

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON APRIL 2005 BY KCI TECHNOLOGIES, 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. 0057 & 41CA. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE IRON BARS.
- 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. 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 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:
 AT&T 1-800-252-1133
 BORE (CONSTRUCTION SERVICES) 410-850-4620
 BORE (EMERGENCY) 410-685-1400
 BUREAU OF UTILITIES (DPW) 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 / 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.
- 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 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 THE HOWARD COUNTY CODE.
- ALL DUCTILE IRON PIPES TO BE USED ON THE PUBLIC WATER SYSTEM SHALL BE CLASS 54. DUCTILE IRON FITTINGS SHALL MEET THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND SHALL BE EXTERIOR EPOXY COATED IN ACCORDANCE WITH AWWA C116.
- TOPS OF WATER MAIN SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- ALL WATER HOUSE CONNECTIONS SHALL BE COPPER MEETING THE REQUIREMENTS OF AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. OUTSIDE METER SETTINGS SHALL BE CONSTRUCTED PER STANDARD DETAIL W3.31.
- 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 DETAIL. ALL FIRE HYDRANT LEADS SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DR18 AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- ALL WATER MAINS CONSTRUCTED IN FILL AREAS SHALL BE RESTRAINED DUCTILE IRON PIPE CLASS 54 MEETING THE REQUIREMENTS OF AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- THE FOLLOWING NOTE IS ADDED TO HOWARD COUNTY STANDARD DETAIL W2.22, BUTTRESSES AND ANCHORAGE'S FOR VERTICAL BENDS. WHEN ANCHORING PVC PIPE, THE STRAPPING IN CONTACT WITH THE PIPE SURFACE SHALL BE 1-INCH WIDE BY 1/4-INCH THICK STEEL. THE REMAINING PORTION OF THE STRAP SHALL BE REINFORCING BAR SIZED IN ACCORDANCE WITH THE PERTINENT CHART SHOWN ON THE DETAIL.
- EXCEPT AS INDICATED ON THE PLANS AND NOTED ABOVE, ALL PUBLIC WATER MAINS SHALL BE POLYVINYLCHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DR18. PRESSURE CLASS 150 AND THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES HOWARD COUNTY, 15 DAYS PRIOR TO WATER MAIN SHUT DOWNS.
- CONTINUITY TEST STATION SHALL BE PLACED ADJACENT TO EACH FIRE HYDRANT AND ANCHORAGES SHALL BE INSTALLED UNDER WATER VALVES IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATION AND DETAILS.
- WATER MAINS SHALL BE FILLED WITH WATER AND BROUGHT TO 150PSI FOR 2 HOURS.
- ALL SEWER MAINS SHALL BE D.I.P. OR PVC UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 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 G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
- HOUSE (S) WITH THE SYMBOL "C.N.S" INDICATES THAT CELLAR CANNOT BE SERVED.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATION OF THE PROPOSED FACILITIES.

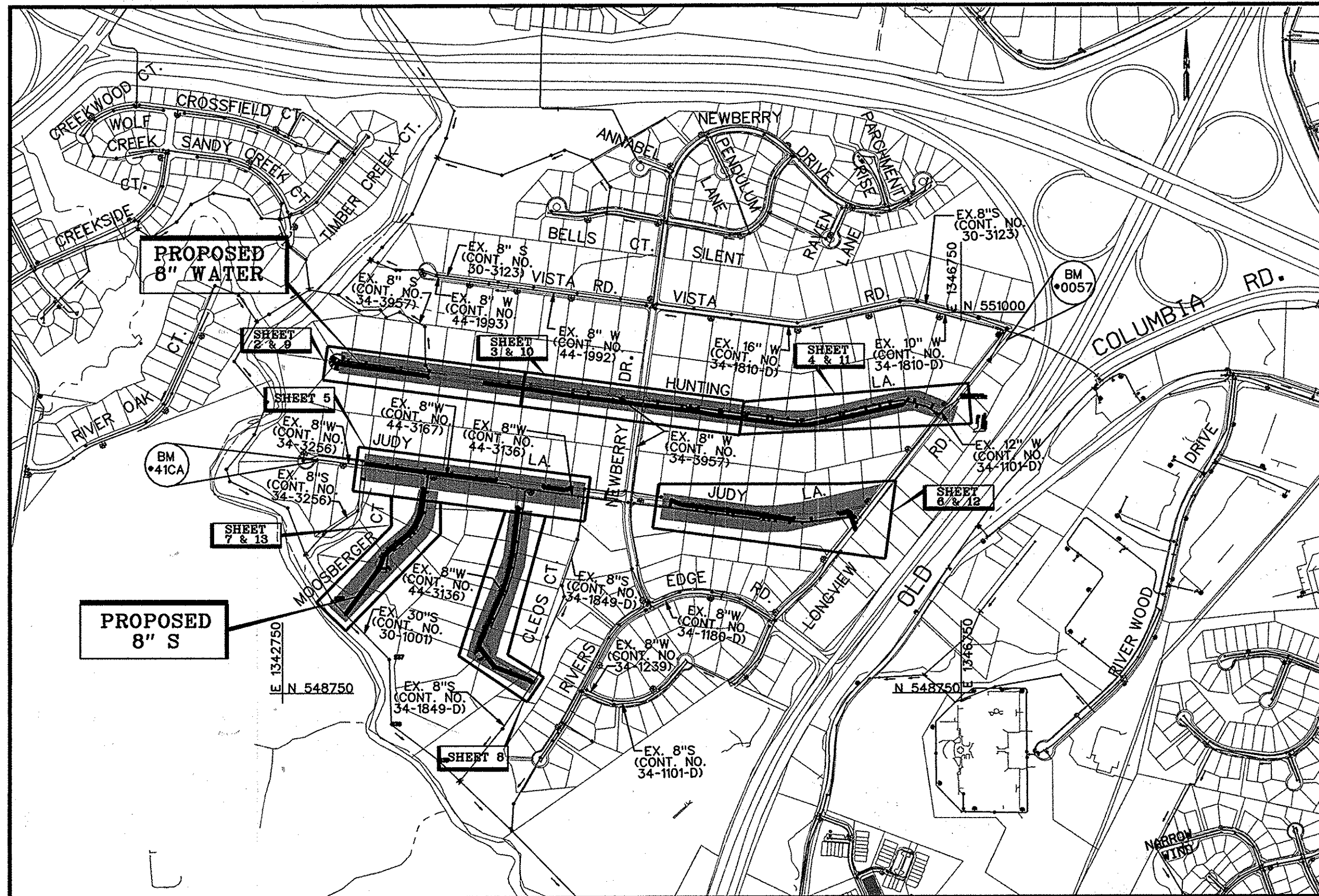
HOLIDAY HILLS / RIVERSIDE ESTATES

WATER AND SEWER

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350



LOCATION MAP
SCALE: 1" = 600'

TYPE OF BUILDING:	RESIDENTIAL	
NUMBER OF PARCELS:		NO. 0057
NUMBER OF SEWER HOUSE CONNECTIONS:	80	N 550835.21
NUMBER OF WATER HOUSE CONNECTIONS:	43	E 1347017.69
DRAINAGE AREA:	MIDDLE PATUXENT	ELEV. 398.92
PRESSURE ZONE:	550	NO. 41CA
WATER TEST GRADIENT	700	N 550124.85
WATER CODE.		E 1342960.93
FOR COUNTY USE ONLY: WATER NO.	E22	ELEV. 295.31
SEWER CODE.		
FOR COUNTY USE ONLY: SEWER NO.	6480000 AND 6581000	

HORIZONTAL AND VERTICAL CONTROL BASED ON MARYLAND NAD83(91) (HORIZONTAL) AND NAVD88 (VERTICAL) DATUM. HOWARD COUNTY GEODETIC SURVEY CONTROL NUMBERS:

LEGEND

	TRAVERSE POINT		DECIDUOUS TREE
	WATER MAIN		CONIFEROUS TREE
	FIRE HYDRANT		EXISTING FIRE HYDRANT
	VALVE		EXISTING VALVE
	SEWER MAIN		EXISTING WATER MAIN
	MANHOLE		EXISTING GAS MAIN
	LIMIT OF DISTURBANCE		EXISTING OVERHEAD ELECTRIC
	WATER HOUSE CONNECTION		EXISTING UNDERGROUND SERVICE
	SEWER HOUSE CONNECTION		BOUNDARY OF WETLAND BUFFER
	TEST STATION		BOUNDARY OF WETLAND

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
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3	HUNTING LANE 8" SEWER PLAN AND PROFILE
4	HUNTING LANE 8" SEWER PLAN AND PROFILE
5	JUDY LANE 8" SEWER PLAN AND PROFILE
6	JUDY LANE 8" SEWER PLAN AND PROFILE
7	MOOSBERGER COURT 8" SEWER PLAN AND PROFILE
8	CLEOS COURT 8" SEWER PLAN AND PROFILE
9	HUNTING LANE 8" WATER PLAN AND PROFILE
10	HUNTING LANE 8" WATER PLAN AND PROFILE
11	HUNTING LANE 8" WATER PLAN AND PROFILE
12	JUDY LANE 8" WATER PLAN AND PROFILE
13	MOOSBERGER COURT 8" WATER PLAN AND PROFILE
14	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
15	8" WATER MAIN CORROSION CONTROL LAYOUT
16	CORROSION CONTROL DETAILS 1
17	CORROSION CONTROL DETAILS 2
18	CORROSION CONTROL DETAILS 3

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" WATER	L.F.	3,944	3,969	DIAMOND PLASTICS
8"SEWER (DIP)	L.F.	346	344	ATLANTIC STATES
8"SEWER (PVC)	L.F.	6,775	6,822	DIAMOND PLASTICS
FH	EA	7	7	MUELLER COMPANY
8" V	EA	3	3	MUELLER COMPANY
6" V	EA	7	7	MUELLER COMPANY
1 1/2" DRAIN	EA	2	2	FWW
4' DIA. STD. MH	EA	37	35	ATLANTIC CONCRETE
4' DIA. DROP MH (TYPE B)	EA	2	3	ATLANTIC CONCRETE
4' DIA. WT MH	EA	1	2	ATLANTIC CONCRETE
4' DIA. WT BUILDOVER MH	EA	1	1	ATLANTIC CONCRETE
4' DIA. WT BUILDOVER MH DROP MH (TYPE B) CONNECTION	EA	1	1	ATLANTIC CONCRETE
4' DIA. BUILDOVER MH	EA	1	2	ATLANTIC CONCRETE
4' DIA. MH RISER > 6'	L.F.	195	153.5	ATLANTIC CONCRETE
4' DIA. WT MH RISER > 6'	L.F.	18	16.5	ATLANTIC CONCRETE
1" WHC	L.F.	1,222	1,460	MUELLER INDUSTRIES
46' 4" SHC(HORIZONTAL)	L.F.	1,991	2,195	DIAMOND PLASTICS
20' 4" SHC(VERTICAL)	L.F.	168	503	DIAMOND PLASTICS

NAME OF UTILITY CONTRACTOR:	MORONA CONSTRUCTION	CID
CHECKBOX		
AS-BUILT DATE: APRIL 22, 2009		MARCH 23, 2010
SURVEY AND DRAFTING DIVISION		

AS-BUILT
DATE 9-02-2009

PLOTTED: 10/14/11 PM BY: M. B. M. August 27, 2007
 BY: Chandra Kanta Division: Environmental Engineering
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. Webb 9/14/09
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 8-31-07
CHIEF OF ENGINEERING DATE

Debra L. Pava 8-31-07
CHIEF, UTILITY DESIGN DIVISION DATE

KCI TECHNOLOGIES

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

10 North Park Drive
Hunt Valley, MD 21050
Phone: (410) 316-7800
Fax: (410) 316-7817
www.kci.com

STATE OF MARYLAND
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY

Thomas E. Butler 9/24/09
REGISTERED PROFESSIONAL ENGINEER
LICENSE NO. 15528

DES: GW			
DRN: CK			
CHK: TW	KFJ	AS BUILT	4-8-16
DATE:	LFN	AS BUILT	9-2-09
DEC. 06	BY NO.	REVISION	DATE

TITLE SHEET

600' SCALE MAP NO. 41 BLOCK NO. 5.6

HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS

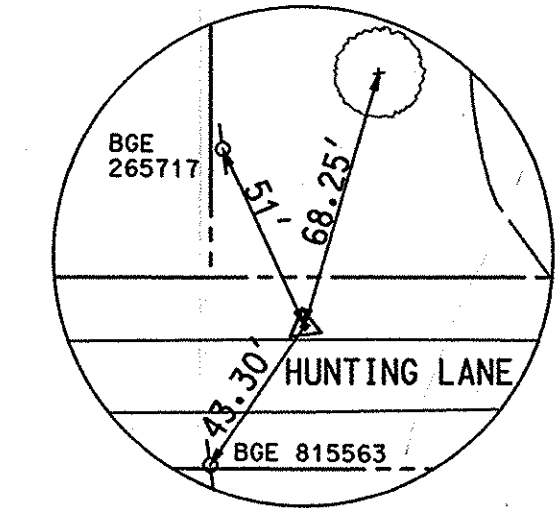
CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

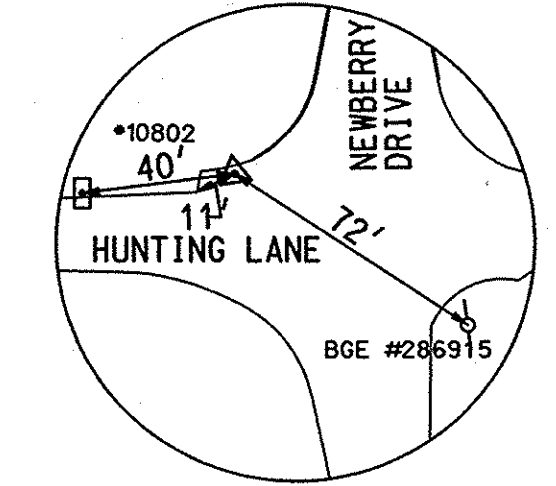
SCALE AS SHOWN
SHEET 1 OF 18

MATCHLINE SHEET 2 OF 18

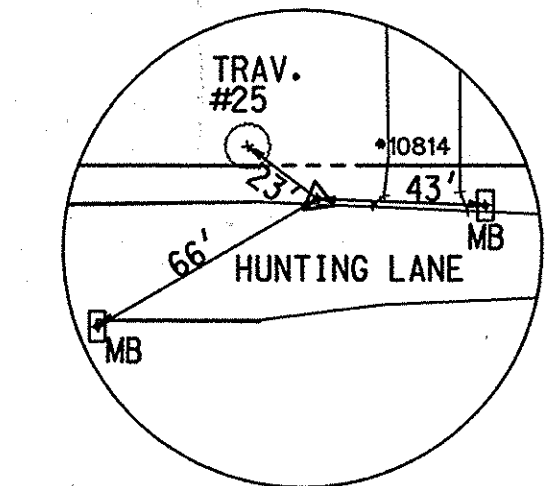
MATCHLINE SHEET 4 OF 18



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TRAV. #23
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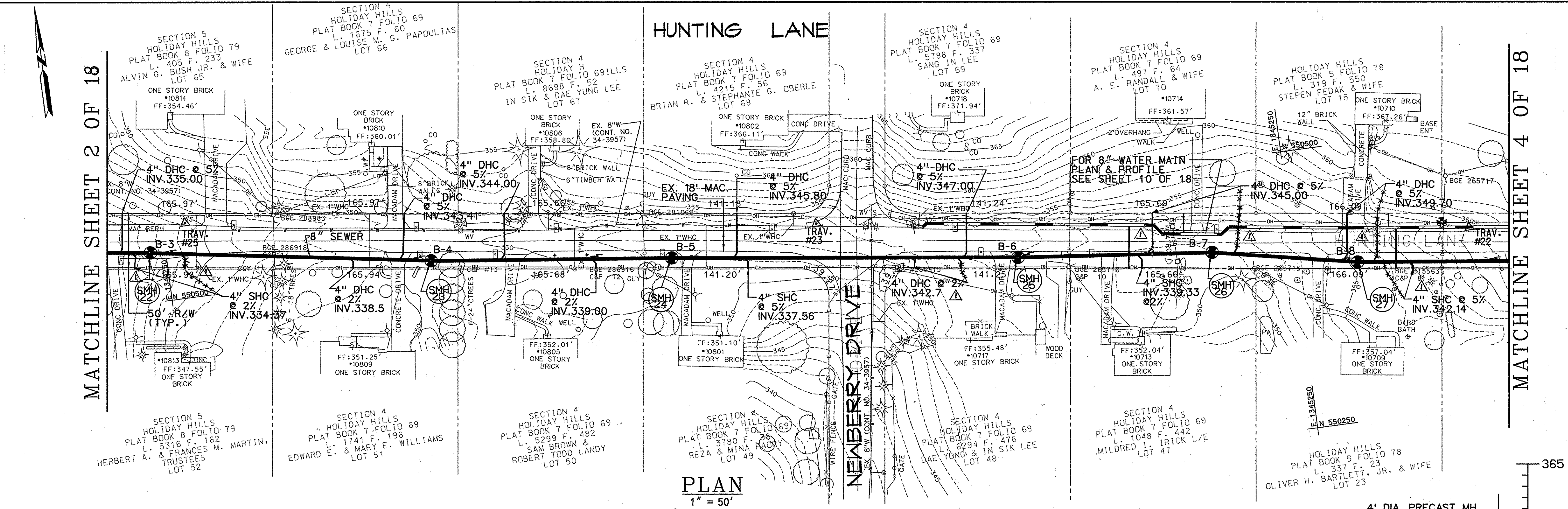


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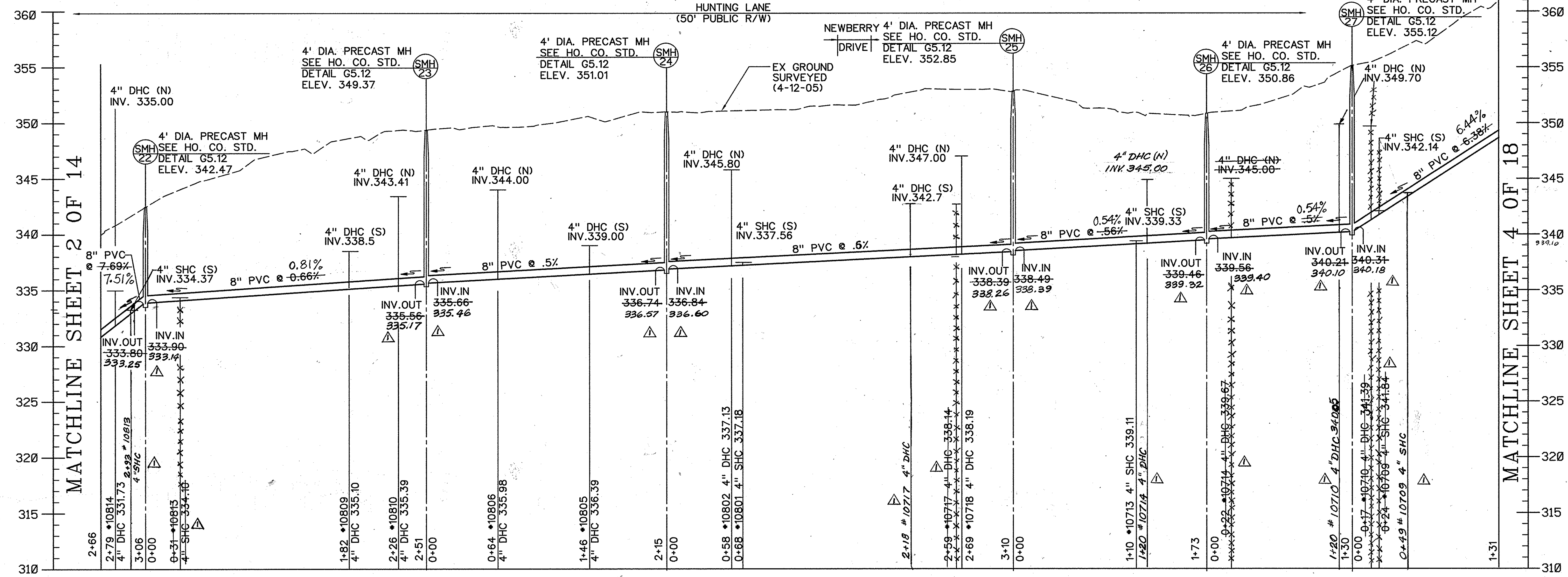
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TRAV.#23	550491.52	1344829.89	352.57
TRAV.#25	550567.16	1344270.42	344.12

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NAME	NORTHING	EASTING
SMH 22	550544.83	1344236.20
SMH 23	550504.14	1344483.93
SMH 24	550478.22	1344697.70
SMH 25	550437.30	1345004.70
SMH 26	550418.70	1345177.32
SMH 27	550392.93	1345305.14

HUNTING LANE



PLAN
1" = 50'



PROFILE
SCALE: HORIZONTAL 1" = 50'
VERTICAL: 1" = 5'

AS-BUILT
DATE 9-22-2009

PLOTTED: 10:16 AM on Monday, August 27, 2009
BY: Chandro Kanta, Division: Environmental Engineering
FILE: M:\2004\10143461\02_Visuals\SC-0095\PLAN.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 8-31-07
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 8-31-07
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 8-31-07
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

10 NORTH PARK DRIVE
HART VILLE, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com



DES: GW			
DRN: CK			
CHK: TW			
DATE: LFN	AS BUILT		
DEC. 06			

HUNTING LANE
8" SEWER
PLAN AND PROFILE

DATE 9-20-09

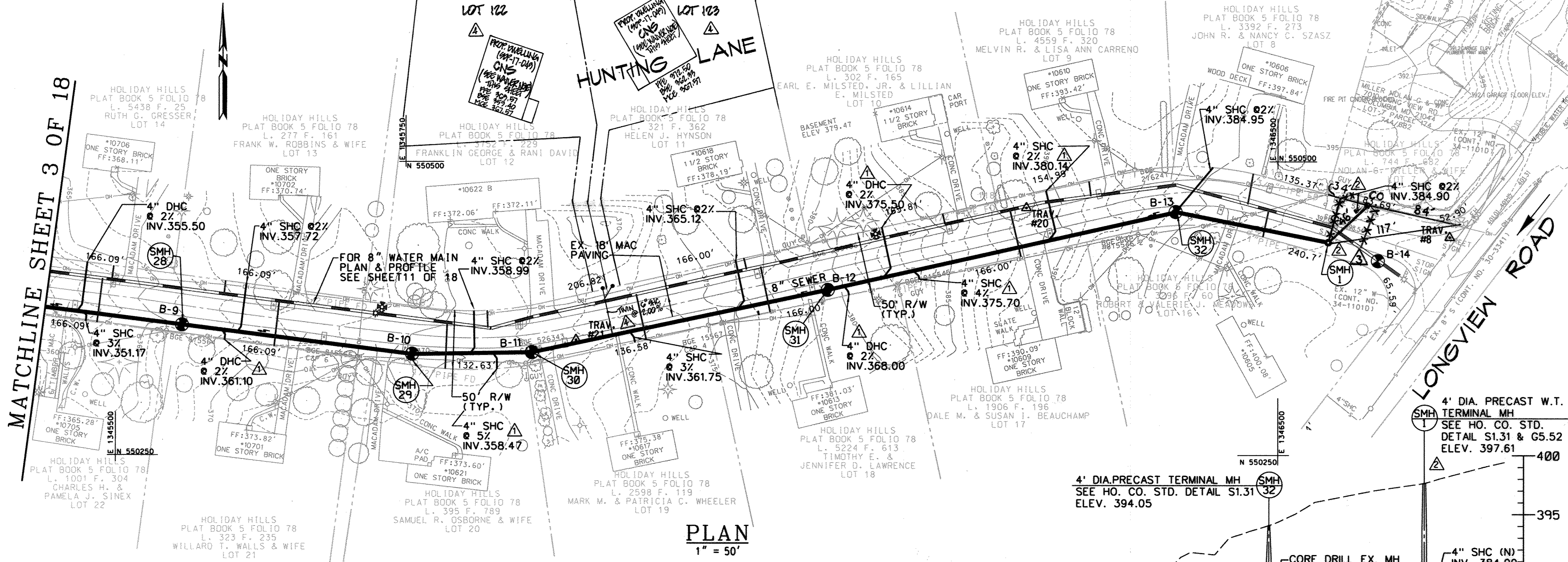
600' SCALE MAP NO. 41 BLOCK NO. 5, 6

HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS
CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350

