

**CONTRACT 31 S**  
**SEWER MAIN EXTENSIONS**  
**HOWARD COUNTY METROPOLITAN COMMISSION**  
**ELLICOTT CITY SUB-DISTRICT**

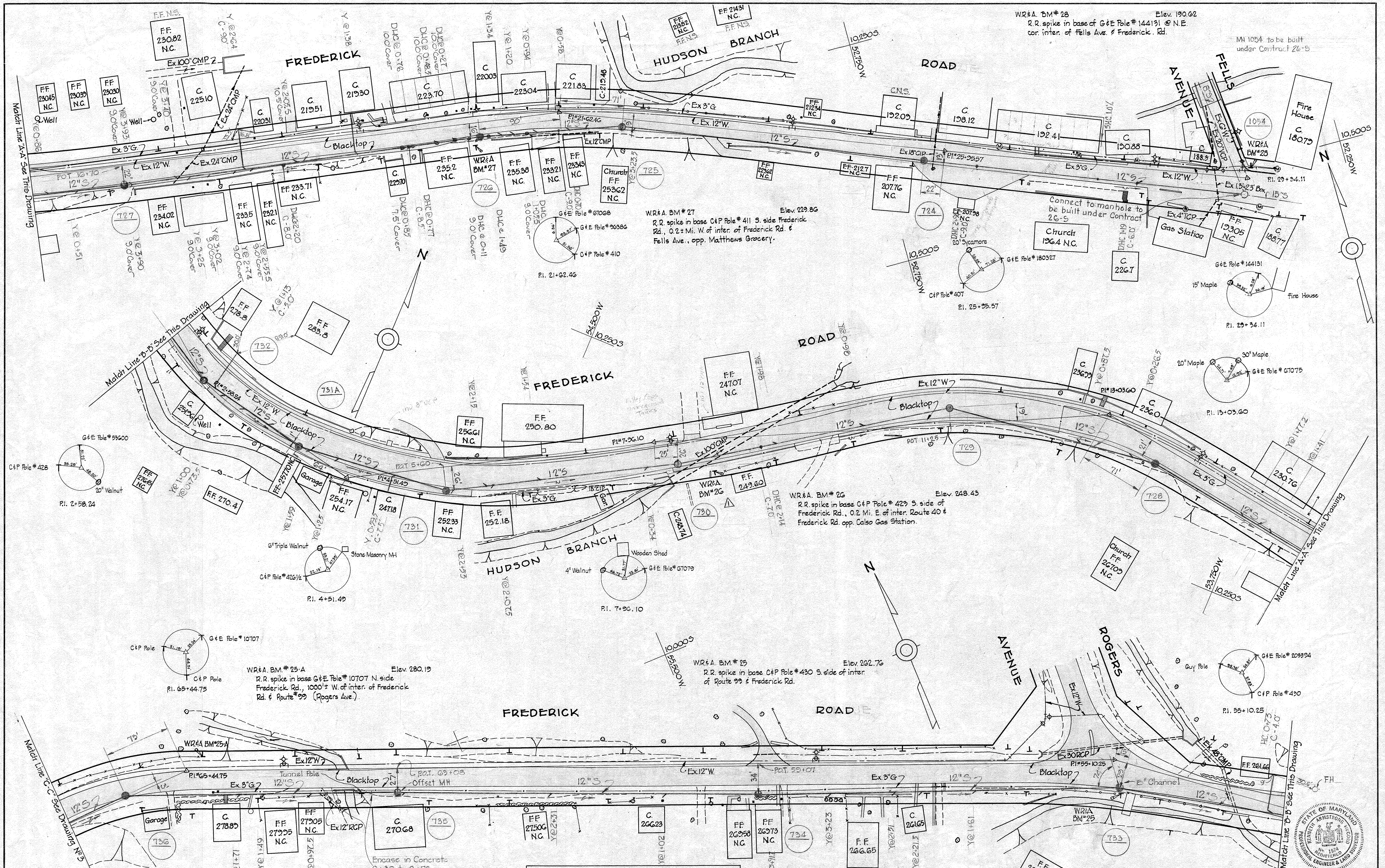
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec. 16, 1963 DATE  CHIEF ENGINEER	CONTRACT NO. 31-S	LOCATION MAP	ELLICOTT CITY SUB-DISTRICT	DRAWING NO. 1 OF 24 SCALE AS SHOWN
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W.O. 5010-2

AS BUILT 28 FEB. 66

1/5-5/1





PROFILE SCHEDULE	
Frederick Road	Drawing N° 15

U:	4-19-65	Manholes No. 729 and 730 relocated.
Date:		Revision

**WHITMAN, REQUARDT & ASSOCIATES**  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

**HOWARD COUNTY METROPOLITAN COMMISSION**  
Dec. 16, 1963  
DATE

**CONTRACT NO. 31-S**

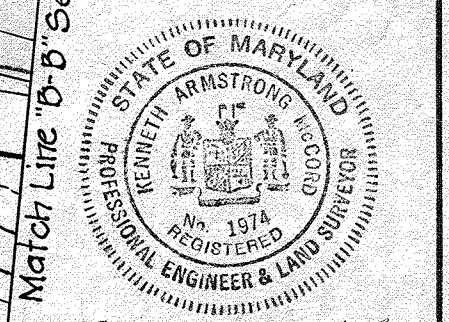
**PLAN OF SEWER MAINS**

**ELLCOTT CITY SUB-DISTRICT**

**DRAWING NO. 2 OF 24**  
**SCALE 1"=50'**

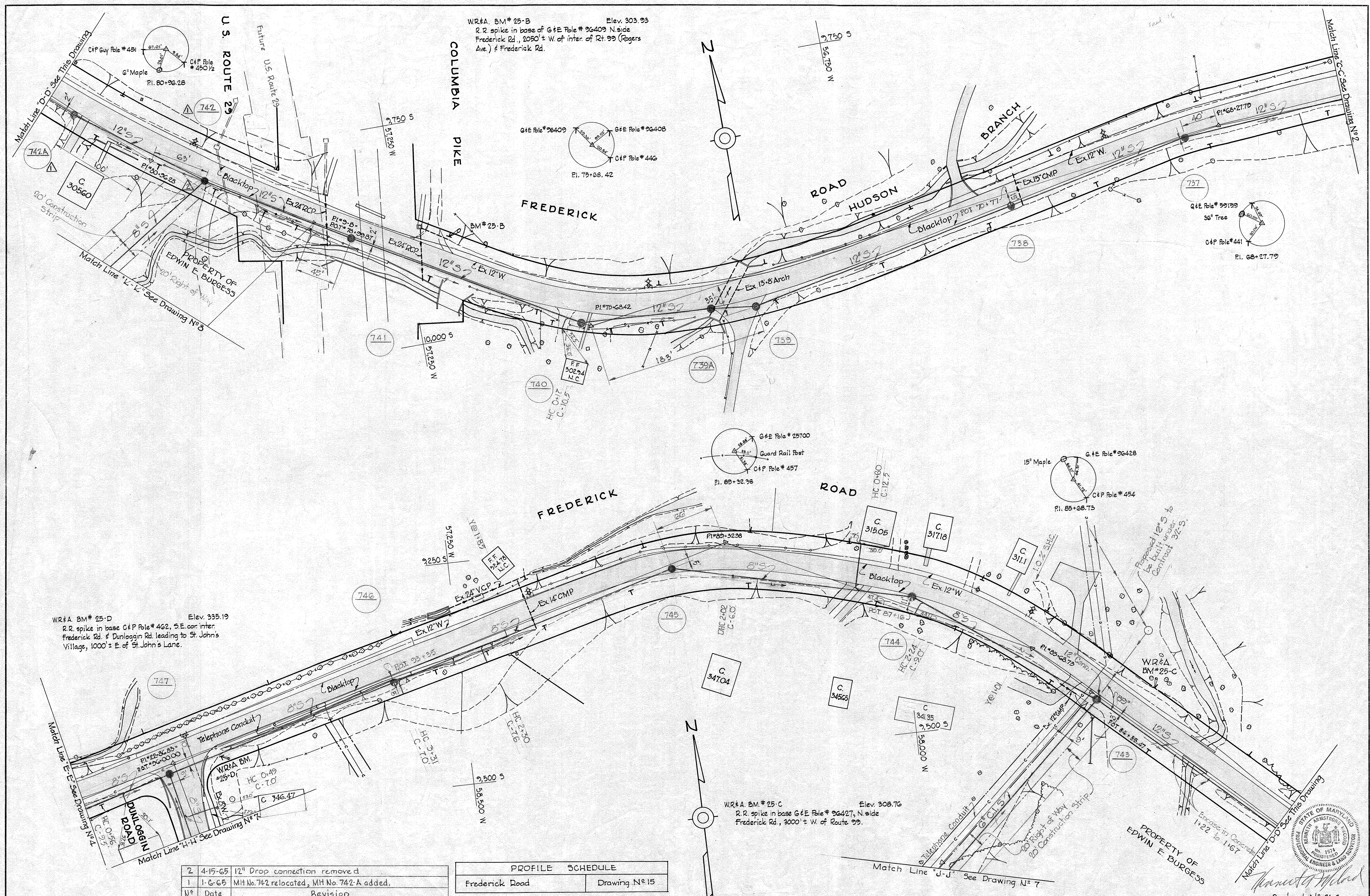
W. O. 5010-2

AS BUILT 28 FEB 66



WS 31-S/2





WR&A BM# 25-D Elev. 335.19  
 R.R. spike in base of G&E Pole # 462, S.E. cor. inter.  
 Frederick Rd. & Dunlaggin Rd. leading to St. John's  
 Village, 1000' ± E. of St. John's Lane.

WR&A BM# 25-B Elev. 303.93  
 R.R. spike in base of G&E Pole # 26409 N. side  
 Frederick Rd., 2050' ± W. of inter. of Rt. 99 (Rogers  
 Ave.) & Frederick Rd.

WR&A BM# 25-C Elev. 308.76  
 R.R. spike in base of G&E Pole # 26427, N. side  
 Frederick Rd., 3000' ± W. of Route 99.

No.	Date	Revision
2	4-15-65	12" Drop connection removed
1	1-6-65	MH No. 742 relocated, MH No. 742-A added.

PROFILE SCHEDULE	
Frederick Road	Drawing No. 15

**WHITMAN, REQUARDT & ASSOCIATES**  
 ENGINEERS  
 1304 ST. PAUL ST.  
 BALTIMORE, MARYLAND

**HOWARD COUNTY METROPOLITAN COMMISSION**  
 DATE: Dec. 16, 1963  
 CHIEF ENGINEER

CONTRACT NO. 31-S

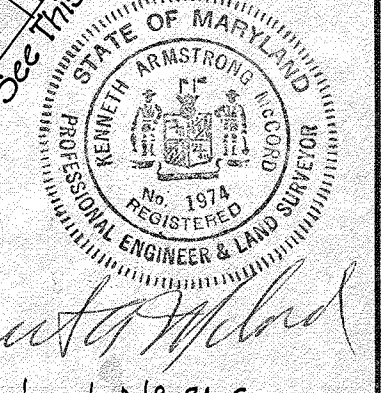
PLAN OF SEWER MAINS

ELLICOTT CITY SUB-DISTRICT

DRAWING NO. 3 OF 24 SCALE 1"=50'

W. O. 5010-2

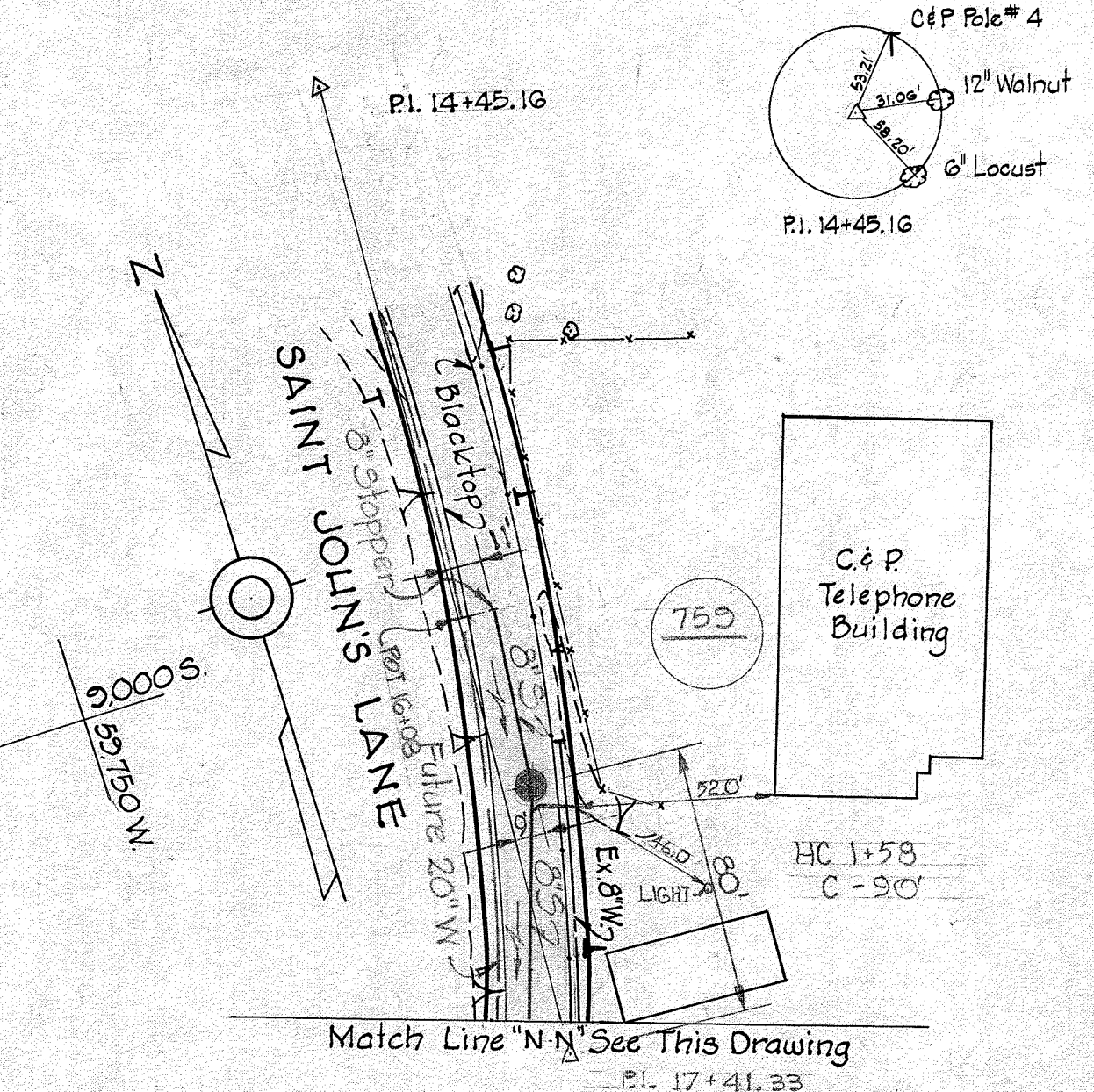
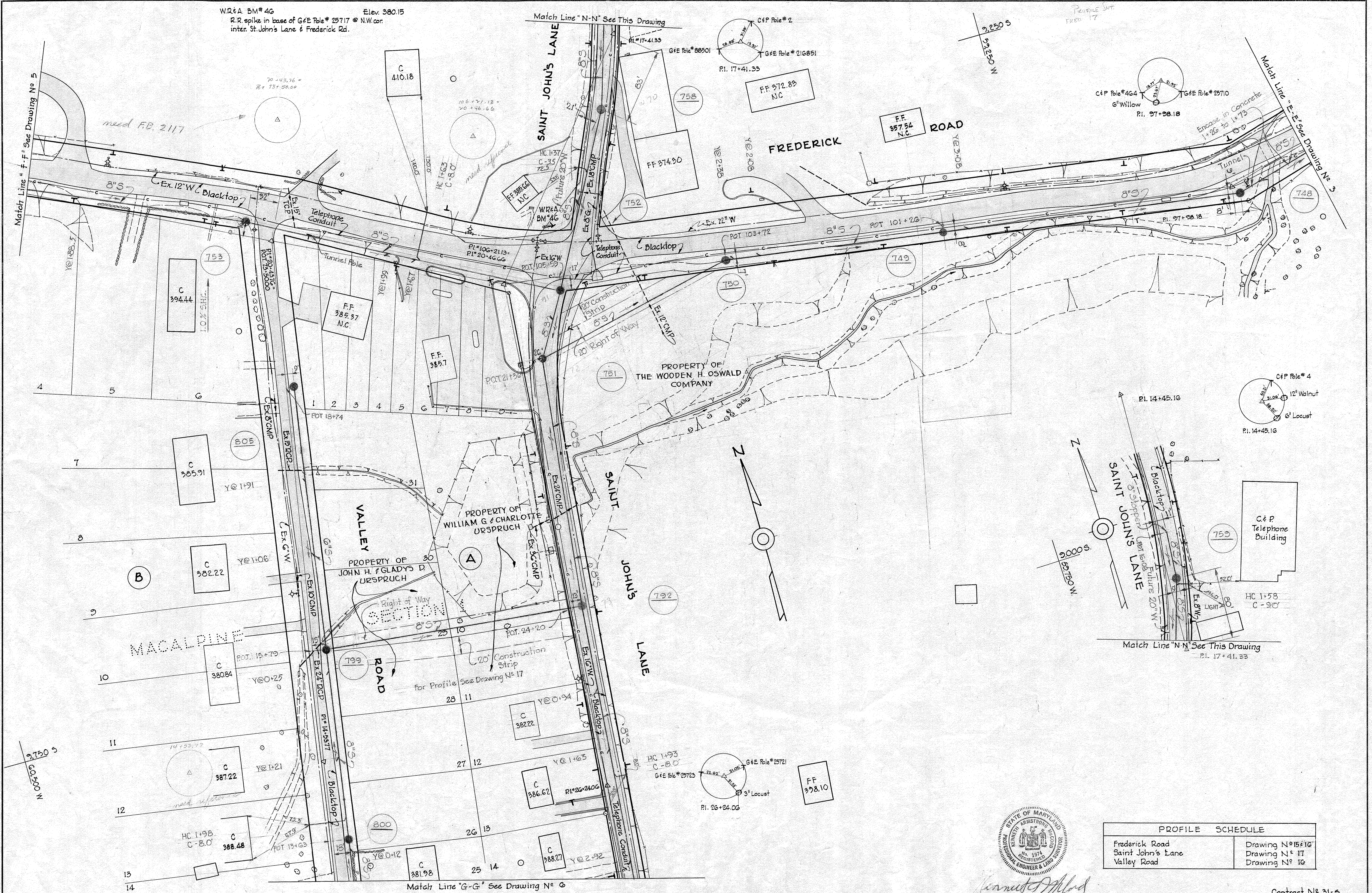
AS BUILT 28 FEB 66



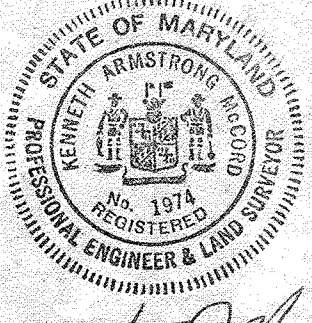
WS 31-S/3



W.R. & A. BM# 46 Elev. 380.15  
 R.R. spike in base of G&E Pole# 25717 @ N.W. cor.  
 inter. St. John's Lane & Frederick Rd.



PROFILE SCHEDULE	
Frederick Road	Drawing N# 15 & 16
Saint John's Lane	Drawing N# 17
Valley Road	Drawing N# 18



WHITMAN, REQUARDT & ASSOCIATES  
 ENGINEERS  
 1304 ST. PAUL ST.  
 BALTIMORE, MARYLAND

HOWARD COUNTY METROPOLITAN COMMISSION  
 Dec. 16, 1963  
 DATE

CONTRACT NO. 31-S

PLAN OF  
 SEWER MAINS

ELLCOTT CITY SUB-DISTRICT

DRAWING NO. 4 OF 24 SCALE 1"=50'

W.O. 5010-2

AS BUILT 28 FEB. 66

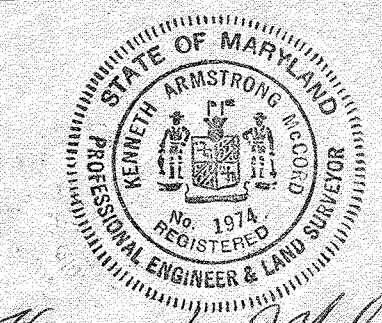
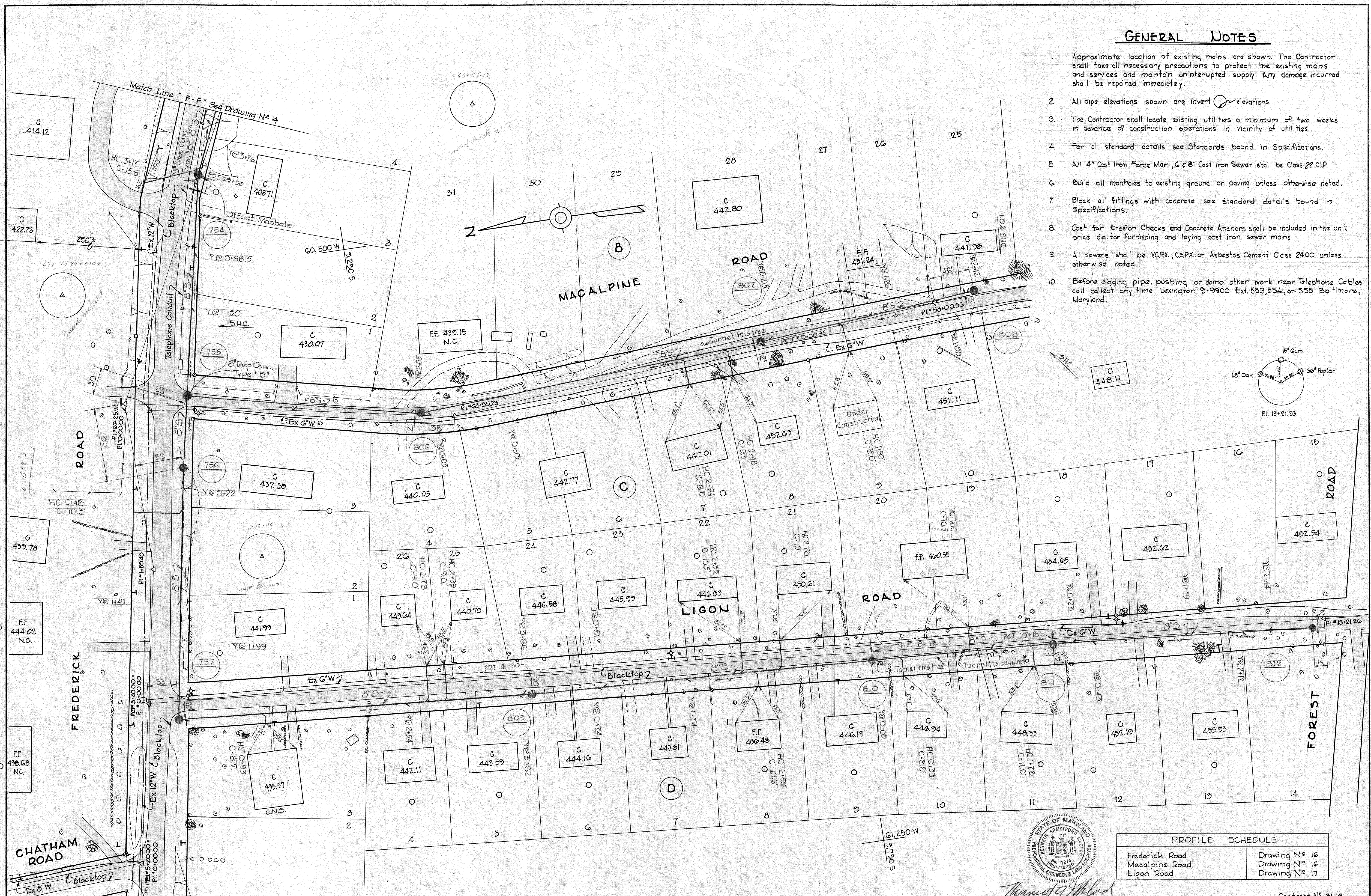
Contract N# 31-5

WS 31-S/4



**GENERAL NOTES**

1. Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect the existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately.
2. All pipe elevations shown are invert elevations.
3. The Contractor shall locate existing utilities a minimum of two weeks in advance of construction operations in vicinity of utilities.
4. For all standard details see Standards bound in Specifications.
5. All 4" Cast Iron Force Main, 6" & 8" Cast Iron Sewer shall be Class 22 C.I.P.
6. Build all manholes to existing ground or paving unless otherwise noted.
7. Block all fittings with concrete see standard details bound in Specifications.
8. Cost for Erosion Checks and Concrete Anchors shall be included in the unit price bid for furnishing and laying cast iron sewer mains.
9. All sewers shall be V.C.P.X., C.S.P.X., or Asbestos Cement Class 2400 unless otherwise noted.
10. Before digging pipe, pushing or doing other work near Telephone Cables call collect any time Lexington 9-9900 Ext. 553,554, or 555 Baltimore, Maryland.



