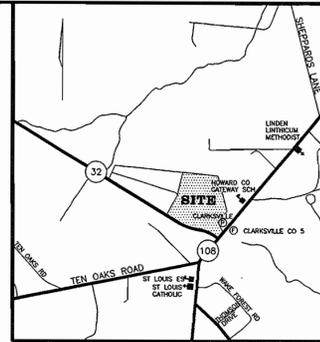


HOLWECK SUBDIVISION

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SEWER FORCE MAIN

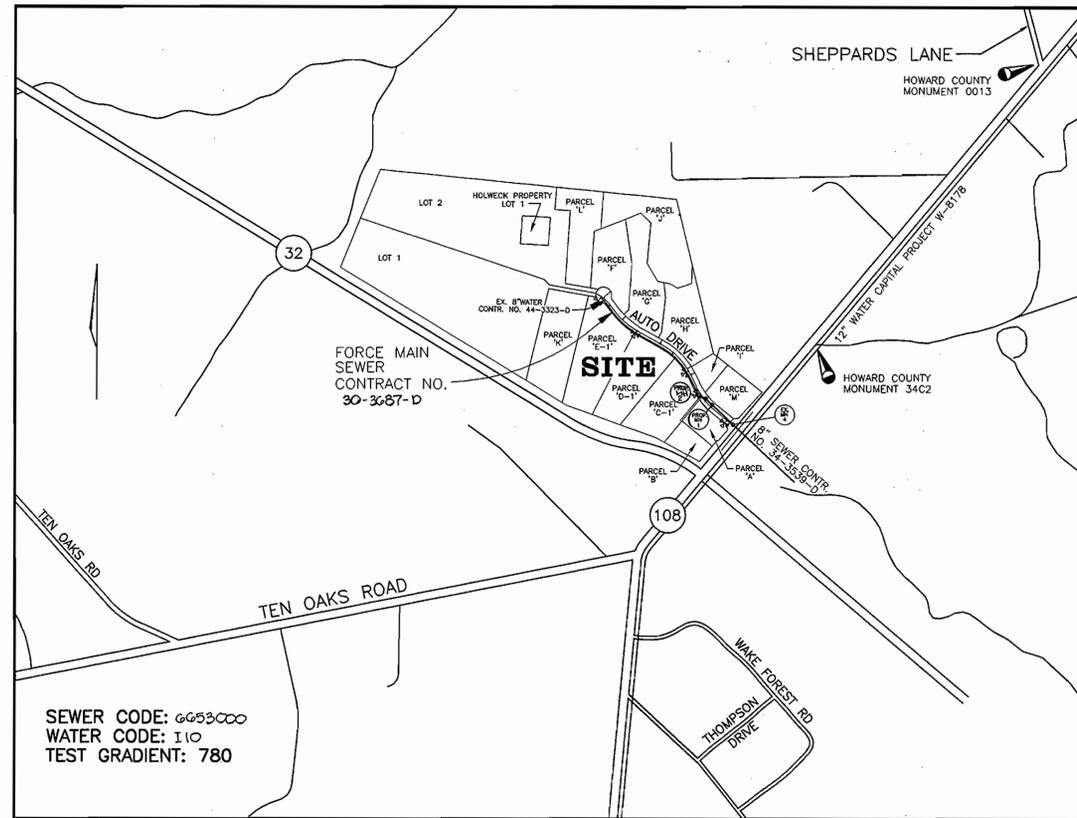


VICINITY MAP
SCALE: 1"=2000'

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 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTRACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON 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 TO 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, STANDARD SPECIFICATIONS AND DETAILS 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. IF LOCATIONS OR INVERTS ARE DIFFERENT, CONTACT THE ENGINEER AT ONCE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN THESE PLANS:

STATE HIGHWAY ADMINISTRATION	410-531-5533
B.G.&E. CO. CONTRACTOR SERVICES	410-850-4620
B.G.&E. CO. UNDER GROUND DAMAGE CONTROL	410-561-2595
MSS UTILITY	1-800-257-7777
COLONIAL PIPELINE CO.	410-795-1390
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES	410-313-4900
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAIN OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DWP REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.