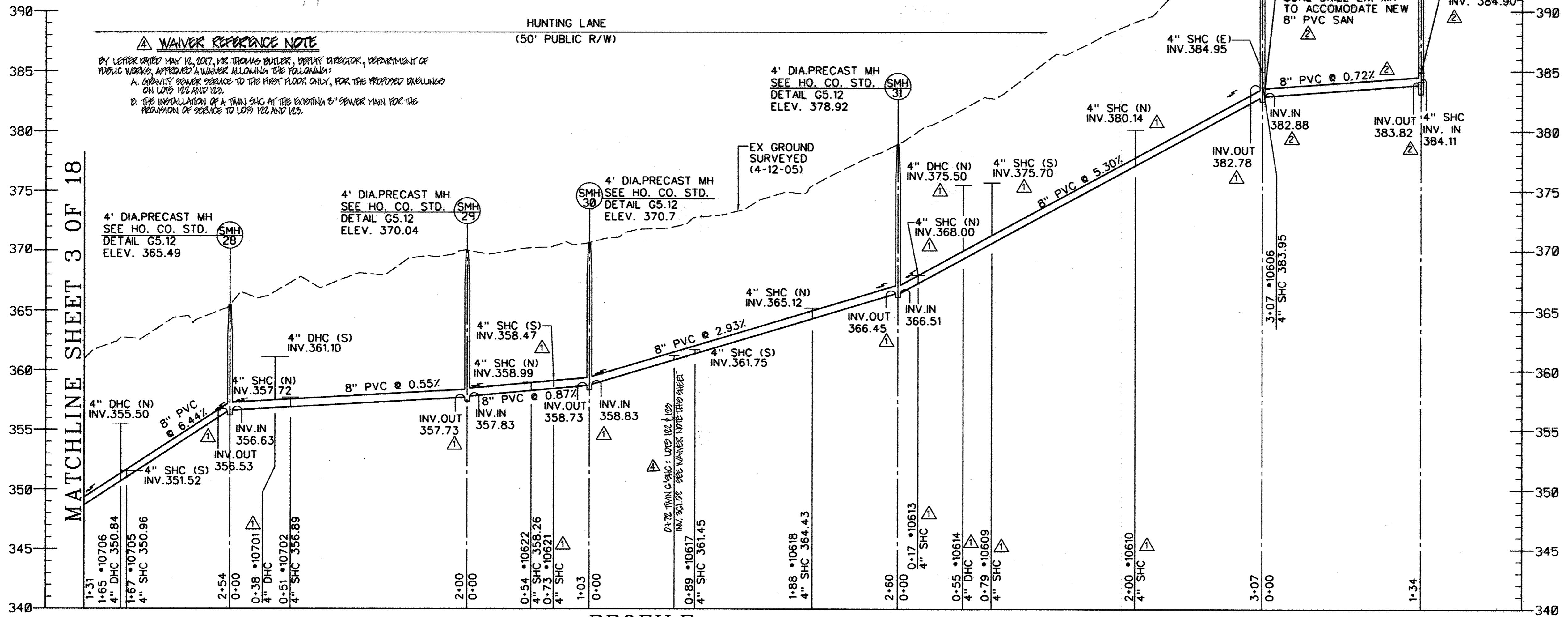
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 18

MATCHLINE SHEET 3 OF 18



PLAN
1" = 50'



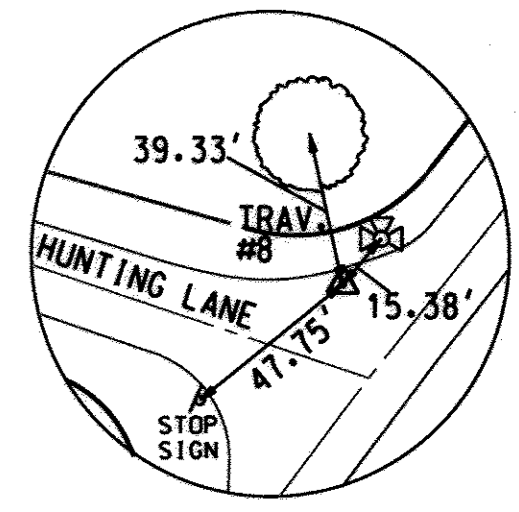
PROFILE
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

TRAVERSE COORDINATE SCHEDULE

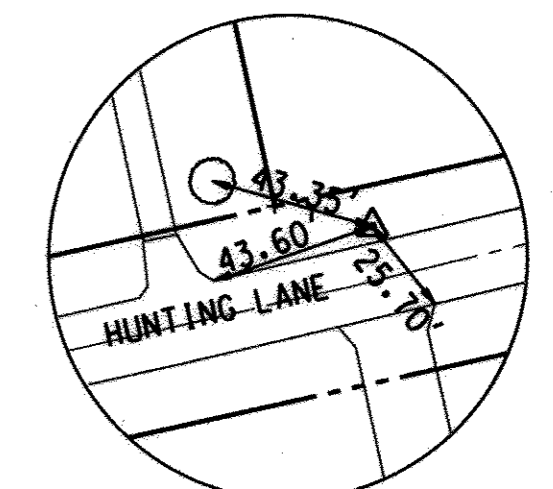
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TRAV.#21	550347.95	1345896.32	371.71

SANITARY SEWER COORDINATES SCHEDULE

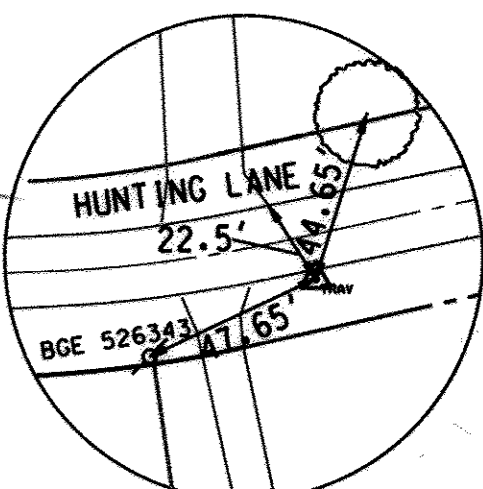
NAME	NORTHING	EASTING
SMH 28	550360.93	1345557.12
SMH 29	550335.78	1345755.20
SMH 30	550337.23	1345858.28
SMH 31	550390.59	1346112.79
SMH 32	550457.15	1346411.83
SMH 1	550431.17	1346543.21



TRAV.#8
SCALE=N.T.S



TRAV.#20
SCALE=N.T.S



TRAV.#21
SCALE=N.T.S

WAIVER REFERENCE NOTE
BY LETTER DATED MAY 12, 2015, MR. THOMAS BRULER, DEPUTY DIRECTOR, DEPARTMENT OF PUBLIC WORKS, APPROVED A WAIVER REGARDING THE FOLLOWING:
A. SANITARY SEWER SERVICE TO THE FIRST FLOOR ONLY, FOR THE PROPOSED BUILDINGS ON LOTS 122 AND 123.
B. THE INSTALLATION OF A TRAIL SHC AT THE EXISTING 8" SEWER MAIN FOR THE PROVISION OF SERVICE TO LOTS 122 AND 123.

MATCHLINE SHEET 3 OF 18

AS-BUILT REPLACEMENT SHEET

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

10 North Park Drive
Hunt Valley, MD 21030
Phone: (410) 316-7800
Fax: (410) 316-7817
www.kci.com

STATE OF MARYLAND
GUTHRIE WANG
PROFESSIONAL ENGINEER
NO. 31393
10/18/15

DES: GW	
DRN: CK	
CHK: TW	
DATE: DEC. 06	
BY NO.	

PCC	AS-BUILT	7/7/17
KFJ	AS-BUILT	7/8/16
KFJ	REPLACEMENT SHEET-SEWER SERVICE TO 7010 LONGVIEW RD.	8/14/15
LFN	AS-BUILT	9/2/09

**HUNTING LANE
8" SEWER
PLAN AND PROFILE**

**HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS**
CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350

SCALE
AS SHOWN
SHEET
4 OF 18

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

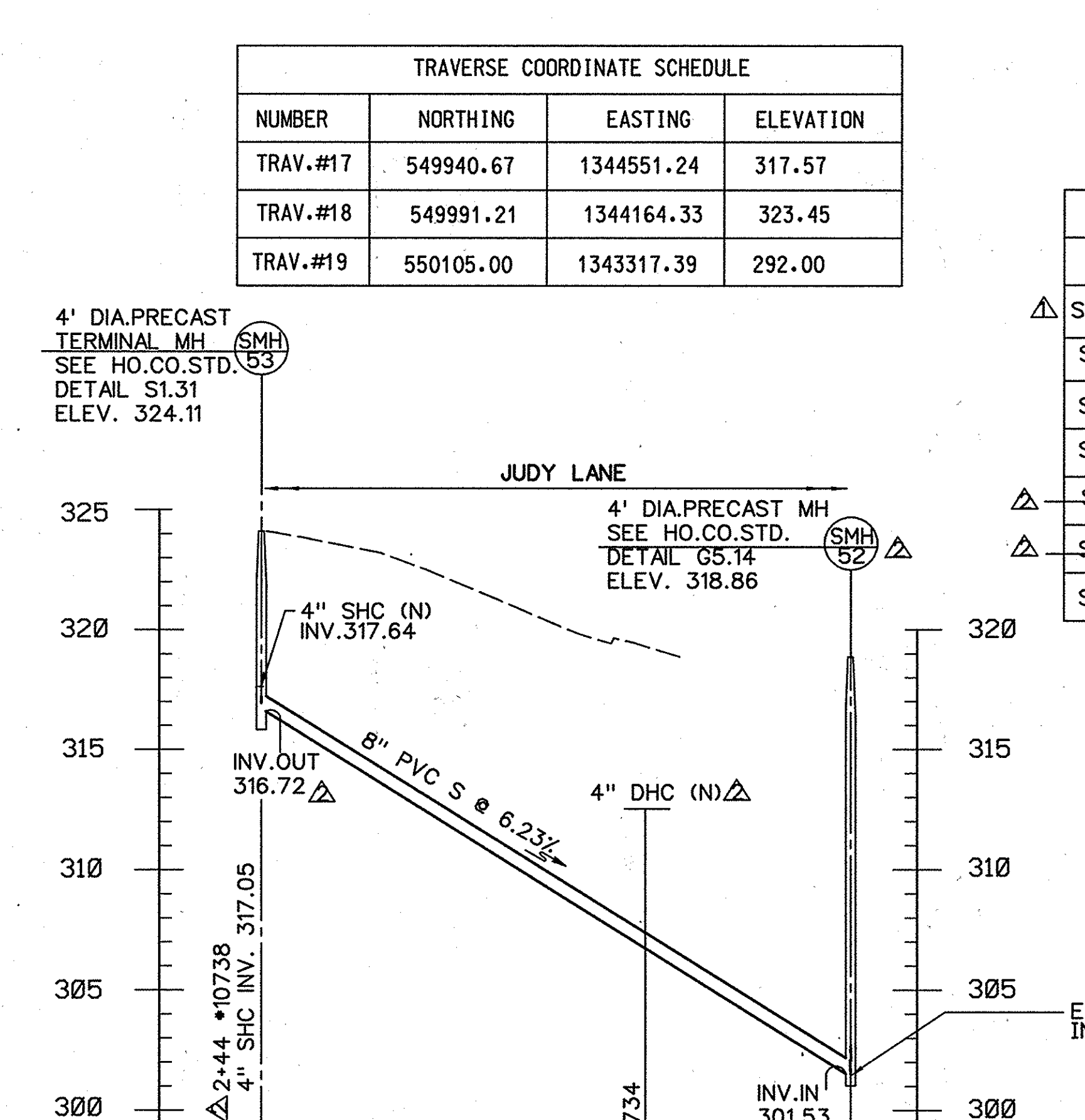
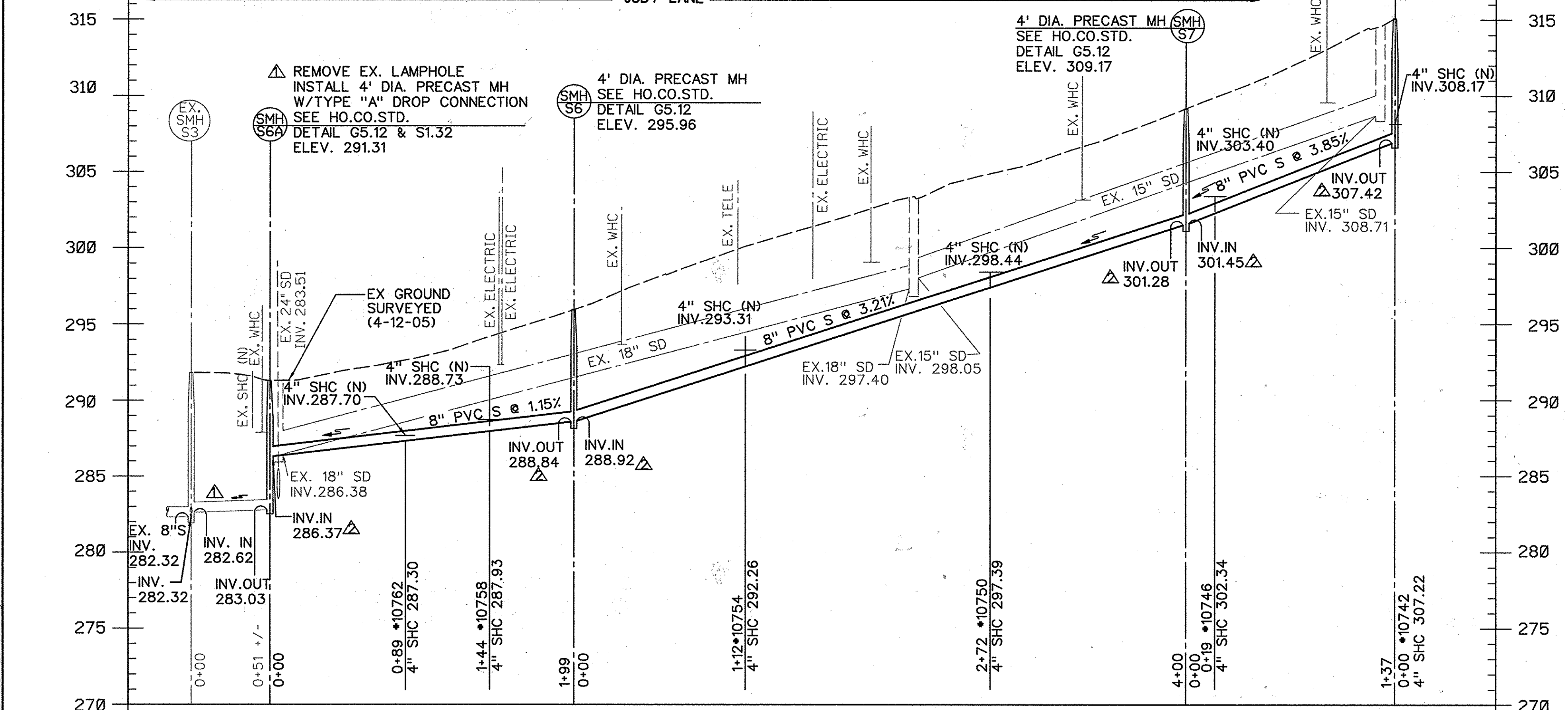
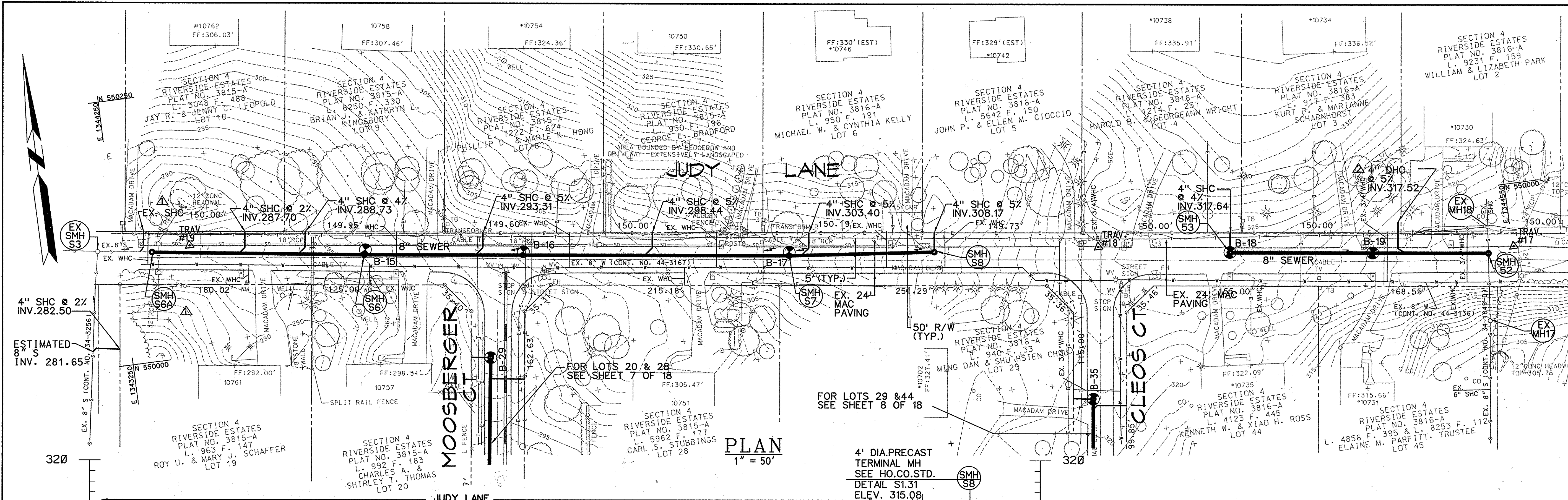
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FILE: H:\2004_0104\3484_02\Drawings\34-035\AS-Built\Replacement.dgn

10/21/15
10/21/15
10/14/15
10/14/15

DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF UTILITIES

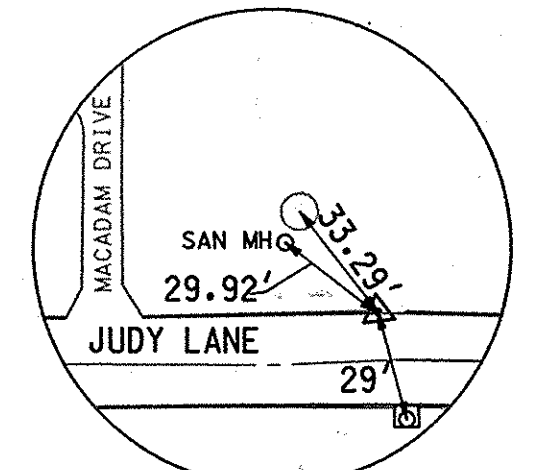
CHIEF, BUREAU OF ENGINEERING
CHIEF, UTILITY DESIGN DIVISION

600' SCALE MAP NO. 41 BLOCK NO. 5.6

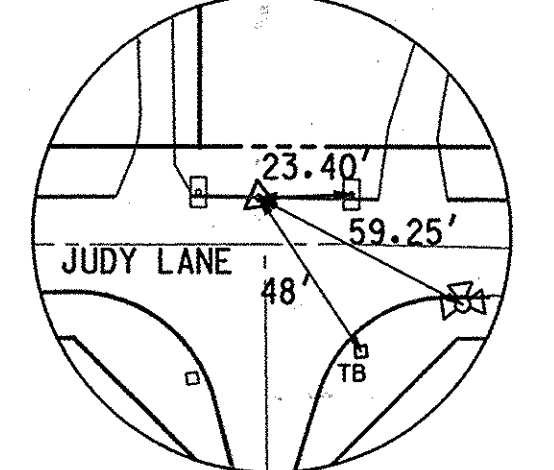


TRAVERSE COORDINATE SCHEDULE			
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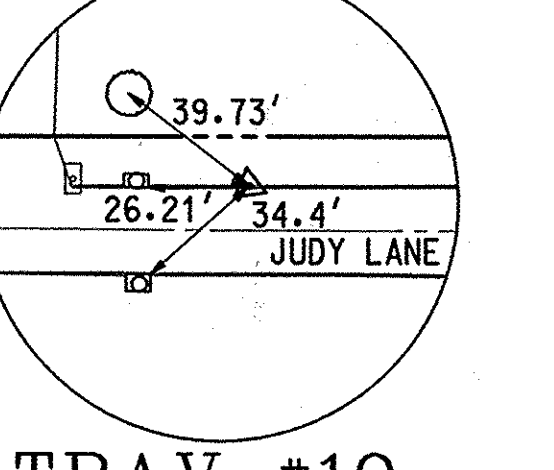
SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
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SMH S7	550021.35	1343874.90
SMH S8	550006.67	1344010.79
SMH S1	549965.30	1344458.46
SMH S2	549951.62	1344419.09
SMH S3	549969.62	1344286.32



TRAV. #17
SCALE=N.T.S



TRAV. #18
SCALE=N.T.S



TRAV. #19
SCALE=N.T.S

AS-BUILT
DATE 9-02-09
REPLACEMENT SHEET

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. DeSantis 10/27/09
DIRECTOR OF PUBLIC WORKS DATE

Richard J. Johnson 10/27/09
CHIEF, BUREAU OF ENGINEERING DATE

Sandra C. Lewis 10/27/09
CHIEF, BUREAU OF UTILITIES DATE

Debra J. Johnson 10/27/09
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
NO. 31983

