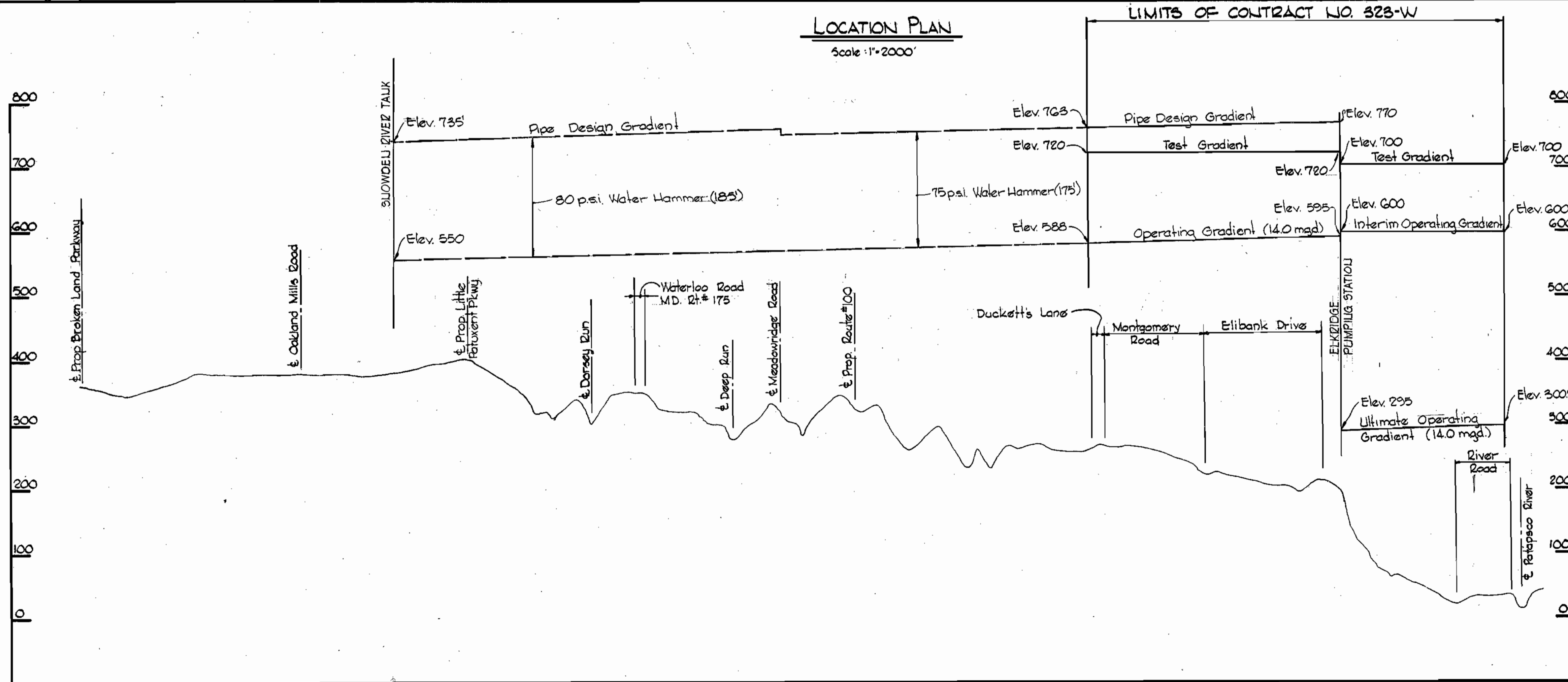


LOCATION PLAN

Scale: 1" = 2000'



Scale: H: 1" = 2000' V: 1" = 100'

AS-BUILT 323-W
 Stakeout FB# 5705
 Diary #1 FB# 5706
 #2 FB# 5764
 #3 FB# 5796
 A.P. SMITH Fire Hydrants used.
 33" W. Prestressed Concrete Cylinder Pipe
 12" W. Ductile Iron Pipe



Kenneth A. McLeod

Installation Contract No. 323-W

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1-22-74 DATE <i>W. O. Falbert</i> CHIEF-BUREAU OF WATER AND SEWER	CONTRACT NO. 323-W	LOCATION PLAN AND HYDRAULIC GRADIENT	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 1 OF 12 SCALE AS SHOWN
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W. O. 6257-2

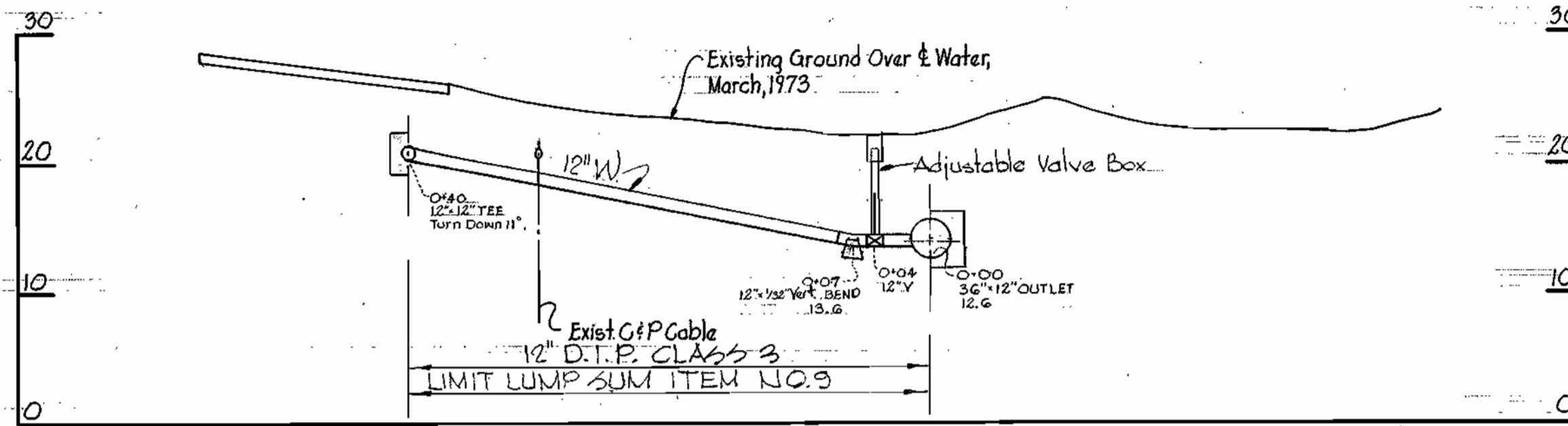
February 18, 1976 AS BUILT

W.S. 323-w/1

GENERAL NOTES

1. Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect 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 the vicinity of utilities.
4. For all standard details see standards bound in Specifications.
5. Block all Fittings with concrete, see standards bound in Specifications.
6. Vertical and Horizontal controls are based on Maryland State Datum.
7. All 30" Water Mains will be Prestressed Concrete Cylinder Pipe (P.C.C.P.) and will be furnished by Howard County.
8. Valves shall be designed for an operating pressure rating of 150 psi, except as noted on the Contract Drawings.
9. Dimensions of buttresses for 6 and 12 inch fittings shall be as shown in the standard details for the next larger diameter fittings.

12" CONNECTION AT RIVER ROAD

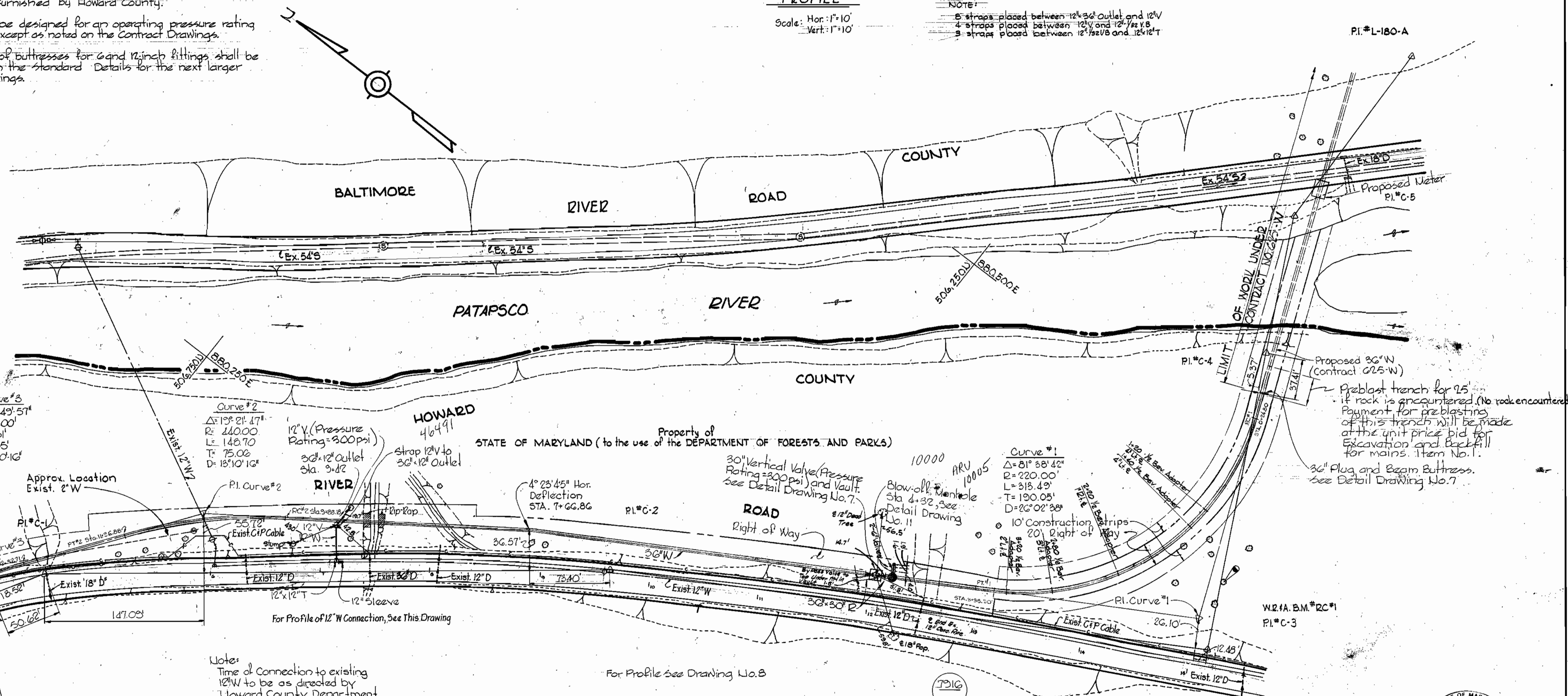
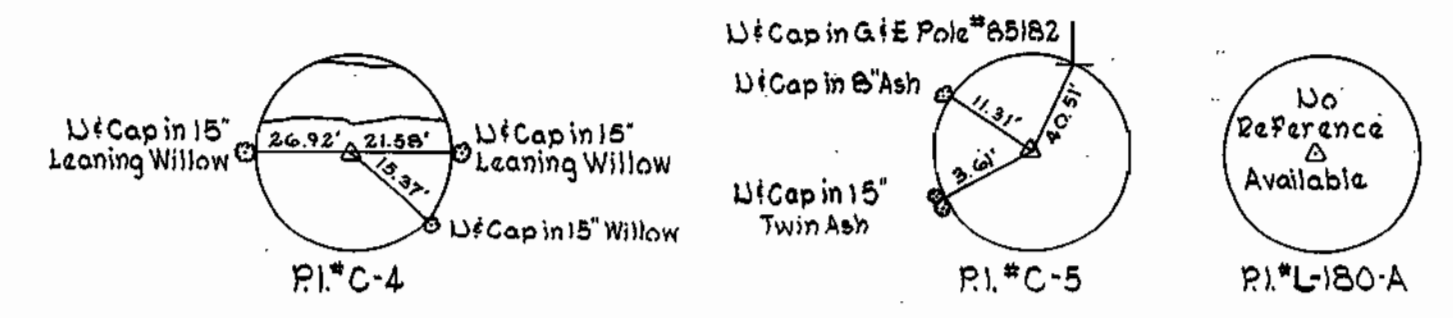


PROFILE

Scale: Hor: 1"=10'
Vert: 1"=10'

NOTE:

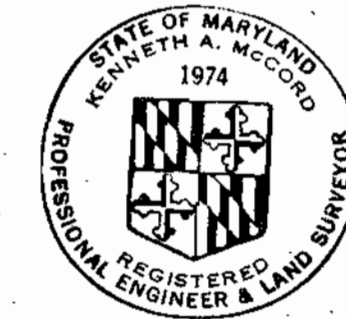
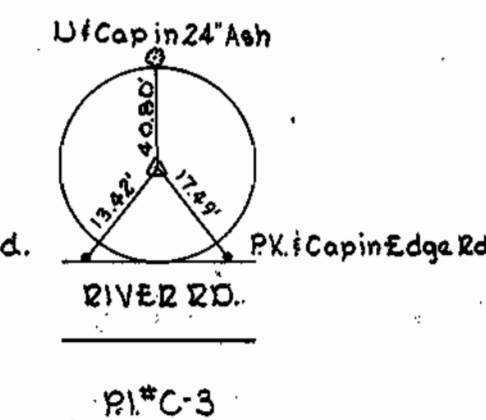
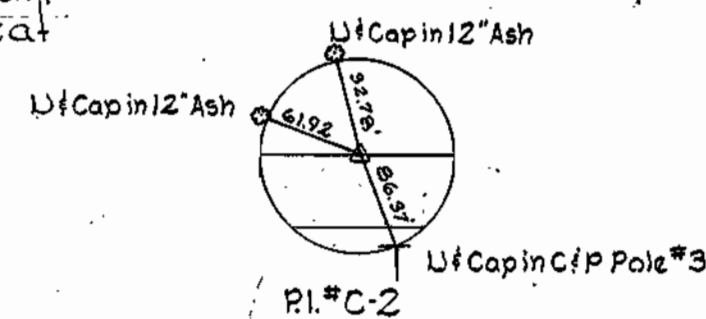
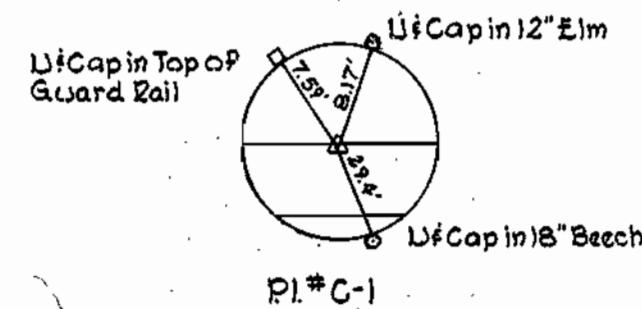
- 8 straps placed between 12" 30" outlet and 12" V
- 4 straps placed between 12" V and 12" 1/2 V B
- 3 straps placed between 12" 1/2 V B and 12" 12" T



PLAN

Scale: 1"=50'

Note: Pipeline was placed in service and valve inserted at a later date.



