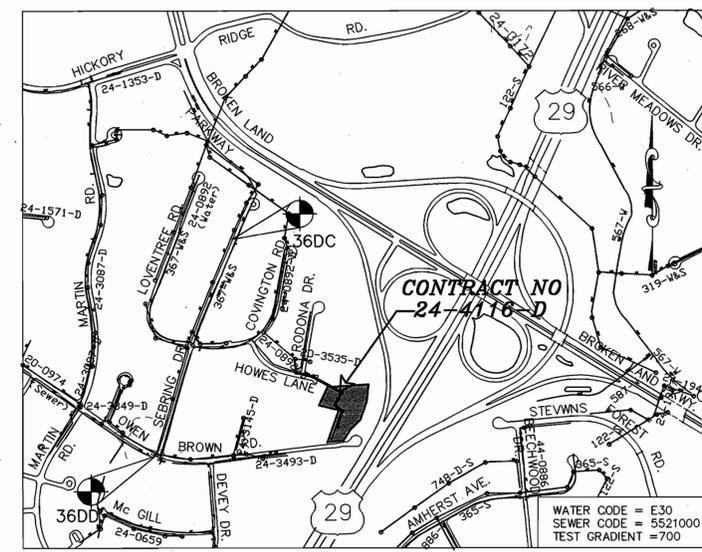


QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES		
		TYPE	MANUFACTURER/SUPPLIER	
STANDARD MH (HO. CO. STD.G-5.01)	6			
8" SEWER MAIN	494 L.F.			
8" SEWER MAIN (DIP)	231 L.F.			
4" SEWER HOUSE CONNECTION	90 L.F.			
# SEWER HOUSE CONNECTIONS	4 EACH			
# MANHOLE SEWER HOUSE CONNECTIONS	2 EACH			
8" WATER MAIN	767 L.F.			
1" WATER HOUSE CONNECTION	105 L.F.			
# 1" WATER HOUSE CONNECTION	6 EACH			
8"x 8" T.S. & V.	1 EACH			
8" CAP & BUTTRESS	1 EACH			
1/8 H.B. (8")	3 EACH			
1/16 H.B. (8")	2 EACH			
1/32 H.B. (8")	1 EACH			
8"x8" T	1 EACH			
F.H.	1 EACH			
8"x8" F.H.T. & V.	1 EACH			
AIR REL MH	1 EACH			
B.O.	1 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				

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 SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES NAD83/91 AS PROJECTED BY HOWARD COUNTY HORIZONTAL AND VERTICAL GEODETIC CONTROL NOS. 37C3 & 37F3. THESE WATER AND SEWER DRAWINGS ARE BASED ON A FIELD RUN TOPOGRAPHIC STUDY PERFORMED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. ON OR ABOUT JANUARY 2001.
- 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 12". 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, 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 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 (410) 531-5533
 - BG & E CO. CONTRACTOR SERVICES (410) 850-4620
 - BG & E CO. UNDERGROUND DAMAGE CONTROL (410) 787-9068
 - MISS UTILITY (1-800-257-7777)
 - COLONIAL PIPELINE CO. (410) 795-1390
 - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES (410) 313-4900
 - BELL ATLANTIC (800) 446-5266
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED OUTSIDE 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 (410)313-2450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF HOWARD COUNTY CODE.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 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 STRAPPED 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 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.
- SPRINKLER SYSTEM FOR ALL TOWNHOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.
- ALL SEWER MAINS SHALL BE P.V.C. OR D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL GS.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.
- STATIONING SHOWN IS WATER MAIN AND CENTER LINE STATIONING.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- SEDIMENT CONTROL TO BE PROVIDED BY SDP-02-138.
- ALL SEWER HOUSE CONNECTIONS TO BE 4" IN SIZE.
- ALL WATER HOUSE CONNECTIONS TO BE 1" IN SIZE UNLESS OTHERWISE NOTED.
- ALL HOUSES WILL HAVE SERVICE TO LOWEST FLOOR UNLESS OTHERWISE NOTED.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.



VICINITY MAP
SCALE: 1"=600'

TYPE OF BUILDING	SFD
No. OF UNITS	6
No. OF WATER HOUSE CONNECTION	6
No. OF SEWER HOUSE CONNECTIONS	6
DRAINAGE AREA	PATAPSCO
TREATMENT PLANT	PATAPSCO WWTP

CONTRACT NO.: 24-4116-D

WELK PROPERTY

**WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS**

Reviewed for HOWARD S.C.D.
Name: *Jan. H. [Signature]*
Date: 4/1/03
Signature: *[Signature]*
USA, NATURAL RESOURCES CONS. SERVICE