DES: GW
DRN: CK
CHK: TW
DATE: 7/08
DEC. 06

LFN AS-BUILT
GW REMOVE LAMPHOLE & INSTALL A NEW SMH

REVISION

JUDY LANE
8" SEWER
PLAN AND PROFILE

600' SCALE MAP NO. 41 BLOCK NO. 5, 6

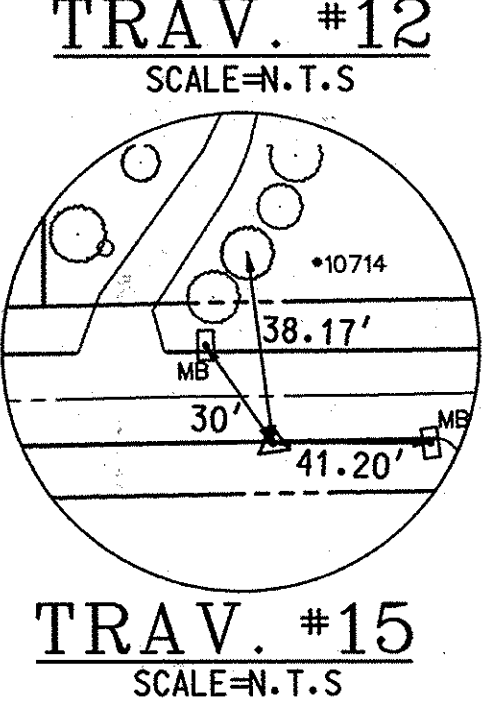
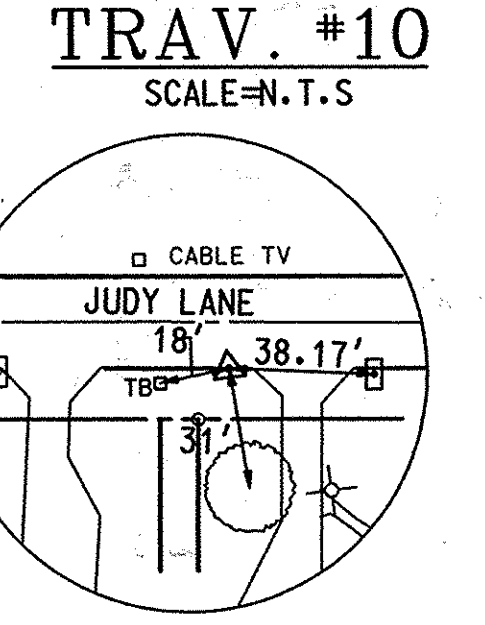
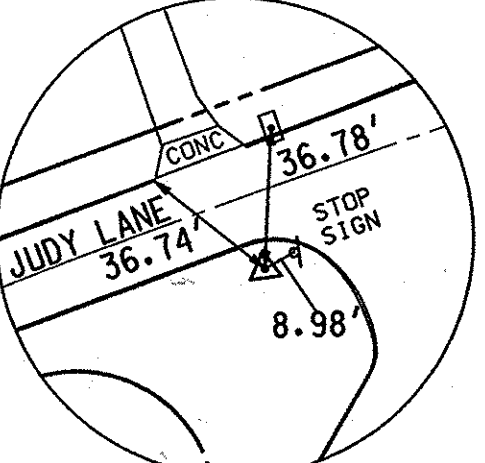
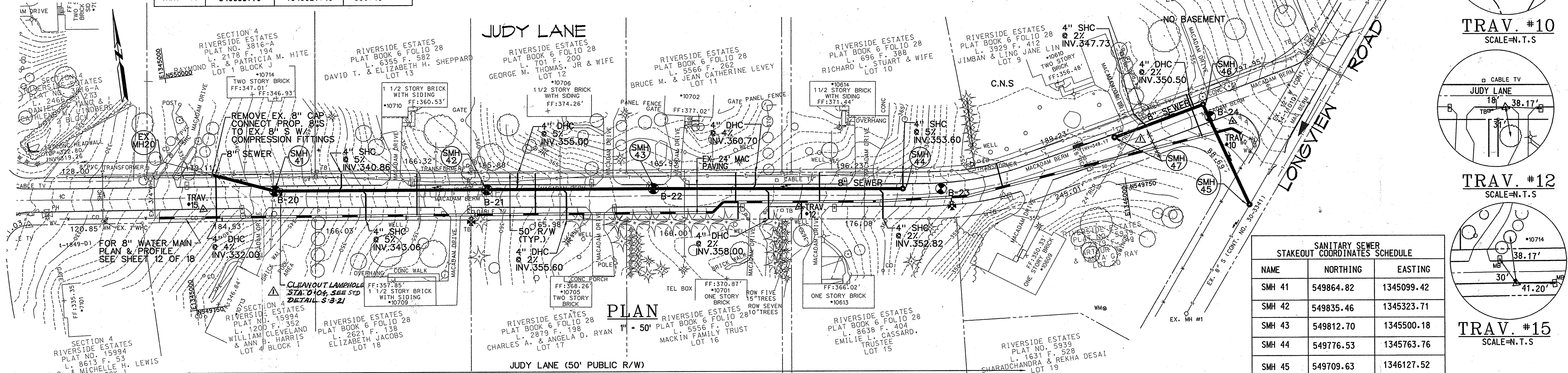
HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS
CAPITAL PROJECT NO. S-6251
CONTRACT NO. 34-4350

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

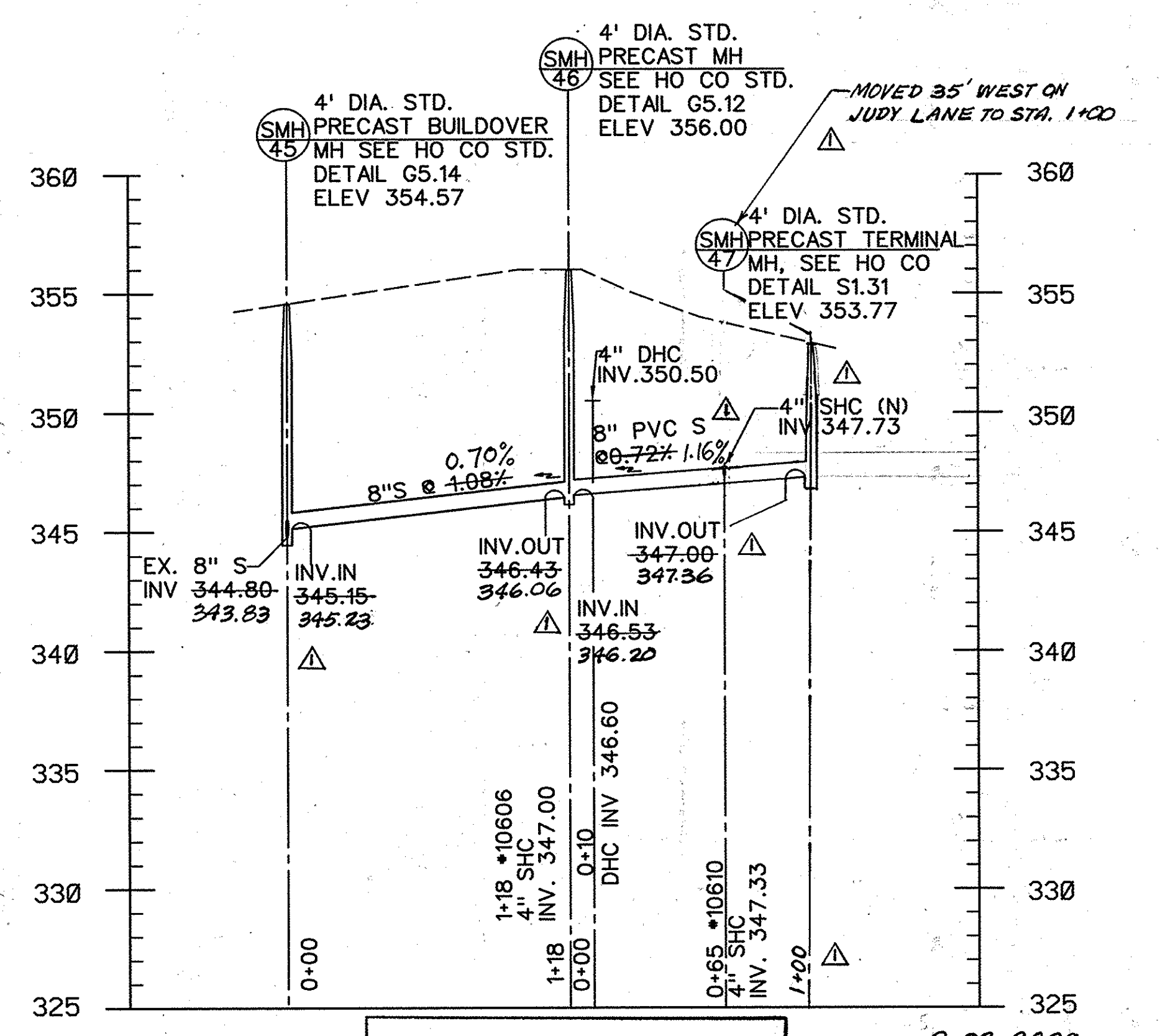
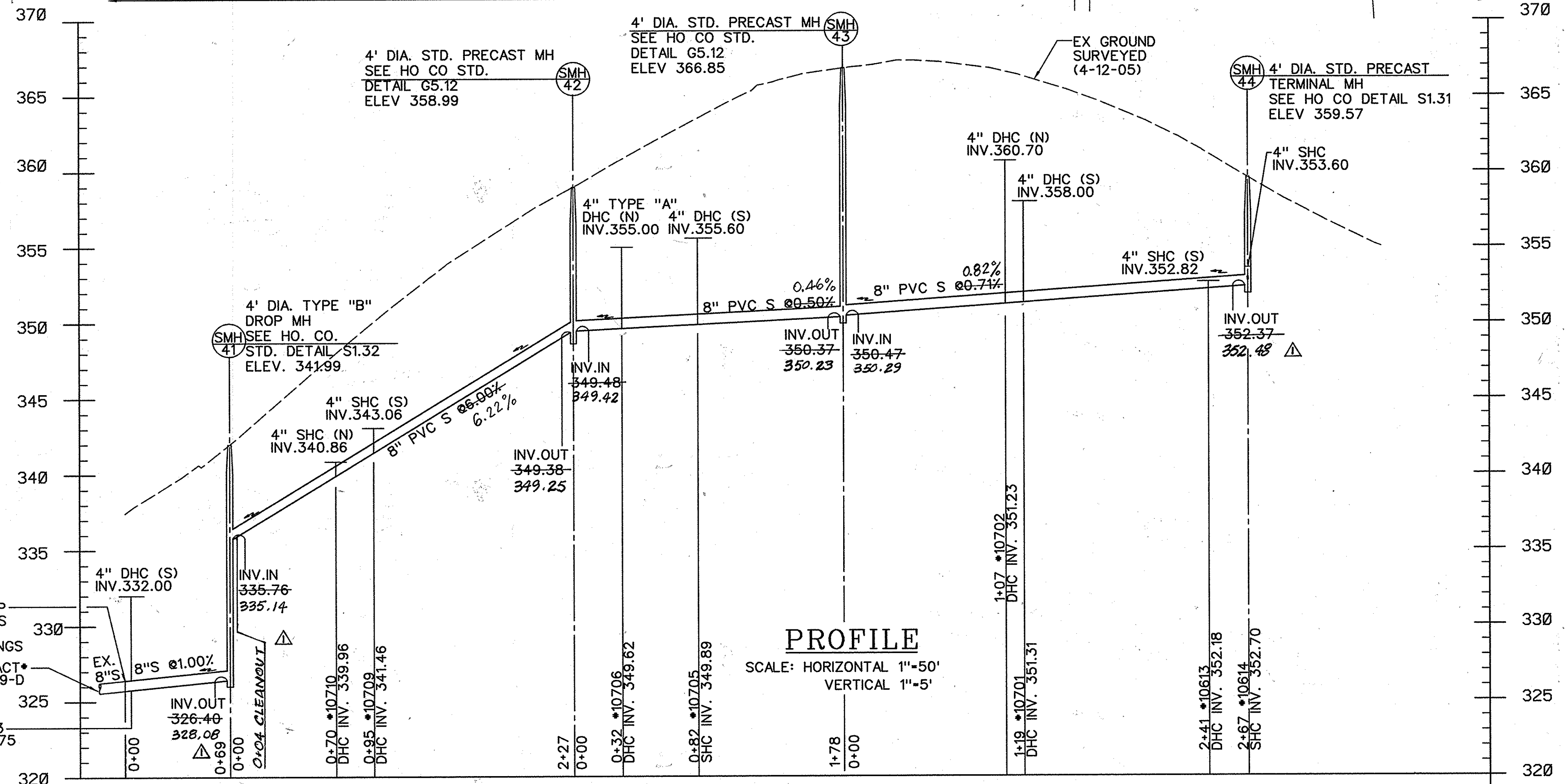
SCALE AS SHOWN
SHEET 5 OF 18

PLOTTED: 11:20 PM on Friday, October 23, 2009
 BY: Chuhua Wang, Division: 0102, Environmental Engineering
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TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV.#10	549800.51	1346121.77	357.25
TRAV.#12	549772.45	1345651.26	365.29
TRAV.#15	549855.78	1345021.48	336.40



SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NAME	NORTHING	EASTING
SMH 41	549864.82	1345099.42
SMH 42	549835.46	1345323.71
SMH 43	549812.70	1345500.18
SMH 44	549776.53	1345763.76
SMH 45	549709.63	1346127.52
SMH 46	549822.42	1346092.99
SMH 47	549808.04	1346029.40



AS-BUILT DATE 9-02-2009

PLOTTED: 01:59 PM on Monday, August 27, 2007
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James D. ... 8-31-07
DIRECTOR OF PUBLIC WORKS DATE

... 8-31-07
CHIEF OF BUREAU OF UTILITIES DATE

... 8-31-07
CHIEF, BUREAU OF ENGINEERING DATE

... 8-31-07
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM



DES: GW			
DRN: CK			
CHK: TW			
DATE: DEC. 06	LFV	AS BUILT	9-2-09
BY NO.		REVISION	

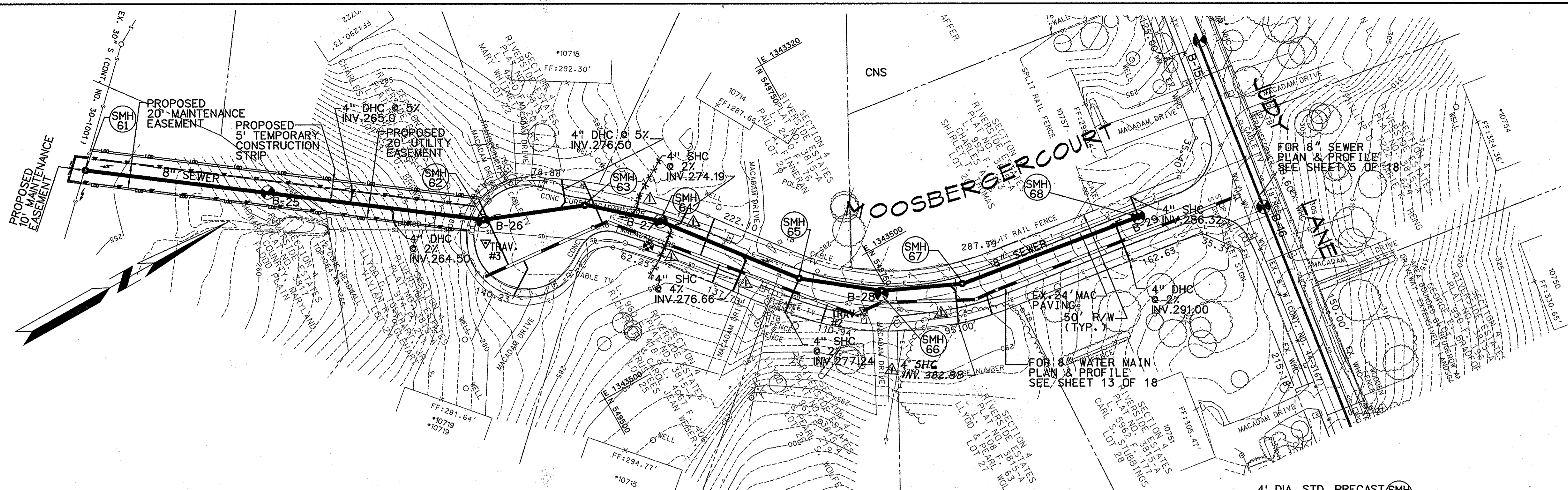
JUDY LANE
8" SEWER
PLAN AND PROFILE

600' SCALE MAP NO. 41 BLOCK NO. 5.6

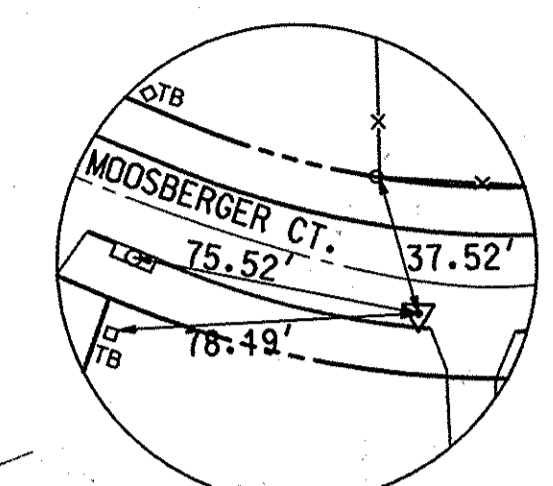
HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS
CAPITAL PROJECT NO. S-6251
CONTRACT NO. 34-4350

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

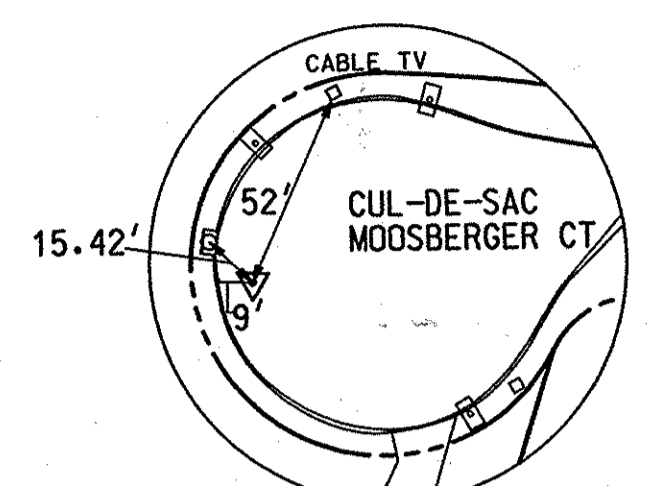
SCALE AS SHOWN SHEET 6 OF 18



PLAN
1" = 50'

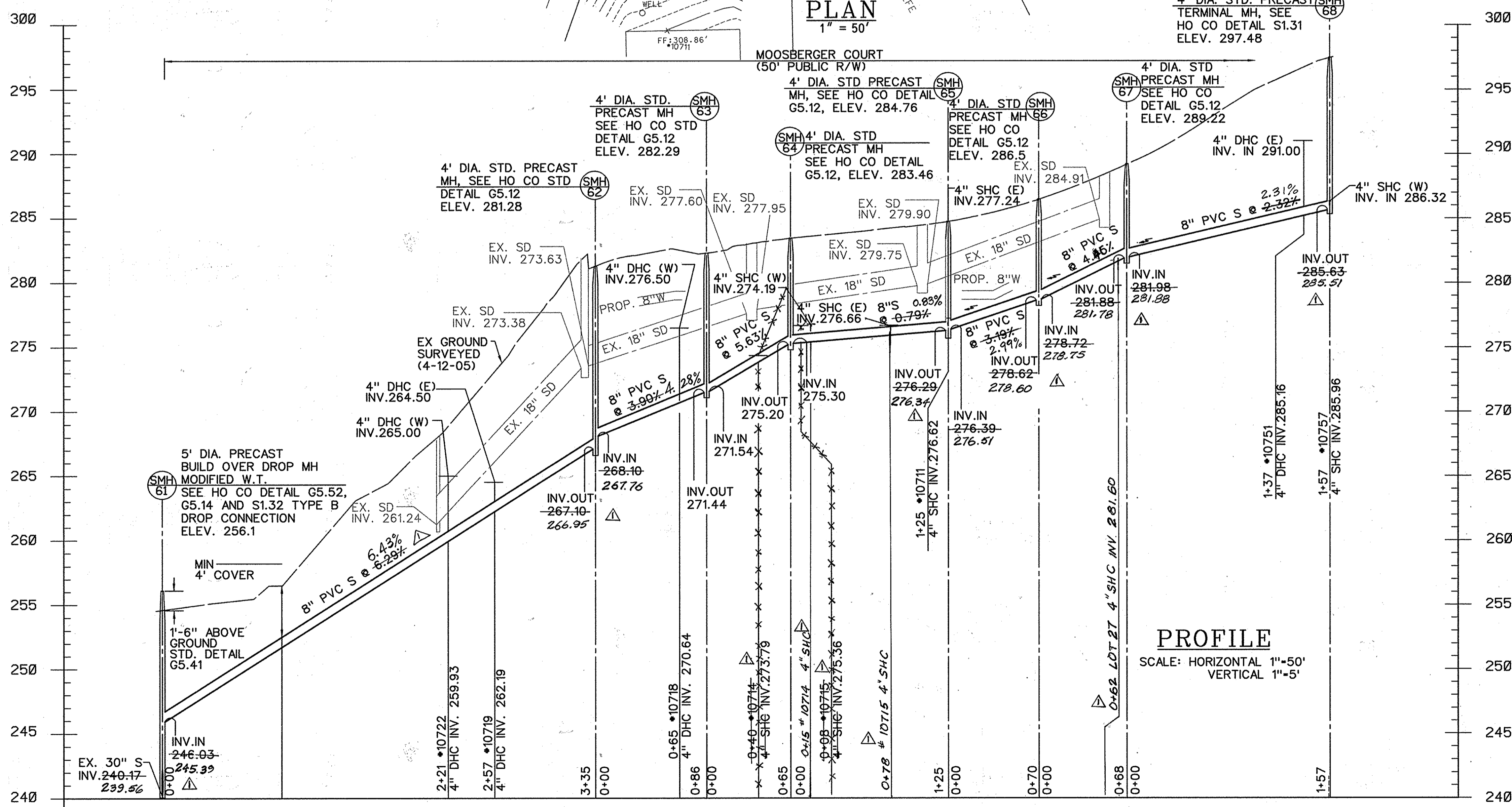


TRAV. #2
SCALE=N.T.S



TRAV. #3
SCALE=N.T.S

TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV.#2	549724.66	1343540.98	285.97
TRAV.#3	549476.78	1343337.49	281.47



PROFILE
SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NAME	NORTHING	EASTING
SMH 61	549215.18	1343121.55
SMH 62	549484.74	1343319.62
SMH 63	549564.30	1343350.27
SMH 64	549613.03	1343392.71
SMH 65	549690.65	1343490.95
SMH 66	549744.28	1343535.71
SMH 67	549807.27	1343561.22
SMH 68	549962.57	1343583.96

AS-BUILT
DATE 9-02-2009

PLOTTED 08:49 AM on Tuesday August 28 2007
 BY: Chandro, Konita Division: Environmental Engineering
 FILE: M. 2007.038356632.02.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/1/09
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 9/1/07
CHIEF OF BUREAU OF UTILITIES DATE

[Signature] 8-31-07
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 8-31-07
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM

STATE OF MARYLAND
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY

[Signature]
3/28/07

DES: GW			
DRN: CK			
CHK: TW			
DATE: DEC. 06	LFY	AS BUILT	9/2/09
BY: NO.		REVISION	

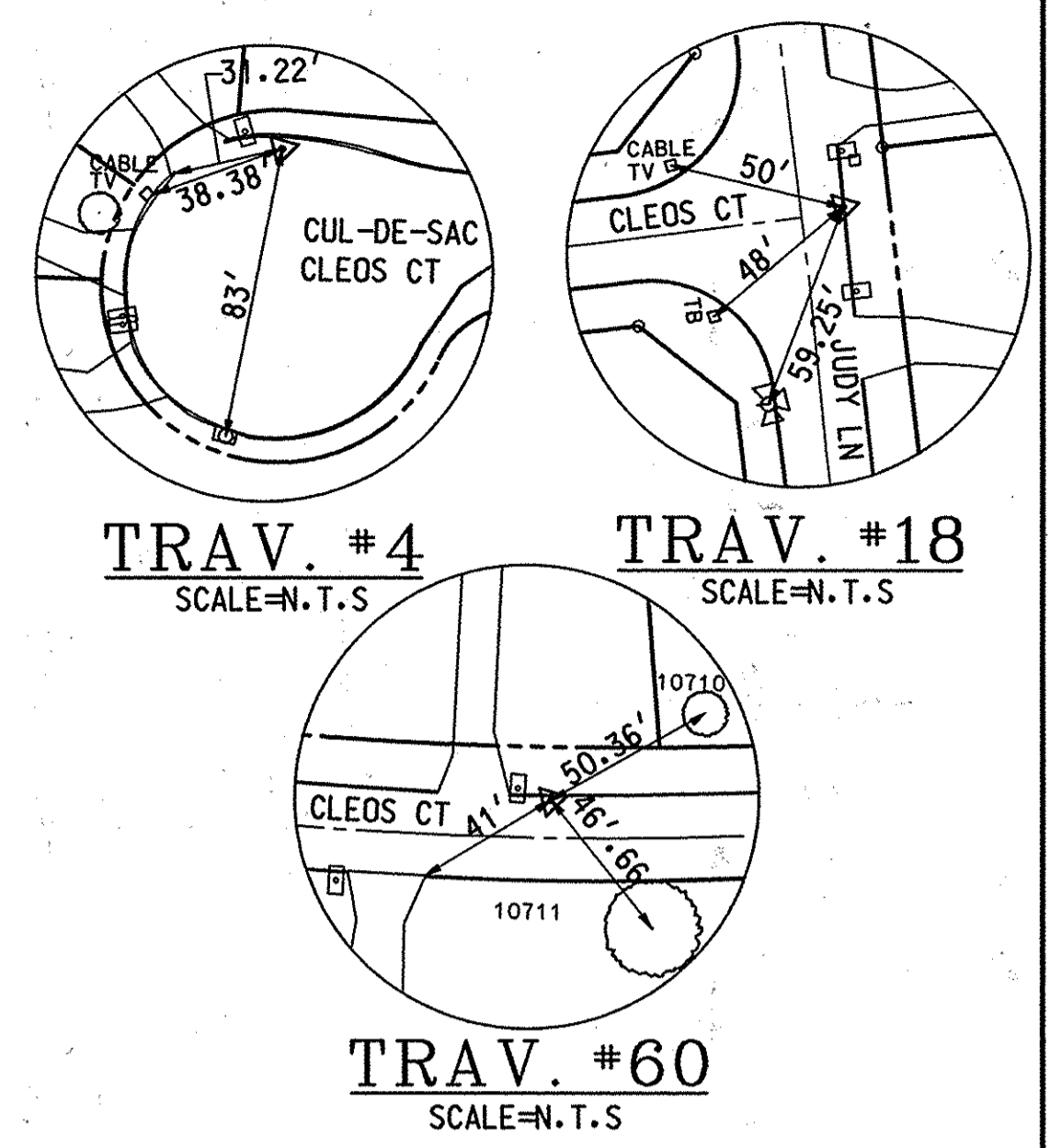
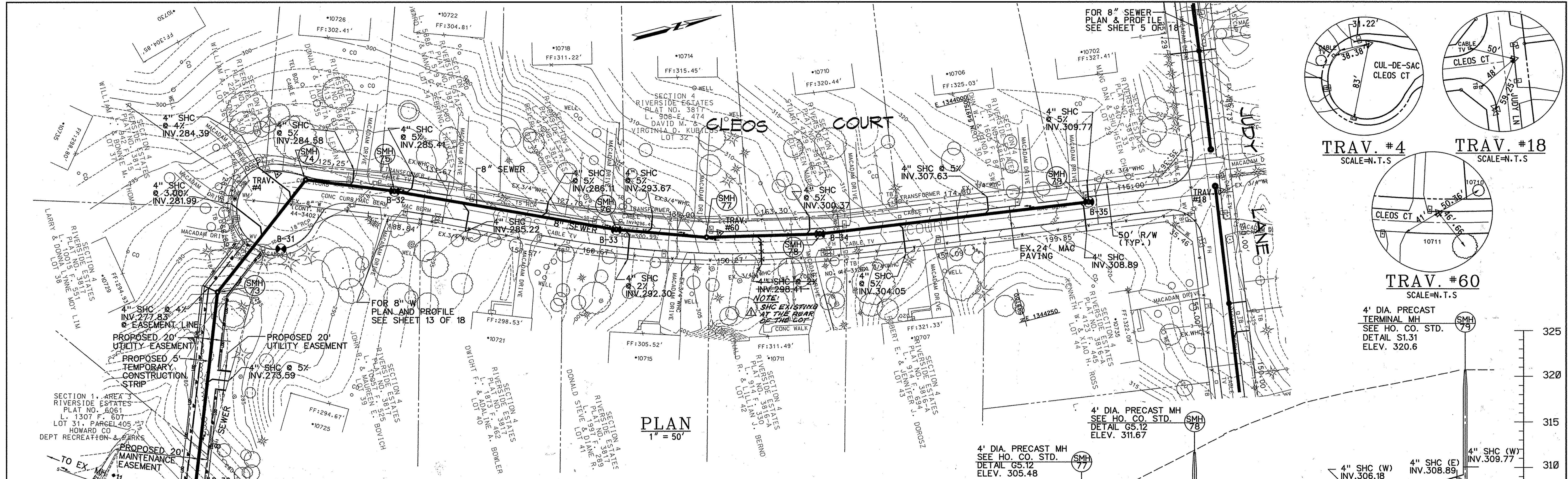
MOOSBERGER COURT
8" SEWER
PLAN AND PROFILE

600' SCALE MAP NO. 41 BLOCK NO. 5.6

HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS
CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350

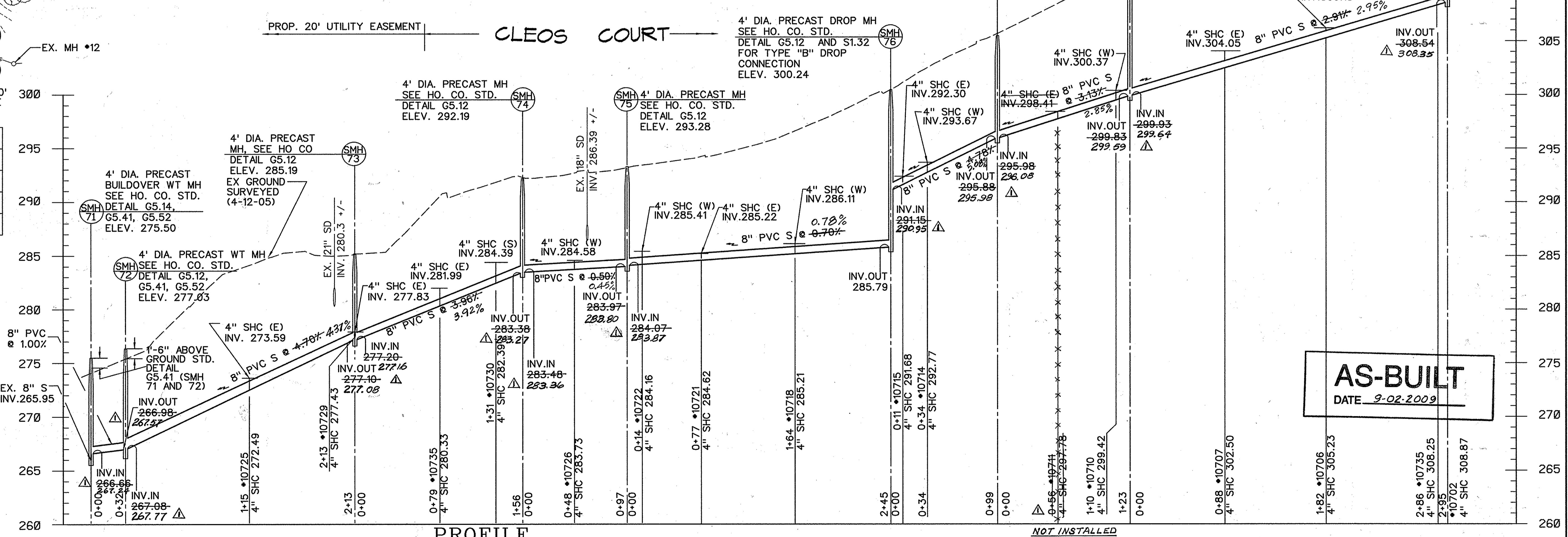
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 18



TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV.#4	549000.86	1343891.13	291.74
TRAV.#18	549991.21	1344164.33	323.45
TRAV.#60	549451.63	1344073.21	306.17

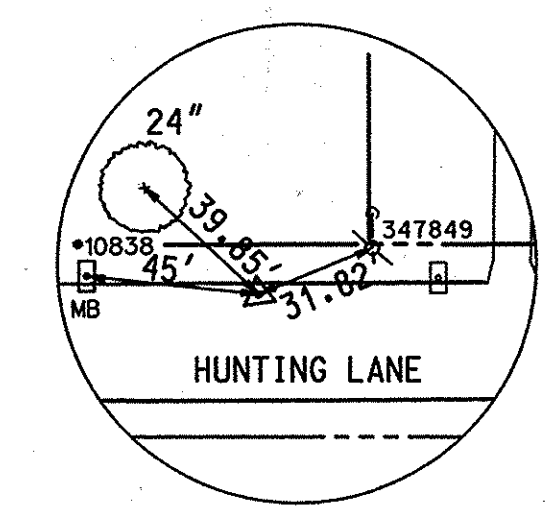
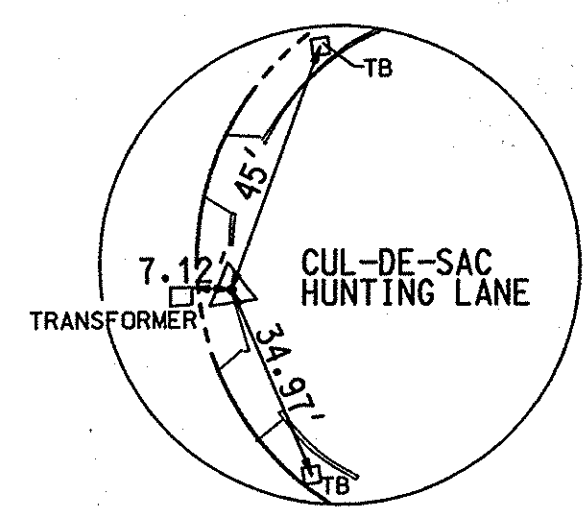
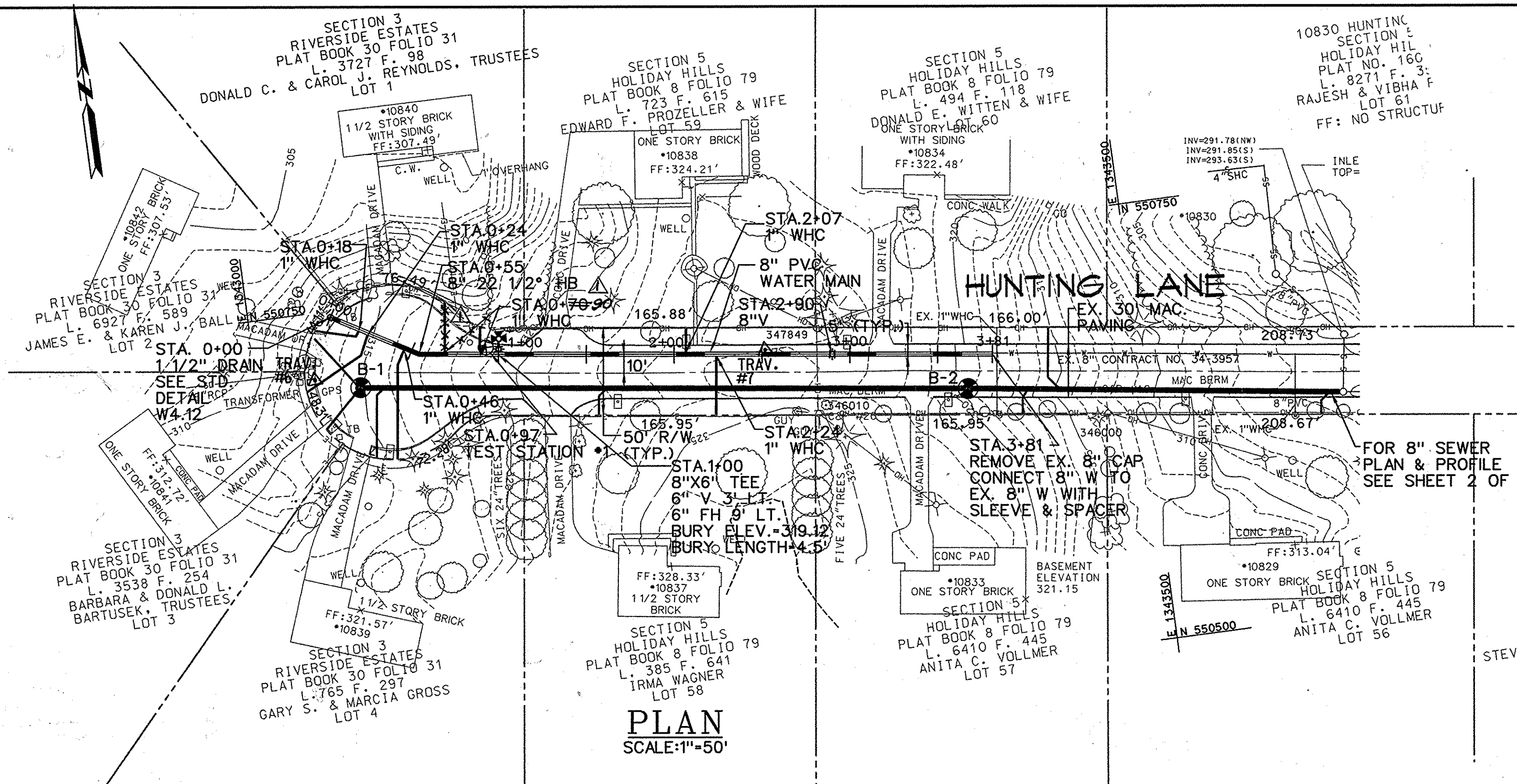
SANITARY SEWER STAKEOUT COORDINATES SCHEDULE		
NUMBER	NORTHING	EASTING
SMH 71	548812.11	1344225.55
SMH 72	548829.76	1344199.23
SMH 73	548905.57	1344000.06
SMH 74	549029.09	1343904.88
SMH 75	549119.61	1343940.96
SMH 76	549343.39	1344041.80
SMH 77	549436.53	1344074.53
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SMH 79	549849.37	1344140.69



AS-BUILT
DATE 9-02-2009

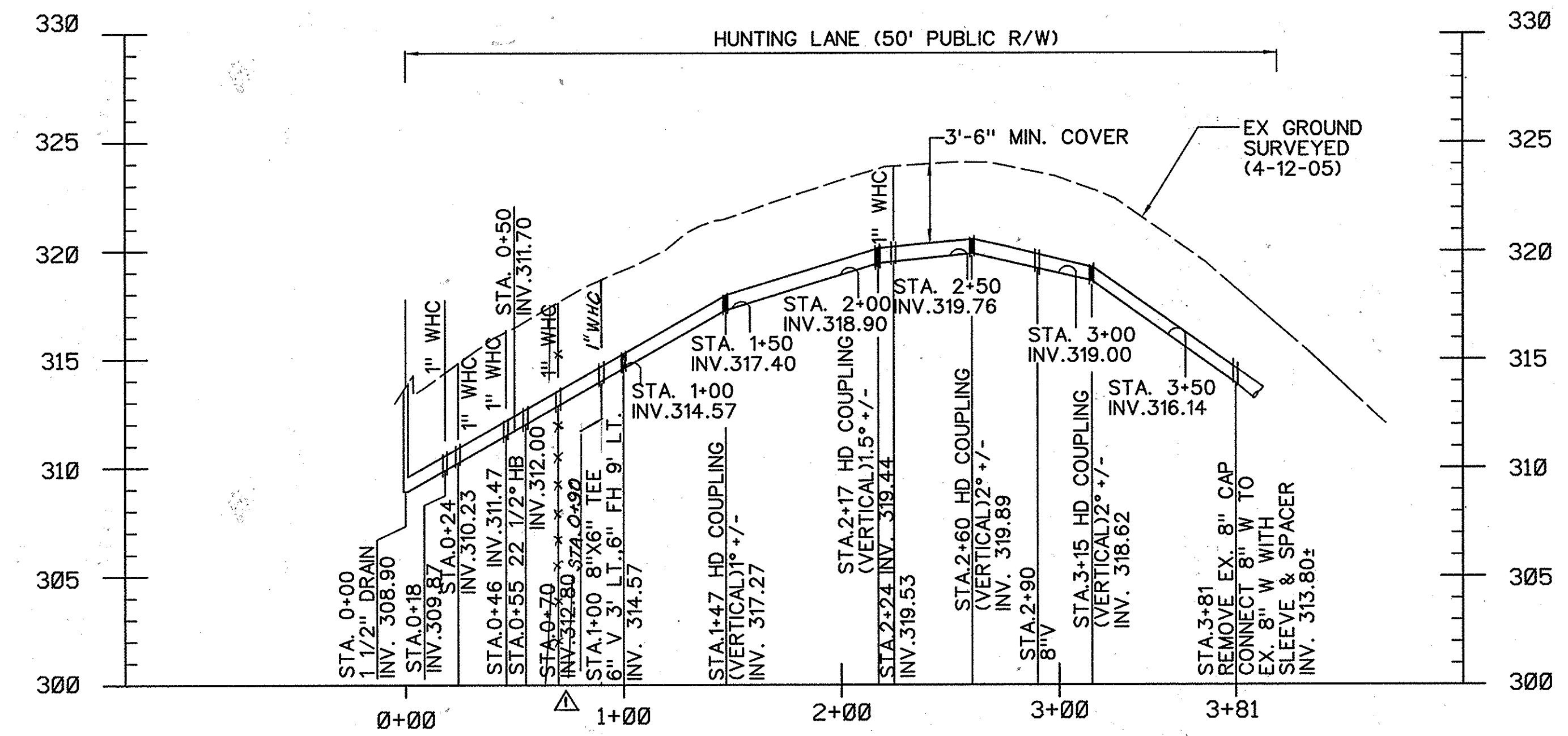
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 BY: Chandero, Kento, Division: Environmental Engineering
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 9/16/09 NAME: [Signature]		ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS KCI TECHNOLOGIES 10 North Park Drive Hunt Valley, MD 21030 Phone: (410) 316-7800 Fax: (410) 316-7817 www.kci.com		DES: GW DRN: CK CHK: TW DATE: DEC. 06 BY: LFN NO.: AS BUILT REVISION: 9-2-09		CLEOS COURT 8" SEWER PLAN AND PROFILE		HOLIDAY HILLS / RIVERSIDE ESTATES WATER & SEWER MAIN EXTENSIONS CAPITAL PROJECT No. S-6251 CONTRACT No. 34-4350		SCALE AS SHOWN SHEET 8 OF 18
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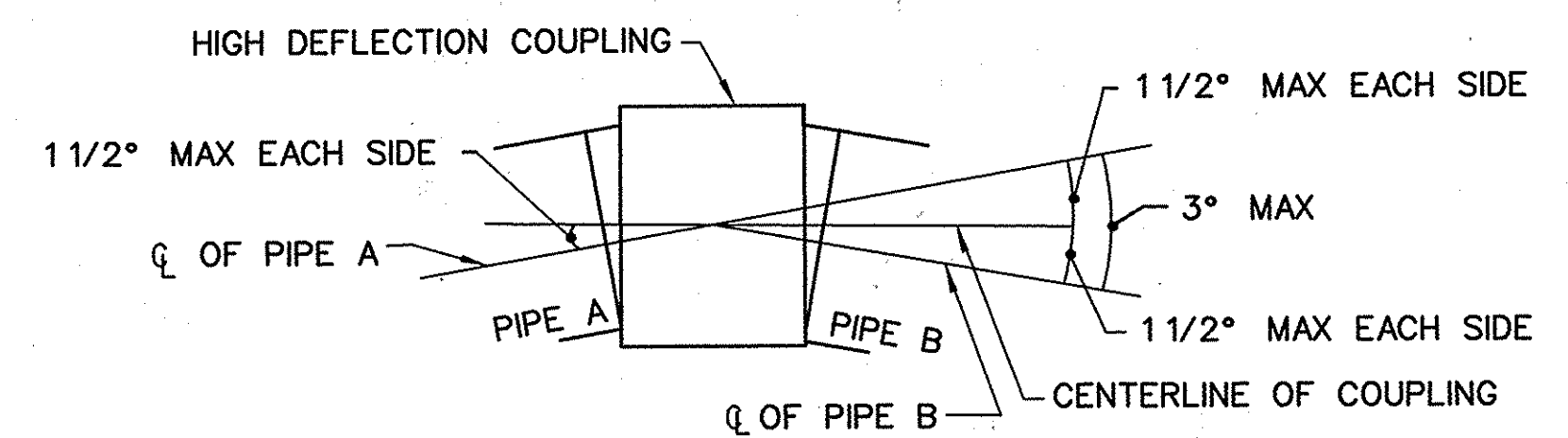


TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#6	IRON BAR	550711.71	1343033.34	313.47
TRAV.#7	IRON BAR	550694.58	1343289.54	324.17

WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
0+55	22 1/2" HB	550718.52	1343094.15
1+00	8"X6" TEE	550712.48	1343138.82
1+00	6" V 3'RT.	550715.45	1343139.19
1+47	HD (VERTICAL)	550706.42	1343185.64
2+17	HD (VERTICAL)	550696.80	1343254.77
2+60	HD (VERTICAL)	550691.11	1343297.18
2+90	8" V	550687.00	1343327.10
3+15	HD (VERTICAL)	550683.65	1343351.88
3+81	TIE-IN	550674.82	1343417.45



