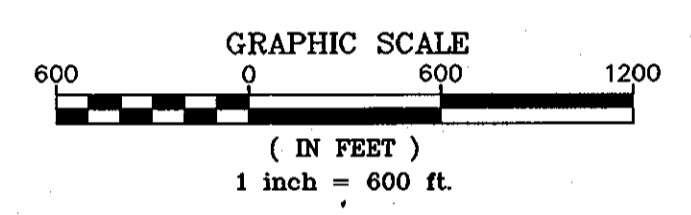


TYPE OF BUILDING:	RESIDENTIAL/COMMERCIAL
NUMBER OF PARCELS:	N/A
WATER HOUSE CONNECTIONS:	N/A
SEWER HOUSE CONNECTIONS:	N/A
DRAINAGE AREA:	LITTLE PATUXENT

VICINITY MAP  
SCALE: 1" = 600'



# LITTLE PATUXENT PARALLEL INTERCEPTOR SEWER CAPITAL PROJECT S-6175 CONTRACT NO. 20-4636

HOWARD COUNTY, MARYLAND

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	OVERALL PROFILE
3	GENERAL NOTES
4	PLAN AND PROFILE SHEET
5	PLAN AND PROFILE SHEET
6	PLAN AND PROFILE SHEET
7	MISCELLANEOUS DETAILS
8	JUNCTION CHAMBER 1201 PLAN AND SECTIONS
9	JUNCTION CHAMBER 1201 REINFORCING DETAILS
10	JUNCTION CHAMBER 1201 WALL SECTIONS & DETAILS
11	ACCESS ROAD PLAN & PROFILE
12	ACCESS PLAN & PROFILE AND MAINTENANCE OF TRAFFIC
13	DETOUR PLAN TEN MILLS ROAD
14	EROSION AND SEDIMENT CONTROL PLAN
15	EROSION AND SEDIMENT CONTROL PLAN
16	EROSION AND SEDIMENT CONTROL PLAN
17	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
18	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
19	EROSION AND SEDIMENT CONTROL NOTES & DETAILS
20	EROSION AND SEDIMENT CONTROL NOTES & DETAILS

BILL OF MATERIALS				
ITEM	ESTIMATED QUANTITIES	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
27" PVC-OR FRP SEWER	1,812 LF	1,753 LF		HOBAS PIPE, USA
30" PVC-OR FRP SEWER	1,726 LF	1,697 LF		HOBAS PIPE, USA
5' Ø PRECAST MANHOLE	6 EA.	6.0 EA.	PRECAST	ATLANTIC CONCRETE PROD. INC.
6' Ø PRECAST MANHOLE	2 EA.	2.0 EA.	PRECAST	" " " "
8' Ø PRECAST MANHOLE	1 EA.	1.0 EA.	PRECAST	" " " "
5' Ø DOGHOUSE MANHOLE	3 EA.	3 EA.	PRECAST	" " " "
5' Ø MH ADDITIONAL DEPTH	44 V.F.	54.26 V.F.		
6' Ø MH ADDITIONAL DEPTH	27 V.F.	27.41 V.F.		
8' Ø MH ADDITIONAL DEPTH	6 V.F.	6.63 V.F.		
JUNCTION CHAMBER	1 EA.	1.0 EA.	CAST IN PLACE	

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on these plans.

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

*John R. Roberts*  
HOWARD SOIL CONSERVATION DISTRICT

BY THE DEVELOPER:

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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Wes Oamb*  
DEVELOPER

6-20-2012  
DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REFERENCE 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 SOIL CONSERVATION DISTRICT.

*Thomas N. Dallapala*  
ENGINEER

6/11/12  
DATE

PROFESSIONAL CERTIFICATION:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10966, EXPIRATION DATE MAY 31, 2014.

*Thomas N. Dallapala*  
THOMAS N. DALLAPALA

6/11/12  
DATE

4-10-2013  
AS-BUILTS  
*EP-12-042*

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Joseph A. Gish*  
DIRECTOR OF PUBLIC WORKS

*Shirley C. Gish*  
CHIEF, BUREAU OF UTILITIES

*Morgan J. Smith*  
CHIEF, BUREAU OF ENGINEERING

*Wes Oamb*  
CHIEF, UTILITY DESIGN DIVISION

6/13/12  
DATE

**Dewberry**  
Dewberry & Davis LLC

3106 LORD BALTIMORE DRIVE  
SUITE 110  
BALTIMORE, MD 21244-2662  
410.265.9500  
FAX: 410.265.5875

STATE OF MARYLAND  
PROFESSIONAL ENGINEERING

DES: LAL			
DRN: RLI			
CHK: TND			
DATE: JUNE 2012	BY	NO.	REVISIONS

TITLE SHEET

600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14

LITTLE PATUXENT PARALLEL INTERCEPTOR

CAPITAL PROJECT S-6175  
CONTRACT NO. 20-4636

ELECTION DISTRICT NO. 5

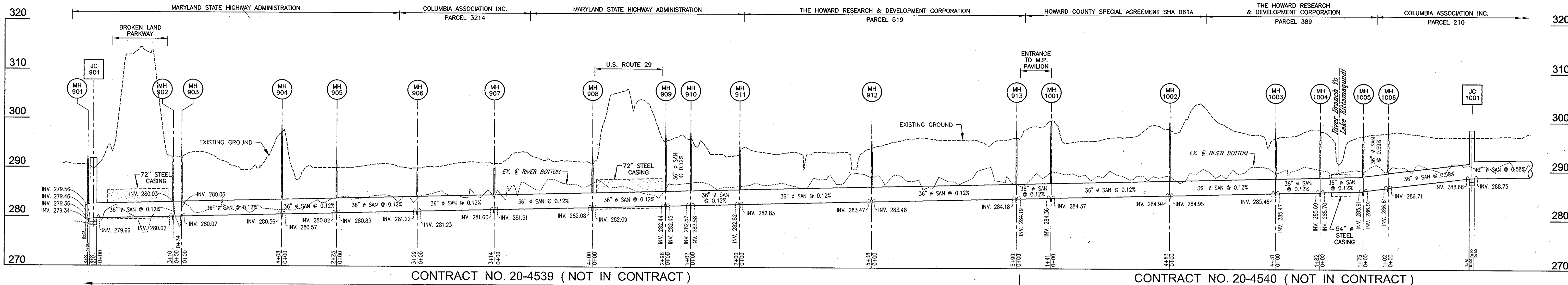
HOWARD COUNTY, MARYLAND

ESC  
1 OF 8

SCALE:  
SHOWN

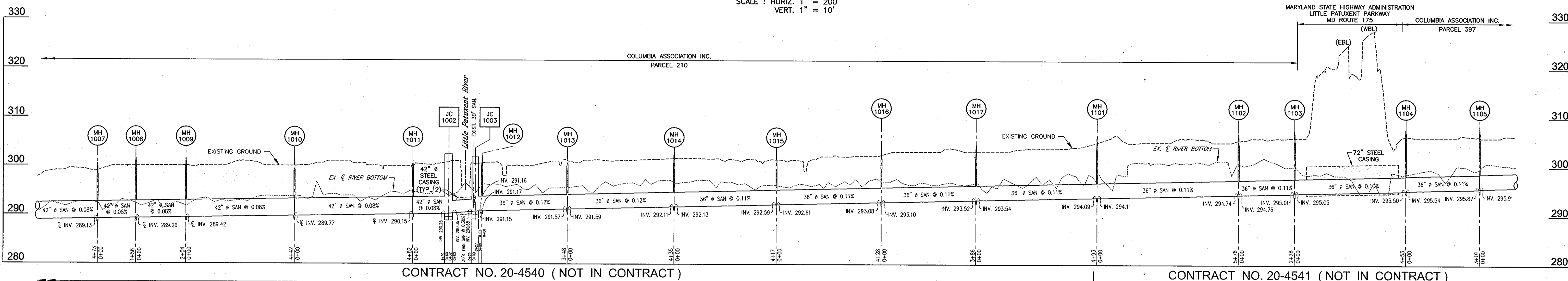
SHEET  
1 OF 20

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 Plot Style: Howard County.dwt  
 Plot Range: Extents  
 Plot Scale: 1:1  
 Plot Orientation: Landscape  
 Plot Color: Black  
 Plot Lineweight: 0.25  
 Plot Linetype: Solid  
 Plot Font: Arial, 10  
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 Plot Date: 6/13/2012 12:29pm  
 Plot User: jgish



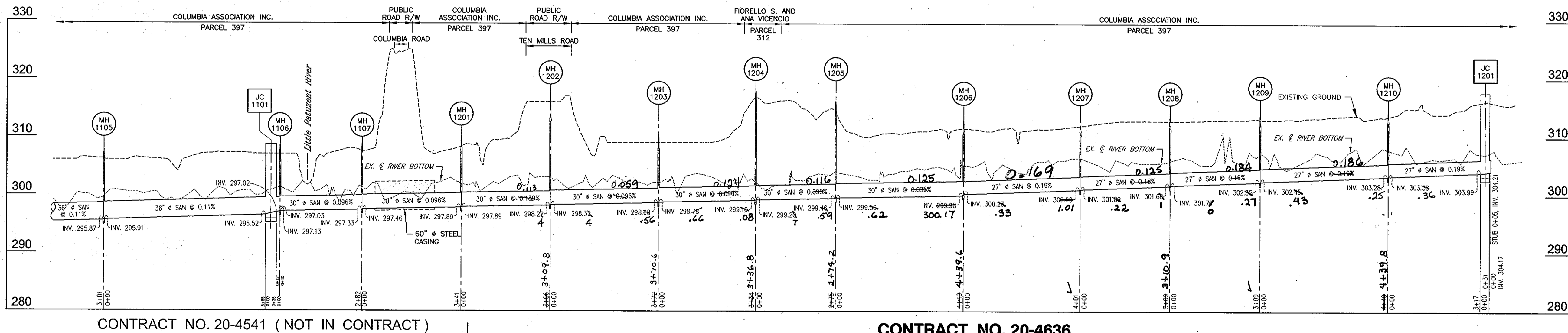
**PROFILE**

SCALE: HORIZ. 1" = 200'  
VERT. 1" = 10'



**PROFILE**

SCALE: HORIZ. 1" = 200'  
VERT. 1" = 10'



**PROFILE**

SCALE: HORIZ. 1" = 200'  
VERT. 1" = 10'

4-10-2013  
S. BULLIS

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]*  
Chief, Bureau of Utilities: *[Signature]*

Chief, Bureau of Engineering: *[Signature]* 6/13/12  
Chief, Utility Design Division: *[Signature]* 6/13/12

**Dewberry**  
Dewberry & Davis LLC  
3106 LORD BALTIMORE DRIVE  
SUITE 110  
BALTIMORE, MD 21244-2662  
410.265.9500  
FAX: 410.265.8875



DES: LAL					
DRN: RLI					
CHK: TND					
DATE: JUNE 2012	BY: NO.	REVISIONS	DATE		

**OVERALL PROFILE**

600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14

**LITTLE PATUXENT PARALLEL INTERCEPTOR**  
CAPITAL PROJECT S-6175  
CONTRACT NO. 20-4636

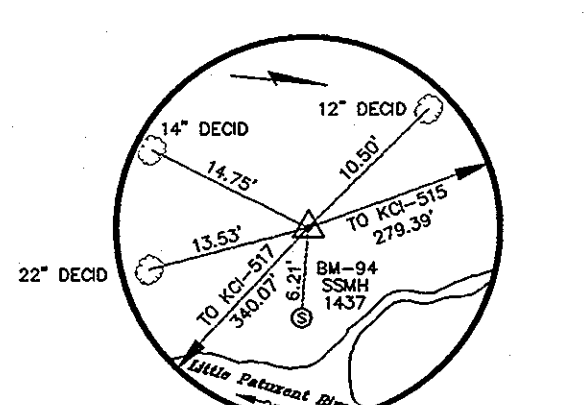
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

SCALE: SHOWN  
SHEET 2 OF 20

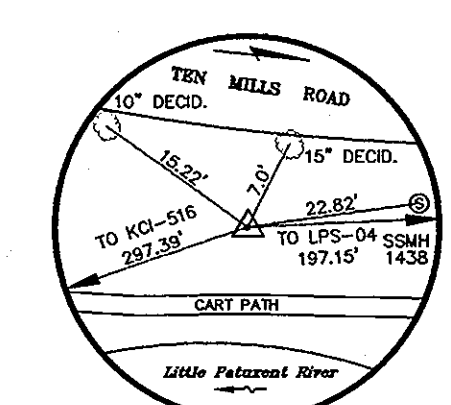


**BENCH MARK BM-94**  
 MANHOLE # 1437 ELEV. 311.97  
 "X" CUT ON MANHOLE RIM  
 N 569,825 E 1,354,127

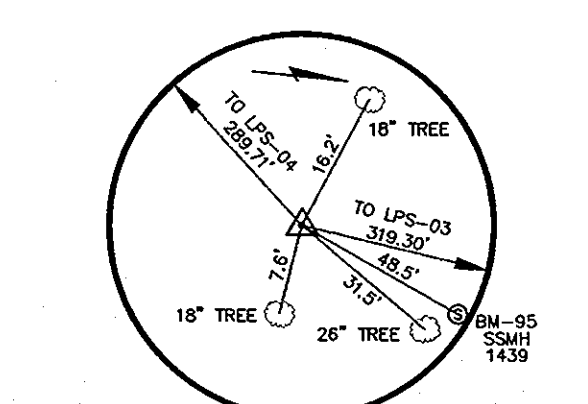
**BENCH MARK BM-95**  
 MANHOLE # 1439 ELEV. 312.42  
 "X" CUT ON MANHOLE RIM  
 N 570,523 E 1,354,186



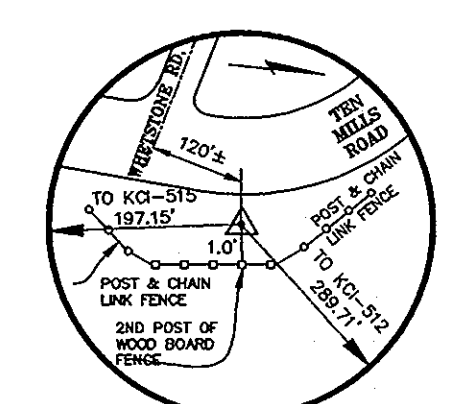
**KCI-516**  
 3/4" REBAR W/ RED KCI CAP  
 N 569,821.83  
 E 1,354,121.62  
 ELEV. 308.59



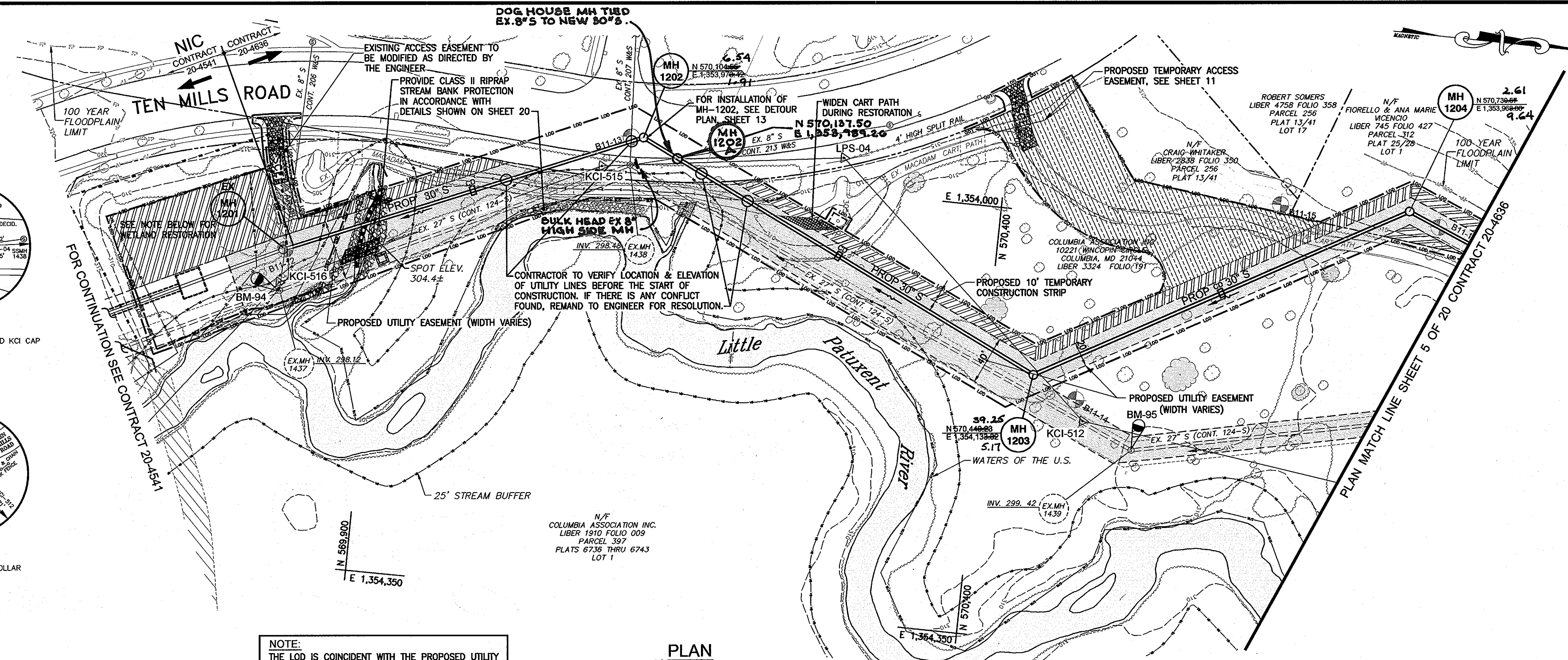
**KCI-515**  
 3/4" REBAR W/ RED KCI CAP  
 N 570,073.35  
 E 1,353,999.97  
 ELEV. 316.94



**KCI-512**  
 3/4" REBAR W/ RED KCI CAP  
 N 570,484.02  
 E 1,354,166.81  
 ELEV. 309.13



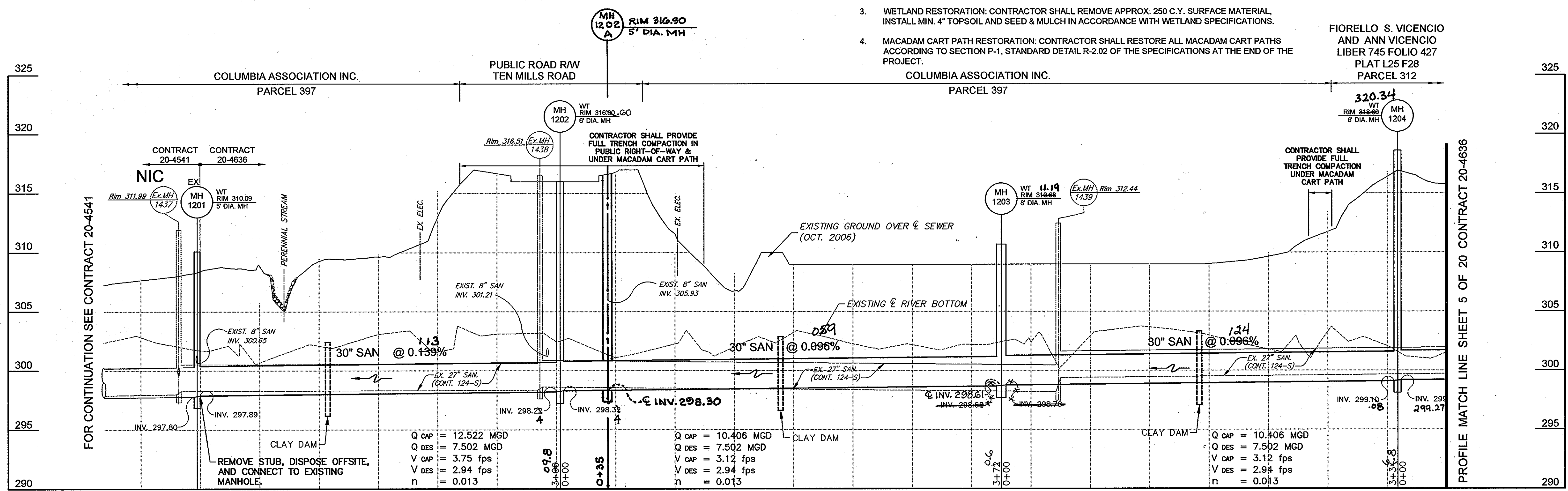
**LPS-04**  
 3/4" REBAR AND COLLAR  
 N 570,268.65  
 E 1,353,973.03  
 ELEV. 318.09



**NOTE:**  
 THE LOD IS COINCIDENT WITH THE PROPOSED UTILITY EASEMENT LINE AND SHOWN FIVE (5) FEET OUTSIDE THE ACTUAL LIMIT OF DISTURBANCE FOR CLARITY

**PLAN**  
 SCALE : 1" = 50'

- NOTE:**
- PRECONSTRUCTION CONTOURS SHALL BE RESTORED AFTER THE UTILITY HAS BEEN INSTALLED AND ALL EXCESS SPOIL SHALL BE REMOVED FROM SITE. THERE SHALL BE NO MOUNDING OR DISPOSING OF MATERIALS WITHIN THE LIMITS OF DISTURBANCE OR ANYWHERE ELSE ON SITE.
  - SEE GENERAL NOTES ON SHEET 3.
  - WETLAND RESTORATION: CONTRACTOR SHALL REMOVE APPROX. 250 C.Y. SURFACE MATERIAL, INSTALL MIN. 4" TOPSOIL AND SEED & MULCH IN ACCORDANCE WITH WETLAND SPECIFICATIONS.
  - MACADAM CART PATH RESTORATION: CONTRACTOR SHALL RESTORE ALL MACADAM CART PATHS ACCORDING TO SECTION P-1, STANDARD DETAIL R-2.02 OF THE SPECIFICATIONS AT THE END OF THE PROJECT.