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN AND PROFILES

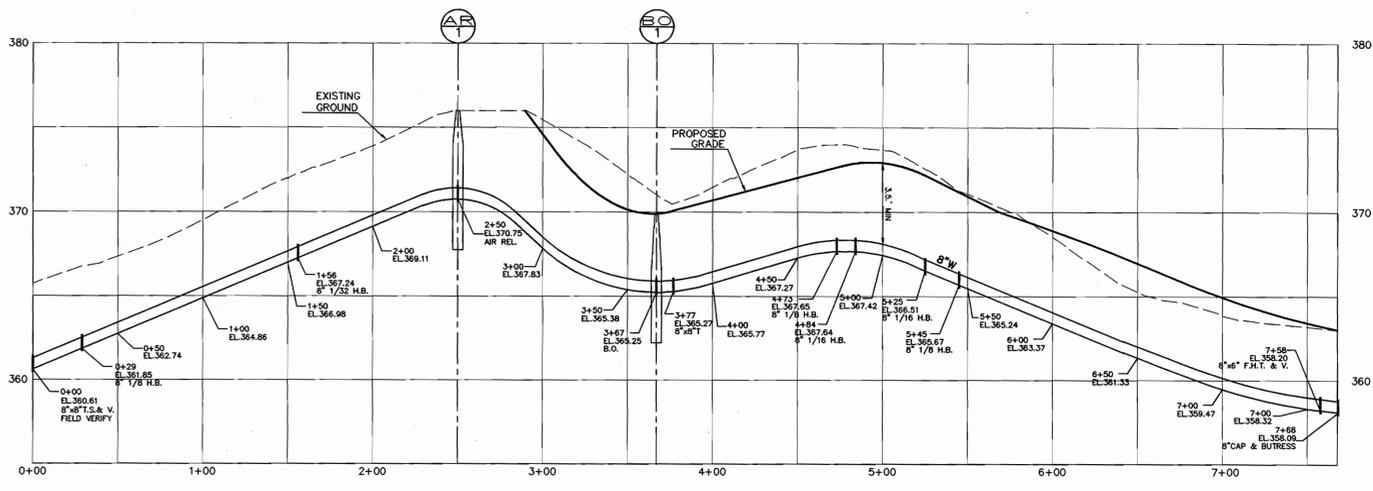
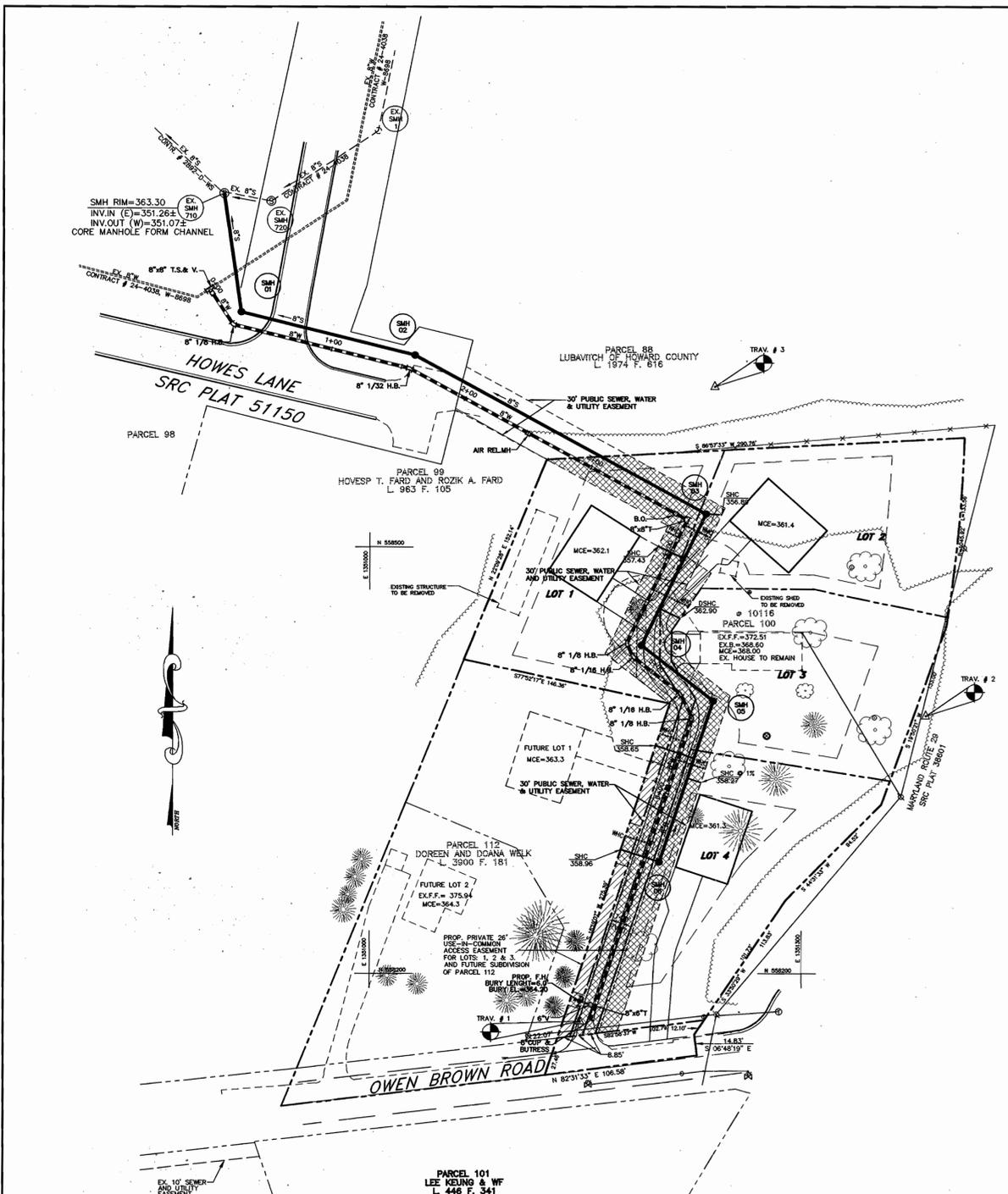
PLAN REFERENCE NUMBERS:
F-03-62
GP-03-47

**EROSION AND SEDIMENT CONTROL
FOR THIS CONTRACT IS PROVIDED
UNDER GP-03-47**

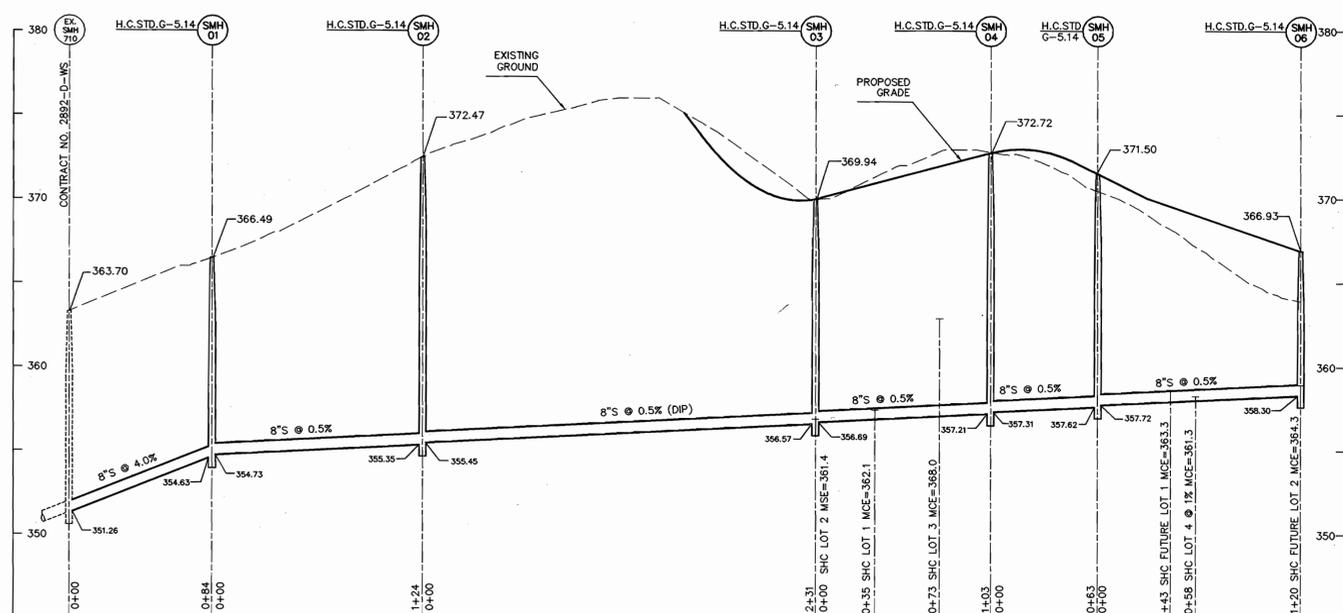
THIS DEVELOPMENT PLAN IS APPROVED
FOR SOIL EROSION AND SEDIMENT
CONTROL BY THE HOWARD SOIL
CONSERVATION DISTRICT.
Approved: *[Signature]* Date: 4/1/03
Howard S.C.D.

