ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT NO. W-8203
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
CONTRACT NO. 44-3480

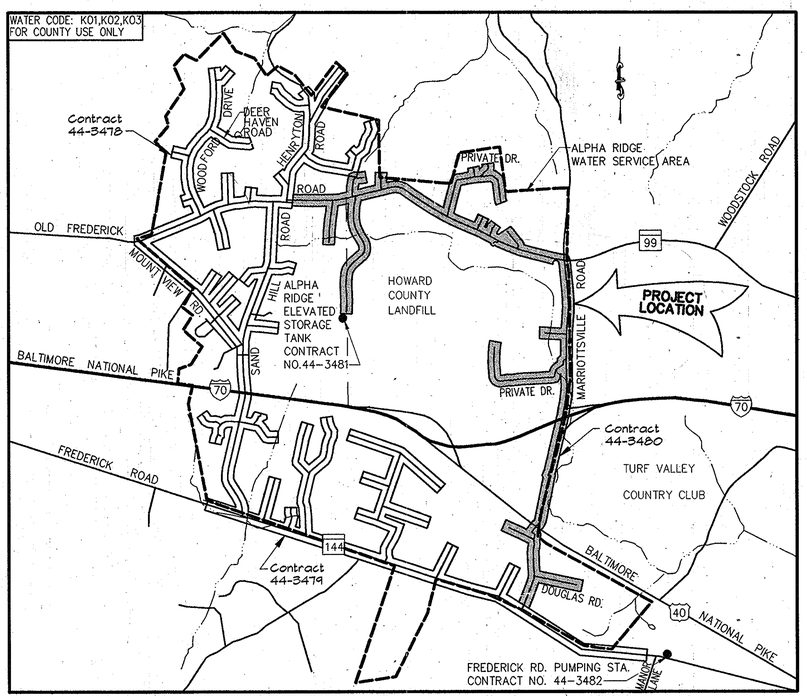
LIST OF MATERIALS

ITEM	UNIT	QUANTITIES ESTIMATE	QUANTITIES AS-BUILT	MATERIAL SUPPLIER
4" Water Main	L.F.	2,800	2,832.0	
6" Water Main	L.F.	520	412.0	
8" Water Main	L.F.	3,840	3,702.0	
12" Water Main	L.F.	22,840	21,757.0	
Blow Off	Each	7	7.0	
1" Air Release Valve & Manhole	Each	4	4.0	
4" Valve	Each	11	8.0	
6" Valve	Each	41	42.0	
8" Valve	Each	6	7.0	
12" Valve	Each	23	24.0	
Fire Hydrant	Each	41	43.0	
12" Steel Casing	L.F.	75	0.0	
24" Steel Casing	L.F.	67	0.0	
30" Steel Casing	L.F.	200	200.0	
3/4" W.H.C.	L.F.	1,700	2020.0	
1" W.H.C.	L.F.	3,940	797.0	
1-1/2" W.H.C.	L.F.	6,670	6,578.0	
2" W.H.C.	L.F.	3,310	4,389.0	
1-1/2" Water Main Drains	Each	1	1.0	

All Water House Connections Shall Be For Outside Meter Setting

NOTES:

1. Sediment Control Measures For This Contract Will Be Implemented In Accordance With Volume 4, Section 219 Of The Howard County Design Manual And This Plan And The 1994 Maryland Standards And Specifications For Soil Erosion And Sediment Control.
2. Limit Of Disturbance Shall Be Held To The Trench.
3. Spoil From Trenches Shall Be Placed On The Uphill Side, Where Applicable.
4. Trench Excavation Shall Be Held To That Which Can Be Backfilled And Stabilized.



Type Of Building: Residential, Institutional
Number Of Water House Connections: 77

VICINITY MAP
Scale: 1" = 2,000'

SEE SHEET 2 FOR 1"=600' MAP

AS BUILT

LEGEND

C&P BGE #4712852	Utility Pole (BGE Or C&P)
	Sign Post
MB	Mailbox
	Light Pole
	Paved Roads
T T	Buried Telephone Cable(s)
E E	Buried Electric Cable(s)
E/T E/T	Buried Electric & Telephone Cables

GENERAL NOTES

1. Approximate Location Of Existing Mains Are Shown. The Contractor Shall Take All Necessary Precautions To Protect Existing Mains And Services And To Maintain An Uninterrupted Water Supply. Any Damage Incurred Shall Be Repaired Immediately To The Satisfaction Of The Engineer At The Contractor's Expense.
2. All Horizontal Controls Are Based On Maryland State Coordinates.
3. All Vertical Controls Are Based On U.S.G.S. Data.
4. All Pipe Elevations Shown Are Invert Elevations, Unless Otherwise Noted.
5. Clear All Utilities By A Minimum Of 6". Clear All Poles By 2'-0" Minimum Or Tunnel As Required. The Owner Has Contacted The Utility Companies And Has Made Arrangements For Bracing Of Poles As Shown On The Drawings. In The Event The Contractor's Work Requires The Bracing Of Additional Poles, Any Cost Incurred By The Owner For The Bracing Of Additional Poles Or Damages Shall Be Deducted From Money Owed The Contractor. The Contractor Shall Coordinate With The Utility Companies To Schedule The Bracing Of The Poles.
6. For Details Not Shown On The Drawings, And For Materials And Construction Methods, Use Howard County Design Manual, Volume IV, Standard Specifications And Details For Construction. The Contractor Shall Have A Copy Of Volume IV On The Job, At All Times.
7. Where Test Pits Have Been Made On Existing Utilities, They Are Noted By The Symbol ◪ At The Location Of The Test Pit. A Note Or Notes Containing The Results Of The Test Pit Or Pits Is Included On The Drawings. Existing Utilities In The Vicinity Of The Proposed Work For Which Test Pits Have Not Been Performed Shall Be Located By The Contractor Two Weeks In Advance Of Construction Operations At His Own Expense.
8. Contractor Shall Notify The Following Utility Companies Or Agencies At Least Five Working Days Before Starting Work Shown On These Plans:
   State Highway Administration - 531-5533
   Baltimore Gas And Electric - Contractor Services 850-4620
   Baltimore Gas And Electric - Underground Damage Control - 859-9004
   Miss Utility - 1-800-257-7777
   Bell Atlantic Telephone Co. - 597-8585
   Transcontinental Gas Pipeline Corp. - 1-410-465-0960
   Bureau Of Utilities, Howard County Department Of Public Works - 313-4900
9. Trees And Shrubs Are To Be Protected From Damage To The Maximum Extent Possible. Trees And Shrubs Located Within The Construction Strip Are Not To Be Removed Or Damaged By The Contractor.
10. Contractor Shall Remove Trees, Stumps And Roots Along Line Of Excavation. Payment For Such Removal Shall Be Included In The Unit Price Bid For Construction Of The Main.
11. All Water Mains To Be D.I.P. Class 52, Unless Otherwise Noted.
12. Top Of All Water Mains Shall Have A Minimum Of 3'-6" Of Cover Unless Otherwise Noted.
13. Valves Adjacent To Tees Shall Be Strapped To Tee.
14. All Fittings Shall Be Buttressed Or Anchored With Concrete In Accordance With The Standard Details. Soil Around The Fire Hydrant Shall Be Compacted In Accordance With Section 1000 Of The Standard Specifications.
15. Fire Hydrant Shall Be Set To Bury Line Elevations Shown On The Drawings. All Fire Hydrants Shall Be Strapped And Buttressed With Concrete In Accordance With Standard Details. Soil Around The Fire Hydrant Shall Be Compacted In Accordance With Section 1000 Of The Standard Specifications.
16. The Contractor Shall Not Operate Any Water Main Valves On The Existing Water System.
17. Length Of Disturbance/Open Trench Must Be Limited To Three Pipe Sections Or To The Length Which Can Be Backfilled And Stabilized In One Working Day, Whichever Is Shorter.
18. Trench Repair Shall Be In Accordance With Howard County Standard Details.
19. All Work Shall Be In Accordance With Howard County Standards And Specifications For Soil Erosion And Sediment Control Section 219.
20. In Addition To The General Requirements Noted On The Plans And In The Specifications, The Contractor Shall Also Adhere To The Following Requirements When Constructing The 4" Water Service Mains And Water House Connections Within Easements And On Private Property.
    A. The Contractor Shall Only Be Permitted To Work Between The Hours Of 9:00 am And 4:00 pm.
    B. During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And For Emergency Vehicles At All Times.
    C. Trenches Will Not Be Permitted To Remain Open After Working Hours.
    D. Stored Materials Will Not Be Permitted Within Private Driveways, Easement Areas Or On Private Property.

Reviewed For Howard County S.C.D. and meets technical requirements.

NATURAL RESOURCE CONSERVATION SERVICE — Date: 4/1/96

This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

Approved: HOWARD COUNTY SCD — Date: 4/1/96

ENGINEER'S CERTIFICATION

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

Date: 3-18-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER STREET BALTIMORE, MD. 21217

DEVELOPERS CERTIFICATION

"I/We Certify That All Development And Construction Will Be Done According To This Plan, And That Any Responsible Personnel Involved In The Construction Project Will Have A Certification Of Attendance At A Maryland Department Of Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project.

3/29/96
BUREAU OF ENGINEERING DEPARTMENT OF PUBLIC WORKS — DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&L — RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — JAMES R. KAHL — NO. 12830 — REGISTERED PROFESSIONAL ENGINEER

DES:	DCE
DRN:	MJS
CHK:	DCE
DATE:	3/96

BY	NO.	REVISION	DATE

TITLE SHEET, VICINITY MAP, LIST OF MATERIALS & GENERAL NOTES

600' SCALE MAP NO. 9,10,11,16 BLOCK NO.

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE AS SHOWN

SHEET 1 OF 31

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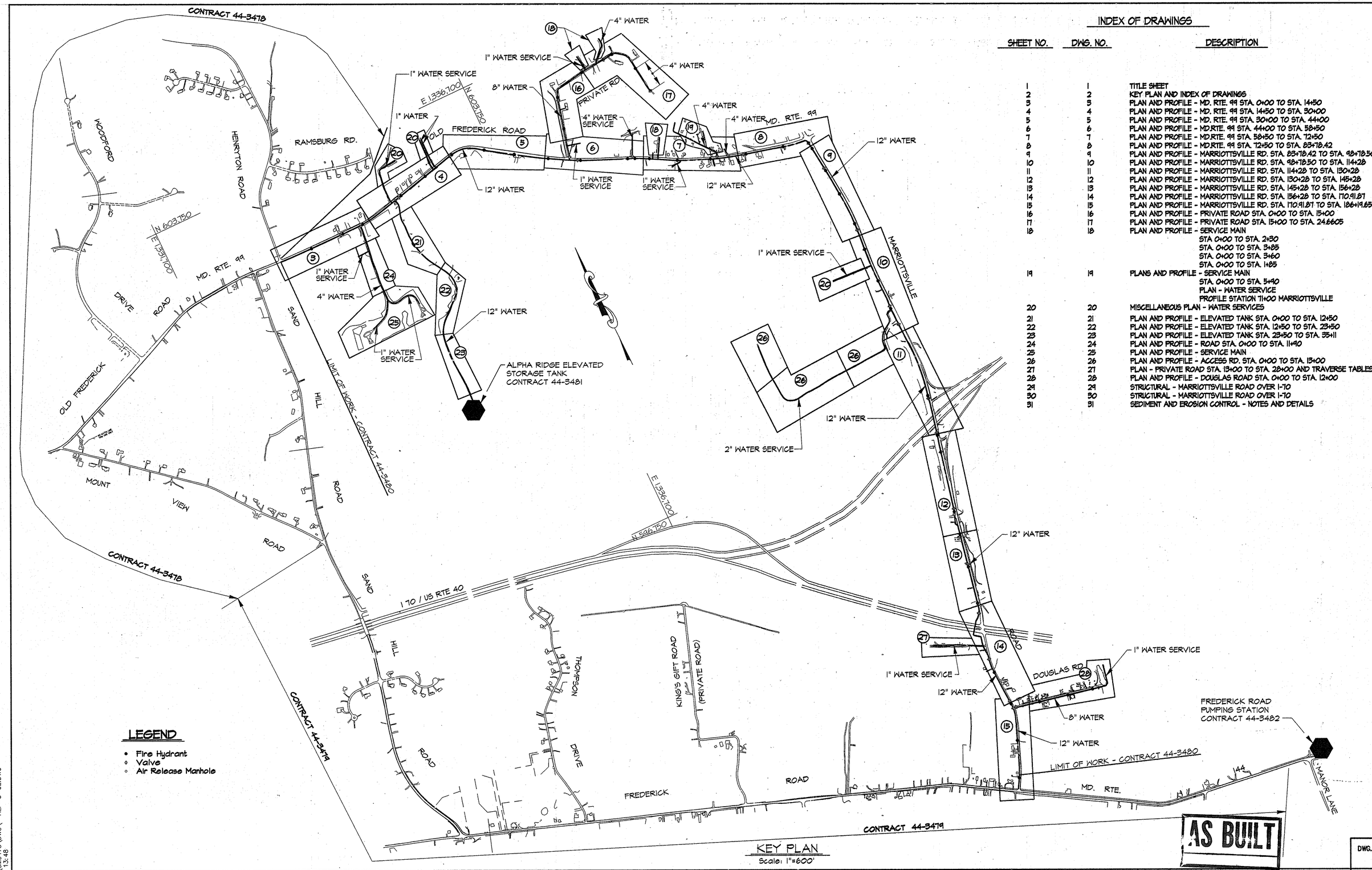
INDEX OF DRAWINGS

SHEET NO.	DWG. NO.	DESCRIPTION
1	1	TITLE SHEET
2	2	KEY PLAN AND INDEX OF DRAWINGS
3	3	PLAN AND PROFILE - MD. RTE. 99 STA. 0+00 TO STA. 14+50
4	4	PLAN AND PROFILE - MD. RTE. 99 STA. 14+50 TO STA. 30+00
5	5	PLAN AND PROFILE - MD. RTE. 99 STA. 30+00 TO STA. 44+00
6	6	PLAN AND PROFILE - MD.RTE. 99 STA. 44+00 TO STA. 58+50
7	7	PLAN AND PROFILE - MD.RTE. 99 STA. 58+50 TO STA. 72+50
8	8	PLAN AND PROFILE - MD.RTE. 99 STA. 72+50 TO STA. 83+78.42
9	9	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 83+78.42 TO STA. 98+78.50
10	10	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 98+78.50 TO STA. 114+28
11	11	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 114+28 TO STA. 130+28
12	12	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 130+28 TO STA. 145+28
13	13	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 145+28 TO STA. 156+28
14	14	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 156+28 TO STA. 170.91.87
15	15	PLAN AND PROFILE - MARRIOTTSVILLE RD. STA. 170.91.87 TO STA. 186+19.65
16	16	PLAN AND PROFILE - PRIVATE ROAD STA. 0+00 TO STA. 15+00
17	17	PLAN AND PROFILE - PRIVATE ROAD STA. 15+00 TO STA. 24.66.05
18	18	PLAN AND PROFILE - SERVICE MAIN STA 0+00 TO STA. 2+30 STA. 0+00 TO STA. 3+85 STA. 0+00 TO STA. 3+60 STA. 0+00 TO STA. 1+85
19	19	PLANS AND PROFILE - SERVICE MAIN STA. 0+00 TO STA. 5+90 PLAN - WATER SERVICE PROFILE STATION 71+00 MARRIOTTSVILLE
20	20	MISCELLANEOUS PLAN - WATER SERVICES
21	21	PLAN AND PROFILE - ELEVATED TANK STA. 0+00 TO STA. 12+50
22	22	PLAN AND PROFILE - ELEVATED TANK STA. 12+50 TO STA. 23+50
23	23	PLAN AND PROFILE - ELEVATED TANK STA. 23+50 TO STA. 35+11
24	24	PLAN AND PROFILE - ROAD STA. 0+00 TO STA. 11+90
25	25	PLAN AND PROFILE - SERVICE MAIN
26	26	PLAN AND PROFILE - ACCESS RD. STA. 0+00 TO STA. 13+00
27	27	PLAN - PRIVATE ROAD STA. 13+00 TO STA. 28+00 AND TRAVERSE TABLES
28	28	PLAN AND PROFILE - DOUGLAS ROAD STA. 0+00 TO STA. 12+00
29	29	STRUCTURAL - MARRIOTTSVILLE ROAD OVER I-70
30	30	STRUCTURAL - MARRIOTTSVILLE ROAD OVER I-70
31	31	SEDIMENT AND EROSION CONTROL - NOTES AND DETAILS



LEGEND

- Fire Hydrant
- Valve
- Air Release Manhole

KEY PLAN

Scale: 1"=600'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HANNAN — No. 15550 — REGISTERED PROFESSIONAL ENGINEER

DES:	DCE
DRN:	MJS
CHK:	DCE
DATE:	1/96

BY	NO.	REVISION	DATE

KEY PLAN AND
INDEX OF DRAWINGS

600' SCALE MAP NO. 9, 10, 15, 16 BLOCK NO.

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 2 OF 31

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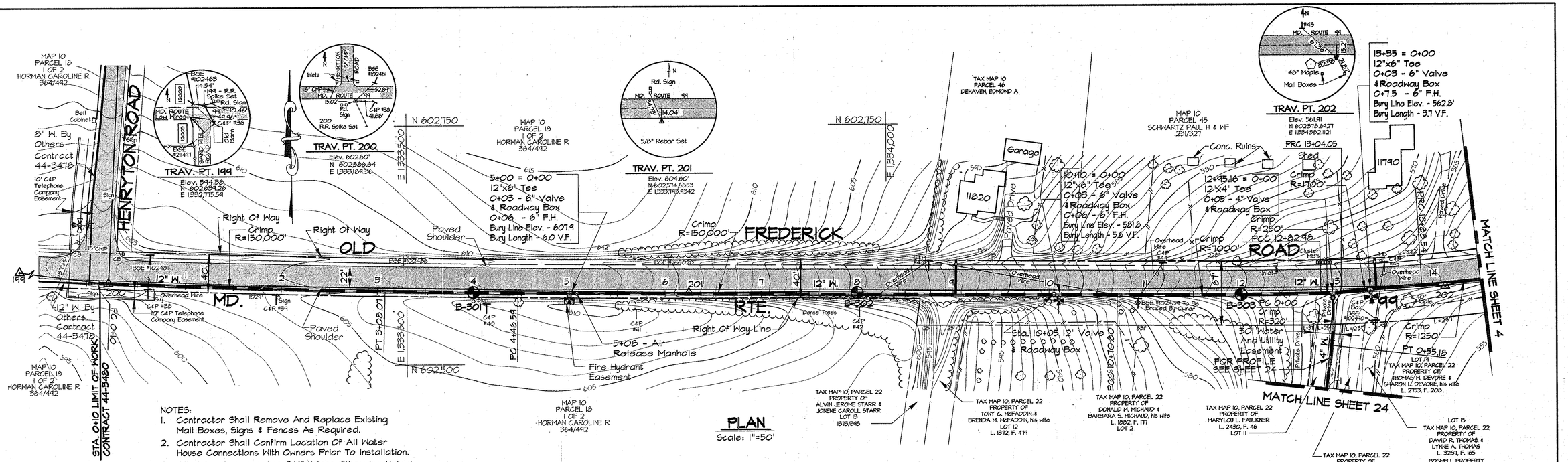


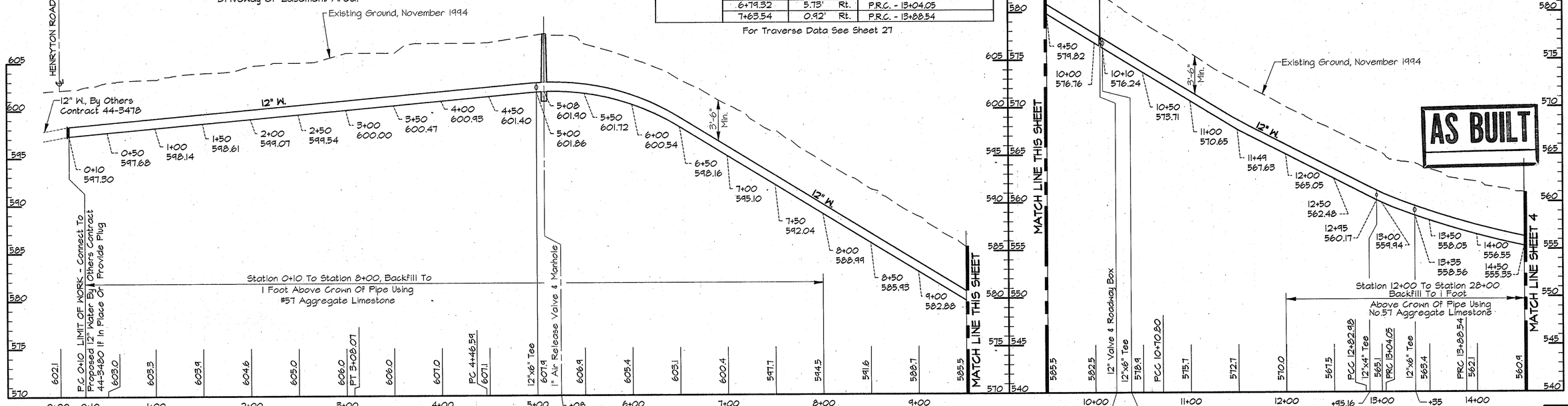
NOTES:

1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.
4. The Contractor Shall Work Only From 9:00am To 4:00pm When Constructing The 4" Water Main And House Connections Within The Private Driveway At Sta. 12+95.
5. During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And Emergency Vehicles At All Times.
6. Trenches Will Not Be Permitted To Remain Open After Working Hours Within The Private Driveway.
7. Stored Materials Will Not Be Permitted Within The Private Driveway Or Easement Area.

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
199 - 200	4+07.27	0.66' Rt.	Limit Of Work - P.C. 0+10
200 - 201	2+88.14	3.70' Rt.	P.T. - 3+08.07
	4+26.65	3.03' Rt.	P.C. - 4+46.59
201 - 202	4+46.11	6.17' Rt.	P.C.C. - 10+70.80
	6+58.28	6.38' Rt.	P.C.C. - 12+82.98
	6+68.77	61.45' Rt.	P.T. - 0+55.18
	6+70.45	6.37' Rt.	12"x4" Tee - 12+95.16
	6+79.32	5.73' Rt.	P.R.C. - 13+04.05
	7+63.54	0.92' Rt.	P.R.C. - 13+88.54

For Traverse Data See Sheet 27



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 15870 — REGISTERED PROFESSIONAL ENGINEER

DES: DWR	BY	NO.	REVISION	DATE
DRN: DCJ				
CHK: SRK				
DATE: 3/96				

PLAN AND PROFILE – MD. RTE. 99
STA. 0+10 TO STA. 14+50
600' SCALE MAP NO. 10 BLOCK NO. 19 & 20

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 3 OF 31

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NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

Note:
Contractor Shall Test Pit The Fiber Optic Cable Crossing Prior To Construction Using The Method As Prescribed By The Cable Owner.

PLAN
Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
202 - 203	1+46.34	7.70' Rt.	P.T. - 15+59.46
	2+09.76	8.51' Rt.	P.C. - 16+22.71
	2+28.05	8.41' Rt.	P.T. - 16+41.02
	2+84.18	7.07' Rt.	P.C. - 16+97.33
	5+14.43	3.49' Rt.	19+28.22 - 12" Tee
	5+15.19	79.69' Rt.	0+74.93 - 22-1/2° Bend
2031 - 204	1+89.92	17.44' Rt.	P.T. - 28+59.96
	2+23.28	14.76' Rt.	P.C. - 28+96.41
	2+38.01	13.89' Rt.	P.T. - 29+11.17
	3+05.48	10.90' Rt.	P.C. 29+78.71
	3+21.15	10.04' Rt.	29+95 - 12" Valve
	3+26.14	10.32' Rt.	30+00 - 12"x6" Tee

For Traverse Data See Sheet 27

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.
4. The Contractor Shall Work Only From 9:00am To 4:00pm When Constructing The Private Water Services Within The Private Driveways At Sta. 18+68, 26+50 & 26+97.
5. During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And Emergency Vehicles At All Times.
6. Trenches Will Not Be Permitted To Remain Open After Working Hours Within The Private Driveways.
7. Stored Materials Will Not Be Permitted Within The Private Driveways.