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

AS-BUILTS 4-10-2013

**DEPARTMENT OF PUBLIC WORKS**  
**HOWARD COUNTY, MARYLAND**

 DIRECTOR OF PUBLIC WORKS CHIEF, BUREAU OF UTILITIES	 DATE 6/13/12 CHIEF, BUREAU OF ENGINEERING	 DATE 6/13/12 CHIEF, UTILITY DESIGN DIVISION
--	--	--

**Dewberry**  
 Dewberry & Davis LLC  
 3100 LORD BALTIMORE DRIVE  
 SUITE 110  
 BALTIMORE, MD 21244-2602  
 410.285.8500  
 FAX: 410.268.9875



DES: LAL	BY:	NO.	REVISIONS	DATE
DRN: RLJ				
CHK: TND				
DATE: JUNE 2012				

**PLAN AND PROFILE SHEET**  
 600' SCALE MAP NO. 30  
 BLOCK NO. 8, 9, & 14  
 ELECTION DISTRICT NO. 5

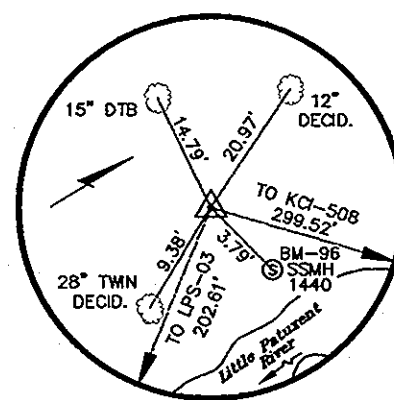
**LITTLE PATUXENT PARALLEL INTERCEPTOR**  
**CAPITAL PROJECT S-6175**  
**CONTRACT NO. 20-4636**  
 HOWARD COUNTY, MARYLAND

SCALE: SHOWN  
 SHEET 4 OF 20

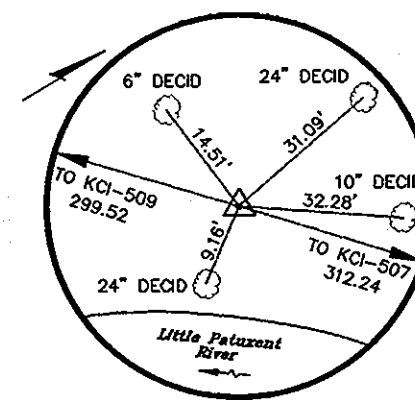
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 User: jclark  
 Title: PLAN SHEET 2  
 Scale: 1" = 50'  
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 Plot Title: PLAN SHEET 2  
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 Plot Orientation: Landscape  
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 Plot Font: Arial, 10  
 Plot Background: None  
 Plot Border: Yes  
 Plot Title Location: Top Center  
 Plot Scale Location: Top Right  
 Plot User: jclark  
 Plot Job Number: 20-4636  
 Plot Project Name: LITTLE PATUXENT PARALLEL INTERCEPTOR  
 Plot Client: HOWARD COUNTY, MARYLAND  
 Plot Designer: JAMES CLARK  
 Plot Checker: JAMES CLARK  
 Plot Date: 6/13/12  
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 Plot User: jclark  
 Plot Job Number: 20-4636  
 Plot Project Name: LITTLE PATUXENT PARALLEL INTERCEPTOR  
 Plot Client: HOWARD COUNTY, MARYLAND  
 Plot Designer: JAMES CLARK  
 Plot Checker: JAMES CLARK  
 Plot Date: 6/13/12  
 Plot Time: 12:36pm

**BENCH MARK BM-96**  
 MANHOLE # 1440 ELEV. 312.92  
 "X" CUT ON MANHOLE RIM  
 N 570,962 E 1,354,092

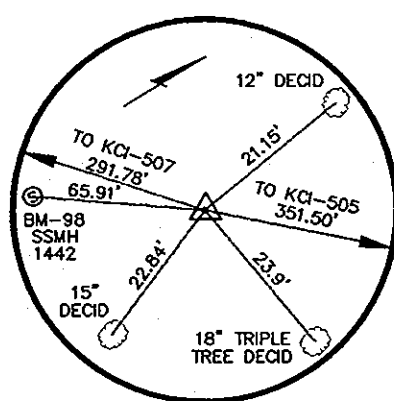
**BENCH MARK BM-98**  
 MANHOLE # 1442 ELEV. 312.76  
 "X" CUT ON MANHOLE RIM  
 N 571,514 E 1,354,723



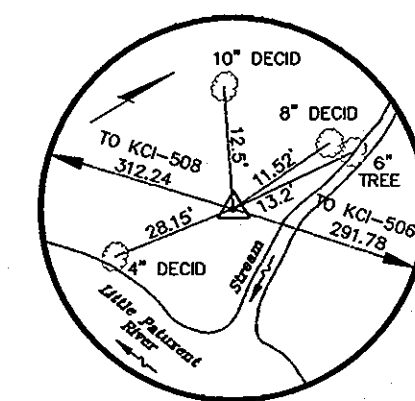
**KCI-509**  
 3/4" REBAR W/ RED KCI CAP  
 N 570,962.71 E 1,354,088.56  
 ELEV. 311.98



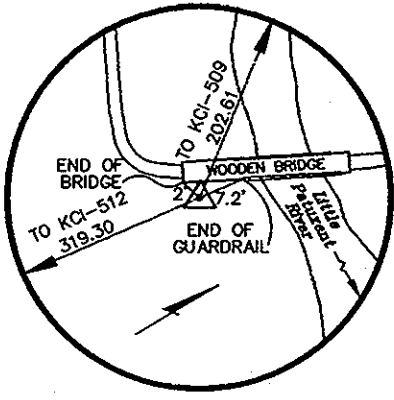
**KCI-508**  
 3/4" REBAR W/ RED KCI CAP  
 N 571,165.06 E 1,354,309.39  
 ELEV. 311.00



**KCI-506**  
 3/4" REBAR W/ RED KCI CAP  
 N 571,565.52 E 1,354,761.53  
 ELEV. 312.40



**KCI-507**  
 3/4" REBAR W/ RED KCI CAP  
 N 571,374.37 E 1,354,541.08  
 ELEV. 311.27



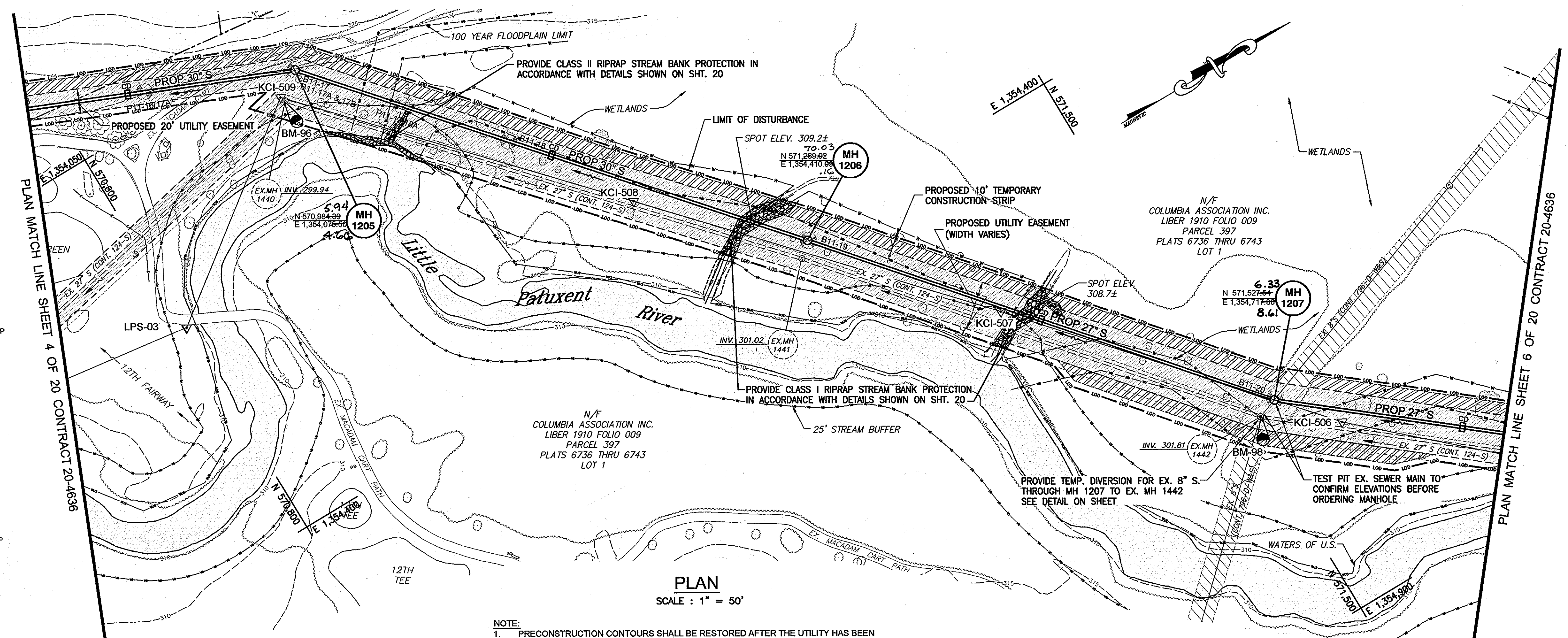
**LPS-03**  
 3/4" REBAR W/ RED CAP  
 N 570,800.41 E 1,354,209.84  
 ELEV. 312.27

**FIORIELLO S. VICENCIO AND ANN VICENCIO**  
 LIBER 745 FOLIO 427  
 PLAT L25 F28  
 PARCEL 312

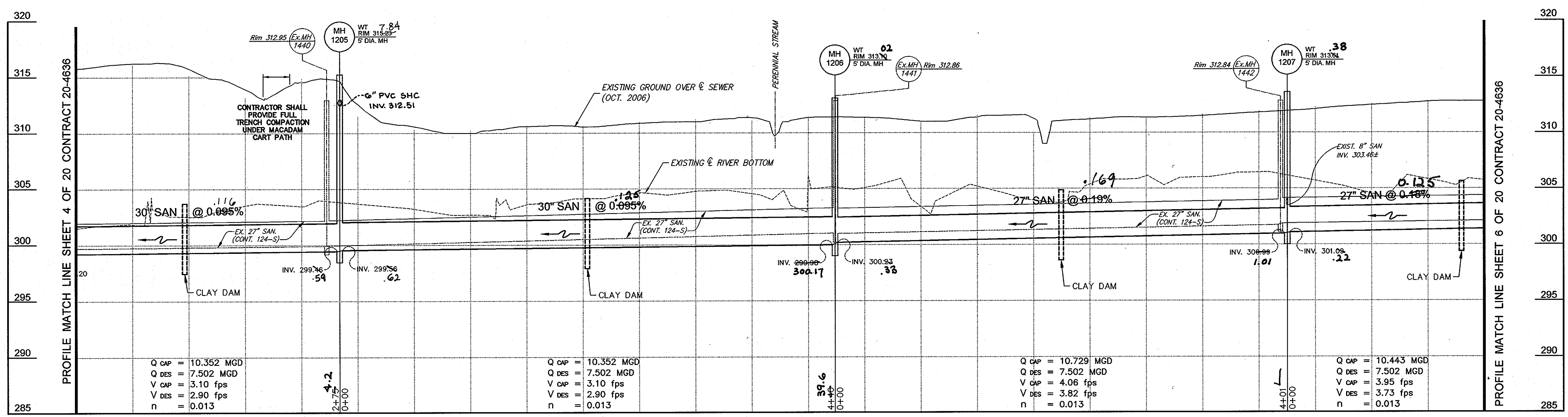
**NOTE:**  
 THE LOD IS COINCIDENT WITH THE PROPOSED UTILITY EASEMENT LINE AND SHOWN FIVE (5) FEET OUTSIDE THE ACTUAL LIMIT OF DISTURBANCE FOR CLARITY

**NOTE:**  
 1. PRECONSTRUCTION CONTOURS SHALL BE RESTORED AFTER THE UTILITY HAS BEEN INSTALLED AND ALL EXCESS SPOIL SHALL BE REMOVED FROM SITE. THERE SHALL BE NO MOUNDING OR DISPOSING OF MATERIALS WITHIN THE LIMITS OF DISTURBANCE OR ANYWHERE ELSE ON SITE.  
 2. SEE GENERAL NOTES ON SHEET 3.

COLUMBIA ASSOCIATION INC.  
 PARCEL 397



**PLAN**  
 SCALE: 1" = 50'



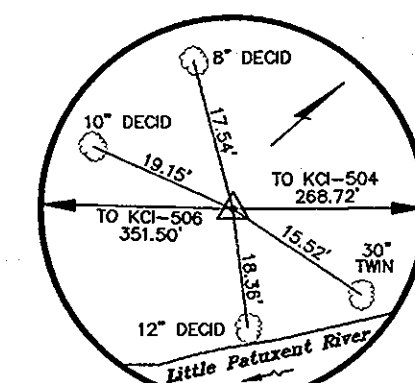
**PROFILE**  
 SCALE: HORIZ. 1" = 50'  
 VERT. 1" = 5'

**4-10-2013**

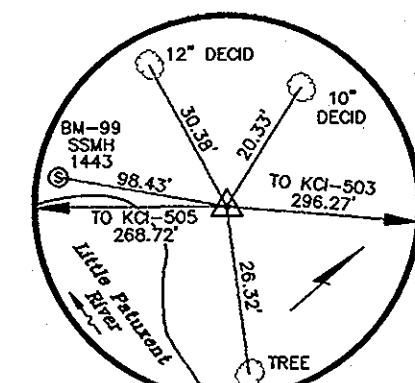
<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND Director of Public Works: <i>James Clark</i> Chief, Bureau of Utilities: <i>James Clark</i>		<b>Dewberry</b> Dewberry & Davis LLC 3106 LORD BALTIMORE DRIVE SUITE 110 BALTIMORE, MD 21244-2062 410.295.0500 FAX: 410.295.9875		DES: LAL DRN: RLJ CHK: TND DATE: JUNE 2012		<b>PLAN AND PROFILE SHEET</b> 600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14		<b>LITTLE PATUXENT PARALLEL INTERCEPTOR</b> CAPITAL PROJECT S-6175 CONTRACT NO. 20-4636 ELECTION DISTRICT NO. 5		SCALE: SHOWN SHEET 5 OF 20	
--	--	--	--	---	--	---	--	--	--	-------------------------------	--

**BENCH MARK BM-99**  
 MANHOLE # 1443 ELEV. 314.22  
 "X" CUT ON MANHOLE RIM  
 N 571,968 E 1,355,097

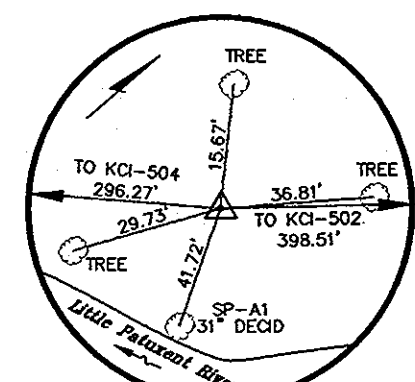
**BENCH MARK BM-101**  
 MANHOLE # 1445 ELEV. 316.09  
 "X" CUT ON MANHOLE RIM  
 N 572,570 E 1,355,636



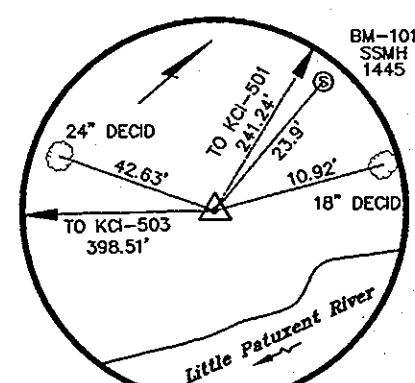
**KCI-505**  
 3/4" REBAR W/ RED KCI CAP  
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 E 1,354,999.31  
 ELEV. 312.63



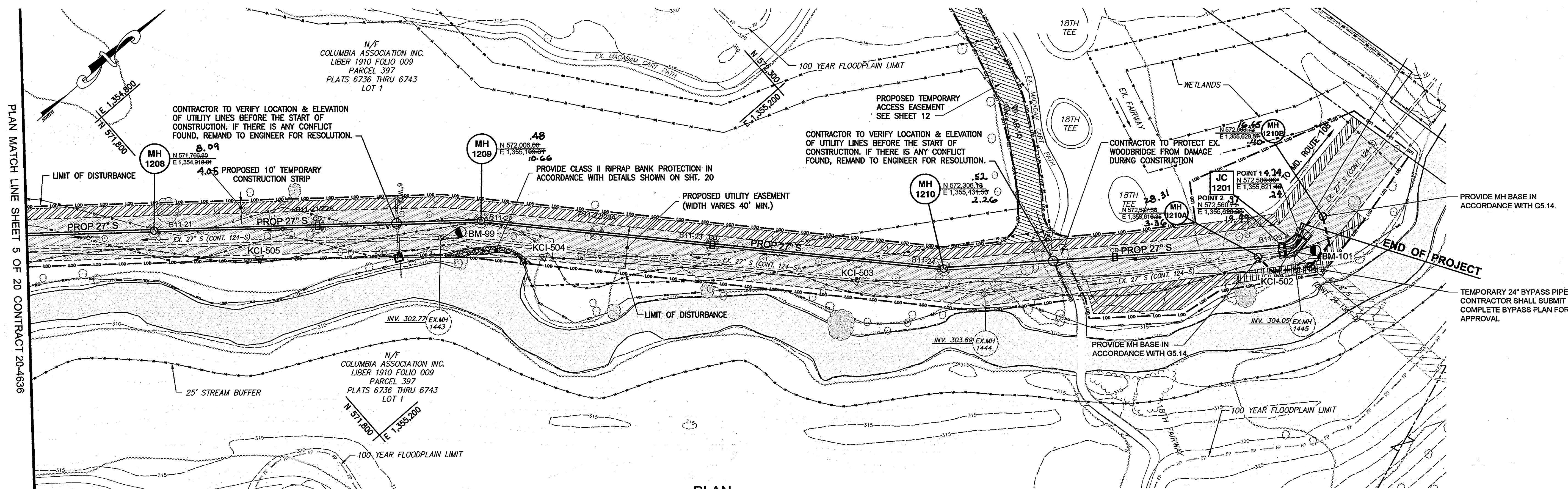
**KCI-504**  
 3/4" REBAR W/ RED KCI CAP  
 N 572,028.23  
 E 1,355,174.41  
 ELEV. 312.81



**KCI-503**  
 3/4" REBAR W/ RED KCI CAP  
 N 572,235.53  
 E 1,355,386.08  
 ELEV. 312.87



**KCI-502**  
 3/4" REBAR W/ RED KCI CAP  
 N 572,941.91  
 E 1,355,640.91  
 ELEV. 316.38

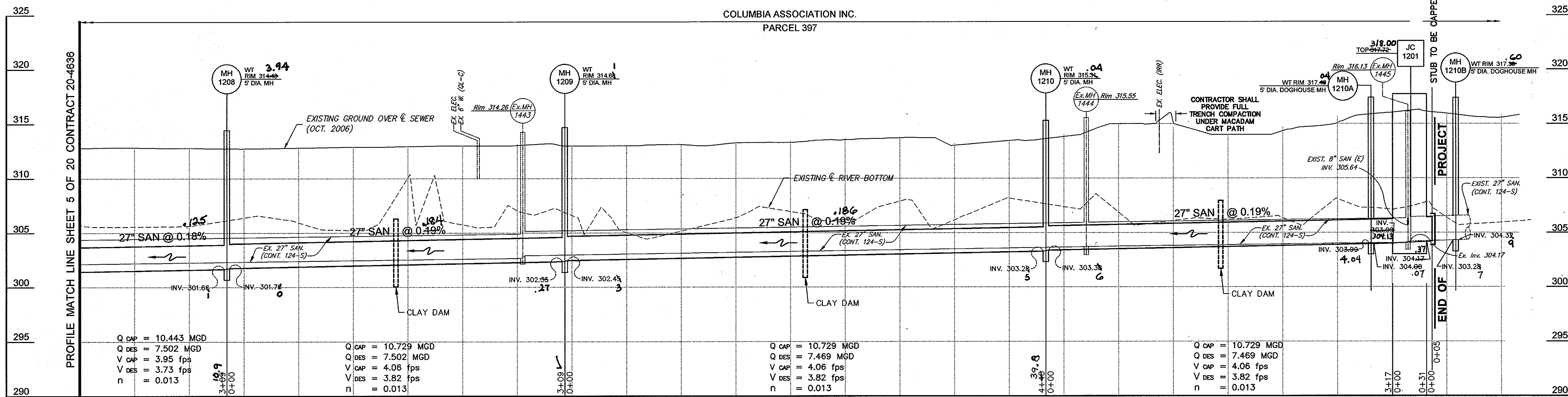


**PLAN**  
 SCALE: 1" = 50'

**NOTE:**  
 THE LOD IS COINCIDENT WITH THE PROPOSED UTILITY EASEMENT LINE AND SHOWN FIVE (5) FEET OUTSIDE THE ACTUAL LIMIT OF DISTURBANCE FOR CLARITY

- NOTE:**
- PRECONSTRUCTION CONTOURS SHALL BE RESTORED AFTER THE UTILITY HAS BEEN INSTALLED AND ALL EXCESS SPOIL SHALL BE REMOVED FROM SITE. THERE SHALL BE NO MOUNDING OR DISPOSING OF MATERIALS WITHIN THE LIMITS OF DISTURBANCE OR ANYWHERE ELSE ON SITE.
  - SEE GENERAL NOTES ON SHEET 3.