OWNER
KENNETH ROBERT WELK SR.
CAROL CLARK WELK
10116 OWEN BROWN RD.
COLUMBIA, MD 21044

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	MILDENBERG, BOENDER & ASSOC., INC. Engineers Planners Surveyors 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042 (410) 997-0296 Fax. (301) 621-5521 Wash. (410) 997-0298 Fax.	engineering MMP illustration MMP approval RJH project 01-057 date APRIL 03	BY NO. _____ REVISION _____ DATE _____	600' SCALE MAP NO. _____ BLOCK NO. _____	TITLE SHEET	WELK PROPERTY CONTRACT NO. 24-4116-D 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	scale 1"=50' 1 OF 2
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8" WATER MAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



8" SEWER MAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

TRAVERSE CHART				
NUMBER	STATION	DESCRIPTION	LOCATION	ELEVATION
1	901	MAG. NAIL	N 558,166.482 E 1,351,146.267	362.98
2	902	R+C	N 558,381.240 E 1,351,386.377	364.45
3	903	MAG. NAIL	N 558,612.828 E 1,351,239.640	374.53

MANHOLE LOCATION CHART	
MANHOLE NO.	LOCATION
1	N 558,665.4 E 1,350,910.5
2	N 558,635.0 E 1,351,031.2
3	N 558,523.3 E 1,351,233.5
4	N 558,430.8 E 1,351,188.5
5	N 558,391.9 E 1,351,238.6
6	N 558,277.2 E 1,351,210.4

WATER MAIN CHART	
APPURTENANCE	LOCATION
8"x8" T.S. & V	N 558,681.0 E 1,350,888.6
8" 1/8 H.B.	N 558,656.5 E 1,350,904.7
8" 1/32 H.B.	N 558,625.6 E 1,351,027.5
8"x8" T	N 558,519.2 E 1,351,220.3
AIR REL. MH	N 558,580.0 E 1,351,109.8
B.O.	N 558,523.6 E 1,351,212.3
8" 1/8 H.B.	N 558,432.5 E 1,351,178.3
8" 1/16 H.B.	N 558,422.5 E 1,351,182.9
8" 1/16 H.B.	N 558,459.1 E 1,351,215.6
8" 1/8 H.B.	N 558,380.0 E 1,351,224.1
8"x6" F.H.T. & V.	N 558,176.0 E 1,351,156.8
F.H.	N 558,180.7 E 1,351,145.9
8" C. & B.	N 558,167.5 E 1,351,153.8

OWNER
KENNETH ROBERT WELK SR.
CAROL CLARK WELK
10116 OWEN BROWN RD.
COLUMBIA, MD 21044

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

R. H. Berman 4-7-02
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 4/16/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

PROFESSIONAL ENGINEER

engineering	MMP				
illustration	MMP				
approval	RJH				
project	01-057				
date	APRIL 03	BY	NO.	REVISION	DATE

WATER AND SEWER PLAN AND PROFILES

600' SCALE MAP NO. 36 BLOCK NO. 13

WELK PROPERTY

CONTRACT NO. 24-4116-D
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
1"=50'
2 OF 2

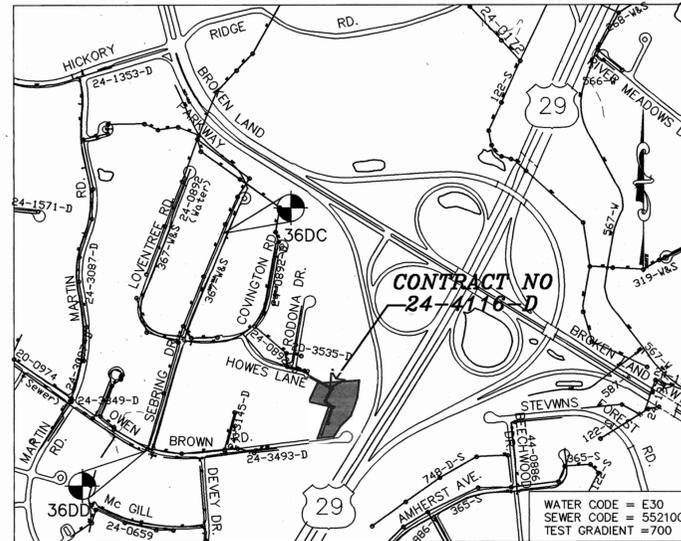
QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES			MANUFACTURER/SUPPLIER
		QTY	TYPE	MANUFACTURER/SUPPLIER	
STANDARD MH (HO. CO. STD.G-5.01)	6	6	PRECAST	ATLANTIC CONC. PRODUCTS, Inc.	
8" SEWER MAIN	494 L.F.	473'	PVC	JM MANUF./BELAIR RD. SUPPLY	
8" SEWER MAIN (DIP)	231 L.F.	227'	DIP	ATLANTIC ST. CAST IRON PIPE	
4" SEWER HOUSE CONNECTION	90 L.F.	150.5'	PVC	JM MANUF./BELAIR RD. SUPPLY	
# SEWER HOUSE CONNECTIONS	4 EACH	4	PVC	—	
# MANHOLE SEWER HOUSE CONNECTIONS	2 EACH	2	PVC	—	
8" WATER MAIN	767 L.F.	701'	DIP	ATLANTIC ST. CAST IRON PIPE	
1" WATER HOUSE CONNECTION	105 L.F.		COPPER	CAMBRIDGE LEE/BELAIR RD. SUPPLY	
# 1" WATER HOUSE CONNECTION	6 EACH	6			
8" x 8" T.S. & V.	1 EACH	1	STAIN. ST.	T.S.:JCM.V.:MUELLER Co./BELAIR RD. SUPPLY	
8" CAP & BUTTRESS	1 EACH	1	DIP	U.S. PIPE FOUNDRY/BELAIR RD. SUPPLY	
1/8 H.B. (8")	3 EACH	3	DIP	" " / " "	
1/16 H.B. (8")	2 EACH	2	DIP	" " / " "	
1/32 H.B. (8")	1 EACH	1	DIP	" " / " "	
8"x8" T	1 EACH	1	DIP	" " / " "	
F.H.	1 EACH	1		MUELLER Co./BELAIR RD. SUPPLY	
8"x6" F.H.T. & V.	1 EACH	1		U.S. PIPE FOUNDRY, MUELLER Co./BELAIR RD. SUPPLY	
AIR REL MH	1 EACH	1	PRECAST	ATLANTIC CONC. PRODUCTS, Inc.	
B.O.	1 EACH	1	DIP	KUPFERLE/BELAIR RD. SUPPLY	
NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED					
SURVEY AND DRAFTING DIVISION AS-BUILT DATE APRIL 2003					

