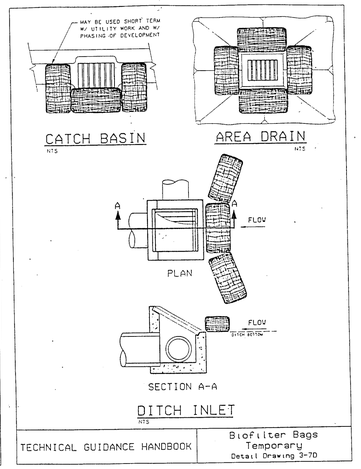
ESTIMATED EARTHWORK QUANTITIES (EG TO SUBGRADE) (NEAT YARDAGE)	
STREET CUT TRENCHLINES	2500 CU. YARDS 3700 CU. YARDS*
STREET FILL	11800 CU. YARDS
NET VOLUME	5600 CU. YARDS (FILL)

* INCLUDES 350 CU.YDS. OF ROCK EXCAVATION

- SEDIMENT FENCE
- INTERMEDIATE SEDIMENT FENCE
- 470 EXISTING CONTOUR
- PROPOSED 5' CONTOUR
- 430 PROPOSED 10' CONTOUR
- +3.9 PROPOSED FILL (TO SUBGRADE IN STREET AREAS)
- -1.7 PROPOSED CUT (TO SUBGRADE IN STREET AREAS)
- EXISTING TREES (SUBJECT TO CONDITION #2 ON COVER SHEET)







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 scrapped 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.

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. Development areas within 50 feet of water bodies and wetlands must use a non-phosphorus fertilizer.
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 or acceptable seeding and mulching must be provided whenever perennial cover cannot be established on sites which will be exposed for 60 days or more.

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 48 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.
9. Detention pond shall be used as a sedimentation basin during the period of construction in which slopes are bare. Runoff from site shall be directed into sedimentation basin before it leaves the site. At no time shall more than two feet of sediment be allowed to accumulate within the sedimentation basin.

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 30 inches.
3. A trench shall be excavated, roughly 8 inches wide by 12 inches deep, upslope and adjacent to the wood post to allow the filter fabric to be buried.
4. When standard strength filter fabric is used, a wire support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one inch long, tie wire or hog rings. The wire shall extend into the trench a minimum of four inches and shall not extend more than 36 inches above the original ground surface.
5. The standard strength filter fabric shall be stapled or wired to the fence, and 20 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36" above the original ground surface. The fabric shall not be stapled to existing trees.
6. When extra strength filter fabric and closer post spacing are used the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of the above standard note for standard strength filter fabric applying.
7. Sediment fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
8. 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.

Kensington Heights 93-34 05-16-94

Structural Fill Notes:

1. Besides the structural fill that will be required for construction of street improvements a structural fill is also to be built on lots where noted on the plans to the specifications noted below.
2. All existing fills placed on the lots, miscellaneous materials, and the organic layer under the fill area shall be stripped and removed to expose the underlying in-situ soil or rock sequence.
3. The entire fill area should then be prepared with a 6" layer of imported free-draining pitrun sandy gravel or gravelly sand (maximum of 5 percent passing the 20-mesh sieve, on a wet screen analysis).
4. All structural fill is to be compacted in 6" maximum lifts to 95% of maximum dry density per AASHTO T-99 test method. Fill material tested and not meeting the stated compaction requirement shall be removed and recompacted. The fill shall be constructed in level benches to prevent slippage.
5. The contractor shall retain the services of a Geotechnical Engineer and testing lab to inspect and provide testing services and to certify that the structural fill meets the compaction requirements appropriate for home construction and the requirements of the City of West Linn. The contractor must obtain the grading permit prior to beginning work on the project.