**NOTE:**  
 FOR CONSTRUCTION OF JUNCTION CHAMBER 1201 SEE SHEETS 8, 9, AND 10 OF 20.



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

ASBLS 4-10-2013

**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND

*John C. Williams*  
 DIRECTOR OF PUBLIC WORKS  
 CHIEF, BUREAU OF UTILITIES

*Morgan S. Rutledge*  
 CHIEF, BUREAU OF ENGINEERING  
 CHIEF, UTILITY DESIGN DIVISION

DATE: 6/13/12

**Dewberry**  
 Dewberry & Davis LLC

3106 LORD BALTIMORE DRIVE  
 SUITE 110  
 BALTIMORE, MD 21244-2662  
 410.295.9200  
 FAX: 410.295.9875



DES: LAL	BY NO.	REVISIONS	DATE
DRN: RLI			
CHK: TND			
DATE: JUNE 2012			

**PLAN AND PROFILE SHEET**

600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14

**LITTLE PATUXENT PARALLEL INTERCEPTOR**

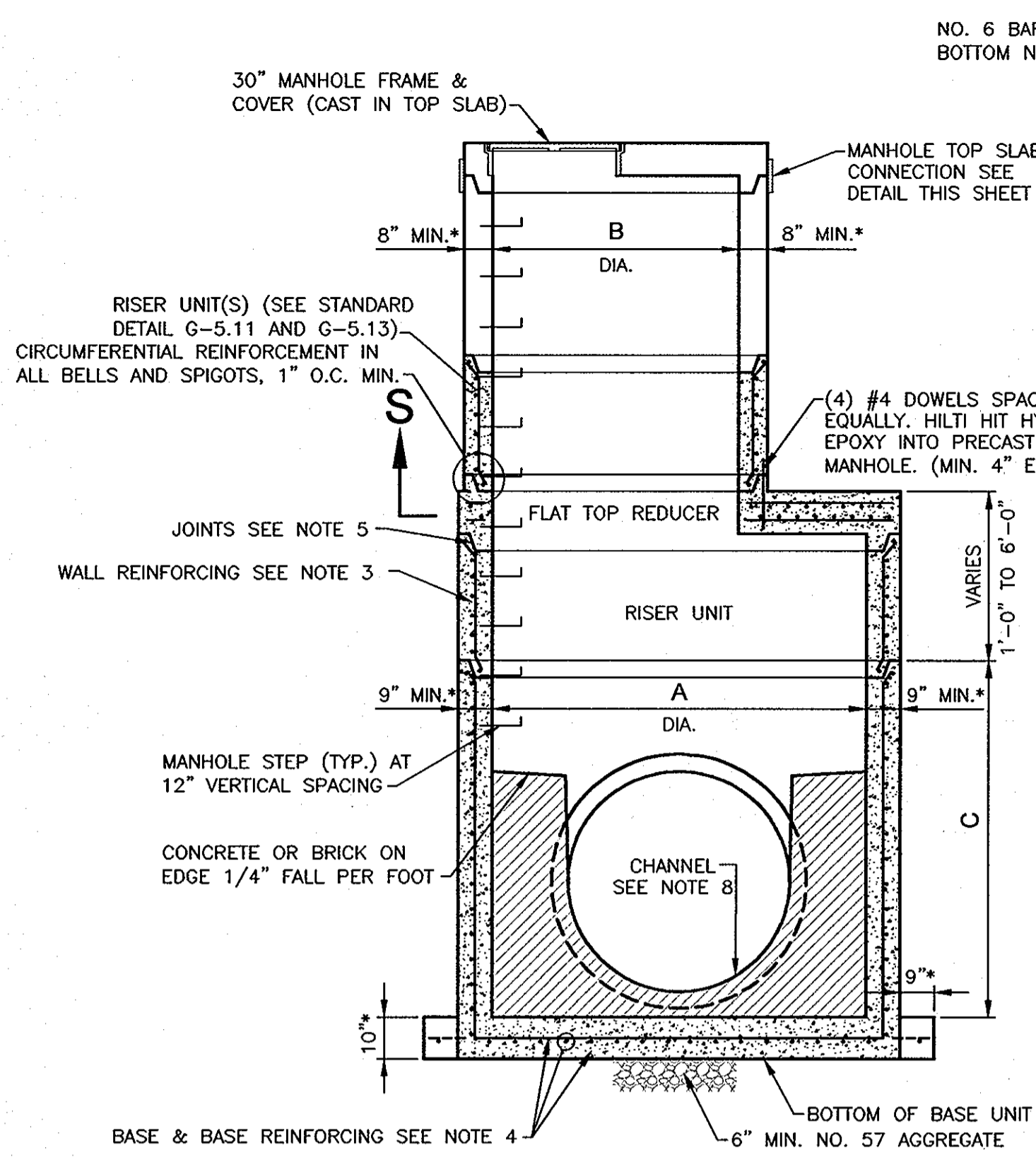
CAPITAL PROJECT S-6175  
 CONTRACT NO. 20-4636

ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

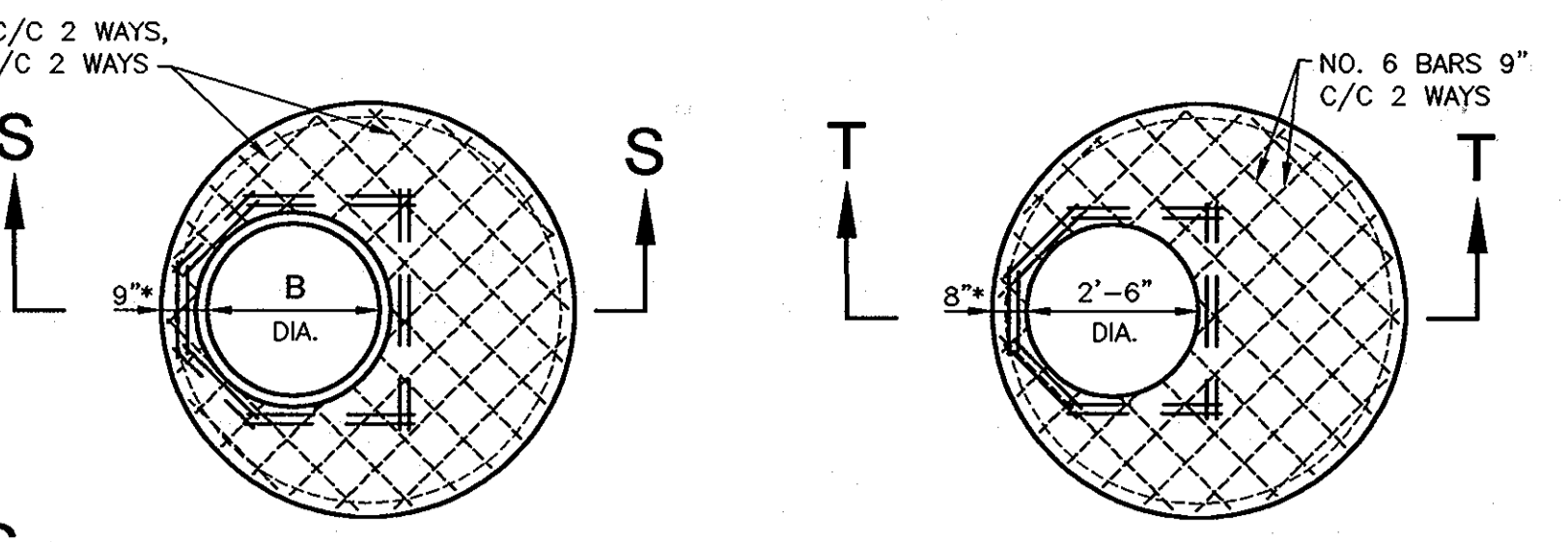
SCALE: SHOWN

SHEET 6 OF 20

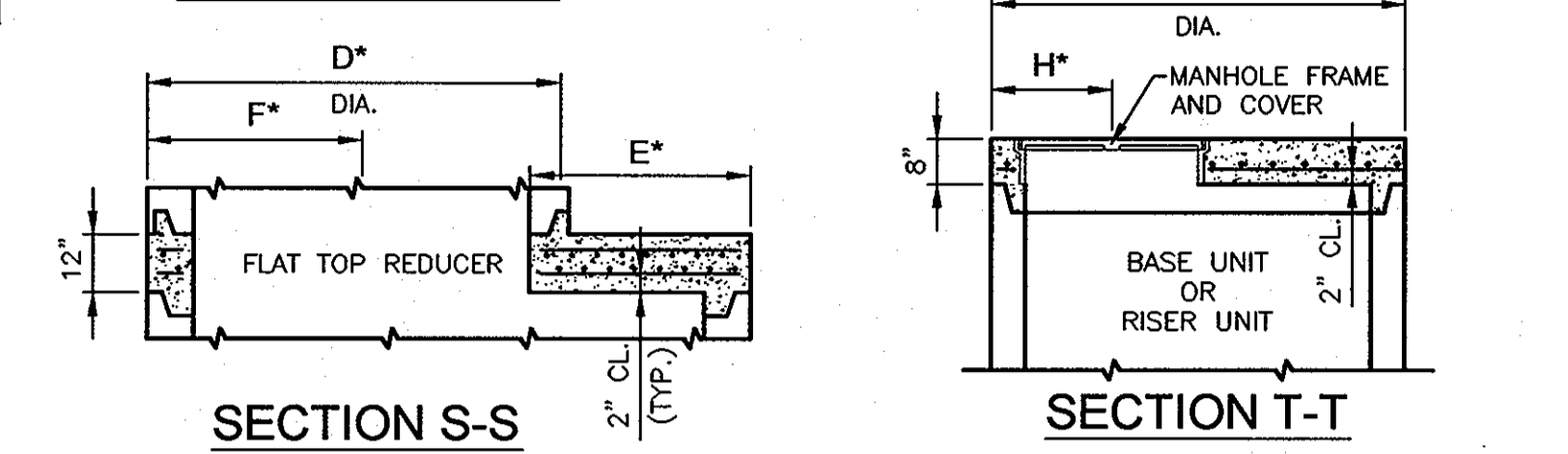


**ELEVATION VIEW**

\* DIMENSIONS TO BE CONFIRMED BY THE MANUFACTURER.  
**NOTE:**  
 "STANDARD DETAIL" REFERS TO DETAILS IN HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.



**MANHOLE FLAT TOP REDUCER PLAN**      **MANHOLE FLAT TOP SLAB PLAN**



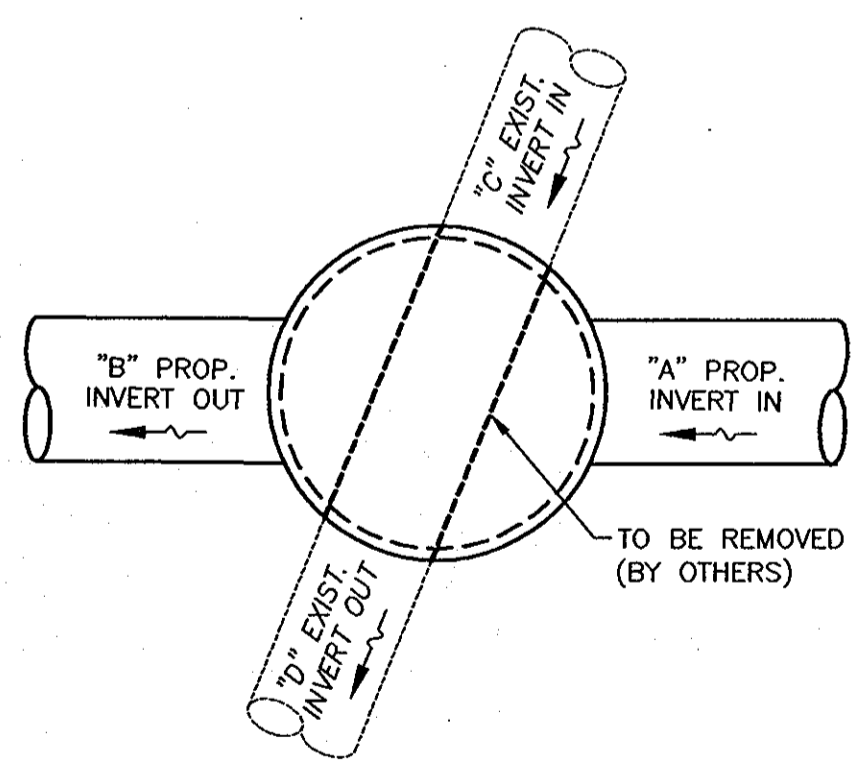
**SECTION S-S**      **SECTION T-T**

- 6'-0" & 8'-0" DIAMETER MANHOLE NOTES:**
- MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478 AND THE GENERAL NOTES APPLICABLE TO PRECAST MANHOLES ON STANDARD DETAIL G-5.11.
  - CONCRETE SHALL BE MIX NO. 6 (4500 PSI).
  - WALL REINFORCEMENT FOR BASE AND RISER UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.28 IN<sup>2</sup>/FT FOR THE 72" DIAMETER MANHOLES AND 0.37 IN<sup>2</sup>/FT. FOR THE 96" DIAMETER MANHOLES, RESPECTIVELY. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND A-82. REINFORCEMENT BARS SHALL MEET ASTM A-615, GRADE 60.
  - BASE REINFORCEMENT TO BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.28 IN<sup>2</sup>/FT. FOR THE 72" DIAMETER MANHOLES AND 0.37 IN<sup>2</sup>/FT. FOR THE 96" DIAMETER MANHOLES, RESPECTIVELY. THE BASE SHALL BE MONOLITHIC WITH THE BASE UNIT OR JOINED PER MANUFACTURER'S DESIGN.
  - THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATER-TIGHT USING RUBBER O-RING GASKETS ASTM A-361 & C-443.
  - MINIMUM DISTANCE BETWEEN PIPE OPENINGS IN MANHOLE WALL SHALL BE 12 INCHES FROM THE EDGE OF ONE OPENING TO THE EDGE OF THE NEXT.
  - LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
  - MIX NO. 6 PRECAST CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED AND SHALL SLOPE TOWARD OUTLET AS DIRECTED BY THE ENGINEER.
  - NO MORE THAN ONE 1' HIGH RISER SECTION MAY BE USED PER MANHOLE.
  - MANHOLE INTERIOR LINER REQUIRED. REFER TO "SANITARY SEWER MANHOLES" SECTION OF THE SPECIAL PROVISIONS.

**6' AND 8' DIAMETER MANHOLE DIMENSION SCHEDULE**

MH DIA.	A	B	C	D*	E*	F*	G*	H*
6'	6'	4'	6'	7'-4"	2'-8"	2'-8"	5'-4"	1'-11"
8'	8'	5'	8'	9'-6"	3'-9"	3'-3"	6'-4"	1'-11"

**6'-0" & 8'-0" DIAMETER PRECAST MANHOLE**  
NO SCALE

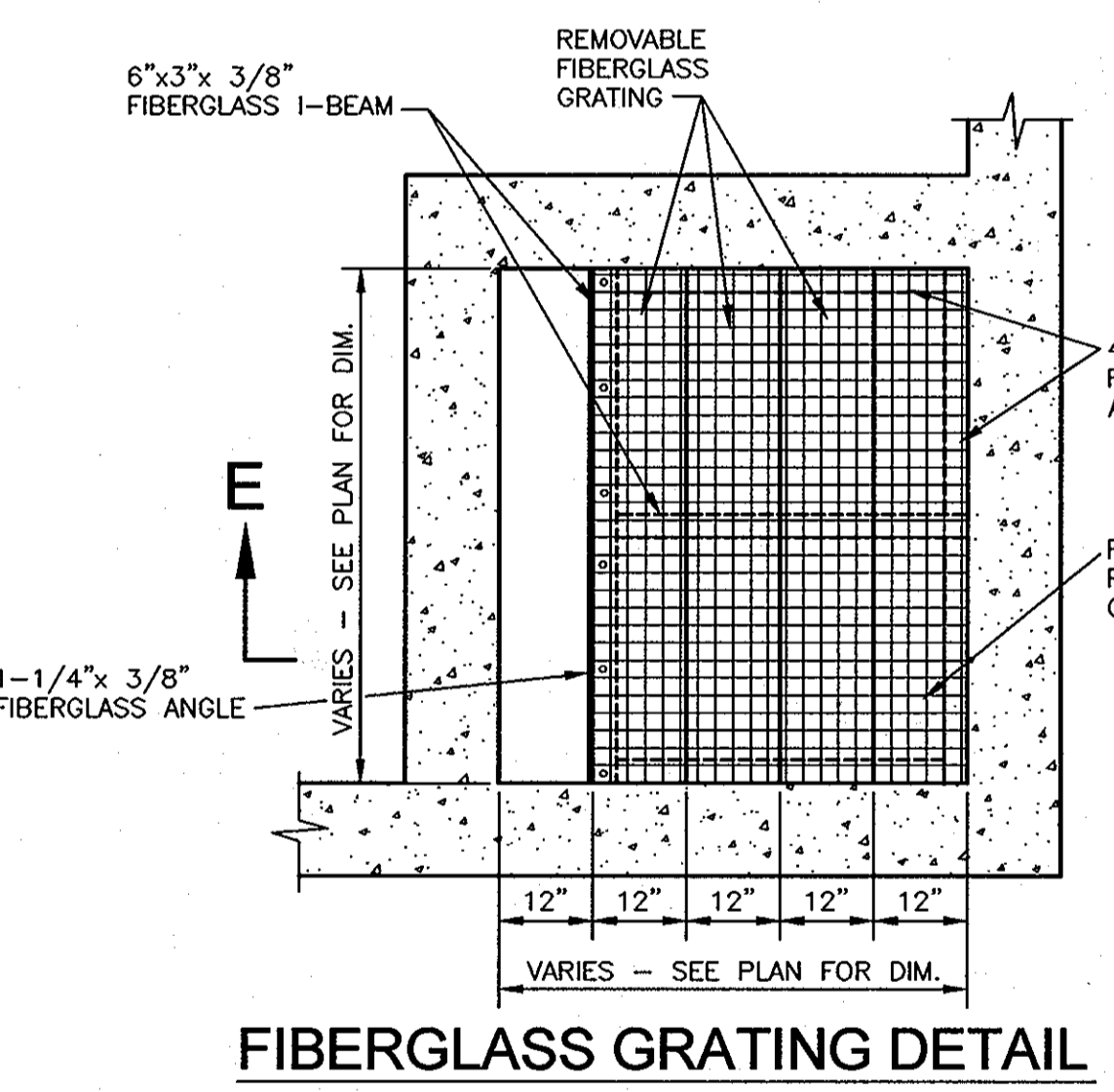


**TEMPORARY PIPE DIVERSION INVERT SCHEDULE**  
MH-1207

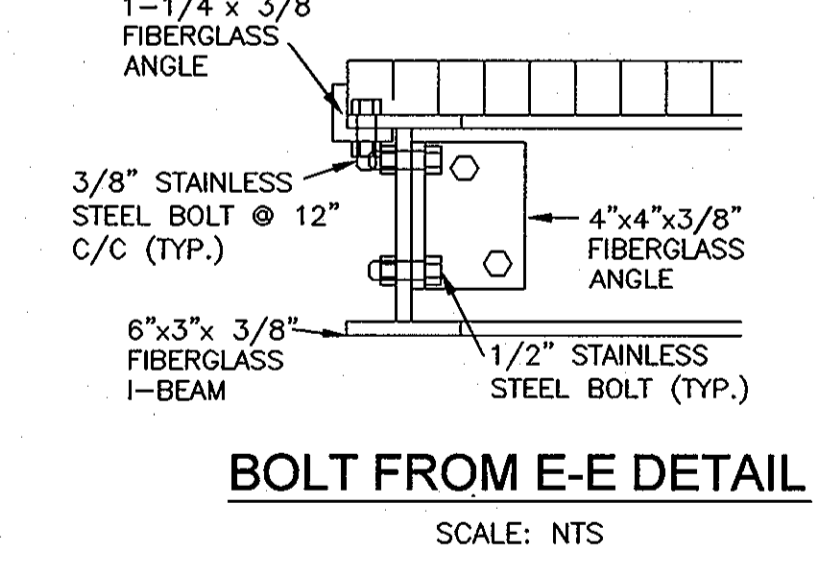
A	B	C	D
27"	27"	8"	8"
301.09	300.99	303.4±	303.4±

**TEMPORARY PIPE DIVERSION THROUGH PROPOSED MANHOLES**  
NOT TO SCALE

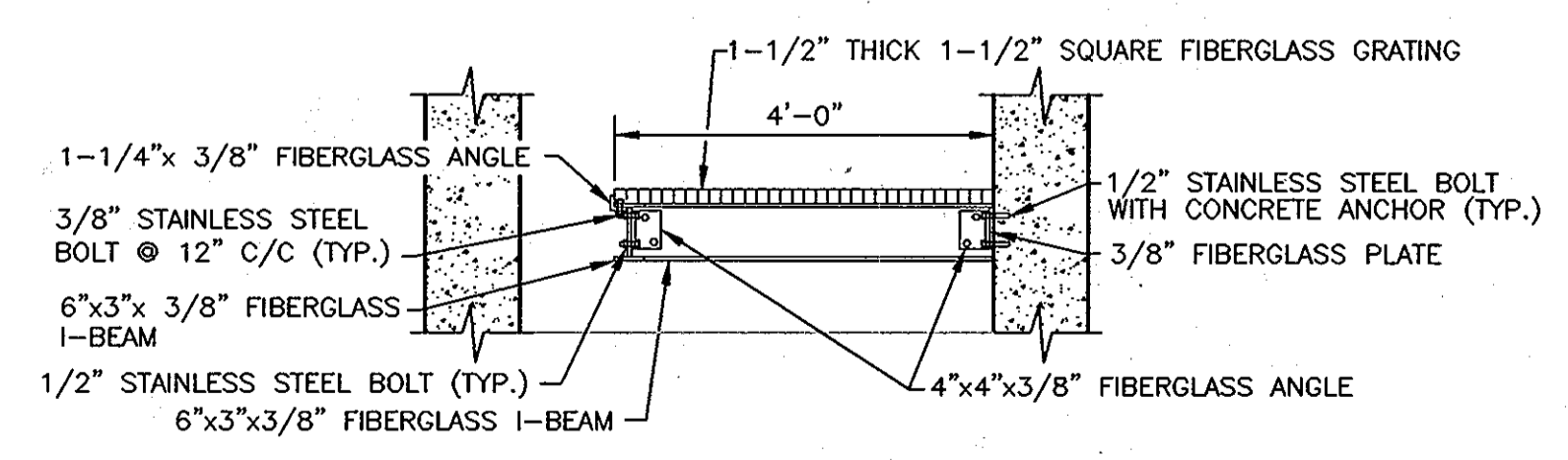
- NOTES:**
- TEMPORARILY REMOVE EXISTING SANITARY SEWER AND RE-LAY PIPE THROUGH PRE-CAST OPENINGS IN PROPOSED MANHOLE AS NECESSARY, KEEPING A STRAIGHT ALIGNMENT.
  - SEAL PIPE TO MANHOLE OPENINGS WITH NON-SHRINK GROUT.
  - REMOVAL OF TEMPORARY DIVERSION THROUGH MANHOLE WILL BE BY OTHERS WHEN ALL DOWNSTREAM NEW SEWER IS PLACED IN-SERVICE.
  - ALL EXISTING SEWER PIPE INVERTS SHALL BE CHECKED BY TEST PIT PRIOR TO ORDERING MANHOLES.



