

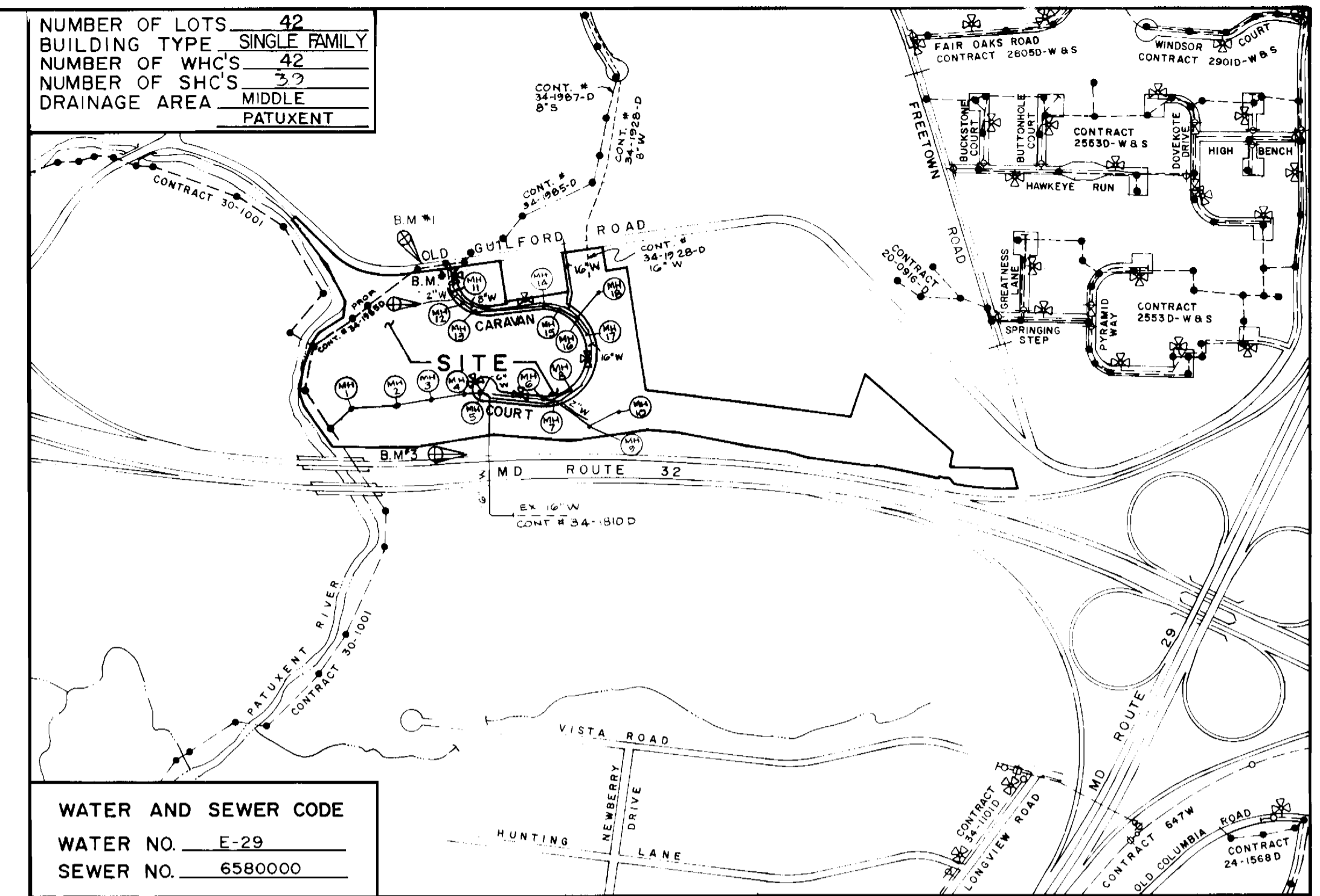
**BENCHMARKS**

BENCHMARK #1 G & E POLE #480111  
R.R. SPIKE, YELLOW FLAGGING  
ELEV=306.52

BENCHMARK #2 TELEPHONE POLE (C&P #95)  
R.R. SPIKE YELLOW FLAGGING  
ELEV=310.17

BENCHMARK #3 SIGN POLE ON  
NORTH SHOULDER  
R.R. SPIKE BLUE FLAGGING  
ELEV=355.37

NUMBER OF LOTS 42  
BUILDING TYPE SINGLE FAMILY  
NUMBER OF WHC'S 42  
NUMBER OF SHC'S 32  
DRAINAGE AREA MIDDLE  
PATUXENT



**WATER AND SEWER CODE**  
WATER NO. E-29  
SEWER NO. 6580000

**VICINITY MAP**  
SCALE: 1" = 600'

# CONTRACT NO. 34-1928-D PATUXENT RUN

VILLAGE OF HICKORY RIDGE SECTION 6, AREA 4

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

**GENERAL NOTES**

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- 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 THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY 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 DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, 1989 AMENDMENTS. STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION 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 UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - STATE HIGHWAY ADMINISTRATION - 531-5533
  - BALTIMORE GAS & ELECTRIC CO. CONTRACTOR SERVICES 551-2585
  - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL - 234-5621
  - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING - 298-9013
  - MISS UTILITY - 1-559-0100
  - COLONIAL PIPELINE CO. - 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
- 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.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTIONS 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G. 5.52 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
- ALL WATER CONNECTIONS SHALL BE SET FOR INSIDE METER SETTING.
- ALL SINGLE WHC'S SHALL BE 3/4" ALL DOUBLE WHC'S SHALL BE 1" UNLESS OTHERWISE NOTED.
- ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE EXISTING ZONING OF SITE IS NEW TOWN.
- THE SITE SHOWN HEREON IS OWNED BY HOWARD RESEARCH AND LAND DEVELOPMENT CORPORATION AND RECORDED AMONG THE LAND RECORDS IN LIBER 1535 FOLIO 193.

REFERENCE PLANS: FDP-206,  
F-90-91 AND SDP-90-134  
REVISED BY HOWARD COUNTY AND  
MIDDLEBURY COLLEGE SURVEYORS

*James M. Hester 3-19-90*

*John E. Harms 3/19/90*

SEDIMENT CONTROL MEASURES WILL BE  
IMPLEMENTED IN ACCORDANCE WITH  
SECTION 219 OF THE SPECIFICATIONS AND  
WITH THE ROAD CONSTRUCTION PLANS  
F-90-91.