Kenneth A. McCord

Installation Contract No. 323-W

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 1-22-74
W. O. Whitman
CHIEF - BUREAU OF WATER AND SEWER

CONTRACT NO. 323-W

PLAN AND PROFILE
OF WATER MAINS

ELECTION DISTRICT
ELKRIDGE NO.1

DRAWING NO. 2 OF 12	SCALE AS SHOWN	506-503 506-504 505-504
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February 18, 1976 AS BUILT

WS 323-W/2

W. O. 6257-2

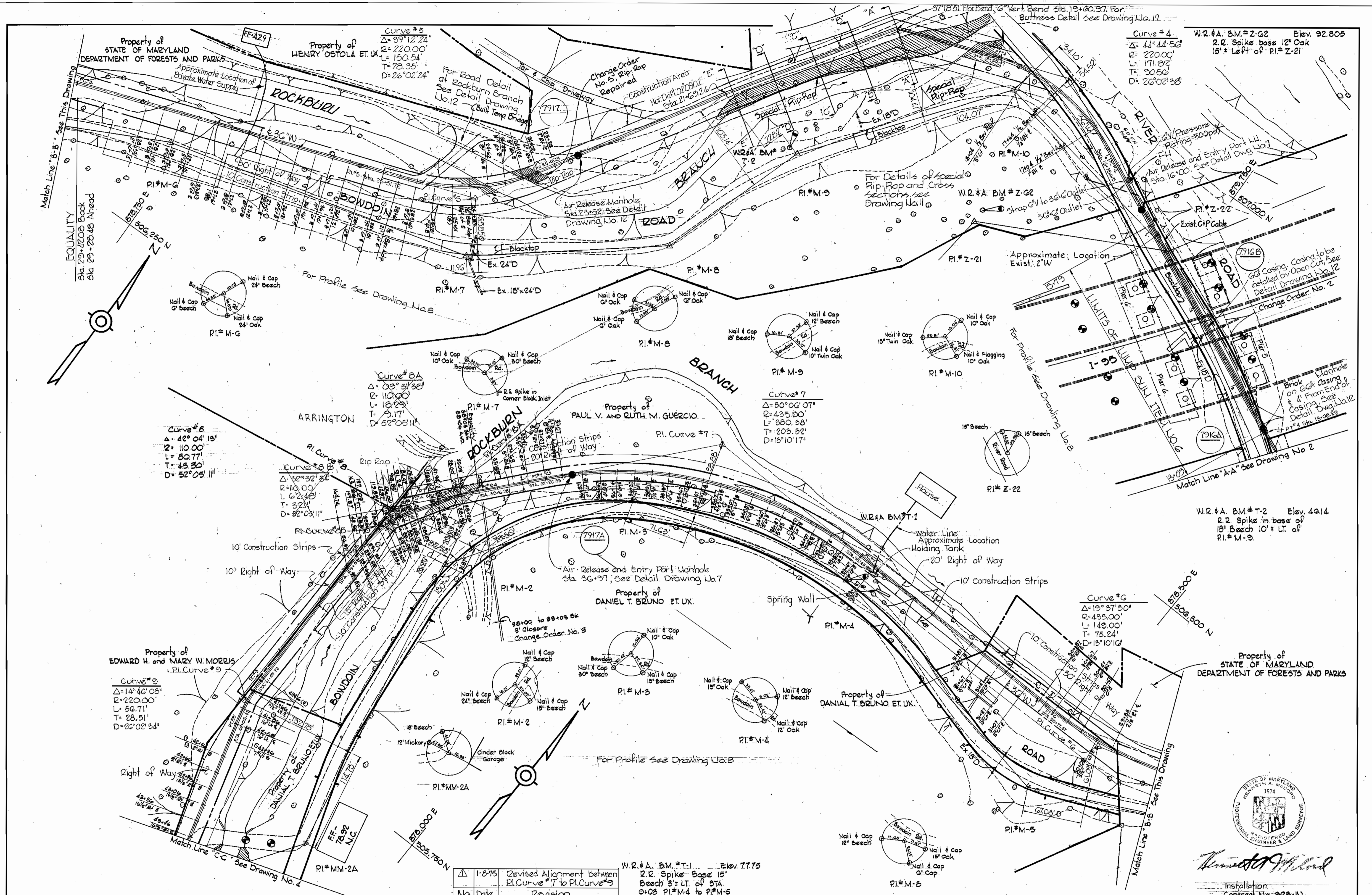
FB. 4892

WS 323-W/3

Vertical

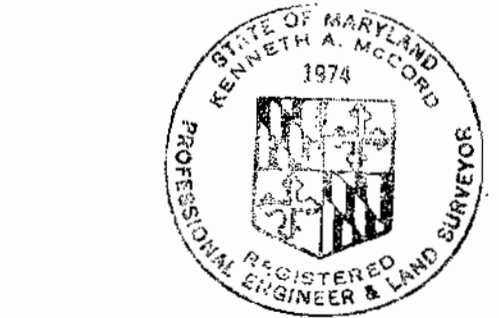
Vertical

Vertical



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1-22-74 <i>W. O. Albert</i> CHIEF - BUREAU OF WATER AND SEWER	CONTRACT NO. 323-W	PLAN OF WATER MAINS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 3 OF 12 SCALE 1" = 50' Installation Contract No. 823-W FB #4881 February 18, 1976 AS BUILT
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W. O. 6257-2



Kenneth A. McLeod
 Installation Contract No. 823-W

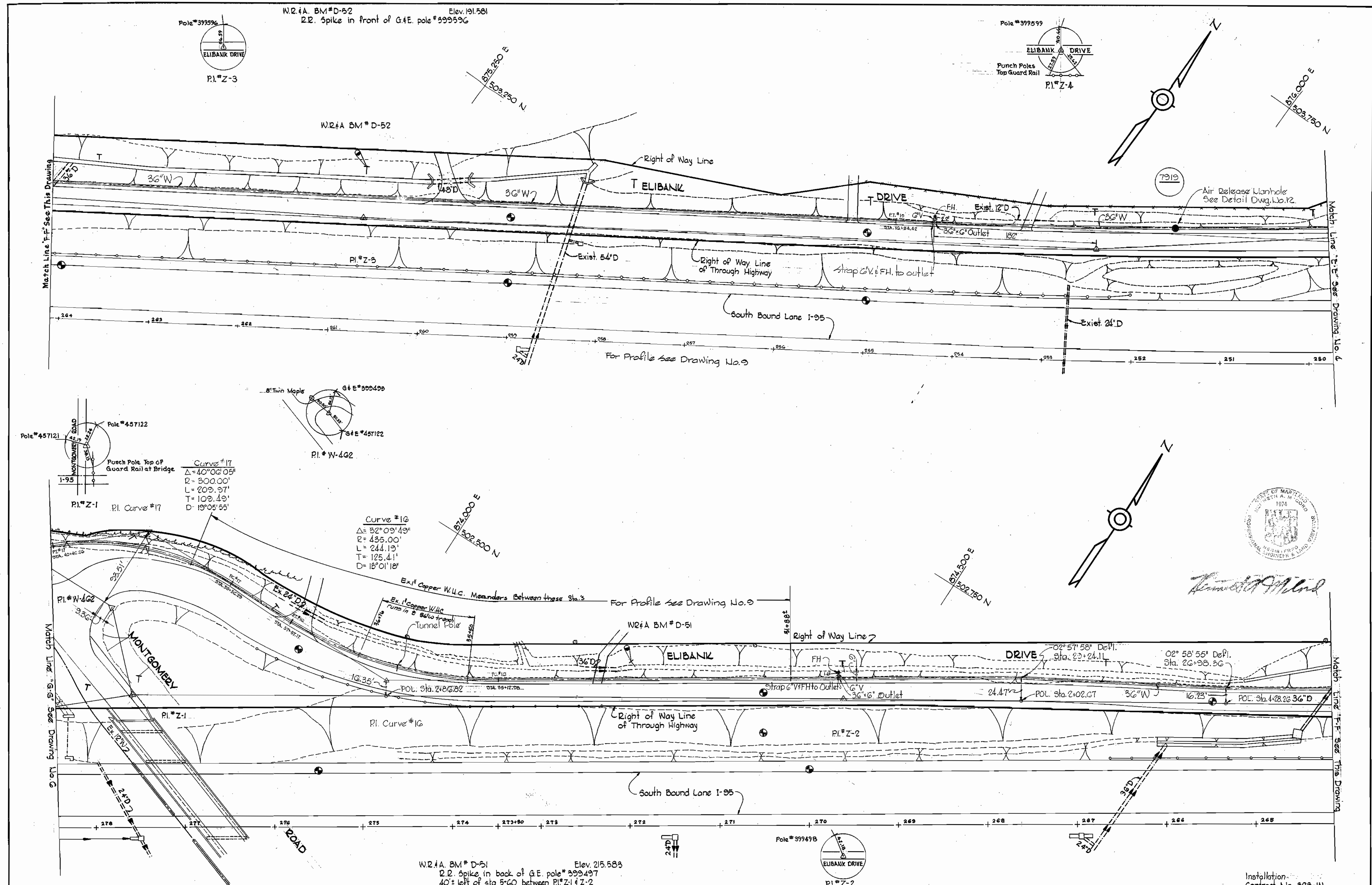
504-508	505-507	506-502	507-502
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WS 323-W/5

Vertical text on left margin

Vertical text on left margin

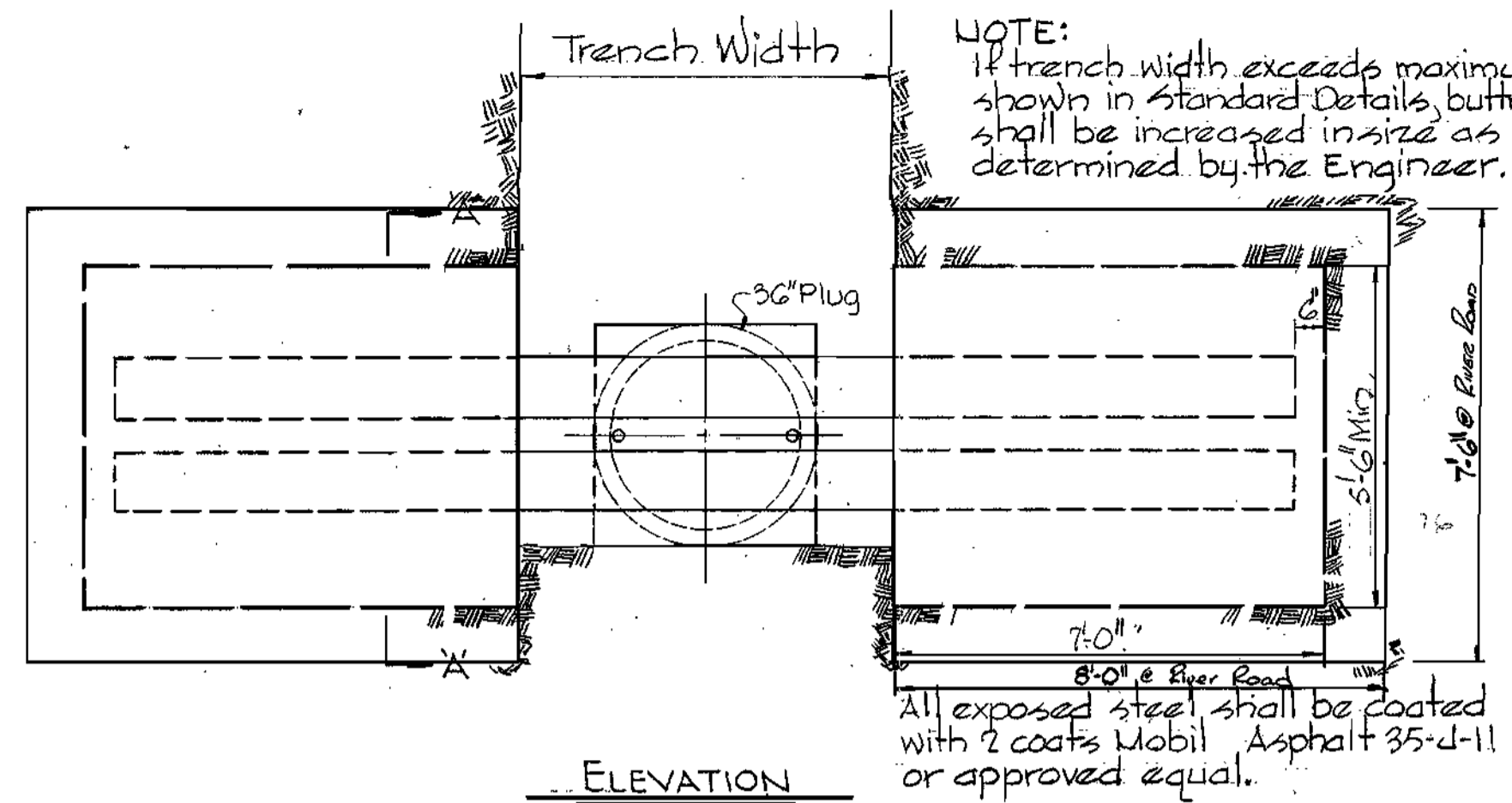
Vertical text on left margin



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1-22-74 <i>W. O. Ellert</i> CHIEF-BUREAU OF WATER AND SEWER	CONTRACT NO. 323-W	PLAN OF WATER MAINS	ELECTION DISTRICT ELKRIDGE NO. 1	Installation Contract No. 323-W DRAWING NO. 5 OF 12 SCALE 1"=50' FB#4892, 4893 February 18, 1976 AS BUILT
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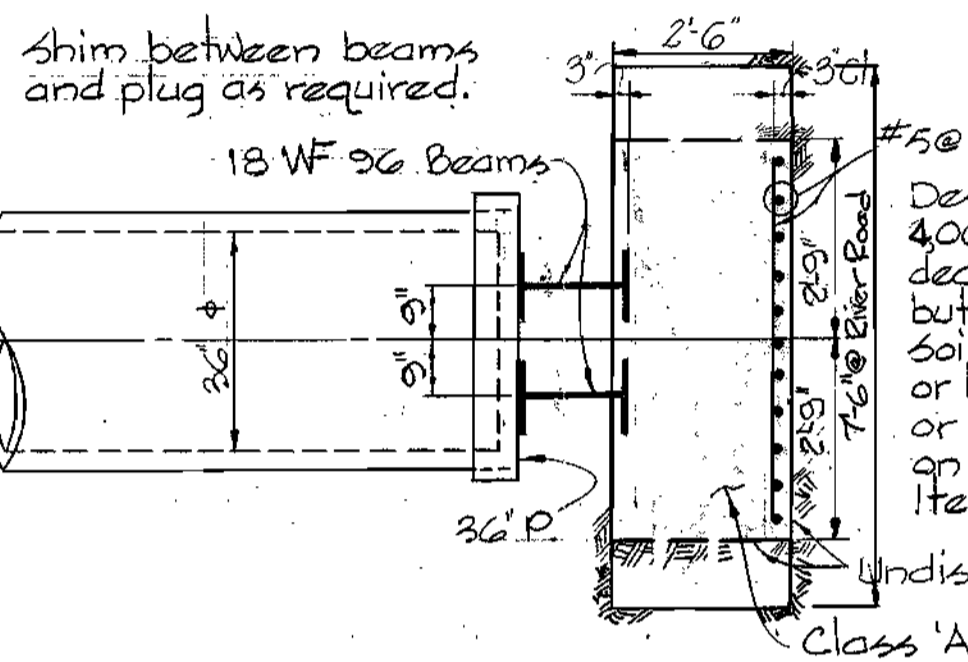
W. O. G257-2

E. K. ELLIOTT CO., PHN. PA. REORDER A-7375



NOTE:
If trench width exceeds maximum shown in Standard Details, buttress shall be increased in size as determined by the Engineer.

ELEVATION



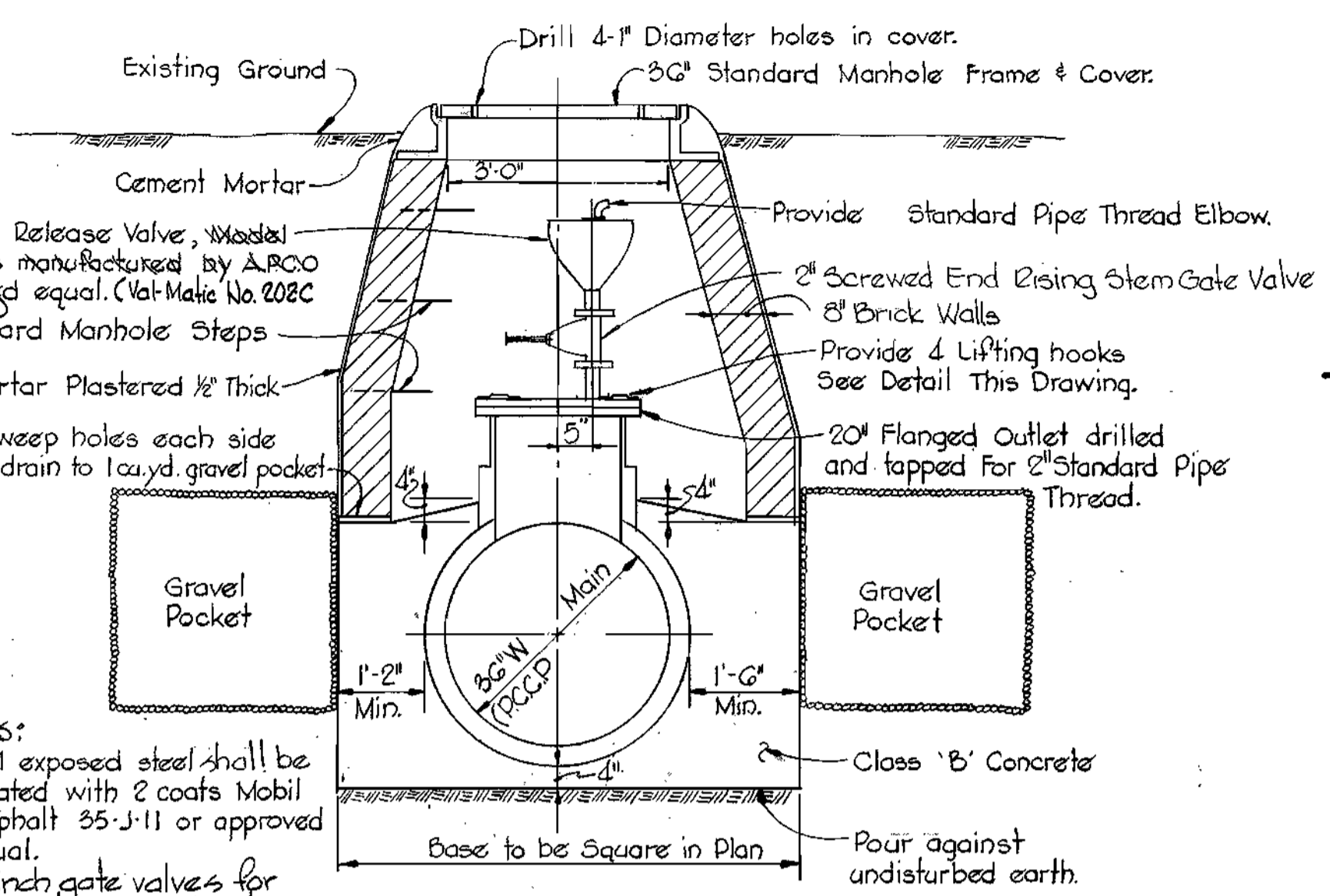
BEAM BUTTRESS FOR 36" PLUG
Scale: 3/8" = 1'-0"

Note:
Beam Buttress @ River Road enlarged (Change Order No. 1)

Shim between beams and plug as required.

