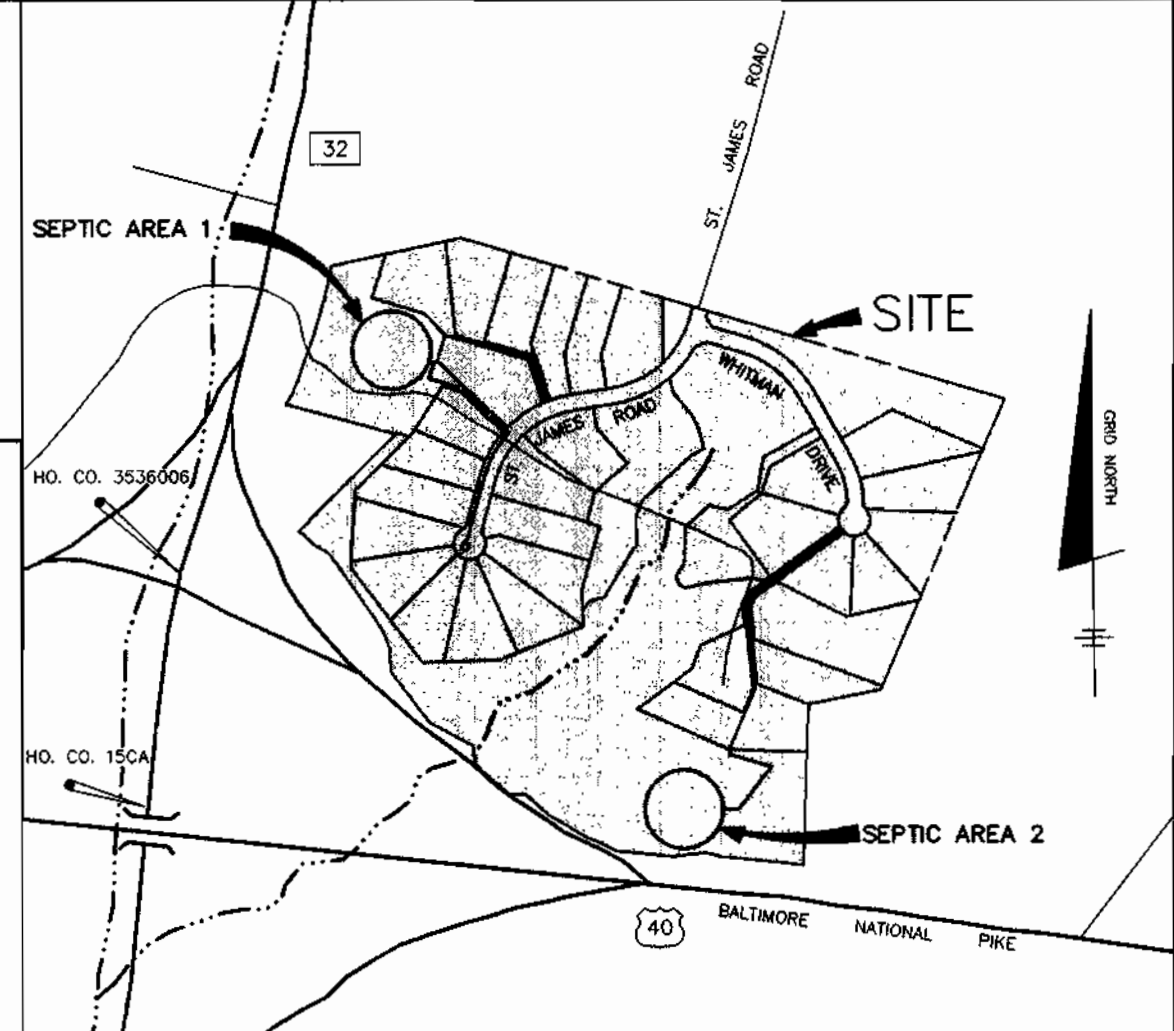


BENCH MARKS (NAD 83)

HO. CO. #15CA	ELEV. 516.02
STAMPED CONC. MONUMENT LOCATED IN THE MEDIAN OF RTE 32, NORTH OF THE I-70 OVERPASS	
N 598862.8254	E 1325913.7243
HO. CO. #15FA	ELEV. 456.87
STAMPED CONC. MONUMENT LOCATED IN THE MEDIAN OF RTE 32, NORTH OF MD RTE 144	
N 595906.9341	E 1325627.6504
HO. CO. 3536006 (MAD 27)	ELEV. 517.08
USED FOR VERTICAL DATUM	
CONC. MONUMENT LOCATED IN THE MEDIAN OF RTE 32, NORTH OF THE WEST EXIT FOR I-70	

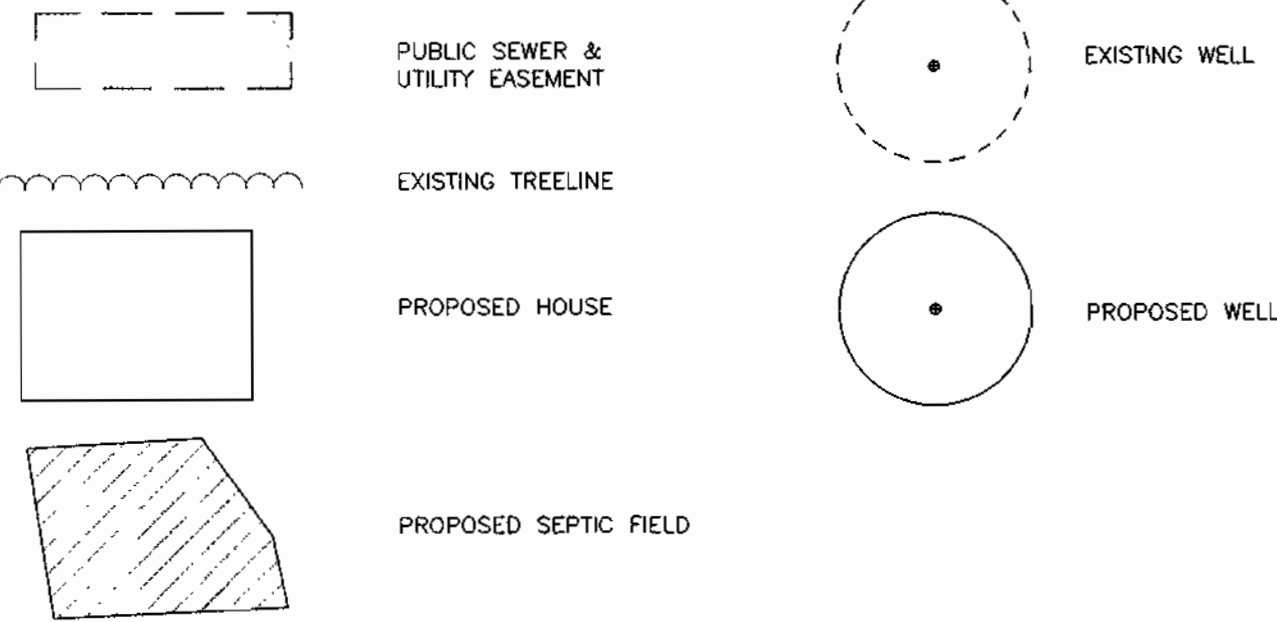


- NOTES:**
- A SEPTIC FEE IN THE AMOUNT OF \$180 PER LOT SERVED BY THE COMMON SEPTIC SYSTEM SHALL BE PAID TO THE HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT AT THE TIME OF THE SEPTIC CONSTRUCTION PERMIT ISSUANCE.
 - WELLS ON THE LOTS SURROUNDING THE COMMON SHARED SEPTIC AREAS AND THE EXISTING WELLS ON THE NEWCOMER AND TANNER PROPERTIES SHALL BE TESTED FOR BACKGROUND LEVELS OF COLIFORM AND NITRATES PRIOR TO PUTTING THE SHARED SEPTIC SYSTEM IN SERVICE.
 - THE BUILDER SHALL INSTALL BACKFLOW PREVENTER AND RELIEF VENT ON THE SEWER SERVICE AT THE HOUSE, AT THE TIME OF THE HOUSE CONSTRUCTION OR AS REQUIRED BY THE PLUMBING INSPECTOR.
 - INSTALLATION OF GRINDER PUMPS AND APPURTENANCES, AND THE 4" PVC SEWER HOUSE CONNECTIONS (SHC) ARE TO BE INSTALLED BY THE BUILDER. THE DEVELOPER IS RESPONSIBLE TO INSURE THAT THE BUILDER INSTALLS THESE ITEMS.
 - ALL PRESSURE SEWER SHALL BE SDR 21 PVC, SOLVENT WELDED, A 6 GAUGE TRACER WIRE SHALL BE WRAPPED AROUND OR ATTACHED TO THE PVC PIPE.
 - SEPTIC TANKS SHALL BE VACUUM OR WATER TESTED ON-SITE BY THE MANUFACTURER. SEPTIC TANK SHOP DRAWINGS FROM THE MANUFACTURER SHOULD BE SUBMITTED TO THE HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO ANY INSTALLATION OF THE SEPTIC TANKS.
 - ALL PRESSURE SEWER IS TO BE PRESSURE TESTED ACCORDING TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOTIFY HOWARD CO. HEALTH DEPARTMENT AT (410) 313-2640 AT LEAST 5 WORKING DAYS BEFORE ANY PRESSURE TEST OF PRESSURE SEWERS, AND ANY SEPTIC TANKS VACUUM OR WATER TESTING IS PERFORMED.
 - THE BUILDER SHALL BE RESPONSIBLE FOR THE REQUIREMENTS AND METHOD OF INSTALLATION OF GRINDER PUMP AND ITS APPURTENANCES.
 - OBSERVATION WELL TO BE INSTALLED AFTER TRENCH INSTALLATION IS COMPLETED.
 - A STATE CONSTRUCTION PERMIT IS REQUIRED ON COLLECTION SYSTEM WHICH SERVES 10 OR MORE LOTS.
 - THIS PLAN IS SUBJECT TO NATIONAL WETLANDS PERMIT NO. 97-NI-0104.
 - THE PORTIONS OF THE PUBLIC SEWER LINE WHICH ARE CLOSER THAN 50 FEET TO ANY WELL WILL BE ENCASED IN CONCRETE OR CONSTRUCTED OUT OF WELDED STEEL AS REQUIRED BY COMAR 26.04.05.
 - THE HOWARD COUNTY HEALTH DEPARTMENT SHALL AS-BUILD THE SEPTIC PORTION OF THE COMMON SEPTIC SYSTEM. THE COLLECTION PORTION OF THIS SYSTEM SHALL BE AS-BUILT BY OTHERS AS SPECIFIED BY THE DEVELOPER AGREEMENT.

WATER AND SEWER COUNTY CODE

WATER CODE	N/A	TYPE OF BUILDINGS - SINGLE FAMILY DETACHED	30
SEWER CODE	N/A	NUMBER OF NON-BUILDABLE LOTS	4
TEST GRADIENT	N/A	NUMBER OF W.H.C.S.	0
		NUMBER OF S.H.C.S.	11
		DRAINAGE AREA	MIDDLE PATUXENT
		11 LOTS ARE SERVED BY THE SHARED SEPTIC SYSTEM.	

LEGEND



SEWER MANHOLE LOCATION DATA

MH	LOCATION
1	N 599431.99 E 1328662.67
2	N 599405.52 E 1328764.27
3	N 599316.99 E 1328664.28

SHEET INDEX

NO.	DESCRIPTION
1	PLAN OF COMMON SEPTIC AREA NO. 1
2	PLAN OF COMMON SEPTIC AREA NO. 2
3	PROFILES
4	DETAILS
5	DETAILS
6	DETAILS

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
4" SEWER	171 LF			
8" SEWER	237 LF			
MANHOLES	3 EA.			
1 1/2" SDR 21 PVC	1862 LF			
TERMINAL FLUSHING CONNECTION	2 EA.			
DUPLEX GRINDER PUMP	5 EA.			
INLINE FLUSHING CONNECTION	1 EA.			
2000 GAL. SEPTIC TANKS	6 EA.			
750 GAL. SEPTIC TANK	1 EA.			
DISTRIBUTION BOX	2 EA.			
LEACHING FIELD	2852 LF			

GENERAL NOTES

- PART 1 - 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.
 - 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" 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 'E' 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 |
| BALTIMORE GAS & ELECTRIC CO. | 850-4620 |
| BALTIMORE GAS & ELECTRIC CO. CONTRACTOR SERVICES | 787-9068 |
| UNDERGROUND DAMAGE CONTROL | 1-800-257-7777 |
| MISS UTILITY | 1-800-257-7777 |
| COLONIAL PIPELINE CO. | 795-1390 |
| HOWARD CO. DEPT. OF PUBLIC WORKS | 410-313-2640 |
| BUREAU OF UTILITIES | 313-4900 |
| HO. CO. ENVIRONMENTAL HEALTH DEPT. | 410-313-2640 |
- 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.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
 - 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 BORROW/WORKING 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 3 - SEWER

- ALL SEWER MAINS SHALL BE DIP AND P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2' OF EXTERIOR MANHOLE WALLS.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORSE MAINS SHALL BE SDR 21 PVC.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER TIGHT FRAME AND COVERS, STANDARD DETAIL GS.52. WHERE WATER TIGHT MAN-HOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1" - 0" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

TRENCH REQUIREMENTS

- *USE 4 BEDROOM/ HOUSE.
- AREA 1:**
 600 GPD PER HOUSE
 600 GPD/HOUSE X 5 HOUSE = 3,000 GPD
 3,000 GPD/1 GPM/SQ. FT. = 3,000 SQ. FT. EFFECTIVE AREA
 3,000 SQ. FT./ 3 FT. WIDE TRENCH = 1,000 L. F. (REQUIRED)
 PROVIDED : 1177 L.F.
- AREA 2:**
 600 GPD PER HOUSE
 600 GPD/HOUSE X 6 HOUSE = 3,600 GPD
 3,600 GPD/1 GPM/SQ. FT. = 3,600 SQ. FT. EFFECTIVE AREA
 3,600 SQ. FT./ 3 FT. WIDE TRENCH = 1,200 L. F. (REQUIRED)
 PROVIDED : 1475 L.F.

NOTE: ALL SEWAGE GRINDER PUMPS ARE TO BE PUBLICLY OWNED AND MAINTAINED.

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPT.

