

**SEWER HOUSE CONNECTION INVERT AT PROPERTY LINE AND MINIMUM CELLAR ELEVATIONS**

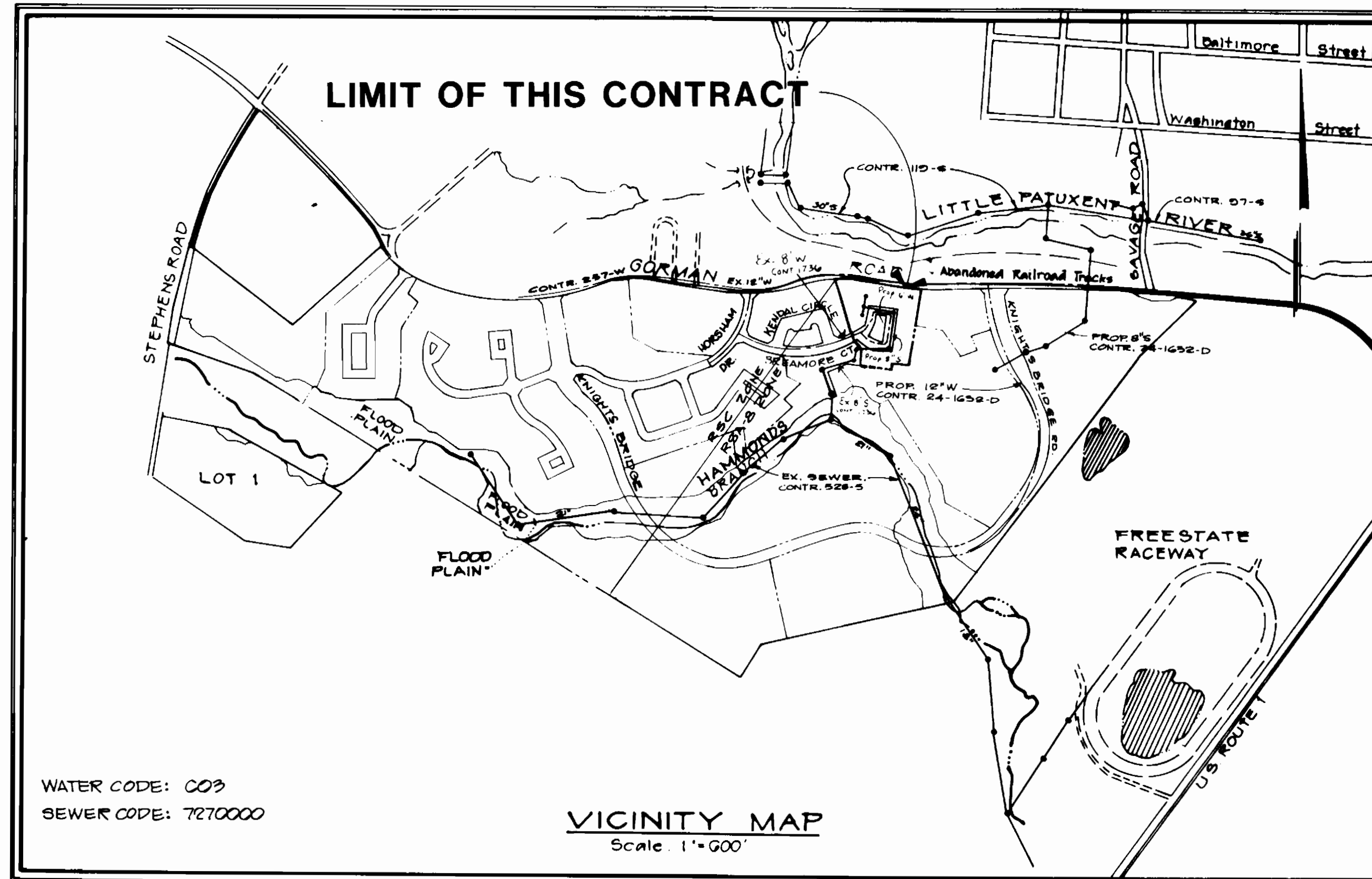
LOT NUMBER	INVERT	CELLAR	LOT NUMBER	INVERT	CELLAR
E-28	231.0	239.33	E-56	227.6	239.67
E-29	231.0	239.33	E-57	227.6	239.67
E-30	230.0	239.33	E-58	228.2	239.67
E-31	230.0	239.33	E-59	228.2	239.67
E-32	230.2	239.33	E-60	227.8	240.00
E-33	230.2	239.33	E-61	227.8	240.00
E-34	231.0	238.67	E-62	227.6	239.33
E-35	231.0	238.67	E-63	227.4	239.33
E-36	229.3	231.67	E-64	227.4	239.33
E-37	229.3	231.67	E-65	227.4	239.33
E-38	229.1	231.67	E-66	227.2	238.67
E-39	229.1	231.67	E-67	227.2	238.67
E-40	228.9	232.33			
E-41	228.9	232.33			
E-42	228.7	232.33			
E-43	228.7	232.33			
E-44	229.5	238.67			
E-45	229.5	238.67			
E-46	229.0	240.67			
E-47	229.0	240.67			
E-48	228.5	241.33			
E-49	228.5	241.33			
E-50	228.3	241.33			
E-51	228.3	241.33			
E-52	228.0	241.33			
E-53	228.0	241.33			
E-54	227.8	240.33			
E-55	227.8	240.33			