Kensington Heights 93-34 5-19-96

REGISTERED PROFESSIONAL ENGINEER #16,551 PATRICK A. SISUL
PRELIMINARY
MAY 18 1995

AS-BUILT

REVISIONS	BY
REVISE STREET FILL NOTES.	PS 5/20/96

KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

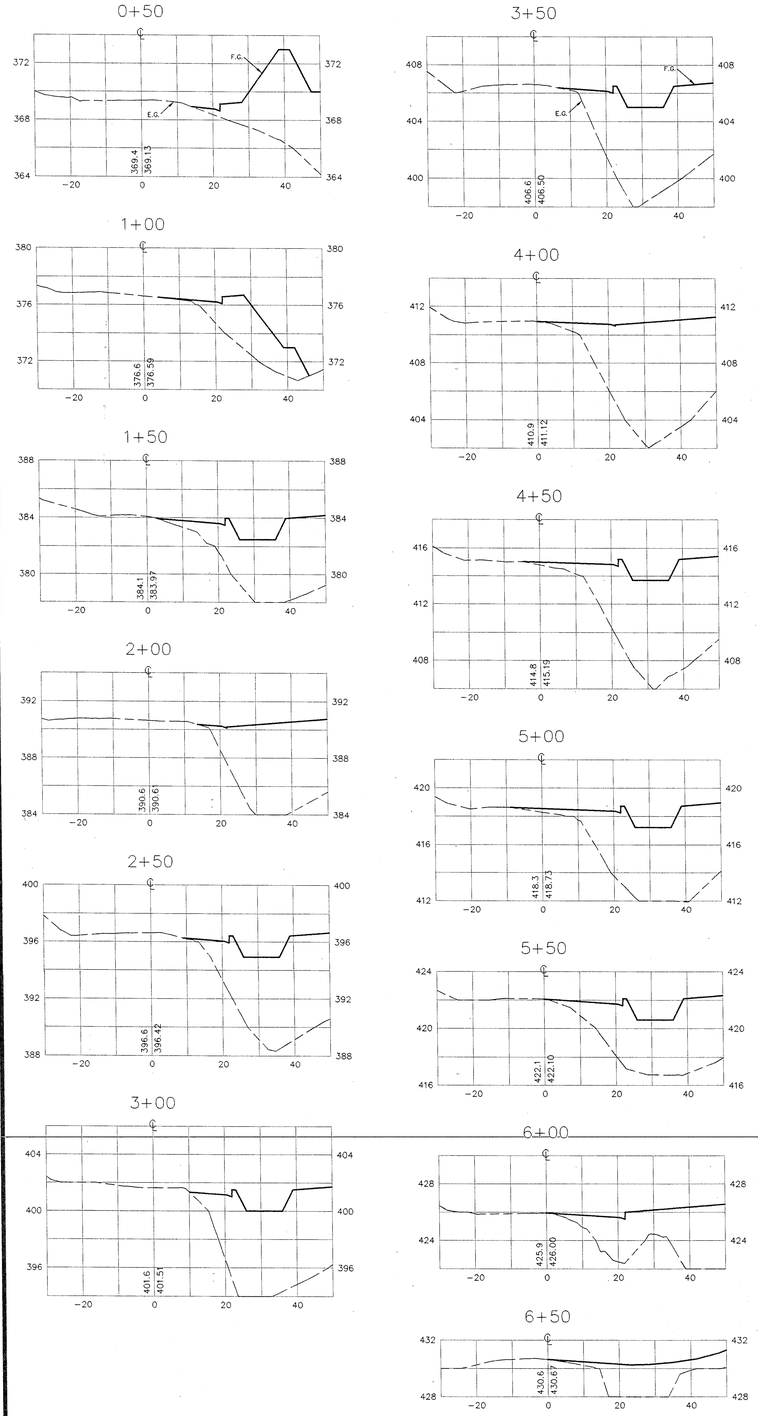
Grading and Erosion Control Plan

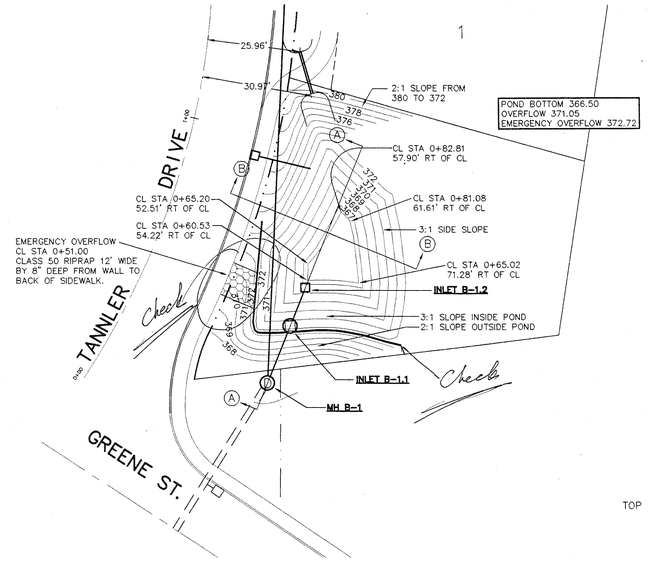
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	1" = 50'
DRAWN	PS/WCS
JOB	93-34C
SHEET	8
OF	11 SHEETS

TANNLER DRIVE

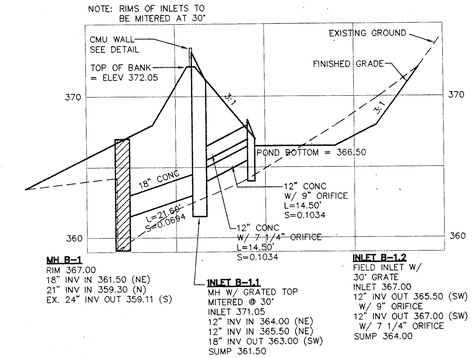
SCALE: HORI: 1" = 20'
VERT: 1" = 5'





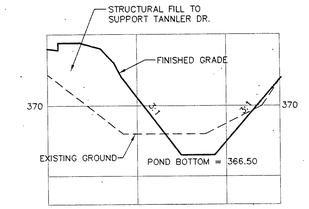
DETENTION POND DETAIL

NTS



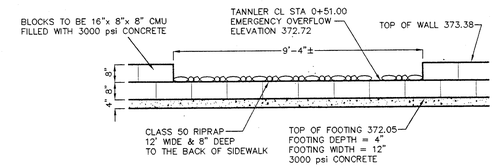
SECTION A–A

SCALE: H: 1" = 40'
V: 1" = 10'



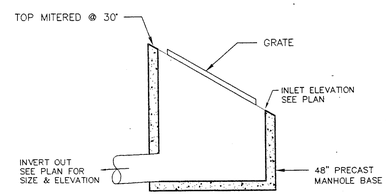
SECTION B–B

SCALE: H: 1" = 40'
V: 1" = 10'



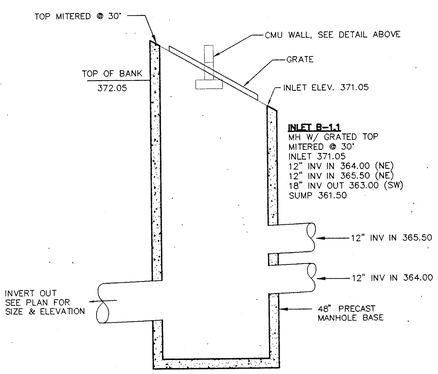
WALL DETAIL

N.T.S.



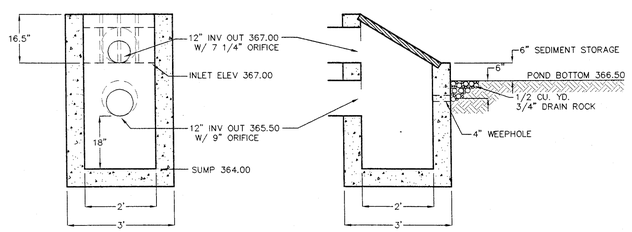
INLET B–6.1 DETAIL

N.T.S.



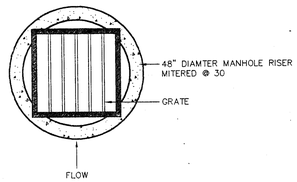
INLET B–1.1 DETAIL

N.T.S.



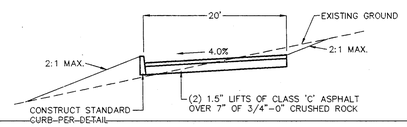
INLET B–1.2 DETAIL

N.T.S.



MANHOLE INLET DETAIL

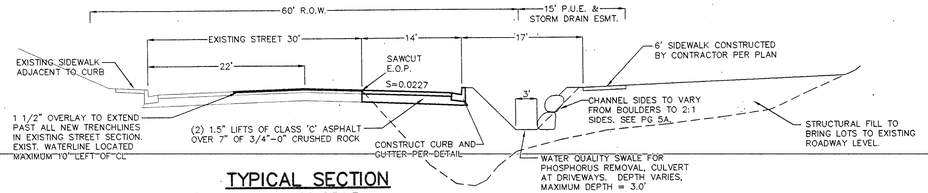
N.T.S.



TYPICAL SECTION

DRIVEWAY

(NTS)

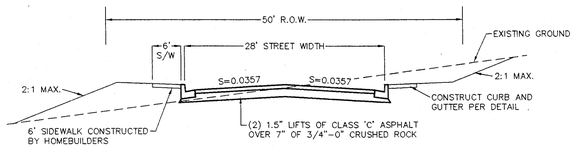


TYPICAL SECTION

TANNLER DRIVE

(NTS)

AS-BUILT

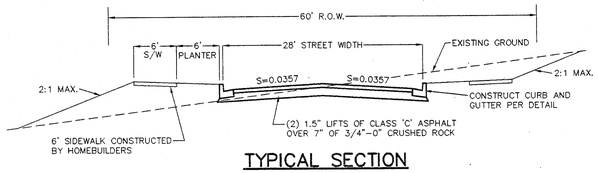


TYPICAL SECTION

REMINGTON DRIVE

FROM CL STA 0+00 TO CL STA 4+80±

(NTS)



TYPICAL SECTION

REMINGTON DRIVE

FROM CL STA 4+80± TO CL STA 9+00

(NTS)