Signature
 COUNTY HEALTH OFFICER
 10-2-97
 DATE

HOWARD SOIL CONSERVATION DISTRICT.
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

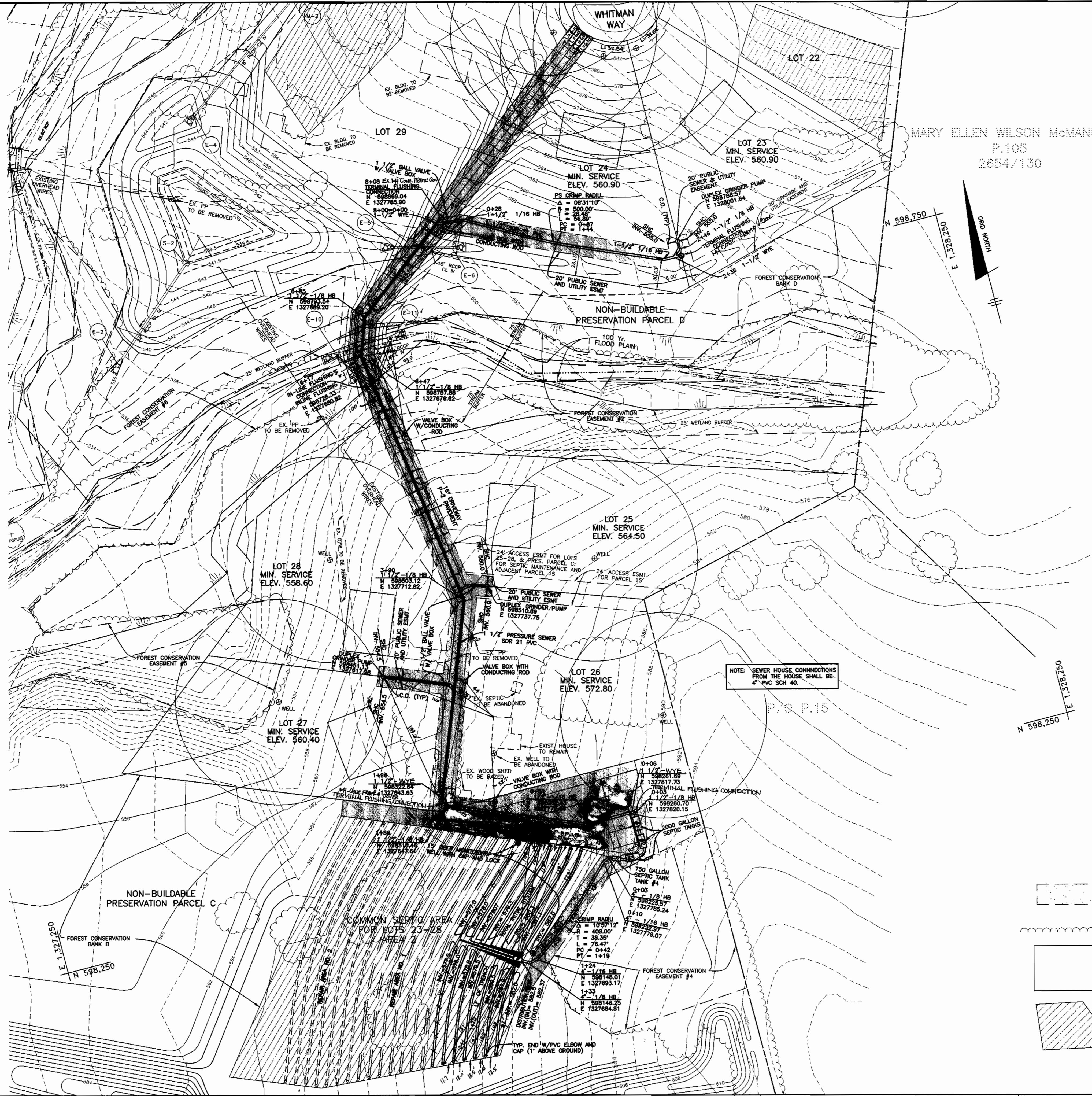
Signature 10/24/97
 NATURAL RESOURCES CONSERVATION SERVICE

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

Signature 10/20/97
 HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS 0-00-185 17-126

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	TSA GROUP, INC. planning • engineering • surveying 8480 Baltimore National Pike Suite 418 Ellicott City, Maryland 21043	DES: DAM DRN: DBT CHK: DAM DATE: 9-12-97	REVISIONS KCI 1 AS-BUILT CONDITIONS ADDED TO PLAN 1/99	TAX MAP NO. 15 BLOCKS 5 AND 6	<p>LYNDONBROOK</p> <p>LOTS 1 THRU 30 AND PARCELS A THRU F ELECTION DISTRICT NO. 3 AS-BUILT SET</p> <p>CONTRACT NO. 50-3607-D</p>	SCALE: 1" = 50' SHEET NO. 1 OF 6
---	--	--	---	---	----------------------------------	---	---



NOTE: ALL SEWAGE GRINDER PUMPS ARE TO BE PUBLICLY OWNED AND MAINTAINED.

NOTE: SEWER HOUSE CONNECTIONS FROM THE HOUSE SHALL BE 4" PVC SCH 40.

LEGEND

- PUBLIC SEWER & UTILITY EASEMENT
- EXISTING TREELINE
- PROPOSED HOUSE
- PROPOSED SEPTIC FIELD
- EXISTING WELL
- PROPOSED WELL

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPT.

Joseph B. ...
COUNTY HEALTH OFFICER

10-2-97
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael A. ...
CHIEF, BUREAU OF UTILITIES

10-20-97
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

10/2/97
DATE

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike Suite 418
Ellicott City, Maryland 21043



DES:	DAM				
DRN:	DBT				
CHK:	DAM				
DATE:	9-12-97	BY:	NO.	REVISIONS	DATE
				ASBUILT CONDITIONS ADDED TO PLAN	1/99

PLAN OF SHARED SEPTIC SYSTEM

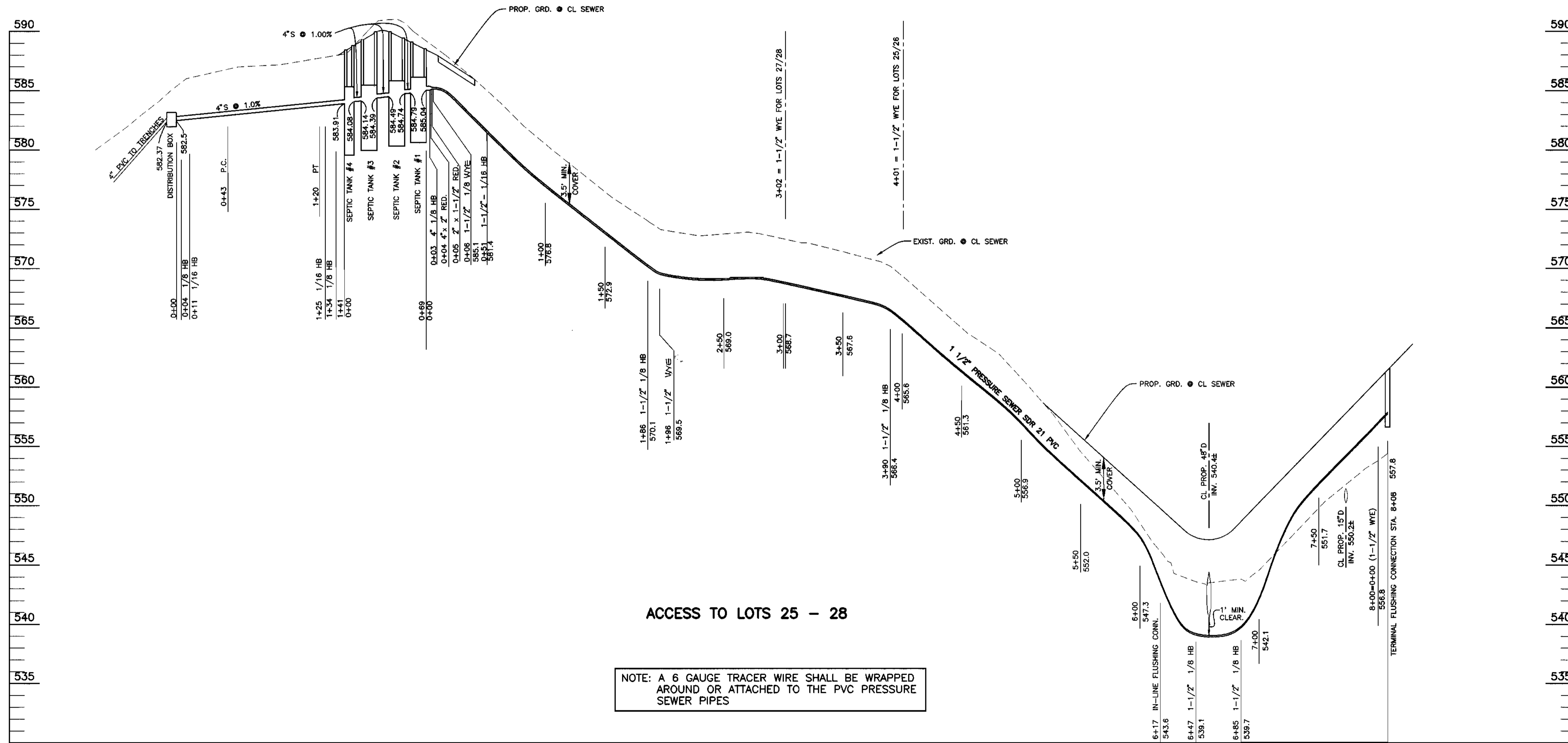
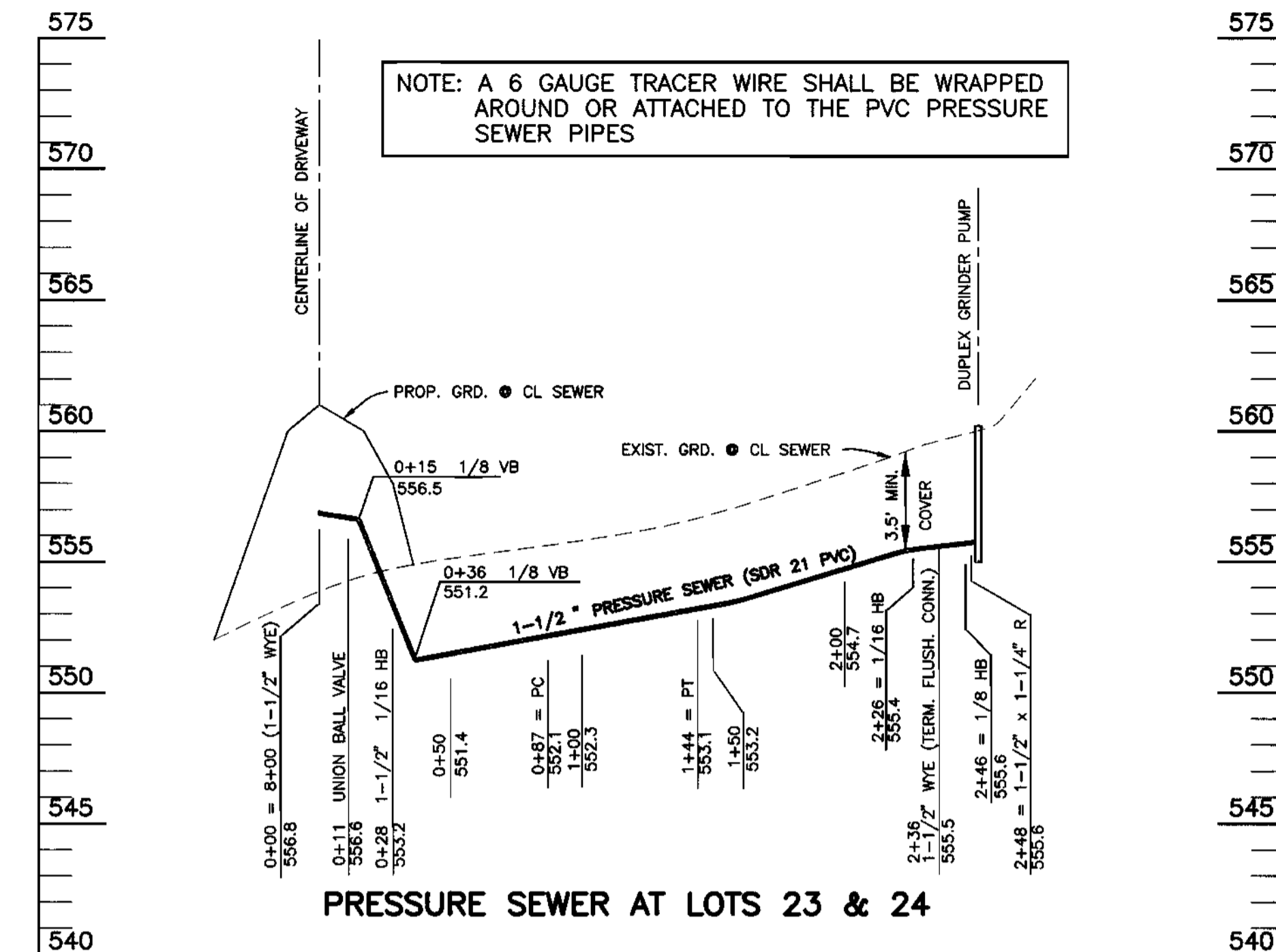
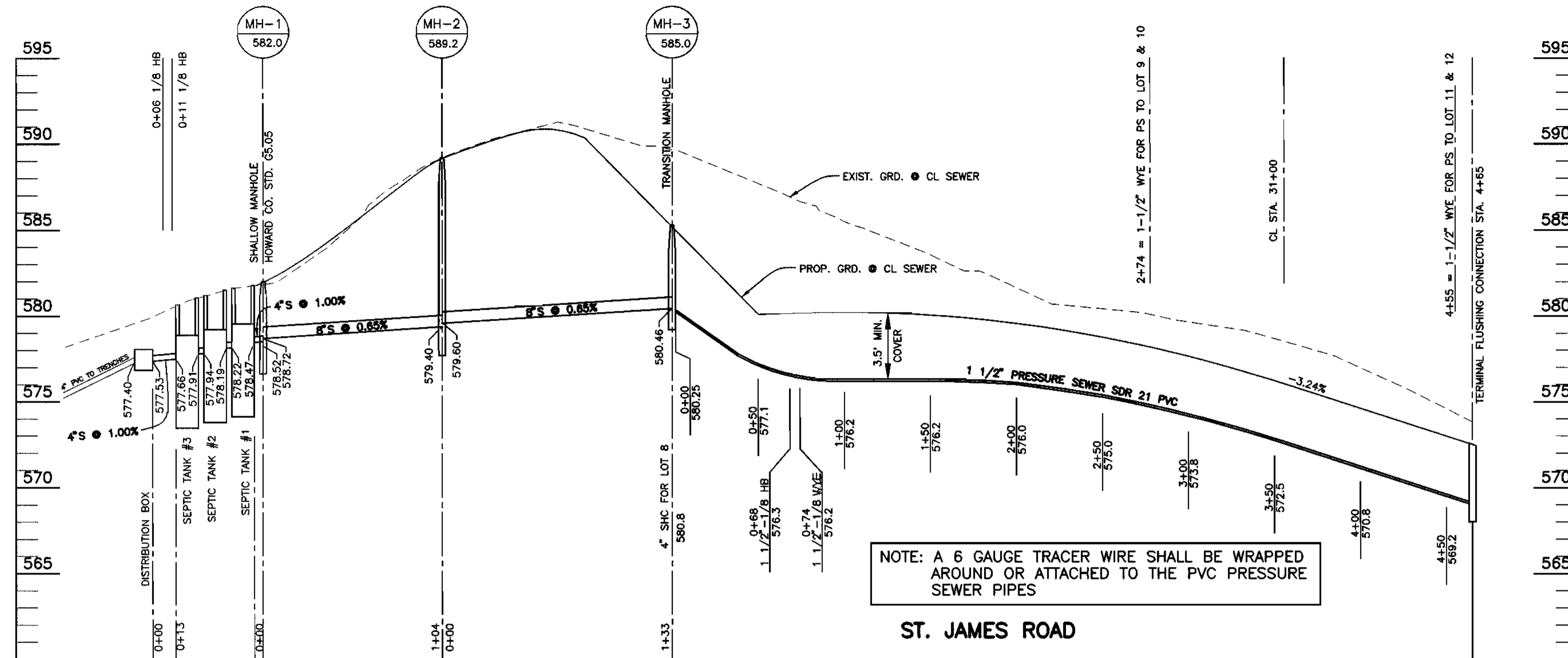
TAX MAP NO. 15 BLOCKS 5 AND 6

LYNDONBROOK
LOTS 1 THRU 30 AND PARCELS A THRU F
ELECTION DISTRICT NO. 3
ASBUILT SET
CONTRACT NO. 50-3607-D

SCALE:
1" = 50'