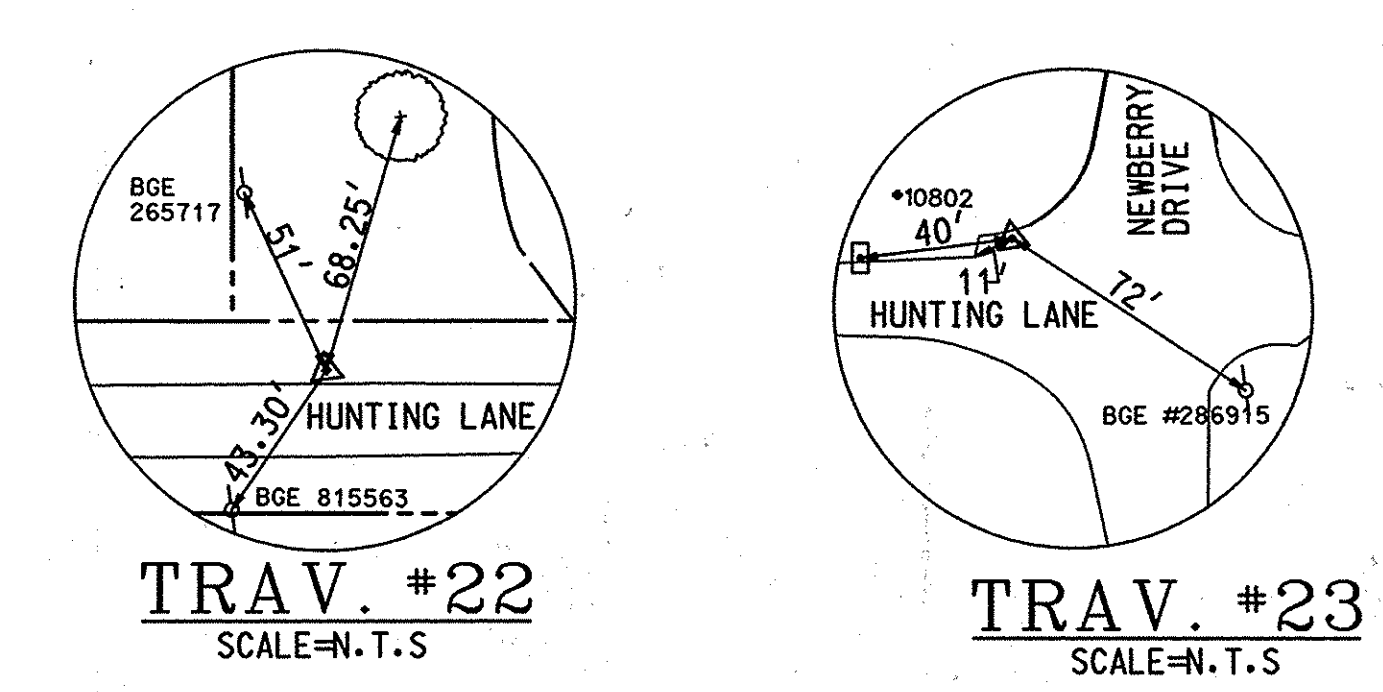
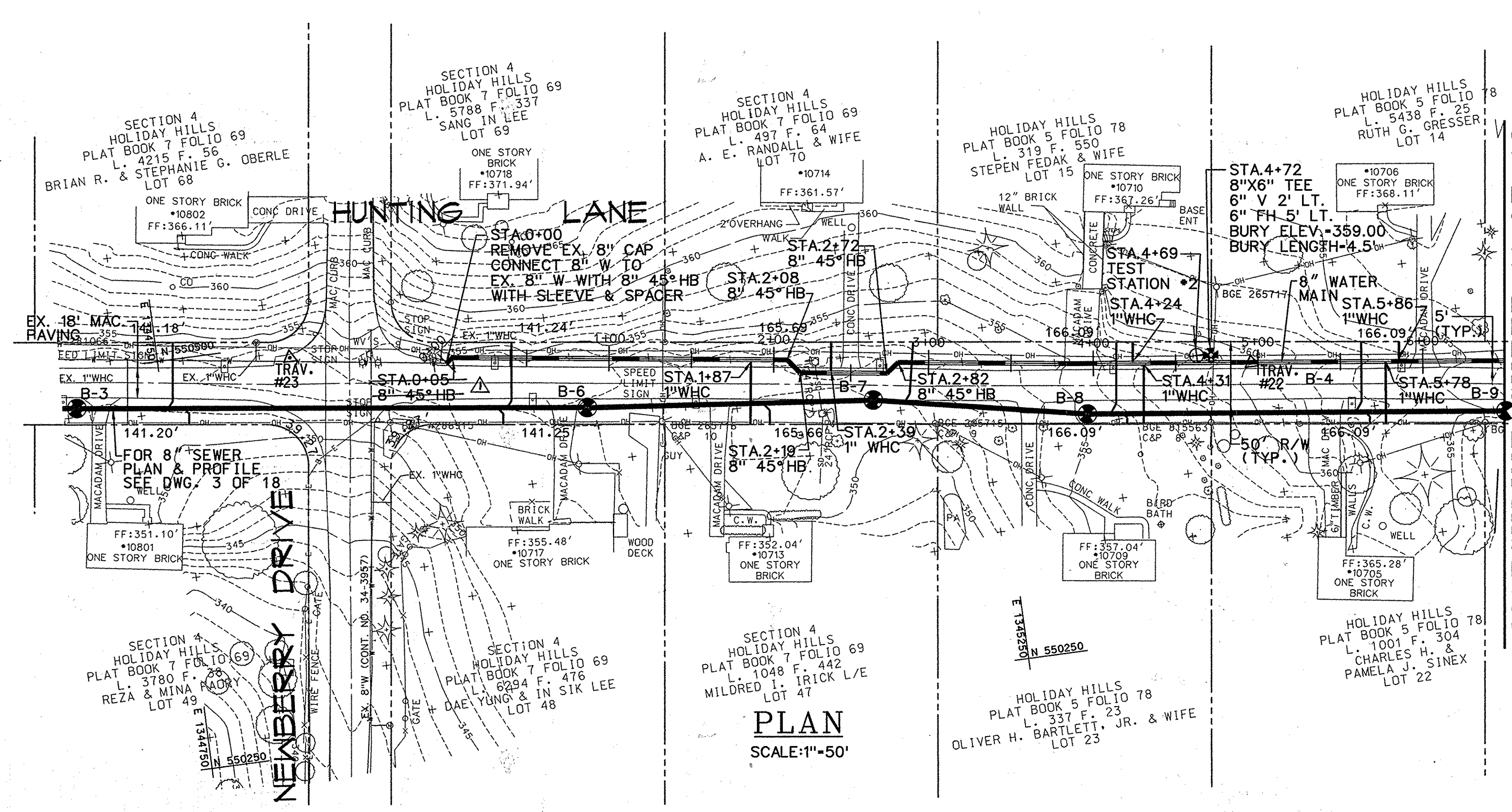
- NOTES:
1. THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° WITH 1.5° ON EACH SIDE.
 2. CONTRACTOR SHALL PROVIDE OUTSIDE METER SETTING PER STANDARD DETAIL W3.31 FOR ALL WATER HOUSE CONNECTIONS.
 3. CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL IN ACCORDANCE WITH THE REQUIREMENTS OF SHA TRAFFIC CONTROL PLATES MD104.02-02 AND MD 104.02-10.



AS-BUILT
DATE 9-02-2009

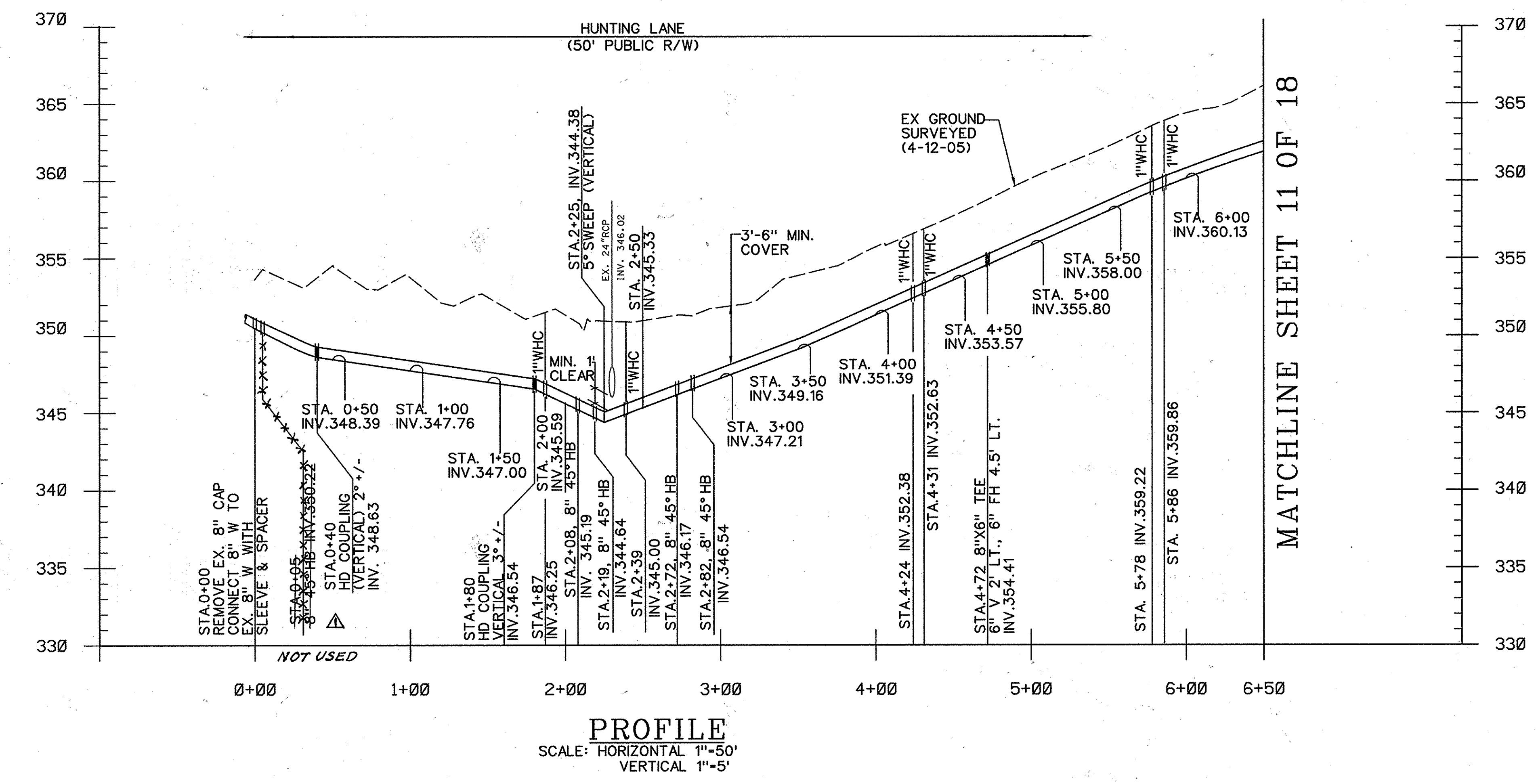
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 BY: Chandra Kanto, Division: Environmental Engineering
 FILE: W:\2004\30245491.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Jan M. de...</i> 9/4/07 DIRECTOR OF PUBLIC WORKS <i>...</i> 9/4/07 CHIEF, BUREAU OF UTILITIES		ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS KCI TECHNOLOGIES 10 NORTH PARK DRIVE HUNT VALLEY, MD 21030 PHONE (410) 316-7800 FAX (410) 316-7817 www.kci.com		STATE OF MARYLAND DEPARTMENT OF PUBLIC WORKS CHIEF ENGINEER <i>...</i> 9/28/07		DES: GW DRN: CK CHK: TW DATE: LFN 9-2-09 BY: NO. AS BUILT	HUNTING LANE 8" WATER MAIN PLAN AND PROFILE HOLIDAY HILLS / RIVERSIDE ESTATES WATER & SEWER MAIN EXTENSIONS CAPITAL PROJECT No. S-6251 CONTRACT No. 34-4350 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 9 OF 18
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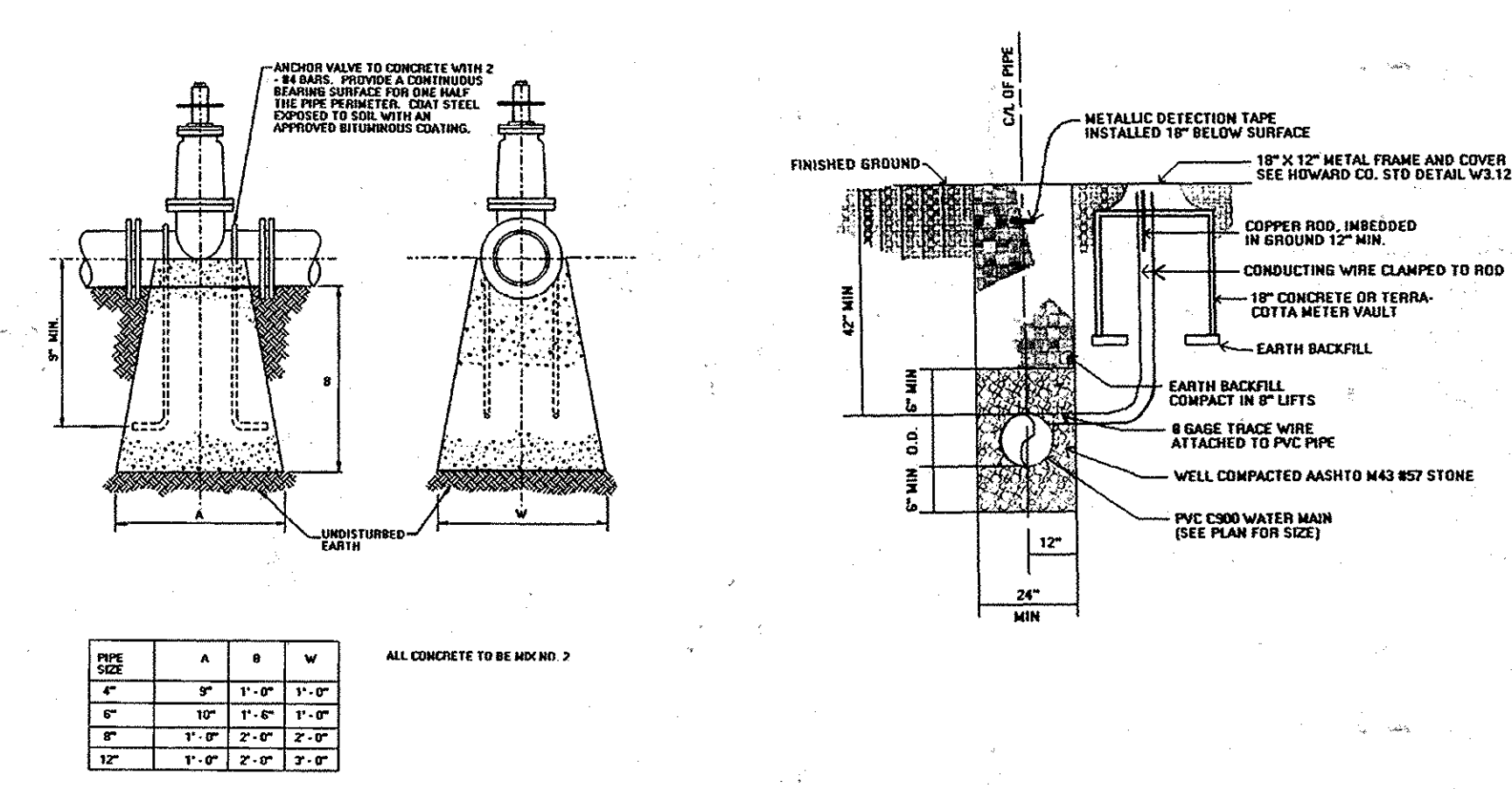


TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#22	IRON BAR	550410.52	1345408.06	359.90
TRAV.#23	IRON BAR	550491.52	1344829.89	352.57

WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
0+00	TIE-IN	550475.55	1344923.70
0+05	8" 45° HB	550478.41	1344927.53
0+40	HD (VERTICAL)	550473.48	1344962.41
1+80	HD (VERTICAL)	550453.90	1345100.58
2+08	8" 45° HB	550449.91	1345128.97
2+19	8" 45° HB	550441.13	1345135.53
2+25	HD (VERTICAL)	550440.32	1345141.29
2+72	8" 45° HB	550433.72	1345187.87
2+82	8" 45° HB	550439.34	1345195.33
4+72	8"X6" TEE	550413.80	1345383.71
4+72	6" V 2' LT	550415.83	1345384.04



NOTES:
 1. THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° WITH 1.5° ON EACH SIDE. SEE SHEET 9 FOR DETAIL.



ANCHORAGES FOR VALVES WITH PVC PIPE

TRENCH FOR PVC PIPE AND CONTINUITY TEST STATION DETAIL

AS-BUILT

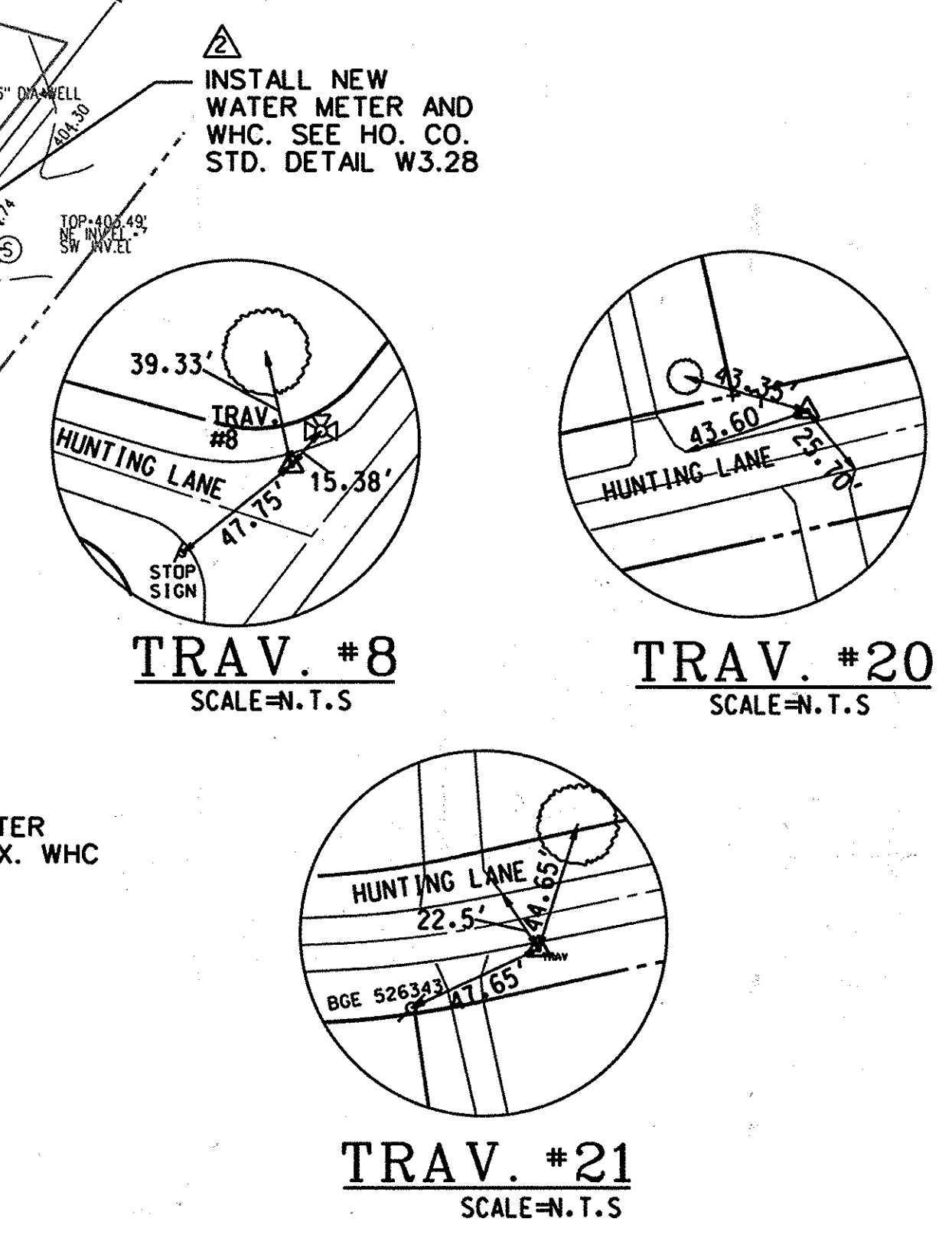
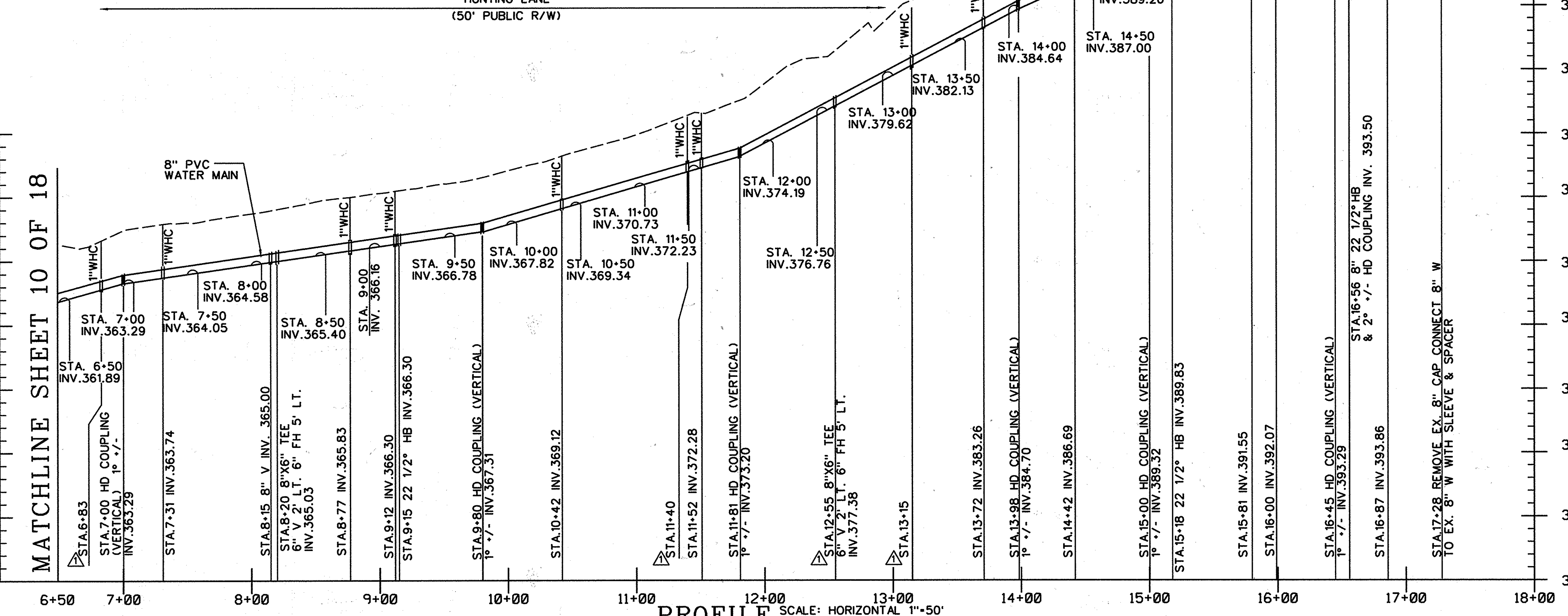
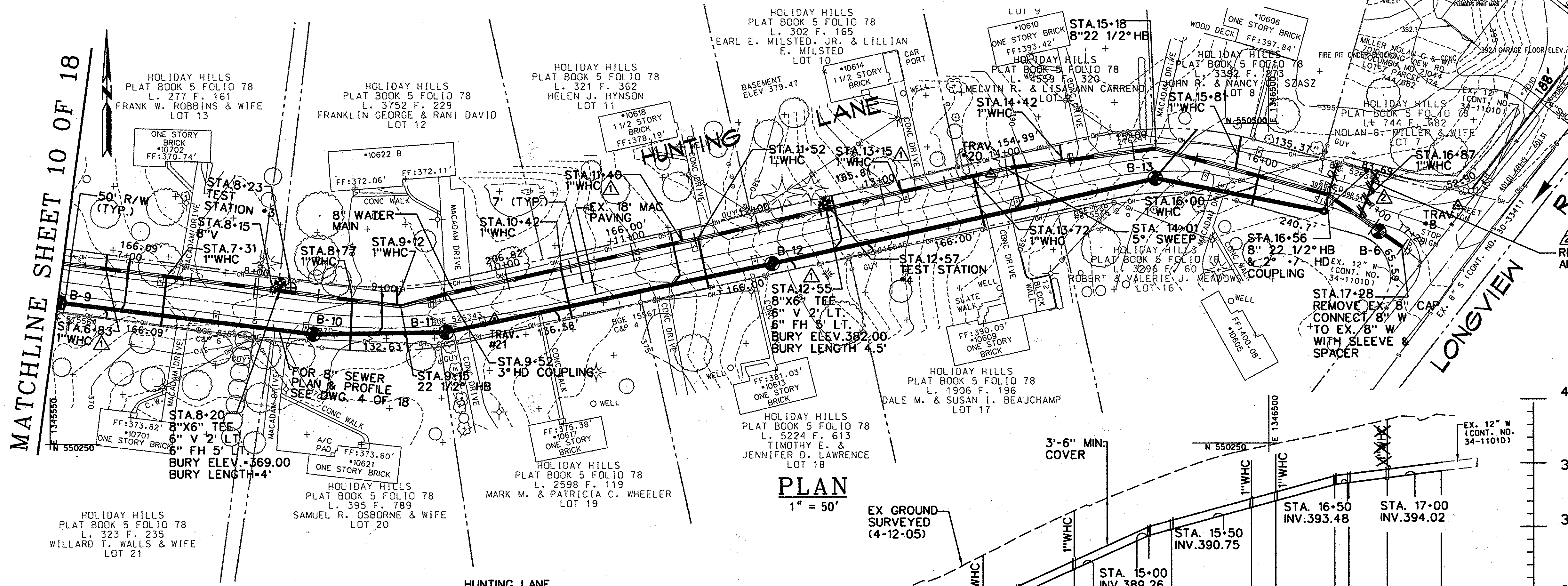
DATE 9-02-2009

PLOTTED: 02:15 PM on Monday, August 27, 2007
 BY: Chandra Kanta Division: Environmental Engineering
 FILE: H:\2006\0829-346632\Drawings\020711.dwg

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works DATE 9/4/07		KCI TECHNOLOGIES ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 10 NORTH PARK DRIVE HUNT VALLEY, MD 21030 PHONE: (410) 316-7800 FAX: (410) 316-7817 www.kci.com		DES: GW DRN: CK CHK: TW DATE: DEC. 06 BY: NO.		HUNTING LANE 8" WATER MAIN PLAN AND PROFILE HOLIDAY HILLS / RIVERSIDE ESTATES WATER & SEWER MAIN EXTENSIONS CAPITAL PROJECT No. S-6251 CONTRACT No. 34-4350 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 10 OF 18	
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MATCHLINE SHEET 10 OF 18

MATCHLINE SHEET 10 OF 18



TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#8	IRON BAR	550435.49	1346647.65	399.74
TRAV.#20	IRON BAR	550460.61	1346283.66	388.24
TRAV.#21	IRON BAR	550347.95	1345896.32	371.71

WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
7+00	HD COUPLING (VERTICAL)	550384.91	1345610.38
8+15	8" V	550370.47	1345723.89
8+20	8"X6" TEE	550369.80	1345728.75
8+20	6" V 2' LT.	550369.77	1345728.98
9+15	22 1/2" HB	550357.93	1345823.05
9+52	HD COUPLING (HORIZONTAL)	550367.47	1345859.50
9+80	HD COUPLING (VERTICAL)	550373.37	1345886.84
11+81	HD COUPLING (VERTICAL)	550416.55	1346083.14
12+60	8"X6" TEE	550434.64	1346160.03
12+60	6" V 2' LT.	550435.32	1346159.87
13+98	HD COUPLING (VERTICAL)	550464.39	1346293.76
14+01	5" SWEEP	550465.11	1346296.69
15+00	HD COUPLING (VERTICAL)	550477.97	1346394.84
15+18	22 1/2" HB	550480.27	1346412.43
16+45	HD COUPLING (VERTICAL)	550447.27	1346535.34
16+56	22 1/2" HB	550444.48	1346545.74
17+28	TIE-IN	550403.11	1346604.40
N/A	WATER METER	550594.59	1346772.50

NOTE:
1. THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° WITH 1.5° ON EACH SIDE. SEE SHEET 9 FOR DETAIL.

AS-BUILT REPLACEMENT SHEET

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

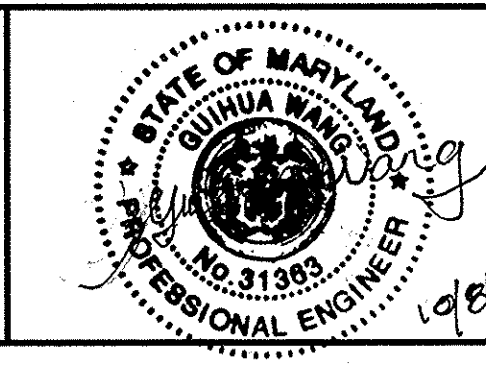
[Signatures]
DATE: 10/15/15

CHIEF, BUREAU OF UTILITIES
CHIEF, BUREAU OF ENGINEERING
CHIEF, UTILITY DESIGN DIVISION

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI
TECHNOLOGIES

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com



DES: GW			
DRN: CK			
CHK: TW			
DATE: DEC. 06			

AS-BUILT	11/11/15
REPLACEMENT SHEET - WHC 7010 LONGVIEW RD.	9/11/15
AS-BUILT	9/2/09

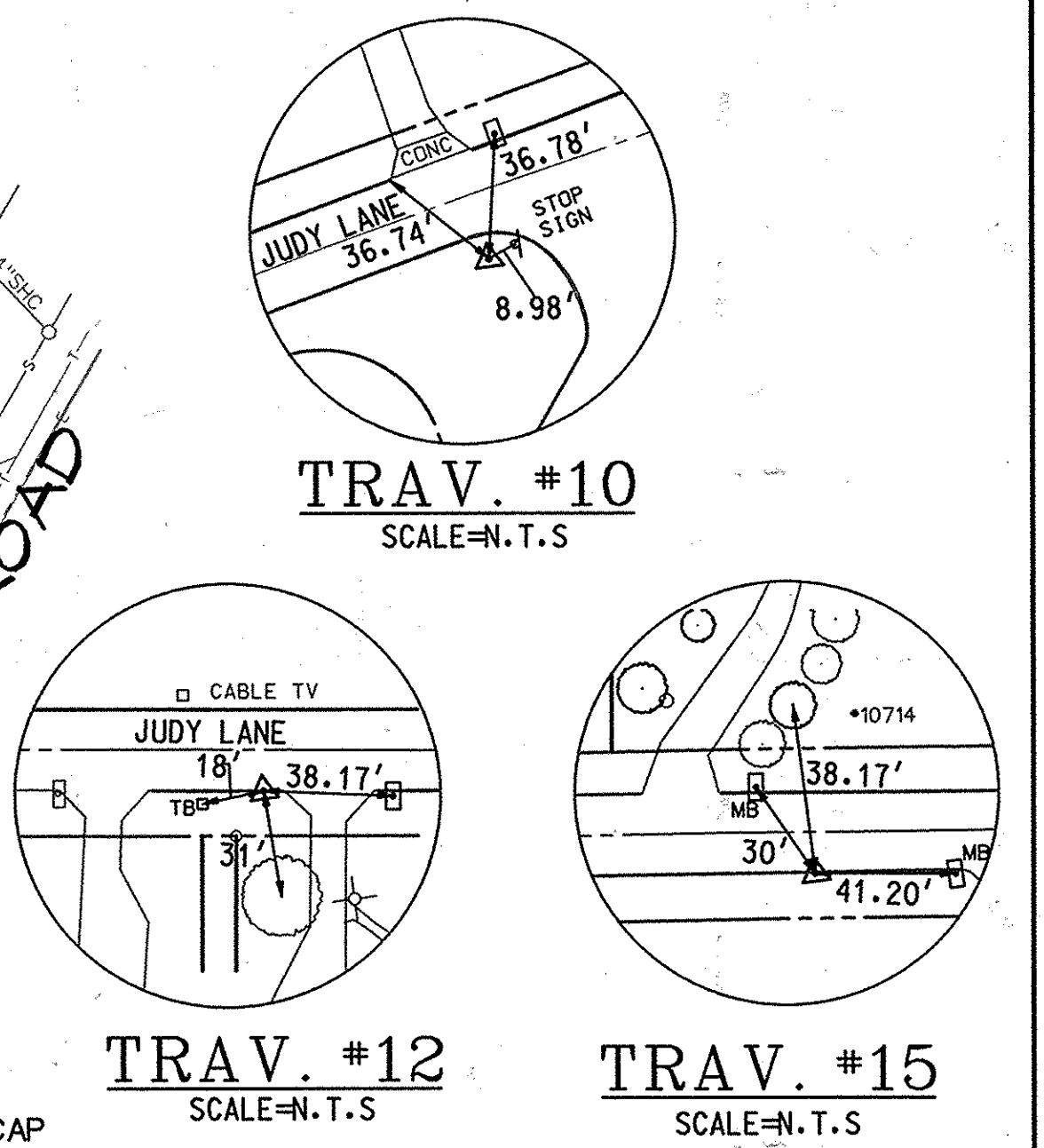
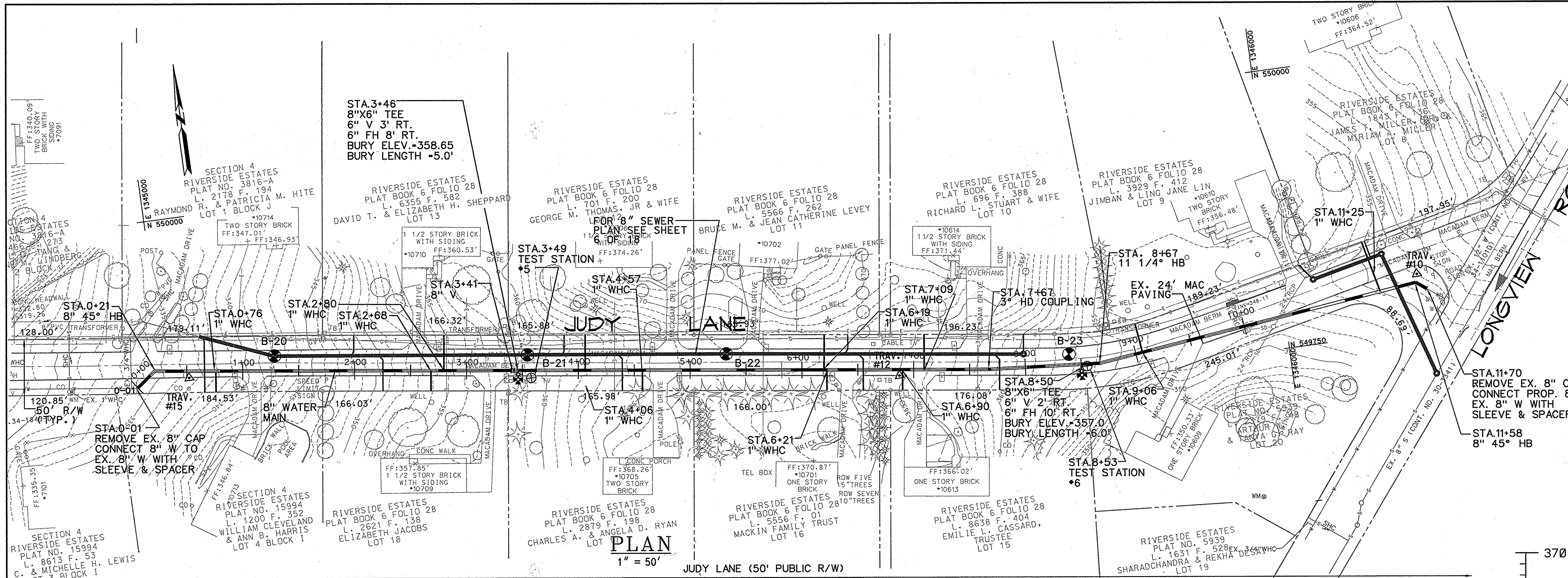
HUNTING LANE
8" WATER MAIN
PLAN AND PROFILE

HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS
CAPITAL PROJECT No. S-8251
CONTRACT No. 34-4350

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 11 OF 18

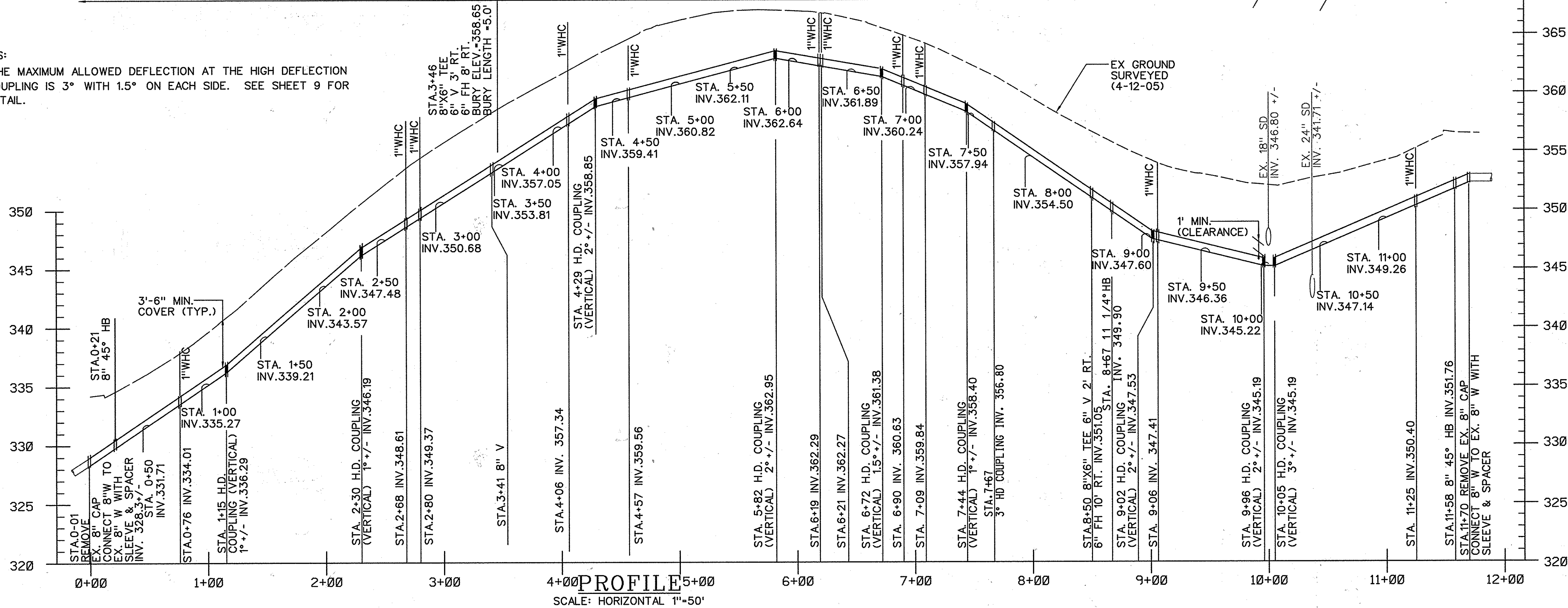
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TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#10	IRON BAR	549800.51	1346121.77	357.25
TRAV.#12	IRON BAR	549772.45	1345651.26	365.29
TRAV.#15	IRON BAR	549855.78	1345021.48	336.40

WATER MAIN STAKEOUT COORDINATE SCHEDULE				
STATION	FITTING	NORTHING	EASTING	
0-01	TIE-IN	549852.84	1344973.65	
0+21	8" 45° HB	549865.82	1344991.54	
1+15	HD COUPLING (VERTICAL)	549853.40	1345084.60	
2+30	HD COUPLING (VERTICAL)	549838.17	1345198.59	
3+46	8"X6" TEE	549822.79	1345313.81	
3+46	6" V 3'RT.	549819.30	1345313.34	
3+41	8" VALVE	549823.41	1345308.86	
4+29	HD COUPLING (VERTICAL)	549811.83	1345395.84	
5+82	HD COUPLING (VERTICAL)	549791.58	1345547.49	
6+72	HD COUPLING (VERTICAL)	549779.63	1345637.20	
7+44	HD COUPLING (VERTICAL)	549770.12	1345708.57	
7+67	HD COUPLING (HORIZONTAL)	549767.15	1345730.87	
8+50	8"X6" TEE	549760.54	1345813.21	
8+50	6" V 2'RT.	549754.36	1345813.60	
8+67	11 1/4" HB	549759.20	1345830.33	
9+02	HD COUPLING (VERTICAL)	549763.29	1345865.31	
9+96	HD COUPLING (VERTICAL)	549776.95	1345957.82	
10+05	HD COUPLING (VERTICAL)	549778.91	1345966.60	
11+58	45° HB	549793.01	1346119.76	
11+70	TIE-IN	549786.20	1346128.83	

NOTES:
 1. THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° WITH 1.5° ON EACH SIDE. SEE SHEET 9 FOR DETAIL.



AS-BUILT
 DATE 9-22-09
 REPLACEMENT SHEET

PLOTTED: 12:21 PM on Friday, October 23, 2009
 BY: Chuhua Wang, Designer, 0102, Environmental Engineering
 FILE: M:\2009\10\23\343503.dwg, Drawing: AS-BUILT, C:\DWG\Feb. 19. 2009.dwg

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James H. ... 10/23/09
 DIRECTOR OF PUBLIC WORKS DATE

Paul D. ... 10/27/09
 CHIEF, BUREAU OF ENGINEERING DATE

... 10/27/09
 CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI
 TECHNOLOGIES

10 NORTH PARK DRIVE
 HUNT VALLEY, MD 21030
 PHONE: (410) 316-7800
 FAX: (410) 316-7817
 www.kci.com

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 No. 31363

DES: GW				
DRN: CK				
CHK: TW				
DATE: DEC. 06				
BY NO.	1	REQUEST FOR INFORMATION		
		REVISION		
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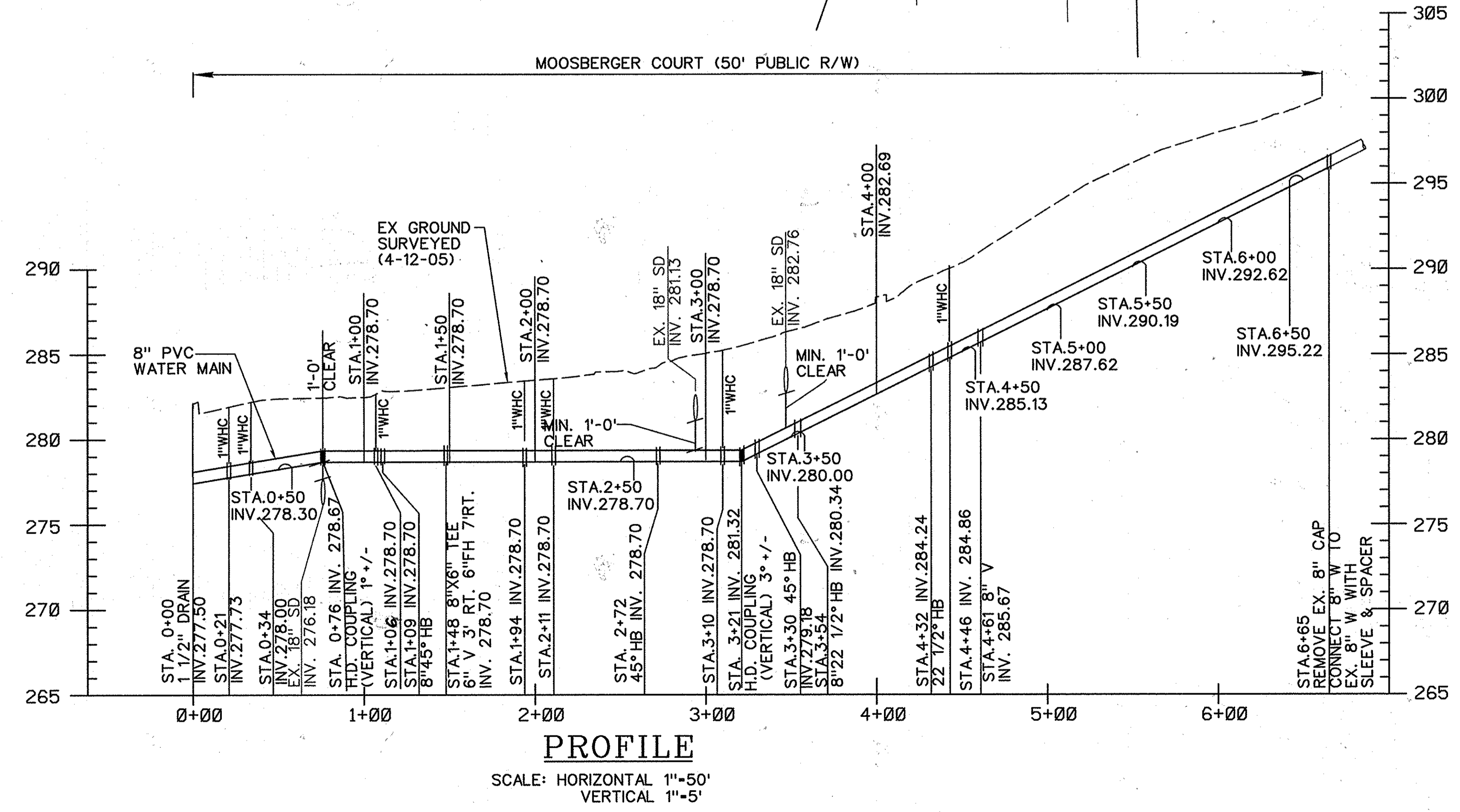
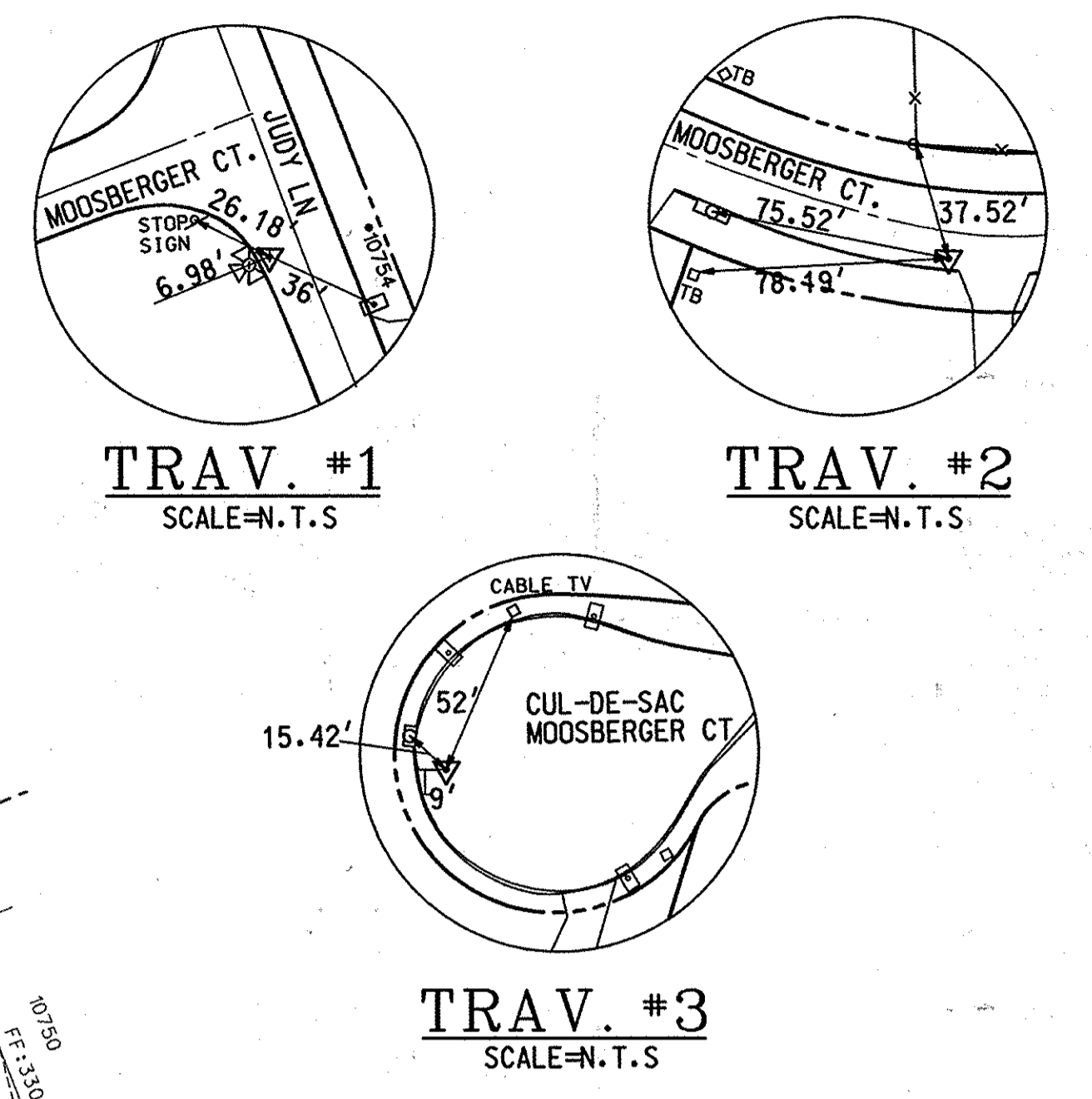
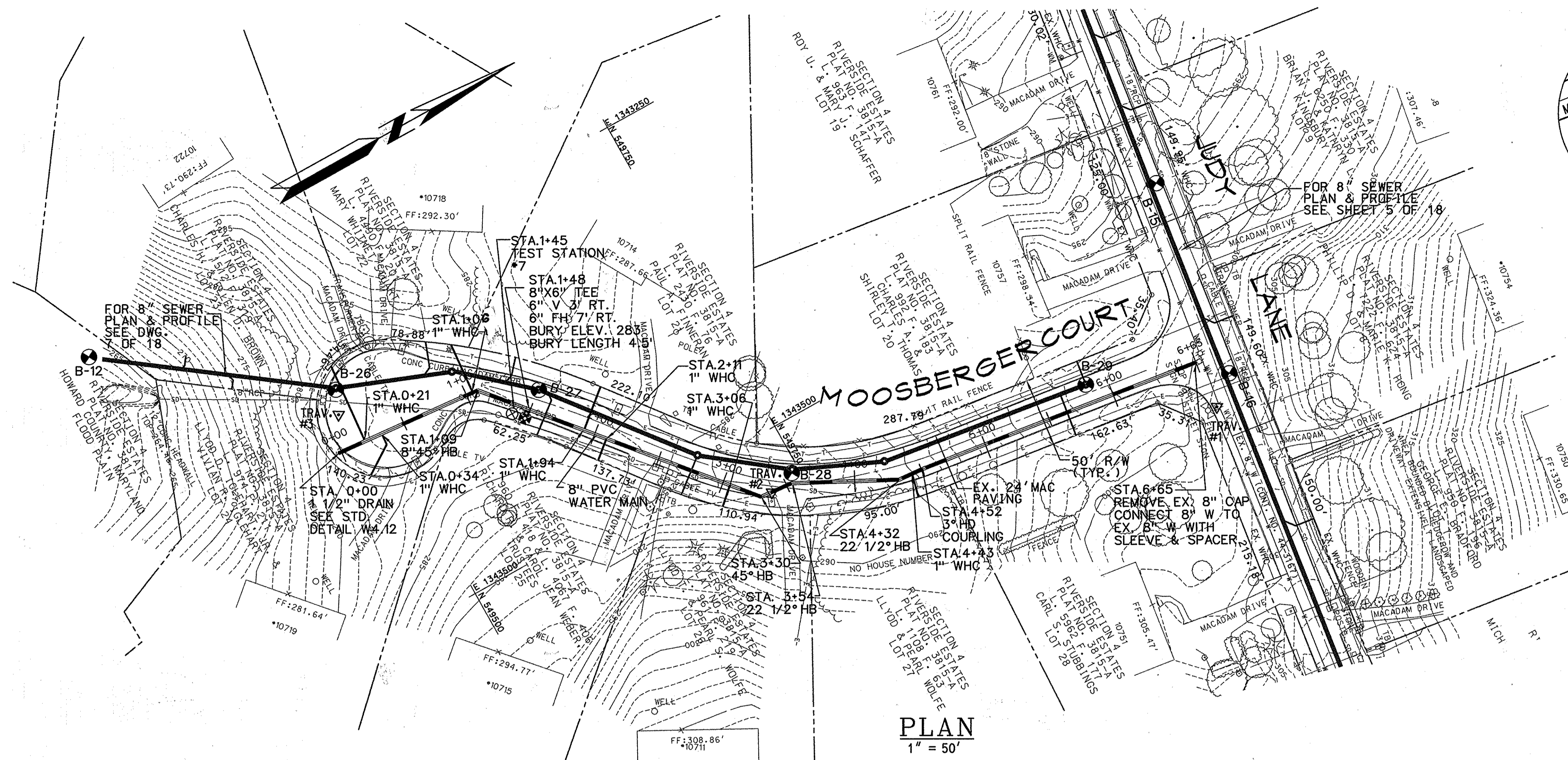
JUDY LANE
 8" WATER MAIN
 PLAN AND PROFILE

