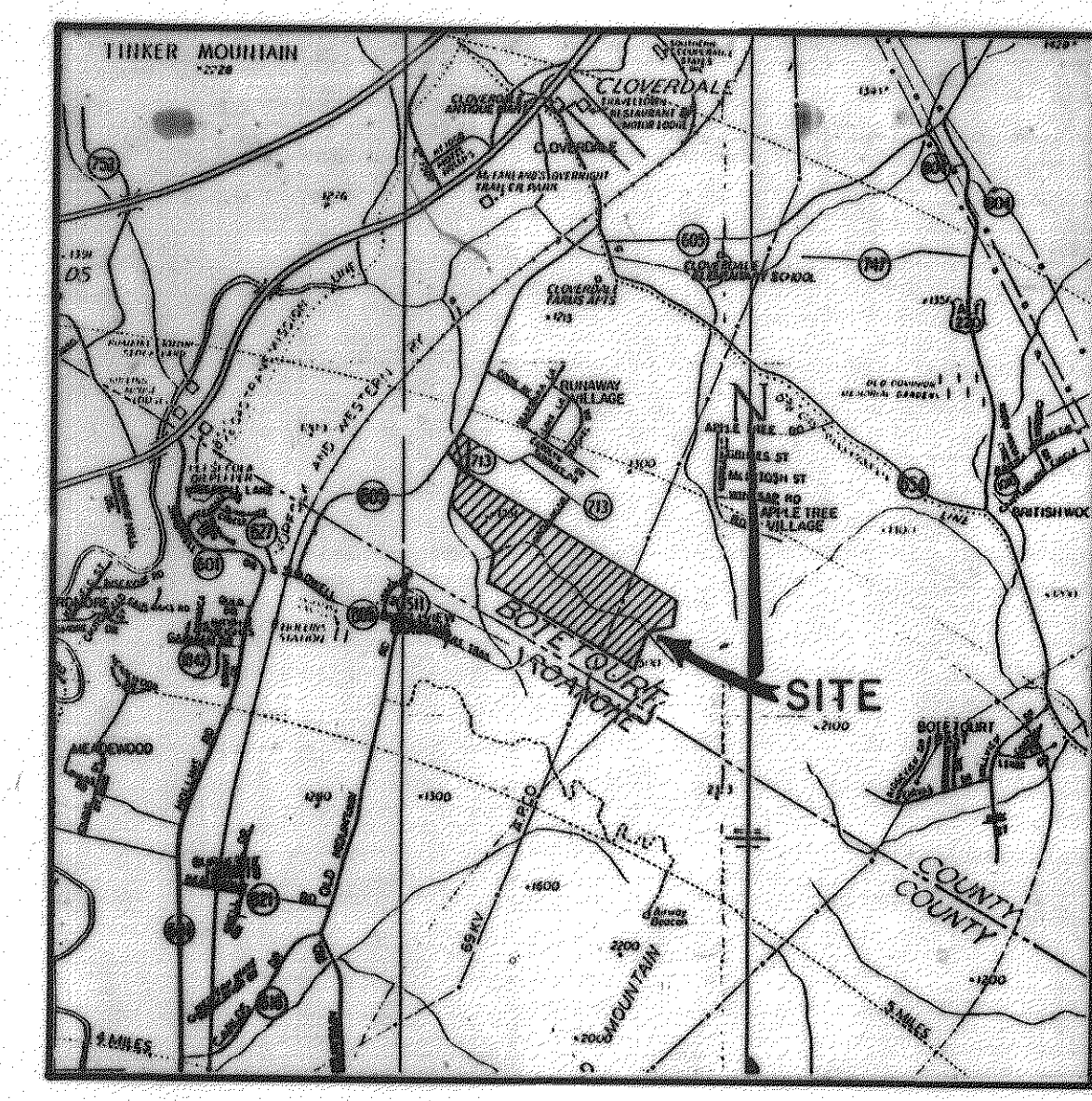


GENERAL NOTES

- All construction methods and materials must be in accordance with the January 1987 VDOT Road & Bridge Specifications.
- VDOT and County approval of subdivision road plans does not preclude the right to add additional facilities. Any revisions made to the subdivision plans and/or subdivision plat in any manner is to be submitted to VDOT and Botetourt County for review and approval.
- VDOT approval of these plans will expire three (3) years from the date of approval.
- Clearing and grubbing shall be completed within the right-of-ways as indicated on the layout plan.
- All vegetation and overburden to be removed from shoulder to shoulder prior to the conditioning of the subgrade.
- Excess excavation to be disposed of as directed by the Engineer.
- An actual copy of the CBR report is to be submitted prior to the acceptance of the roads into the secondary system. If the the CBR values are less than 10 , the developer will be required to submit to VDOT for their approval his proposed method of correction.
- The subgrade must be approved by VDOT prior to placement of the base.
- Base must be approved by VDOT for depth, template and compaction before surface is applied.
- Contractor shall obtain entrance permit to tie into the existing VDOT right-of-ways from the Resident Engineer prior to road construction.
- All utilities to be in place prior to laying base material.
- Contractor shall verify location and elevation of all underground utilities shown on plans in areas of construction prior to starting work. Contact the Engineer immediately if the location of elevation is different from that shown on the plans, if there appears to be a conflict, or upon discovery of any utility not shown on the plans. To miss utility call "Miss Utility of Central Virginia" 1-800-552-7001.
- Field review will be made during construction to determine the need and limits of guard rail, determine the needs and limits of paved gutter and/or ditch stabilization treatments, to determine the needs and limits of additional drainage easements. All drainage easement must be cut and made function to a natural watercourse. Any erosion problems encountered in an easement must be corrected by whatever means necessary prior to subdivision acceptance.
- An inspector will not be furnished except for periodic progress inspection, the above mentioned field reviews and checking for required stone depths. The developer will be required to post a surety bond to guarantee the road free of defects for one year after acceptance by VDOT.
- The street must be properly maintained until acceptance. At such time as all requirements have been met for acceptance another inspection will be made to determine that the street has been properly maintained.
- Any easements granted to a utility company for placement of power, telephone and cable t.v. must be released prior to acceptance.
- In order to meet public service requirements, all streets must serve a minimum of three occupied dwellings prior to acceptance.
- A minimum pavement radius of 25 feet is required at all street intersections.