SHEET NO.
2 OF 6

Acad Dwg: 506051 Plotted: Aug. 25, 1997



APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPT.
Juzelle Brien
 COUNTY HEALTH OFFICER
 DATE: 10-2-99

Plotted: July 23, 1999

Acad Dwg: 606053

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

TSA GROUP, INC.

planning • engineering • surveying
 8480 Baltimore National Pike Suite 418
 Ellicott City, Maryland 21043



DES: DAM
 DRN: DBT
 CHK: DAM
 DATE: 9-12-97

BY NO. REVISIONS DATE

PROFILE OF SEWER

TAX MAP NO. 15

BLOCKS 5 AND 6

LYNDONBROOK

LOTS 1 THRU 30 AND PARCELS A THRU F
 ELECTION DISTRICT NO. 3

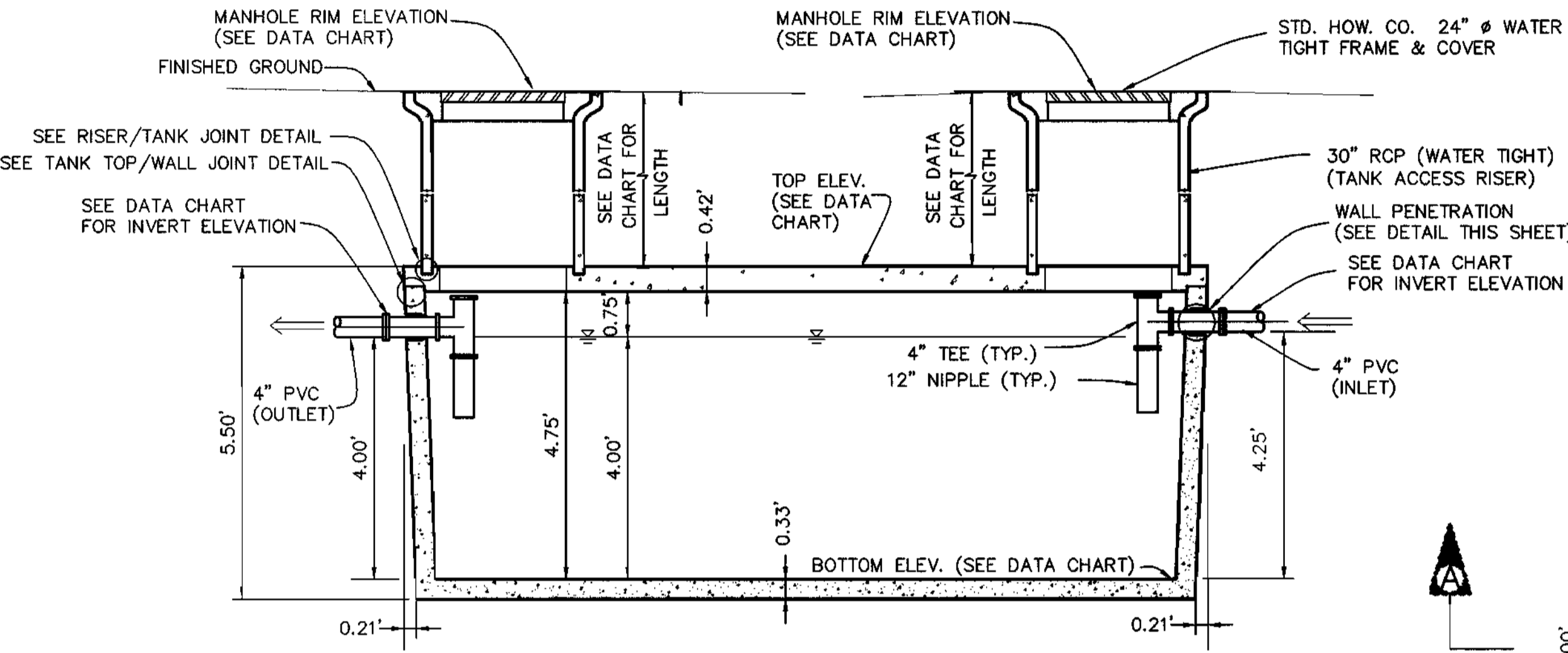
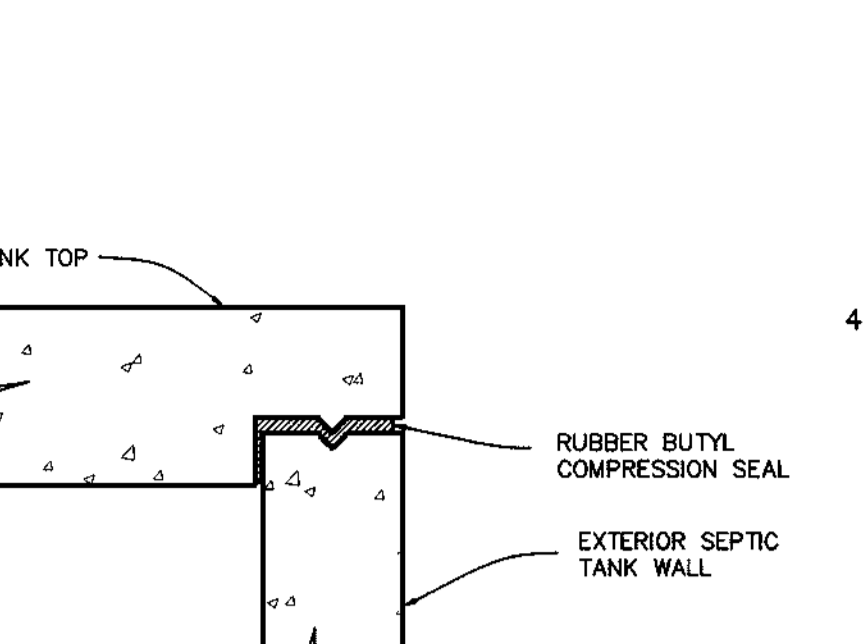
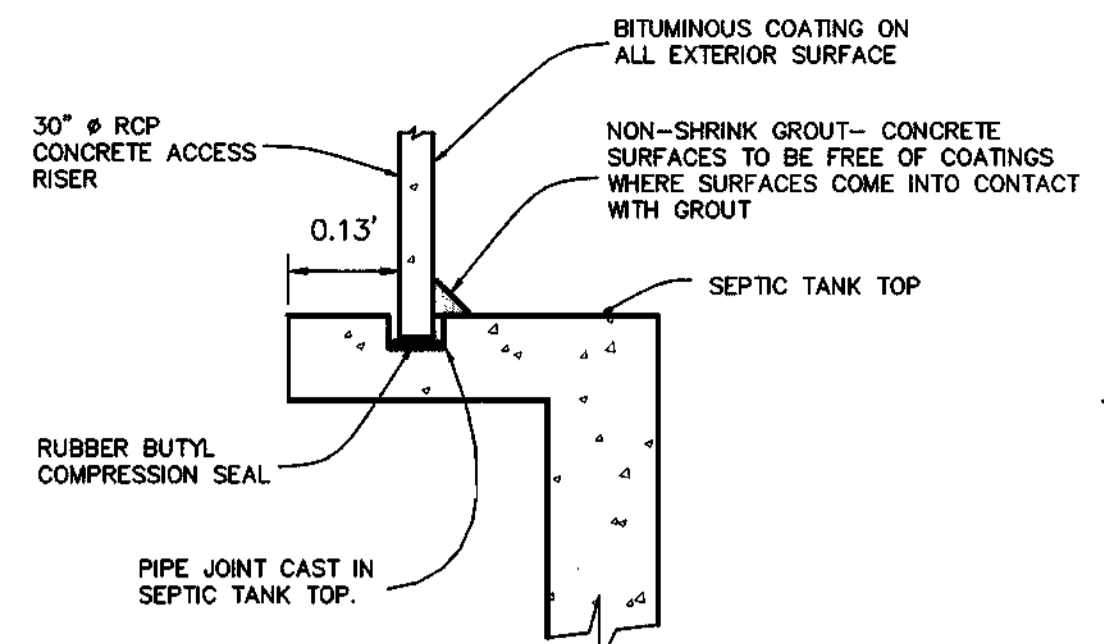
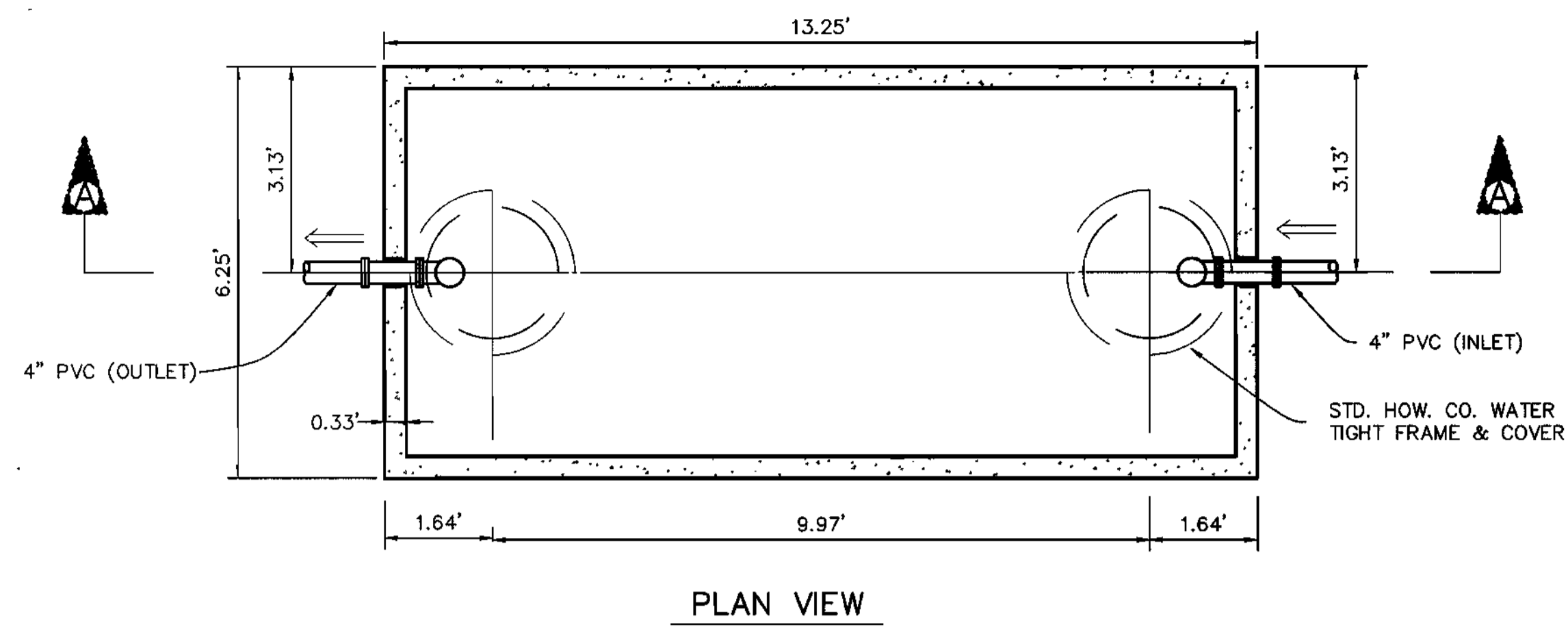
CONTRACT NO. 50-3607-D

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

SHEET NO.
 3 OF 6

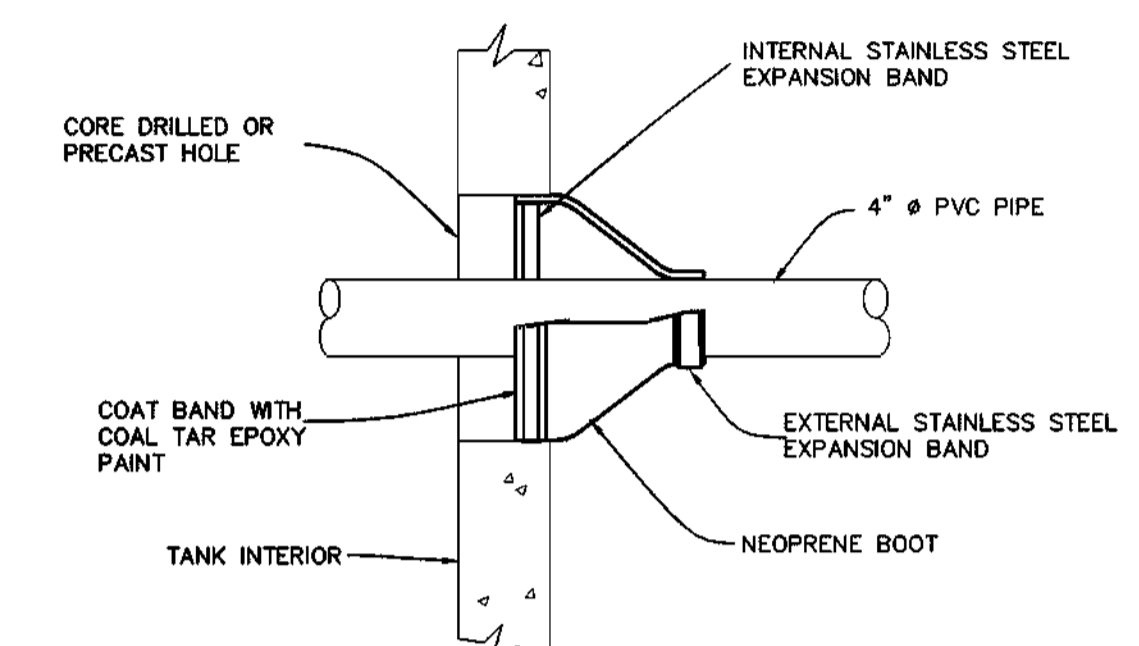
Richard Duran
 CHIEF, BUREAU OF UTILITIES
 DATE: 10-20-99

