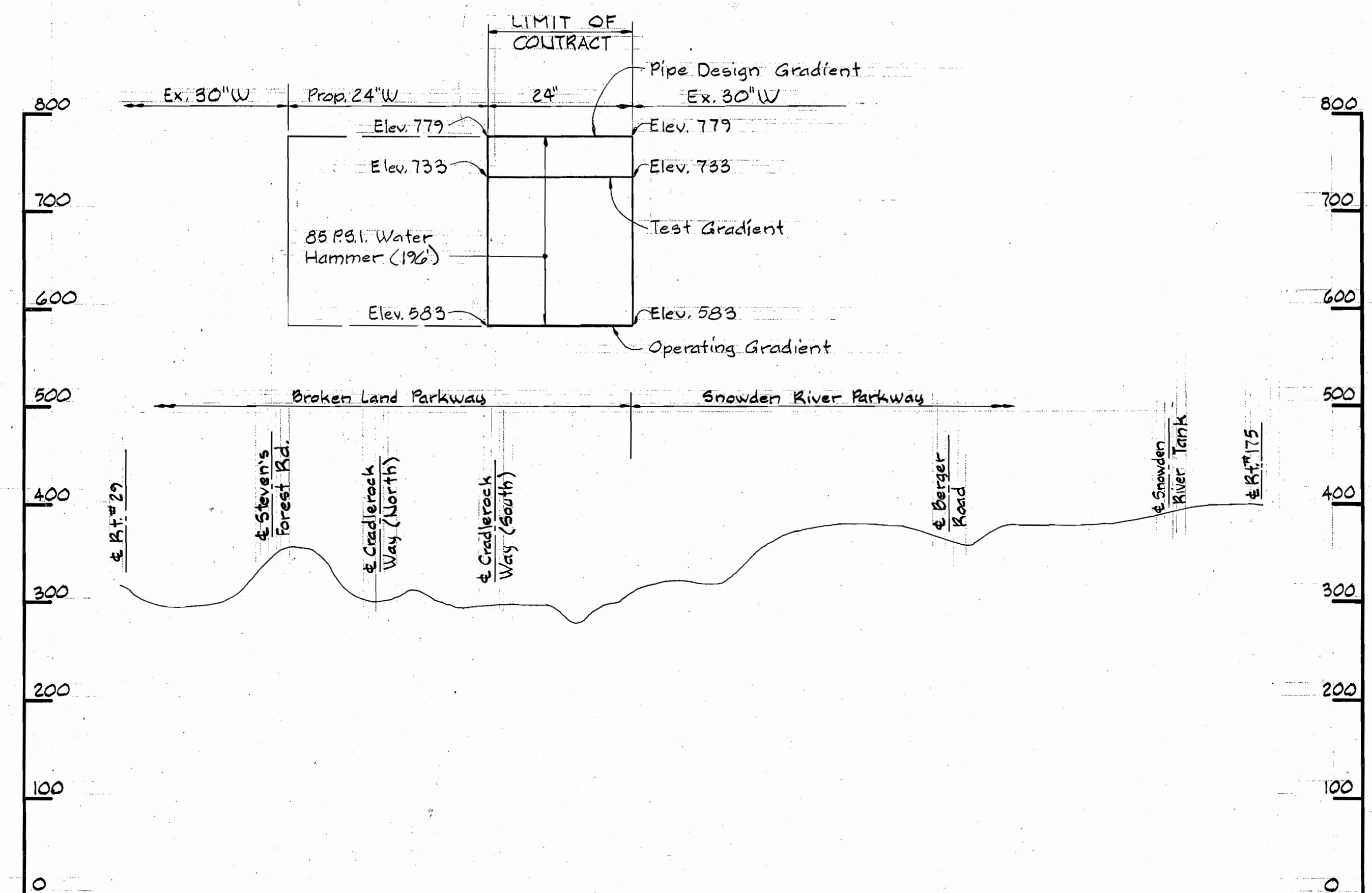


WATER CODE:
Water: E-13

Scale 1"=600'



HYDRAULIC GRADIENT PROFILE

Scale: Horizontal: 1"=2000'
Vertical: 1"=100'

CONTRACT NO. 617-D-W

BROKEN LAND PARKWAY WATER MAIN

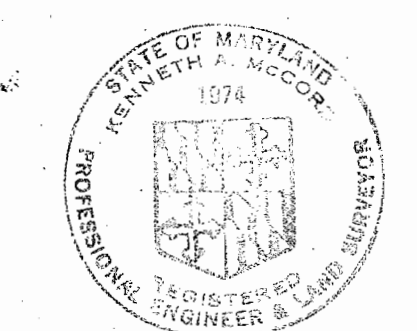
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

QUANTITIES			
ITEM	BID	AS-BUILT	MATERIAL/SUPPLIER
30"W	5 LF		
24"W	2955 LF	2965	ATLANTIC STATES
8"W	650 LF	565	"
20"V	1	1	DRESSER MH TYPE
8"V	3	3	"
Fire Hydrants	4	4	"
Air Release	2	2	VAL-MATIC EOE-C

* see notes

NOTE: MEASUREMENT INCLUDES 20" HOR. VALVE AND 20" DIP THROUGH VALVE VAULT STA. 29+50.0.



Kenneth A. Malard

Broken Land Parkway Water Main
Contract No. 617-D-W

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 15, STANDARD SPECIFICATIONS.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

James M. Nelson 2-19-81
SIGNATURE DATE
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.