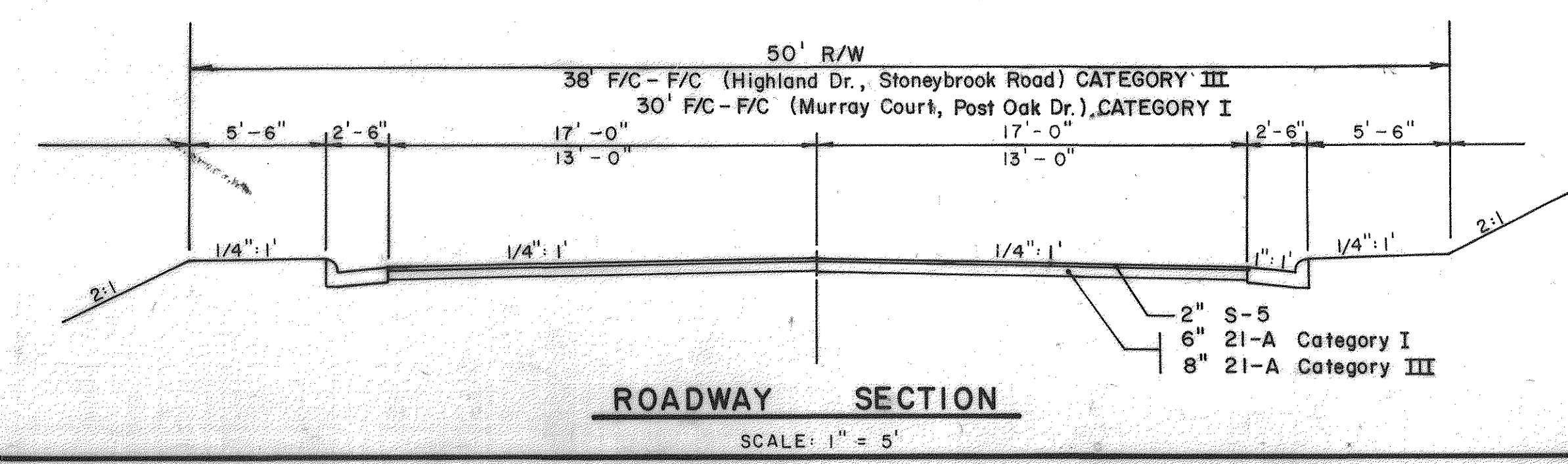
DEVELOPER: HIGHLAND DEVELOPERS, Ltd.
ADDRESS: P.O. Box 497
Blue Ridge, Va. 24064
PHONE: 992-5520

HIGHLAND MANOR SECTION II



VICINITY MAP
(Not to Scale)

TAX NOS: 107-57 & 107-3
TRACT SIZE: 19.064 acres
PRESENT ZONING: R-1
PRESENT USE: VACANT
PROPOSED USE: SINGLE FAMILY HOMES
SEWER: BOTETOURT COUNTY
WATER: COMMUNITY



ROADWAY SECTION
SCALE: 1" = 5'

PROJECT NAME: Highland Manor Sec. 2
DATE: 10/20/89
LOCATION: Blue Ridge, Va.
TOTAL # SHEETS: 7
A/E FIRM: Lang Engineering
OF SETS: 1

HORIZONTAL AND VERTICAL CONTROL SURVEYS PERFORMED IN 1988
BY MOUNTAIN TOP SURVEYORS, INC.
ALL ELEVATIONS ARE REFERENCED TO THE U.S.G.S. DATUM
SOURCE OF TOPOGRAPHIC MAPPING IS MOUNTAIN TOP SURVEYORS, INC.
DATED 1988
BOUNDARY SURVEY PERFORMED BY MOUNTAIN TOP SURVEYORS, INC.

REVISIONS	DATE	BY	REASON
1			Revised street centerline

LEGEND

BOUNDARY:

TRACT
PROPERTY LINE
RIGHT OF WAY
CENTER LINE
MIN. BLDG. LINE

UTILITY:

EXIST. STORM SEWER
PROP. STORM SEWER
EXIST. SANITARY SEWER
PROPOSED SANITARY SEWER
EXIST. WATER MAIN
PROP. WATER MAIN

TOPOGRAPHIC & ESC.

EXIST. CONTOUR
PROP. CONTOUR
DRAINAGE DEVIDE
DETAIL SYMBOL

MISC.:

PROP. LIMIT OF CLEARING
EXIST. CURB & GUTTER
PROP. CURB & GUTTER
EXIST. CURB
PROP. CURB
PROP. PAVEMENT
PROP. STRUCTURES

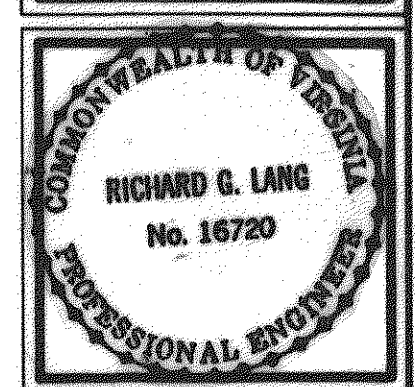
INDEX

SHEET INDEX

- SHEET 1: COVER SHEET
- SHEET 2: ROADWAY PLAN
- SHEET 3: ROADWAY PROFILE - HIGHLAND DRIVE
- SHEET 4: ROADWAY PROFILES - STONEYBROOK ROAD & POST OAK DRIVE
- SHEET 5: ROADWAY PROFILES - MURRAY COURT & SANITARY SEWER
- SHEET 6: DETAILS AND SPECIFICATIONS
- SHEET 7: DRAINAGE AREA MAPS