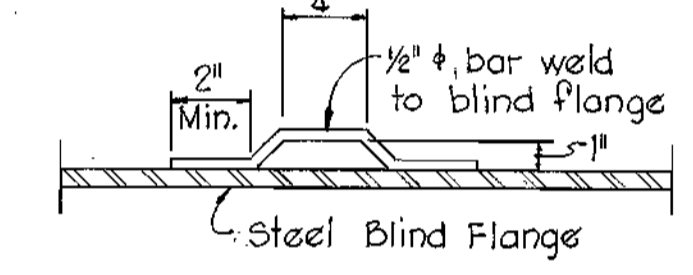
Design Soil Bearing Capacity: 4,000 psf. An increase or decrease in the size of the buttress will be made if the soil bearing capacity is more or less than the design. Credit or payment will be made based on the stipulated price of Item No. 20.

SECTION A-A

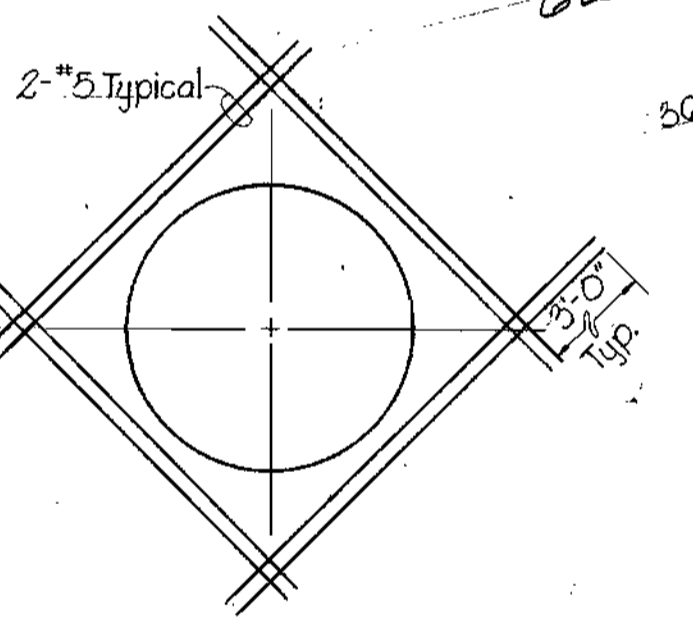


DETAIL OF AIR RELEASE AND ENTRY PORT MANHOLE
Scale: 1/2" = 1'-0"

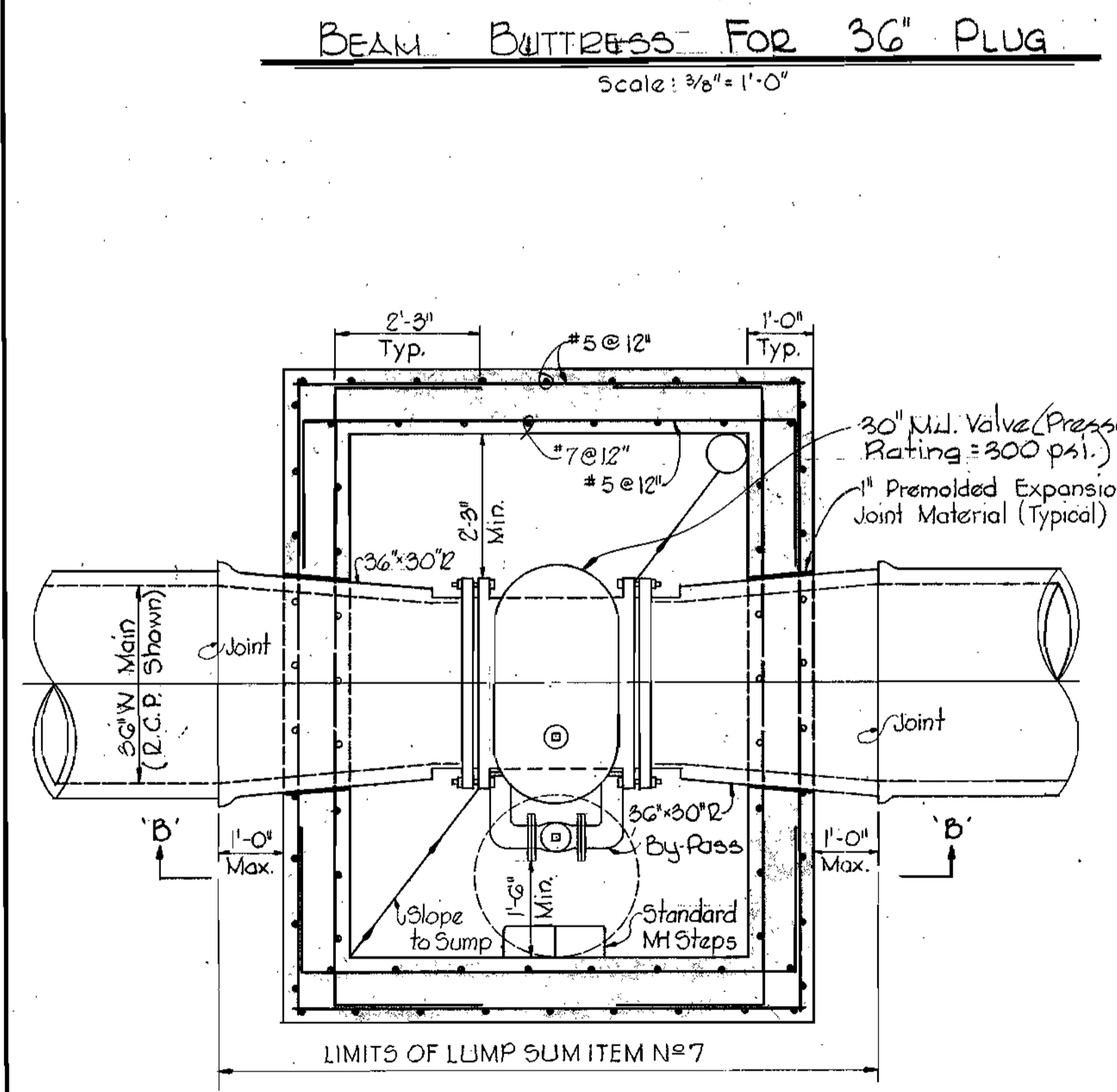
NOTES:
1. All exposed steel shall be coated with 2 coats Mobil Asphalt 35-J-11 or approved equal.
2. 2-inch gate valves for Air Release and Entry Port Manholes 7916-B and 7917-A shall be designed for an operating pressure of 250 psi. (Nipco/Scott Model T-176-A 300 S.W.P.)



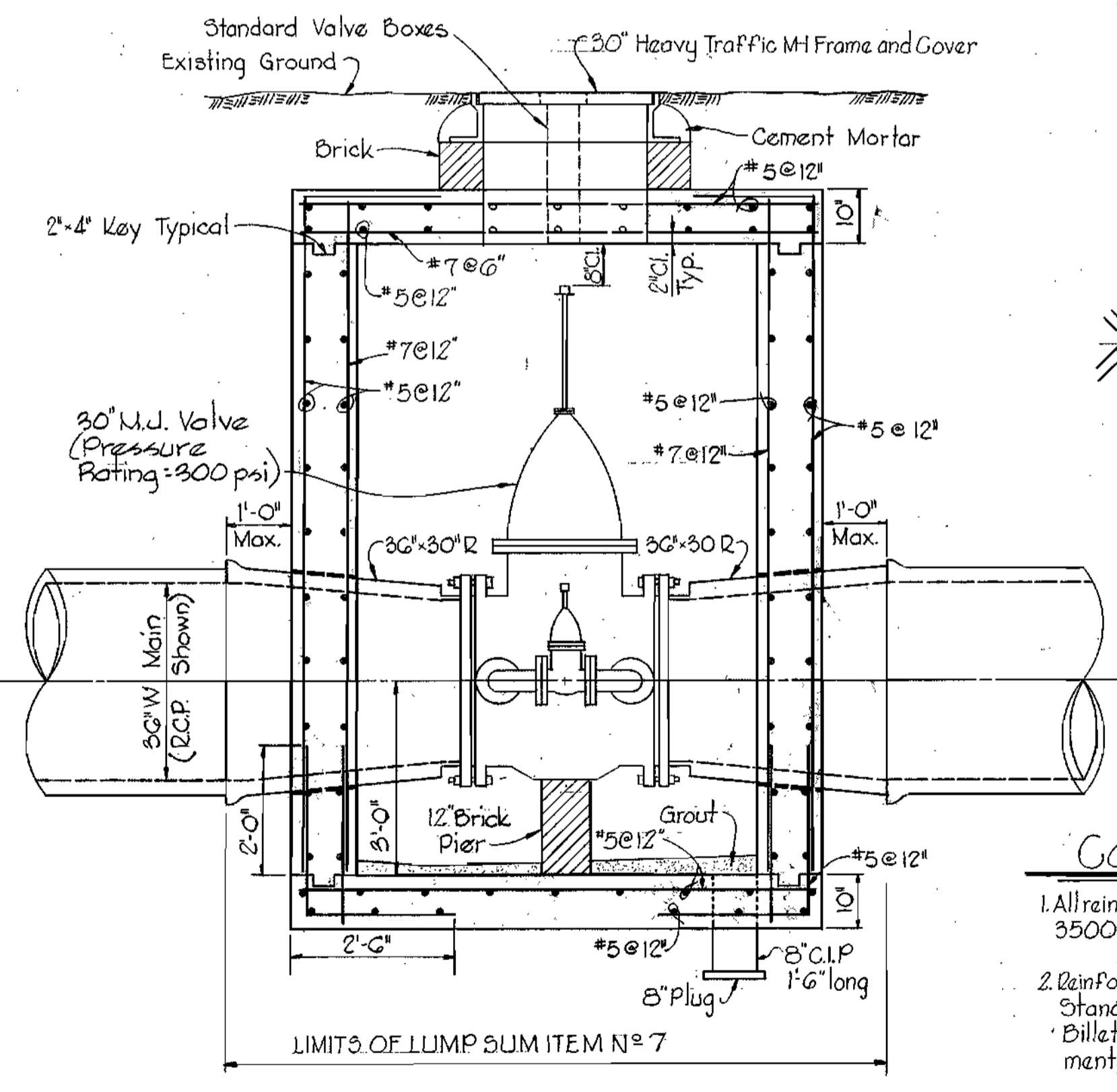
LIFTING HOOK DETAIL
Scale: 1/2" = 1'-0"



TYPICAL REINFORCING AROUND OPENINGS IN WALLS AND SLABS
Scale: 3/8" = 1'-0"



SECTIONAL PLAN



SECTION B-B

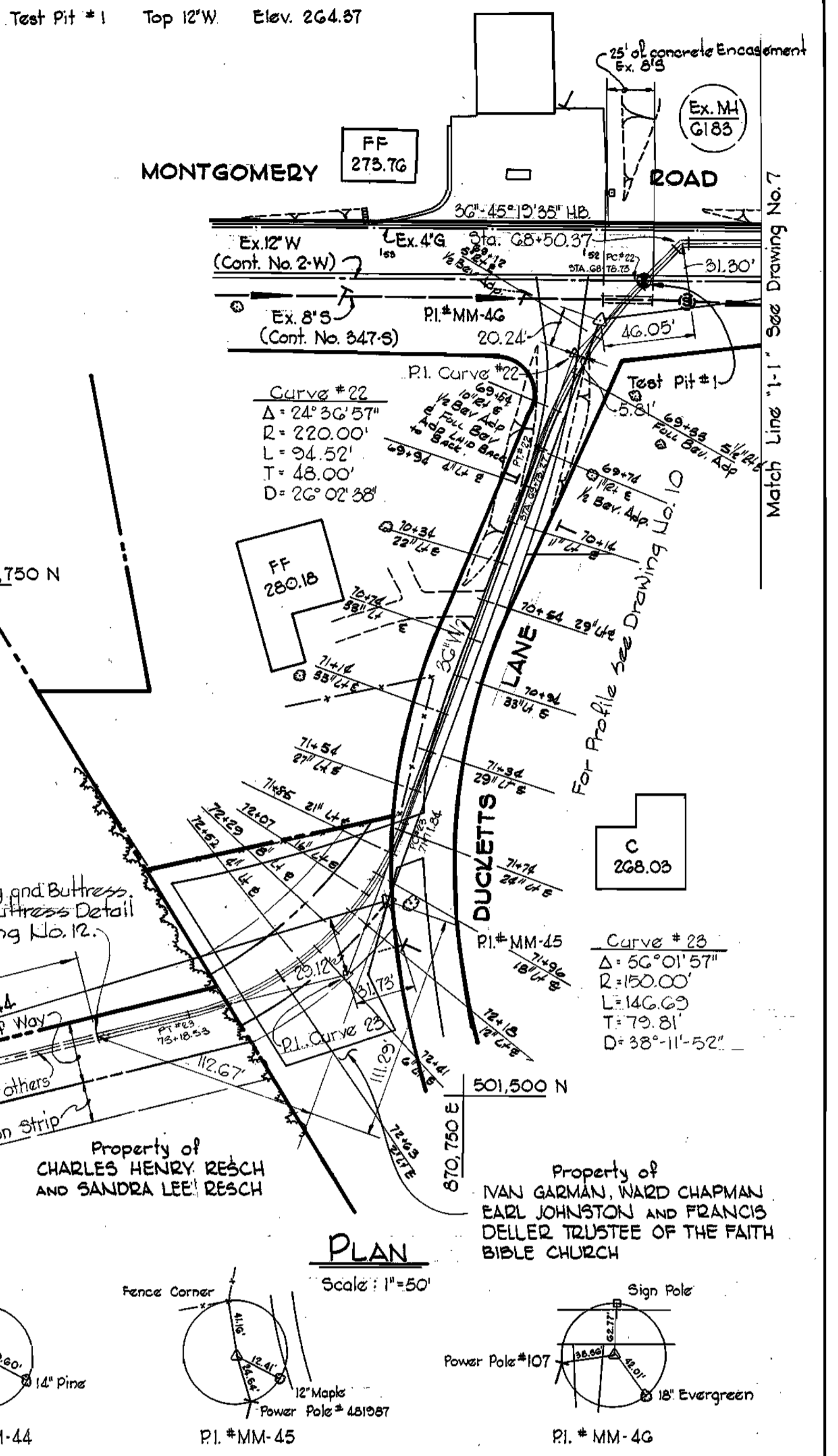
30" VERTICAL VALVE VAULT
Scale: 1/2" = 1'-0"