APPROVED: *Wm. J. Preece* 2-19-81
HOWARD S.C.D. DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael F. Neumann 3-20-81
DIRECTOR OF PUBLIC WORKS - DATE

Robert J. Ryan 3/20/81
CHIEF - BUREAU OF ENGINEERING - DATE

William J. Preece 3-19-81
CHIEF - BUREAU OF UTILITIES - DATE

William J. Preece 3-19-81
CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL ST.
BALTIMORE, MARYLAND

CONTRACT NO. 617-D-W

LOCATION PLAN AND
HYDRAULIC GRADIENT

Rev. 5-8-81 - Health Dept.
BROKEN LAND PARKWAY WATER MAIN
ELECTION DISTRICT
GUILFORD NO. 6

DRAWING NO. 1 OF 4
SCALE AS SHOWN

W.O. 7682-2

AS BUILT 7/81 March 18, 1981

WS 617 W/1

VILLAGE OF OWEN BROWN SECTION 2 AREA 2

W.R.#A.B.M.#M-3 Elev. 342.88 R.R. Spike in 10" Twin Oak 100' 12" of Sta. 3+30, P.I.#K-001-80 LOT A-1

W.R.#A.B.M.#L-201 Elev. 346.90 Plate Bolt 2" marked S.W. cor. G&E Tower # 29, 400' North, Snowden River Pkwy.

CURVE #3	CURVE #2	CURVE #1
$\Delta = 05^{\circ}46'20"$	$\Delta = 35^{\circ}38'47"$	$\Delta = 13^{\circ}38'22"$
$R = 549.00'$	$R = 549.00'$	$R = 137.00'$
$T = 27.60'$	$T = 176.91'$	$T = 16.38'$
$L = 53.31'$	$L = 341.96'$	$L = 32.61'$
$D = 0^{\circ}26'14"$	$D = 10^{\circ}26'14"$	$D = 41^{\circ}49'16"$

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

BALTIMORE GAS AND ELECTRIC COMPANY - UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-5681
 UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5800