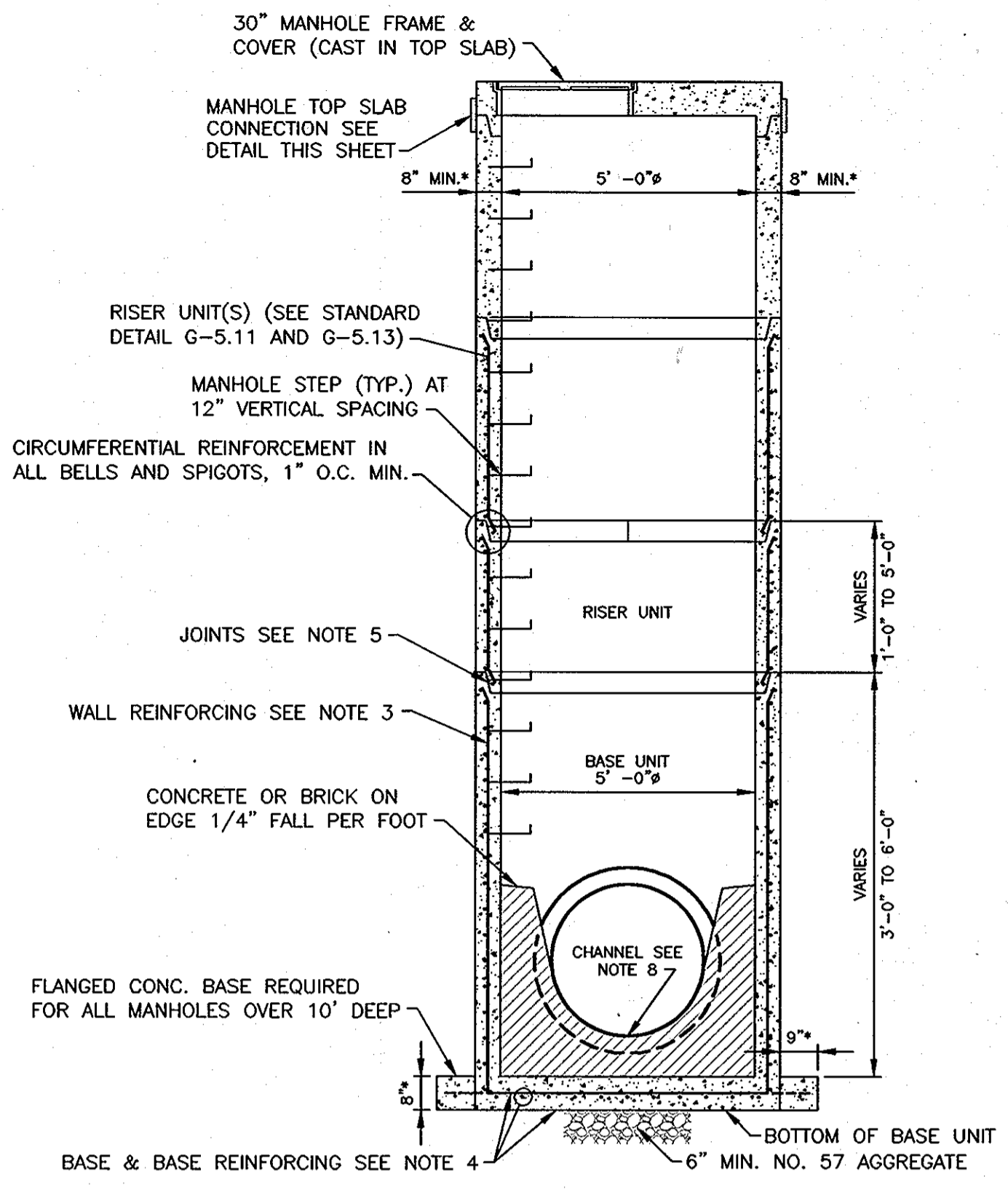
**FIBERGLASS GRATING DETAIL**  
SCALE: 1/2" = 1'-0"



**BOLT FROM E-E DETAIL**  
SCALE: NTS



**SECTION E-E**  
SCALE: 1/2" = 1'-0"

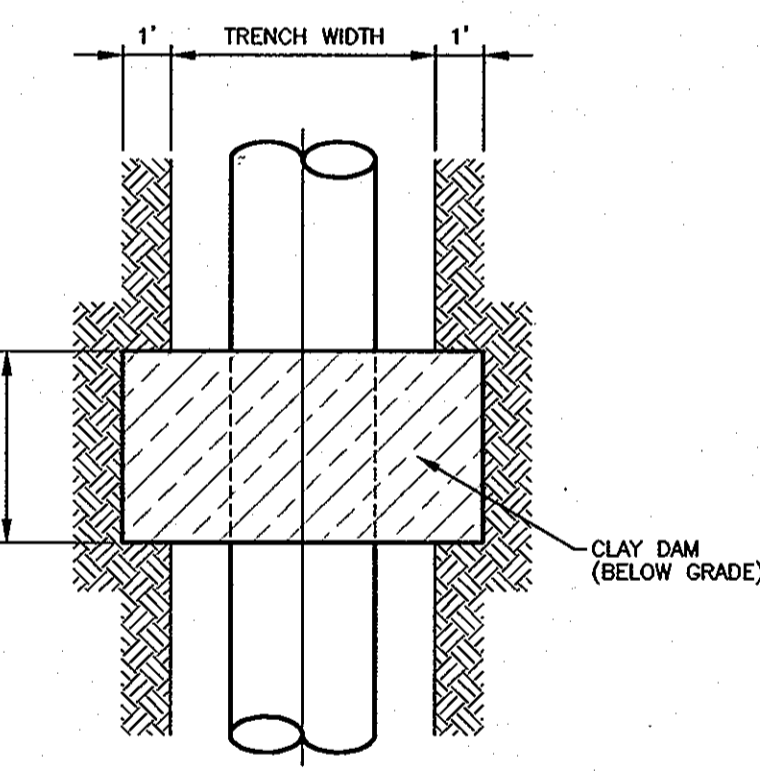


**ELEVATION VIEW**

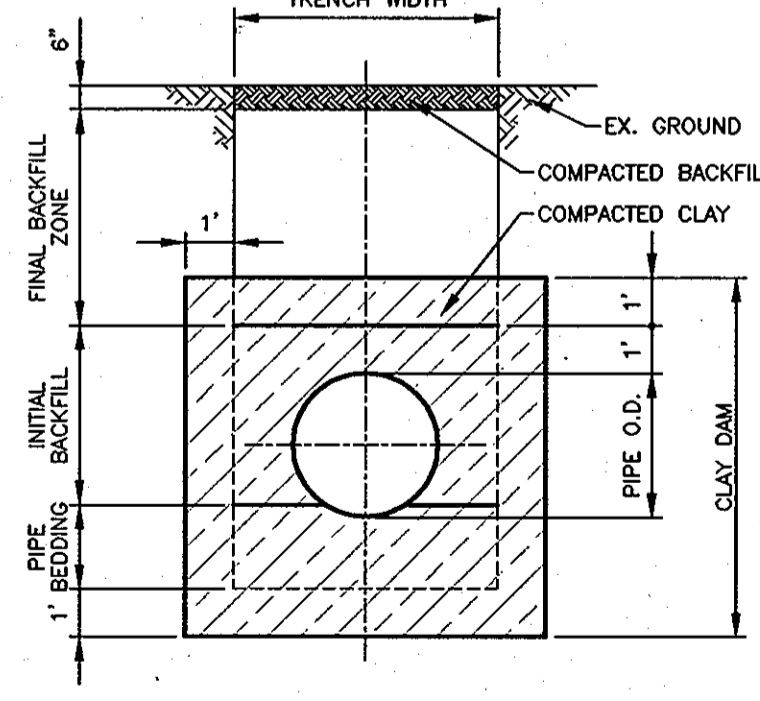
\* DIMENSIONS TO BE CONFIRMED BY THE MANUFACTURER.  
**NOTE:**  
 "STANDARD DETAIL" REFERS TO DETAILS IN HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.

**5'-0" DIAMETER PRECAST MANHOLE**

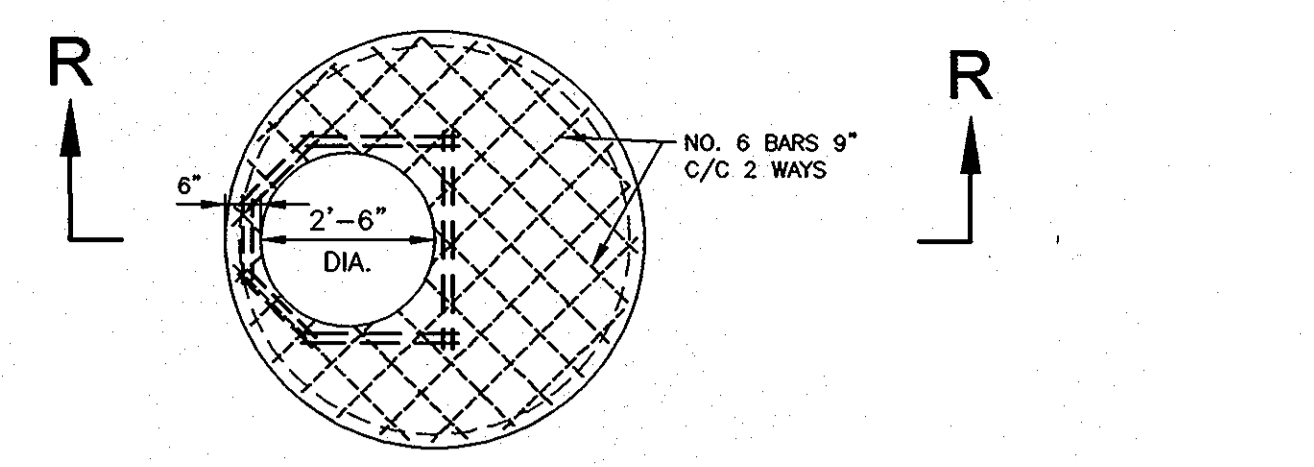
- CLAY DAM NOTES:**
- CLAY DAM SHALL BE INSTALLED AT INTERVALS NO GREATER THAN 500 FEET AND AS SHOWN ON THE PLANS.
  - CLAY DAM LENGTH SHALL BE 4 FEET ALONG THE PIPE AXIS, AND SHALL BE PLACED FROM UNDERCUT SUBGRADE OR TRENCH SUBGRADE UP TO 1 FOOT OVER THE INITIAL BACKFILL.
  - PLACE CLAY DAM IN 6" LIFTS, USING CLAY MEETING THE REQUIREMENTS OF ASTM D155 SOIL GROUPS A-6 OR A-7 AND COMPACT TO MIN. 92%.
  - NO STONE SHALL BE USED IN THE BOTTOM OF THE TRENCH OR IN THE FINAL BACKFILL ZONE ALONG THE LENGTH OF THE DAM.



**PLAN VIEW**

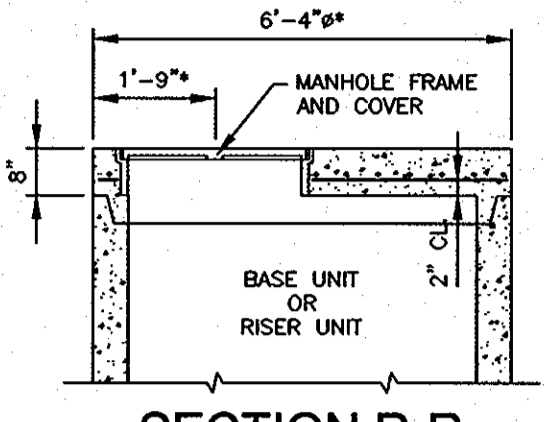


**ELEVATION VIEW**  
**CLAY DAM TYPICAL PIPE BEDDING DETAIL**  
NO SCALE



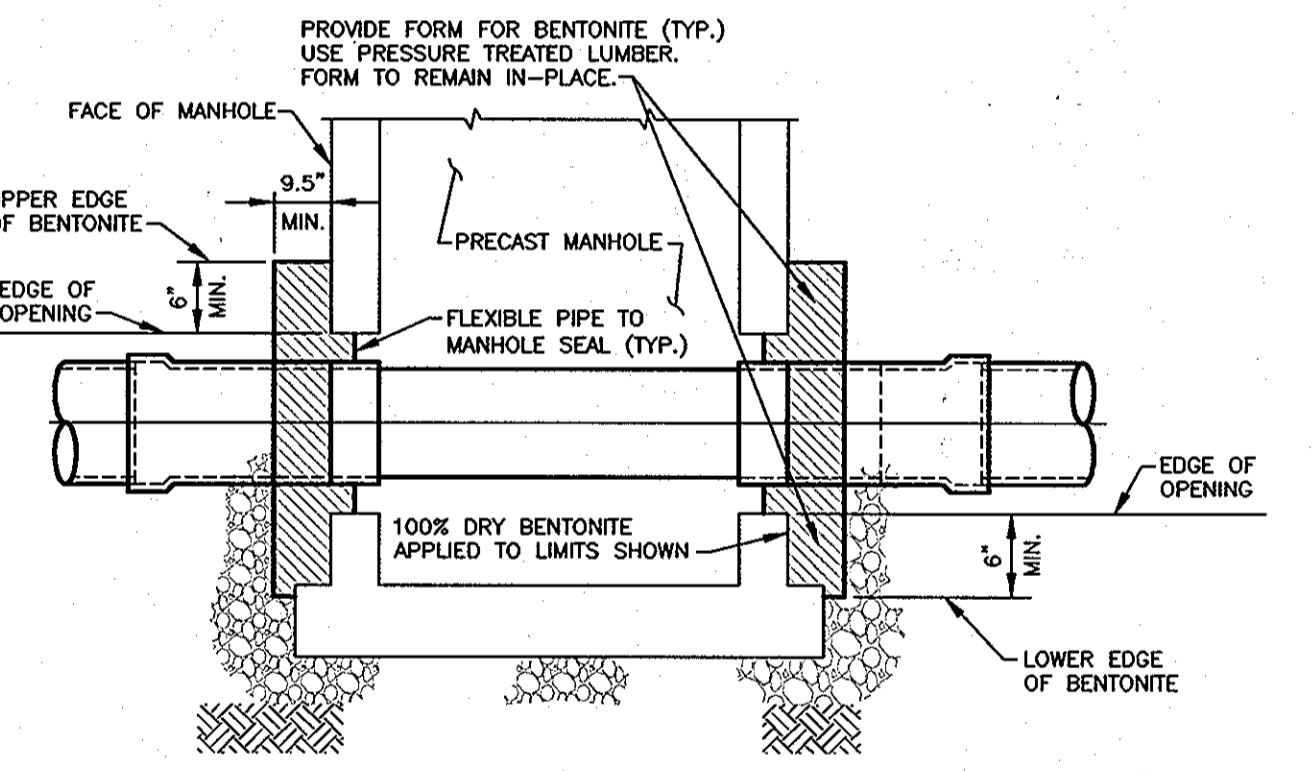
**MANHOLE FLAT TOP SLAB PLAN**

(SHOWN WITHOUT FRAME & COVER)

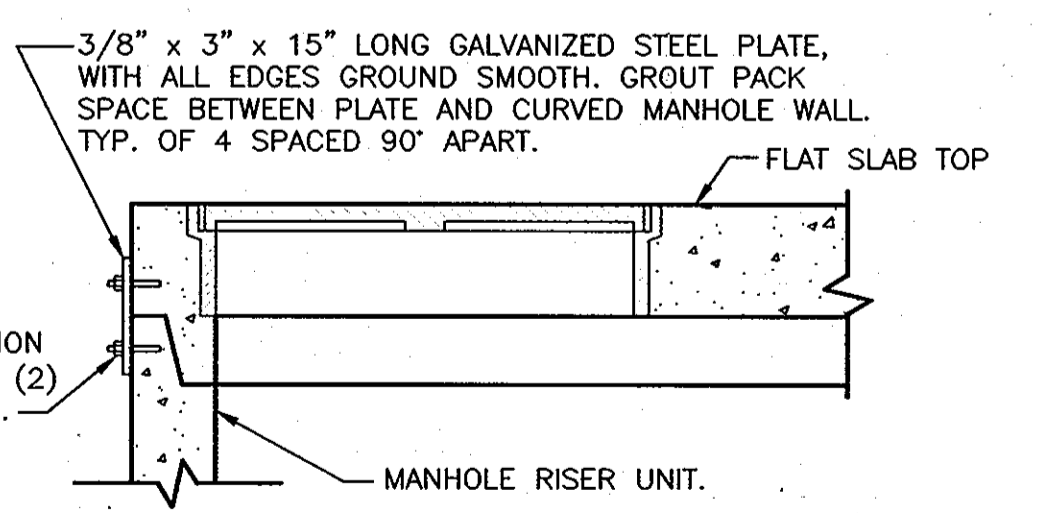


**SECTION R-R**

- 5'-0" DIAMETER MANHOLE NOTES:**
- MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478 AND THE GENERAL NOTES APPLICABLE TO PRECAST MANHOLES ON STANDARD DETAIL G-5.11.
  - CONCRETE SHALL BE MIX NO. 6 (4500 PSI).
  - WALL REINFORCEMENT FOR BASE AND RISER UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.23 IN<sup>2</sup>/FT. FOR THE 60" DIAMETER MANHOLES, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND A-82. REINFORCEMENT BARS SHALL MEET ASTM A-615, GRADE 60.
  - BASE REINFORCEMENT TO BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.23 IN<sup>2</sup>/FT. THE BASE SHALL BE MONOLITHIC WITH THE BASE UNIT OR JOINED PER MANUFACTURER'S DESIGN.
  - THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATER-TIGHT USING RUBBER O-RING GASKETS ASTM A-361 & C-443.
  - MINIMUM DISTANCE BETWEEN PIPE OPENINGS IN MANHOLE WALL SHALL BE 12 INCHES FROM THE EDGE OF ONE OPENING TO THE EDGE OF THE NEXT.
  - LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
  - MIX NO. 6 PRECAST CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED AND SHALL SLOPE TOWARD OUTLET AS DIRECTED BY THE ENGINEER.
  - NO MORE THAN 1' RISER SECTION MAY BE USED PER MANHOLE.
  - MANHOLE INTERIOR LINER REQUIRED. REFER TO "SANITARY SEWER MANHOLES" SECTION OF THE SPECIAL PROVISIONS.



