

# PUBLIC WATER CONSTRUCTION PLANS

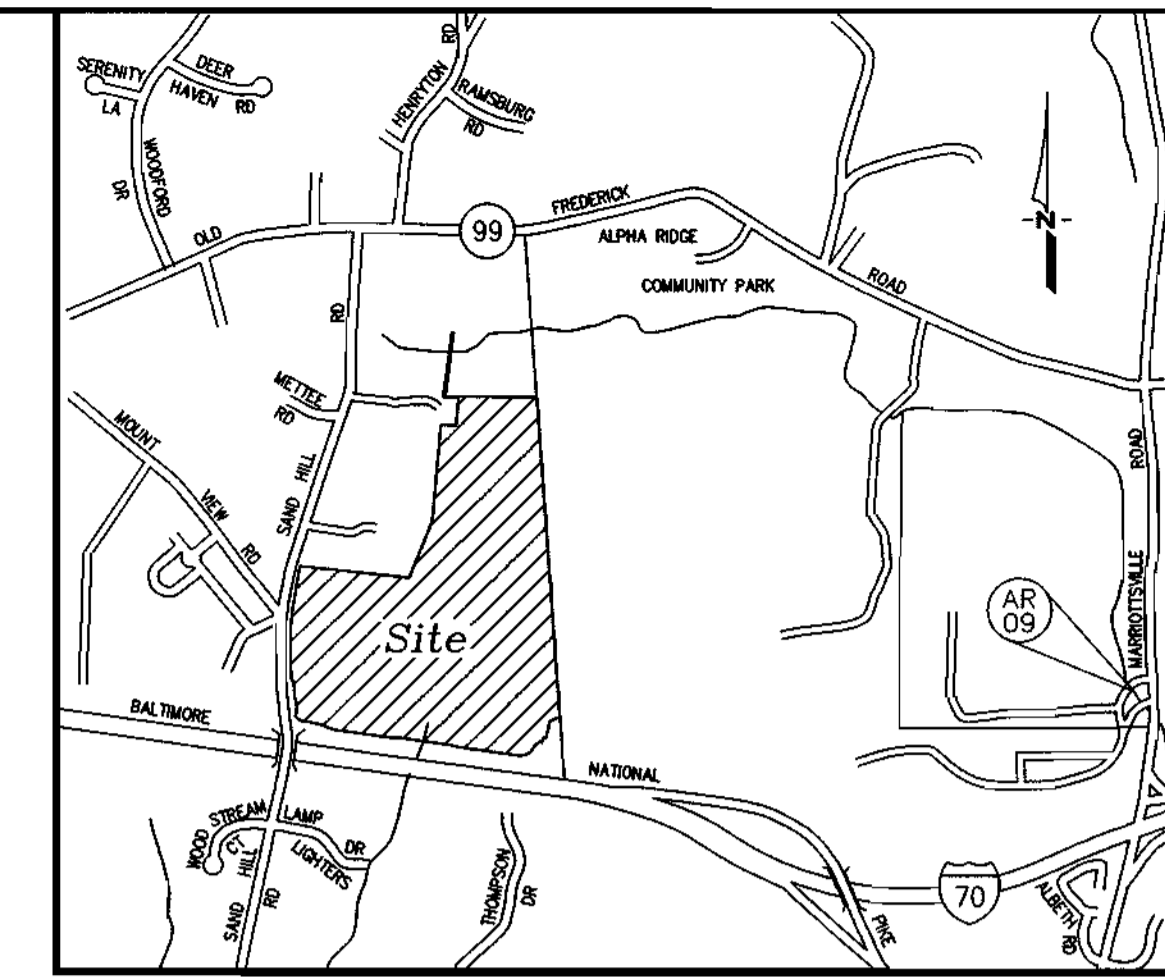
# THE ESTATES AT SAND HILL

## LOTS 1 - 78

### 3rd ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

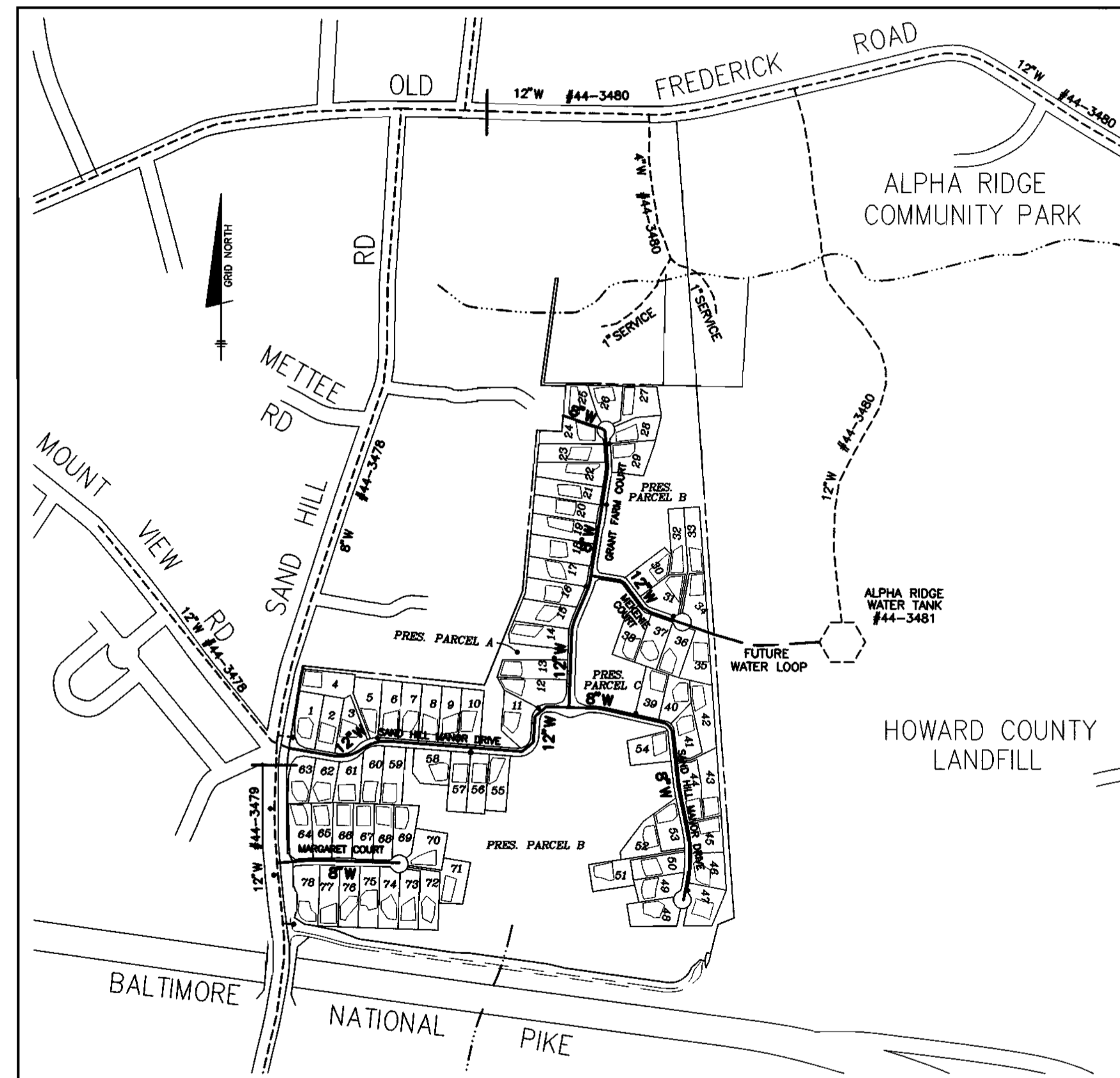
## CONTRACT No. 44-3806-D



Vicinity Map  
Scale: 1" = 2000'

BENCH MARKS NAD'83	
HO. CO. #AR 09	
N 597,789.112'	E 1,340,756.890'

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN OF WATER MAINS
3	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE
4	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE
5	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE
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8	PLAN AND PROFILE OF WATER MAIN ALONG GRANT FARM COURT
9	PLAN AND PROFILE OF WATER MAIN ALONG MEKENIE COURT



### GENERAL NOTES

- PART 1 - GENERAL**
- 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 (NORTH AMERICAN DATUM OF 1983 (NAD '83)).
  - 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 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 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 [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
B&E CONTRACTOR SERVICE.....	410-850-4820
B&E UNDERGROUND DAMAGE CONTROL.....	410-291-4607
MISS UTILITY.....	1-800-257-7777
COLONIAL PIPELINE CO.....	410-549-4120
HOWARD CO. DEPT. OF PUBLIC WORKS.....	410-313-4900
BUREAU OF UTILITIES.....	410-313-4900
BELL ATLANTIC.....	1-800-446-5266
  - 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.
  - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
  - 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(c) OF THE HOWARD COUNTY CODE.

### PART 2 - WATER

- 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 RESTRAINED 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.
- FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
12" WATER	3706 L.F.			
8" WATER	3638 L.F.			
12" VALVES	5			
8" VALVES	5			
6" VALVES	11			
AIR RELEASE MH	2			
FIRE HYDRANTS	11			
1" WHC	2034			

NAME OF UTILITY CONTRACTOR: \_\_\_\_\_  
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: \_\_\_\_\_

NOTE: ALL WATER HOUSE CONNECTIONS SHOULD BE FOR OUTSIDE METER SETTINGS.

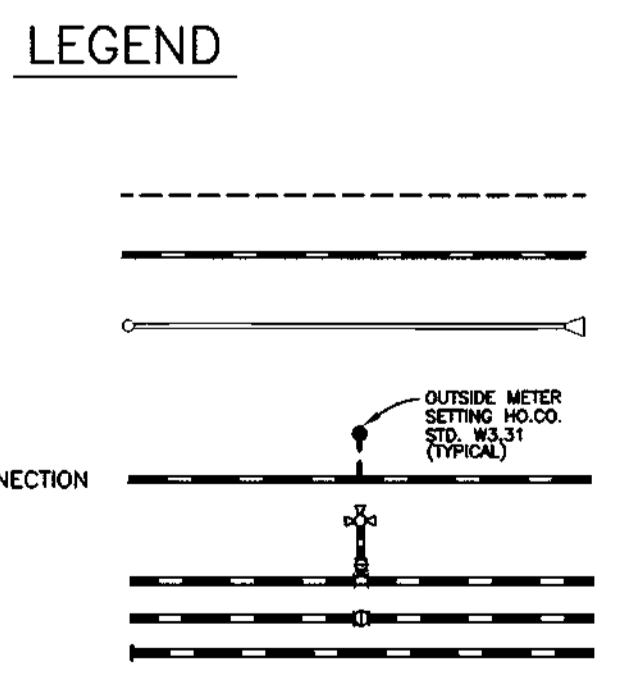
HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT  
AND MEETS TECHNICAL REQUIREMENTS

*Cheryl Stinson/Cas* 9/26/00  
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Jeffrey W. Allen* 9/26/00  
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT MUST BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS F-00-136



WATER AND SEWER COUNTY CODE	
WATER CODE:	K-02
SEWER CODE:	N/A
TEST GRADIENT:	900

TYPE OF BUILDING: SINGLE FAMILY DETACHED	
NUMBER OF LOTS:	78 BUILDABLE
NUMBER OF SHC'S:	0
NUMBER OF WHC'S:	77
DRAINAGE AREA:	MIDDLE PATUXENT
TREATMENT PLANT:	N/A

VICINITY MAP  
SCALE: 1" = 600'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Robert Bejerman* 9-15-00  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
*[Signature]* 9/26/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

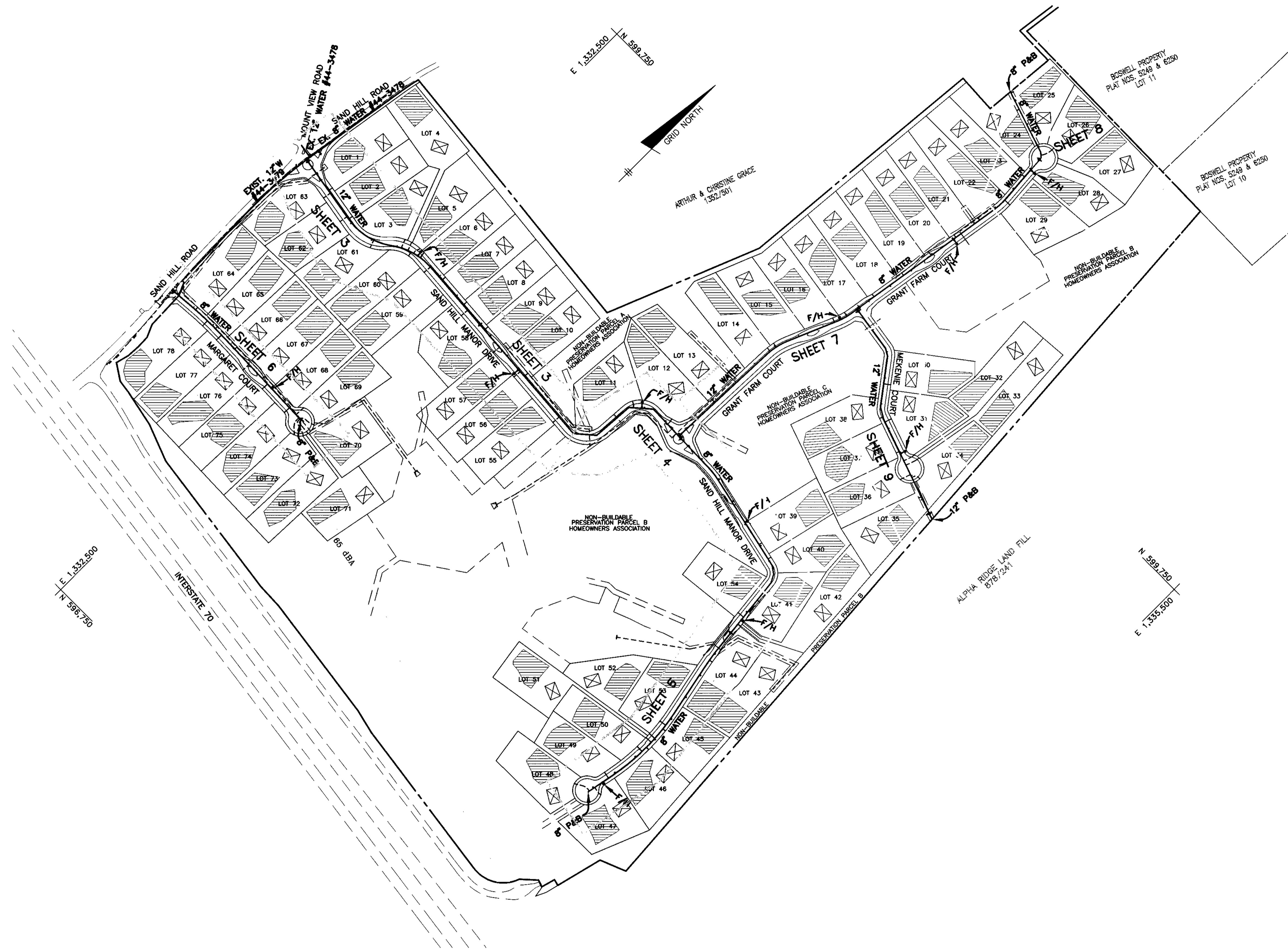
**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-8644

*Donald Mason*  
DATE: 6-12-00  
9-7-00

DES:	DBT	DRN:	DBT	CHK:	CAM	DATE:	6-12-00	9-7-00	BY	NO.	REVISIONS	DATE

TITLE SHEET  
600 SCALE MAP NO. 16  
BLOCKS 1 & 2

THE ESTATES AT SAND HILL  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 44-3806-D  
SCALE: AS SHOWN  
SHEET NO. 1 OF 9



PLAN VIEW  
SCALE: 1" = 200'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
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CHK:	CAM				
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	9-7-00				