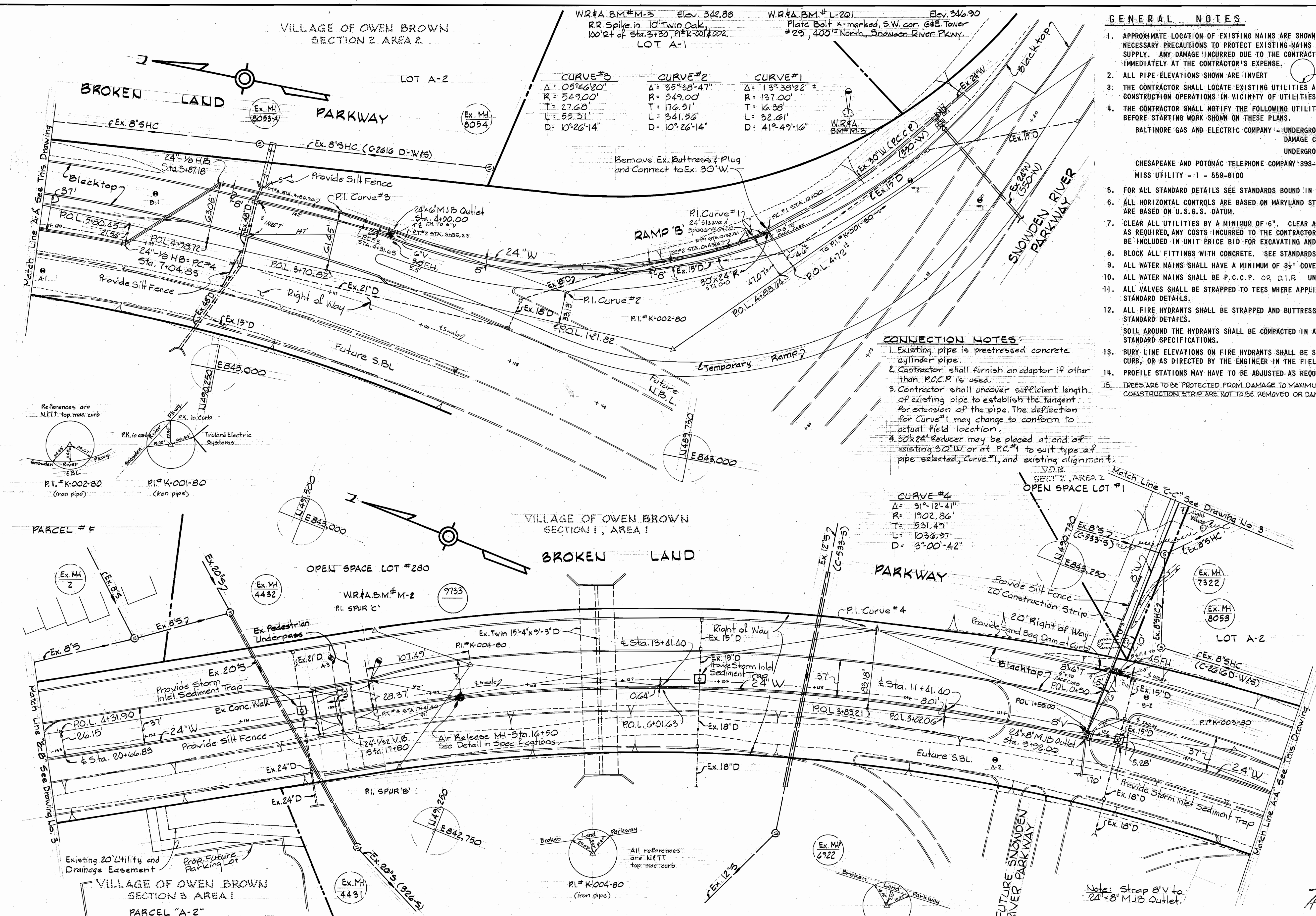
CHESAPEAKE AND POTOMAC TELEPHONE COMPANY 393-3648.
 MISS UTILITY - 1 - 559-0100

- FOR ALL STANDARD DETAILS SEE STANDARDS BOUND IN SPECIFICATIONS.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE DATUM AND ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED, ANY COSTS INCURRED TO THE CONTRACTOR FOR TUNNELING OR BRACING AT POLES SHALL BE INCLUDED IN UNIT PRICE BID FOR EXCAVATING AND BACKFILL.
- BLOCK ALL FITTINGS WITH CONCRETE. SEE STANDARDS BOUND IN SPECIFICATIONS.
- ALL WATER MAINS SHALL HAVE A MINIMUM OF 3" COVER, UNLESS OTHERWISE NOTED.
- ALL WATER MAINS SHALL BE P.C.C.P. OR D.I.R. UNLESS OTHERWISE NOTED.
- ALL VALVES SHALL BE STRAPPED TO TEES WHERE APPLICABLE IN ACCORDANCE WITH THE STANDARD DETAILS.
- ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED IN ACCORDANCE WITH THE STANDARD DETAILS. SOIL AROUND THE HYDRANTS SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 5-15 OF THE STANDARD SPECIFICATIONS.
- BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE SAME AS EDGE OF PAVING, CURB, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
- PROFILE STATIONS MAY HAVE TO BE ADJUSTED AS REQUIRED TO CONFORM TO PLAN DIMENSIONS.
- TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.

CONNECTION NOTES

- Existing pipe is prestressed concrete cylinder pipe.
- Contractor shall furnish an adaptor if other than P.C.C.P. is used.
- Contractor shall uncover sufficient length of existing pipe to establish the tangent for extension of the pipe. The deflection for Curve #1 may change to conform to actual field location.
- 30"x24" Reducer may be placed at end of existing 30"W or at P.C. #1 to suit type of pipe selected, Curve #1, and existing alignment.

CURVE #4
$\Delta = 51^{\circ}12'41"$
$R = 192.86'$
$T = 531.49'$
$L = 1036.57'$
$D = 3^{\circ}00'42"$



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works - DATE 3-20-81
 Chief - Bureau of Engineering - DATE
 Chief - Bureau of Utilities - DATE
 Chief - Land Development Division - DATE

WHITMAN, REQUARDT AND ASSOCIATES
 ENGINEERS
 2315 ST. PAUL ST.
 BALTIMORE, MARYLAND

CONTRACT NO. 617-D-W

PLAN OF WATER MAINS

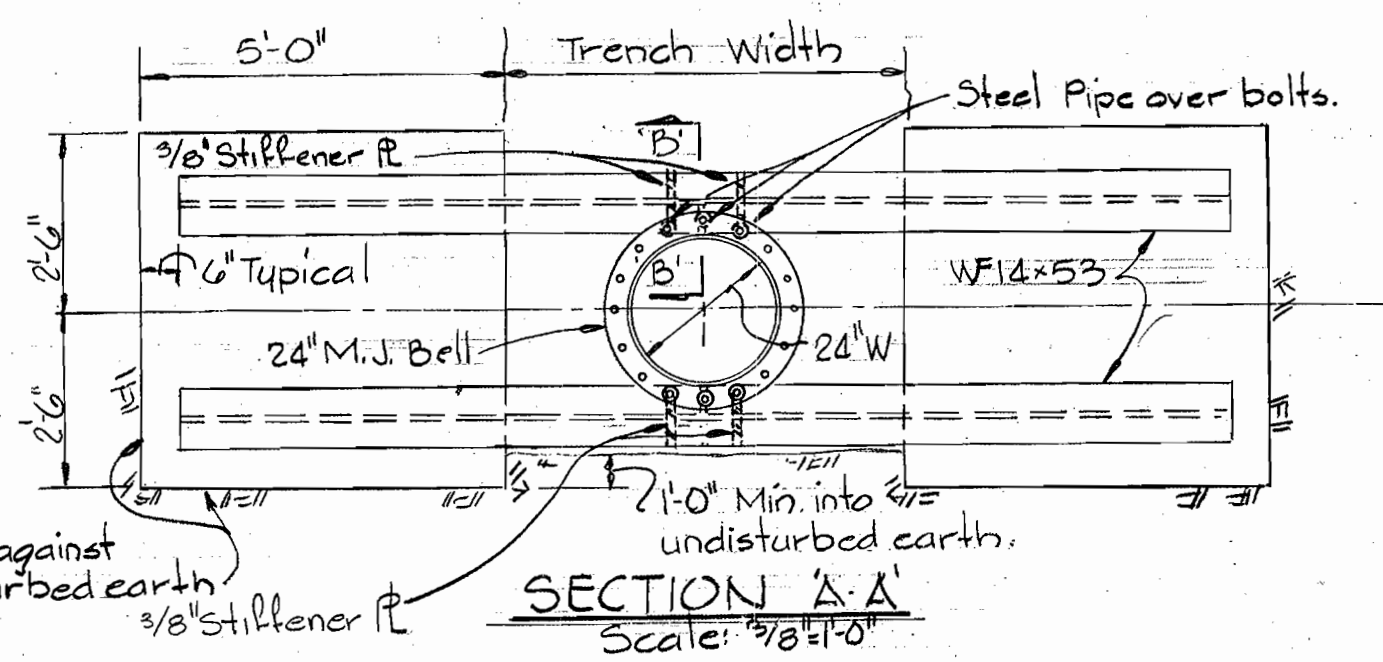
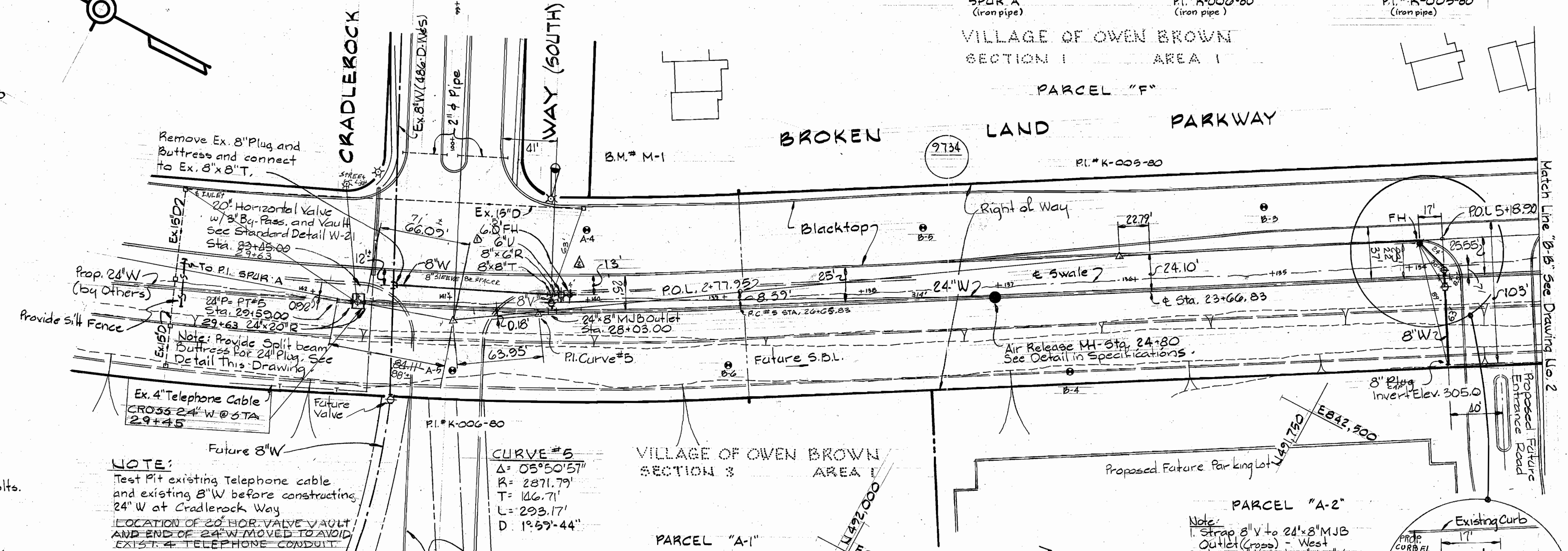
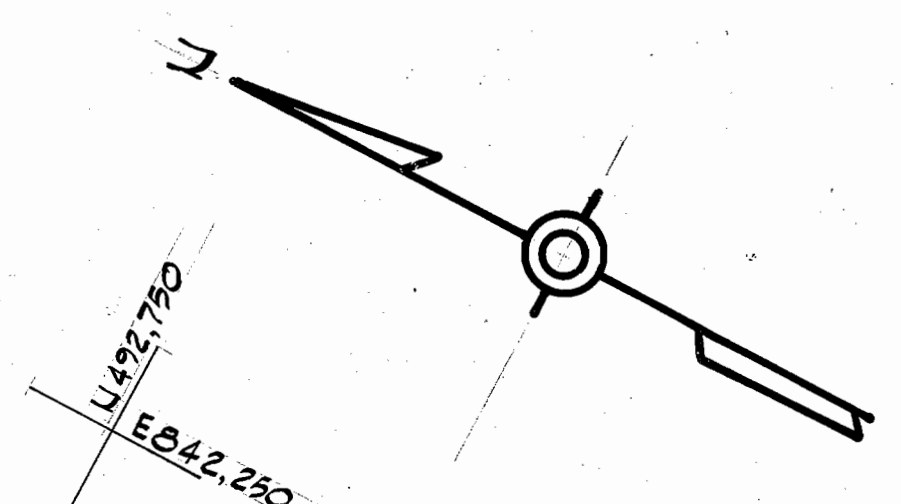
BROKEN LAND PARKWAY WATER MAIN
 ELECTION DISTRICT
 GUILFORD NO. 6

DRAWING NO. 2 OF 4
 SCALE 1"=50'

W.R.F.A. B.M.#94+29.02 Elev. 302.28
N.T.T. Cradlerock Way (South) @ Sta. 94+29.02.
W.R.F.A. B.M.#M-1 Elev. 311.26
X-Cut, nut lamp post Rd. side, south side
Cradlerock Way (South).

Note
Strap 8" V to 24" 8" MJB Outlet, 8" V to 8" 8" T,
8" 8" T to 8" 6" R, 8" 6" R to 6" V and 6" V to F.H.