LOCATION MAP
SCALE: 1"=600'

SEWER CODE: 6653000
WATER CODE: 110
TEST GRADIENT: 780

PART III - SEWER

- ALL SEWER MAINS SHALL BE P.V.C. UNLESS OTHERWISE NOTES.
- 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 MAIN SHALL BE P.V.C. SDR 21.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 05.52 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- EX. GAS, ELECTRIC & TELEPHONE LOCATIONS TO BE FIELD VERIFIED BY HAND DUG TEST PIT.
- LOCATIONS AND DEPTHS FOR ENVIRONMENTAL ONE PUMP WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
- ENVIRONMENTAL ONE PUMP TO BE PRIVATELY MAINTAINED, OWNED AND INSTALLED BY THE PROPERTY OWNER.

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
2"x 2 1/2" RED.	1 EA.	1.0 EA	PVC	NATIONAL PIPE / U.S. FILTER
SEWER MANHOLE	2 EA.	2.0 EA	PRECAST	FREDERICK PRECAST / FREDERICK PRECAST
INLINE FLUSHING MANHOLE	1 EA.	1.0 EA	PRECAST	FREDERICK PRECAST / FREDERICK PRECAST
TERMINAL FLUSHING MANHOLE	1 EA.	1.0 EA	PRECAST	FREDERICK PRECAST / FREDERICK PRECAST
1.4" SHC	137 LF	142.0 LF	PVC	NATIONAL PIPE / U.S. FILTER
1 1/2" SHC	172 LF	201.0 LF	PVC SDR 21	NATIONAL PIPE / U.S. FILTER
2 1/2" FORCEMAIN	909 LF	896.0 LF	PVC SDR 21	NATIONAL PIPE / U.S. FILTER
2" FORCEMAIN	104 LF	109.0 LF	PVC SDR 21	NATIONAL PIPE / U.S. FILTER
8" SEWER	315 LF	307.0 LF	PVC	NATIONAL PIPE / U.S. FILTER
AS-BUILT				
QUANTITIES				
NAME OF UTILITY CONTRACTOR UTILITIES UNLIMITED				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE 10-12-98				

TYPE OF BUILDING:	COMMERCIAL
NO. OF LOTS/PARCELS:	9
NO. OF WATER HOUSE CONNECTIONS:	N/A
NO. OF SEWER HOUSE CONNECTIONS:	4 GRAVITY 5 PRESSURIZED
DRAINAGE AREA:	N/A
TREATMENT PLANT:	N/A