REGISTERED PROFESSIONAL ENGINEER #16,581 OREGON JULY 18, 1993 PATRICK A. SISUL

PRELIMINARY

REVISIONS	BY
REVISE PER CITY REVIEW POND LAYOUT & INLETS TAN & REMINGTON SECTS	PS 3/20/96

KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

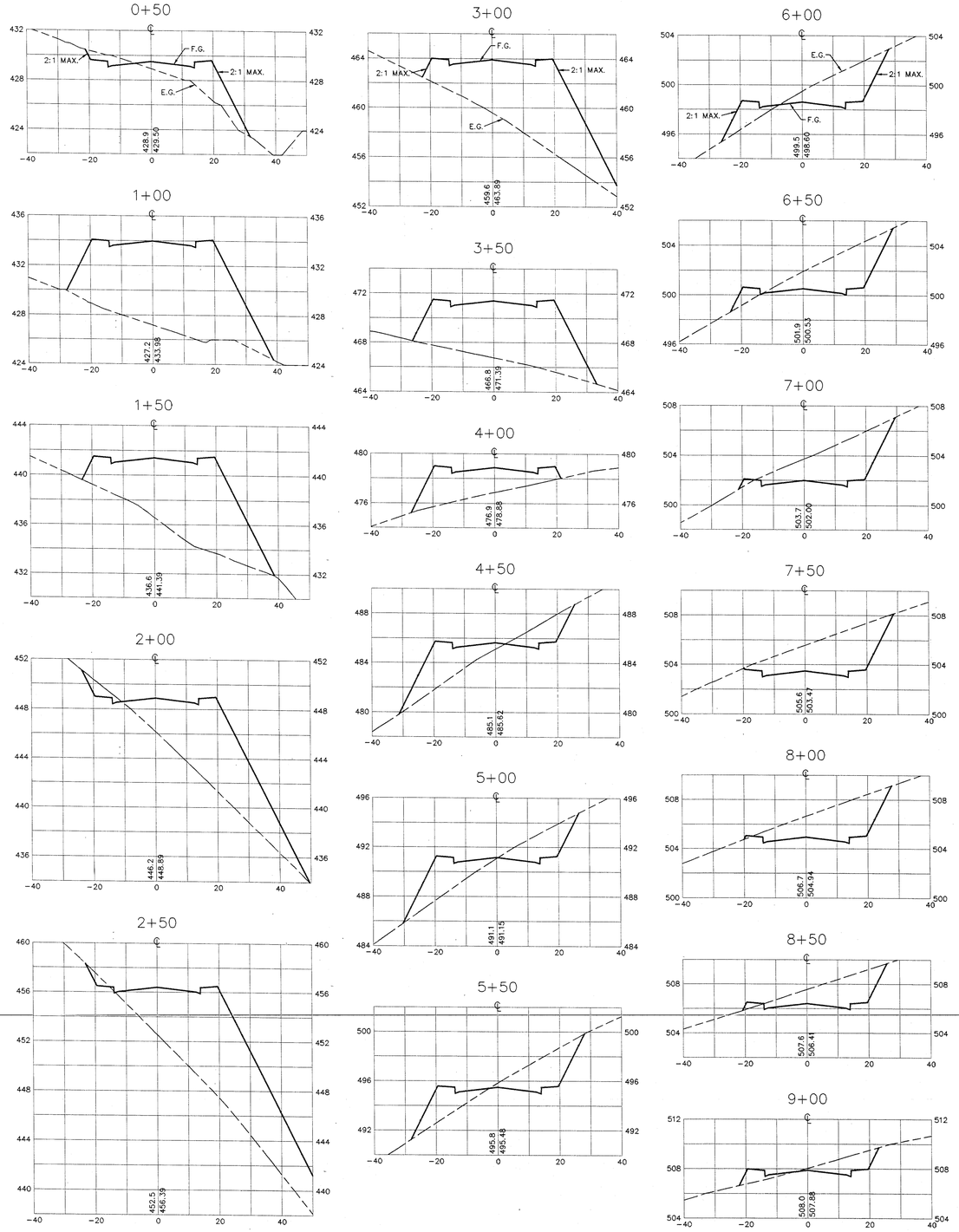
Cross Sections and Detention Pond Details

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	NOTED
DRAWN	WCS
JOB	93-34C
SHEET	9
OF 11	SHEETS

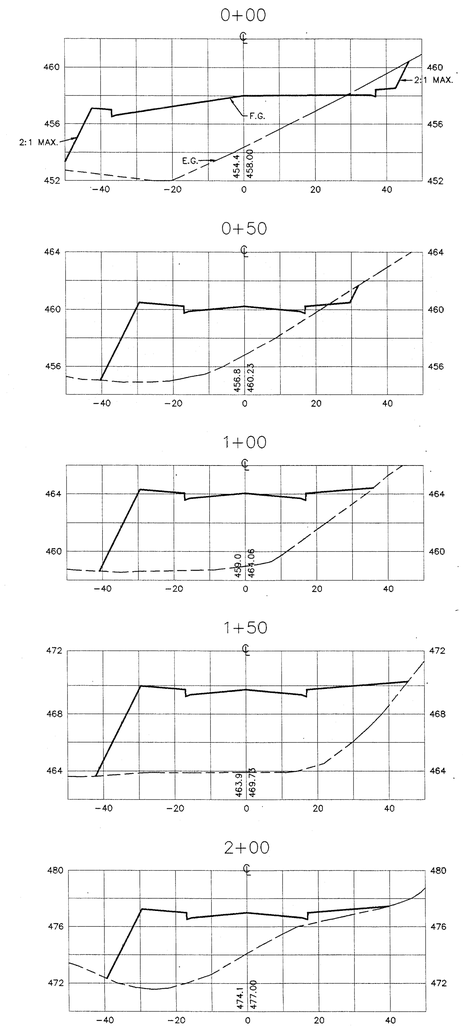
REMINGTON DRIVE

SCALE: HORI: 1" = 20'
VERT: 1" = 5'



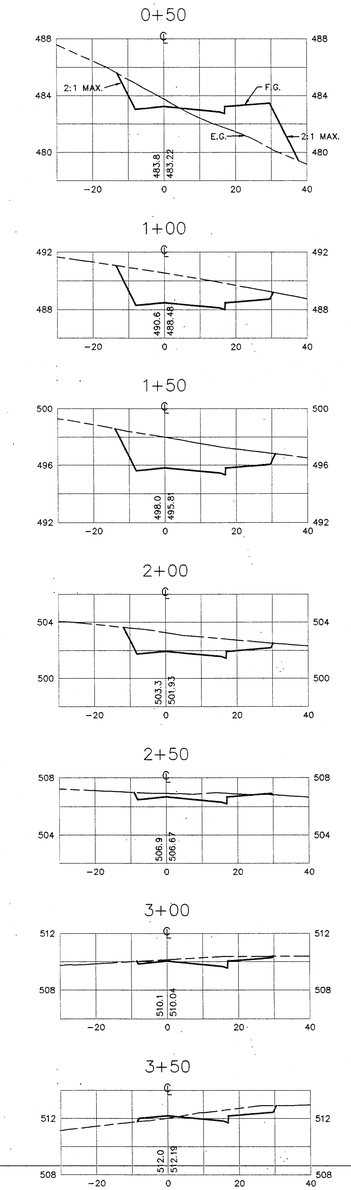
KENSINGTON COURT

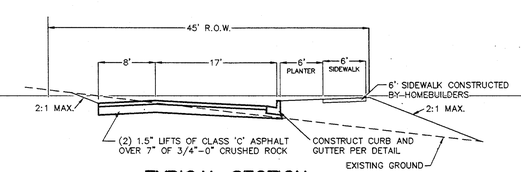
SCALE: HORI: 1" = 20'
VERT: 1" = 5'