PROFILE SCHEDULE	
Frederick Road	Drawing No. 16
Macalpine Road	Drawing No. 16
Ligon Road	Drawing No. 17

**WHITMAN, REQUARDT & ASSOCIATES**  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

**HOWARD COUNTY METROPOLITAN COMMISSION**  
DATE Dec 16, 1963  
*Carl W. Meyer*  
CHIEF ENGINEER

**CONTRACT NO. 31-S**

**PLAN OF SEWER MAINS**

**ELLICOTT CITY SUB-DISTRICT**

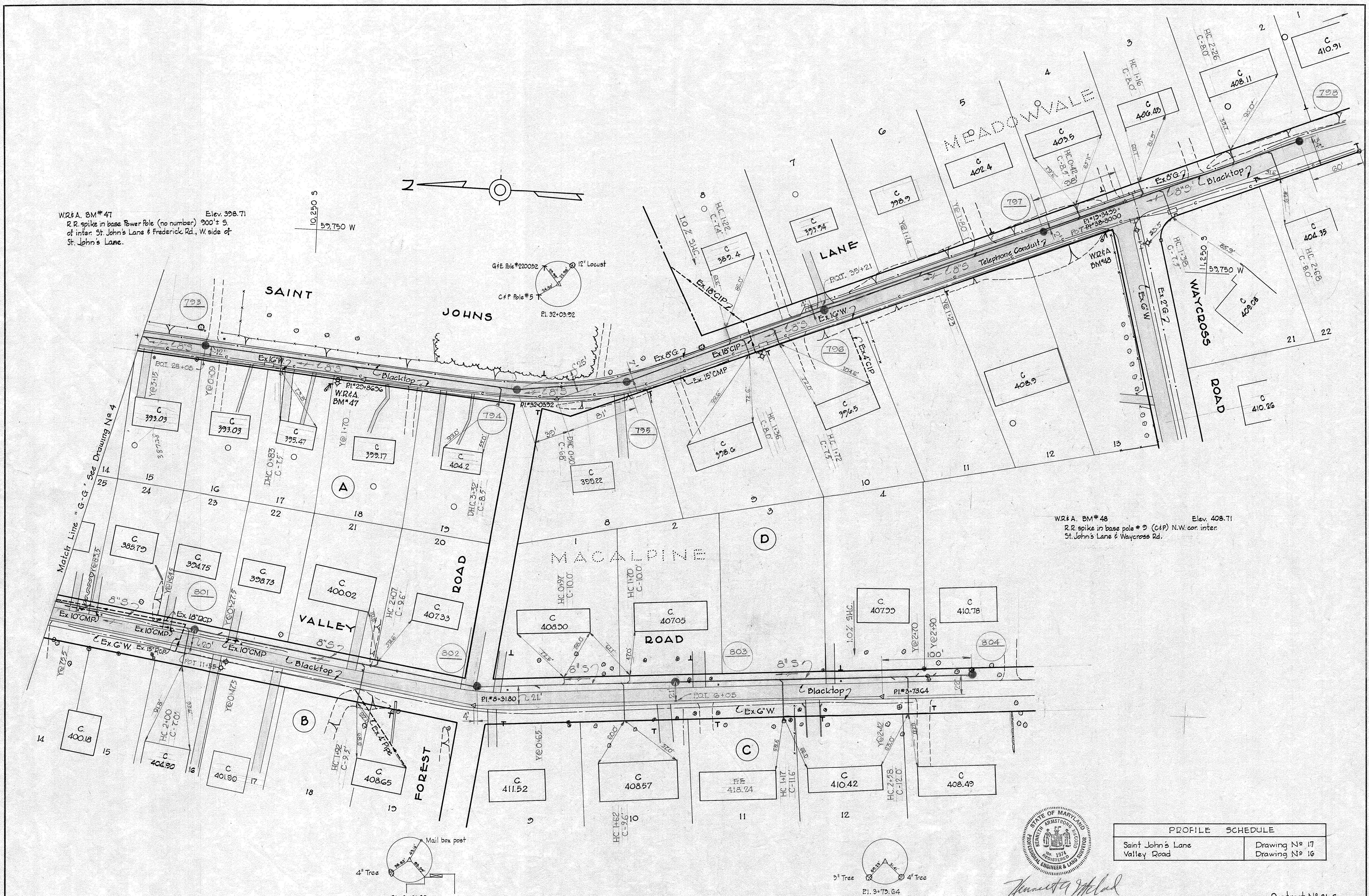
**DRAWING NO. 5 OF 24**  
**SCALE 1"=50'**

WS 31-S/5

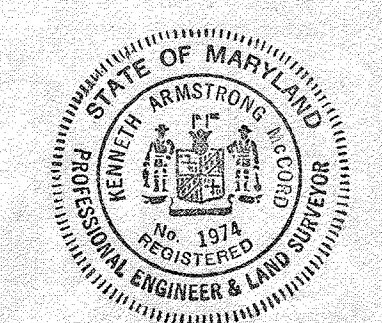


W.R. & A. BM# 47 Elev. 398.71  
 R.R. spike in base Power Pole (no number) 900' ± S  
 of inter. St. John's Lane & Frederick Rd., W. side of  
 St. John's Lane.

W.R. & A. BM# 48 Elev. 408.71  
 R.R. spike in base pole # 9 (C&P) N.W. cor. inter.  
 St. John's Lane & Waycross Rd.



PROFILE SCHEDULE	
Saint John's Lane	Drawing No. 17
Valley Road	Drawing No. 16

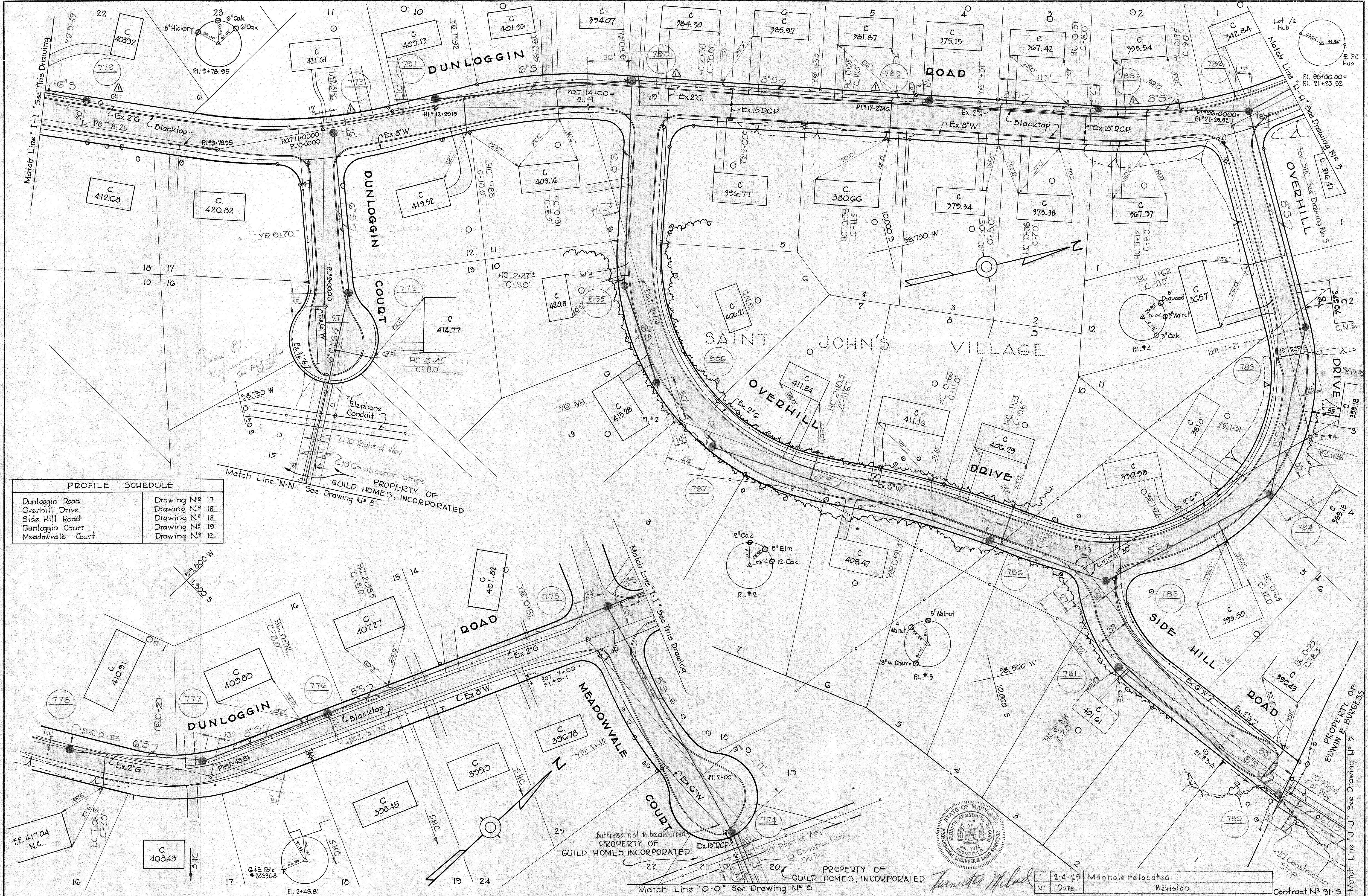


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec. 16, 1963 DATE <i>Carl W. Meyer</i> CHIEF ENGINEER	CONTRACT NO. 31-S	PLAN OF SEWER MAINS	ELLICOTT CITY SUB-DISTRICT	DRAWING NO. 6 OF 24	SCALE 1" = 50' <small>11.5W41, 11.5W40 12.5W40 FB# 2145</small>
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W. O. 5010-2 Contract No. 31-S AS BUILT 28 FEB. 66

WS 31-56





PROFILE SCHEDULE	
Dunloggin Road	Drawing N <sup>o</sup> 17
Overhill Drive	Drawing N <sup>o</sup> 18
Side Hill Road	Drawing N <sup>o</sup> 18
Dunloggin Court	Drawing N <sup>o</sup> 19
Meadowvale Court	Drawing N <sup>o</sup> 19

Match Line "N-N" See Drawing N<sup>o</sup> 8  
 PROPERTY OF GUILD HOMES, INCORPORATED  
 210' Construction Strips  
 Telephone Conduit  
 2-10' Right of Way

Buttress not to be disturbed  
 PROPERTY OF GUILD HOMES, INCORPORATED  
 10' Right of Way  
 10' Construction Strips  
 PROPERTY OF GUILD HOMES, INCORPORATED  
 Match Line "O-O" See Drawing N<sup>o</sup> 8

James H. McLeod  
 PROFESSIONAL ENGINEER & LAND SURVEYOR  
 STATE OF MARYLAND  
 LICENSE NO. 1917

No.	Date	Revision
1	2-4-65	Manhole relocated.

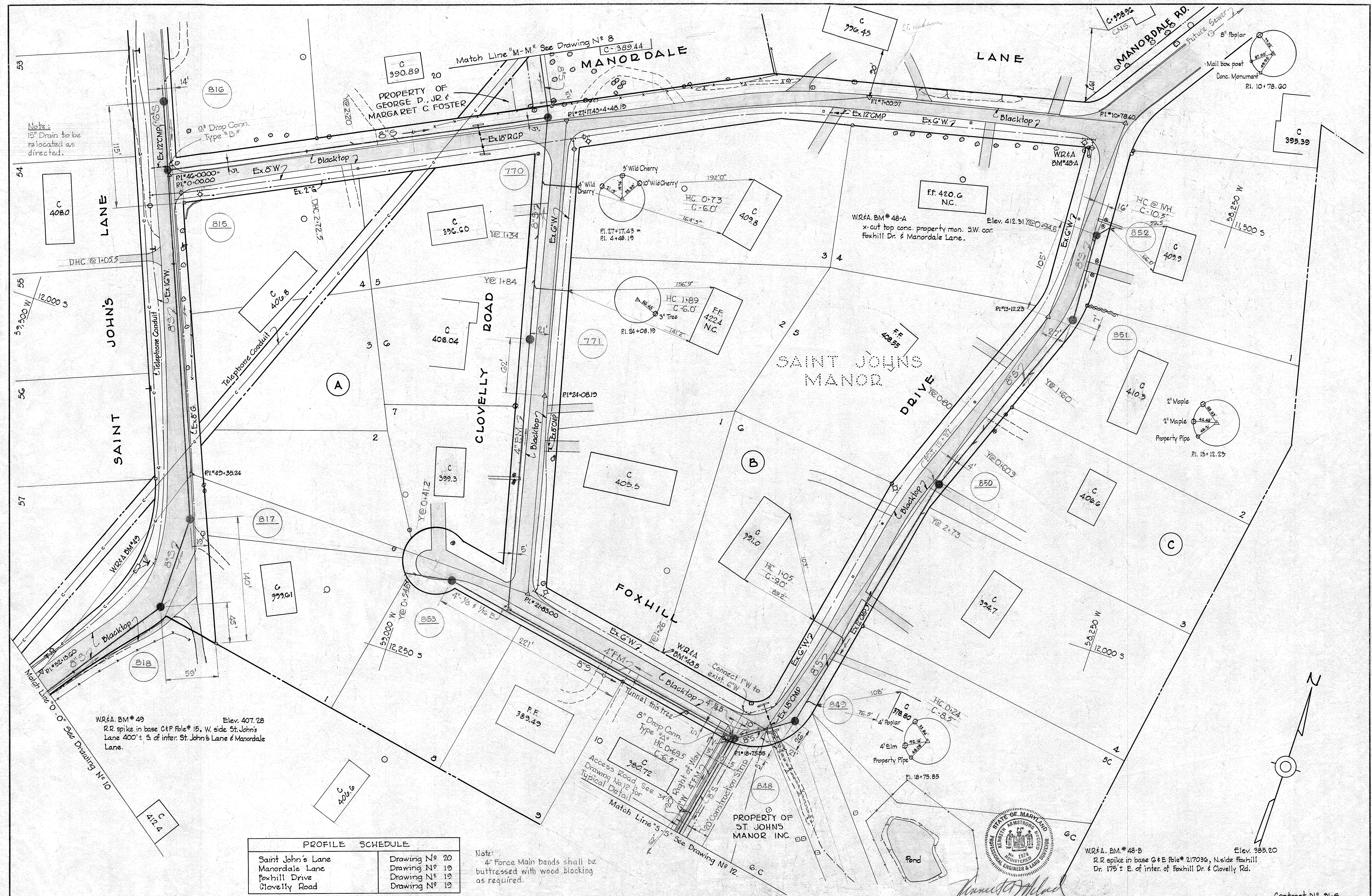
Contract N<sup>o</sup> 31-S

<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>HOWARD COUNTY METROPOLITAN COMMISSION</b> Dec. 16, 1963 DATE <i>Carl W. Meyer</i> CHIEF ENGINEER	<b>CONTRACT NO. 31-S</b>	<b>PLAN OF SEWER MAINS</b>	<b>ELLCOTT CITY SUB-DISTRICT</b>	<b>DRAWING NO. 7 OF 24</b>	<b>SCALE 1"=50'</b>
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PROFILE SCHEDULE	
Saint John's Lane	Drawing No 20
Manordale Lane	Drawing No 19
Foxhill Drive	Drawing No 19
Clovelly Road	Drawing No 19

Note: 4" Force Main bands shall be buttressed with wood blocking as required.

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

HOWARD COUNTY METROPOLITAN COMMISSION  
Dec 16, 1965  
DATE

CONTRACT NO. 31-S

PLAN OF  
SEWER MAINS

ELLCOTT CITY SUB-DISTRICT

DRAWING  
NO. 9  
OF 24  
SCALE  
1"=50'

Contract No 31-S

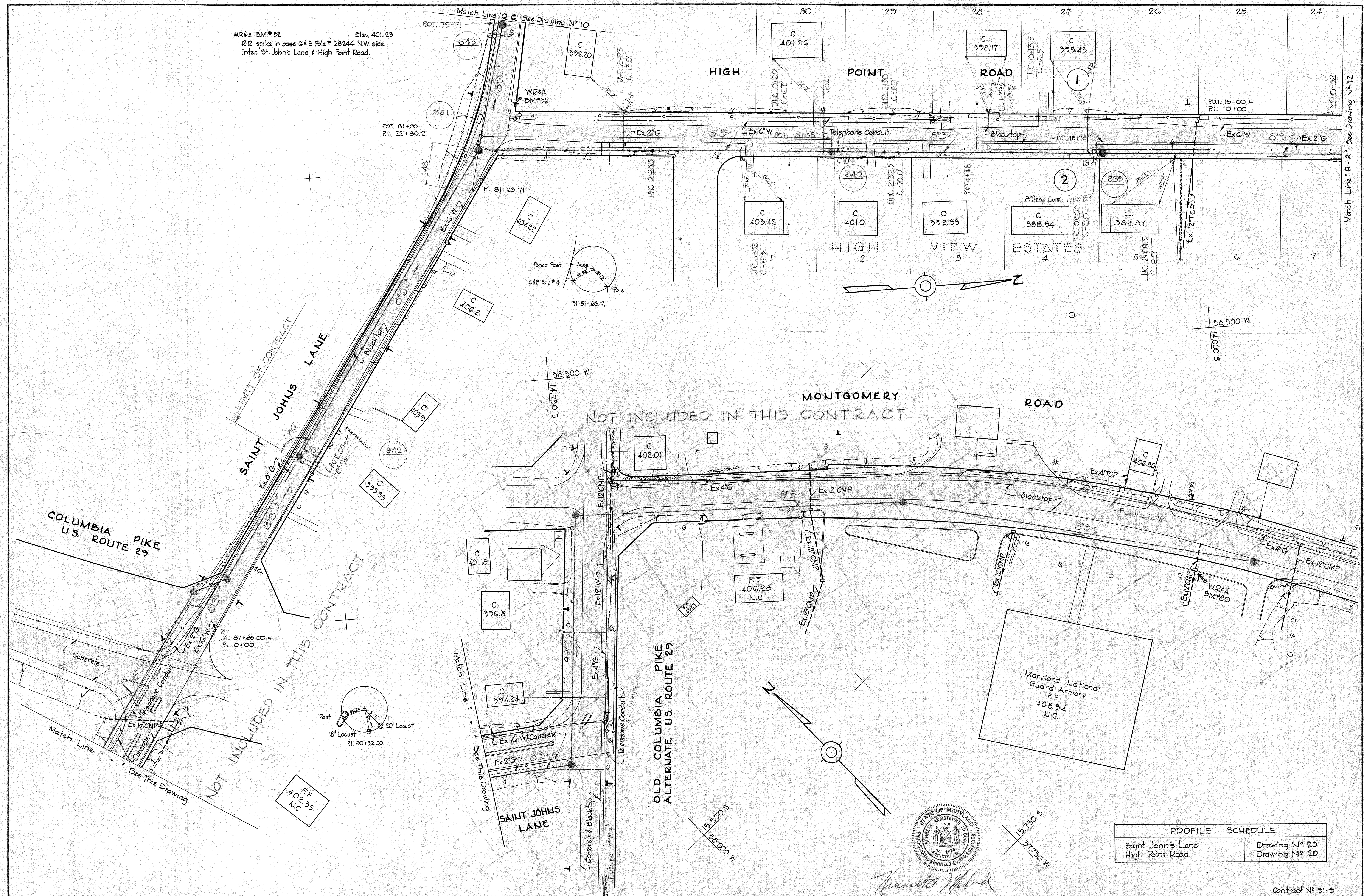
WS 31-S/9



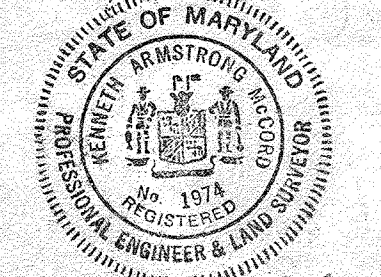




WR&A BM#52 Elev. 401.23  
 2" spike in base of E Pole # G8244 N.W. side  
 inter. St. John's Lane & High Point Road.



PROFILE SCHEDULE	
Saint John's Lane	Drawing No 20
High Point Road	Drawing No 20



*Handwritten signature*

Contract No 31-S

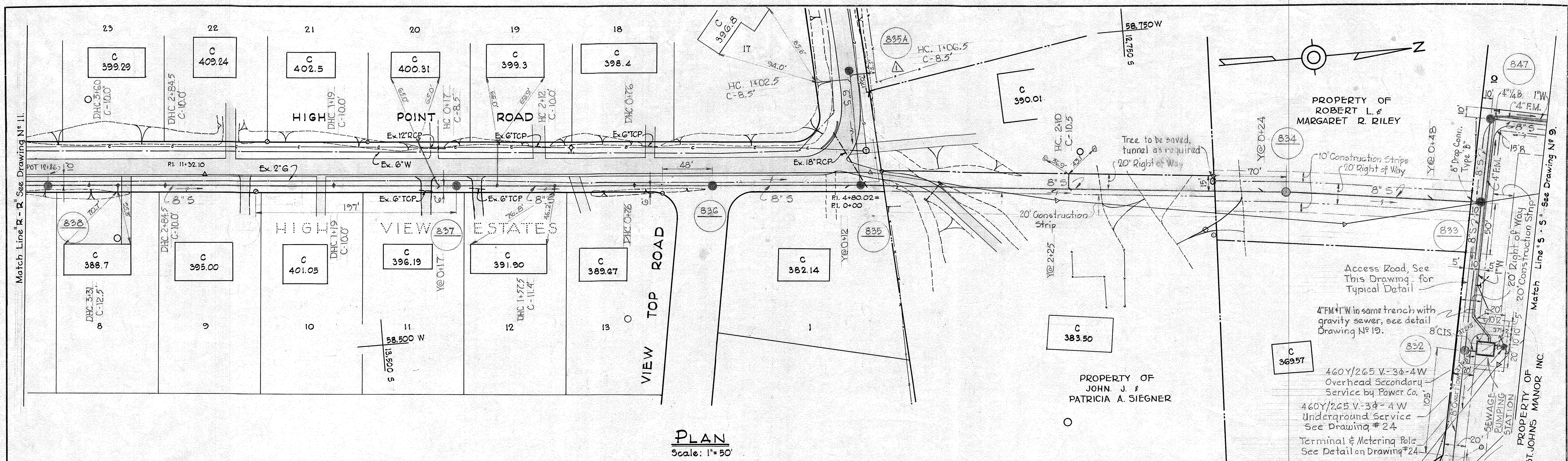
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec 16, 1963 DATE <i>Chief Engineer</i> CHIEF ENGINEER	CONTRACT NO. 31-S	PLAN OF SEWER MAINS	ELLICOTT CITY SUB-DISTRICT	DRAWING NO. 11 OF 24	SCALE 1" = 50'
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W. O. 5010-2