AS-BUILT SEWER

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

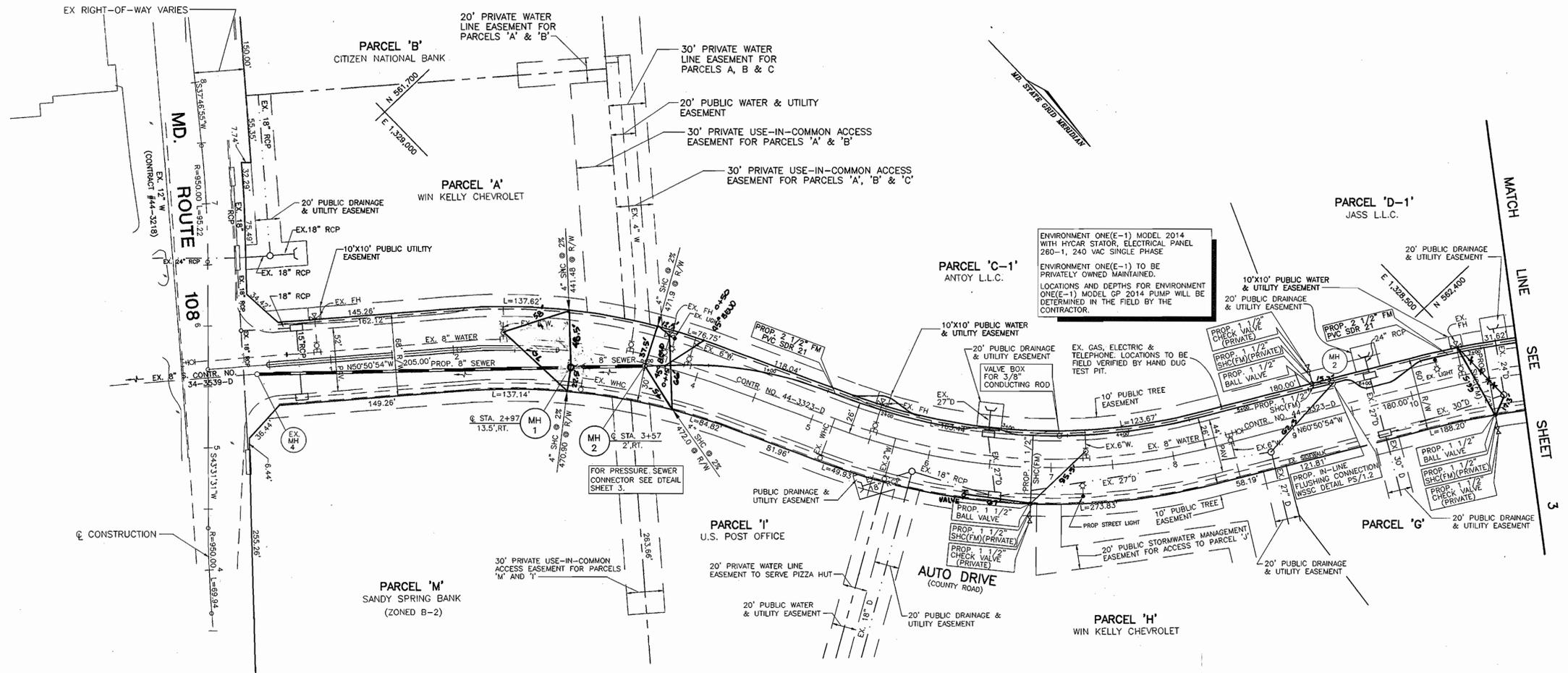
Clayf Simmons 6/29/98
U.S. SOIL CONSERVATION DISTRICT HRC DATE

