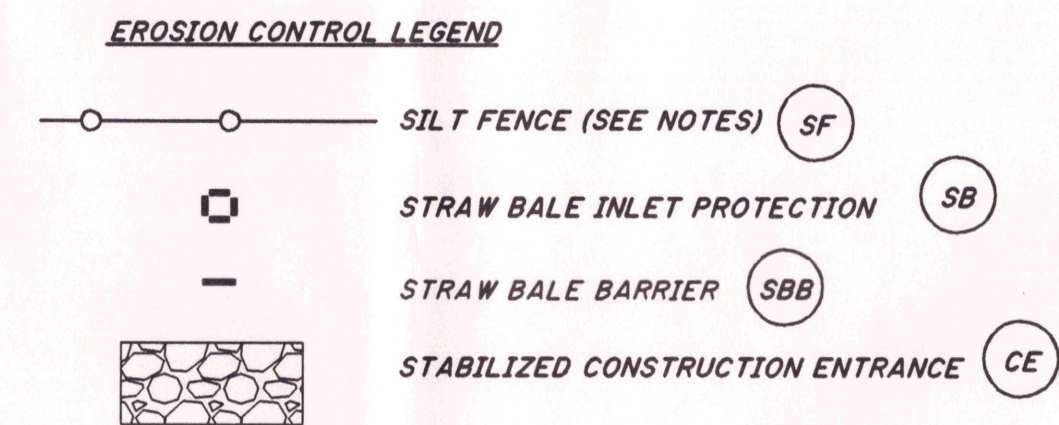
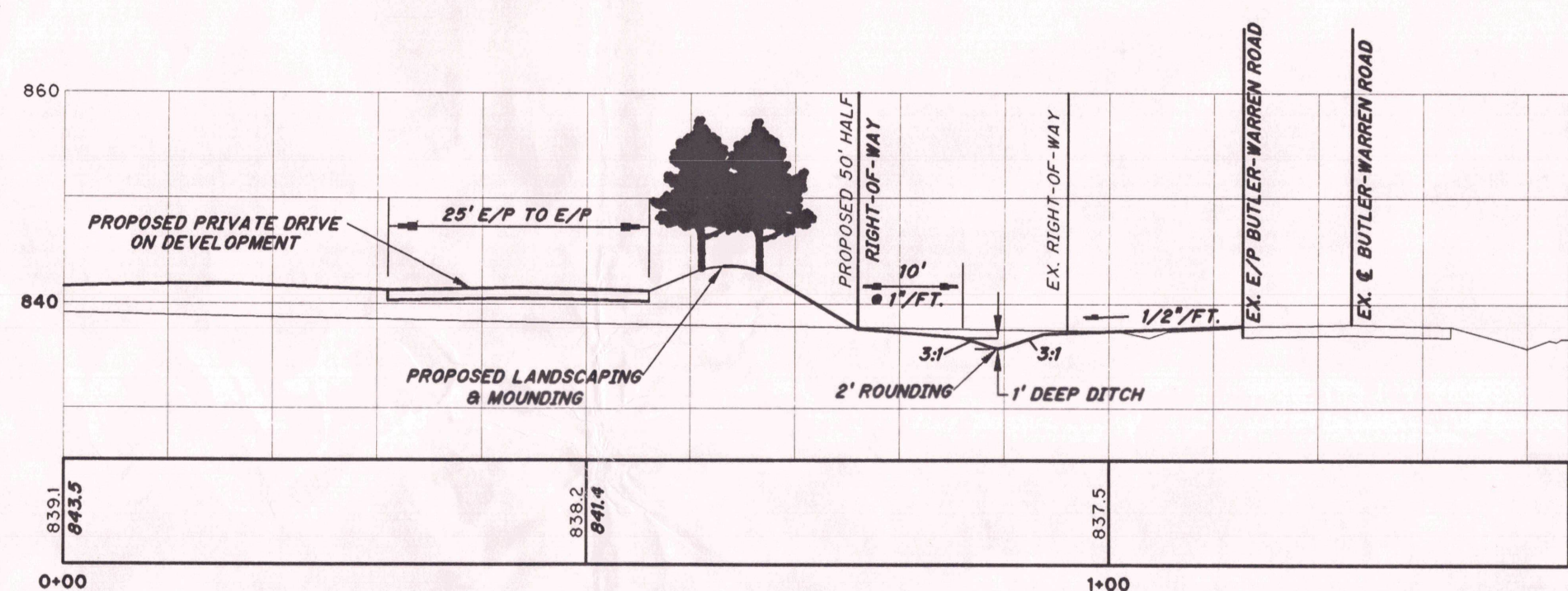