PROFILE - MD RTE 99
Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HALBERT — REG. NO. 13830 — PROFESSIONAL ENGINEER

DES: DWR
DRN: DCJ
CHK: SRK
DATE: 3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - MD RTE. 99
STA. 14+50 TO 30+00

600' SCALE MAP NO. 10 BLOCK NO. 20

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 4 OF 31

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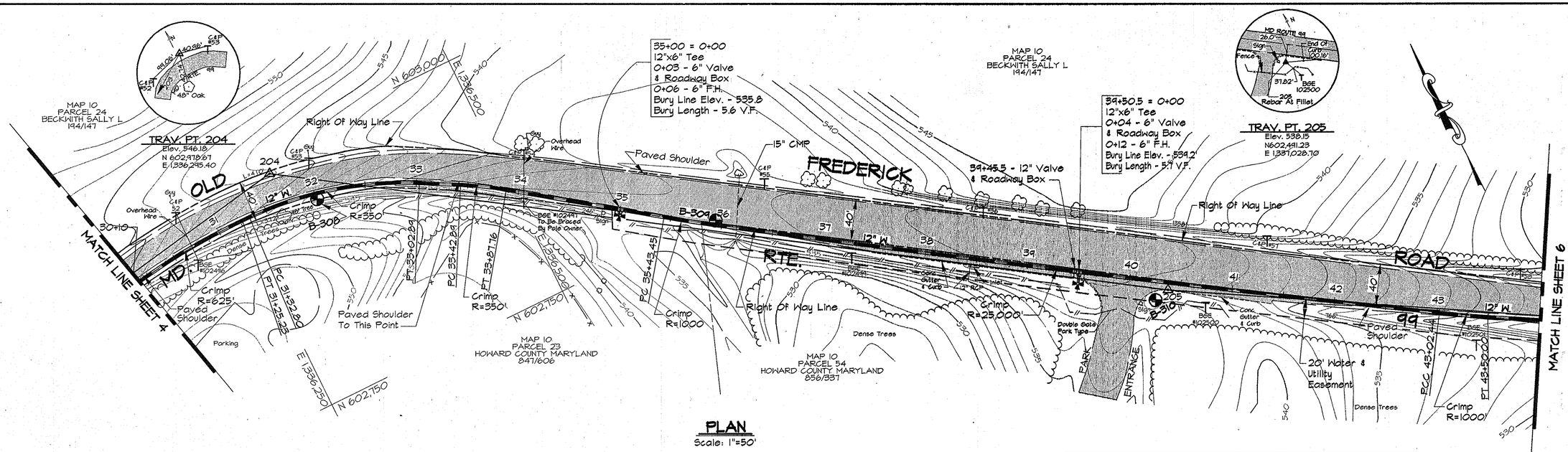
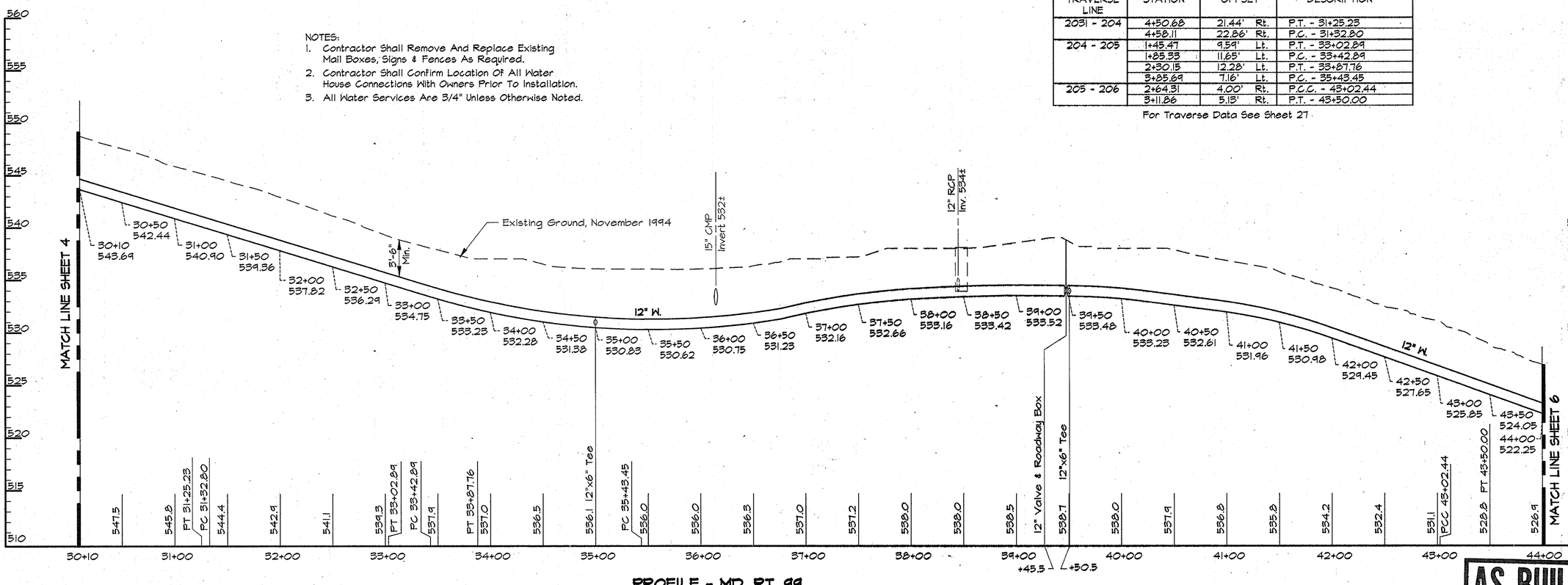


PLAN
Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2031 - 204	4+50.68	21.44' Rt.	P.T. - 31+25.23
	4+58.11	22.86' Rt.	P.C. - 31+32.80
204 - 205	1+45.47	9.59' Lt.	P.T. - 33+02.89
	1+85.33	11.65' Lt.	P.C. - 33+42.89
	2+30.15	12.28' Lt.	P.T. - 33+87.76
	3+85.69	7.16' Lt.	P.C. - 35+43.45
205 - 206	2+64.31	4.00' Rt.	P.C.C. - 43+02.44
	3+11.86	5.13' Rt.	P.T. - 43+50.00

For Traverse Data See Sheet 27

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.



PROFILE - MD. RT. 99
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT SAMUEL KAHL — NO. 13929 — REGISTERED PROFESSIONAL ENGINEER

DES:	DCE
DRN:	DCJ
CHK:	SRK
DATE:	3/96

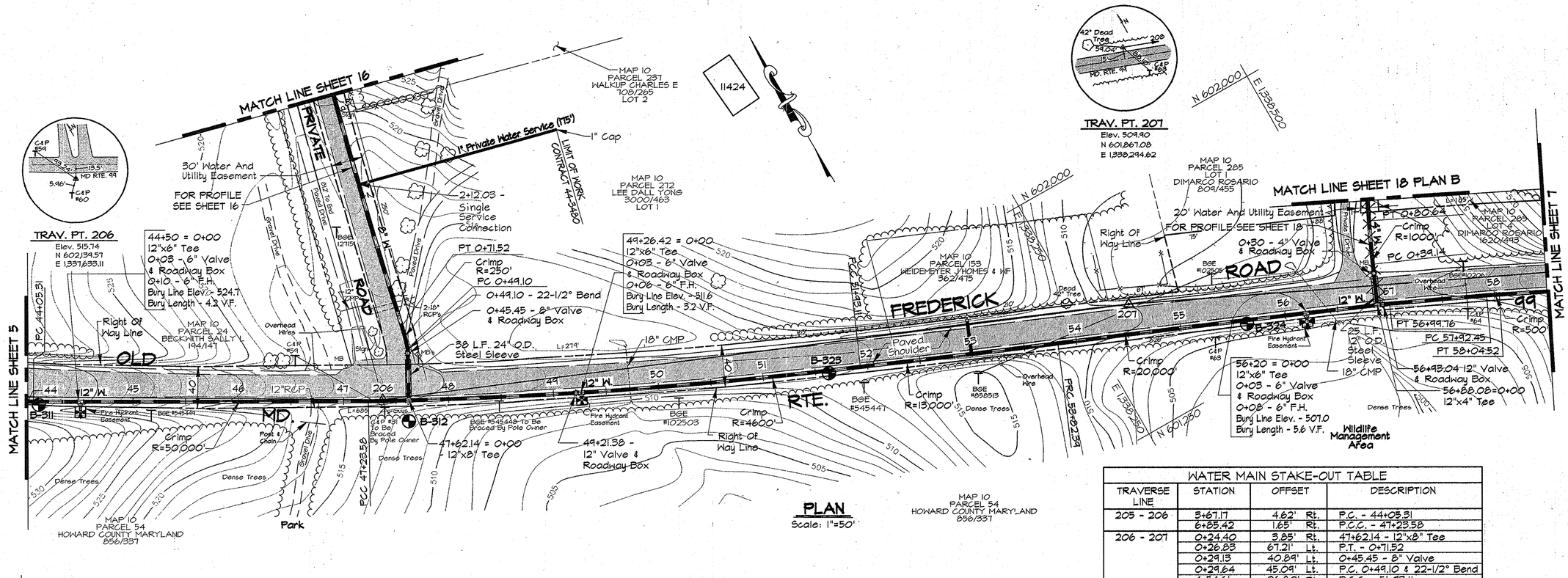
BY	NO.	REVISION	DATE

PLAN AND PROFILE - MD RTE. 99
STA. 30+00 TO 44+00

600' SCALE MAP NO. 10 BLOCK NO. 20 & 21

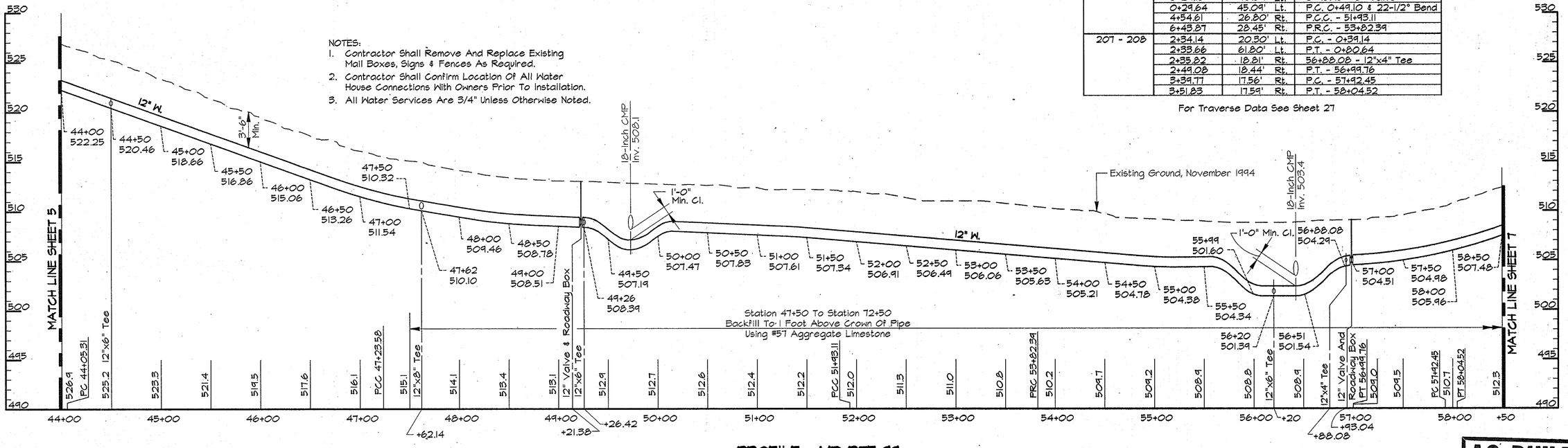
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 5 OF 31



PLAN
Scale: 1"=50'

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.



PROFILE - MD RTE 99
Scale: Horiz. 1"=50'
Vert. 1"=5'

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
205 - 206	3+67.17	4.62' Rt.	P.C. - 44+05.31
	6+85.42	1.65' Rt.	P.C.C. - 47+23.58
206 - 207	0+24.40	3.85' Rt.	47+62.14 - 12"x8" Tee
	0+26.83	67.21' Lt.	P.T. - 0+71.52
	0+29.13	40.89' Lt.	0+45.45 - 8" Valve
	0+29.64	45.09' Lt.	P.C. 0+49.10 & 22-1/2° Bend
	4+54.61	26.80' Rt.	P.C.C. - 51+93.11
	6+48.87	28.45' Rt.	P.R.C. - 53+82.39
207 - 208	2+34.14	20.30' Lt.	P.C. - 0+39.14
	2+33.66	61.80' Lt.	P.T. - 0+80.64
	2+35.32	18.81' Rt.	56+88.08 - 12"x4" Tee
	2+49.08	18.44' Rt.	P.T. - 56+99.76
	3+39.77	17.56' Rt.	P.C. - 57+92.45
	3+51.83	17.59' Rt.	P.T. - 58+04.52

For Traverse Data See Sheet 27

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 10838 — REGISTERED PROFESSIONAL ENGINEER

DES:	DCE
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - MD. RTE. 99
STA. 44+00 TO STA. 58+50

600' SCALE MAP NO. 10 BLOCK NO. 21

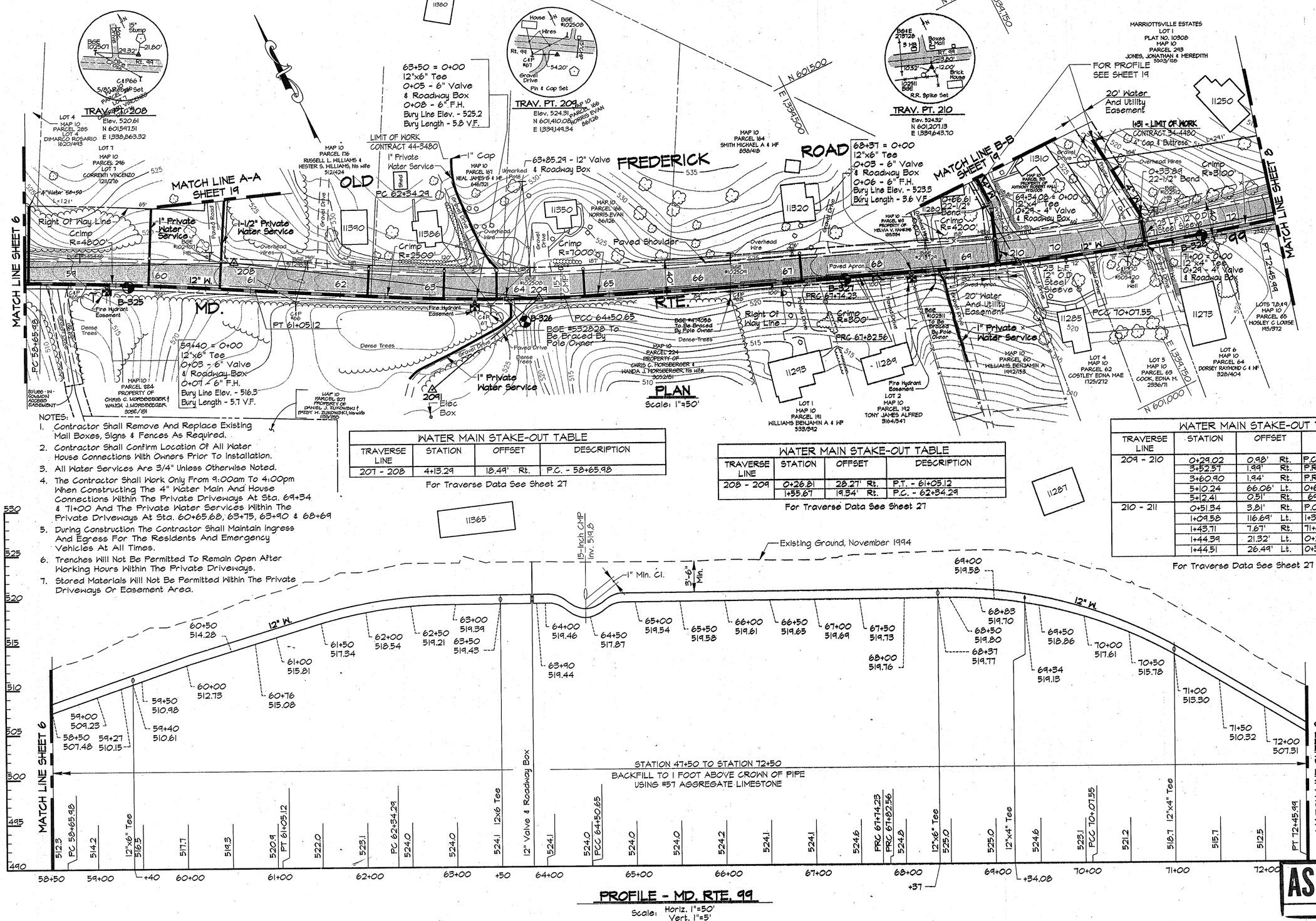
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE AS SHOWN

SHEET 6 OF 31

RKK2/USR2.SDSKPROJ/CM9473/DWG 03/15/1996 10:02 ALP-3-06.DWG



NOTES:

1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.
4. The Contractor Shall Work Only From 9:00am To 4:00pm When Constructing The 4" Water Main And House Connections Within The Private Driveways At Sta. 69+34 & 71+00 And The Private Water Services Within The Private Driveways At Sta. 60+65.68, 63+75, 63+90 & 68+69
5. During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And Emergency Vehicles At All Times.
6. Trenches Will Not Be Permitted To Remain Open After Working Hours Within The Private Driveways.
7. Stored Materials Will Not Be Permitted Within The Private Driveways Or Easement Area.

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
207 - 208	4+13.29	18.49' Rt.	P.C. - 58+65.98

For Traverse Data See Sheet 27

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
208 - 209	0+26.81	28.27' Rt.	P.T. - 61+05.12
	1+55.67	19.54' Rt.	P.C. - 62+34.29

For Traverse Data See Sheet 27

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
209 - 210	0+29.02	0.98' Rt.	P.C.C. - 64+50.65
	3+52.57	1.99' Rt.	P.R.C. - 67+74.23
	3+60.90	1.94' Rt.	P.R.C. - 67+82.56
	5+10.24	66.06' Lt.	0+66.61 - 22-1/2° Horiz. Bend
	5+12.41	0.51' Rt.	69+34.08 - 12"x4" Tee
210 - 211	0+51.34	3.81' Rt.	P.C.C. - 70+07.55
	1+09.58	116.69' Lt.	1+31 4" Cap & Buttress
	1+43.71	7.67' Rt.	71+00 = 0+00 - 4" Tee
	1+44.39	21.32' Lt.	0+29 - 4" Valve
	1+44.51	26.49' Lt.	0+33.84 - 22-1/2° Horiz. Bend

For Traverse Data See Sheet 27

PROFILE - MD. RTE. 99

Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES TAYLOR — No. 13989 — PROFESSIONAL ENGINEER

DES: DCE	BY	NO.	REVISION	DATE
DRN: DCJ				
CHK: SRK				
DATE: 3/96				

PLAN AND PROFILE - MD. RTE. 99
STA. 58+50 TO STA. 72+45.99

600' SCALE MAP NO. 10 BLOCK NO. 21 & 22

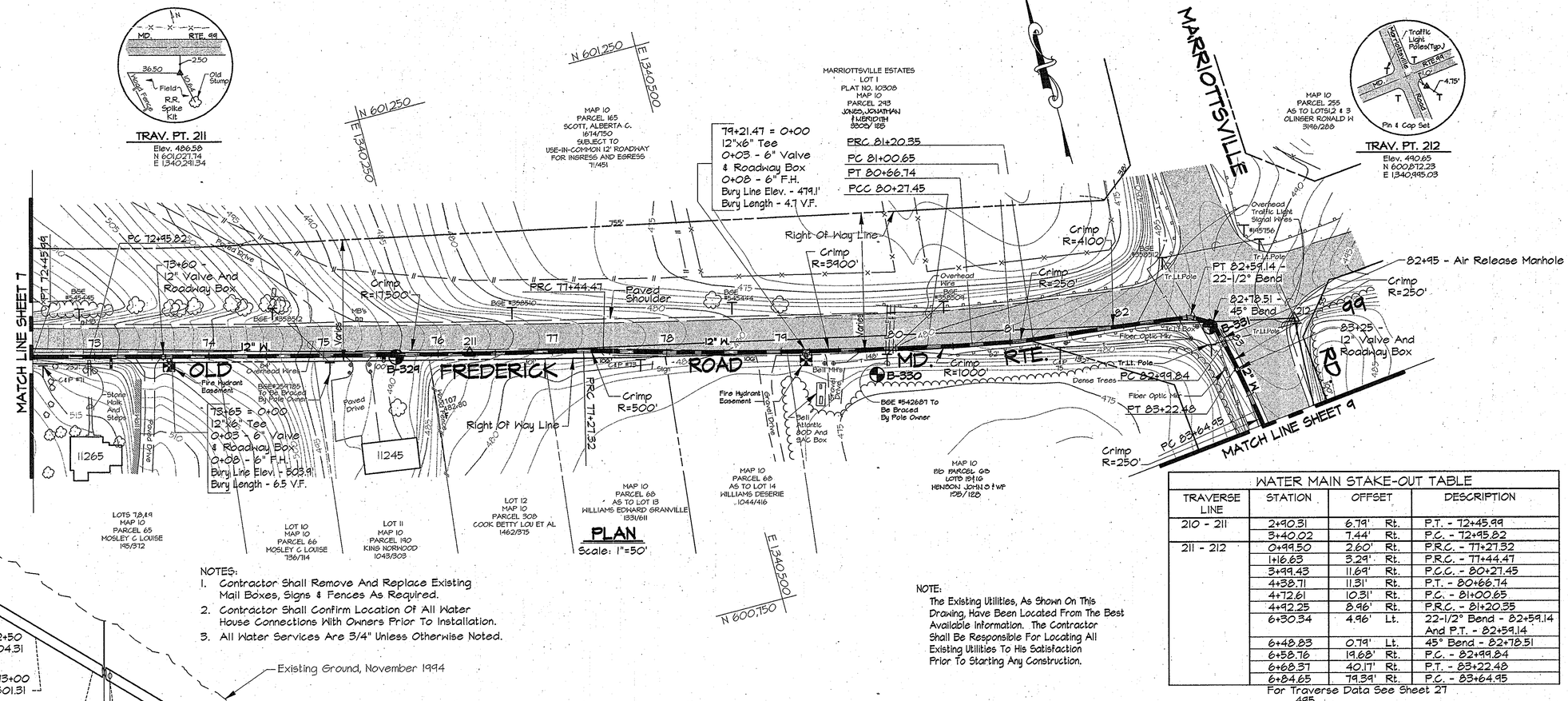
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO. ALP-3-07

SCALE AS SHOWN

SHEET 7 OF 31

RK&K \USR2\SDSKPROK\CM9473\DWG 03/11/1996 14:46



NOTES:

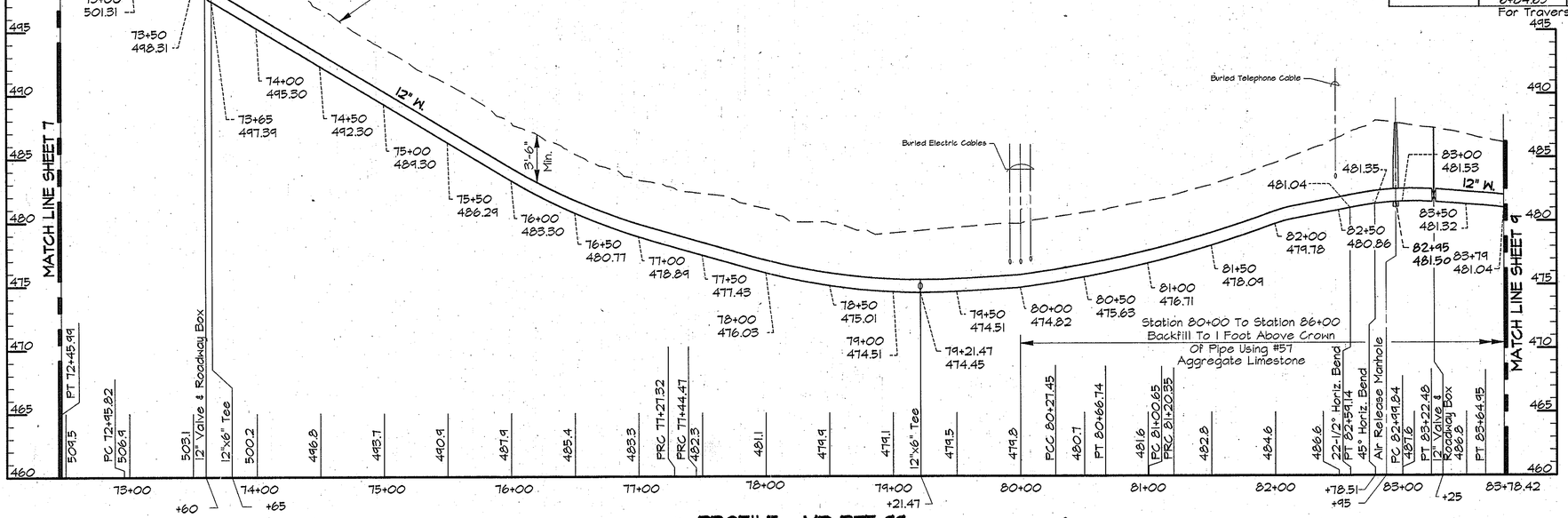
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
210 - 211	2+90.31	6.79' Rt.	P.T. - 72+45.99
	3+40.02	7.44' Rt.	P.C. - 72+45.82
211 - 212	0+99.50	2.60' Rt.	P.R.C. - 77+27.32
	1+16.63	3.29' Rt.	P.R.C. - 77+44.47
	3+99.43	11.69' Rt.	P.C.C. - 80+27.45
	4+38.71	11.31' Rt.	P.T. - 80+66.74
	4+72.61	10.31' Rt.	P.C. - 81+00.65
	4+92.25	8.96' Rt.	P.R.C. - 81+20.35
	6+30.34	4.96' Lt.	22-1/2° Bend - 82+59.14 And P.T. - 82+59.14
	6+48.83	0.79' Lt.	45° Bend - 82+78.51
	6+58.76	19.68' Rt.	P.C. - 82+99.84
	6+68.37	40.17' Rt.	P.T. - 83+22.48
	6+84.65	79.39' Rt.	P.C. - 83+64.95

