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# WATER AND SEWER EXTENSIONS


# CHASE QUARRY

## 6th ELECTION DISTRICT

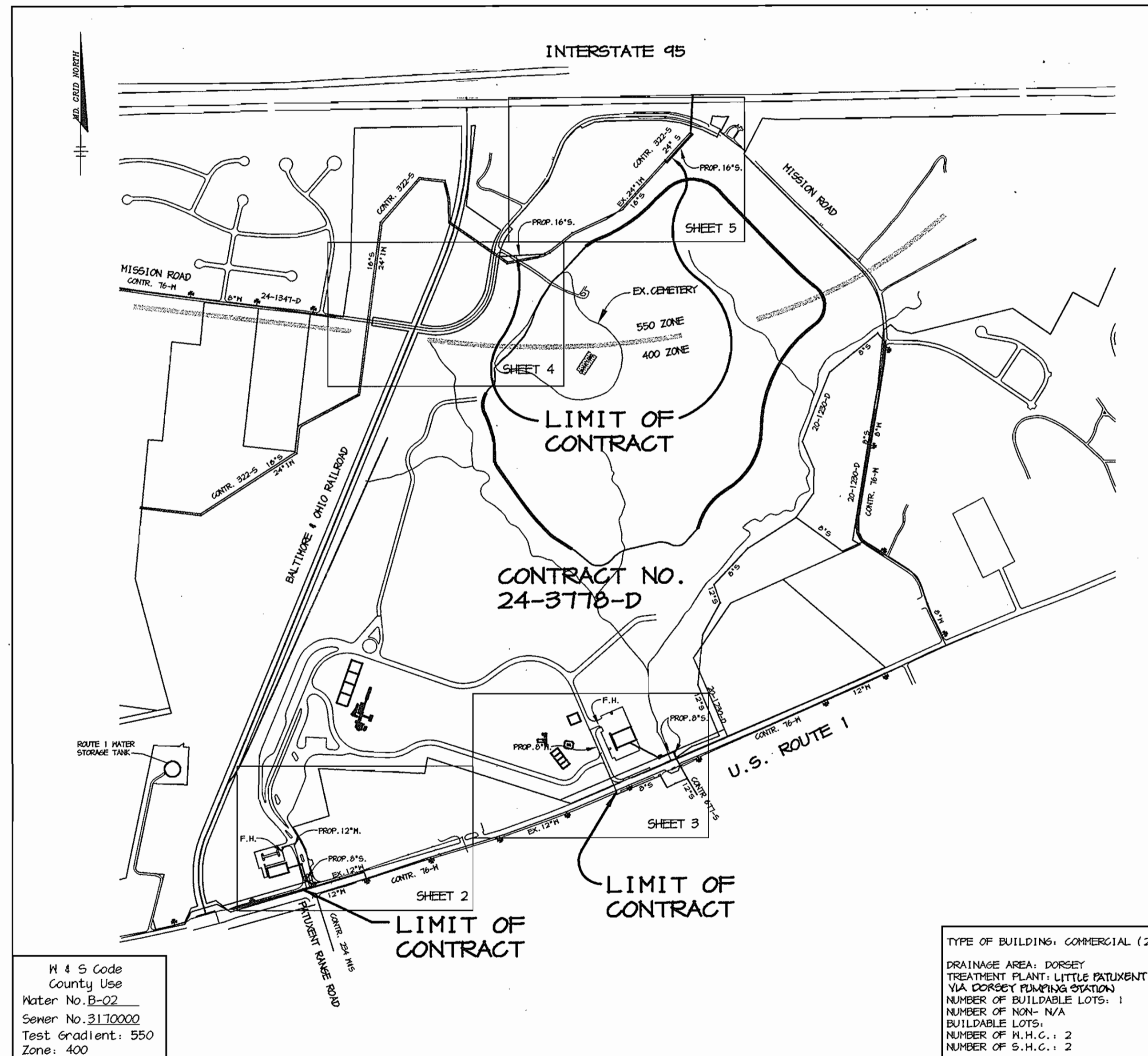
## HOWARD COUNTY, MARYLAND

## CONTRACT NO. 24-3778-D

**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 bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawings, and for materials and construction methods use Howard County Design Manual, Volume IV, Standard Specifications and Detail for Construction. (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol  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	531-5535
Baltimore Gas & Electric Co. Contractor Services	850-4620
Baltimore Gas & Electric Co. Underground Damage Control	787-9068
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	705-1350
Bureau of Utilities, Howard County Department of Public Works	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.
- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3'-1/2' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be restrained and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- All sewer mains shall be D.I.P. and 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 M.T. in plan and profile shall have watertight frame and covers, Standard Detail 65.52. 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.
- Manholes can be either brick or precast concrete structures.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail M.1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-7450 at least five (5) working days before any open cut of any county road or boring/jacking operation in county roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPN requirements per Section 18.114(a) of the Howard County Code.
- Howard County DPN is hereby granted permission to access private lots shown on these plans in order to maintain public water and sewer house connections at the curb stops and/or clearouts.



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

**QUANTITIES**

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
12" WATER	974 LF	322	CL-52 DIP	U.S. PIPE / B.R.S.
8" WATER	900 LF	484	"	"
6" WATER	228 LF	228	"	"
FIRE HYDRANTS	3 EA.	3	HYDRANT ORANGE	MUELLER CO. / B.R.S.
12" VALVES	2 EA.	2	RSOR GATE VALVE	"
8" VALVES	3 EA.	3	"	"
6" VALVES	5 EA.	6	"	"
12"x12" TSV	1 EA.	1	TAP SLEEVE / RSGN O.R. VALVE	SCM / MUELLER / B.R.S.
12"x8" TSV	1 EA.	1	"	"
AIR RELEASE MANHOLES	1 EA.	1	PRECAST	ATLANTIC CONC.
* 16" SEWER - D.I.P. CL 56	607 LF	617	TYTON JOINT	GRIFFIN PIPE / NATIONAL WATER WORKS
SEWER MANHOLES	12 EA.	12	PRECAST	CONTRACTORS PRECAST
8" SEWER (PUBLIC)	42 LF	92	SDR-35	U.S. PIPE / B.R.S.
8" DIP CL 52 SEWER	154 LF	154	CL-52 DIP	"
4" SEWER	4 LF	9	SDR-35	"
* 36" ASTM A36 STEEL SLEEVE	574 LF	571	WALL STEEL PIPE	DPS / NATIONAL WATER WORKS
* 42" ASTM A36 STEEL SLEEVE	567 LF	471	"	"
* 24" SEWER - D.I.P. CL 56	567 LF	525	TYTON JOINT	GRIFFIN PIPE / NATIONAL WATER WORKS
METER VAULT	1	1	PRECAST	ATLANTIC CONC.


NAME OF UTILITY CONTRACTOR: W.F. WILSON & SONS	* CHERRY HILL CONST.
Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on SDP-99-134	CHECKBOX
	AS-BUILT DATE
	SURVEY AND DRAFTING DIVISION

Review for Howard Soil Conservation District and meets technical requirements.  
*Jim Meyer* 12/17/03  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*John R. Peltzer* 12/17/03  
 HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND
<i>John R. Peltzer</i> 12-17-03 CHIEF, BUREAU OF UTILITIES DATE	<i>John R. Peltzer</i> 12/16/03 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Patton Harris Rust & Associates, pc  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.987.8900  
 F 410.987.9282  
 99092/WS-1.DWG



CHRISTOPHER J. REID #19945

DES: CJR			
DRN: DAM	WJ	AS-BUILT DATA ADDED	2/28/04
CHK: CJR	WAD	REVISED QUANTITIES	5-21-03
	WAD	REVISED QUANTITIES	1-12-03
	SEL	CHANGE QUANTITIES FOR FH.	4/28/04
DATE: 12/1/03	BY NO.	REVISION	DATE

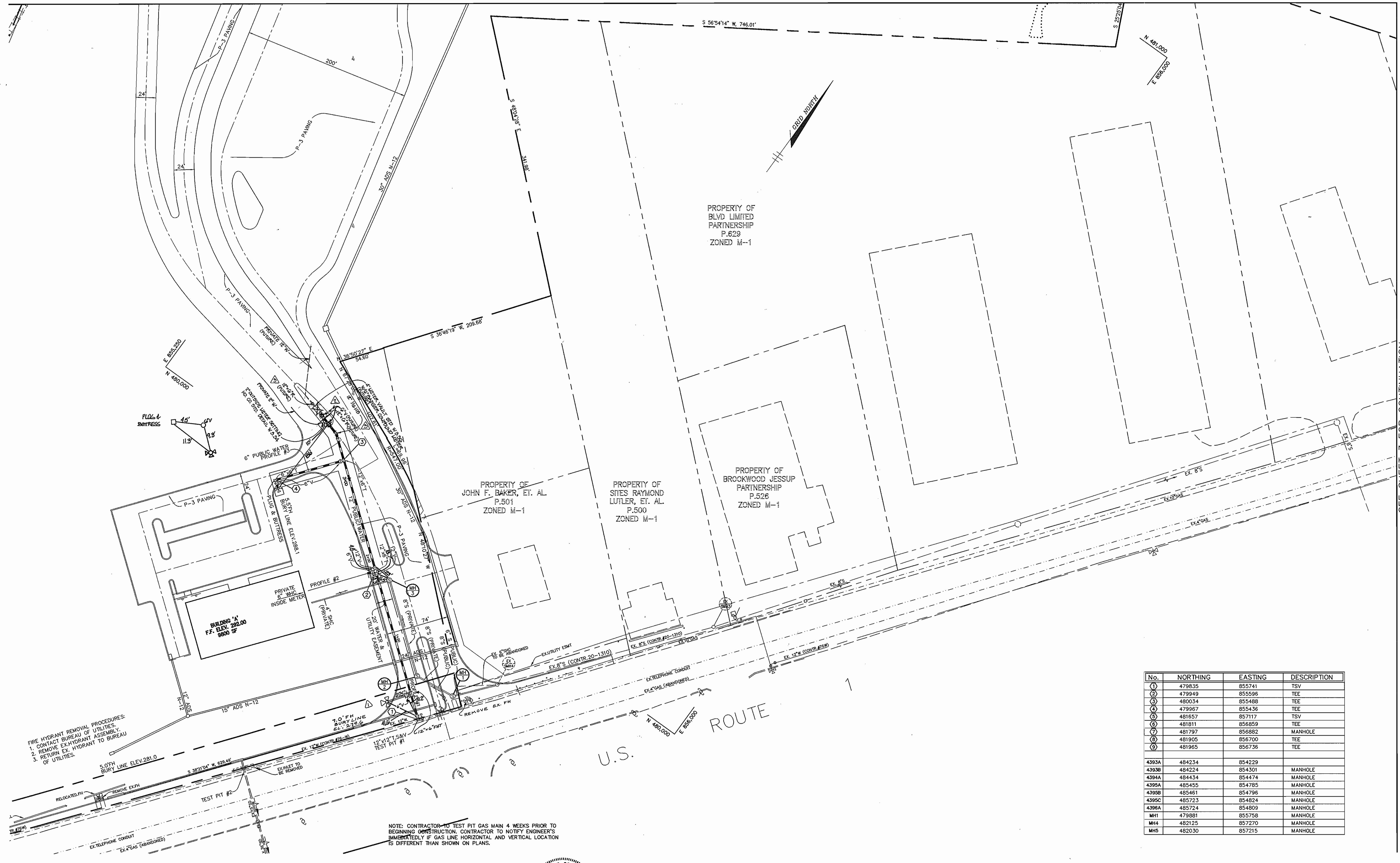
TITLE SHEET	
600' SCALE MAP NO. 43	BLOCK NO. 19