QUANTITIES				QUANTITIES CONTINUE			
ITEM	QUANTITY	AS-BUILT	SUPPLIER	ITEM	QUANTITY	AS-BUILT	SUPPLIER
1" WHC	323 LF	325	A & P. Water	FIRE HYDRANT	5	5	Bel Air Rd. Supp - HUBER
3/4" W.H.C.	1418 LF	1864		8" X 8" FHT	3	3	" " " "
6" WATER	138 LF	177	Griffin Pipe	16" X 8" FHT	3	3	" " " "
8" WATER	554 LF	713	" " "	16" X 16" TEE	1	2	A & P. Water
12" WATER	10 LF	None	" " "	6" 1/8 BEND	1	1	" " " "
16" WATER	1,999 LF	1,941	" " "	2" WATER	410 LF	442	" " " "
16" 1/16 BEND	12	12	" " "	6" X 1" FHT	1	1	Bel Air Rd. Supp
16" 1/8 BEND	5	5	" " "				
6" VALVE	6	6	Bel Air Rd. Supp.				
8" VALVE	1	1	" " "				
16" R.S. VALVE	2	2	" " "	8" D.I.P.	178 LF	178	Griffin
16" X 8" REDUCER	2	2	Griffin Pipe	4" D.H.C.	55 LF	1200	Municipal & Govt. - H&E
16" X 6" REDUCER	1	1	" " "	4" S.H.C.	1,152 LF		" " " "
8" 1/16 BEND	1	1	" " "	8" SEWER	2,875 LF	2,853	" " " "
36" CASING	74 LF	91	" " "	MANHOLES	18	18	Atlantic

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert Bevinger 3-19-90*

*John E. Harms 3/19/90*

JOHN E. HARMS JR.  
AND ASSOCIATES INC.  
ENTIRE PARK DRIVE SUITE 208  
UMHIA, MARYLAND 21045  
PHONE (301) 740-5200



PER HOWARD COUNTY COMMENTS  
PER HOWARD COUNTY COMMENTS  
REVISED QUANTITY CHART

DATE 9-29-89

TITLE SHEET

DATE 600 SCALE 30' NO 35 & 41

PATUXENT RUN  
PHASE 206

TAX MAP 35 PARCELS 25, 110 & 112  
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

AS-BUILT 11-29-90 14/24/90

AS SHOWN  
1 OF 6

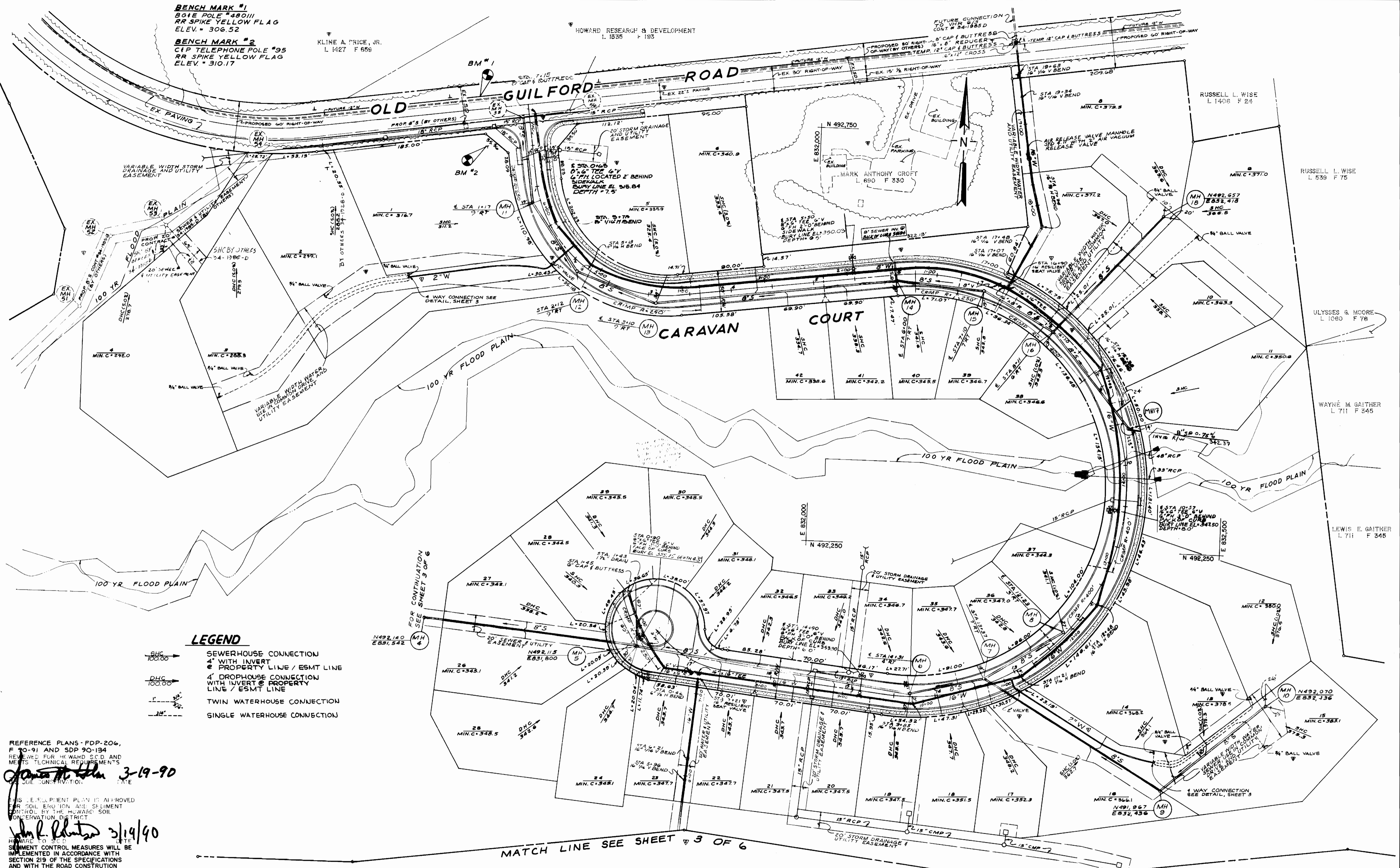


**BENCH MARK #1**  
 80' E POLE #480111  
 RR SPIKE YELLOW FLAG  
 ELEV. = 306.52

**BENCH MARK #2**  
 CIP TELEPHONE POLE #95  
 RR SPIKE YELLOW FLAG  
 ELEV. = 310.17

KLINE A. PRICE, JR.  
 L. 1427 F 658

HOWARD RESEARCH & DEVELOPMENT  
 L. 1535 F 193



**LEGEND**

- SHC- SEWERHOUSE CONNECTION  
 4" WITH INVERT  
 @ PROPERTY LINE / ESMT LINE
- DHC- DROPHOUSE CONNECTION  
 WITH INVERT @ PROPERTY  
 LINE / ESMT LINE
- T- TWIN WATERHOUSE CONNECTION
- S- SINGLE WATERHOUSE CONNECTION

REFERENCE PLANS - FDP-206,  
 F-90-91 AND SDP-90-134  
 REVIEWED FOR HOWARD SCD AND  
 MEETS TECHNICAL REQUIREMENTS  
*James H. Harms* 3-19-90  
 DATE

THIS DEVELOPMENT PLAN IS APPROVED  
 FOR SOIL EROSION AND SLIDEMENT  
 CONTROL BY THE HOWARD SOIL  
 CONSERVATION DISTRICT  
*John P. Roberts* 3/19/90  
 DATE  
 HOWARD SCD  
 SLIDEMENT CONTROL MEASURES WILL BE  
 IMPLEMENTED IN ACCORDANCE WITH  
 SECTION 219 OF THE SPECIFICATIONS  
 AND WITH THE ROAD CONSTRUCTION  
 PLANS F-90-91.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James H. Harms* 3-20-90  
 DIRECTOR OF PUBLIC WORKS DATE