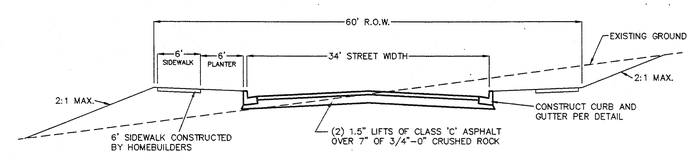
HASKINS ROAD

SCALE: HORI: 1" = 20'
VERT: 1" = 5'





TYPICAL SECTION
HASKINS ROAD
(NTS)



TYPICAL SECTION
KENSINGTON COURT
(NTS)

AS-BUILT

REGISTERED PROFESSIONAL ENGINEER #16,501 MAY 18 1995 PATRICK A. SISUL

PRELIMINARY

REVISIONS	BY

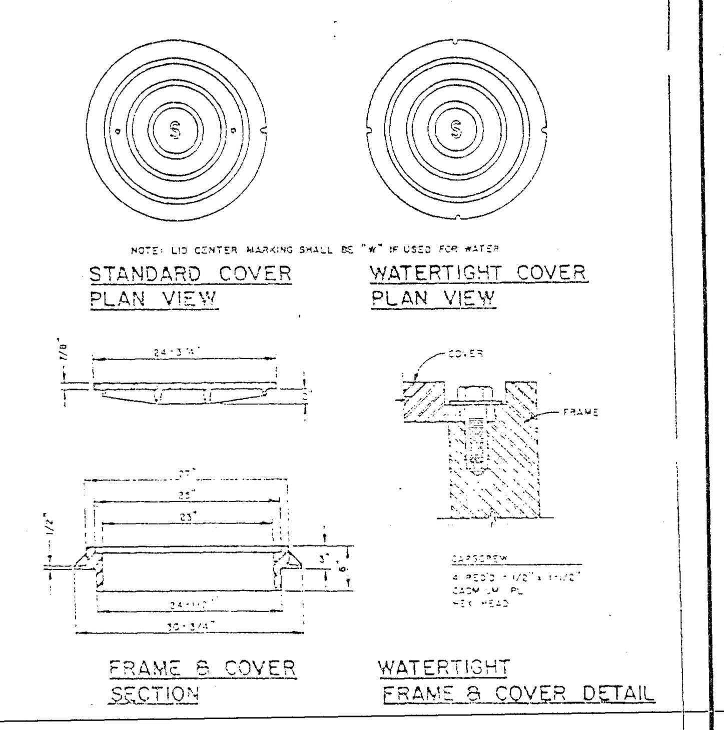
KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

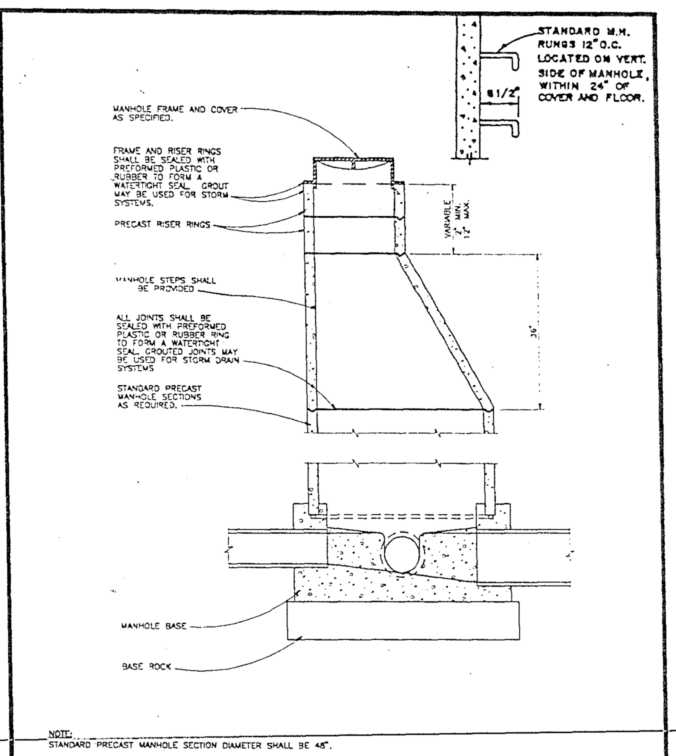
Cross Sections

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	NOTED
DRAWN	WCS
JOB	93-34C
SHEET	10
OF	11 SHEETS



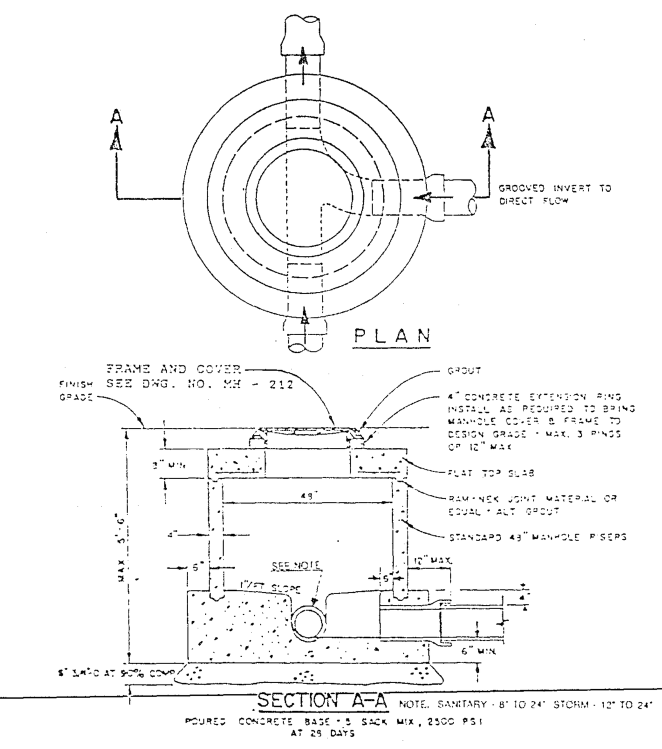
CITY OF WEST LINN	MANHOLE FRAME & COVER
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. MH - 212