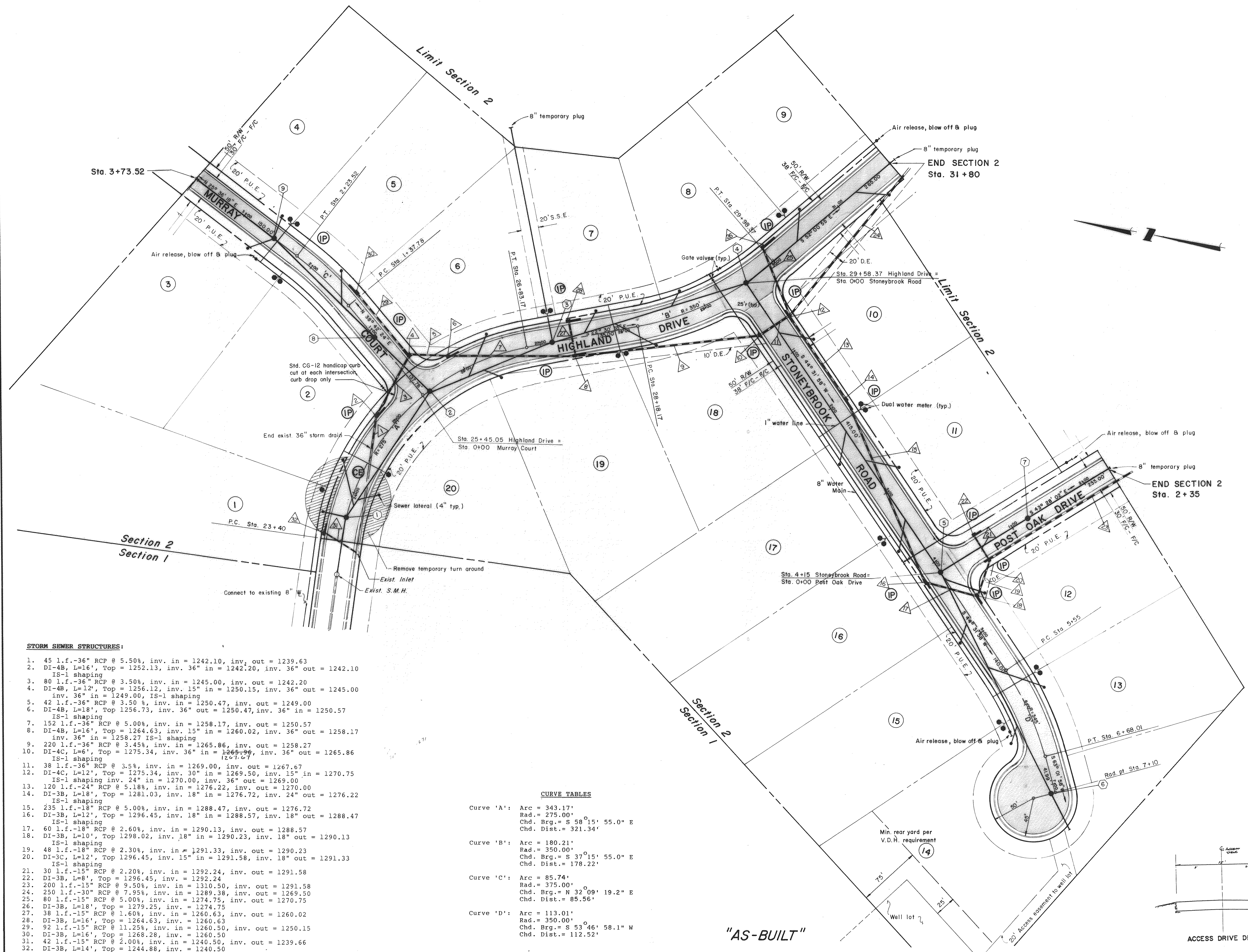
SANITARY SEWER "AS-BUILTS"

LANG ENGINEERING Co.
Consulting Engineers • Land Planners
P.O. Box 497
Blue Ridge, Va. 24064
(703) 992-5520



HIGHLAND MANOR
SECTION TWO
BLUE RIDGE DISTRICT
BOTETOURT COUNTY, VIRGINIA

SHEET NO. 7
OF 7



Sta. 3+73.52

END SECTION 2
Sta. 31+80

END SECTION 2
Sta. 2+35

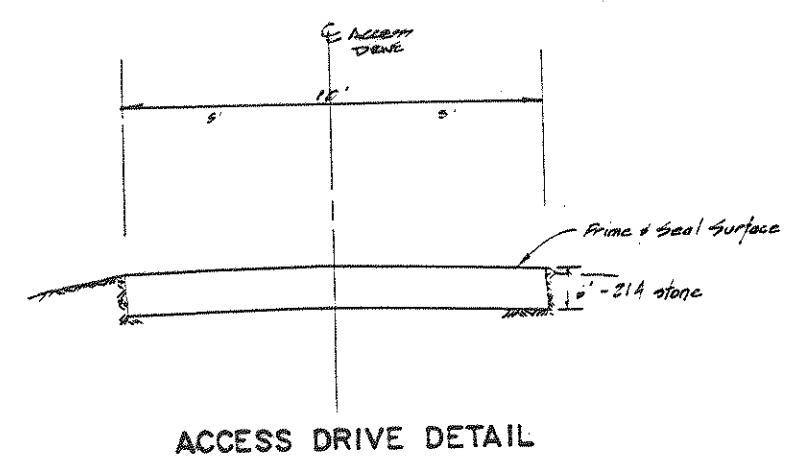
STORM SEWER STRUCTURES:

1. 45 l.f.-36" RCP @ 5.50%, inv. in = 1242.10, inv. out = 1239.63
2. DI-4B, L=16', Top = 1252.13, inv. 15" in = 1242.20, inv. 36" out = 1242.10
IS-1 shaping
3. 80 l.f.-36" RCP @ 3.50%, inv. in = 1245.00, inv. out = 1242.20
4. DI-4B, L=12', Top = 1256.12, inv. 15" in = 1250.15, inv. 36" out = 1245.00
inv. 36" in = 1249.00, IS-1 shaping
5. 42 l.f.-36" RCP @ 3.50%, inv. in = 1250.47, inv. out = 1249.00
6. DI-4B, L=18', Top = 1256.73, inv. 36" out = 1250.47, inv. 36" in = 1250.57
IS-1 shaping
7. 152 l.f.-36" RCP @ 5.00%, inv. in = 1258.17, inv. out = 1250.57
8. DI-4B, L=16', Top = 1264.63, inv. 15" in = 1260.02, inv. 36" out = 1258.17
inv. 36" in = 1258.27 IS-1 shaping
9. 220 l.f.-36" RCP @ 3.45%, inv. in = 1265.86, inv. out = 1258.27
10. DI-4C, L=6', Top = 1275.34, inv. 36" in = 1265.86, inv. 36" out = 1265.86
IS-1 shaping
11. 38 l.f.-36" RCP @ 3.5%, inv. in = 1269.00, inv. out = 1267.67
12. DI-4C, L=12', Top = 1275.34, inv. 30" in = 1269.50, inv. 15" in = 1270.75
IS-1 shaping inv. 24" in = 1270.00, inv. 36" out = 1269.00
13. 120 l.f.-24" RCP @ 5.18%, inv. in = 1276.22, inv. out = 1270.00
14. DI-3B, L=18', Top = 1261.03, inv. 18" in = 1276.72, inv. 24" out = 1276.22
IS-1 shaping
15. 235 l.f.-18" RCP @ 5.00%, inv. in = 1288.47, inv. out = 1276.72
16. DI-3B, L=12', Top = 1296.45, inv. 18" in = 1288.57, inv. 18" out = 1288.47
IS-1 shaping
17. 60 l.f.-18" RCP @ 2.60%, inv. in = 1290.13, inv. out = 1288.57
18. DI-3B, L=10', Top = 1298.02, inv. 18" in = 1290.23, inv. 18" out = 1290.13
IS-1 shaping
19. 48 l.f.-18" RCP @ 2.30%, inv. in = 1291.33, inv. out = 1290.23
20. DI-3C, L=12', Top = 1296.45, inv. 15" in = 1291.58, inv. 18" out = 1291.33
IS-1 shaping
21. 30 l.f.-15" RCP @ 2.20%, inv. in = 1292.24, inv. out = 1291.58
22. DI-3B, L=8', Top = 1296.45, inv. = 1292.24
23. 200 l.f.-15" RCP @ 9.50%, inv. in = 1310.50, inv. out = 1291.58
24. 250 l.f.-30" RCP @ 7.95%, inv. in = 1289.38, inv. out = 1269.50
25. 80 l.f.-15" RCP @ 5.00%, inv. in = 1274.75, inv. out = 1270.75
26. DI-3B, L=18', Top = 1279.25, inv. = 1274.75
27. 38 l.f.-15" RCP @ 1.60%, inv. in = 1260.63, inv. out = 1260.02
28. DI-3B, L=16', Top = 1264.63, inv. = 1260.63
29. 92 l.f.-15" RCP @ 11.25%, inv. in = 1260.50, inv. out = 1250.15
30. DI-3B, L=16', Top = 1268.28, inv. = 1260.50
31. 42 l.f.-15" RCP @ 2.00%, inv. in = 1240.50, inv. out = 1239.66
32. DI-3B, L=14', Top = 1244.88, inv. = 1240.50

CURVE TABLES

- Curve 'A': Arc = 343.17'
Rad. = 275.00'
Chd. Brg. = S 58°15' 55.0" E
Chd. Dist. = 321.34'
- Curve 'B': Arc = 180.21'
Rad. = 350.00'
Chd. Brg. = S 37°15' 55.0" E
Chd. Dist. = 178.22'
- Curve 'C': Arc = 85.74'
Rad. = 375.00'
Chd. Brg. = N 32°09' 19.2" E
Chd. Dist. = 85.56'
- Curve 'D': Arc = 113.01'
Rad. = 350.00'
Chd. Brg. = S 53°46' 58.1" W
Chd. Dist. = 112.52'

"AS-BUILT"



DATE	10/21/1989
SCALE	1" = 50'
CHKD.	RGL
REVISIONS	1. revise storm sewer & Post Oak (30') 1-15-90

LANG ENGINEERING Co.
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Blue Ridge, Va. 24064
(703) 992-5520