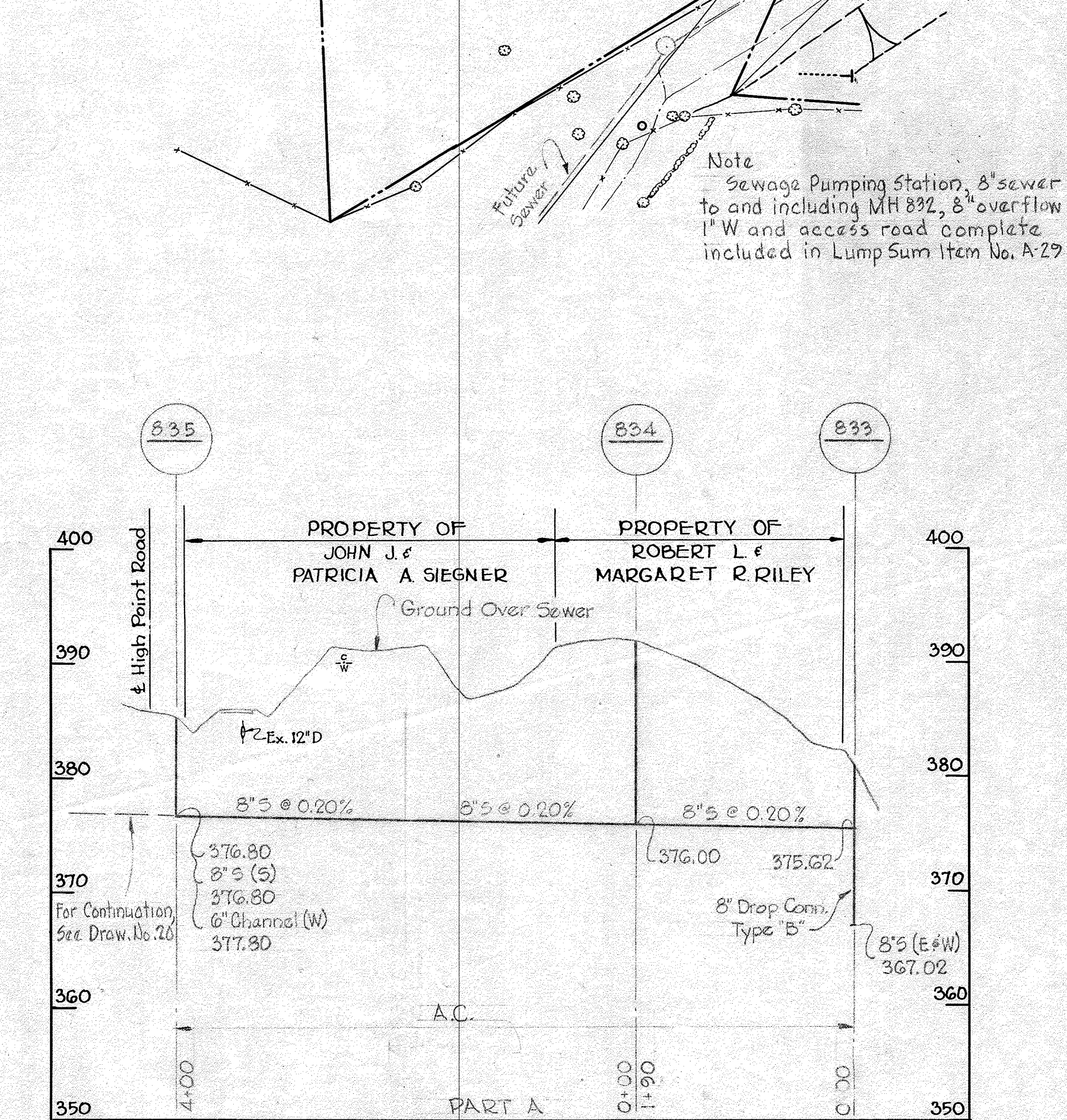
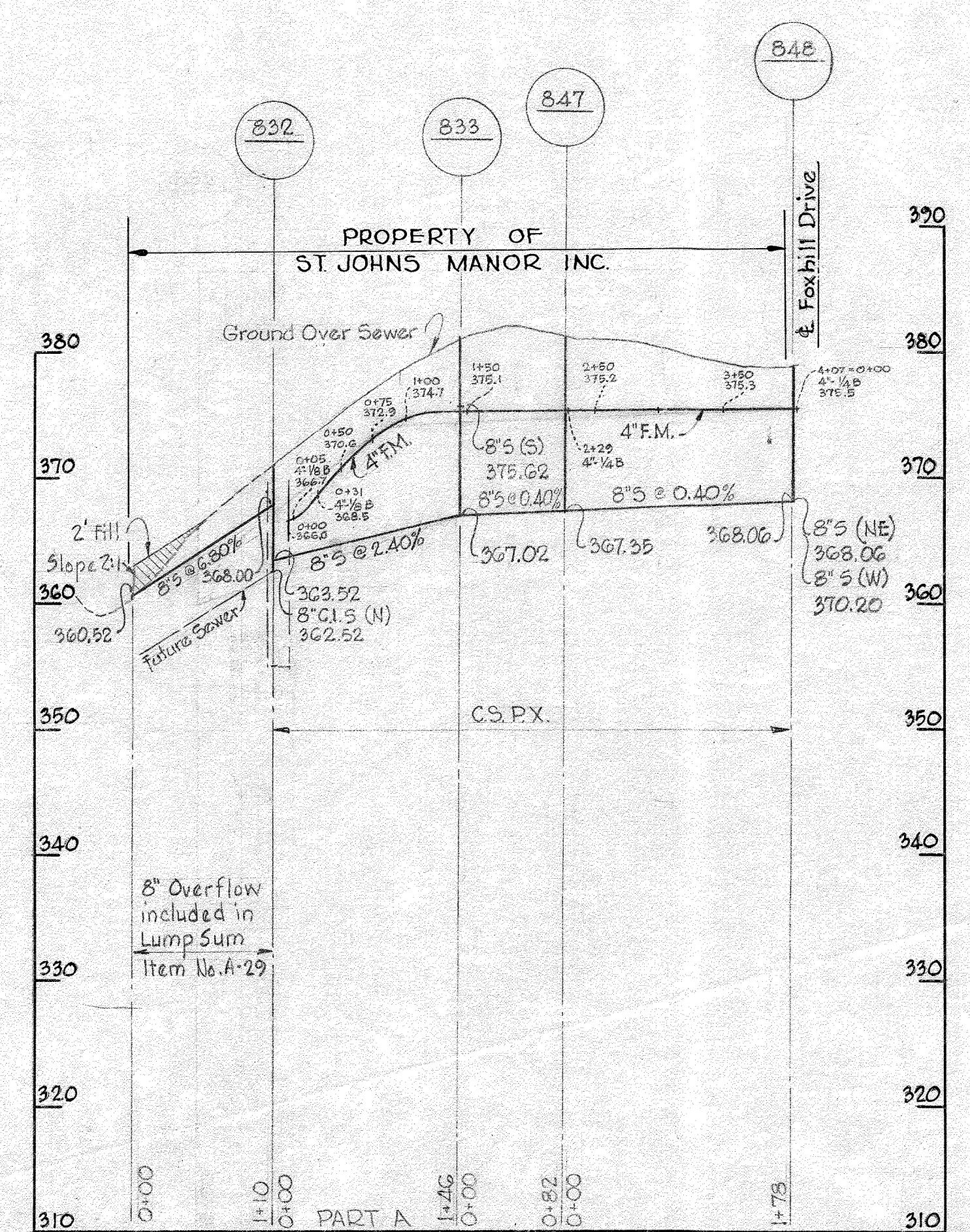
AS BUILT 28 FEB, 66

WS 31-S/11

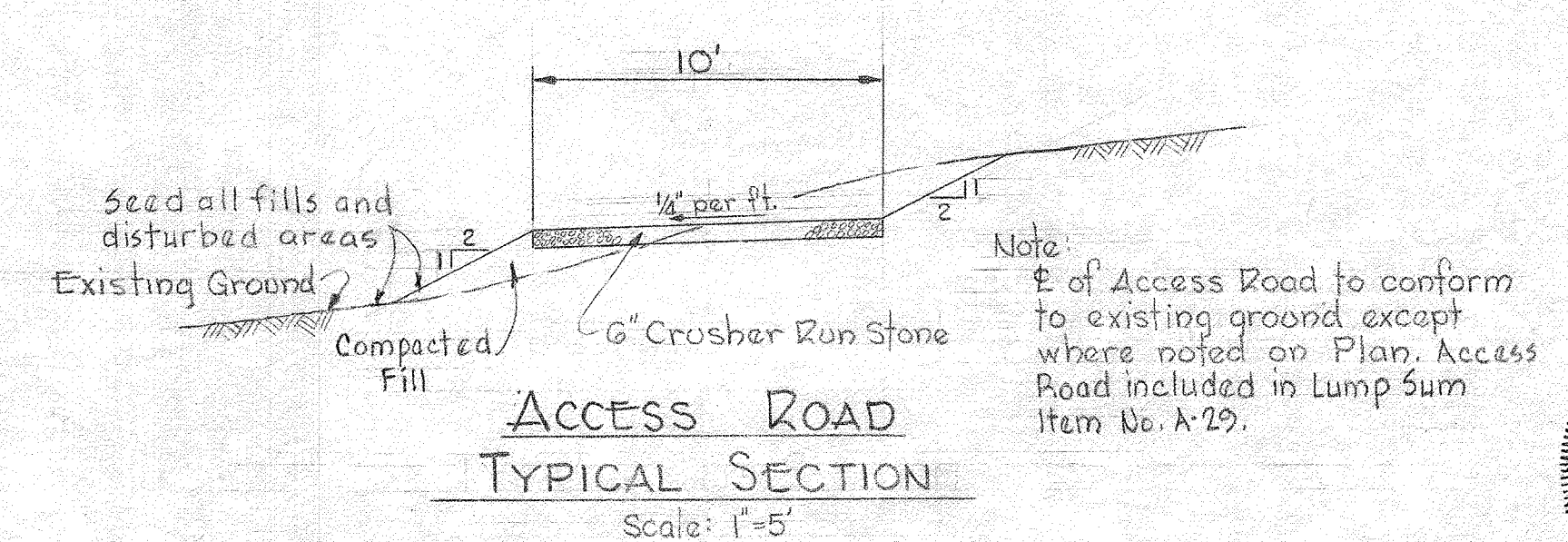




**PLAN**  
Scale: 1" = 50'

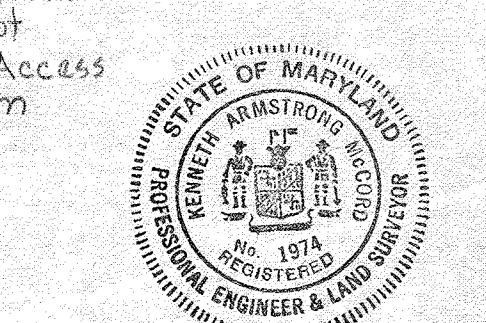


**PROFILE**  
Scale: H: 1" = 100'  
V: 1" = 10'



**ACCESS ROAD**  
TYPICAL SECTION  
Scale: 1" = 5'

No.	Date	Revision
1	6-28-65	Manhole 835-A added.



*Kenneth W. Wood*  
Professional Engineer

<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>HOWARD COUNTY METROPOLITAN COMMISSION</b> DATE: Dec 16, 1963  CHIEF ENGINEER	<b>CONTRACT NO. 31-S</b>	<b>PLAN &amp; PROFILE OF SEWER MAINS</b>	<b>ELLCOTT CITY SUB-DISTRICT</b>	<b>DRAWING NO. 12 OF 24</b>	<b>SCALE AS SHOWN</b>	Contract No. 31-S
							AS BUILT 28 FEB 66

WS 31-S/12

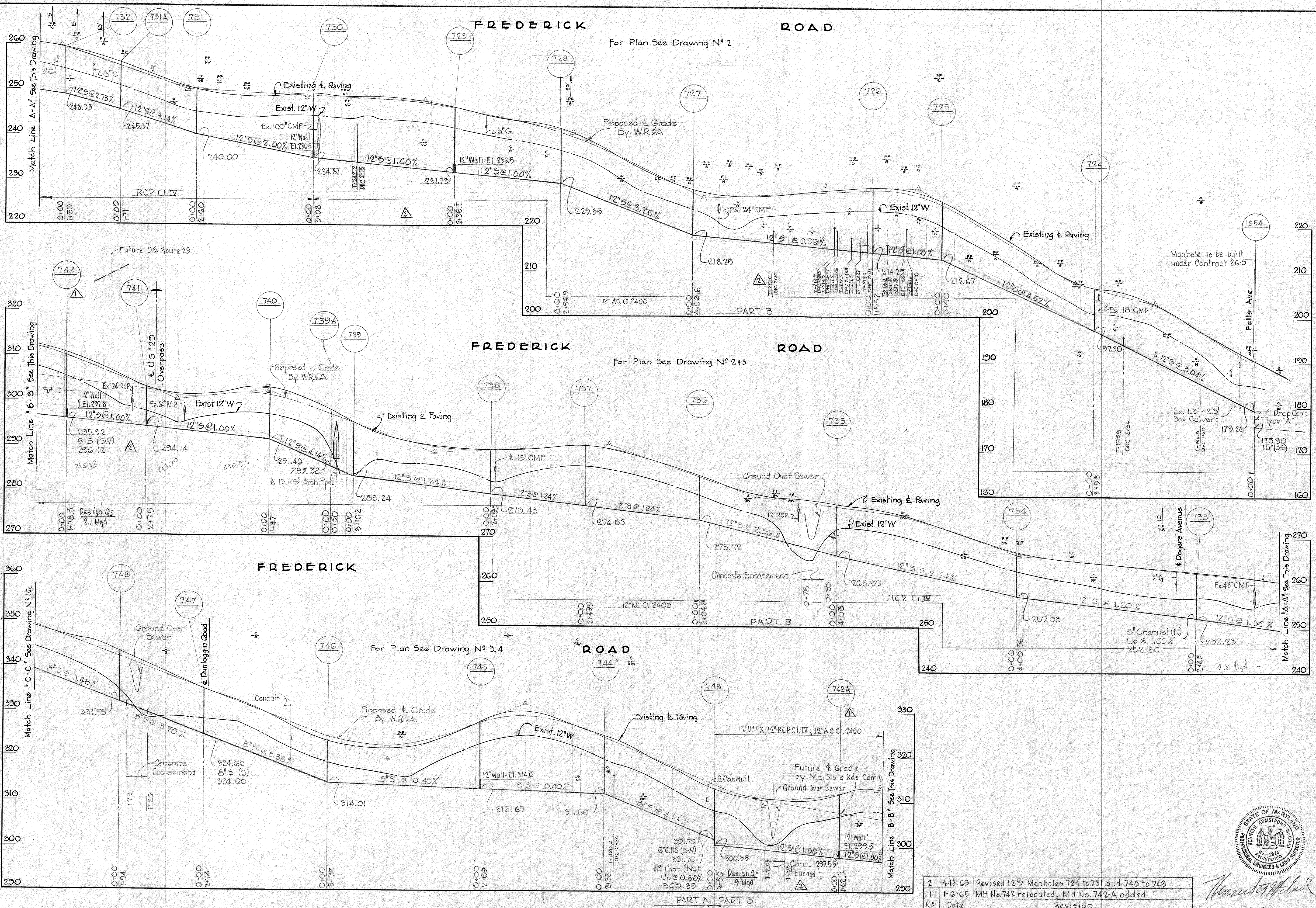












No.	Date	Revision
2	4-13-65	Revised 12" Manholes 724 to 731 and 740 to 742
1	1-6-65	MH No. 742 relocated, MH No. 742-A added.

Contract No. 31-S

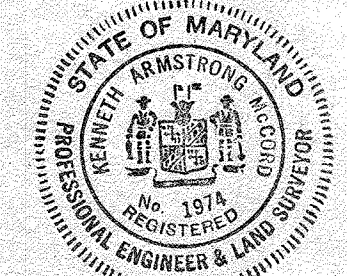
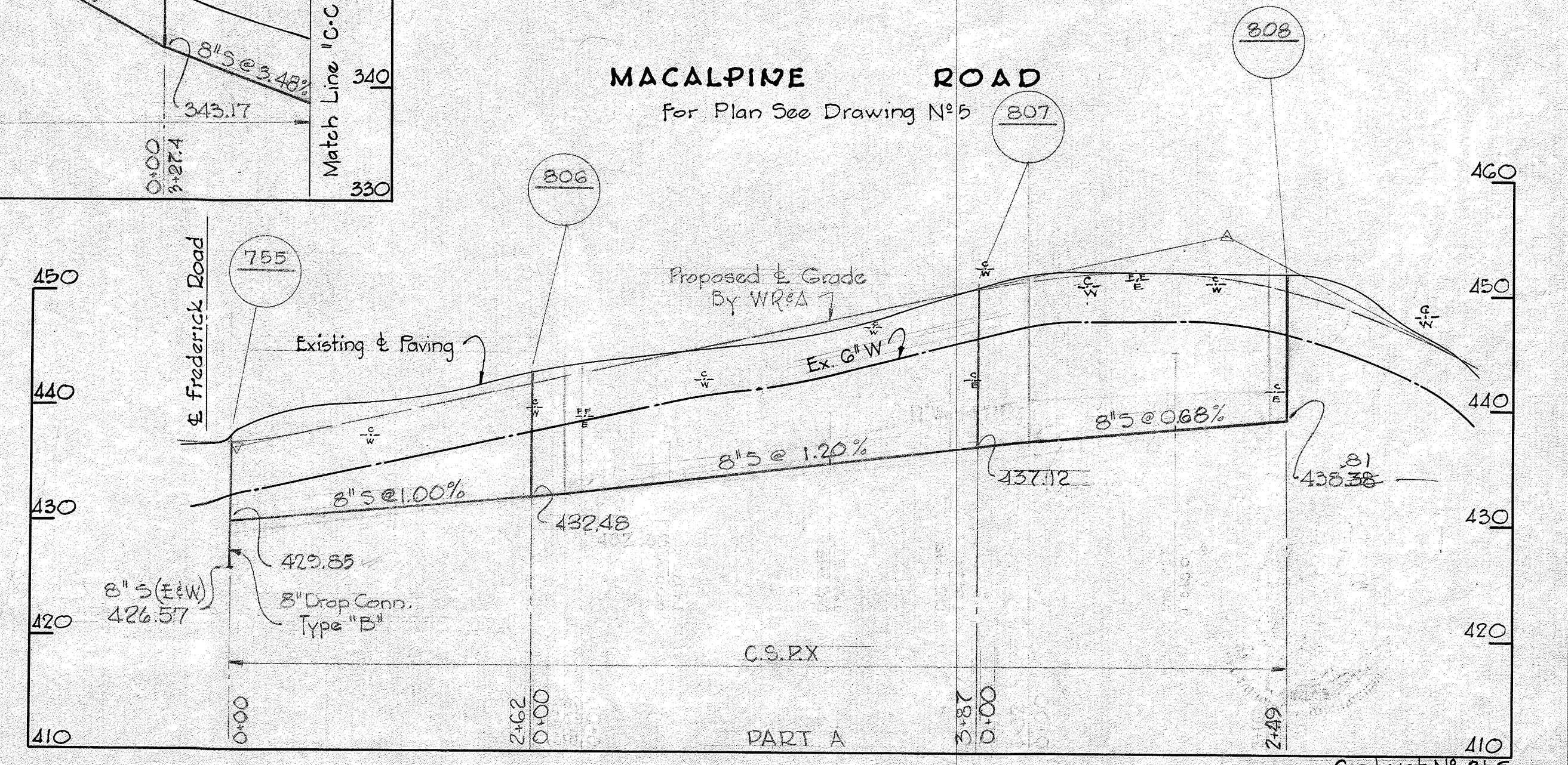
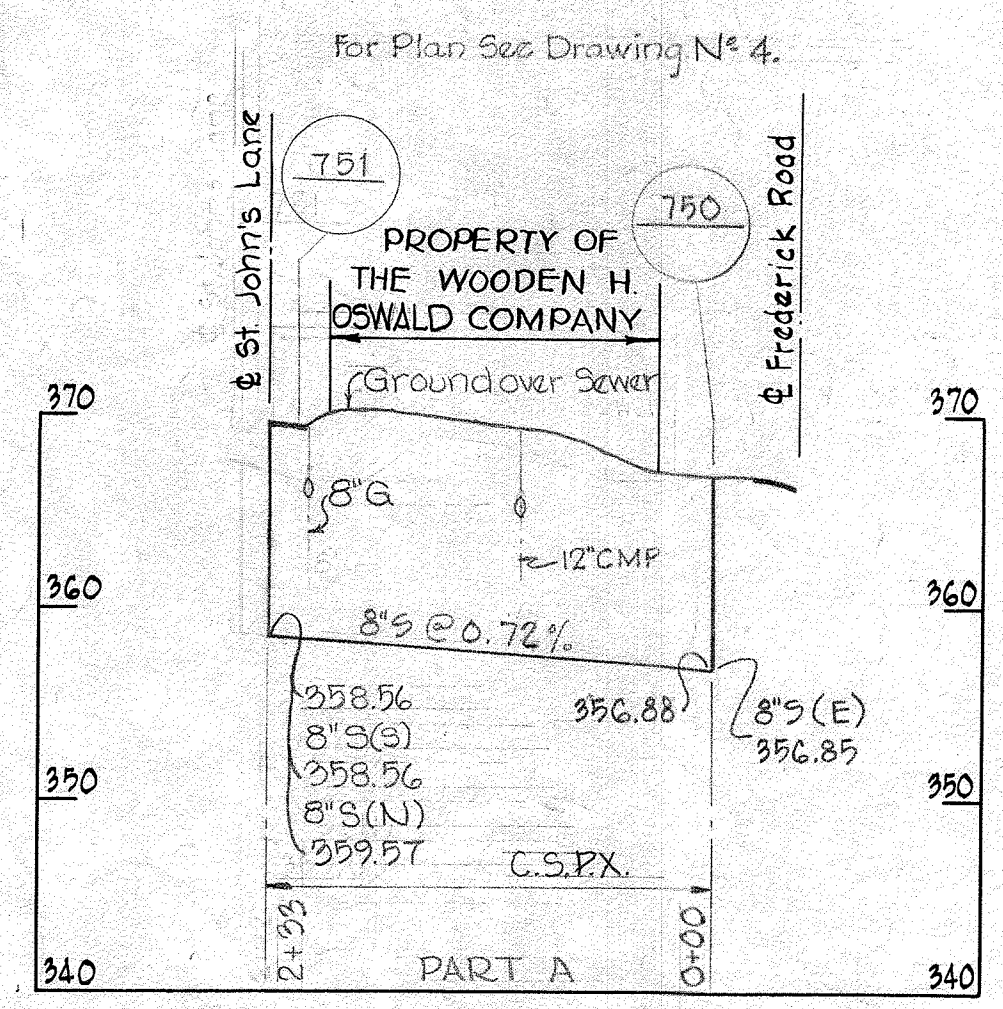
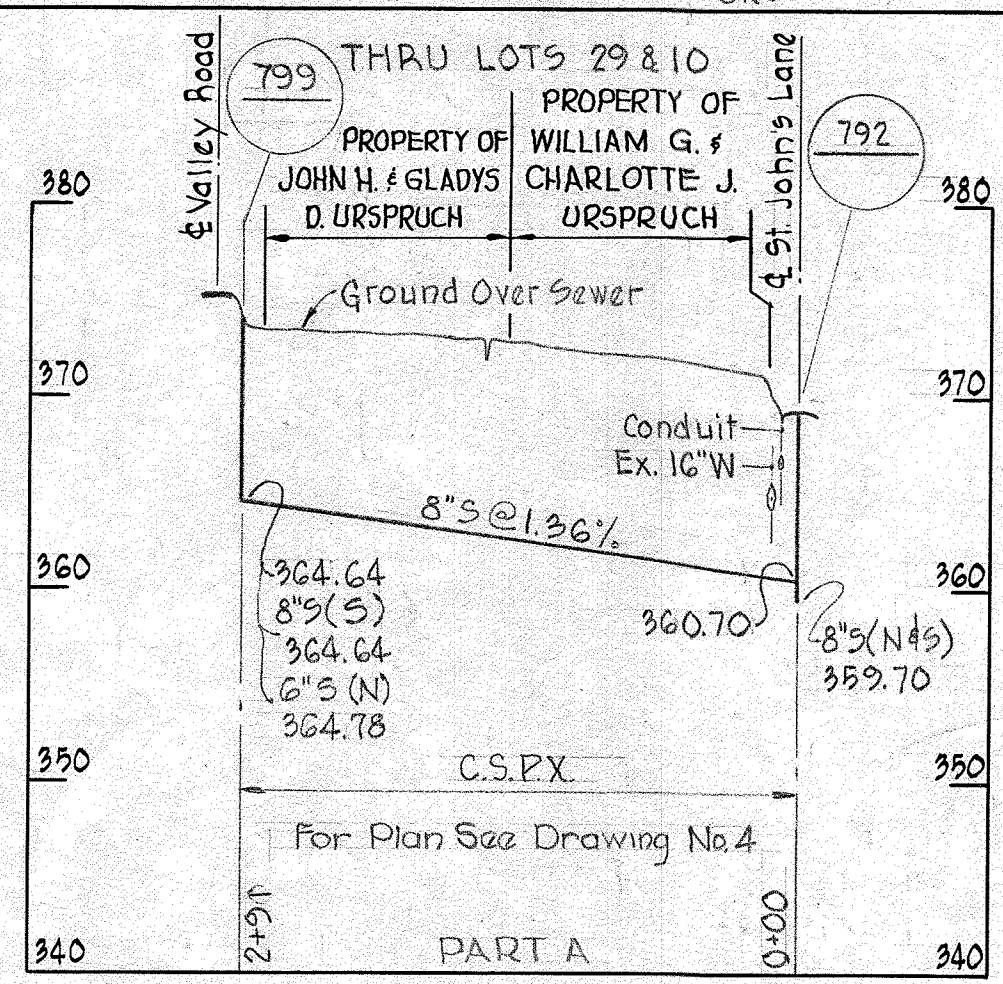
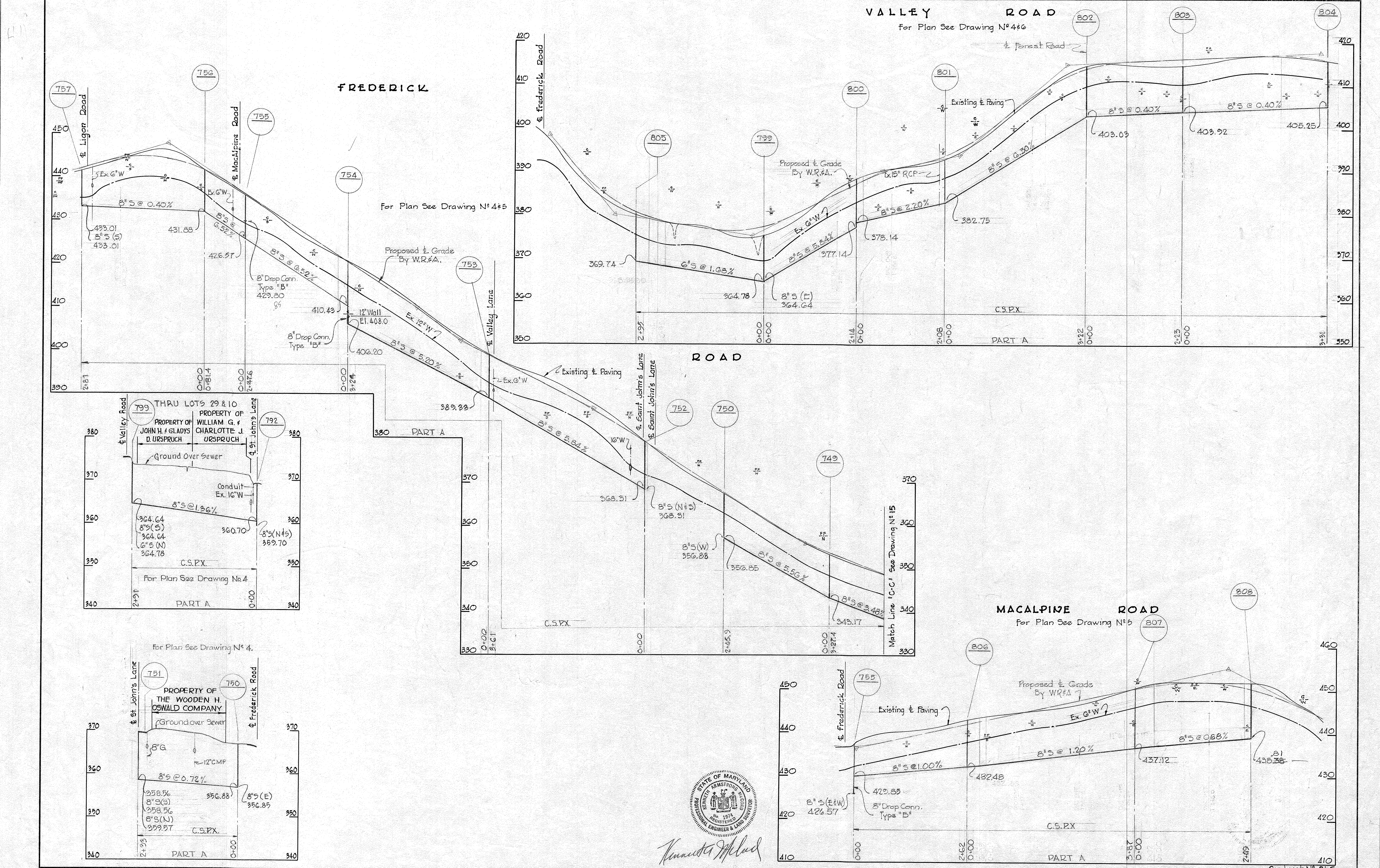
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec. 16, 1963 DATE  CHIEF ENGINEER	CONTRACT NO. 31-S	PROFILES OF SEWER MAINS	ELLICOTT CITY SUB-DISTRICT	DRAWING NO. 15	SCALE H-1"=100'
					OF 24	V-1"=10'