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 SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES NAD83/91 AS PROJECTED BY HOWARD COUNTY HORIZONTAL AND VERTICAL GEODETIC CONTROL NOS. 37C3 & 37F3. THESE WATER AND SEWER DRAWINGS ARE BASED ON A FIELD RUN TOPOGRAPHIC STUDY PERFORMED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. ON OR ABOUT JANUARY 2001.
- 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 12". 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.
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- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION	(410) 531-5533
BG & E CO. CONTRACTOR SERVICES	(410) 850-4620
BG & E CO. UNDERGROUND DAMAGE CONTROL	(410) 787-9068
MISS UTILITY	1-800-257-7777
COLONIAL PIPELINE CO.	(410) 795-1390
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
BUREAU OF UTILITIES	(410) 313-4900
BELL ATLANTIC	(800) 446-5266
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED OUTSIDE 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 (410)313-2450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF HOWARD COUNTY CODE.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 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 STRAPPED 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 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.
- SPRINKLER SYSTEM FOR ALL TOWNHOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.
- ALL SEWER MAINS SHALL BE P.V.C. OR D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 65.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1' - 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
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- ALL WATER HOUSE CONNECTIONS TO BE 1" IN SIZE UNLESS OTHERWISE NOTED.
- ALL HOUSES WILL HAVE SERVICE TO LOWEST FLOOR UNLESS OTHERWISE NOTED.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.



VICINITY MAP
SCALE: 1"=600'

TYPE OF BUILDING	SFD
No. OF UNITS	6
No. OF WATER HOUSE CONNECTION	6
No. OF SEWER HOUSE CONNECTIONS	6
DRAINAGE AREA	PATAPSCO
TREATMENT PLANT	PATAPSCO WWTP

CONTRACT NO.: 24-4116-D

WELK PROPERTY

WATER AND SEWER MAIN EXTENSIONS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS



INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN AND PROFILES

PLAN REFERENCE NUMBERS:
F-03-62
GP-03-47

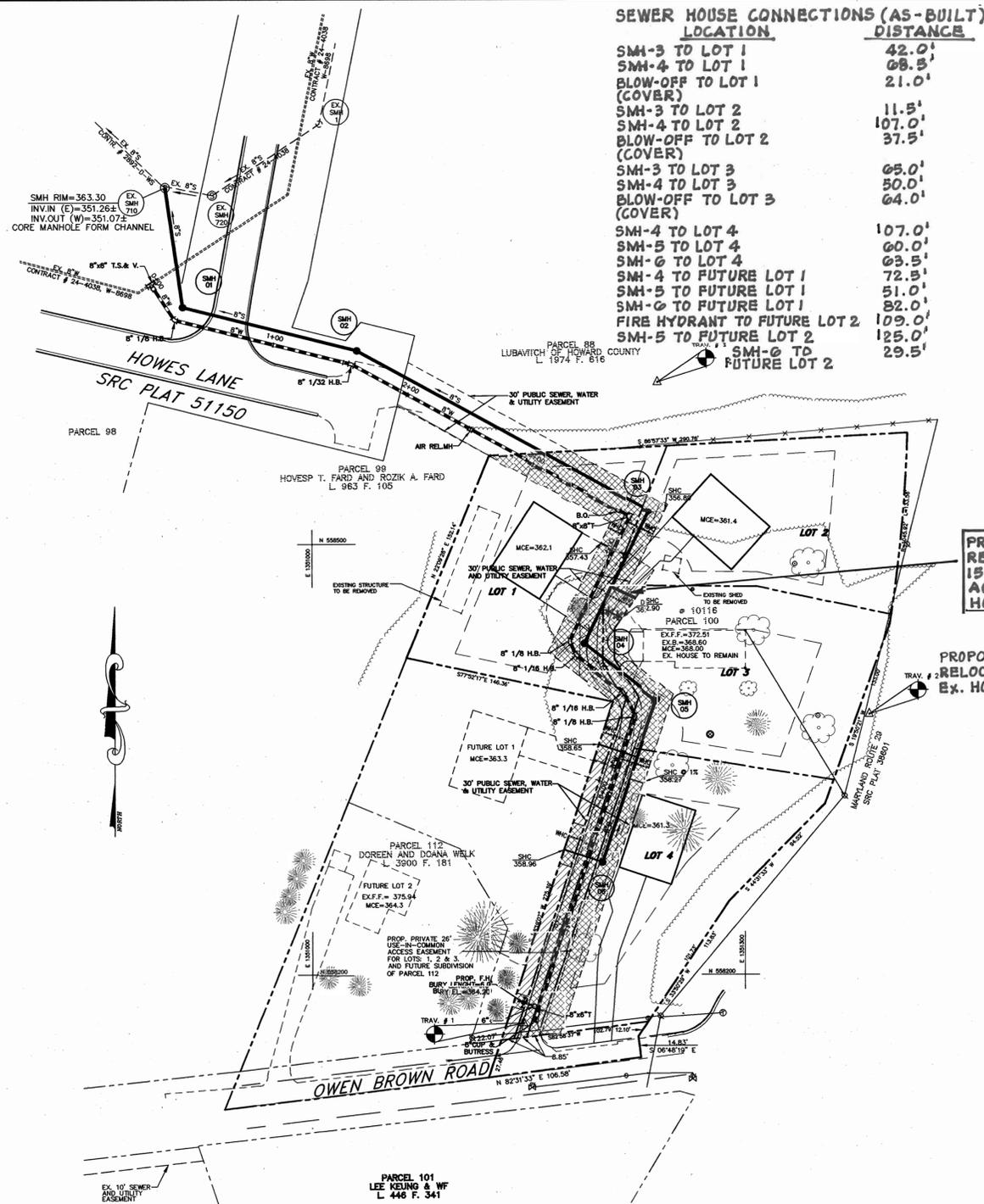
EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER GP-03-47