**CHASE QUARRY**  
 6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT 24-3778-D

SCALE AS SHOWN  
SHEET 1 OF 9

**BENCH MARKS**

HO. CO. SURVEY CONTROL STATION: 436A	
N 481,048.184	E 856,740.478
ELEVATION: 134.51'	
HO. CO. SURVEY CONTROL STATION: 436B	
N 483,368.683	E 858,132.322
ELEVATION: 112.49'	



SEE SHEET 3 FOR CONTINUATION

FIRE HYDRANT REMOVAL PROCEDURES:  
 1. CONTACT BUREAU OF UTILITIES.  
 2. REMOVE EX. HYDRANT ASSEMBLY.  
 3. RETURN EX. HYDRANT TO BUREAU OF UTILITIES.

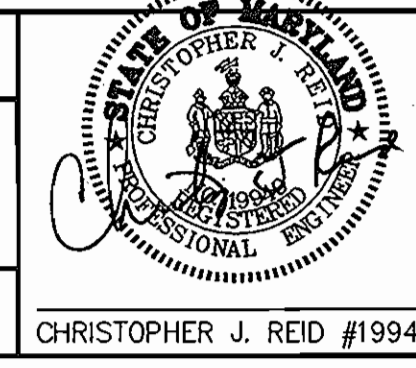
NOTE: CONTRACTOR TO TEST PIT GAS MAIN 4 WEEKS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER'S IMMEDIATELY IF GAS LINE HORIZONTAL AND VERTICAL LOCATION IS DIFFERENT THAN SHOWN ON PLANS.

No.	NORTHING	EASTING	DESCRIPTION
①	479835	855741	TSV
②	479949	855596	TEE
③	480034	855488	TEE
④	479967	855436	TEE
⑤	481657	857117	TSV
⑥	481811	856859	TEE
⑦	481797	856882	MANHOLE
⑧	481905	856700	TEE
⑨	481965	856736	TEE
4393A	484234	854229	
4393B	484224	854301	MANHOLE
4394A	484434	854474	MANHOLE
4395A	485455	854785	MANHOLE
4395B	485461	854796	MANHOLE
4395C	485723	854824	MANHOLE
4396A	485724	854809	MANHOLE
MH1	479881	855758	MANHOLE
MH4	482125	857270	MANHOLE
MH5	482030	857215	MANHOLE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Utilities  
 12-11-02

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
 Chief, Development Engineering Division  
 12/16/02

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 99092/MS-2.DWG

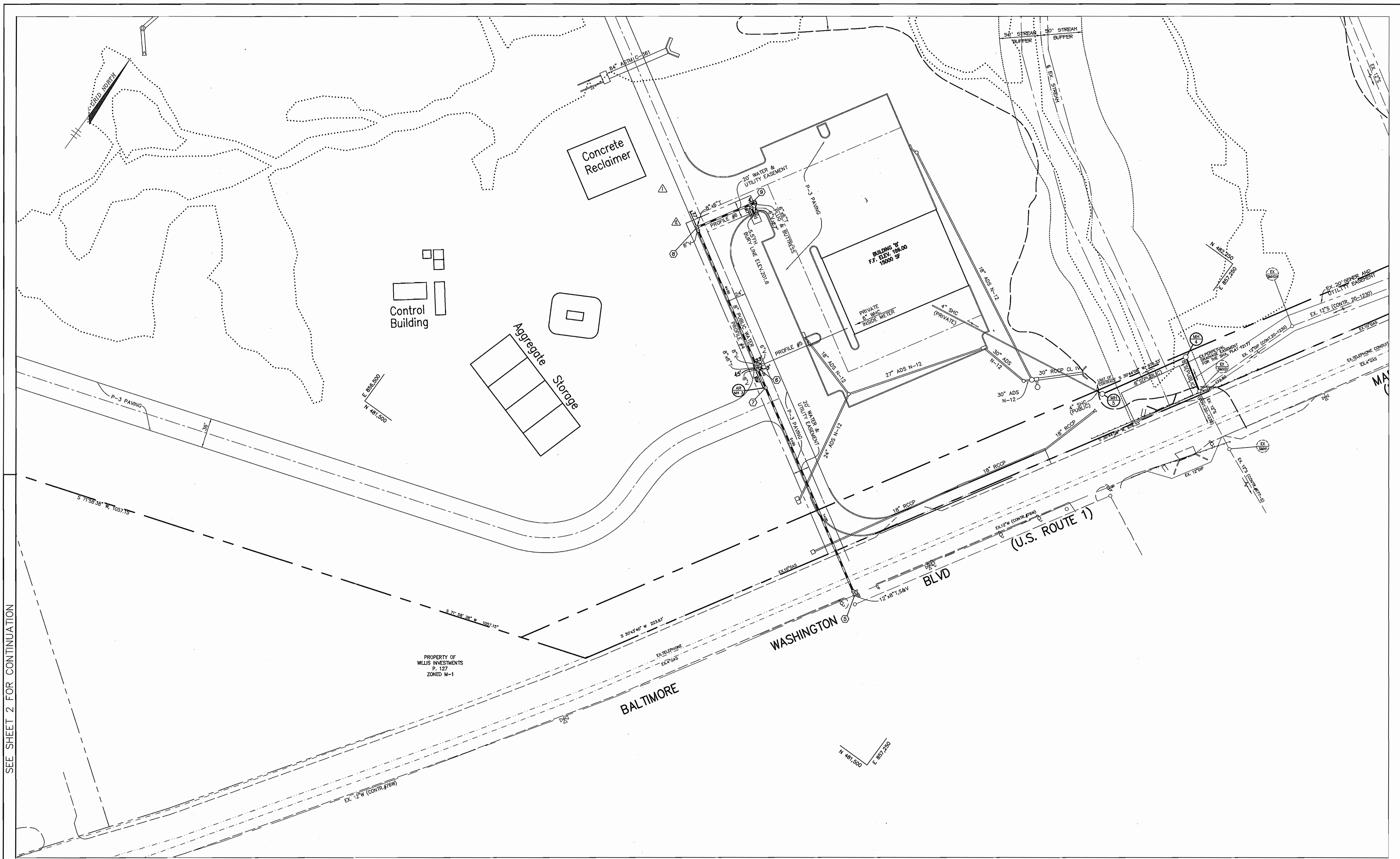


DES:	CJR			
DRN:	DAM	WCI	AS-BUILT DATA ADDED	12-21-02
CHK:	CJR	WAD	REVISED METER VAULT AND WATER TO BE FUTURE	9-21-02
DATE:	12/1/03	WAD	ADDED METER VAULT & 3/4" METER, EXTENDED WATER	1-12-03
BY:		S.E.L.	RELOCATED FIRE HYDRANT	4/28/04
NO.		NO.	REVISION	DATE

PLAN OF  
 WATER AND SEWER MAINS  
 600' SCALE MAP NO. 43 BLOCK NO. 19

CHASE QUARRY  
 6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT 24-3778-D

SCALE AS SHOWN  
 SHEET 2 OF 9

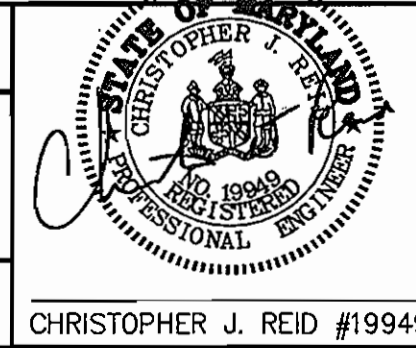


SEE SHEET 2 FOR CONTINUATION

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Christopher J. Reid* 12-11-03  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*Christopher J. Reid* 12/11/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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99092/WS-4.DWG



DES:	CJR			
DRN:	DAM			
CHK:	CJR	WAD	AS-BUILT DATA ADDED	12-29-03
DATE:	12/1/03	WAD	REMOVED METER VAULT & WATER	9-24-03
BY:	NO.	WAD	ADDED METER VAULT, EXTENDED WATER	1-12-03
			REVISION	DATE