PLAN OF WATER MAINS

600 SCALE MAP NO. 16 BLOCKS 1 & 2

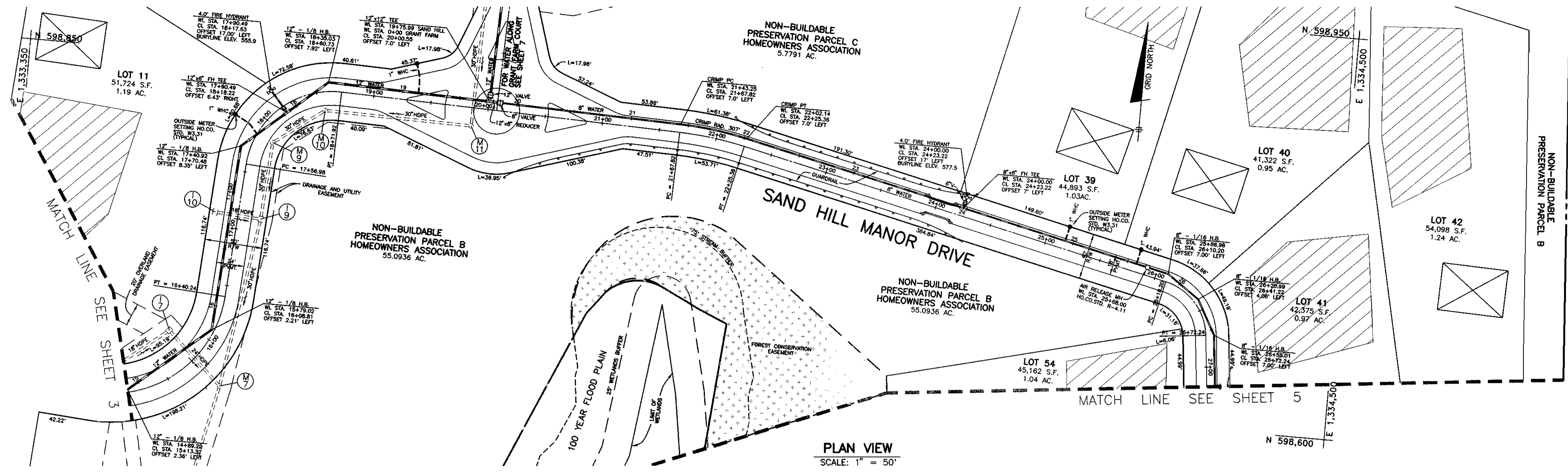
**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN

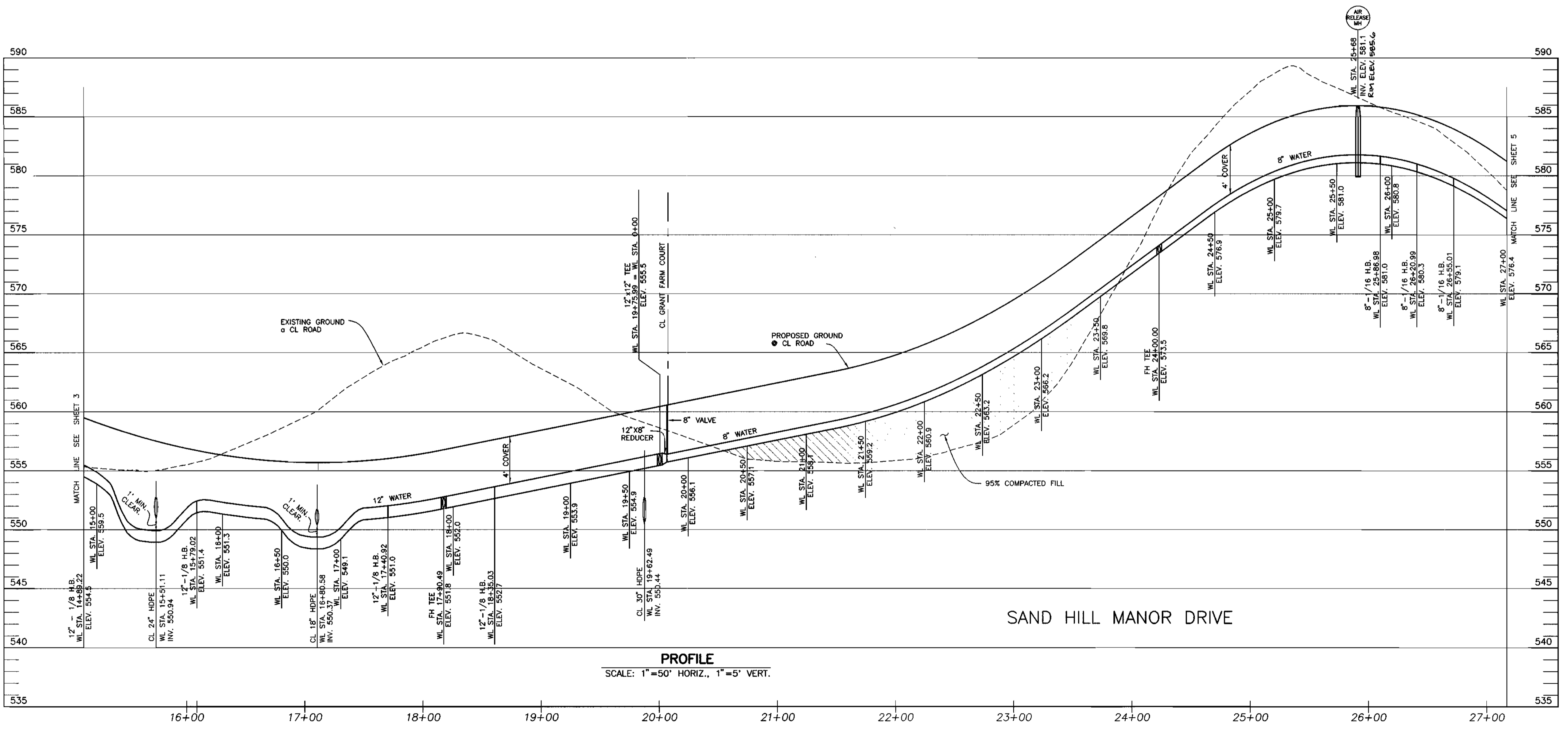
SHEET NO.  
2 OF 9







PLAN VIEW  
SCALE: 1" = 50'



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
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CHK:	CAM				
DATE:	6-12-00				
	9-7-00	BY	NO.	REVISIONS	DATE

**PLAN AND PROFILE  
OF WATER MAIN ALONG  
SAND HILL MANOR DRIVE**  
600 SCALE MAP NO. 16 BLOCKS 1 & 2

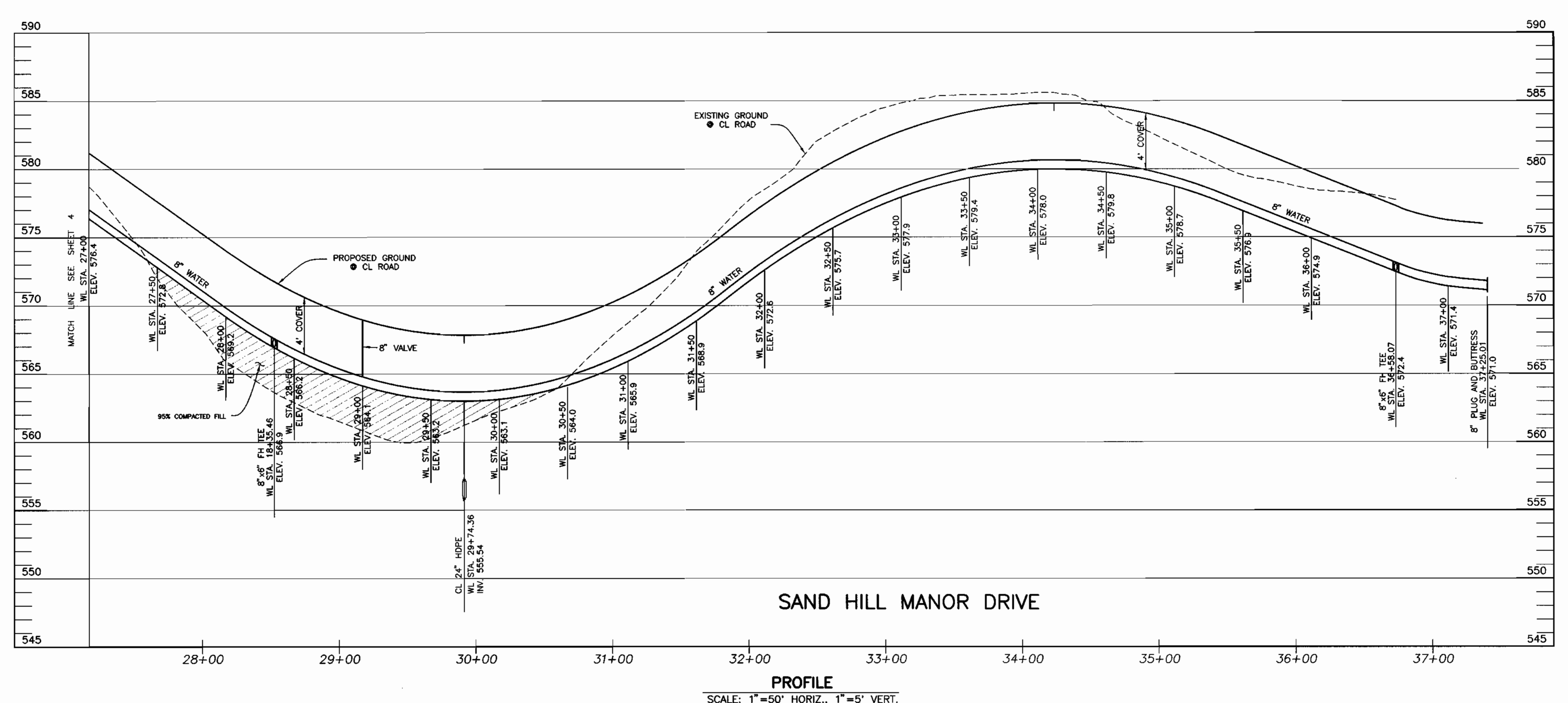
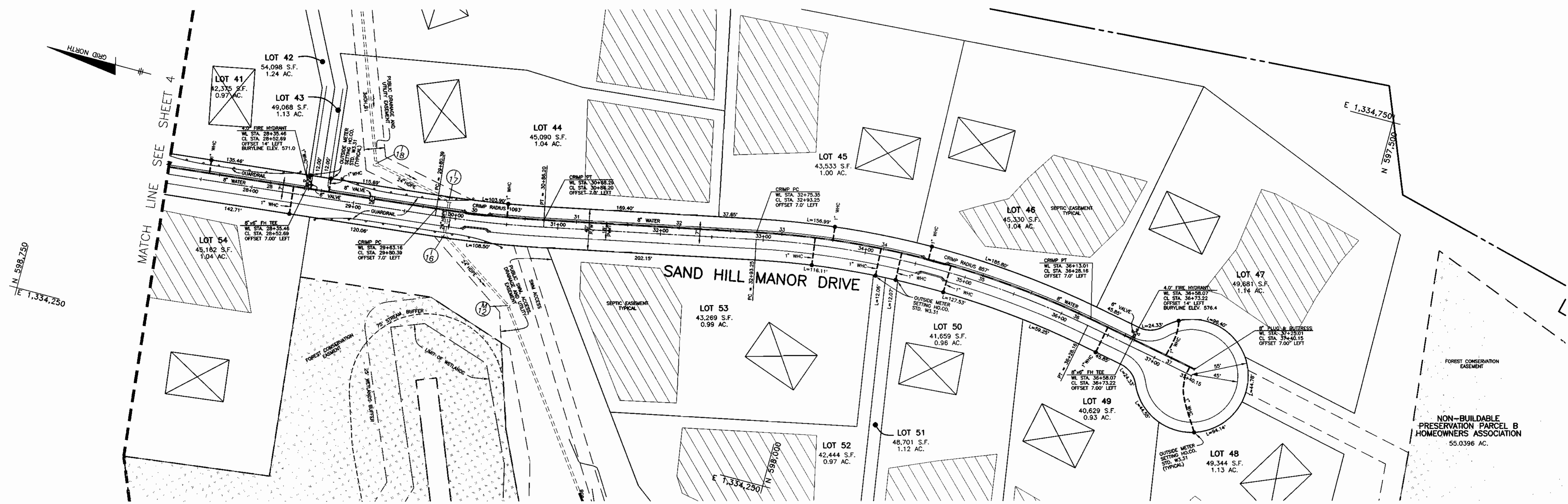
**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN  
SHEET NO.  
4 OF 9

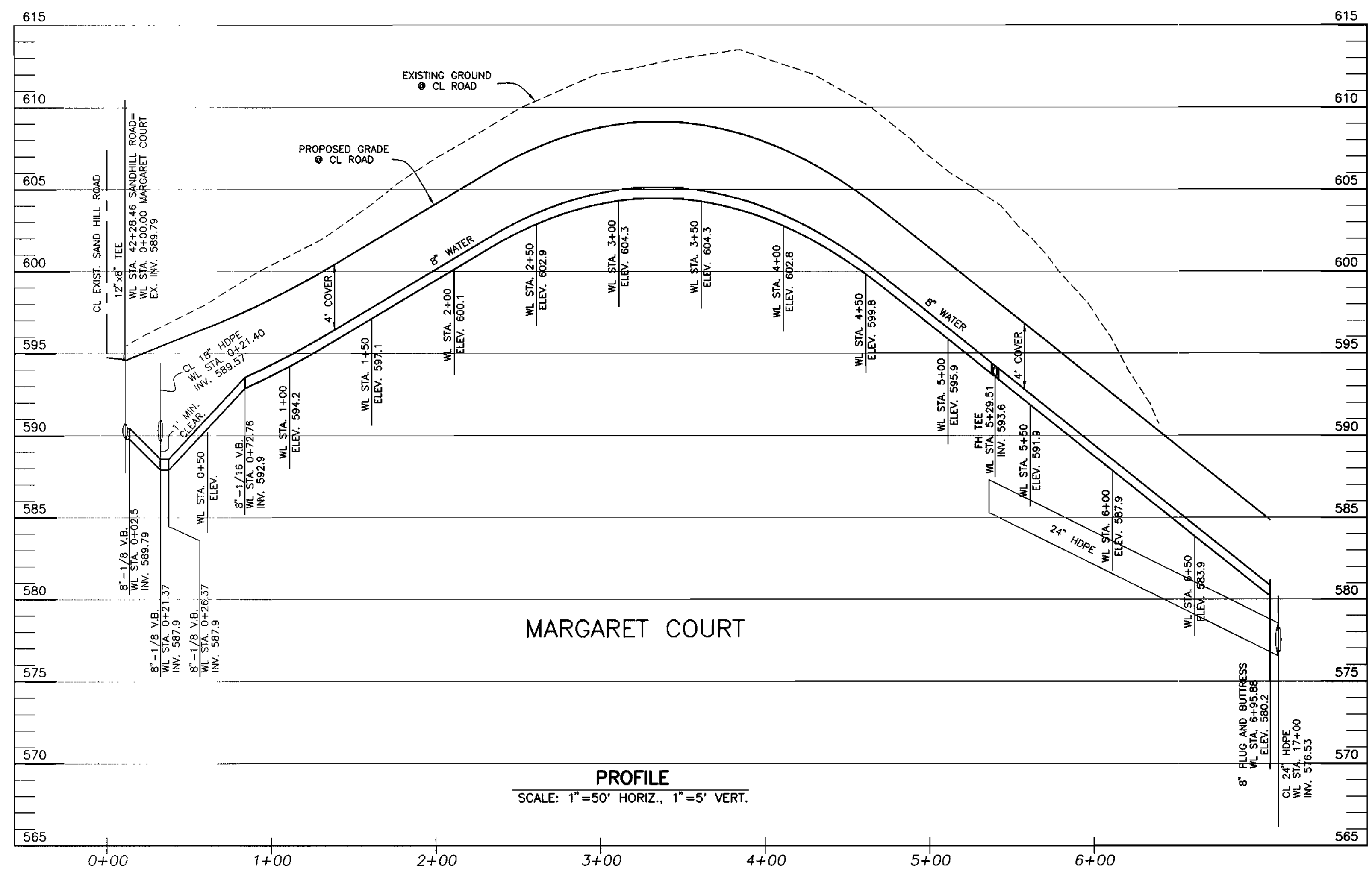
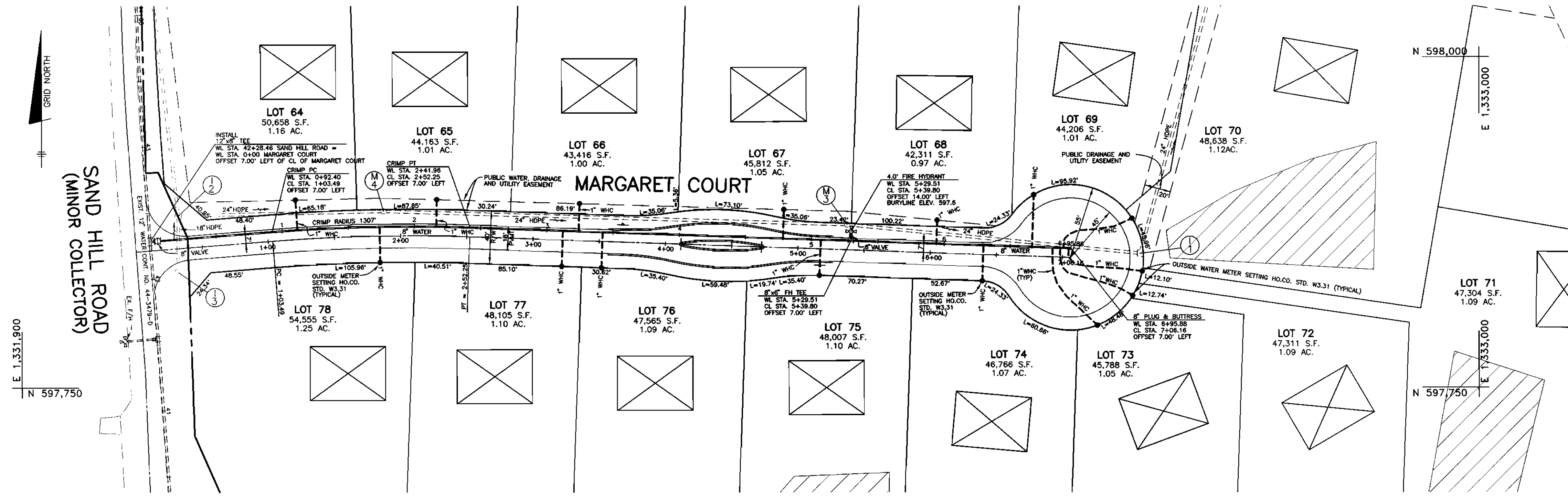
*[Signature]* 9-15-02  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE





DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  <i>Robert DeWitt</i> 9-15-00 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND  <i>John J. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	<b>BENCHMARK</b> ENGINEERS • LAND SURVEYORS • PLANNERS <b>ENGINEERING, INC.</b> 8480 BALTIMORE NATIONAL PIKE • SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6844	DES: DBT DRN: DBT CHK: CAM DATE: 6-12-00 9-7-00	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE  600 SCALE MAP NO. 16 BLOCKS 1 & 2	<b>THE ESTATES AT SAND HILL</b> LOTS 1 - 78 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND <b>CONTRACT NO. 14-3806-D</b>	SCALE: AS SHOWN  SHEET NO. 5 OF 9
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

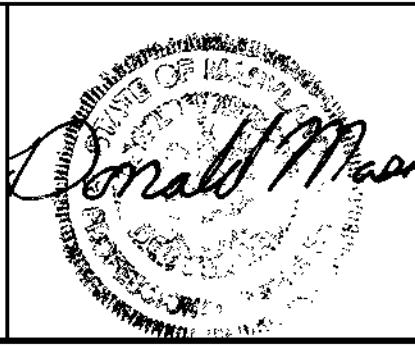
*Robert W. Benjamin*  
CHIEF, BUREAU OF UTILITIES  
9-15-00  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
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DATE: 6-12-00					
9-7-00	BY	NO.	REVISIONS	DATE	

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
MARGARET COURT**

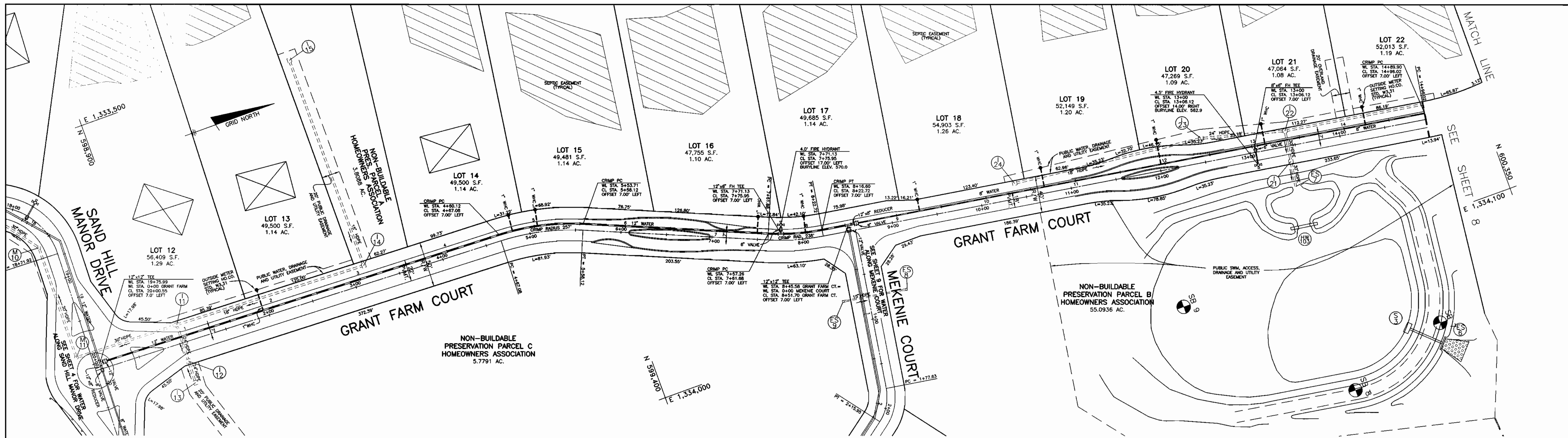
600 SCALE MAP NO. 16  
BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

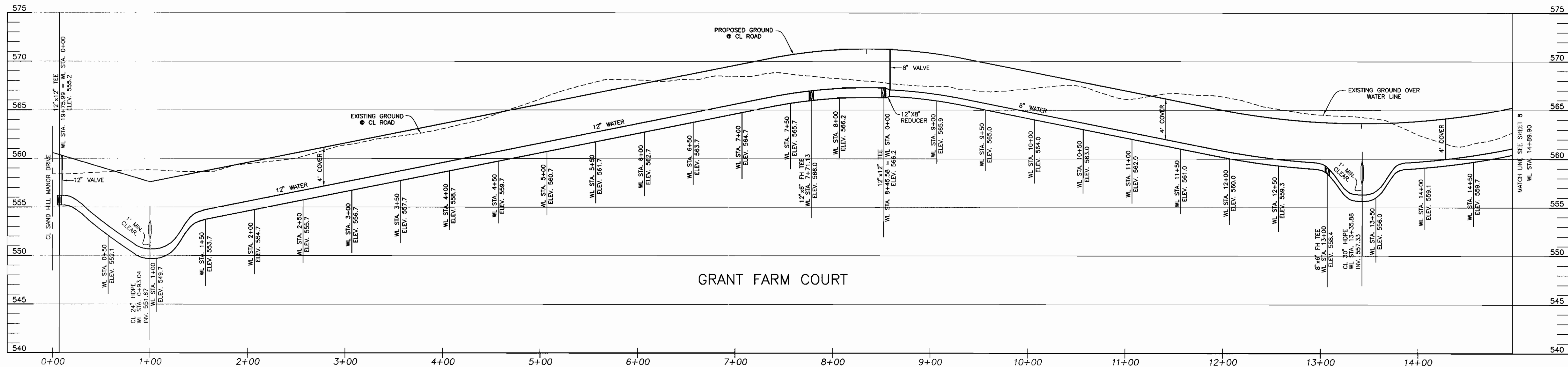
SCALE:  
AS SHOWN

SHEET NO.  
6 OF 9





PLAN VIEW  
SCALE: 1" = 50'



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Chief, Bureau of Utilities*  
DATE: 9-15-02

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Chief, Development Engineering Division*  
DATE: 9/16/02

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

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ELLICOTT CITY, MARYLAND 21043  
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CHK: CAM					
DATE: 6-12-00					
9-7-00	BY	NO.	REVISIONS	DATE	

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
GRANT FARM DRIVE**

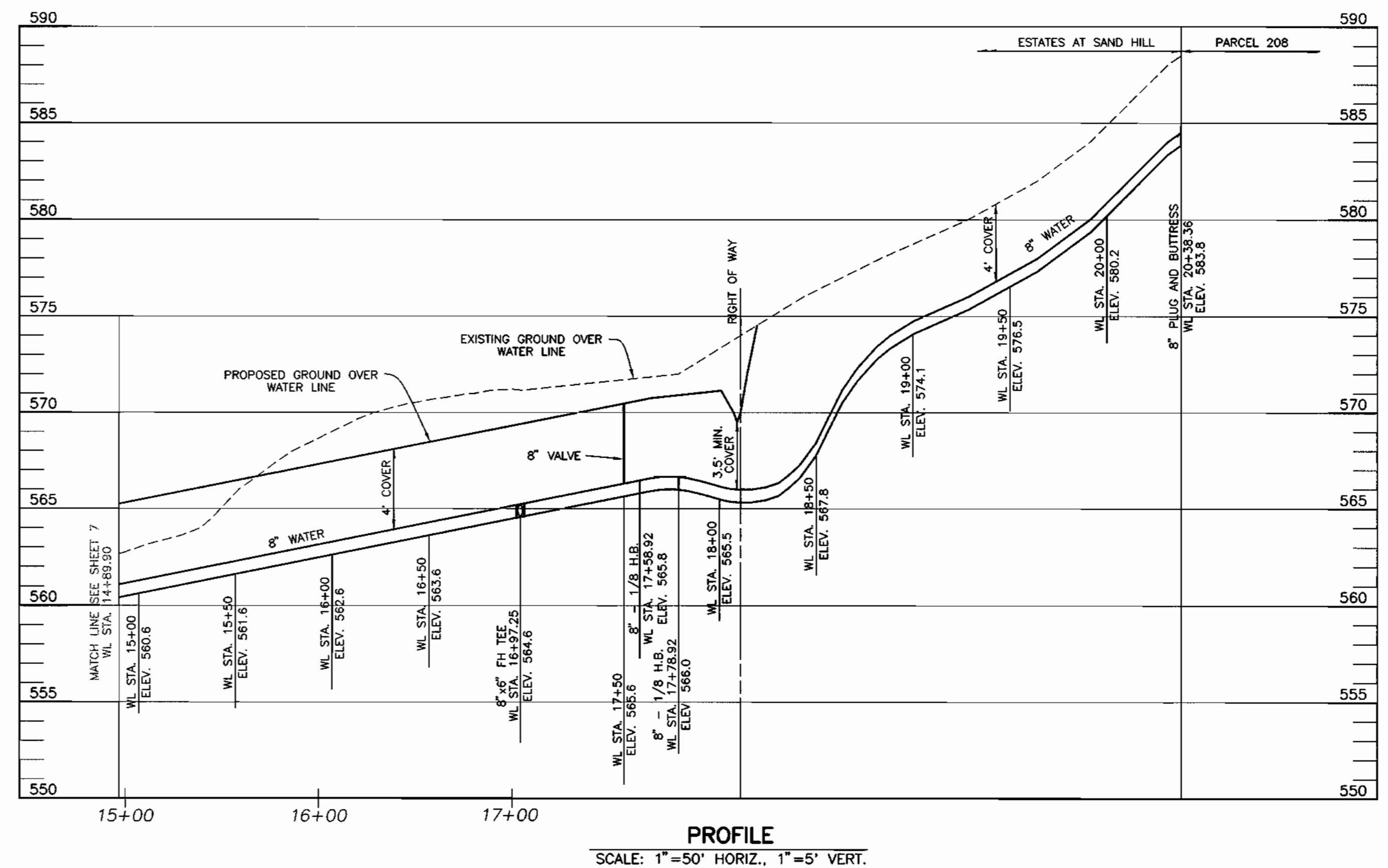
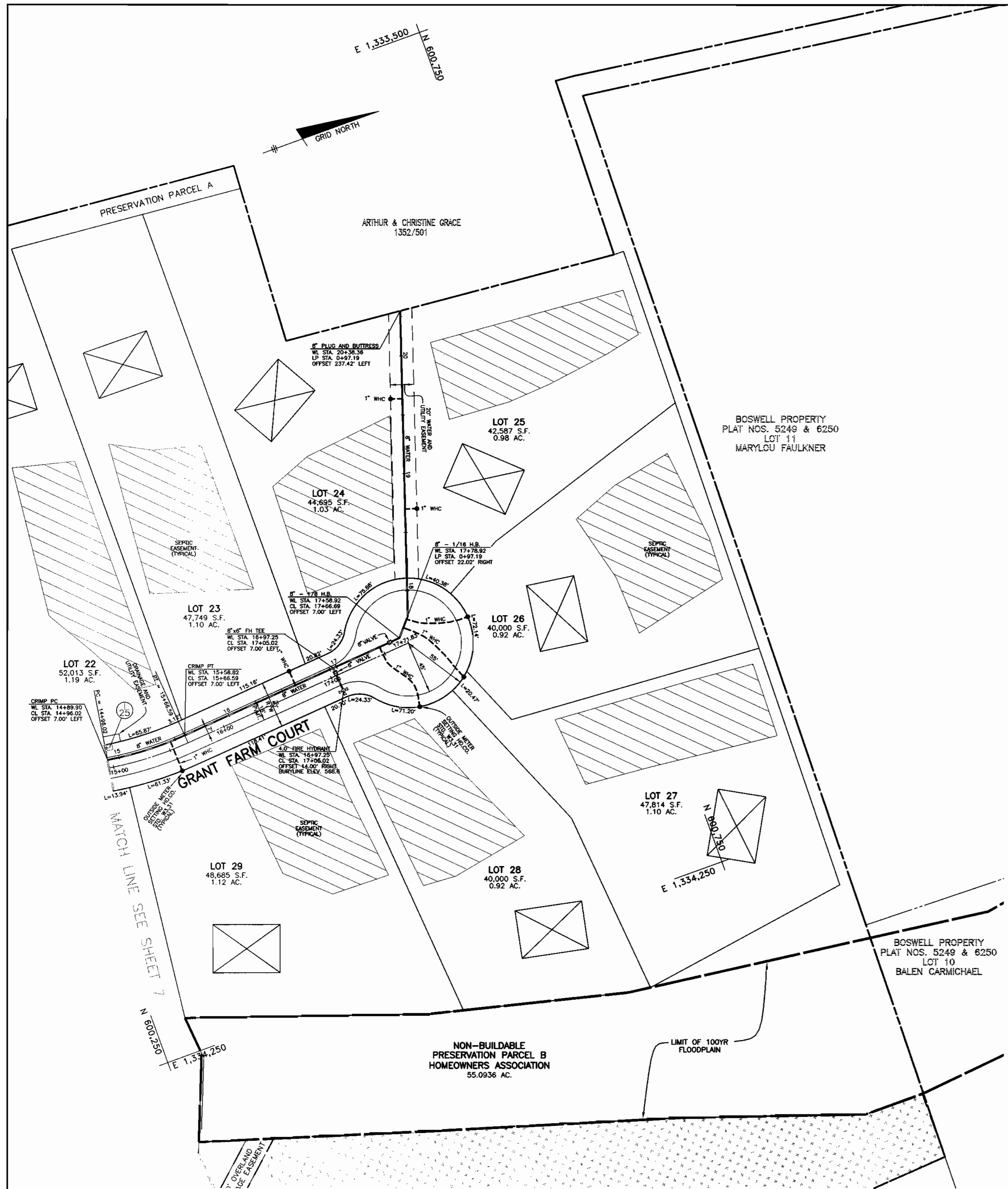
600 SCALE MAP NO. 16 BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN

SHEET NO.  
7 OF 9



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert Berman*  
CHIEF, BUREAU OF UTILITIES  
9-15-02  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE

**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE A SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-8105 FAX: 410-465-8844



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9-7-00	BY NO.				
		REVISIONS		DATE	

**PLAN AND PROFILE OF WATER MAIN ALONG GRANT FARM ROAD**

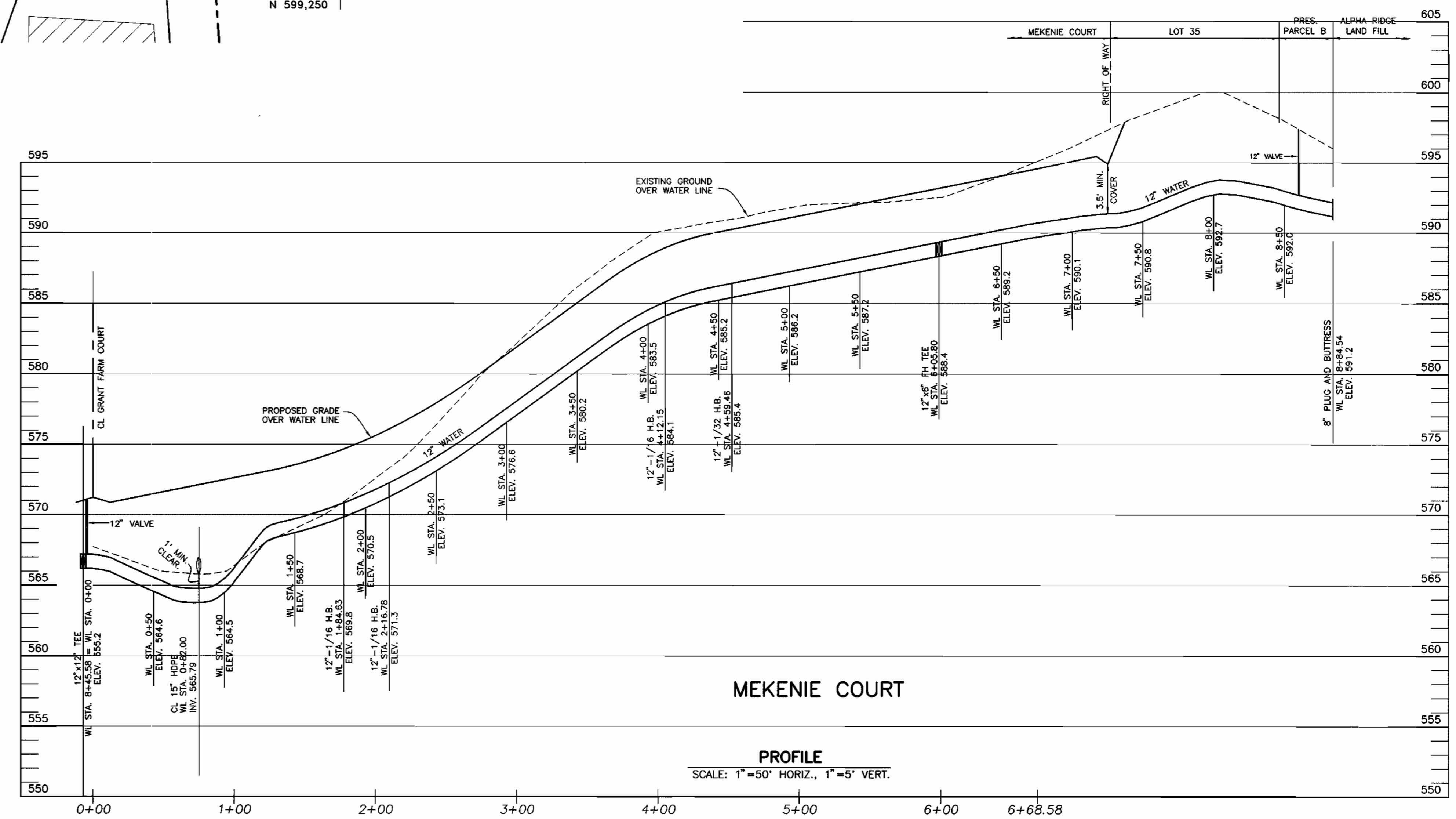
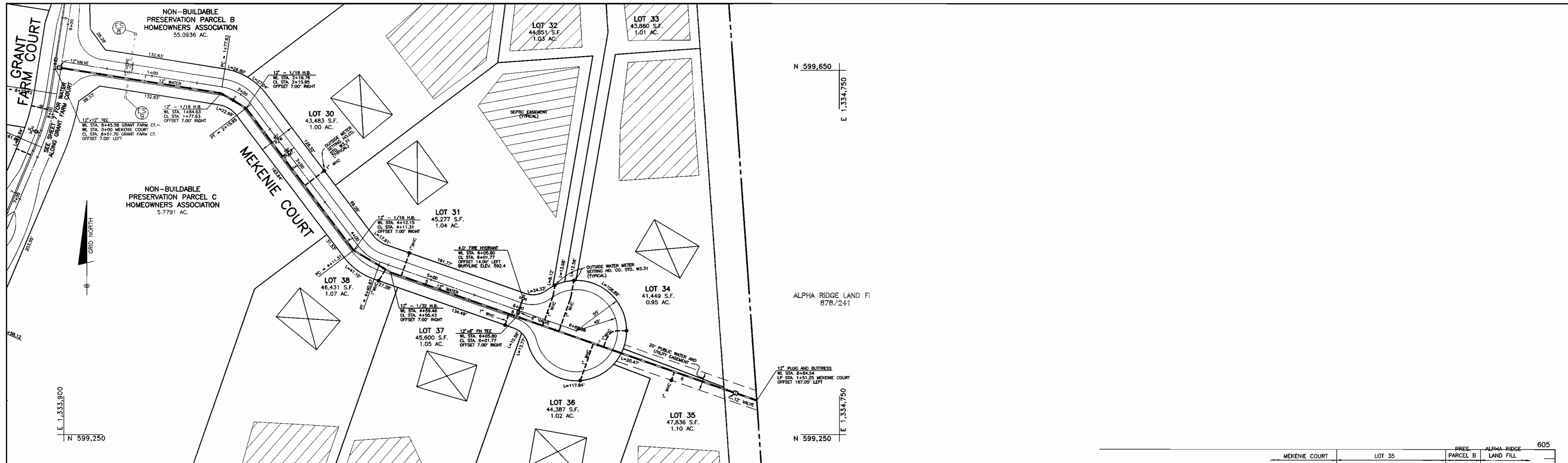
600 SCALE MAP NO. 16  
BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN

SHEET NO.  
8 OF 9





DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert D. ...*  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BENCHMARK**  
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*Donald ...*

DES: DBT					
DRN: DBT					
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DATE: 6-12-00					
9-7-00	BY	NO.	REVISIONS	DATE	

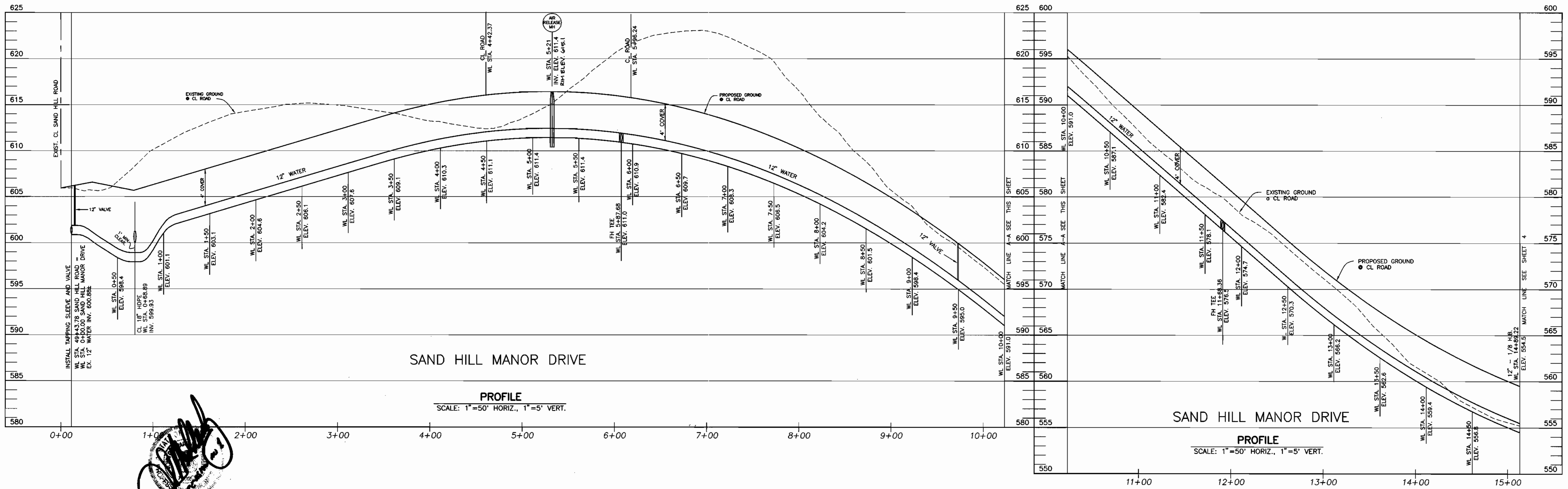
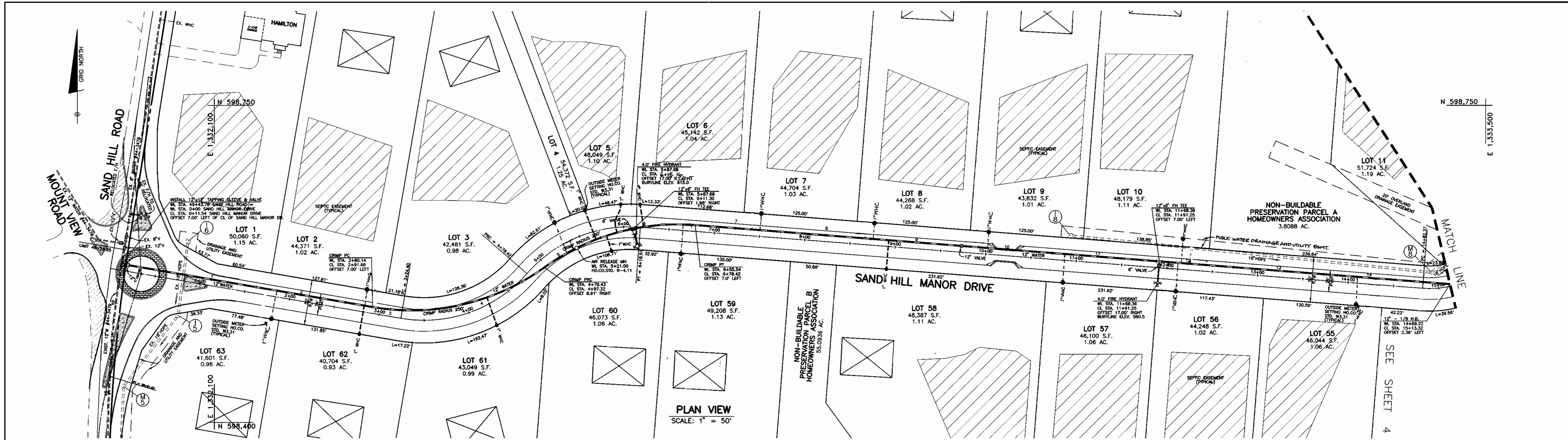
**PLAN AND PROFILE OF WATER MAIN ALONG MEKENIE COURT**

600 SCALE MAP NO. 16      BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

**CONTRACT NO. 14-3806-D**

SCALE: AS SHOWN  
SHEET NO. 9 OF 9



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
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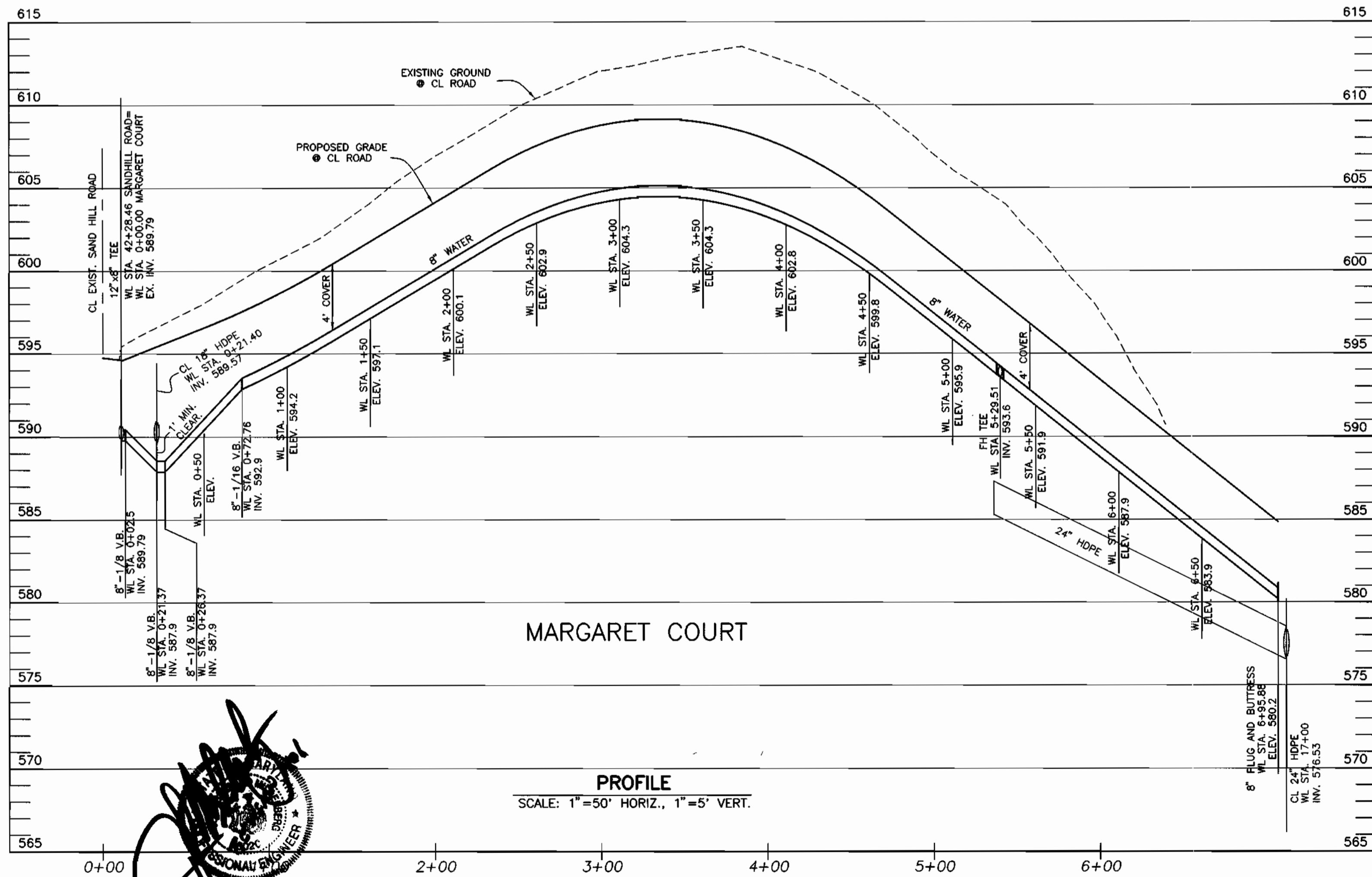
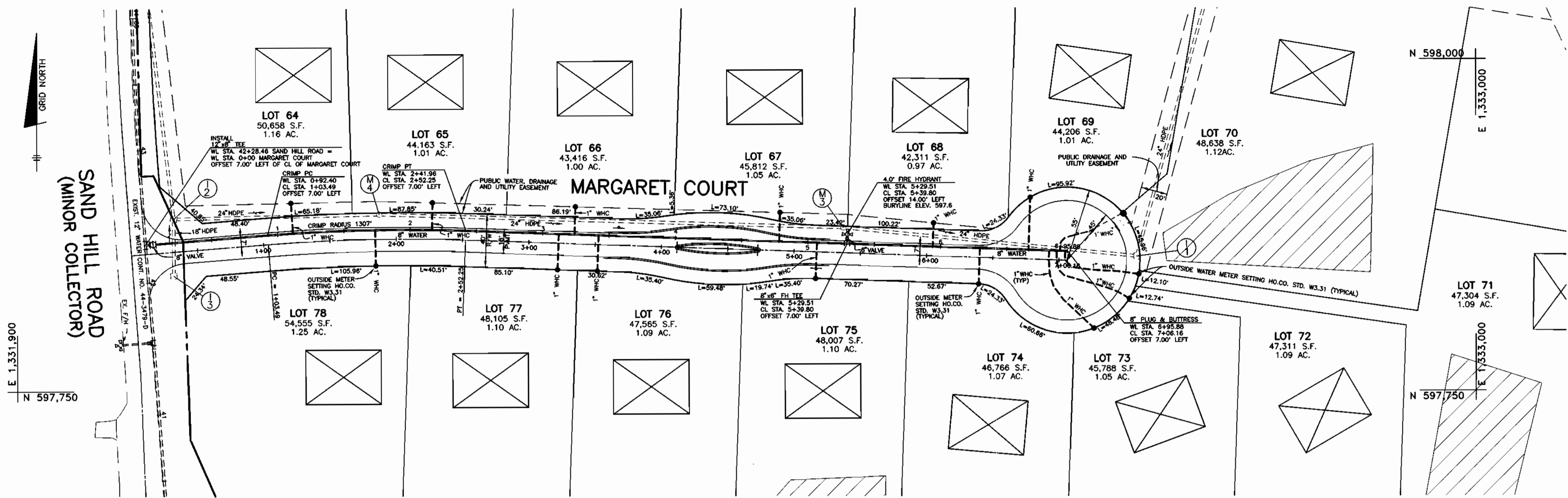
DES: DBT					
DRN: DBT					
CHK: CAM					
DATE: 6-12-00	BY: NP	NO. 1	CHANGE LOCATION OF WHC & FH	DATE: 6/20/01	
DATE: 9-7-00	BY: NO.		REVISIONS	DATE: 6/20/01	

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
SAND HILL MANOR DRIVE**

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 44-3806-D**

SCALE:  
AS SHOWN  
SHEET NO.  
3 OF 9





DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE A SUITE 418  
ELICOTT CITY, MARYLAND 21043  
PHONE: 410-485-8105 FAX: 410-485-6644

*Donald M...*  
Professional Engineer Seal

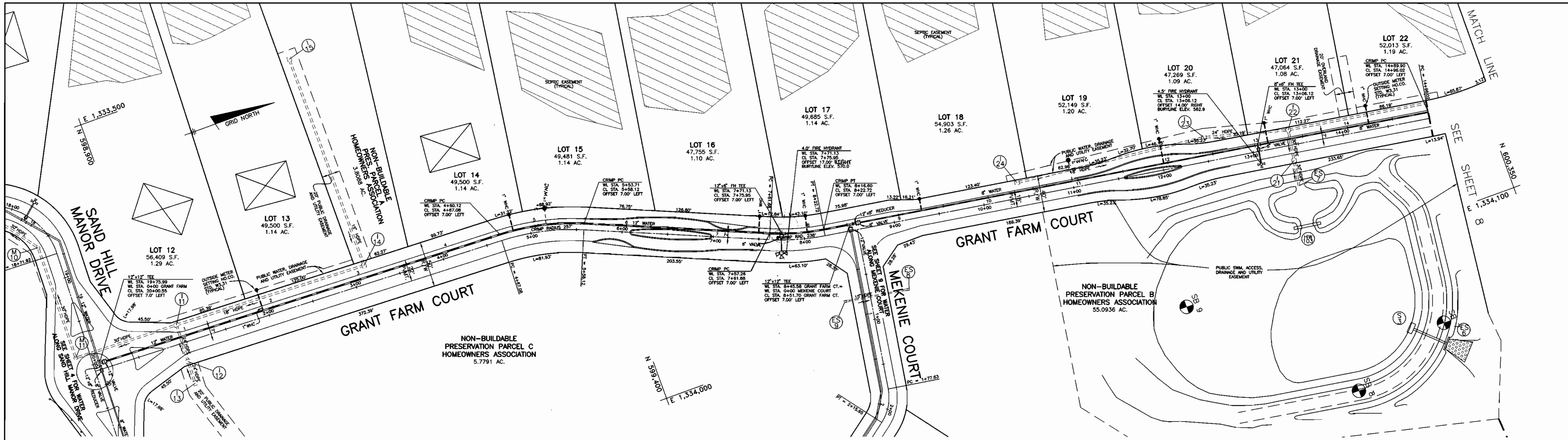
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CHK: CAM					
DATE: 6-12-00	MP	/	CHANGE LOCATION OF WHC	6/20/01	
9-7-00	BY	NO.	REVISIONS	DATE	

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
MARGARET COURT**

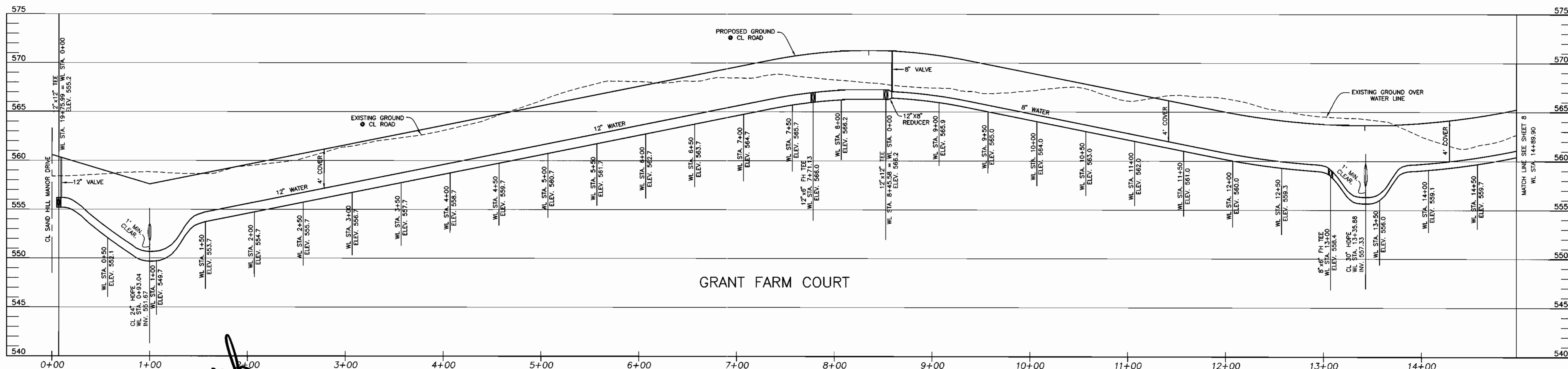
600 SCALE MAP NO. 16 BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
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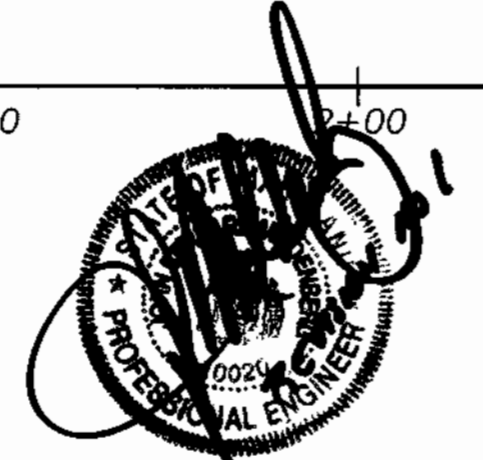
SCALE:  
AS SHOWN  
SHEET NO.  
6 OF 9



PLAN VIEW  
SCALE: 1" = 50'



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



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Robert B. Mason* 9-15-00  
CHIEF, BUREAU OF UTILITIES DATE

*Donald M. Mason*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

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9-7-00	BY	NO.	REVISIONS	DATE	

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
GRANT FARM DRIVE**

600 SCALE MAP NO. 16

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN

SHEET NO.  
7 OF 9

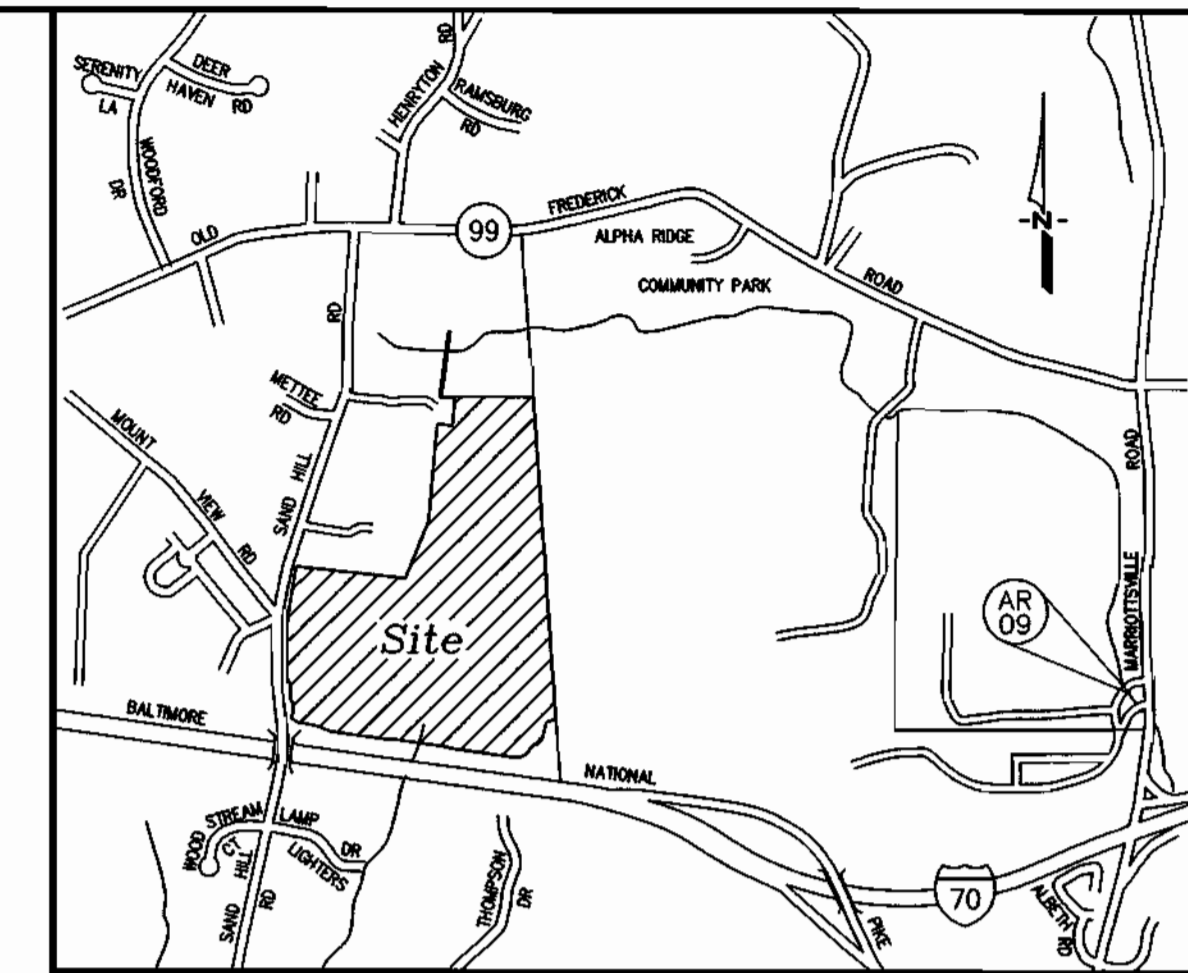




# PUBLIC WATER CONSTRUCTION PLANS THE ESTATES AT SAND HILL

LOTS 1 - 78

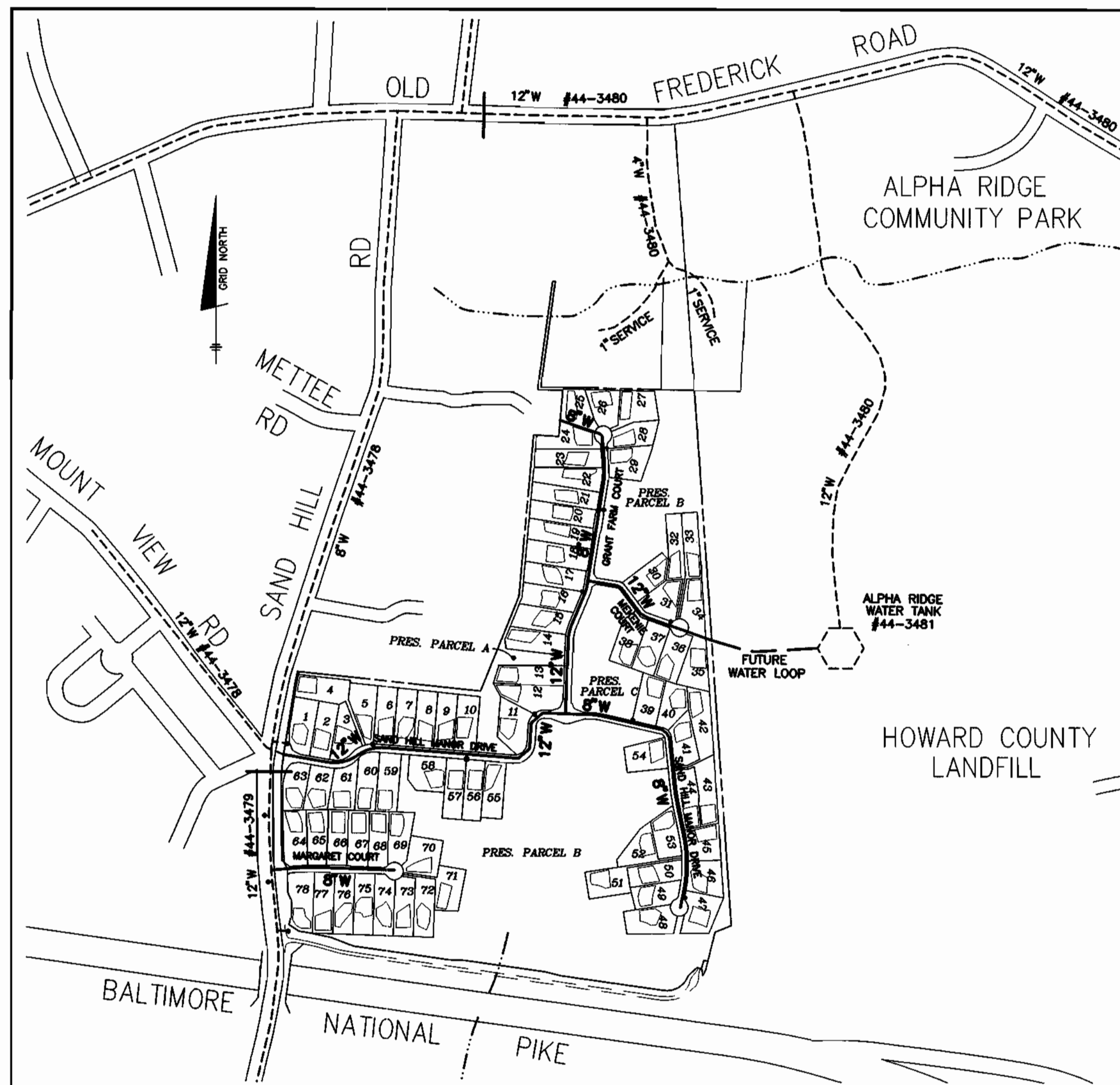
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT No. 44-3806-D



Vicinity Map  
Scale: 1" = 2000'

BENCH MARKS NAD'83	
HO. CO. #AR 09	
N 597,789.112'	E 1,340,756.890'

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN OF WATER MAINS
3	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE
4	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE
5	PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE
6	PLAN AND PROFILE OF WATER MAIN ALONG MARGARET COURT
7	PLAN AND PROFILE OF WATER MAIN ALONG GRANT FARM COURT
8	PLAN AND PROFILE OF WATER MAIN ALONG GRANT FARM COURT
9	PLAN AND PROFILE OF WATER MAIN ALONG MEKENIE COURT



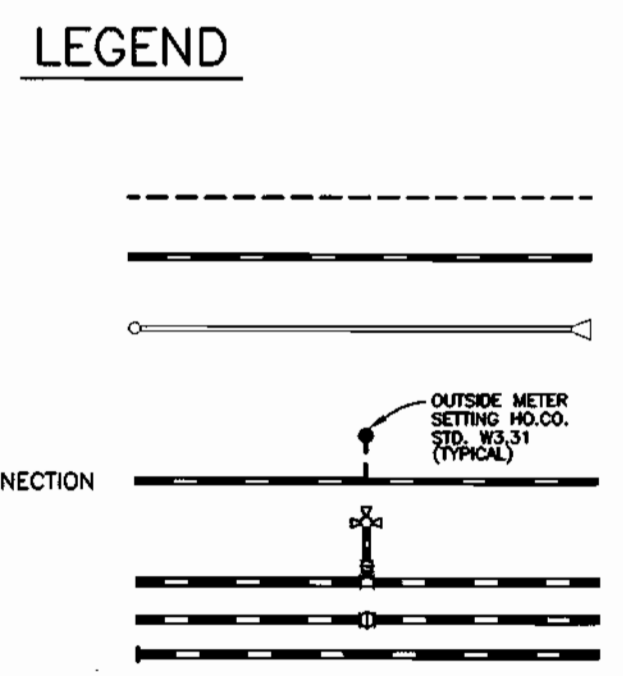
QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
12" WATER	3706 L.F.	3661	DIP CL-52	U.S. PIPE
8" WATER	3638 L.F.	3622	DIP CL-52	"
6" WATER		150	DIP CL-52	"
12"x12" T&E		2	"	"
12" VALVES	5	5	GATE	MUELLER/BRO.
8" VALVES	5	5	"	"
6" VALVES	11	11	"	"
12"x6" T&E		3	"	U.S. PIPE
8"x6" T&E		3	"	"
AIR RELEASE MH	2	2	PRECAST	ATLANTIC
12"x8" T&E		2	"	U.S. PIPE
FIRE HYDRANTS	11	11	"	MUELLER/BRO.
1" WHC	2034	2023	"	READING/BRO.
12"x8" RECS		2	"	U.S. PIPE
12"x8" HIB		7	"	"
8"x8" HIB		4	"	"
T.B.V.		1	"	MUELLER/BRO.

NAME OF UTILITY CONTRACTOR: W.F. WILSON  
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

NOTE: ALL WATER HOUSE CONNECTIONS SHOULD BE FOR OUTSIDE METER SETTINGS.

- ### GENERAL NOTES
- #### PART 1 - GENERAL
- 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. [NORTH AMERICAN DATUM OF 1983 (NAD '83)].
  - 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 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 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 [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 CONTRACTOR SERVICES.....410-850-4620
    - BG & E UNDERGROUND DAMAGE CONTROL.....410-291-4607
    - MISS UTILITY.....1-800-257-7777
    - COLONIAL PIPELINE CO.....410-549-4120
    - HOWARD CO. DEPT. OF PUBLIC WORKS.....410-313-4900
    - BUREAU OF UTILITIES.....1-800-446-5266
    - BELL ATLANTIC.....1-800-446-5266
  - 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.
  - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
  - 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 MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

- #### PART 2 - WATER
- 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 RESTRAINED 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.
  - FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.



WATER AND SEWER COUNTY CODE		TYPE OF BUILDING	
WATER CODE:	K-02	SINGLE FAMILY DETACHED	78 BUILDBLE
SEWER CODE:	N/A	NUMBER OF SHC'S:	0
TEST GRADIENT:	900	NUMBER OF WHC'S:	77
		DRAINAGE AREA:	MIDDLE PATUENT
		TREATMENT PLANT:	N/A

VICINITY MAP  
SCALE: 1" = 600'

HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*Cheryl Stinson/Gas* 9/26/00  
NATURAL RESOURCES CONSERVATION SERVICE / DATE

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

*John W. Allen* 9/26/00  
HOWARD SOIL CONSERVATION DISTRICT / DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT MUST BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS F-00-136

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert Reimer* 9-15-00  
CHIEF, BUREAU OF UTILITIES / DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*John W. Allen* 9/26/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION / DATE

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

*Donald Mason*

8480 BALTIMORE NATIONAL PIKE A SUITE 418  
ELIJAH CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6844

DES: DBT			
DRN: DBT			
CHK: CAM			
DATE: 6-12-00	BY: K.E.I. 1	REVISIONS: ASBUILT DATA ADDED TO PLAN	DATE: 10/10/01
DATE: 9-7-00	BY: NO.	REVISIONS:	DATE:

TITLE SHEET

600 SCALE MAP NO. 16

BLOCKS 1 & 2

THE ESTATES AT SAND HILL  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

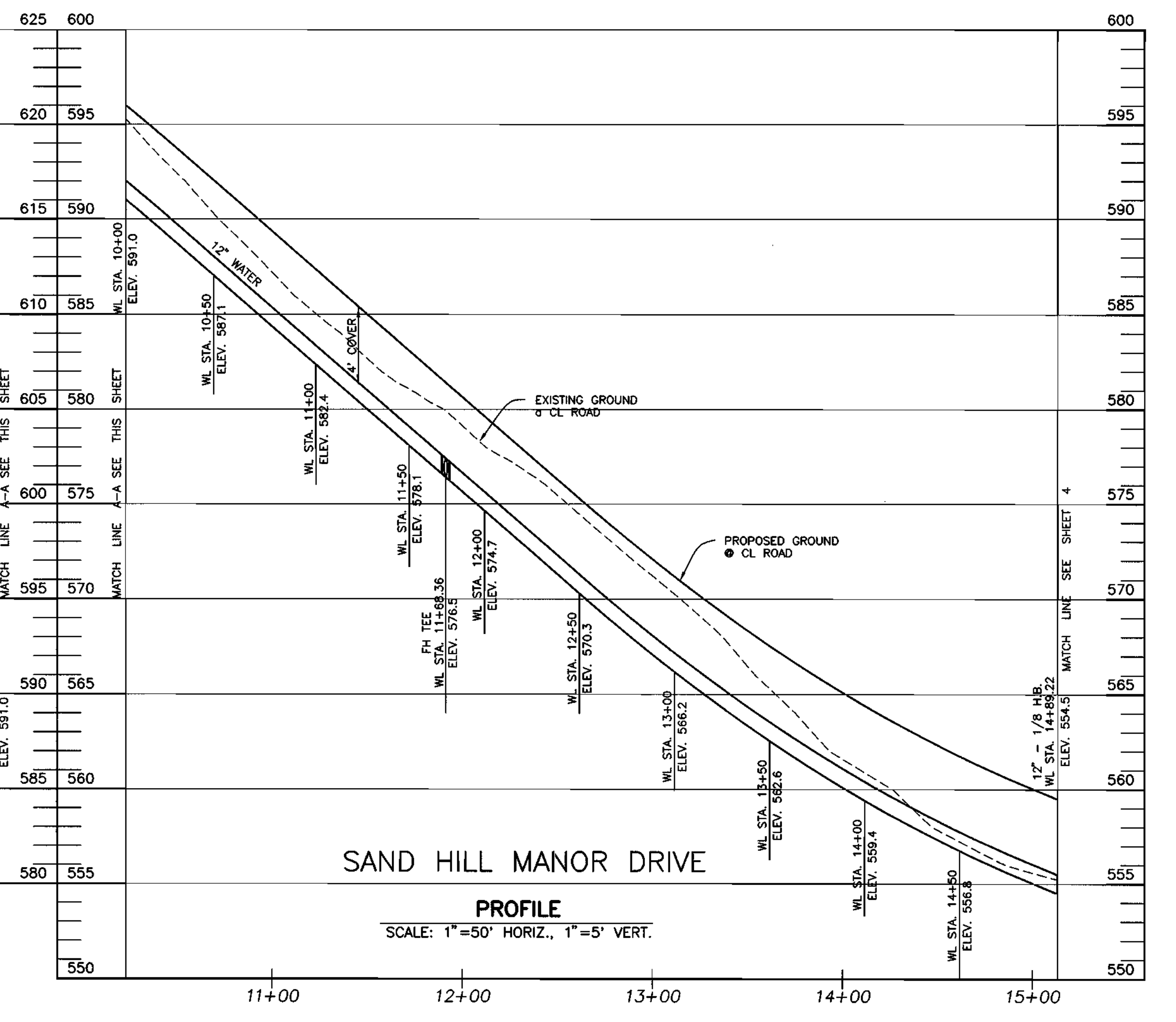
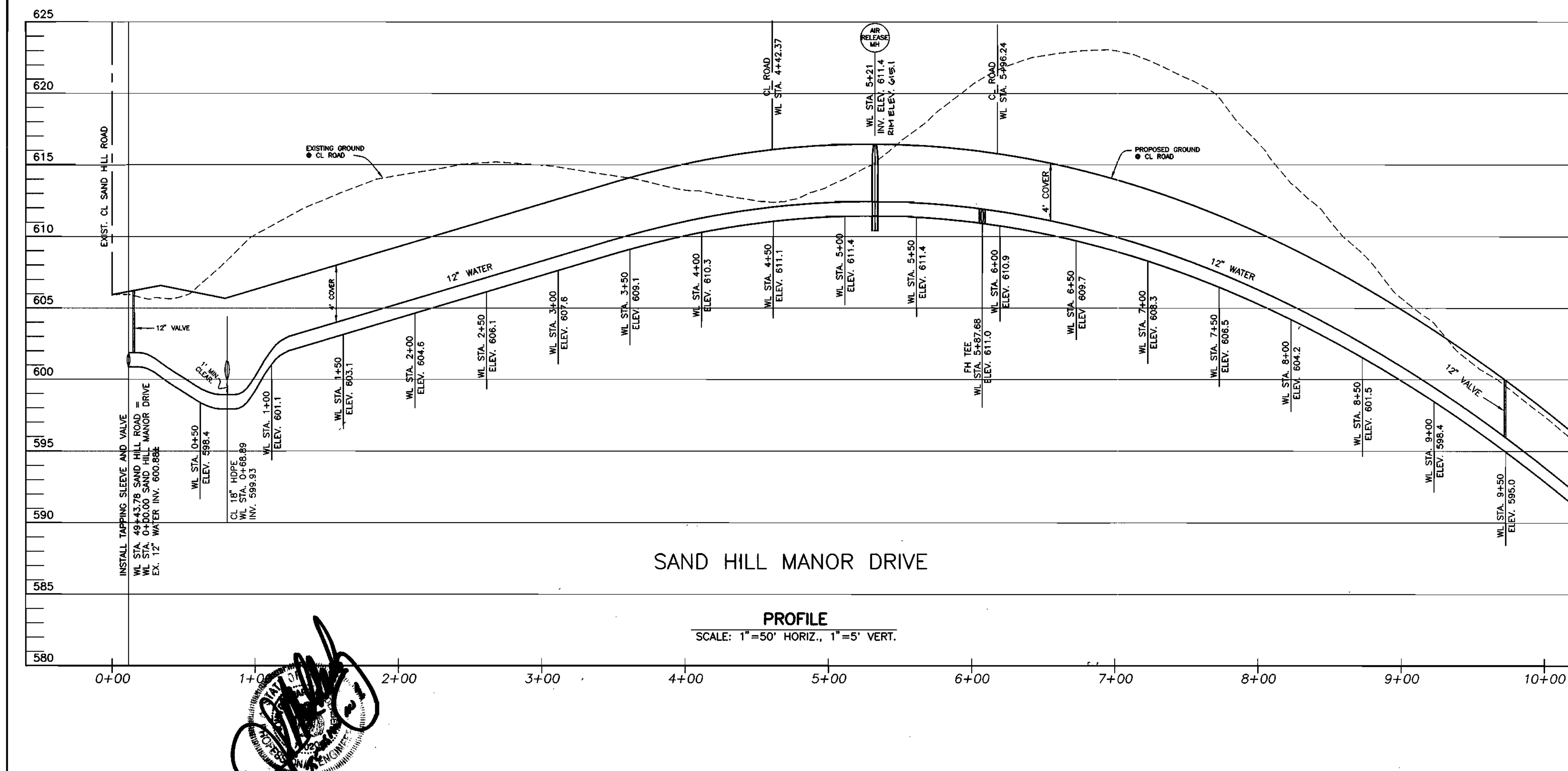
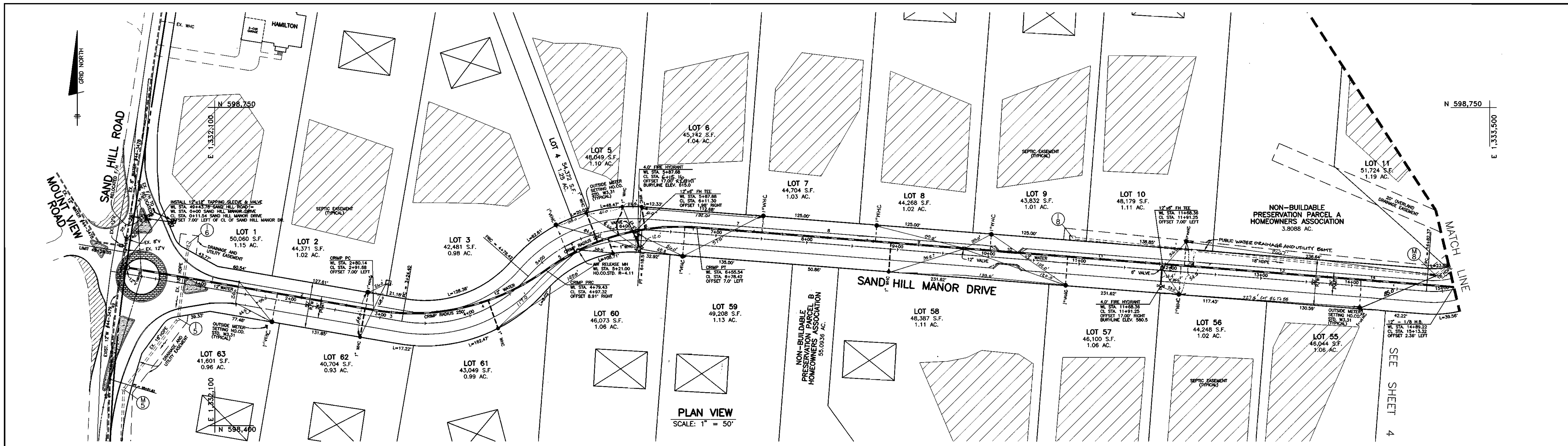
SCALE: AS SHOWN

SHEET NO. 1 OF 9

CONTRACT NO. 44-3806-D







DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]*  
9-15-00  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]*  
DATE

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644

*[Signature]*

DES: DBT				
DRN: DBT				
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DATE: 6-12-00	BY: NP	1	CHANGE LOCATION OF WHC & FH	10/20/01
9-7-00	BY: NO.		REVISIONS	DATE

**PLAN AND PROFILE OF WATER MAIN ALONG SAND HILL MANOR DRIVE**

600 SCALE MAP NO. 16

BLOCKS 1 & 2

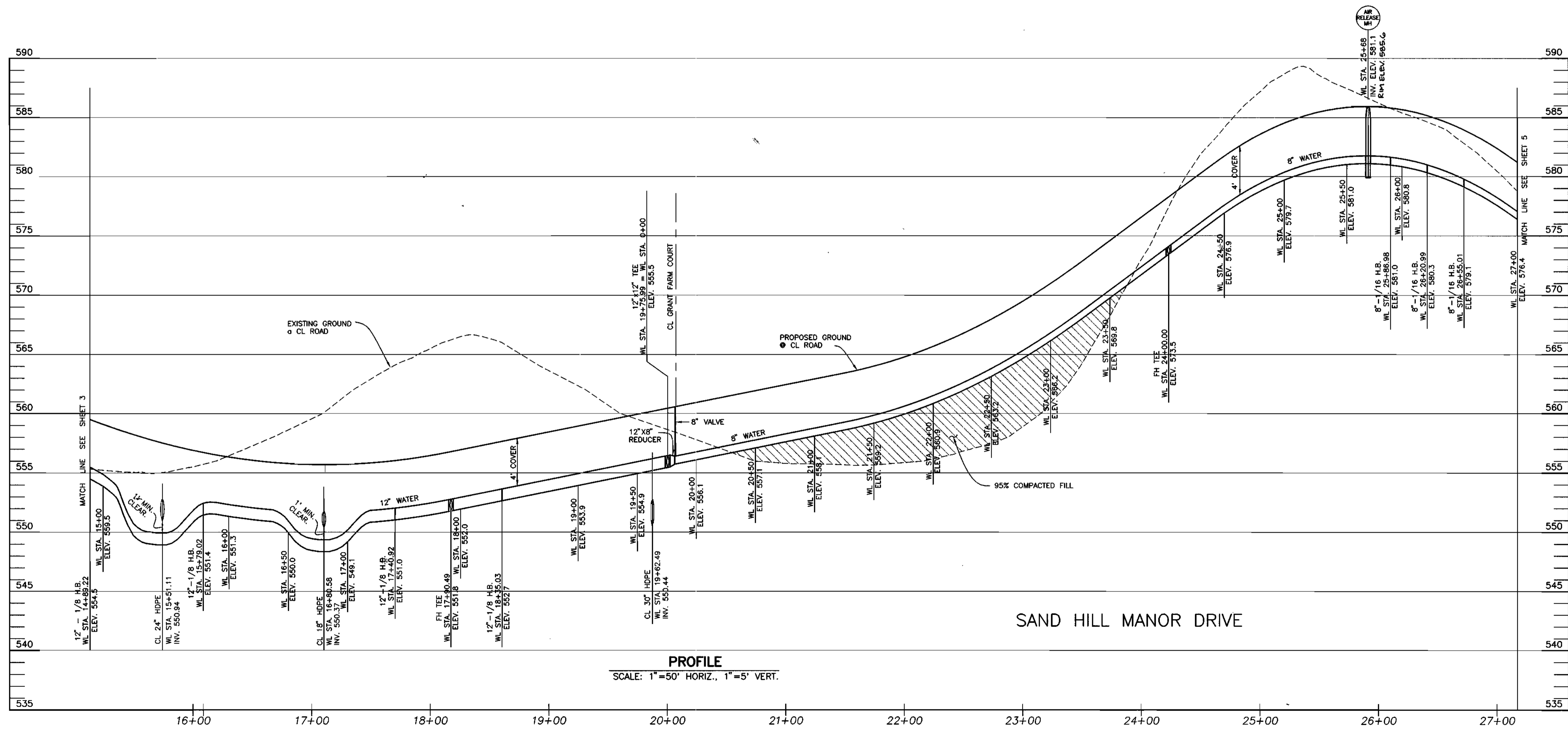
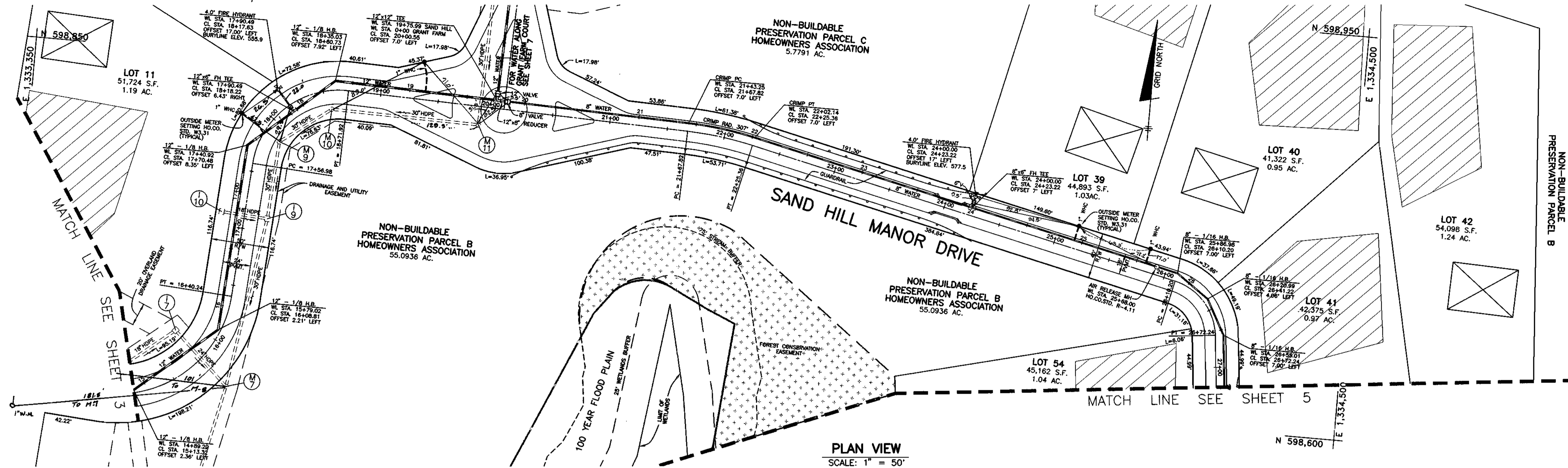
**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

**CONTRACT NO. 44-3806-D**

SCALE:  
AS SHOWN

SHEET NO.  
3 OF 9





DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE A SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644



DES: DBT					
DRN: DBT					
CHK: CAM					
DATE: 6-12-00 9-7-00	BY: K.C.I.	NO. 1	REVISIONS: AS BUILT DATA ADDED TO PLAN	DATE: 10/08/01	

**PLAN AND PROFILE  
OF WATER MAIN ALONG  
SAND HILL MANOR DRIVE**

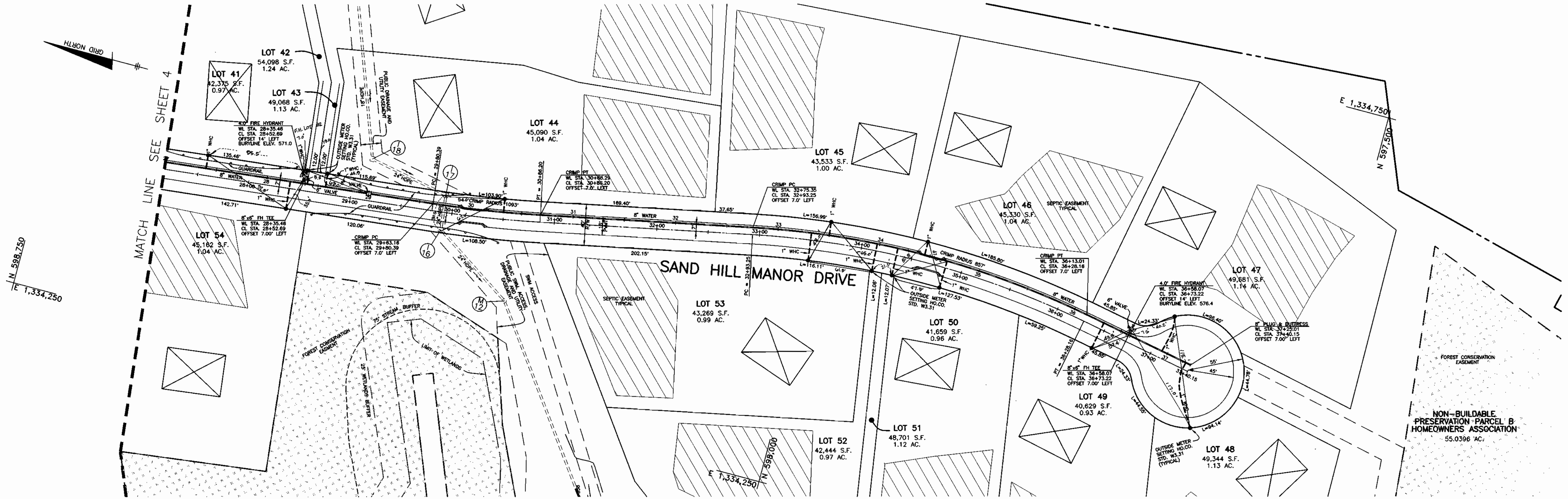
600 SCALE MAP NO. 16 BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

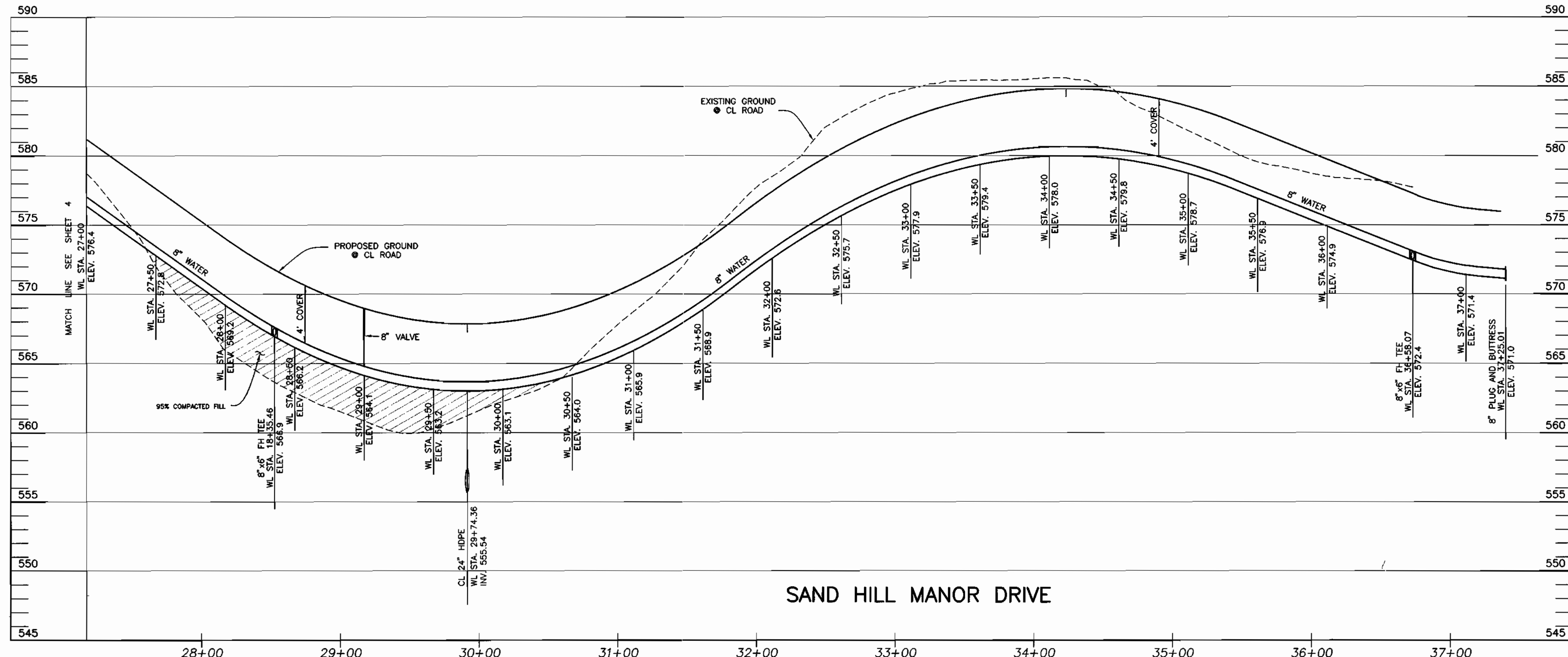
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AS SHOWN  
SHEET NO.  
4 OF 9

*[Signature]*  
9-15-00  
DATE

*[Signature]*  
DATE



PLAN VIEW  
SCALE: 1" = 50'



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*John D. ...*  
CHIEF, BUREAU OF UTILITIES  
DATE: 9-15-02

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
*...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 9/16

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE A SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6844

*Donna Maas*

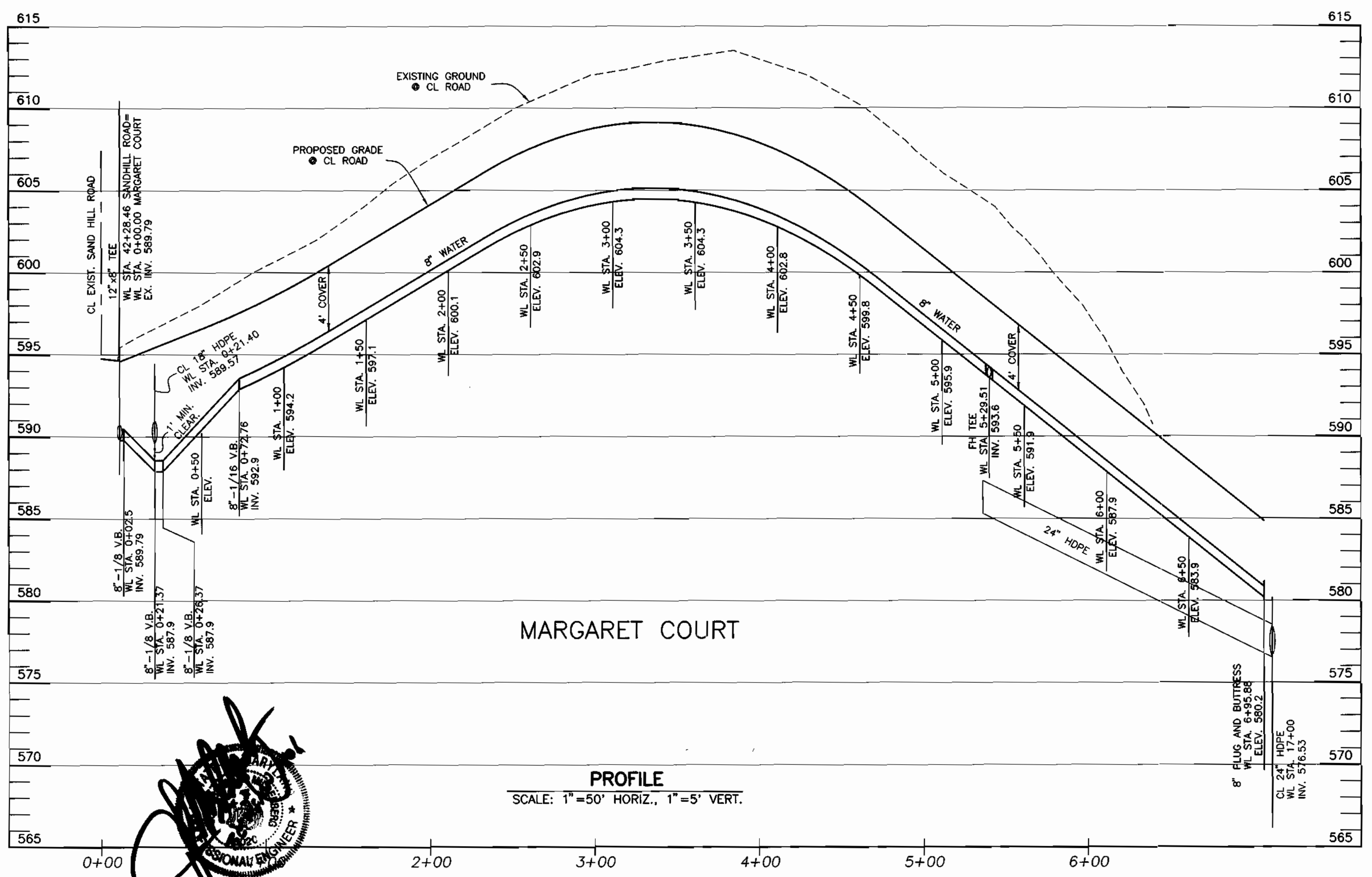
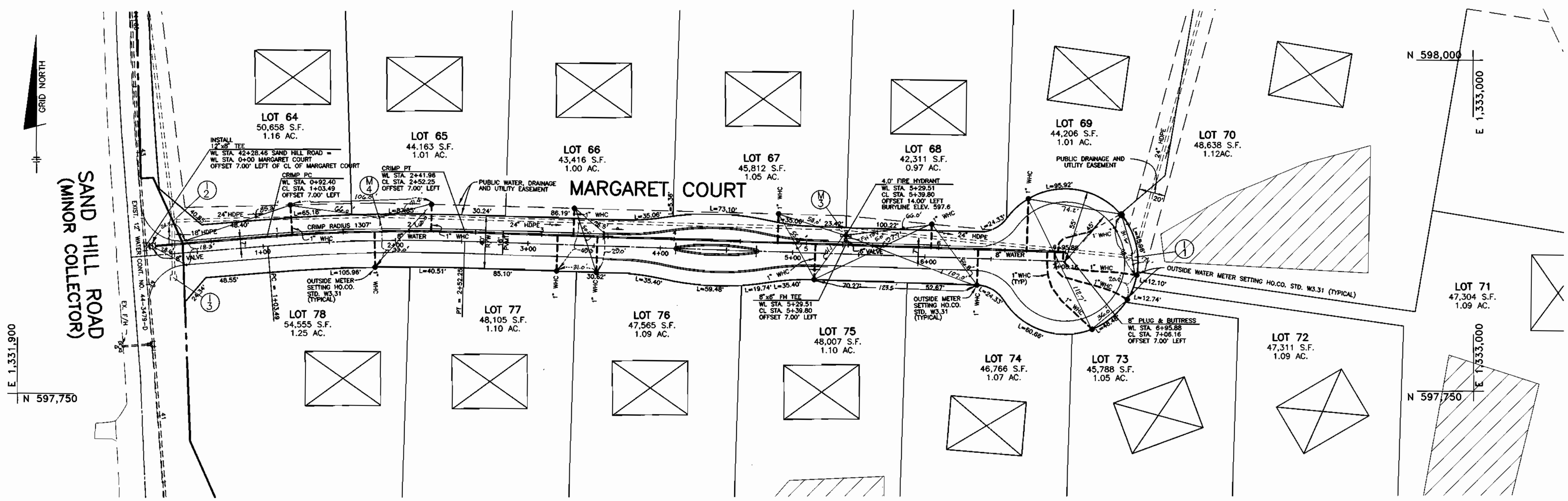
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	9-7-00	BY NO.	REVISIONS	DATE	

**PLAN AND PROFILE  
OF WATER MAIN ALONG  
SAND HILL MANOR DRIVE**  
600 SCALE MAP NO. 16 BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN  
SHEET NO.  
5 OF 9





DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert Berman*  
CHIEF, BUREAU OF UTILITIES  
DATE: 9-15-00

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*John S.*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 9/14/00

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8490 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644

*Donald Mear*

DES:	DBT				
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	9-7-00	BY	NO.	REVISIONS	DATE

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
MARGARET COURT**

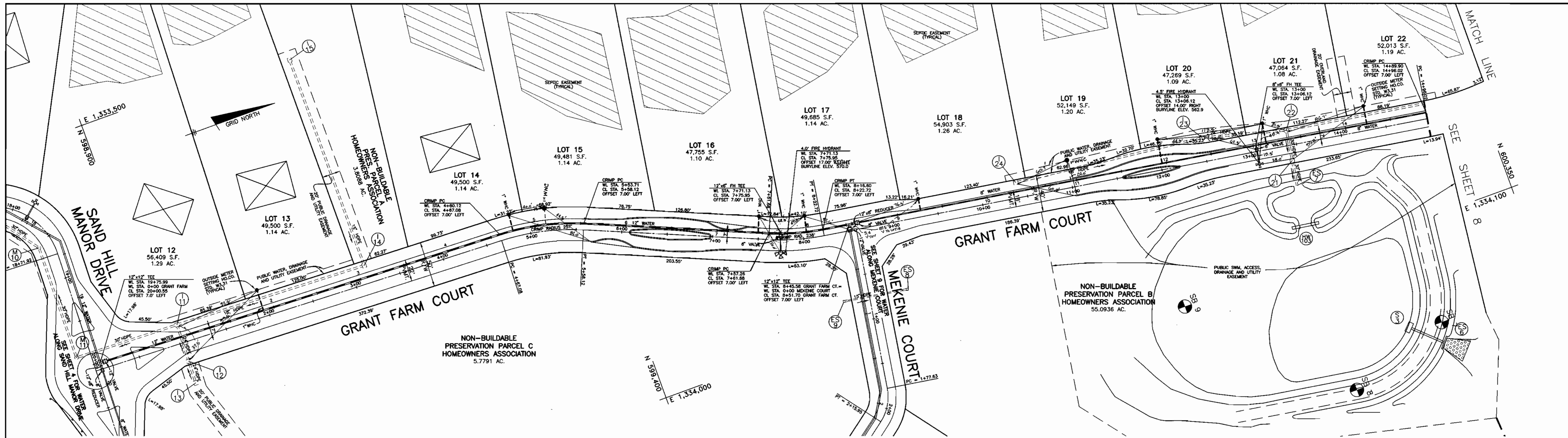
600 SCALE MAP NO. 16 BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