*John P. Roberts* 3-19-90  
 CHIEF, BUREAU OF ENGINEERING DATE

*John P. Roberts* 3-19-90  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

JOHN E. HARMS JR.  
 AND ASSOCIATES INC.  
 CONSULTING ENGINEERS, PLANNERS - SURVEYORS  
 8818 CENTRE PARK DRIVE SUITE 208  
 COLUMBIA, MARYLAND 21045  
 TELEPHONE (301) 740-5200



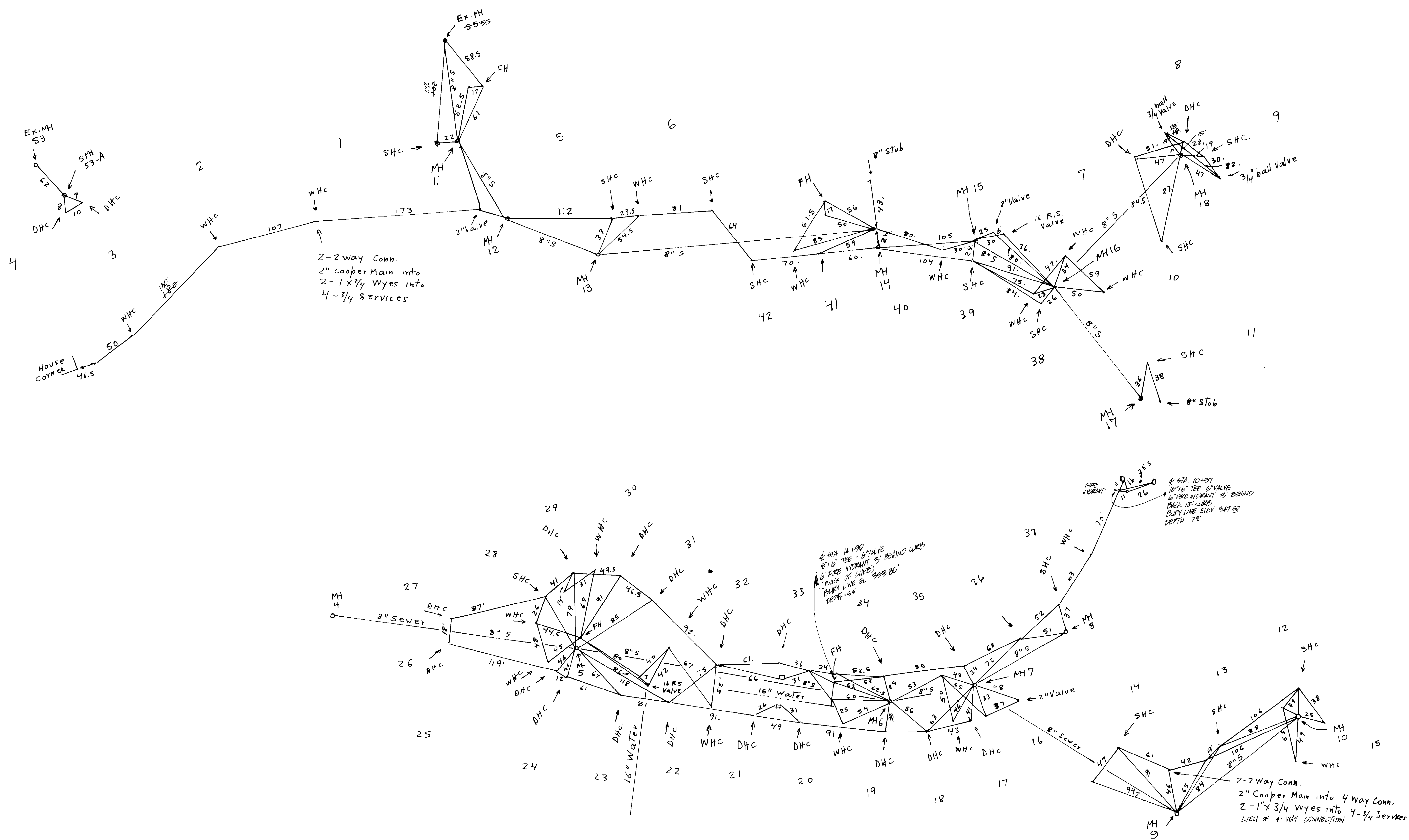
DES T.A.B.	DGH	PER HOWARD COUNTY COMMENTS	12/22/89
	DGH	REVISE BOUNDARY	1/12/90
DRN C.A.G.	DGH	PER HOWARD COUNTY COMMENTS	2/19/90
	WEO	PER REDLINE REVISION	4/19/90
CHK R.H.V.	HRM	EXTEND SEWER MH 17, LOWER SEWER BETWEEN MH 15 & 17	5/21/90
DATE: 9-29-89	BY NO.	REVISION	DATE

PLAN-WATER AND SEWER MAINS

600' SCALE MAP NO. 35 B 41

PATUXENT RUN  
 VILLAGE OF HICKORY RIDGE SECTION 6, AREA 4  
 5th ELECTION DISTRICT HOWARD COUNTY, MD.  
 CONTRACT # 34-1928-D

SCALE  
 1" = 50'  
 SHEET  
 2 OF 6



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS \_\_\_\_\_ DATE \_\_\_\_\_  
CHIEF, BUREAU OF ENGINEERING \_\_\_\_\_ DATE \_\_\_\_\_

J.U.  
EBA. ENG. INC.