**PLAN OF WATER AND SEWER MAINS**  
600' SCALE MAP NO. 43 BLOCK NO. 19

**CHASE QUARRY**  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT 24-3778-D

SCALE AS SHOWN  
SHEET 3 OF 9

SEE SHEET 5 FOR CONTINUATION

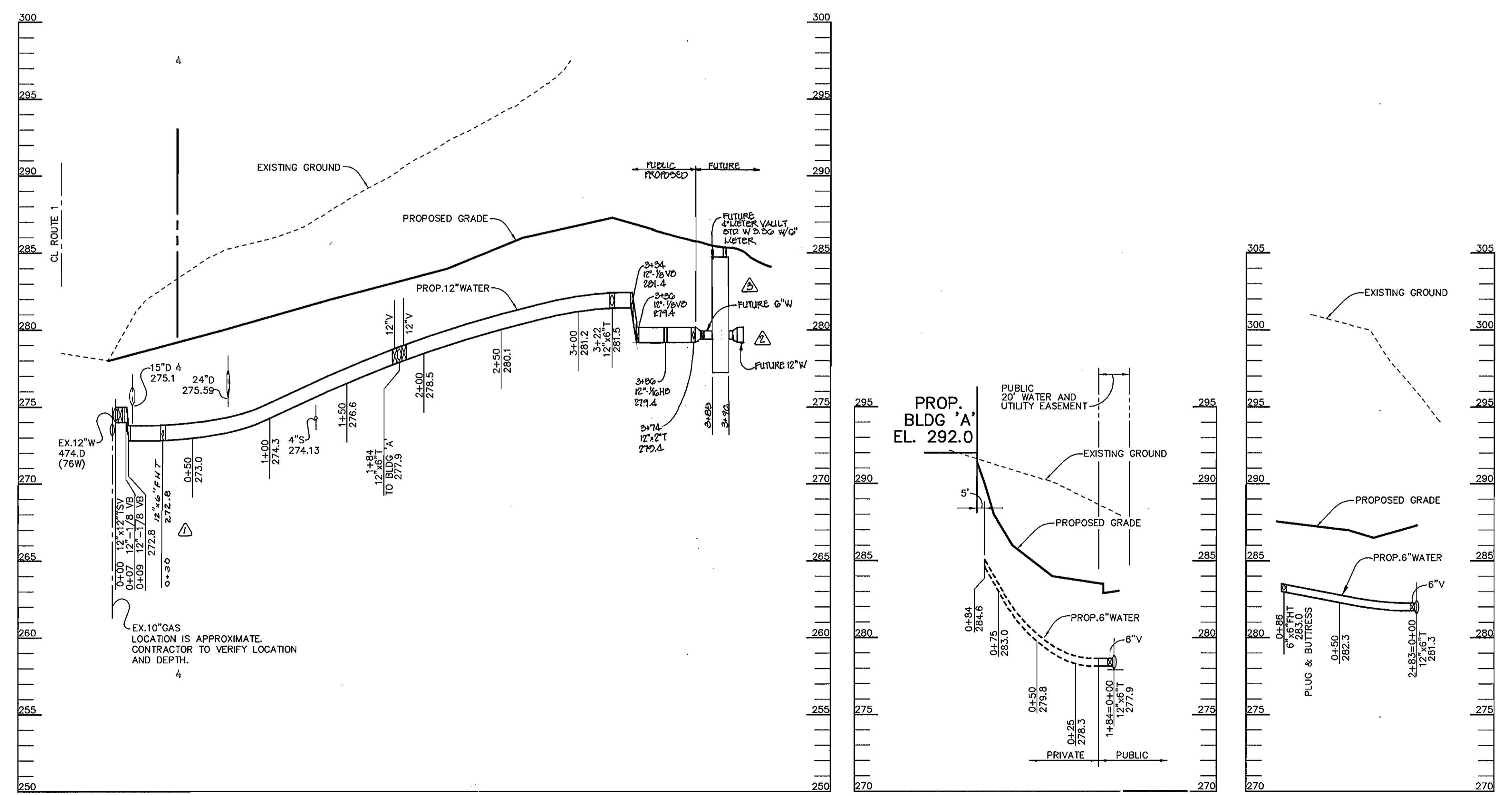
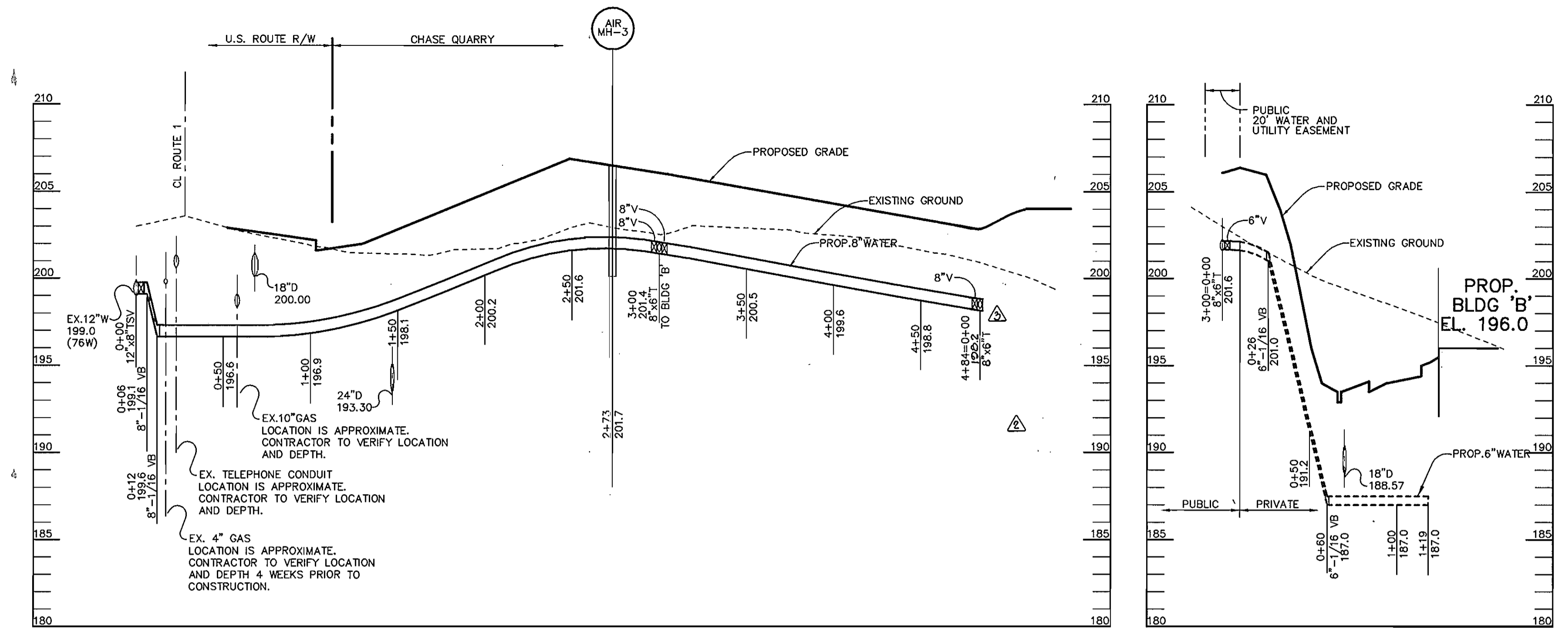


<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Robert J. Reid</i> 12-11-03 CHIEF, BUREAU OF UTILITIES</p>	<p>DEPARTMENT OF PLANNING &amp; ZONING HOWARD COUNTY, MARYLAND</p> <p><i>Christopher J. Reid</i> 12/10/03 CHIEF, DEVELOPMENT ENGINEERING DIVISION</p>	<p>Patton Harris Rust &amp; Associates, pc Engineers, Surveyors, Planners, Landscape Architects. <b>PHRA</b> 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282 99092/WS-6.DWG</p>	<p>CHRISTOPHER J. REID #199949</p>	<table border="1"> <tr> <td>DES:</td> <td>CJR</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRN:</td> <td>DAM</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHK:</td> <td>CJR</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE:</td> <td>12/11/03</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>BY:</td> <td></td> <td>NO.</td> <td></td> <td>REVISION</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DATE</td> </tr> </table>	DES:	CJR					DRN:	DAM					CHK:	CJR					DATE:	12/11/03					BY:		NO.		REVISION							DATE	<p align="center"><b>PLAN OF WATER AND SEWER MAINS</b></p> <p>600' SCALE MAP NO. <u>43</u> BLOCK NO. <u>19</u></p>	<p align="center"><b>CHASE QUARRY</b> 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 24-3778-D</p>	<p>SCALE AS SHOWN</p> <p>SHEET 4 OF 9</p>
DES:	CJR																																										
DRN:	DAM																																										
CHK:	CJR																																										
DATE:	12/11/03																																										
BY:		NO.		REVISION																																							
					DATE																																						



SEE SHEET 4 FOR CONTINUATION

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities 12-11-03	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division 12/11/03	Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. <b>PHRA</b> 8818 Centre Park Drive Columbia, MD 21045 T 410.997.9900 F 410.997.9282 99092/WS-7.DWG	CHRISTOPHER J. REID #19949	DES: CJR DRN: DAM CHK: CJR DATE: 12/1/03 BY NO. REVISION DATE	PLAN OF WATER AND SEWER MAINS 600' SCALE MAP NO. 43 BLOCK NO. 19	CHASE QUARRY 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 24-3778-D SCALE AS SHOWN SHEET 5 OF 9
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

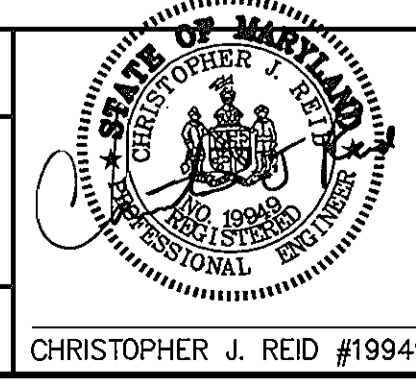
*Robert M. Beaman*  
CHIEF, BUREAU OF UTILITIES  
12-11-03 DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*Christopher J. Reid*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
12/10/03 DATE

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.