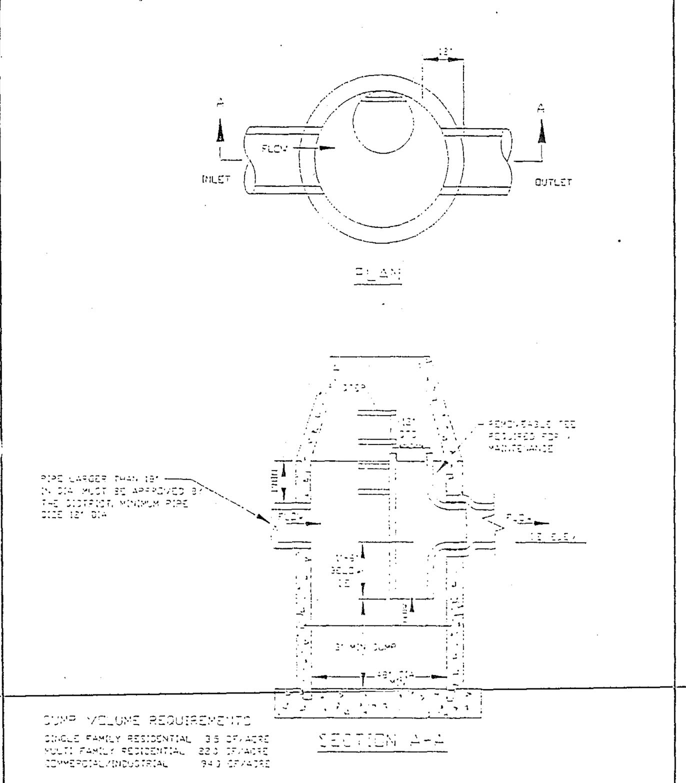
APWA OREGON CHAPTER

MANHOLE

DATE: MAY 1992 DRAWING NO. 315



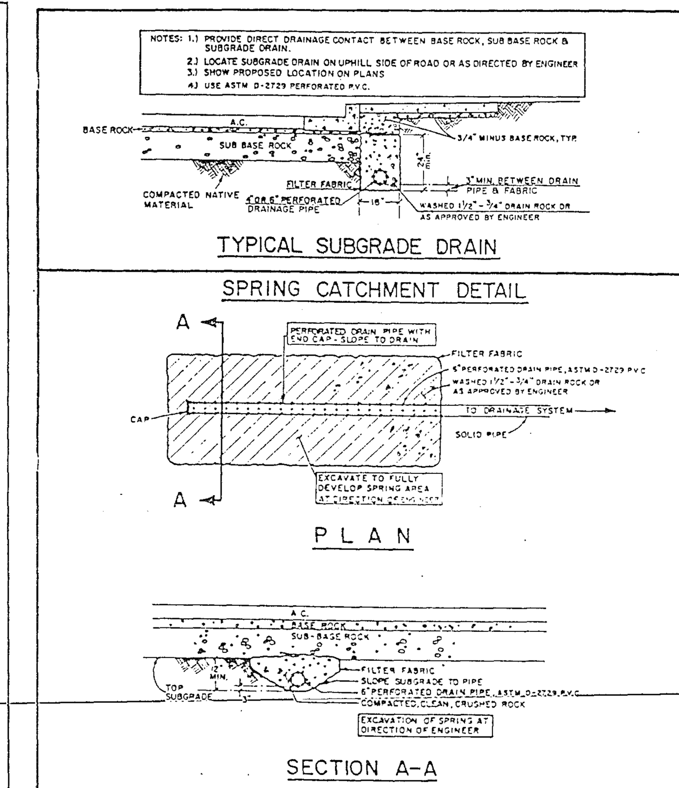
CITY OF WEST LINN	SHALLOW MANHOLE
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DLL DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. MH - 210



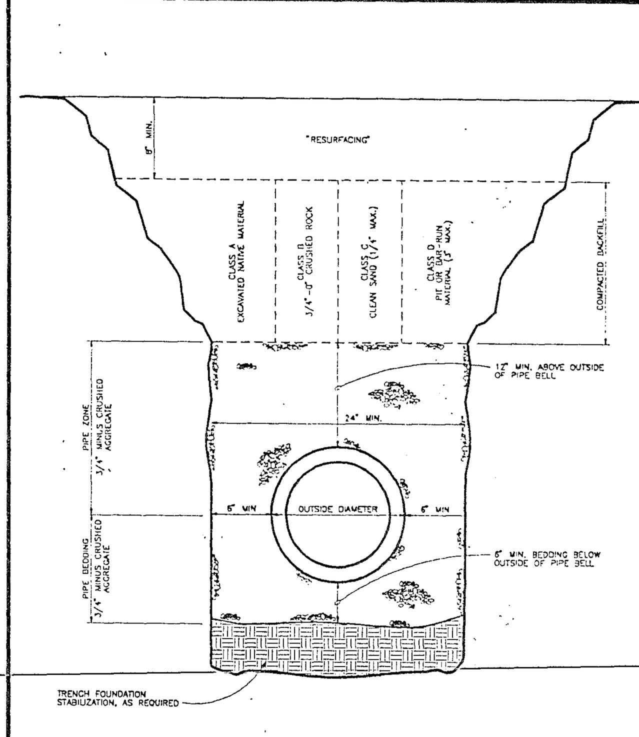
APPROVED BY: Manuel Whelan

CLACKAMAS COUNTY DEPT. OF UTILITIES

TITLE: POLLUTION MANHOLE, ELBOW — SHEET 1 OF 1 — FILE NAME PMH-0011 — DRAWN BY WDK — REV. DATE 8/24/94 — SCALE NOT TO SCALE — DATE 8/1/94



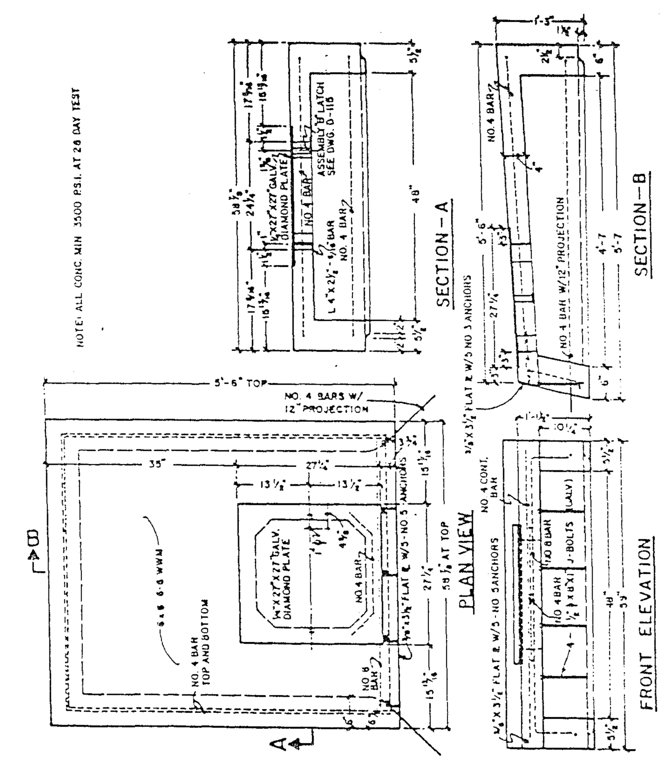
WASHINGTON COUNTY DEPARTMENT OF LAND USE AND TRANSPORTATION	SUBGRADE AND SPRING CATCHMENT DRAIN
DATE 1/17/86 — CIVIL ENGINEER — DRAWN AEA 6-85	APWA NO. NONE — WASH. COUNTY NO. D-116