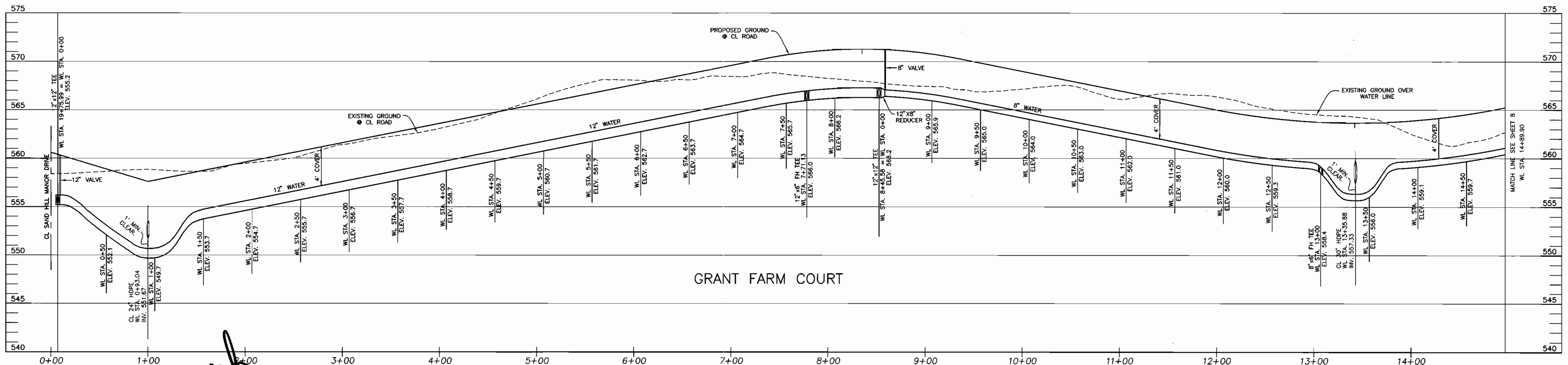
**CONTRACT NO. 14-3806-D**

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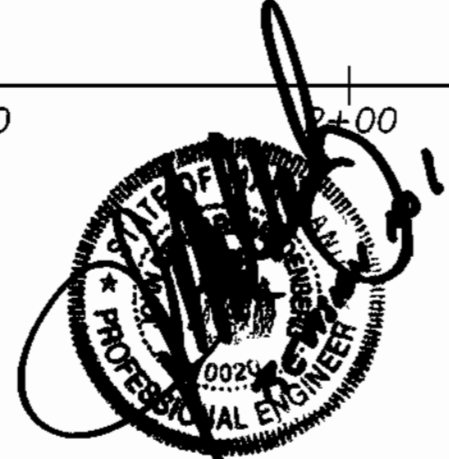
SHEET NO.  
6 OF 9



PLAN VIEW  
SCALE: 1" = 50'



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



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
  
*Robert W. Beaman*  
 CHIEF, BUREAU OF UTILITIES  
 9-15-00  
 DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
  
*Donald M. Mason*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 9/14/00  
 DATE

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6644



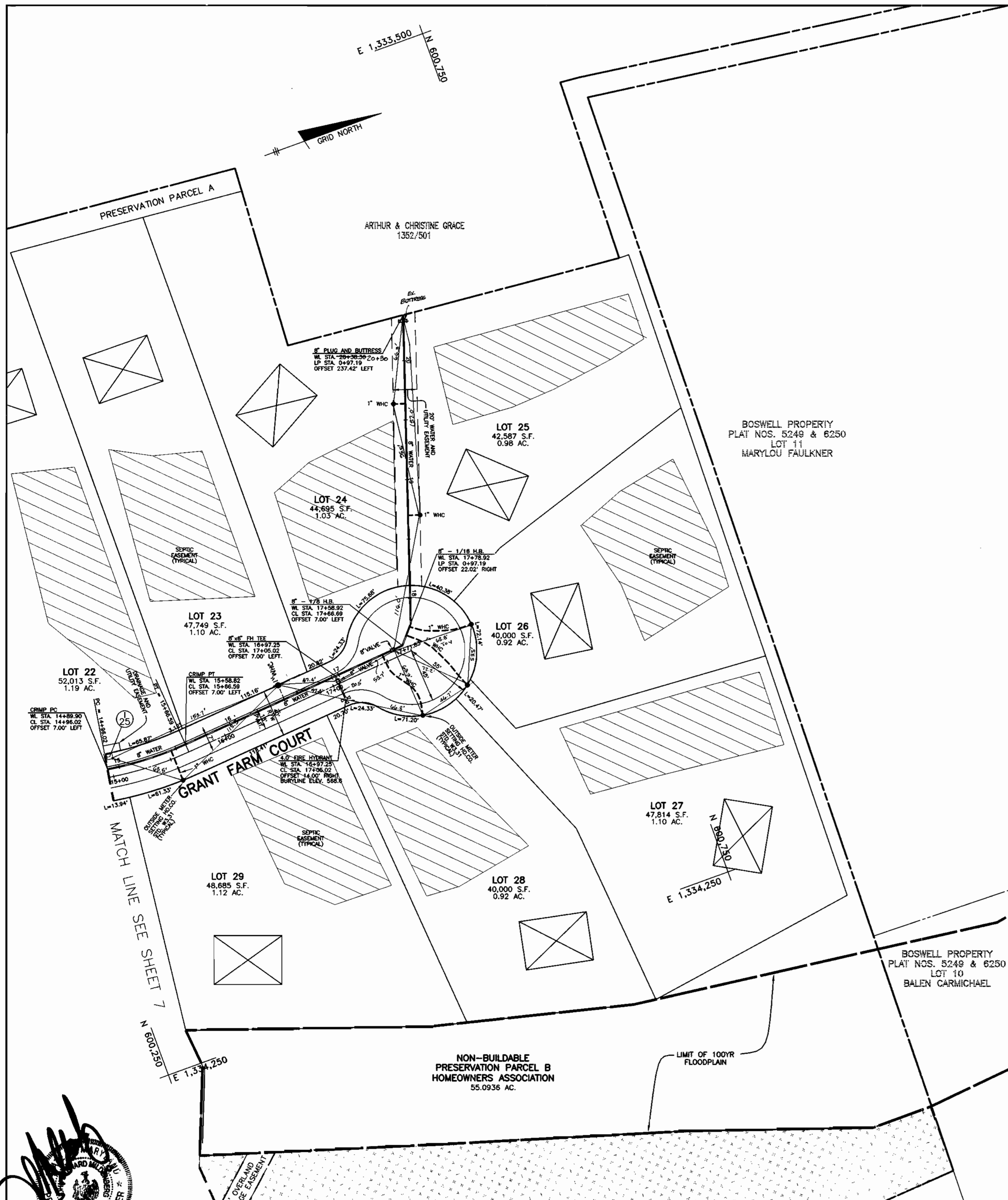
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	9-7-00	BY	NO.	REVISIONS
				DATE

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
GRANT FARM DRIVE**  
  
 600 SCALE MAP NO. 16  
 BLOCKS 1 & 2

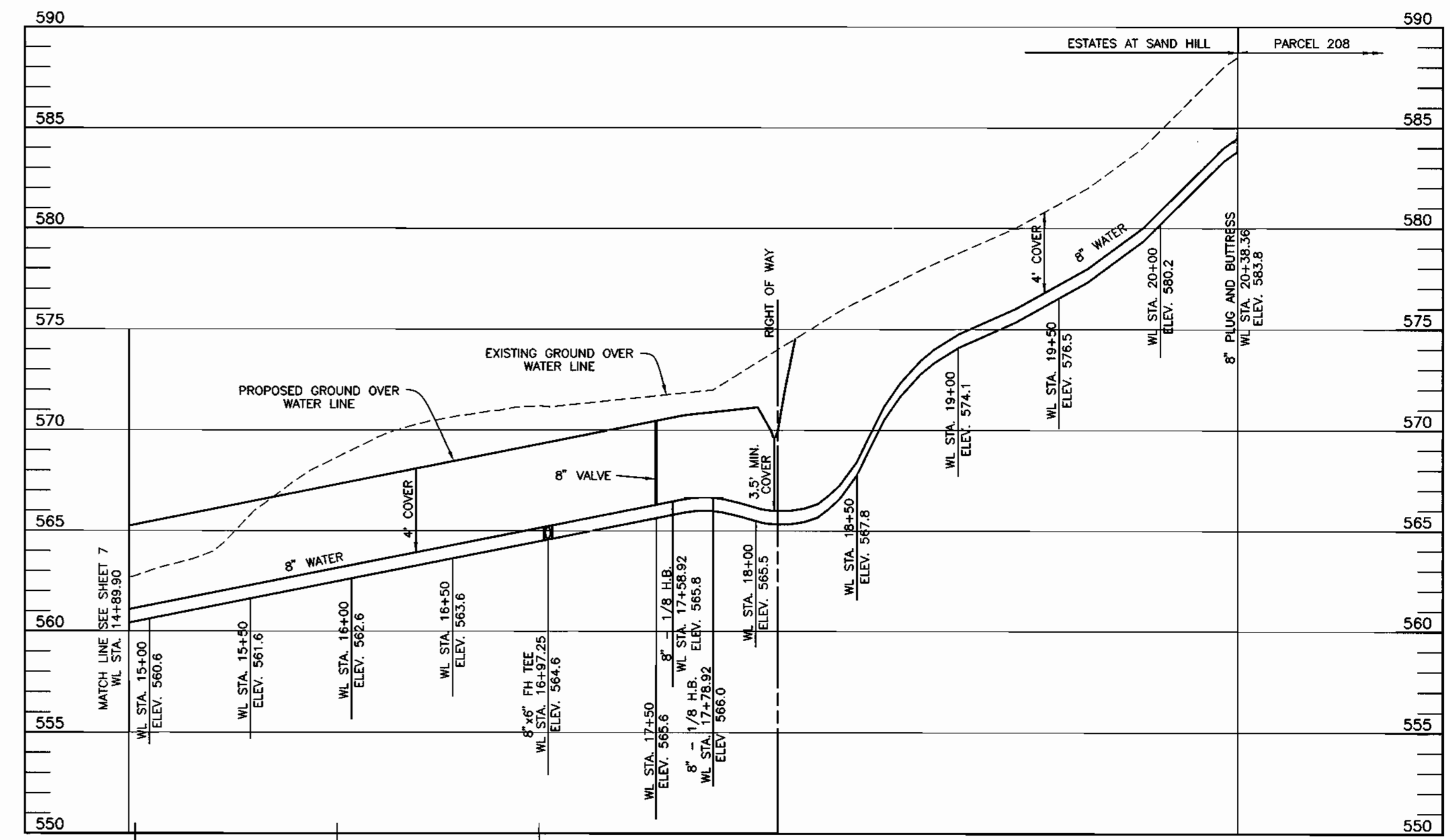
**THE ESTATES AT SAND HILL**  
 LOTS 1 - 78  
 ELECTION DISTRICT NO. 3  
 HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN  
  
 SHEET NO.  
7 OF 9





PLAN VIEW  
SCALE: 1" = 50'



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



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Robert Beniger*  
CHIEF, BUREAU OF UTILITIES  
9-15-00  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
*Donald Maas*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
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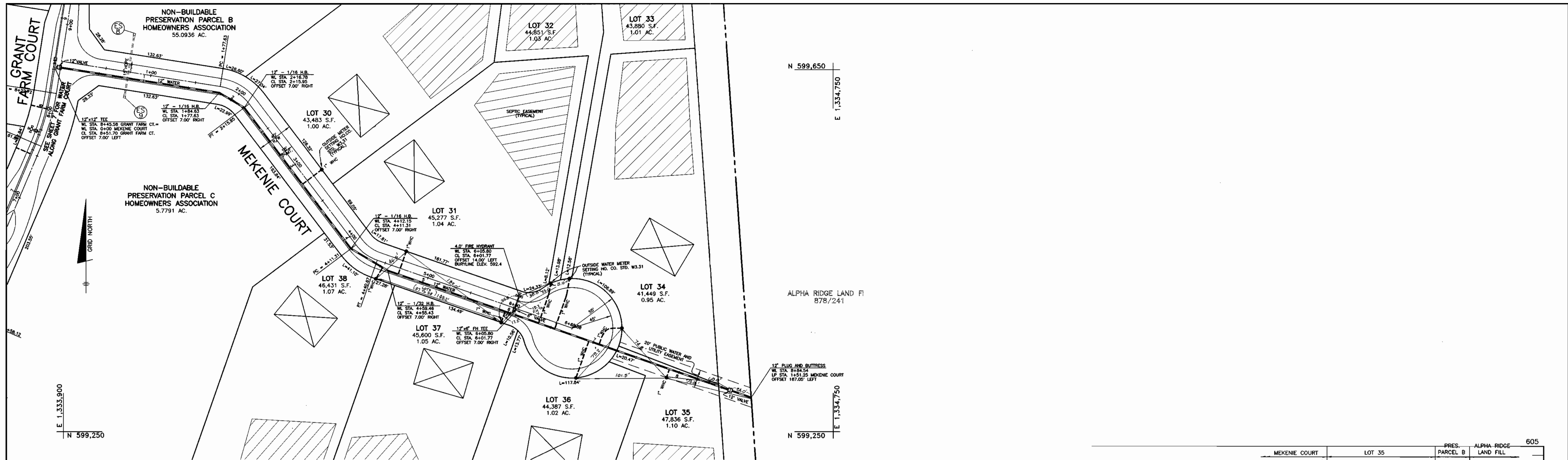
*Donald Maas*

DES:	DBT			
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	9-7-00	BY	NO.	REVISIONS
				DATE

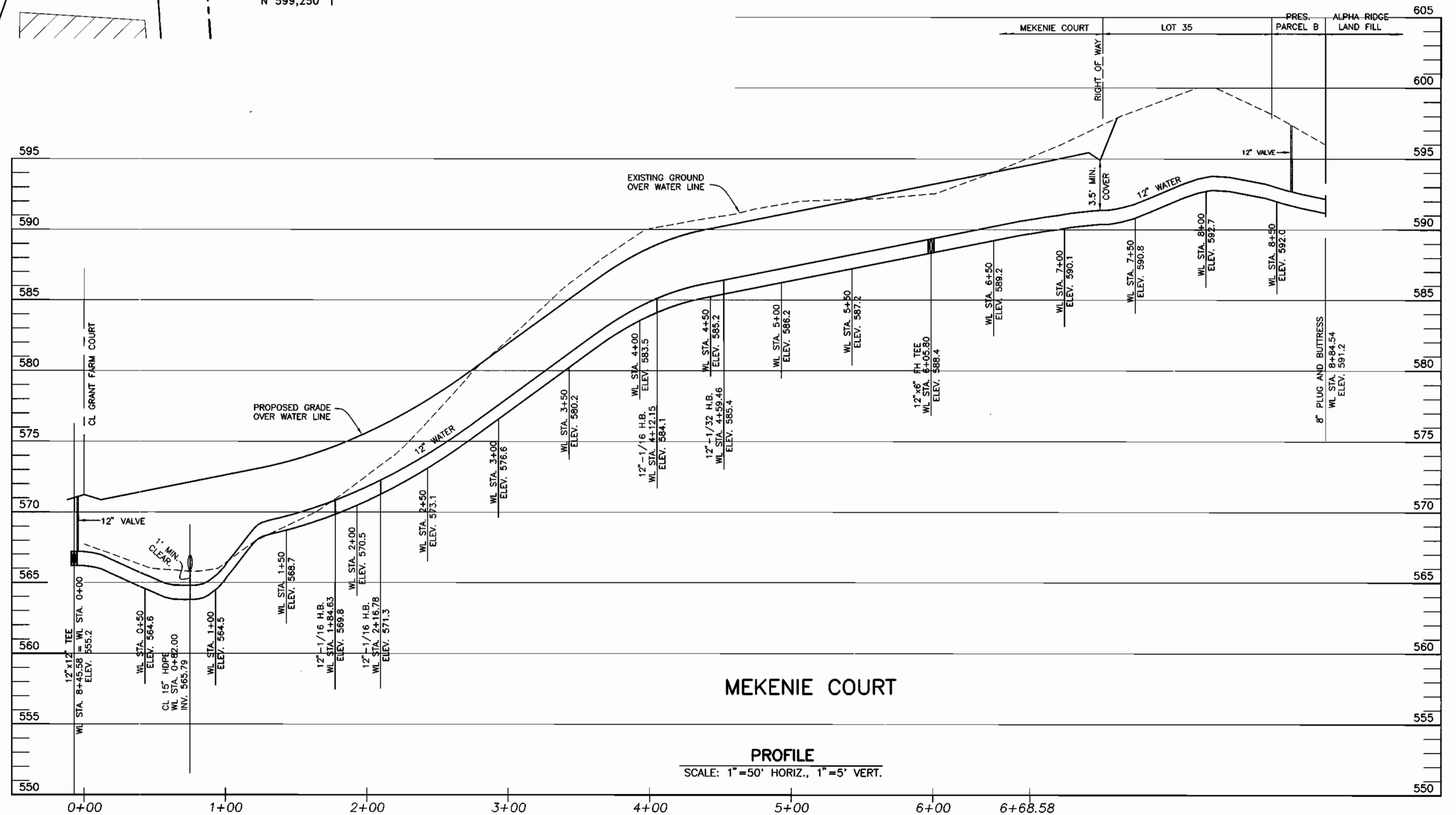
**PLAN AND PROFILE  
OF WATER MAIN ALONG  
GRANT FARM ROAD**  
600 SCALE MAP NO. 16  
BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN  
SHEET NO.  
8 OF 9



PLAN VIEW  
SCALE: 1" = 50'



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE • SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644

*Donald Mean*

DES: DBT					
DRN: DBT					
CHK: CAM					
DATE: 6-12-00	BY: K.E.I.	NO. 1	REVISIONS: ASBUILT DATA ADDED TO PLAN	DATE: 10/10/01	
DATE: 9-7-00	BY:	NO.	REVISIONS:	DATE:	

**PLAN AND PROFILE OF  
WATER MAIN ALONG  
MEKENE COURT**

600 SCALE MAP NO. 16 BLOCKS 1 & 2

**THE ESTATES AT SAND HILL**  
LOTS 1 - 78  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
**CONTRACT NO. 14-3806-D**

SCALE:  
AS SHOWN  
SHEET NO.  
9 OF 9