CONCRETE NOTES

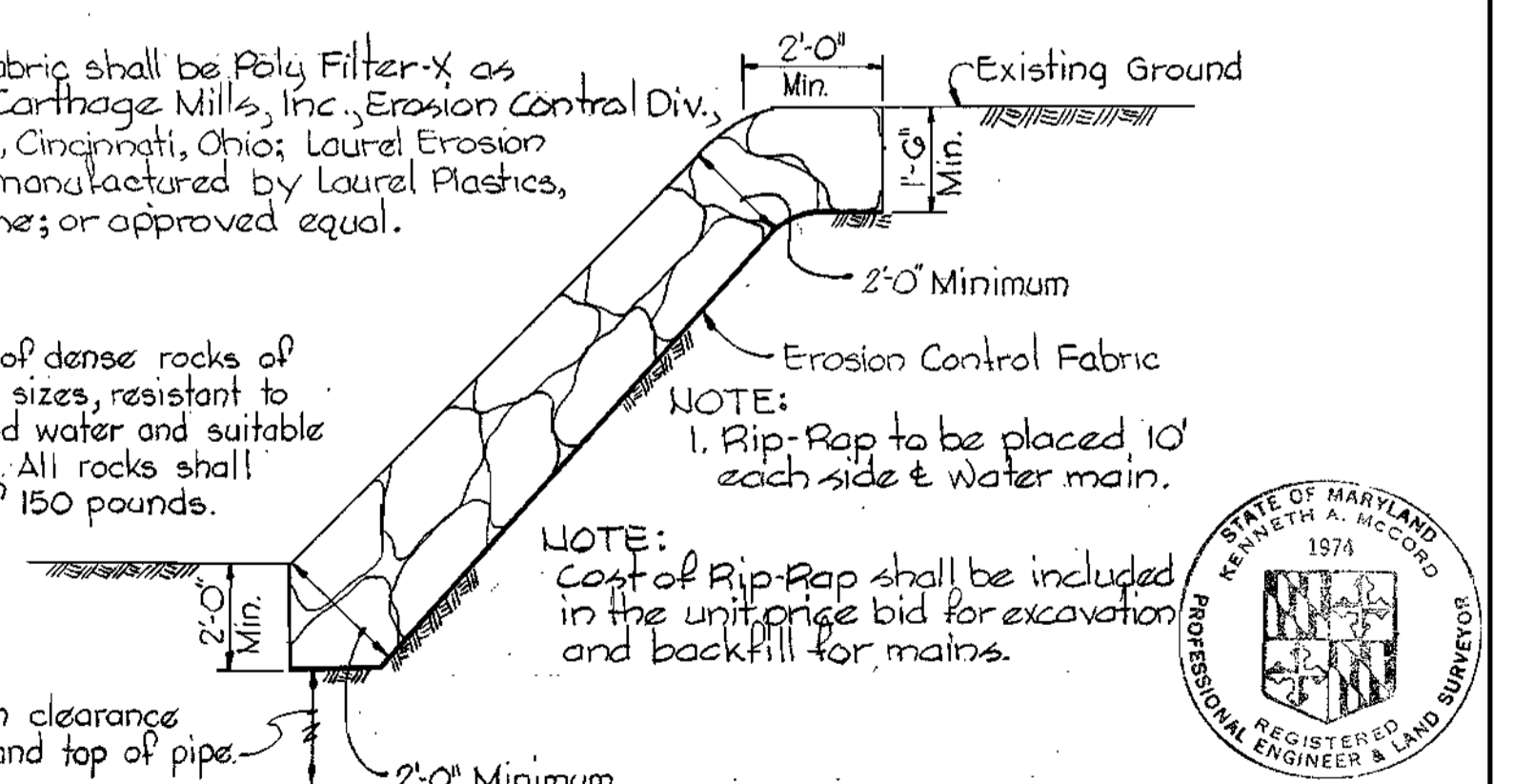
- All reinforced concrete shall be Class A, 3500 psi at 28 days.
- Reinforcing bars shall be in accordance with Standard Specifications For Deformed Billet Steel Bars for Concrete Reinforcement, ASTM Designation: A-615-63.
- All dowel projections beyond construction joints shall be 30 diameters.
- All bars laps shall be 30 diameter unless otherwise noted.

Note:
Erosion Control Fabric shall be Poly Filter-X as manufactured by Carthage Mills, Inc., Erosion Control Div., 124 W. 66th Street, Cincinnati, Ohio; Laurel Erosion Control Cloth as manufactured by Laurel Plastics, Inc., Madison, Maine; or approved equal.

Rip-Rap shall consist of dense rocks of random shapes, and sizes, resistant to the action of air and water and suitable for bank protection. All rocks shall weigh a minimum of 150 pounds.

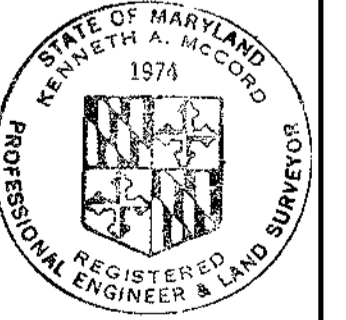


PLAN
Scale: 1" = 50'



RIP-RAP DETAIL
Scale: 3/8" = 1'-0"

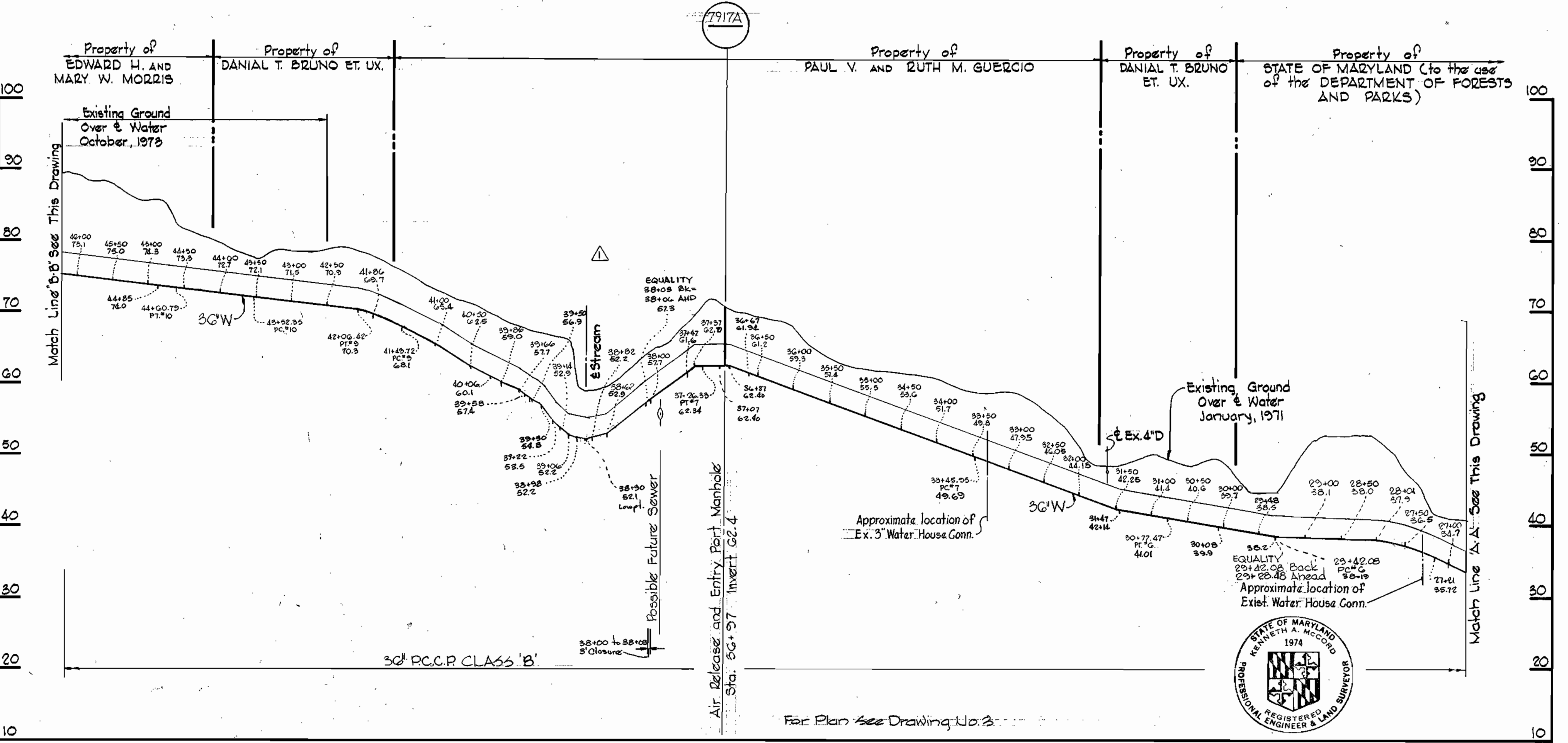
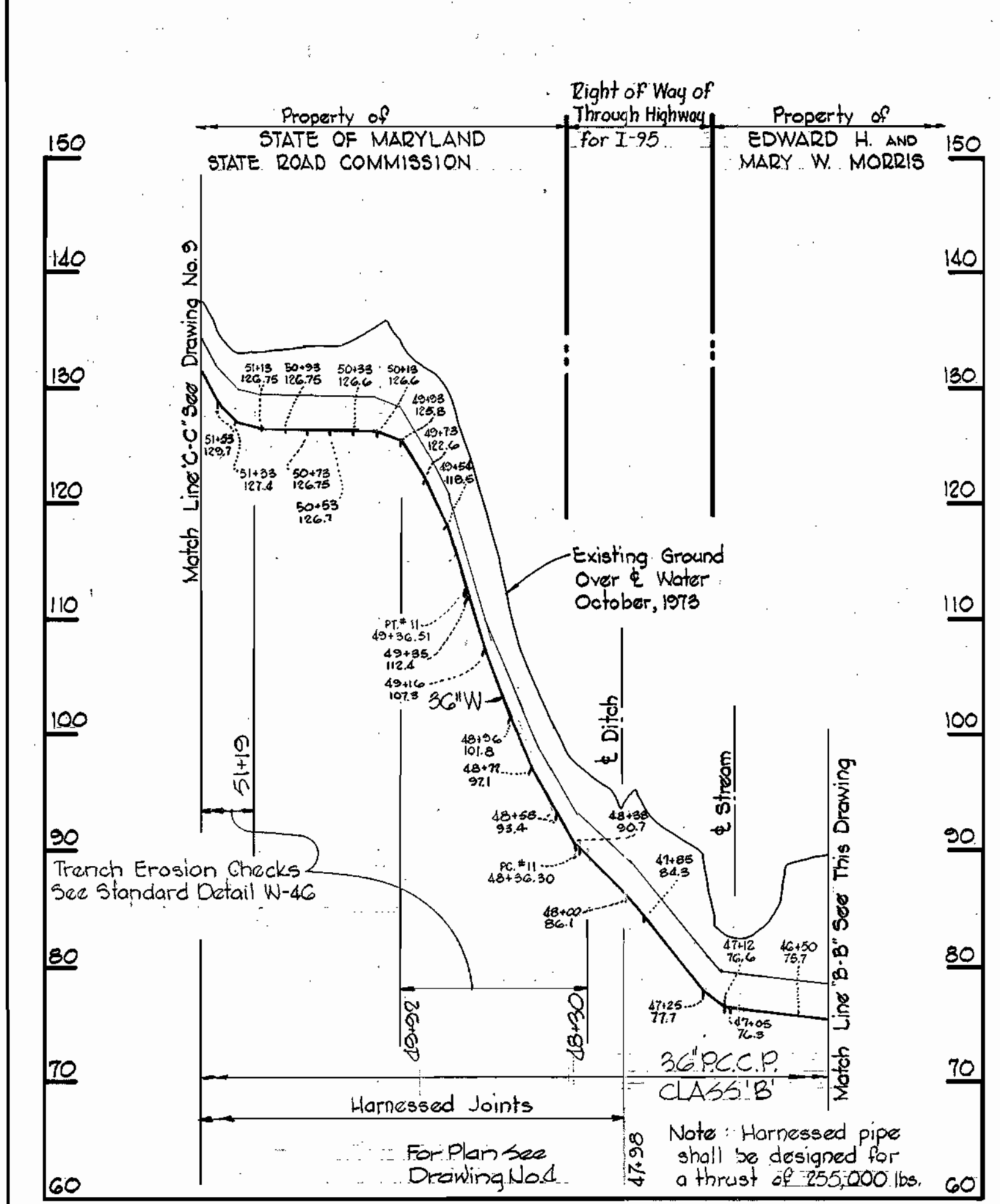
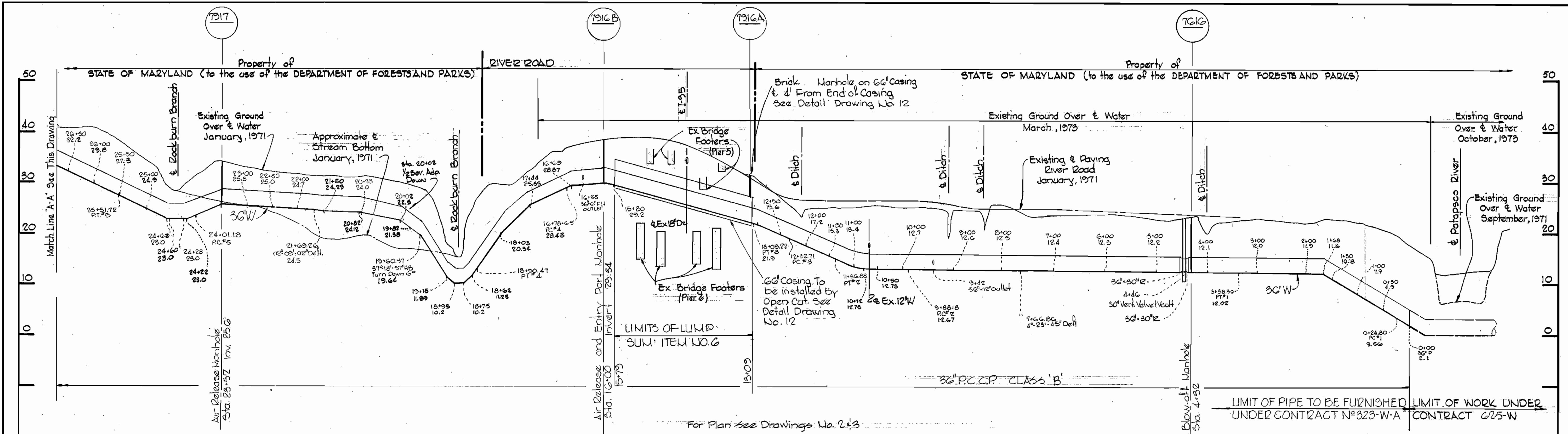
NOTE:
Cost of Rip-Rap shall be included in the unit price bid for excavation and backfill for mains.



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1-22-74 DATE	CONTRACT NO. 323-W CHIEF BUREAU OF ENGINEERING	PLAN AND DETAILS OF WATER MAINS	ELECTION DISTRICT ELKCRIDGE NO. 1	DRAWING NO. 7 OF 12 SCALE AS SHOWN
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WS 323-W/7

WS 323-W/8



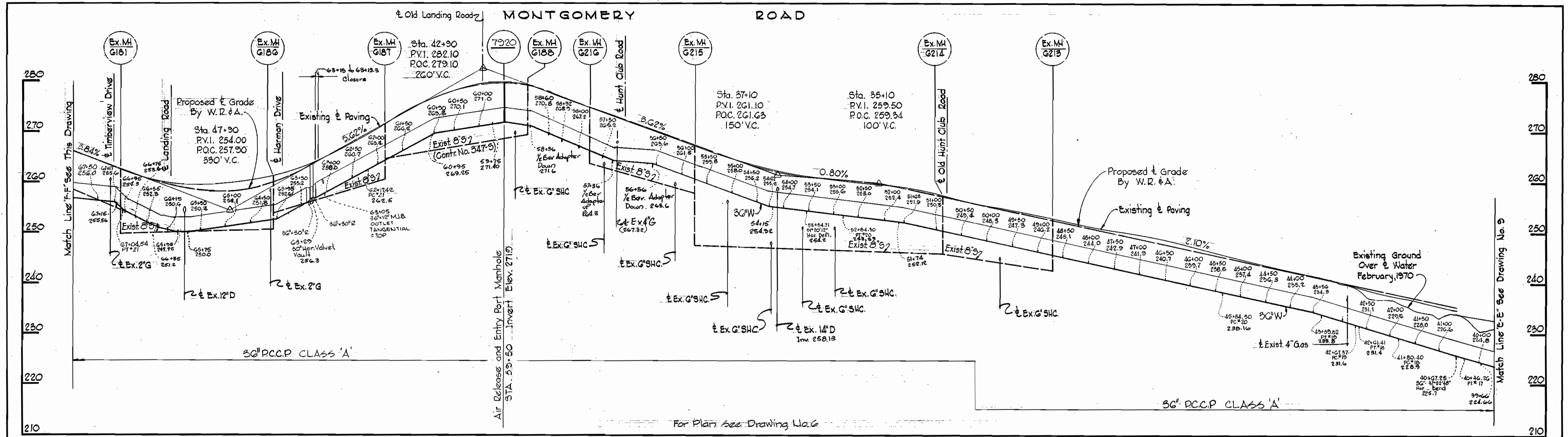
1-8-75	Revised Alignment between P.I. Curve 7 and P.I. Curve 9
No. Date	Revision