For Traverse Data See Sheet 27



PROFILE - MD RTE 99

Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/20/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT SAMUEL KAHL — No. 10621 — PROFESSIONAL ENGINEER

DES:	DCE
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - MD. RTE. 99
STA 72+45.99 TO 83+78.42

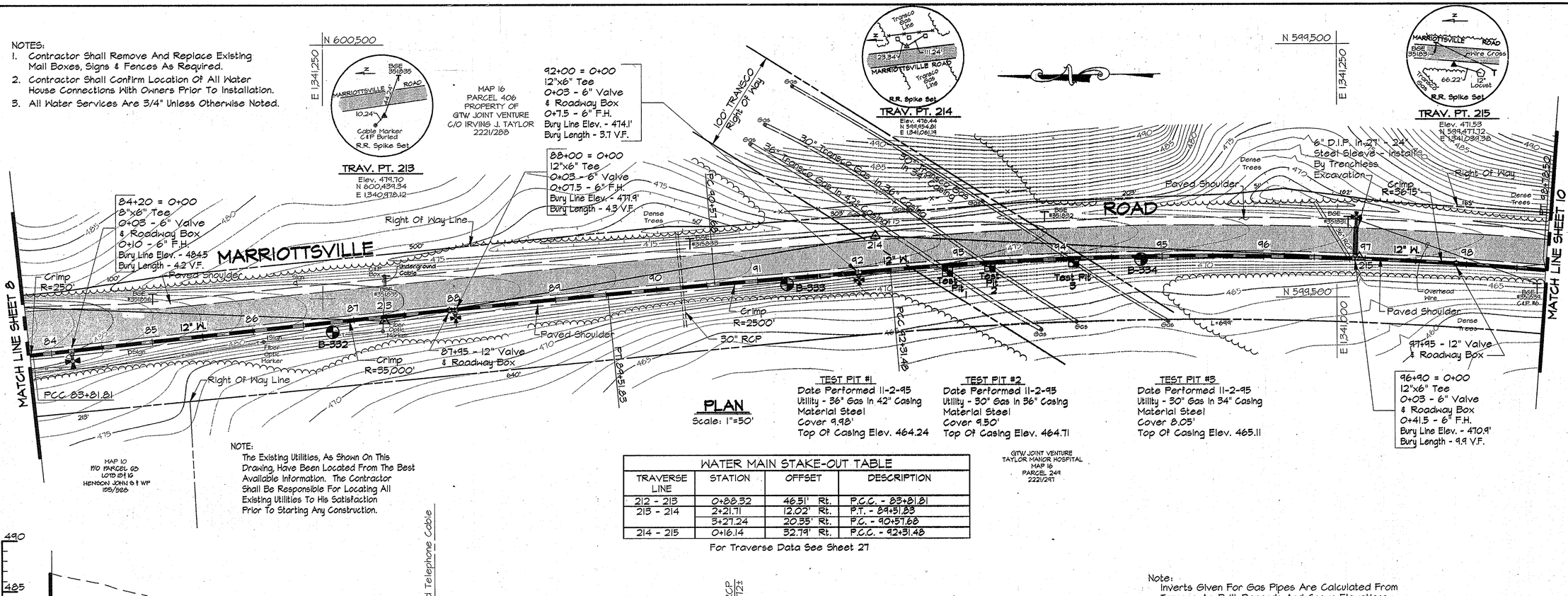
600' SCALE MAP NO. 10 BLOCK NO. 22

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 8 OF 31

RK\K2\USR2\SDSKPROJ\CM9473\DWG\ALP-3-08.DWG
03/21/1996 08:30

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.



PLAN
Scale: 1"=50'

TEST PIT #1
Date Performed 11-2-95
Utility - 36" Gas In 42" Casing
Material Steel
Cover 9.98'
Top Of Casing Elev. 464.24

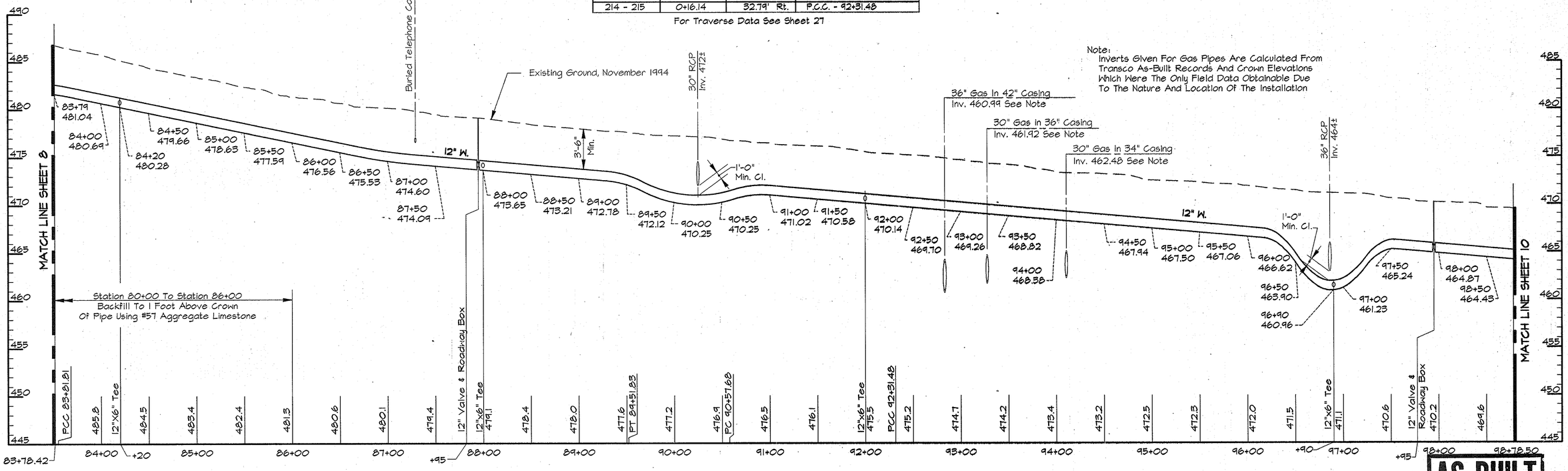
TEST PIT #2
Date Performed 11-2-95
Utility - 30" Gas In 36" Casing
Material Steel
Cover 9.50'
Top Of Casing Elev. 464.71

TEST PIT #5
Date Performed 11-2-95
Utility - 30" Gas In 34" Casing
Material Steel
Cover 8.05'
Top Of Casing Elev. 465.11

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
212 - 213	0+88.32	46.51' Rt.	P.C.C. - 83+81.81
213 - 214	2+21.71	12.02' Rt.	P.T. - 89+51.83
	3+27.24	20.35' Rt.	P.C. - 90+57.68
214 - 215	0+16.14	32.79' Rt.	P.C.C. - 92+31.48

For Traverse Data See Sheet 27



PROFILE - MARRIOTTSVILLE ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HAMM — No. 19319 — PROFESSIONAL ENGINEER

DES:	DCE
DRN:	DCJ
CHK:	SRK
DATE:	3/96

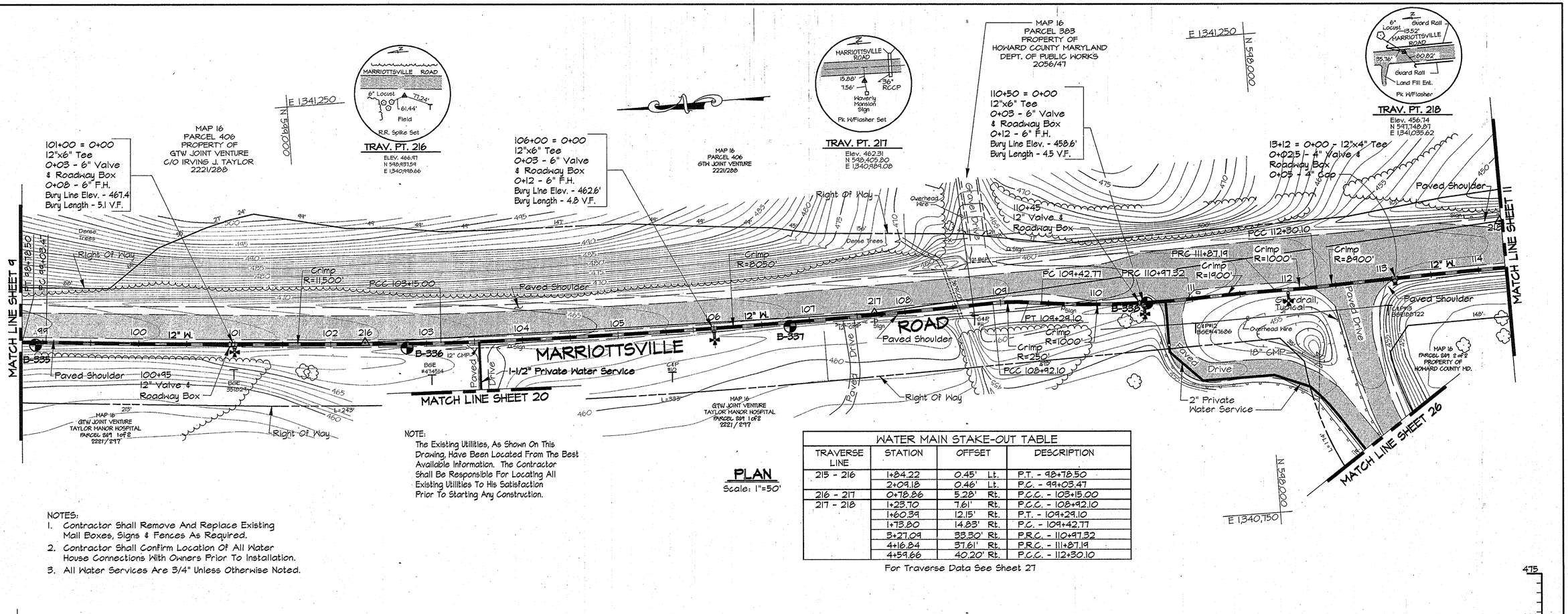
BY	NO.	REVISION	DATE

PLAN AND PROFILE - MARROITTSVILLE RD.
STA. 83+78.42 TO STA. 98+78.50
600' SCALE MAP NO. 10, 16 BLOCK NO. 22, 4

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 9 OF 31

RK&K\USR2\SDSKPROJ\CM9473\DWG ALP-3-09.DWG
03/15/1996 16:31



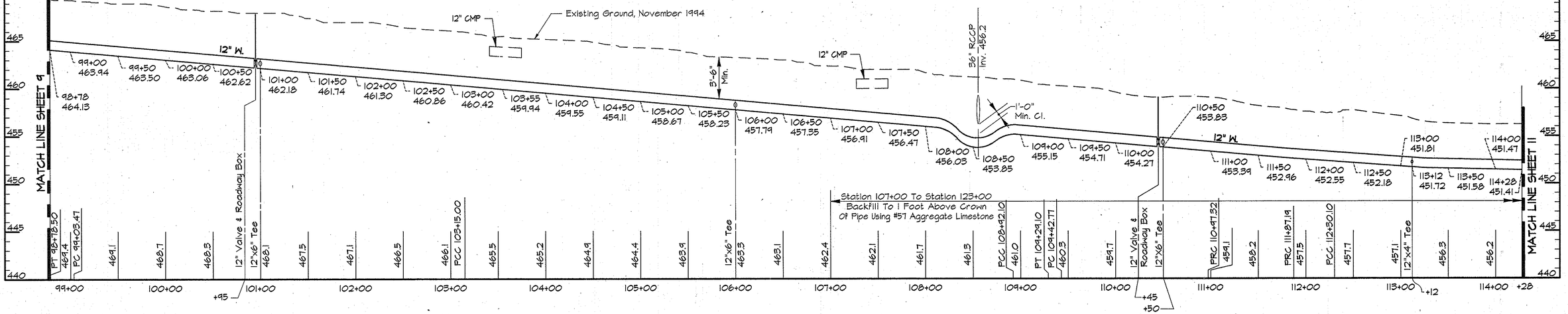
NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

PLAN
Scale: 1"=50'

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
215 - 216	1+84.22	0.45' Lt.	P.T. - 98+78.50
	2+09.18	0.46' Lt.	P.C. - 99+03.47
216 - 217	0+78.86	5.28' Rt.	P.C.C. - 103+15.00
217 - 218	1+23.70	7.61' Rt.	P.C.C. - 108+92.10
	1+60.39	12.15' Rt.	P.T. - 109+29.10
	1+73.80	14.83' Rt.	P.C. - 109+42.77
	3+27.09	33.30' Rt.	P.R.C. - 110+97.32
	4+16.84	37.61' Rt.	P.R.C. - 111+87.19
	4+59.66	40.20' Rt.	P.C.C. - 112+30.10

For Traverse Data See Sheet 27



PROFILE - MARRIOTTSVILLE ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

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03/15/1996 12:39

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/20/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
31 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — NO. 11551 — REGISTERED PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

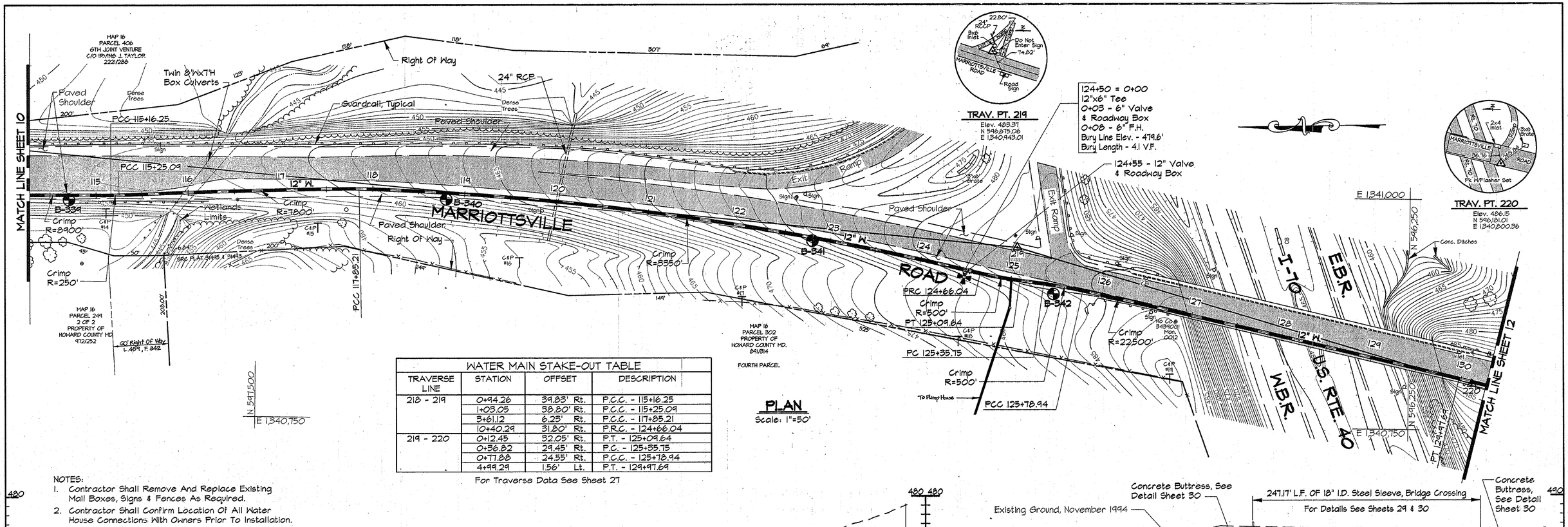
BY	NO.	REVISION	DATE

PLAN AND PROFILE – MARRIOTTSVILLE RD.
STA 98+78.50 TO 114+28

600' SCALE MAP NO. 16 BLOCK NO. 4

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 10 OF 31

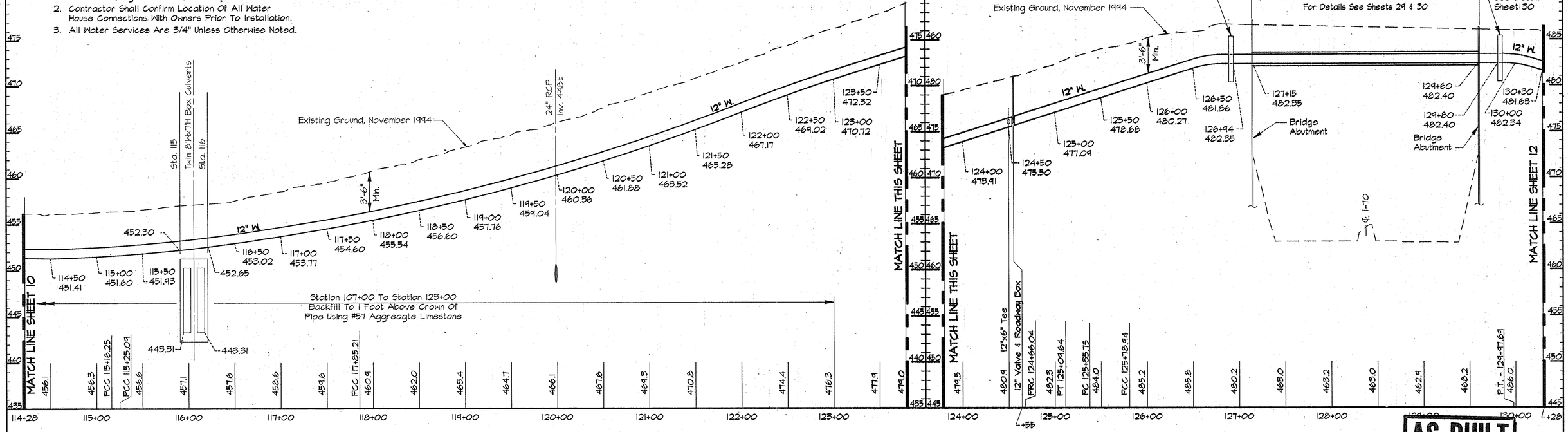


WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
218 - 219	0+94.26	39.83' Rt.	P.C.C. - 115+16.25
	1+03.05	38.80' Rt.	P.C.C. - 115+25.09
	3+61.12	6.23' Rt.	P.C.C. - 117+85.21
	10+40.29	31.80' Rt.	P.R.C. - 124+66.04
219 - 220	0+12.45	32.05' Rt.	P.T. - 125+09.64
	0+36.82	29.45' Rt.	P.C. - 125+35.75
	0+77.88	24.55' Rt.	P.C.C. - 125+78.94
	4+99.29	1.56' Lt.	P.T. - 129+97.69

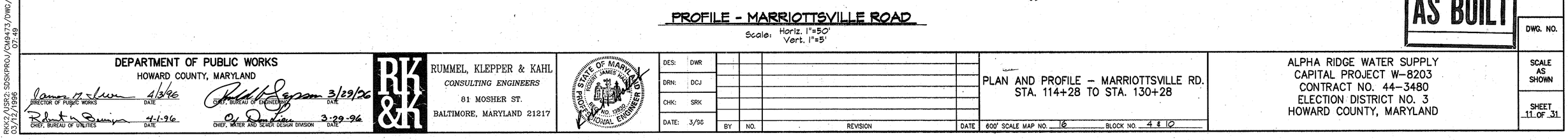
For Traverse Data See Sheet 27

PLAN
Scale: 1"=50'

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.



PROFILE - MARRIOTTSVILLE ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'



AS BUILT

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03/12/1996 07.49

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 19930 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - MARRIOTTSVILLE RD.
STA. 114+28 TO STA. 130+28

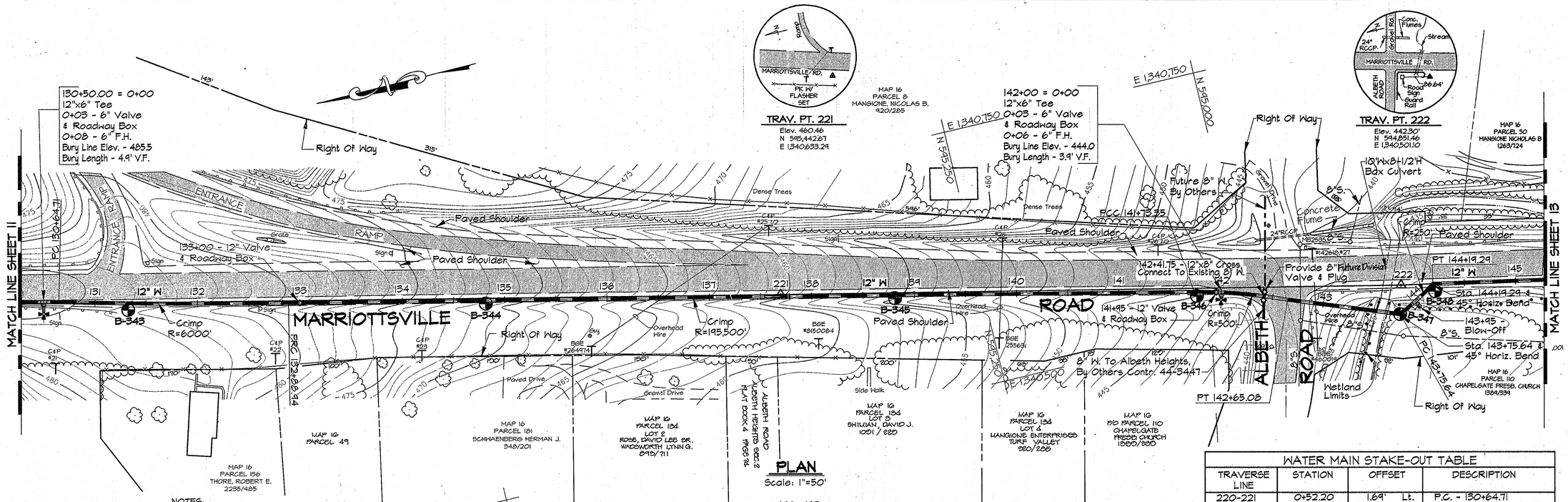
600' SCALE MAP NO. 16 BLOCK NO. 4 & 10

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE AS SHOWN

SHEET 11 OF 31



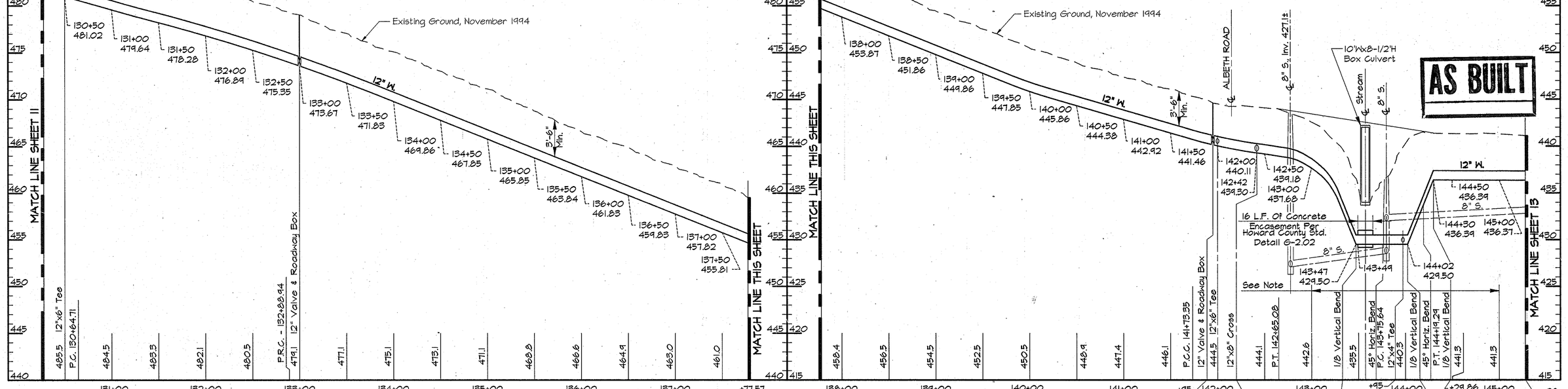
NOTES:

1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
220-221	0+52.20	1.69' Lt.	P.C. - 130+64.71
	2+76.38	2.25' Lt.	P.R.C. - 132+88.94
221-222	4+03.83	3.59 Rt.	P.C.C. - 141+73.35
	4+94.92	12.41 Rt.	P.T. - 142+65.08
	6+04.34	29.95 Rt.	P.C. - 143+75.64 & 45° Horiz. Bend
222-2221	0+31.07	0.06' Rt.	P.T. - 144+19.29 & 45° Horiz. Bend

For Traverse Data See Sheet 27



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HALL — NO. 19918 — PROFESSIONAL ENGINEER

DES: DWR	BY	NO.	REVISION	DATE
DRN: DCJ				
CHK: SRK				
DATE: 3/96				

PLAN AND PROFILE – MARRIOTTSVILLE RD.
STA. 130+28 TO STA. 145+28

600' SCALE MAP NO. 16 BLOCK NO. 10

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 12 OF 31

RKK2/USR2:SDSKPROJ/CM9473/DWG/ ALP-3-12.DWG
03/15/1996 16:36

PLAN

Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
222 - 223	1+44.32	0.25' Rt.	145+29 - 12"x6" Tee

WATER MAIN STAKE-OUT TABLE

For Traverse Data See Sheet 21

PROFILE - MARRIOTTSVILLE ROAD

Scale: Horiz. 1"=50'
Vert. 1"=5'

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

AS BUILT

DWG. NO.