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 0/01/98 - 12:53pm    VIEW: PLOT1  
 E:\1998\98652\98652LY5.DWG

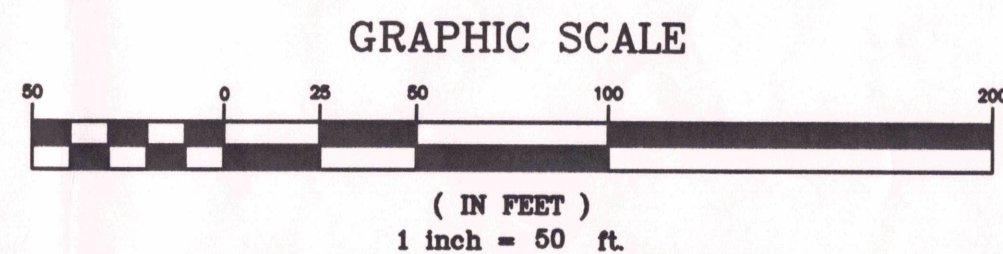


- NOTES:**
1. BOTH RETENTION PONDS AND STREAM ARE TO BE LINED WITH SILT FENCE. SILT FENCE IS TO REMAIN UNTIL SEEDING IS COMPLETED AND VEGETATION IS GROWN.
  2. THE EASTERN POND IS TO BE LINED WITH RCP TYPE D MIN. 6" THICK & FILTER FABRIC FROM ELEV. 832.00 TO ELEV. 831.00.  
THE WESTERN POND IS TO BE LINED WITH RCP TYPE D MIN. 6" THICK & FILTER FABRIC FROM ELEV. 832.95 TO ELEV. 831.00.  
SEE DETAIL SHEET C9. ALTERNATE: REPLACE RCP TYPE D WITH SOD, STAKED IN PLACE.
  3. THE STREAM BETWEEN THE TWO PONDS IS TO BE LINED WITH TYPE B FILTER FABRIC MIN. 12" THICK & RCP TYPE C TO ELEVATION 832.65.



TYPICAL SECTION - BUTLER-WARREN ROAD

STORM SEWER TABLE					
STRUCTURE	NORTHING	EASTING	TOP GRADE	FLOWLINE	TYPE
CB #11	11008.3676	12098.0070	845.1	30" INV. (S) = 835.59	CB 2-2-B
CB #12	11040.3302	12117.3574	844.6	30" INV. (SE) = 834.92	CB 2-2-B
				30" INV. (N) = 834.92	
CB #19	11016.9490	12518.3058	841.1	21" INV (SW) = 835.16	CB 2-2-B
CB #20	10914.5934	12507.7008	840.02	12" INV (NW) = 836.35	CB 2-2-B
CB #21	10969.5130	12486.1231	840.8	24" INV. (W) = 834.17	CB 2-2-B
				21" INV. (NE) = 834.42	
				12" INV. (SE) = 835.17	
CB #22	10987.4432	12313.0682	842.6	36" INV. (S) = 831.78	CB 2-2-B
				30" INV. (W) = 832.28	
				24" INV (E) = 832.78	
CB #23	10875.5775	11927.4327	845.85	12" INV. (E) = 835.13	CB 2-2-B
CB #24	10855.5141	12120.1114	842.57	12" INV. (W) = 833.19	CB 2-2-B
				15" INV. (SE) = 832.94	
MH #24A	10795.1675	12156.2452	844.6	15" INV. (NW) = 832.10	MH-1
				15" INV. (SE) = 832.10	
CB #25	10615.0162	12476.6715	841.1	12" INV. (W) = 833.13	CB 2-2-B
HW #26	10743.5052	12212.9501	832.25	15" INV. (SW) = 831.00	HW-4B
HW #27	10916.6475	12310.8017	834.0	36" INV. (N) = 831.00	HW-4B
HW #28	10627.6011	12335.5495	832.0	12" INV. (E) = 831.00	HW-4B
HW #29	10933.7366	12561.4994	840.63	12" INV. (S) = 839.63	HW-4B
HW #30	10930.0476	12555.1916	839.49	12" INV. (N) = 838.49	HW-4B
HW #31	10638.2095	12524.8083	836.77	12" INV. (S) = 835.77	HW-4B
HW #32	10605.4367	12521.4128	836.56	12" INV. (N) = 835.56	HW-4B
MH #63	10959.1758	12364.3335	841.8	27" INV. (NE) = 831.90	MH-1
				27" INV. (SW) = 831.90	
HW #64	10910.4691	12336.5937	833.25	27" INV. (NE) = 831.00	HW-4B



