

QUANTITY TABLE

ITEMS	QUANTITIES		TYPE	MANUFACTURER/SUPPLIER
	ESTIMATED	QUANTITIES		
STANDARD MH (HO. CO. STD.G-5.12)	6 EACH	6 EACH	PRECAST	NEENAH FOUNDRY
8" SEWER MAIN	445 LF	441 L.F.	SDR-35	NATIONAL
4" SHC	100 LF.	101 L.F.	SDR-35	NATIONAL
# 4" SHC	7 EACH	7 EACH	PRECAST	HORNE CONCRETE
8" WATER MAIN (PVC C-900, DR-18)	400 LF	407 L.F.	DR-18	NATIONAL
1 1/2" WATER HOUSE CONNECTION	80 LF	83 L.F.	K-COPPER	CAMBRIDGE LEE
# 1 1/2" WMC	7 EACH	7 EACH	BRASS	MUELLER CO.
8"x8" T. S. & V	1 EACH	1 EACH	DUCTILE	JCM INDUSTRIES
8"x8" F.H.T. & V.	1 EACH	1 EACH	DUCTILE	STAR PIPE
FIRE HYDRANT	1 EACH	1 EACH	DUCTILE/BRASS	MUELLER CO.
8" CAP & BUTTRESS	1 EACH	1 EACH	DUCTILE	STAR PIPE
8" 1/8 H.B.	1 EACH	1 EACH	DUCTILE	STAR PIPE
8" 1/16 H.B.	1 EACH	1 EACH	DUCTILE	STAR PIPE
2" HD COUPLING	1 EACH			
NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED, INC.				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				

INDEX OF DRAWINGS

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

EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER : F-13-059

PROPERTY OWNER
C/O DORSEY FAMILY HOMES
10717-B BIRMINGHAM WAY
WOODSTOCK, MARYLAND 21163
(410)465-7200

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 6-24-13
DEVELOPER'S SIGNATURE DATE
ROB DORSEY, JR., PRESIDENT, DORSEY FAMILY HOMES, INC.
DEVELOPER'S NAME

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 6/24/13
ENGINEER'S SIGNATURE DATE
JEFFREY SLOMAN P.E.
ENGINEER'S NAME