SCALE AS SHOWN

SHEET 13 OF 31

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

PLAN AND PROFILE - MARRIOTTSVILLE RD.
STA. 145+28 TO STA. 156+28

600' SCALE MAP NO. 16 ; BLOCK NO. 10 & 16

DATE	NO.	REVISION	BY

DES: DWR
DRN: DCJ
CHK: BSH
DATE: 3/96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/9/96
CHIEF, BUREAU OF ENGINEERING — DATE 3-29-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96

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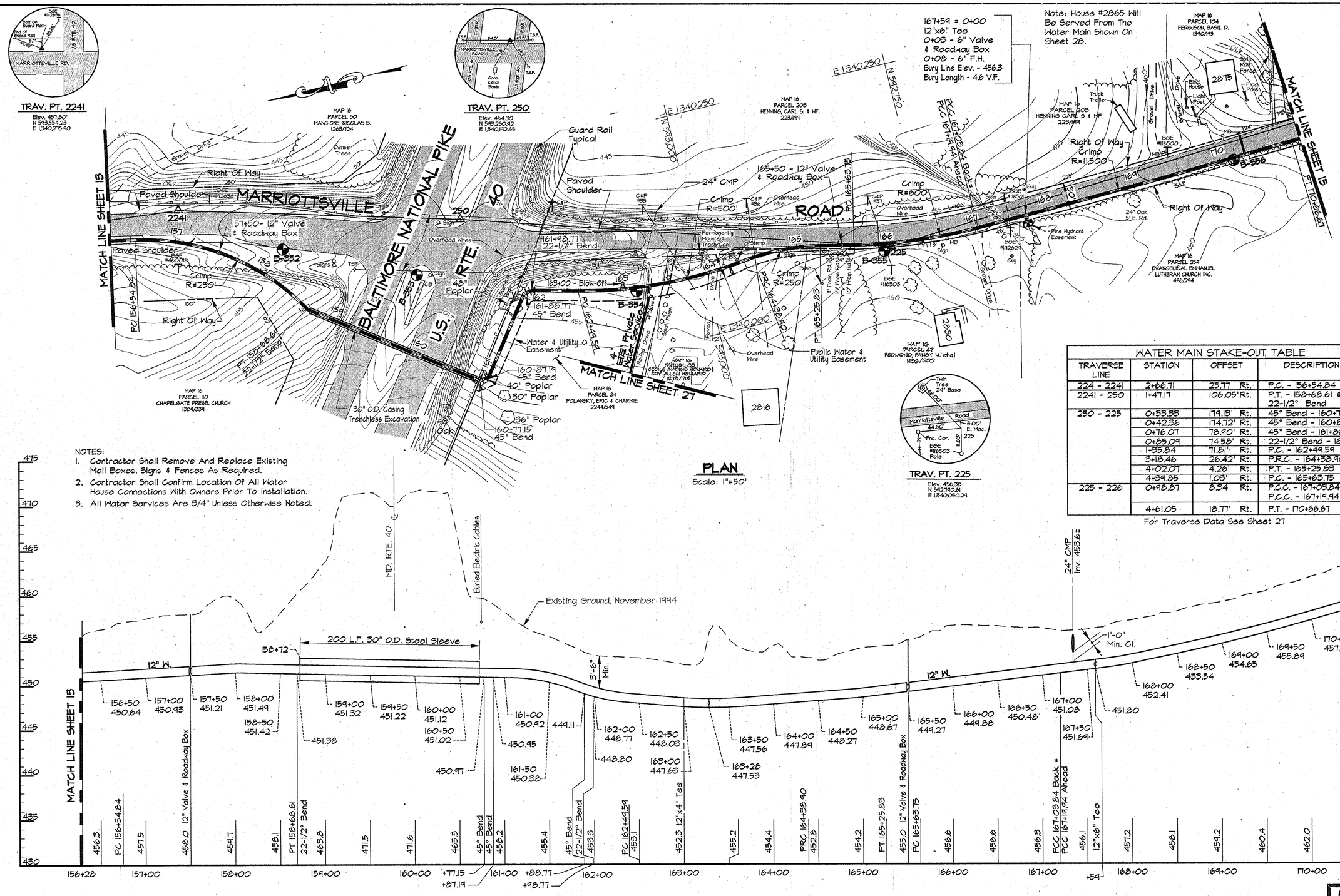


WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
224 - 2241	2+66.71	25.77' Rt.	P.C. - 156+54.84
2241 - 250	1+47.17	106.05' Rt.	P.T. - 158+68.61 & 22-1/2° Bend
250 - 225	0+33.33	179.13' Rt.	45° Bend - 160+77.15
	0+42.36	174.72' Rt.	45° Bend - 160+87.19
	0+76.07	78.90' Rt.	45° Bend - 161+88.77
	0+85.09	74.58' Rt.	22-1/2° Bend - 161+98.77
	1+35.84	71.81' Rt.	P.C. - 162+49.59
	3+18.46	26.42' Rt.	P.R.C. - 164+38.90
	4+02.07	4.26' Rt.	P.T. - 165+25.83
	4+34.85	1.03' Rt.	P.C. - 165+63.75
225 - 226	0+98.87	8.34 Rt.	P.C.C. - 167+03.84 Back = P.C.C. - 167+19.94 Ahead
	4+61.05	18.77' Rt.	P.T. - 170+66.67

For Traverse Data See Sheet 27

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 19891 — REGISTERED PROFESSIONAL ENGINEER

DES: DWR	BY	NO.	REVISION	DATE
DRN: DCJ				
CHK: SRK				
DATE: 3/96				

PLAN AND PROFILE - MARRIOTTSVILLE RD.
STA. 156+28 TO STA. 170+92
600' SCALE MAP NO. 16 BLOCK NO. 16

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 14 OF 31

RKK2/USR2:/SDSKPROJ/CM9473/DWG/ ALP-3-14.DWG
03/15/1996. 16:53

PLAN

Scale: 1"=50'

NOTES:

1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
225 - 226	6+97.20	18.30' Rt.	P.C. - 173+18.93
	7+41.22	20.26' Rt.	173+63.01 - 12"x8" Tee = P.C. - 0+00
226 - 2261	0+43.13	4.64' Lt.	P.R.C. - 0+67.99
	0+69.68	2.47' Lt.	P.T. - 0+94.64

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
226 - 227	1+34.87	2.37' Rt.	P.C.C - 175+08.64
	2+18.33	2.35' Rt.	P.T. - 175+92.09 11-1/4° H. Bend
	2+30.94	0.57' Rt.	176+05.03 - 11-1/4° H. Bend
	2+47.86	0.43' Rt.	176+21.95 - 11-1/4° H. Bend
	2+60.42	2.71' Rt.	P.C. - 176+34.90 11-1/4° H. Bend
	3+00.18	3.28' Rt.	P.R.C. - 176+74.67
	6+02.05	7.94' Rt.	P.R.C. - 179+76.58
	6+60.17	8.17' Rt.	P.T. - 180+34.69 11-1/4° H. Bend
	6+72.73	5.26' Rt.	180+47.59 - 11-1/4° H. Bend
	7+05.77	5.54' Rt.	180+80.63 - 11-1/4° H. Bend
	7+19.52	8.98' Rt.	P.C. - 180+94.81 11-1/4° H. Bend
	9+01.08	15.04' Rt.	P.C.C. - 182+76.47
227 - 169	0+38.10	18.98' Rt.	P.T. - 183+90.85

For Traverse Data See Sheet 27

PROFILE - MARRIOTTSVILLE ROAD

Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	RUMMEL, KLEPPER & KAHL CONSULTING ENGINEERS 81 MOSHER ST. BALTIMORE, MARYLAND 21217	DES: DWR; DRN: DCJ; CHK: SRK; DATE: 3/96

James M. Irvin 4/3/96 DIRECTOR OF PUBLIC WORKS DATE

3/29/96 CHIEF, BUREAU OF ENGINEERING DATE

Robert Beringer 4-1-96 CHIEF, BUREAU OF UTILITIES DATE

3-29-96 CHIEF, WATER AND SEWER DESIGN DIVISION DATE

STATE OF MARYLAND ROBERT JAMES HART NO. 13830 PROFESSIONAL ENGINEER

BY	NO.	REVISION	DATE

PLAN AND PROFILE MARRIOTTSVILLE ROAD
STA. 170+92 TO STA. 185+63.65

600' SCALE MAP NO. 16 BLOCK NO. 16 & 22

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

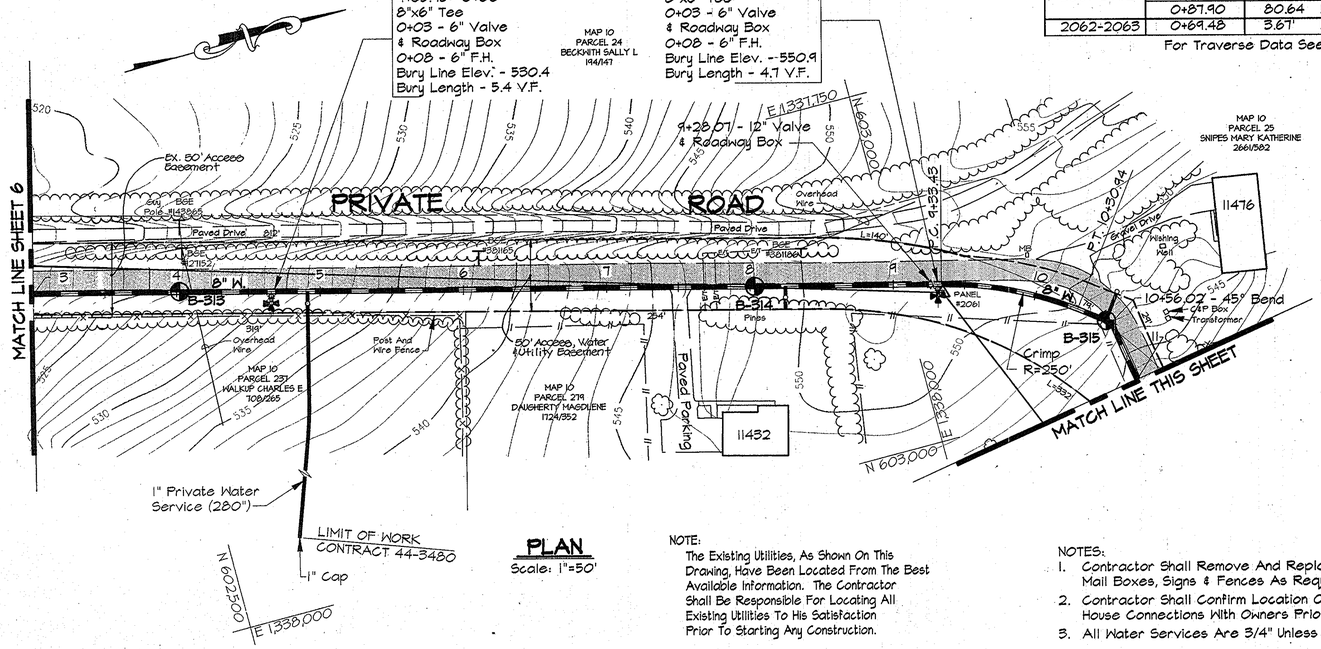
DWG. NO.

SCALE AS SHOWN

RKK2\USR2:CMSDSKPROJ\CM9473\DWG\ ALP-3-15.DWG 03/15/1996 17:13

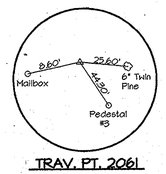
WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
206-2061	9+25.55	5.80' Lt.	P.C. - 9+33.43
2061-2062	0+66.42	67.58' Lt.	P.T. - 10+30.94
	0+87.90	80.64 Lt.	45° Bend 10+56.02
2062-2063	0+69.48	3.67' Lt.	P.C. - 14+86.33

For Traverse Data See Sheet 27



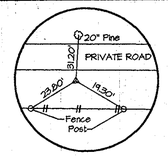
PLAN
Scale: 1"=50'

NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



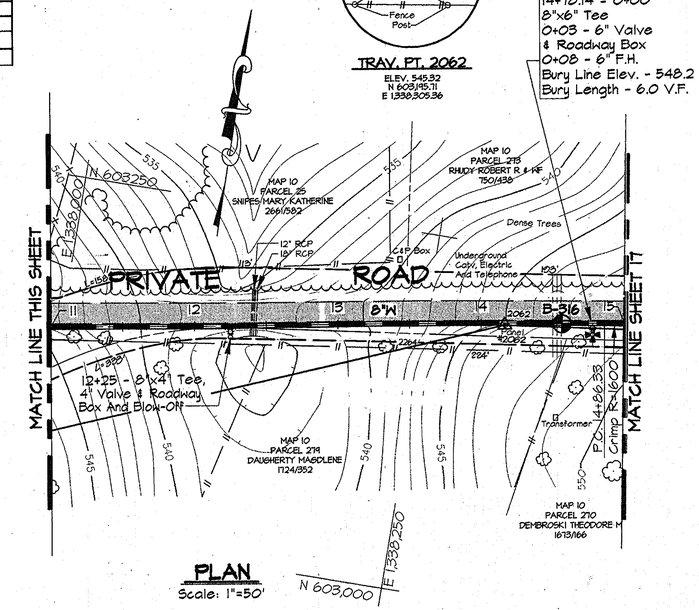
TRAV. PT. 2061
ELEV. 550.71
N 602,021.52
E 1,337,199.33

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

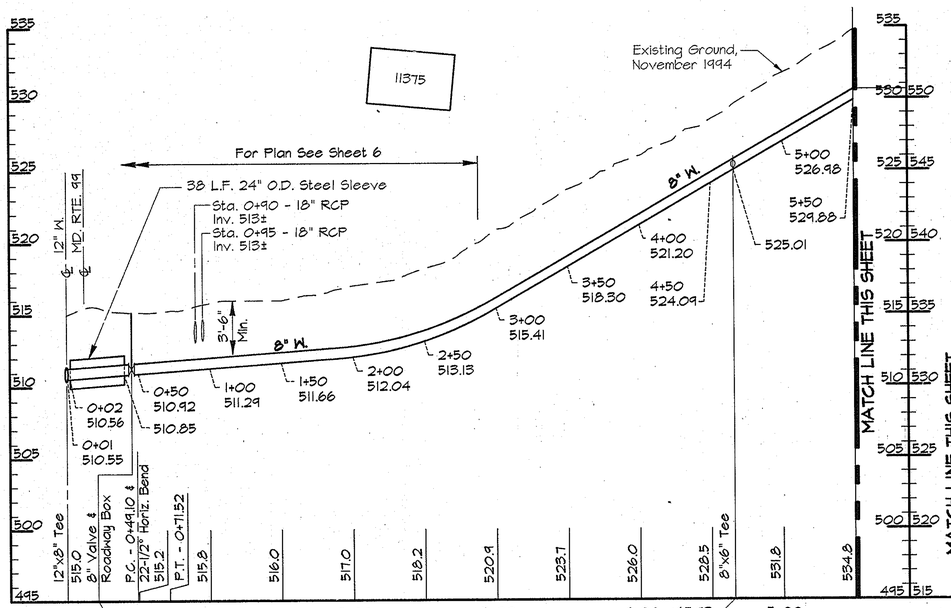


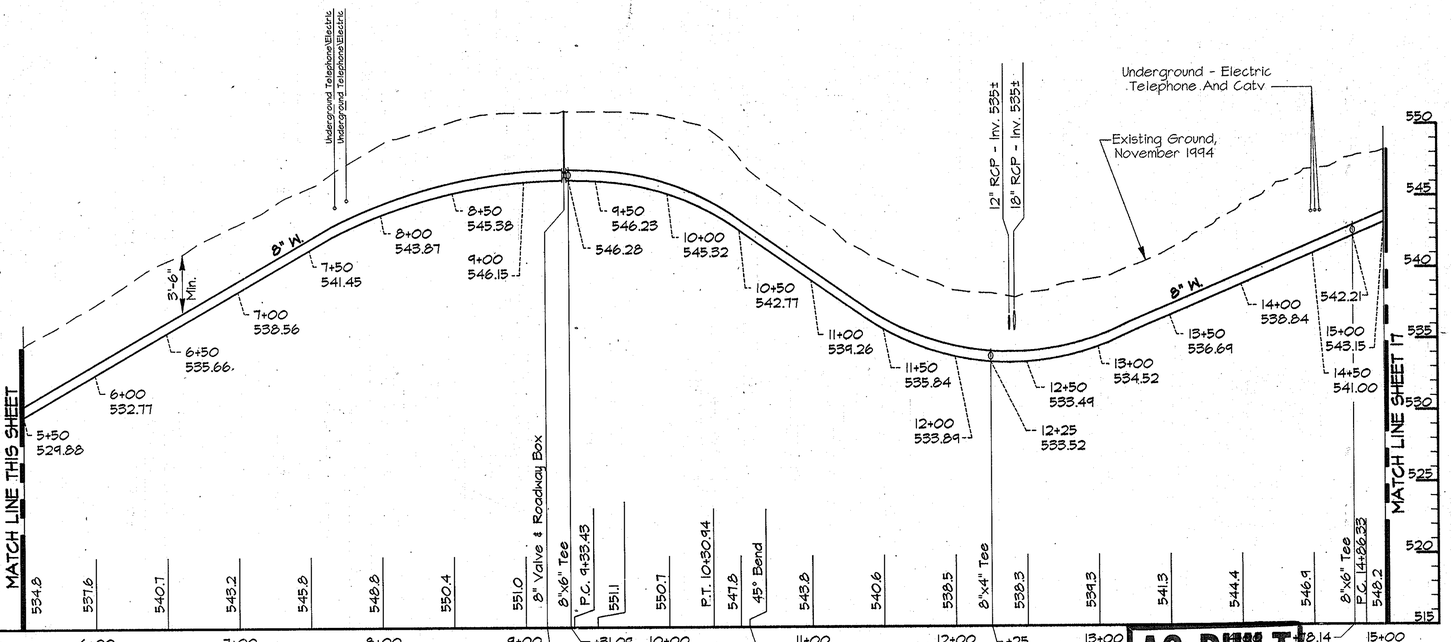
TRAV. PT. 2062
ELEV. 545.52
N 603,145.71
E 1,338,305.36

14+78.14 = 0+00
8"x6" Tee
0+03 - 6" Valve & Roadway Box
0+08 - 6" F.H.
Bury Line Elev. - 548.2
Bury Length - 6.0 V.F.



PLAN
Scale: 1"=50'





PROFILE - PRIVATE ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
DIRECTOR OF PUBLIC WORKS	4/3/96	CHIEF, BUREAU OF ENGINEERING	3/29/96
CHIEF, BUREAU OF UTILITIES	4-1-96	CHIEF, WATER AND SEWER DESIGN DIVISION	3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KLEPPER — No. 12893 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - PRIVATE ROAD
STA. 0+00 TO STA. 15+00

600' SCALE MAP NO. 10 BLOCK NO. 21

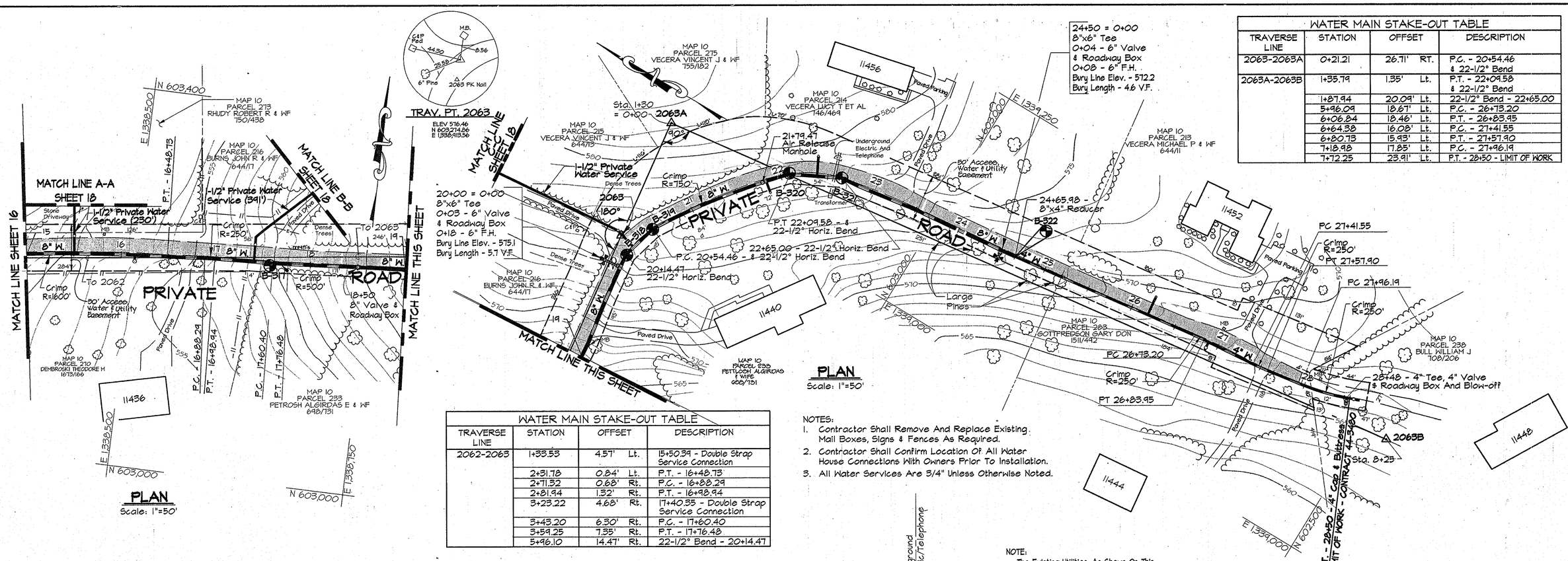
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE AS SHOWN

SHEET 16 OF 31

RKK:\USR2\SDSK\PROJ\CM9473\DWG ALP-3-16.DWG
03/15/1996 17:20



WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2062-2063	1+33.53	4.57' Lt.	15+50.39 - Double Strap Service Connection
	2+31.78	0.84' Lt.	P.T. - 16+48.73
	2+71.32	0.68' Rt.	P.C. - 16+88.29
	2+81.94	1.32' Rt.	P.T. - 16+98.94
	3+23.22	4.68' Rt.	17+40.35 - Double Strap Service Connection
	3+43.20	6.30' Rt.	P.C. - 17+60.40
	3+54.25	7.35' Rt.	P.T. - 17+76.48
	5+96.10	14.47' Rt.	22-1/2° Bend - 20+14.47

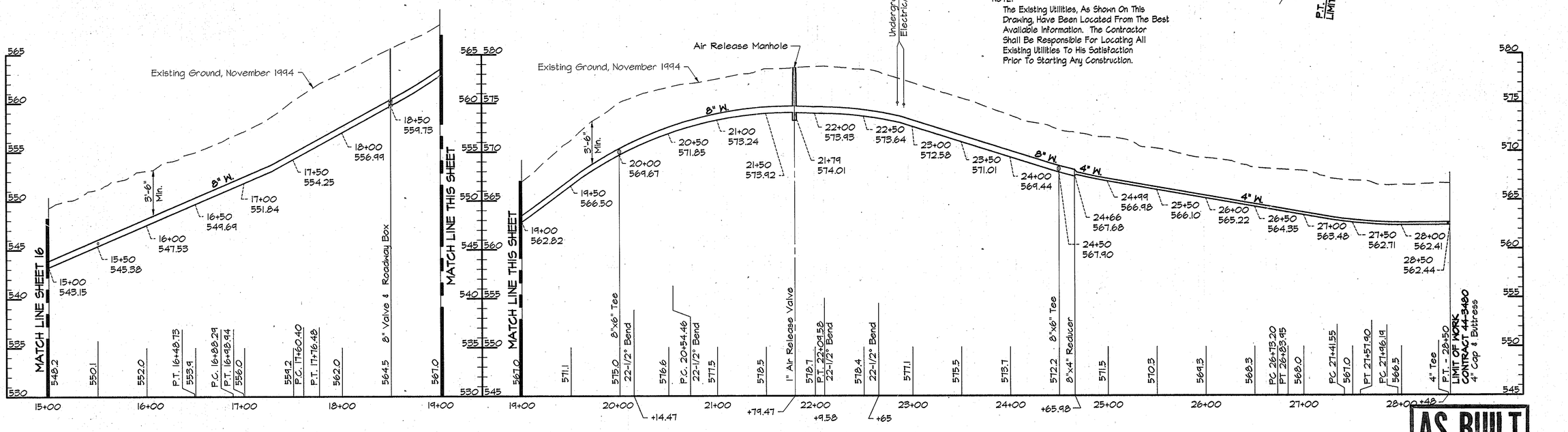
WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2063-2063A	0+21.21	26.71' RT.	P.C. - 20+54.46 & 22-1/2° Bend
2063A-2063B	1+35.79	1.35' Lt.	P.T. - 22+09.58 & 22-1/2° Bend
	1+87.94	20.09' Lt.	22-1/2° Bend - 22+65.00
	5+96.09	18.67' Lt.	P.C. - 26+78.20
	6+06.84	18.46' Lt.	P.T. - 26+83.95
	6+64.38	16.08' Lt.	P.C. - 27+41.55
	6+80.73	15.93' Lt.	P.T. - 27+57.90
	7+18.98	17.85' Lt.	P.C. - 27+96.19
	7+72.25	23.91' Lt.	P.T. - 28+50 - LIMIT OF WORK