Juzelle Brien
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10-20-99

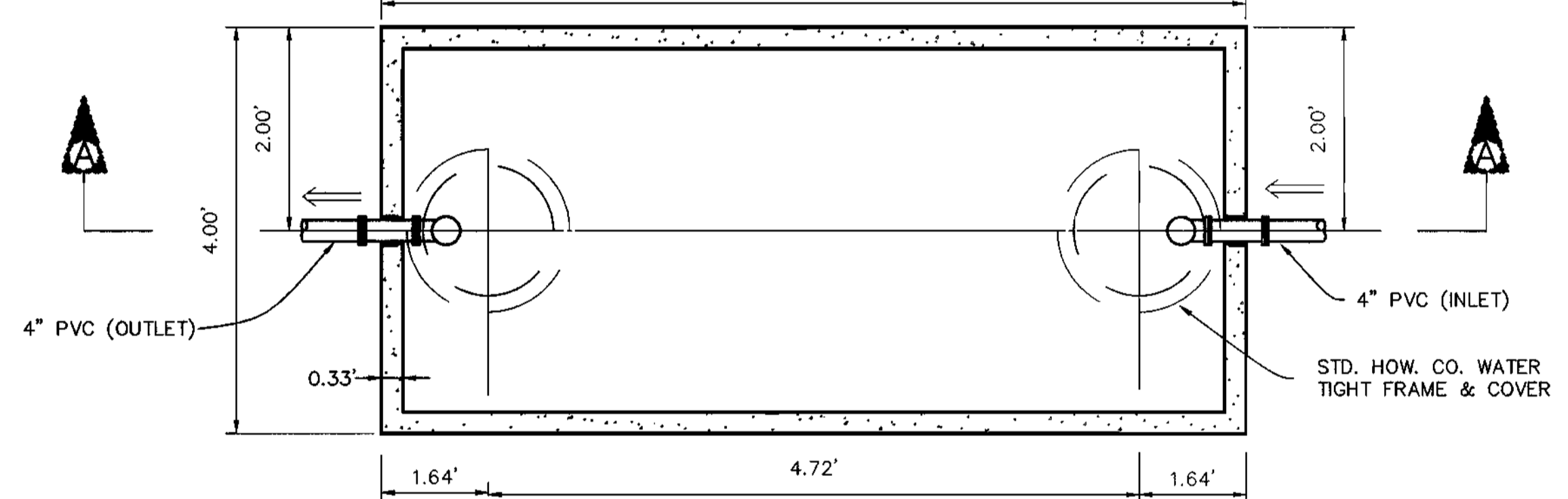


RISER/TANK JOINT DETAIL
NOT TO SCALE

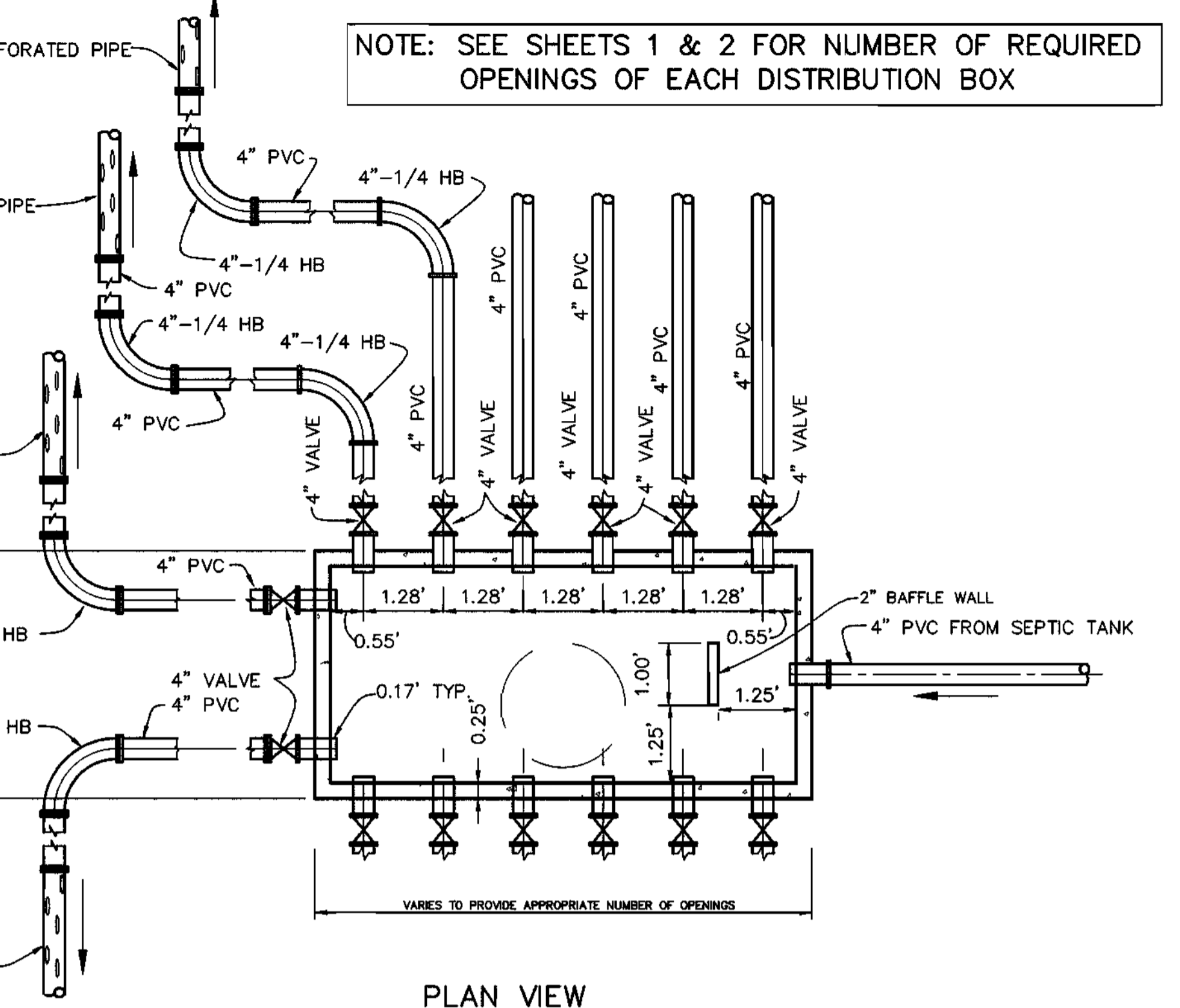
TANK TOP/WALL JOINT DETAIL
NOT TO SCALE



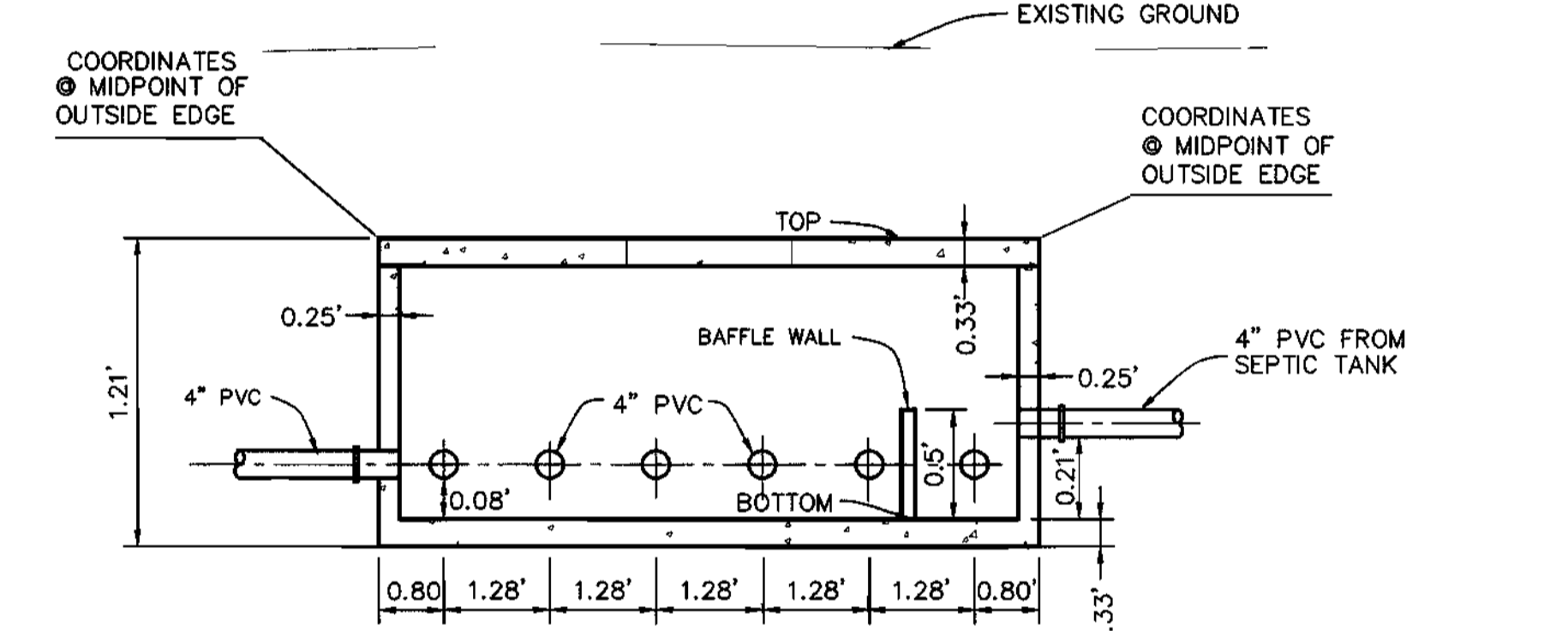
WALL PENETRATION DETAIL
NOT TO SCALE



PLAN VIEW



PLAN VIEW

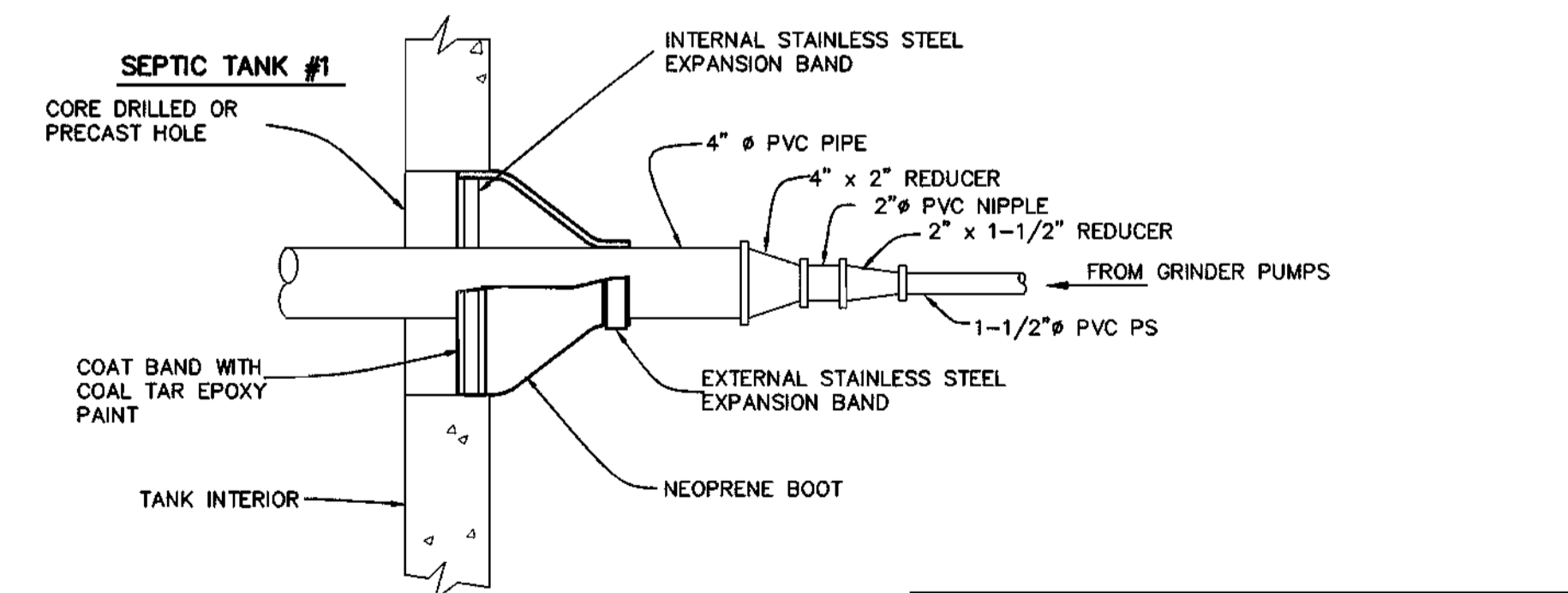


SECTION VIEW

DISTRIBUTION BOX COORDINATES DATA

	INLET SIDE	OUTLET SIDE
SEPTIC AREA 1	N 599488.18 E 1326671.11	N 599490.85 E 1326660.89
SEPTIC AREA 2	N 598150.57 E 1327678.19	N 598154.94 E 1327671.49

TYPICAL CONCRETE DISTRIBUTION BOX DETAIL
NOT TO SCALE



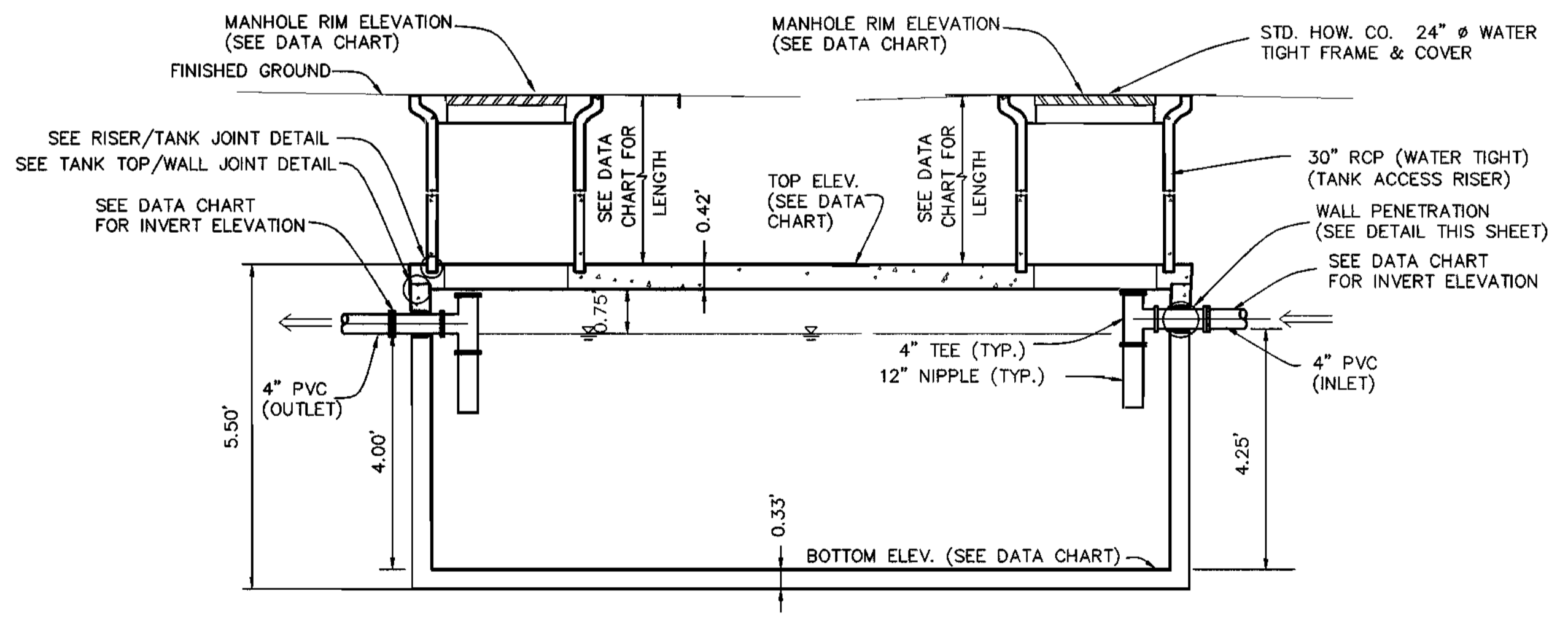
SEPTIC TANK #1 INLET SIDE WALL PENETRATION & PIPING DETAIL
NOT TO SCALE

2,000 GALLON SEPTIC TANK DATA

	TANK ELEVATION	INVERT ELEVATION	TANK COORDINATES	MANHOLE RIM ELEVATION	REMARK
SEPTIC AREA 1 TANK NO. 1	579.39 TOP	578.47 IN	N 599438.90 E 1326664.47	581.78	TANK BY SUPERIOR TANK, INC. OR EQUAL
	574.44 BOT	578.22 OUT	N 599451.73 E 1326667.81	581.62	
SEPTIC AREA 1 TANK NO. 2	579.11 TOP	578.19 IN	N 599454.63 E 1326668.57	581.51	TANK BY SUPERIOR TANK, INC. OR EQUAL
	573.94 BOT	577.94 OUT	N 599467.45 E 1326671.91	581.20	
SEPTIC AREA 1 TANK NO. 3	578.83 TOP	577.91 IN	N 599470.35 E 1326672.67	581.06	TANK BY SUPERIOR TANK, INC. OR EQUAL
	573.66 BOT	577.66 OUT	N 599483.18 E 1326676.01	580.66	
SEPTIC AREA 2 TANK NO. 1	585.96 TOP	585.04 IN	N 598257.70 E 1327820.16	588.53	TANK BY SUPERIOR TANK, INC. OR EQUAL
	580.79 BOT	584.79 OUT	N 598244.45 E 1327820.24	589.09	
SEPTIC AREA 2 TANK NO. 2	585.66 TOP	584.74 IN	N 598239.45 E 1327820.27	589.44	TANK BY SUPERIOR TANK, INC. OR EQUAL
	580.49 BOT	584.49 OUT	N 598226.20 E 1327820.35	589.97	
SEPTIC AREA 2 TANK NO. 3	585.31 TOP	584.39 IN	N 598220.04 E 1327814.38	589.96	TANK BY SUPERIOR TANK, INC. OR EQUAL
	580.14 BOT	584.14 OUT	N 598221.30 E 1327795.73	589.29	