Kenneth A. McCord Installation Contract No. 323-W

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1-22-74 <i>W. O. Salter</i> CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 323-W	PROFILES OF WATER MAINS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 8 OF 12	SCALE H:1"=100' V:1"=10'
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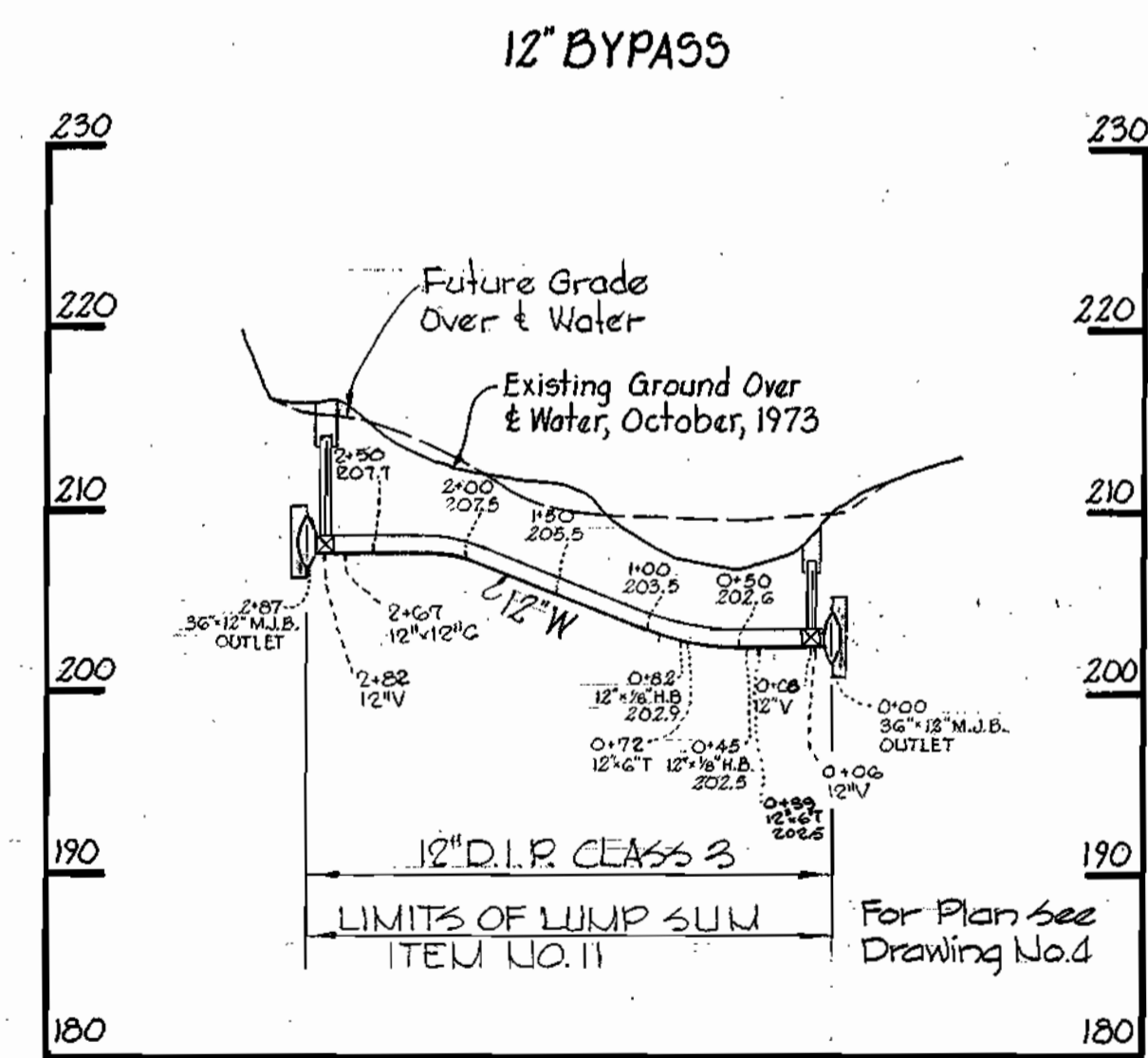
W. O. G257-2

February 18, 1976 **BUILT**



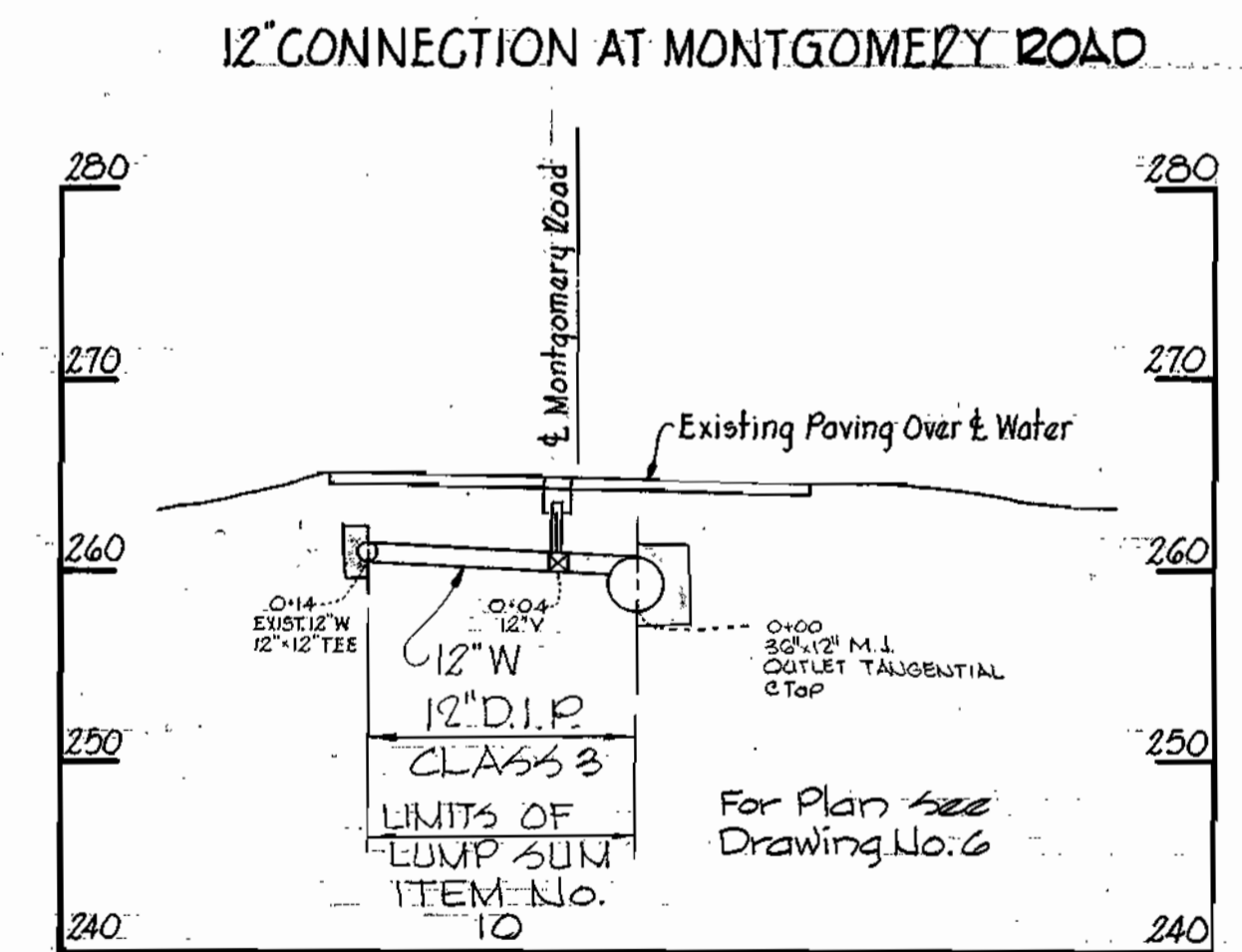
PROFILE

Scale: Hor.: 1"=100'
Vert.: 1"=10'



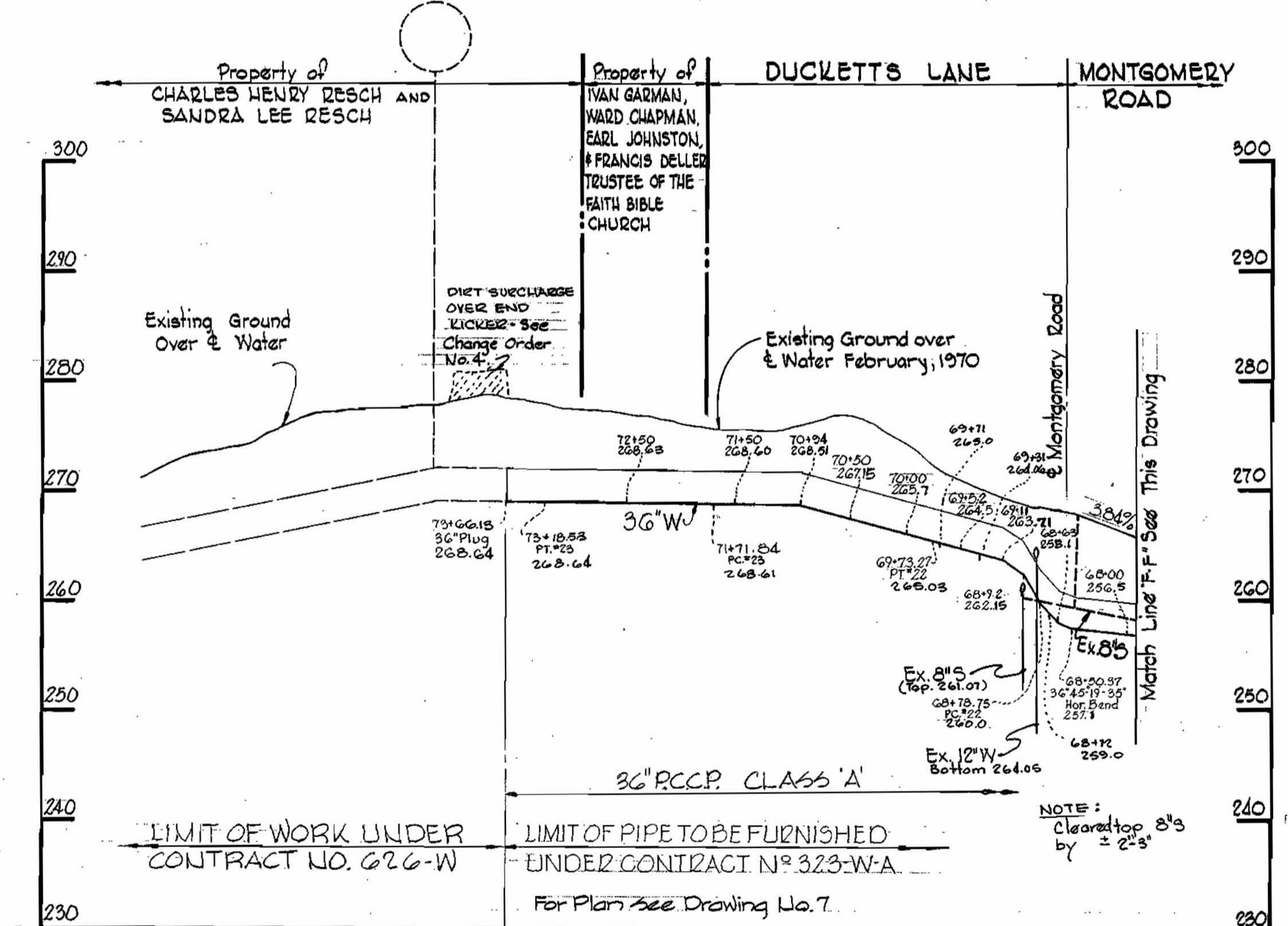
PROFILE

Scale: Hor.: 1"=100'
Vert.: 1"=10'



PROFILE

Scale: Hor.: 1"=100'
Vert.: 1"=10'



PROFILE

Scale: Hor.: 1"=100'
Vert.: 1"=10'



Kenneth A. McCord

Installation:
Contract No. 323-W

<p>WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1-22-74 DATE <i>W. O. G. 257-2</i> CHIEF-BUREAU OF ENGINEERING</p>	<p>CONTRACT NO. 323-W</p>	<p>PROFILES OF WATER MAINS</p>	<p>ELECTION DISTRICT ELKRIDGE NO. 1</p>	<p>DRAWING NO. 10 OF 12 SCALE AS SHOWN</p>
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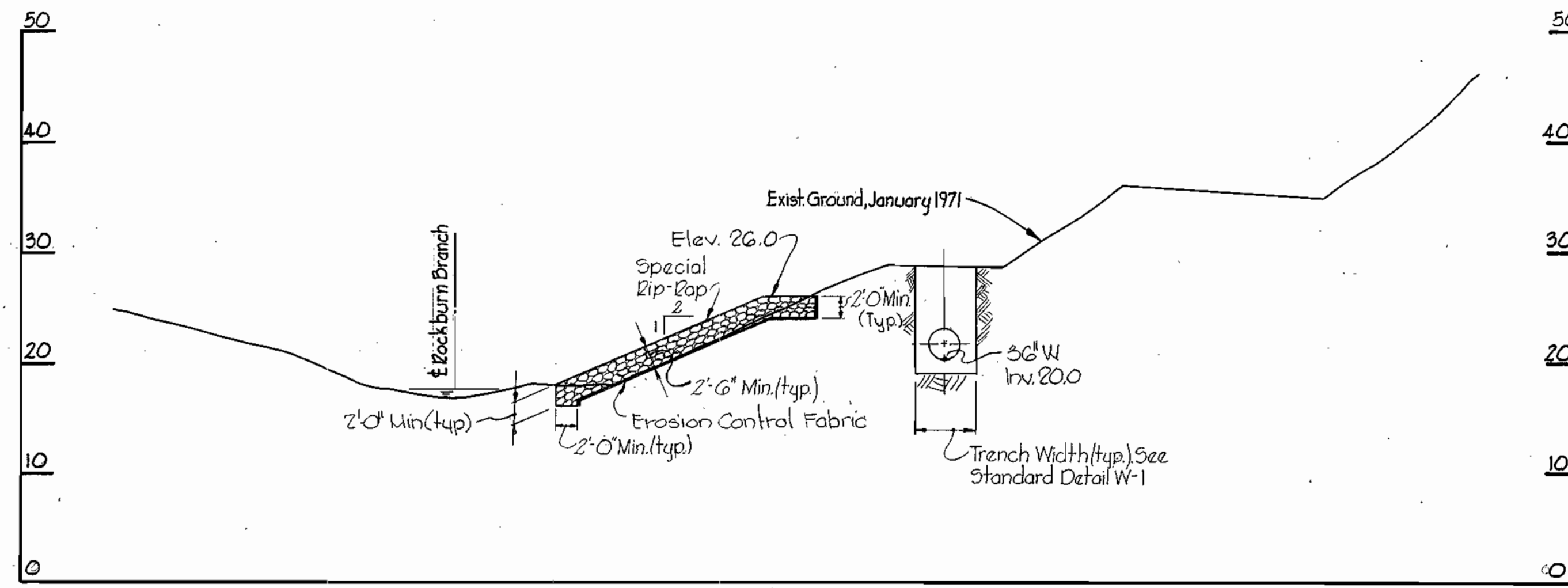
W. O. G. 257-2