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99092 WS10.DWG



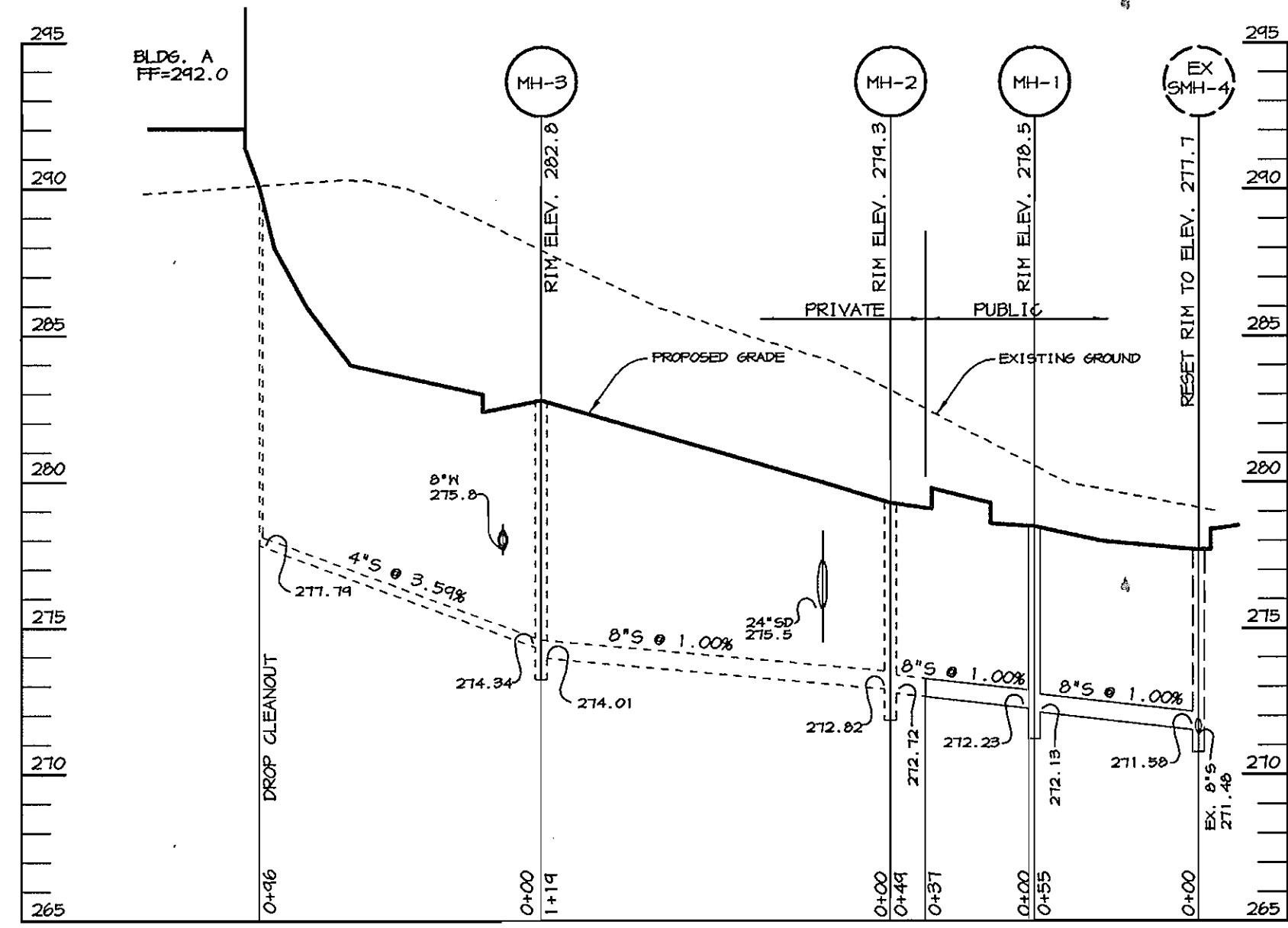
DES:	CJR			
DRN:	DAM			
CHK:	CJR	WAD	REVISED WATER PROFILE #1 & #4	9/24/09
		WAD	ADD METER VAULT TO PROFILE #1 & #4	1/11/05
DATE:	12/1/03	S.E.L	ADDED FIRE HYDRANT TO PROFILE #1	4/28/04
BY:	NO.	REVISION		DATE

**WATER PROFILES**

600' SCALE MAP NO. 43 BLOCK NO. 19

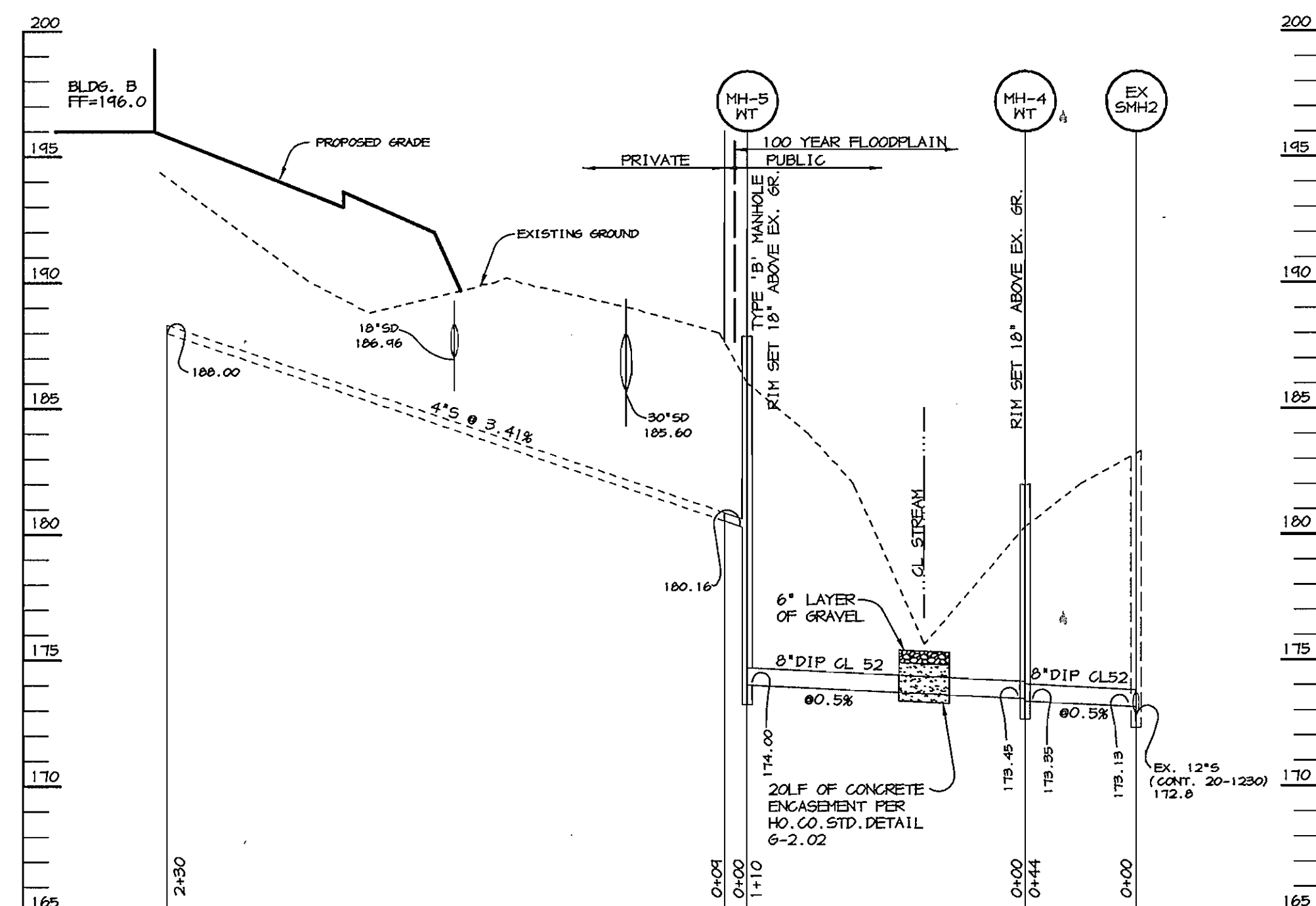
**CHASE QUARRY**  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT 24-3778-D