750 GALLON SEPTIC TANK DATA

	TANK ELEVATION	INVERT ELEVATION	TANK COORDINATES	MANHOLE RIM ELEVATION	REMARK
SEPTIC AREA 2 TANK NO. 4	585.00 TOP	584.08 IN	N 598221.30 E 1327795.73	588.00	TANK BY SUPERIOR TANK, INC. OR EQUAL
	579.83 BOT	583.91 OUT	N 598224.32 E 1327788.32	588.00	



SECTION VIEW A-A
750 GALLON SEPTIC TANK SECTION AND DETAIL
NOT TO SCALE

APPROVED FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS:
 HOWARD COUNTY HEALTH DEPT.
 County Health Officer
 10-2-97
 DATE

Printed: July 23, 1997
 Acad Dwg: 606054

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

TSA GROUP, INC.
 planning • engineering • surveying
 8480 Baltimore National Pike Suite 418
 Ellicott City, Maryland 21043



DES:	DRN:	CHK:	DATE:	BY NO.	REVISIONS	DATE	TAX MAP NO.	BLOCKS
DAM	DBT	DAM	9-12-97				15	5 AND 6

DETAILS

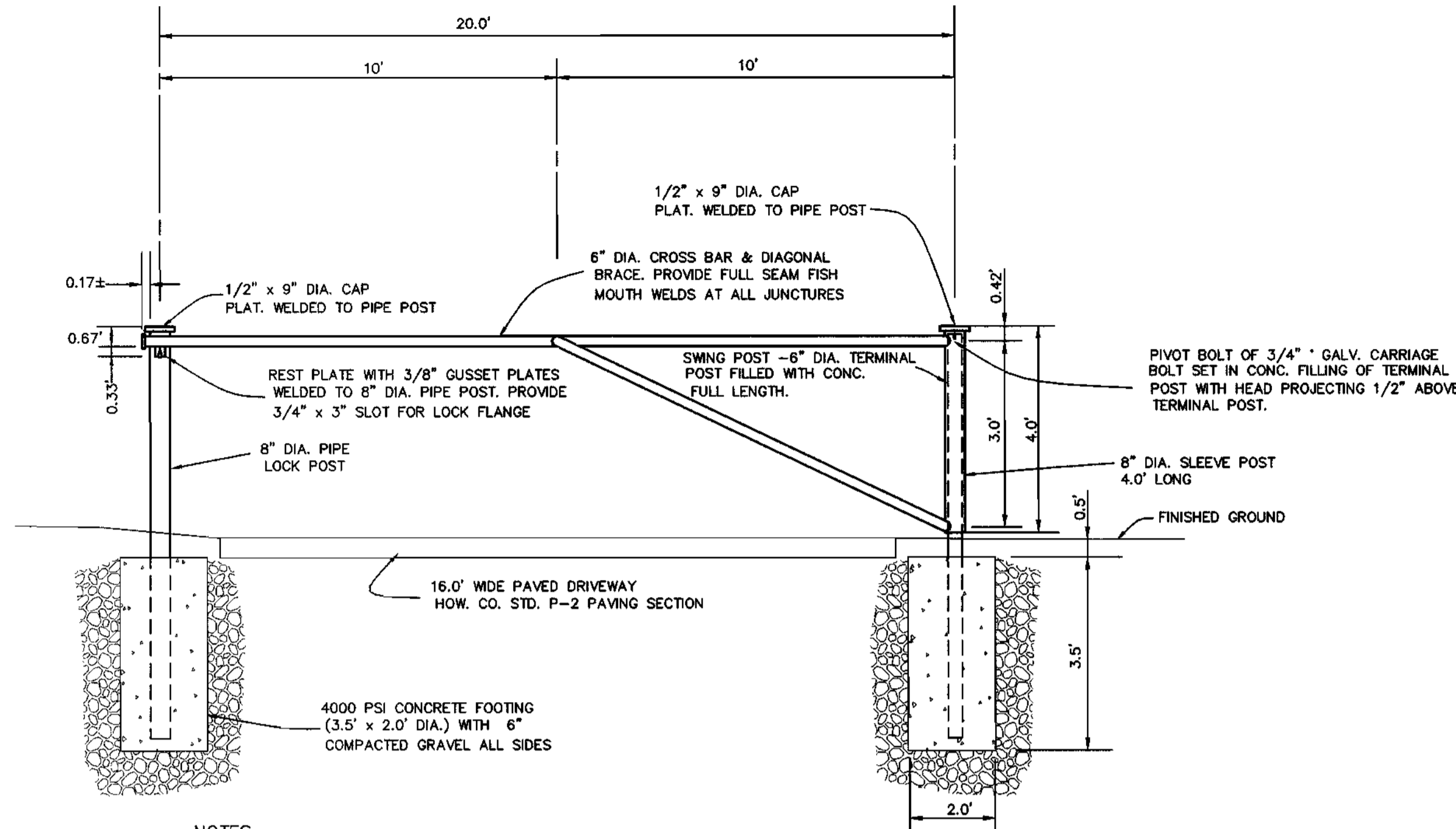
LYNDONBROOK
 LOTS 1 THRU 30 AND PARCELS A THRU F
 ELECTION DISTRICT NO. 3

CONTRACT NO. 50-3607-D

SCALE:
 AS SHOWN
 SHEET NO.
 4 OF 6

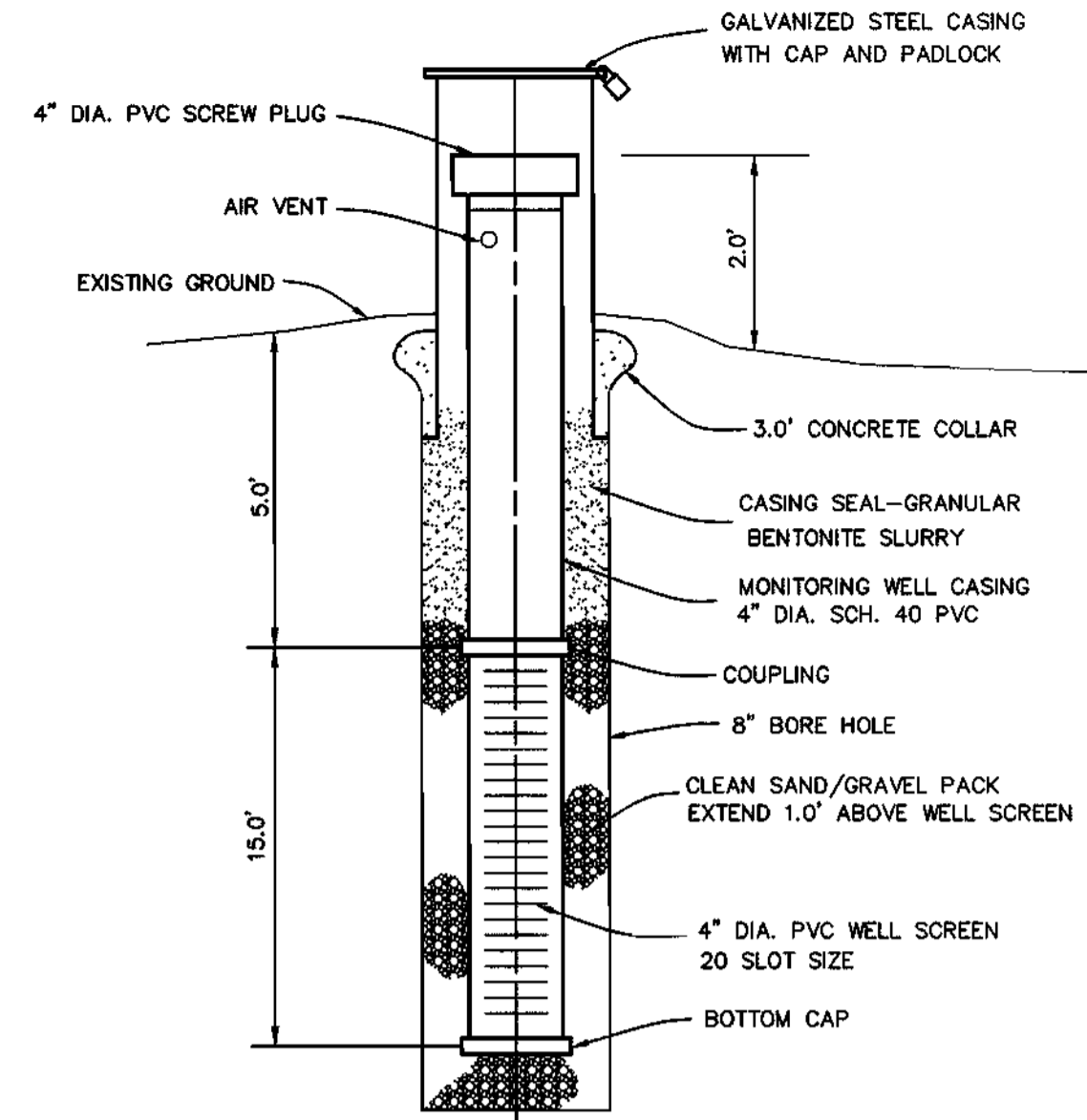
Chief, Bureau of Utilities
 10-20-97
 DATE

Chief, Development Engineering Division
 DATE

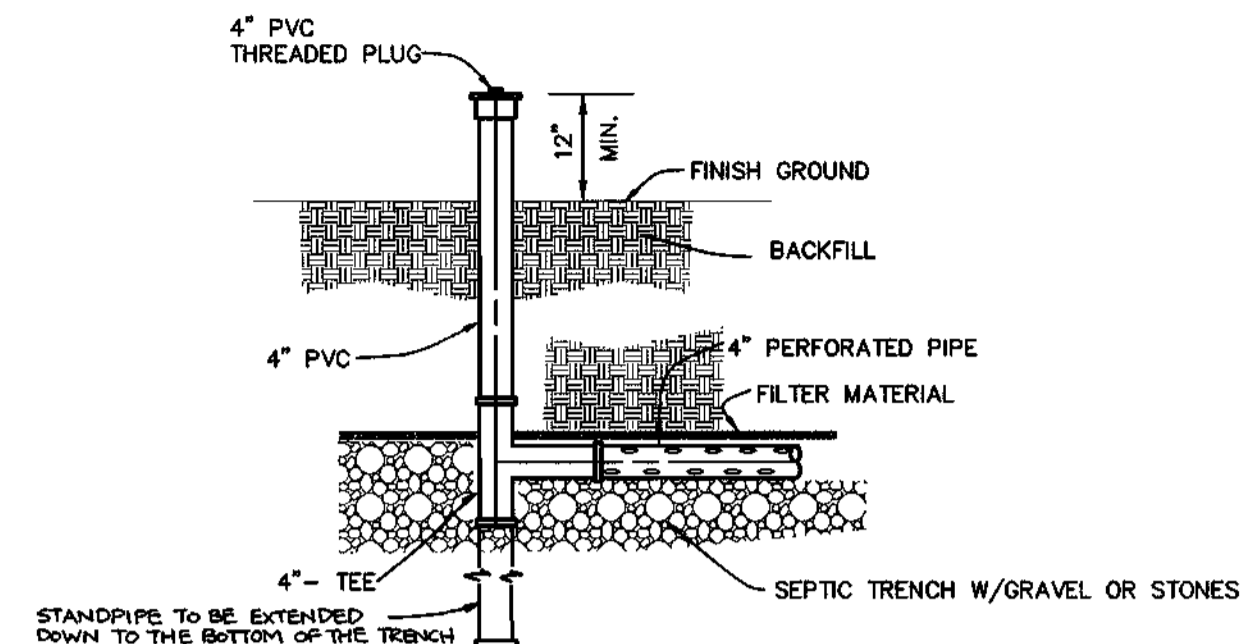


- NOTES:
1. ALL STEEL MEMBERS TO BE HOT DIPPED GALVANIZED.
 2. PROVIDE REFLECTIVE TAPES ON CENTER OF POSTS AND CROSSBARS.
 3. PADLOCK TO BE KEYED TO HOWARD CO. PDW MASTER KEY SYSTEM.

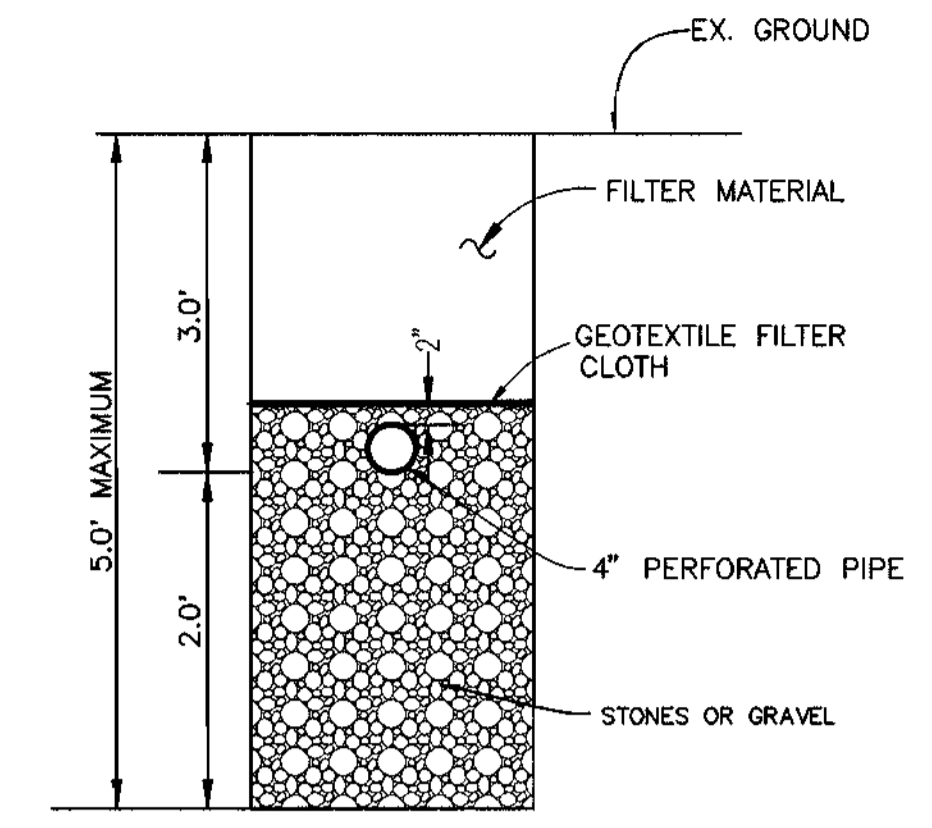
SWING GATE DETAIL
NOT TO SCALE



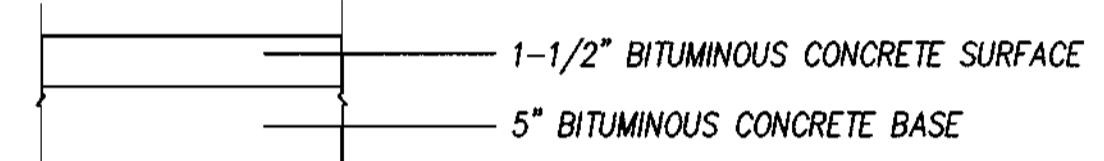
MONITORING WELL DETAIL
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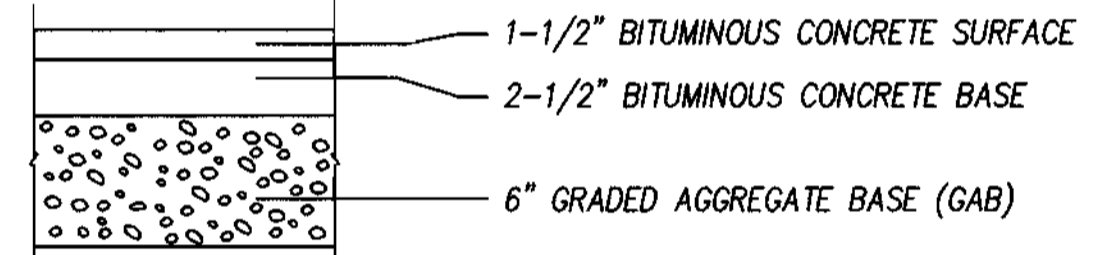
DISTRIBUTION LATERAL TERMINATION DETAIL
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SEPTIC TRENCH DETAIL
NOT TO SCALE