February 18, 1976

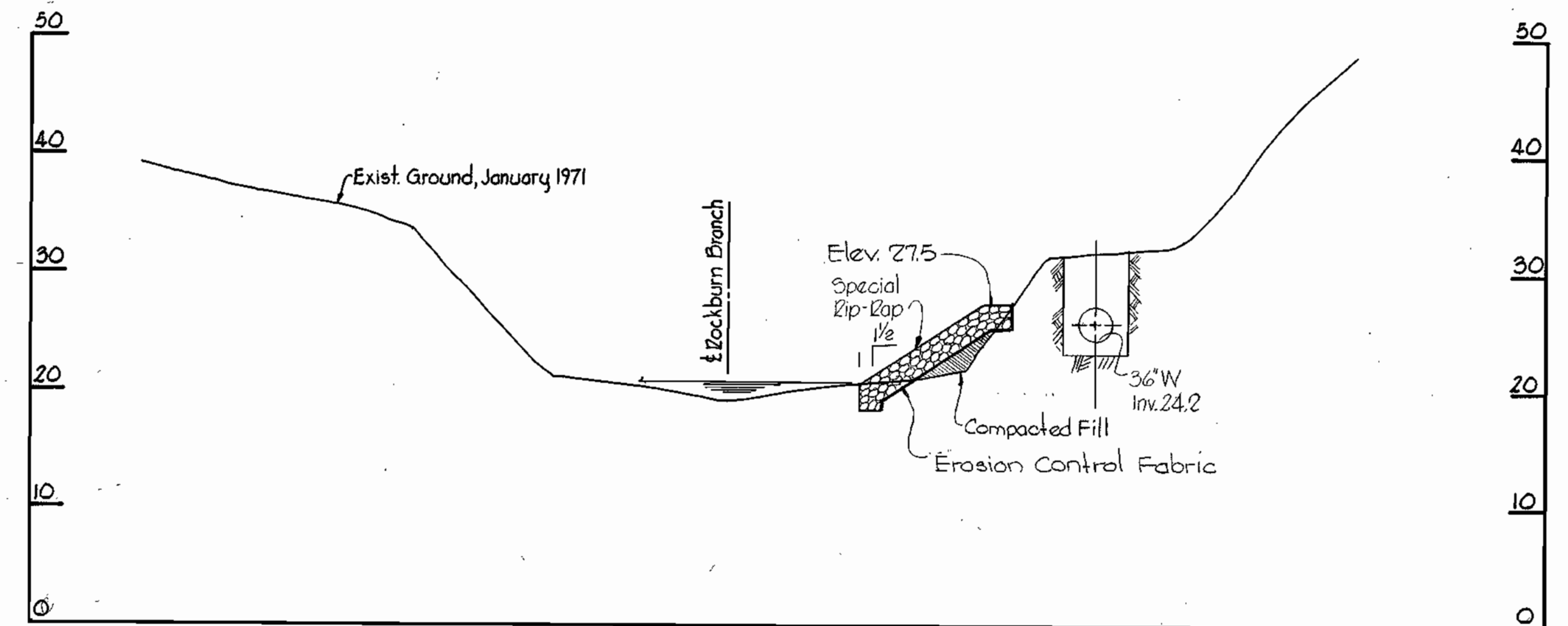
AS BUILT

WS 323-W/10

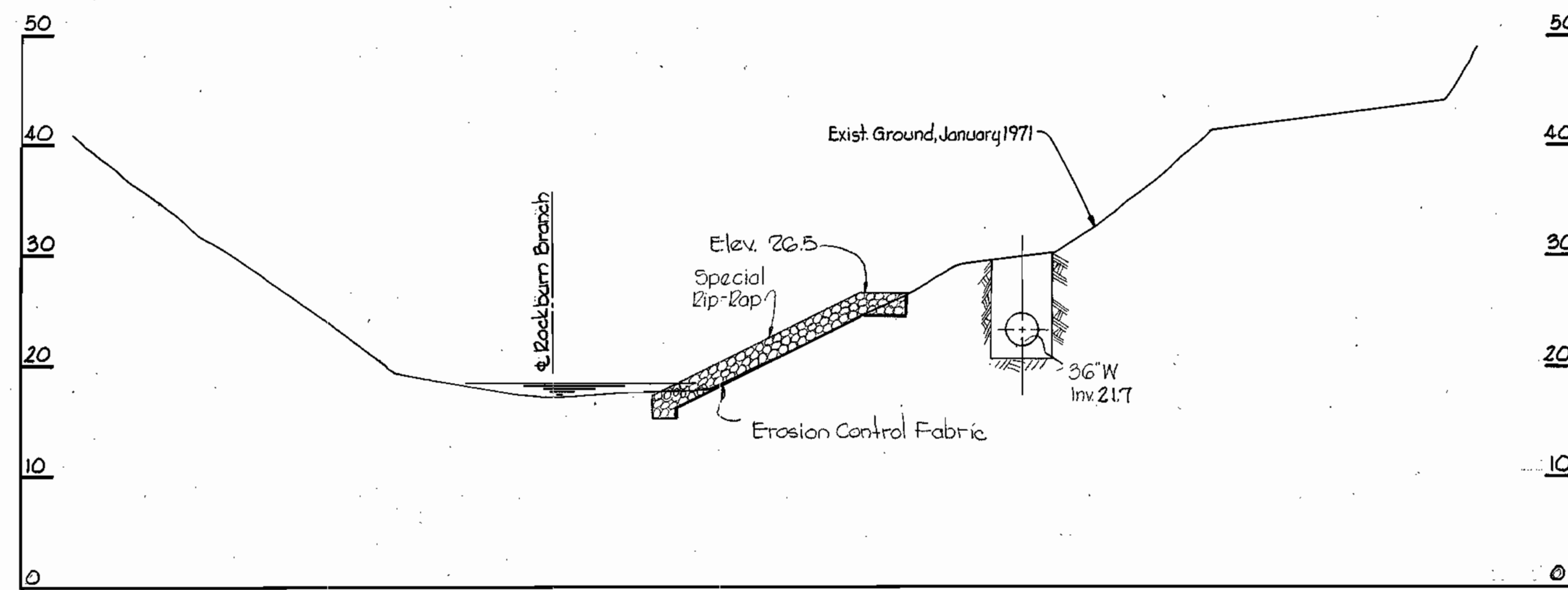
BRUNING 44510 18332



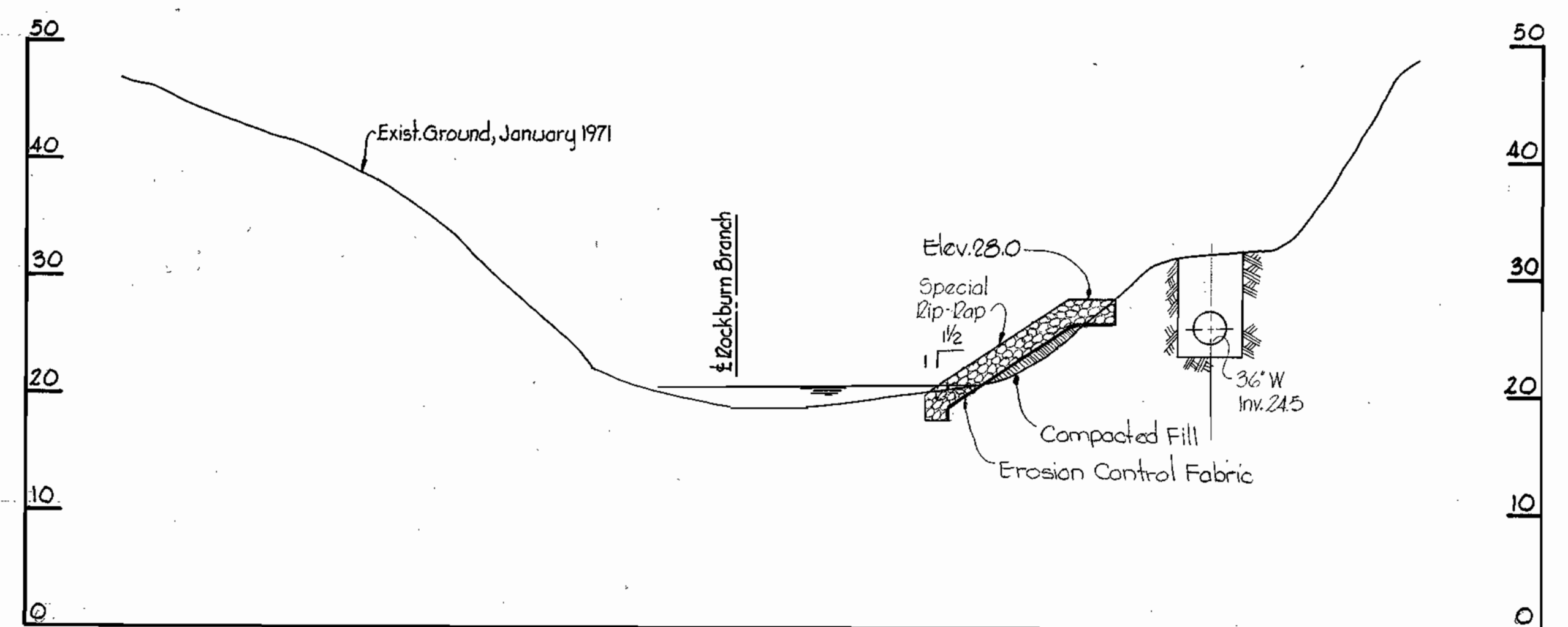
SECTION "A-A"
STA. 19+60.97
Scale: 1" = 10' H & V.



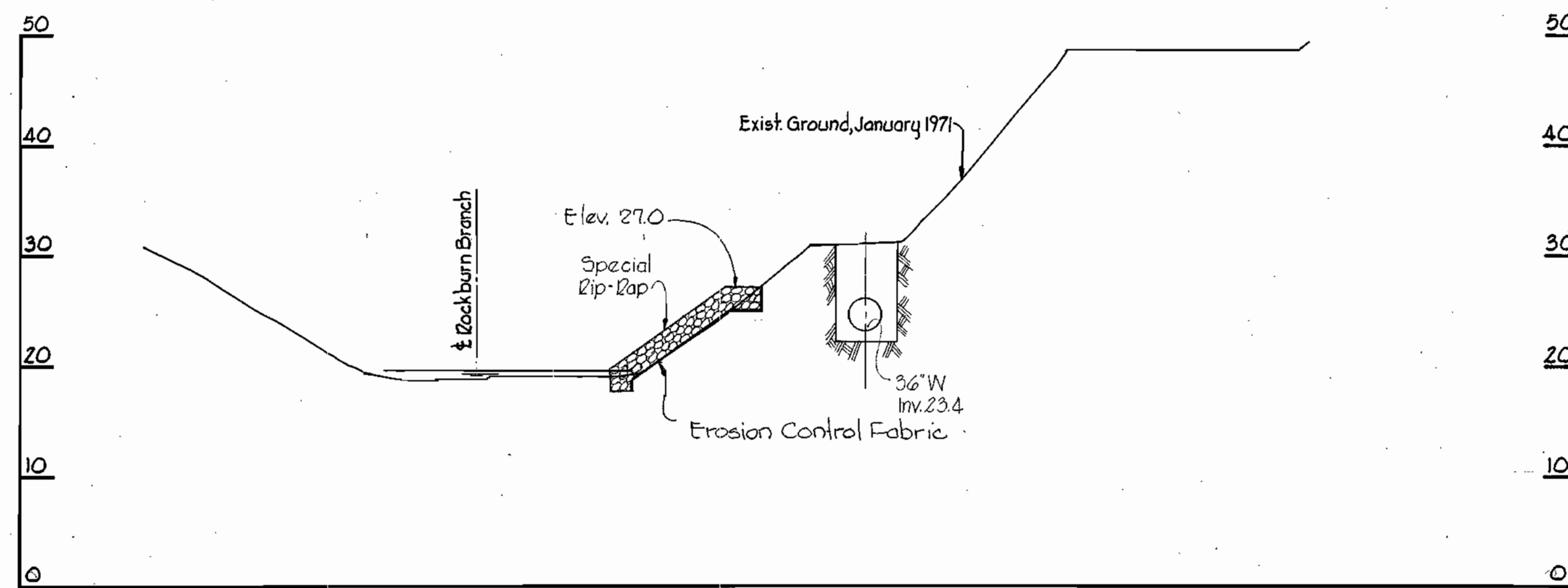
SECTION "D-D"
STA. 21+11



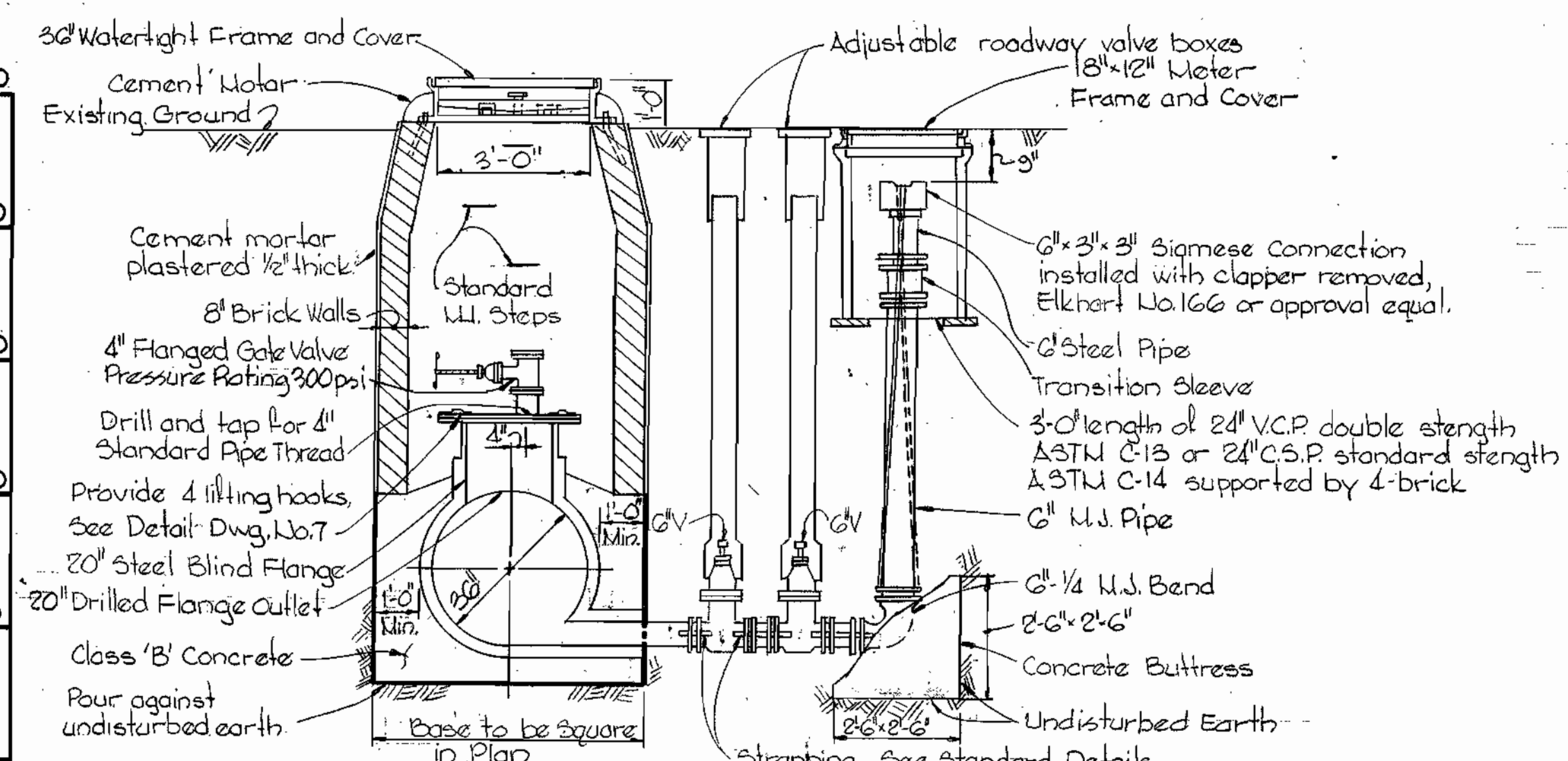
SECTION "B-B"
STA. 20+11



SECTION "E-E"
STA. 21+61



SECTION "G-G"
STA. 20+61



- NOTES FOR SPECIAL RIP-RAP
- Rip-Rap shall be maximum size: 1000 lbs. 25% greater than 500 lbs. 45%-75% from 30 to 500 lbs. not more than 25% less than 30 lbs. and placed as shown.
 - Erosion Control Fabric shall be Poly Filter-X as manufactured by Carthage Mills Inc., Erosion Control Div., 124 W. GGth Street, Cincinnati, Ohio; Laurel Erosion Control Cloth as manufactured by Laurel Plastics, Inc., Madison, Maine; or approved equal.
 - Payment for Special Rip-Rap will be made at the unit price bid.