**PIPE TO MANHOLE CONNECTION**  
NO SCALE



**MANHOLE SLAB TOP CONNECTION**  
NO SCALE

**REVISED 4-10-2013**

Printed by (name) on Plot Date: Jun 08, 2012 12:42pm  
 User: JLD  
 Title: PRECAST MANHOLE INTERCEPTOR  
 Plot Path: \\server\projects\2012\1242\1242.dwg  
 Plot Scale: 1/8" = 1'-0"  
 Plot Size: 36" x 48"  
 Plot Orientation: Landscape  
 Plot Color: Black  
 Plot Lineweight: 0.25  
 Plot Linetype: Solid  
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**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature]  
 Chief, Bureau of Utilities: [Signature]  
 Chief, Bureau of Engineering: [Signature]  
 Chief, Utility Design Division: [Signature]

**Dewberry**  
Dewberry & Davis LLC  
3100 LORD BALTIMORE DRIVE  
SUITE 110  
BALTIMORE, MD 21244-2662  
410.285.9500  
FAX: 410.265.9875



DES: LAL			
DRN: RU/CD			
CHK: TND			
DATE: JUNE 2012	BY: NO.	REVISIONS:	DATE:

**MISCELLANEOUS DETAILS**

600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14

**LITTLE PATUXENT PARALLEL INTERCEPTOR**  
CAPITAL PROJECT S-6175  
CONTRACT NO. 20-4636

ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

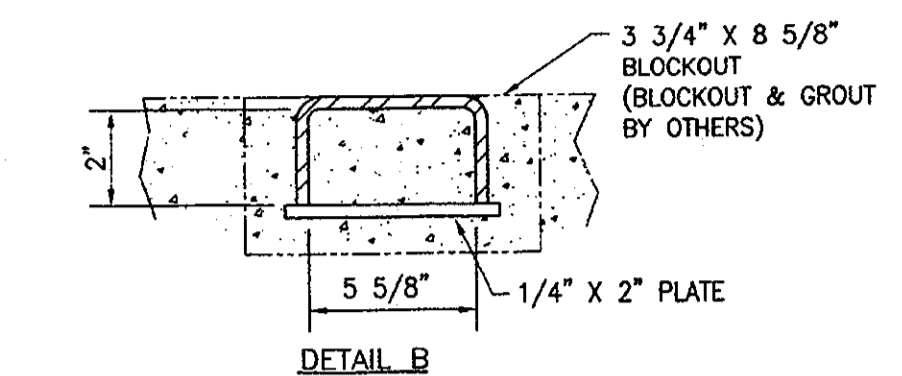
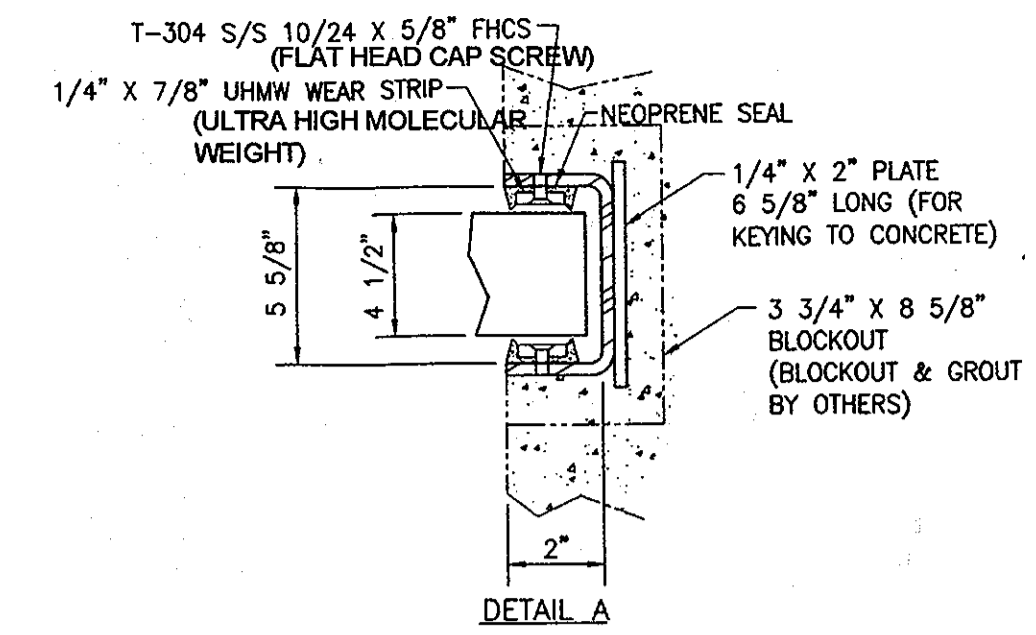
SCALE: SHOWN  
SHEET 7 OF 20

CURVE STAKEOUT DATA		
POINT NO.	NORTH	EAST
PC-1	572,578.01	1,355,627.27
PT-1	572,565.26	1,355,626.87
PC-2	572,579.25	1,355,628.57
PT-2	572,564.70	1,355,627.86
PT-3	572,563.99	1,355,628.74
PC-4	572,572.41	1,355,635.82
PT-4	572,559.85	1,355,633.19

CURVE DATA				
CURVE NO.	RADIUS	TANGENT	LENGTH	Δ
1	11.00'	7.83'	13.61'	70°52'40"
2	12.88'	8.83'	15.49'	68°53'02"
3	14.00'	6.62'	12.37'	50°38'14"
4	17.50'	6.86'	13.07'	42°47'04"

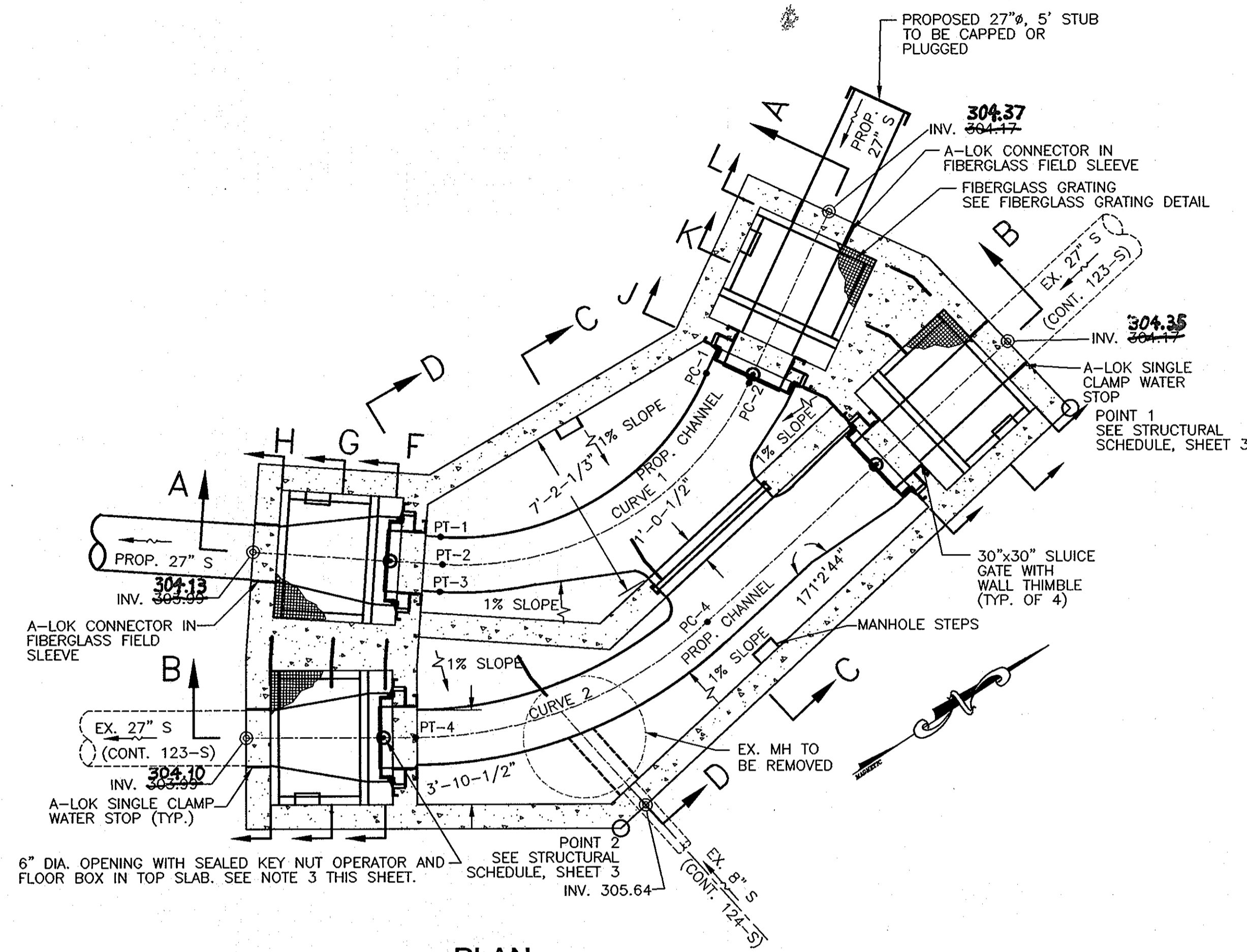
**NOTES:**

- SLUICE GATES SHALL BE FONTAINE SERIES 20 MODEL 202-WALL MOUNTED (COMPLETE WITH WALL THIMBLE) AND NON-RISING STEM (NRI) OR APPROVED EQUAL.
- A-LOK SINGLE CLAMP WATER STOPS SHALL BE USED AT PIPE ENTRY/EXIT POINTS OF THE DIVERSION STRUCTURE, AS INDICATED ON DRAWINGS.
- GROUND LEVEL POSITION INDICATOR SHALL BE A SEALED UNIT WITH A STAINLESS STEEL SEALED FLOOR BOX. KEY NUT OPERATOR AND POSITION INDICATOR SHALL BE GPI-S SERIES AS MANUFACTURED BY DYNATORQUE, INC. OR APPROVED EQUAL.
- SEWAGE SHALL NOT, UNDER ANY CIRCUMSTANCES, BE DISCHARGED TO THE NEW SEWER UNTIL WRITTEN PERMISSION IS PROVIDED BY THE COUNTY.
- THE JUNCTION CHAMBER REQUIRES AN INTERIOR LINER & EXTERIOR WATERPROOFING IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL BE COATED WITH A BITUMINOUS/ASPHALTIC COMPOUND, MINIMUM 10 MIL THICK.



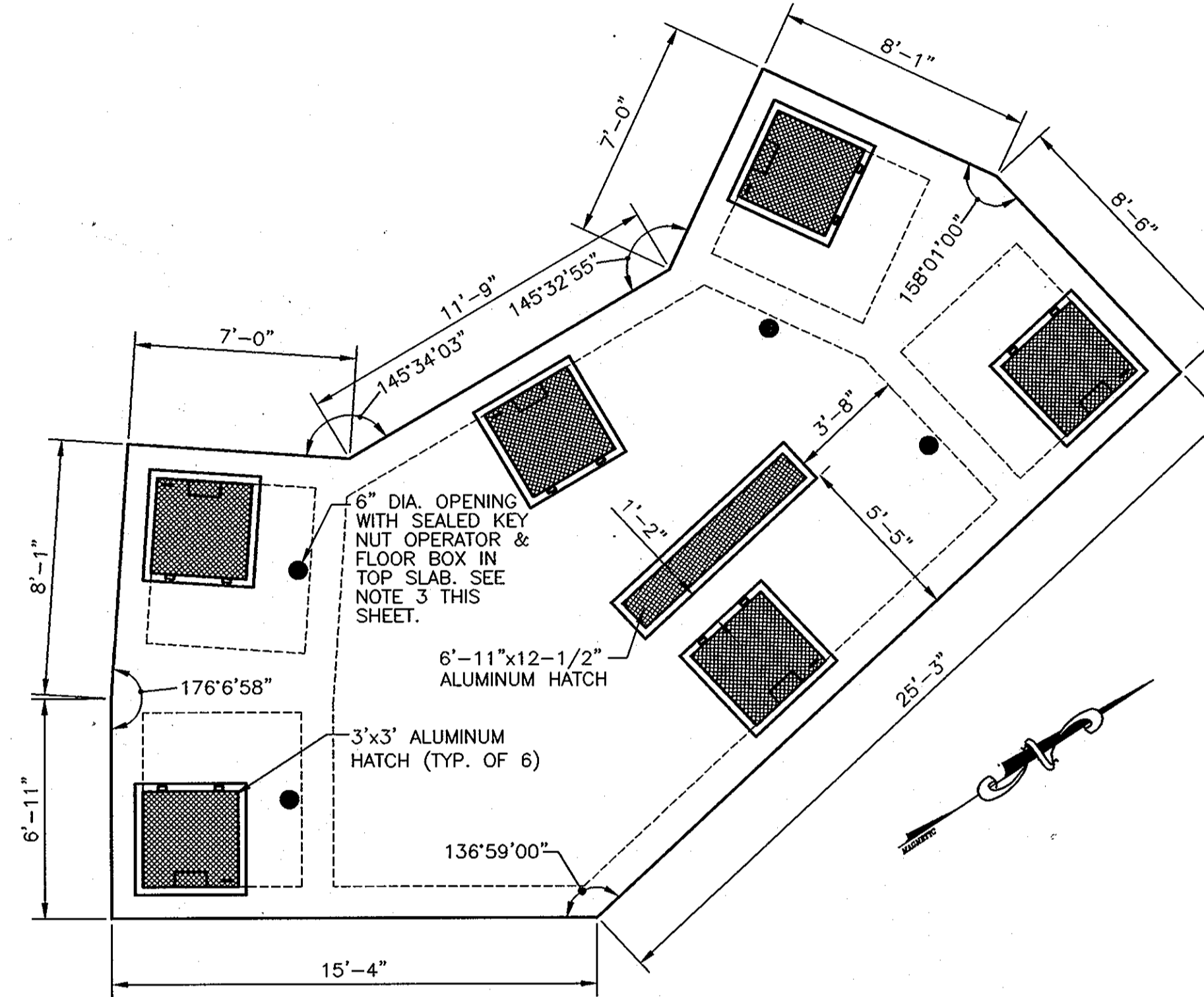
**STOP LOG GUIDE FRAME DETAILS**

SCALE: NTS



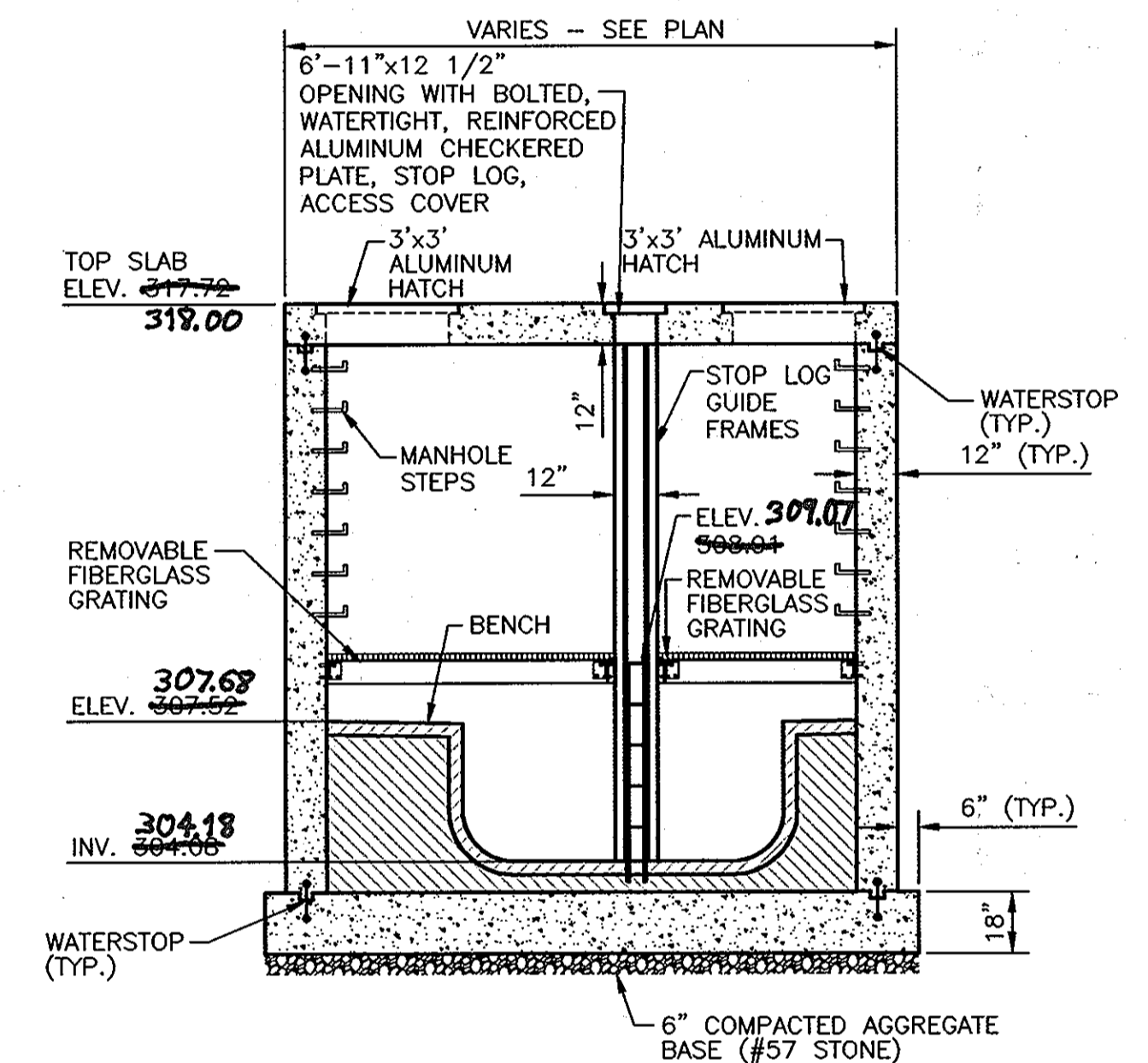
**PLAN**

SCALE: 1/4" = 1'-0"



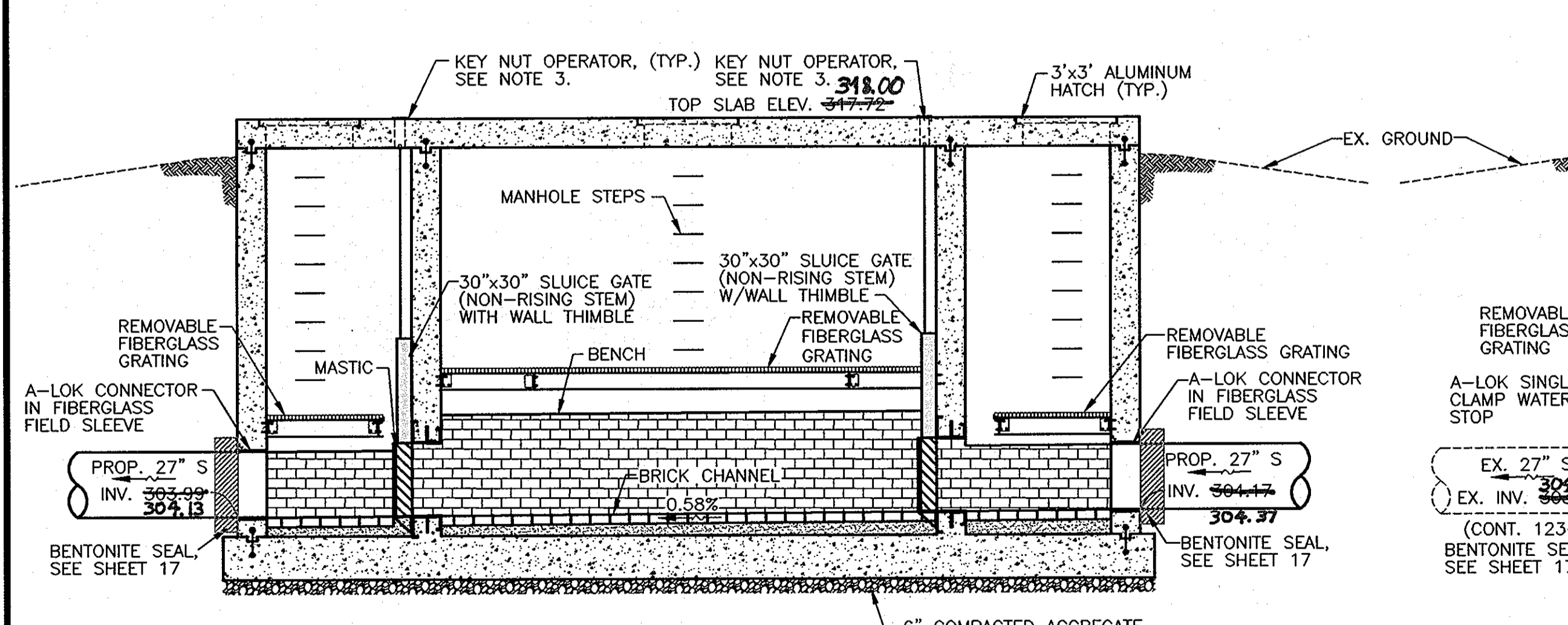
**TOP SLAB PLAN**

SCALE: 1/4" = 1'-0"



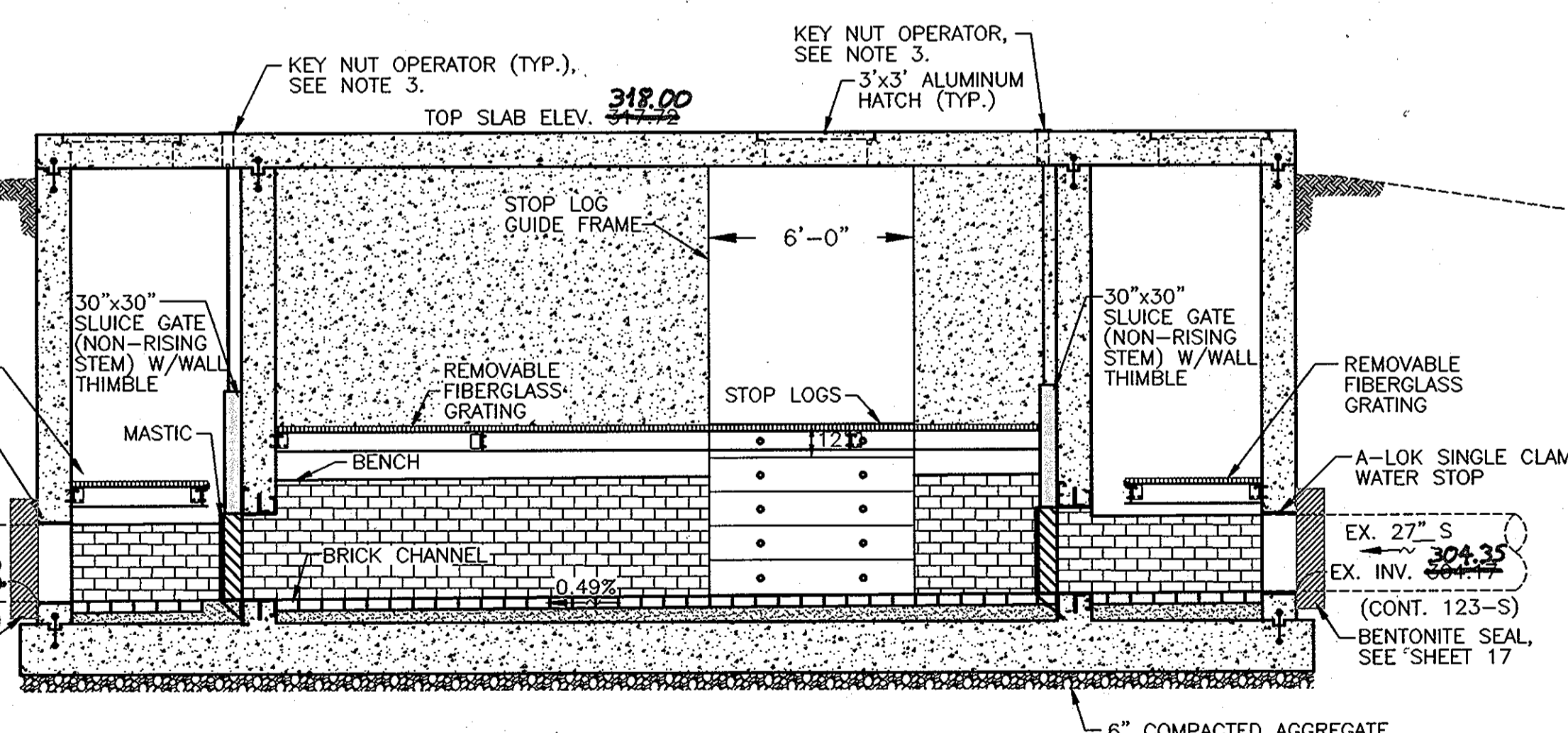
**SECTION C-C**

SCALE: 1/4" = 1'-0"