PLAN
Scale: 1"=50'

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



PROFILE - PRIVATE ROAD
Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 10850 — REGISTERED PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - PRIVATE ROAD
STA. 15+00 TO STA. 28+50

600' SCALE MAP NO. 10 BLOCK NO. 21

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 17 OF 31

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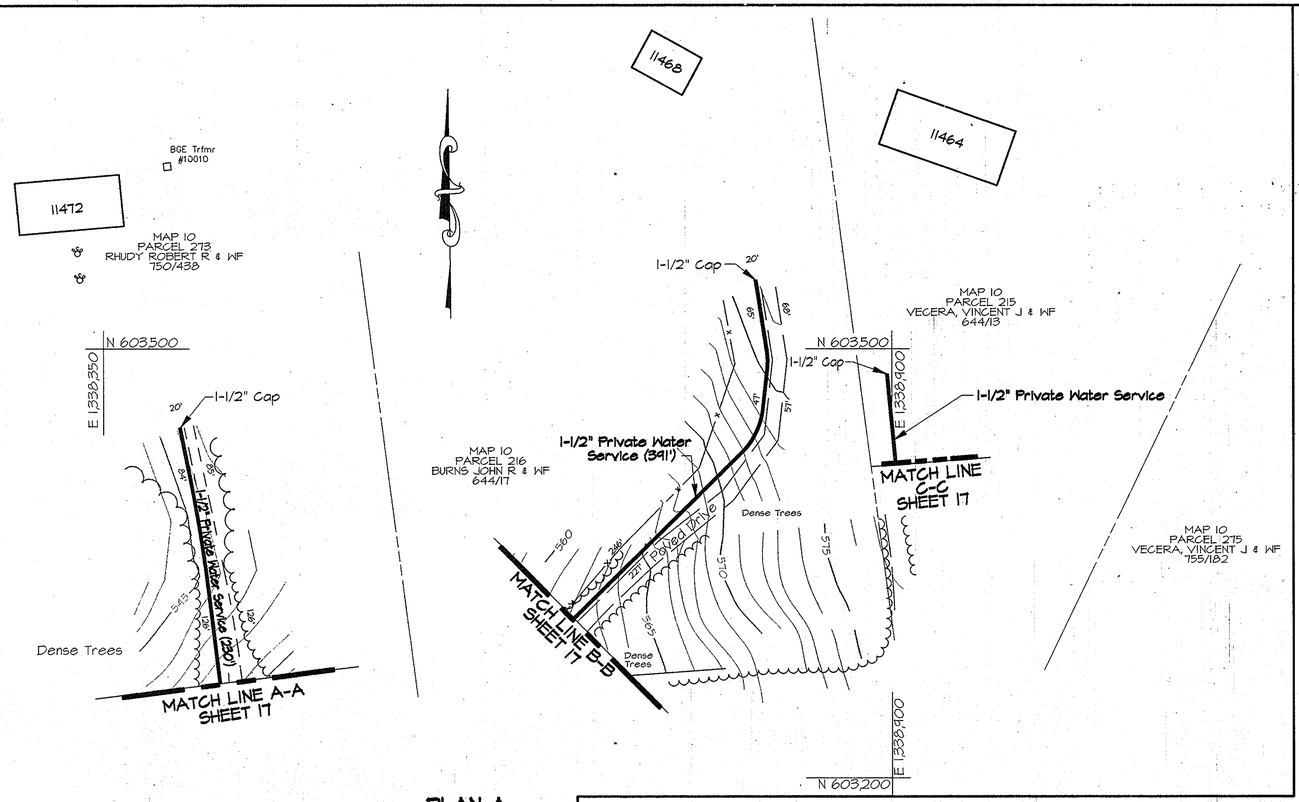
03/15/1996 17:21

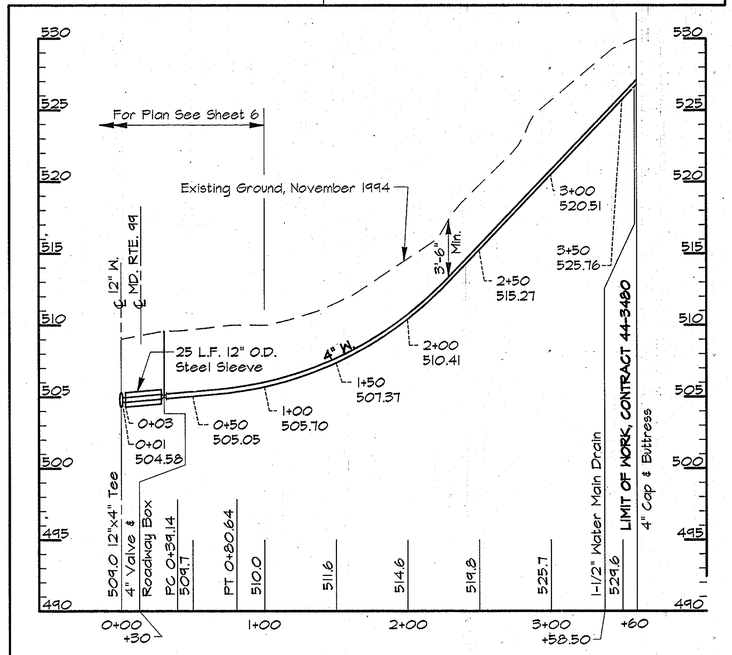


PLAN A

Scale: 1"=50'

NOTES:

1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

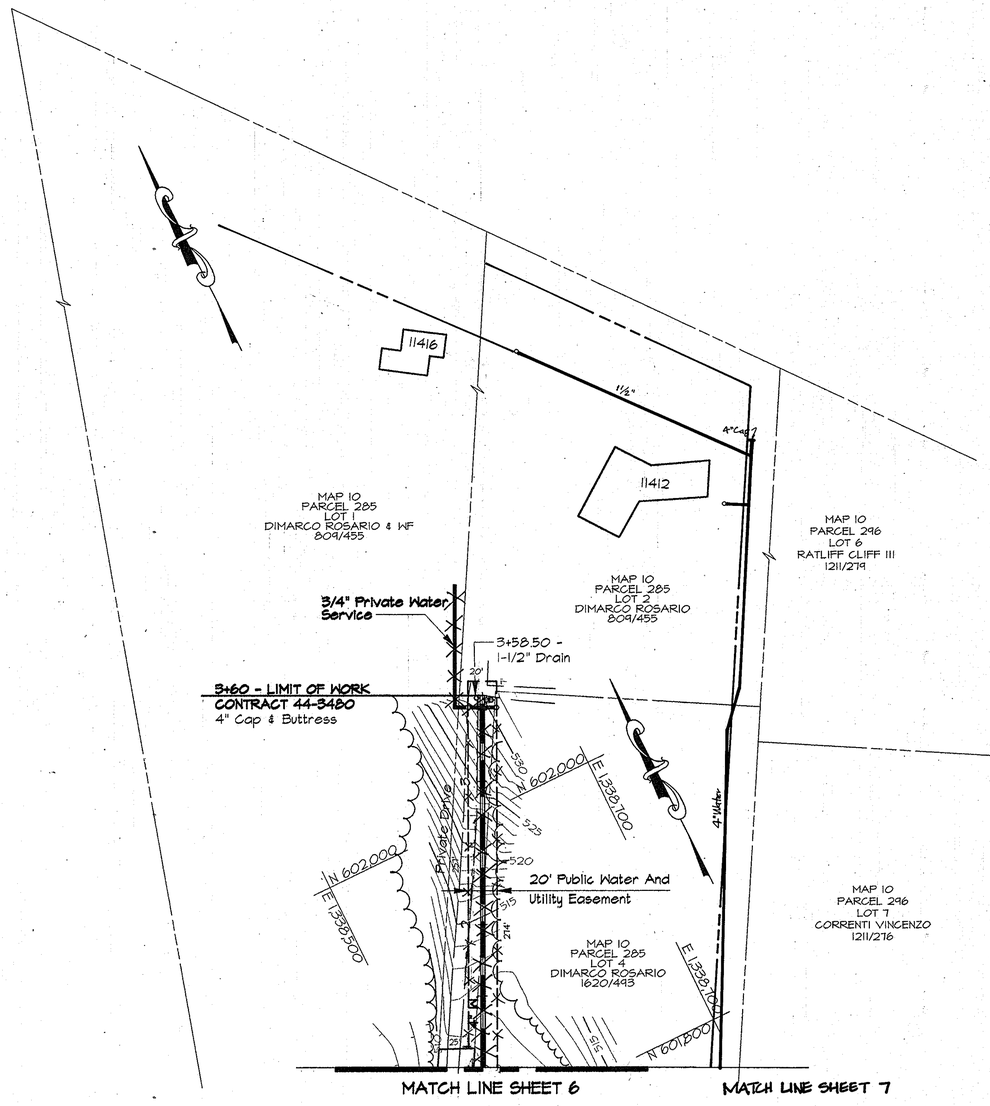


PROFILE - DIRT ROAD (PLAN B)

Scale: Horiz. 1"=50' Vert. 1"=5'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
207-208	2+36.24	341.14' Lt.	3+60 - LIMIT OF WORK

For Traverse Data See Sheet 27



PLAN B

Scale: 1"=50'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/2/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — NO. 13850 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE – SERVICE MAIN
STA. 0+00 TO STA. 3+60
PLANS – WATER SERVICES

600' SCALE MAP NO. 10 BLOCK NO. 21

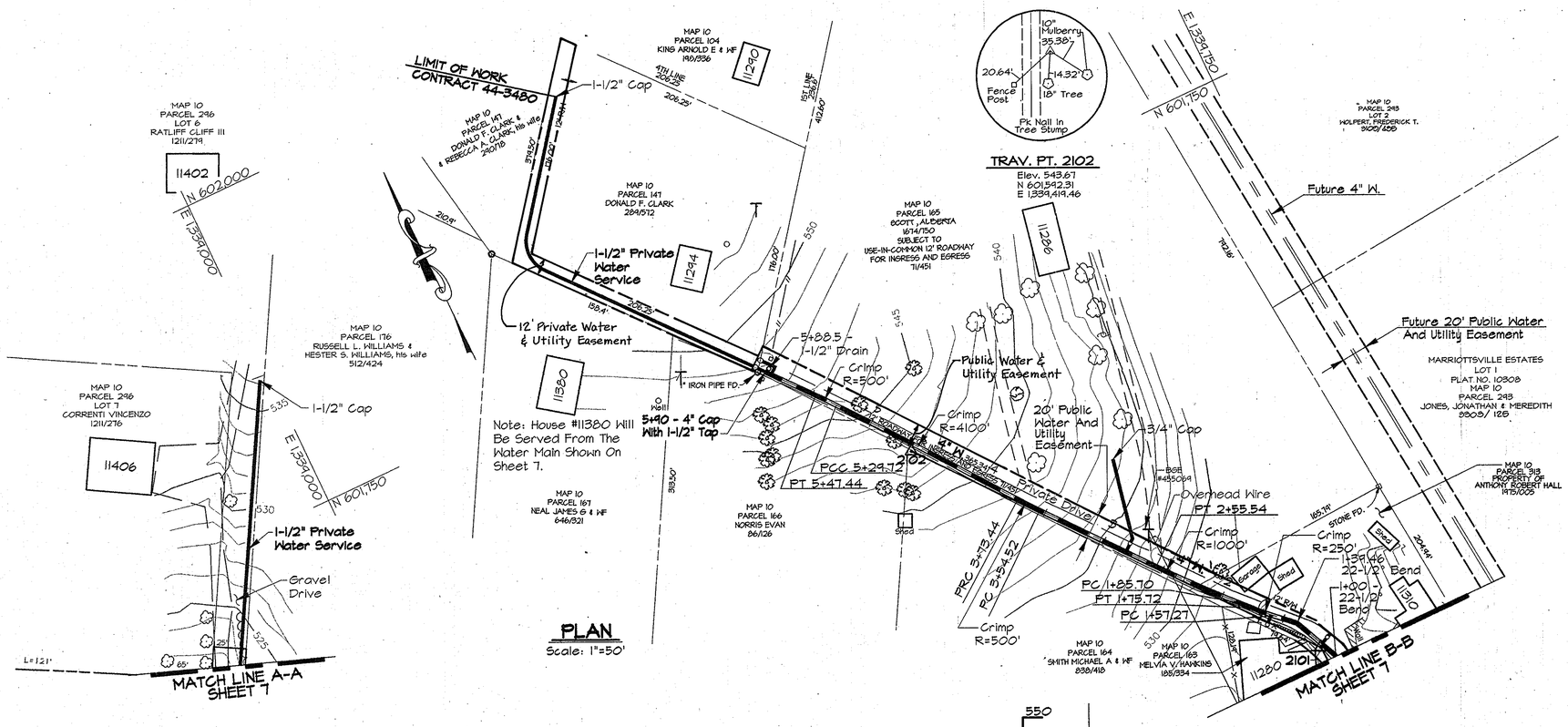
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE AS SHOWN

SHEET 18 OF 31

RKK2\USR2:SDSKPROJ\CM9473\DWG ALP-3-18.DWG
03/12/1996 09:44

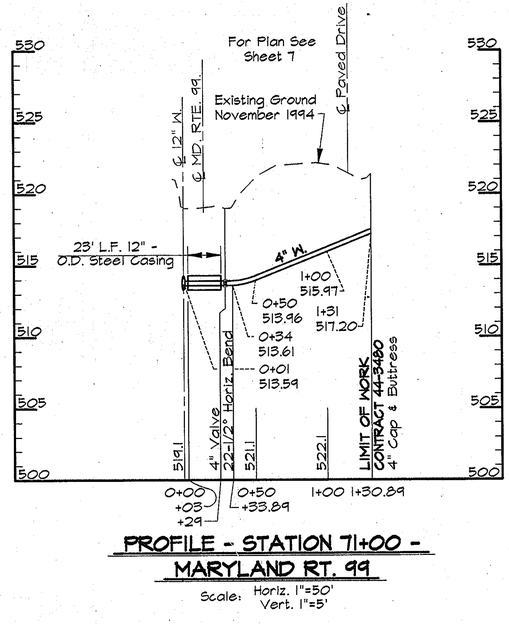


NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

WATER MAIN STAKE-OUT TABLE

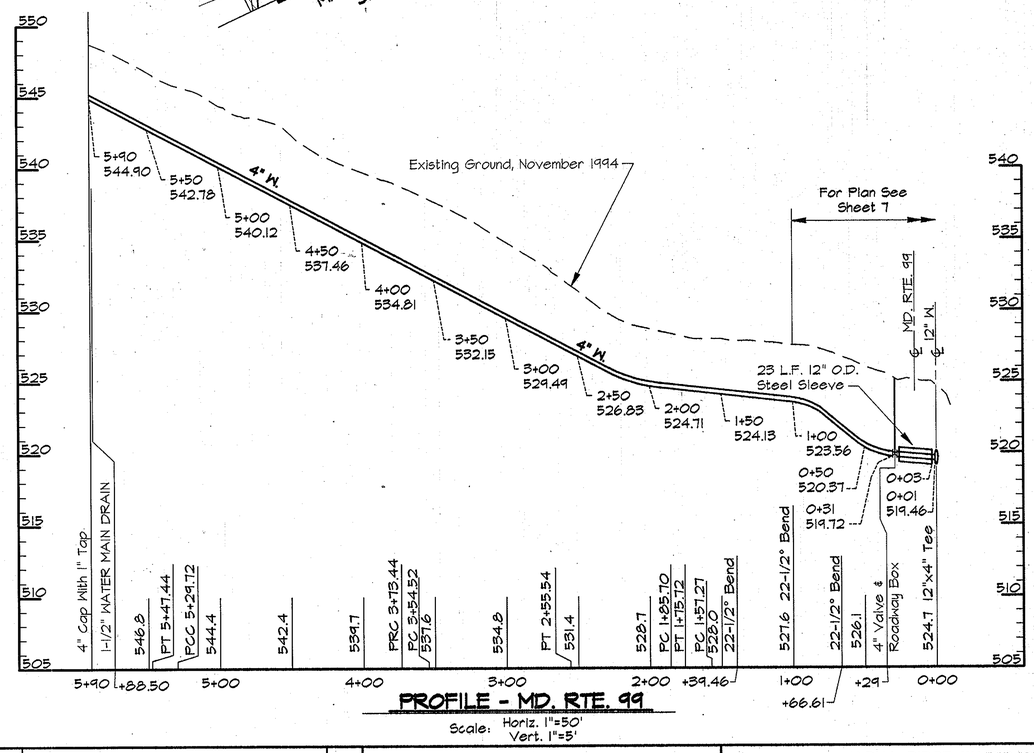
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
209 - 210	1+09.75	317.87' Lt.	P.T. - 5+47.44
	1+25.26	309.31' Lt.	P.C.C. - 5+29.72
	2+59.94	230.04' Lt.	P.R.C. - 3+73.44
	2+76.34	220.60' Lt.	P.C. - 3+54.52
	3+63.04	172.85' Lt.	P.T. - 2+55.54
	4+25.34	141.33' Lt.	P.C. - 1+85.70
	4+34.40	137.15' Lt.	P.T. - 1+75.72
	4+51.41	130.01' Lt.	P.C. - 1+57.27
	4+68.19	123.70' Lt.	22-1/2° Bend - 1+39.46
	4+96.49	96.37' Lt.	22-1/2° Bend - 1+00

For Traverse Data See Sheet 27



PROFILE - STATION 71+00 - MARYLAND RT. 99

Scale: Horiz. 1"=50' Vert. 1"=5'



PROFILE - MD. RTE. 99

Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DWG. NO.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — JAMES R. KAHL — No. 9280 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLANS AND PROFILE - SEVICE MAIN STA. 0+00 TO 5+90
PLAN - WATER SERVICE
PROFILE - STA. 71+00 MARRIOTTSVILLE RD.

600' SCALE MAP NO. 10 BLOCK NO. 21

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

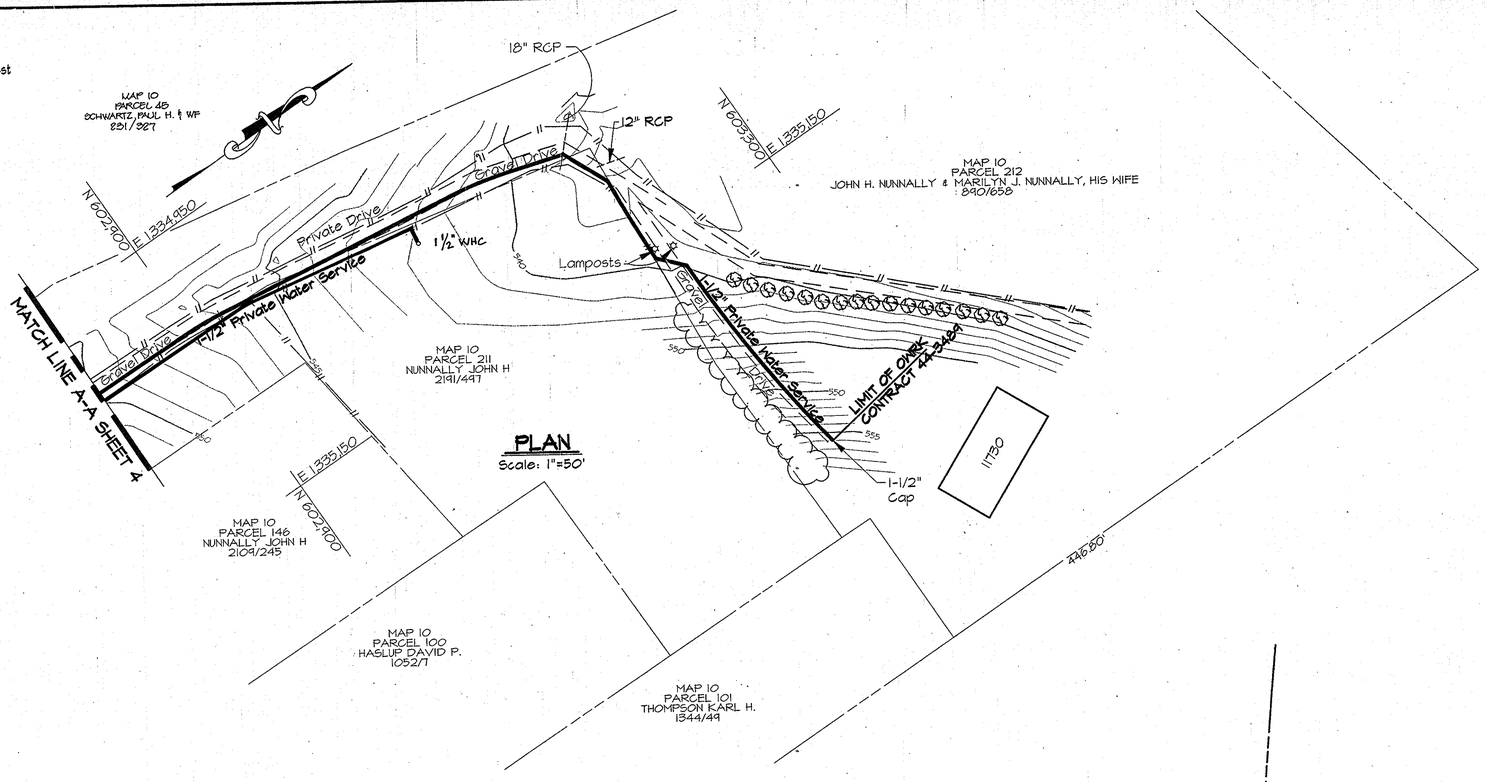
SCALE AS SHOWN

SHEET 19 OF 31

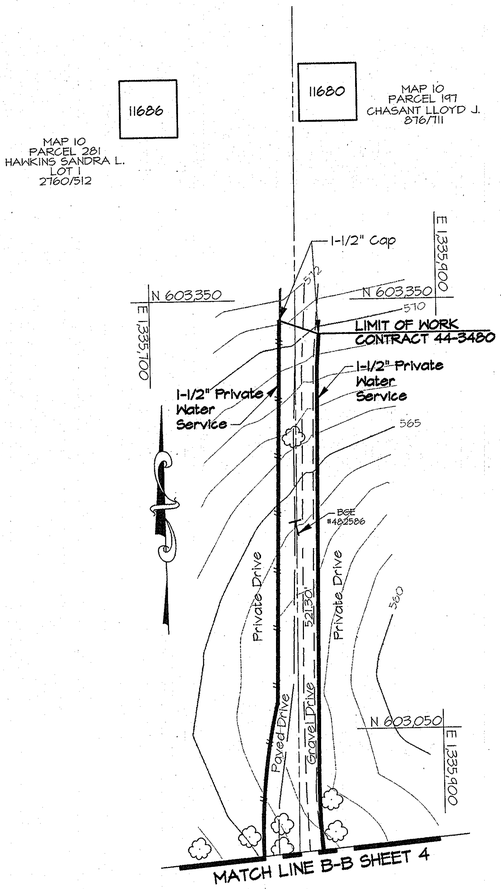
RK&K\2\VSPC2_SDSK\PROJ\CM94737\DWG ALP-3-19.DWG
05/12/1996 10:24