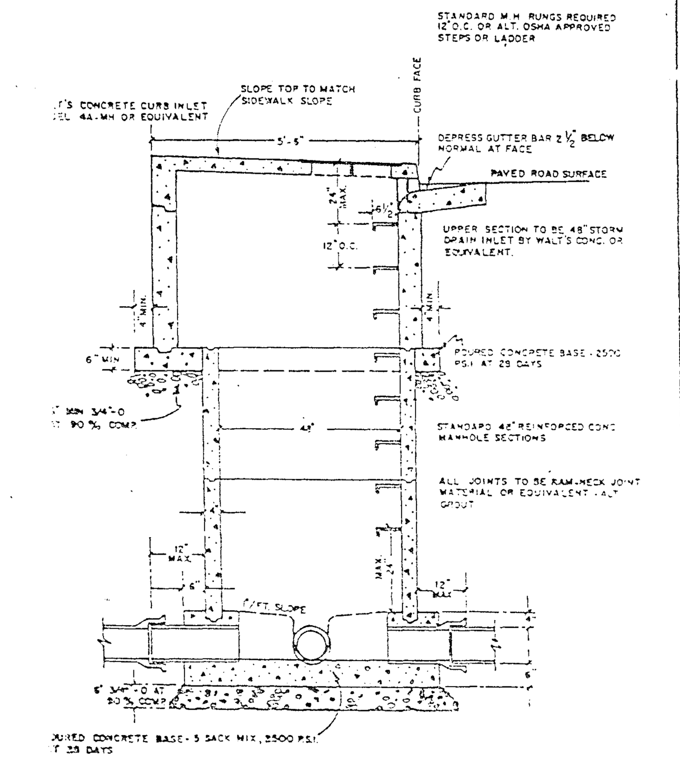
APWA OREGON CHAPTER

TRENCH BACKFILL, BEDDING, AND PIPE ZONE

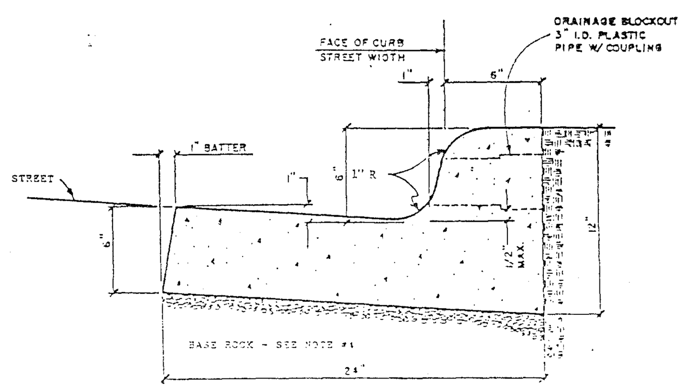
DATE: MAY 1992 DRAWING NO. 301



CITY OF WEST LINN	GUTTER INLET- 4A
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. GI - 213

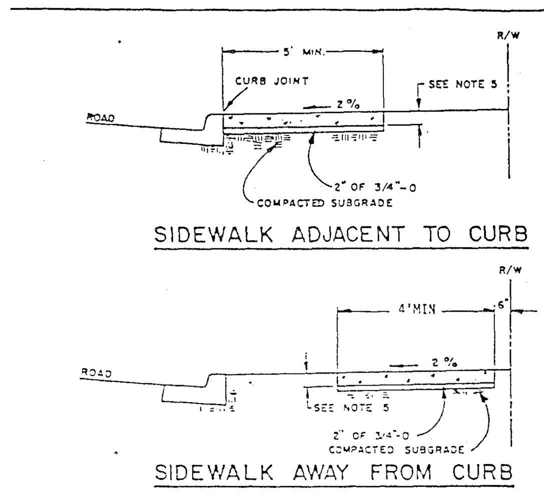


CITY OF WEST LINN	GUTTER INLET 4A (MODIFIED)
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. GI - 213.1



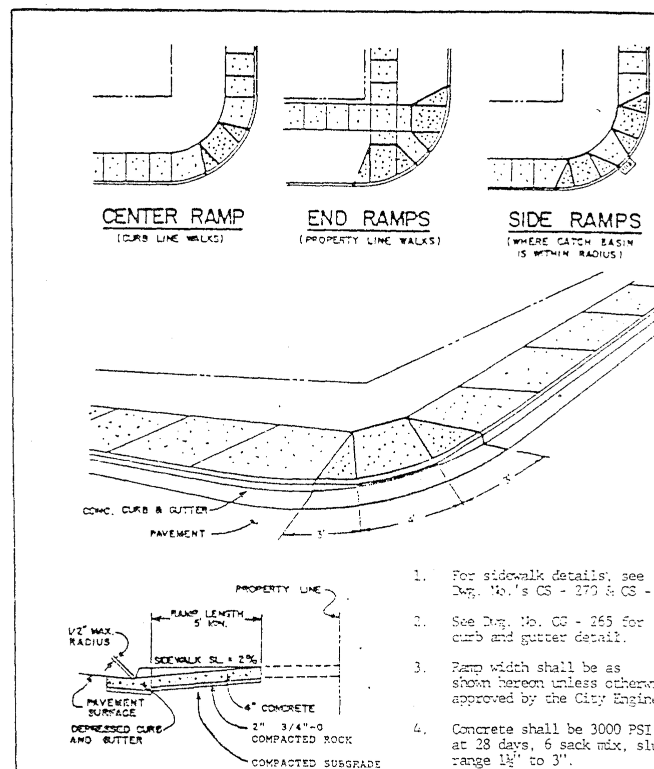
1. When used along medians, gutters may be reduced with prior approval from the City Engineer.
2. Concrete shall have a breaking strength of 3000 PSI after 28 days.
3. CONTRACTION JOINTS
   A. To be provided:
      1) at each point of tangency of the curb.
      2) at each cold joint.
      3) at each side of inlet structures.
      4) at both sided of an approach.
   B. Spacing to be not more than 15 feet.
   C. The depth of the joint shall be at least 1 1/2".
4. Base rock - 1 1/2" minus, 95% compaction. Rock shall be to subgrade of street structure or 4" in depth, whichever is greater.
5. Drainage block - 3" dia. plastic pipe.
   A. Drainage access through existing curbs shall be by the following:
      1) core drilling.
      2) vertical saw-cut of curb 18" each side of drain & repoured to full depth of curb.

CITY OF WEST LINN	CURB & GUTTER
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. CG - 265



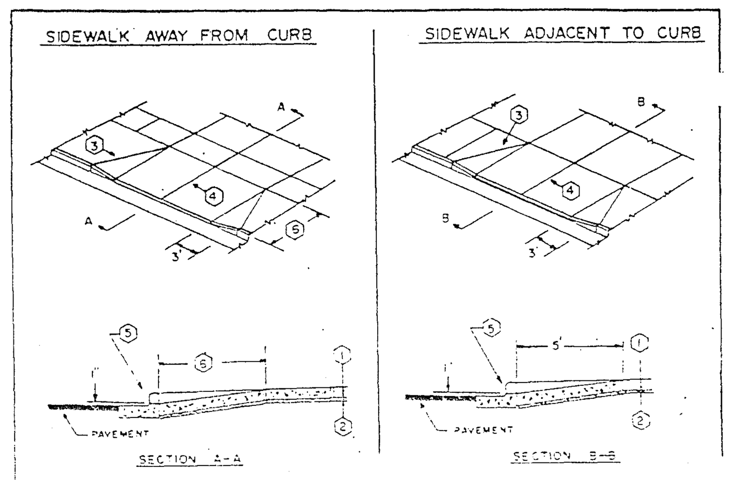
1. Concrete shall be 300 PSI at 28 days, 6 sack mix, slump range of 1 1/2" to 3".
2. Panel lengths shall be equal to the sidewalk width, but may be adjusted with the City Engineers approval.
3. Contraction joints (1 1/2" deep) shall be placed every third panel, with a max. spacing of 15 feet.
   Joints shall also be placed at the sides of driveway approaches, utility vaults, and wheelchair ramps.
4. A curing compound shall be used. White reflective sheeting shall be used in case of rain.
5. For sidewalks adjacent to the curb & poured at the same time as the curb, the joint between them shall be a troweled joint with a min. 1/2" radius.
6. The sidewalk shall have a min. thickness of 6" if mountable curb is used or if the sidewalk is intended as a portion of the driveway. Otherwise, the sidewalk shall have a min. thickness of 4".
7. Drain blockouts in the curb shall be extended to the back of the sidewalk with a 3" dia. plastic pipe at a 2% slope. A contraction joint shall be placed over the pipe.