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

John K. Rolunter 6/29/98
SOIL CONSERVATION DISTRICT DATE

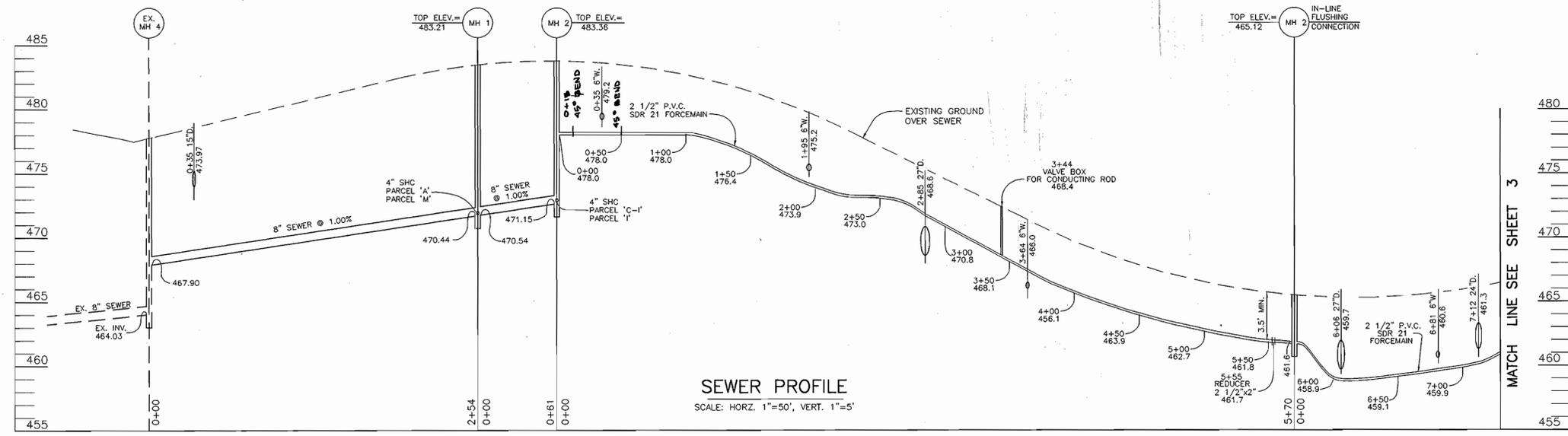
C:\ACADJOBS\CAP\WCOVER

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Michael A. Brummett</i> 6-24-98 CHIEF, BUREAU OF UTILITIES RMB DATE	DEPARTMENT OF PLANING & ZONING HOWARD COUNTY, MARYLAND <i>John K. Rolunter</i> 7/1/98 CHIEF, DEVELOPMENT ENGINEERING DIVISION 1 DATE	VOGEL & ASSOCIATES, INC. ENGINEERS - SURVEYORS - PLANNERS 3891 PARK AVENUE, SUITE 101 BELLICOFT CITY, MARYLAND 21043 TELEPHONE: (410) 461-5828 FAX: (410) 465-3966	DES: R.H.V./J.C.O. DRN: J.C.O. CHK: R.H.V. DATE: 6/98	TITLE SHEET	HOLWECK SUBDIVISION PARCELS A THRU M 5TH ELECTION DISTRICT CONTRACT No. 30-3687-D	SCALE AS SHOWN SHEET 1 OF 3
60' SCALE MAP NO. 34 BLOCK NO. 6				REVISION BY NO. DATE		



ENVIRONMENT ONE (E-1) MODEL 2014 WITH HYCAR STATOR, ELECTRICAL PANEL 260-1, 240 VAC SINGLE PHASE. ENVIRONMENT ONE (E-1) TO BE PRIVATELY OWNED MAINTAINED. LOCATIONS AND DEPTHS FOR ENVIRONMENT ONE (E-1) MODEL GP 2014 PUMP WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.

PLAN
SCALE: 1"=50'



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANING & ZONING
HOWARD COUNTY, MARYLAND