AS BUILT
DATE: APRIL 2003

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Approved: [Signature] Date: 4/1/03
Howard S.C.D.

OWNER
KENNETH ROBERT WELK, SR.
CAROL CLARK WELK
10116 OWEN BROWN RD.
COLUMBIA, MD 21044

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND [Signature] 4-7-03 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND [Signature] 4/7/03 CHIEF, DEVELOPMENT ENGINEERING DIVISION	MILDENBERG, BOENDER & ASSOC., Inc. Engineers Planners Surveyors 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0288 Fax.	engineering MMP illustration MMP approval RJH project 01-057 date APRIL 03	REVISION BY NO. DATE	600' SCALE MAP NO. 38 BLOCK NO. 13	TITLE SHEET	WELK PROPERTY CONTRACT NO. 24-4116-D 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	scale 1"=50' 1 OF 2
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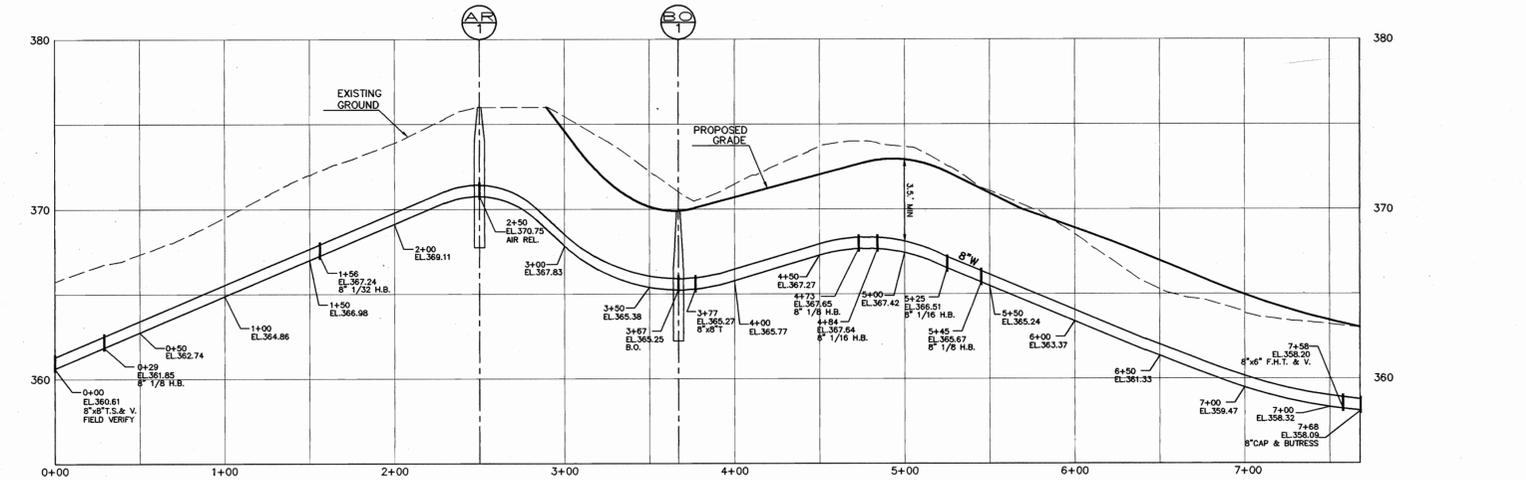


SEWER HOUSE CONNECTIONS (AS-BUILT)