600' SCALE MAP NO. 41 BLOCK NO. 5, 6

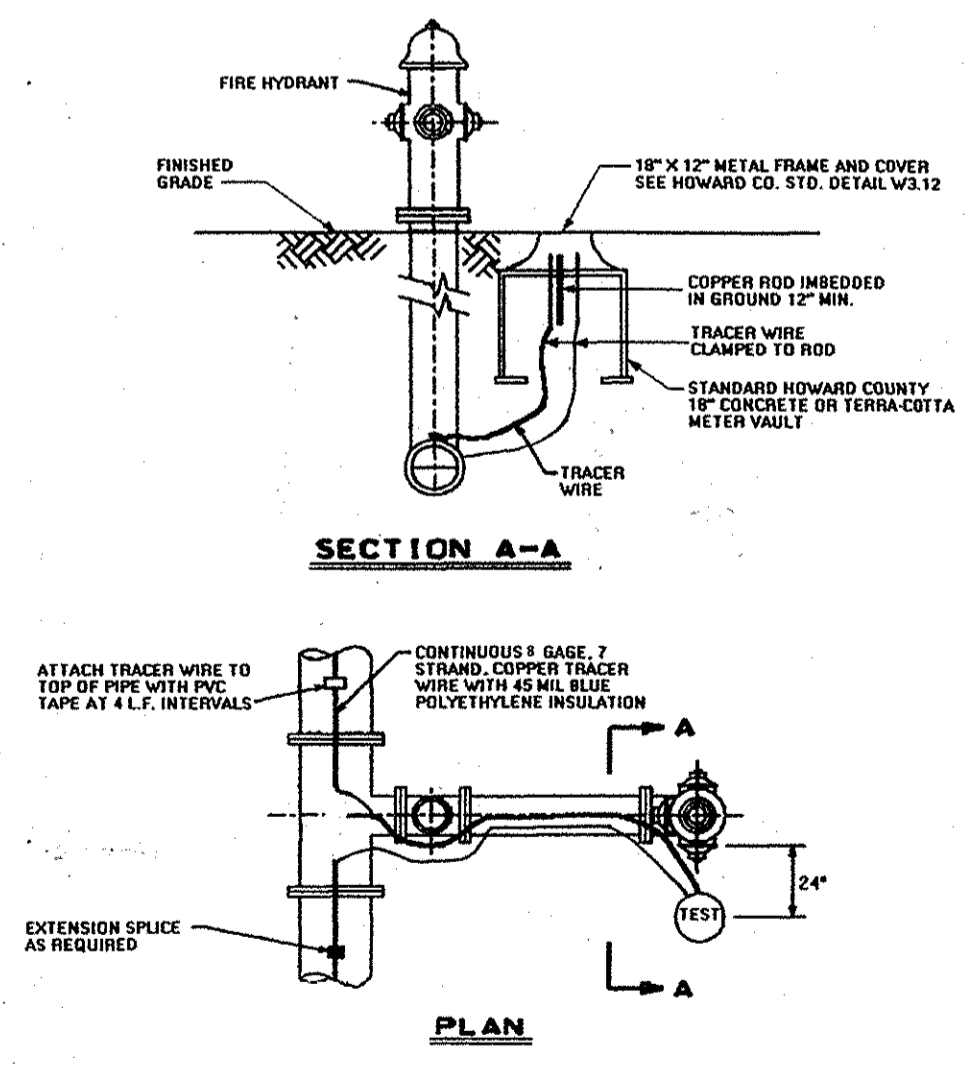
HOLIDAY HILLS / RIVERSIDE ESTATES
 WATER & SEWER MAIN EXTENSIONS
 CAPITAL PROJECT No. S-6251
 CONTRACT No. 34-4350

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 12 OF 18



NOTES:
 1. THE MAXIMUM ALLOWED DEFLECTION AT THE HIGH DEFLECTION COUPLING IS 3° WITH 1.5° ON EACH SIDE. SEE SHEET 9 FOR DETAIL.



TRAVERSE COORDINATE SCHEDULE				
NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
TRAV.#1	IRON BAR	550037.93	1343644.73	301.27
TRAV.#2	IRON BAR	549724.66	1343540.98	285.97
TRAV.#3	IRON BAR	549476.78	1343337.49	281.47

WATER MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
0+00	BLOW OFF	549464.04	1343362.05
0+76	HD COUPLING (VERTICAL)	549541.11	1343368.57
1+09	45° HB	549573.91	1343371.34
1+48	TEE	549599.32	1343401.44
1+48	6" V 3' RT.	549596.61	1343403.63
2+72	45° HB	549679.20	1343495.75
3+21	HD COUPLING (VERTICAL)	549710.70	1343533.40
3+30	45° HB	549716.32	1343540.06
3+54	22 1/2° HB	549740.31	1343542.08
4+32	22 1/2° HB	549810.10	1343578.15
4+51	HD COUPLING (HORIZONTAL)	549828.71	1343579.73
6+65	TIE-IN	550040.39	1343608.85

AS-BUILT
 DATE 9-02-2009

PLOTTED: 10:25 PM on Monday, August 27, 2007
 BY: Chandra Kanta Division: Environmental Engineering
 FILE: H:\2007\0824\34350\34350.dwg, 10/27/07 10:25 PM

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 9/1/09
 DIRECTOR OF PUBLIC WORKS
 DATE

[Signature] 8-31-07
 CHIEF OF ENGINEERING
 DATE

[Signature] 8-31-07
 CHIEF, UTILITY DESIGN DIVISION
 DATE

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI
 TECHNOLOGIES

10 NORTH PARK DRIVE
 HUNT VALLEY, MD 21030
 PHONE: (410) 316-7800
 FAX: (410) 316-7817
 www.kci.com

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
[Signature]
 DATE 8/29/07

DES: GW					
DRN: CK					
CHK: TW					
DATE: DEC. 06					
BY NO.					
REVISION					

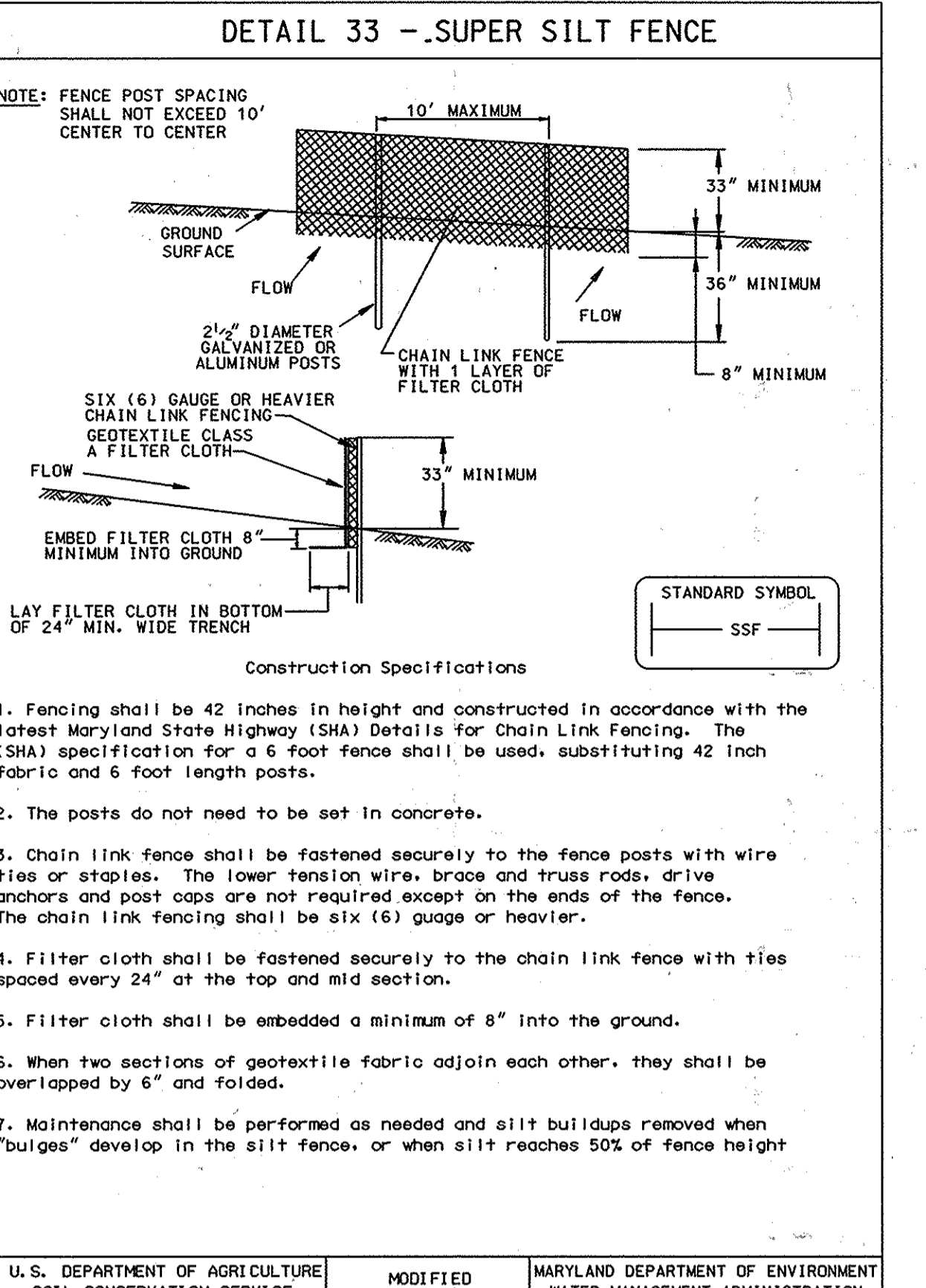
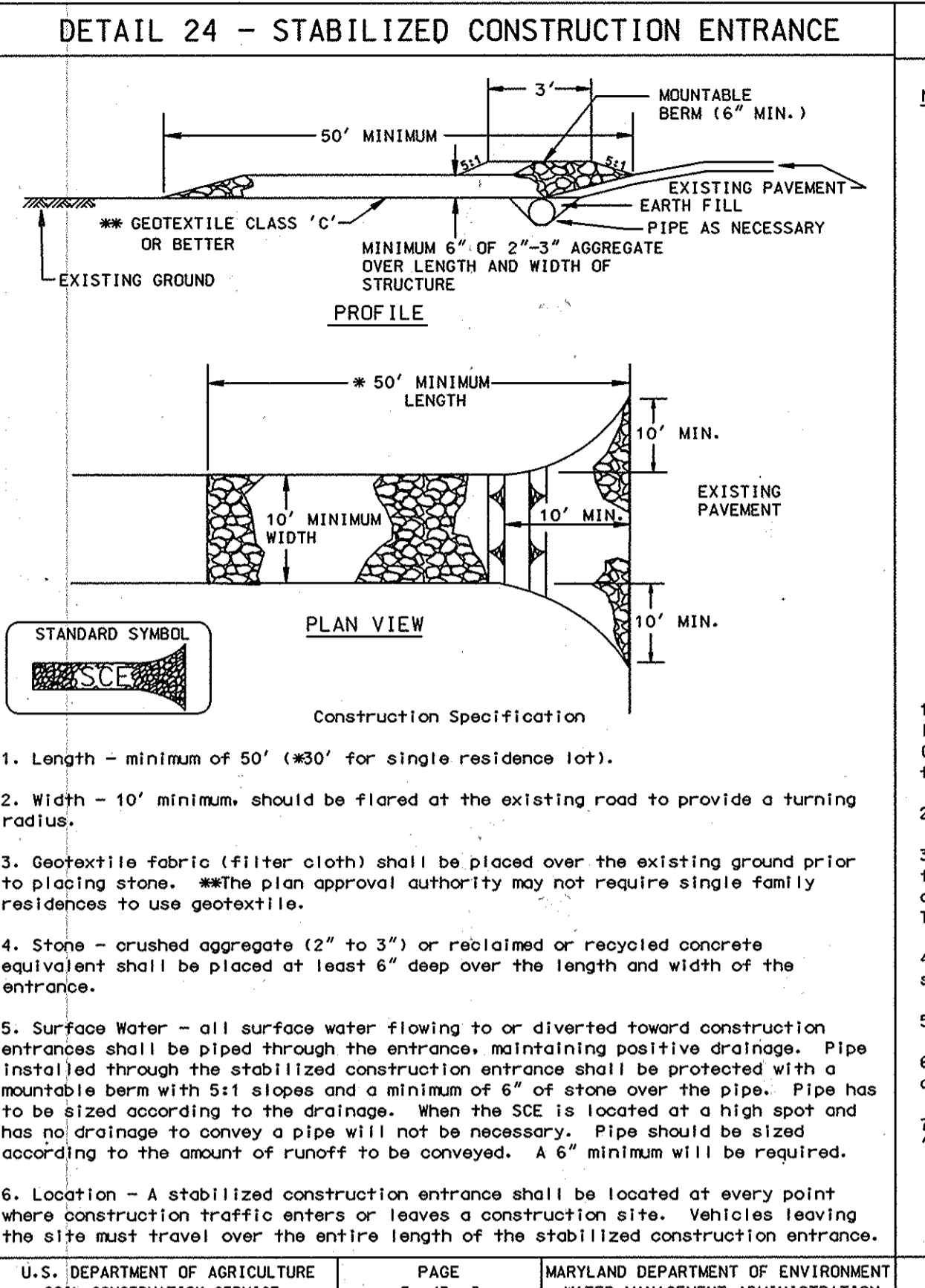
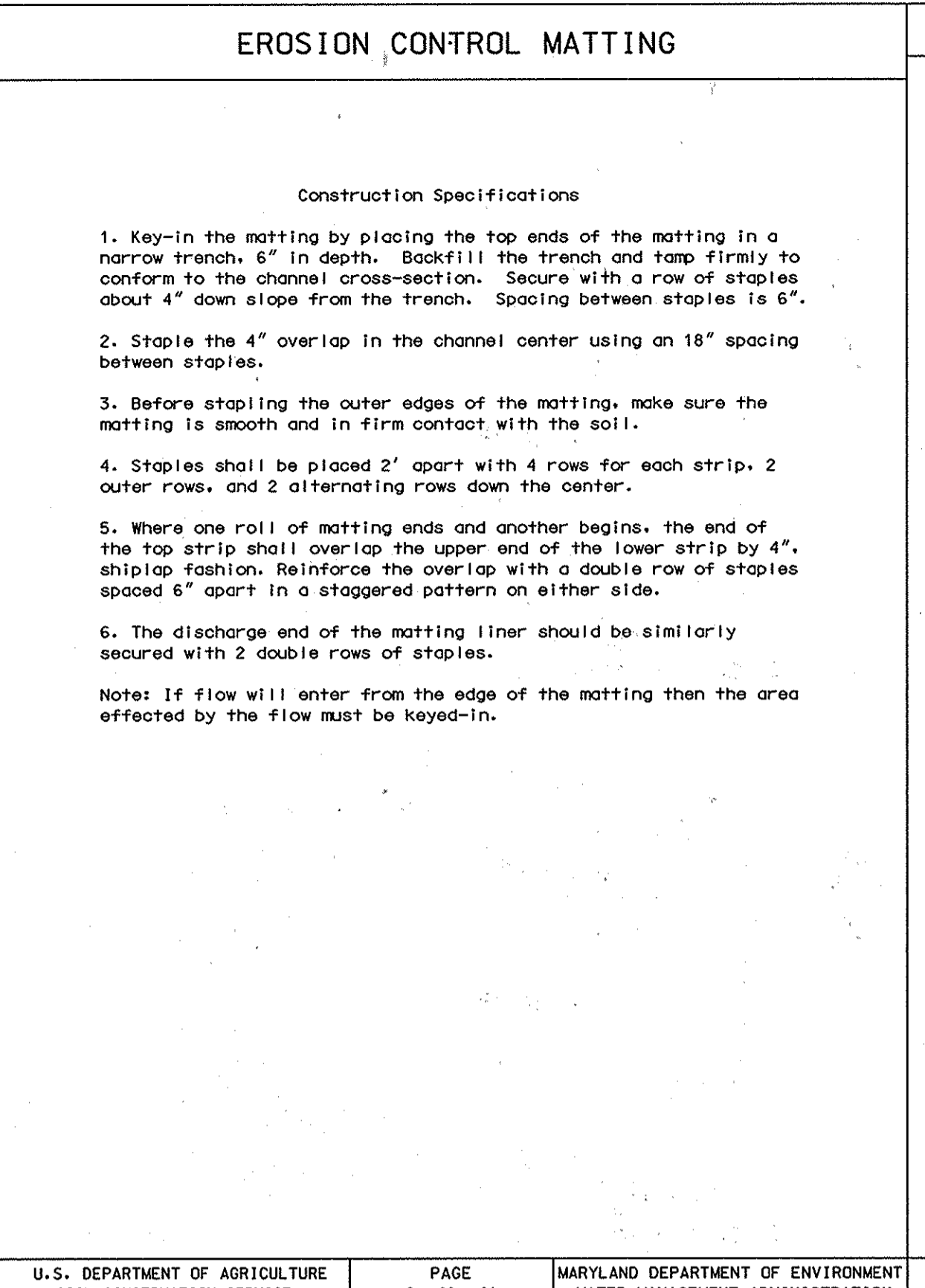
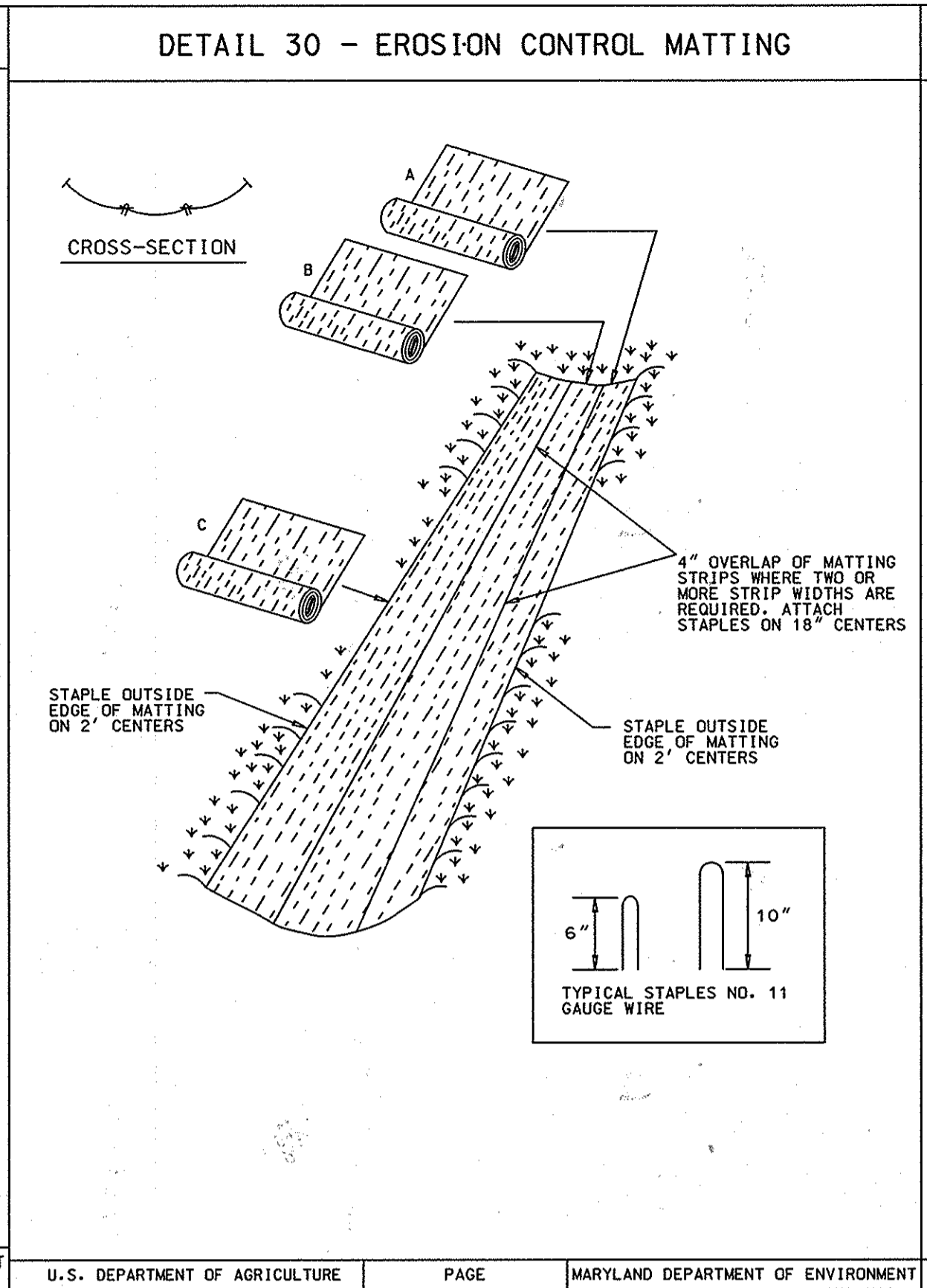
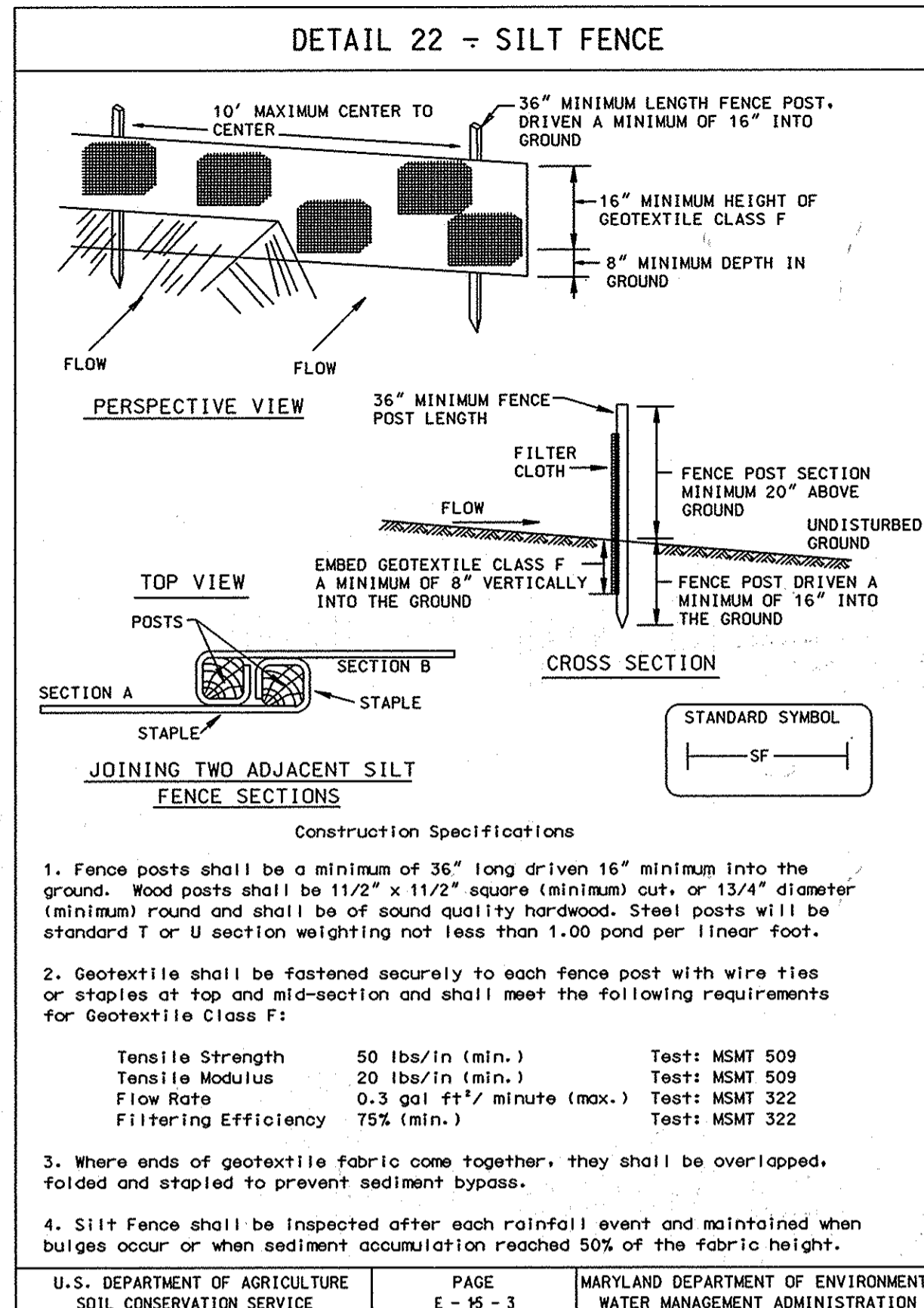
MOOSBERGER COURT
 8" WATER MAIN
 PLAN AND PROFILE