Nicholas A. ... 6-24-98
CHIEF, BUREAU OF UTILITIES

... 7/1/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION

VOGEL & ASSOCIATES, INC.
ENGINEERS - SURVEYORS - PLANNERS

3891 PARK AVENUE, SUITE 101
BILLOPP CITY, MARYLAND 21045

TELEPHONE: (410) 481-5828
FAX: (410) 485-3999



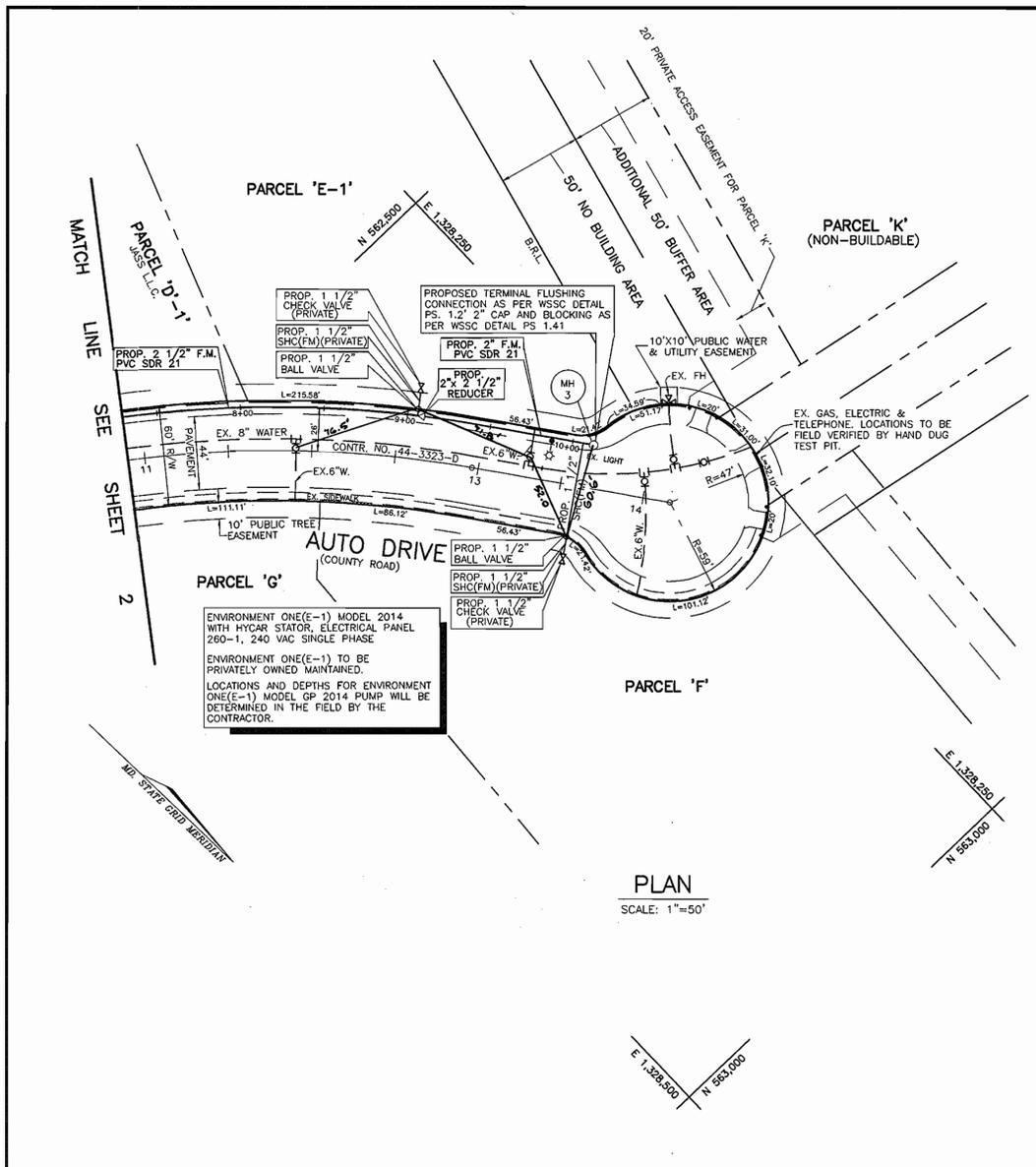
DES:	R.H.V./J.C.O.				
DRN:	J.C.O.				
CHK:	R.H.V.				
DATE:	6/98	BY:	NO.	REVISION	DATE