W. O. 5010-2

AS BUILT 28 FEB 66

WS 31-S/15





*Kenneth McLeod*

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

HOWARD COUNTY METROPOLITAN COMMISSION  
DATE: Dec. 16, 1963  
Chief Engineer

CONTRACT NO. 31-S

PROFILES OF  
SEWER MAINS

ELLCOTT CITY SUB-DISTRICT

DRAWING NO. 16  
OF 24  
SCALE H-1"=100'  
V-1"=10'

W. O. 5010-1

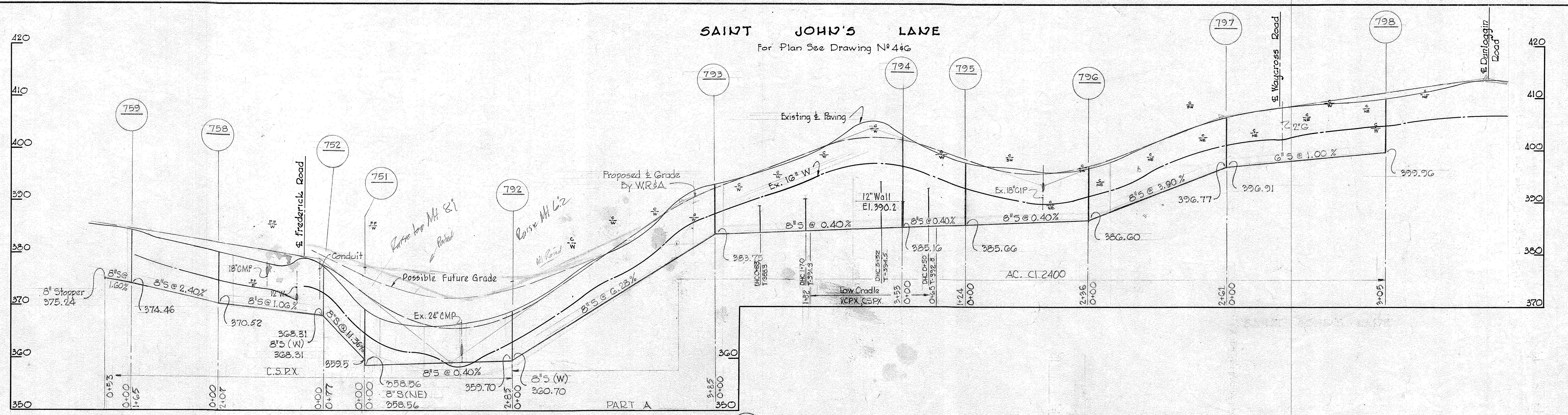
AS BUILT 28 FEB. 66

WS 31-S/16



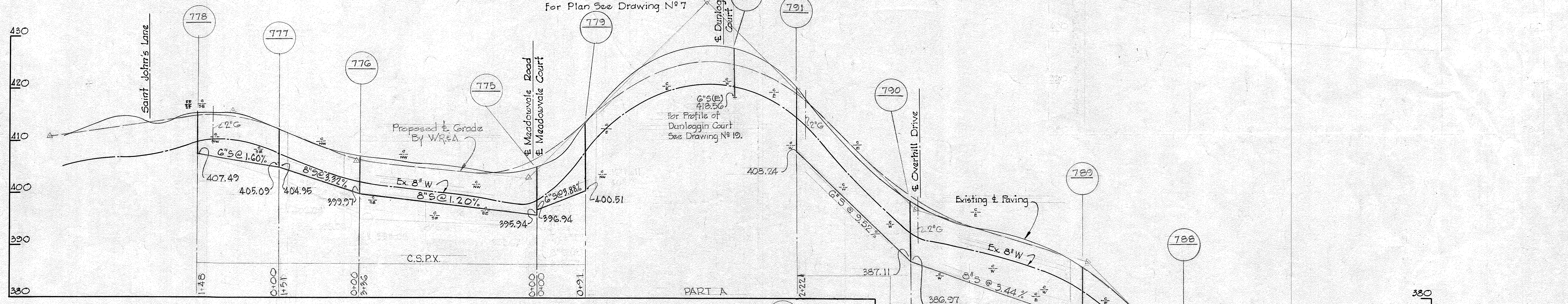
**SAINT JOHN'S LANE**

For Plan See Drawing N<sup>o</sup> 416



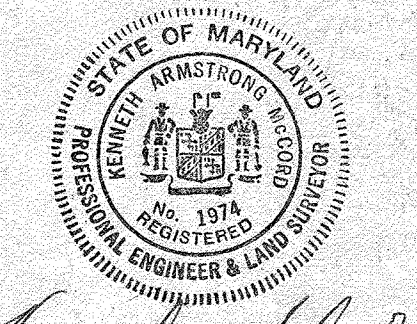
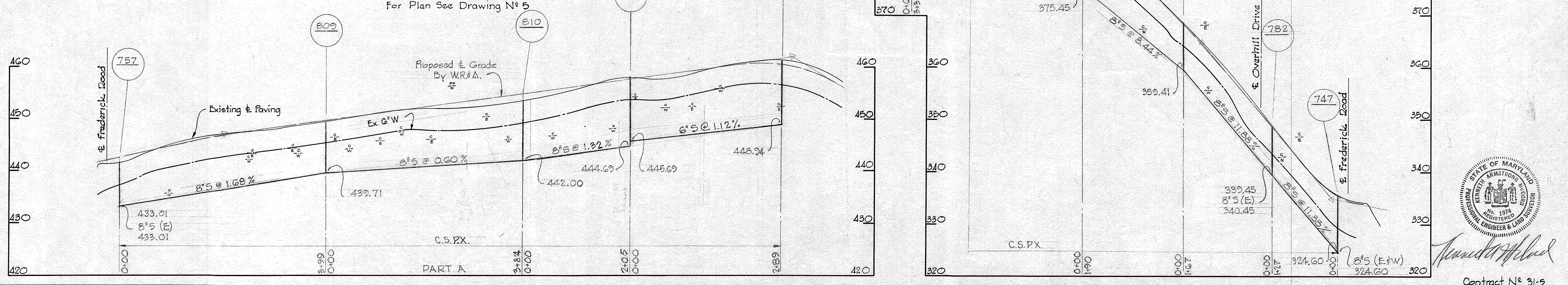
**DUNLOGGIN ROAD**

For Plan See Drawing N<sup>o</sup> 7



**LIGON ROAD**

For Plan See Drawing N<sup>o</sup> 5



Contract N<sup>o</sup> 31-5

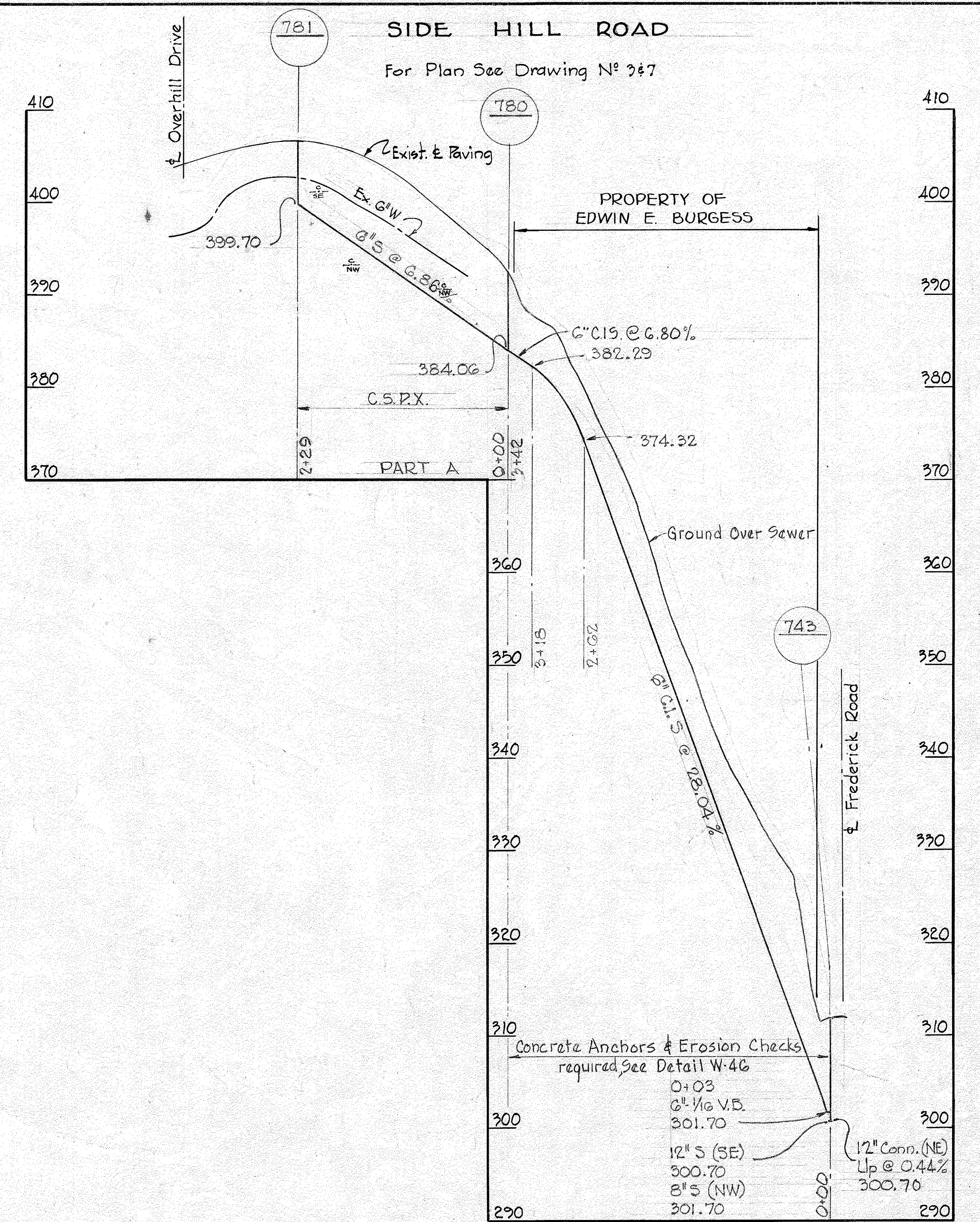
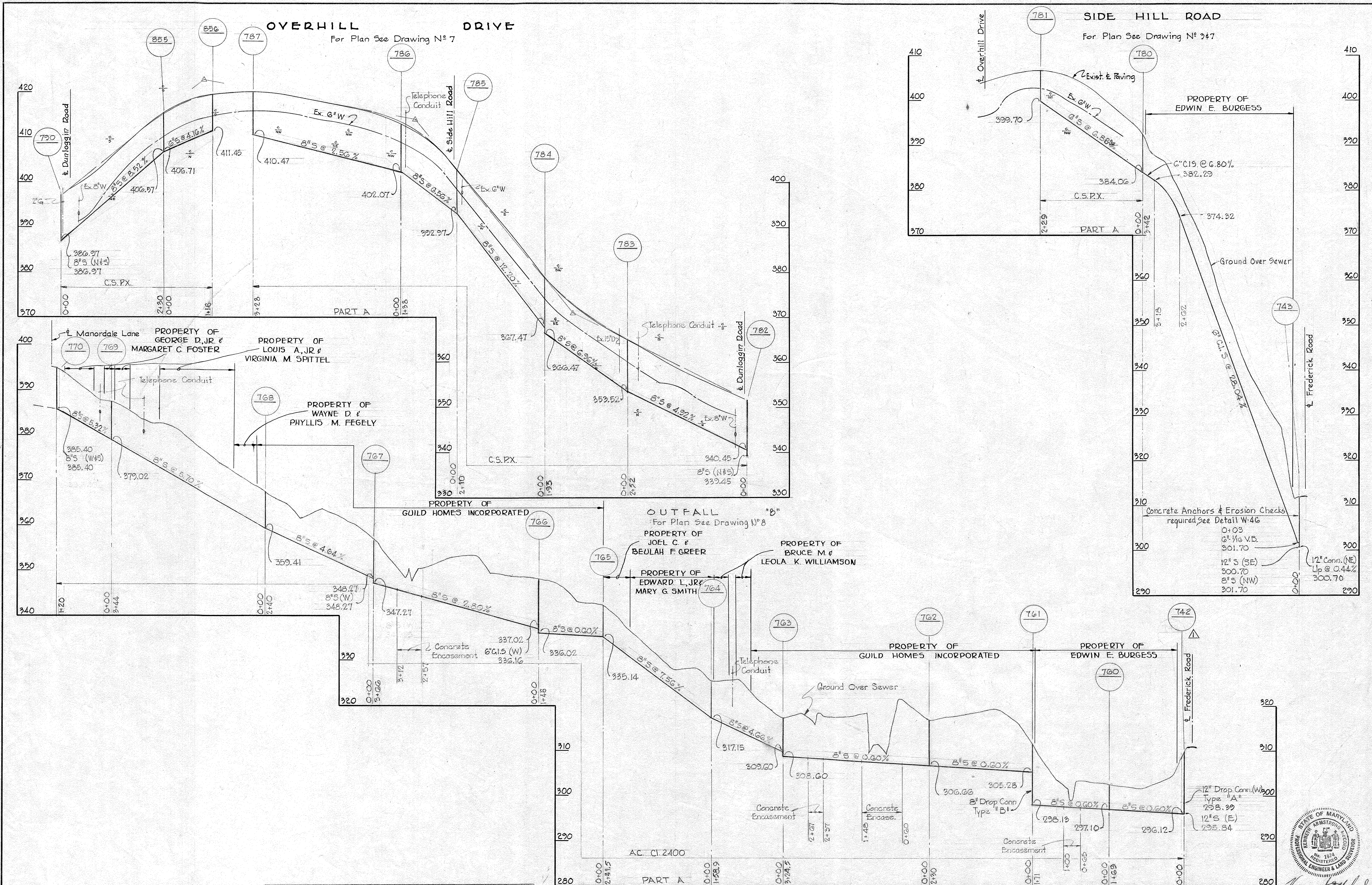
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec. 16, 1963 DATE	CONTRACT NO. 31-S	PROFILES OF SEWER MAINS	ELLICOTT CITY SUB-DISTRICT	DRAWING NO. 17 OF 24 SCALE H-1"=100' V-1"=10'
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W. O. 5010-2