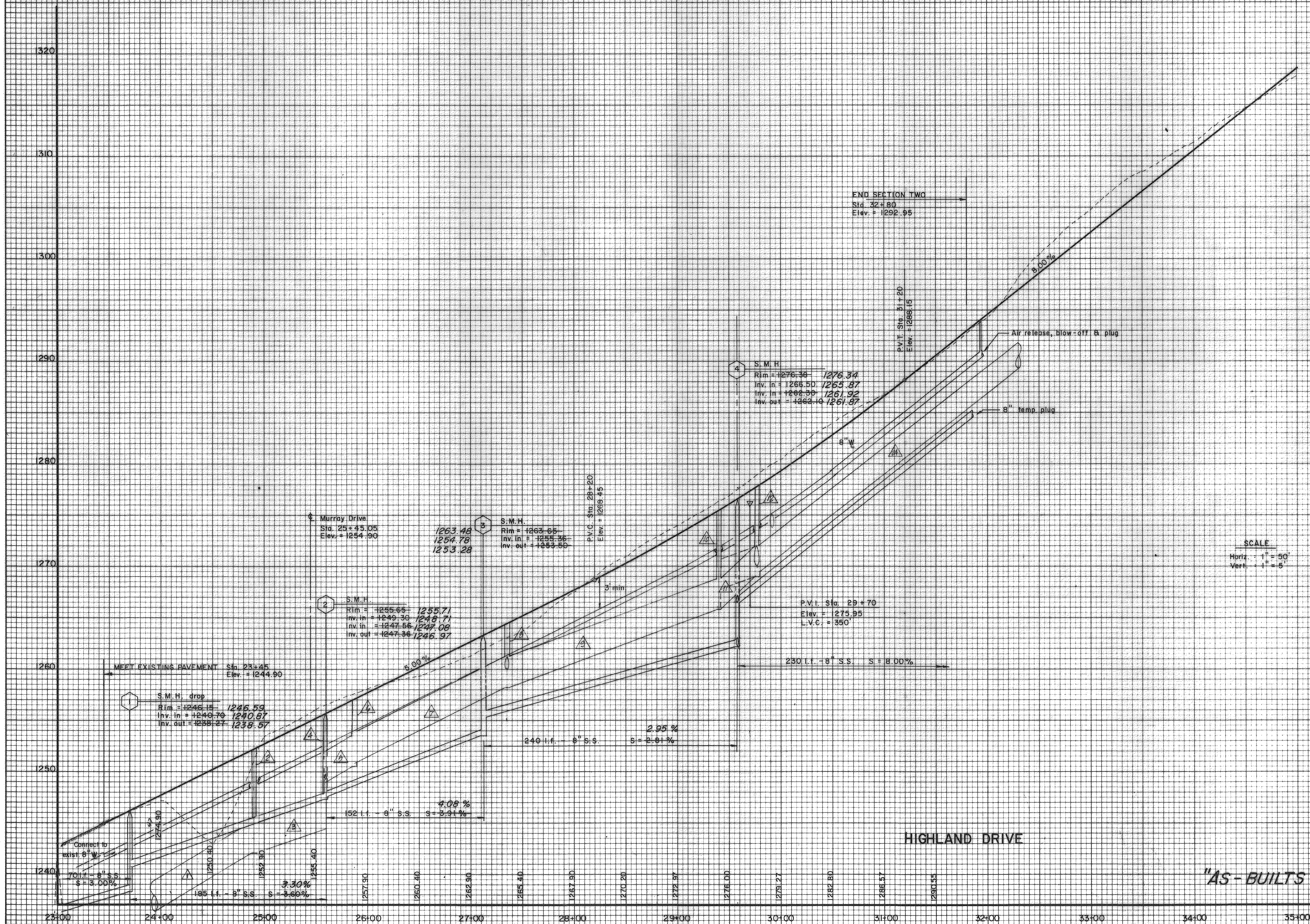
RICHARD G. LANG
No. 16720
PROFESSIONAL ENGINEER