DES:				
DRN:				
CHK:				
DATE:	BY	NO.	REVISION	DATE

AS BUILT  
WATER AND SEWER MAINS

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

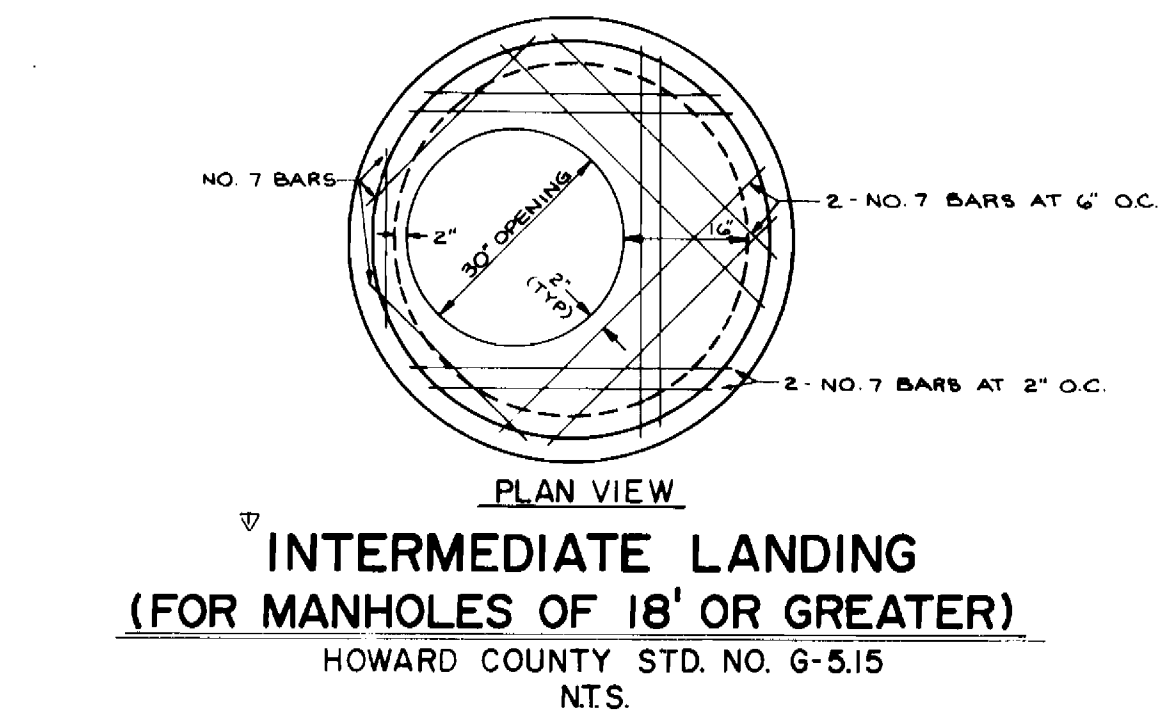
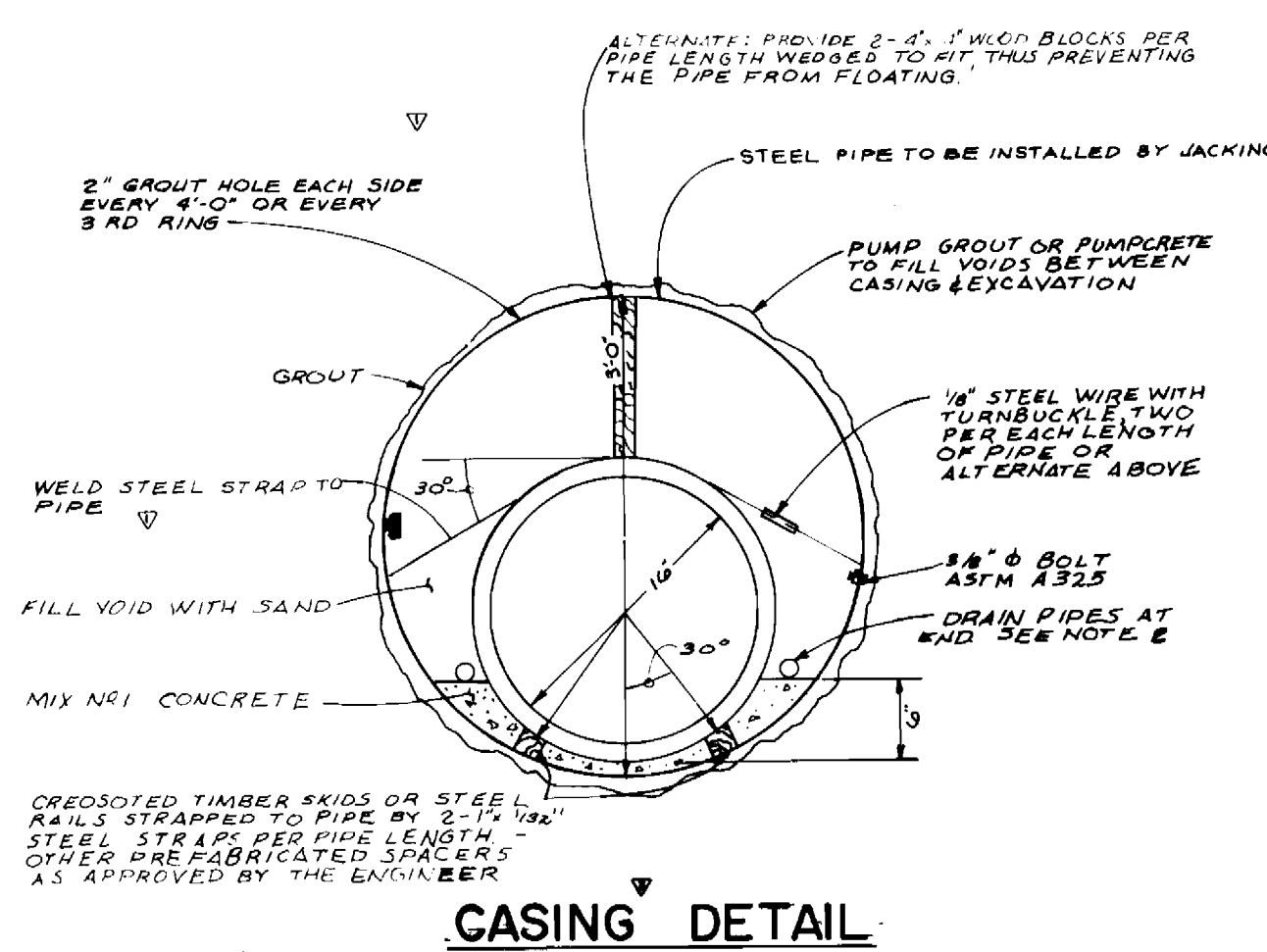