AS BUILT 28 FEB. 66

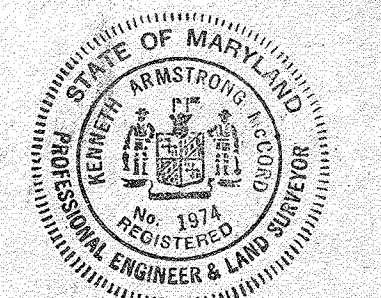
WS 31-S/17



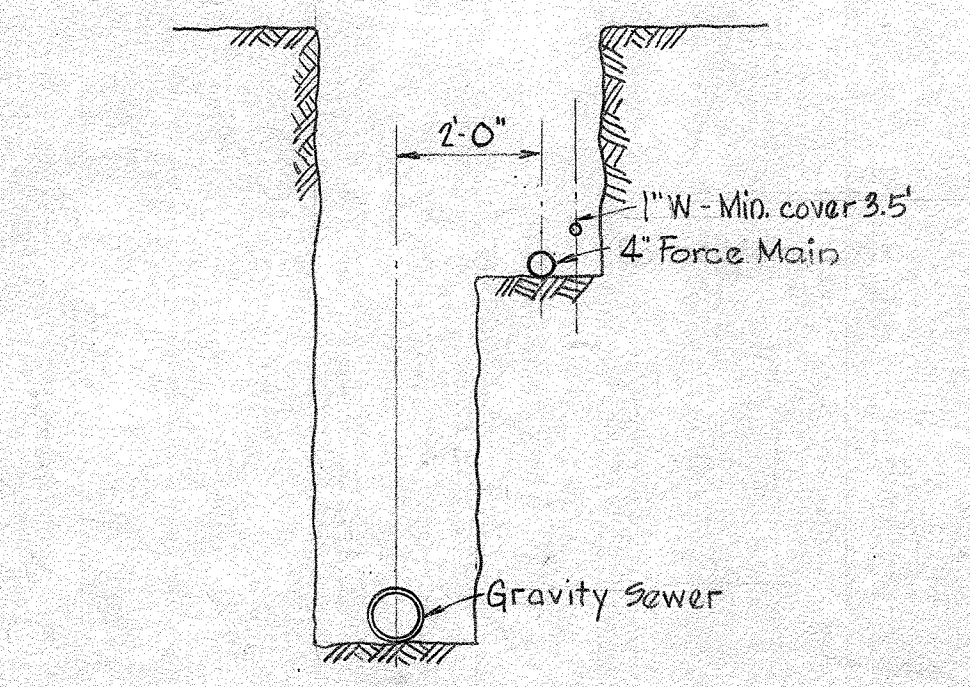
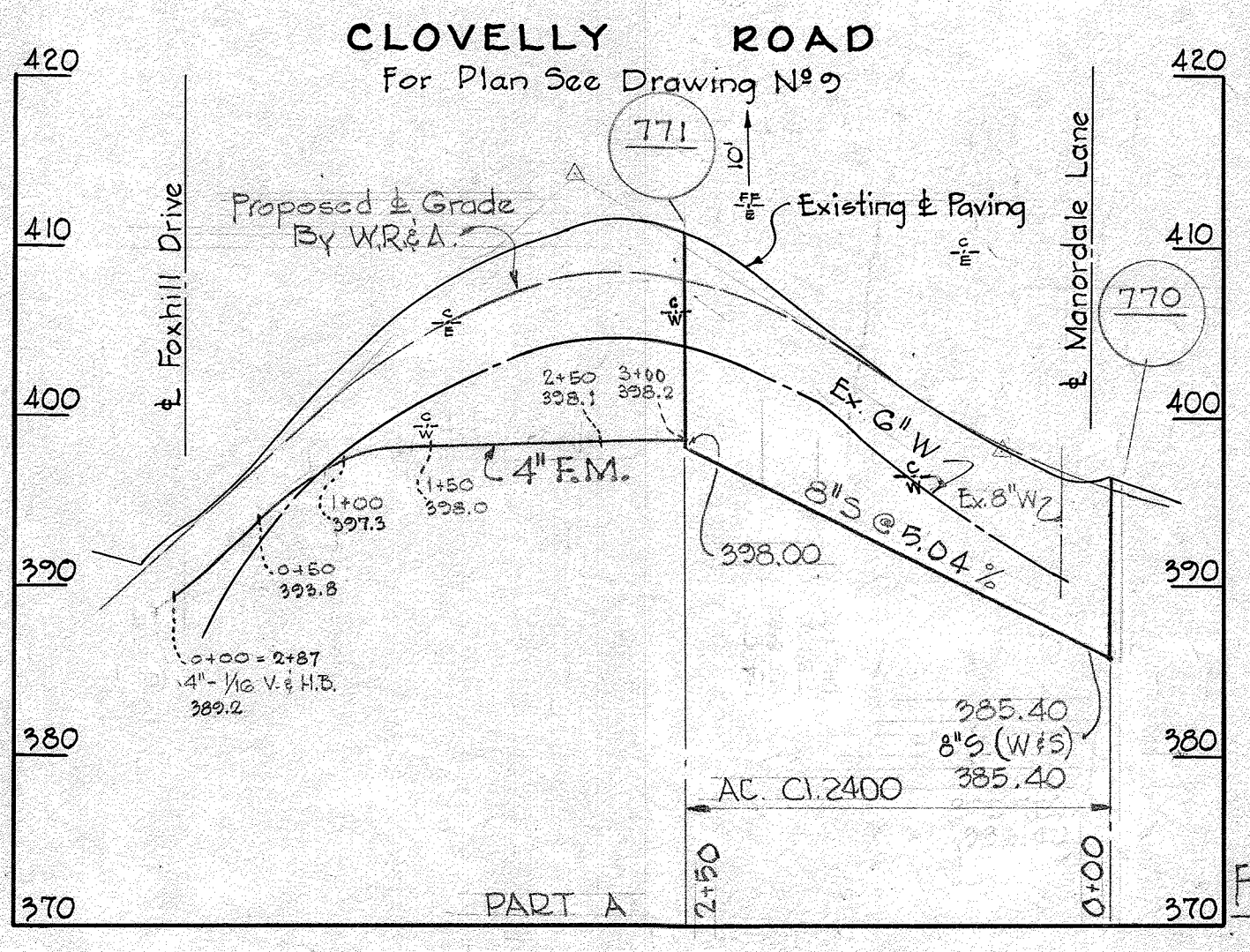
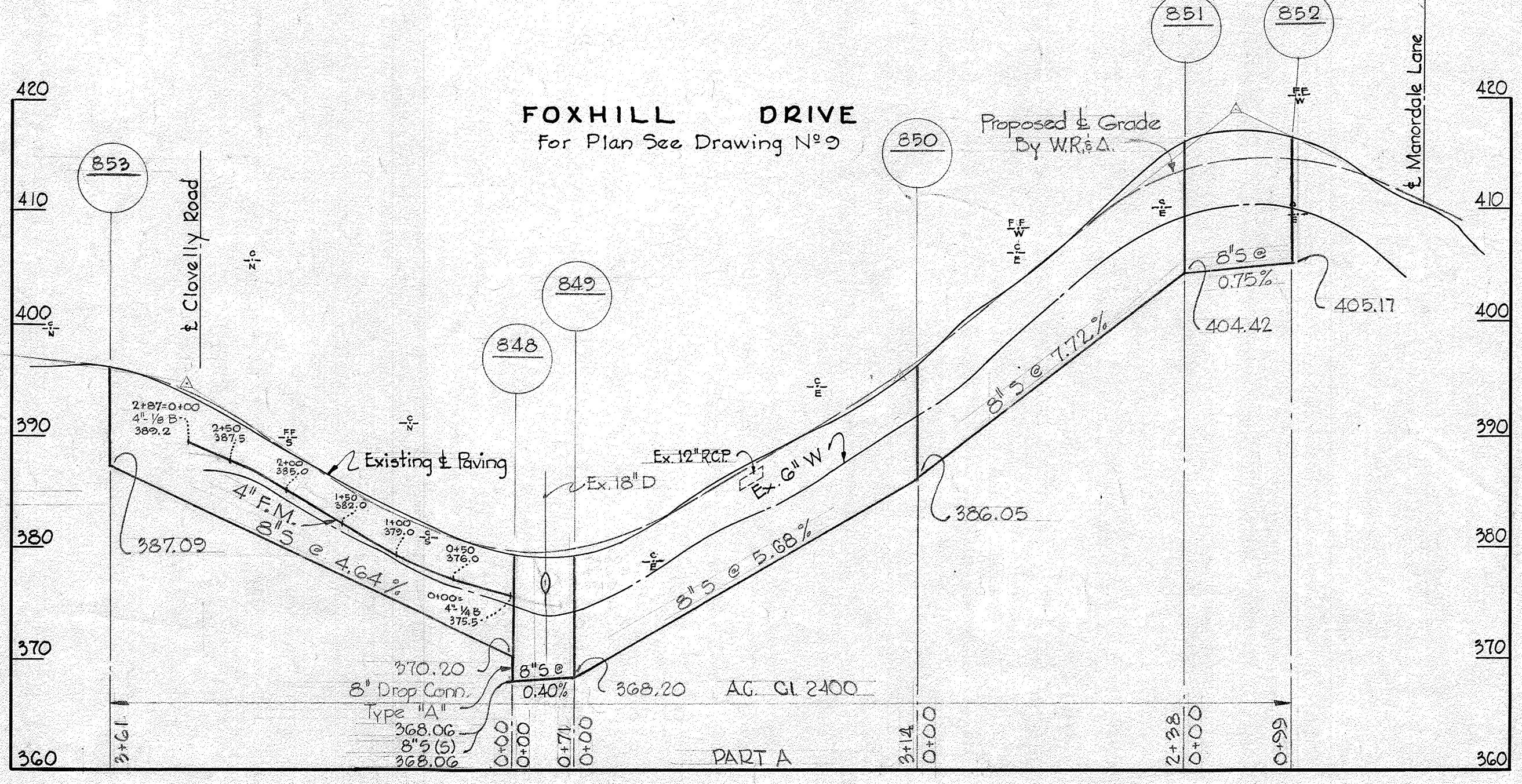
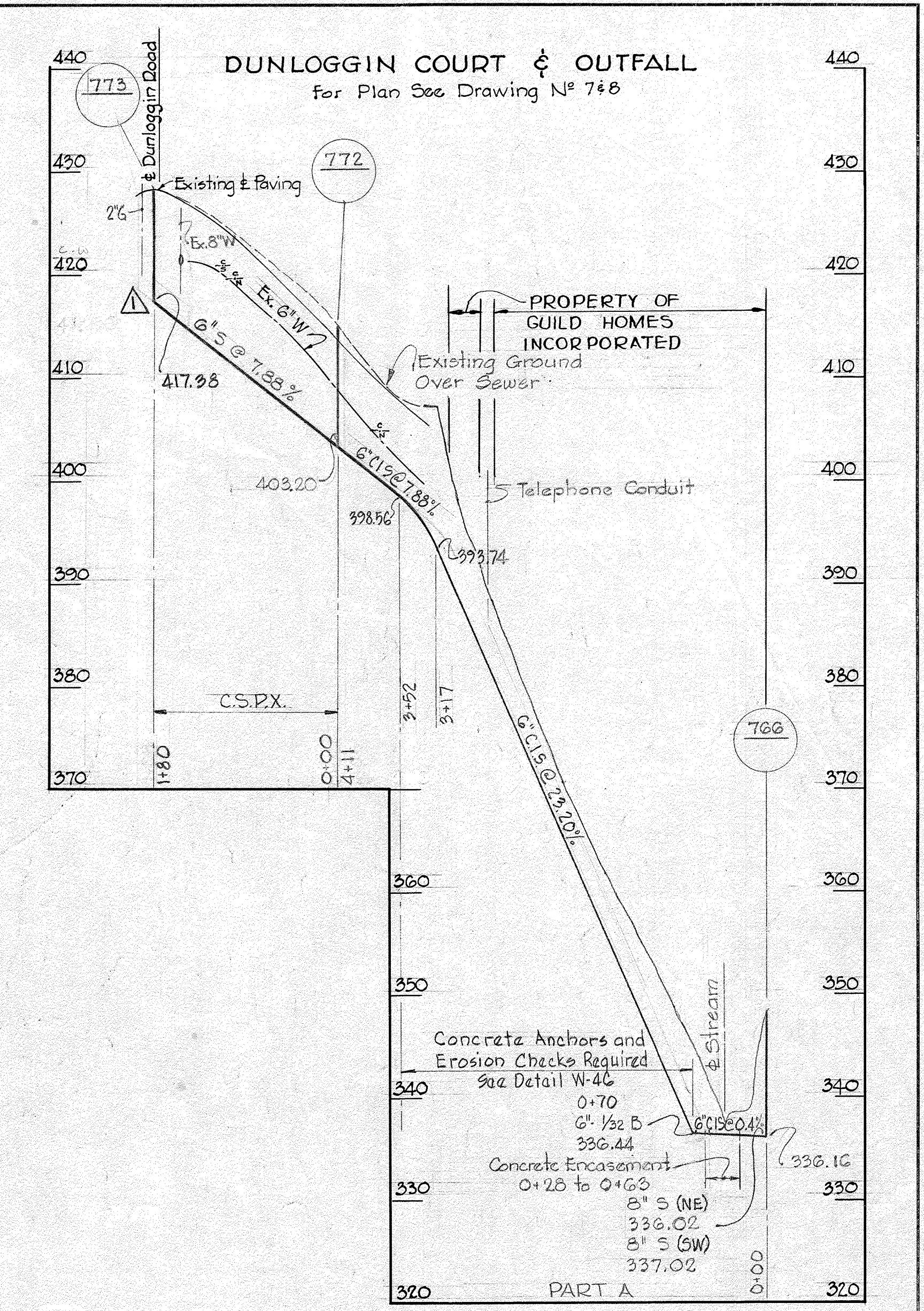
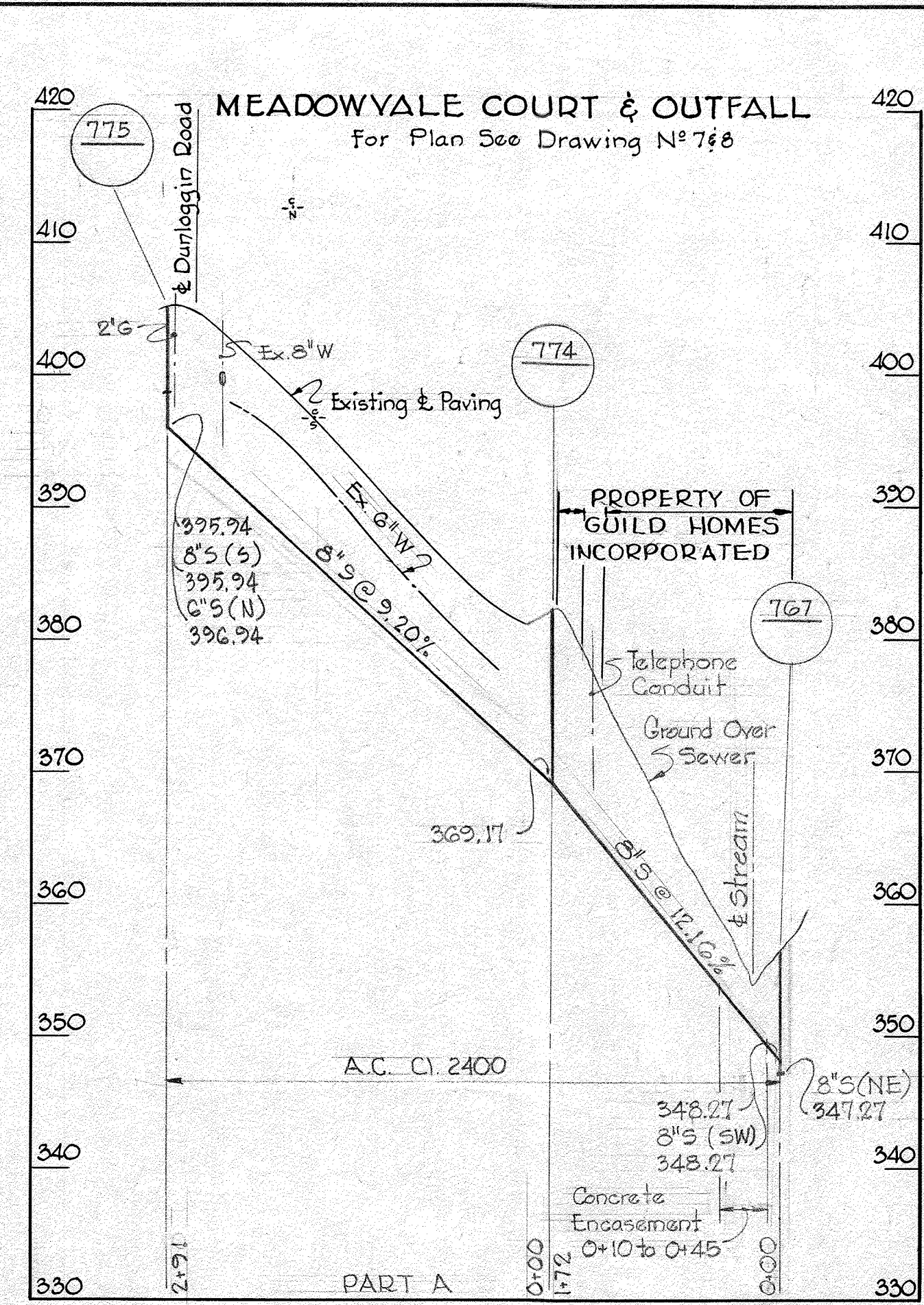
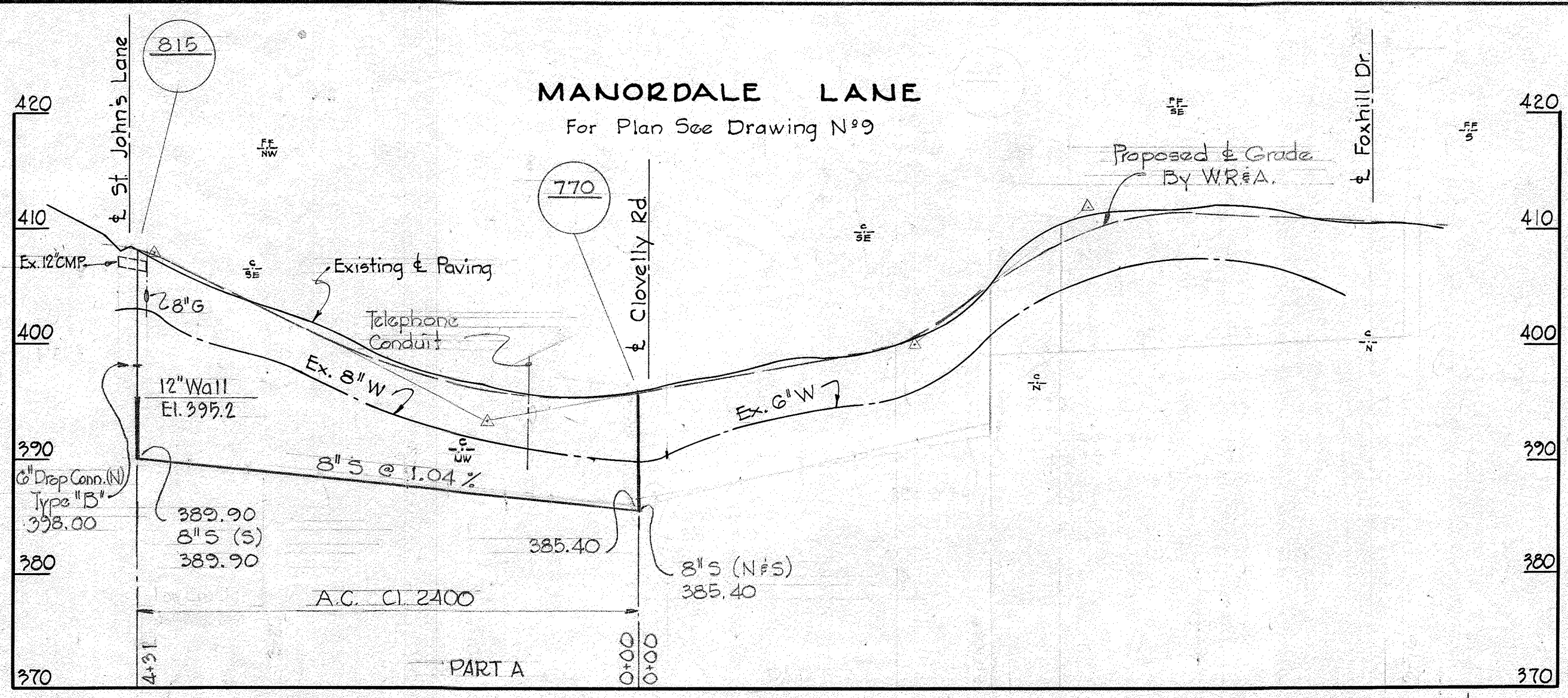


No	Date	Revision
1	1-6-69	Manhole No. 742 relocated

<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>HOWARD COUNTY METROPOLITAN COMMISSION</b> DATE: Dec. 16, 1963 <i>Carl W. Meyer</i> CHIEF ENGINEER	<b>CONTRACT NO. 31-S</b>	<b>PROFILES OF SEWER MAINS</b>	<b>ELLCOTT CITY SUB-DISTRICT</b>	<b>DRAWING NO. 18</b>	<b>SCALE</b> H-1"=100' V-1"=10'
					<b>OF 24</b>	Contract No. 31-S

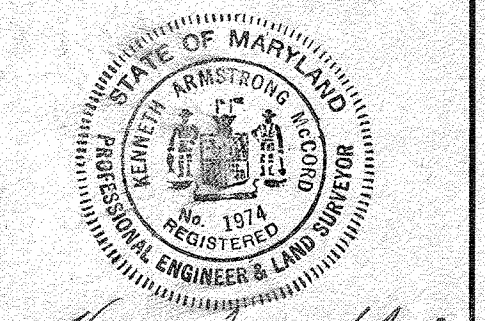




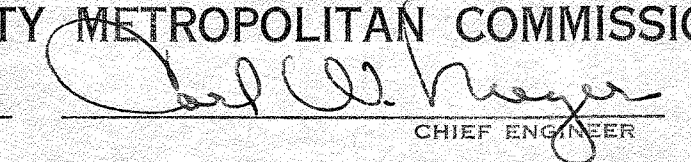


DETAIL GRAVITY SEWER & FORCE MAIN IN THE SAME TRENCH  
Scale 3/8"=1'-0"

1	2-4-65	Manhole relocated.
N <sup>o</sup>	Date	Revision



Contract N<sup>o</sup> 31-5

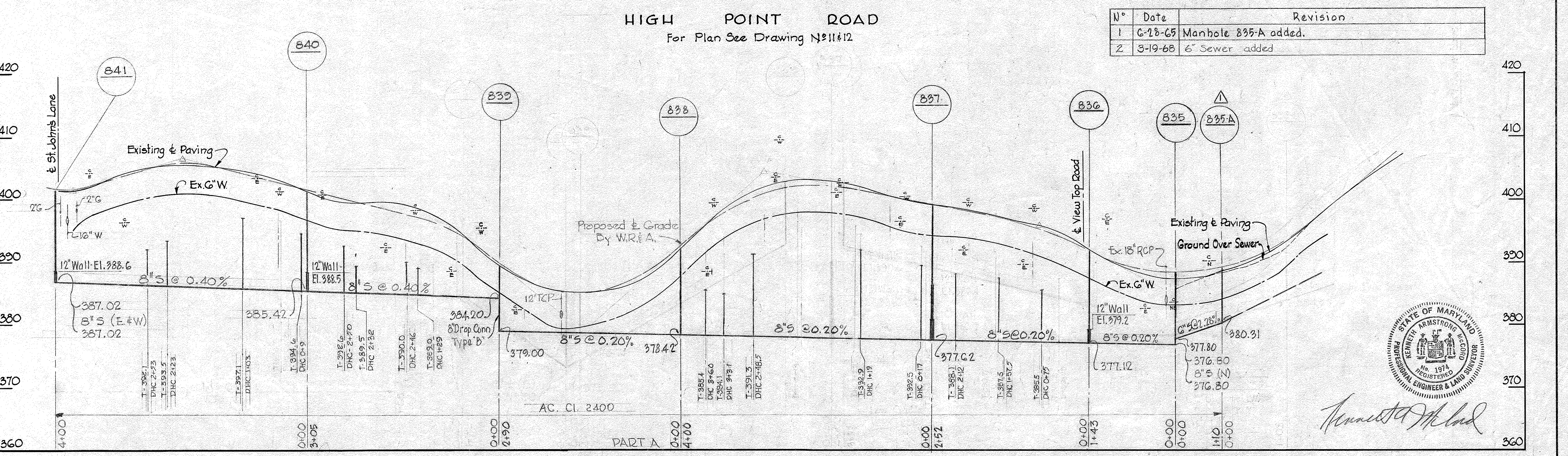
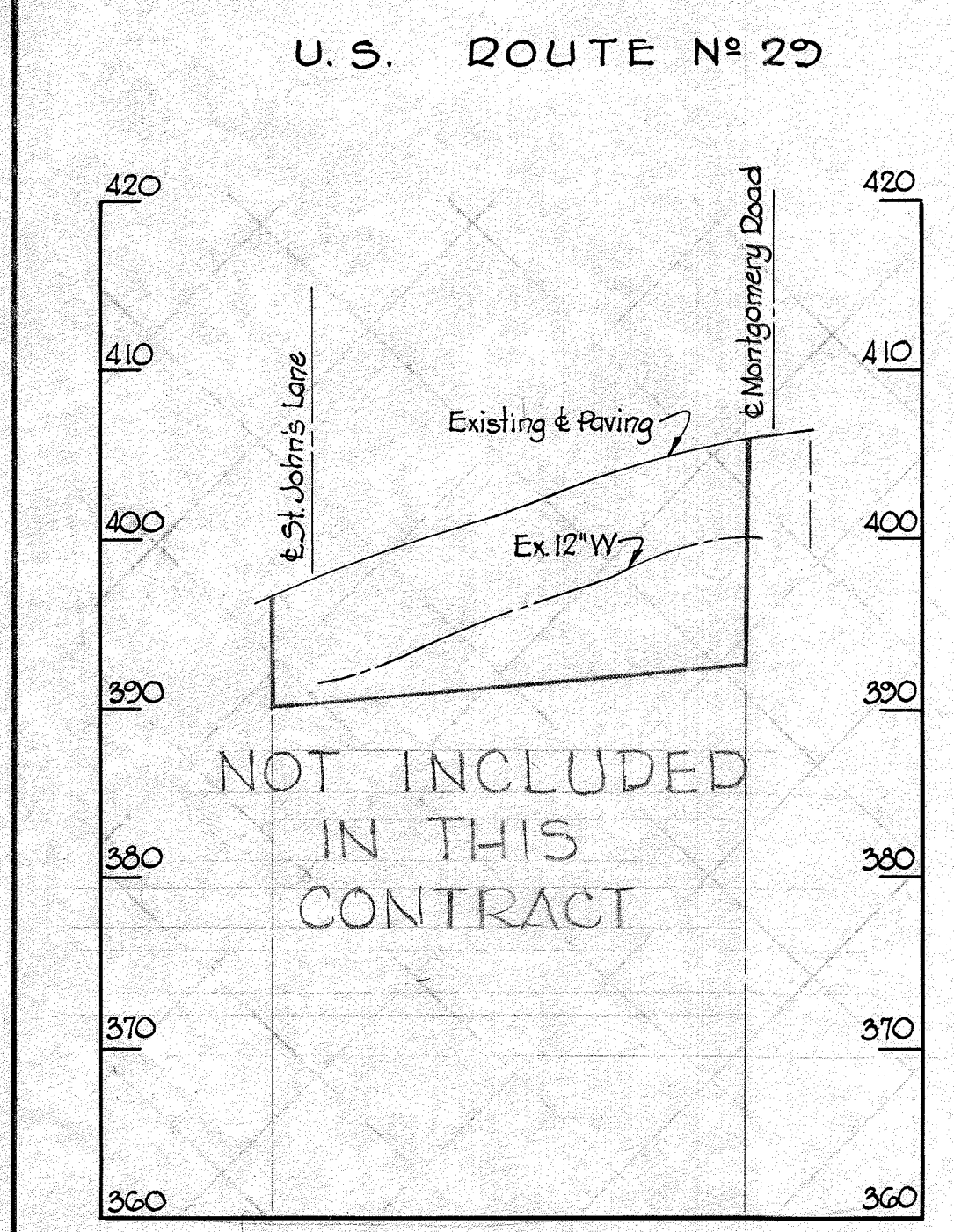
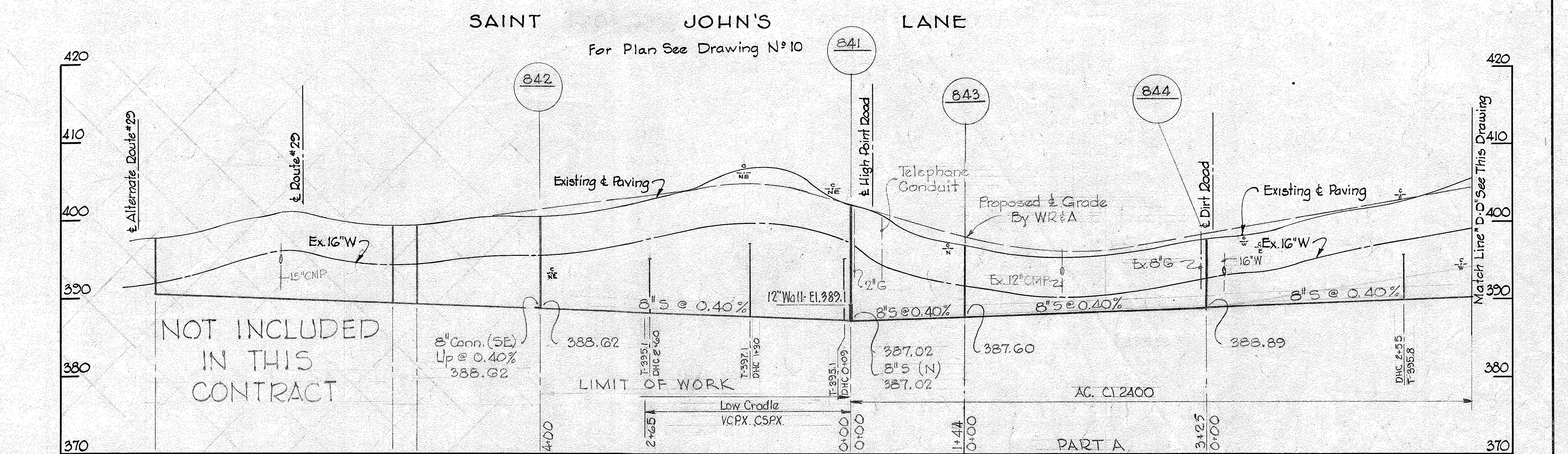
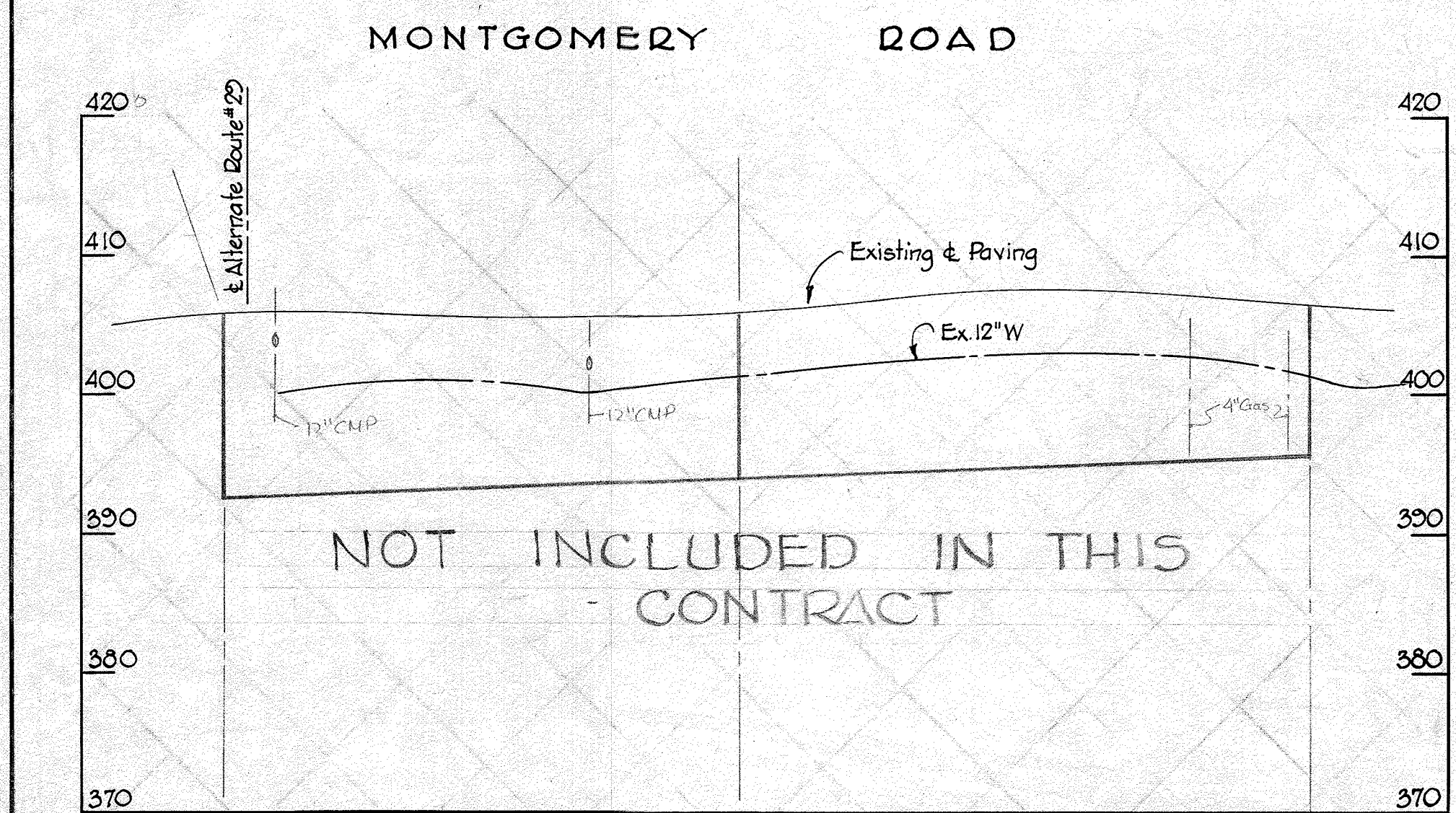
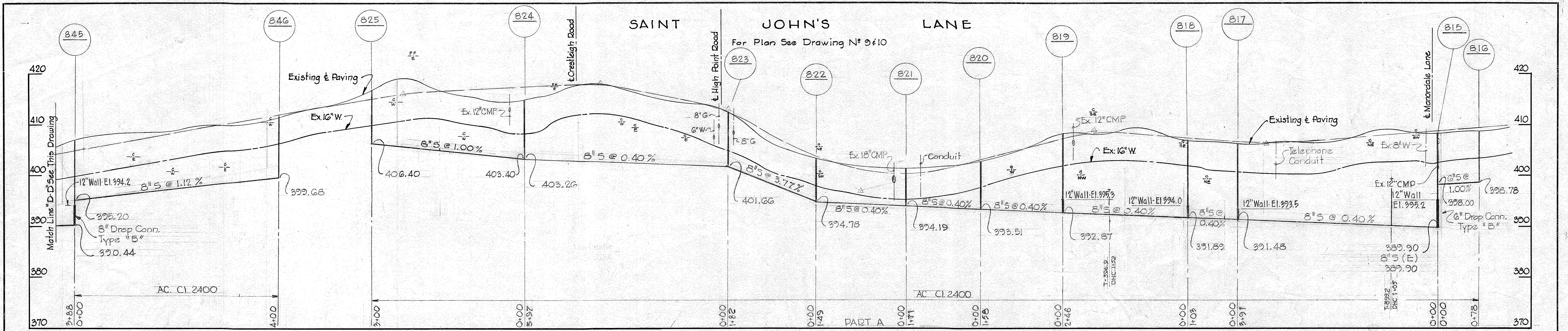
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec. 16, 1963 DATE  CHIEF ENGINEER	CONTRACT NO. 31-S	PROFILES OF SEWER MAINS	ELLICOTT CITY SUB-DISTRICT	DRAWING NO. 19 OF 24	SCALE H-1"=100' V-1"=10'
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W. O. 5010-2

