

**SHEET INDEX**

NO.	TITLE
1	COVER SHEET
2	WATER & SEWER PLAN
3	WATER & SEWER PLAN
4	SEWER PROFILE
5	WATER PROFILE STA. 0+00 THRU 21+71.9
6	WATER PROFILE STA. 30+00 THRU 35+39.6 STA. 40+00 THRU 45+53.1 FIRE HYDRANT PROFILES

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		MANUFACTURER/SUPPLIER
		QUANTITIES	TYPE	
12" x 12" x 12" TEE	1			
BLIND FLANGES & JOINTS	1			
TRUST BLOCK	1			
12" VALVE	1			
12" x 8" TEE	3			
12" 1/4" HP	1			

# WATER AND SEWER EXTENSIONS

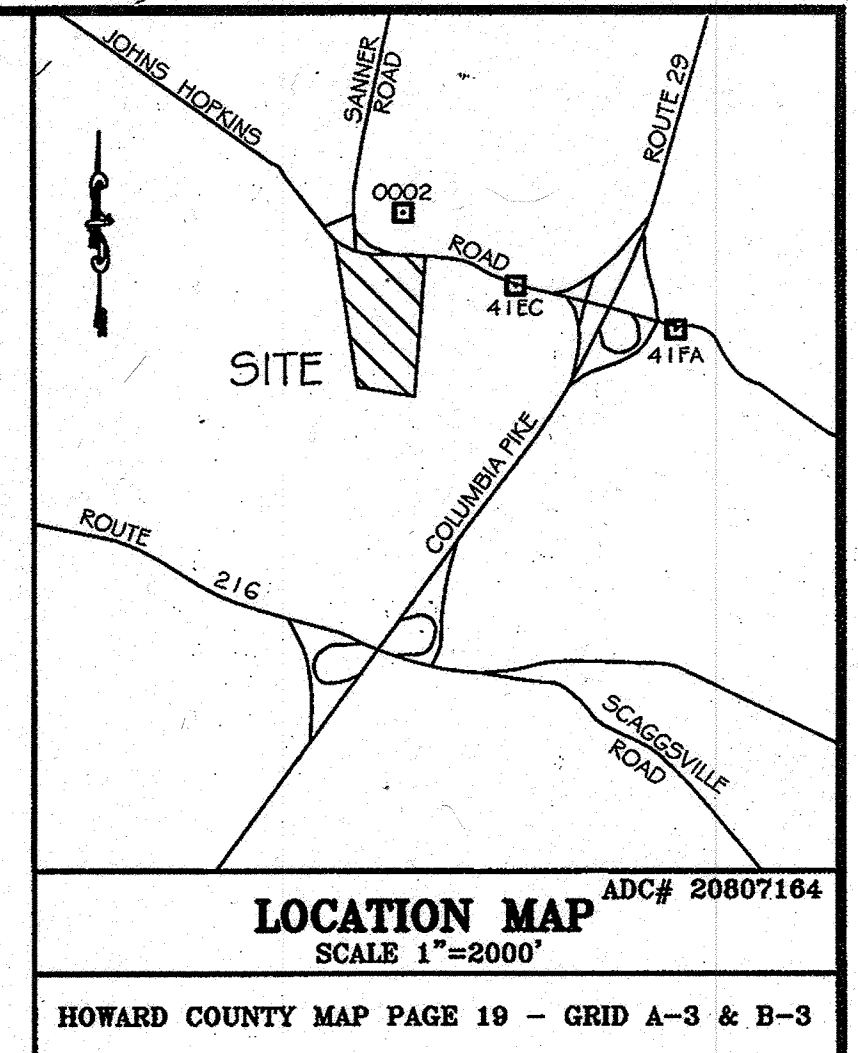
## JHU / APL SOUTH CAMPUS

### 5th ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

## CONTRACT NO. 24-4614-D

**BENCHMARK**  
 HORIZONTAL: MARYLAND NAD83 (ADJ 1991)  
 VERTICAL: NAVD83  
 GEODETIC SURVEY CONTROL: 0002  
 NORTHING: 548856.517  
 EASTING: 134025.327  
 ELEVATION: 444.835  
 GEODETIC SURVEY CONTROL: 41EC  
 NORTHING: 543689.817  
 EASTING: 134228.748  
 ELEVATION: 430.262  
 GEODETIC SURVEY CONTROL: 41FA  
 NORTHING: 543109.896  
 EASTING: 134477.481  
 ELEVATION: 407.532  
 DESCRIPTIONS:  
 STAMPED DISC SET ON 3" DEEP COLUMN  
 OF CONCRETE



**QUANTITIES**

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
12" WATER (D.I.P.)	3100 LF	3112 L.F.	CL 54	ATLANTIC STATES
6" WATER (D.I.P.)	62 LF	72 L.F.	CL 54	ATLANTIC STATES
12" x 12" T.S.&V.	1 EA.	1 EA.	SSTS/GATE VALVE	SMITH BLAIR/MUELLER
12" VALVE	9 EA.	8 EA.	GATE	MUELLER
8" VALVE	3 EA.	3 EA.	GATE	MUELLER
6" VALVE	3 EA.	4 EA.	GATE	MUELLER
12" x 12" TEE	2 EA.	3 EA.	MJ	TYLER/UNION
12" 1/8" HB	6 EA.	6 EA.	MJ	TYLER/UNION
12" x 6" FHT	4 EA.	4 EA.	MJ	TYLER/UNION
FIRE HYDRANT - 5.0'	2 EA.	2 EA.	A473	MUELLER
FIRE HYDRANT - 4.5'	1 EA.	1 EA.	A473 MJ	MUELLER
FIRE HYDRANT - 7.0'	1 EA.	1 EA.	A473 MJ	MUELLER
6" SHC	166 LF	145 L.F.	PVC	NORTH AMERICAN
8" WIC	30 LF	75 L.F.	CL 54	
8" SEWER (PVC)	1516 LF	1512 L.F.	SDR 35	NORTH AMERICAN
MANHOLES	7 EA.	7 EA.	4" PRECAST	CONTRACTORS PRECAST
MANHOLES DEPTH	76 WF			
CLEANOUTS	3 EA.	3 EA.	6" PVC CAP	MULTI FITTINGS

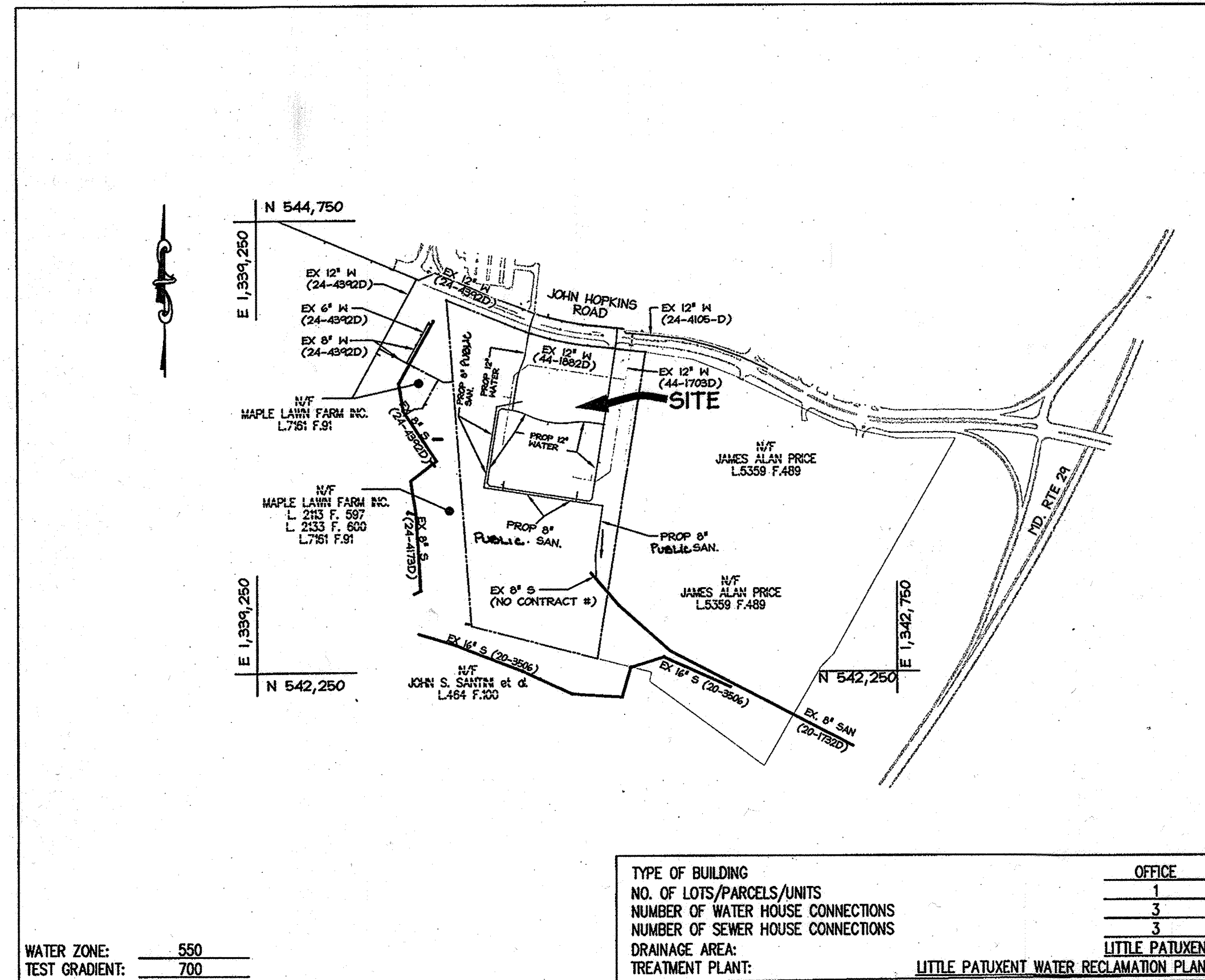
CHECKBOX  
 AS-BUILT DATE 2-14-11  
 SURVEY AND DRAFTING DIVISION

**WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE**

BUILDING NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
200	11101 JOHNS HOPKINS ROAD		
201	11101 JOHNS HOPKINS ROAD		
202	11101 JOHNS HOPKINS ROAD		

**SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE**

BUILDING NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
200	11101 JOHNS HOPKINS ROAD		
201	11101 JOHNS HOPKINS ROAD		
202	11101 JOHNS HOPKINS ROAD		



**LEGEND**

---	PROPERTY LINE
----	EXISTING BUILDINGS
----	EXISTING CURB AND GUTTER
----	EXISTING OVERHEAD ELECTRIC
----	EXISTING STORM DRAIN
----	EXISTING SANITARY SEWER
----	EXISTING WATER
----	EXISTING SEWER AND UTILITY EASEMENT
----	PROPOSED SEWER AND UTILITY EASEMENT
----	PROPOSED STORM DRAIN
----	PROPOSED PUBLIC WATER
----	PROPOSED PUBLIC SANITARY SEWER

- 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 SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
  - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP AND VERIFIED BY CHRISTOPHER CONSULTANTS, LTD IN OCTOBER AND NOVEMBER OF 2008.
  - THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/AS PROJECTED BY GPS AND PREVIOUS TRAVERSE RUNS, NAVD 88 ESTABLISHED ELEVATIONS SHOWN BY CONVENTIONAL METHODS.
  - ALL VERTICAL CONTROLS ARE BASED ON NAVD88.
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
  - CLEAR ALL UTILITIES BY A MINIMUM OF 12". 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 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 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 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 (CONSTRUCTION SERVICES)	410-850-4620
BGE (EMERGENCY)	410-787-9068
BUREAU OF UTILITIES	410-313-4800
COLONIAL PIPELINE CO.	1-800-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033/410-224-9210
  - 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 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.

- PART II - WATER**
- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
  - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" 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 THE STANDARD DETAILS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STD. DETAILS. THE 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 CONNECTION 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.
- PART III - SEWER**
- ALL SEWER MAINS SHALL BE D.I.P. OR 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 COVERS, STANDARD DETAIL G5.52 WHERE WATERTIGHT 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 THE CELLAR CANNOT BE SERVED.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON SDP-09-047

**PURPOSE STATEMENT**

TO PROVIDE WATER AND SEWER SERVICE FOR THE THREE PROPOSED BUILDINGS. THE SEWER LINE WILL BE PUBLIC AND BE DISCHARGED THROUGH AN EASEMENT. THE PROPOSED WATER LINE WILL BE CONNECTED TO THE EX. WATER LINE (CONTRACT #24-4105D) IN JOHNS HOPKINS ROAD.

**PROFESSIONAL CERTIFICATION**  
 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.

*James M. Householder*      9.25.09  
 SIGNATURE OF ENGINEER      DATE

JOHN M. HOUSEHOLDER, P.E.  
 MD LICENSE NUMBER: 29907  
 EXPIRATION DATE: 1-27-2010

**OWNER / DEVELOPER**  
 11101 JOHNS HOPKINS ROAD - BUSINESS TRUST  
 11100 JOHNS HOPKINS ROAD  
 LAUREL, MARYLAND 20723-6099  
 ATTN: JAMES LOESCH, P.E., CEM  
 PHONE: 443.778.5134 FAX: 443.778.6122

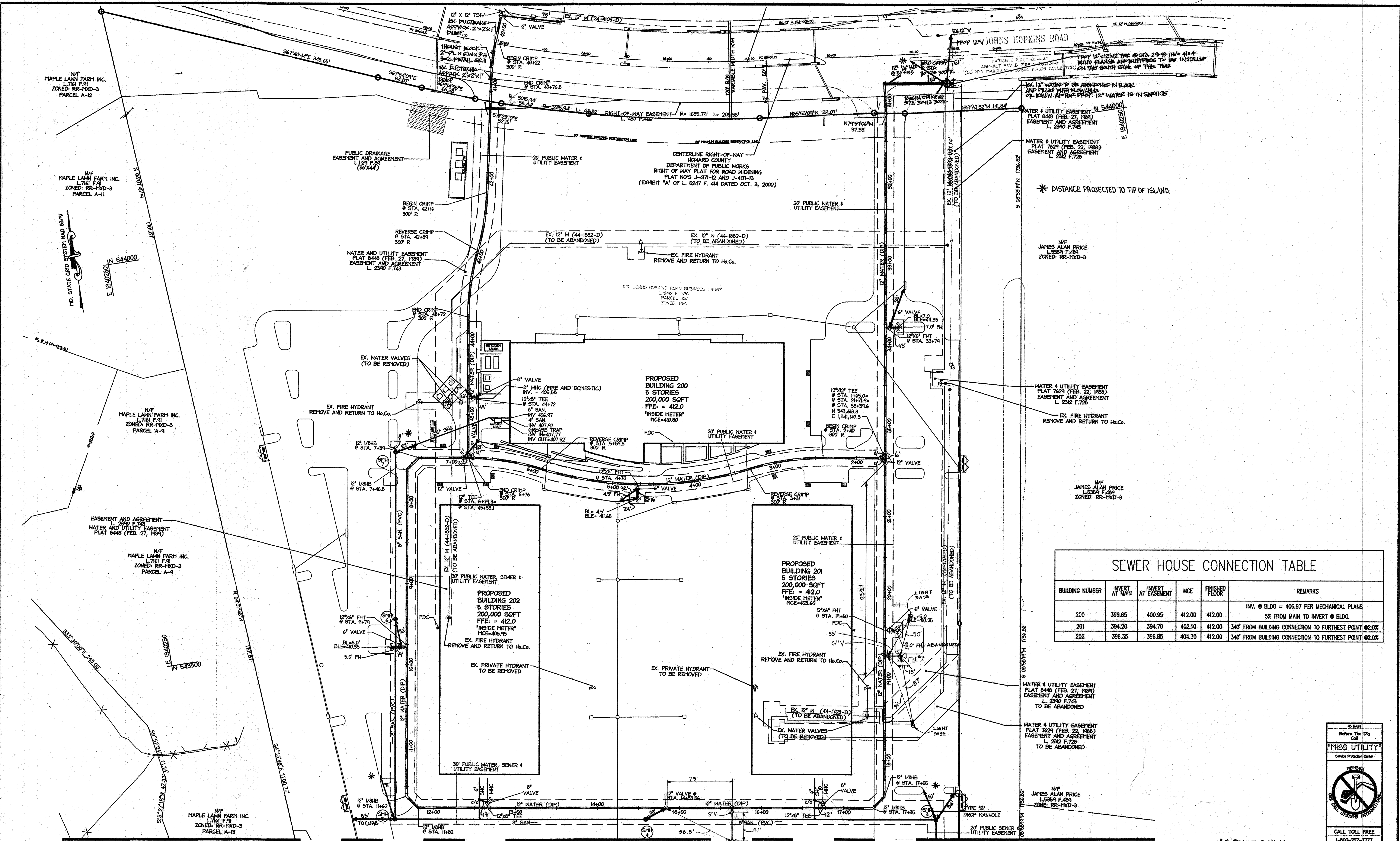
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Howard Soil Conservation District*      10/30/09  
 HOWARD SOIL CONSERVATION DISTRICT      DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 10/20/09 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND DATE: 11/4/09 CHIEF, DEVELOPMENT ENGINEERING DIVISION	christopher consultants engineering - surveying - land planning christopher consultants, inc. 7175 oakridge-glenview-drive suite 100, oakridge, md 21046-2000 410.222.8800 - 410.311.6146 - fax 410.222.8803	STATE OF MARYLAND PROFESSIONAL ENGINEER 9.25.09	DES: KWS DRN: SSA CHK: JMH DATE: AUG. 2009	COVER SHEET 600 SCALE MAP NO. 41      BLOCK NO. 22	FINAL WATER and SEWER EXTENSIONS JHU/APL - SOUTH CAMPUS 11101 JOHNS HOPKINS ROAD LAUREL, MARYLAND 20723-6099 CONTRACT NO. 24-4614-D	SCALE AS SHOWN SHEET 1 OF 6 ELECTION DISTRICT 5 TAX MAP 41, GRID 22, PARCEL 300 ZONE: PEC HOWARD COUNTY, MARYLAND
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MDC-960(W&S)





SEWER HOUSE CONNECTION TABLE					
BUILDING NUMBER	INVERT AT MAIN	INVERT AT EASEMENT	MCE	FINISHED FLOOR	REMARKS
200	399.65	400.95	412.00	412.00	INV. @ BLDG = 406.97 PER MECHANICAL PLANS 5% FROM MAIN TO INVERT @ BLDG.
201	394.20	394.70	402.10	412.00	340' FROM BUILDING CONNECTION TO FURTHEST POINT @ 0.2%
202	396.35	396.85	404.30	412.00	340' FROM BUILDING CONNECTION TO FURTHEST POINT @ 0.2%

MATCHLINE - FOR CONTINUATION SEE SHEET 3 OF 6

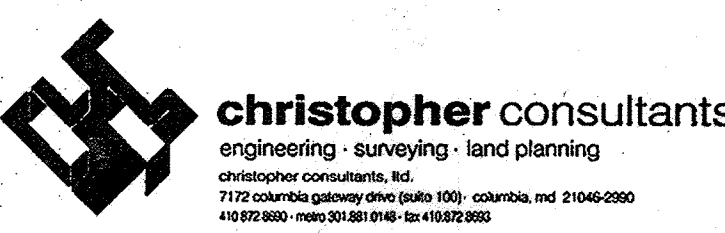
AS-BUILT 2-14-11

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Steve C. ...*  
DATE: 11/14/09

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*Christopher ...*  
DATE: 11/14/09



DES:	KWS			
DRN:	SSA			
CHK:	JMH	2	AS BUILT DATA	4/22/11
DATE:	AUG. 2009	1	REVISED WATERLINE ELEVATIONS 3100 - 3100 AND 4100 - 4100	9/16/10
BY:	NO.		REVISION	DATE

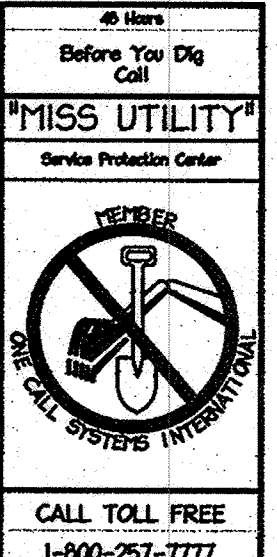
WATER AND SEWER PLAN

800 SCALE MAP NO. 41 BLOCK NO. 22

FINAL WATER AND SEWER EXTENSIONS  
JHU/APL - SOUTH CAMPUS  
11101 JOHNS HOPKINS ROAD  
LAUREL, MARYLAND 20723-6099  
CONTRACT NO. 24-4614-D

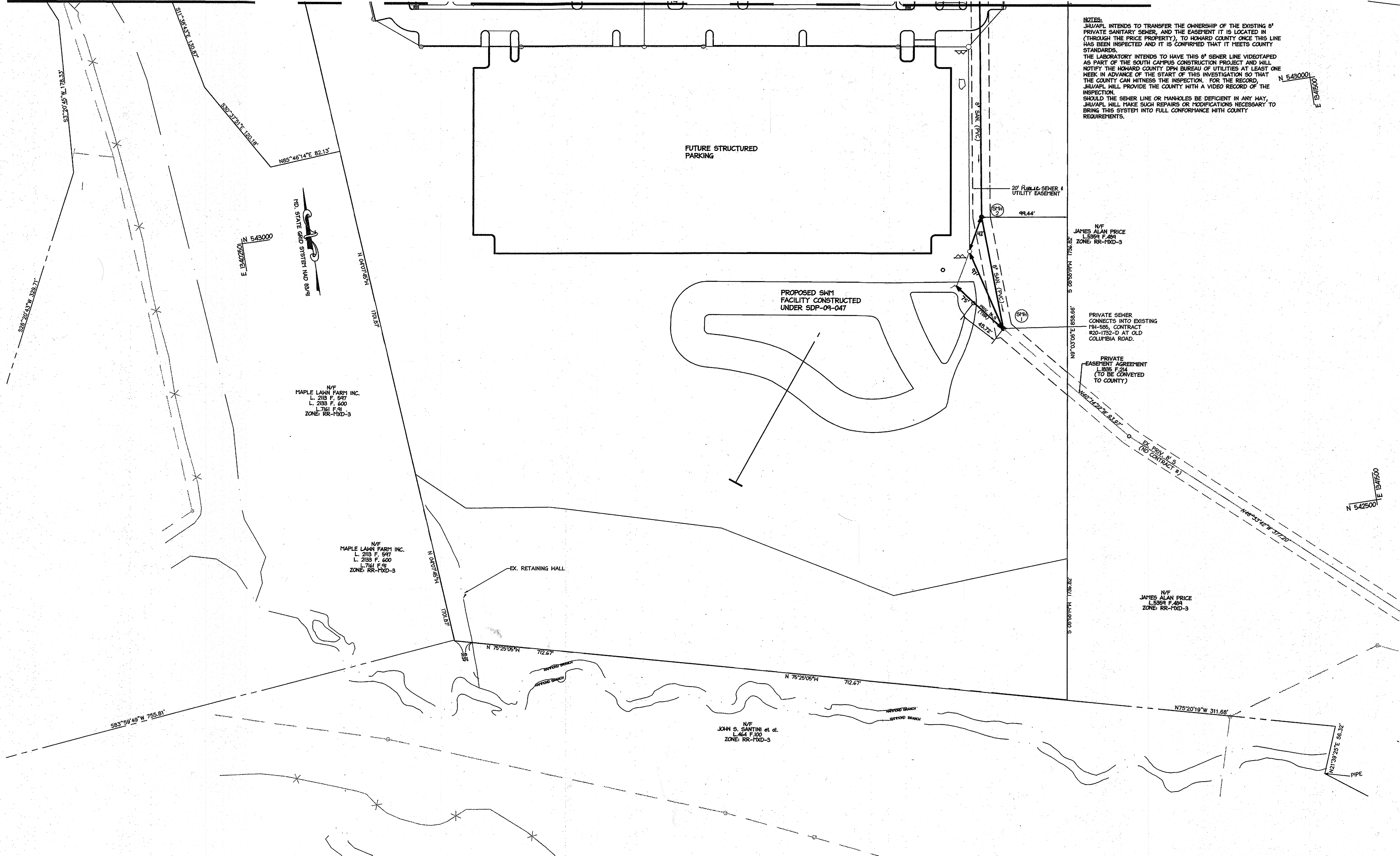
ELECTION DISTRICT 5  
TAX MAP 41, GRID 22, PARCEL 300

SCALE 1"=50'  
SHEET 2 OF 6  
ZONE: PEC  
HOWARD COUNTY, MARYLAND



MDC-960 (M&S)





**NOTES:**  
 JHU/APL INTENDS TO TRANSFER THE OWNERSHIP OF THE EXISTING 8" PRIVATE SANITARY SEWER, AND THE EASEMENT IT IS LOCATED IN (THROUGH THE PRICE PROPERTY), TO HOWARD COUNTY ONCE THIS LINE HAS BEEN INSPECTED AND IT IS CONFIRMED THAT IT MEETS COUNTY STANDARDS.  
 THE LABORATORY INTENDS TO HAVE THIS 8" SEWER LINE VIDEOTAPED AS PART OF THE SOUTH CAMPUS CONSTRUCTION PROJECT AND WILL NOTIFY THE HOWARD COUNTY DPH BUREAU OF UTILITIES AT LEAST ONE WEEK IN ADVANCE OF THE START OF THIS INVESTIGATION SO THAT THE COUNTY CAN WITNESS THE INSPECTION. FOR THE RECORD, JHU/APL WILL PROVIDE THE COUNTY WITH A VIDEO RECORD OF THE INSPECTION.  
 SHOULD THE SEWER LINE OR MANHOLES BE DEFICIENT IN ANY WAY, JHU/APL WILL MAKE SUCH REPAIRS OR MODIFICATIONS NECESSARY TO BRING THIS SYSTEM INTO FULL CONFORMANCE WITH COUNTY REQUIREMENTS.

N/F  
 MAPLE LAWN FARM INC.  
 L. 213 F. 547  
 L. 213 F. 600  
 L. 716 F. 91  
 ZONE: RR-1XXD-3

N/F  
 MAPLE LAWN FARM INC.  
 L. 213 F. 547  
 L. 213 F. 600  
 L. 716 F. 91  
 ZONE: RR-1XXD-3

N/F  
 JOHN S. SANTINI et al.  
 L. 464 F. 100  
 ZONE: RR-1XXD-3





N/F  
 JAMES ALAN PRICE  
 L. 536 F. 484  
 ZONE: RR-1XXD-3

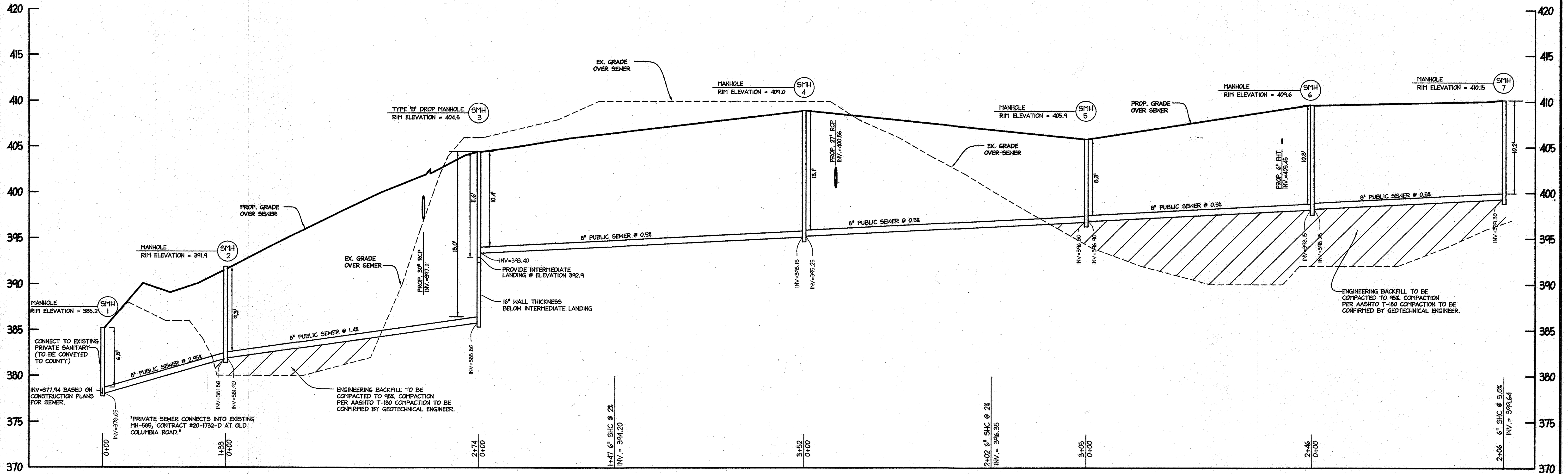
PRIVATE SEWER  
 CONNECTS INTO EXISTING  
 MH-505, CONTRACT  
 120-1732-D AT OLD  
 COLUMBIA ROAD.

PRIVATE  
 EASEMENT AGREEMENT  
 L. 1835 F. 214  
 (TO BE CONVERTED  
 TO COUNTY)

N/F  
 JAMES ALAN PRICE  
 L. 536 F. 484  
 ZONE: RR-1XXD-3

AS-BUILT 2-14-11

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  CHIEF, BUREAU OF UTILITIES DATE: 10/29/09	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND  CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 11/4/09	 <b>christopher consultants</b> engineering - surveying - land planning christopher consultants, inc. 7172 columbia gateway drive suite 103, columbia, md 21046-2800 410.322.2800 - www.christopherconsultants.com	 STATE OF MARYLAND PROFESSIONAL ENGINEER ENDORSEMENT NO. 102215	DES: KWS DRN: SSA CHK: WFW DATE: OCT. 2009 BY: NO. REVISION DATE 600 SCALE MAP NO. 41 BLOCK NO. 22	WATER AND SEWER PLAN ELECTION DISTRICT 5 TAX MAP 41, GRID 22, PARCEL 300	FINAL WATER and SEWER EXTENSIONS JHU/APL - SOUTH CAMPUS 11101 JOHNS HOPKINS ROAD LAUREL, MARYLAND 20723-6099 CONTRACT NO. 24-4614-D ZONE: PEC HOWARD COUNTY, MARYLAND	SCALE 1"=50' SHEET 3 OF 6 MDC-960 (M&S)
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PROPOSED 8" PUBLIC SEWER  
 HOR 1" = 50'  
 VER 1" = 5'

SEWER STRUCTURE SCHEDULE

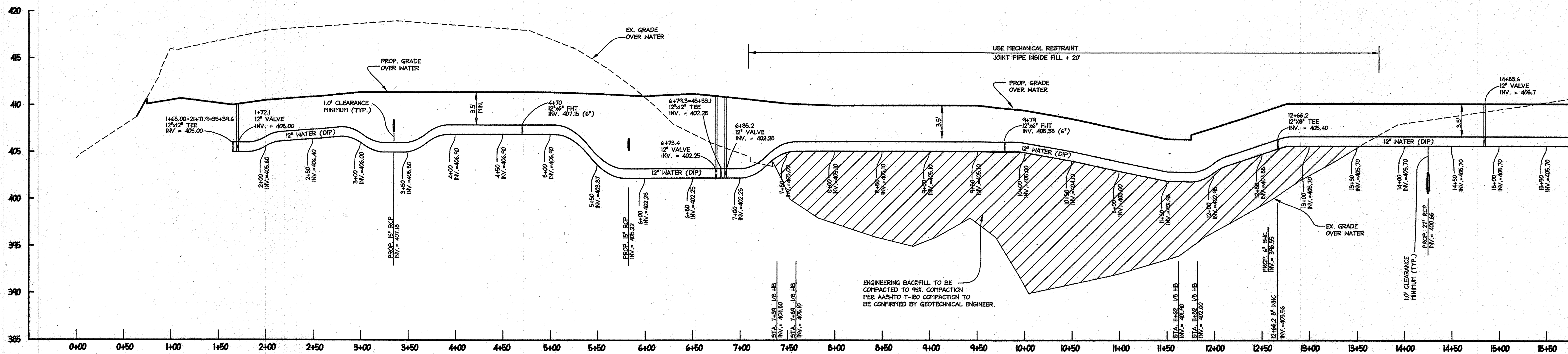
STRUCTURE	TYPE	NORTHING	EASTING	TOP	REMARKS
SMH 1	4'-0" DIA. MANHOLE	N 543,170.4	E 1,341,133.5	385.2	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 2	4'-0" DIA. MANHOLE	N 542,898.4	E 1,341,110.0	391.9	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 3	4'-0" DIA. MANHOLE	N 543,169.7	E 1,341,139.9	405.1	HOCO STD MANHOLE DETAIL NO. SL32 TYPE 'B'
SMH 4	4'-0" DIA. MANHOLE	N 543,224.8	E 1,340,790.7	409.5	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 5	4'-0" DIA. MANHOLE	N 543,272.4	E 1,340,489.6	409.0	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 6	4'-0" DIA. MANHOLE	N 543,515.1	E 1,340,527.9	409.6	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 7	4'-0" DIA. MANHOLE	N 543,718.5	E 1,340,559.9	410.25	HOCO STD MANHOLE DETAIL NO. G5.12

AS-BUILT 2-14-11

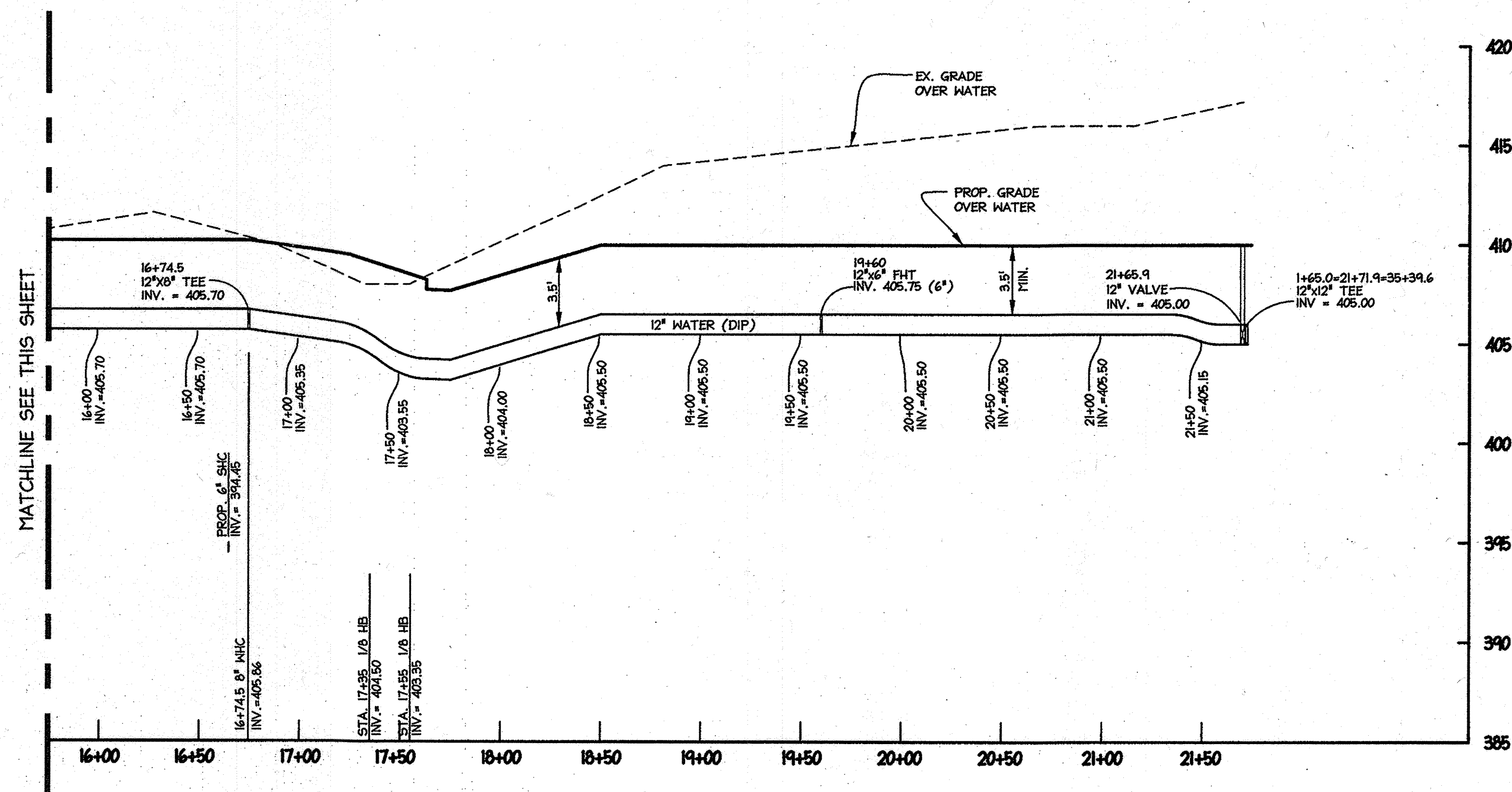
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND 	 <b>christopher consultants</b> engineering - surveying - land planning <small>christopher consultants, inc.          7122 Columbia Gateway Drive Suite 100 Columbia, MD 21046-9999          410.272.8000 • www.christopher.com • 410.272.8000</small>	 9.22.11	DES: KWS			<b>SEWER PROFILE</b>	FINAL WATER and SEWER EXTENSIONS <b>JHU/APL - SOUTH CAMPUS</b> 11101 JOHNS HOPKINS ROAD LAUREL, MARYLAND 20723-6099 CONTRACT NO. 24-4614-D	SCALE AS SHOWN
				DRN: SSA					ELECTION DISTRICT 5 TAX MAP 41, GRID 22, PARCEL 300
				CHK: JMH			HOWARD COUNTY, MARYLAND		
				DATE: AUG. 2009	BY: NO.	REVISION	DATE		

MDC-960(M&S)





PROPOSED 12" PUBLIC WATER  
 STA. 0+00-15+75.00  
 HOR 1"=50'  
 VER 1"=5'



PROPOSED 12" PUBLIC WATER  
 STA. 15+75.00-21+71.9  
 HOR 1"=50'  
 VER 1"=5'

WATER APPERTENANCE SCHEDULE

APPERTENANCE	STATION	NORTHING	EASTING
12" VALVE	1+62.2	N 543,619.8	E 1,341,141.3
12" TEE	1+56.1	N 542,618.8	E 1,341,147.3
12" X 6" FHT	4+70.0	N 543,616.1	E 1,340,841.4
12" VALVE	6+73.4	N 543,647.0	E 1,340,651.8
12" TEE	6+79.3	N 543,647.8	E 1,340,645.9
12" VALVE	6+85.2	N 543,698.9	E 1,340,640.1
12" 1/8" HB	7+39.0	N 543,707.3	E 1,340,586.7
12" 1/8" HB	7+46.5	N 543,695.5	E 1,340,570.5
12" X 6" FHT	9+79.0	N 543,479.8	E 1,340,530.4
12" 1/8" HB	11+62.0	N 543,297.6	E 1,340,506.7
12" 1/8" HB	11+82.0	N 543,281.7	E 1,340,519.5
12" X 8" WHC TEE	12+66.2	N 543,268.5	E 1,340,602.9
12" VALVE	14+83.6	N 543,234.6	E 1,340,817.6
12" X 8" WHC TEE	16+74.5	N 543,204.8	E 1,341,006.3
12" 1/8" HB	17+35.0	N 543,194.3	E 1,341,066.4
12" 1/8" HB	17+55.0	N 543,206.5	E 1,341,083.3
12" X 6" FHT	19+60.0	N 543,409.4	E 1,341,114.3
12" VALVE	21+71.9	N 543,612.9	E 1,341,146.3
12" VALVE	30+05.8	N 544,146.7	E 1,341,224.8
12" X 6" FHT	34+21.4	N 543,777.8	E 1,341,172.4
12" VALVE	35+39.6	N 543,624.8	E 1,341,148.4
12" VALVE	40+05.8	N 544,229.0	E 1,340,769.7
12" X 8" WHC TEE	44+72.0	N 543,770.3	E 1,340,657.4
12" VALVE	45+47.1	N 543,703.8	E 1,340,646.8

AS-BUILT 2-14-11

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

**christopher consultants**  
 engineering - surveying - land planning  
 christopher consultants, inc.  
 7172 coulter's gateway drive suite 100, columbia, md 21046-2000  
 410.228.8800 fax: 410.321.5148



DES:	KWS				
DRN:	SSA				
CHK:	JMH				
DATE:	AUG. 2009	BY:	NO.	REVISION	DATE

WATER PROFILE  
 STA. 0+00 THRU 21+71.9

FINAL WATER and SEWER EXTENSIONS  
 JHU/APL - SOUTH CAMPUS  
 11101 JOHNS HOPKINS ROAD  
 LAUREL, MARYLAND 20723-6099  
 CONTRACT NO. 24-4614-D

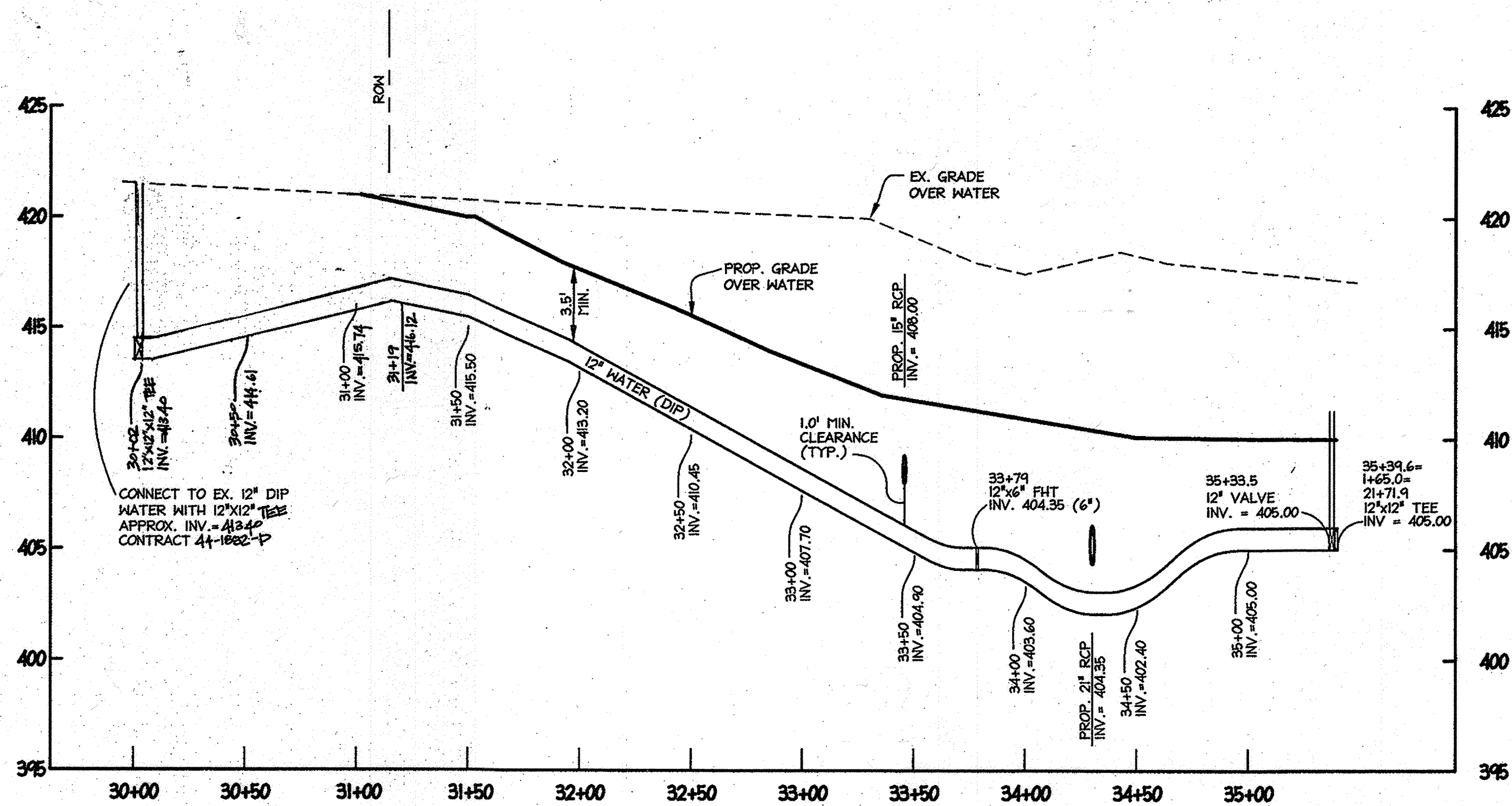
SCALE  
 AS SHOWN  
 SHEET  
 5 OF 6

ELECTION DISTRICT 5  
 TAX MAP 41, GRID 22, PARCEL 300

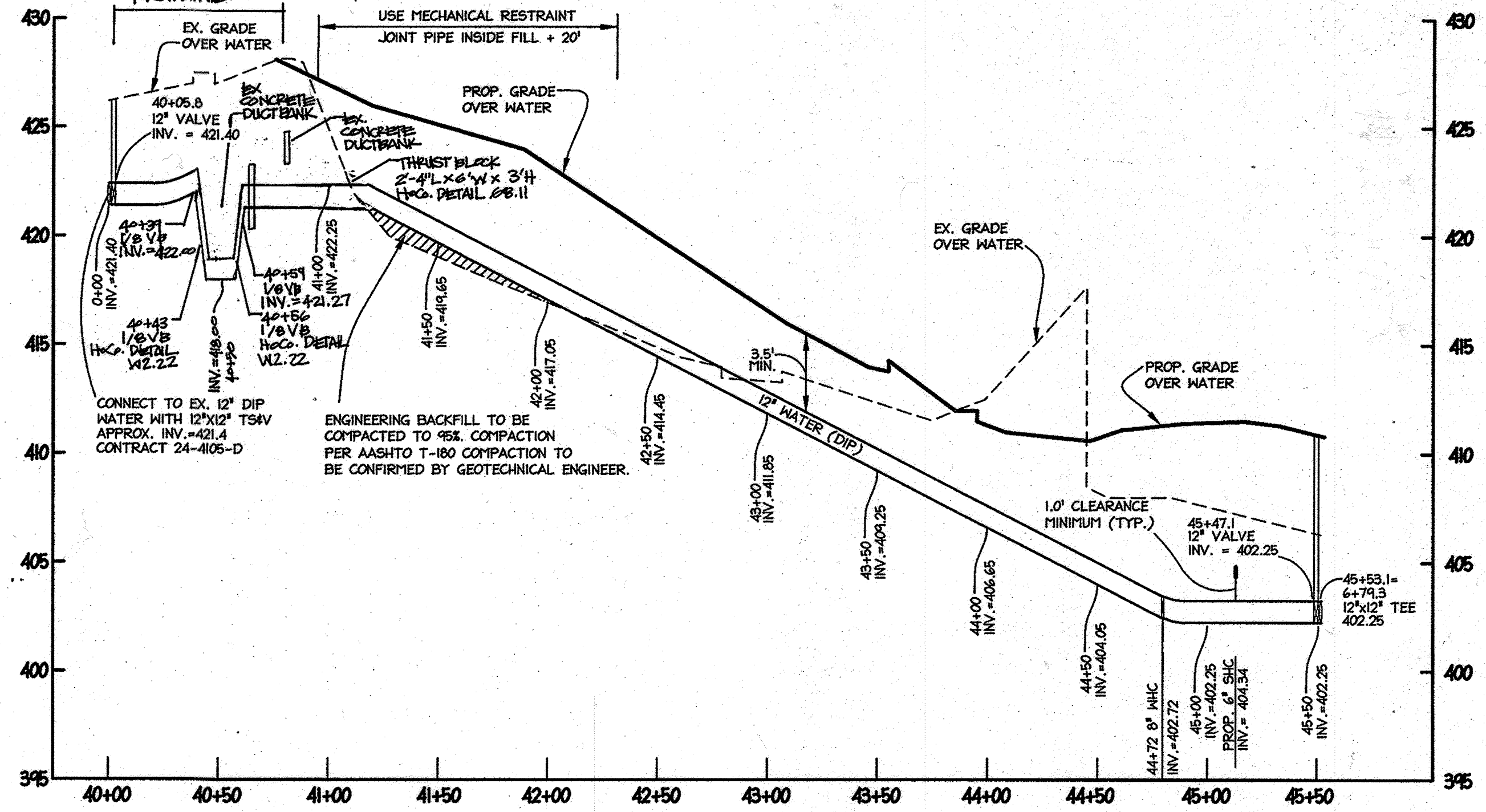
ZONE: PEC  
 HOWARD COUNTY, MARYLAND

MDC-960(W&S)

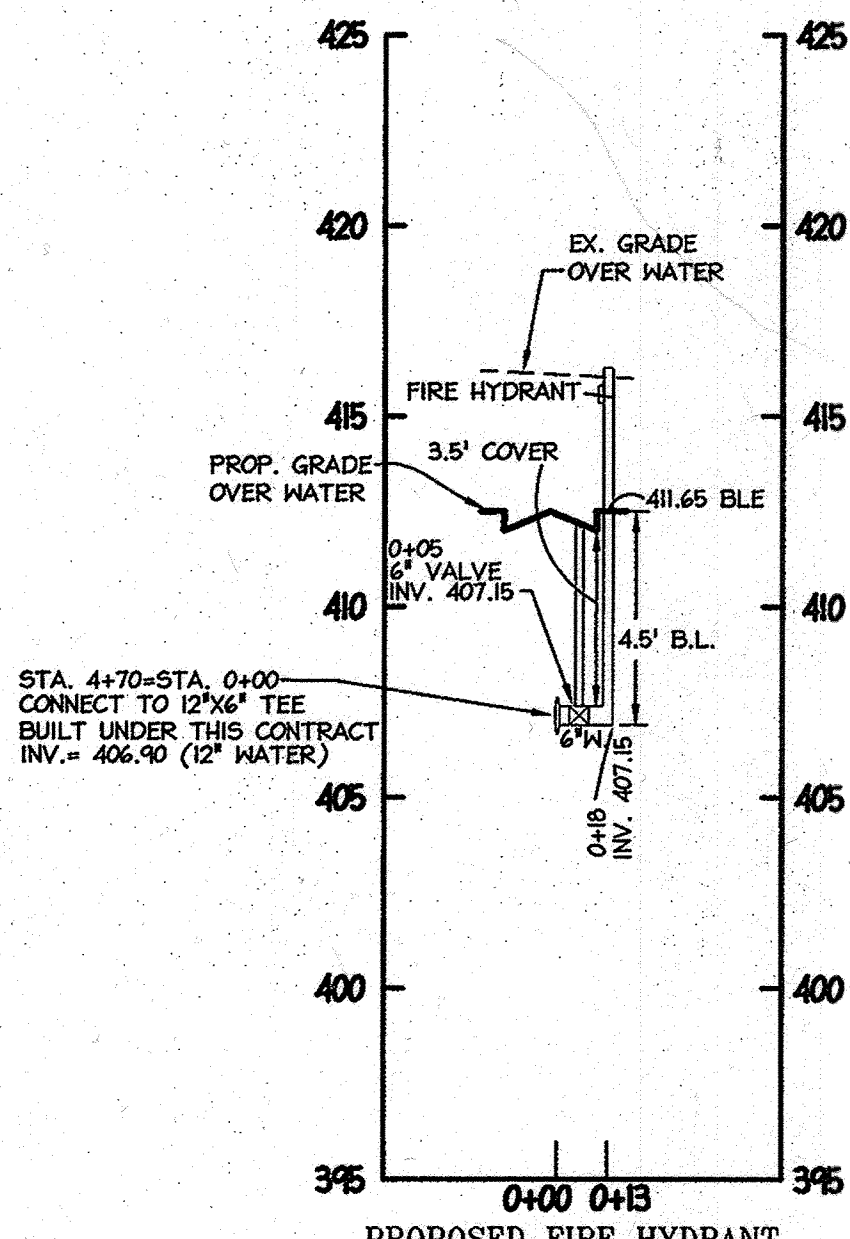




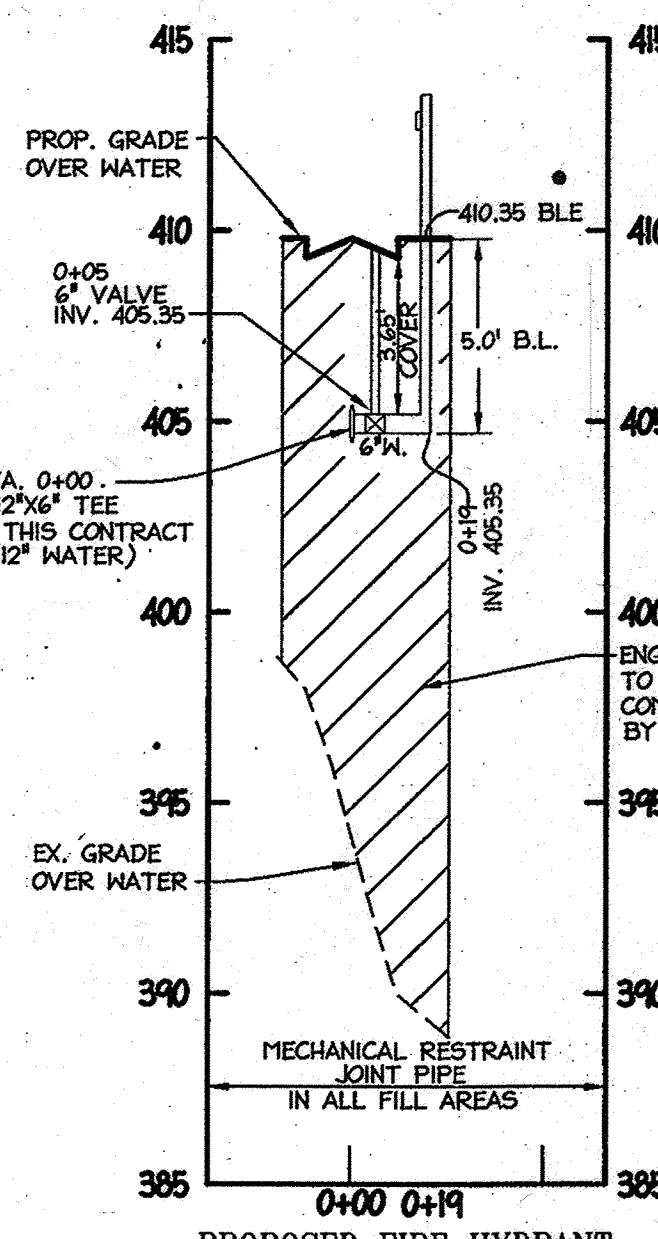
PROPOSED 12" PUBLIC WATER  
STA. 30+00-35+39.6  
HOR 1"=50'  
VER 1"=5'



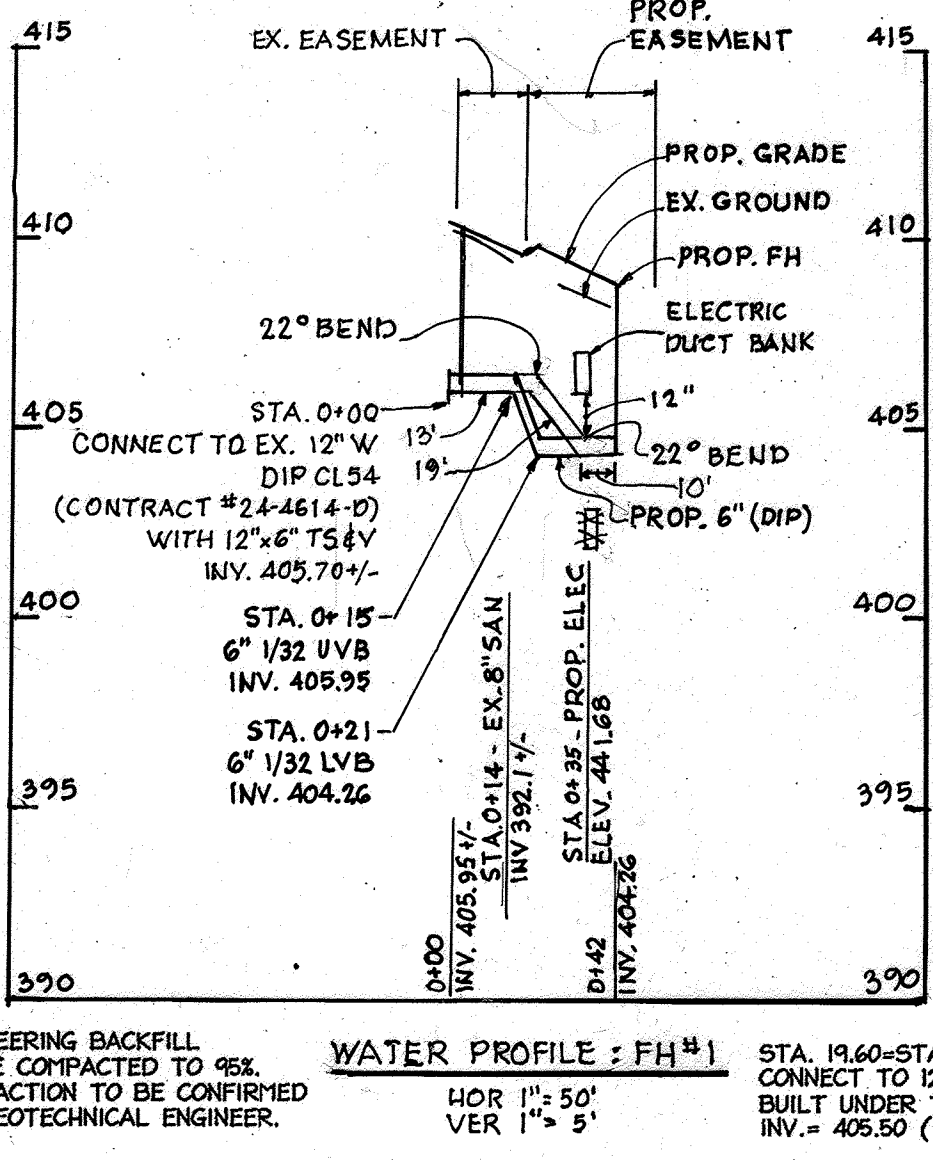
PROPOSED 12" PUBLIC WATER  
STA. 40+00-45+53.1  
HOR 1"=50'  
VER 1"=5'



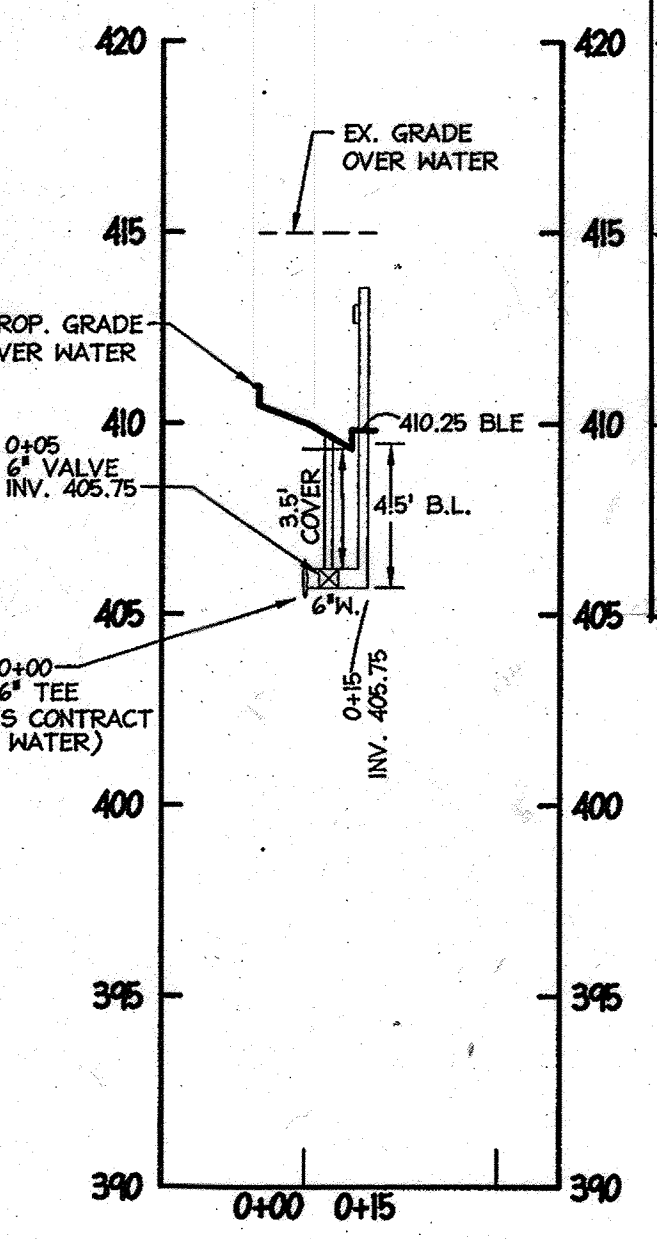
PROPOSED FIRE HYDRANT  
STA. 4+70  
HOR 1"=50'  
VER 1"=5'



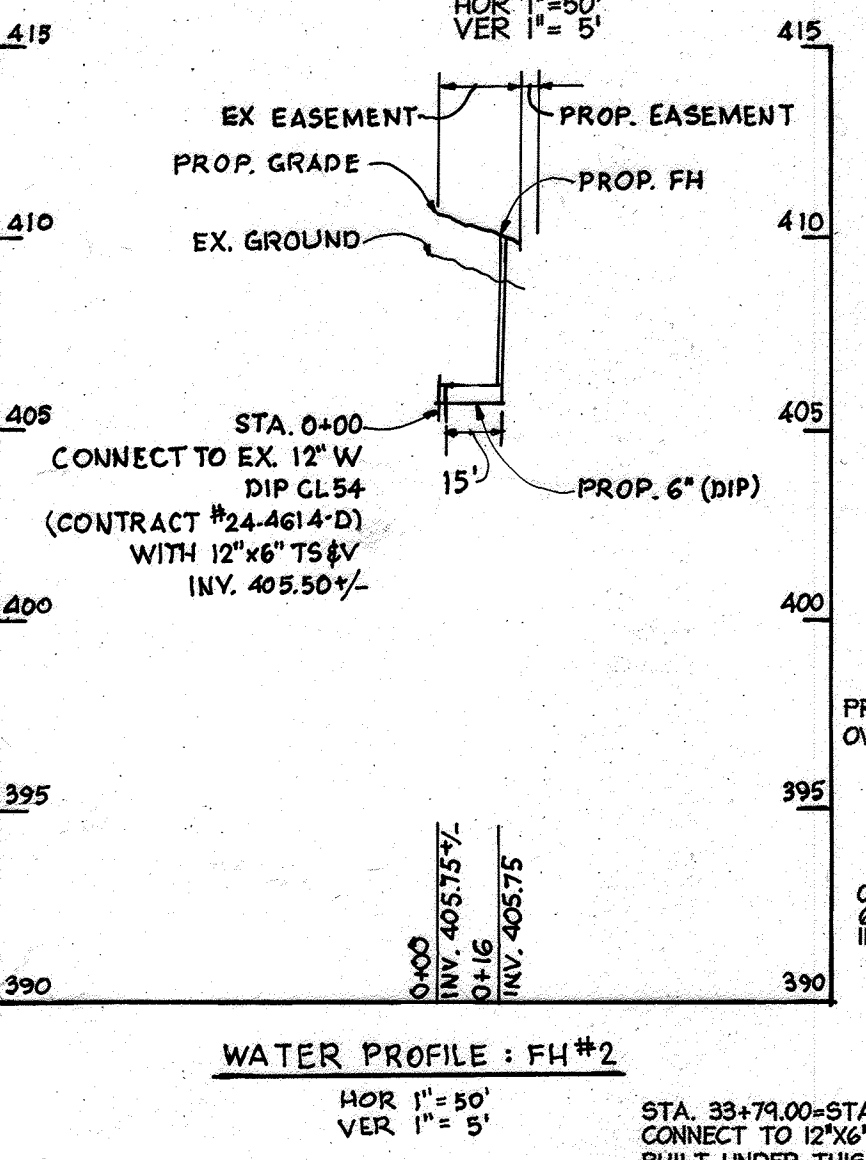
PROPOSED FIRE HYDRANT  
STA. 9+79  
HOR 1"=50'  
VER 1"=5'



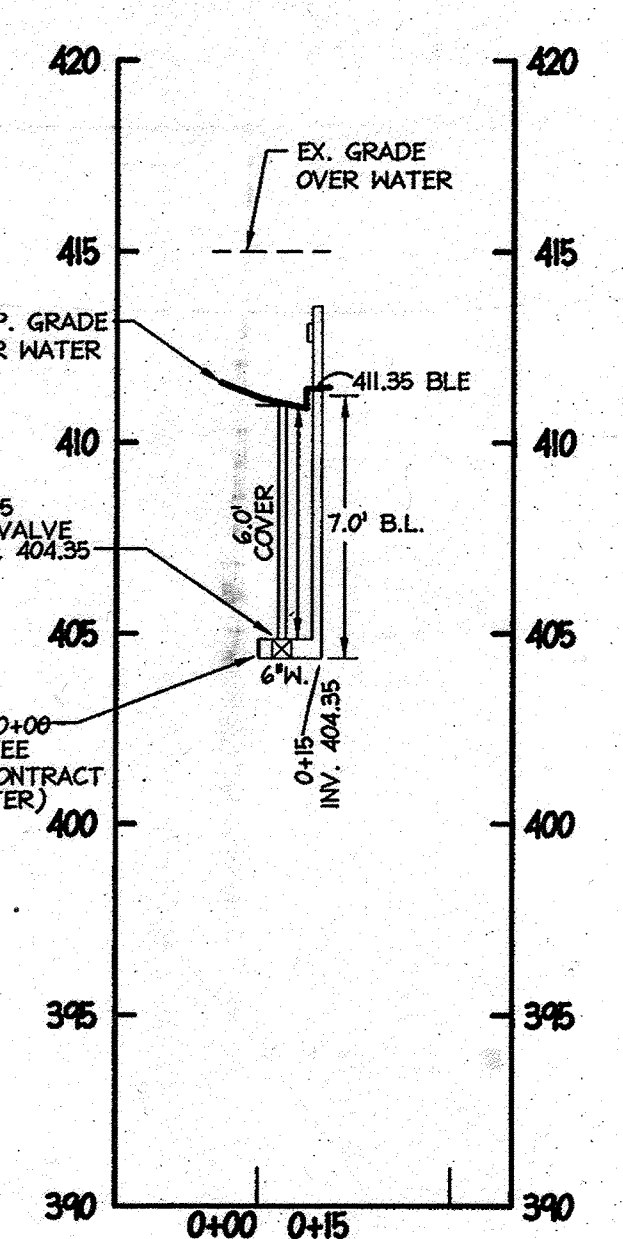
WATER PROFILE : FH #1  
HOR 1"=50'  
VER 1"=5'



PROPOSED FIRE HYDRANT  
STA. 19+60  
HOR 1"=50'  
VER 1"=5'



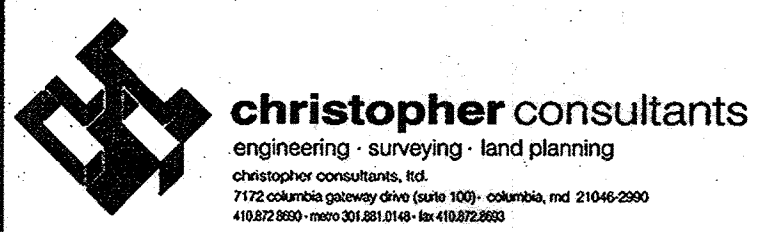
WATER PROFILE : FH #2  
HOR 1"=50'  
VER 1"=5'



PROPOSED FIRE HYDRANT  
STA. 33+79  
HOR 1"=50'  
VER 1"=5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND



DES:	KWS				
DRN:	SSA				
CHK:	JMH				
DATE:	AUG. 2009				
BY:		NO.	REVISION	DATE	
			REVISD WATER MAINS BETWEEN STATIONS 30+00-31+00 AND 41+00-41+00	8/16/09	

WATER PROFILE  
STA. 30+00 THRU 35+39.6  
STA. 40+00 THRU 45+53.1  
FIRE HYDRANT PROFILES  
600 SCALE MAP NO. 41 BLOCK NO. 22

FINAL WATER and SEWER EXTENSIONS  
JHU/APL - SOUTH CAMPUS  
11101 JOHNS HOPKINS ROAD  
LAUREL, MARYLAND 20723-6099  
CONTRACT NO. 24-4614-D  
ELECTION DISTRICT 5  
TAX MAP 41, GRID 22, PARCEL 300  
ZONE: PEC  
HOWARD COUNTY, MARYLAND

SCALE  
AS SHOWN  
SHEET  
6 OF 6

AS-BUILT 2-14-11

MDC-960(M&S)