HIGHLAND MANOR
SECTION TWO
BLUE RIDGE DISTRICT
BOTETOUR COUNTY, VIRGINIA

SHEET NO. **2**
OF **7**

DATE	BY	SURVEYED	PLOTTED	TEMPERATURE	AREAS CHECKED

DATE	BY	SURVEYED	PLOTTED	TEMPERATURE	AREAS CHECKED

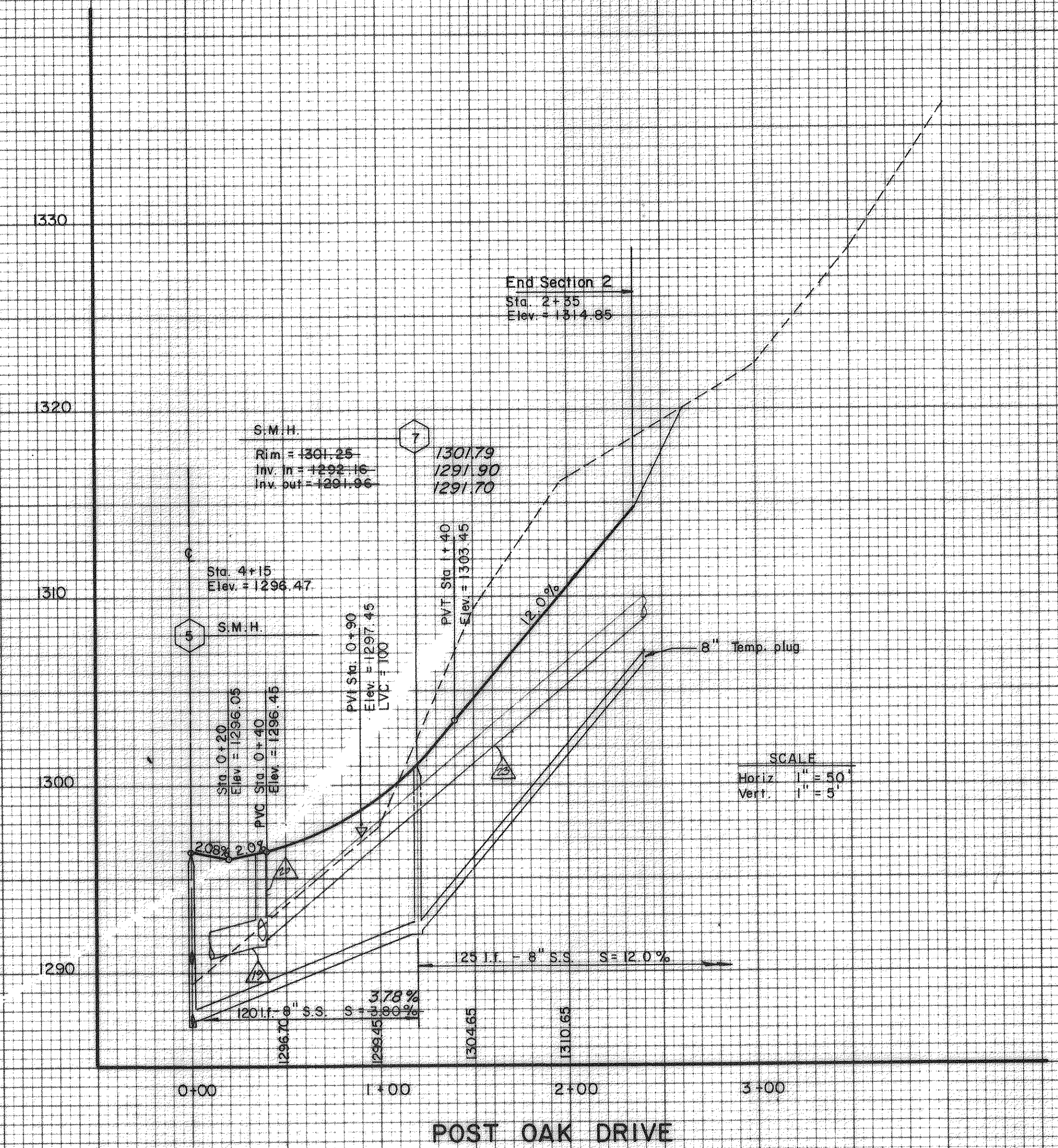
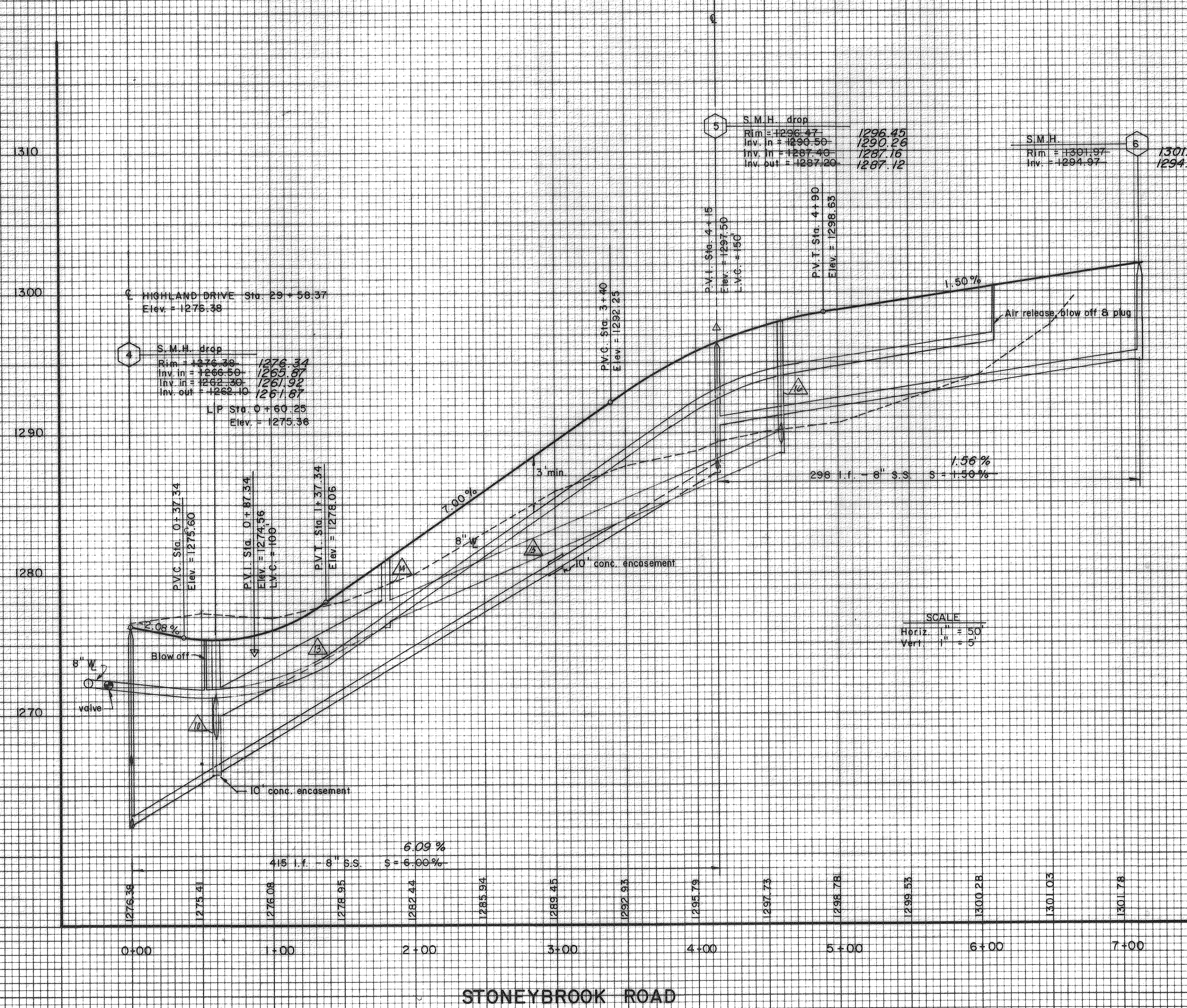