SEAL

CONSULTANTS

**CDS**  
engineers  
architects  
planners  
surveyors

CDS ASSOCIATES, INC.  
1120 KENWOOD ROAD  
CINCINNATI, OHIO 45242  
513 791-1700  
513 791-1936 FAX

240 MAIN ST.  
FLORENCE, KY 41042  
606 525-0544  
606 525-0561 FAX

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**GRADING/EROSION CONTROL PLAN—PHASE 1**  
DRAWING TITLE  
**THE VILLAS AT FOUR BRIDGES**  
PROJECT TITLE  
**LIBERTY TOWNSHIP, OHIO**  
TOWNE DEVELOPMENT GROUP, LTD.

[illegible]

SCALE 1"=50'	DATE 10/1/98
DRAWN BY NTOB	CHECKED BY MLAN
PROJECT NO. 98652-21	FILE FF-12
DRAWING NO. <b>C4</b>	
SHEET 4	OF 9



# THE VILLAS AT FOUR BRIDGES LIBERTY TOWNSHIP, OHIO

## GENERAL NOTES

ALL TOPSOIL SHALL BE STRIPPED AND STOCKPILED AT THE DIRECTION OF THE OWNER.

EXTREME CARE SHALL BE EXERCISED AND SEDIMENT PROTECTION SHALL BE INSTALLED AND MAINTAINED AROUND THE PERIMETER OF THE RETENTION PONDS AND STREAMS. THE CONTRACTOR SHALL CLEAN AND DREDGE THE RETENTION FACILITIES UPON COMPLETION OF THE PROJECT AND AFTER ESTABLISHED VEGETATION OF THE SITE.

ALL WORK SHALL BE DONE UNDER THE SUPERVISION OF THE BUTLER COUNTY ENGINEER AND THE AUTHORITY HAVING RESPONSIBILITY FOR UTILITIES IN THE AREA AND IN ACCORDANCE WITH THE RULES AND REGULATIONS FOR SUBDIVISION.

ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATION" OR BUTLER COUNTY REQUIREMENTS AND STANDARDS FOR SUBDIVISION. WHEN IN CONFLICT, THE COUNTY REQUIREMENTS SHALL PREVAIL.

SANITARY SEWER PIPE SHALL BE ARMCO TRUSS PIPE OR SDR 35 (0' - 16' DEEP), SDR 26 (16' - 25' DEEP), SDR 21, SDR 17.

MINIMUM GRADE FOR 8" SANITARY SEWER IS 0.50

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

ALL SANITARY SEWER LATERALS SHALL NOT EXCEED A DEPTH BELOW FINISHED GRADE OF 12 FEET OR 4 FEET BELOW A PROPOSED BASEMENT FLOOR ELEVATION AT THE END OF THE LATERAL, UNLESS SPECIFICALLY AUTHORIZED BY THE COUNTY.

WATERMAIN SHALL HAVE 4' MINIMUM DEPTH TO TOP OF PIPE.

ALL WATER MAINS TO BE DUCTILE IRON PIPE, CL 53 AWWA C-151.

WATER MAIN SHALL HAVE 10' HORIZONTAL, & 18" VERTICAL SEPARATION (OUTSIDE EDGE TO EDGE) WITH ALL OTHER PIPE.