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

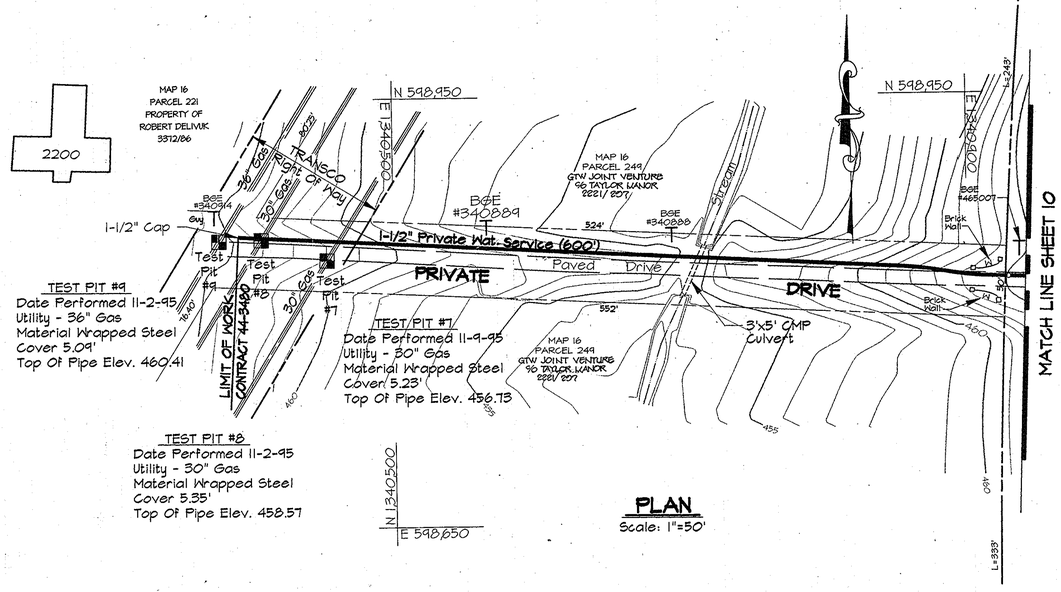
NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



PLAN
Scale: 1"=50'



PLAN
Scale: 1"=50'



TEST PIT #9
Date Performed 11-2-95
Utility - 36" Gas
Material Wrapped Steel
Cover 5.09'
Top Of Pipe Elev. 460.41

TEST PIT #7
Date Performed 11-9-95
Utility - 30" Gas
Material Wrapped Steel
Cover 5.23'
Top Of Pipe Elev. 456.73

TEST PIT #8
Date Performed 11-2-95
Utility - 30" Gas
Material Wrapped Steel
Cover 5.35'
Top Of Pipe Elev. 458.57

PLAN
Scale: 1"=50'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	4/3/96 DATE	CHIEF, BUREAU OF ENGINEERING	3/29/96 DATE
CHIEF, BUREAU OF UTILITIES	4-1-96 DATE	CHIEF, WATER AND SEWER DESIGN DIVISION	3-29-96 DATE

RK&K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 13330 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

MISCELLANEOUS PLANS
WATER SERVICES

600' SCALE MAP NO. 10 BLOCK NO. 20

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

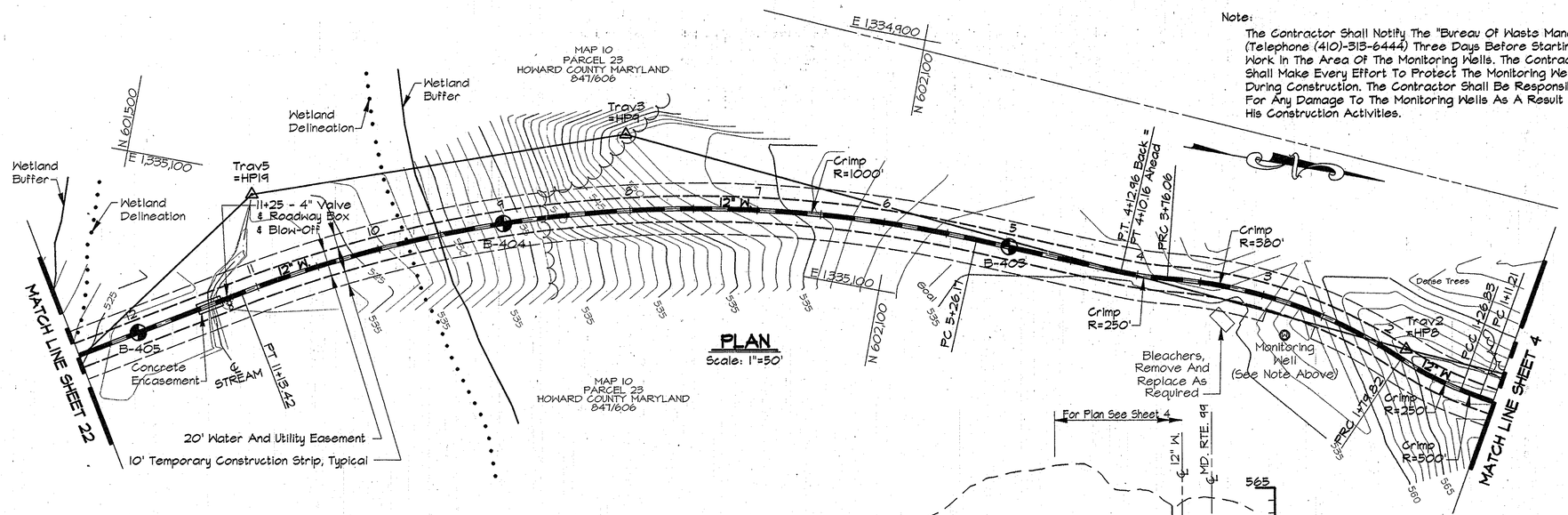
DWG. NO.
SCALE AS SHOWN
SHEET 20 OF 31

RKK2\USR2:SDSKPROJ\CM9473\DWG\CONTR_3 ALP-3-20.DWG
03/18/1996 08:38

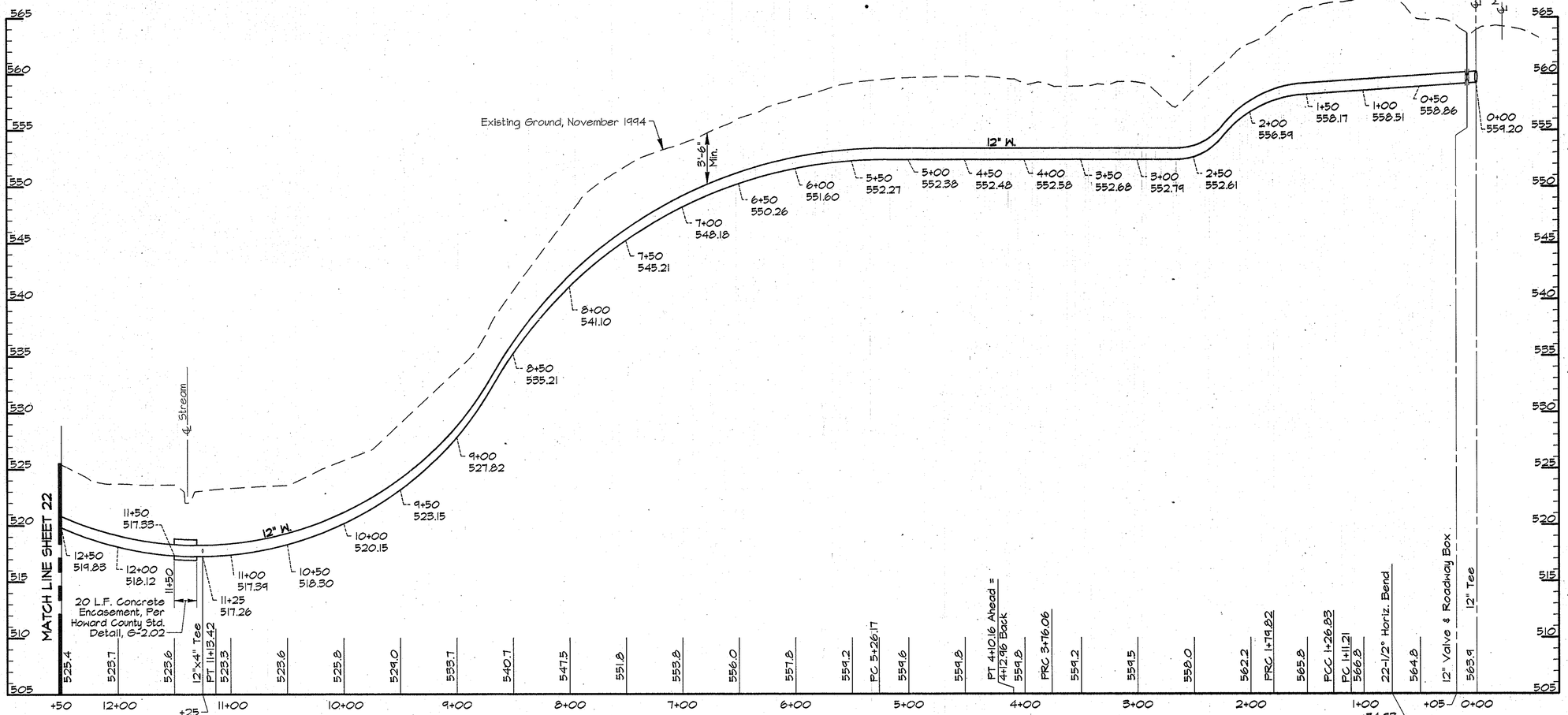
WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
Trav1 - Trav2	1+04.73	22.78' Lt.	P.C. - 1+11.21
	1+20.23	20.86' Lt.	P.C.C. - 1+26.83
Trav2 - Trav3	0+02.27	9.46' Lt.	P.R.C. - 1+79.82
	1+95.49	3.97' Lt.	P.R.C. - 3+76.06
	2+32.09	0.54' Rt.	P.T. - 4+10.16 Ahead = 4+12.96 Back
	3+47.95	6.19' Lt.	P.C. - 5+26.17
Trav5 - Trav6	0+59.50	50.37' Lt.	P.T. - 11+13.42

For Traverse Data See Sheet 27

Note:
The Contractor Shall Notify The "Bureau Of Waste Management" (Telephone (410)-313-6444) Three Days Before Starting Work In The Area Of The Monitoring Wells. The Contractor Shall Make Every Effort To Protect The Monitoring Wells During Construction. The Contractor Shall Be Responsible For Any Damage To The Monitoring Wells As A Result Of His Construction Activities.



PLAN
Scale: 1"=50'



PROFILE - ELEVATED TANK MAIN
Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HARRIS — REG. NO. 13830 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SJR
DATE:	3/96

BY	NO.	REVISION	DATE

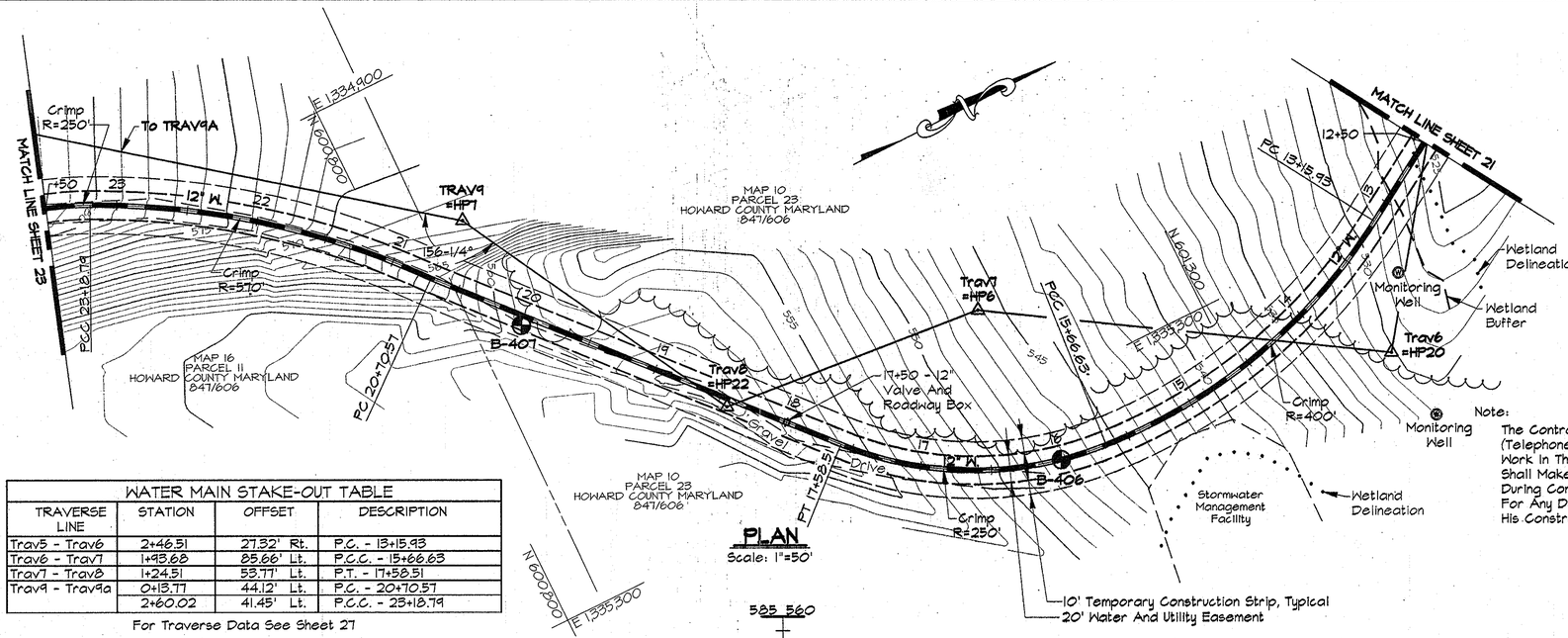
PLAN AND PROFILE
ELEVATED TANK MAIN
STA. 0+00 TO STA. 12+50

600' SCALE MAP NO. 10 BLOCK NO. 20

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 21 OF 31

RKK2\USR2:SDSKPROJ\CM9473\DWG\CONTR_3 ALP-3-21.DWG
03/18/1996 08:41

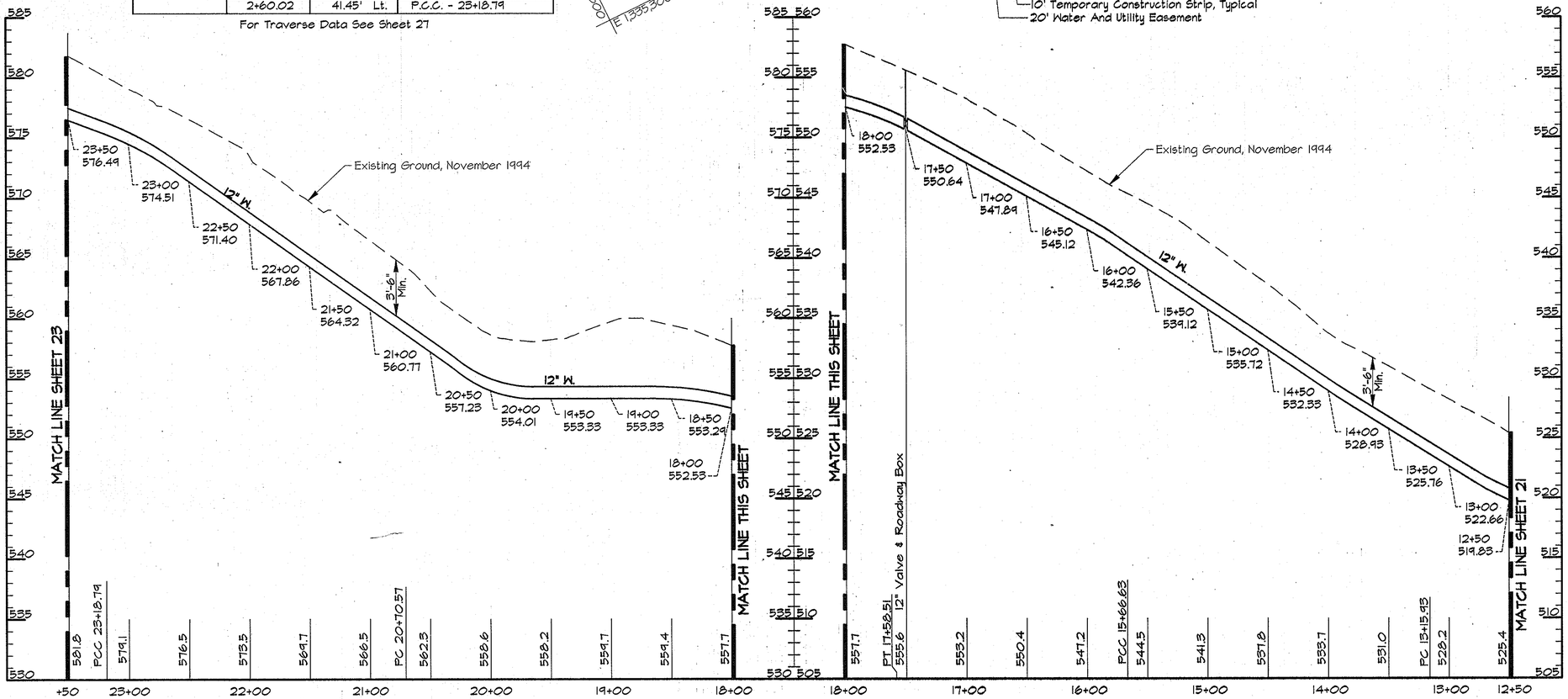


PLAN
Scale: 1"=50'

Note:
The Contractor Shall Notify The "Bureau Of Waste Management" (Telephone (410)-313-6444) Three Days Before Starting Work In The Area Of The Monitoring Wells. The Contractor Shall Make Every Effort To Protect The Monitoring Wells During Construction. The Contractor Shall Be Responsible For Any Damage To The Monitoring Wells As A Result Of His Construction Activities.

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
Trav5 - Trav6	2+46.51	27.32' Rt.	P.C. - 13+15.93
Trav6 - Trav7	1+93.68	85.66' Lt.	P.C.C. - 15+66.63
Trav7 - Trav8	1+24.51	53.77' Lt.	P.T. - 17+58.51
Trav9 - Trav9a	0+13.77	44.12' Lt.	P.C. - 20+70.57
	2+60.02	41.45' Lt.	P.C.C. - 23+18.79

For Traverse Data See Sheet 27



PROFILE - ELEVATED TANK MAIN
Scale: Horiz. 1"=50' Vert. 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HAMMAN — REG. NO. 12830 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

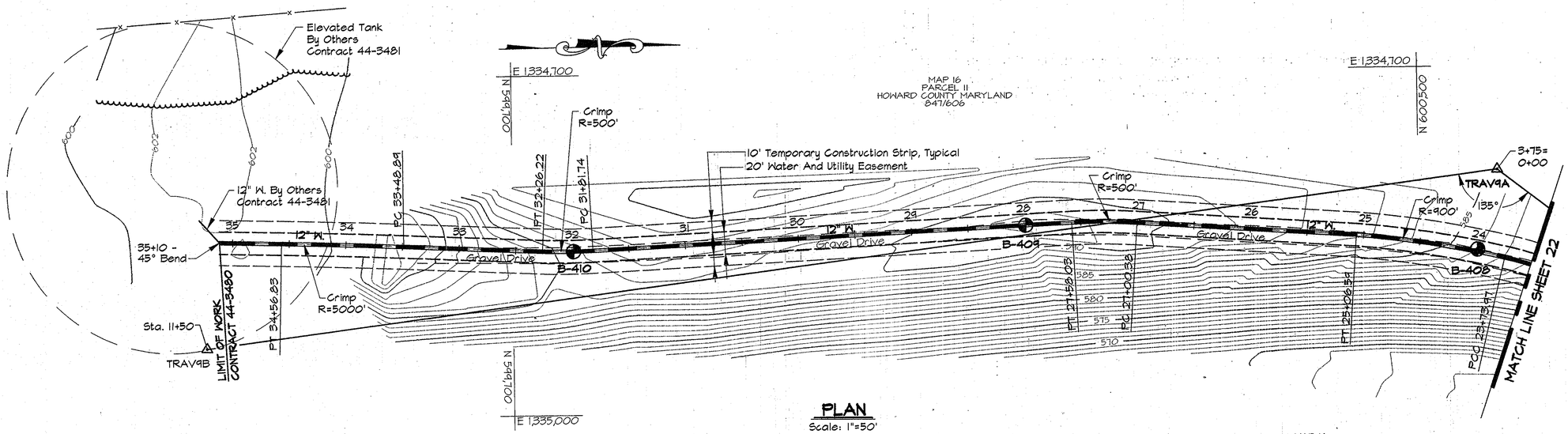
PLAN AND PROFILE - ELEVATED TANK
STA. 12+50 TO 23+50

600' SCALE MAP NO. 10.16 BLOCK NO. 20.2

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 22 OF 31

RKK2\USR2:SDSKPROJ\CM9473\DWG\CONTR_3 ALP-3-22.DWG
03/18/1996 08:42

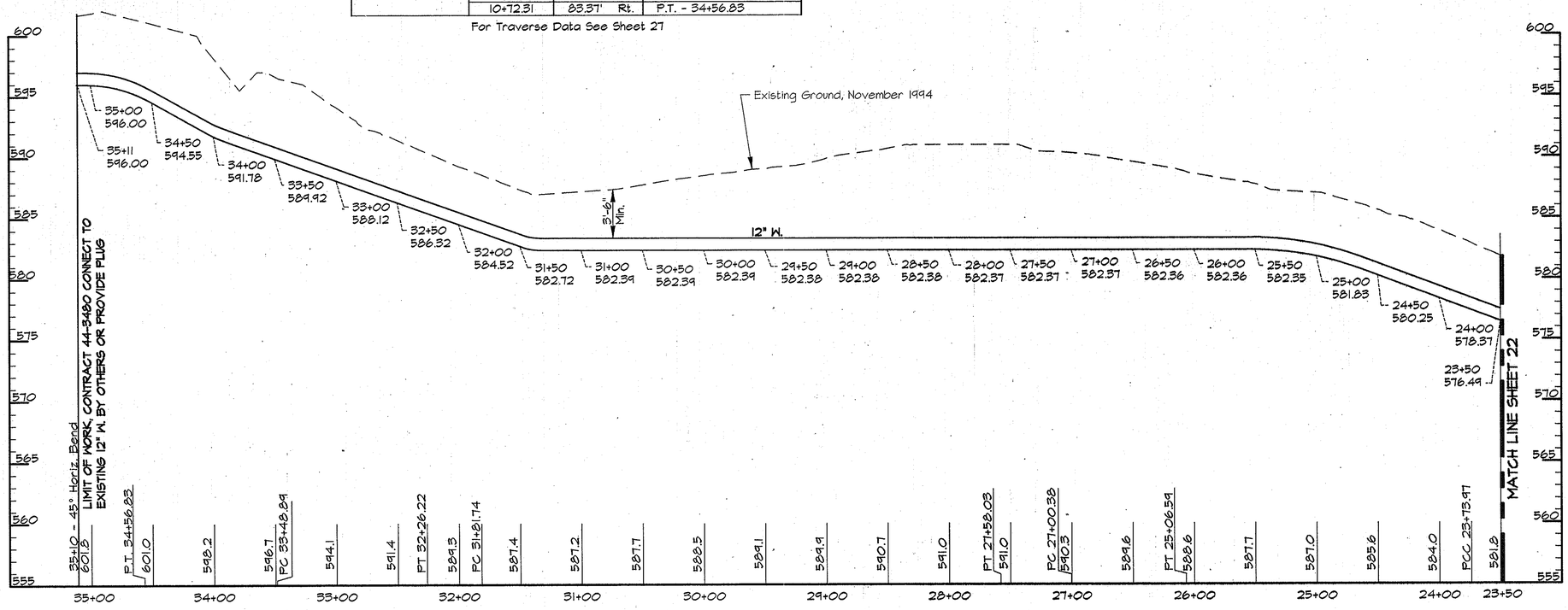


PLAN

Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
Trav9 - Trav9A	3+12.34	58.62' Lt.	P.C.C. - 23+73.97
Trav9A - Trav9B	1+31.32	40.19' Lt.	P.T. - 25+06.59
	3+21.43	2.61' Lt.	P.C. - 27+00.38
	3+78.51	5.28' Rt.	P.T. - 27+58.03
	8+00.86	39.06' Rt.	P.C. - 31+81.74
	8+44.99	44.57' Rt.	P.T. - 32+26.22
	9+65.80	65.82' Rt.	P.C. - 33+48.89
	10+72.31	83.37' Rt.	P.T. - 34+56.83

For Traverse Data See Sheet 27



PROFILE - ELEVATED TANK MAIN

Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

DWG. NO.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HARVEY — REG. NO. 13830 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE - ELEVATED TANK
STA. 23+50 TO STA 35+11.26