FULL DEPTH BITUMINOUS CONCRETE ALTERNATE



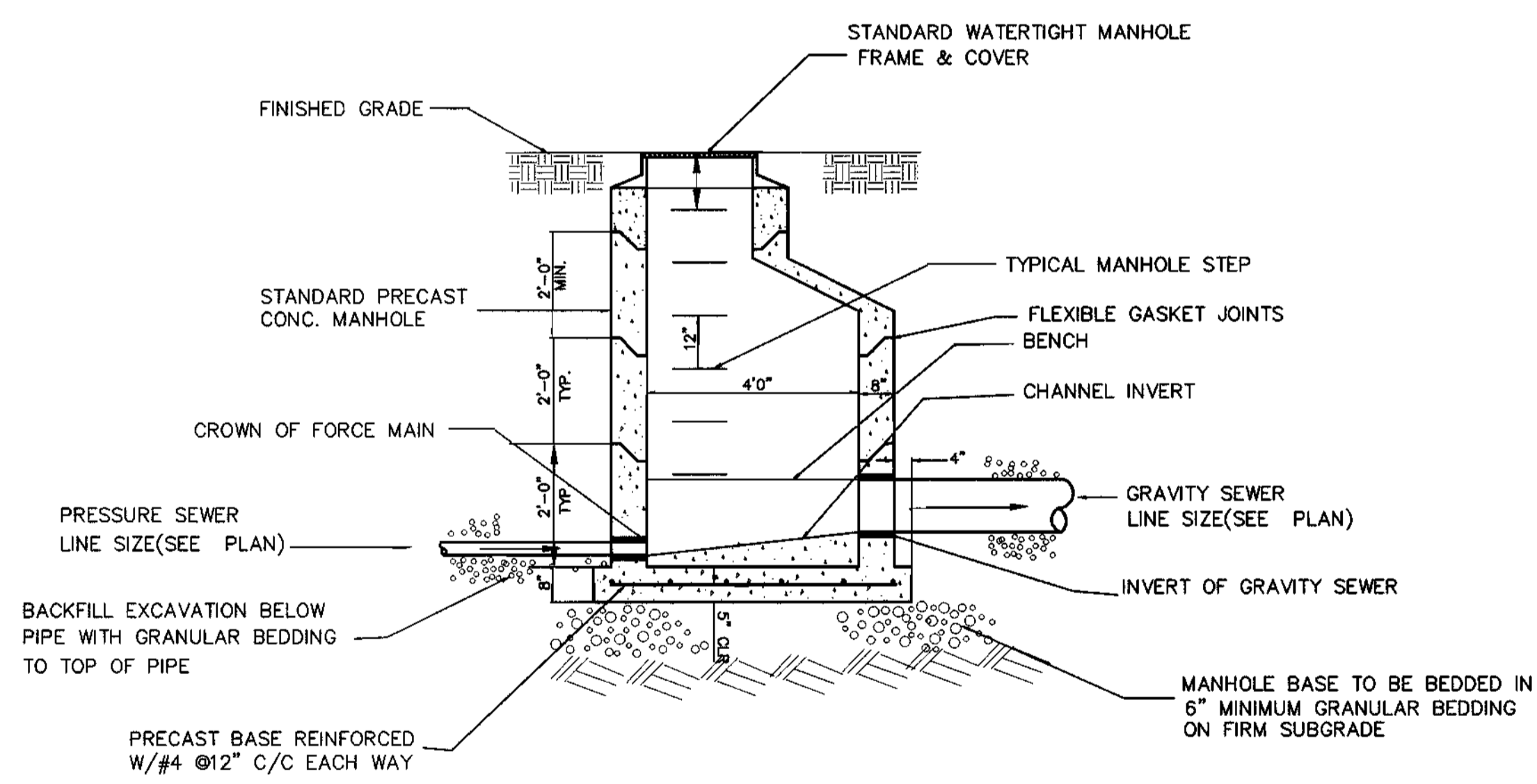
GRANULAR BASE ALTERNATE

PAVING SECTION P-2
NOT TO SCALE

ENVIRONMENT ONE GRINDER PUMP DATA TABLE

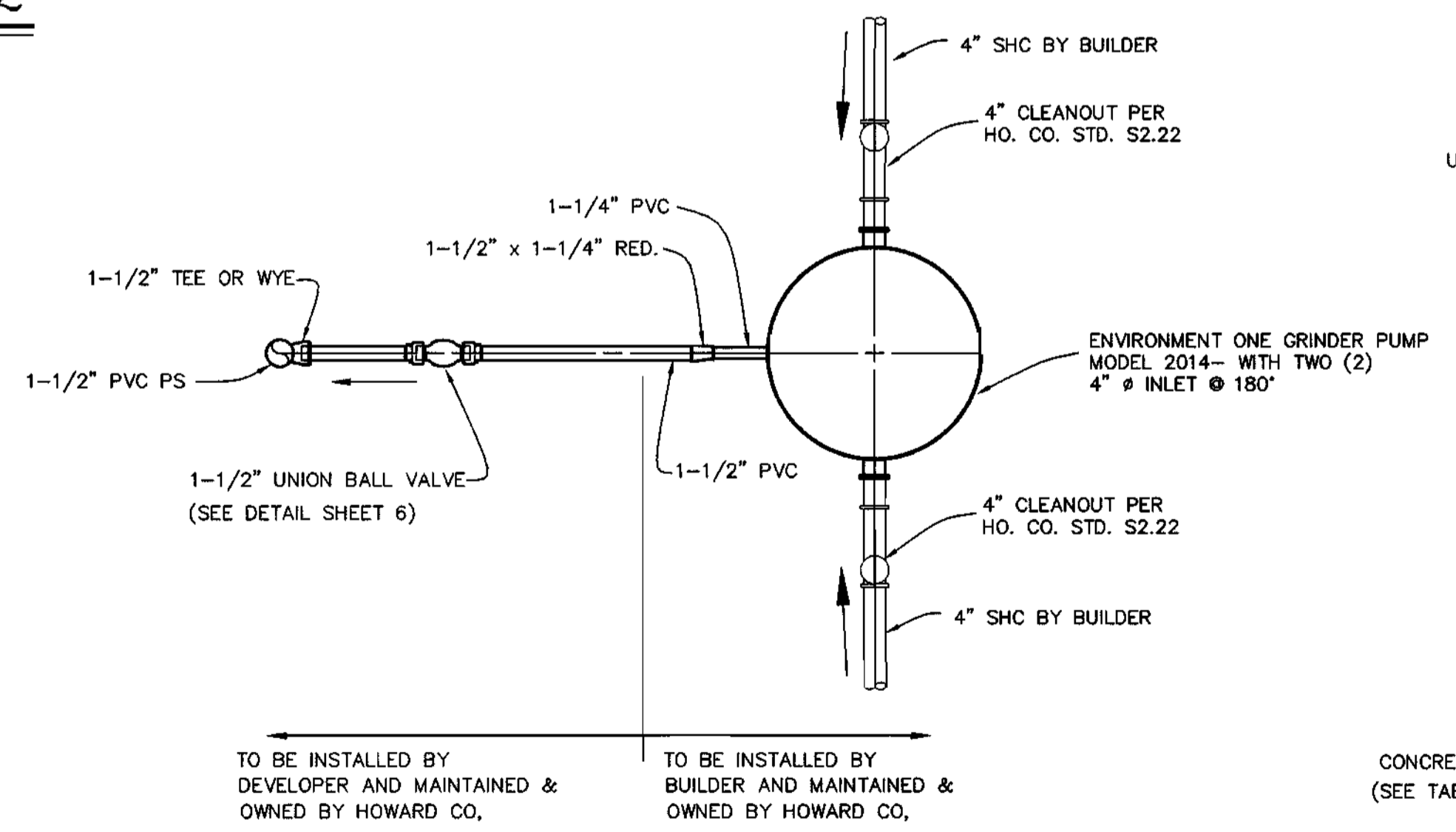
LOT NO.	TOP ELEVATION	BOTTOM ELEVATION	TOTAL LENGTH	INLET ELEVATION	DISCHARGE ELEVATION	VOLUME OF CONCRETE FOR CONCRETE ANCHOR	REMARK
9/10	579.9	566.70	13.2'	569.2	569.9	43.70 C.F.	MODEL NO. 2014 (DUPLX)
11/12	575.5	567.10	8.40'	569.6	570.3	31.70 C.F.	MODEL NO. 2014 (DUPLX)
23/24	555.0	547.30	7.70'	549.8	550.49	29.95 C.F.	MODEL NO. 2014 (DUPLX)
25/26	570.5	557.3	13.2'	559.96	560.55	43.7 C.F.	MODEL NO. 2014 (DUPLX)
27/28	565.0	551.8	13.2'	554.5	555.05	43.7 C.F.	MODEL NO. 2014 (DUPLX)

NOTE: SEE MANUFACTURER'S MANUAL FOR GRINDER PUMP INSTALLATION REQUIREMENT, PROCEDURE, AND ELECTRICAL CONNECTION.



- NOTES:
1. ELEVATION OF GRAVITY SEWER INVERT SHALL BE MINIMUM 1" ABOVE ELEVATION OF PRESSURE SEWER CROWN.
 2. PROVIDE SMOOTH UPWARD SLOPING CHANNEL FROM FORCE MAIN TO GRAVITY SEWER.

TRANSITION MANHOLE: PRESSURE SEWER TO GRAVITY SEWER
NOT TO SCALE



PLAN VIEW

SECTION VIEW

TYPICAL DUPLEX GRINDER PUMP (MODEL #2014)
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPT.

[Signature]
COUNTY HEALTH OFFICER

10-2-97
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF DEVELOPMENT ENGINEERING DIVISION

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike Suite 418
Ellicott City, Maryland 21043



DES:	DAM			
DRN:	DBT			
CHK:	DAM			
DATE:	9-12-97			
BY:	NO.	REVISIONS	DATE	

DETAILS

TAX MAP NO. 15 BLOCKS 5 AND 6

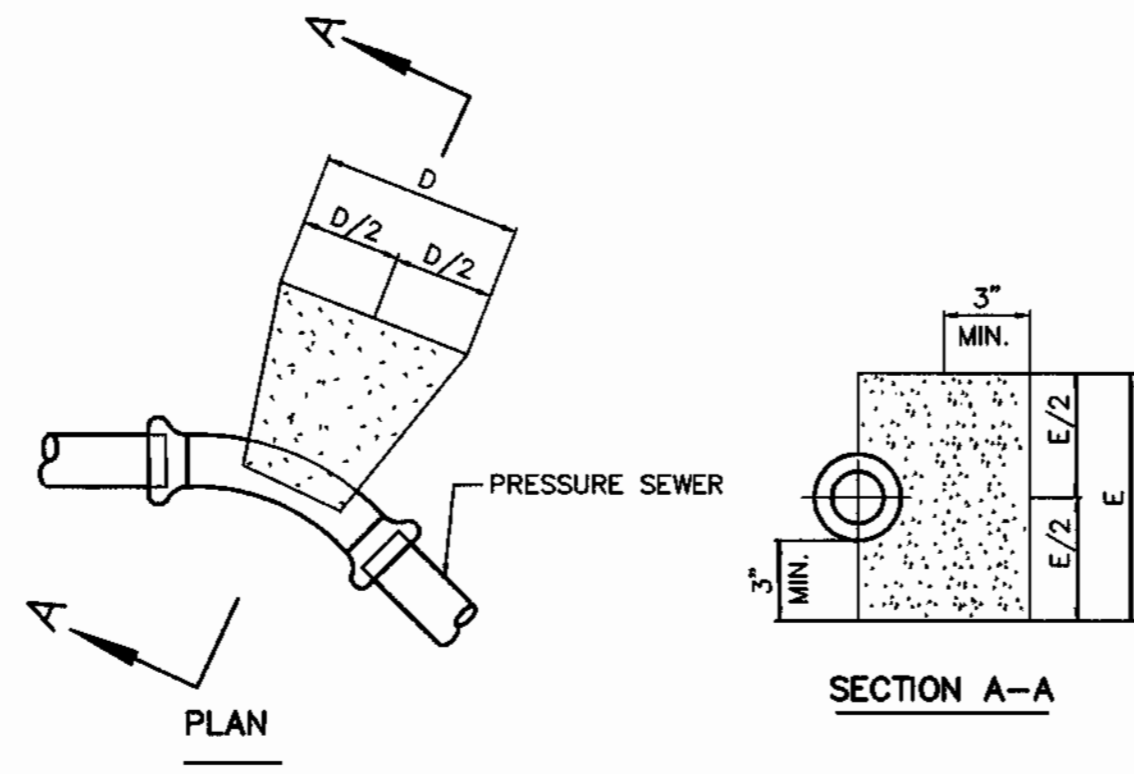
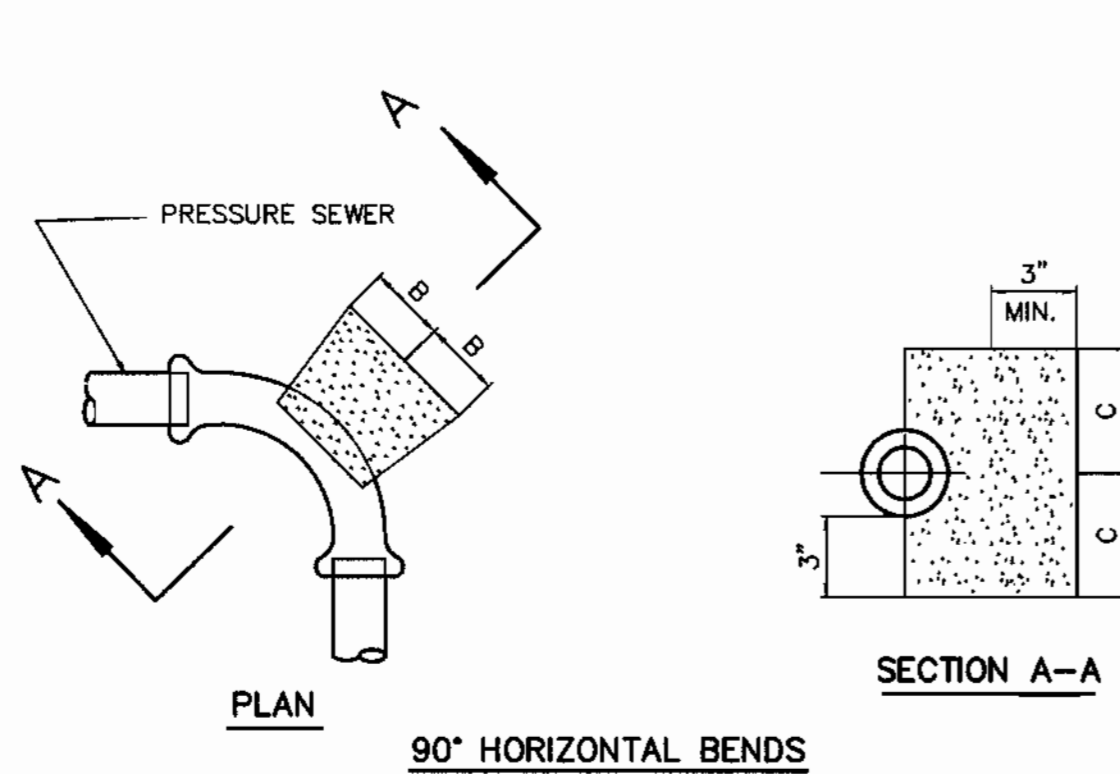
LYNDONBROOK
LOTS 1 THRU 30 AND PARCELS A THRU F
ELECTION DISTRICT NO. 3