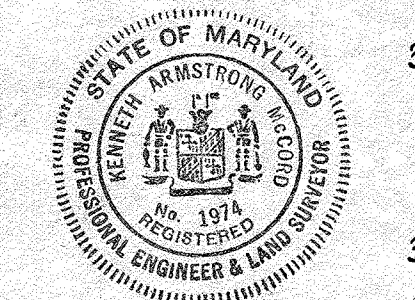
AS BUILT FEB. 28, 1966

WS 31-S/19





N°	Date	Revision
1	6-18-65	Manhole 835-A added.
2	3-19-68	6" Sewer added



*Annastat M. Lord*

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec 16, 1963 <i>Carl W. Meyer</i> CHIEF ENGINEER	CONTRACT NO. 31-S	PROFILES OF SEWER MAINS	ELLICOTT CITY SUB-DISTRICT	Contract No. 31-S DRAWING NO. 20 OF 24 SCALE H-1"=100' V-1"=10'
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WS 31-S/20

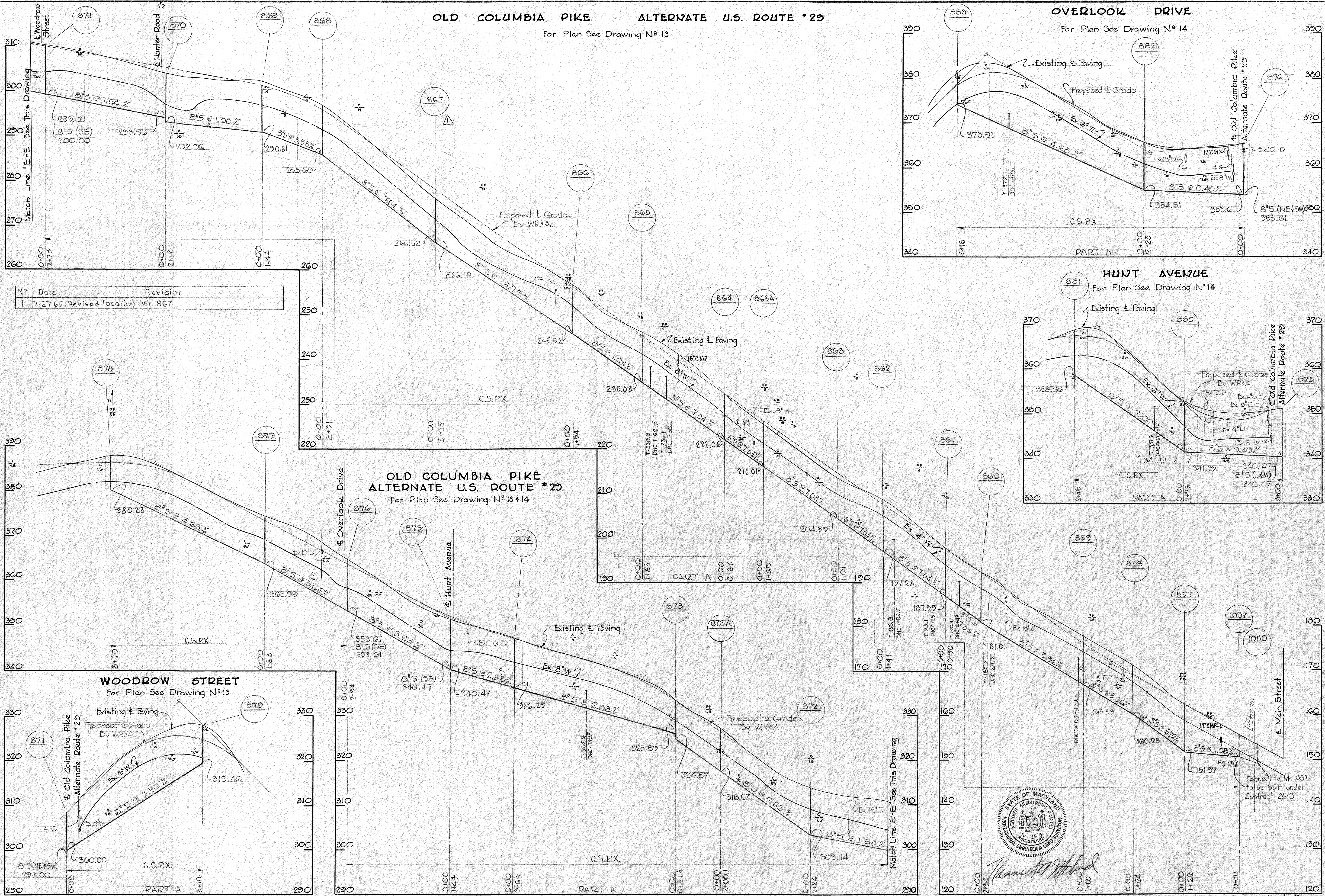


OLD COLUMBIA PIKE ALTERNATE U.S. ROUTE \*29

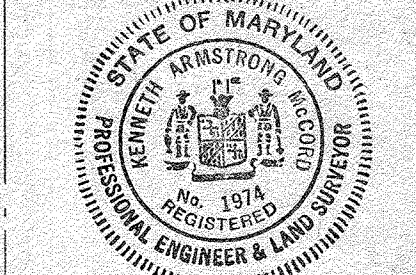
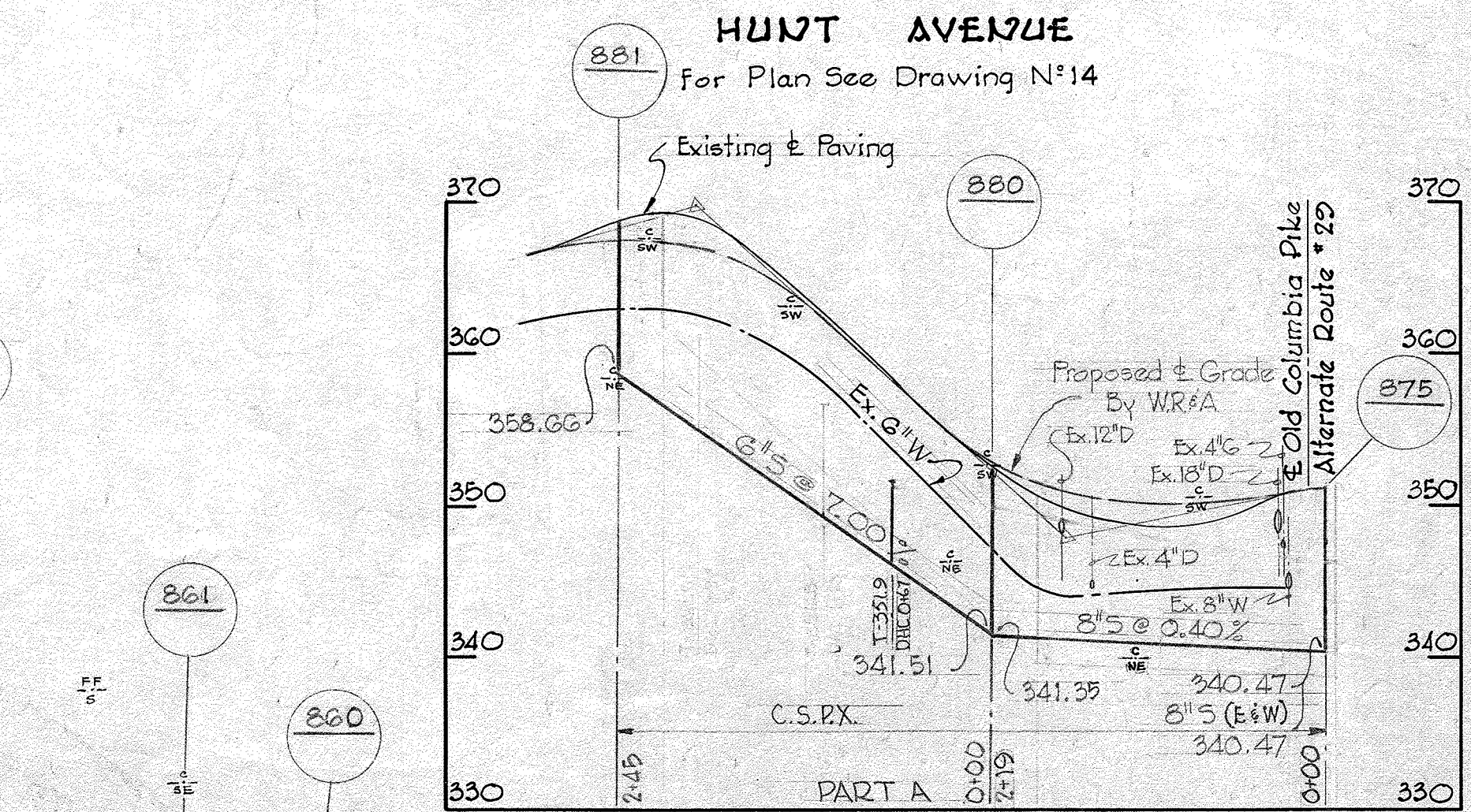
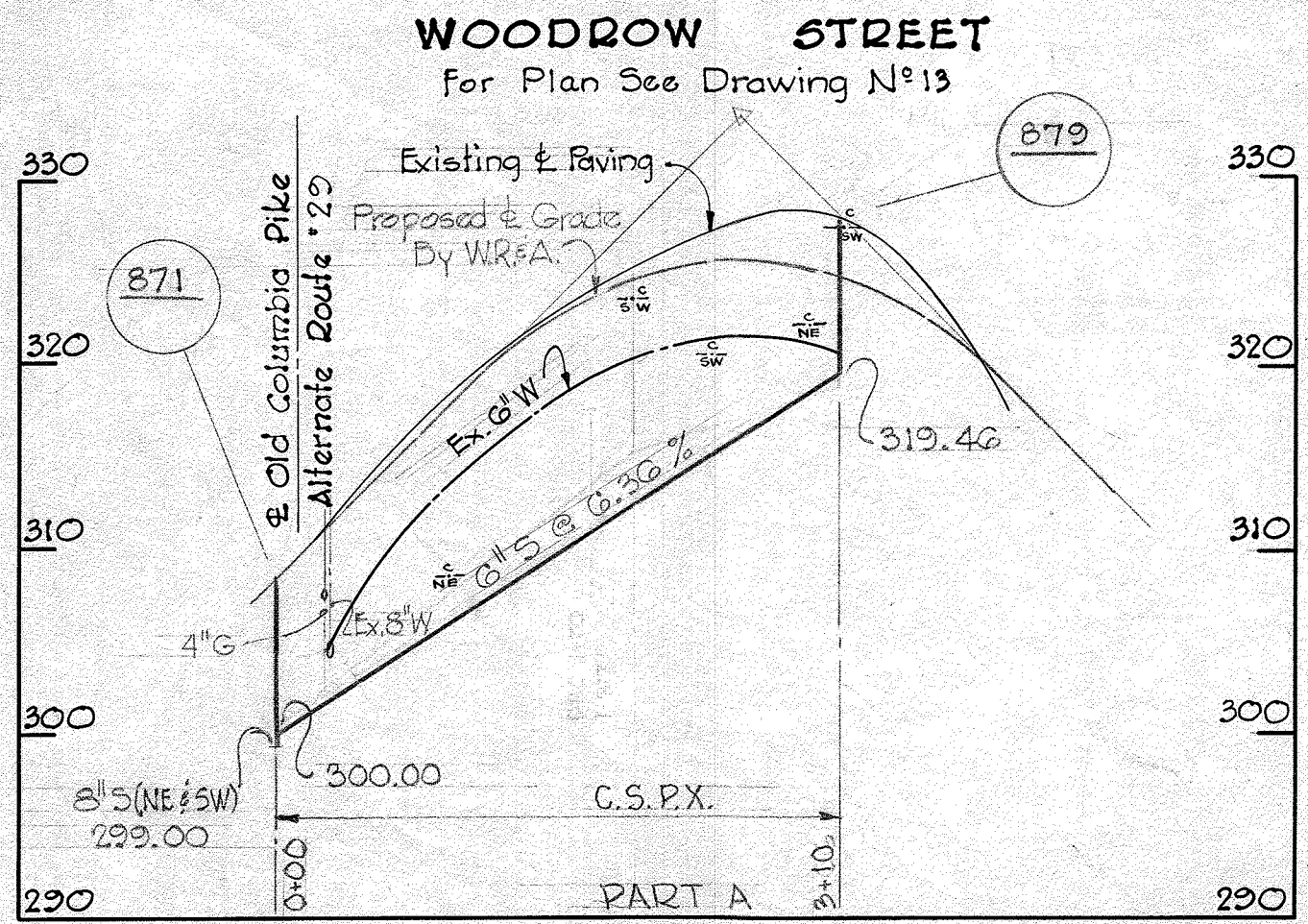
For Plan See Drawing N° 13

OVERLOOK DRIVE

For Plan See Drawing N° 14



N°	Date	Revision
1	7-27-65	Revised location MH 867



WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

HOWARD COUNTY METROPOLITAN COMMISSION  
Dec. 16, 1963  
DATE  
Howard W. Meyer  
CHIEF ENGINEER

CONTRACT NO. 31-S

PROFILES OF  
SEWER MAINS

ELLCOTT CITY SUB-DISTRICT

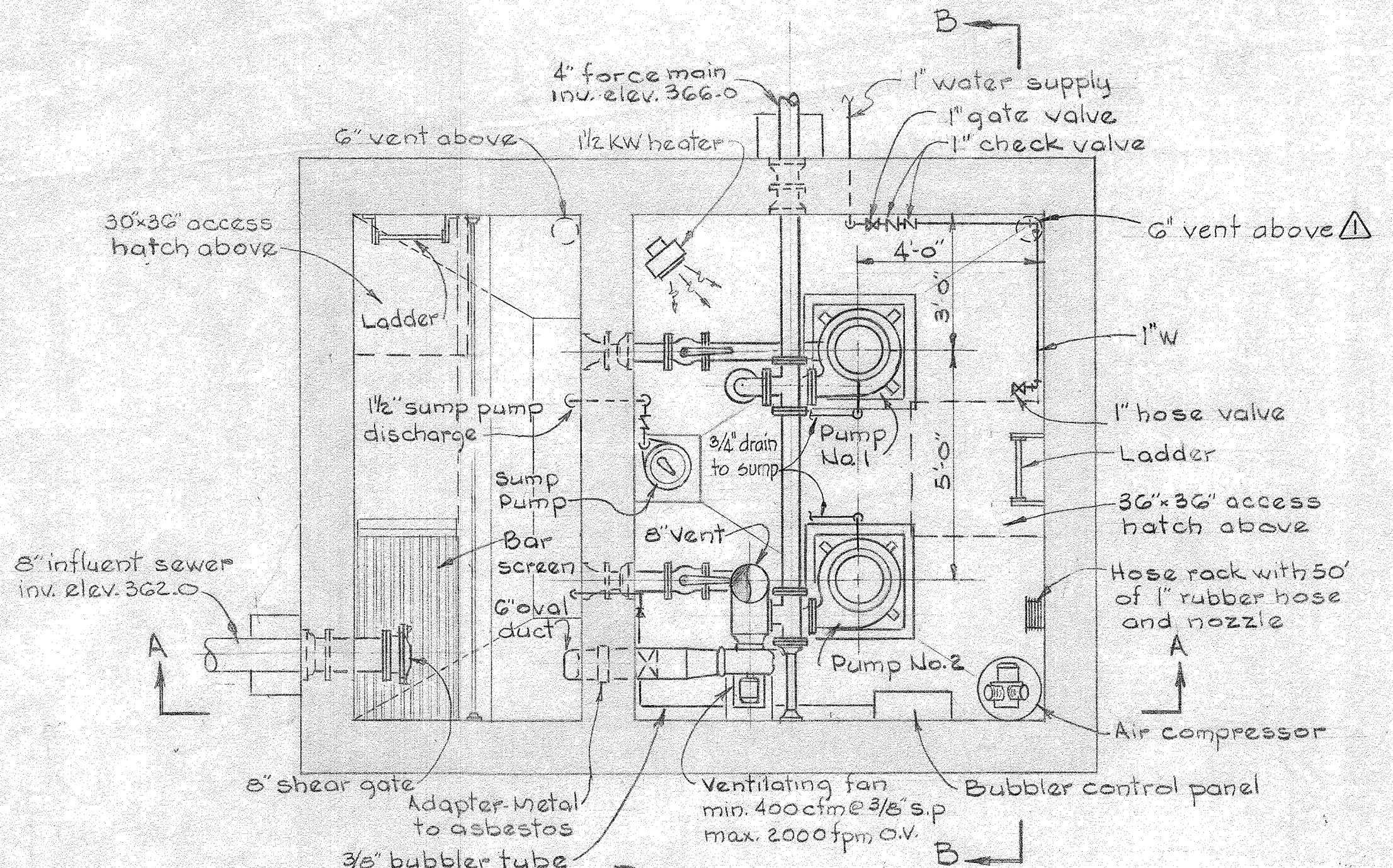
DRAWING  
NO. 21  
OF 24

SCALE  
H-1"=100'  
V-1"=10'