SCALE AS SHOWN  
SHEET 6 OF 9



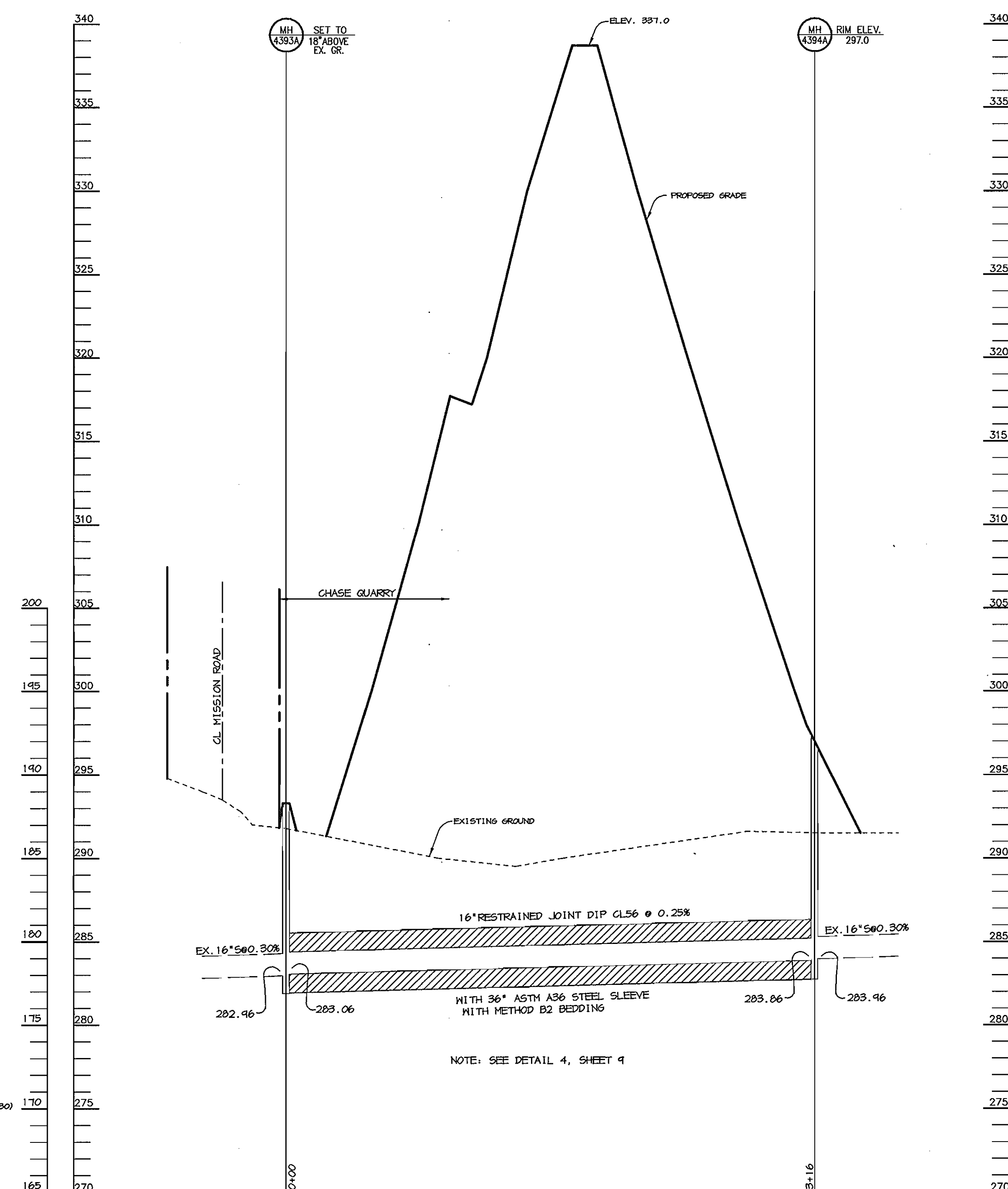
SHC PROFILE - BUILDING A

SCALE: HOR.-1"=50'  
VERT.-1"=5'



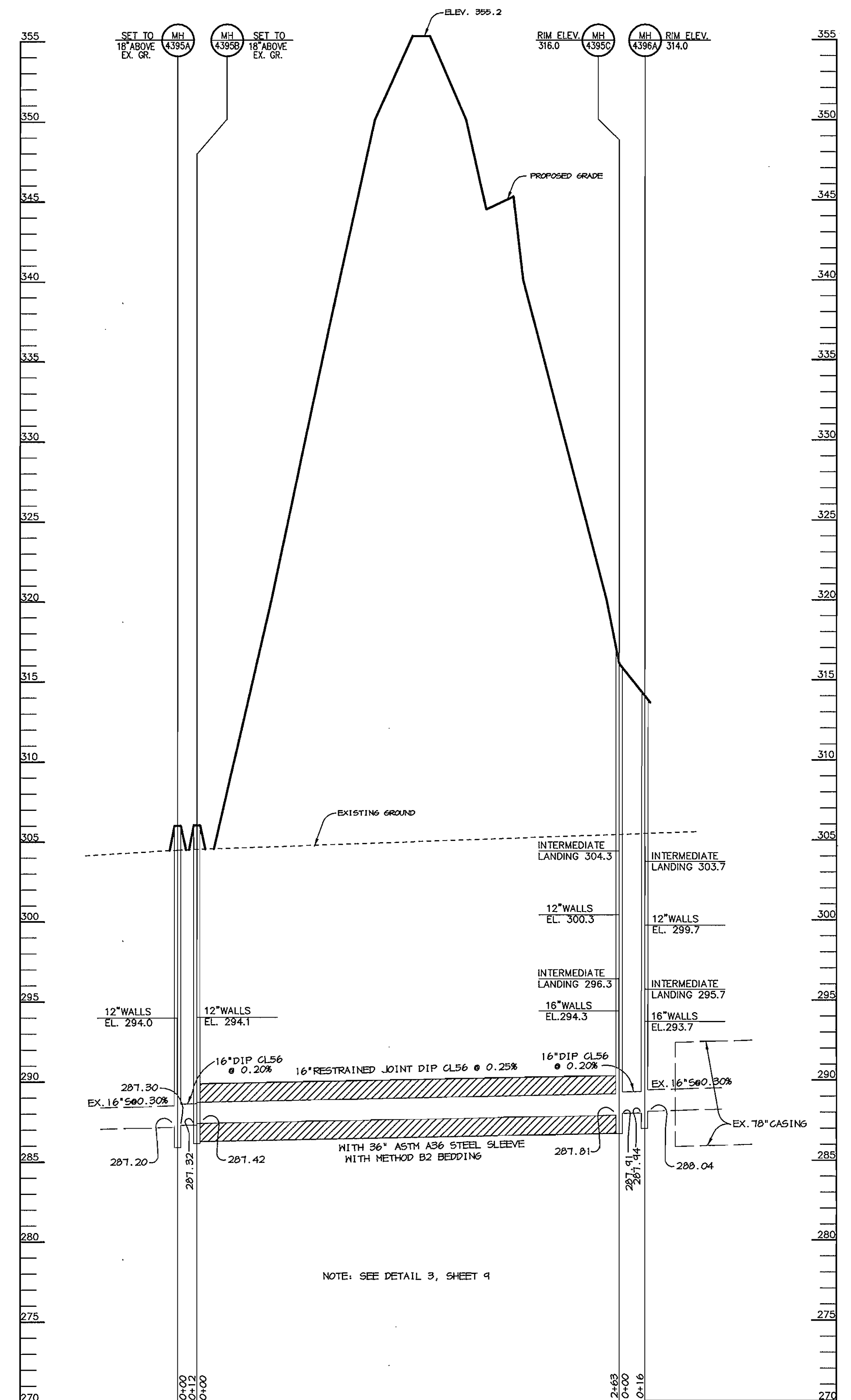
SHC PROFILE - BUILDING B

SCALE: HOR.-1"=50'  
VERT.-1"=5'



PROFILE

SCALE: HOR.-1"=50'  
VERT.-1"=5'



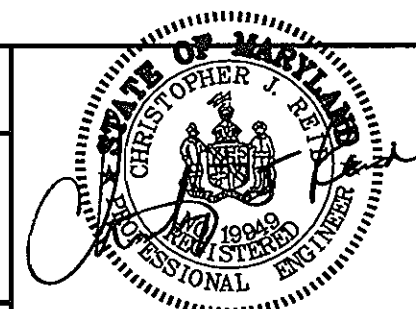
PROFILE

SCALE: HOR.-1"=50'  
VERT.-1"=5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

Patton Harris Rust & Associates, pc  
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F 410.997.9282  
99092 WS11.DWG