**SEWER FORCE MAIN
PLAN & PROFILE**

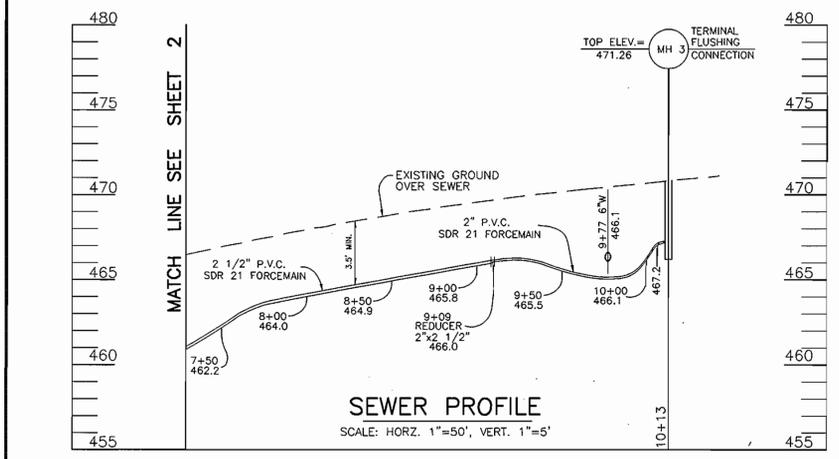
600' SCALE MAP NO. 34 BLOCK NO. 6

HOLWECK SUBDIVISION
PARCELS A THRU M
5th ELECTION DISTRICT
CONTRACT No.
30-3687-D

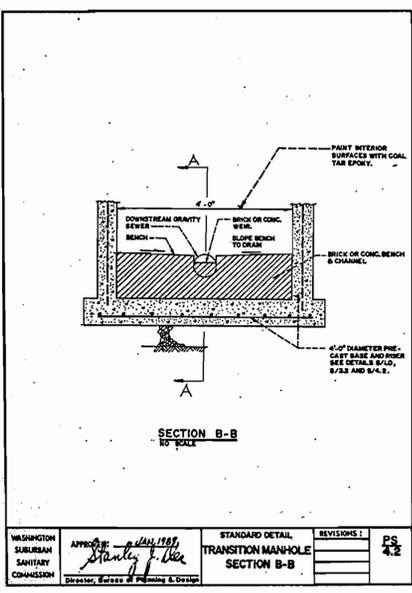
SCALE AS SHOWN
SHEET 2 OF 3



PLAN
SCALE: 1"=50'

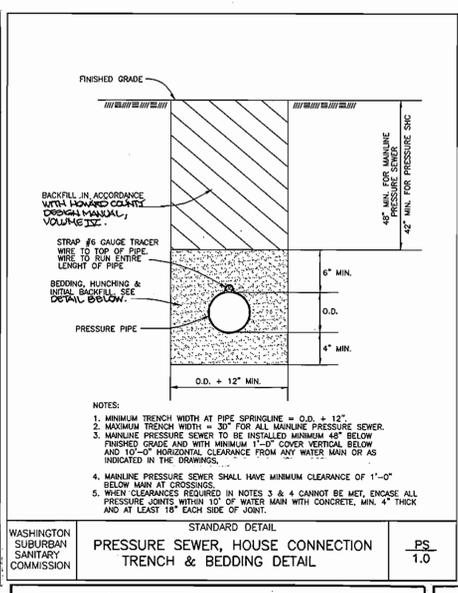


SEWER PROFILE
SCALE: HORZ. 1"=50', VERT. 1"=5'



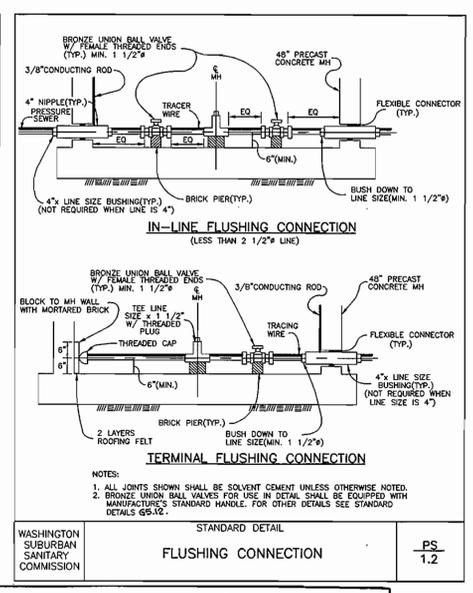
SECTION B-B
NO BALL

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL TRANSITION MANHOLE SECTION B-B	REVISIONS: 1	PS 4.2
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STANDARD DETAIL PRESSURE SEWER, HOUSE CONNECTION TRENCH & BEDDING