600' SCALE MAP NO. 41 BLOCK NO. 5.6

HOLIDAY HILLS / RIVERSIDE ESTATES
 WATER & SEWER MAIN EXTENSIONS
 CAPITAL PROJECT No. S-6251
 CONTRACT No. 34-4350

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 13 OF 18



PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.95 LBS/1000 SQ FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOO. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

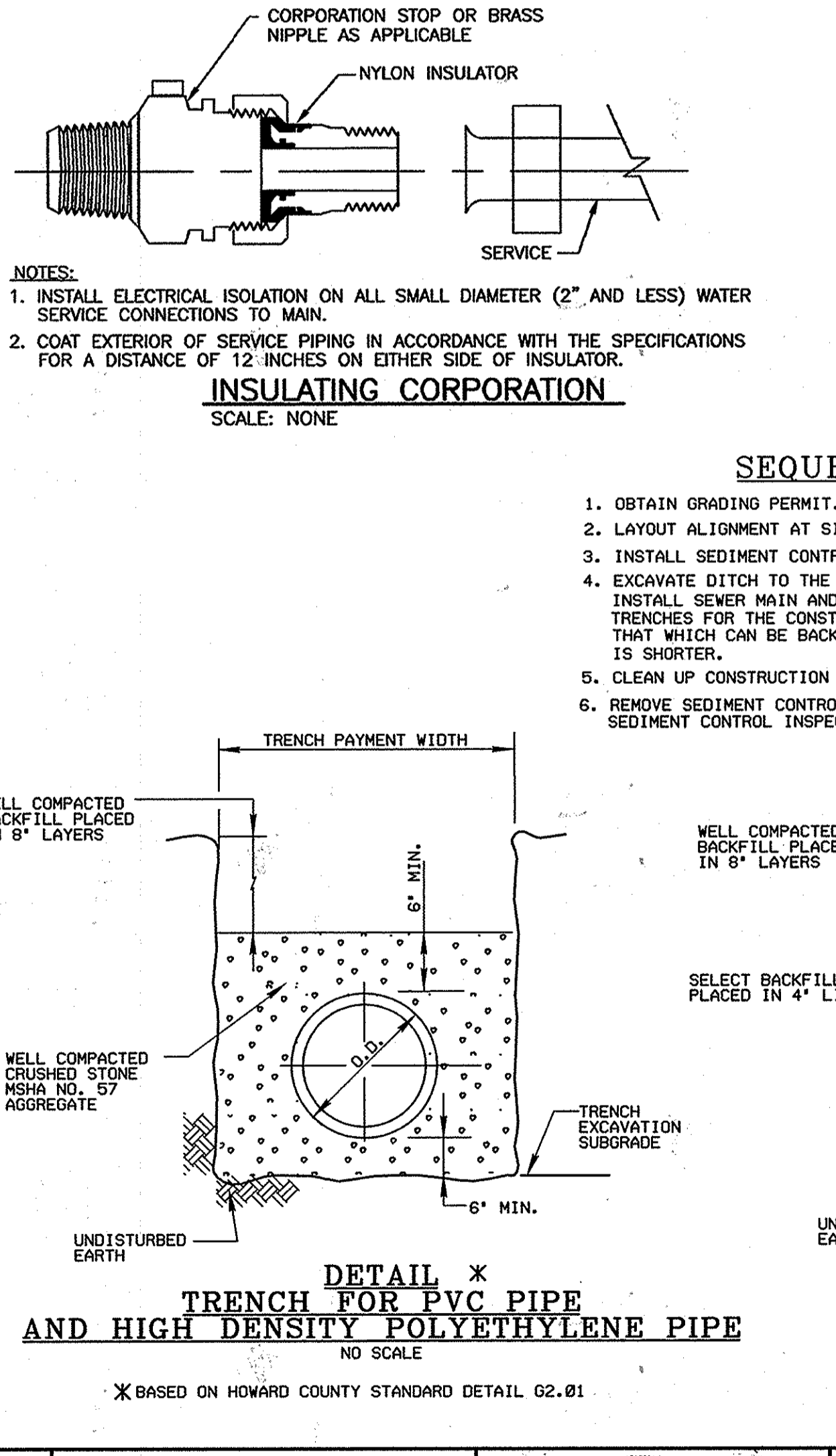
SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: - APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.).

SEEDING: - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

MULCHING: - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (913-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDER DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (SEC. G20.0) FOR PERMANENT SEEDINGS, SOO, TEMPORARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	N/A	ACRES	
AREA DISTURBED	1.05	ACRES	
AREA TO BE ROOFED OR PAVED	0.93	ACRES	
AREA TO BE VEGETATIVELY STABILIZED	0.12	ACRES	
TOTAL CUT	N/A	CU. YDS.	
TOTAL FILL	N/A	CU. YDS.	
OFFSITE WASTE/BORROW AREA LOCATION	N/A		
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF THE DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CONTRACTOR SHALL PLACE EXCAVATED MATERIALS ON UPHILL SIDE OF TRENCH AND PLACE SILT FENCE ON DOWNHILL SIDE OF TRENCH.

AS-BUILT

DATE 9-02-2009

BEST MANAGEMENT PRACTICE (BMP) NOTES

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINAL AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (Avena sp.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM.
- USE 1 WATER* IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAYS.
- CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

DEVELOPER'S CERTIFICATION

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 COUNTY SEDIMENT CONTROL DISTRICT.

Thomas & Buttle 8/31/07 DATE
Act. BUREAU OF ENGINEERING DEPARTMENT OF PUBLIC WORKS

ENGINEER'S CERTIFICATION

I/WE 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 COUNTY SEDIMENT CONTROL DISTRICT.

John K. Roberts 9-7-07 DATE
KCI TECHNOLOGIES INC 10 NORTH PARK DRIVE HUNT VALLEY, MD 21030
U.S. NATURAL RESOURCES CONSERVATION SERVICE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

Jim Mayne 9-7-07 DATE
U.S. NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION & SEDIMENT CONTROL BY THE HOWARD COUNTY SEDIMENT CONTROL DISTRICT.

John K. Roberts 9-7-07 DATE
HOWARD S.C.D.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John K. Roberts 8-31-07 DATE
DIRECTOR OF PUBLIC WORKS

Thomas & Buttle 8-31-07 DATE
ACT. CHIEF, BUREAU OF ENGINEERING

John K. Roberts 8-31-07 DATE
CHIEF, UTILITY DESIGN DIVISION

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM

STATE OF MARYLAND
OFFICE OF THE COMPTROLLER
GENERAL ACCOUNTS

John K. Roberts 8/29/07

DES: GW					
DRN: CK					
CHK: TW					
DATE:					
DEC. 06	BY NO.	REVISION	DATE	600' SCALE MAP NO. 41	BLOCK NO. 5, 6

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS
CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350

ELECTION DISTRICT No. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 14 OF 18

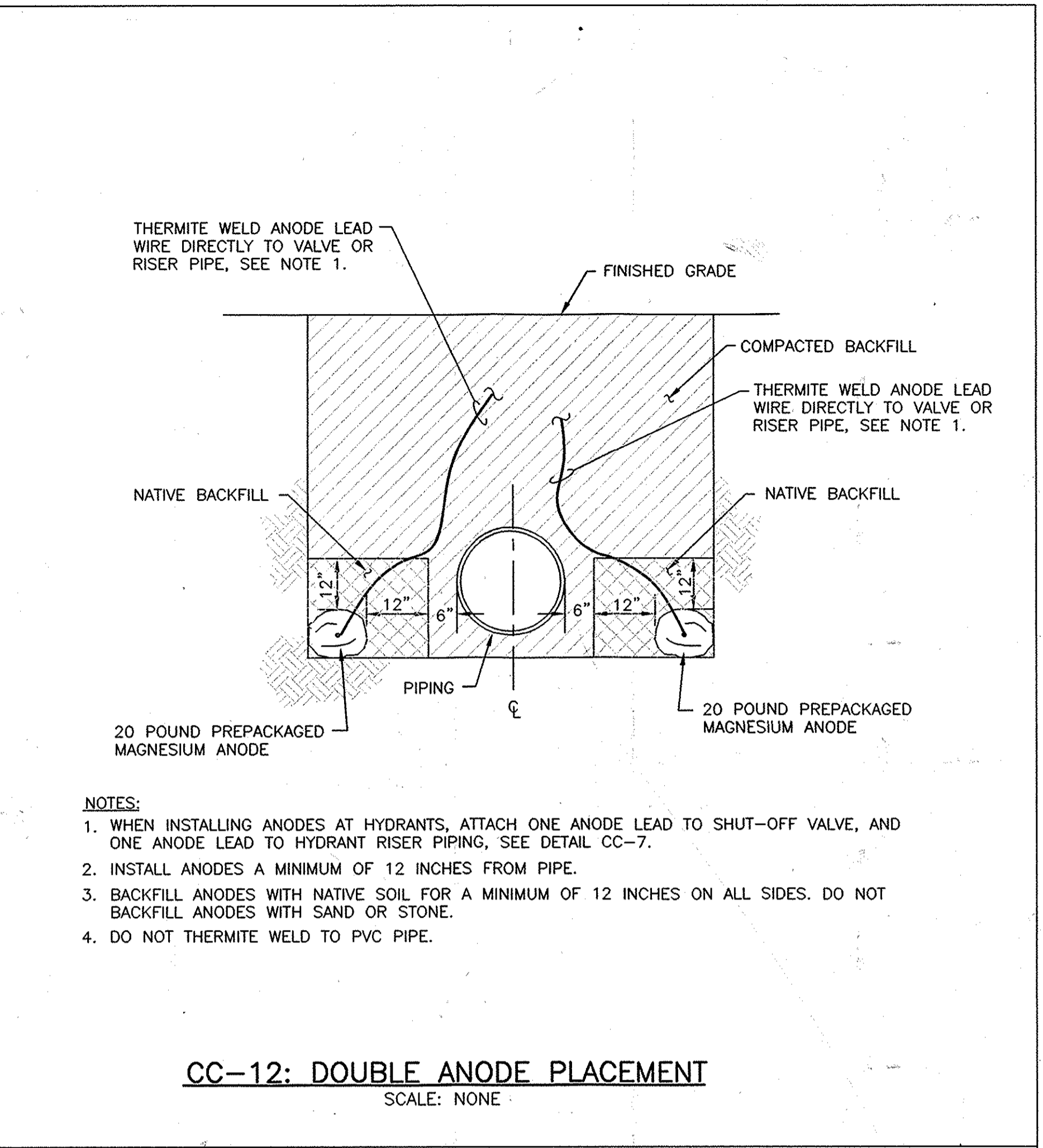
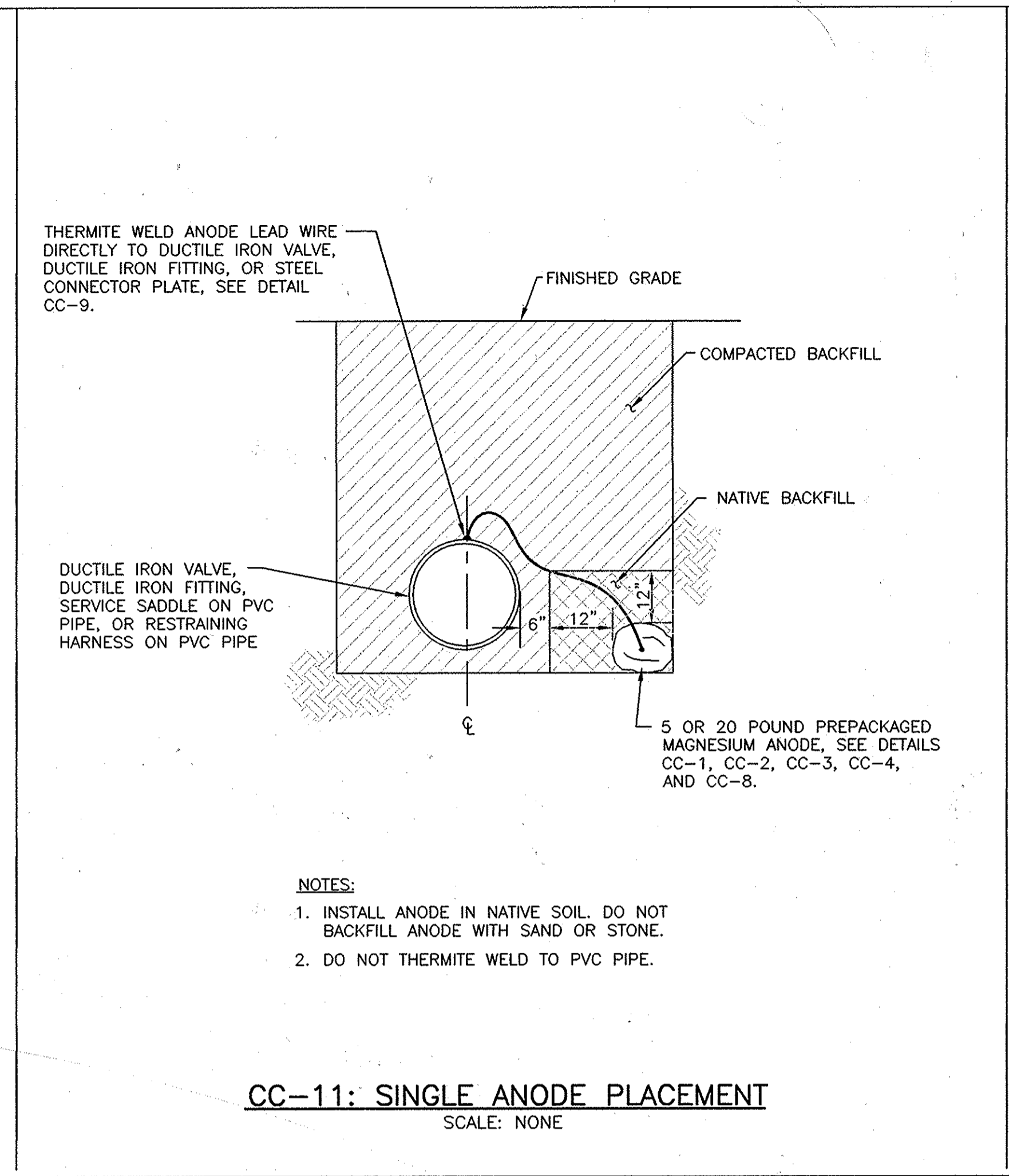
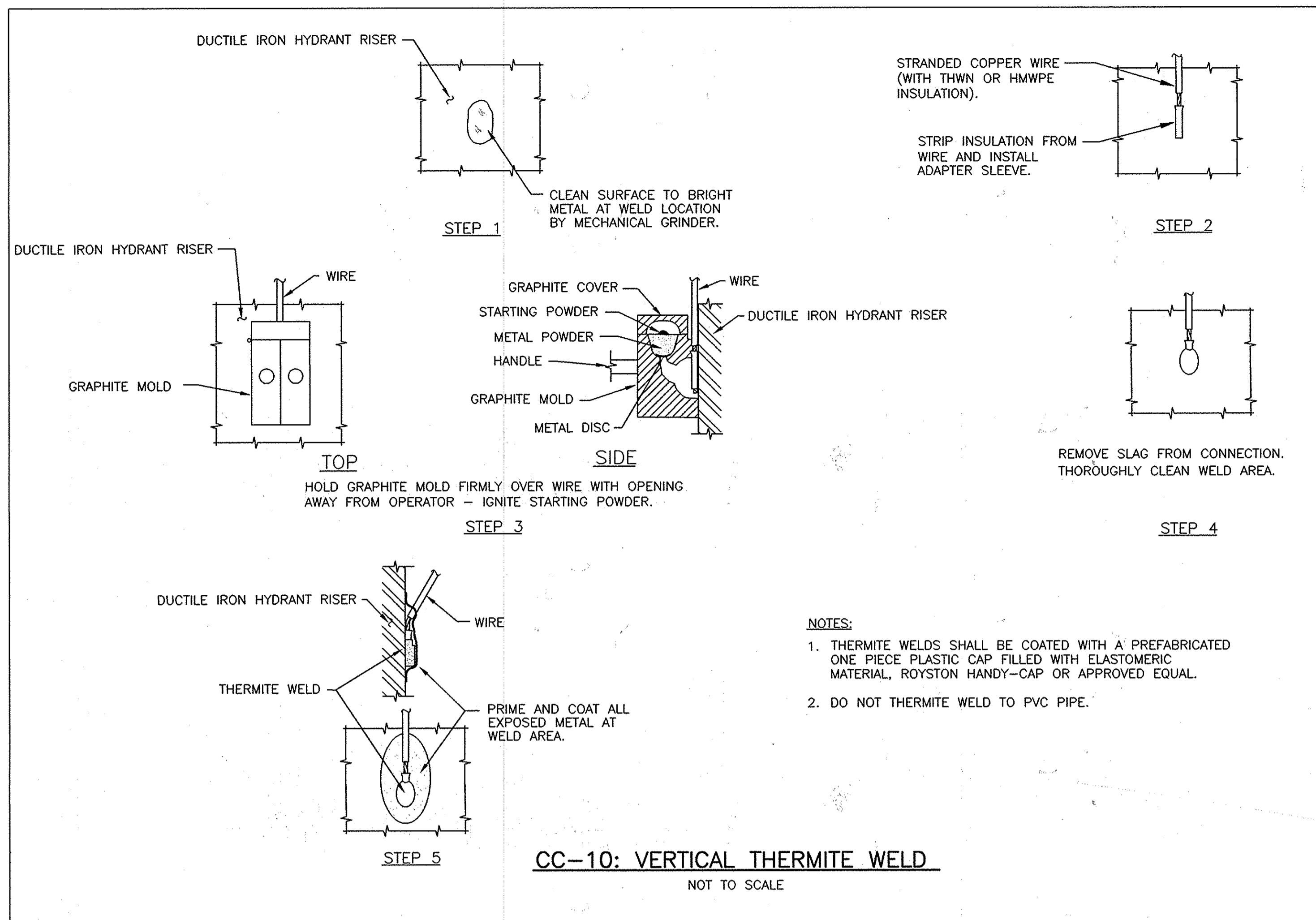
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John K. Roberts 8-31-07 DATE
DIRECTOR OF PUBLIC WORKS

Thomas & Buttle 8-31-07 DATE
ACT. CHIEF, BUREAU OF ENGINEERING

John K. Roberts 8-31-07 DATE
CHIEF, UTILITY DESIGN DIVISION

PLOTTED: 02:26 PM on Monday, August 27, 2007
BY: Chandra, Kanta Division: Environment/Engineering
FILE: M:\3300A\03034963.dwg & Drawing: 3303.dwg



THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIOUS CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

AS-BUILT
DATE 9-02-2009



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 9/4/07
BUREAU OF UTILITIES

Chief, Bureau of Engineering: *[Signature]* 8-31-07
Chief, Utility Design Division: *[Signature]* WRD DATE

KCI TECHNOLOGIES
10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland

DES: MJS					
DRN: JCS/DJD					
CHK: MJS					
DATE: AUG. 07	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 41 BLOCK NO. 5, 6

**CORROSION CONTROL
DETAILS 3**

**HOLIDAY HILLS / RIVERSIDE ESTATES
WATER & SEWER MAIN EXTENSIONS**
CAPITAL PROJECT No. S-6251
CONTRACT No. 34-4350
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE: NONE
SHEET: 18 OF 18