Kenneth A. McCord
Installation
Contract No. 323-W

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
3-27-74
DATE
W. O. Filbert
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 323-W

DETAILS OF
WATER MAINS

ELECTION DISTRICT
ELKRIDGE NO. 1

DRAWING
NO. 11
OF 12

SCALE
AS
SHOWN

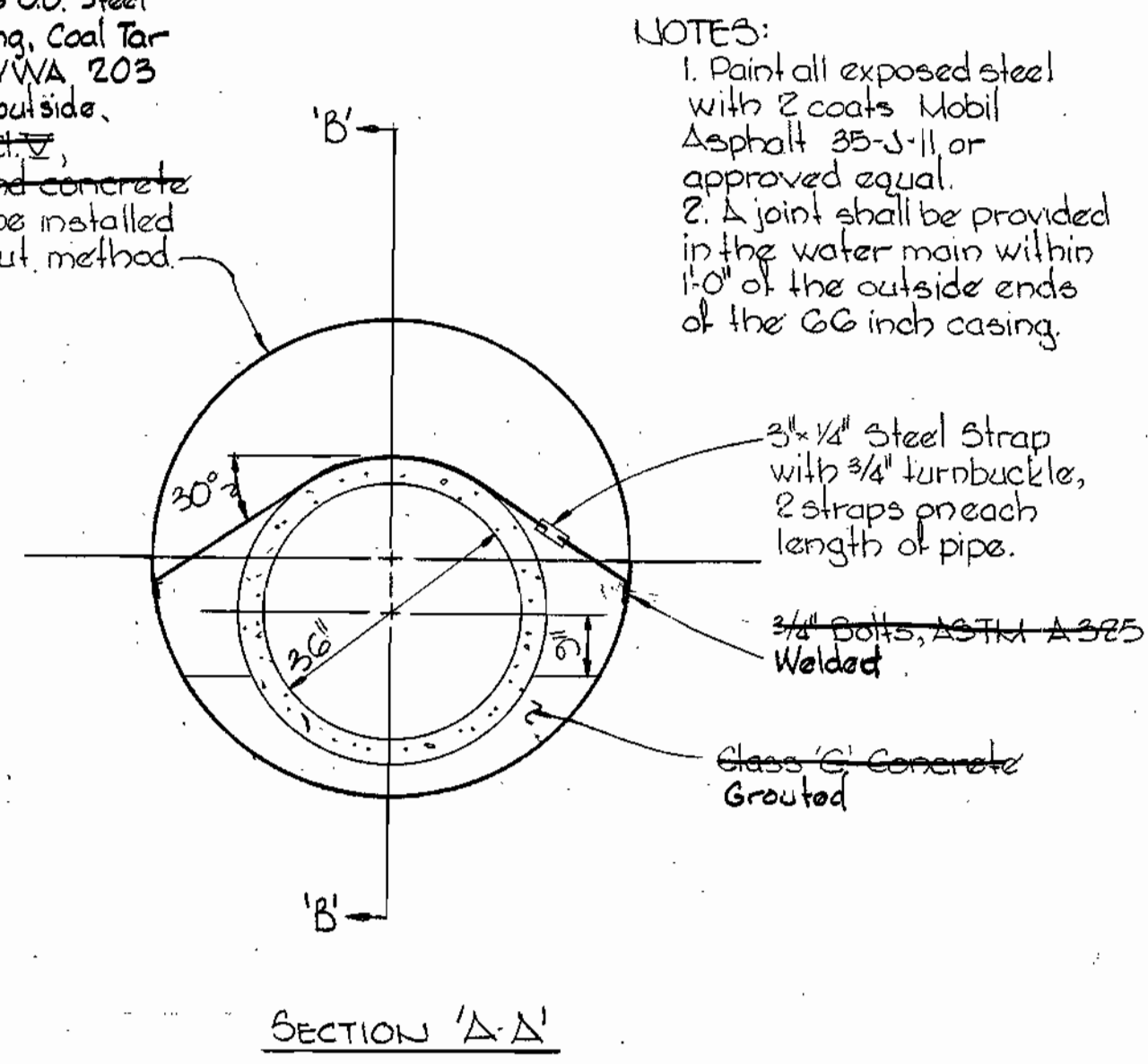
February 18, 1976 AS BUILT

WS 323-W/11

BRUNING 4459U 1879Z

W. O. 6257-2

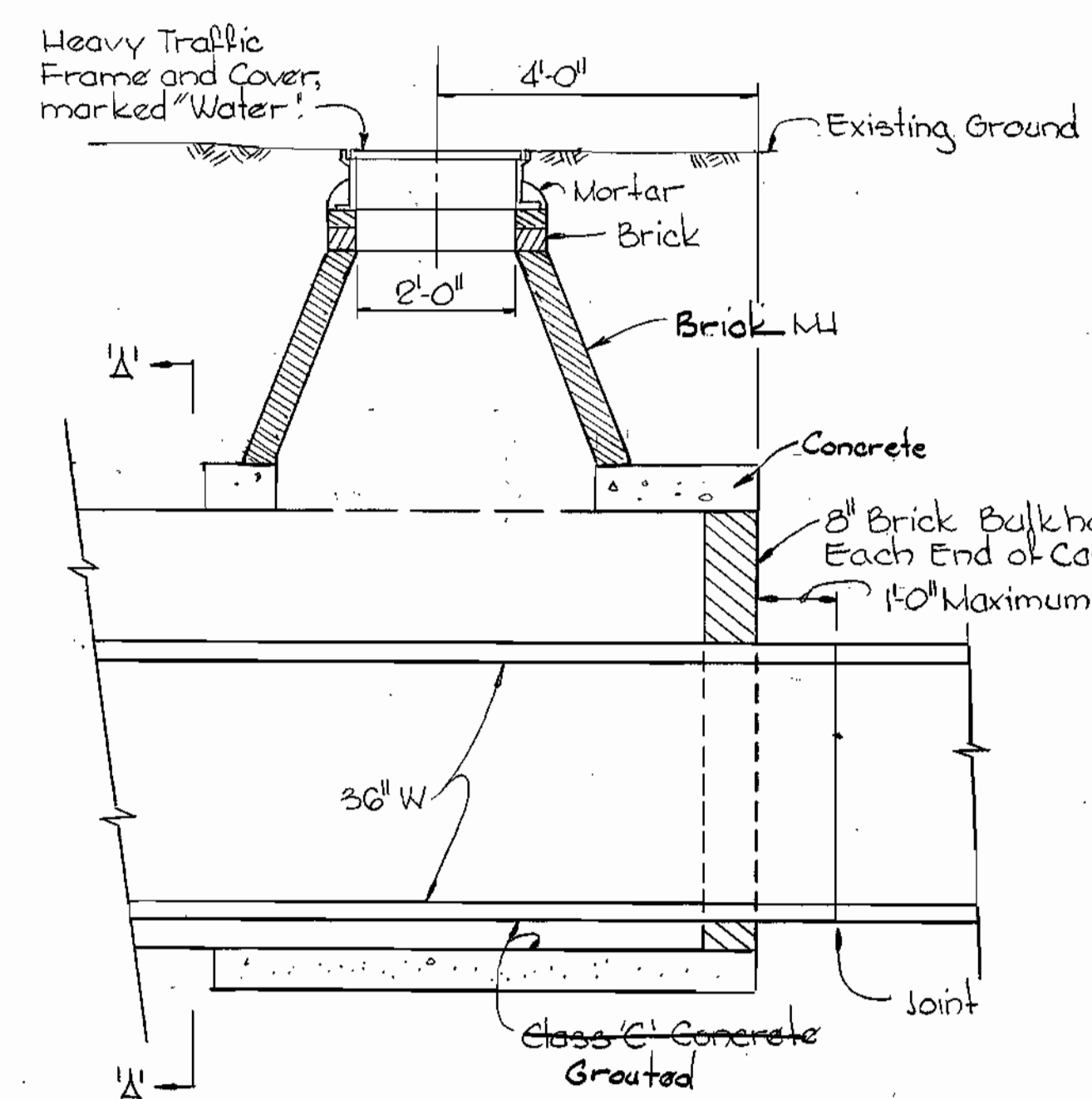
Change Order No. 2
 1/2" thick - 66" OD Steel
 Casing Piping, Coal Tar
 Coating - AWWA 203
 inside and outside,
 rubber and concrete
 joints, to be installed
 by open cut method.



SECTION 'A-A'

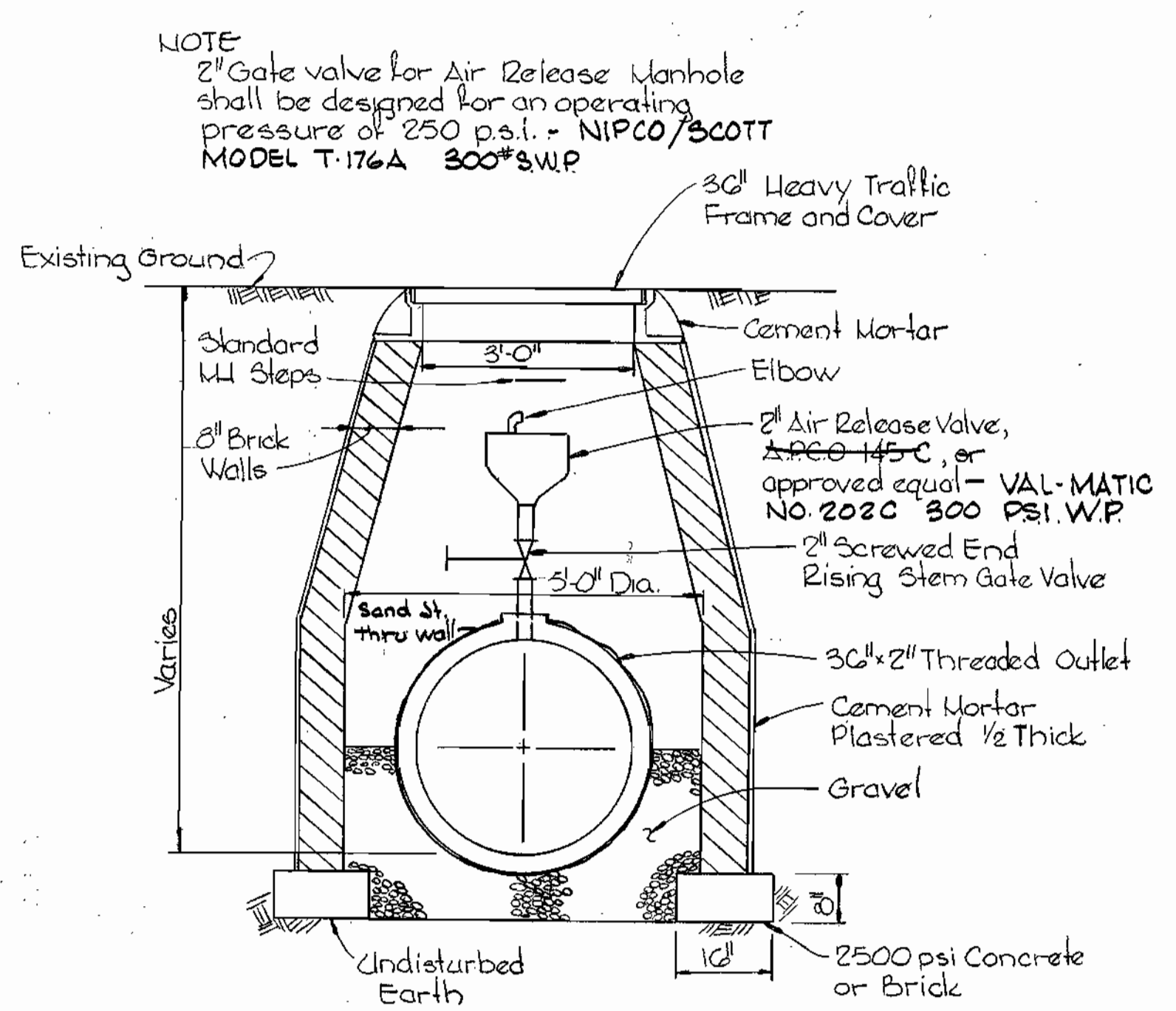
NOTES:
 1. Paint all exposed steel
 with 2 coats Mobil
 Asphalt 35-J-11 or
 approved equal.
 2. A joint shall be provided
 in the water main within
 10' of the outside ends
 of the 66 inch casing.

66-INCH CASING DETAIL
 Scale: 1/2" = 1'-0"



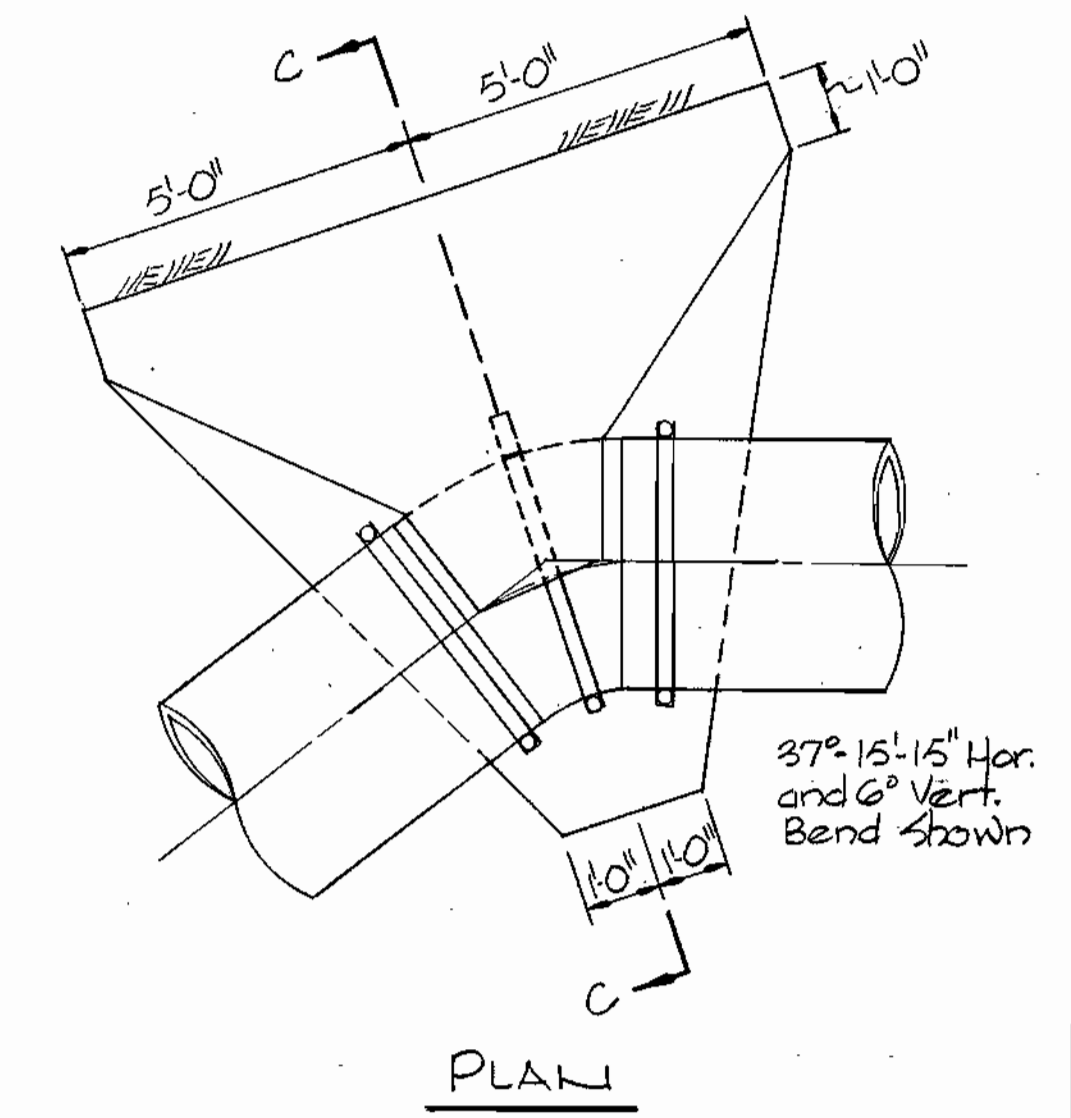
SECTION 'B-B'

NOTE:
 M.I. Built as Type 'C' M.I.
 Standard Detail S-2B

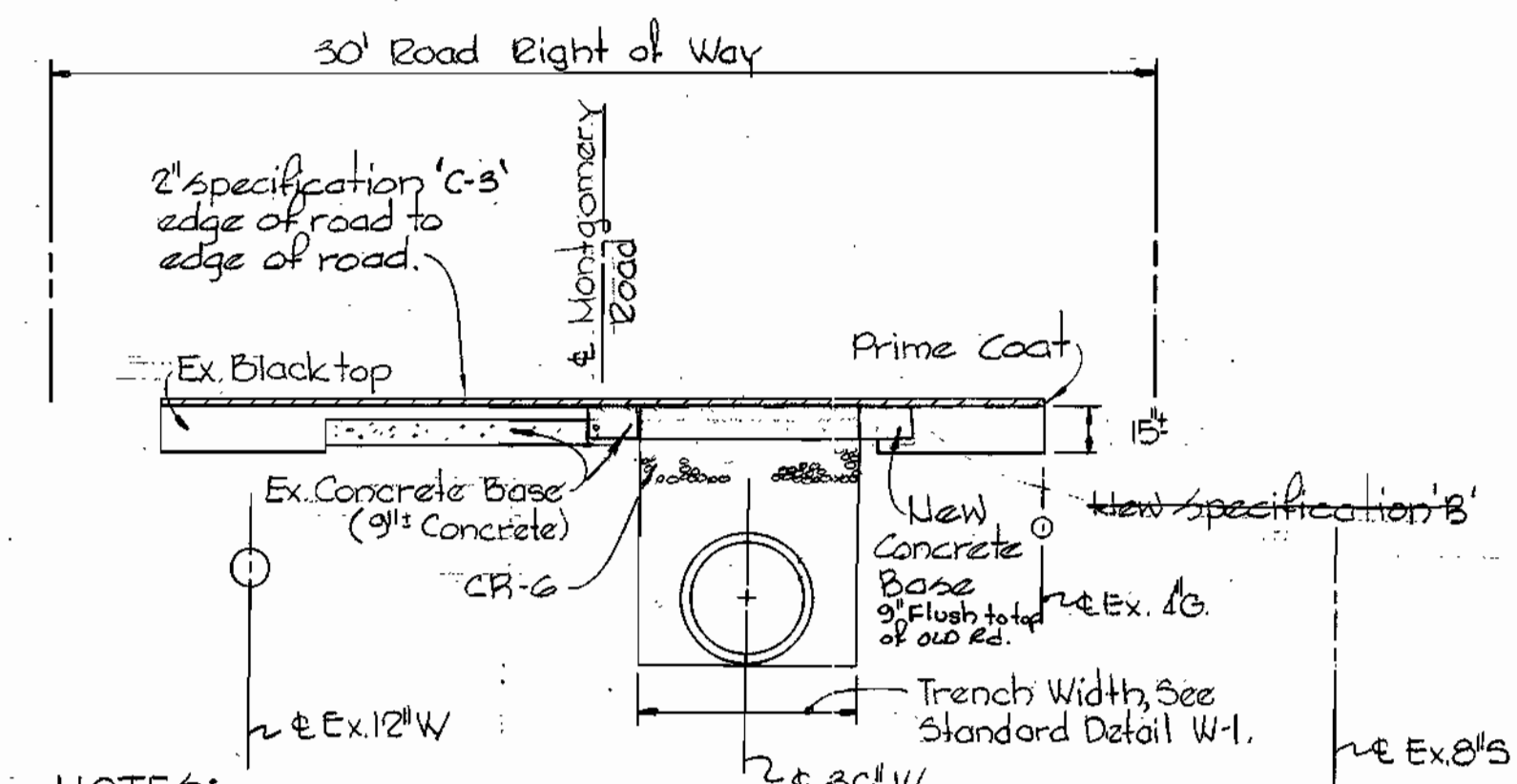


AIR RELEASE MANHOLE
 Scale: 1/2" = 1'-0"