CONTRACT NO. 50-3607-D

SCALE:
AS SHOWN

SHEET NO.
5 OF 6

Acad Dwg: 606065 Plotted: July 23, 1997

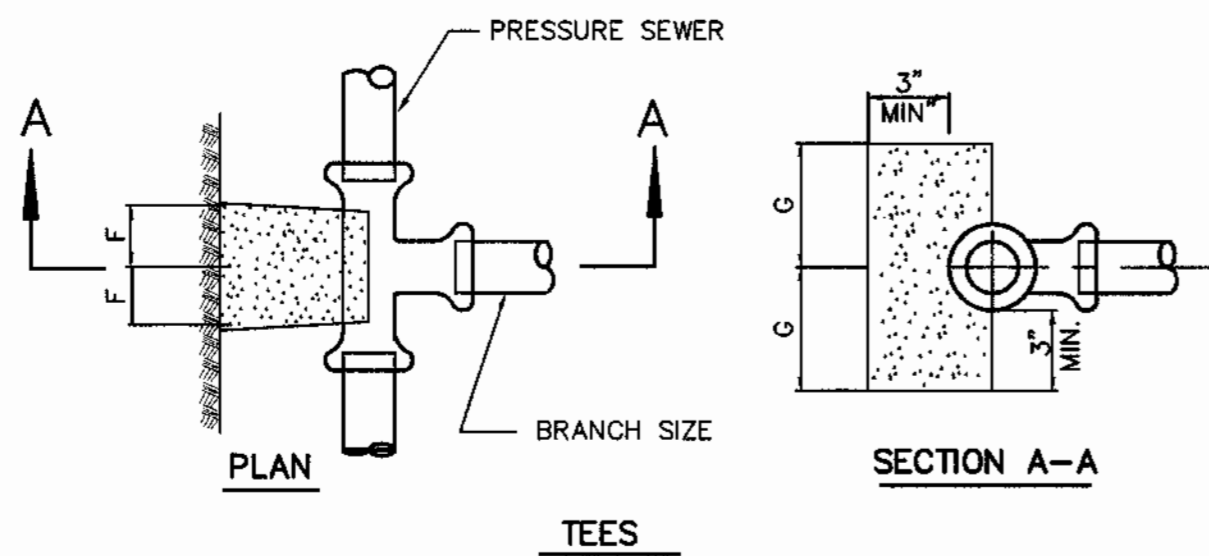


11-1/4", 22-1/2", 45° HORIZONTAL & LOWER VERTICAL BENDS

PIPE SIZE	B	C	D	E	F	G
1-1/4" & 1-1/2"	4"	4"	5"	5"	3"	3"
2"	5"	5"	7"	7"	5"	5"

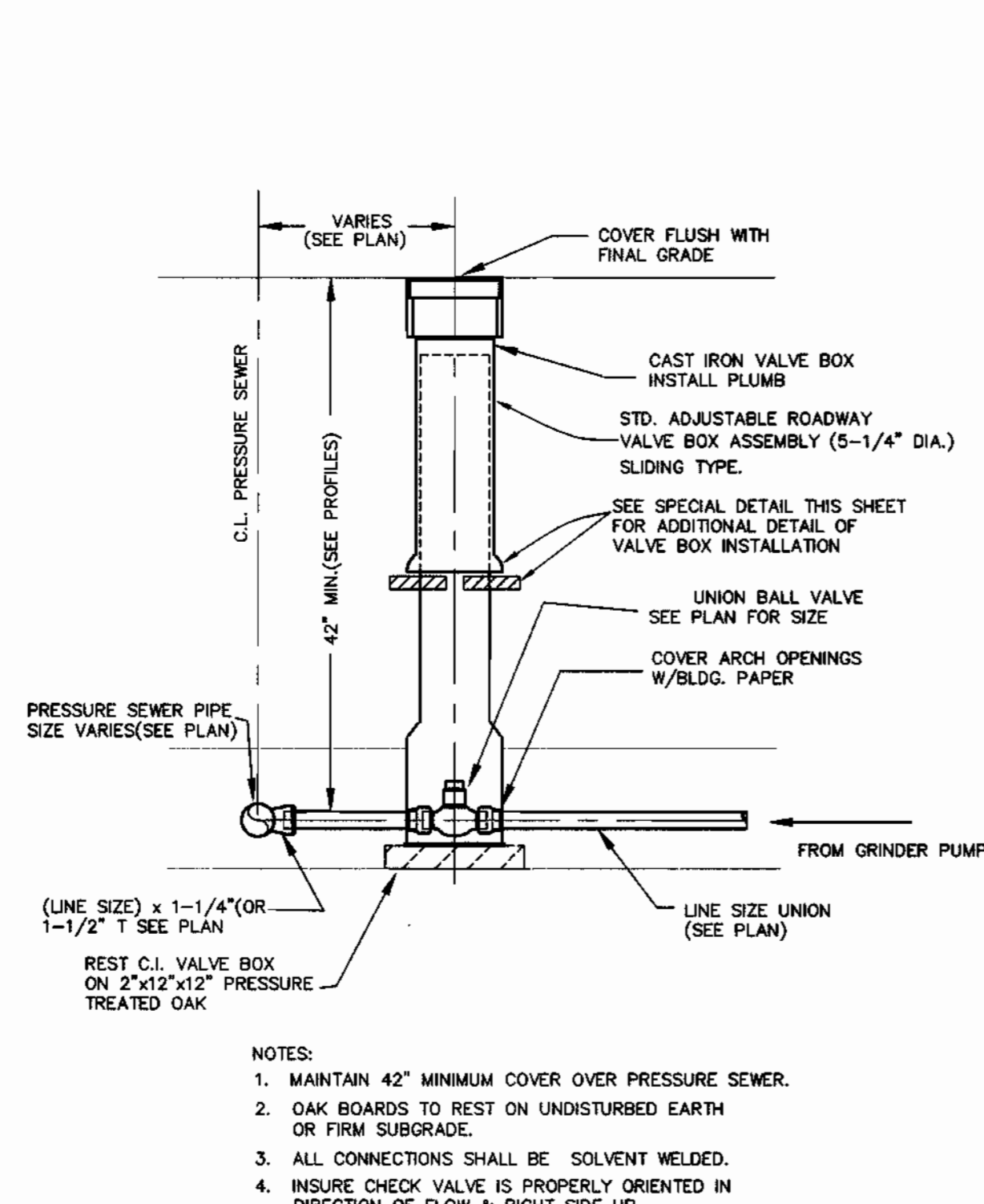
NOTES:

1. f'c = 3000 psi @ 28 DAYS.
2. CARRY ALL BEARING SURFACE TO UNDISTURBED GROUND OR FIRM SUBGRADE.
3. BUTTRESS SIZED FOR 150 PSI.
5. DO NOT ENCASE JOINTS.