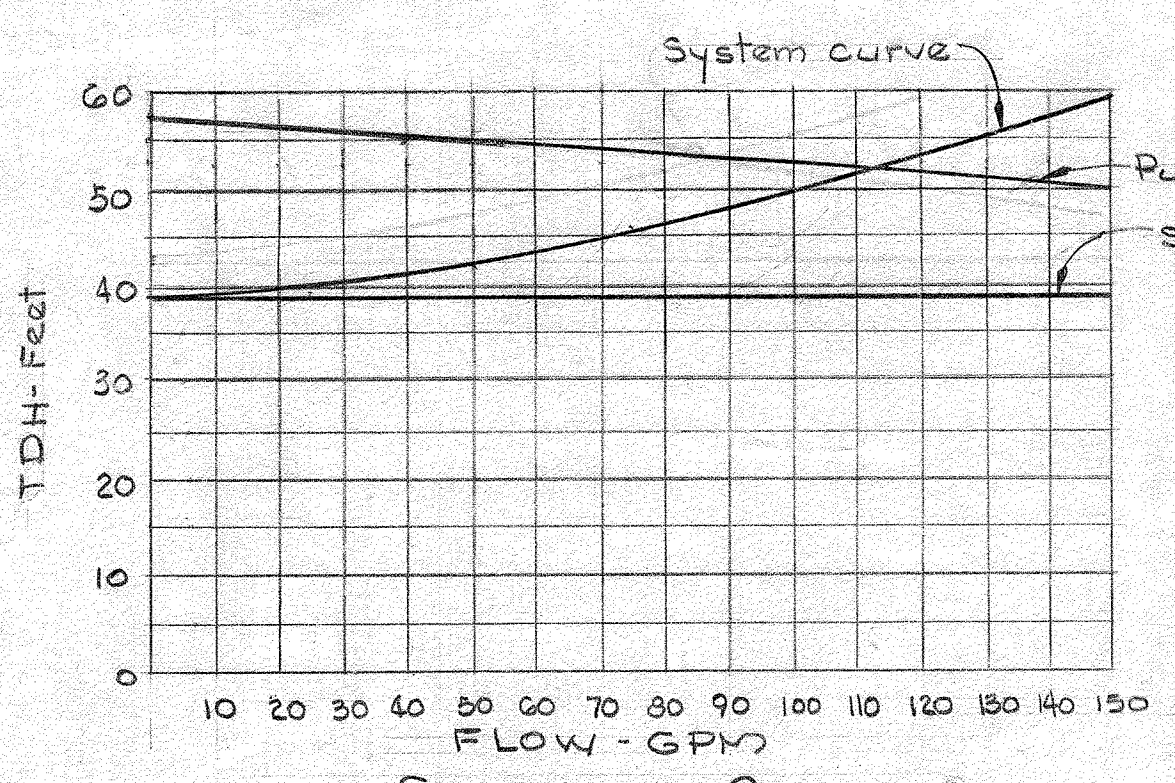
Contract N° 31-5

WS 31-S/21

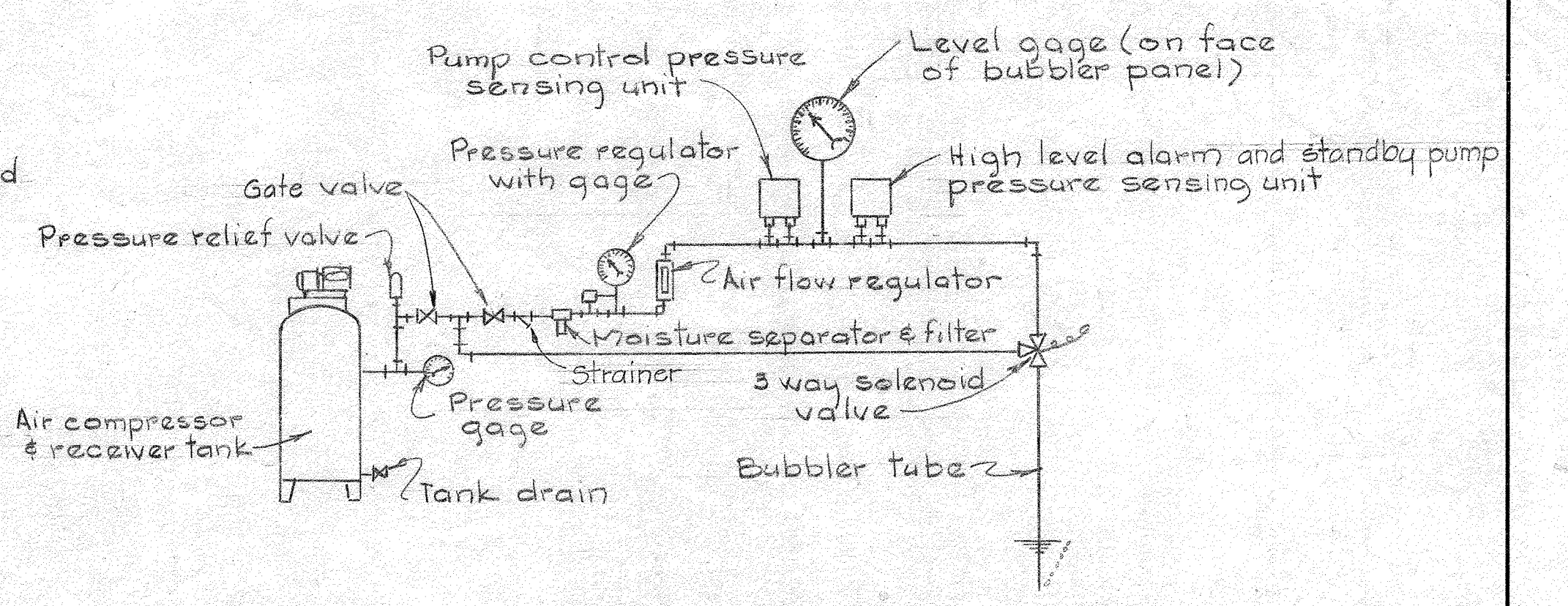




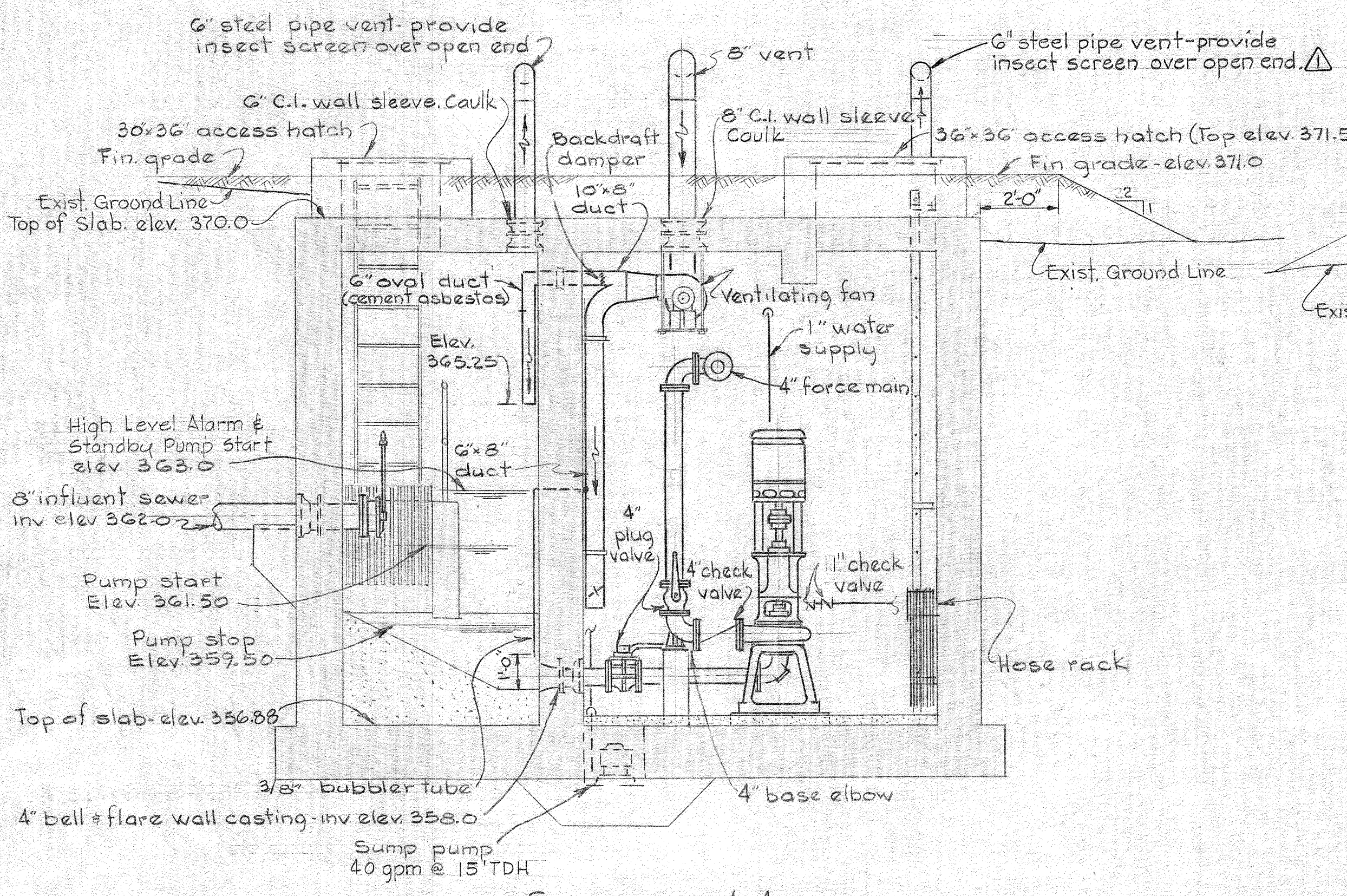
**PLAN**  
Scale: 3/8" = 1'-0"



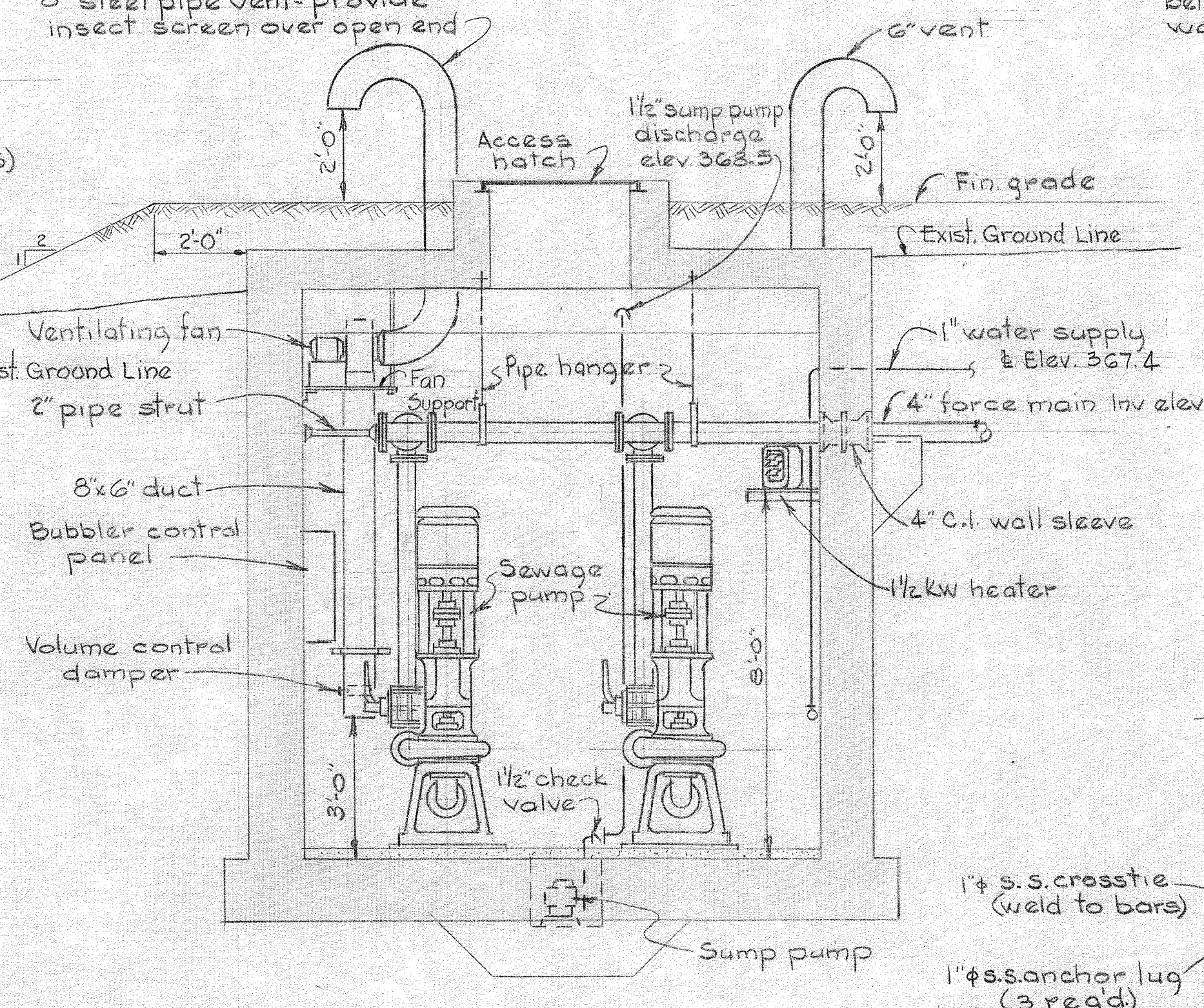
**SYSTEM CURVES**  
Scale: None



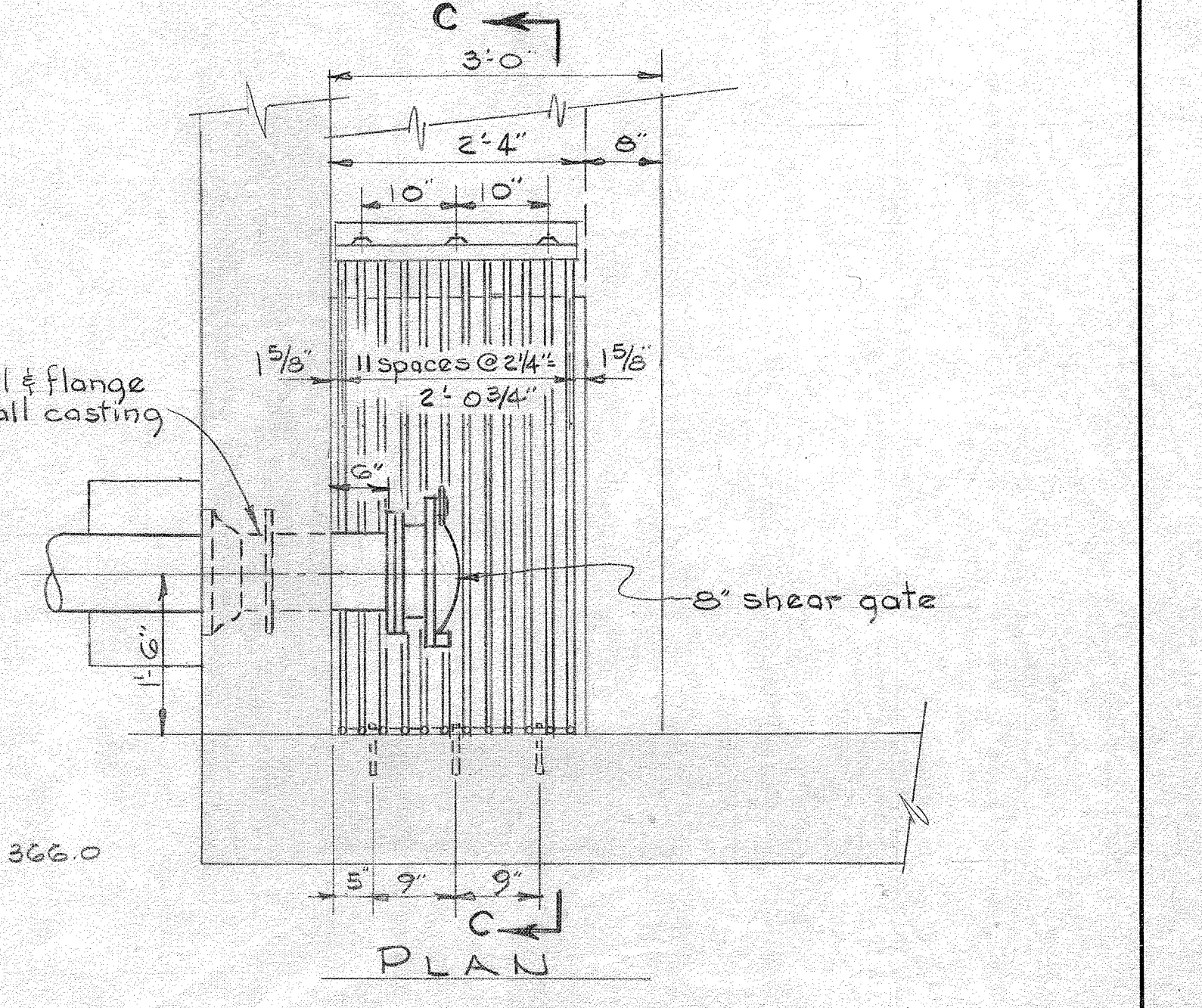
**DIAGRAM-AIR BUBBLER SYSTEM**  
Scale: None



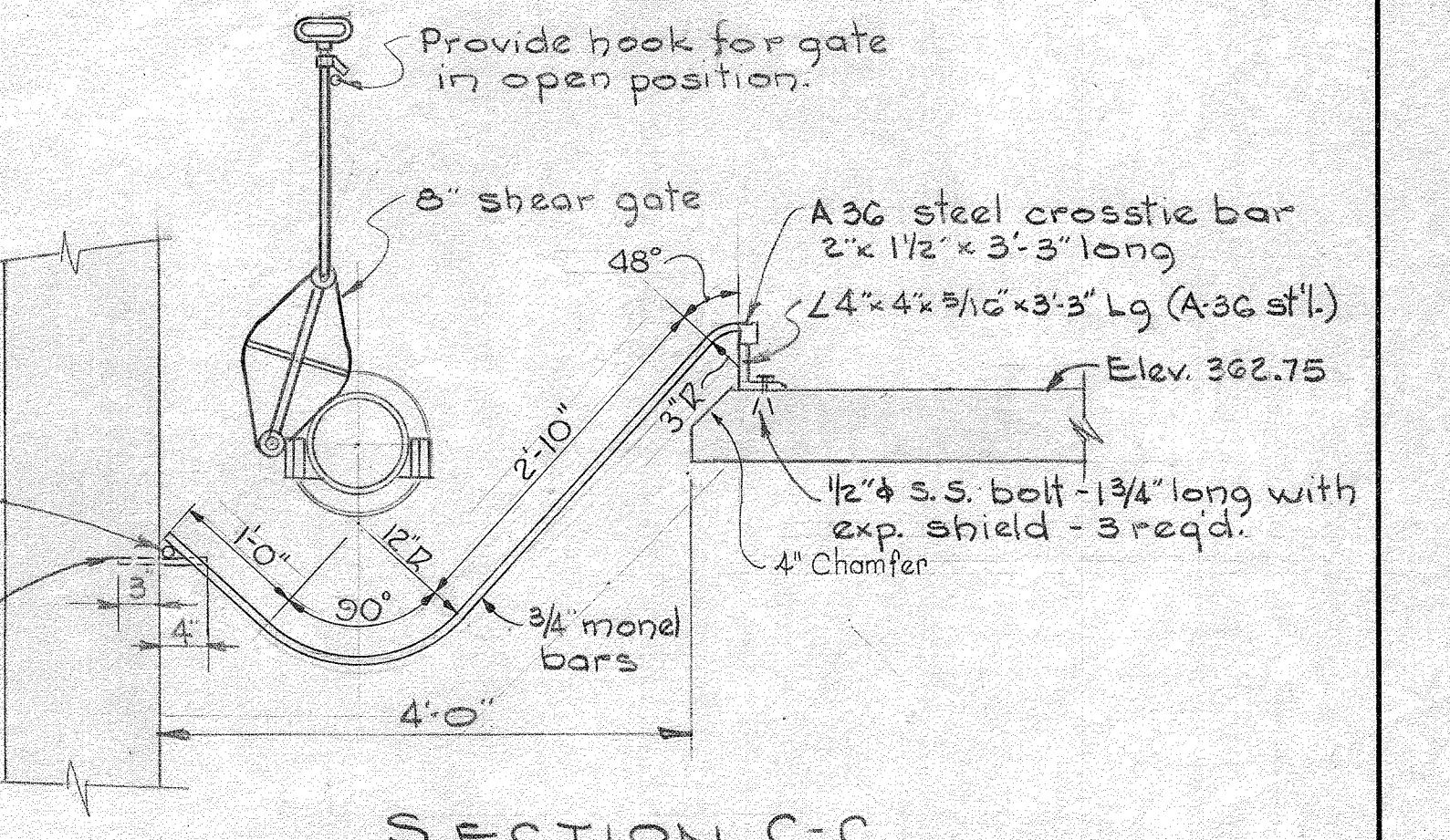
**SECTION A-A**  
Scale: 3/8" = 1'-0"



**SECTION B-B**  
Scale: 3/8" = 1'-0"



**PLAN**

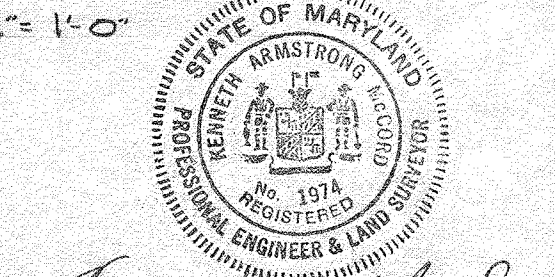


**SECTION C-C**

**DETAILS OF BAR SCREEN**

Scale: 3/4" = 1'-0"

1	1-13-65	Added 6" vent to motor room
No.	Date	Revision



Contract No. 31-S

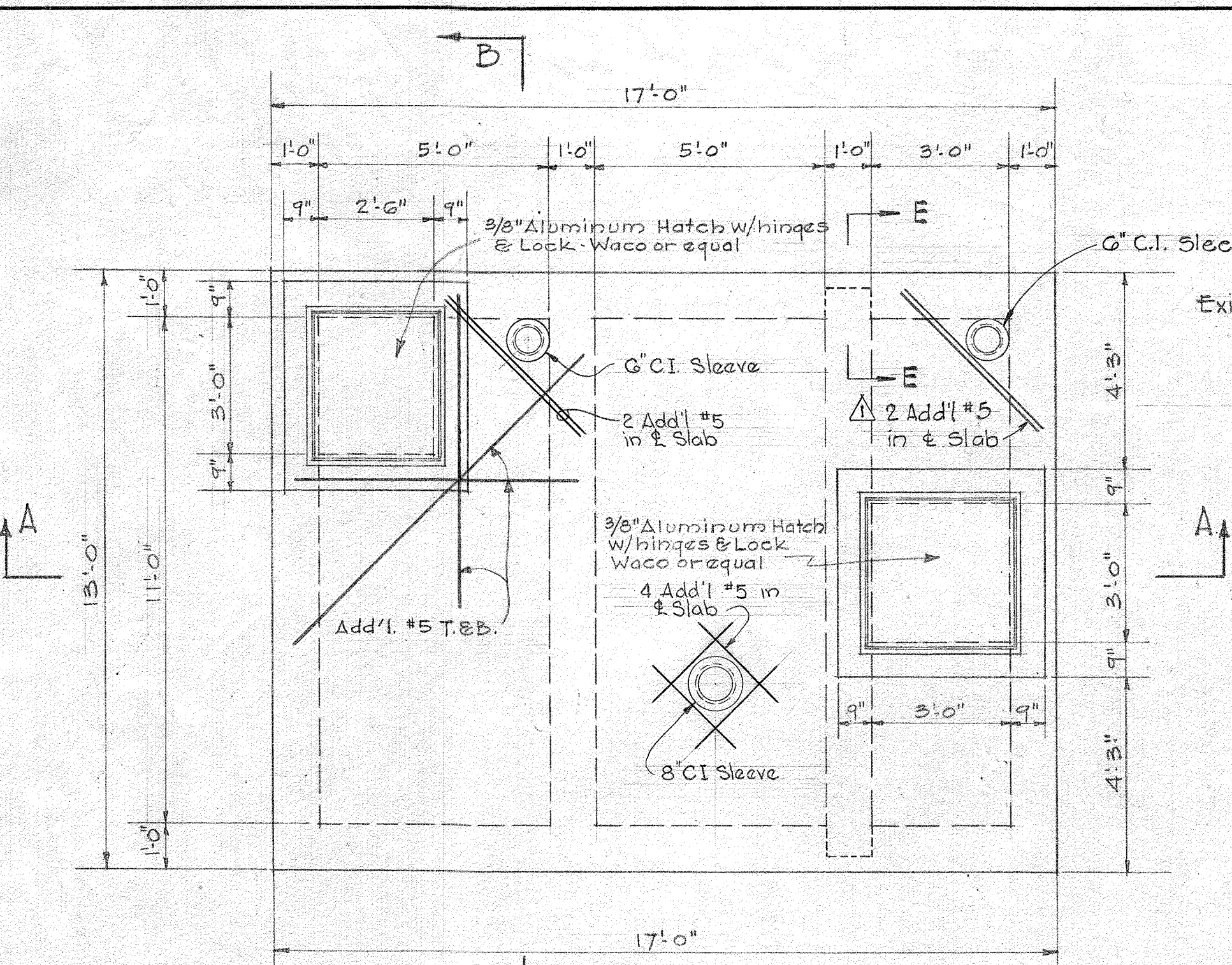
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	HOWARD COUNTY METROPOLITAN COMMISSION Dec 16, 1963 DATE Carl W. Meyer CHIEF ENGINEER	CONTRACT NO. 31-S	PUMPING STATION MECHANICAL DETAILS	ELLCOTT CITY SUB-DISTRICT	DRAWING NO. 22 OF 24	SCALE AS SHOWN
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W.O. 5010-2