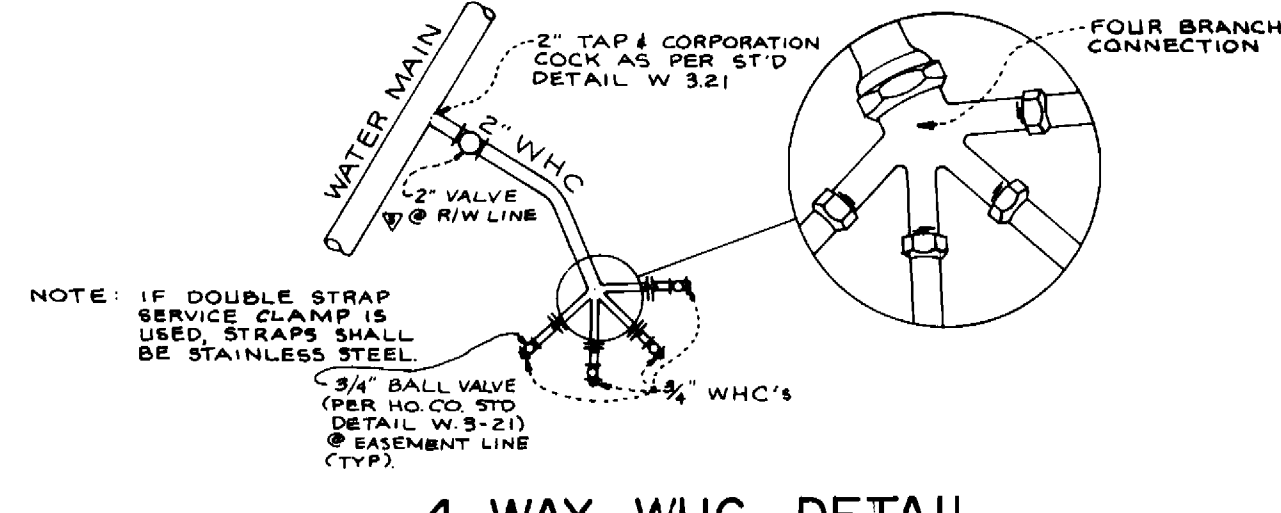
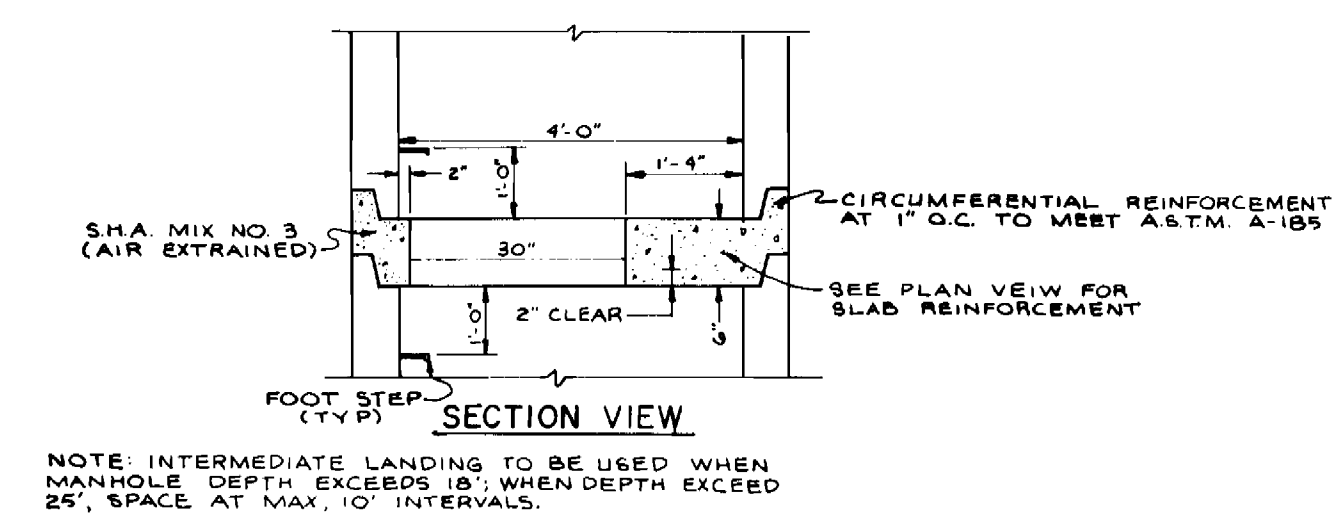
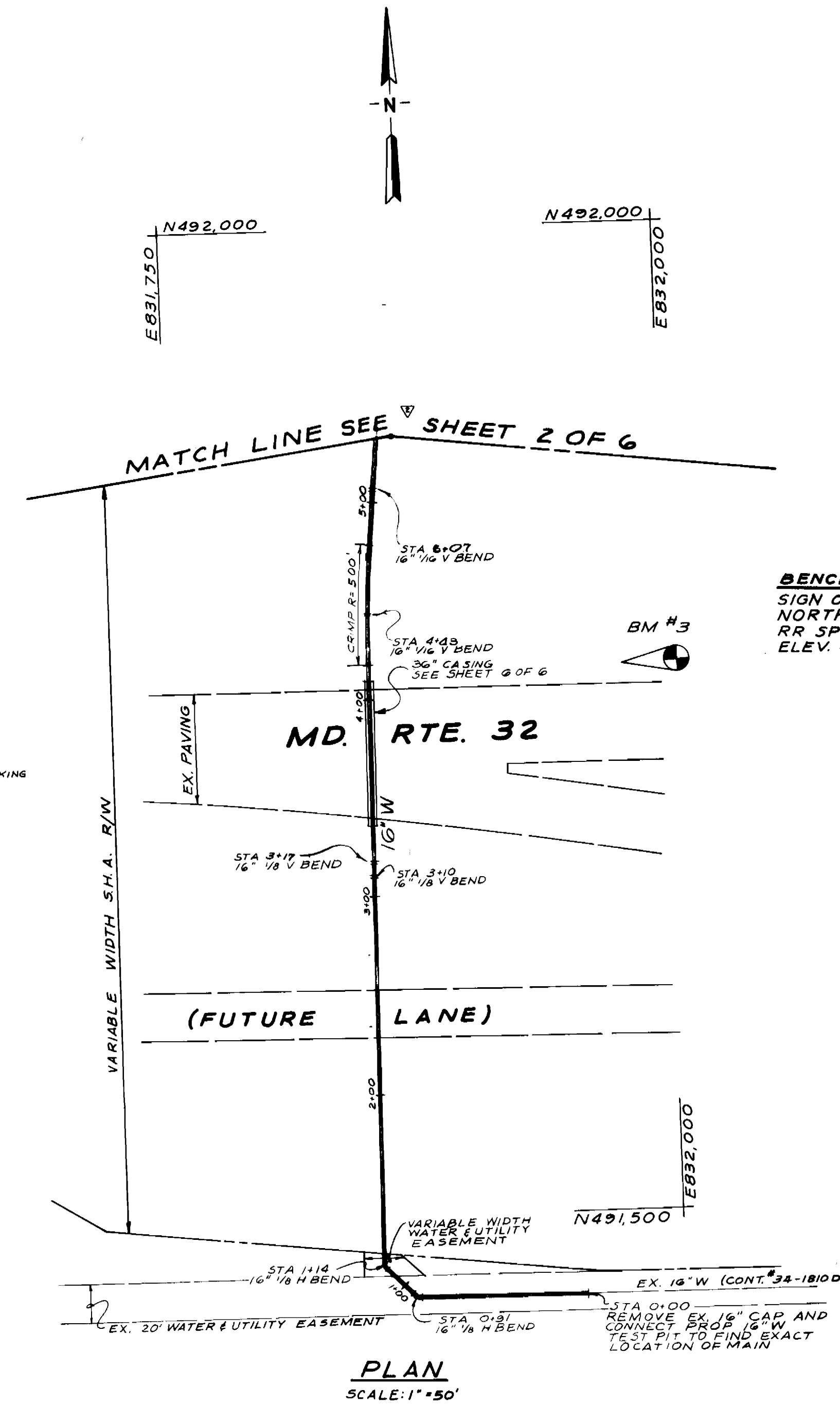
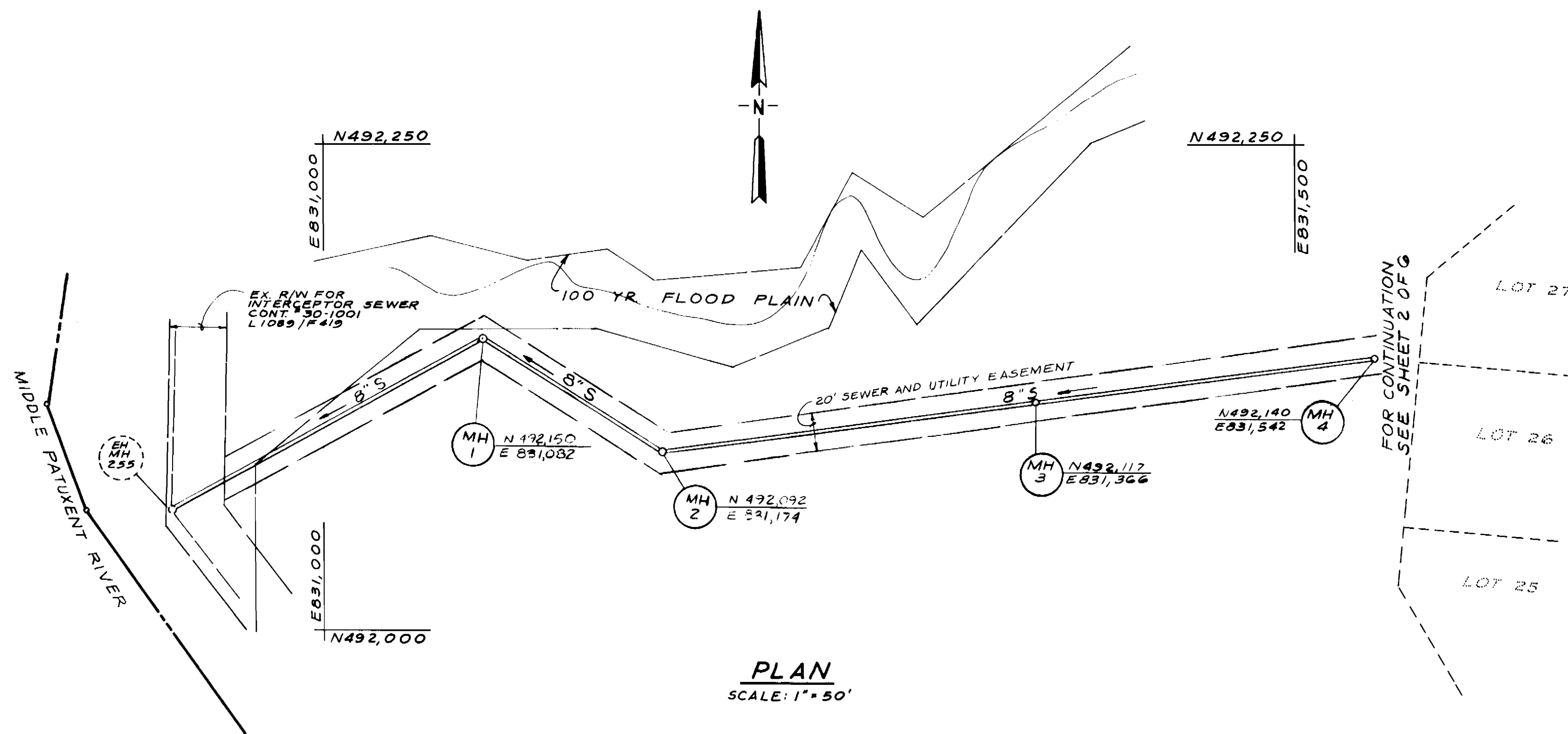
PATUXENT RUN  
VILLAGE OF HICKORY RIDGE S6, A4