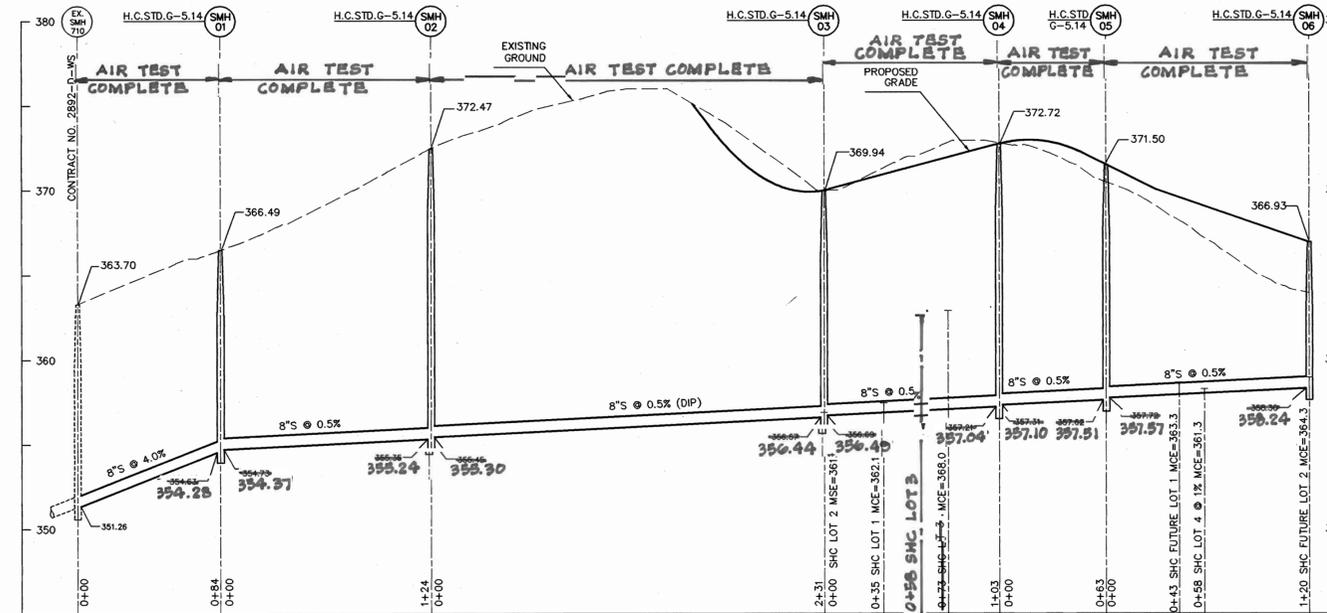
LOCATION	DISTANCE
SMH-3 TO LOT 1	42.0'
SMH-4 TO LOT 1	68.5'
BLOW-OFF TO LOT 1 (COVER)	21.0'
SMH-3 TO LOT 2	11.5'
SMH-4 TO LOT 2	107.0'
BLOW-OFF TO LOT 2 (COVER)	37.5'
SMH-3 TO LOT 3	65.0'
SMH-4 TO LOT 3	50.0'
BLOW-OFF TO LOT 3 (COVER)	64.0'
SMH-4 TO LOT 4	107.0'
SMH-5 TO LOT 4	60.0'
SMH-0 TO LOT 4	63.5'
SMH-4 TO FUTURE LOT 1	72.5'
SMH-5 TO FUTURE LOT 1	51.0'
SMH-0 TO FUTURE LOT 1	82.0'
FIRE HYDRANT TO FUTURE LOT 2	109.0'
SMH-5 TO FUTURE LOT 2	125.0'
SMH-0 TO FUTURE LOT 2	29.5'

PROPOSED 4" SHC RELOCATED APPROX. 15' DOWNSTREAM TO ACCOM. THE EX. HOUSE CONN.

PROPOSED 1" WHC RELOCATED TO ACCOM. EX. HOUSE CONN.



8" WATER MAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



8" SEWER MAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

WATER HOUSE CONNECTIONS (AS-BUILT)

LOCATION	DISTANCE
SMH-3 TO LOT 1 WHC	31.0'
SMH-4 TO LOT 1 WHC	82.0'
BLOW-OFF TO LOT 1 WHC (COVER)	8.0'
SMH-3 TO LOT 2 WHC	18.5'
SMH-4 TO LOT 2 WHC	88.5'
BLOW-OFF TO LOT 2 WHC (COVER)	31.5'
SMH-3 TO LOT 3 WHC	81.5'
SMH-5 TO LOT 3 WHC	23.0'
SMH-0 TO LOT 3 WHC	102.0'
SMH-4 TO LOT 4 WHC	99.0'
SMH-5 TO LOT 4 WHC	50.0'
SMH-0 TO LOT 4 WHC	73.5'
SMH-4 TO FUTURE LOT 1 WHC	64.0'
SMH-5 TO FUTURE LOT 1 WHC	44.0'
SMH-0 TO FUTURE LOT 1 WHC	91.0'
SMH-5 TO FUTURE LOT 2 WHC	115.0'
SMH-0 TO FUTURE LOT 2 WHC	31.0'
FIRE HYDRANT TO FUTURE LOT 2 WHC	119.7'

TRAVERSE CHART

NUMBER	STATION	DESCRIPTION	LOCATION	ELEVATION
1	901	MAG. NAIL	N 558,166.482 E 1,351,146.267	362.98
2	902	R+C	N 558,381.240 E 1,351,386.377	364.45
3	903	MAG. NAIL	N 558,612.828 E 1,351,239.640	374.53

MANHOLE LOCATION CHART

MANHOLE NO.	LOCATION
1	N 558,665.4 E 1,350,910.5
2	N 558,635.0 E 1,351,031.2
3	N 558,523.3 E 1,351,233.5
4	N 558,430.8 E 1,351,188.5
5	N 558,391.9 E 1,351,238.6
6	N 558,277.2 E 1,351,210.4

WATER MAIN CHART

APPURTENANCE	LOCATION
8"x8" T.S. & V.	N 558,681.0 E 1,350,888.6
8" 1/8 H.B.	N 558,656.5 E 1,350,904.7
8" 1/32 H.B.	N 558,625.6 E 1,351,027.5
8"x8" T.	N 558,519.2 E 1,351,220.3
AIR REL. MH	N 558,580.0 E 1,351,109.8
B.O.	N 558,523.6 E 1,351,212.3
8" 1/8 H.B.	N 558,432.5 E 1,351,178.3
8" 1/16 H.B.	N 558,422.5 E 1,351,182.9
8" 1/16 H.B.	N 558,4597.1 E 1,351,215.6
8" 1/8 H.B.	N 558,380.0 E 1,351,224.1
8"x6" F.H.T. & V.	N 558,176.0 E 1,351,156.8
F.H.	N 558,180.7 E 1,351,145.9
8" C. & B.	N 558,167.5 E 1,351,153.8

AS BUILT
DATE: APRIL 2003

OWNER
KENNETH ROBERT WELK SR.
CAROL CLARK WELK
10116 OWEN BROWN RD.
COLUMBIA, MD 21044

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dersey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0288 Pa.



engineering	MMP				
illustration	MMP				
approval	RJH				
project	01-057				
date	APRIL 03	BY	NO.	REVISION	DATE