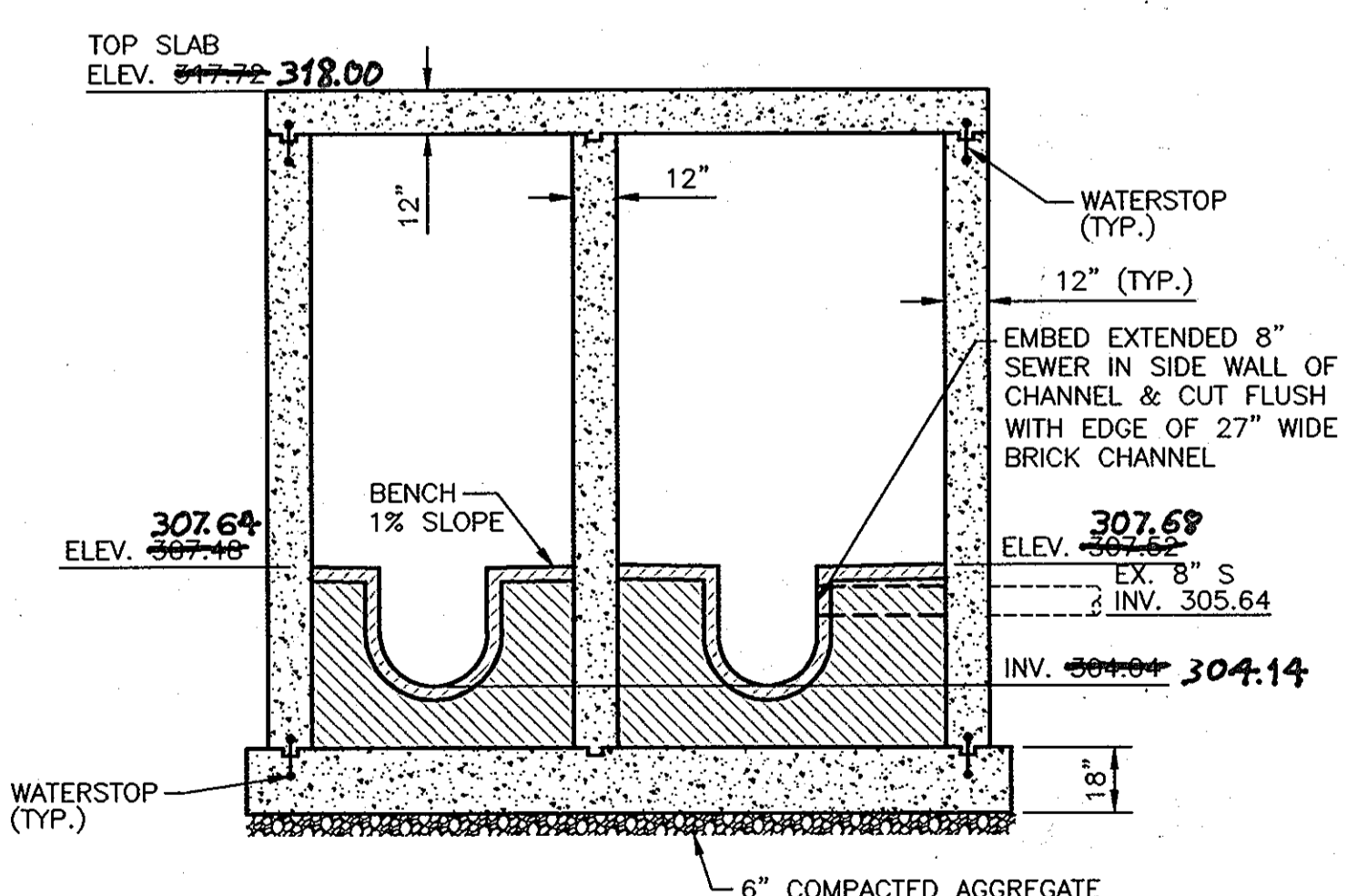
**SECTION A-A**

SCALE: 1/4" = 1'-0"



**SECTION B-B**

SCALE: 1/4" = 1'-0"



**SECTION D-D**

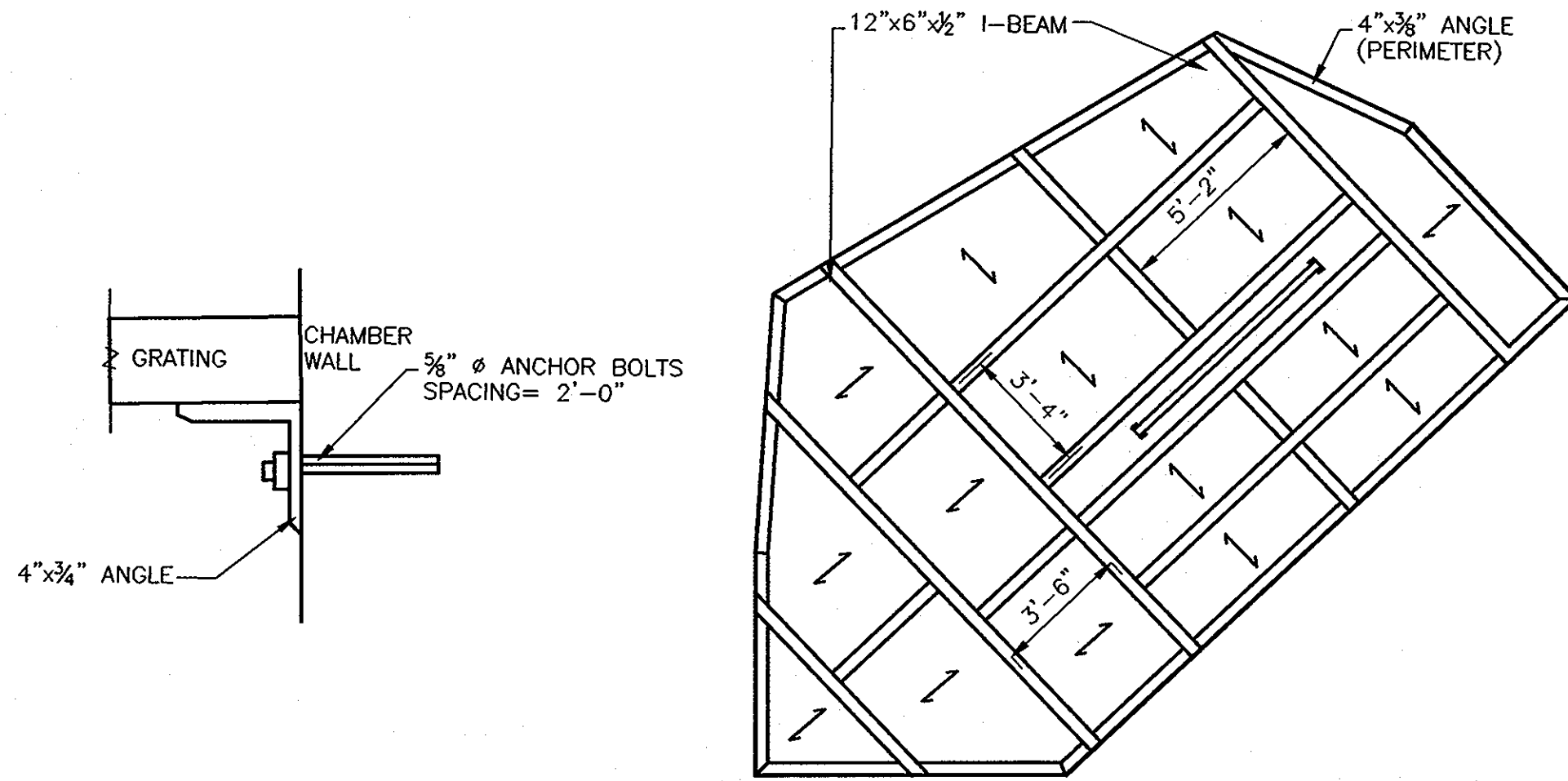
SCALE: 1/4" = 1'-0"

**REVISED 4-10-2013**

<p><b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND</p> <p><i>Raymond A. Clark</i> DIRECTOR OF PUBLIC WORKS</p> <p><i>Morgan S. Butler</i> CHIEF, BUREAU OF ENGINEERING</p> <p><i>William C. Lee</i> CHIEF, BUREAU OF UTILITIES</p>		<p><b>Dewberry</b> Dewberry &amp; Davis LLC 3108 LORD BALTIMORE DRIVE SUITE 110 BALTIMORE, MD 21244-2662 410.265.9500 FAX: 410.265.8875</p>		<p>DES: LAL DRN: RLJ CHK: TND DATE: JUNE 2012</p>		<p><b>JUNCTION CHAMBER 1201</b> PLAN AND SECTIONS</p> <p>600' SCALE MAP NO. 30 BLOCK NO. 8, 9, &amp; 14</p>		<p><b>LITTLE PATUXENT PARALLEL INTERCEPTOR</b> CAPITAL PROJECT S-6175 CONTRACT NO. 20-4636</p> <p>ELECTION DISTRICT NO. 5</p>		<p>SCALE: SHOWN</p> <p>SHEET 8 OF 20</p>	
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Printed by (name) on Plot Date: Jun 05, 2012 11:12:42am  
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 User: rlj  
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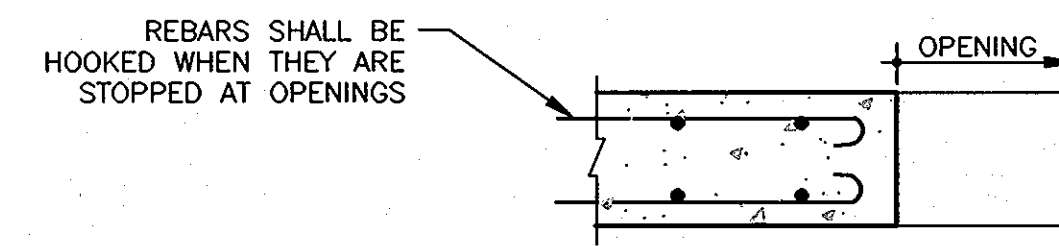




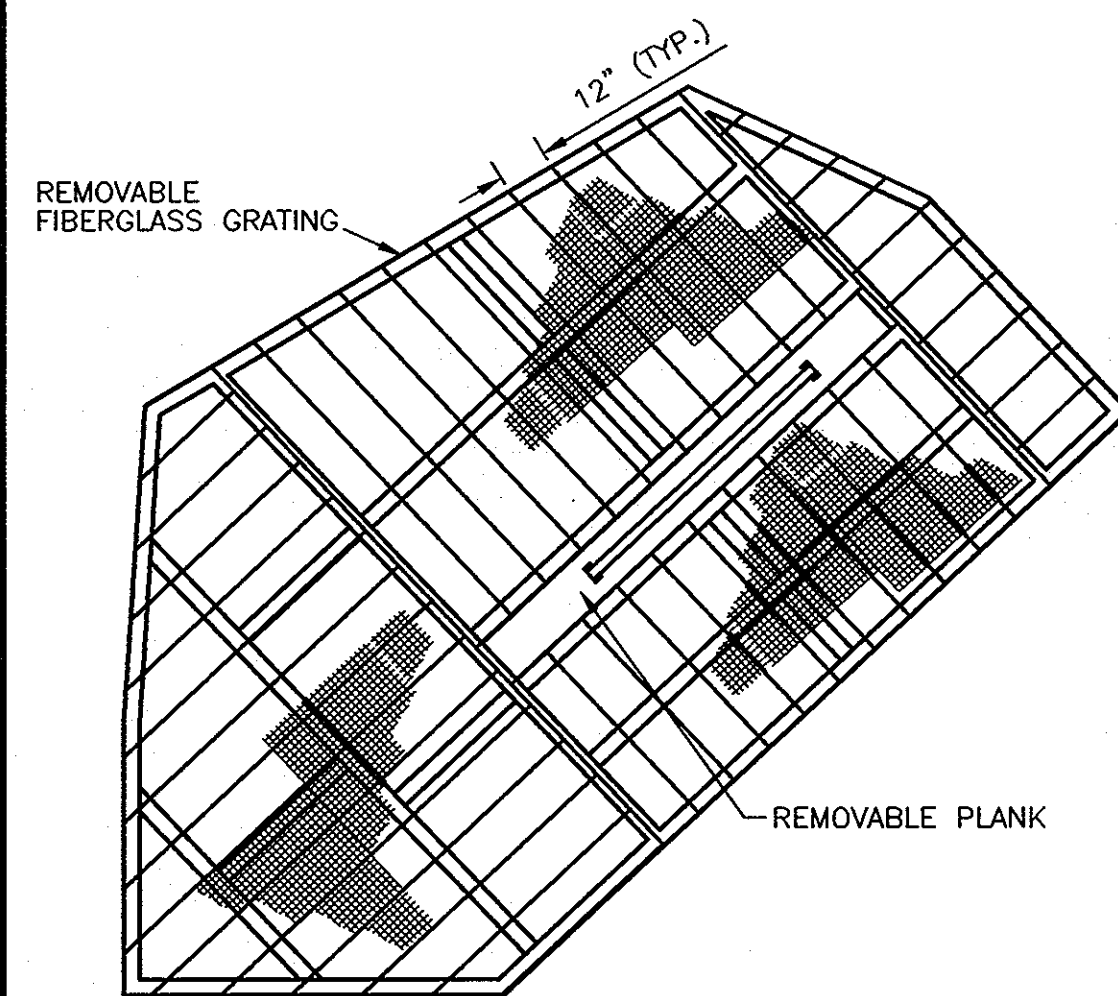
**GRATING ANCHOR**  
SCALE: NTS

**GRATING SUPPORTS**  
SCALE: 1/4" = 1'-0"

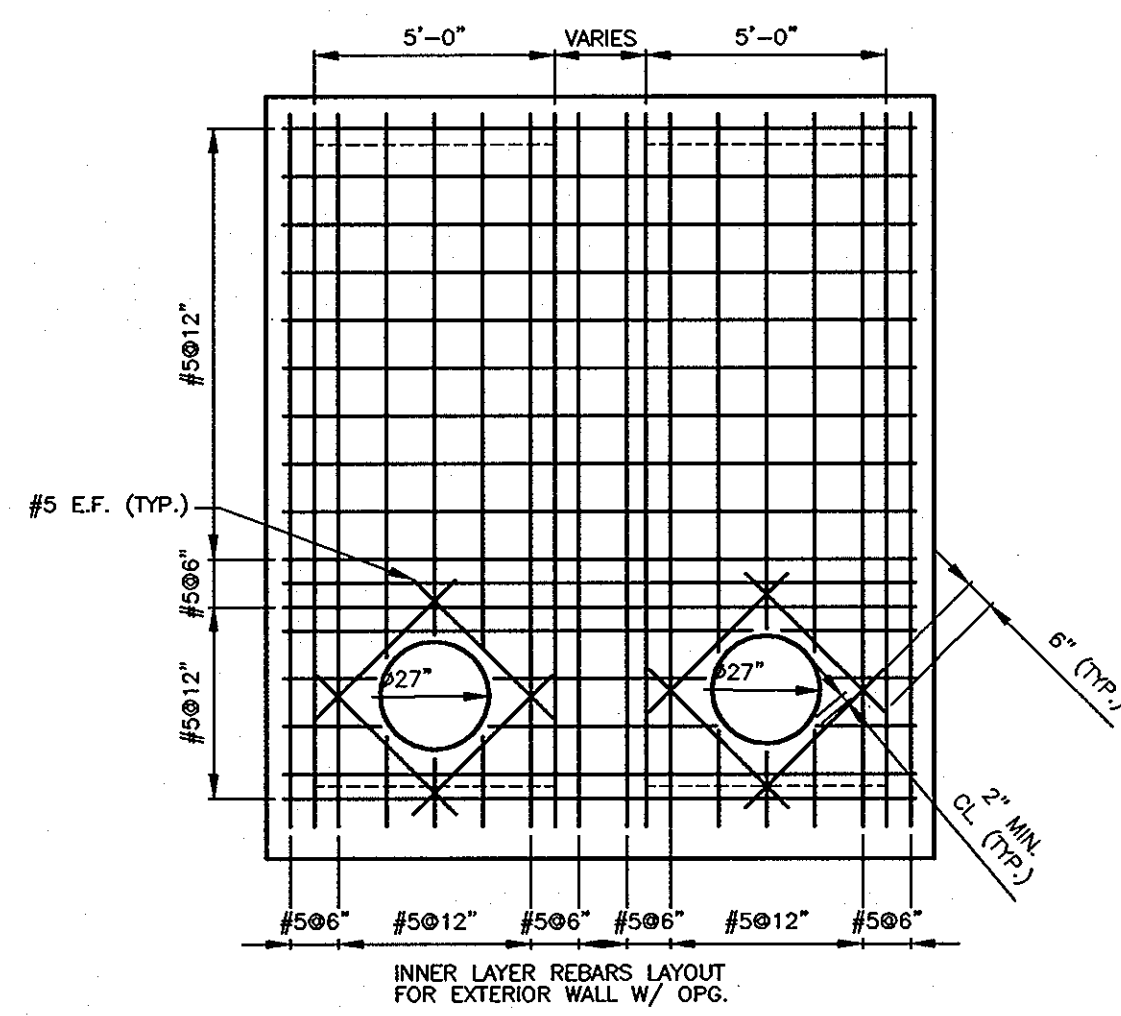
- NOTES:**
1. BEAM SIZE NOT SHOWN ARE 8" x 4" x 3/8" I-BEAM.
  2. ↑ INDICATES DIRECTION OF GRATING.
  3. 1-1/2" DEPTH x 1-1/2" x 1-1/2" SQUARE FIBERGLASS GRATING
  4. GRATING TO BEAM CONNECTION PER MANUFACTURER'S REQUIREMENT
  5. MINIMUM EMBEDMENT OF ANCHOR BOLTS IS 4-1/2".