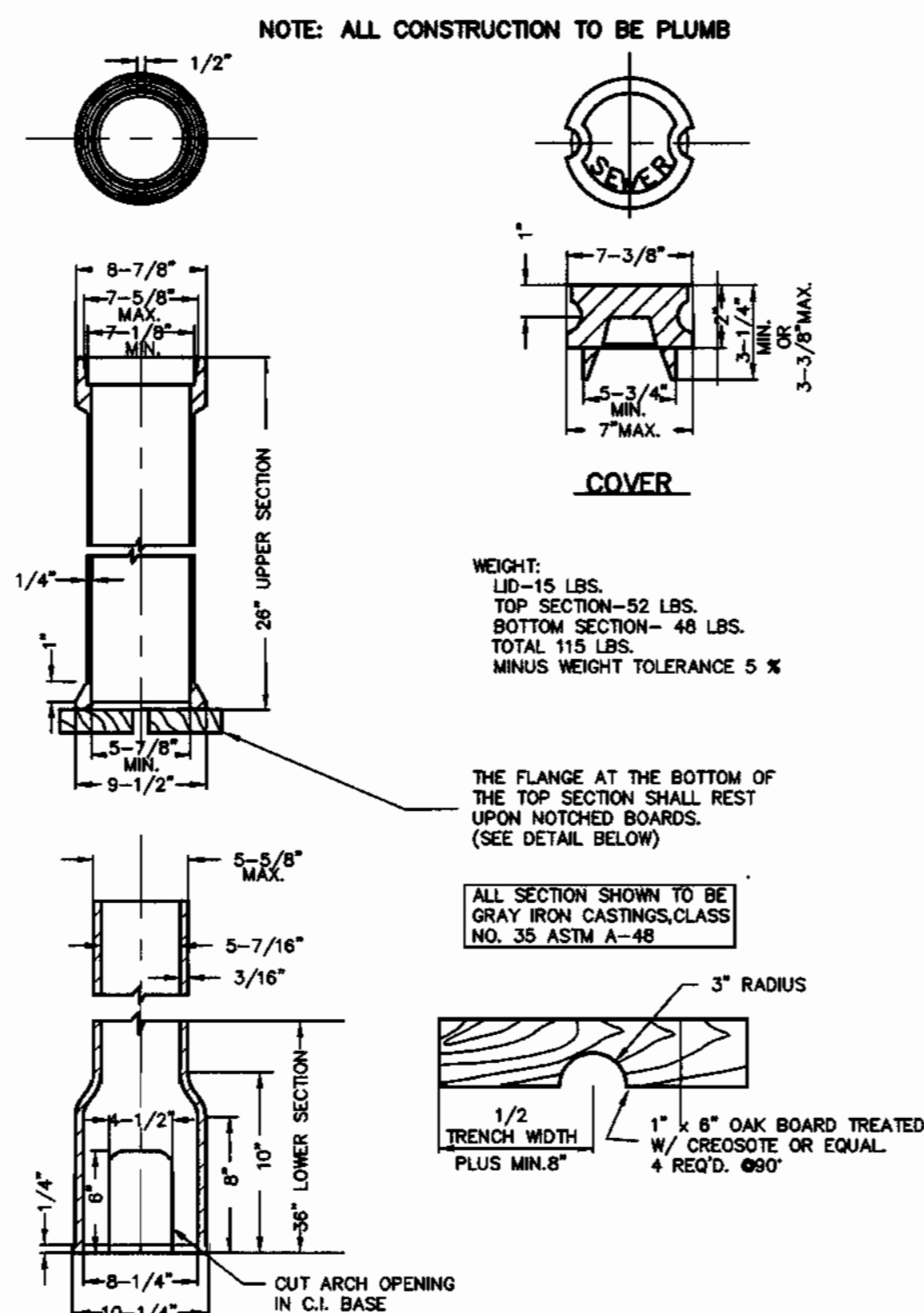


PRESSURE SEWER BLOCKING DETAILS

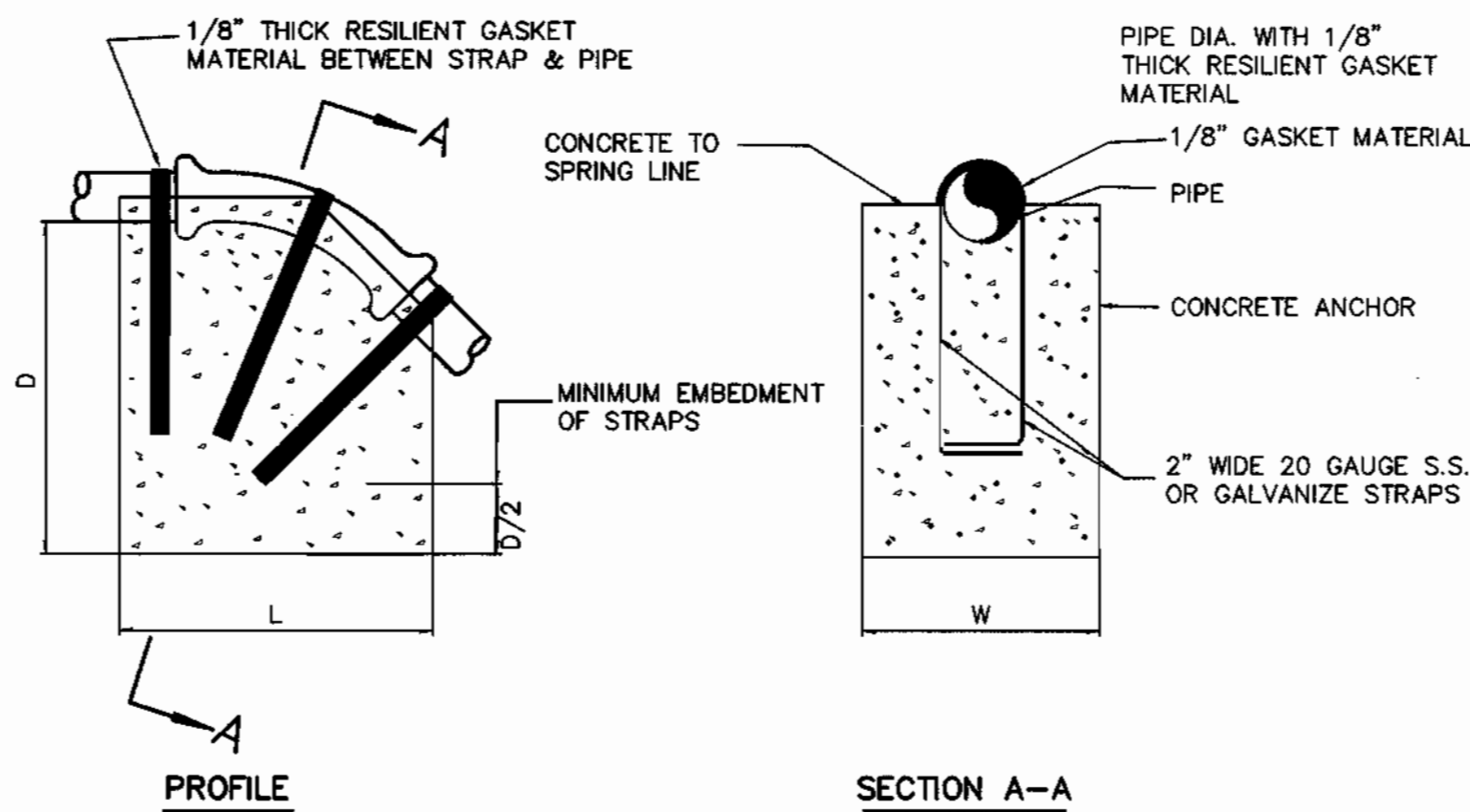
NOT TO SCALE



UNION BALL VALVE ASSEMBLY
NOT TO SCALE



ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE
NOT TO SCALE



ANCHORING PRESSURE SEWERS

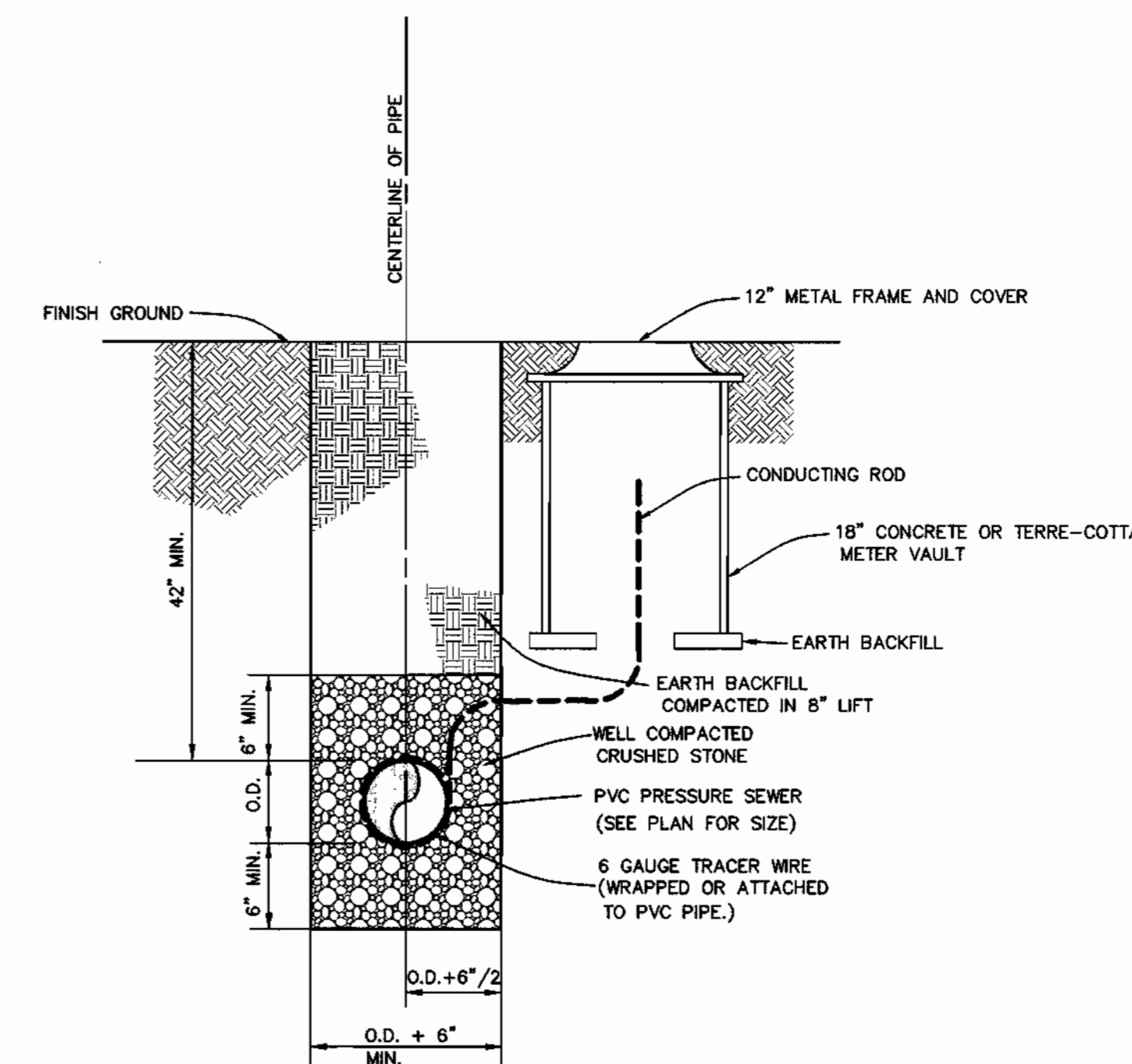
(UPPER VERTICAL BENDS)

NOT TO SCALE

BEND	1-1/4" 1-1/2"	
	L	W
11-1/4"	L	12" 12"
	W	10" 10"
	D	10" 10"
22-1/2"	L	15" 15"
	W	15" 15"
	D	12" 12"
45°	L	20" 20"
	W	20" 20"
	D	12" 12"

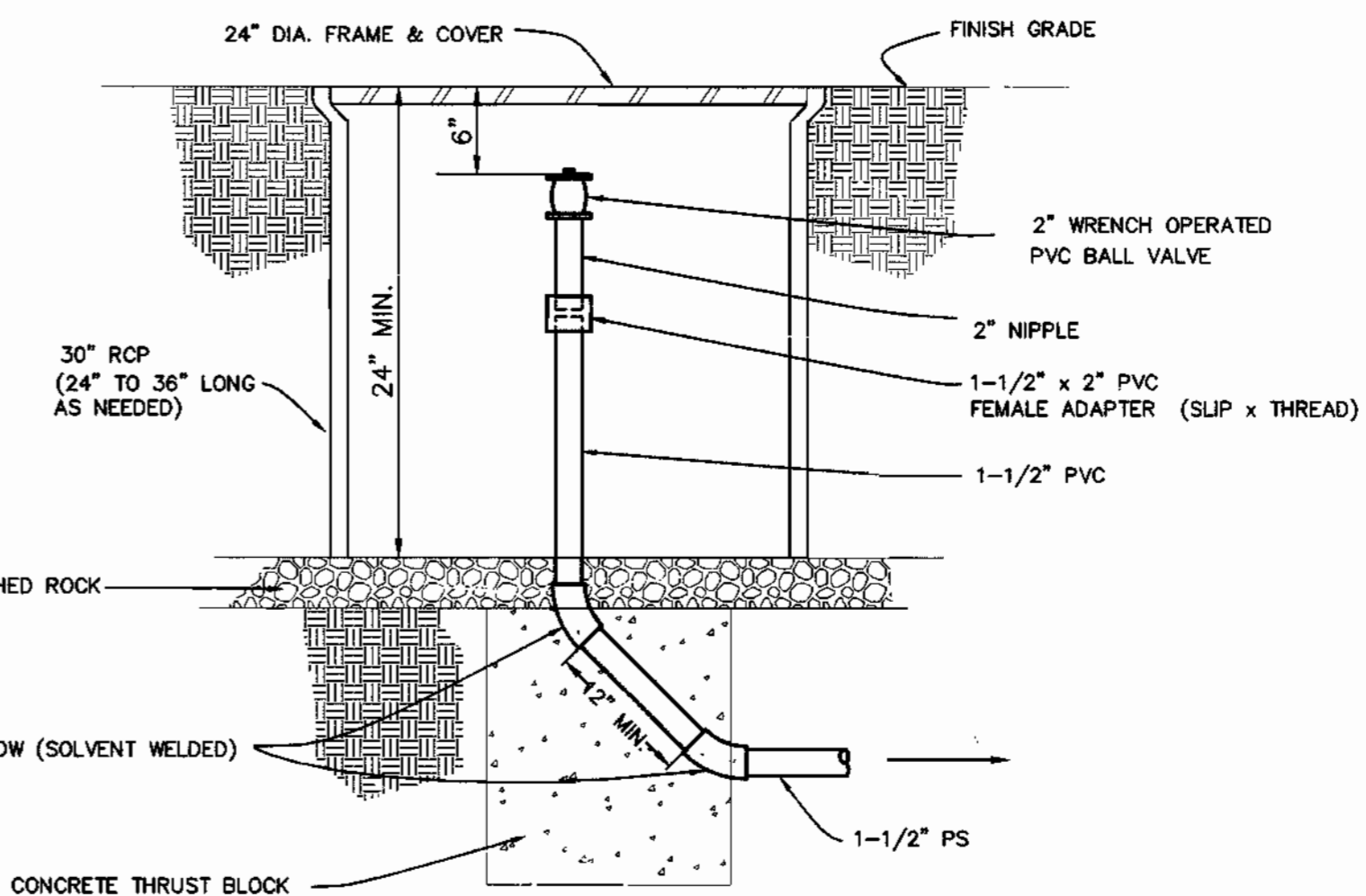
NOTES:

1. PAINT EXPOSED GALVANIZE STRAPS WITH TWO(2) COATS OF BITUMINOUS PAINT.
2. f'c = 3000 psi AT 28 DAYS.
3. CARRY ALL BEARING SURFACE TO UNDISTURBED EARTH OR FIRM SUBGRADE.
4. CONCRETE ANCHORAGE DIMENSIONS ARE BASED ON TOTAL PRESSURE OF 150 PSI.



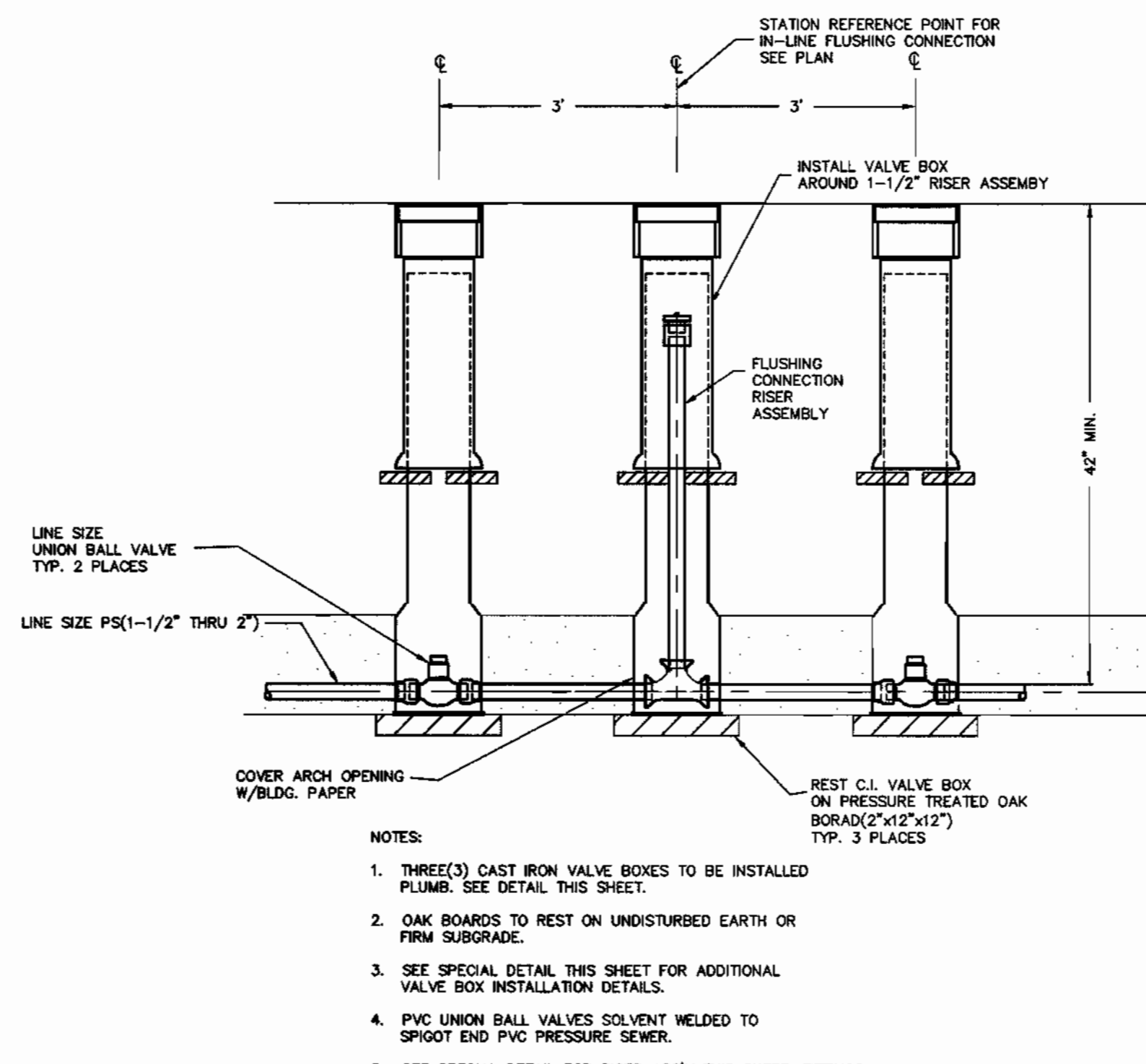
PRESSURE SEWER TRENCH, BEDDING & CONDUCTING ROD CABLE BOX LOCATION DETAIL

NOT TO SCALE



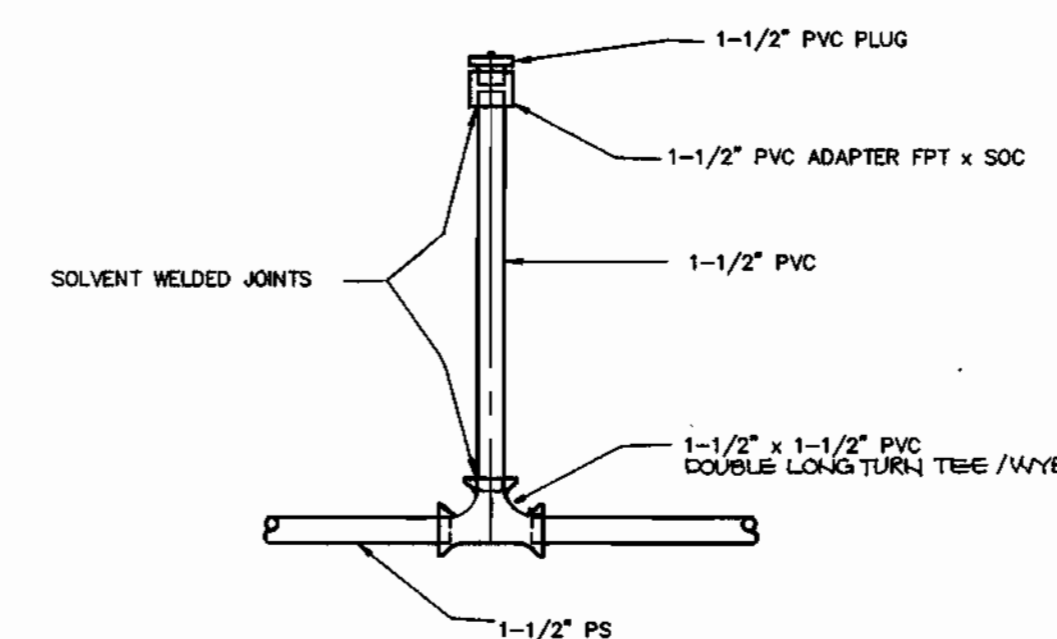
TERMINAL FLUSHING CONNECTION

NOT TO SCALE



IN-LINE FLUSHING CONNECTION 1-1/2" THRU 2"

NOT TO SCALE



RISER ASSEMBLY FITTING DETAIL

NOT TO SCALE

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HOWARD COUNTY HEALTH DEPT.

Joseph Boyd
COUNTY HEALTH OFFICER

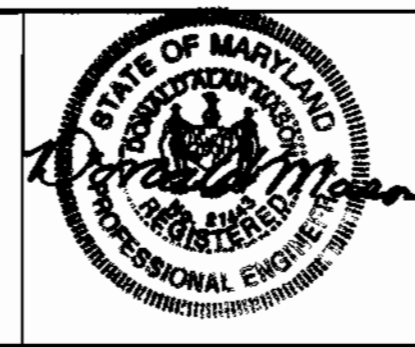
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DETAILS

TAX MAP NO. 15

BLOCKS 5 AND 6

LYNDONBROOK

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AS SHOWN

SHEET NO.
6 OF 6