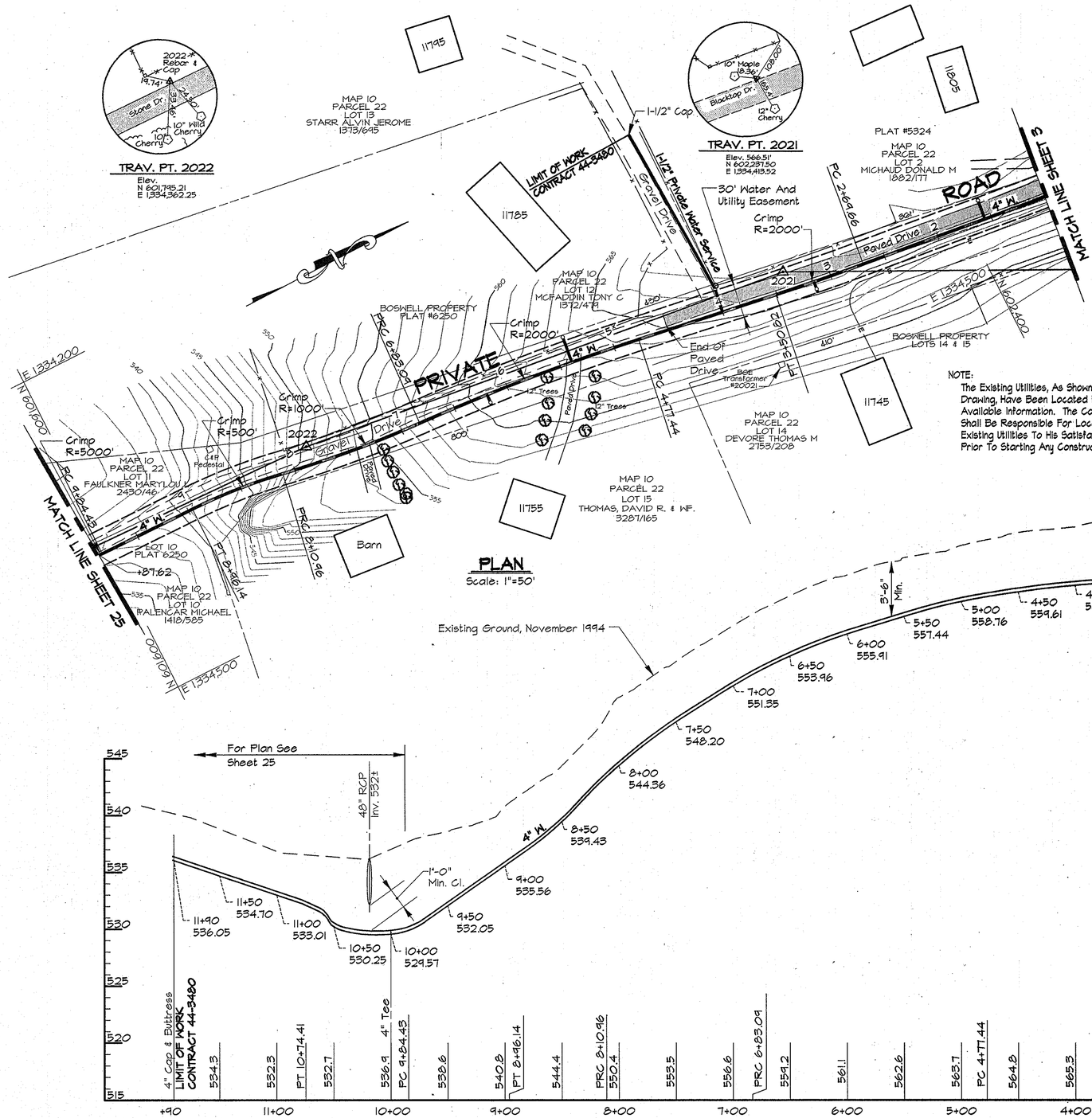
600' SCALE MAP NO. 16 BLOCK NO. 2

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 23 OF 31

RKK2\USR2:SDSKPROJ\CM9473\DWG\CONTR_3 ALP-3-23.DWG
03/18/1996 08:43



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES KAHL — No. 15980 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

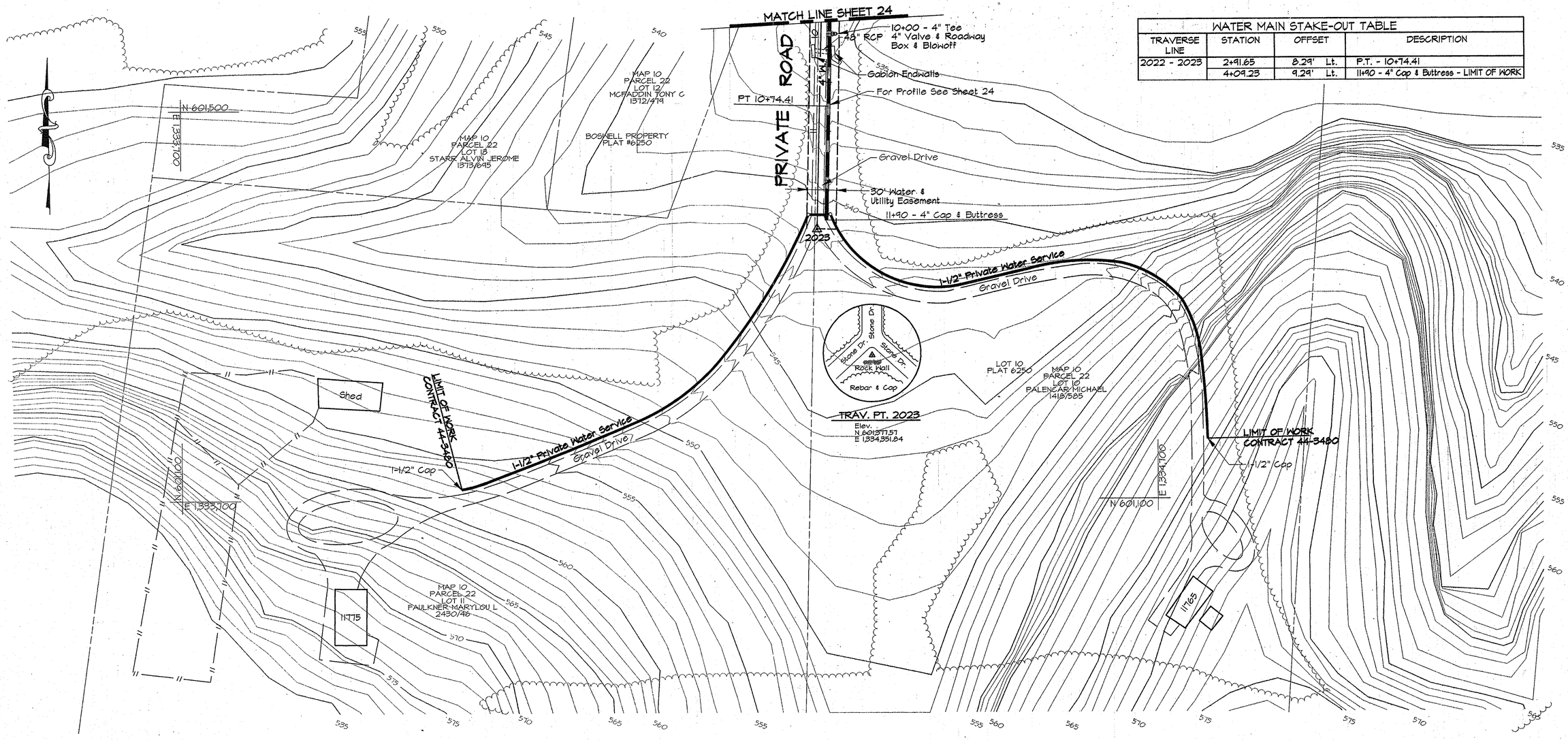
PLAN AND PROFILE – SERVICE MAIN
STA. 0+00 TO STA. 11+90
600' SCALE MAP NO. 10 BLOCK NO. 20

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 24 OF 31
DWG. NO.

RK&K\USR2\SDSKPROJ\CM9473\DWG\CONTR_3 ALP-3-24.DWG
03/18/1996 08:45

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2022 - 2023	2+91.65	8.29' Lt.	P.T. - 10+74.41
	4+09.23	9.29' Lt.	11+90 - 4" Cap & Buttress - LIMIT OF WORK



PLAN
Scale: 1"=50'

NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.

AS BUILT

DWG. NO.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	4/3/96 DATE	CHIEF, BUREAU OF ENGINEERING	3/29/96 DATE
CHIEF, BUREAU OF UTILITIES	4-1-96 DATE	CHIEF, WATER AND SEWER DESIGN DIVISION	3-29-96 DATE

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RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HARVEY — NO. 13830 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN - SERVICE MAIN
STA. 9+87.62 TO STA. 11+90

600' SCALE MAP NO. 10 BLOCK NO. 20

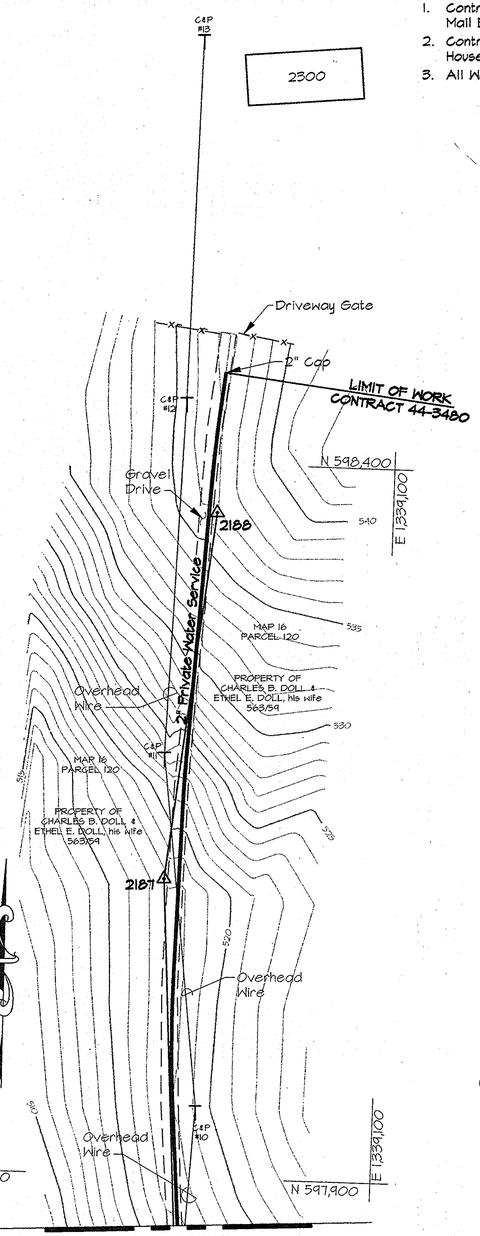
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

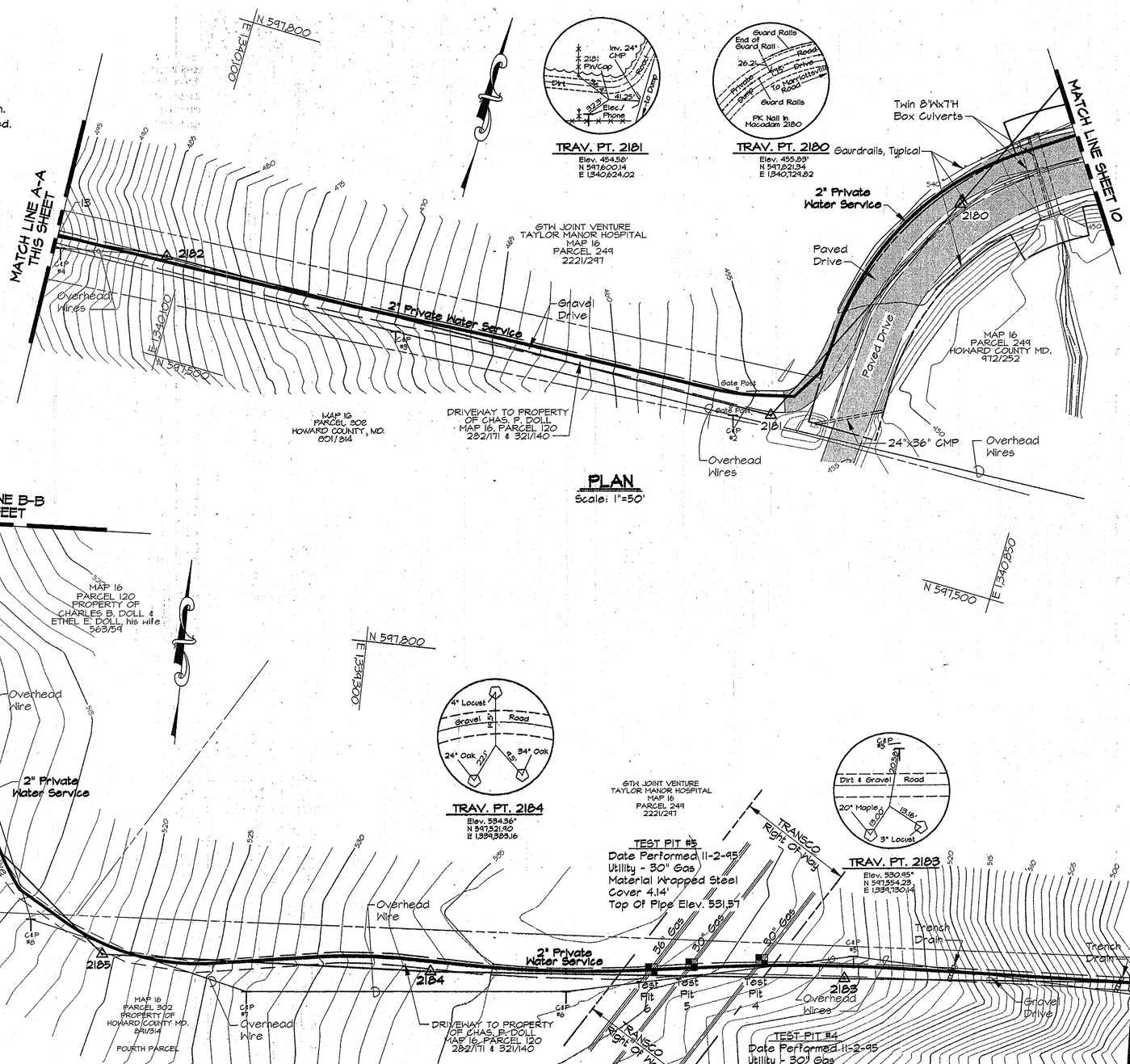
SHEET 25 OF 31

RKK2\USR2\SDSKPROJ\CM9473\DWG\CONTR_3 ALP-3-25.DWG
03/12/1996 11:36

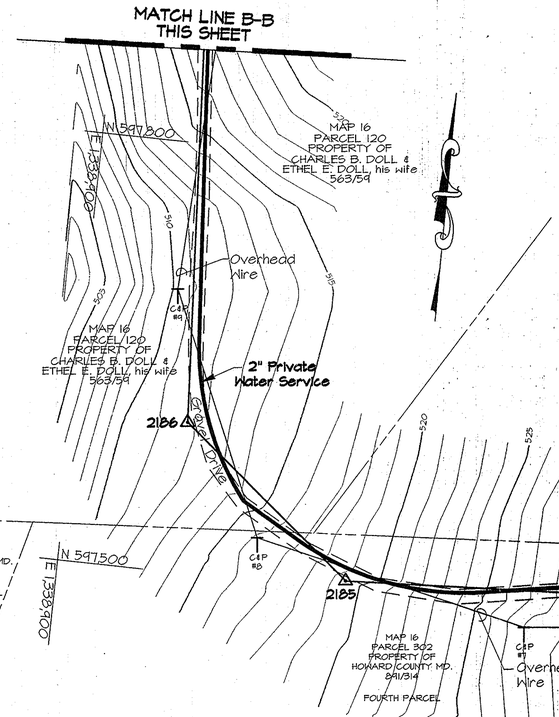
NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.



PLAN
Scale: 1"=50'



PLAN
Scale: 1"=50'



PLAN
Scale: 1"=50'

AS BUILT

DWG. NO.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — JAMES R. KAHL — No. 19029 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE – ACCESS ROAD
STA. 0+00 TO STA. 13+00

600' SCALE MAP NO. 16 BLOCK NO. 4 & 10

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 26 OF 31

RK&K\2\USR2\SDSKPROJ\CM9473\DWG\CONTR_3 26-7-8.DWG
02/21/1996 13:56

PLAN
Scale: 1"=50'

TRAVERSE DATA

TRAVERSE NO.	NORTH	EAST	ELEVATION	BEARING & DISTANCE
212	600,872.2300	1,340,995.0340	490.65	
211	601,027.7970	1,340,291.1350	486.58	S 77°32'20" E 720.68'
210	601,202.1300	1,339,643.7000	524.32	S 74°31'03" E 672.02'
209	601,410.0820	1,339,149.3450	524.31	S 67°40'48" E 534.39'
208	601,597.5140	1,338,863.3240	520.61	S 56°45'46" E 341.98'
207	601,867.0880	1,338,294.8270	509.90	S 64°38'17" E 629.35'
206	602,139.5700	1,337,633.1100	515.74	S 67°36'47" E 715.44'
205	602,491.2290	1,337,028.7000	538.15	S 59°48'30" E 699.27'
204	602,978.6890	1,336,295.3960	546.18	S 56°32'14" E 880.53'
2031	602,891.9786	1,335,803.8725	559.68	N 79°59'51" E 499.11'
203	602,758.0590	1,335,384.8220	571.82	N 78°16'38" E 439.93'
206	602,139.5700	1,337,633.1100	515.74	
2061	603,027.8200	1,337,899.3300	550.71	S 16°41'22" W 927.00'
2062	603,195.1700	1,338,305.3600	545.32	S 67°29'58" W 439.49'
2063	603,274.8566	1,338,913.5573	576.46	S 82°35'08" W 613.33'
2063	603,274.8566	1,338,913.5573	576.46	
NAIL 1	603,269.9180	1,338,867.4044	574.23	S 83°53'32" W 46.42'
NAIL 2	603,167.1144	1,339,075.3882	579.49	S 61°35'05" E 231.05'
NAIL 3	602,657.0838	1,339,148.5856	568.00	S 08°16'15" E 505.29'
212	600,872.2300	1,340,995.0340	490.65	
213	600,439.3411	1,340,978.1245	479.70	S 02°14'13" W 433.22'
214	599,964.8120	1,341,061.1890	476.44	S 09°43'40" E 491.60'
215	599,477.7200	1,341,039.3830	471.53	S 02°37'01" W 477.59'
216	598,927.5930	1,340,998.6580	466.97	S 04°18'43" W 551.66'
217	598,405.7980	1,340,989.0800	462.31	S 01°01'55" W 521.88'
218	597,748.8670	1,341,035.6162	456.74	S 04°03'07" E 658.58'
2181	597,600.1413	1,340,924.0228	456.58	S 70°07'59" W 437.64'
2182	597,585.5077	1,340,084.8834	487.12	S 88°26'43" W 539.34'
2183	597,583.8222	1,339,741.0988	530.95	S 84°44'03" W 345.24'

TRAVERSE DATA

TRAVERSE NO.	NORTH	EAST	ELEVATION	BEARING & DISTANCE
2183	597,583.8222	1,339,741.0989	530.95	
2184	597,521.9044	1,339,385.1662	534.56	S 84°56'23" W 357.36'
2185	597,506.7368	1,339,101.4688	519.52	S 86°56'31" W 284.10'
2186	597,605.1571	1,338,980.1810	511.72	N 50°56'31" W 156.20'
2187	598,108.3217	1,338,949.0359	517.63	N 03°32'31" W 504.13'
2188	598,365.7650	1,338,977.3301	536.93	N 06°16'19" E 258.99'
216	598,927.5930	1,340,998.6580	466.97	S 78°10'45" W 397.94'
2161	598,856.0724	1,340,609.1824		N 63°03'25" W 634.91'
2162	599,143.7642	1,340,043.1822		
2184	597,521.9044	1,339,385.1662	534.56	N 84°38'49" E 346.48'
2183	597,554.2285	1,339,730.1627	530.95	N 85°03'43" E 355.32'
2182	597,585.5077	1,340,084.8834	487.12	N 88°26'43" E 539.34'
2181	597,600.1413	1,340,624.0228	456.58	N 25°35'08" E 244.84'
2180	597,821.3453	1,340,729.8251	455.83	S 76°43'07" E 314.66'
218	597,748.8670	1,341,035.6162	456.74	S 04°55'45" W 1077.79'
219	596,675.0644	1,340,943.0058	483.37	S 16°08'15" W 514.24'
220	596,181.0056	1,340,800.3631	486.15	S 12°45'02" W 757.00'
221	595,442.6700	1,340,633.2876	480.46	S 12°36'16" W 605.81'
222	594,851.4623	1,340,501.0895	442.30	S 11°12'27" W 587.16'
223	594,275.4994	1,340,386.9661	443.85	S 11°08'08" W 411.50'
224	593,871.7472	1,340,307.4982	449.71	S 05°20'57" W 316.09'
2241	593,554.2280	1,340,275.9025	457.80	S 15°20'57" W 314.53'
250	593,250.6158	1,340,192.6456	464.30	S 17°11'05" W 481.82'
225	592,790.6102	1,340,050.2925	456.38	

TRAVERSE DATA

TRAVERSE NO.	NORTH	EAST	ELEVATION	BEARING & DISTANCE
199	602,639.2548	1,332,775.5880	594.38	N 82°45'13" W 417.10'
200	602,588.6434	1,333,168.3595	602.60	N 88°52'01" W 604.69'
201	602,574.6853	1,333,793.9342	604.60	S 88°42'31" W 788.19'
202	602,578.6927	1,334,582.1121	561.91	N 77°24'15" E 822.51'
203	602,758.0592	1,335,384.8216	571.82	N 76°22'52" E 936.92'
204	602,978.6691	1,336,295.3959	546.18	
224	593,871.7472	1,340,307.4982	449.71	S 13°22'55" W 1111.31'
225	592,790.6102	1,340,050.2925	456.38	S 03°32'28" E 759.32'
226	592,032.7406	1,340,097.1932	478.05	S 20°21'58" W 981.39'
227	591,112.7035	1,339,755.6544	536.23	S 32°35'10" W 263.38'
199	590,890.8707	1,339,613.8620	537.25	
2021	602,237.5036	1,334,413.5234	566.51	S 08°36'45" W 445.25'
2022	601,798.2118	1,334,362.2499		S 01°25'39" W 417.77'
2023	601,377.5727	1,334,351.8417		S 41°04'13" W 221.68'
2024	601,210.4487	1,334,206.2028		S 61°29'35" W 702.94'
2025	600,874.9830	1,333,588.4905		
210	601,207.1300	1,339,643.7000	524.32	S 02°49'50" E 115.04'
2101	601,322.0310	1,339,638.0140	527.46	S 38°57'34" W 347.58'
2102	601,592.3090	1,339,419.4630	543.67	
2261	591,972.5020	1,340,453.7557	514.76	N 78°01'44" W 409.46'
2262	591,887.5733	1,340,836.2887	515.90	N 78°21'54" W 301.33'
2263	591,826.8015	1,341,131.4315	505.32	N 89°32'58" E 166.60'
2264	591,827.1439	1,341,297.9272	491.24	S 45°33'16" W 175.44'
2265	591,949.8897	1,341,423.1755	497.73	
1	602,884.5329	1,335,079.5294	563.76	S 03°06'27" W 175.44'
2	602,815.3067	1,335,070.3424	564.79	S 04°55'47" W 635.22'
3	601,882.4335	1,335,015.7560	553.01	S 25°33'22" W 243.37'
4	601,662.8706	1,334,910.7660	529.55	S 73°31'38" E 213.61'
5	601,602.2983	1,335,115.6128	524.49	S 84°04'03" E 335.61'
6	601,465.3511	1,335,387.3607	530.19	S 32°06'21" W 293.26'
7	601,156.9377	1,335,231.4958	546.17	S 05°11'40" W 185.99'
8	600,967.7230	1,335,214.2942	559.41	S 46°46'50" W 205.71'
9	600,826.8511	1,335,064.3825	562.43	
9A	0	0	0	0 0
9B	0	0	0	0 0
2063	603,274.8566	1,338,913.5573	576.46	S 83°53'32" W 46.42'
2063A	0	0	0	0 0
2063B	0	0	0	0 0
TRAV1=HP5	602,864.533	1,335,079.529	563.76	0 0
TRAV2=HP8	602,815.302	1,335,070.342	564.79	0 0
TRAV3=HP9	601,882.4335	1,335,015.756	553.01	0 0
TRAV4=HP18	602,662.871	1,334,910.766	529.55	0 0
TRAV5=HP19	601,602.298	1,335,115.613	524.49	0 0
TRAV6=HP20	601,465.351	1,335,387.361	530.19	0 0
TRAV7=HP8	601,170.167	1,335,213.597	546.17	0 0
TRAV8=HP22	600,983.659	1,335,177.367	559.40	0 0
TRAV9=HP7	600,858.654	1,335,013.989	562.43	0 0

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4-1-96
CHIEF, BUREAU OF UTILITIES — DATE
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

DES: DWR
DRN: DCI
CHK: SRK
DATE: 3/96

BY	NO.	REVISION	DATE

PLAN – PRIVATE ROAD
AND TRAVERSE TABLES

600' SCALE MAP NO. ____ B ____ BLOCK NO. ____ B

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

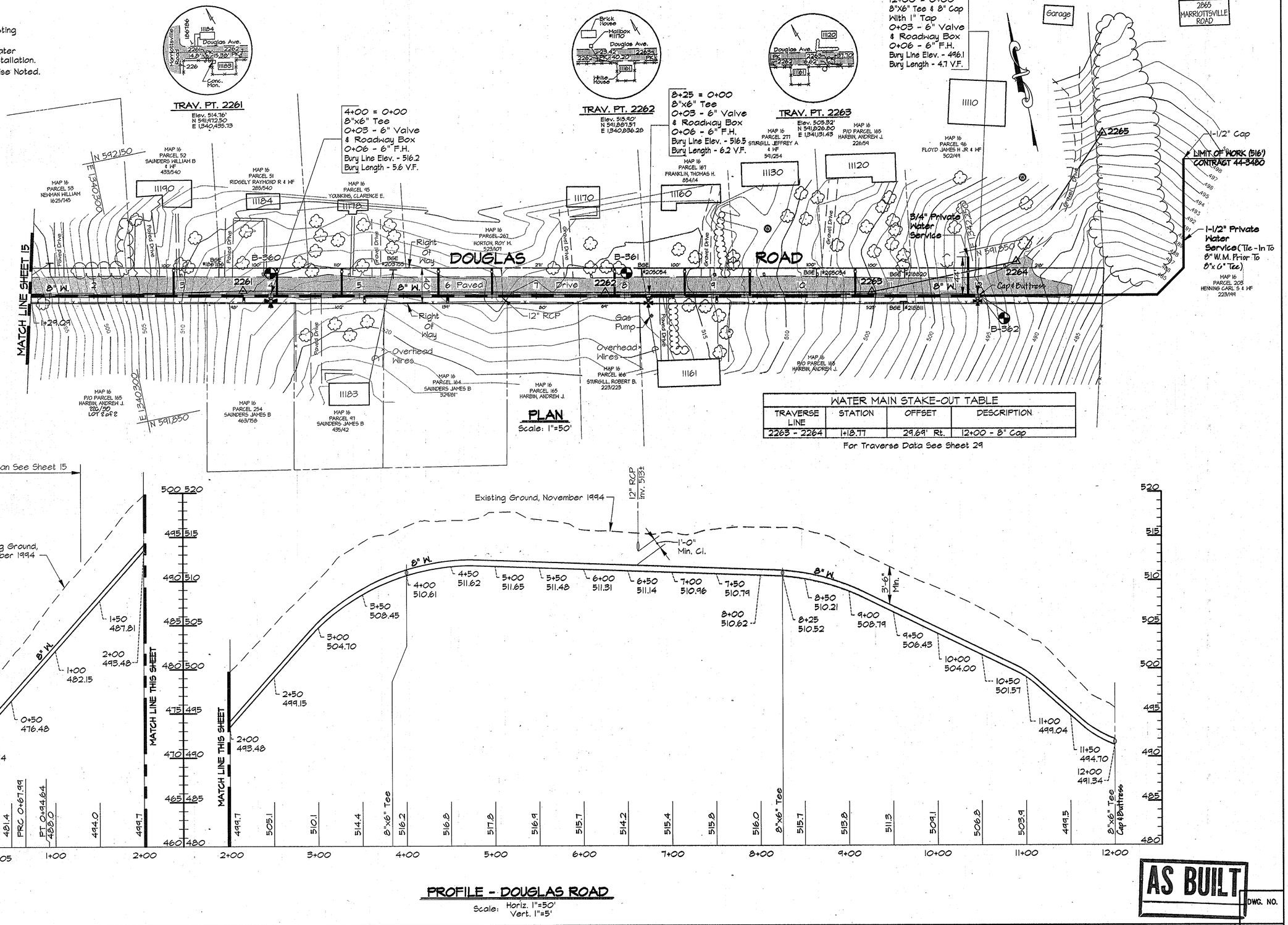
SCALE AS SHOWN

SHEET 27 OF 31

DWG. NO.