CITY OF WEST LINN	CONCRETE SIDEWALK
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DLL DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. CS - 270



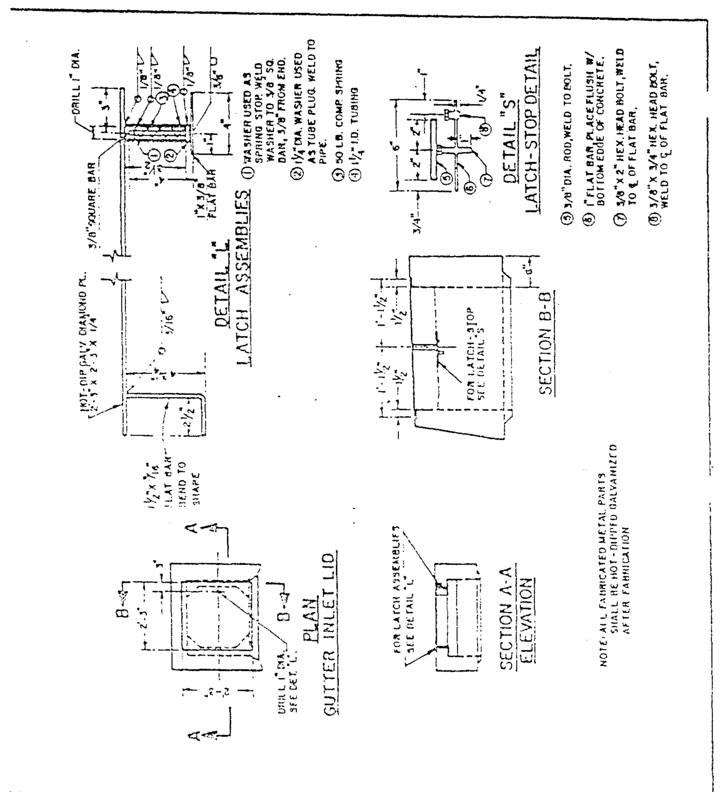
1. For sidewalk details, see Dwg. No.'s CS - 270 & CS - 270.1
2. See Dwg. No. CG - 265 for curb and gutter detail.
3. Ramp width shall be as shown hereon unless otherwise approved by the City Engineer.
4. Concrete shall be 3000 PSI at 28 days, 6 sack mix, slump range 1½" to 3".

CITY OF WEST LINN	SIDEWALK RAMP
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. CS - 271

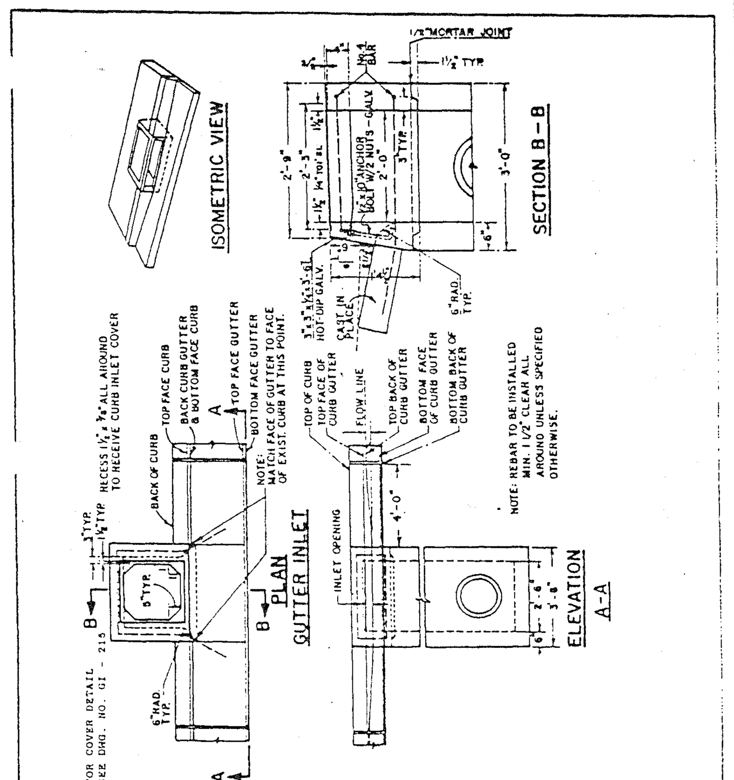


1. Min. thickness shall be 5".
2. 2" of compacted 3/4"-0 aggregate, over compacted subgrade.
3. 1" min. deep contraction joints shall be placed at sides of driveway approach.
4. For a 20' driveway, a 1" deep contraction joint shall be placed at the center. An additional joint shall be installed for each additional 10' of driveway width.
5. In areas of curb removal: For standard curb, excavation shall be to bottom of curb. For curb & gutter, excavation shall be extended to 10" below top of curb.
6. For sidewalk less than 5' from back of curb, approach shall extend thru the sidewalk.
7. Concrete shall have min. compression strength of 3000 PSI after 28 days.
8. A curing compound is required. White reflective sheeting shall be used in case of rain.
9. The surface finish shall be by cross brooming.

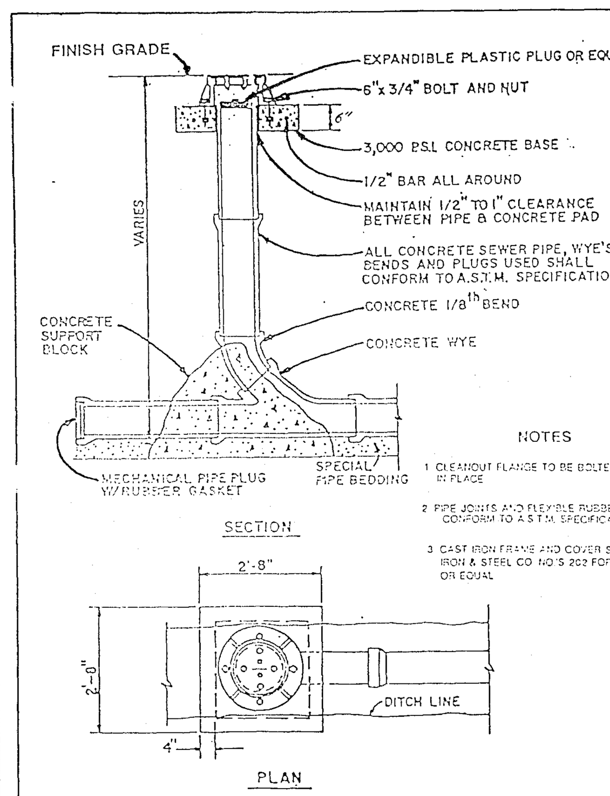
CITY OF WEST LINN	RESIDENTIAL DRIVEWAY DETAILS
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. DW - 251