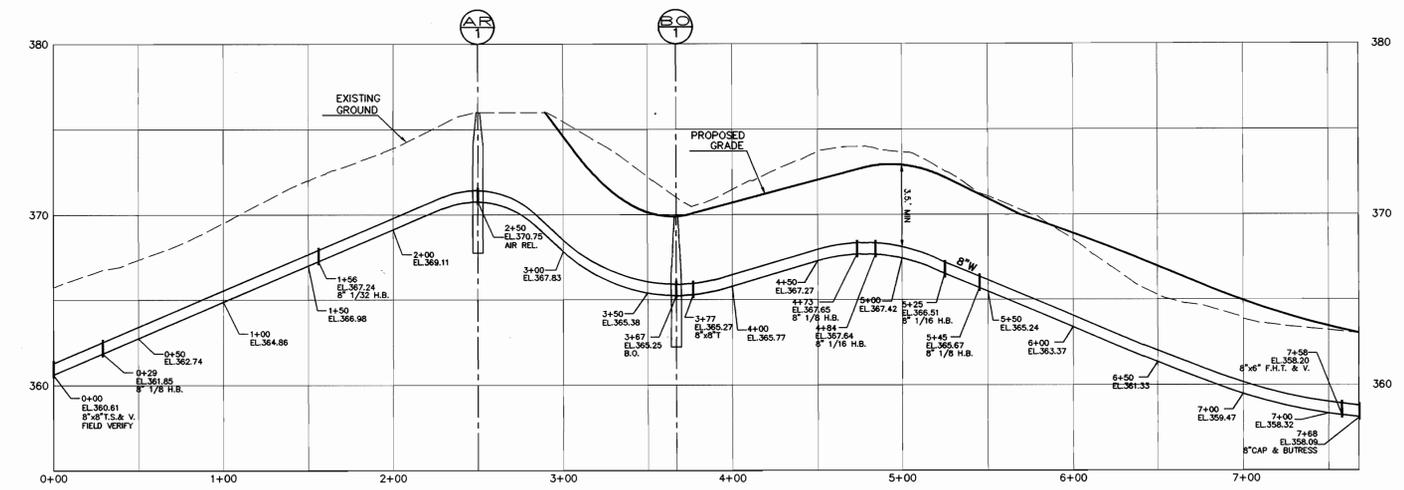
WATER AND SEWER PLAN AND PROFILES

WELK PROPERTY
CONTRACT NO. 24-4116-D
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
1"=50'
2 OF 2

SEWER HOUSE CONNECTIONS (AS-BUILT)

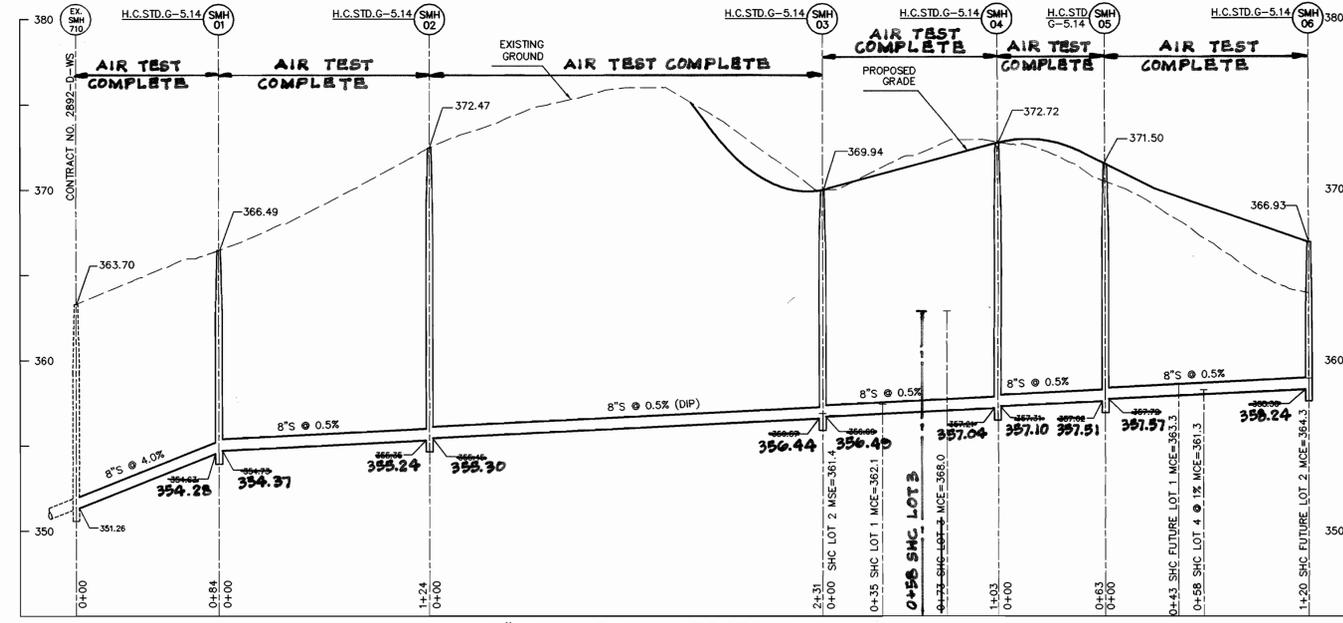
LOCATION	DISTANCE
SMH-3 TO LOT 1	42.0'
SMH-4 TO LOT 1	68.5'
BLOW-OFF TO LOT 1 (COVER)	21.0'
SMH-3 TO LOT 2	11.5'
SMH-4 TO LOT 2	107.0'
BLOW-OFF TO LOT 2 (COVER)	37.5'
SMH-3 TO LOT 3	65.0'
SMH-4 TO LOT 3	50.0'
BLOW-OFF TO LOT 3 (COVER)	64.0'
SMH-4 TO LOT 4	107.0'
SMH-5 TO LOT 4	60.0'
SMH-6 TO LOT 4	63.5'
SMH-4 TO FUTURE LOT 1	72.3'
SMH-5 TO FUTURE LOT 1	51.0'
SMH-6 TO FUTURE LOT 1	82.0'
FIRE HYDRANT TO FUTURE LOT 2	109.0'
SMH-5 TO FUTURE LOT 2	125.0'
SMH-6 TO FUTURE LOT 2	29.5'



8" WATER MAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

PROPOSED 4" SHC RELOCATED APPROX. 15' DOWNSTREAM TO ACCOM. THE EX. HOUSE CONN.

PROPOSED 1" WHC RELOCATED TO ACCOM. EX. HOUSE CONN.