Revised 1-12-90 Storm & sanitary sewer

Sheet 3 of 7

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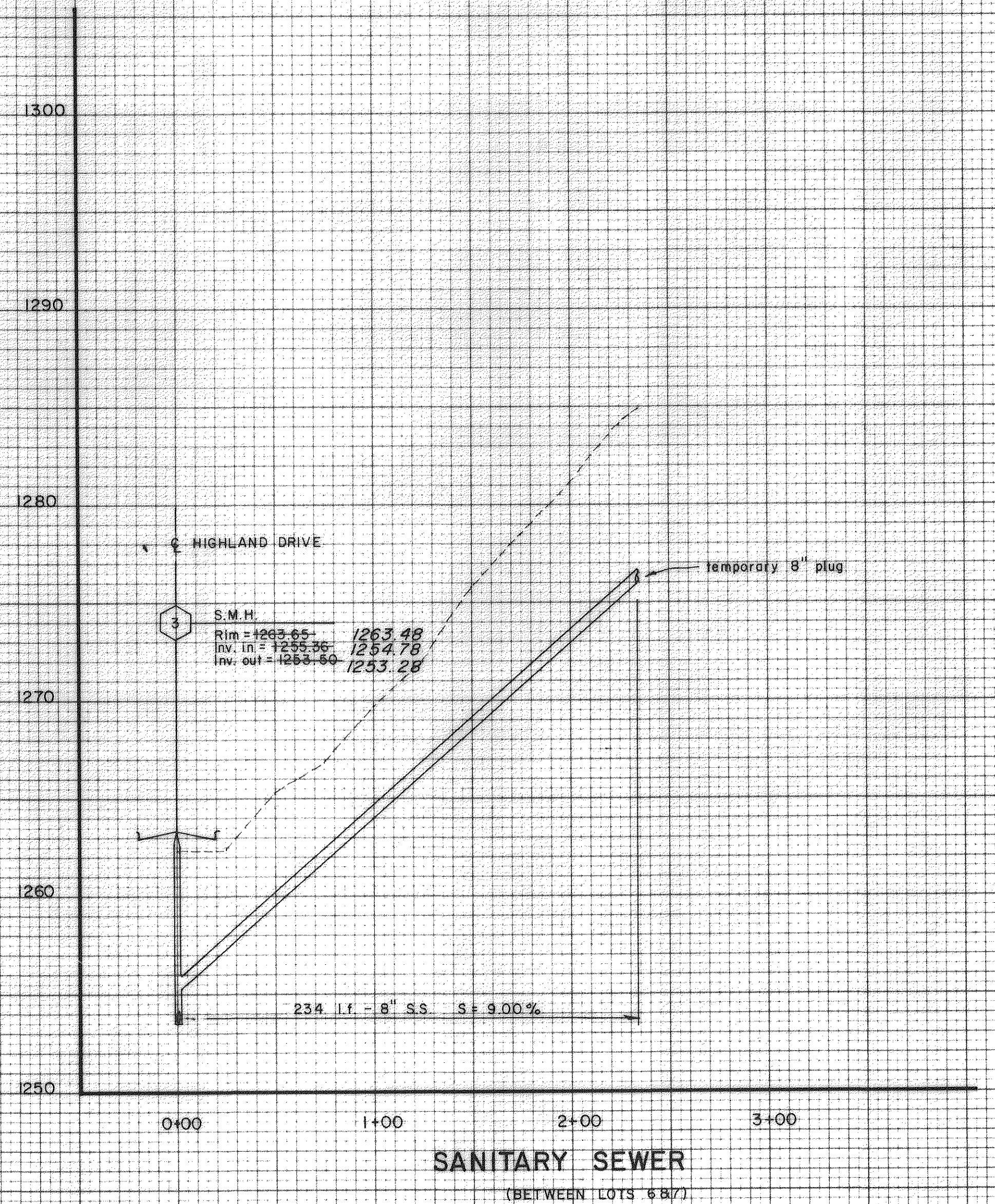
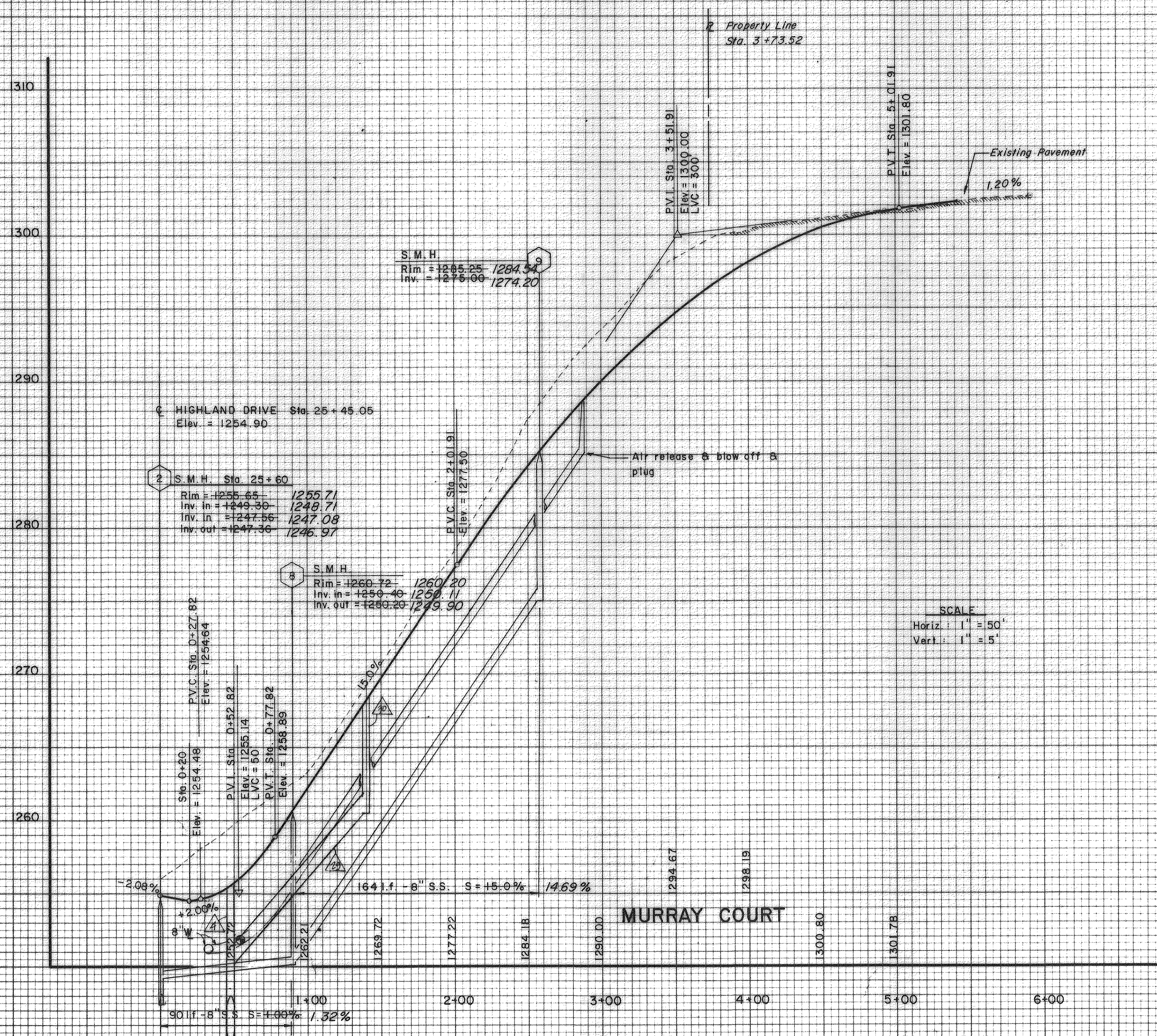
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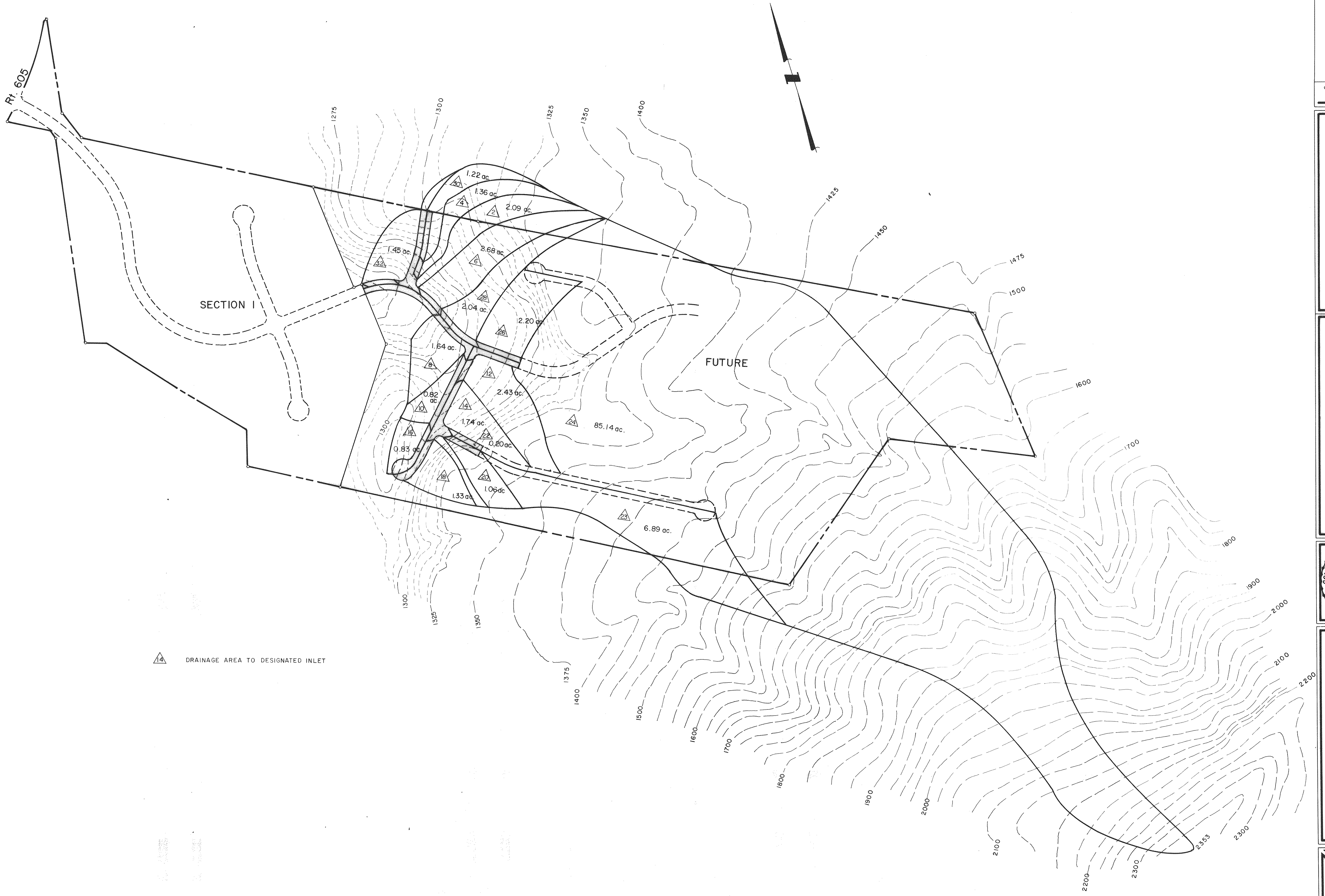
Revised 11-12-90 Storm & sanitary sewer

FINAL SURVEY	DATE
NO.	
BY	
NOTED	
PLANNED	
DESIGNED	
CONSTRUCTED	
AREAS CHECKED	

ORIGINAL SURVEY	DATE
NO.	
BY	
NOTED	
PLANNED	
DESIGNED	
CONSTRUCTED	
AREAS CHECKED	



"AS-BUILTS"



△ DRAINAGE AREA TO DESIGNATED INLET

"AS - BUILT"

DRAINAGE AREA MAP

7
OF

HIGHLAND MANOR
SECTION TWO
BLUE RIDGE DISTRICT
BOTETOURT COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
RICHARD G. LANG
No. 16720
PROFESSIONAL ENGINEER

LANG ENGINEERING Co.
Consulting Engineers • Land Planners
P.O. Box 497
Blue Ridge, Va. 24064
(703)992-5520

DATE Oct. 21, 1989 SCALE 1" = 200'
JOB No. 891018 CHKD. RCL
0 100' 200' 400' 800'

REVISIONS		DATE
6		
5		
4		
3		
2		
1	revise drainage areas	1-12-90