QUANTITIES			
ITEM	ESTIMATED	AS BUILT	MATERIAL/SUPPLIER
8" SEWER	677'		
MANHOLE	5		
8" WATER	99'		
12" WATER			
8" VALVE			
12" VALVE			
FIRE HYDRANT	1		
AIR RELEASE MANHOLE			
BLOW OFF VALVE			
6" WATER	564'		
2" WATER	525'		
6" VALVE	4		

**PARCEL E, AREA 2  
LOTS E-28 THRU E-67, LOTS 221 AND 222  
BOWLING BROOK FARMS  
HOWARD COUNTY, MARYLAND**

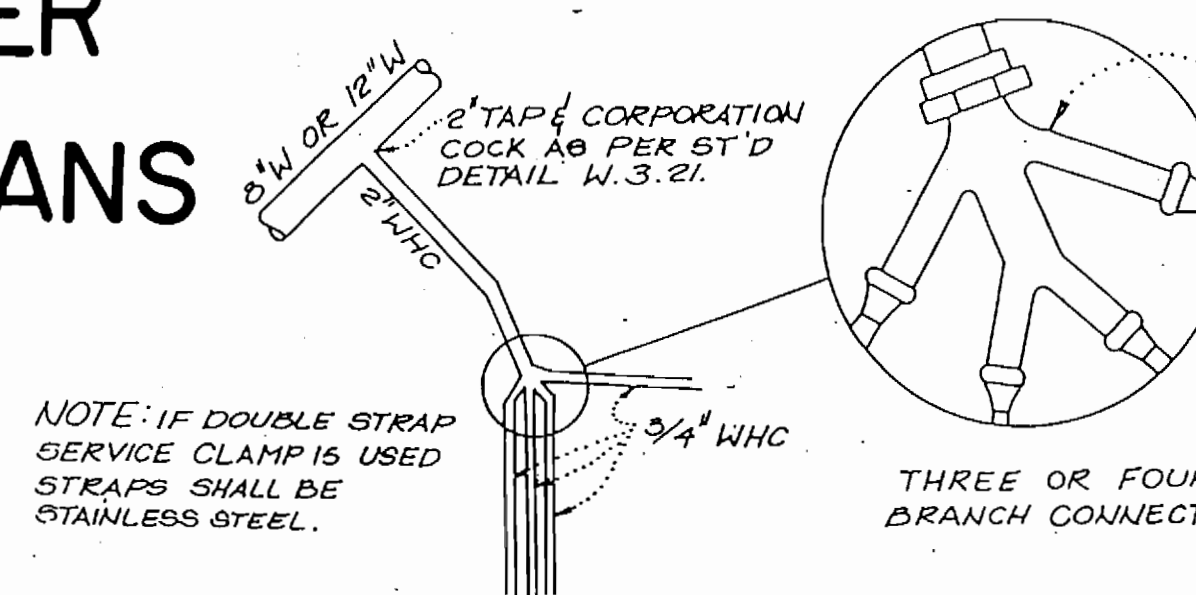
**GENERAL NOTES**

- THE APPROXIMATE LOCATION OF ALL UTILITIES IS SHOWN BASED ON INFORMATION OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL LOCATE, PROTECT AND SUPPORT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER/INSPECTOR, AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF PROPOSED UTILITIES AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.  
STATE HIGHWAY ADMINISTRATION - 531-5533  
BALTIMORE GAS & ELECTRIC COMPANY - 561-2585 (CONTRACTOR SERVICES)  
BALTIMORE GAS & ELECTRIC COMPANY - 234-6313 (UNDERGROUND DAMAGE CONTROL)  
BALTIMORE GAS & ELECTRIC COMPANY - 298-9813 (TROUBLE SHOOTING)  
"MISS UTILITY" - 888-257-7777  
CHESAPEAKE & POTOMAC (C&P) TELEPHONE COMPANY - 725-9976  
BUREAU OF UTILITIES/HOWARD COUNTY - 992-2366
- ALL DETAILS NOT SHOWN ON THE DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY SPECIFICATIONS AND HOWARD COUNTY DESIGN MANUAL, VOLUME IV.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST EDITION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- TREES SHALL BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT POSSIBLE. TREES SIX INCH (6") DIAMETER OR GREATER (MEASURED FOUR FEET (4') ABOVE EXISTING GRADE) ADJACENT TO THE LIMITS OF CONSTRUCTION SHALL NOT BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- ALL HORIZONTAL AND VERTICAL CONTROLS ARE BASED ON MARYLAND STATE PLANE COORDINATES SYSTEM PROVIDED BY HOWARD COUNTY.
- TOPOGRAPHY TAKEN FROM MAPS PREPARED BY PHOTOGRAMMETRY BY "MAPS INCORPORATED" FOR THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, ON MARCH 9, 1977. TOPOGRAPHY FIELD CHECKED DECEMBER 1979.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- ALL WATER MAINS SHALL BE OF THE SAME MATERIAL UNLESS HOWARD COUNTY DESIGN MANUAL, VOLUME IV, DICTATES OTHERWISE.