NOTE:
 2" Gate valve for Air Release Manhole
 shall be designed for an operating
 pressure of 250 p.s.i. - NIPCO/SCOTT
 MODEL T-176A 300*3W.P

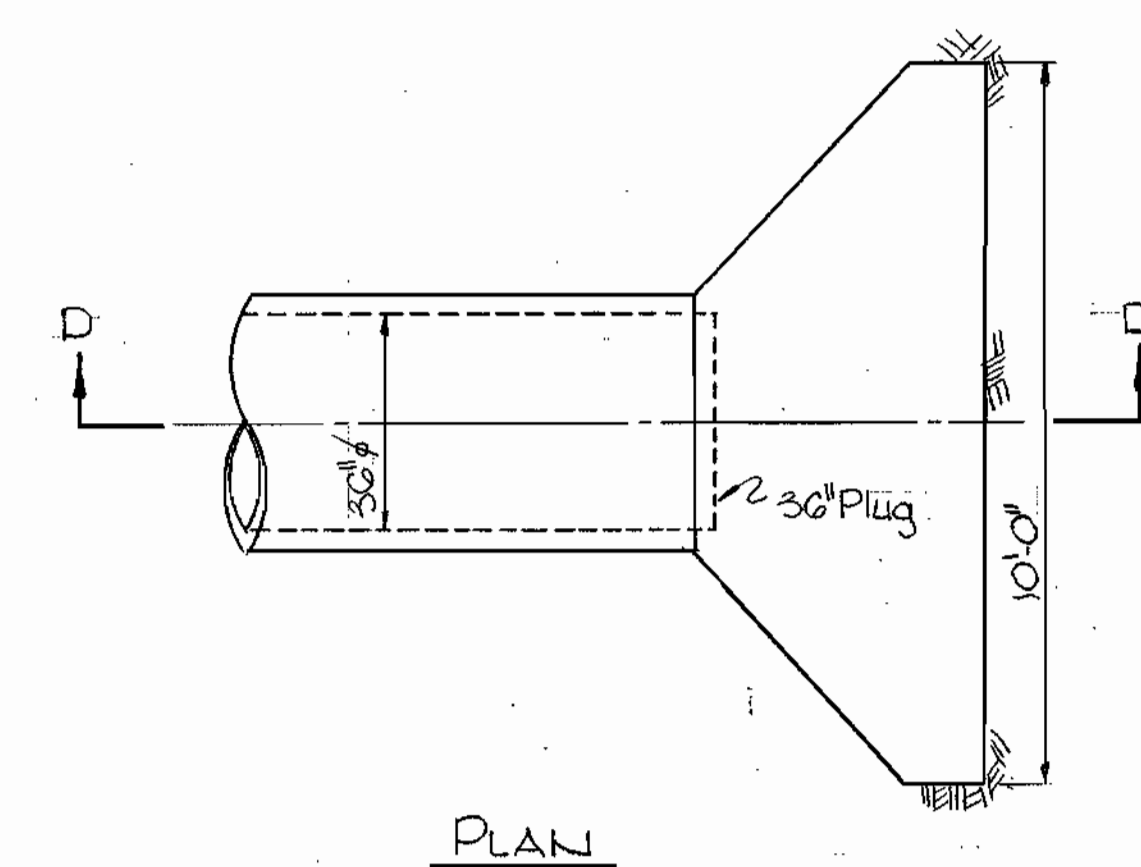


PLAN

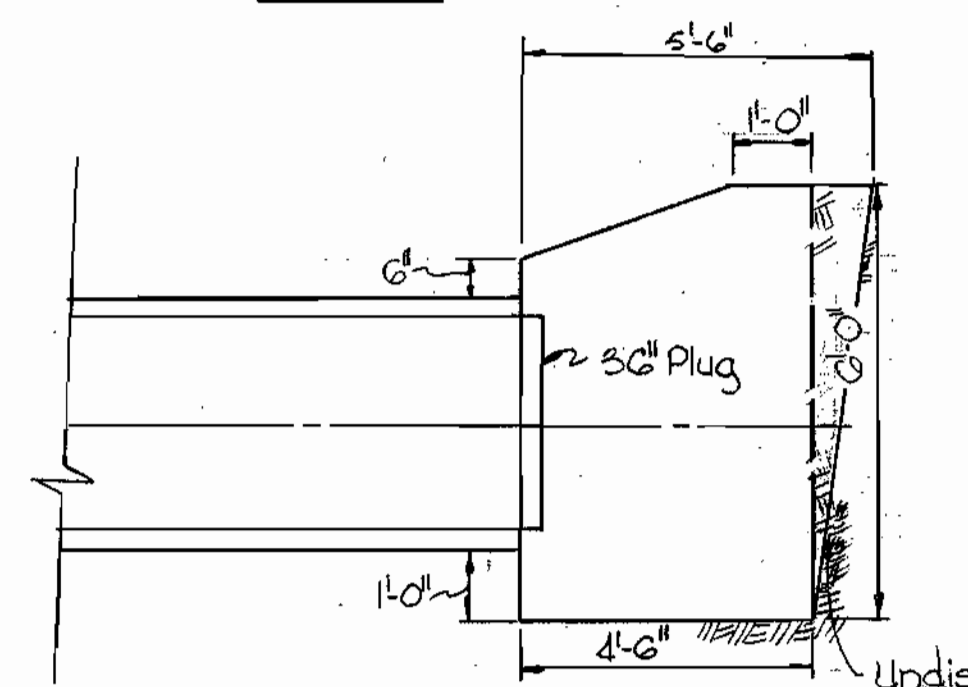


NOTES:
 1. For detail of paving repair refer
 to Standard Detail R-10-R
 Bituminous Roads with Concrete
 Base.
 2. The Contractor shall adjust existing
 utility frames and covers to
 meet grades of new paving
 where required.
 3. All paving work shall be done
 in accordance with the Howard
 County Road Construction Code
 and specifications.

TYPICAL CROSS-SECTION PAVING REPAIR
 MONTGOMERY ROAD
 Scale: 1" = 5'-0"



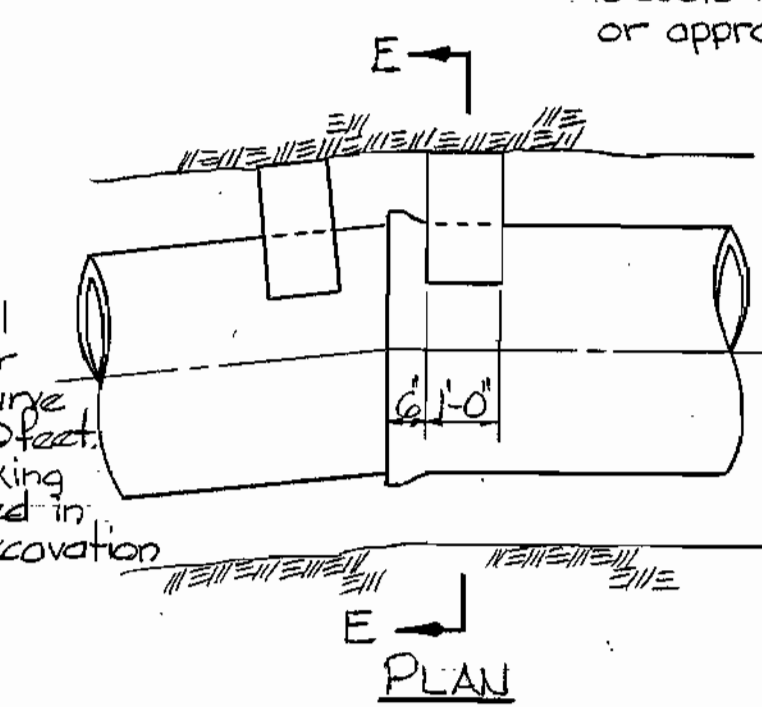
PLAN



SECTION 'DD'

BUTTRESS FOR 30" PLUG
 Scale: 3/8" = 1'-0"

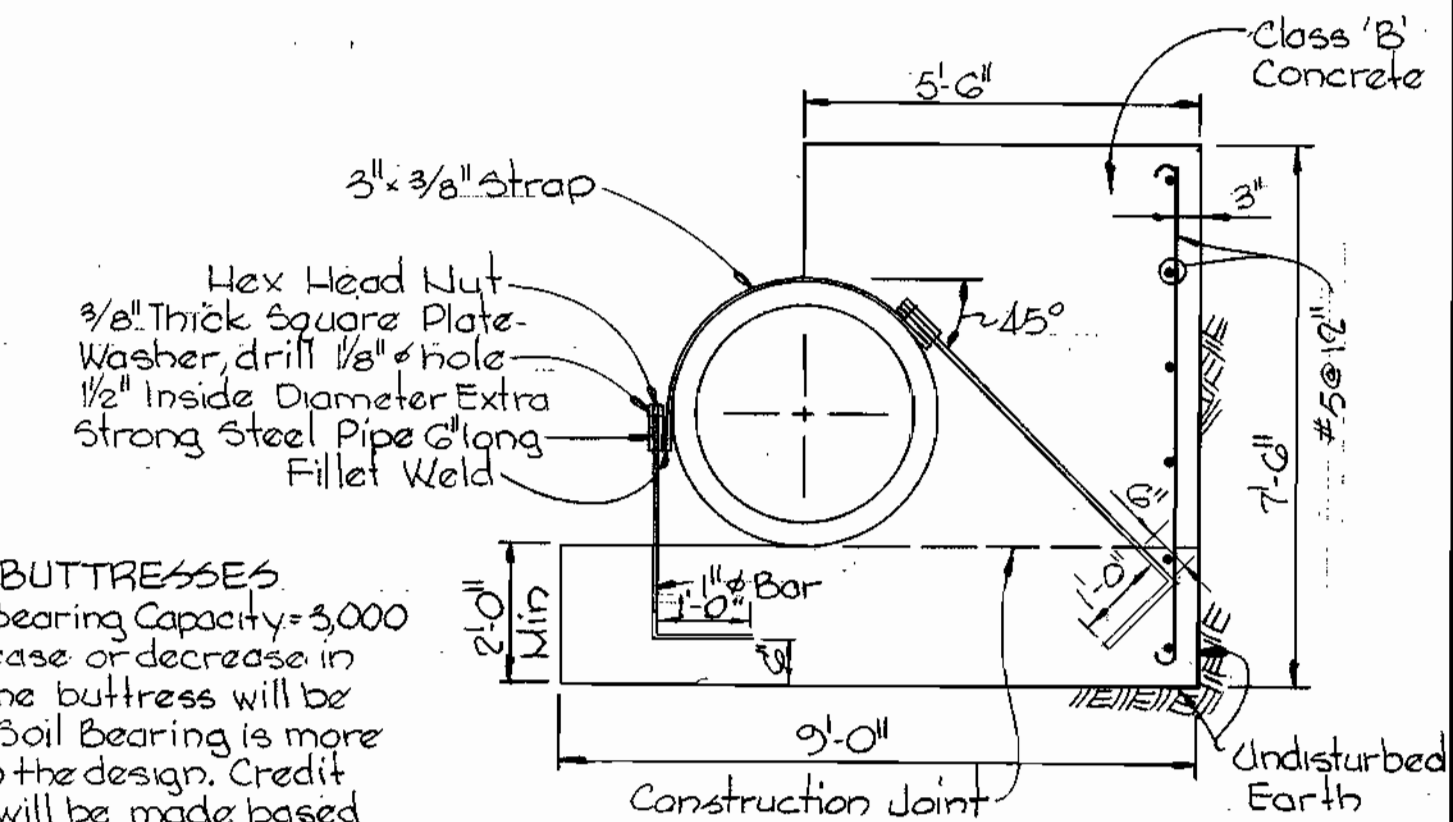
NOTES:
 1. Full bevels will
 occur whenever
 the radius of curve
 is less than 40 feet.
 2. Cost of blocking
 shall be included in
 price bid for excavation
 and backfill.



SECTION 'E-E'

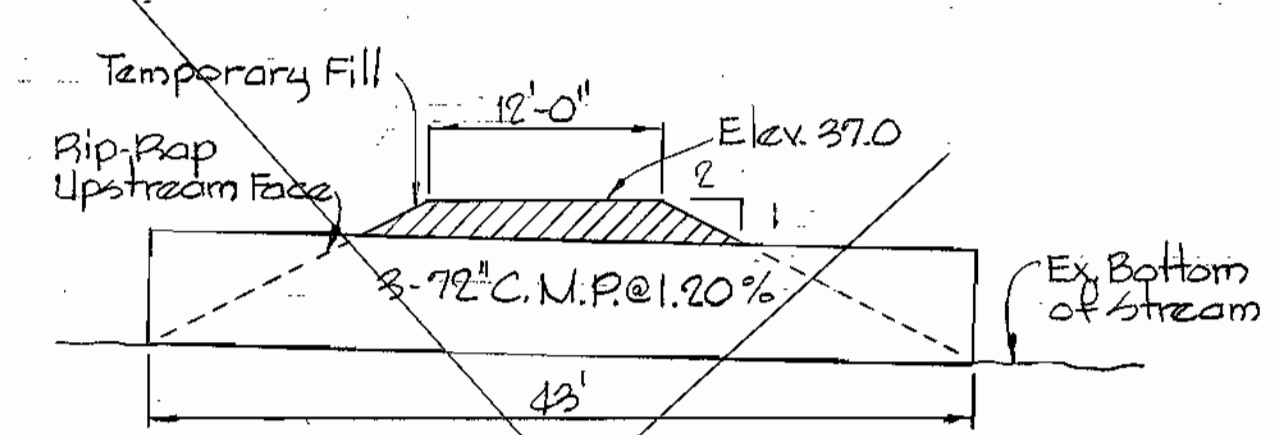
BLOCKING AT FULL BEVELS
 Scale: 3/8" = 1'-0"

NOTE FOR BUTTRESSES
 1. Design Soil Bearing Capacity = 3,000
 p.s.f. An increase or decrease in
 the size of the buttress will be
 made if the Soil Bearing is more
 or less than the design. Credit
 or payment will be made based
 on the stipulated price of item
 No. 20.
 2. Paint all exposed steel with
 2 coats Mobil Asphalt 35-J-11
 or approved equal.



SECTION 'C-C'

BUTTRESS DETAIL FOR
 HORIZONTAL AND VERTICAL BENDS
 Scale: 1/2" = 1'-0"



NOTE:
 Payment for the Temporary Crossing of
 Rockburn Branch will be made at the
 price bid for LUMP SUM ITEM No. 15.

TEMPORARY CROSSING OF
 ROCKBURN BRANCH
 Scale: 1" = 10'
 BUILT TEMPORARY BRIDGE

Installation
 Contract No. 323-W

WS 323-W/12

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 6-4-74 DATE	CONTRACT NO. 323-W	DETAILS OF WATER MAINS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 12 OF 12	SCALE AS SHOWN
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W. O. G25T-2

February 13, 1976 AS BUII