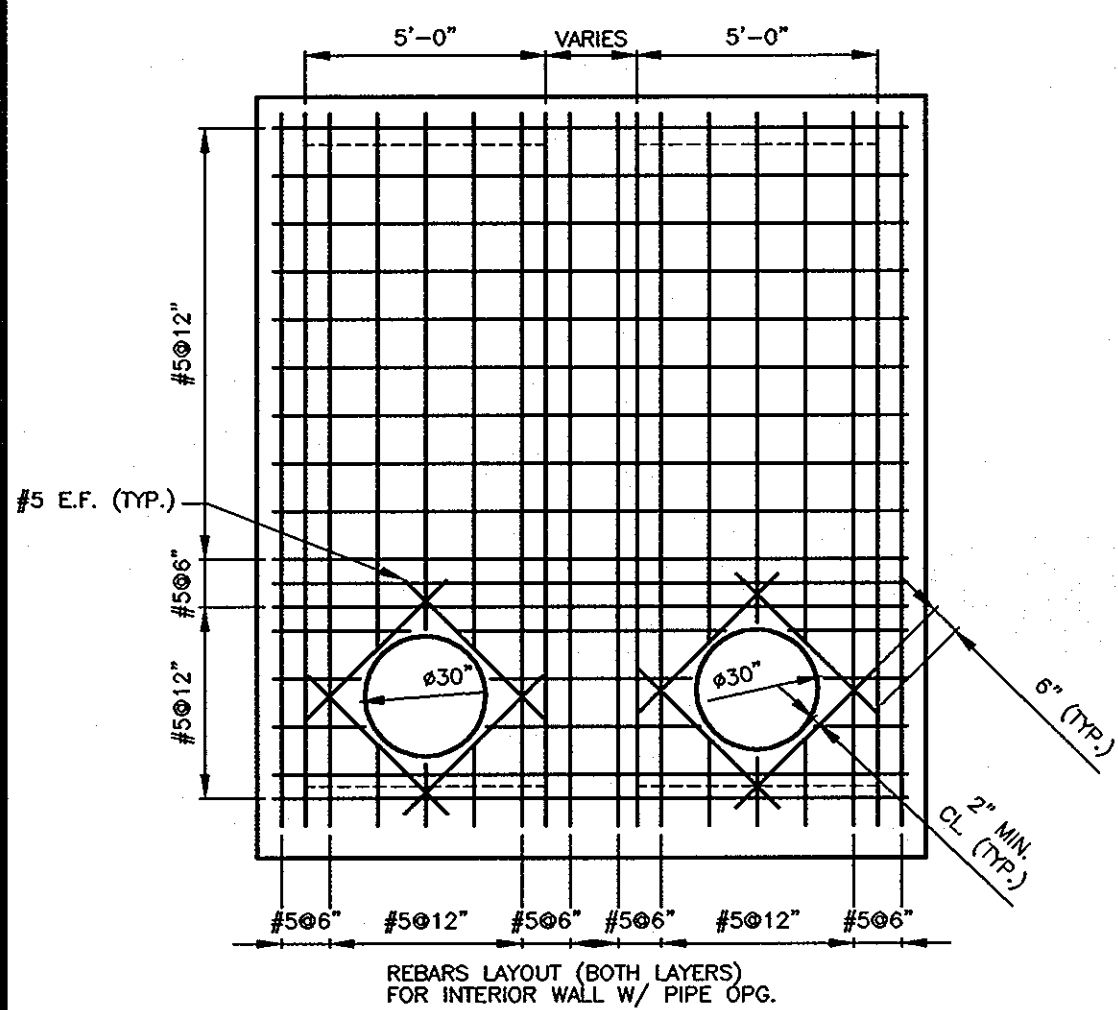
**SECTION Q-Q**  
SCALE: NTS



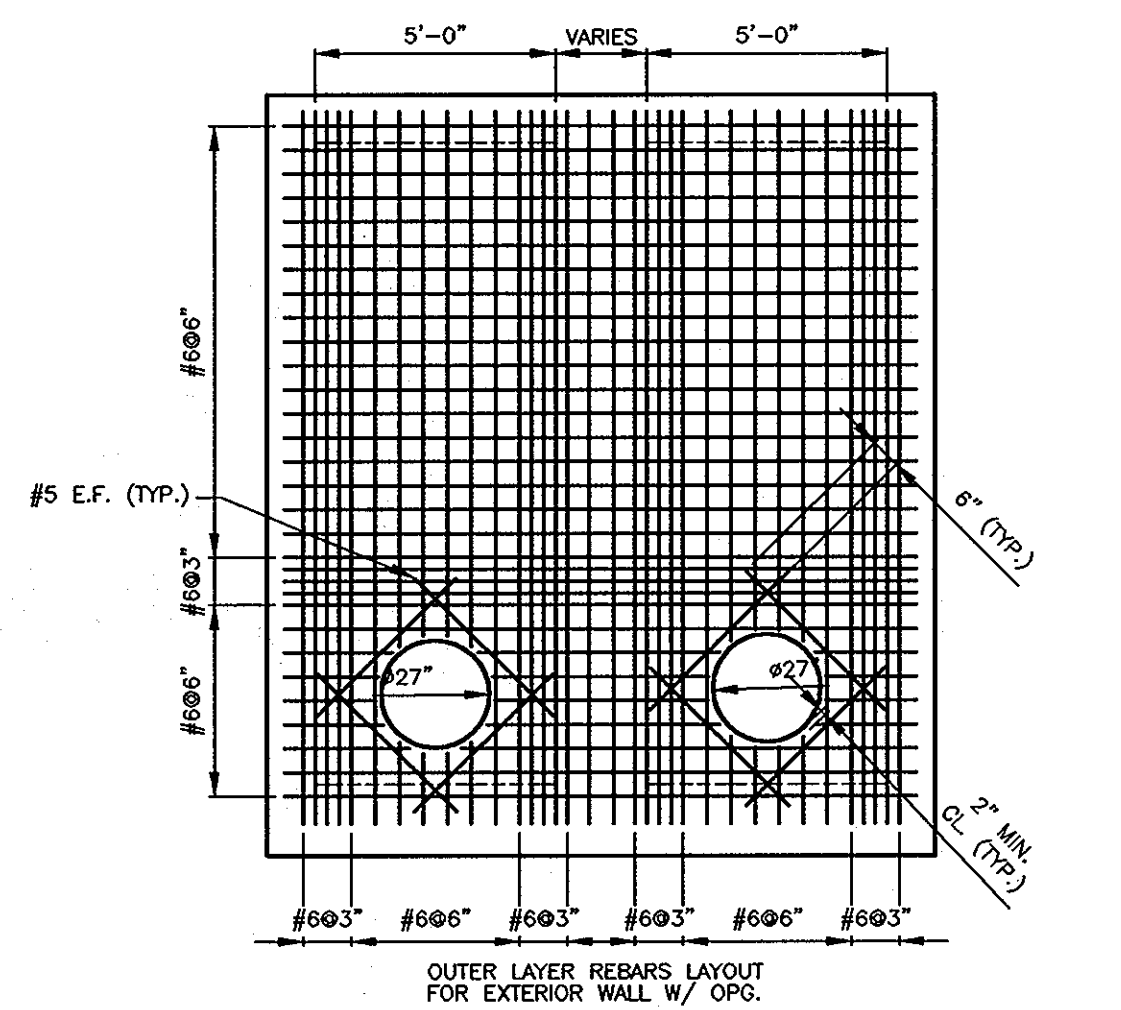
**GRATING**  
SCALE: 1/4" = 1'-0"



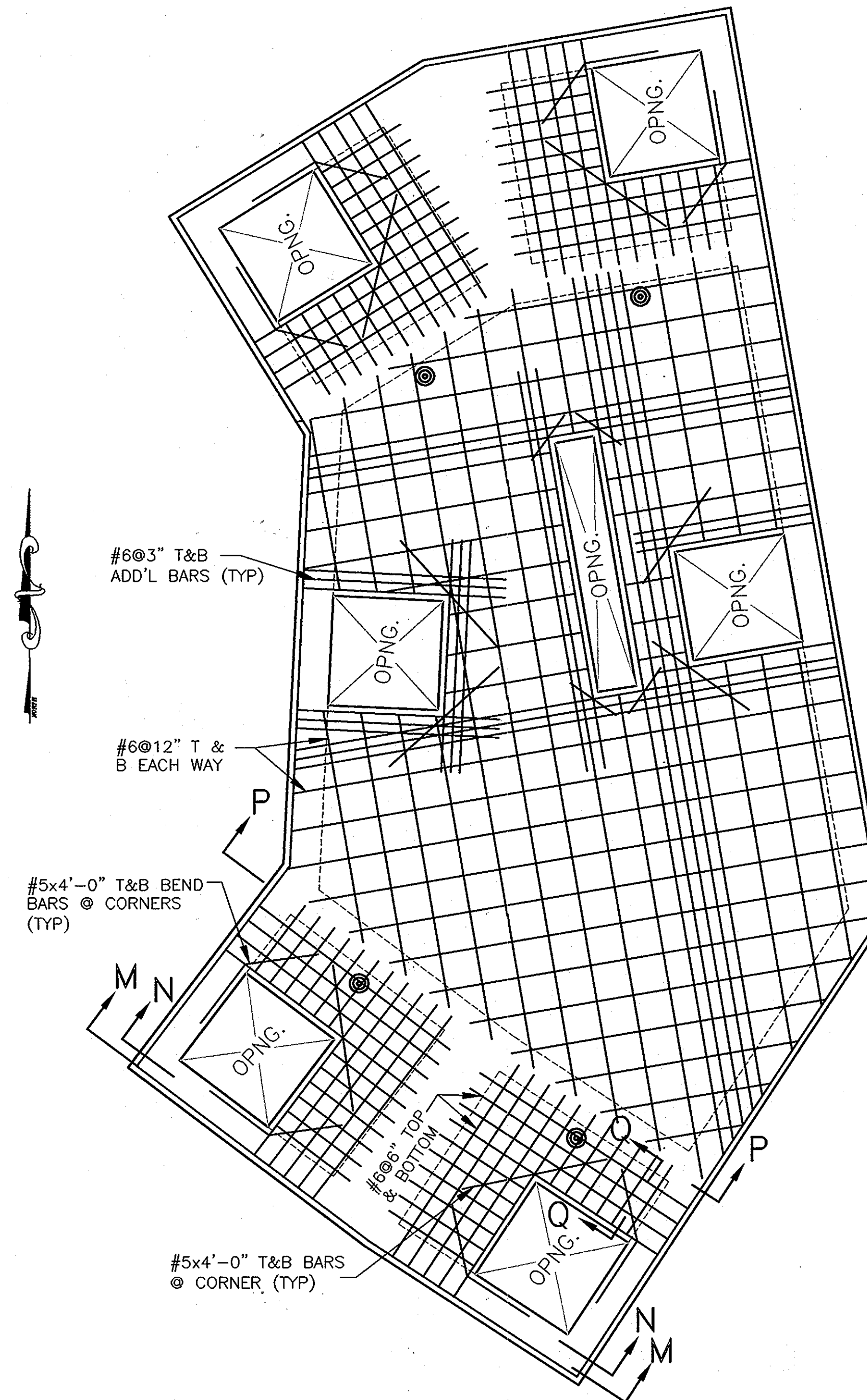
**SECTION N-N**  
SCALE: 1/4" = 1'-0"



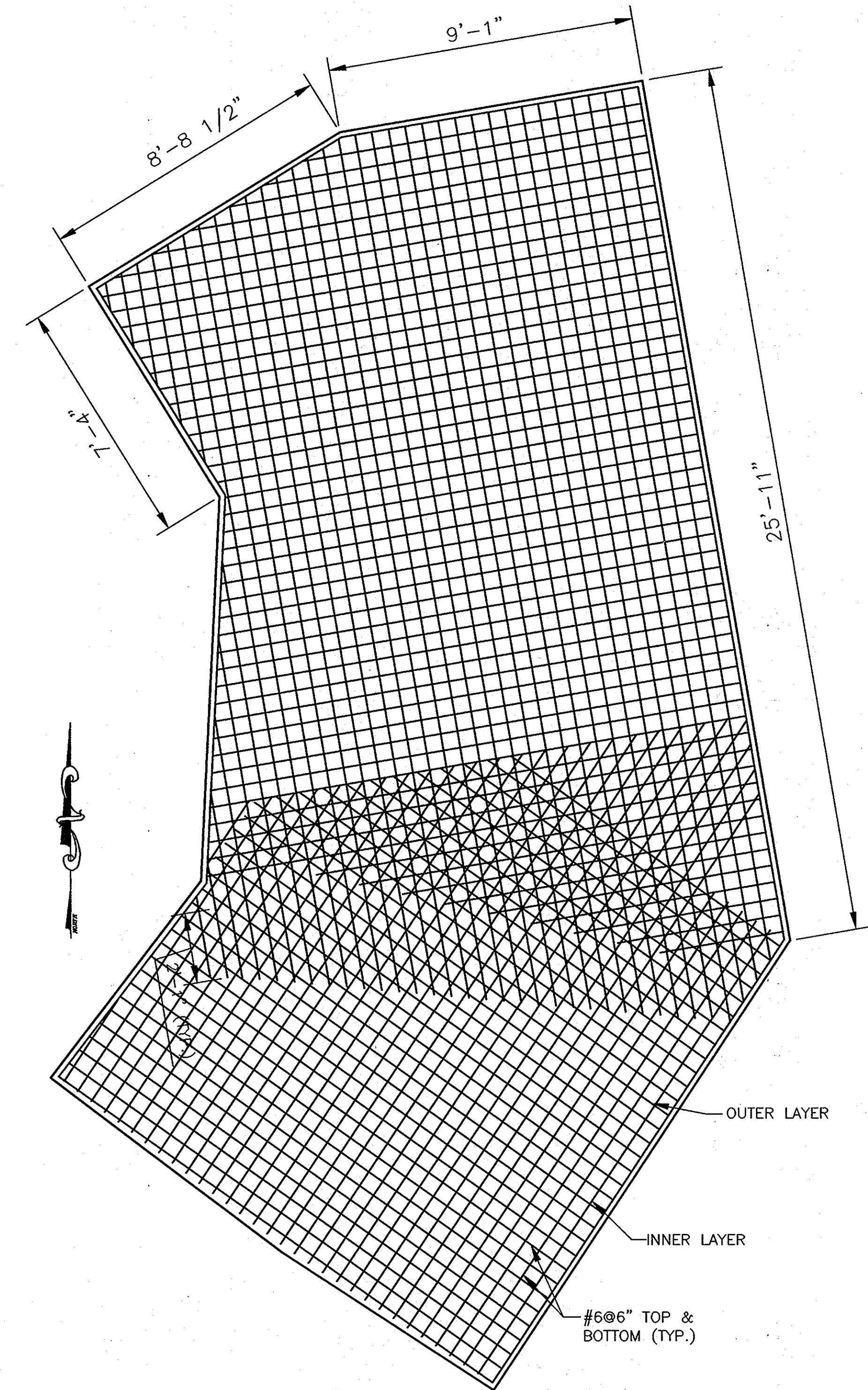
**SECTION P-P**  
SCALE: 1/4" = 1'-0"



**SECTION M-M**  
SCALE: 1/4" = 1'-0"



**TOP SLAB PLAN**  
SCALE: 3/8" = 1'-0"



**BOTTOM SLAB**  
SCALE: 3/8" = 1'-0"

AS-BUILTS 4-10-2013

Plotted by: (User) on: 08/08/2012 12:43:30 PM  
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 Path: C:\Users\jclark\Documents\Junction Chamber 1201 Reinforcing Details.dwg  
 Plot Date: 08/08/2012 12:43:30 PM  
 Plot Scale: 1/4" = 1'-0"  
 Plotter: HP DesignJet T1100e  
 Plotter Driver: HP DesignJet T1100e PCL6  
 Plotter Location: C:\Program Files\HP\DesignJet\bin\hpplm624.dll  
 Plotter Name: HP DesignJet T1100e  
 Plotter Model: HP DesignJet T1100e  
 Plotter Version: 1.0

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

*Jay L. Clark*  
DIRECTOR OF PUBLIC WORKS  
DATE: 6/12/12

*Thomas J. Stiller*  
CHIEF, BUREAU OF ENGINEERING  
DATE: 6/12/12

*John A. ...*  
CHIEF, UTILITY DESIGN DIVISION  
DATE: 6/12/12

**Dewberry & Davis LLC**  
3100 LORD BALTIMORE DRIVE  
SUITE 110  
BALTIMORE, MD 21244-2682  
410.295.9500  
FAX: 410.295.8875



DES: LAL			
DRN: RLJ			
CHK: TND			
DATE: JUNE 2012	BY NO.	REVISIONS	DATE

**JUNCTION CHAMBER 1201**  
REINFORCING DETAILS

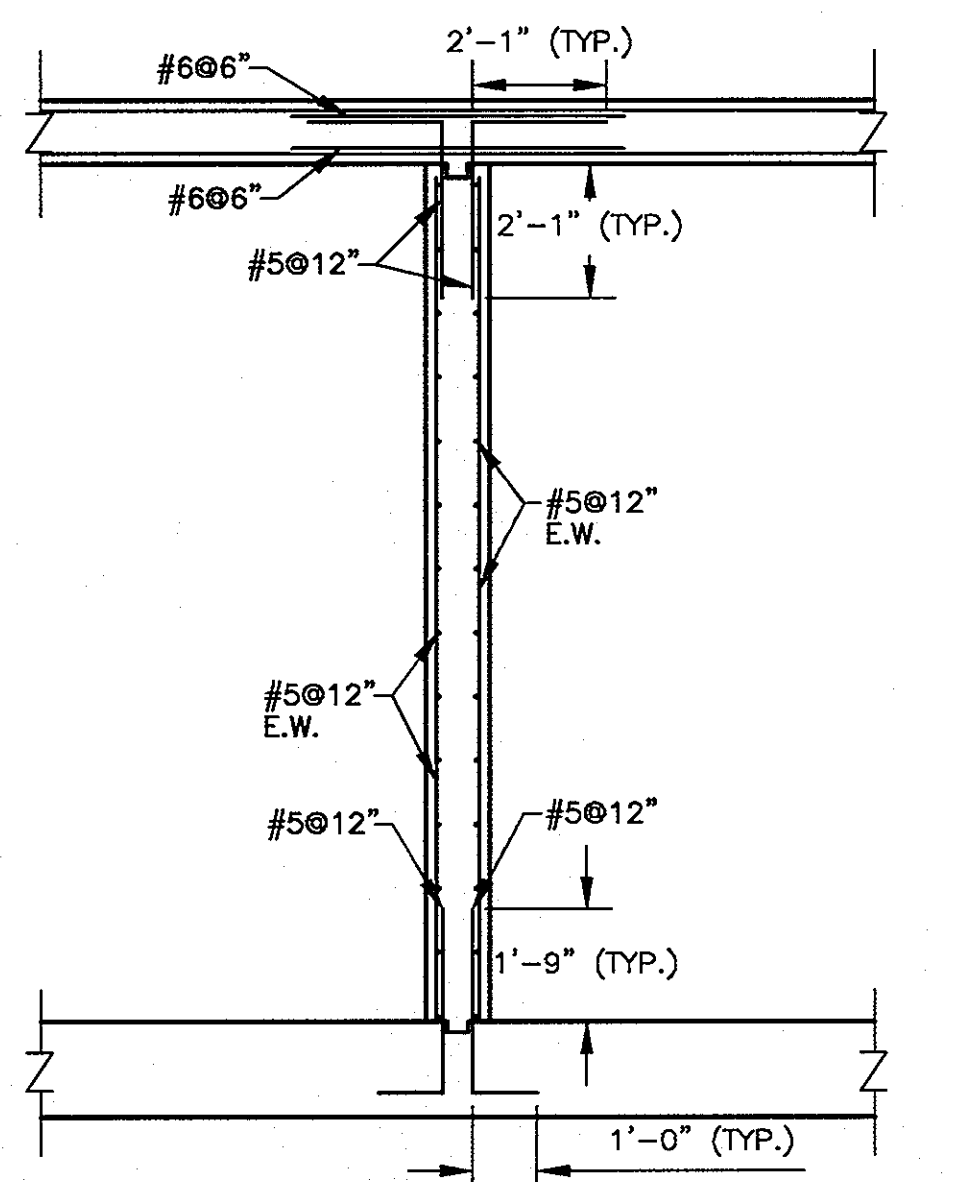
600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14

**LITTLE PATUXENT PARALLEL INTERCEPTOR**  
CAPITAL PROJECT S-6175  
CONTRACT NO. 20-4636

ELECTION DISTRICT NO. 5

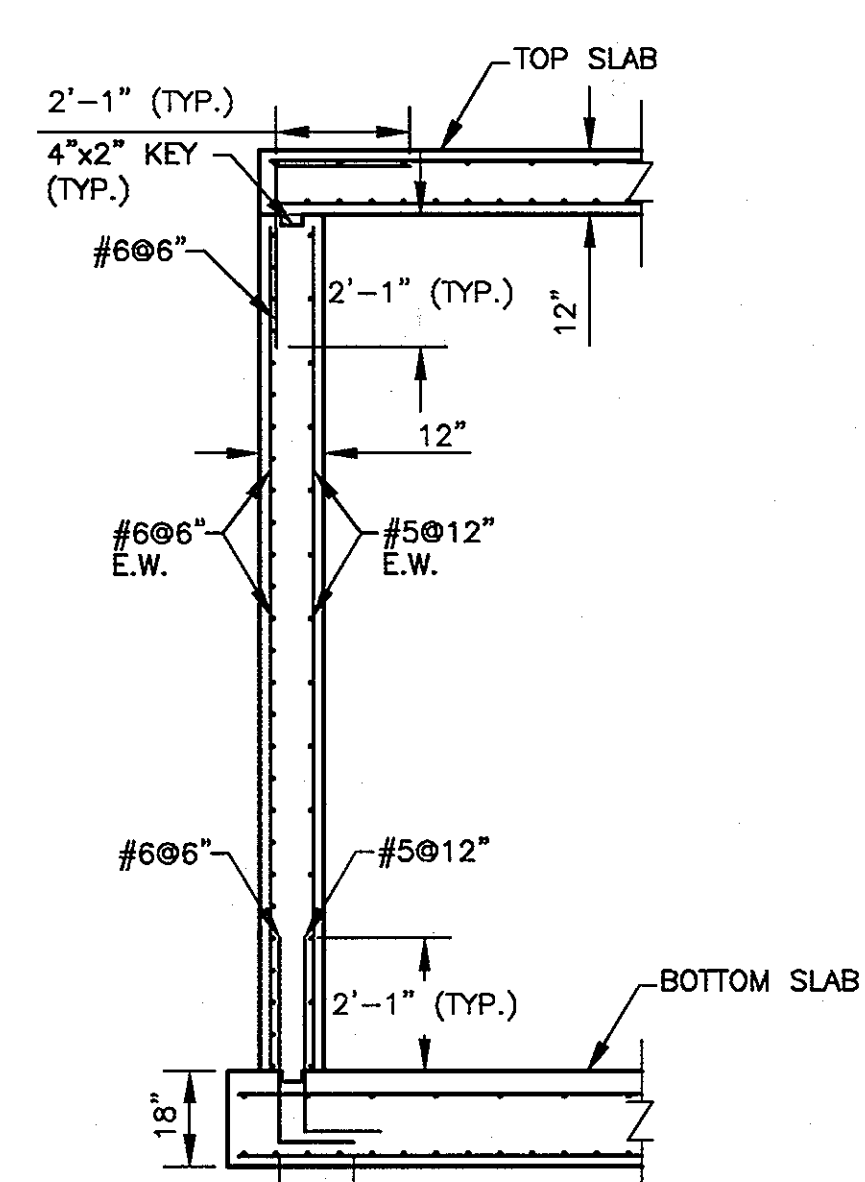
HOWARD COUNTY, MARYLAND

SCALE: SHOWN  
SHEET 9 OF 20



ELEVATION VIEW  
INNER WALL TYPICAL SECTION

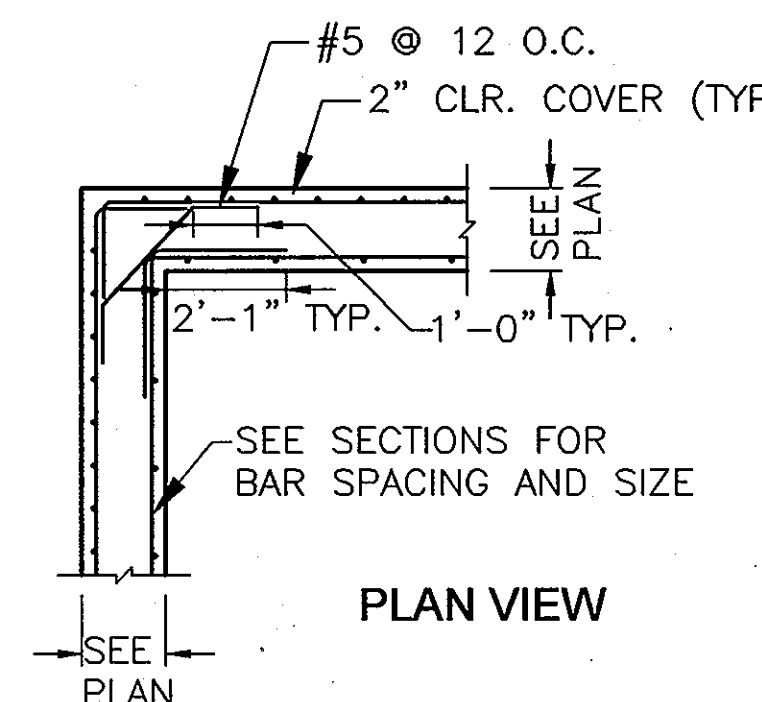
SCALE: 1/3" = 1'-0"