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

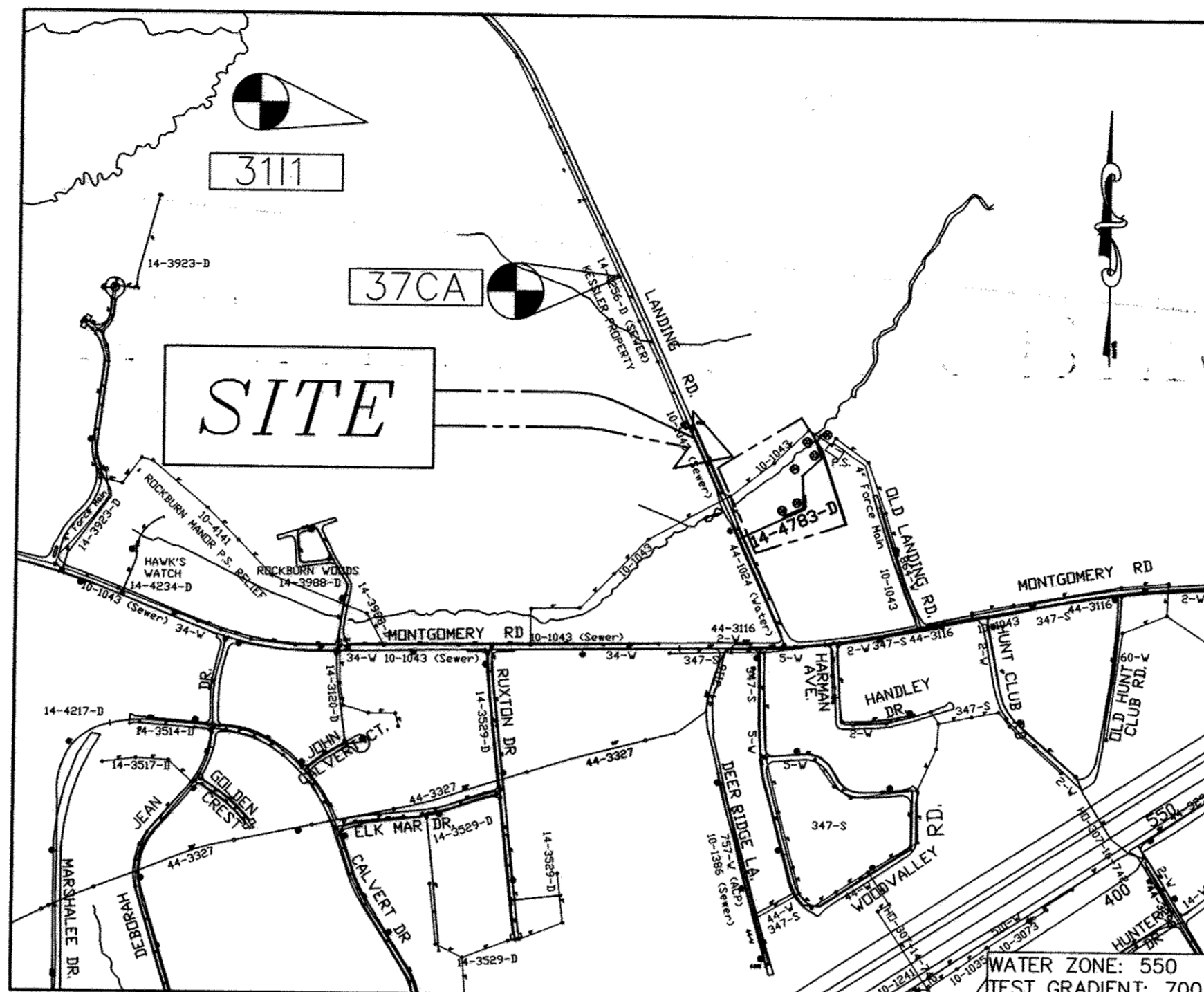
[Signature] 8/6/13
HOWARD SCD DATE

LEGEND

- EXISTING SEWER MAIN AND MANHOLE
- EXISTING WATER MAIN AND VALVE
- S— EXISTING FIRE HYDRANT
- S— PROPOSED SEWER MAIN
- S— PROPOSED SEWER HOUSE CONNECTION
- S— PROPOSED SEWER MANHOLE
- S— PROPOSED WATER MAIN
- S— PROPOSED WATER HOUSE CONNECTION
- S— PROPOSED FIRE HYDRANT

PLAN REFERENCE NUMBERS:
ECP 13-031, F-13-056

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40091, EXP. DATE 2/13/15.
[Signature] 6/24/13
JEFFREY SLOMAN P.E. DATE