- TOP OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL WATER MAIN FITTINGS REQUIRE CONCRETE THRUST BLOCKS AS DESCRIBED IN HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS MANUAL, VOLUME IV.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING SYSTEM.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12", CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. ANY COST INCURRED TO THE CONTRACTOR FOR TUNNELING OR BRACING AT POLES SHALL BE INCLUDED IN UNIT PRICES BID FOR EXCAVATION AND SHALL BE INCLUDED IN UNIT PRICES BID FOR EXCAVATION BACKFILL.
- SEPARATION BETWEEN WATER AND SANITARY SEWER: WATER MAINS SHALL BE LAID AT LEAST TEN FEET (10') HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER. DEVIATION MAY BE ALLOWED FOR INSTALLATION OF THE WATER MAIN CLOSER TO A SEWER, PROVIDED THAT THE WATER MAIN IS LAID IN A SEPARATE TRENCH, SUCH THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX FEET (6') ABOVE THE TOP OF THE SEWER. WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE INCHES (12") BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER LINE.
- BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR AN INSIDE METER SETTING.
- ALL SEWER MAINS SHALL BE P.V.C., OR HIGH DENSITY POLYETHYLENE AND ALL MAINS SHALL BE OF LIKE MATERIAL.
- 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.
- ALL FIRE HYDRANTS SHALL BE SITUATED PER "LOCATION A", STD. DETAIL W1.11.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATION C-153 DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.



TYPE OF BUILDINGS TOWNHOUSE UNITS	
NUMBER OF LOTS	40 LOTS + 2 OPEN SPACES=42
NUMBER OF WATER HOUSE CONNECTIONS	40
NUMBER OF SEWER HOUSE CONNECTIONS	40
DRAINAGE AREA	LITTLE PATUXENT

**CONTRACT NO. 24-1737-D  
WATER AND SEWER  
CONSTRUCTION PLANS**



**LEGEND**

	PROPOSED	EXISTING
SANITARY SEWER	8" S/C	---
SEWER HOUSE CONNECTION	8" S/C	---
WATER	12" W/C	---
WATER HOUSE CONNECTION	12" W/C	---
STORM DRAIN	18" S/D	---
PROPOSED R/W	---	---
LIMITS OF SUBMISSION	---	---
MANHOLE NUMBER	---	---
FIRE HYDRANT / VALVE	---	---
EASEMENT	---	---

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT  
 SEDIMENT CONTROL MEASURE FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATIONS AND ROAD CONSTRUCTION PLAN F-88-184 AND SDP  
 DATE: 6-28-88