ELEVATION VIEW  
OUTER WALL TYPICAL SECTION

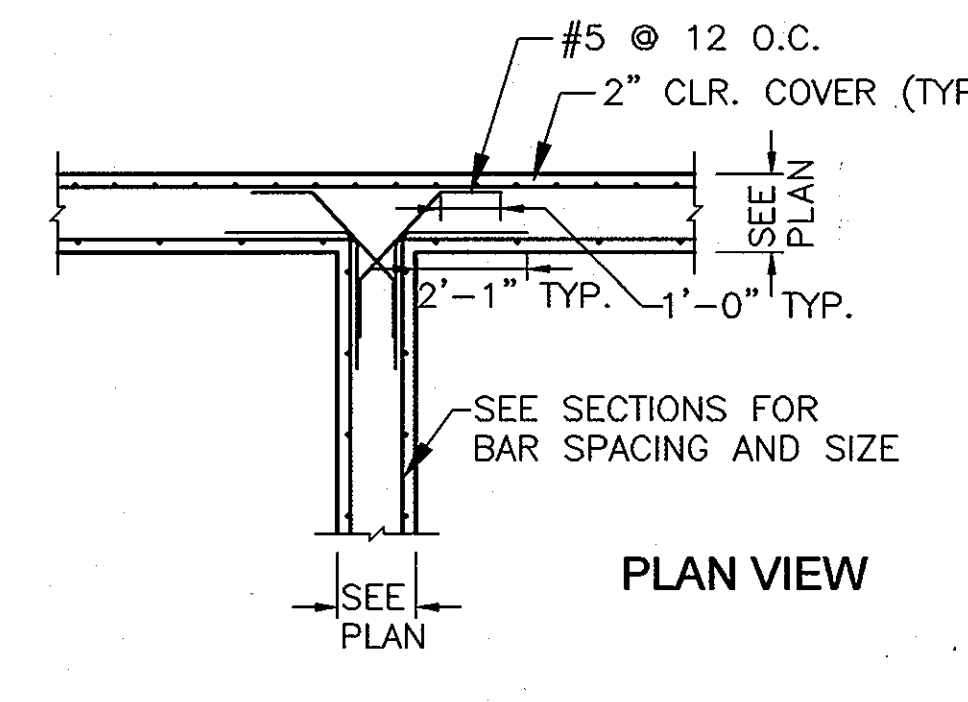
SCALE: 1/3" = 1'-0"

DESIGN LOADS *	
DEAD LOADS	— ACTUAL WEIGHT OF STRUCTURE
WEIGHT OF SOIL	— 100 P.C.F. TO RESIST UPLIFT 120
P.C.F. DEAD LOAD	
LIVE LOAD	— IN AREAS NOT OCCUPIED BY EQUIPMENT OR SUBJECT TO TRUCK LOADING FLOOR - 100 P.S.F. EQUIPMENT - ACTUAL WEIGHT - 150 P.S.F. MINIMUM TRUCK - H20-44 AASHTO LOADING WALKWAYS - 100 P.S.F. STAIRWAY - 100 P.S.F. ROOF - 30 P.S.F.
SNOW LOAD	— GROUND SNOW LOAD - 20 P.S.F.
WIND LOAD (EXPOSURE C)	— BASIC WIND SPEED - 90 MPH
SEISMIC LOAD	— DESIGN CATEGORY B
EARTH PRESSURES	— LATERAL EARTH PRESSURES ARE BASED ON A FRICTION ANGLE OF 30°. BACKFILL MATERIAL SHALL NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL THE UPPER BRACING COMPONENTS ARE IN PLACE FOR AT LEAST 7 DAYS.



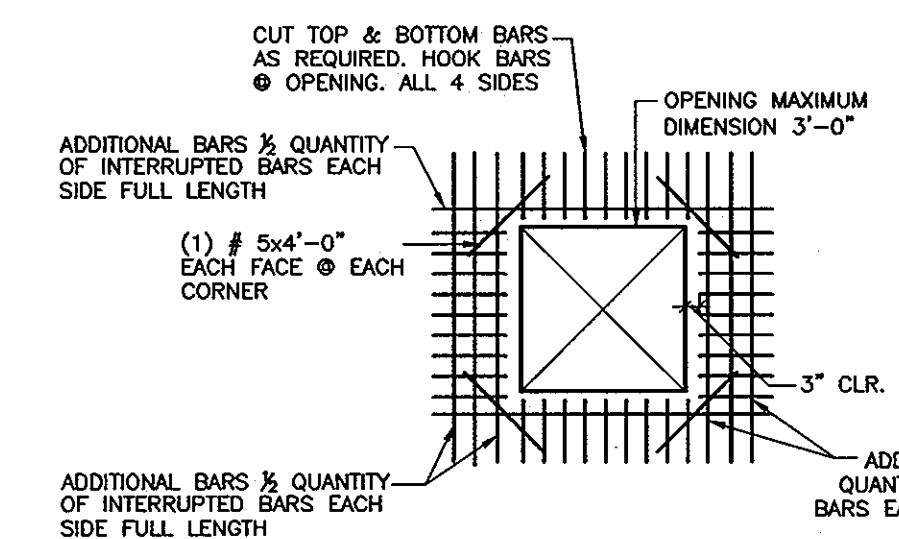
TYPICAL CORNER DETAIL

SCALE: NTS



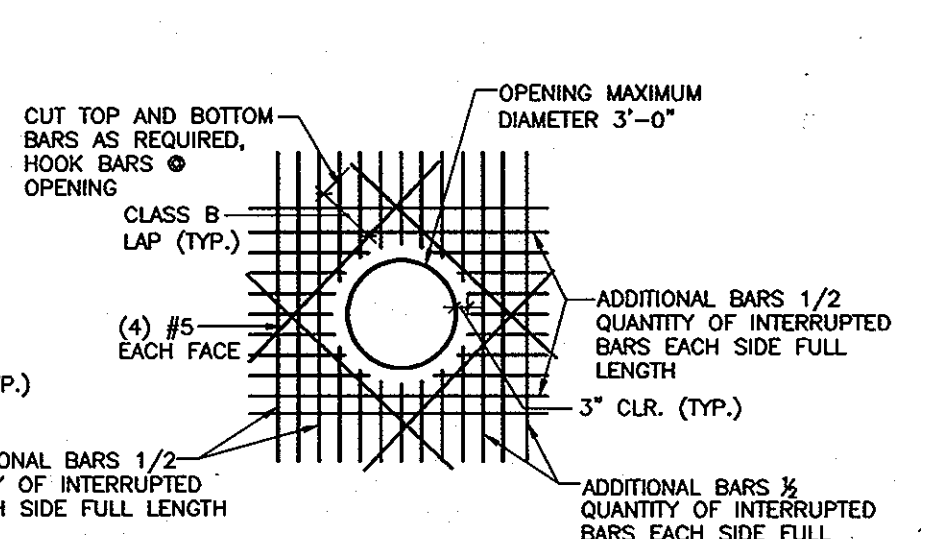
TYPICAL INTERSECTION DETAIL

SCALE: NTS



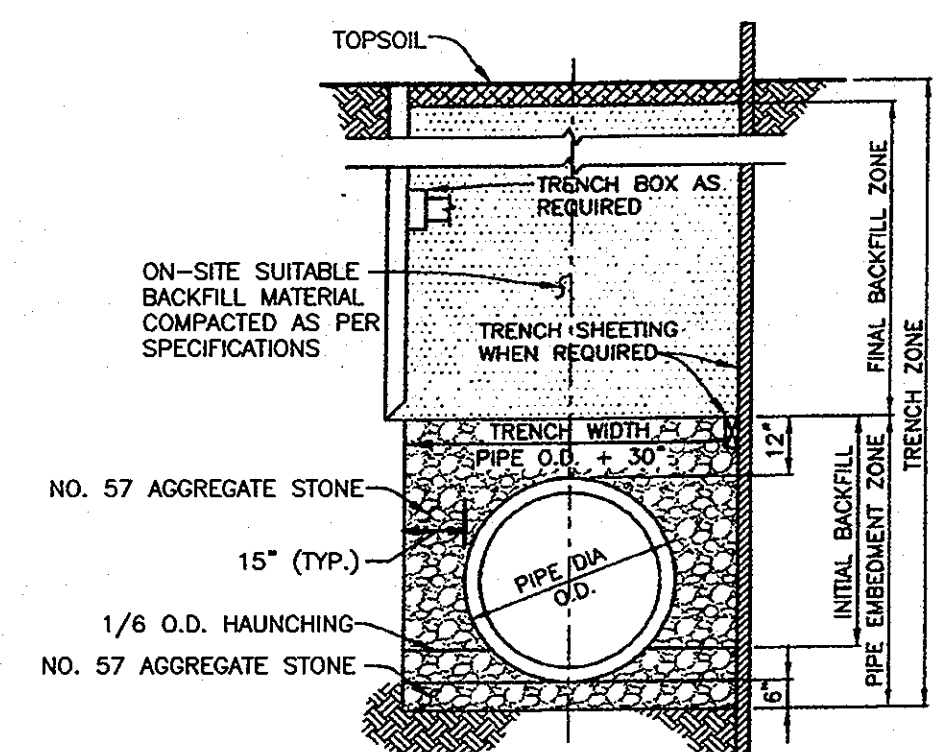
WALL OR SLAB OPENING DETAIL

SCALE: NTS (2'-4" SQ. MAX.)

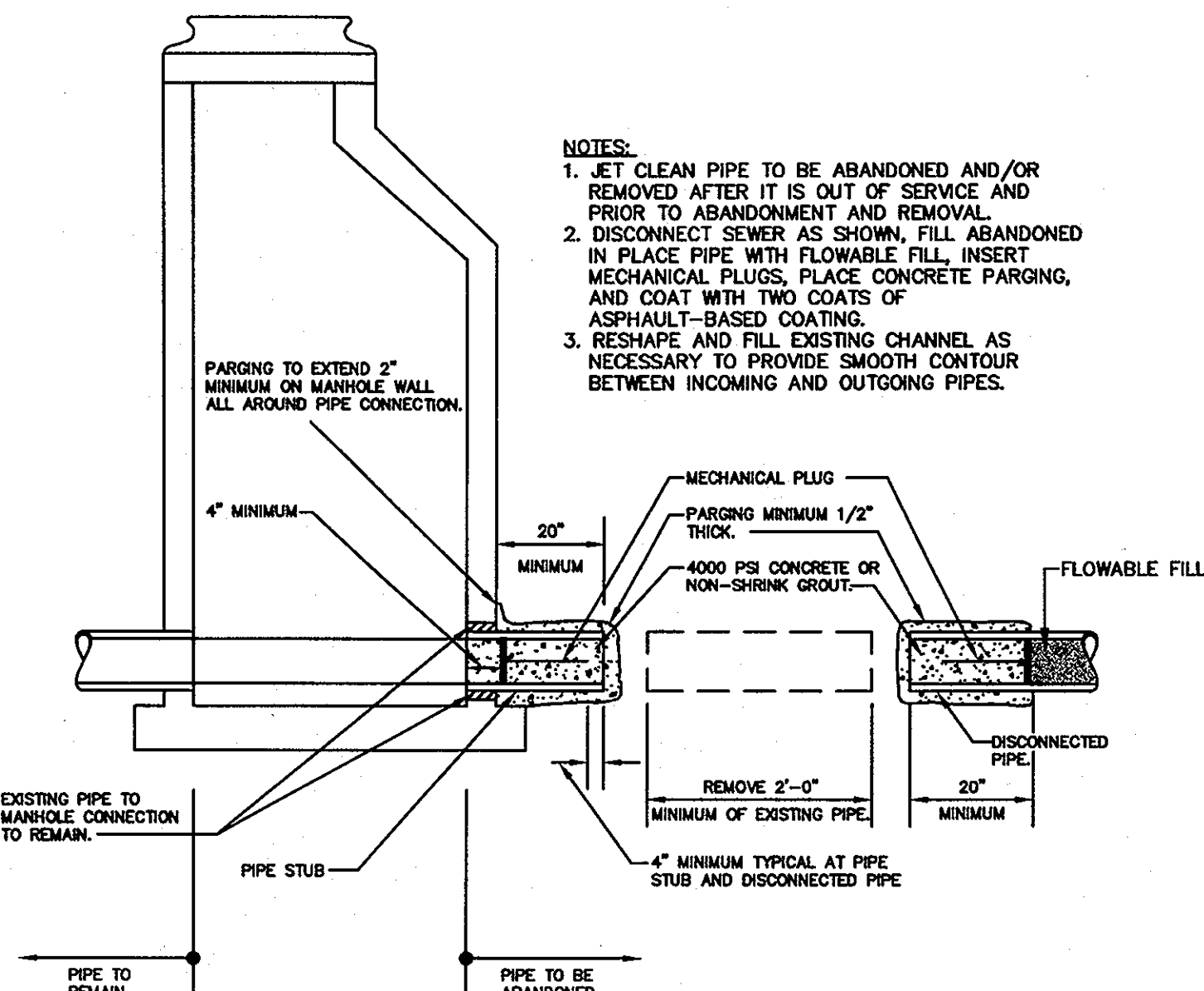


WALL OR SLAB OPENING DETAIL

SCALE: NTS (3' Ø MAX.)



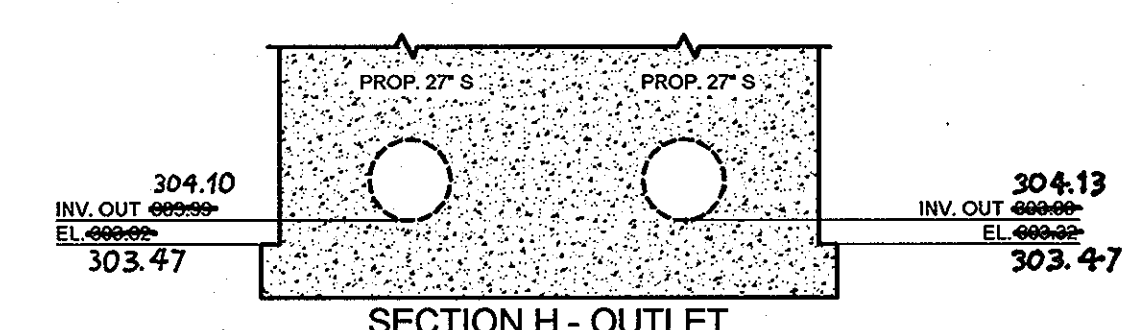
TRENCH DETAIL  
NO SCALE



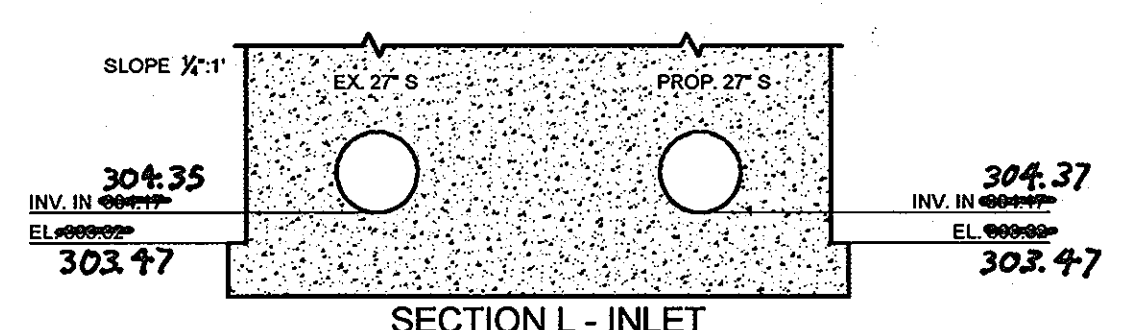
ABANDONMENT OF PIPE AT MANHOLE & LEFT IN PLACE

NO SCALE

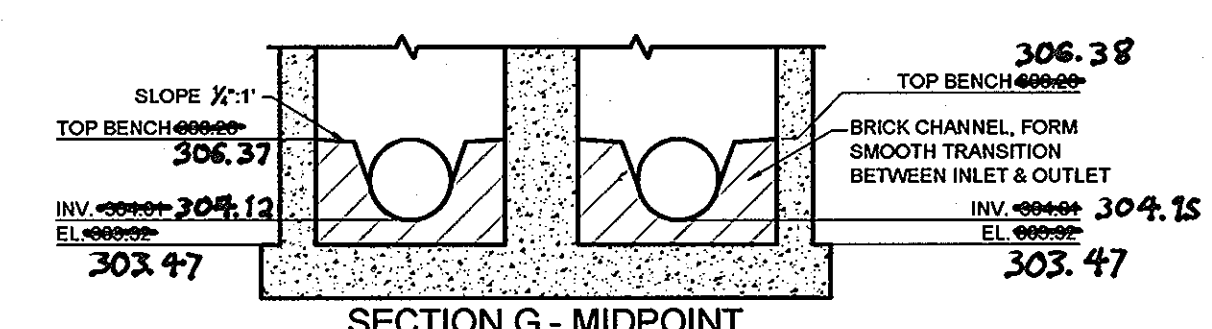
- NOTES:
1. JET CLEAN PIPE TO BE ABANDONED AND/OR REMOVED AFTER IT IS OUT OF SERVICE AND PRIOR TO ABANDONMENT AND REMOVAL.
  2. DISCONNECT SEWER AS SHOWN. FILL ABANDONED IN PLACE PIPE WITH FLOWABLE FILL. INSERT MECHANICAL PLUGS. PLACE CONCRETE PARING, AND COAT WITH TWO COATS OF ASPHALT-BASED COATING.
  3. RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CONTOUR BETWEEN INCOMING AND OUTGOING PIPES.



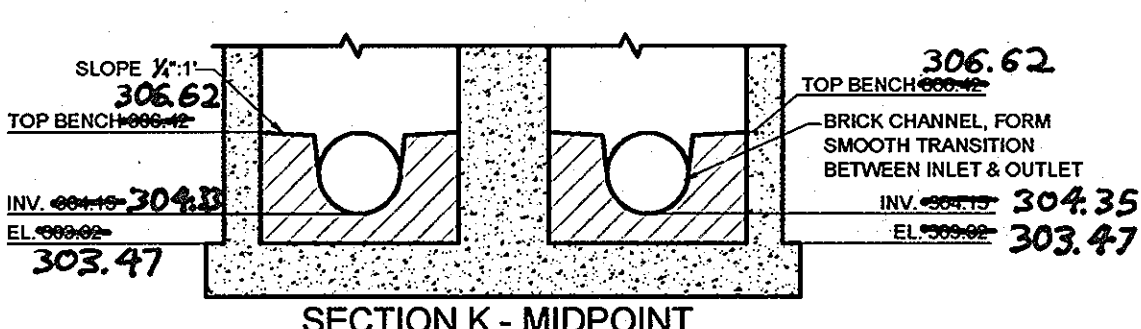
SECTION H - OUTLET



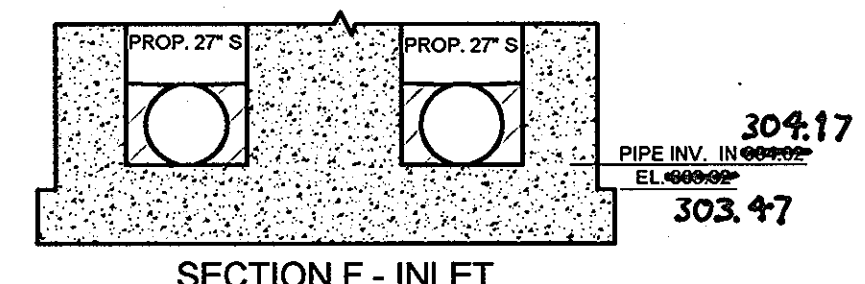
SECTION L - INLET



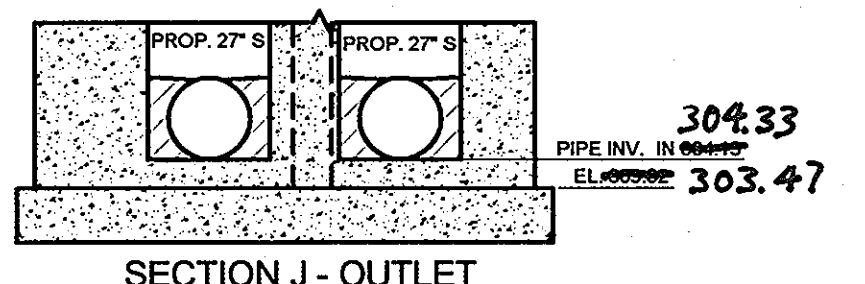
SECTION G - MIDPOINT



SECTION K - MIDPOINT



SECTION F - INLET



SECTION J - OUTLET

CROSS SECTIONS

SCALE: 3/16" = 1'-0"

REVISED 4-10-2013

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

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DES: LAL			
DRN: RLI/CD			
CHK: TND			
DATE: JUNE 2012	BY	NO.	REVISIONS

JUNCTION CHAMBER 1201  
WALL SECTIONS AND DETAILS

LITTLE PATUXENT PARALLEL INTERCEPTOR

CAPITAL PROJECT S-6175  
CONTRACT NO. 20-4636

600' SCALE MAP NO. 30 BLOCK NO. 8, 9, & 14

ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

SCALE: 1/8" = 1'-0"  
SHOWN  
SHEET 10 OF 20

Printed by: (none) on Wed Jun 06 2012 12:43pm  
 Top: 3000, Bottom: 3000, Left: 3000, Right: 3000  
 Title: Junction Chamber 1201 Wall Sections and Details  
 User: jdo  
 Plot: 1000, 1000, 1000, 1000  
 Scale: 1/8" = 1'-0"  
 Date: 6/12/12