CONT. # 34-1928-D

SCALE  
AS  
SHOWN

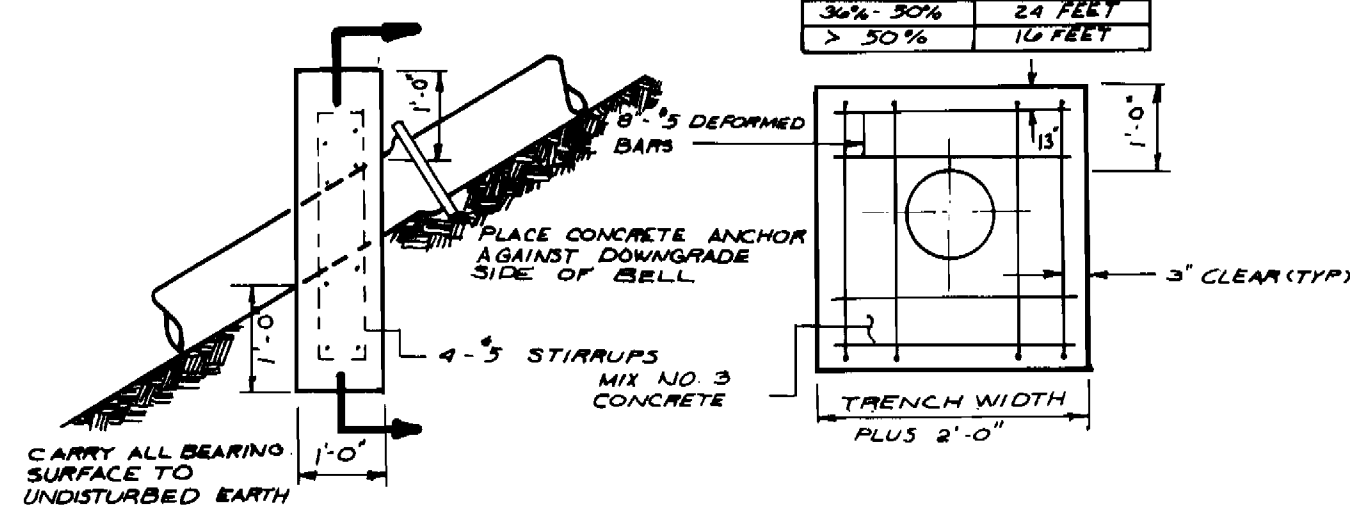
SHEET  
2 OF 6



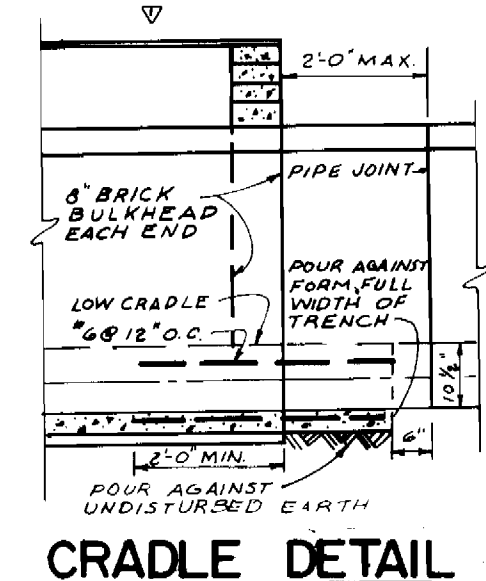


NOTES:  
1. WHEN PIPE SLOPE EXCEEDS 20%  
USE 'CIP' OR 'DIP' ONLY.

MAX ALLOWABLE SLOPE	SLOPE	SPACING
10% - 30%	36 FEET	
30% - 50%	24 FEET	
> 50%	10 FEET	



- NOTES
- A JOINT IN THE MAIN PIPE TO BE PROVIDED WITHIN 3 FT OF EACH OUTSIDE END OF CASING.
  - AN 8" BRICK BULKHEAD TO BE PROVIDED AT EACH END OF CASING. TWO 3" DIAMETER PIPES THROUGH BULKHEAD TO BE PROVIDED AT EACH SIDE OF MAIN PIPE AT LOW END OF CASING FOR DRAINAGE, PRIOR TO FILLING WITH GROUT.
  - ALL STRAPS AND OTHER EXPOSED STEEL TO BE COATED AS IN NOTE 2 ABOVE.
  - STEEL CASING INSTALLED BY JACKING TO BE COATED AS IN NOTE 2 ABOVE.