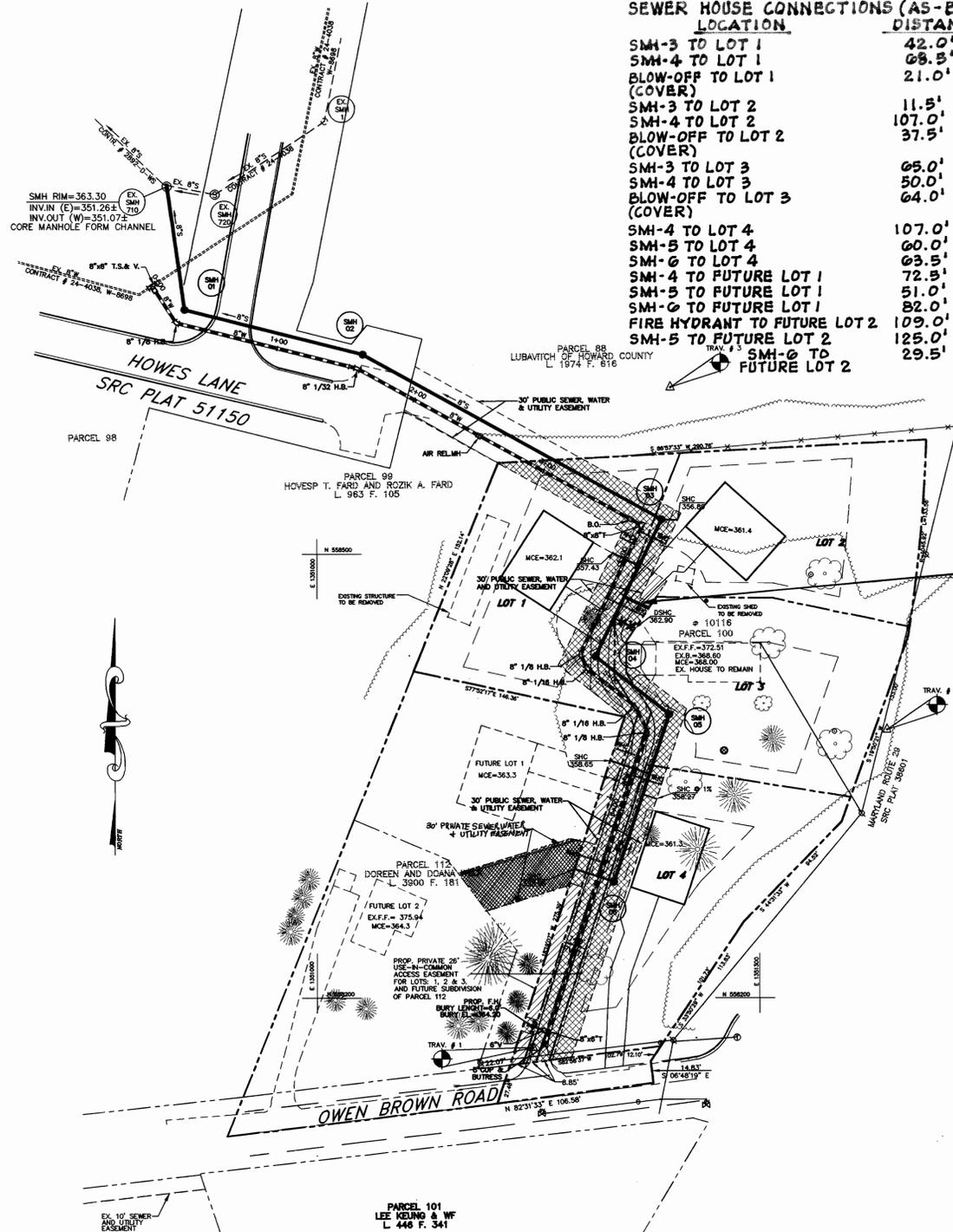


8" SEWER MAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

WATER HOUSE CONNECTIONS (AS-BUILT)

LOCATION	DISTANCE
SMH-3 TO LOT 1 WHC	31.0'
SMH-4 TO LOT 1 WHC	82.0'
BLOW-OFF TO LOT 1 WHC (COVER)	8.0'
SMH-3 TO LOT 2 WHC	18.5'
SMH-4 TO LOT 2 WHC	98.5'
BLOW-OFF TO LOT 2 WHC (COVER)	31.5'
SMH-4 TO LOT 3 WHC	81.5'
SMH-5 TO LOT 3 WHC	23.0'
SMH-6 TO LOT 3 WHC	102.0'
SMH-4 TO LOT 4 WHC	99.0'
SMH-5 TO LOT 4 WHC	50.0'
SMH-6 TO LOT 4 WHC	73.5'
SMH-4 TO FUTURE LOT 1 WHC	64.0'
SMH-5 TO FUTURE LOT 1 WHC	44.0'
SMH-6 TO FUTURE LOT 1 WHC	91.0'
SMH-5 TO FUTURE LOT 2 WHC	115.0'
SMH-6 TO FUTURE LOT 2 WHC	31.0'
FIRE HYDRANT TO FUTURE LOT 2 WHC	119.7'

AS BUILT
DATE: APRIL 2003



TRAVERSE CHART

NUMBER	STATION	DESCRIPTION	LOCATION	ELEVATION
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WATER MAIN CHART

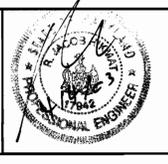
APPURTENANCE	LOCATION
8"x8" T.S. & V	N 558,681.0 E 1,350,888.6
8" 1/8 H.B.	N 558,656.5 E 1,350,904.7
8" 1/32 H.B.	N 558,625.6 E 1,351,027.5
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8" 1/16 H.B.	N 558,4597.1 E 1,351,215.6
8" 1/8 H.B.	N 558,380.0 E 1,351,224.1
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F.H.	N 558,180.7 E 1,351,145.9
8" C. & B	N 558,167.5 E 1,351,153.8

OWNER
KENNETH ROBERT WELK SR.
CAROL CLARK WELK
10116 OWEN BROWN RD.
COLUMBIA, MD 21044

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
4-7-03
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
4/2/03
DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5972 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Cell (301) 621-5521 Wash. (410) 997-0298 Fax



engineering	MMP				
illustration	MMP				
approval	RJH				
project	01-057	NBA	I	ADD PRIVATE WATER AND SEWER EASEMENT ON LOT 1 WELK 2	1/23/01
date	APRIL 03	BY	NO.	REVISION	DATE

WATER AND SEWER PLAN AND PROFILES
600' SCALE MAP NO. 38 BLOCK NO. 13

WELK PROPERTY
CONTRACT NO. 24-4116-D
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND