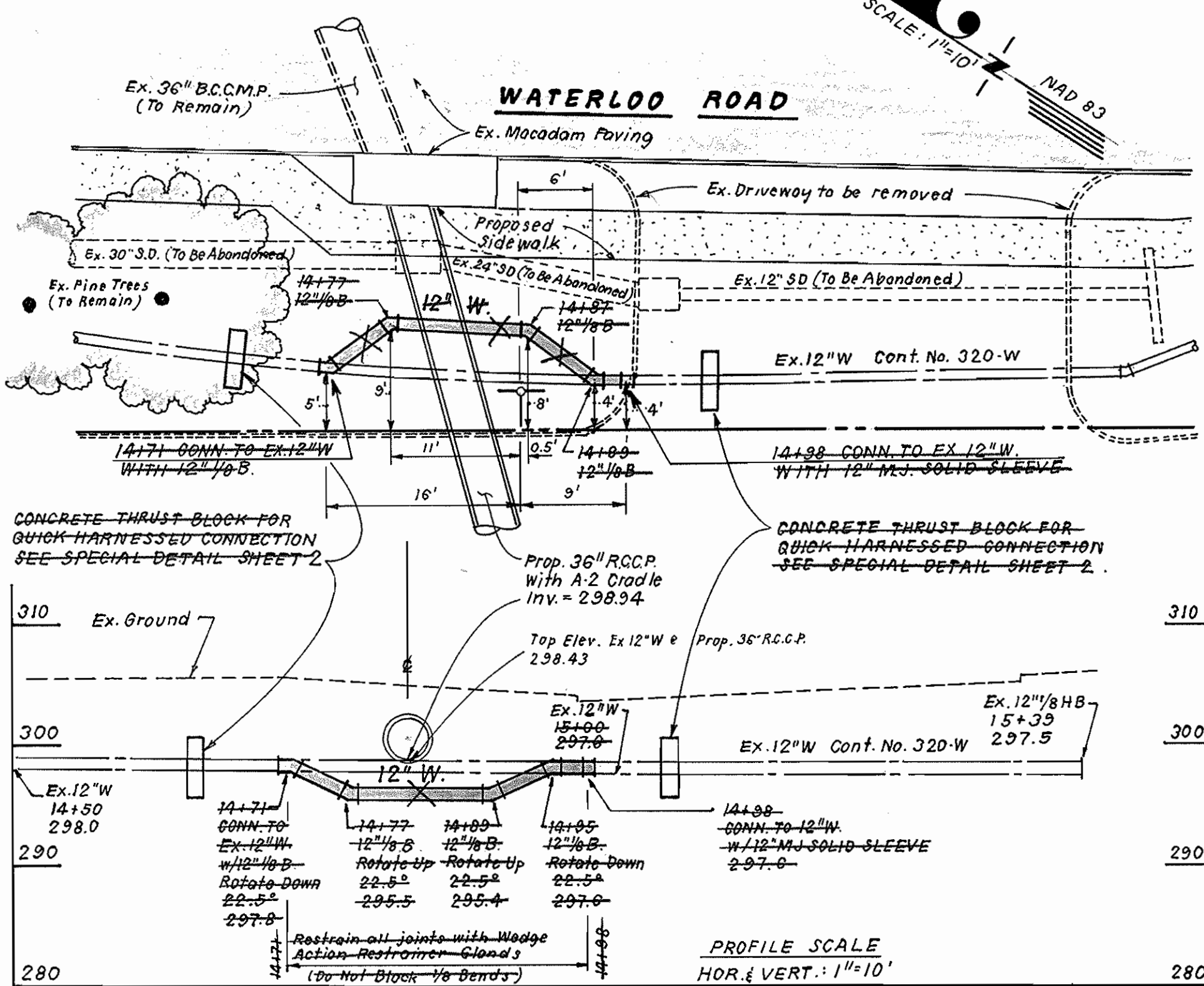


GENERAL NOTES

BENCH MARKS

HOWARD COUNTY CONTROL STATION: 376C ELEV. = 331.903'  
 3/4" rebar with aluminum cap located in front of 2 story building  
 No. 6528 on Waterloo Road.  
 COORDINATES N 555,250.7918 E 1,370,940.361

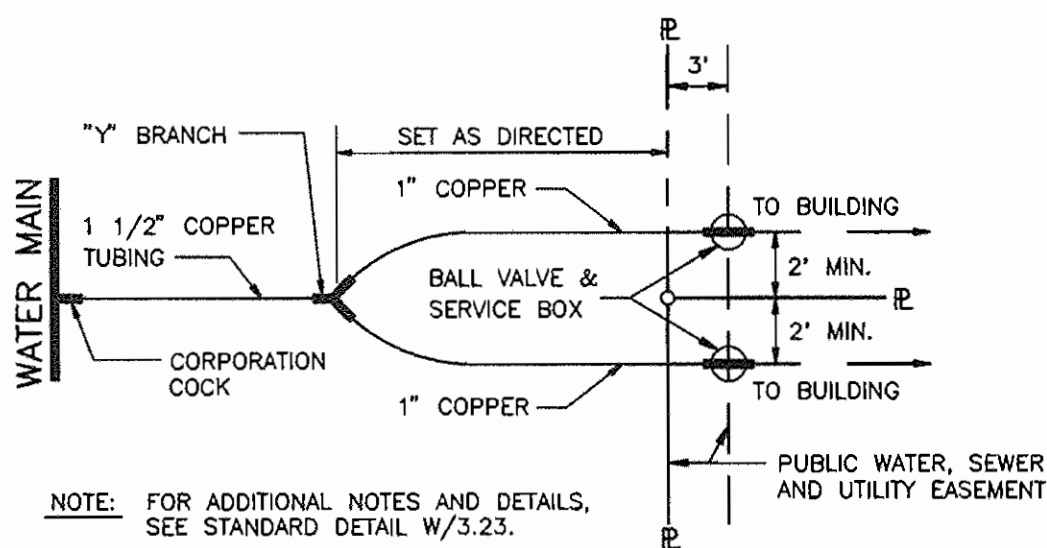
HOWARD COUNTY CONTROL STATION: 37HC ELEV. = 291.766'  
 Aluminum disc set on 3/4" rebar located in front of school on  
 Waterloo Road, 120' E. of gateway to Waterloo Community Park.  
 COORDINATES N 552,854.2136 E 1,372,639.498



12" WATER MAIN RELOCATION AT PROP. 36" S.D.

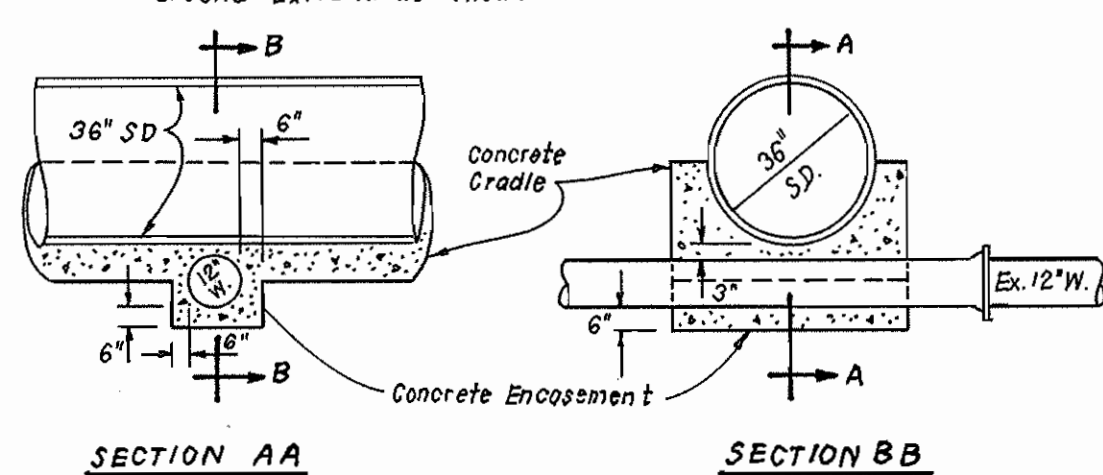
NOTES:

- Concrete shall be SHA Mix No. 3 Fc = 3000 psi.
- No Ex. joints on Ex. 12" W. within area of concrete encasement.
- Provide 6" concrete encasement around Ex. 12" W. as shown.



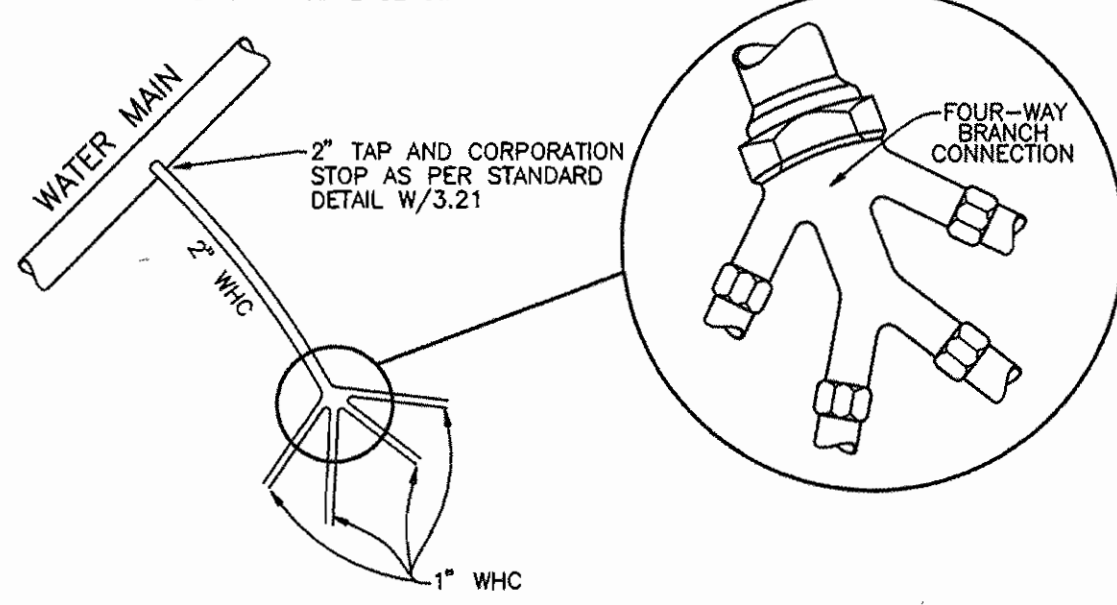
TYPICAL DETAIL OF A DUAL WATER HOUSE CONNECTION

NO SCALE



CONCRETE ENCASMENT OF EX. 12" W AT PROP. 36" S.D.

NOTE: IF DOUBLE STRAP SERVICE CLAMP IS USED, STRAPS SHALL BE STAINLESS STEEL.



TYPICAL DETAIL OF 4-WAY W.H.C.

NO SCALE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLAN F 98-135 ; DRAWING , SEDIMENT AND EROSION CONTROL.

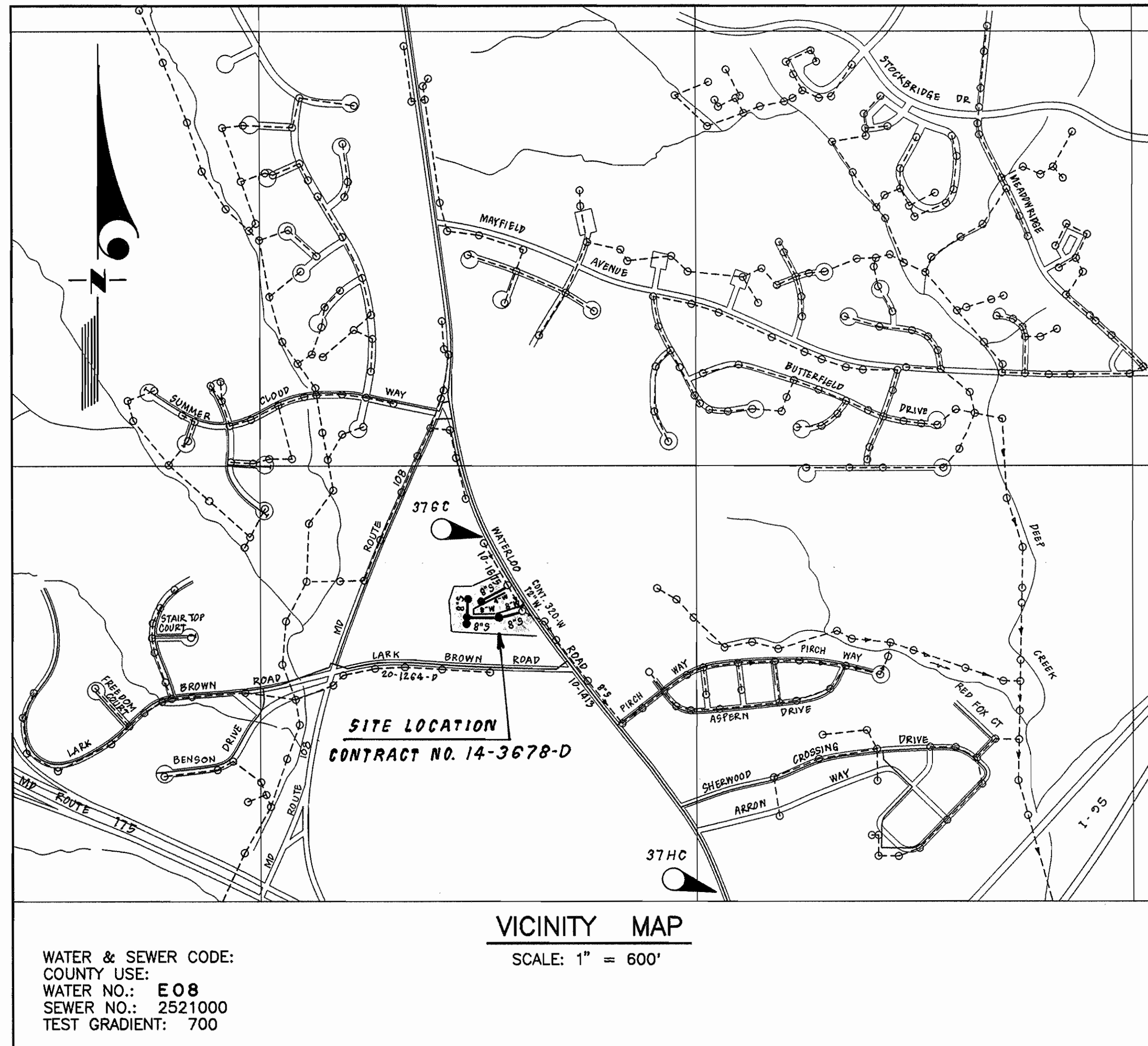
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*Cheryl Simmond* 4/3/98  
 SIGNATURE DATE

U. S. SOIL CONSERVATION SERVICE

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

APPROVED: *John Robertson* 4/3/98  
 HOWARD S. C. D. DATE



VICINITY MAP

SCALE: 1" = 600'

WATER & SEWER CODE:  
 COUNTY USE:  
 WATER NO.: E08  
 SEWER NO.: 2521000  
 TEST GRADIENT: 700

TYPE OF BUILDING	RESIDENTIAL TOWNHOUSES
NO. OF LOTS/PARCELS	33 BUILDABLE, 2 O. S.
NO. OF WATER HOUSE CONNECTIONS	33
NO. OF SEWER HOUSE CONNECTIONS	34
DRAINAGE AREA	PATAPSCO
TREATMENT PLANT	PATAPSCO WWTP

SEWER HOUSE CONNECTION TABLE

LOT NO.	INV. @ C.O.	MIN. CELL	LOT NO.	INV. @ C.O.	MIN. CELL	LOT NO.	INV. @ C.O.	MIN. CELL
1	304.9	307.9	12	315.2	318.2	23	317.8	320.8
2	305.9	308.9	13	316.5	319.5	24	317.8	320.8
3	307.1	310.1	14	321.0	324.0	25	310.6	313.6
4	307.5	310.5	15	320.8	323.8	26	308.9	312.8
5	309.0	312.0	16	320.6	323.6	27	308.5	312.5
6	309.5	312.5	17	320.5	323.5	28	308.6	311.6
7	310.6	313.6	18	317.0	320.0	29	307.4	310.4
8	312.0	315.0	19	317.2	320.2	30	306.7	309.7
9	312.9	315.9	20	317.2	320.2	31	306.0	309.0
10	313.6	316.6	21	317.5	320.5	32	305.5	308.5
11	314.6	317.6	22	317.6	320.6	33	304.7	307.7

PART I - GENERAL

- Approximate location of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- All horizontal controls are based on Maryland State Coordinates. [North American Datum of 1983 (NAD '83)].
- All vertical controls are based on U.S.G.S. data.
- All pipe elevations shown are invert elevations.
- Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event that the contractor's work requires the bracing of additional poles, any cost incurred by the owner for bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and 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:
 

State Highway Administration	531-5533
BC&E Co. Contractor Services	850-4620
BC&E Co. Under Ground Damage Control	787-9068
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	795-1390
Howard County Department of Public Works Bureau of Utilities	313-4900
- 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.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-2450 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.

PART II - WATER

- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown of the drawings. All fire hydrants shall be restrained and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Sections 1000 and 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- For sprinkler system for all townhomes or multi-family dwelling units shall have a minimum of 1" connection with a 3/4" meter.

PART III - SEWER

- All sewer mains shall be DIP 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 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.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" S	77.6 LF			
4" SHC	52.8 LF			
4" DIA. MH	6 EA.			
4" W	129 LF			
8" W	482 LF			
2" WHC	80 LF			
1 1/2" WHC	25.5 LF			
1" WHC	54.5 LF			
PH & FHV	2 EA.			
12" X 8" TS&V	1 EA.			
4" V	1 EA.			
1 1/2" DRAIN	1 EA.			

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

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

CLARK • FINEFROCK & SACKETT, INC.  
 ENGINEERS • PLANNERS • SURVEYORS  
 7135 MINSTREL WAY COLUMBIA, MD 21045  
 (410) 381-7500 BALT. (301) 621-8100 WASH.



DES: JTR			
DRN: TD/LAI/JTR			
CHK: CCM			
DATE: FEB, 1998			
C.F.S. 1	Delete 12" W. Relocation - Add Concrete Encasement of 12" W.	1-27-99	
BY NO.	REVISION	DATE	

TITLE SHEET

600' SCALE MAP NO. 37 BLOCK NO. 20

LARK BROWN CROSSING  
 LOTS 1 THRU 35  
 6TH ELECTION DISTRICT  
 CONTRACT No. 14-3678-D

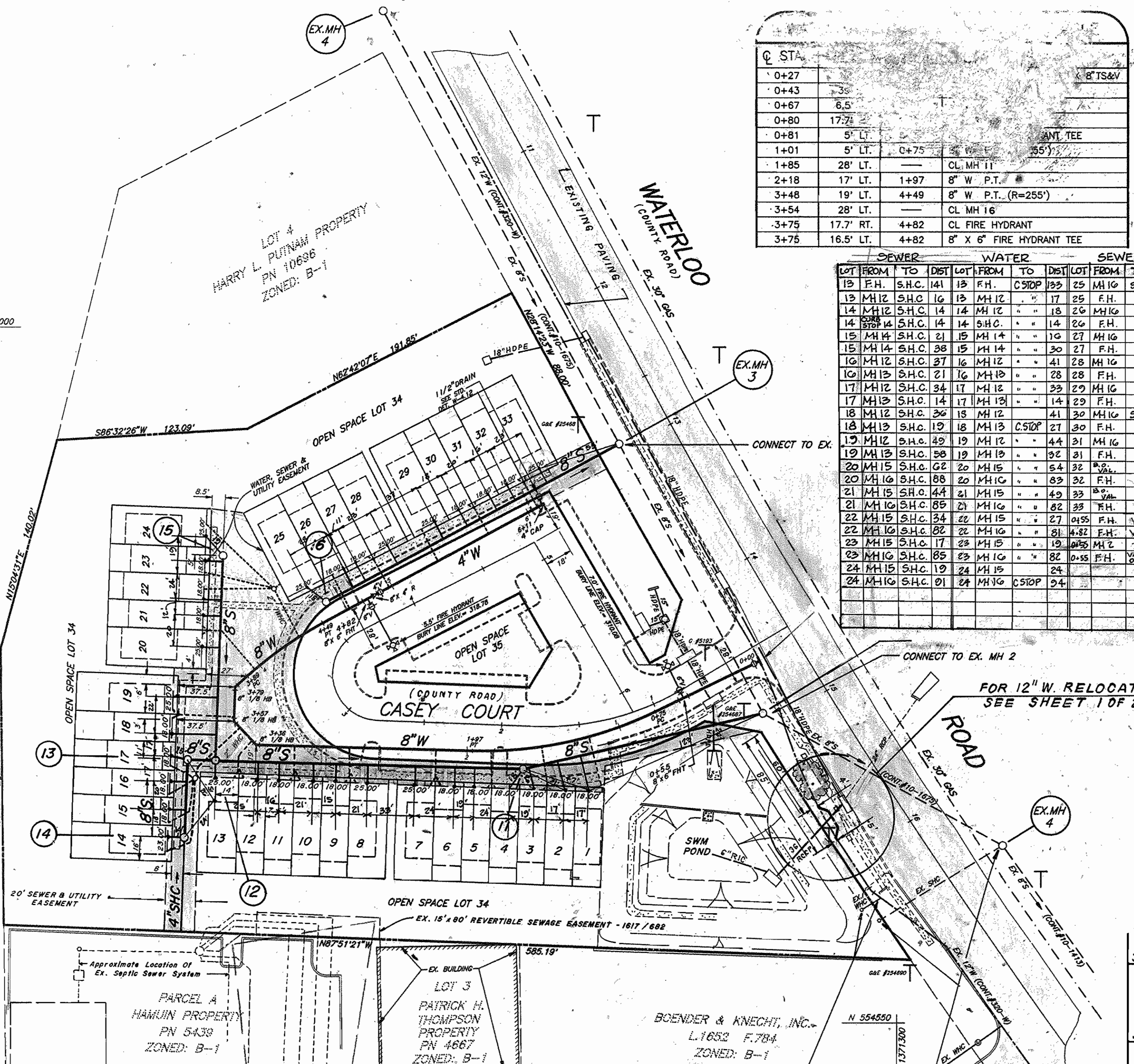
SCALE:  
 AS SHOWN  
 SHEET  
 1 OF 2

PLAN SCALE: 1" = 50'

N 555000  
E 1370200

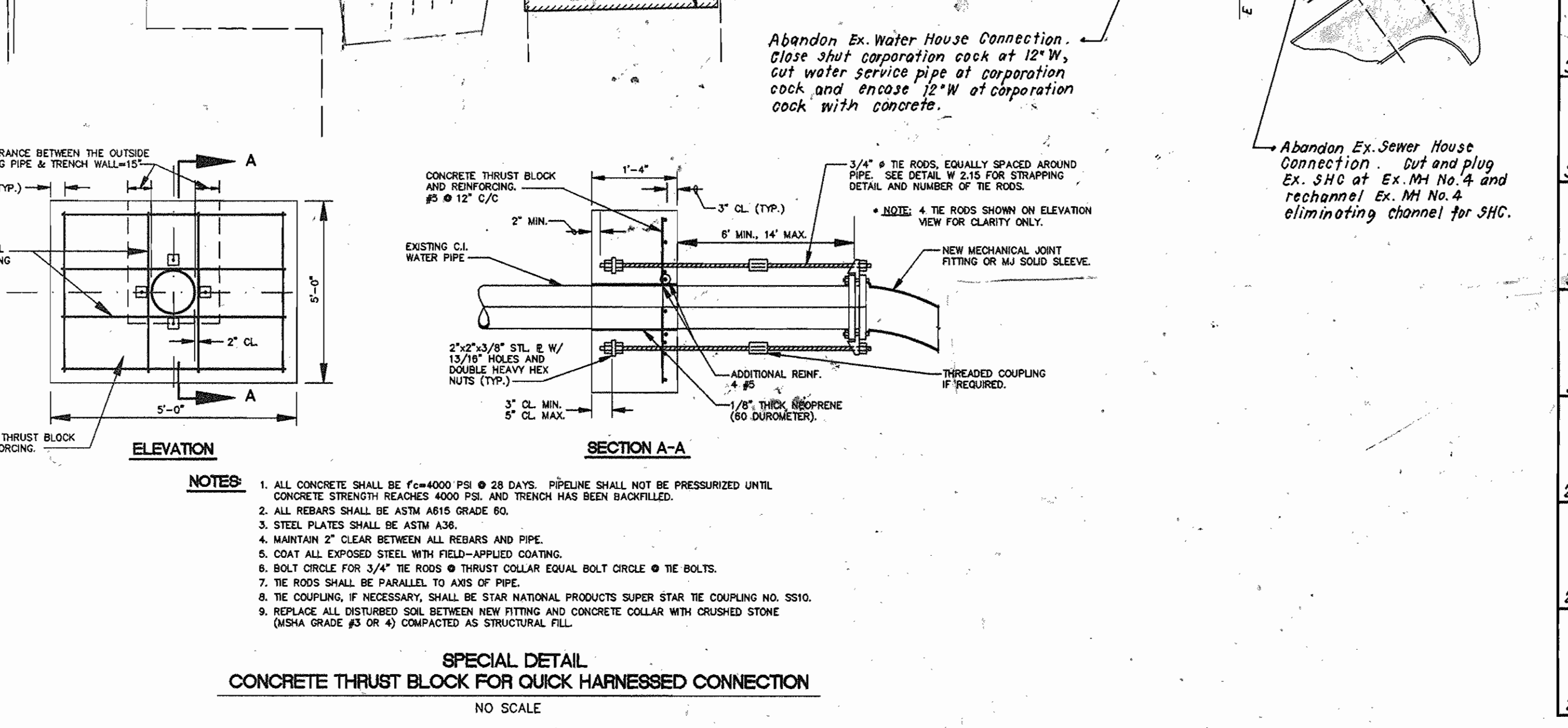
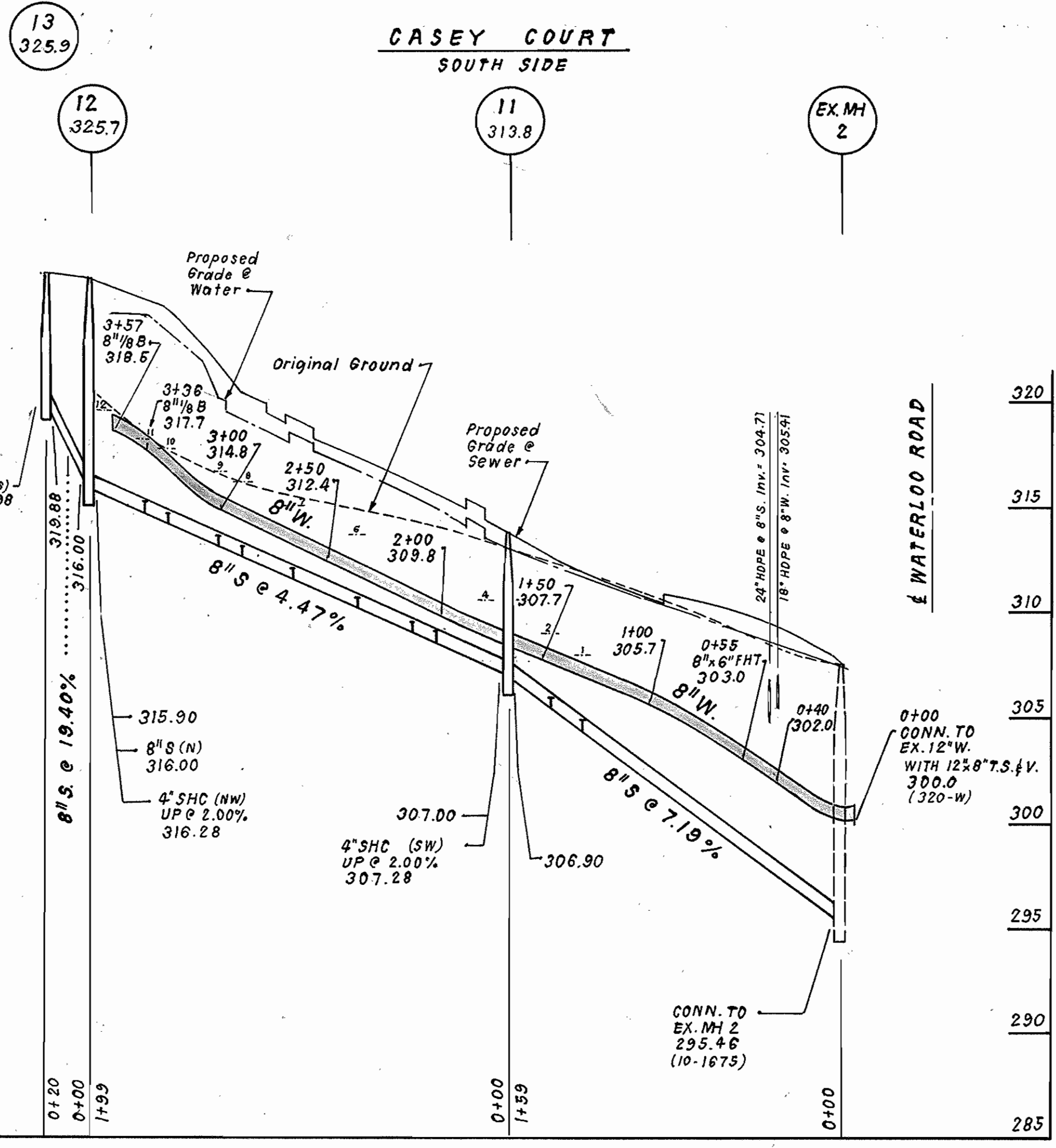
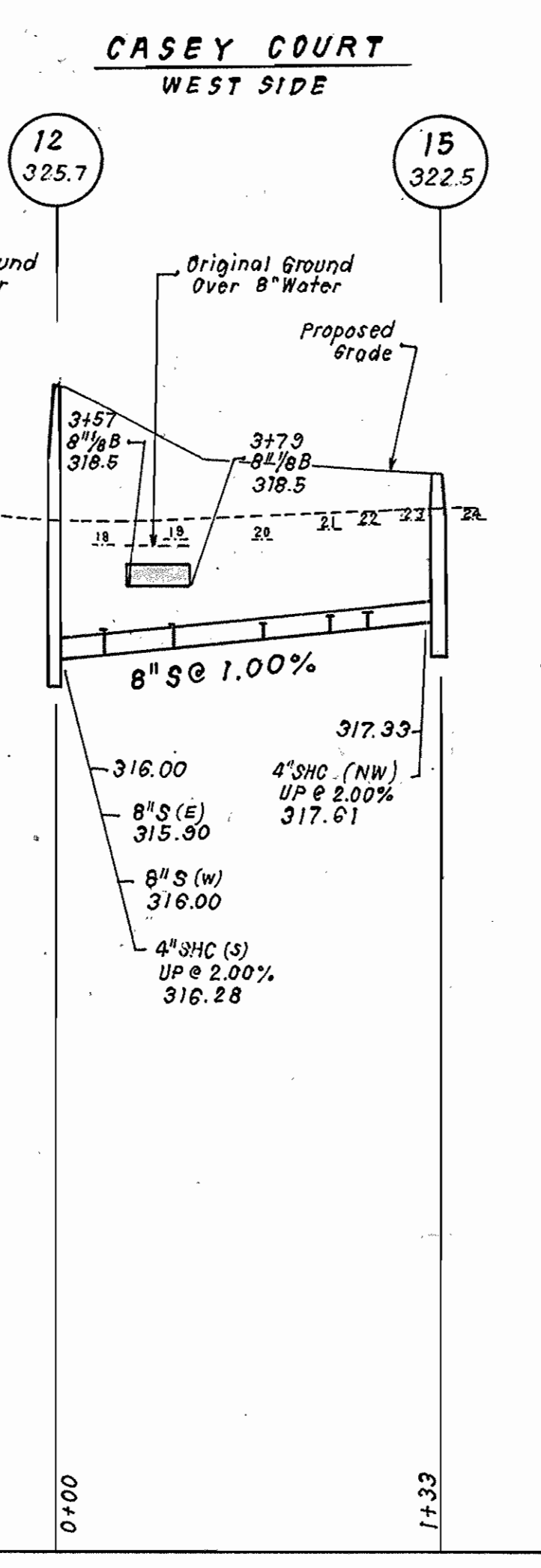
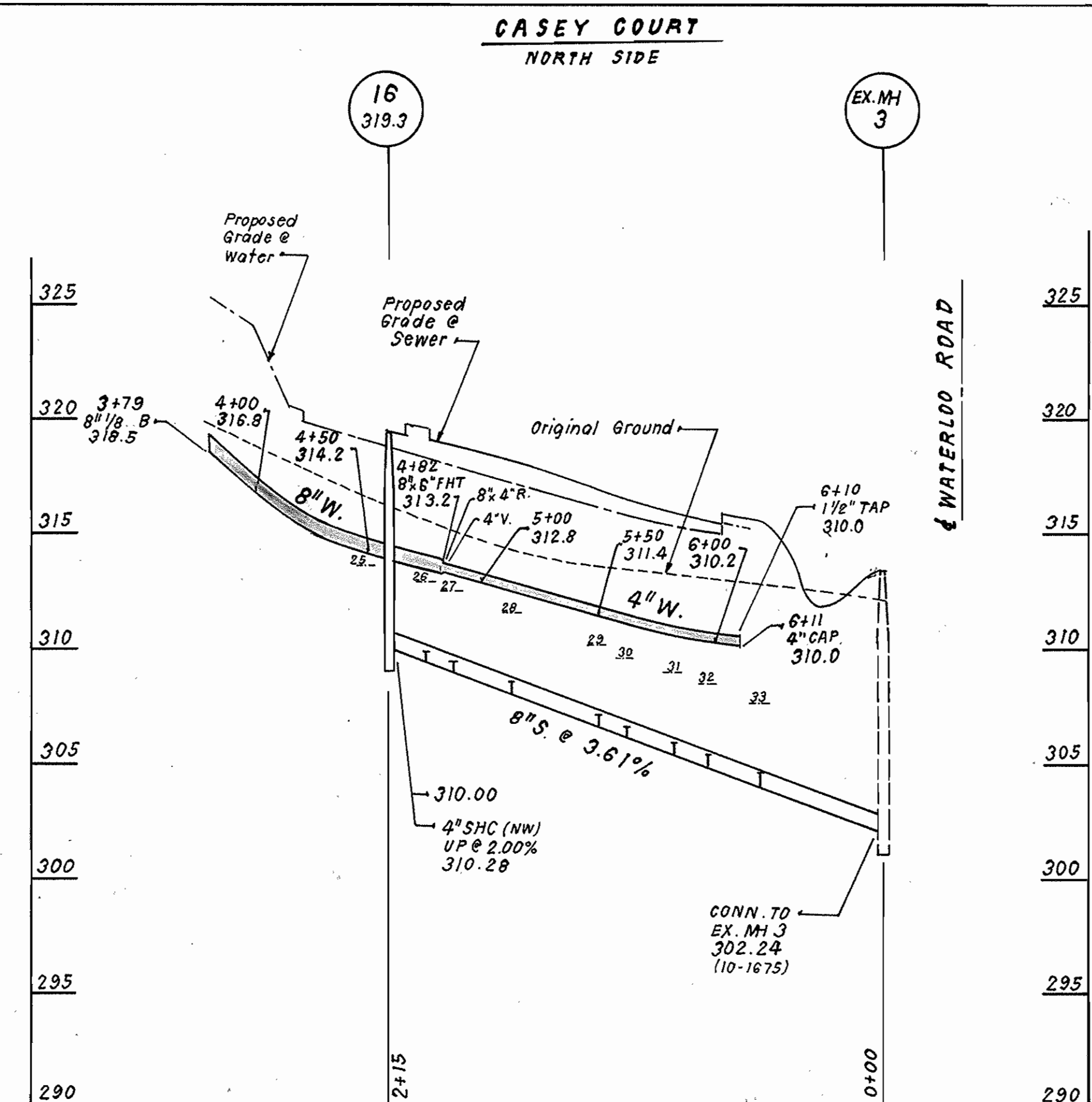
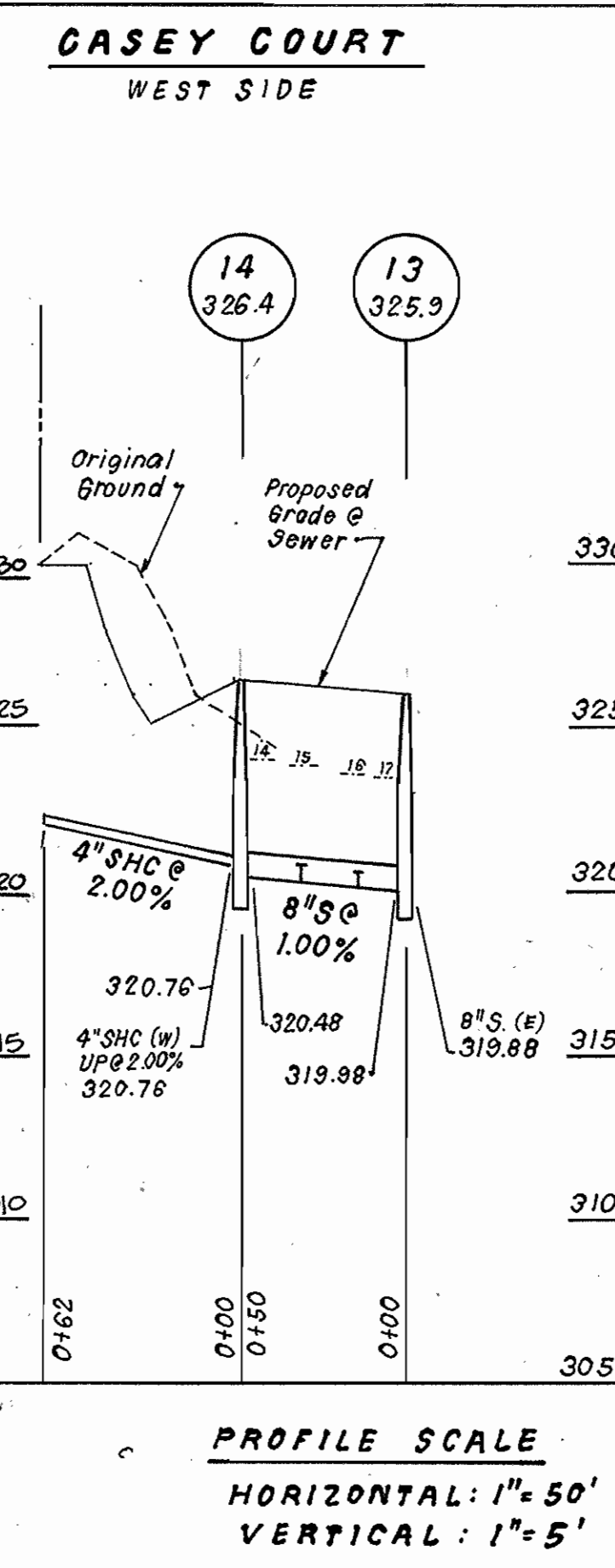
LOT 1  
CARRIE AGRIMAN PROPERTY  
PN 5833  
ZONED: B-1

N 554850  
E 1370200



STATION	DESCRIPTION	DIAMETER	DEPTH
0+27	8" S&V	8"	
0+43			
0+67	6.5'		
0+80	17.7'		
0+81	5' LT.		
1+01	5' LT. C+75		
1+85	28' LT.		
2+18	17' LT. 1+97		
3+48	19' LT. 4+49		
3+54	28' LT.		
3+75	17.7' RT. 4+82		
3+75	16.5' LT. 4+82		

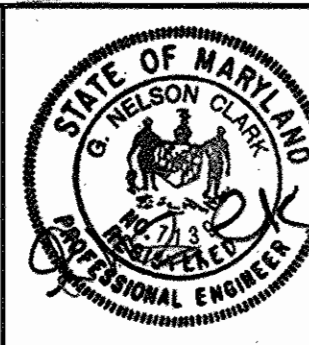
LOT	FROM	TO	DIST	LOT	FROM	TO	DIST	LOT	FROM	TO	DIST
19	F.H.	S.H.C.	14	19	F.H.	C5DOP	25	25	M.H.I.G.	S.H.C.	18
19	M.H.I.G.	S.H.C.	14	19	M.H.I.G.		17	25	F.H.		25
14	M.H.I.G.	S.H.C.	14	14	M.H.I.G.		18	26	M.H.I.G.		22
14	M.H.I.G.	S.H.C.	14	14	S.H.C.		14	26	F.H.		59
15	M.H.I.G.	S.H.C.	21	15	M.H.I.G.		10	27	M.H.I.G.		38
15	M.H.I.G.	S.H.C.	38	15	M.H.I.G.		30	27	F.H.		56
10	M.H.I.G.	S.H.C.	37	16	M.H.I.G.		41	28	M.H.I.G.		51
10	M.H.I.G.	S.H.C.	21	16	M.H.I.G.		28	28	F.H.		69
17	M.H.I.G.	S.H.C.	34	17	M.H.I.G.		29	29	M.H.I.G.		87
17	M.H.I.G.	S.H.C.	14	17	M.H.I.G.		14	29	F.H.		78
18	M.H.I.G.	S.H.C.	26	18	M.H.I.G.		41	30	M.H.I.G.	S.H.C.	104
18	M.H.I.G.	S.H.C.	19	18	M.H.I.G.	C5DOP	27	30	F.H.		98
11	M.H.I.G.	S.H.C.	49	19	M.H.I.G.		44	31	M.H.I.G.		123
19	M.H.I.G.	S.H.C.	58	19	M.H.I.G.		32	31	F.H.		115
20	M.H.I.G.	S.H.C.	62	20	M.H.I.G.		54	32	R.S.		23
20	M.H.I.G.	S.H.C.	88	20	M.H.I.G.		83	32	F.H.		128
21	M.H.I.G.	S.H.C.	44	21	M.H.I.G.		49	33	R.S.		21
21	M.H.I.G.	S.H.C.	89	21	M.H.I.G.		82	33	F.H.		149
22	M.H.I.G.	S.H.C.	34	22	M.H.I.G.		27	35	F.H.	VANNE	21
22	M.H.I.G.	S.H.C.	82	22	M.H.I.G.		81	35	F.H.	VANNE	22
23	M.H.I.G.	S.H.C.	17	23	M.H.I.G.		19	35	M.H.I.G.	T.H.	55
23	M.H.I.G.	S.H.C.	85	23	M.H.I.G.		82	35	F.H.	VANNE	55
24	M.H.I.G.	S.H.C.	19	24	M.H.I.G.		24	35	F.H.	VANNE	55
24	M.H.I.G.	S.H.C.	01	24	M.H.I.G.	C5DOP	04				



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

**CLARK · FINEBROCK & SACKETT, INC.**  
ENGINEERS · PLANNERS · SURVEYORS  
7135 MINSTREL WAY COLUMBIA, MD 21045  
(410) 381-7500 BALT. (301) 621-8100 WASH.



DES: JTR  
DRN: TD/LAI/JTR  
CHK: CCM  
DATE: FEB, 1998

PLAN AND PROFILE  
600' SCALE MAP NO. 37 BLOCK NO. 20

**LARK BROWN CROSSING**  
LOTS 1 THRU 35  
6TH ELECTION DISTRICT  
CONTRACT No. 14-3678-D

SCALE:  
AS SHOWN  
SHEET  
2 OF 2

GENERAL NOTES

PART I - GENERAL

1. 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.
2. All horizontal controls are based on Maryland State Coordinates. [North American Datum of 1983 (NAD '83)].
3. All vertical controls are based on U.S.G.S. data.
4. All pipe elevations shown are invert elevations.
5. 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 that the contractor's work requires the bracing of additional poles, any cost incurred by the owner for bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
6. 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.
7. 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.
8. Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:
 

State Highway Administration	531-5533
BC&E Co. Contractor Services	850-4620
BC&E Co. Under Ground Damage Control	787-9068
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	795-1390
Howard County Department of Public Works Bureau of Utilities	313-4900
9. 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.
10. 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.
11. The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-2450 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.

PART II - WATER

1. All water mains to be D.I.P. Class 52 unless otherwise noted.
2. Tops of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
3. Valves adjacent to tees shall be strapped to tees.
4. All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
5. Fire hydrants shall be set to the bury line elevations shown of the drawings. All fire hydrants shall be restrained and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Sections 1000 and 1005 of the Standard Specifications.
6. The contractor shall not operate any water main valves on the existing water system.
7. All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
8. For sprinkler system for all townhomes or multi-family dwelling units shall have a minimum of 1" connection with a 3/4" meter.

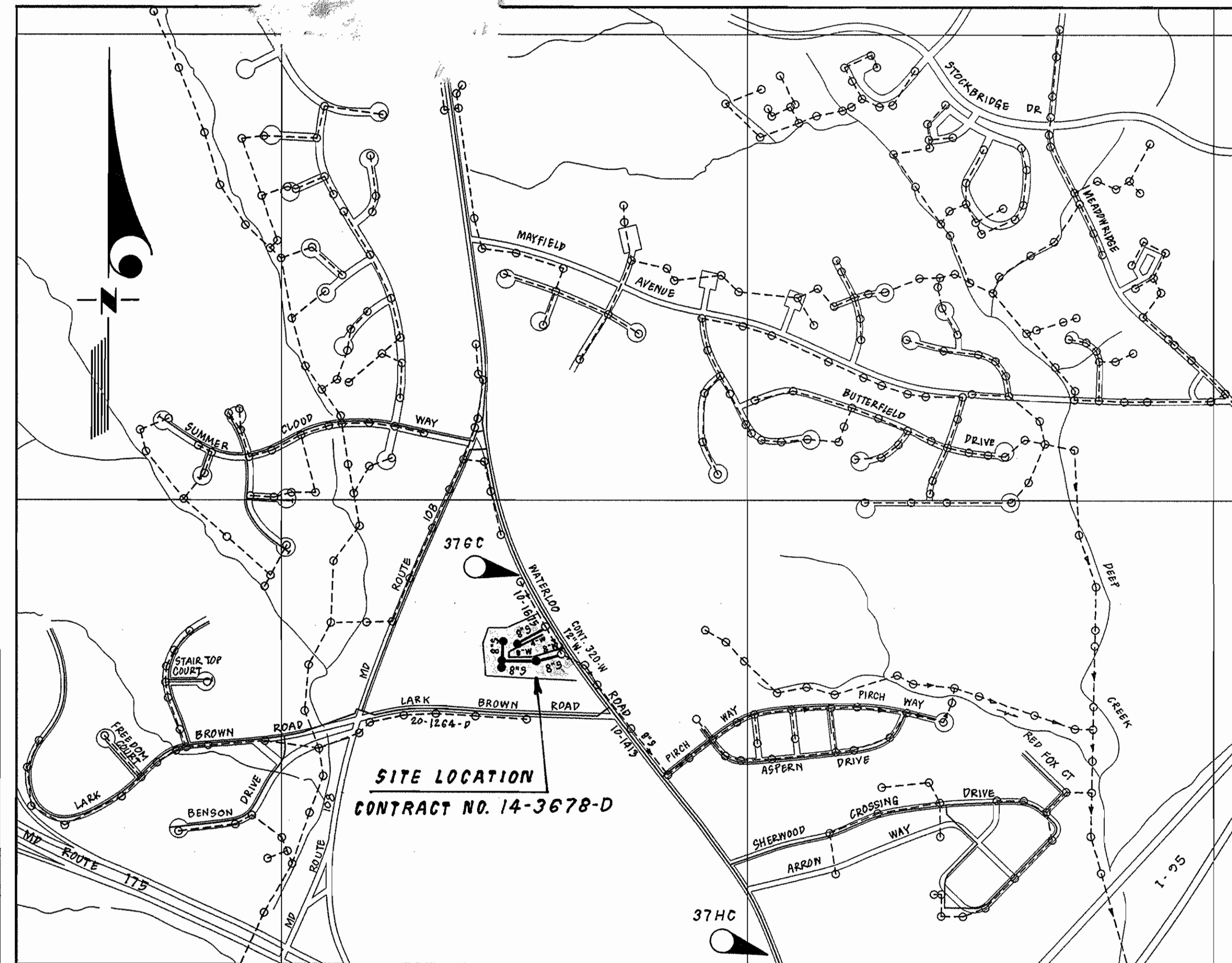
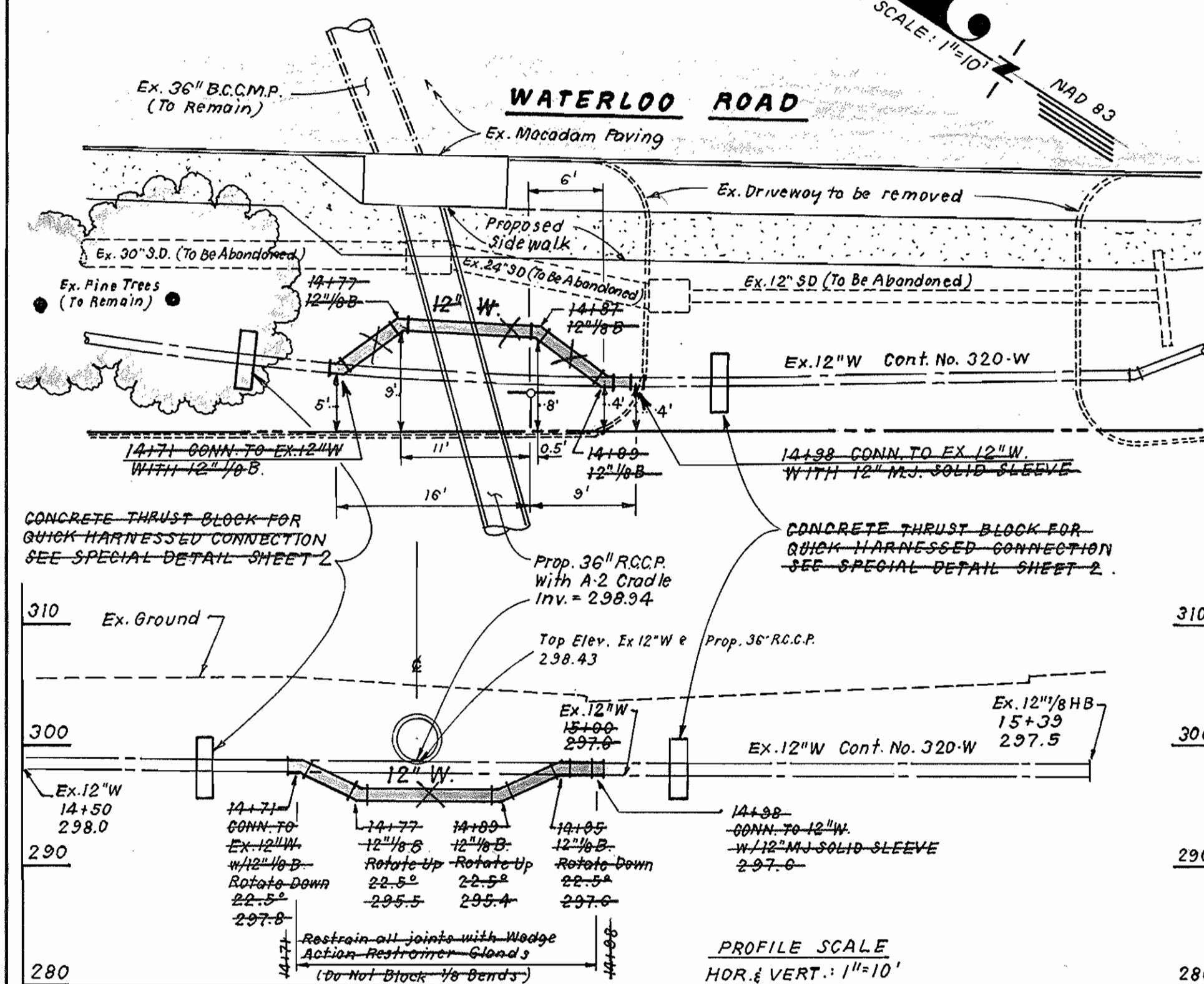
PART III - SEWER

1. All sewer mains shall be DIP or P.V.C. unless otherwise noted.
2. All manholes shall be 4'-0" inside diameter unless otherwise noted.
3. Force mains shall be D.I.P. only.
4. Manholes shown with 12" and 16" walls are for brick manholes only.
5. Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail G5.52. Where watertight manhole frame and cover is used, set top of frame 1" - 6" above finished grade unless otherwise noted on the drawings.
6. House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

BENCH MARKS

HOWARD COUNTY CONTROL STATION: 376C ELEV.= 331.909'  
3/4" rebar with aluminum cap located in front of 2 story building  
No. 8528 on Waterloo Road.  
COORDINATES N 555,250.7918 E 1,370,946.361

HOWARD COUNTY CONTROL STATION: 37HC ELEV.= 291.766'  
Aluminum disc set on 3/4" rebar located in front of school on  
Waterloo Road, 120' E of gateway to Waterloo Community Park.  
COORDINATES N 552,854.2136 E 1,372,639.498



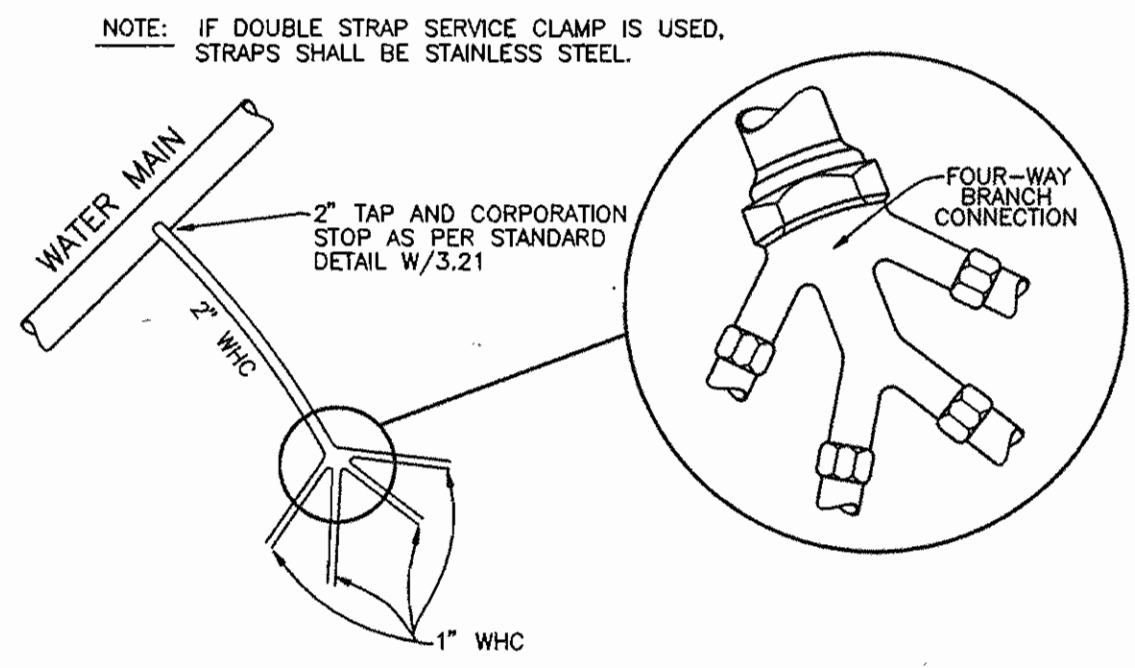
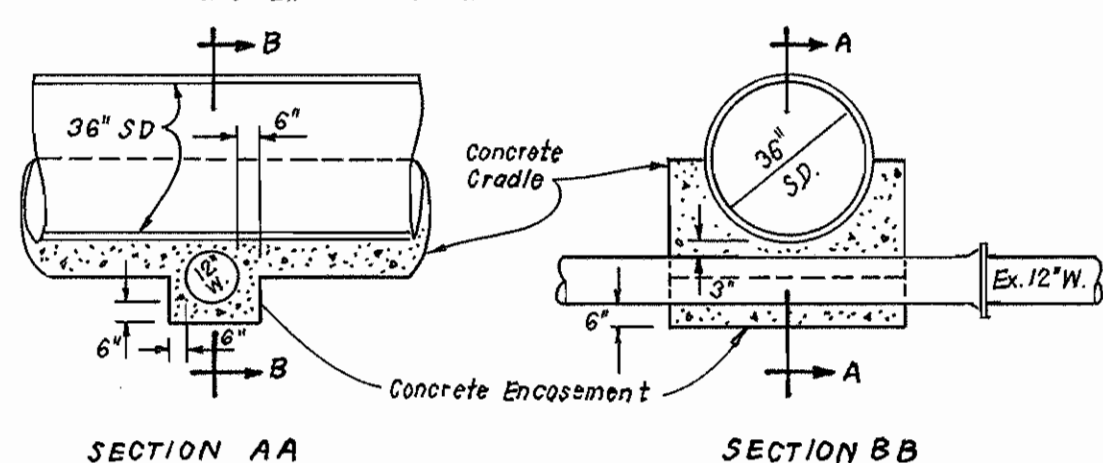
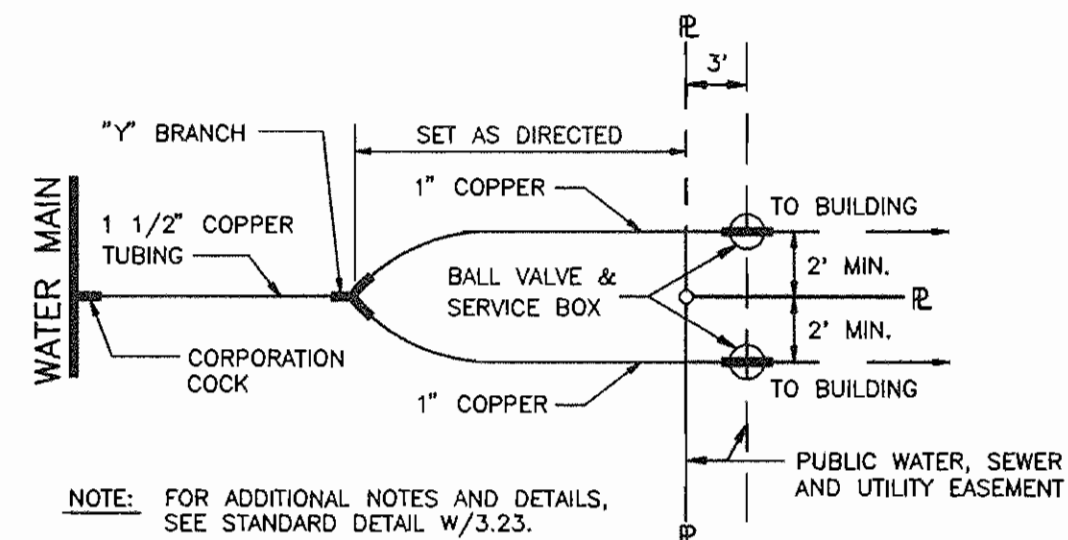
WATER & SEWER CODE:  
COUNTY USE:  
WATER NO.: E 08  
SEWER NO.: 2521000  
TEST GRADIENT: 700

NOTES:

1. Concrete shall be SHA Mix No. 3 Fc = 3000 psi.
2. No Ex. joints on Ex. 12" W. within area of concrete encasement.
3. Provide 6" concrete encasement around Ex. 12" W. as shown.

TYPE OF BUILDING	RESIDENTIAL TOWNHOUSES
NO. OF LOTS/PARCELS	33 BUILDABLE, 2 O. S.
NO. OF WATER HOUSE CONNECTIONS	33
NO. OF SEWER HOUSE CONNECTIONS	34
DRAINAGE AREA	PATAPSCO
TREATMENT PLANT	PATAPSCO WWTP

LOT NO.	INV. @ C.O.	MIN. CELL	LOT NO.	INV. @ C.O.	MIN. CELL	LOT NO.	INV. @ C.O.	MIN. CELL
1	304.9	307.9	12	315.2	318.2	23	317.8	320.8
2	305.3	308.3	13	316.5	319.5	24	317.8	320.8
3	307.1	310.1	14	321.0	324.0	25	310.6	313.6
4	307.5	310.5	15	320.8	323.8	26	309.8	312.8
5	309.0	312.0	16	320.6	323.6	27	309.5	312.5
6	308.5	312.5	17	320.5	323.5	28	308.6	311.6
7	310.6	313.6	18	317.0	320.0	29	307.4	310.4
8	312.0	315.0	19	317.2	320.2	30	306.7	309.7
9	312.9	315.9	20	317.2	320.2	31	306.0	309.0
10	313.6	316.6	21	317.5	320.5	32	305.5	308.5
11	314.6	317.6	22	317.8	320.8	33	304.7	307.7



SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLAN F 98-135 ; DRAWING , SEDIMENT AND EROSION CONTROL.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Cheryl Simmons* 4/3/98  
SIGNATURE DATE  
U. S. SOIL CONSERVATION SERVICE  
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
APPROVED: *John K. Robertson* 4/3/98  
HOWARD S. C. D. DATE

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" S	776 LF	770 LF	P.V.C. - 35	J.M.
4" SHC	528 LF	540 LF	P.V.C. - 35	J.M.
4" DIA. MH	6 EA.	6 EA.	PRECAST	FREDERICK PRECAST CONCRETE, INC.
4" W	129 LF	131 LF	O.I.P. 52	ATLANTIC STATES
8" W	482 LF	484 LF	D.I.P. 52	"
2" WHC	80 LF	83 LF	READING TUBE	U.S. FILTER
1 1/2" WHC	255 LF	260 LF	READING TUBE	U.S. FILTER
1" WHC	545 LF	241 LF	READING TUBE	U.S. FILTER
FH & FHV	2 EA.	2 EA.	RES. GATE	MUELLER
12" X 8" TS&V	1 EA.	1 EA.	RES. GATE	MUELLER
4" V	1 EA.	1 EA.	RES. GATE	MUELLER
1 1/2" DRAIN	1 EA.	1 EA.	BALL	MUELLER

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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Robert W. Beaman* 10-27-98  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*John K. Robertson* 4/3/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CLARK · FINEFROCK & SACKETT, INC.  
ENGINEERS · PLANNERS · SURVEYORS  
7135 MINSTREL WAY COLUMBIA, MD 21045  
(410) 381-7500 BALT. (301) 621-8100 WASH.



DES: JTR  
DRN: TD/LAI/JTR  
CHK: CCM  
DATE: FEB, 1998  
C.F.S. 1 Delete 12" W. Relocation - Add Concrete Encasement of 12" W. 1-27-98  
By NO. REVISION DATE

TITLE SHEET  
600' SCALE MAP NO. 37 BLOCK NO. 20

LARK BROWN CROSSING  
LOTS 1 THRU 35  
6TH ELECTION DISTRICT  
CONTRACT No. 14-3678-D  
SCALE: AS SHOWN SHEET 1 OF 2