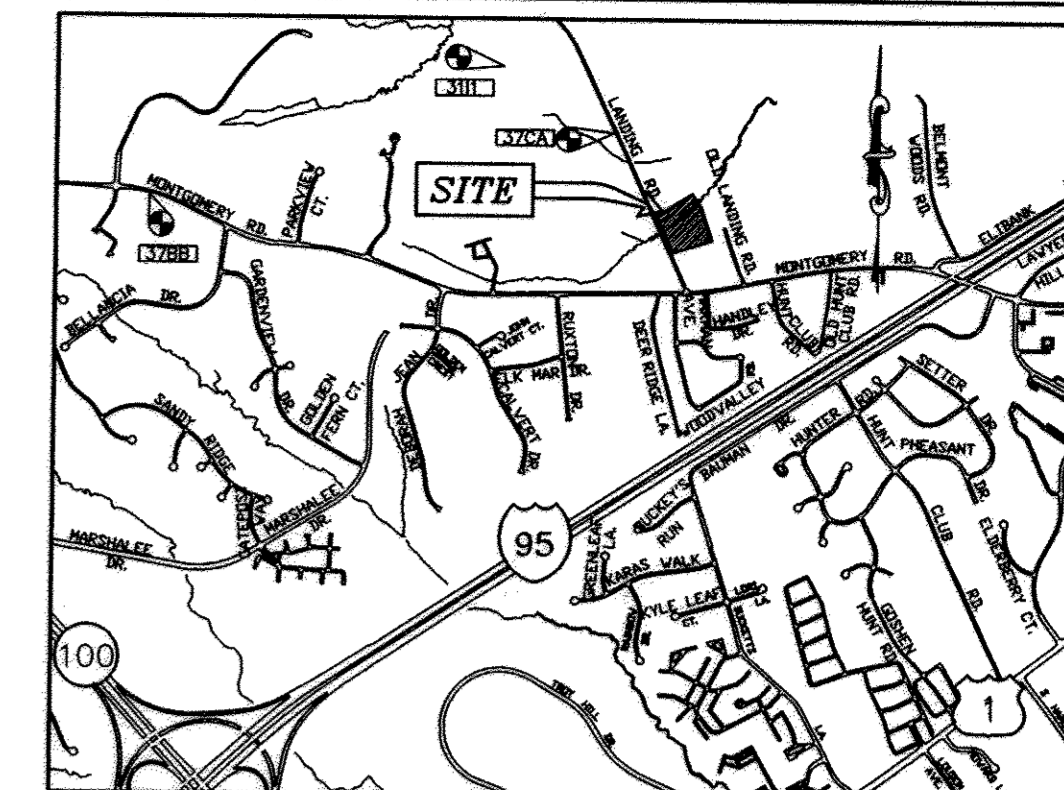
LOCATION MAP

SCALE: 1" = 600'

TYPE OF BUILDING	RESIDENTIAL
No. OF UNITS	7
No. OF WATER HOUSE CONNECTION	7
No. OF SEWER HOUSE CONNECTIONS	7
DRAINAGE AREA	DEEP RUN
TREATMENT PLANT	PATAPSCO

BM #2: N-563,192.29
E-1,383,292.12
EL. 235.50

BM #1: N-563,357.92
E-1,383,214.74
EL. 232.73



VICINITY MAP

SCALE: 1" = 2000'
ADC: 4937 A-6

GENERAL NOTES

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHY FIELD RUN SURVEY PERFORMED ON AUGUST 2012 BY MILDENBERG, BOENDER AND ASSOC., INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3111 AND NO. 37CA. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE HO.CO. GEODETIC CONTROL STA. 3111 AND 37CA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. 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 THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWING THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, 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 LOCATIONS OF THE TEST PITS. 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.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
AT&T 1-800-252-1133
BGE(CONTRACTOR SERVICES)..... 410-637-8713
BGE(EMERGENCY)..... 410-685-0123
BUREAU OF UTILITIES..... 410-313-4900
COLONIAL PIPELINE CO..... 410-795-1390
MISS UTILITY 1-800-257-7777
STATE HIGHWAY ADMINISTRATION..... 410-531-5533
VERIZON 1-800-743-0033
- 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 THE 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)313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.

WATER

- ALL WATER MAINS SHALL BE PVC (C-900), DR-18 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3' - 6" OF 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 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 INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL FOR PVC WATER MAINS. ALL RECORDS FOR QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD SPECIFICATIONS FOR PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS-REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- ALL NEW WATER MAIN JOINTS ARE TO BE RESTRAINED.
- FOR A MINIMUM 1.5' WMC FOR SINGLE FAMILY DWELLINGS OUTSIDE METER SETTINGS FOR 1' METERS SHALL BE USED.

SEWER

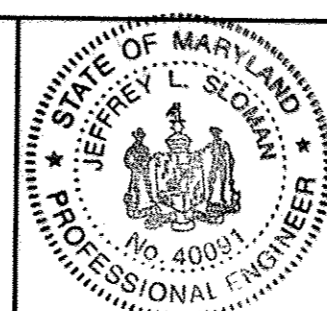
- ALL SEWER MAINS SHALL BE P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL DS.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATED THAT THE CELLAR CANNOT BE SERVED.

CONTRACT NO.: 14-4783-D
LANDING MEADOW
LOTS 1-7 AND OPEN SPACE LOT 8
WATER AND SEWER MAIN EXTENSION
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature] 7/11/13
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 8/20/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
6800 Deepwater Road, Suite 150, Ellicott City, Maryland 21075
(410) 897-0296 Ext. (410) 897-0298 Fax



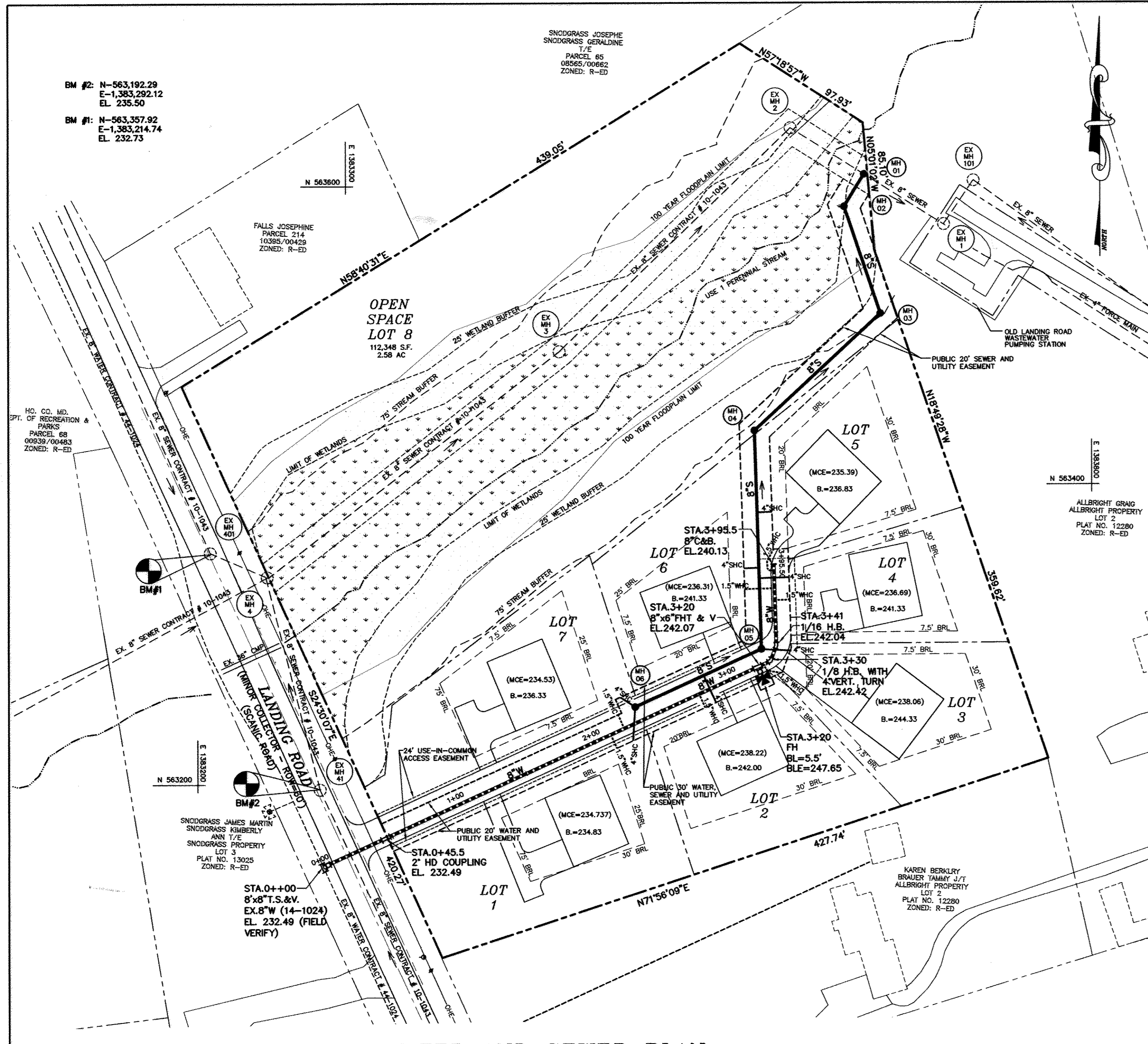
engineering	illustration	approval	project	date
MMM	MMM	JLS	11-024	11-024
date	BY	NO.	REVISION	DATE
APL 2013	CAE	I	KCE AS-BUILTS	

TITLE SHEET

LANDING MEADOW
LOTS: 1 - 7, AND OPEN SPACE LOT 8
CONTRACT NO. 14-4783-D
FIRST ELECTION DISTRICT
HOWARD COUNTY

scale AS SHOWN
1 OF 2

H: 1/2"-24 LANDING MEADOW DWG(V1)-024-W-S.DWG



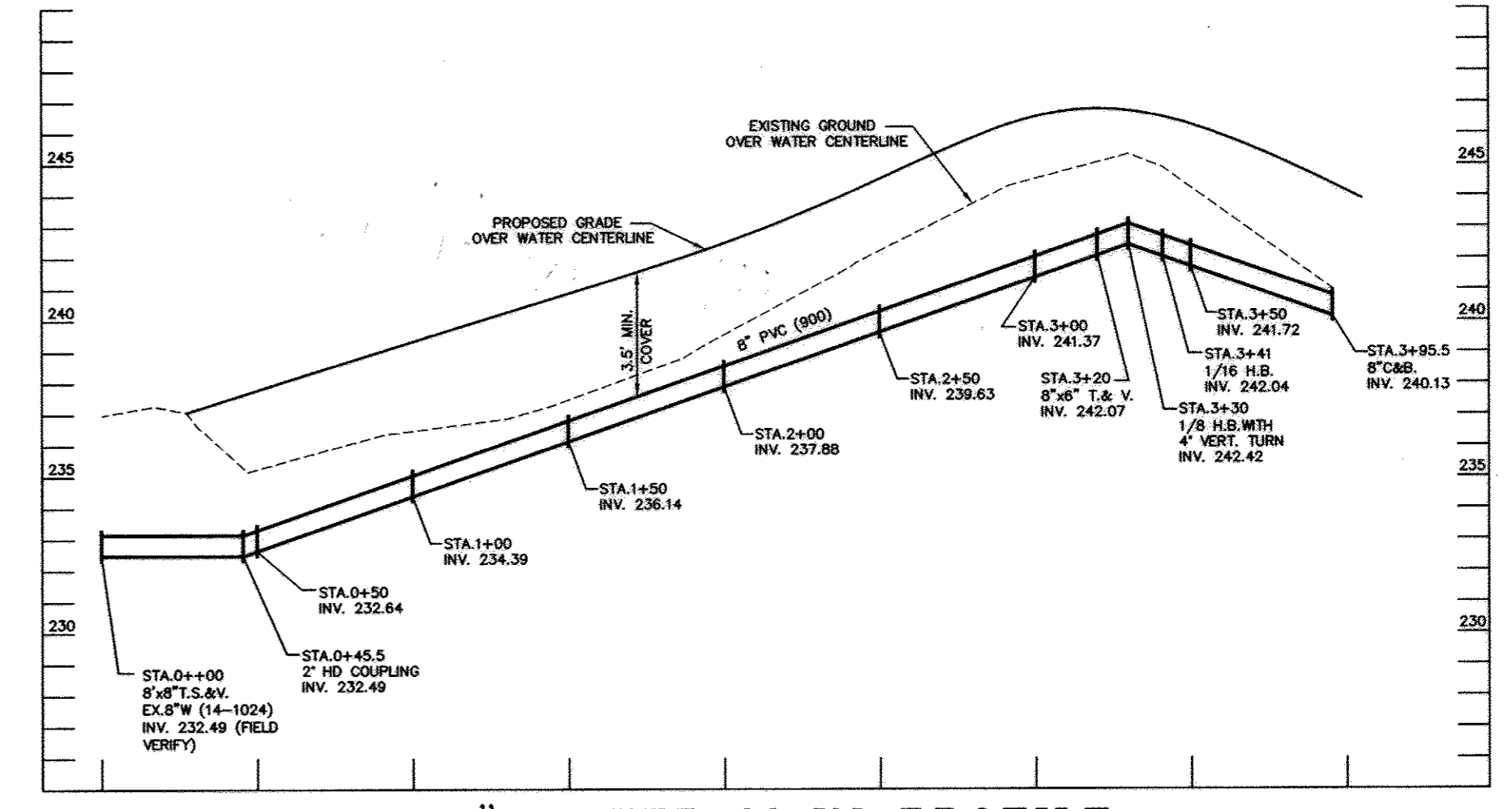
WATER AND SEWER PLAN
SCALE: 1"=50'

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

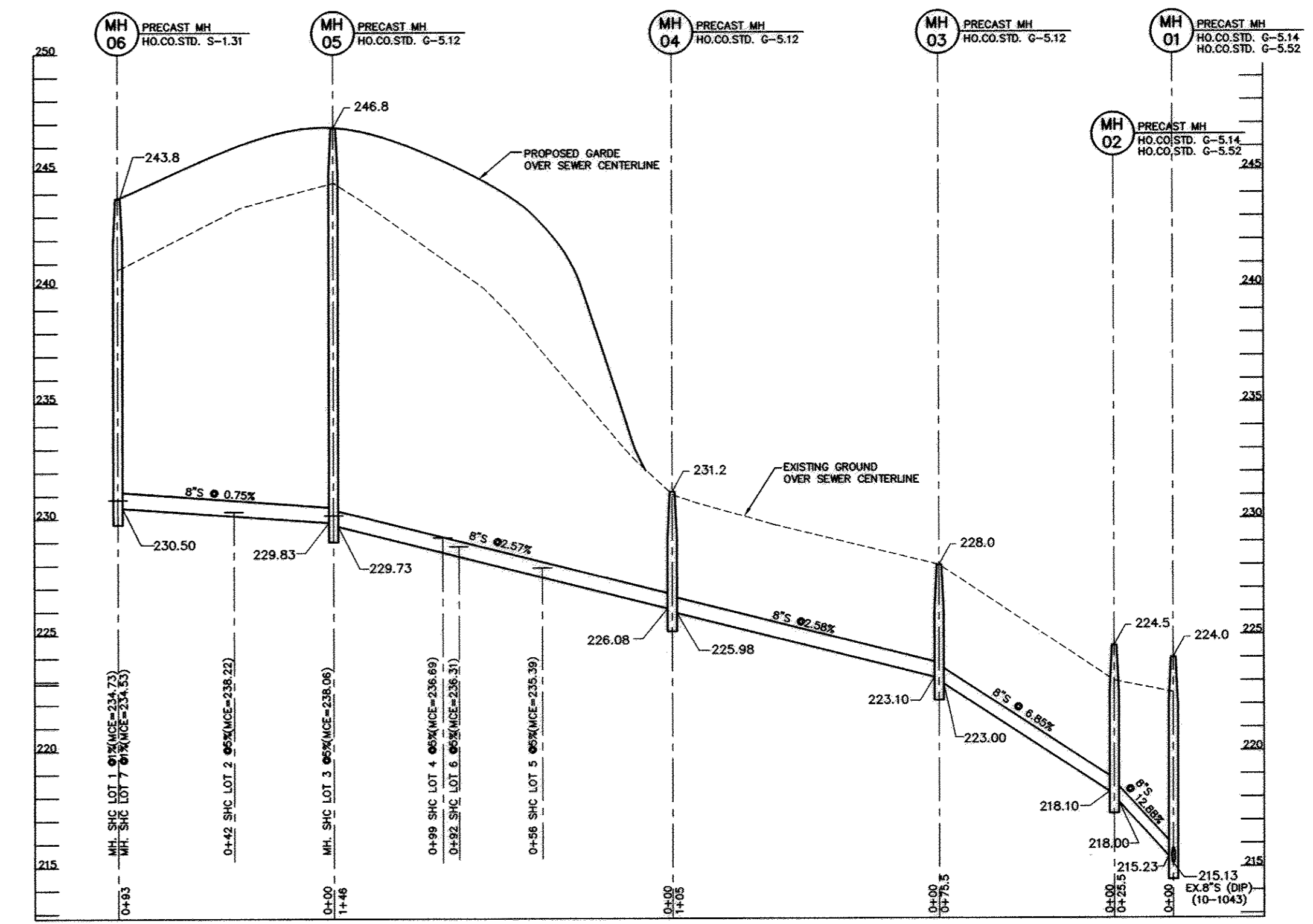
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	LANDING ROAD	MH 4: 25.1'	FH 3+20: 97.3'
2	LANDING ROAD	MH 4: 55.4'	MH 5: 47.0'
3	LANDING ROAD	MH 5: 21.0'	FH 3+20: 25.6'
4	LANDING ROAD	MH 5: 50.7'	FH 3+20: 61.3'
5	LANDING ROAD	MH 5: 90.8'	MH 4: 57.6'
6	LANDING ROAD	MH 5: 55.0'	MH 4: 93.4'
7	LANDING ROAD	MH 4: 12.4'	MH 5: 91.5'

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	LANDING ROAD	MH 4: 32.0'	FH 3+20: 108.2'
2	LANDING ROAD	MH 4: 46.8'	FH 3+20: 43.6'
3	LANDING ROAD	MH 5: 21.9'	FH 3+20: 13.1'
4	LANDING ROAD	MH 5: 37.9'	FH 3+20: 55.5'
5	LANDING ROAD	MH 5: 46.5'	FH 3+20: 86.2'
6	LANDING ROAD	MH 5: 39.3'	FH 3+20: 51.5'
7	LANDING ROAD	MH 4: 13.1'	FH 3+20: 100.1'



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



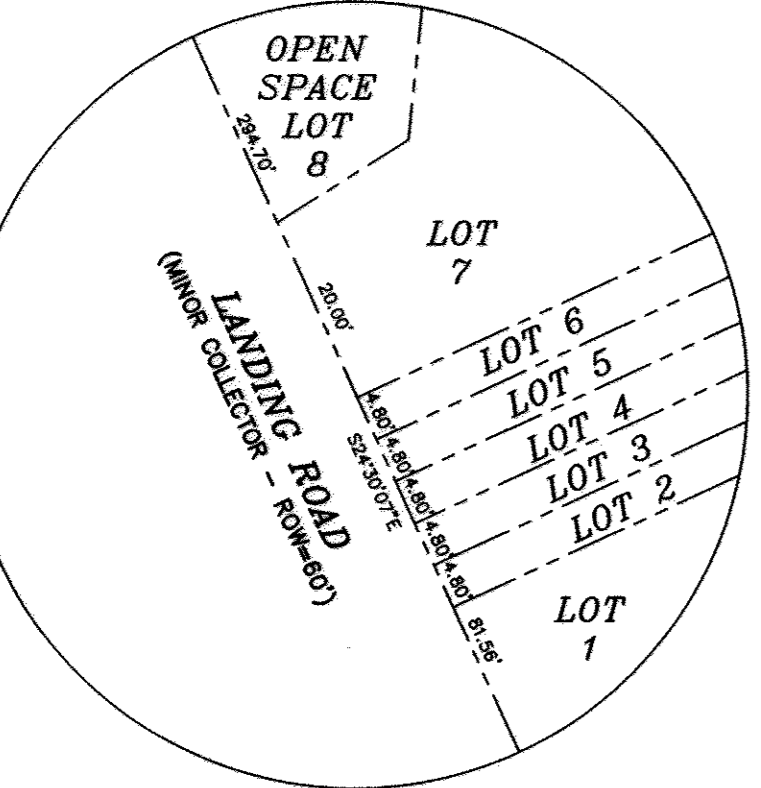
8" SEWER MAIN PROFILE
SCALE: HOR. 1"=50' VER. 1"=5'

8" WATER MAIN TABULATION CHART

APPURTENANCE	LOCATION (NORTHING & EASTING)
8"x8" TS & V	N 563,145.15 E 1,383,284.18
8" 2" HD COUPLING	N 563,164.27 E 1,383,237.07
8"x6" FH TS & V	N 563,278.02 E 1,383,576.08
FH	N 563,273.08 E 1,383,578.21
1/8 H.B.	N 563,282.17 E 1,383,584.61
1/16 H.B.	N 563,291.92 E 1,383,597.97
8" CAP AND BUTTRESS	N 563,346.42 E 1,383,586.63

MANHOLE LOCATION CHART

MH #	LOCATION (NORTHING & EASTING)
MH 01	N 563,607.67 E 1,383,647.73
MH 02	N 563,586.04 E 1,383,634.37
MH 03	N 563,514.45 E 1,383,658.57
MH 04	N 563,436.34 E 1,383,573.88
MH 05	N 563,290.20 E 1,383,578.33
MH 06	N 563,251.58 E 1,383,493.59



FRONTAGE DETAIL
SCALE: 1"=20'

SEWER HOUSE CONNECTION TABLE

LOT #	% SLOPE	INV. @ 8"S	INV. @ R.O.W.	MCE
1	1	230.83	231.23	234.73
2	5	230.32	230.72	238.22
3	5	230.16	230.56	238.06
4	5	228.79	229.19	236.69
5	5	227.69	227.89	235.39
6	5	228.61	228.81	236.31
7	1	230.83	231.03	234.53

BM #2: N-563,192.29
E-1,383,292.12
EL. 232.50

BM #1: N-563,357.92
E-1,383,214.74
EL. 232.73

OWNER / DEVELOPER

DORSEY FAMILY HOMES, INC.
10717-B BIRMINGHAM WAY
WOODSTOCK, MARYLAND 21163
(410) 465-7200

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 40099 EXP. DATE 2/13/15

Jeffrey L. Sloan 6/24/13
JEFFREY L. SLOAN, P.E. DATE:

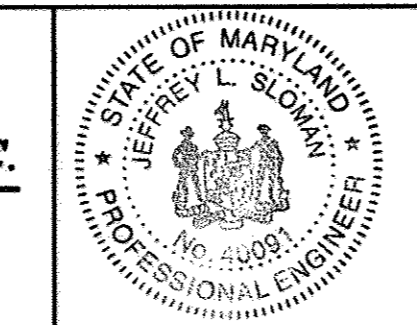
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve Con 7/1/15
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

William 6/20/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
6800 Deepwater Road, Suite 150, Elkridge, Maryland 21075
(410) 997-0296 Ball. (410) 997-0298 Fax



engineering MMM
illustration MMM
approval JLS
project 12-024
date APR 2013

CAB I KCA AS-BUILTS

BY NO. REVISION DATE

WATER AND SEWER PLAN AND PROFILES

600' SCALE MAP NO. 37 BLOCK NO. 6

LANDING MEADOW
LOTS: 1 - 7, AND OPEN SPACE LOT 8
CONTRACT NO. 14-4783-D
FIRST ELECTION DISTRICT
HOWARD COUNTY