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.  
 APPROVED: [Signature]  
 HOWARD SCD DATE: 6/28/88

OWNER/DEVELOPER  
 GORMAN ROAD LIMITED PARTNERSHIP  
 C/O JAMES F. KNOTT DEVELOPMENT CORPORATION  
 118 WEST ROAD, SUITE 203  
 TOWSON, MARYLAND 21284  
 (881) 321-6436

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN OF WATER AND SEWER MAINS
3	PROFILE OF WATER AND SEWER MAINS

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 [Signatures and Dates]

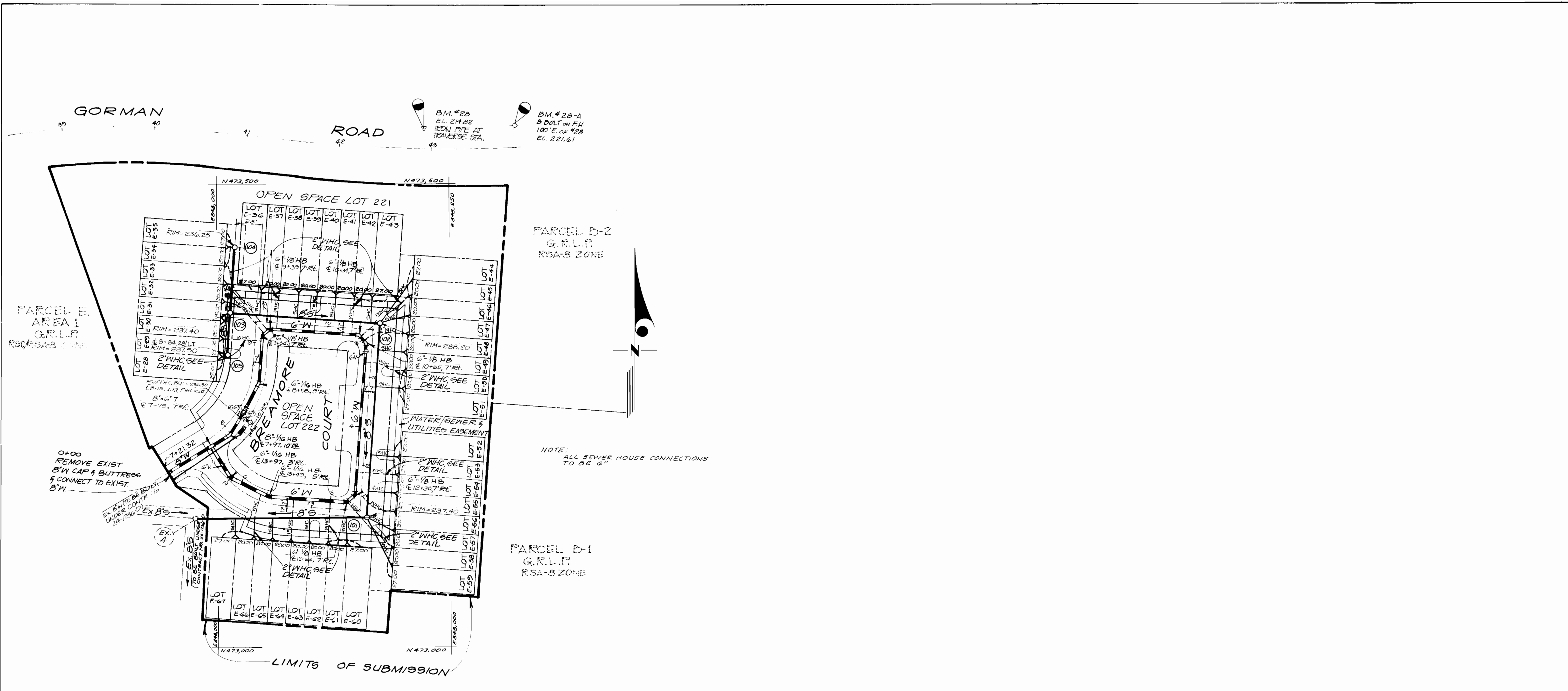
PHRA  
 [Logo and Contact Info]

DES.	DRN.	CHK.	DATE	BY	NO	REVISION	DATE
KOR	CSR	KOR	3/29/88			REVISED PER HO. CO. COMMENTS	6/1/88

TITLE SHEET  
 600' SCALE MAP NO. 47 BLOCK NO.

**BOWLING BROOK FARMS**  
 PARCEL E AREA 2  
 CONTRACT NO. 24-1737-D  
 LOTS E-28 THRU E-67, LOTS 221 & 222  
 A RESUBDIVISION OF BOLLING BROOKE, LOT 2  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 1 OF 3A



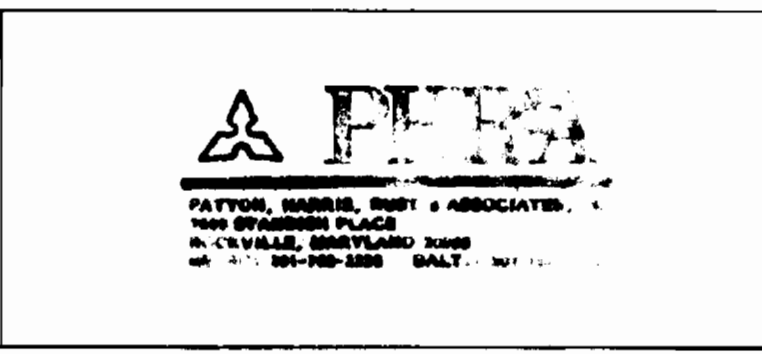
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. [Signature]*  
 DIRECTOR OF PUBLIC WORKS

*William E. [Signature]*  
 CHIEF, BUREAU OF UTILITIES

*[Signature]* 7/13/88  
 CHIEF, LAND DEVELOPMENT DIVISION



DES: KOR					
DRN: CSR					
CHK: KOR					
DATE: 3/29/88	BY: KOR	NO: 1	REVISION: REVISED PER HO. CO. COMMENTS	DATE: 6/17/88	

PLAN  
 WATER & SEWER MAINS

BOWLING BROOK FARMS  
 PARCEL E AREA 2  
 CONTRACT NO. 24-1737-D  
 LOTS E-28 THRU E-67, LOTS 221 & 222  
 A RESUBDIVISION OF BOWLING BROOKE, LOT 2  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 2 OF 3