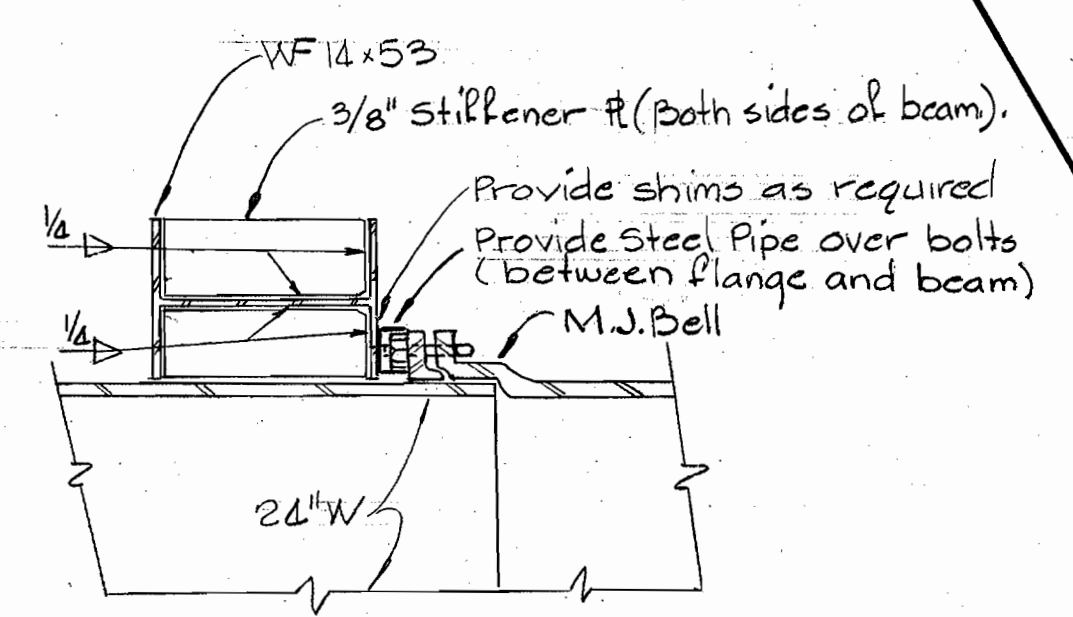
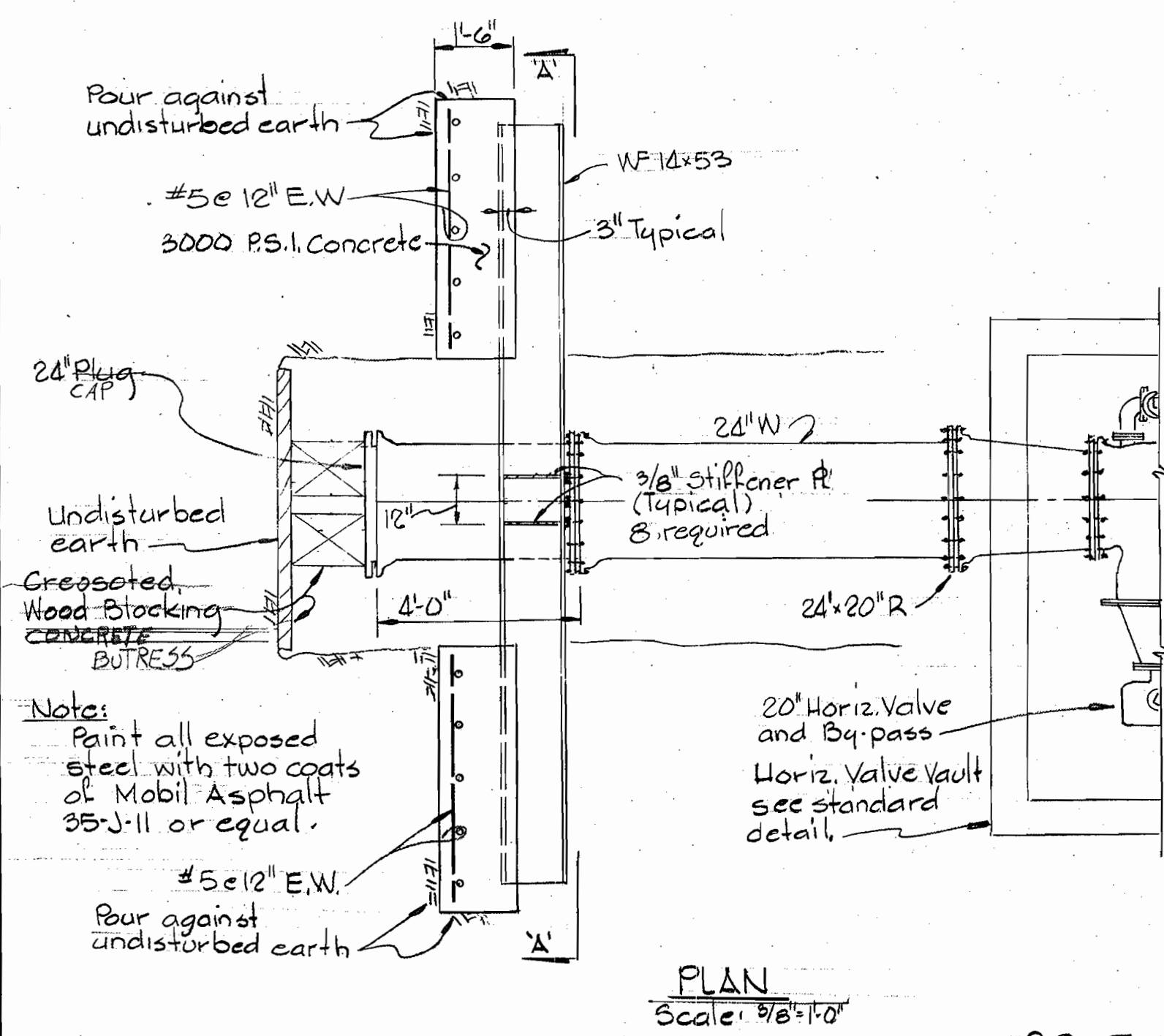
All References
are N.T.T. top
mac. curb



NOTE:
Test Pit existing Telephone cable
and existing 8" W before constructing
24" W at Cradlerock Way
LOCATION OF 20" HOR. VALVE VAULT
AND END OF 24" W MOVED TO AVOID
EXISTING TELEPHONE CONDUIT

Easement for a Water
Main and Utilities

Easement for Vehicular
Ingress and Egress and
Utilities & Water Mains.