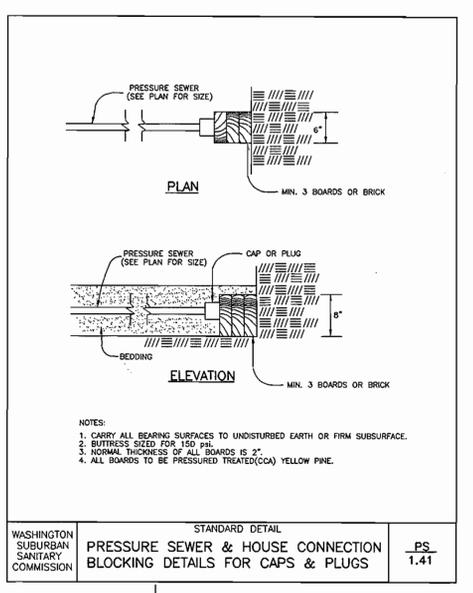
WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL PRESSURE SEWER, HOUSE CONNECTION TRENCH & BEDDING	REVISIONS: 1	PS 1.0
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IN-LINE FLUSHING CONNECTION (LESS THAN 2 1/2" LINE)

TERMINAL FLUSHING CONNECTION

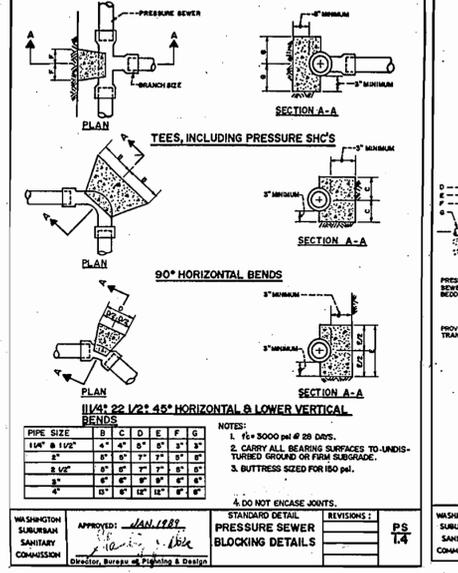
WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL FLUSHING CONNECTION	REVISIONS: 1	PS 1.2
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PLAN

ELEVATION

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL PRESSURE SEWER & HOUSE CONNECTION BLOCKING DETAILS FOR CAPS & PLUGS	REVISIONS: 1	PS 1.41
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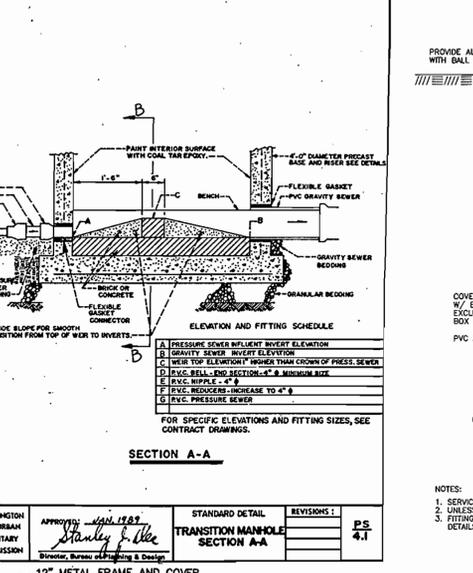


TEES, INCLUDING PRESSURE SHCS

90° HORIZONTAL BENDS

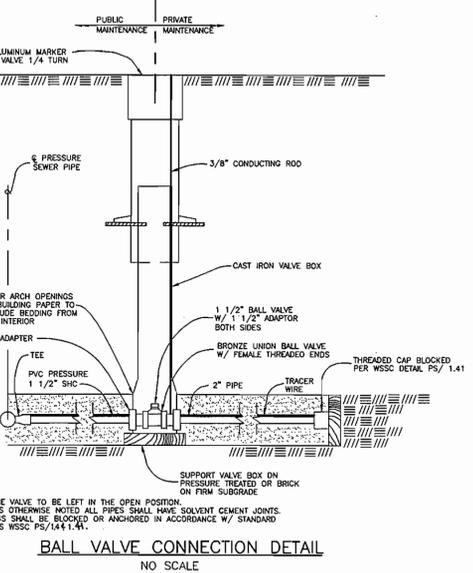
PIPE SIZE	B	C	D	E	F	G
1 1/2" & 1 1/2"	4"	4"	6"	6"	3"	3"
2"	6"	6"	7"	7"	3"	3"
2 1/2"	6"	6"	7"	7"	3"	3"
3"	6"	6"	8"	8"	3"	3"
4"	6"	6"	10"	10"	3"	3"