BRUNING 69150

2184-1-4





SEWER AS-BUILT

WATER AS-BUILT

Lot #	LOCATION	DISTANCE	Lot	LOCATION	DISTANCE	Lot	LOCATION	DISTANCE	Lot	LOCATION	DISTANCE
E-28	Manhole # 103	141'	E-58	Manhole # 101	58'	E-28	Manhole # 103	65'	E-59	Manhole # 101	71'
"	Manhole # 105	53'	"	EXISTING Manhole # 4	221'	"	Manhole # 105	22'	"	EXISTING Manhole # 4	225'
E-29	Manhole # 103	11'	E-59	"	222'	E-29	"	16'	E-60	"	188'
"	Manhole # 105	44'	"	Manhole # 101	64'	"	Manhole # 103	34'	"	Manhole # 101	33'
E-30	"	19'	E-60	"	37'	E-30	"	28'	E-61	"	50'
"	Manhole # 103	34'	"	EXISTING Manhole # 4	172'	"	Manhole # 105	22'	"	EXISTING Manhole # 4	152'
E-31	"	38'	E-61	"	165'	E-31	"	12'	E-62	"	146'
"	Manhole # 105	11'	"	Manhole # 101	40'	"	Manhole # 103	12'	"	Manhole # 101	54'
E-32	Manhole # 104	46'	E-62	"	66'	E-32	"	18'	E-63	"	85'
"	Manhole # 103	28'	"	EXISTING Manhole # 4	131'	E-33	"	49'	"	EXISTING Manhole # 4	110'
E-33	"	37'	E-63	"	124'	"	Manhole # 104	27'	E-64	"	106'
"	Manhole # 104	37'	"	Manhole # 101	73'	E-34	"	22'	"	Manhole # 101	88'
E-34	"	10'	E-64	"	103'	"	Manhole # 103	52'	E-65	"	122'
"	Manhole # 103	68'	"	EXISTING Manhole # 4	72'	E-35	"	87'	"	EXISTING Manhole # 4	71'
E-35	"	79'	E-65	"	65'	"	Manhole # 104	17'	E-66	"	64'
"	Manhole # 104	7'	"	Manhole # 101	109'	E-36	Manhole # 102	150'	"	Manhole # 101	128'
E-36	Manhole # 102	140'	E-66	"	141'	"	Manhole # 103	37'	E-67	"	160'
"	Manhole # 103	42'	"	EXISTING Manhole # 4	53'	E-37	"	59'	"	EXISTING Manhole # 4	36'
E-37	"	48'	E-67	"	46'	"	Manhole # 102	118'	"	"	"
"	Manhole # 102	132'	"	Manhole # 101	149'	E-38	"	113'	"	"	"
E-38	"	79'	"	"	"	"	Manhole # 103	65'	"	"	"
"	Manhole # 103	77'	"	"	"	E-39	"	96'	"	"	"
E-39	"	83'	"	"	"	"	Manhole # 102	79'	"	"	"
"	Manhole # 102	93'	"	"	"	E-40	"	74'	"	"	"
E-40	"	63'	"	"	"	"	Manhole # 103	112'	"	"	"
"	Manhole # 103	114'	"	"	"	E-41	"	138'	"	"	"
E-41	"	120'	"	"	"	"	Manhole # 102	47'	"	"	"
"	Manhole # 102	57'	"	"	"	E-42	"	42'	"	"	"
E-42	"	35'	"	"	"	"	Manhole # 103	139'	"	"	"
"	Manhole # 103	151'	"	"	"	E-43	"	171'	"	"	"
E-43	"	159'	"	"	"	"	Manhole # 102	32'	"	"	"
"	Manhole # 102	33'	"	"	"	E-44	"	25'	"	"	"
E-44	"	63'	"	"	"	"	Manhole # 101	280'	"	"	"
"	Manhole # 101	247'	"	"	"	E-45	"	249'	"	"	"
E-45	"	261'	"	"	"	"	Manhole # 102	47'	"	"	"
"	Manhole # 102	59'	"	"	"	E-46	"	43'	"	"	"
E-46	"	32'	"	"	"	"	Manhole # 101	244'	"	"	"
"	Manhole # 101	229'	"	"	"	E-47	"	203'	"	"	"
E-47	"	224'	"	"	"	"	Manhole # 102	34'	"	"	"
"	Manhole # 102	35'	"	"	"	E-48	"	35'	"	"	"
E-48	"	44'	"	"	"	"	Manhole # 101	199'	"	"	"
"	Manhole # 101	189'	"	"	"	E-49	"	169'	"	"	"
E-49	"	181'	"	"	"	"	Manhole # 102	59'	"	"	"
"	Manhole # 102	30'	"	"	"	E-50	"	64'	"	"	"
E-50	"	75'	"	"	"	"	Manhole # 101	162'	"	"	"
"	Manhole # 101	149'	"	"	"	E-51	"	122'	"	"	"
E-51	"	142'	"	"	"	"	Manhole # 102	90'	"	"	"
"	Manhole # 102	81'	"	"	"	E-52	Manhole # 101	92'	"	"	"
E-52	Manhole # 101	75'	"	"	"	"	EXISTING Manhole # 4	244'	"	"	"
"	EXISTING Manhole # 4	233'	"	"	"	E-53	"	228'	"	"	"
E-53	"	231'	"	"	"	"	Manhole # 101	61'	"	"	"
"	Manhole # 101	72'	"	"	"	E-54	"	45'	"	"	"
E-54	"	45'	"	"	"	"	EXISTING Manhole # 4	226'	"	"	"
"	EXISTING Manhole # 4	223'	"	"	"	E-55	"	220'	"	"	"
E-55	"	222'	"	"	"	"	Manhole # 101	35'	"	"	"
"	Manhole # 101	41'	"	"	"	E-56	"	32'	"	"	"
E-56	"	33'	"	"	"	"	EXISTING Manhole # 4	219'	"	"	"
"	EXISTING Manhole # 4	219'	"	"	"	E-57	"	218'	"	"	"
E-57	"	218'	"	"	"	"	Manhole # 101	42'	"	"	"
"	Manhole # 101	35'	"	"	"	E-58	"	53'	"	"	"
"	"	"	"	"	"	"	EXISTING Manhole # 4	219'	"	"	"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

DES:

DRN:

CHK:

DATE:

BY NO.

REVISION

DATE

600' SCALE MAP NO.

BLOCK NO.

KATHY WILSON  
03-30-89

BOWLING BROOK FARMS  
AS-BUILTS

CONT. no. 24-1737-D

SCALE  
AS  
SHOWN

SHEET  
31 OF 39