AS BUILT 28 FEB. 66

WS 31-S/22

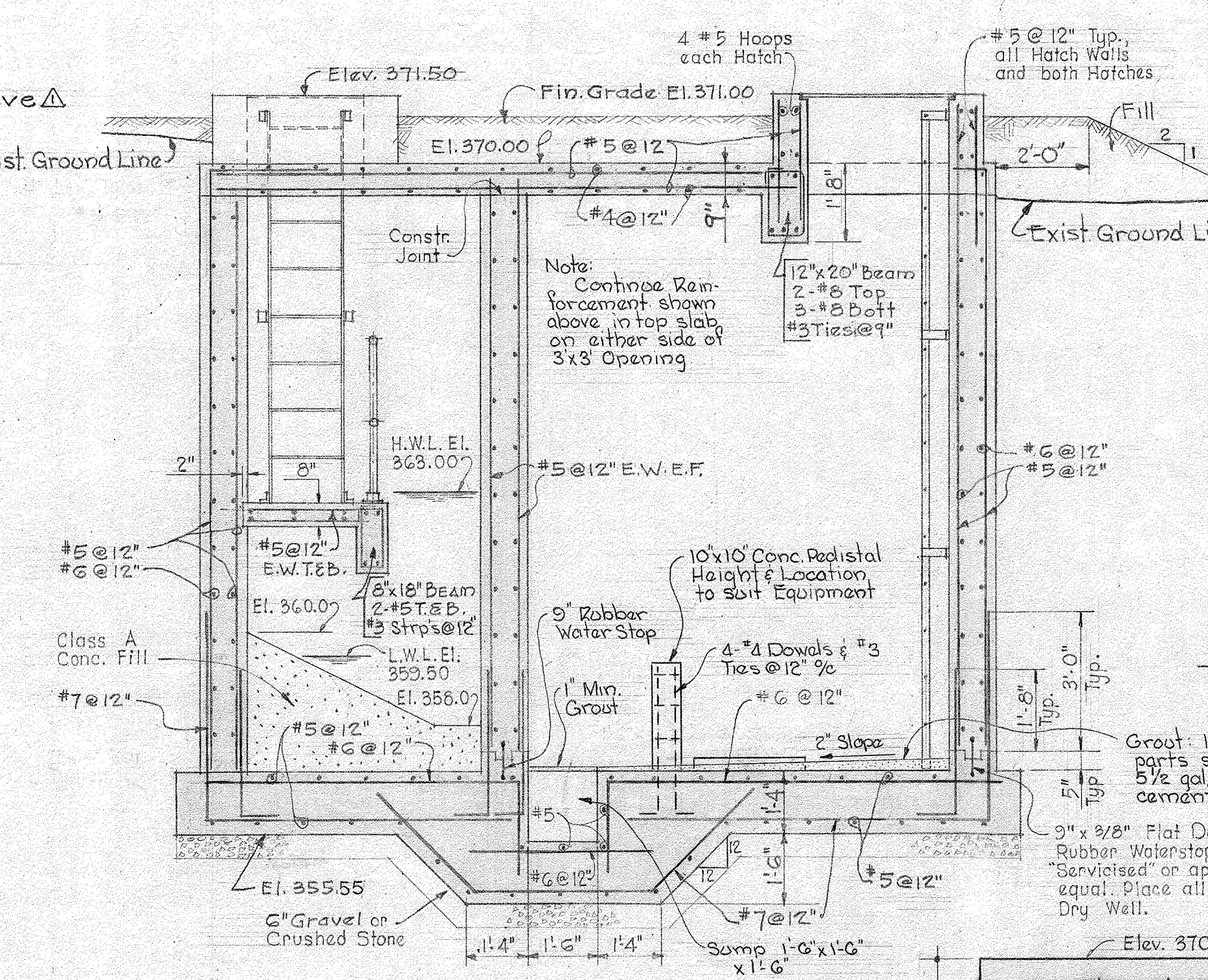




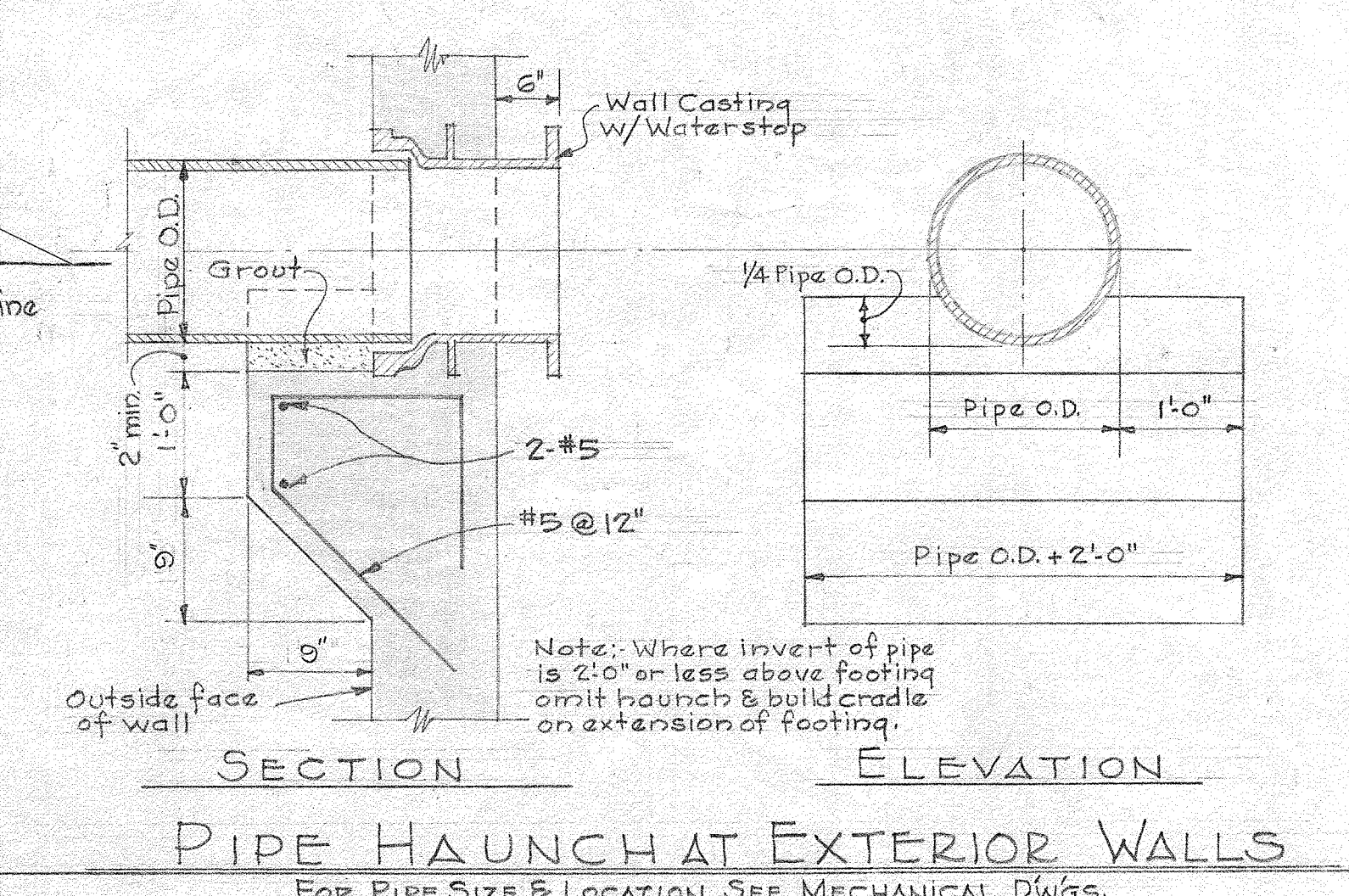
PLAN AT TOP SLAB  
Scale: 3/8" = 1'-0"

STRUCTURAL NOTES

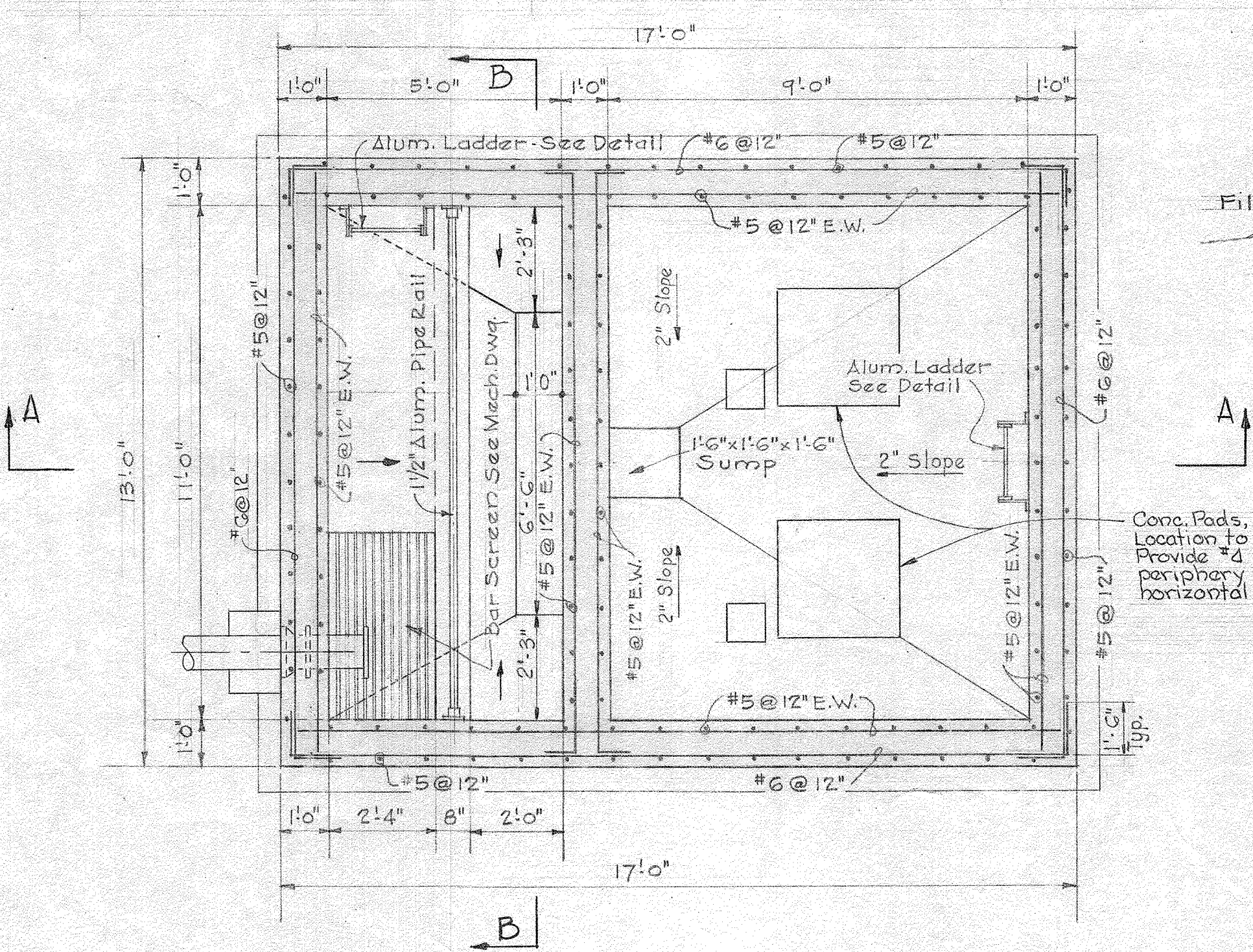
- All Concrete shall be Class A with Compressive Strength of 28 Days of 3500 psi. For admixtures see Notes 7, 8, & 9.
- Base Slab shall be poured on one layer of Sisikogit "Moistop" (or approved equal) placed on a 6" min. Sub-Base of well compacted Gravel or Crushed Stone.
- All Reinforcing Steel shall be Intermediate Grade (ASTM-A19) with deformations conforming to ASTM Spec. A-305. Laps, Splices, and Bends not indicated on the Drawings shall be as specified.
- Concrete Covers for Reinforcing shall be as follows:
  - Bottom of Footings, Slabs and Walls poured against Earth, Rock, Gravel or Crushed Stone: 3"
  - Formed Walls, Top of Footings and Base Slabs, Submerged Slabs and Bottom of Slabs over water: 2"
  - Beam Stirrups and Ties: 1 1/2"
- Aluminum shall be 6061-T6.
- All rubber water stops shall be made continuous by using pre-molded fittings & sleeves cemented with an adhesive in strict accordance with the manufacturer's recommendations.



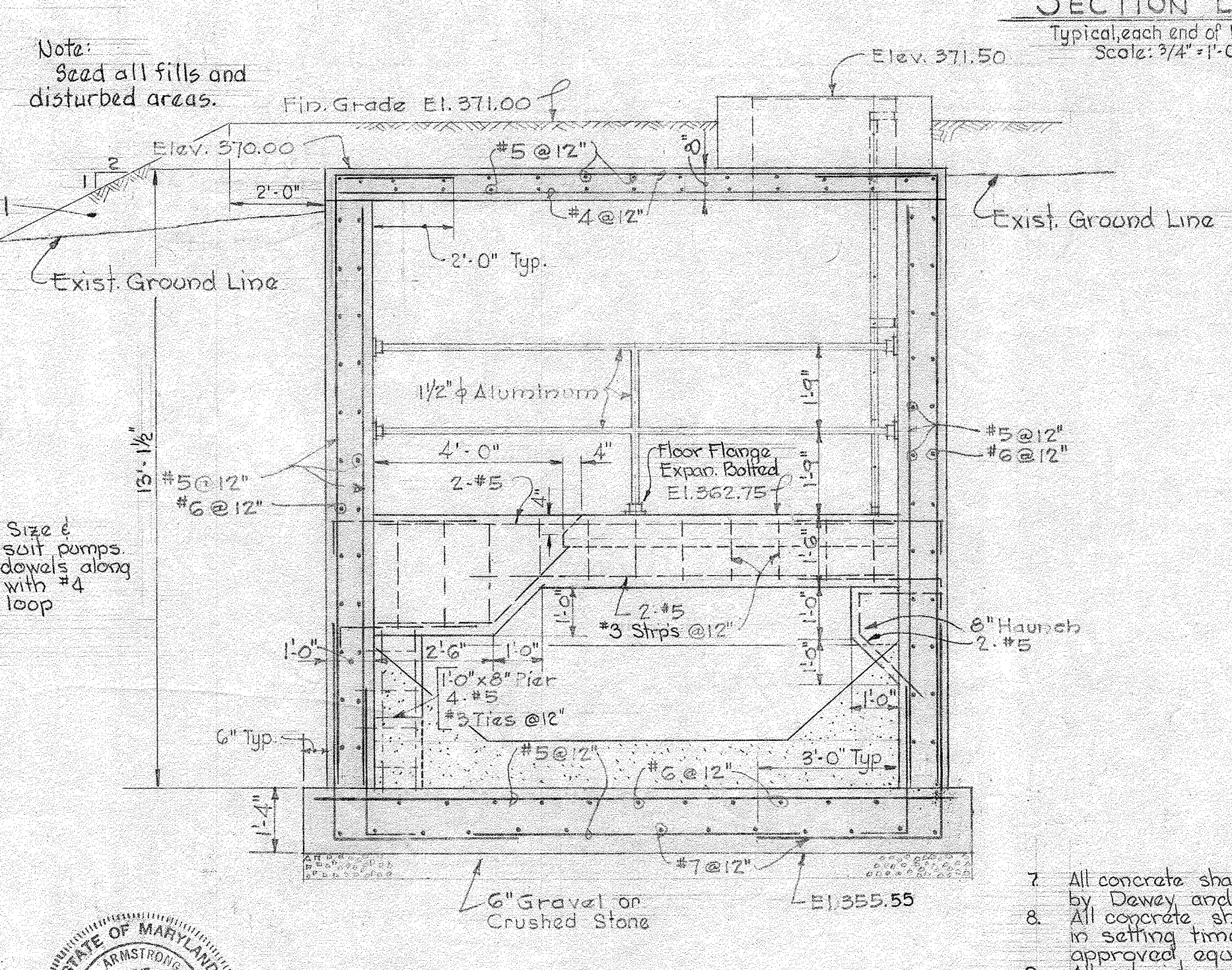
SECTION A-A  
Scale: 3/8" = 1'-0"



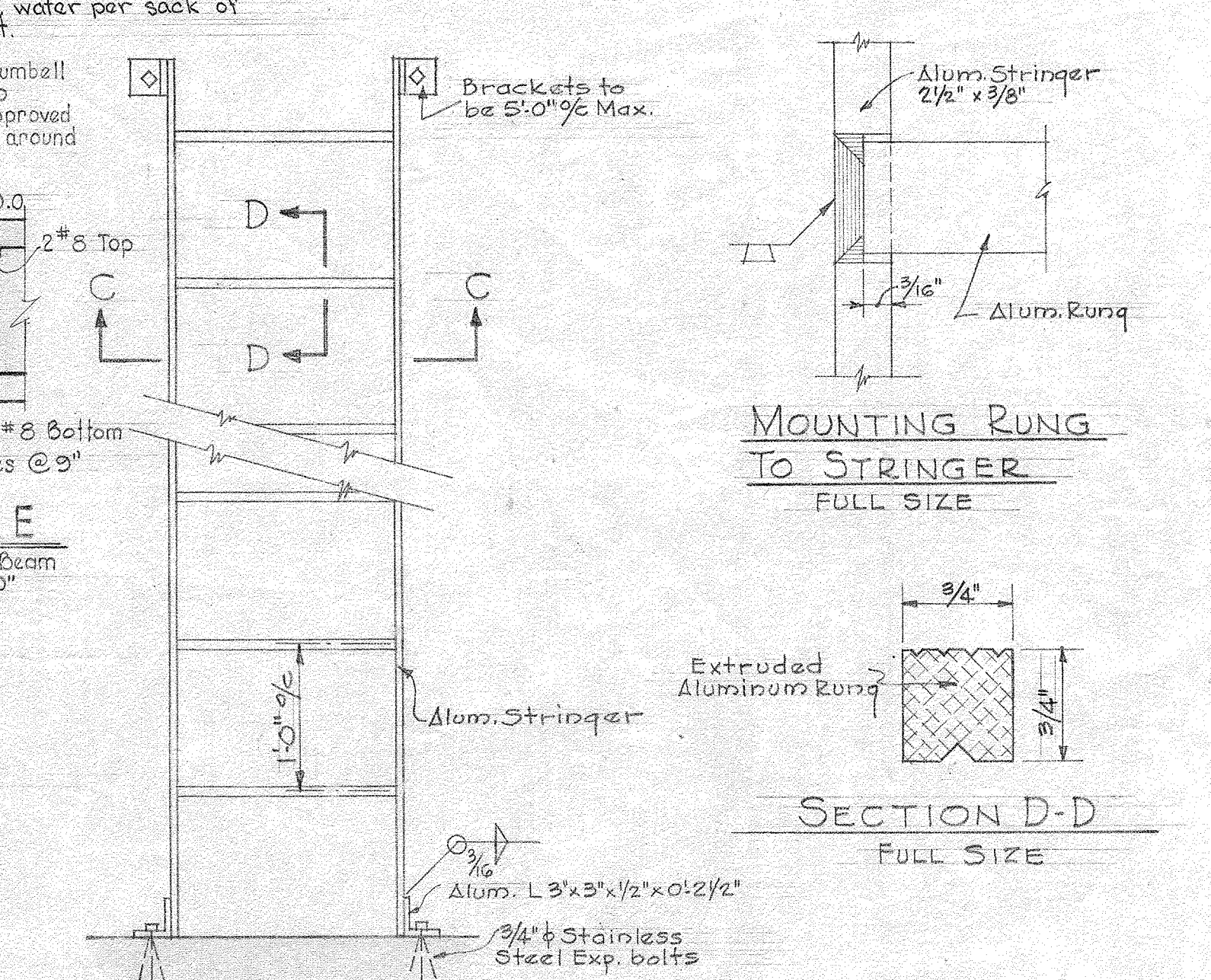
PIPE HAUNCH AT EXTERIOR WALLS  
FOR PIPE SIZE & LOCATION SEE MECHANICAL DWGS.



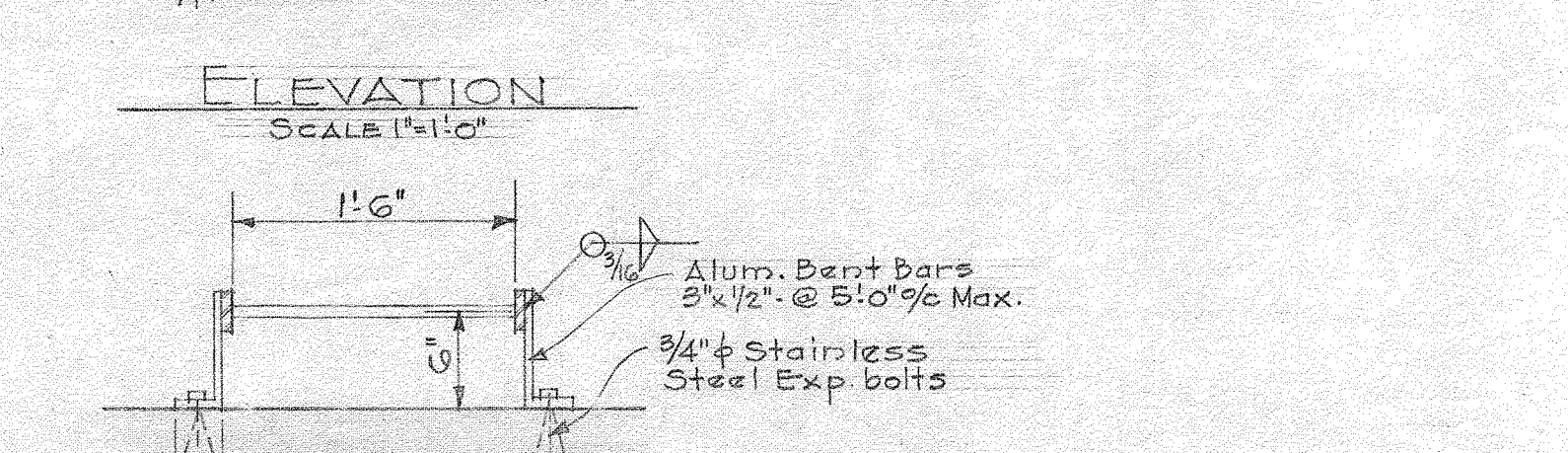
SECTIONAL PLAN  
Scale: 3/8" = 1'-0"



SECTION B-B  
Scale: 3/8" = 1'-0"



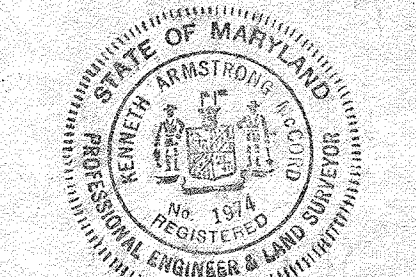
MOUNTING RUNG TO STRINGER  
FULL SIZE



SECTION C-C  
Scale: 1/4" = 1'-0"

DETAILS OF ALUMINUM LADDER

- STRUCTURAL NOTES (CONT.)
- All concrete shall contain 45 ± 15% by volume of entrained air. Air entraining admixture shall be "Darex" as manufactured by Dewey and Almy Chemical Division, W.R. Grace and Co. or approved equal.
  - All concrete shall contain a water reducing and retarding admixture to result in a retardation of 2 to 3 hours in setting time. The admixture shall be "Plastiment" as manufactured by the Sika Chemical Corporation, or approved equal.
  - All admixture solutions shall be considered as part of the quantity of mixing water specified.
  - The Contractor shall submit shop details of reinforcing steel before proceeding with fabrication.
  - Chamfer all exposed edges of concrete 3/4"



*Handwritten signature*

PART A

1	1-13-65	6" C.I. Sleeve & add'l reinf. for G' vent added
2		Date Revision

Contract No. 31-S

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

HOWARD COUNTY METROPOLITAN COMMISSION  
Dec 16, 1963  
DATE  
*Handwritten signature*  
CHIEF ENGINEER

CONTRACT NO. 31-S

PUMPING STATION  
STRUCTURAL DETAILS

ELLCOTT CITY SUB-DISTRICT

DRAWING NO. 23 OF 24  
SCALE AS SHOWN

WS 31-S/23