**TUNNELING INSTALLATION (OR BORING AND JACKING)**

HOWARD COUNTY STD. NO. G9.01  
N.T.S.

REFERENCE PLANS: FDP-206, F-90-91 AND SDP-90-134  
REVIEWED FOR HOWARD CO. AND MEET TECHNICAL REQUIREMENTS

*[Signature]* 3-19-90  
DATE

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

*[Signature]* 3/19/90  
DATE

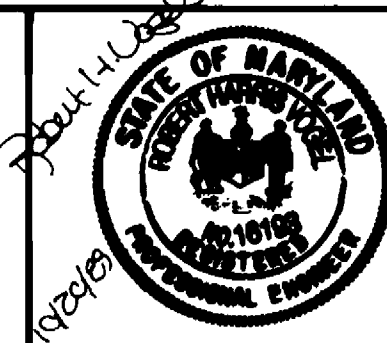
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-90-91.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 3/19/90  
DATE

*[Signature]* 3/19/90  
DATE

JOHN E. HARMS JR. AND ASSOCIATES INC.  
CONSULTING ENGINEERS, PLANNERS - SURVEYORS  
8818 CENTRE PARK DRIVE SUITE 208  
COLUMBIA, MARYLAND 21045  
TELEPHONE (301) 740-5200



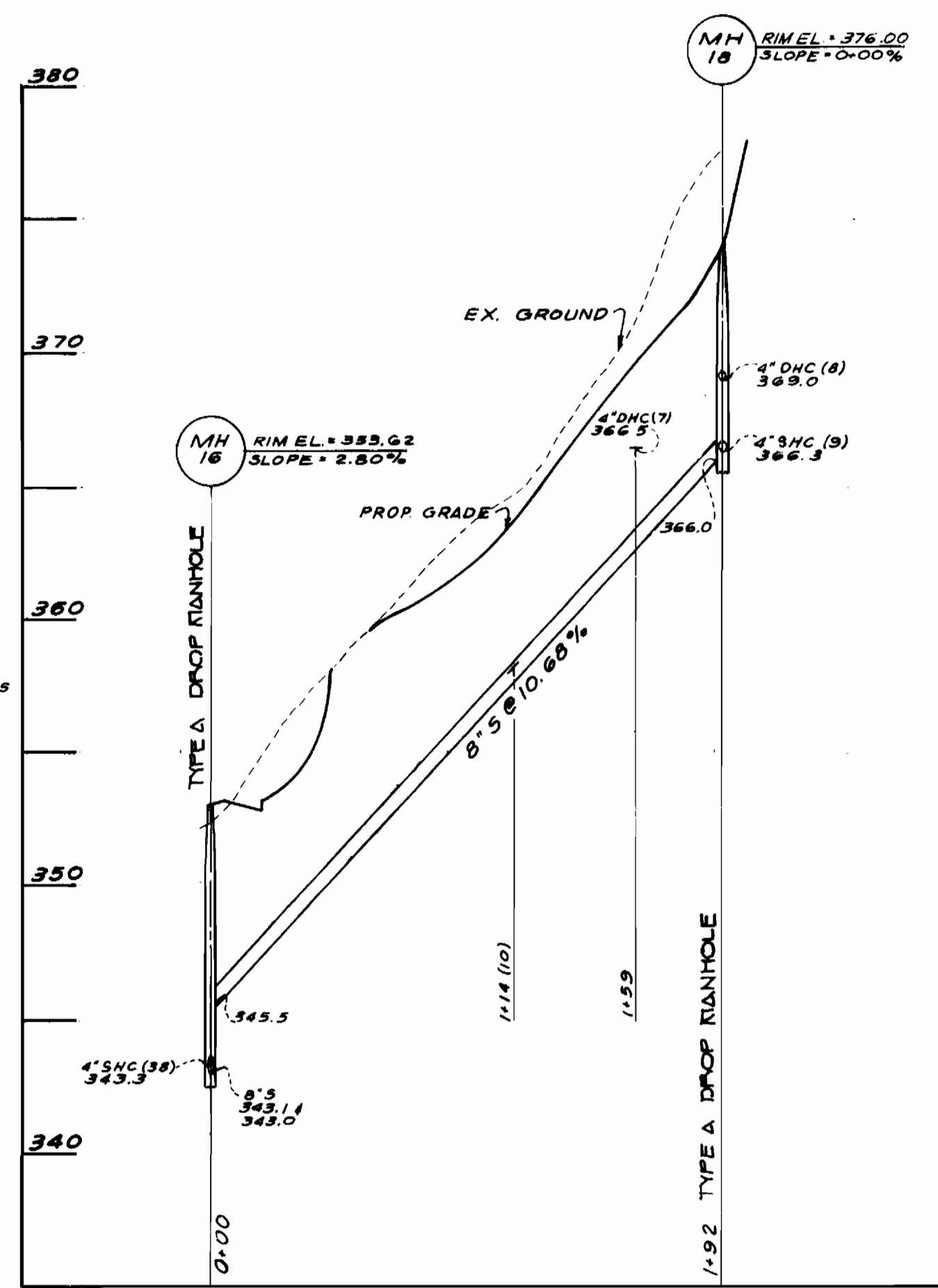
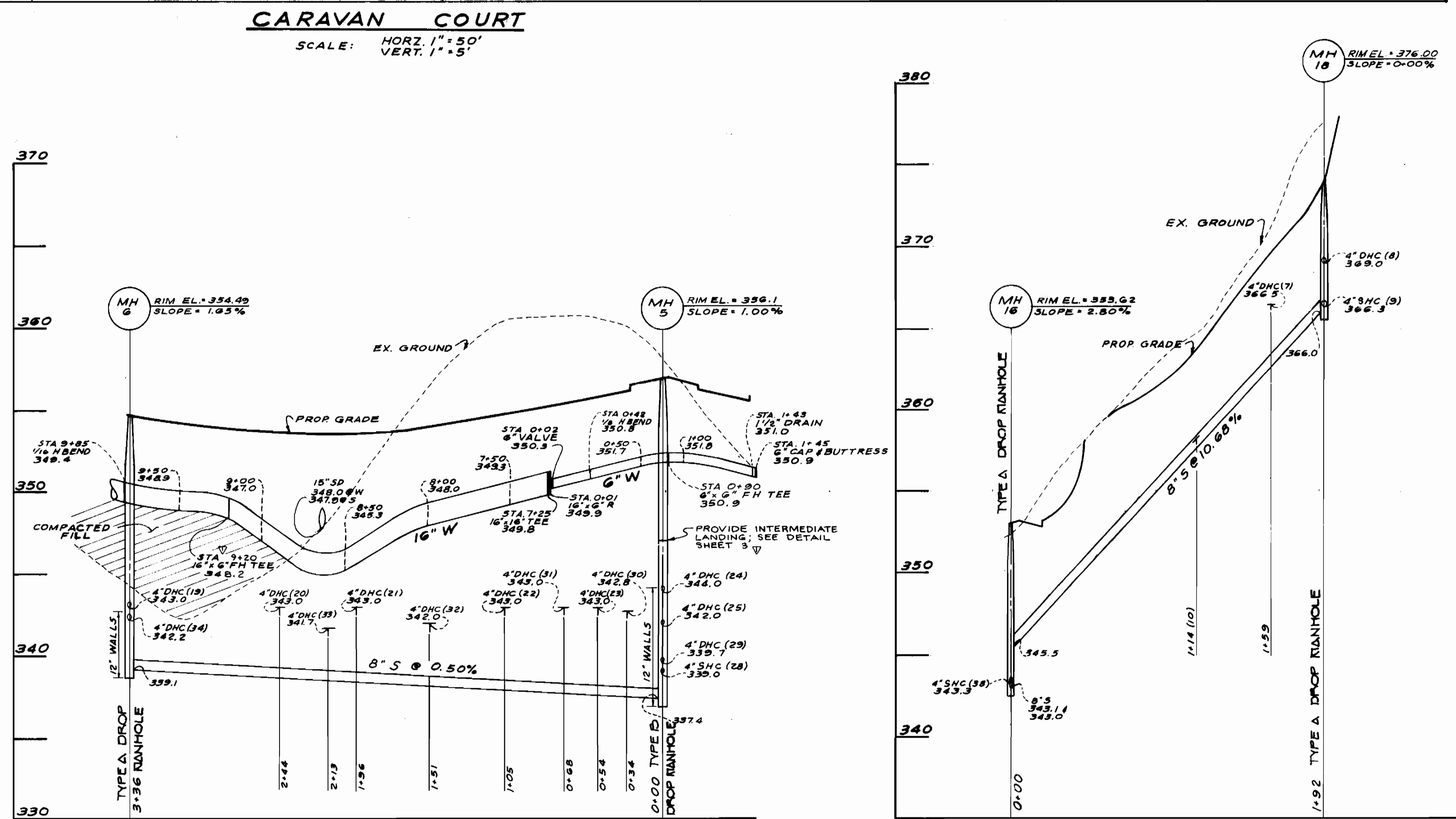
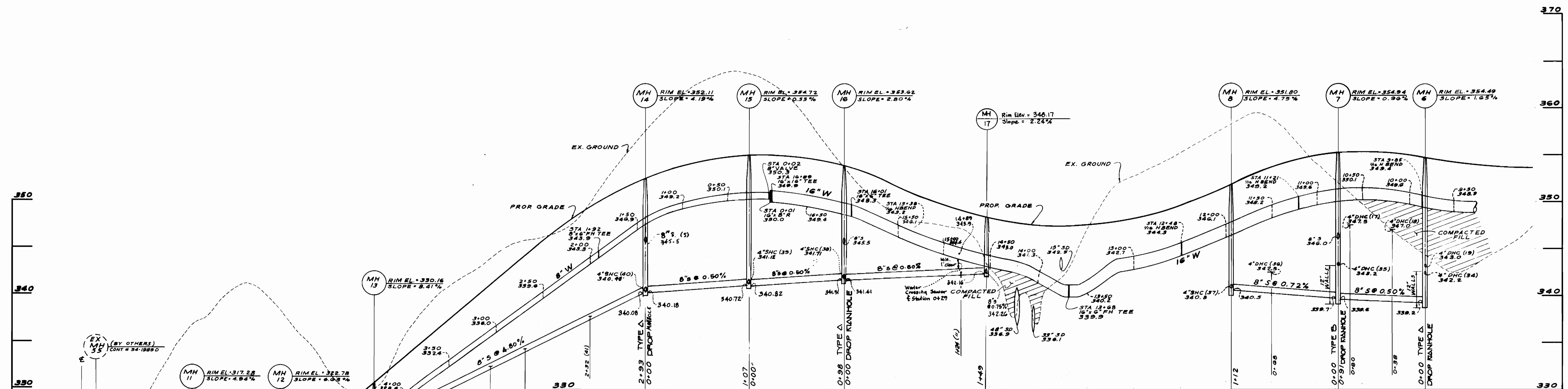
DEST.A.B.	DGH	PER HOWARD COUNTY COMMENTS	DATE
	DGH	REVISE BOUNDARY	12/22/89
DRN C.A.G.	DGH	PER HOWARD COUNTY COMMENTS	2/19/90
CHK R.H.V.	KIEO	PER REDLINE REVISIONS	4/18/90
DATE: 9-29-89	BY: NO.	REVISION	DATE