DES: CJR

DRN: DAM

CHK: CJR

DATE: 12/1/03

SEWER PROFILES

CHASE QUARRY  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT 24-3778-D

SCALE  
AS  
SHOWN

SHEET  
7 OF 9

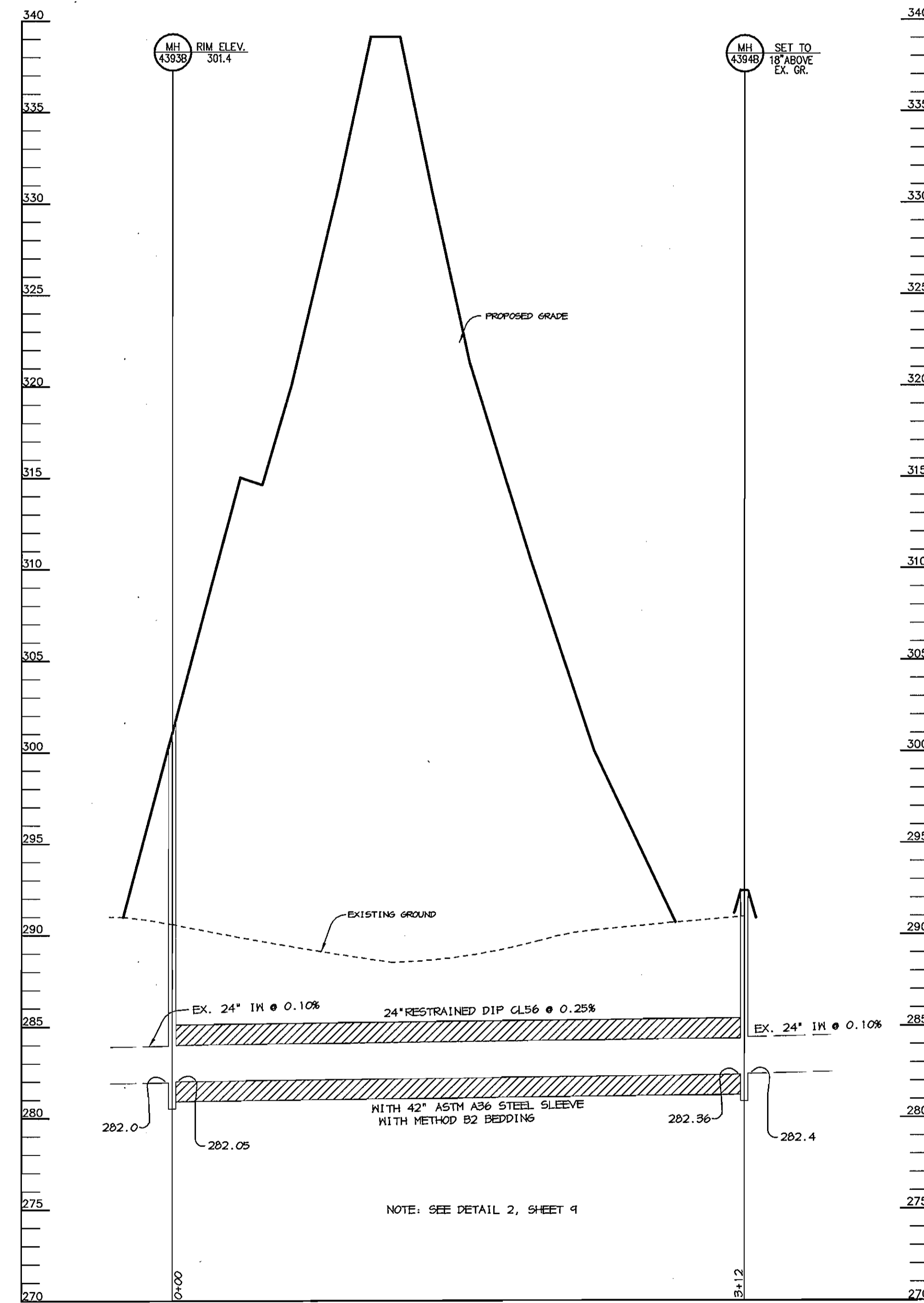
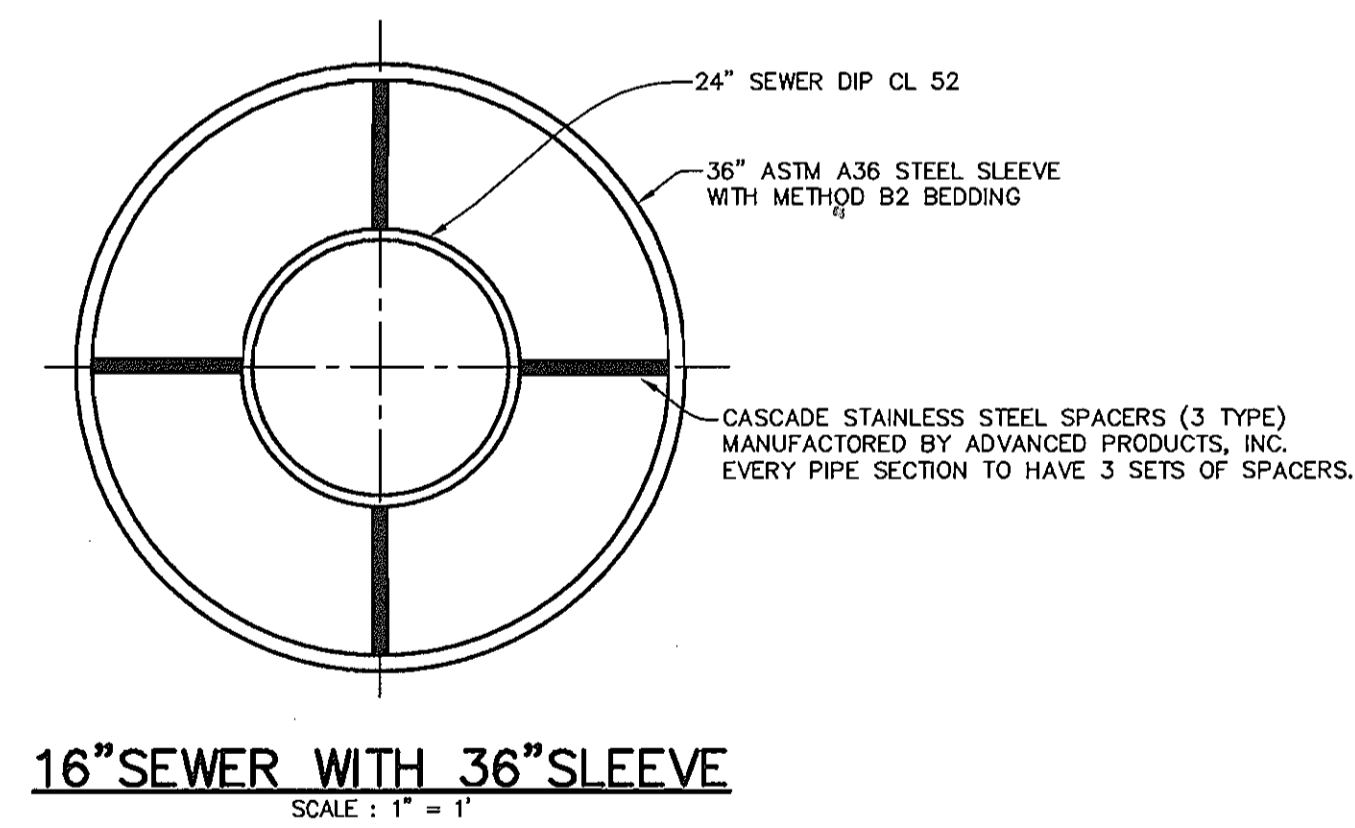
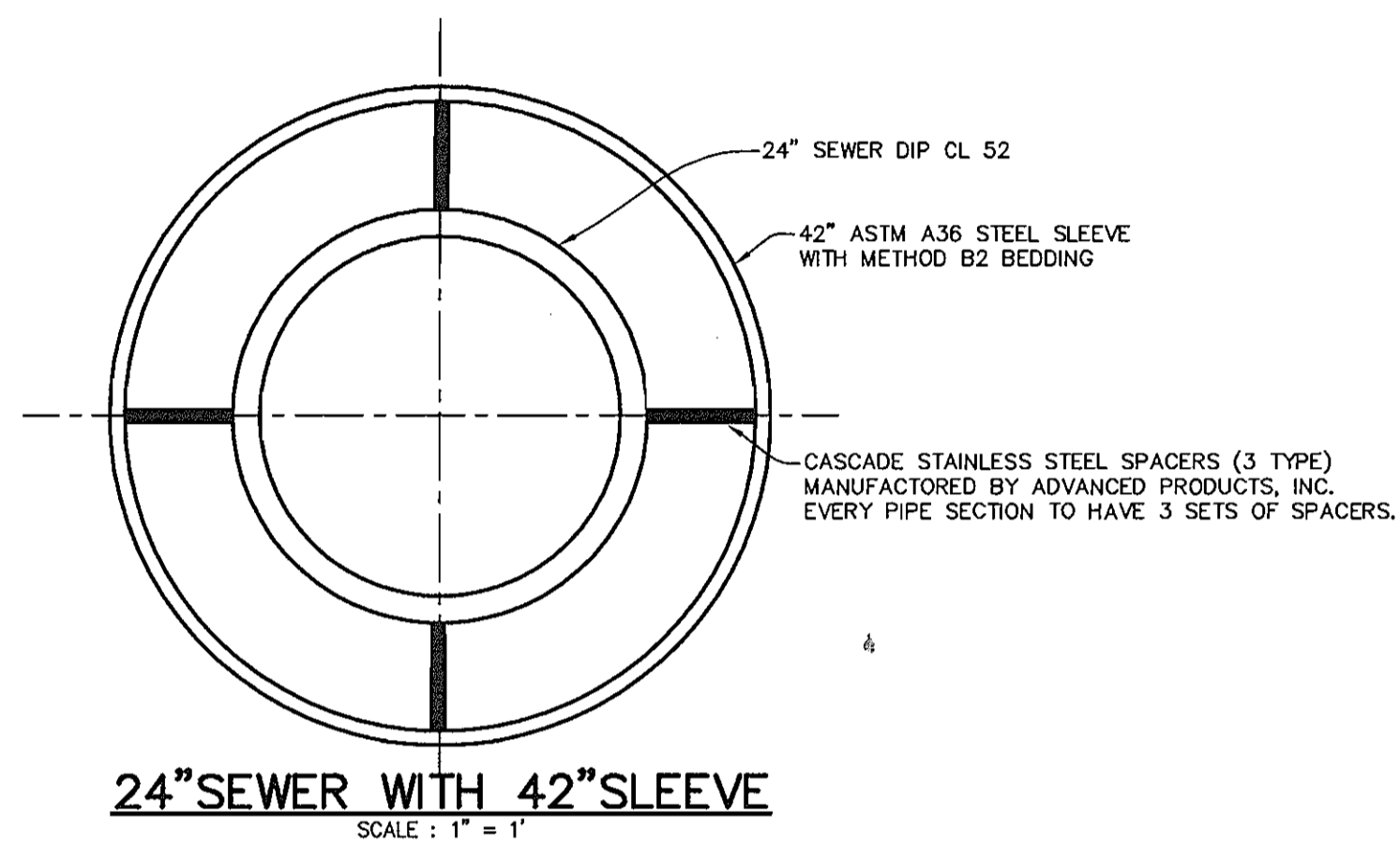
Robert D. ... 12-11-03  
CHIEF, BUREAU OF UTILITIES