BRK/S:\SSD\2003\2003-0082\CAD\DWG\2003-0082_PLAN_3.dwg 5/25/2005 10:22:30 AM

NOTES:
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
3. All Water Services Are 3/4" Unless Otherwise Noted.



PLAN
Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2263 - 2264	1+18.77	29.69' Rt.	12+00 - 8" Cap

For Traverse Data See Sheet 29

For Plan See Sheet 15

PROFILE - DOUGLAS ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

DWG. NO.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/22/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — JAMES H. SAUNDERS — No. 15900 — PROFESSIONAL ENGINEER

DES:	DWR
DRN:	DCJ
CHK:	SRK
DATE:	3/96

BY	NO.	REVISION	DATE

PLAN AND PROFILE – DOUGLAS ROAD
STA. 0+00 TO STA. 12+00

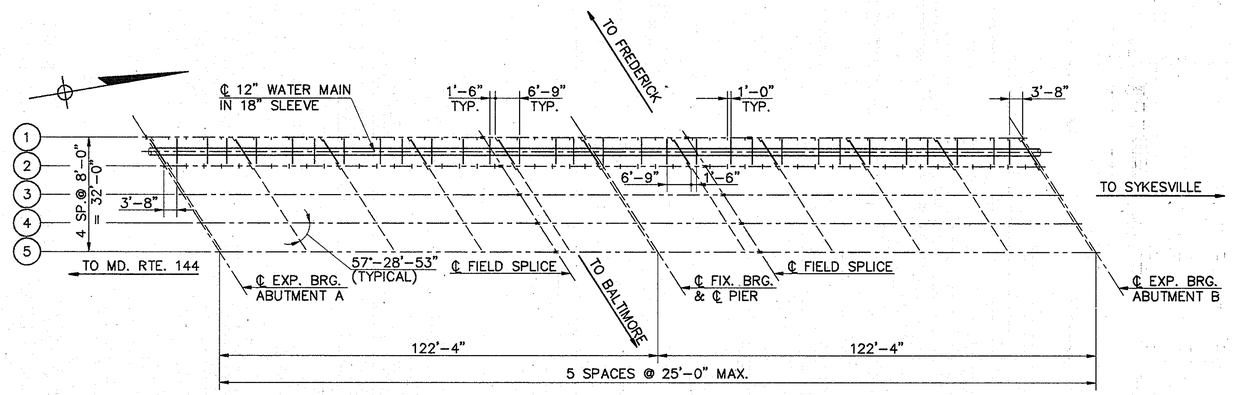
600' SCALE MAP NO. 16 BLOCK NO. 16

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

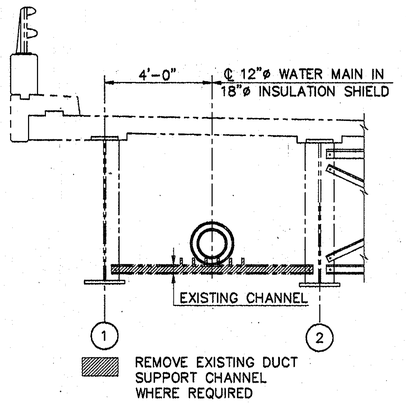
SCALE AS SHOWN

SHEET 28 OF 31

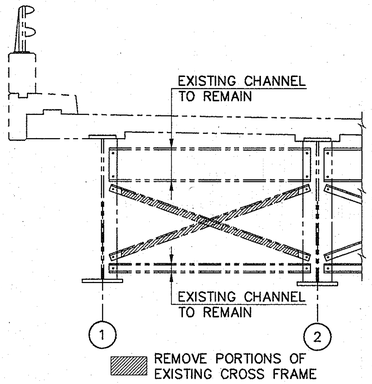
RK&2\USR2:\DSDKPROJ\CM9473\DWG\CONTR_3 ALP-3-30.DWG
05/18/1996 09:28



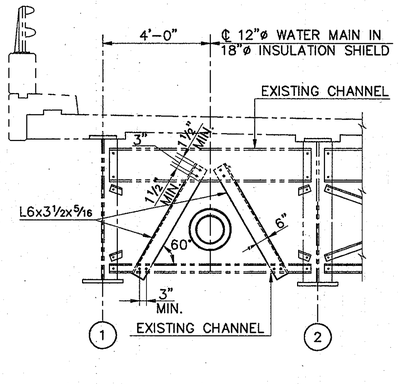
FRAMING PLAN
SCALE: 1"=20'



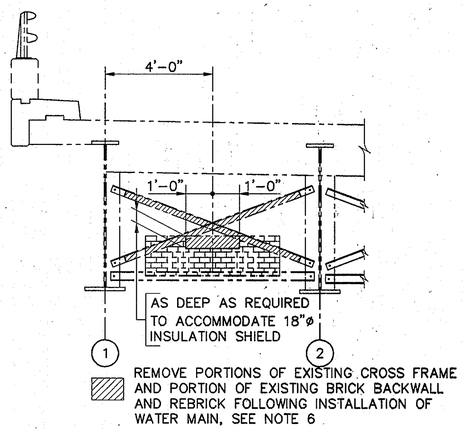
EXISTING SECTION AT INTERMEDIATE CROSS FRAME
SCALE: ⅜"=1'-0"



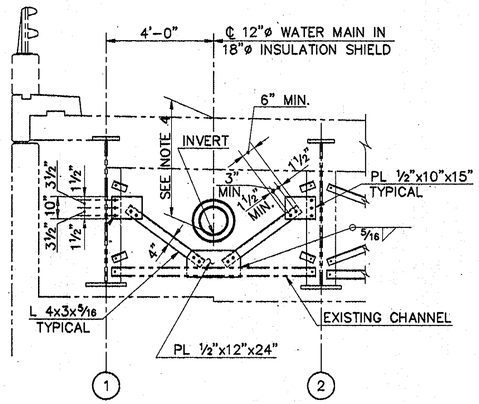
EXISTING SECTION AT PIER
SCALE: ⅜"=1'-0"



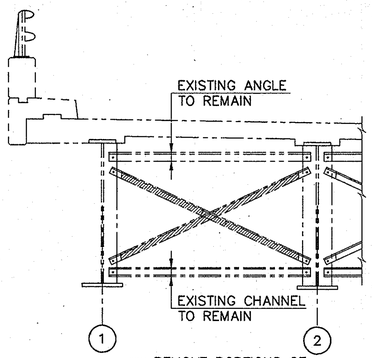
PROPOSED SECTION AT PIER
SCALE: ⅜"=1'-0"



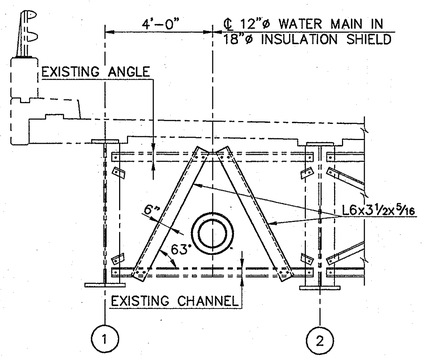
EXISTING SECTION AT ABUTMENTS
SCALE: ⅜"=1'-0"



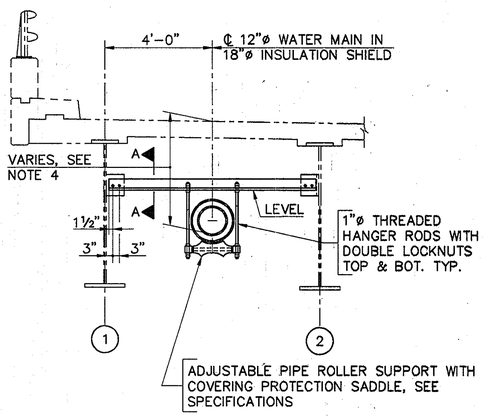
PROPOSED SECTION AT ABUTMENTS
SCALE: ⅜"=1'-0"



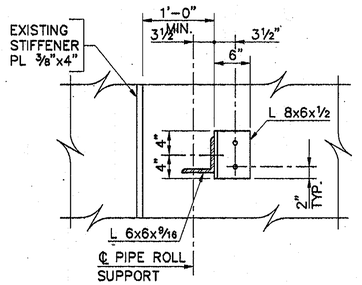
EXISTING SECTION AT INTERMEDIATE CROSS FRAME
SCALE: ⅜"=1'-0"



PROPOSED SECTION AT INTERMEDIATE CROSS FRAME
SCALE: ⅜"=1'-0"



TYPICAL SECTION AT INTERMEDIATE PIPE SUPPORT
SCALE: ⅜"=1'-0"



SECTION A–A
SCALE: 1"=1'-0"

NOTES:
1. ALL CONNECTION BOLTS SHALL BE A-325N HIGH STRENGTH.
2. FIELD DRILLING IN EXISTING CROSS FRAME MEMBERS SHALL BE CARRIED OUT AS REQUIRED. AFFECTED AREA SHALL BE CLEANED WITH METAL WIRE BRUSH, ZINC COATED AND PAINTED TO MATCH EXISTING BRIDGE COLOR BEFORE INSTALLATION.
3. ALL BOLT HOLES IN EXISTING STEEL SHALL BE DRILLED NOT BURNED.
4. SEE TYPICAL SECTION THRU ABUTMENT, SHEET 30 OF 31.
5. NUMBER OF BOLTS REQUIRED PER CONNECTION ARE SHOWN IN THE CROSS FRAME DETAILS.
6. PLACE ⅜" LAYER OF SPONGE RUBBER MATERIAL BETWEEN 18" INSULATION SHIELD AND NEW BRICK.
7. APPROXIMATE WEIGHT OF DUCTILE IRON WATER MAIN AND INSULATION SYSTEM INCLUDING 20 GAGE STEEL SHIELD= 130 PLF

AS BUILT

DWG. NO.

PENSETUP: SUPPORTWORM
12:13
ALP-3-31
03/12/1996

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 4/3/96
CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96
CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

RK&K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND — ROBERT JAMES HASSEN — NO. 19829 — PROFESSIONAL ENGINEER

DES: N.J.C.					
DRN: J.C.E.					
CHK: C.M.E.					
DATE: 3/96	BY	NO.	REVISION	DATE	

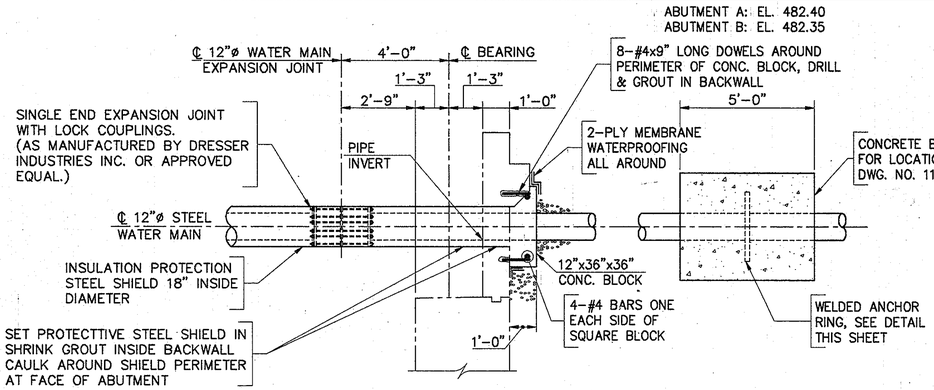
MARRIOTTSVILLE ROAD OVER I-70
SECTIONS AND DETAILS
FOR INSTALLATION OF 12" WATER MAIN

600' SCALE MAP NO. ____ BLOCK NO. ____

ALPHA RIDGE WATER SUPPLY
CAPITOL PROJECT W-8203
CONTRACT NO. 24-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

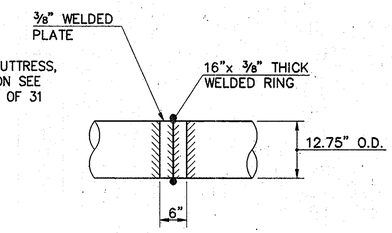
SCALE AS SHOWN

SHEET 29 OF 31



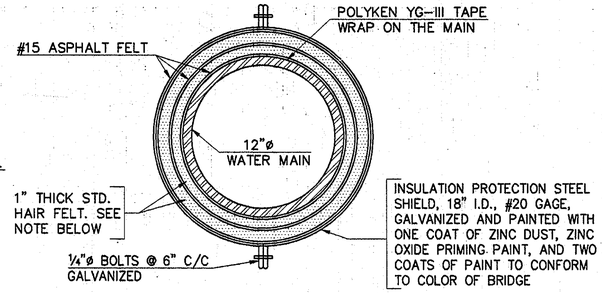
TYPICAL SECTION THRU ABUTMENT AT 12" WATER MAIN

SCALE: 3/8"=1'-0"



DETAIL – WELDED ANCHOR RING

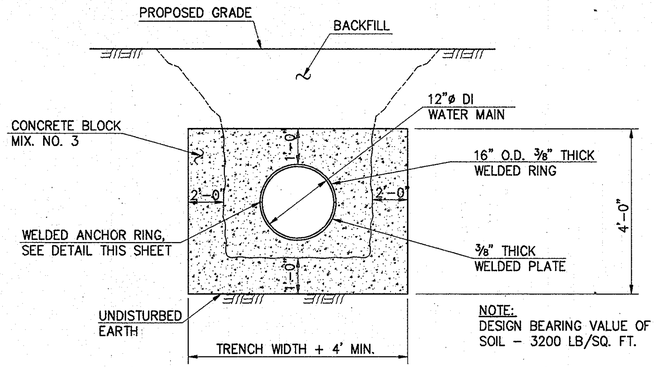
SCALE: 3/4"=1'-0"



NOTE:
INSULATION COVERING TO BE WRAPPED SPIRALLY AND STAGGERED. EACH LAYER SHALL BE FASTENED WITH WIRE.

INSULATION SHIELD DETAIL

N.T.S.



NOTE:
DESIGN BEARING VALUE OF SOIL – 3200 LB/SQ. FT.

TYPICAL SECTION THRU CONCRETE BUTTRESS

NOT TO SCALE

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	4/3/96 DATE	CHIEF, BUREAU OF ENGINEERING	3/29/96 DATE
CHIEF, BUREAU OF UTILITIES	4-1-96 DATE	CHIEF, WATER AND SEWER DESIGN DIVISION	3-29-96 DATE

RK&K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

STATE OF MARYLAND ROBERT JAMES HAMMOND NO. 13830 PROFESSIONAL ENGINEER

DES:	NJC
DRN:	AGS
CHK:	SAM
DATE:	3/96

BY	NO.	REVISION	DATE

MARRIOTTSVILLE ROAD OVER I-70
SECTIONS AND DETAILS
FOR INSTALLATION OF 12" WATER MAIN

600' SCALE MAP NO. _____ BLOCK NO. _____

ALPHA RIDGE WATER SUPPLY
CAPITOL PROJECT W-8203
CONTRACT NO. 24-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO. ___

SCALE AS SHOWN

SHEET 30 OF 31

ALP-3-32
03/12/1996 12:15
PENSETUP: NORM

I. Description
The work shall consist of installing flow diversions for the purpose of erosion control when construction activities take place within the stream channel such as bank stabilization or bridge abutment construction.

II. Material Specifications
1. Sandbags: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
2. Stone: Stone shall be washed and have a minimum diameter of 6 inches.
3. Sheeting: Sheeting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

III. Construction Requirements
1. All erosion and sediment control devices shall be installed as the first order of work.
2. The diversion structure shall be installed from upstream to downstream.
3. The height of the diversion structure shall be one half the distance from stream bed to stream bank plus one foot, as indicated on the cross-section view.
4. All excavated materials shall be disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WRA.
5. All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
6. Sheeting shall be overlapped such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
7. Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

WATER RESOURCES ADMINISTRATION	Sandbag/Stone Diversion	Approved On 1/24/86 Chief, Waterway Permits	WPD 2.3

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (880-3450)
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISION OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH SEC. 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURE, DIKES, PERIMETER SLOPE AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MUCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE		ACRES
AREA DISTURBED	2.0	ACRES
AREA TO BE ROOFED OR PAVED	0.0	ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.0	ACRES
TOTAL CUT	16,300	CU. YDS.
TOTAL FILL	16,300	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION		

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. ALL TRENCH MATERIAL SHOULD BE PLACED ON THE HIGHER SIDE OF THE TRENCH, ABOVE THE TOP-OF-CURB.

SILT FENCE

Construction Specifications

1. A detail of the silt fence shall be shown on the plan, and contain the following minimum requirements:
   a. The type, size, and spacing of fence posts.
   b. The type of filter cloth used.
   c. The method of fastening the filter cloth to the fencing support.
   d. Accumulated sediment must be removed when it reaches 50% of the height of the fabric.
2. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
3. Design computations are not required.
4. All silt fences shall be placed as close to the contour as possible.
5. The area below the fence must be undisturbed or stabilized.
6. Silt Fence Fabric: The fabric shall meet the Filter fabric specifications listed in Table 27.
7. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts, 2"x 2", with a minimum cross sectional area of 3.0 square inches will be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Construction Specifications

A. Materials

1. Wooden frame is to be constructed of 2" x 4" construction grade lumber.
2. Wire mesh size must be of sufficient strength to support filter fabric and stone for curb inlets with water fully impounded against it.
3. Filter cloth must be of a type approved for this purpose; resistant to ultraviolet light with an equivalent opening size 40 - 80 sieve, to allow sufficient passage of water and removal of sediment.
4. Washed stone 3/4" to 1 1/2" in size is to be used.

B. Procedure

Swale, Ditchline or Yard Inlet Protection

1. Excavate completely around the inlet to a depth of 18 inches below the notch elevation.
2. Drive the 2" x 4" posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble top portion of the 2"x 4" frame using the overlap joint shown in the figure. The top of the frame (weir) must be 6" below the edge of the roadway Adjacent to the inlet.
3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Stretch the filter cloth tightly over the wire mesh, the cloth must extend from the top of the frame to 18" below the inlet notch elevation. Fasten the cloth firmly to the frame. The ends of the filter cloth must meet at a post, be overlapped and folded, then fastened down.
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation ends and top elevation on the sides.
6. If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of the frame (weir).
7. The structure must be inspected periodically and after each rain and the filter fabric replaced when it becomes clogged.

Curb Inlet Protection

1. Attach a continuous piece of wire mesh (30" minimum width by throat length, plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of approved filter cloth (40 - 80 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 6" apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and the filter cloth to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter cloth in such a manner to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

STRAW BALE DIKE

Construction Specifications

1. Bales shall be placed at the toe of a slope, on the contour, and in a row with the ends of each bale tightly abutting the adjacent bales.
2. Each bale shall be entrenched in the soil a minimum of 4" and placed so the bindings are horizontal.
3. Bales shall be securely anchored in place by either two stakes or re-bars driven through the bale 12" to 18" into the ground. The first stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the top of the bale.
4. Straw bale dikes shall be inspected frequently and after each rain event and maintenance performed as necessary.
5. All bales shall be removed when the site has been stabilized. The trench where the bales were located shall be graded flush and stabilized.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 25 - 2A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

NOTE: DOES NOT PRECLUDE CONCURRENT CONSTRUCTION OF ITEMS. PRIOR APPROVAL OF ENGINEER IS REQUIRED.

1. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
2. CONTRACTOR SHALL CONTACT HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS (313-1810) PRIOR TO STARTING WORK.
3. CONTRACTOR SHALL NOTIFY THE RESIDENTS IN THE CONSTRUCTION AREA AT LEAST 10 DAYS PRIOR TO START OF CONSTRUCTION.
4. INSTALL ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOLUME IV.
5. NO TRENCHES ARE TO BE LEFT OPEN OVER NIGHT. JACKING PITS MUST BE COVERED WITH STEEL PLATES AND BARRICADED. TRENCHES LEFT OPEN DURING PERIODS WHEN THE CONTRACTOR'S FORCES ARE NOT PRESENT SHALL BE SO PROTECTED OR ENCLOSED AND MARKED AS TO CAUSE NO DANGER TO THE PUBLIC OR OTHERS. SILT FENCE IS TO BE PLACED DOWNSTREAM OF THE AREA TO BE WORKED, ON A DAILY BASIS.
6. WHEN WORKING AT STREAM CROSSINGS THE CONTRACTOR SHALL DIVERT STREAMS USING SANDBAG DIVERSION.
7. DURING CONSTRUCTION, AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON SEDIMENT AND EROSION CONTROL STRUCTURES.
8. UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OF DISK INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ. FT.)

ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS./1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 60 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE ANNUAL RYE (3.2 LBS./1000 SQ. FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ. FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 58 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

CASING PIPE DETAIL

Not To Scale

AS BUILT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	RUMMEL, KLEPPER & KAHL CONSULTING ENGINEERS 81 MOSHER ST. BALTIMORE, MARYLAND 21217
DIRECTOR OF PUBLIC WORKS — DATE 4/3/96	CHIEF, BUREAU OF ENGINEERING — DATE 3/29/96
CHIEF, BUREAU OF UTILITIES — DATE 4-1-96	CHIEF, WATER AND SEWER DESIGN DIVISION — DATE 3-29-96

STATE OF MARYLAND — ROBERT JAMES HARTT — No. 13830 — PROFESSIONAL ENGINEER

DES: S.R.K.				
DRN: A.G.A.				
CHK: S.R.K.				
DATE: 3/96	BY	NO.	REVISION	DATE

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

600' SCALE MAP NO. ______ BLOCK NO. ______

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3480
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE AS SHOWN