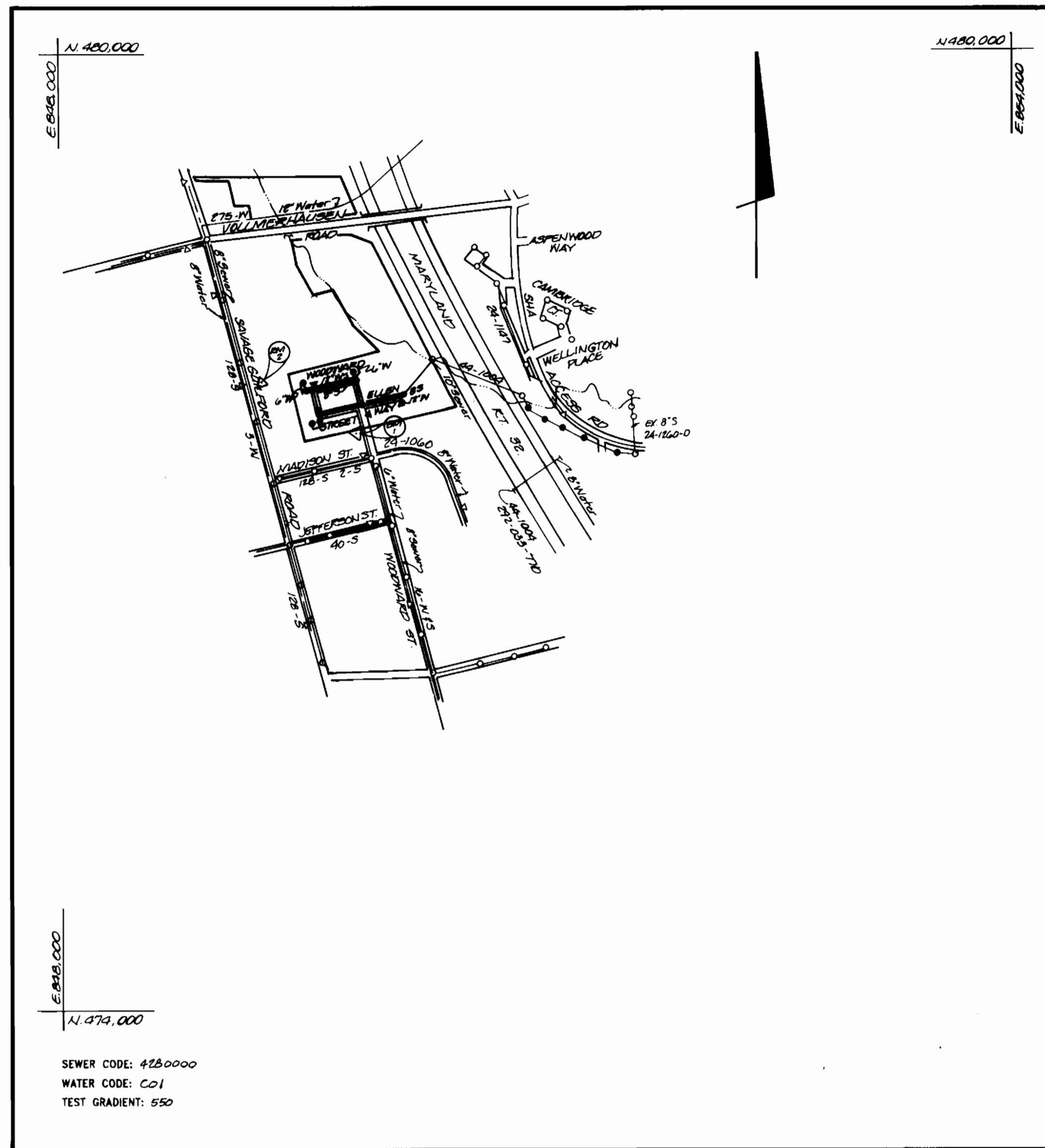


LOT No.	Sta. SHC	Inv. SHC Sewer Main	Inv. SHC ROW/Emt.	Min. Cellar Elevation	Type of Connection
1	0+62.12	268.48	268.48	268.56	SHC
2	0+71.12	267.88	267.88	268.42	SHC
3	1+02.17	267.88	267.88	268.96	SHC
4	1+28.12	267.81	267.81	267.28	SHC
5	1+42.22	268.00	268.00	267.94	SHC
6	1+70	267.89	267.89	267.58	SHC
7	1+82	268.46	268.46	267.92	SHC
8	0+00	268.87	268.87	271.97	SHC
9	0+80	269.24	269.24	272.44	SHC
10	0+82	269.85	269.85	272.93	SHC
11	0+87	270.28	270.28	273.33	SHC
12	0+88	270.98	270.98	274.18	SHC
13	AT MH 112	268.14	268.14	255.00	SHC
14	0+67	270.80	270.80	273.20	SHC
15	0+00	267.98	267.98	271.78	SHC
16	OUT OF MH 0+02.11	266.25	266.25	270.53	SHC
17	0+88	267.03	267.03	271.88	SHC
18	0+66	267.87	267.87	271.87	SHC
19	0+00	268.89	268.89	273.57	SHC
20	0+04	268.20	268.20	270.00	DHC - STD 5-2-18
21	0+30	268.20	268.20	268.53	DHC - STD 5-2-18
22	0+50	268.20	268.20	267.00	DHC - STD 5-2-18
23	0+78	268.69	268.69	268.81	SHC
24	AT MH 112	268.14	268.14	255.00	SHC
25	0+15	268.00	268.00	268.16	DHC - STD 8-2-18
26	0+16	268.34	268.34	267.80	DHC - STD 8-2-18
27	0+02	268.20	268.20	266.85	DHC - STD 8-2-18
28	1+76	268.20	268.20	266.85	DHC - STD 8-2-18
29	1+82	268.20	268.20	266.85	DHC - STD 8-2-18
30	1+81	268.20	268.20	267.00	DHC - STD 8-2-18
31	1+03	268.20	268.20	267.48	SHC
32	0+28	268.83	268.83	268.00	SHC
33	0+30	268.79	268.79	266.99	SHC
34	0+25	268.90	268.90	268.60	SHC
35	0+00	266.72	266.72	266.82	SHC
36	OUT OF MH 0+22.11	268.14	268.14	255.00	DHC - STD 8-2-18
37	0+21	268.80	268.80	268.88	DHC - STD 8-2-18
38	1+25	268.20	268.20	267.74	SHC
39	1+13	268.15	268.15	266.66	DHC - STD 8-2-18
40	0+05	268.15	268.15	266.88	DHC - STD 8-2-18
41	0+78	268.20	268.20	266.53	DHC - STD 8-2-18
42	0+46.22	268.15	268.15	266.88	DHC - STD 8-2-18
43	0+72	268.20	268.20	266.53	DHC - STD 8-2-18
44	0+97.22	268.20	268.20	266.53	SHC
45	0+84	268.72	268.72	266.66	SHC
46	0+87	268.88	268.88	268.29	SHC
47	0+44	268.90	268.90	268.66	SHC
48	0+17	267.62	267.62	261.28	SHC
49	0+07	267.81	267.81	260.89	SHC
50	0+00	268.56	268.56	266.56	SHC
51	0+13	267.49	267.49	261.33	SHC
52	0+20	268.08	268.08	262.82	SHC
53	0+52	268.70	268.70	263.14	SHC
54	0+42	269.07	269.07	266.00	SHC
55	0+92	269.45	269.45	267.53	SHC
56	1+27	268.01	268.01	267.89	SHC
57	1+82	268.79	268.79	268.66	SHC
58	1+77	268.56	268.56	268.00	SHC
59	1+92	268.02	268.02	268.53	SHC
60	0+17.22	268.80	268.80	266.66	SHC

SHEET INDEX	
NO.	TITLE
1	Title Sheet
2	Water & Sewer Plan
3	Sewer Plan & Profiles
4	Water & Sewer Profiles



VICINITY MAP
Scale: 1" = 600'

Type of Building:	Townhouses
No. of Lots/Parcels:	65
No. of Water House Connections:	61
No. of Sewer House Connections:	61
Drainage Area:	
Treatment Plant:	LITTLE PATUZENT

CONTRACT NO. 24-3238-D

SHIPLEY MEADOWS

LOTS 1 thru 65

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

NOTE: LOT 36

Sediment Control Measures will be implemented in accordance with section 219 of the Specifications and with Road Construction Plan F-92-95 and as shown on sheet 3 of 4.

Reviewed for Howard Soil Conservation District and meets technical requirements.

James M. [Signature] 5/4/93
U.S. SOIL CONSERVATION SERVICE DATE

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

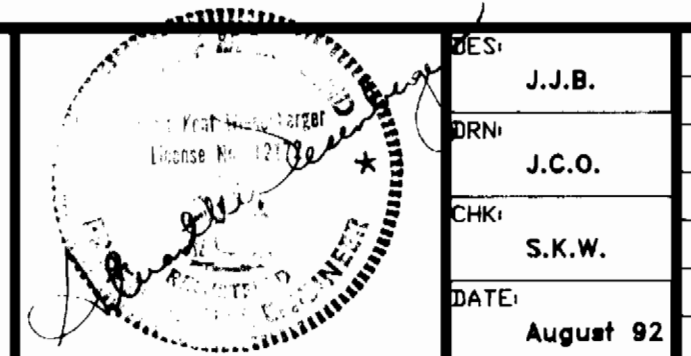
[Signature] 5/6/93
SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	5/6/93	<i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING	5-6-93
<i>[Signature]</i> CHIEF, BUREAU OF UTILITIES	5-5-93	<i>[Signature]</i> CHIEF, LAND DEVELOPMENT DIVISION	5/6/93

Boander Associates
ENGINEERS - PLANNERS - SURVEYORS

3230 BETHANY LANE
ELICOTT CITY, MARYLAND 21042
(410) 465-7777 FAX: (410) 465-7986



DESIGNED BY	J.J.B.	
CHECKED BY	J.C.O.	
DATE:	J.J.B. 1	REVISE S.H.C. CHANET PER LOT REVISION, REV. DETAIL RESTRICTION 15-17-93
BY	No.	REVISE/CVG

TITLE SHEET

600' SCALE MAP No. 47, BLOCK No. 5

WATER AND SEWER EXTENSION

SHIPLEY MEADOWS
6th ELECTION DISTRICT
CONTRACT No. 24-3238-D

SCALE: AS SHOWN

SHEET 1 of 4

BENCHMARK DATA

Benchmark No. 1
Cone. Marker @ Lot Cor. & Woodward St.
N. 477661.700 E. 649914.448
Elev. = 270.00

Benchmark No. 2
No. 3 Control Sta. 2042003
Cone. Marker @ S. 3' below Surface
N. 477861.746 E. 649210.276
Elev. = 271.88

GENERAL NOTES

- PART I
- Approximate location of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
 - All horizontal controls are based on Maryland State coordinates.
 - All vertical controls are based on U.S.G.S. data.
 - All pipe elevations shown are invert elevations.
 - Clear all utilities by a minimum of 8". 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 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.
 - For details not shown on the drawings, and for materials and construction methods use Howard County Design Manual, Volume IV, Standards Specifications and Detail for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
 - 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 dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
 - 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
BGE Co., Contractor Services	850-4820
BGE Co., Under Ground Damage Control	787-8088
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	795-1390
Howard County Department of Public Works Bureau of Utilities	313-4900
 - Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
 - 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.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT 313-4900 AT LEAST FIVE WORKING DAYS BEFORE ANY WORK IS DONE AT ANY OF THE ROAD OR OVERHEAD LINES OF ANY KIND. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR SUCH WORK. FAILURE TO DO SO SHALL BE AT THE CONTRACTOR'S RISK AND SHALL BE IN VIOLATION OF HOWARD COUNTY CODE.
- PART II - WATER
- All water mains to be D.I.P. Class 52 unless otherwise noted.
 - Top of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
 - Valves adjacent to less shall be strapped to less.
 - All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
 - Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be restrained, as per STD. details W-11.1 and W-2.13 and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard and Specifications.
 - The contractor shall not operate any water main valves on the existing water system.
 - All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
 - ALL SERVICE WATER HOUSE CONNECTIONS TO BE 1" MINIMUM SIZE, THIN WATER HOUSE CONNECTIONS SHALL BE 1/2" MINIMUM SIZE PER STANDARD DETAILS W-5.25
- PART III - SEWER
- All sewer mains shall be D.I.P. RCP, VCPX, CSPX, RCPX, and P.V.C. unless otherwise noted.
 - The contractor shall provide a joint in all sewer mains within 2' - 0" of exterior manhole wall.
 - All manholes shall be 4' - 0" inside diameter unless otherwise noted.
 - Force mains shall be D.I.P. only.
 - Manholes shown with 12" and 16" walls are for brick manholes only.
 - Manholes designated W.I. in plan and profile shall have watertight frame and covers, Standard Detail G5.52. Where watertight manhole frame and cover is used, set top of frame 1" - 6" above finished grade unless otherwise noted on the drawings.
 - House(s) with the symbol "C.N.S." indicates that cellar cannot be served.
 - ALL SEWER HOUSE CONNECTIONS TO BE 4"

WATER ASBUILTS

ITEMS	Quantities Estimated	QUANTITIES	TYPE	MANUFACTURER SUPPLIER
1/2" WAC	731 LF	828 LF.	R. SODNER	HALSTEAD COMPANY
1" WAC	243 LF	279 LF.	R. SODNER	HALSTEAD COMPANY
4" VALVE	222 LF	241 LF.	P. V. J.	J.M. MANUFACTURING COMPANY
8" VALVE		1 EA.	CAST IRON	MUELLER COMPANY
Manholes	17	17 EA.	PRECAST CONCRETE	ATLANTIC CONCRETE PRODUCTS INC.
8" DWP Sewer	746 LF	768 LF.	D.I.P.	ATLANTIC STATES PIPE
8" Sewer	1978 LF	1485 LF.	R.W.C.	J.M. MANUFACTURING COMPANY
F. Hydrants	3	3 EA.	CAST IRON	MUELLER COMPANY
18" x 6" Reducer	8	2 EA.	D.I.P.	TYLER PIPE & FOUNDRY
6" x 18" Band	6	4 EA.	D.I.P.	TYLER PIPE & FOUNDRY
8" x 18" TS & V	1	1 EA.	D.I.P. CAST IRON	MUELLER COMPANY
18" x 12" Tee	1	1 EA.	D.I.P.	TYLER PIPE & FOUNDRY
18" x 12" Tee	8	3 EA.	D.I.P.	TYLER PIPE & FOUNDRY
18" x 6" Tee	8	3 EA.	D.I.P.	TYLER PIPE & FOUNDRY
8" Tee	7	8 EA.	CAST IRON	MUELLER COMPANY
6" Tee	3	6 EA.	CAST IRON	MUELLER COMPANY
6" Tee	2	3 EA.	CAST IRON	MUELLER COMPANY
6" Tee	267 LF	237 LF.	D.I.P.	ATLANTIC STATES PIPE CO.
18" x 16" Band	137 LF	132 LF.	D.I.P.	ATLANTIC STATES PIPE CO.
18" x 16" Band	1	2 EA.	D.I.P.	TYLER PIPE & FOUNDRY
12" x 6" Reducer	1	1 EA.	D.I.P.	TYLER PIPE & FOUNDRY
8" Tee	135 LF	127 LF.	D.I.P.	ATLANTIC STATES PIPE CO.

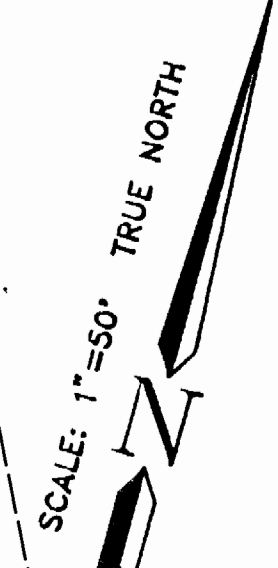
AS-BUILT

QUANTITIES

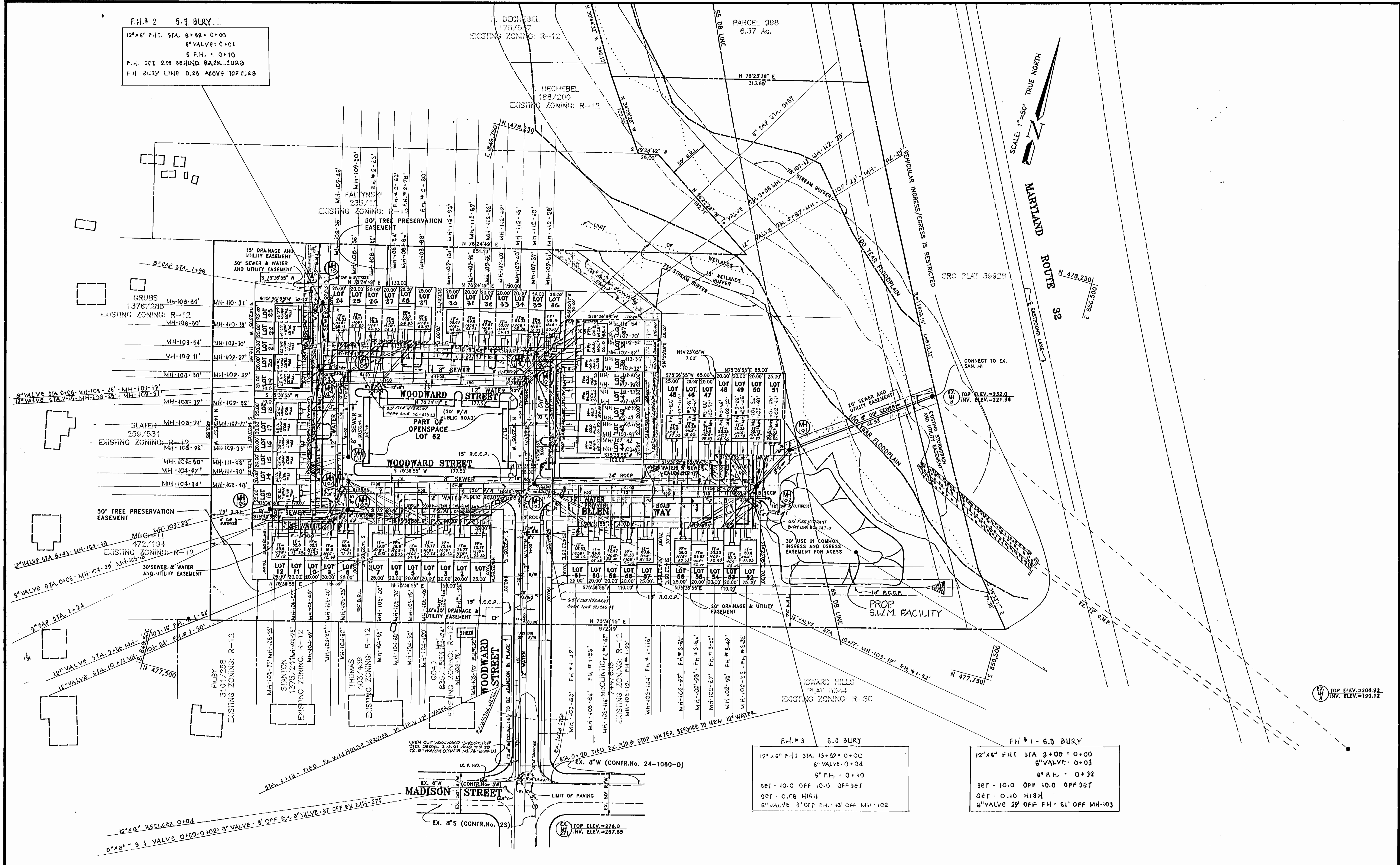
NAME OF UTILITY CONTRACTOR R. MARINOU & SONS

SURVEY AND DRAFTING DIVISION AS-BUILT DATE

F.H.# 2 5.5 BURY
 12" x 6" FHT STA. 8+52.0+00
 6" VALVE - 0+04
 6" F.H. - 0+10
 F.H. SET 2.05 BEHIND BACK CURB
 F.H. BURY LINE 0.25 ABOVE TOP CURB



SCALE: 1"=50'
 MARYLAND
 ROUTE 32

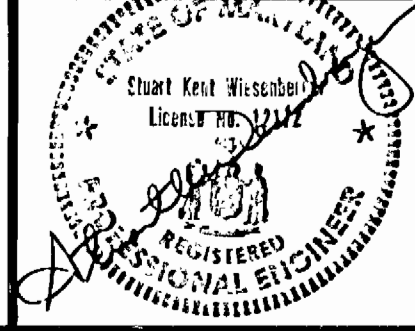


F.H.# 3 6.5 BURY
 12" x 6" FHT STA. 13+59.0+00
 6" VALVE - 0+04
 6" F.H. - 0+10
 SET - 10.0 OFF 10.0 OFF 9ET
 SET - 0.08 HIGH
 6" VALVE 6' OFF F.H. - 13' OFF MH-102

F.H.# 4 6.5 BURY
 12" x 6" FHT STA. 3+09.0+00
 6" VALVE - 0+03
 6" F.H. - 0+32
 SET - 10.0 OFF 10.0 OFF 9ET
 SET - 0.10 HIGH
 6" VALVE 29' OFF F.H. - 61' OFF MH-103

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *James J. Shaw* 5/6/93
 Chief, Bureau of Engineering: *William B. Bly* 5-6-93
 Chief, Bureau of Utilities: *Robert M. Berman* 5-5-93
 Chief, Land Development Division: *John J. ...* 5/6/93

Boandar Associates
 ENGINEERS - PLANNERS - SURVEYORS
 3230 BETHWAY LANE
 ELLICOTT CITY, MARYLAND 21042
 (410) 465-7777 FAX: (410) 465-7968

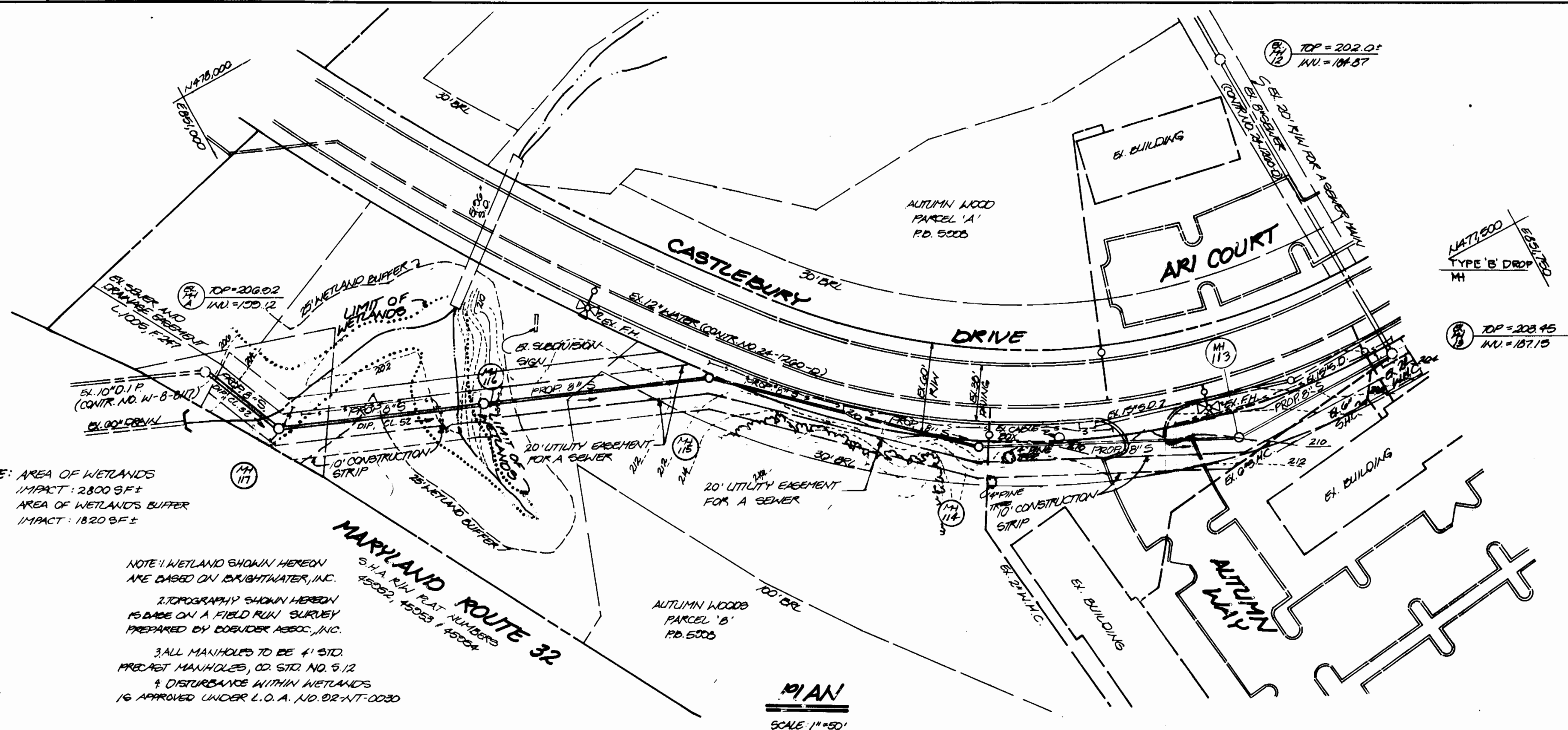


DES:	J.J.B.				
DRW:	M.B.B.				
CHK:	S.K.W.				
DATE:	Aug. '92	BY:	No.	REVISION	DATE

**WATER AND SEWER
 PLAN VIEW**
 600 SCALE MAP No.: 47 BLOCK No.: 5

SHIPLEY MEADOWS
 LOTS 1 Thru 65
 6th ELECTION DISTRICT
 CONTRACT No. 24-9238-0

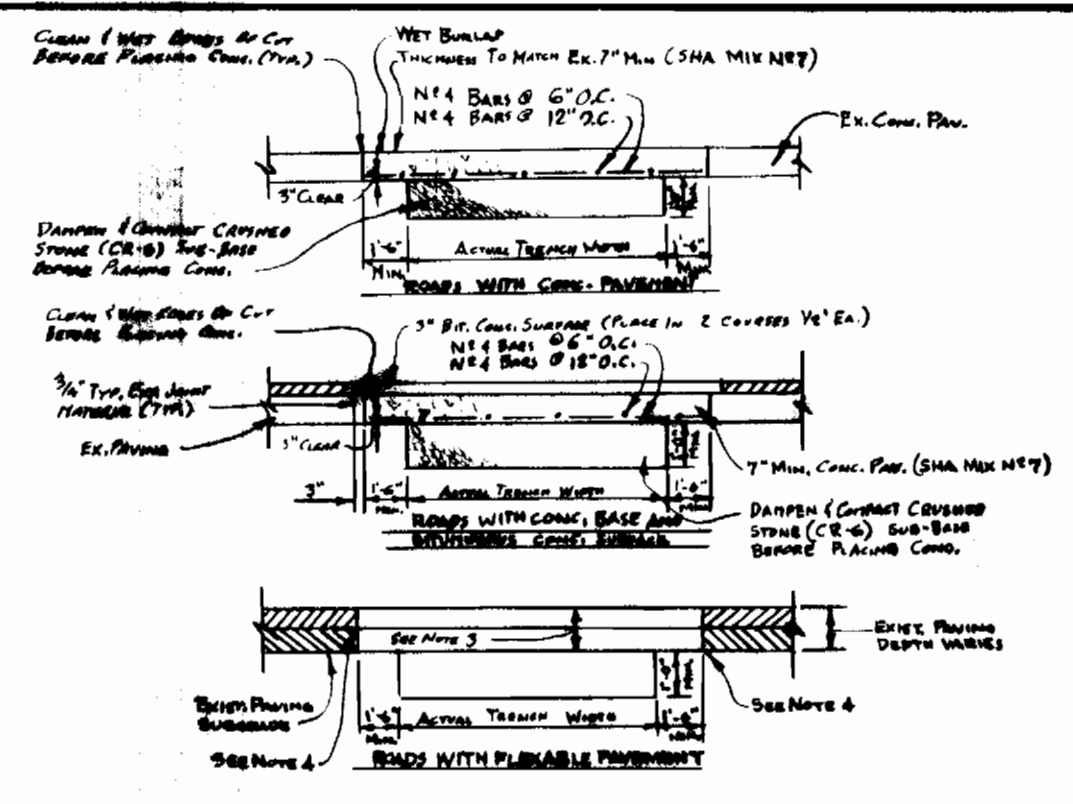
SCALE:
 1"=50'
 SHEET:
 2 of 4



NOTE: AREA OF WETLANDS
IMPACT: 2800 SF ±
AREA OF WETLANDS BUFFER
IMPACT: 1820 SF ±

- OFFSITE SEDIMENT CONTROL NOTES**
1. FOR SEDIMENT CONTROL NOTES AND DETAILS SEE CONSTRUCTION PLANS P-12-19
 2. STOCKPILE OF EXCAVATED MATERIAL SHALL BE ON UPHILL SIDE OF TRENCH.
 3. OPEN CUT TRENCH LENGTH SHALL NOT EXCEED 5 PIPE LENGTHS.
 4. CONTRACTOR SHALL STABILIZE OFFSITE SEWER TRENCH IMMEDIATELY AFTER BACKFILL IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

- NOTE: WETLAND SHOWN HEREIN ARE BASED ON BRIGHTWATER, INC.**
1. TOPOGRAPHY SHOWN HEREIN IS BASED ON A FIELD RUN SURVEY PREPARED BY BOENDER ASSOC., INC.
 2. ALL MANHOLES TO BE 4' STD. PROJECT MANHOLES, CO. STD. NO. 9/12 & DISTURBANCE WITHIN WETLANDS IS APPROVED UNDER L.O.A. NO. DR-NT-0030



- NOTES:**
1. WHENEVER A TRENCH CROSSES A CONC. ROADWAY THAT HAS JOINT INSTALLATIONS THE ENTIRE SLAB BETWEEN THE EDGE OF THE TRENCH AND NEAREST JOINT SHALL BE REMOVED IF THE DISTANCE IS LESS THAN 10'-0".
 2. CLEAN AND WET EDGES OF CUT BEFORE PLACING CONC.
 3. PAVEMENT PATCH MATERIALS AND COURSE THICKNESS SHALL BE EQUAL TO EX. PAVING SECTION OR AS APPROVED BY DRW. THE MIN. PAVING PATCH SHALL CONSIST OF 3" BIT. CONC. SURFACE MAT. PLACED IN TWO 1 1/2" COUSES. 3 1/2" CONC. BASE MAT. WHEN PLACED, SHALL NOT EXCEED 3" THICKNESS PER COURSE. 5" SYMB. BASE MAT. SHALL NOT EXCEED 3" THICKNESS PER COURSE.
 4. PLACE HOT LIQUID ASPHALT SEALER (AE-5 OR AS APPROVED BY DRW.) ALONG VERT. FACE OF EX. PAVING PRIOR TO PLACING NEW MAT. TO INSURE CONT. BOND. UPON COMPLETION OF PAVING PATCH, EXCESS LIQUID ASPHALT SHALL BE DISBURSED INTO THE JOINT BETWEEN OLD AND NEW PAVING SURFACES TO PREVENT EXCESS LIQUID ASPHALT FROM BEING TRACKED BY TRAFFIC.

METHOD OF CUTTING AND REPAIRING OPENINGS IN EXISTING ROADWAY PAVING
NO. CO. STD. G. 4.01
NOT TO SCALE

PLAN
SCALE: 1"=50'

CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS

Strip, stockpile and maintain separately the top 6" of soil material, to be replaced as the top layer of the backfilled material.

Remove excess fill or construction material or debris to an upland disposal area.

Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland.

Use previously excavated material as backfill, unless it contains waste metal products, untagged debris, toxic material or any other deleterious substance. Use clean borrow material when excavated material is not suitable for use as backfill.

Rectify any nontidal wetlands temporarily impacted by any proposed repair and maintenance activity or installation of the utility line. Stabilization to temporarily impacted areas shall be annual ry or millet and mulch. All temporary fills shall be removed in their entirety on or before the completion of construction.

After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.

To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:

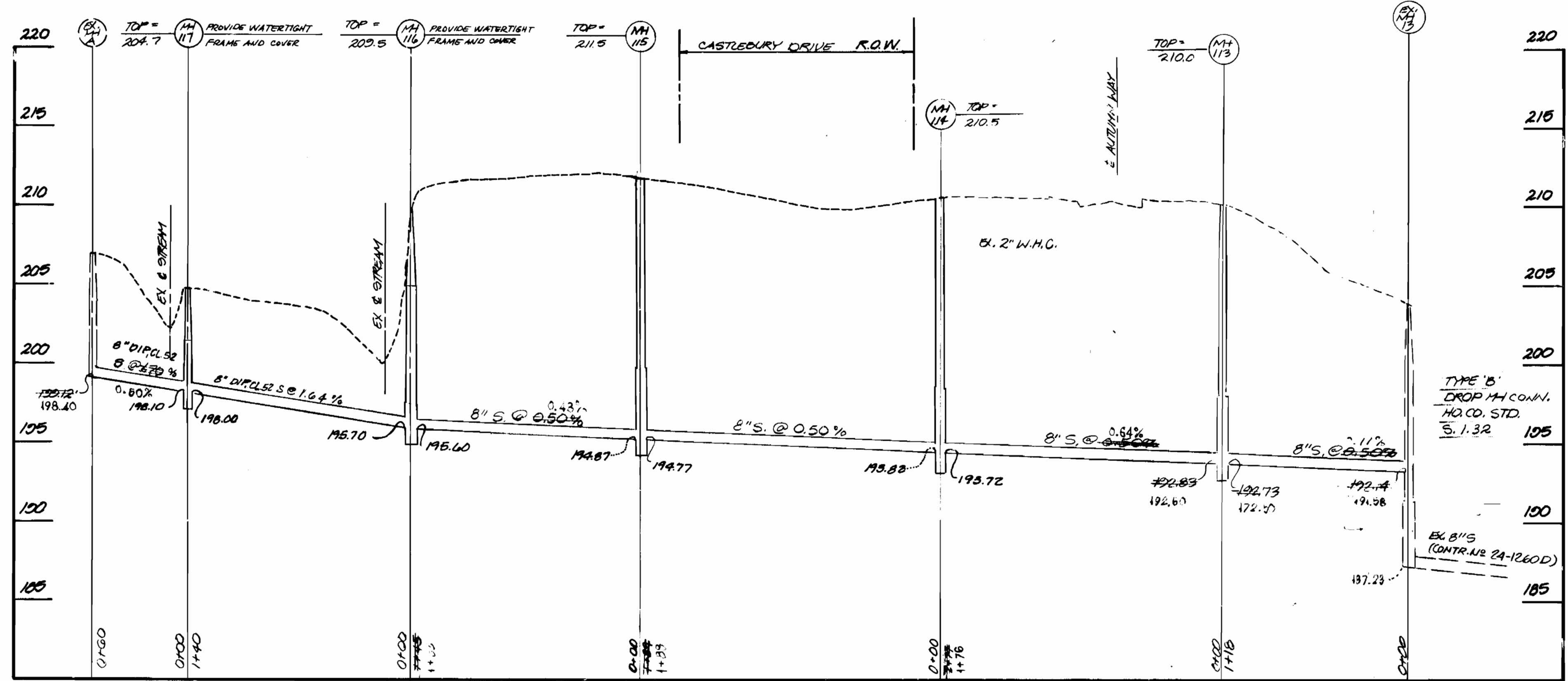
1. Class I Waters. In-stream work may not be conducted during the period March 1 through June 15, inclusive, during any year.

Provide information describing the exact legal location of the property (i.e. full mailing address and/or Howard County tax map page #, block #, lot #, parcel #, liber folio #, etc.) (tax information can be obtained from the County Department of Planning and Zoning). Also provide information of the full legal name of the property owner (individual and/or corporate) and the exact legal mailing address of the property owner.

The application indicates a total area of wetland and buffer disturbance of 4,800 square feet. Please provide separate figures for the area of wetland and the area of buffer.

Please send the Division three (3) copies of the plans with the information above included on them. Please do not alter or modify the above conditions.

Once this information is provided to the Division, and it is determined to be sufficient, a Letter of Exemption (LOE) will be promptly issued that authorizes you to conduct the activity provided that the conditions noted on the plans, and additional conditions and best management practices which will be part of the LOE, including those required under the Nationwide Permit and the Water Quality Certification, are met.



PROFILE
SCALE: HORI. 1"=50'
VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Lee 5/6/93
DIRECTOR OF PUBLIC WORKS DATE CHIEF BUREAU OF ENGINEERING

R. J. ... 5-5-93
CHIEF BUREAU OF UTILITIES DATE CHIEF LAND DEVELOPMENT DIVISION

Boender Associates
ENGINEERS, PLANNERS, SURVEYORS
3230 BETHANY LANE
ELLCOTT CITY, MD. 21043
(301) 465-7777

Handwritten signature and stamp

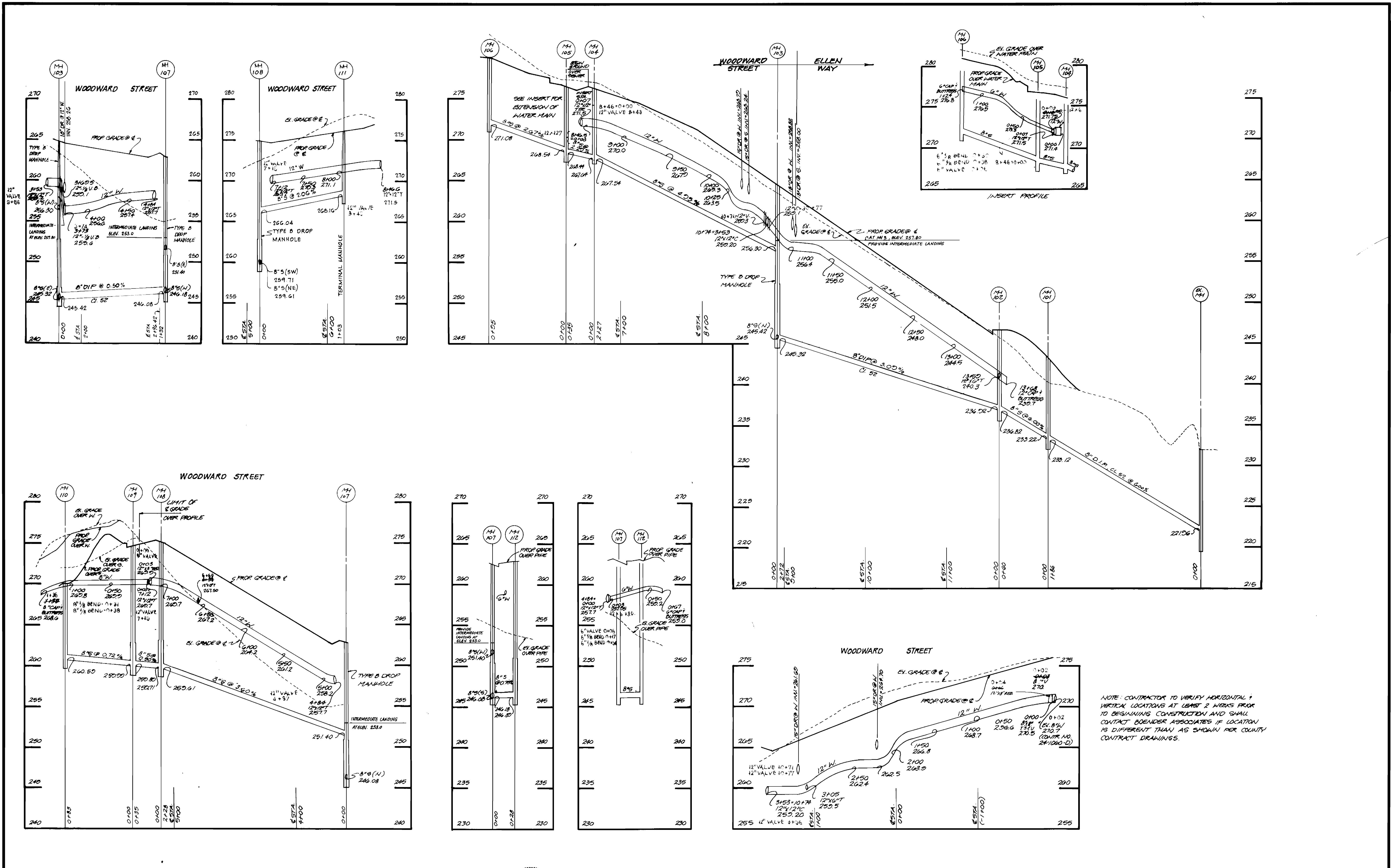
DES:			
DRN:	JCO		
CHK:			
DATE:	AUGUST, 1992	BY:	NO.
REVISION:	1	REVISION:	REVISED ALIGNMENT, PLAN & PROFILE, FROM EX. BOENDER TO MH 114
DATE:	3/1/94	DATE:	

SEWER PLAN AND PROFILE

PLAN SHEET NO. 24-1260-D

WATER & SEWER EXTENSION
6 1/2 MILE MEADOWS
6TH ELECTION DISTRICT
CONTRACT NO. 24-1260-D

SCALE: AS SHOWN
SHEET: 3 OF 4
PN 07071



NOTE: CONTRACTOR TO VERIFY HORIZONTAL & VERTICAL LOCATIONS AT LEAST 2 WEEKS PRIOR TO BEGINNING CONSTRUCTION AND SHALL CONTACT BOENDER ASSOCIATES IF LOCATION IS DIFFERENT THAN AS SHOWN PER COUNTY CONTRACT DRAWINGS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Shaw 5/6/93
DIRECTOR OF PUBLIC WORKS DATE

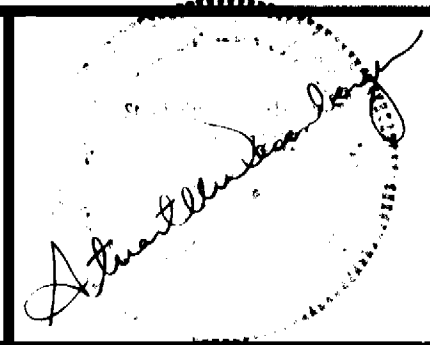
Robert M. Boender 5-5-93
CHIEF, BUREAU OF UTILITIES DATE

William J. Kelly 5-6-93
CHIEF, BUREAU OF ENGINEERING DATE

William J. Kelly 5/6/93
CHIEF, LAND DEVELOPMENT DIVISION DATE

Boender Associates
ENGINEERS - PLANNERS - SURVEYORS

3230 BETHANY LANE
ELLCOTT CITY, MARYLAND 21042
(410) 465-7777 FAX: (410) 465-7966



DES:	J.J.B.				
DRN:	J.C.O.				
CHK:					
DATE:					
BY:	No.	REVISIONS	DATE		

WATER AND SEWER PROFILES

600' SCALE MAP No. . BLOCK No.

SHIPLEY MEADOWS
Lots 1 thru 65
2nd ELECTION DISTRICT
CONTRACT No. 24-8228-D

SCALE:
1"=50' H
1"=5' V

SHEET
4 of 4