...  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

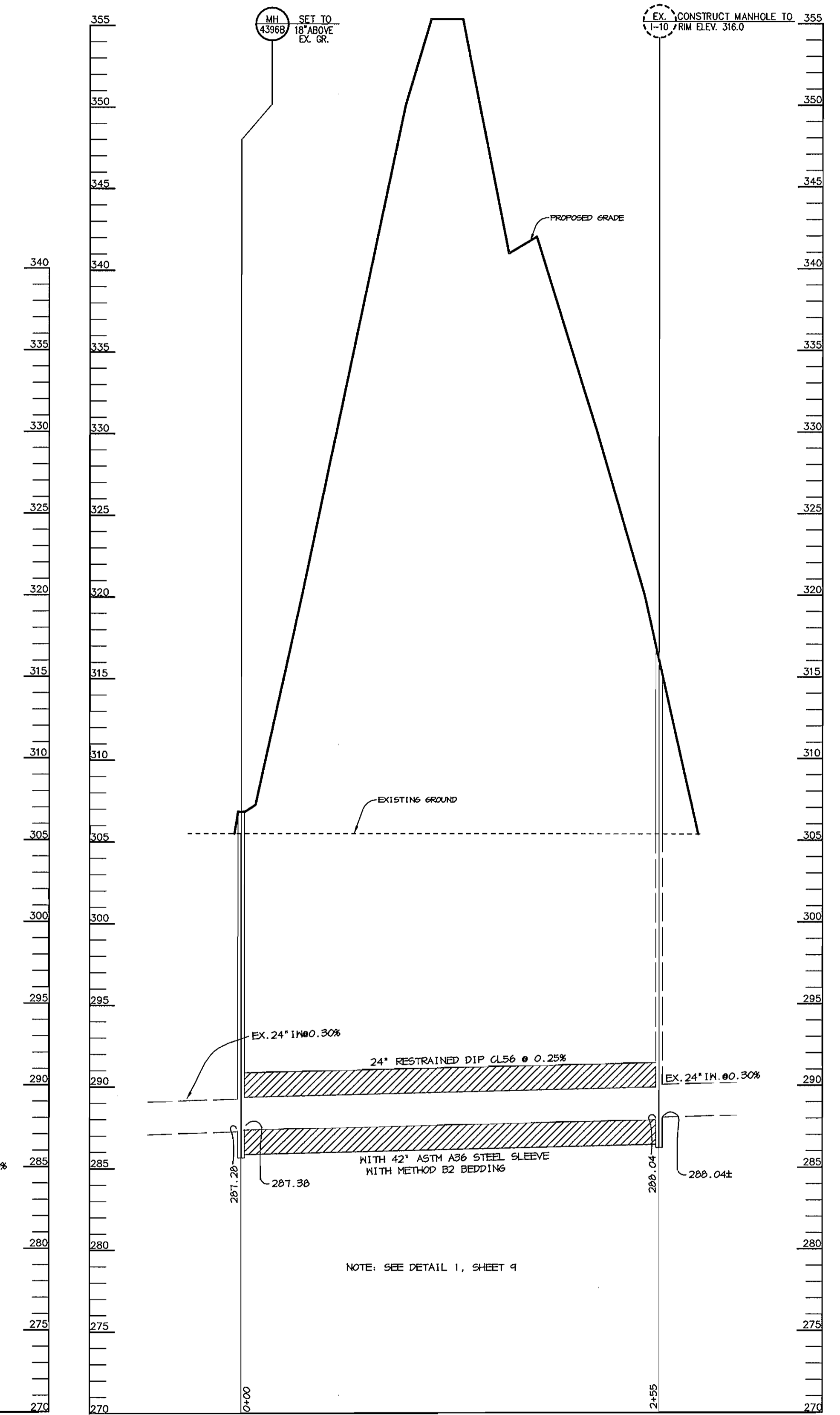
CHRISTOPHER J. REID #19949

BY NO. REVISION DATE

600' SCALE MAP NO. 43 BLOCK NO. 19



**PROFILE**  
SCALE:  
HOR.-1"=50'  
VERT.-1"=5'



**PROFILE**  
SCALE:  
HOR.-1"=50'  
VERT.-1"=5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

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CHRISTOPHER J. REID #19949

DES: CJR

DRN: DAM

CHK: CJR

DATE: 12/1/03

BY	NO.	REVISION	DATE

**SEWER PROFILES AND DETAILS**

600' SCALE MAP NO. 43 BLOCK NO. 19

**CHASE QUARRY**  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT 24-3778-D

SCALE  
AS  
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SHEET  
8 OF 9

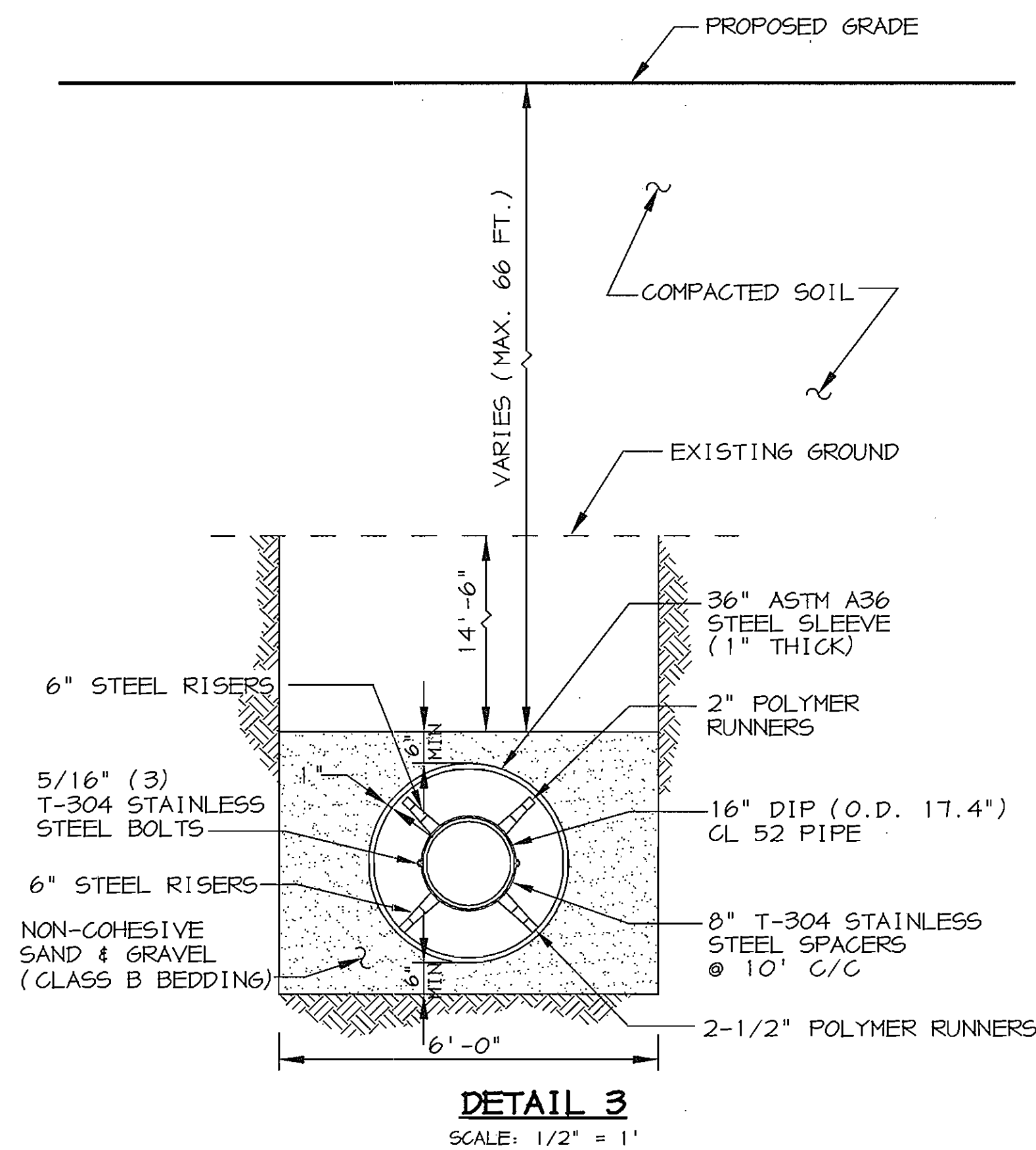
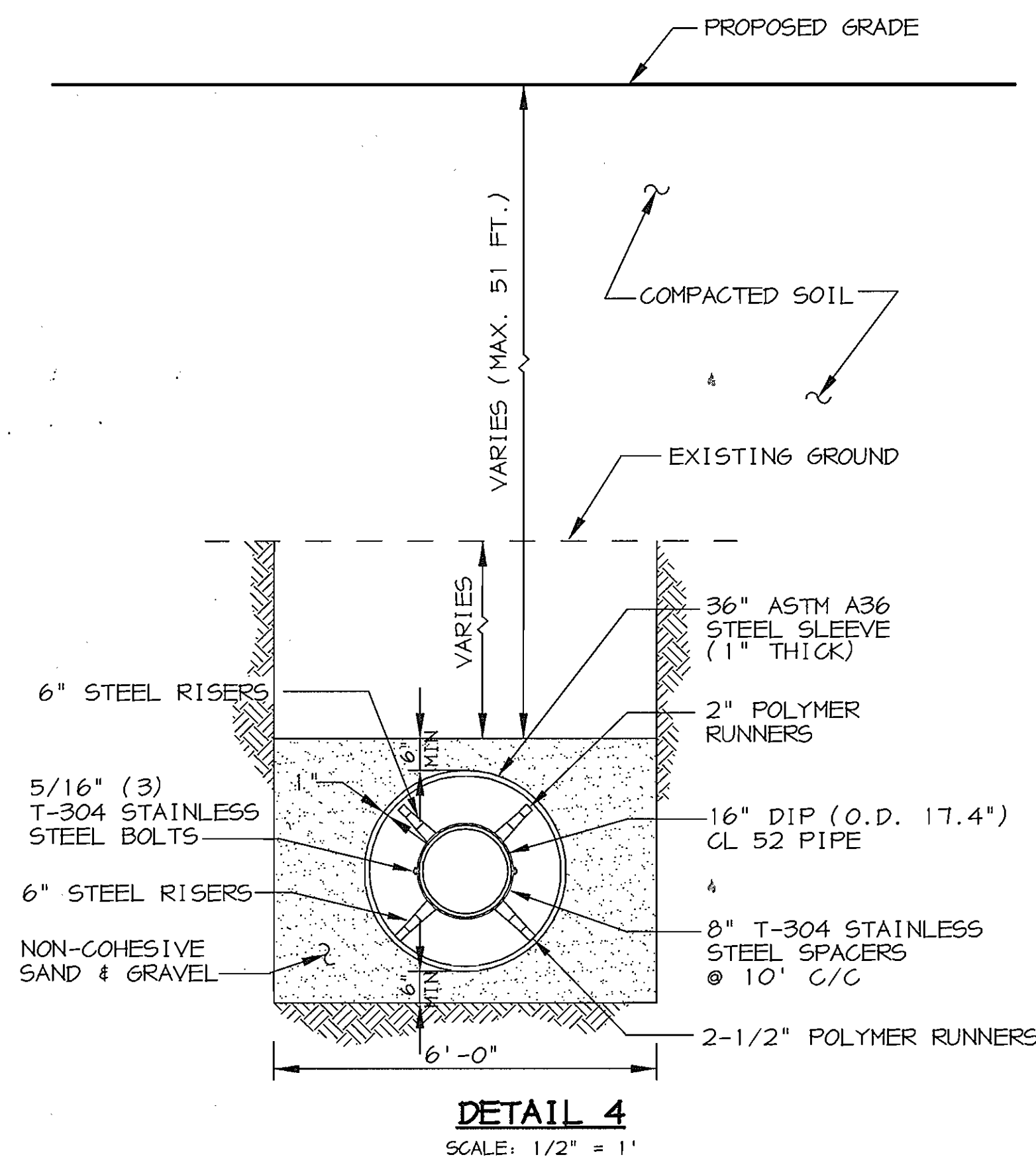
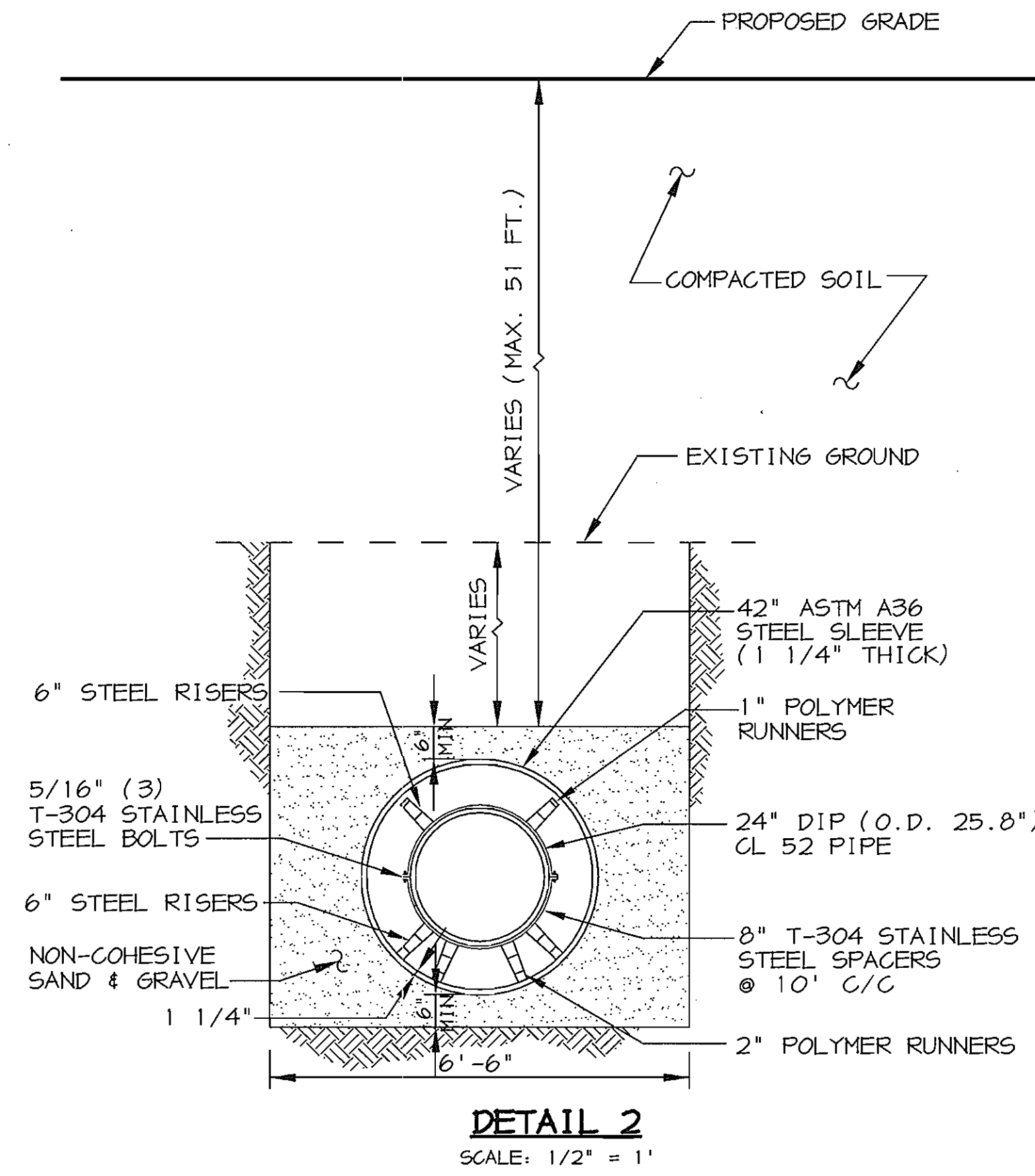
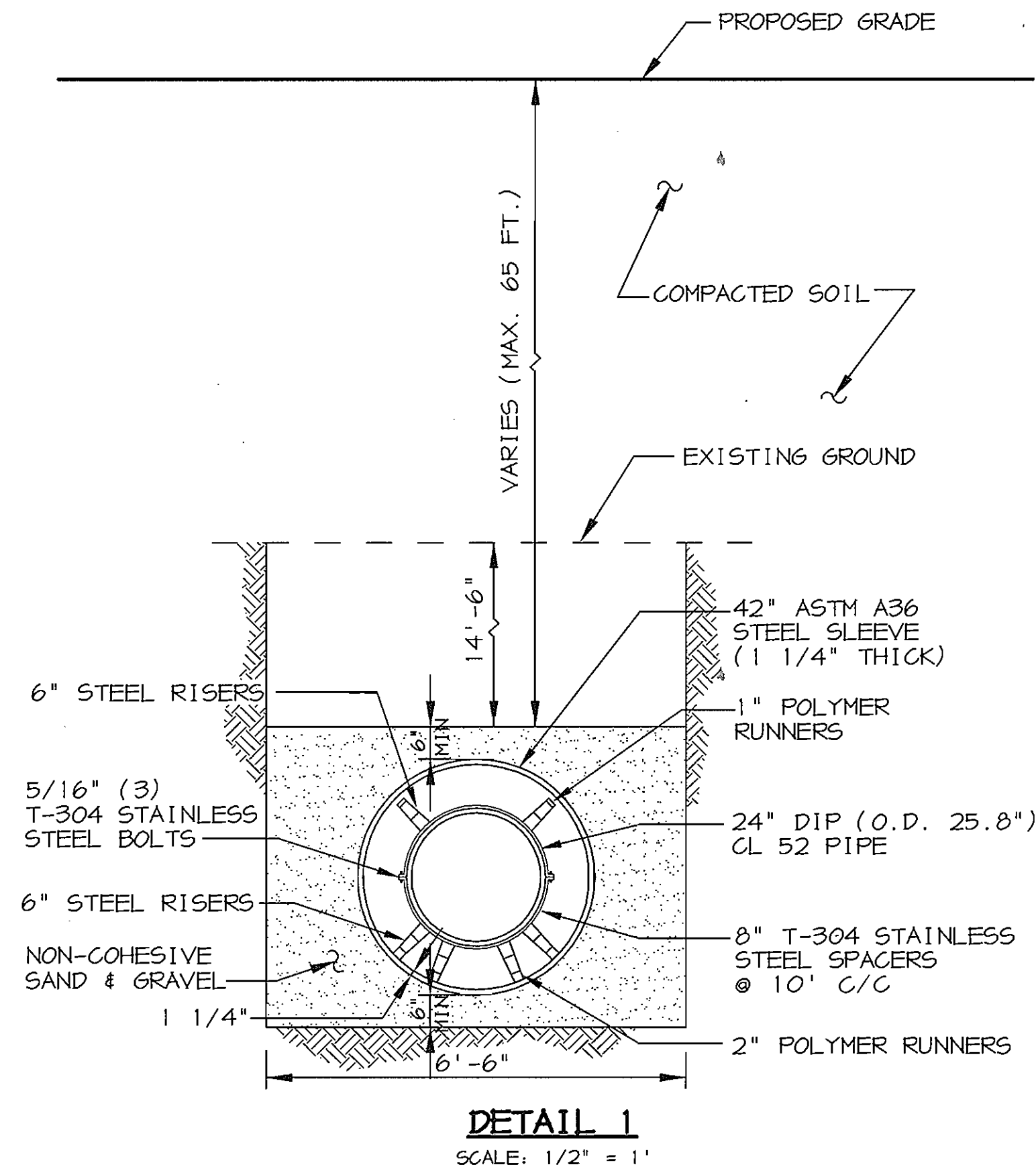
*Robert W. Benjamin* 12-11-03  
CHIEF, BUREAU OF UTILITIES DATE

*Christopher J. Reid* 12/1/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



**NOTES:**

1. STEEL CASING PIPE SHALL BE AS PER ASTM A36 STANDARD SPECIFICATIONS AND SHALL HAVE A YIELD STRENGTH OF 36 ksi (MIN).
2. ALL EXTERIOR SURFACES OF THE STEEL PIPE, INCLUDING FIELD CONNECTIONS, SHALL BE SHOP-COATED WITH A COLDTAR ENAMEL IN ACCORDANCE WITH AWWA C203 BEFORE INSTALLATION. ALL DAMAGED PIPE AREAS SHALL BE RECOATED AFTER INSTALLATION.
3. TRENCH BACKFILL SHALL BE PLACED IN 8 TO 12 INCH LAYERS AND BE COMPACTED TO ACHIEVE A MINIMUM 90% STANDARD PROCTOR DENSITY.
4. ONLY HAND OPERATED COMPACTORS SHALL BE PERMITTED WITHIN THREE FEET OF THE STEEL CASINGS AND CLOSER THAN 45° PLANES TANGENT TO THE HAUNCHES.



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  <i>R. L. B. B. B.</i> 12-11-03 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND  <i>M. J. J. J.</i> 12/16/03 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. <b>P.H.R.A.</b> 8818 Centre Park Drive Columbia, MD 21045 T 410.597.8000 F 410.597.9282 99002/WS-9.DWG	DES: GCL				<b>SEWER DETAILS</b>	CHASE QUARRY 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 24-3778-D	SCALE AS SHOWN
			DRN: DAM						SHEET 9 OF 9
			CHK: CJR				DATE: 12/1/03		
			BY: NO.		REVISION		DATE	600' SCALE MAP NO. 43	BLOCK NO. 19

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