CITY OF WEST LINN	GUTTER INLET COVER
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. GI - 215

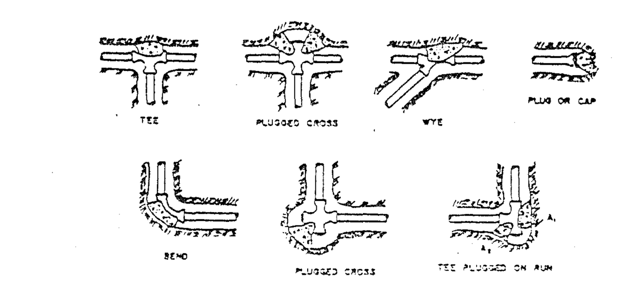


CITY OF WEST LINN	GUTTER INLET-2½A
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE 5-27-87 / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. GI - 214



NOTES
1. CLEANOUT FLANGE TO BE BOLTED AND GROUTED IN PLACE
2. PIPE JOINTS AND FLEXIBLE RUBBER GASKETS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS C443-60T
3. CAST IRON FRAME AND COVER SHALL BE VALLEY IRON & STEEL CO. NO'S 202 FOR 6" & 203 FOR 8" OR EQUAL

CITY OF WEST LINN	SANITARY SEWER CLEANOUT
DRAWN BY DDP DATE 10-4-88 / CHECKED BY DLL DATE 10-5-88 / APPROVED BY Earl Reed DATE 10-12-88	DWG. NO. SS-4

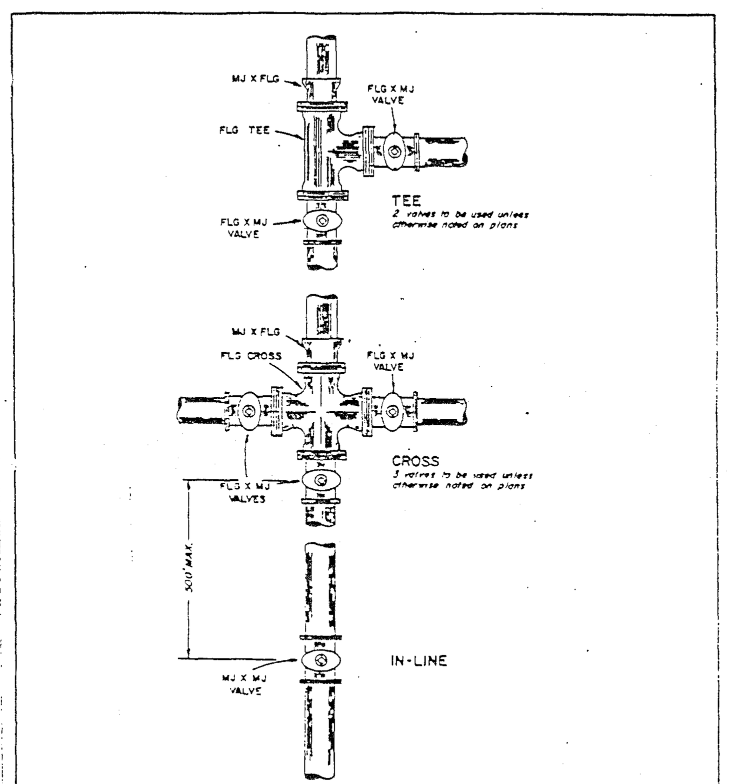


BEARING AREA OF THRUST BLOCK (in sq. ft.)

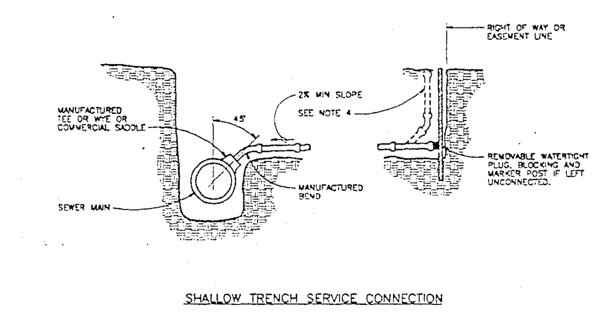
FITTING SIZE (in.)	TEE, WYE, PLUG or CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN A	A_1	45° BEND	22½° BEND	11¼° BEND
4	1.0	1.4	1.9	1.4	1.0	-	-
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.5	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.5	3.4	1.7
14	11.5	16.5	23.0	16.3	8.9	4.5	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.0	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

NOTES
1. Concrete shall be poured against undisturbed earth.
2. Concrete shall be kept clear of joint and accessories.
3. The required thrust bearing area for special connections is shown encircled on the plans. For example, (15) indicates 15 SQ. FT. bearing area required.
4. If not shown on plans, required bearing area at fitting shall be as indicated above, adjusted if necessary to conform to the test pressure and allowable soil bearing stresses stated in the special specifications.
5. Bearing areas and special blocking details shown on the plans shall take precedence over this standard.
6. Above bearing areas are based on a test pressure of 150 P.S.I. and an allowable soil bearing stress of 2000 LBS./SQ. FT. To compute bearing areas for different test pressures and soil bearing stresses, use the following equation:
   $\text{BEARING AREA} = \text{TABLE VALUE} \times \frac{\text{TEST PRESSURE}}{150} \times \frac{2000}{\text{SOIL BEARING STRESS}}$

CITY OF WEST LINN	THRUST BLOCKING
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. TB - 302



CITY OF WEST LINN	VALVE LOCATION
DRAWN BY DDP DATE 5-20-87 / CHECKED BY DATE / APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. VL - 303



NOTES:
1. PIPE AND FITTINGS SHALL BE COMPATIBLE. ONLY MANUFACTURED FITTINGS SHALL BE USED.
2. MINIMUM DEPTH AT RIGHT OF WAY OR EASEMENT LINE SHALL BE 4 FEET.
3. MARKER POSTS AND BLOCKING SHALL BE TREATED WOOD. POST SHALL BE 2" x 4" FIR. POST TO EXTEND 12" MINIMUM ABOVE FINISH GRADE AND EXPOSED AREA SHALL BE PAINTED WHITE.
4. WHEN REQUIRED, A CLEANOUT SHALL BE INSTALLED.

APWA OREGON CHAPTER

SHALLOW TRENCH SERVICE CONNECTION, BLOCKING, AND MARKERS

DATE: MAY 1992 DRAWING NO. 308

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

PRELIMINARY

AS-BUILT

REVISIONS	BY

KENSINGTON HEIGHTS

RENAISSANCE DEVELOPMENT CORPORATION
BAY CREEK DEVELOPMENT CORPORATION

Details

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	NOV. 1995
SCALE	NA
DRAWN	WCS
JOB	93-34C
SHEET	11
OF 11	SHEETS