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL PRESSURE SEWER BLOCKING DETAILS	REVISIONS: 1	PS 1.4
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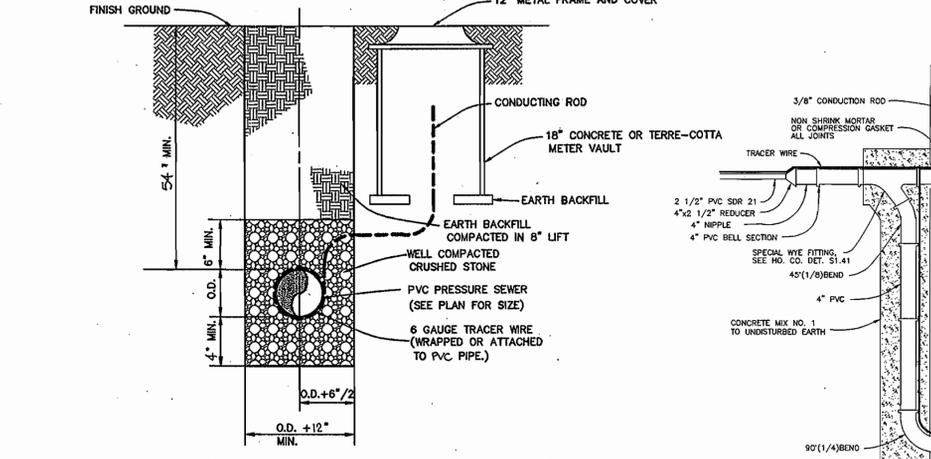


SECTION A-A

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL TRANSITION MANHOLE SECTION A-A	REVISIONS: 1	PS 4.1
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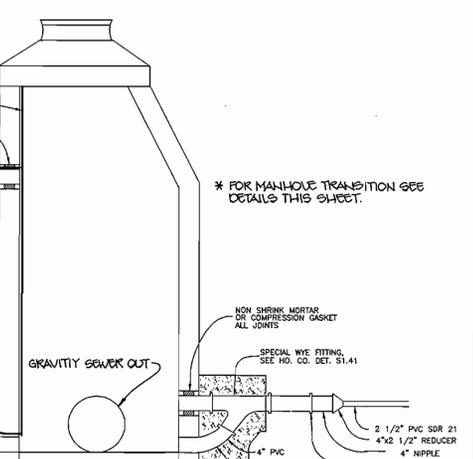


BALL VALVE CONNECTION DETAIL
NO SCALE



PRESSURE SEWER TRENCH, BEDDING & CONDUCTING ROD CABLE BOX LOCATION DETAIL

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL PRESSURE SEWER TRENCH, BEDDING & CONDUCTING ROD CABLE BOX LOCATION DETAIL	REVISIONS: 1	PS 1.4
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PRESSURE SEWER CONNECTION TO MANHOLE 1
NO SCALE

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: <i>Stanley J. Lee</i>	STANDARD DETAIL PRESSURE SEWER CONNECTION TO MANHOLE 1	REVISIONS: 1	PS 1.41
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

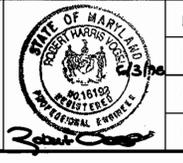
Michael J. ...
CHIEF, BUREAU OF UTILITIES

...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

VOGEL & ASSOCIATES, INC.
ENGINEERS - SURVEYORS - PLANNERS

2691 PARK AVENUE, SUITE 101
KILGORETOWN, MARYLAND 21046

TELEPHONE: (410) 461-5822
FAX: (410) 466-3888



DES: J.C.O.					
DRN: J.C.O.					
CHK: R.H.V.					
DATE: 6/9/00	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 34	BLOCK NO. 6

SEWER FORCE MAIN PLAN & PROFILE

HOLWECK SUBDIVISION
PARCELS A THRU M
5th ELECTION DISTRICT
CONTRACT NO. 30-3687-D

SCALE AS SHOWN
SHEET 3 OF 3