PLAN-WATER AND SEWER MAINS

600' SCALE MAP NO. 35 & 41

PATUXENT RUN  
VILLAGE OF HICKORY RIDGE SECTION 6, AREA 4  
5th ELECTION DISTRICT HOWARD COUNTY, MD.  
CONTRACT #34-1928-D

SCALE  
1" = 50'  
SHEET  
3 OF 6



REFERENCE PLANS - FDP-206,  
F-90-91 AND SDP 90-184  
REVISED FOR HOWARD S.C.D. AND  
MEE'S TECHNICAL REQUIREMENTS  
3-19-90  
U.S. SOIL CONSERVATION DATE

THIS DEVELOPMENT PLAN IS APPROVED  
FOR SOIL EROSION AND SEDIMENT  
CONTROL BY THE HOWARD SOIL  
CONSERVATION DISTRICT.  
3/19/90  
HOWARD CO. S.C.D. DATE  
SEDDIMENT CONTROL MEASURES WILL BE  
IMPLEMENTED IN ACCORDANCE WITH  
SECTION 219 OF THE SPECIFICATIONS  
AND WITH THE ROAD CONSTRUCTION PLANS  
F-90-91.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/20/90 Robert Benner CHIEF, BUREAU OF UTILITIES DATE		JOHN E. HARMS JR. AND ASSOCIATES INC. CONSULTING ENGINEERS - PLANNERS - SURVEYORS 8818 CENTRE PARK DRIVE SUITE 208 COLUMBIA, MARYLAND 21045 TELEPHONE (301) 740-5200 3/19/90 Charles Danner CHIEF, LAND DEVELOPMENT DIVISION DATE		DES. T.A.B. DGH DRN. C.A.G. HRM CHK. R.H.V. DATE: 9/29/88 BY NO. REVISION		PER HOWARD COUNTY COMMENTS PER HOWARD COUNTY COMMENTS PER REDLINE REVISION EXTEND SEWER MH 17; LOWER SEWER BETWEEN MH 15 & 17 12/2/89 2/19/90 4/18/90 5/2/90		PROFILES - WATER AND SEWER MAINS 600' SCALE MAP NO.		PATUXENT RUN VILLAGE OF HICKORY RIDGE SECTION 6, AREA 4 5th ELECTION DISTRICT HOWARD COUNTY, MD. CONTRACT # 34-1928-D SCALE: H: 1" = 50' V: 1" = 5' SHEET 4 OF 6	
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