SPLIT BEAM BUTRESS DETAIL
Scale: As shown

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works - DATE
Chief - Bureau of Engineering - DATE
Chief - Bureau of Utilities - DATE
Chief - Land Development Division - DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL ST.
BALTIMORE, MARYLAND

CONTRACT NO. 617-D-W

PLAN OF
WATER MAINS

BROKEN LAND PARKWAY WATER MAIN
ELECTION DISTRICT
GUILFORD NO. 6

DRAWING NO. 3 OF 4
SCALE 1"=50'

Table with 3 columns: No., Date, Revision. Row 1: 5-27-81, Moved F.H. Row 2: 5-28-81, Revised Split Beam Detail & F.H. Valve. Row 3: , , Revision.

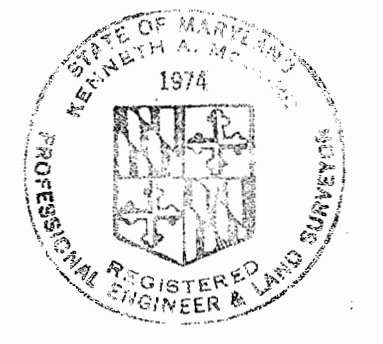
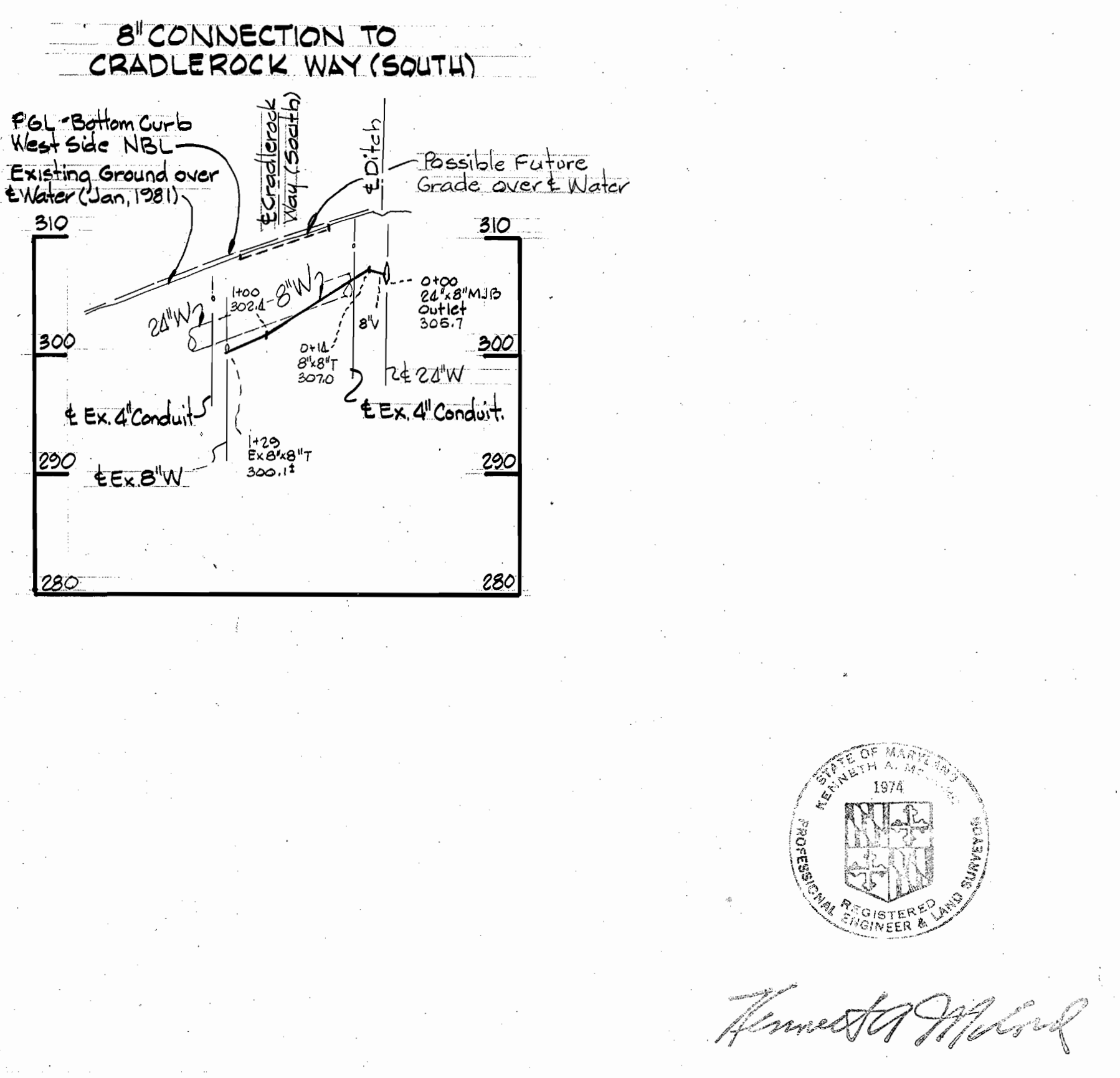
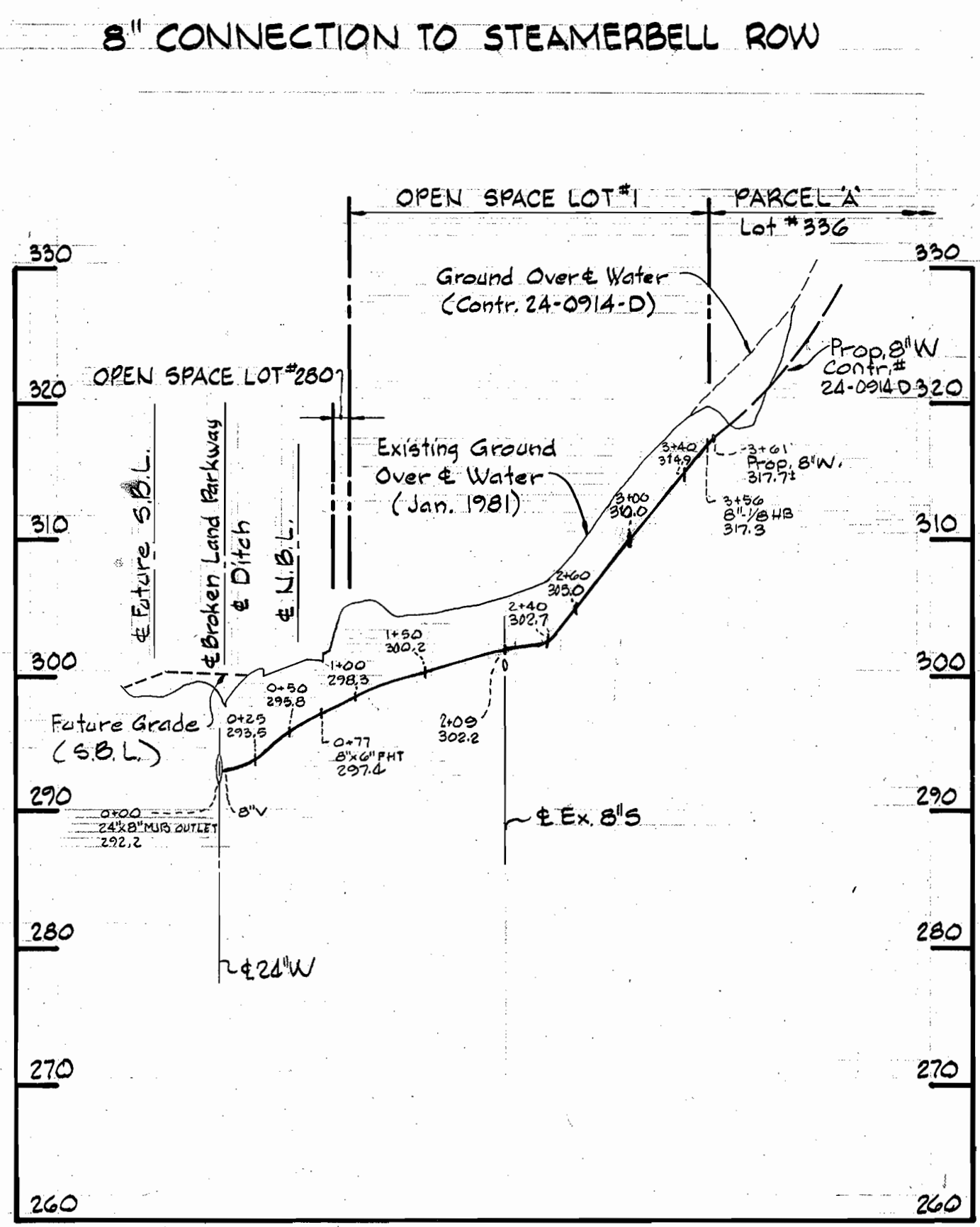
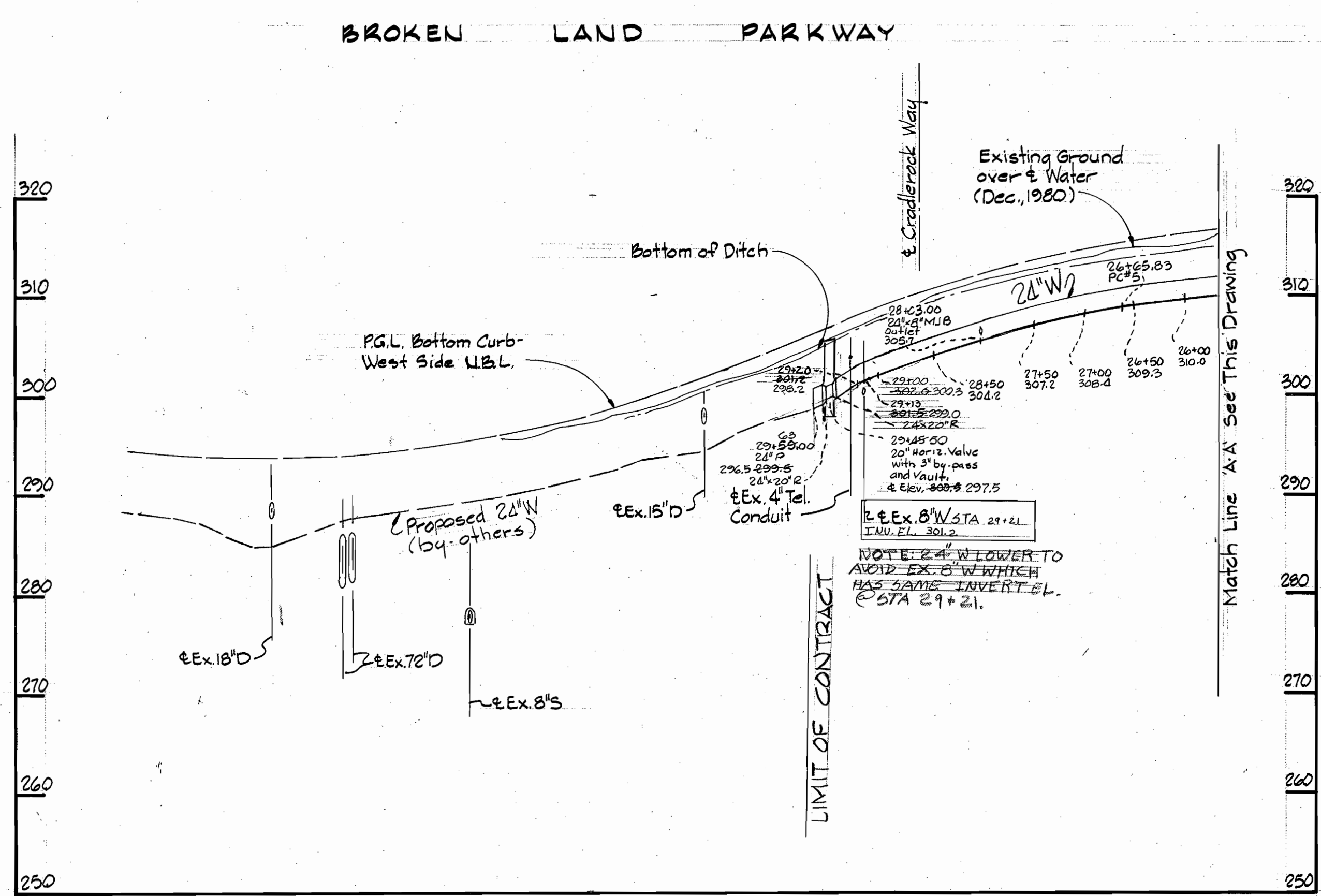
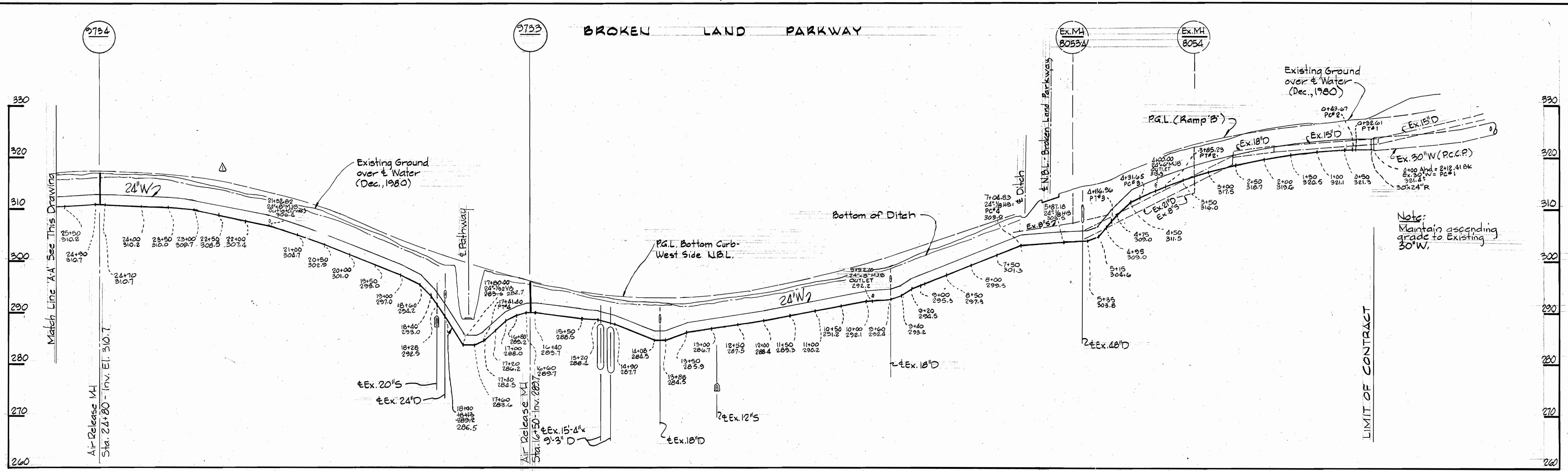
Broken Land Parkway Water Main
Contract No. 617-D-W

W.O. 7682-2

AS BUILT March 18, 1981

AS-BUILT SRC 7/1/81

WS 617 W/3



Ernest J. M. [Signature]

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS - DATE
CHIEF - BUREAU OF ENGINEERING - DATE
CHIEF - BUREAU OF UTILITIES - DATE
CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST. PAUL ST.
BALTIMORE, MARYLAND

CONTRACT NO. 617-D-W

PROFILES OF WATER MAINS

BROKEN LAND PARKWAY WATER MAIN
ELECTION DISTRICT
GUILFORD NO. 6

DRAWING NO. 4 OF 4
SCALE H: 1" = 100'
V: 1" = 10'

No.	Date	Revision
1	5-8-81	Revised 24\"/>

Broken Land Parkway Water Main
Contract No. 617-D-W

W.O. 7682-2

As BUILT 7/15/81 March 18, 1981

WS 617. w/4