INLETS DESIGNATED AS CB-3 AND CB-3A ARE STATE OF OHIO DEPARTMENT OF TRANSPORTATION STANDARDS. INLETS DESIGNATED AS CB-3 MODIFIED (CB-3M) OR CB-3A MODIFIED (CB-3AM) ARE BUTLER COUNTY STANDARDS AVAILABLE AT THE BUTLER COUNTY ENGINEERS OFFICE.

ALL MANHOLES GREATER THAN 4.0' DEPTH SHALL BE PROVIDED WITH STEPS. ALL CATCH BASINS GREATER THAN 4.0' DEPTH SHALL BE PROVIDED WITH STEPS. ALL STORM SEWER PIPE SHALL BE ADS N-12 OR APPROVED EQUAL.

ALL SUMP PUMP DRAINS ARE TO BE TIED INTO CATCH BASINS. STORM MANHOLES, STORM SEWERS, DRAINAGE SWALES, OR PARALLEL COLLECTION LINES. NO SUMP PUMP DRAIN WILL OUTLET TO STREET.

ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH STATE OF OHIO SPECIFICATIONS, ITEM 659.

THE CONTRACTOR SHALL SEED AND MULCH DISTURBED GRASS AREAS WITH:

3 LBS. WHEAT OR RYE PER 1000 SQ. FT.  
10 LBS. 12-12-12 FERTILIZER PER 1000 SQ. FT.  
2 OR 3 BALES OF STRAW PER 1000 SQ. FT.

THE CONTRACTOR SHALL ALSO PROVIDE OTHER EROSION CONTROL MEASURES AS MAY BE REQUIRED BY BUTLER COUNTY ENGINEER DURING THE CONSTRUCTION PHASE.

ALL DOWNSPOUT LINES SHALL BE ON SPLASHBLOCKS AND MAY NOT BE CONNECTED TO THE STREET.

SEEDING - SPECIFICATIONS AT RETENTION BASIN:

RED FESCUE 1 LB. PER 1000 SQ. FT.  
KENTUCKY BLUEGRASS 1/2 LB. PER 1000 SQ. FT.  
PERENNIAL RYEGRASS 1/2 LB. PER 1000 SQ. FT.  
FERTILIZER: 12 - 12 - 12  
MULCH - 3 BALES OF STRAW PER 1000 SQ. FT.  
MULCH TIE DOWN: LIQUID ASPHALT (R.C. 70, 25 OR 800) 40 GALS. PER 1000 SQ. YDS. OR PLASTIC MULCH NETTING, STAPLED IN PLACE.  
SOD (IF REQUIRED): TO BE STAKED IN PLACE.

BUTLER COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE RELOCATION, REPAIR OR REPLACEMENT OF ANY OTHER UTILITY INSTALLED WITHIN FIVE (5) FEET OF THE CENTERLINE OF ANY SANITARY MAIN SEWER OR WATER MAIN.

PRIVATE DRIVEWAYS, PARKING LOTS AND OTHER PAVED AREAS OR STRUCTURES SHOULD NOT BE CONSTRUCTED OVER PRIVATE WATER OR SEWER SERVICE LINES WITHIN THE PUBLIC ROAD RIGHT OF WAY OR WITHIN EASEMENT AREAS FOR THE PUBLIC UTILITIES. SHOULD THIS OCCUR, THE PROPERTY OWNER WILL BE HELD RESPONSIBLE FOR THE PROTECTION AND REPAIR OF AND FOR PROVIDING ACCESS TO ANY CURB STOPS, METER PITS, MANHOLES, CLEANOUTS, ETC., INSTALLED IN CONJUNCTION WITH THESE PRIVATE SERVICE LINES AND FOR ANY DAMAGE OR RESTORATION OF THE PAVED SURFACES OR STRUCTURES THAT MAY RESULT FROM THE FUTURE OPERATION, MAINTENANCE, REPAIR OR REPLACEMENT OF SAID SERVICE LINES AND APPURTENANCES.

OWNER: TOWNE DEVELOPMENT GROUP, L.TD.  
1055 ST. PAUL PLACE  
CINCINNATI, OHIO 45202  
(513) 391-8696

DEVELOPER: TOWNE DEVELOPMENT GROUP, L.TD.  
1055 ST. PAUL PLACE  
CINCINNATI, OHIO 45202  
(513) 391-8696

ARCHITECT: THE MARTIN ARCHITECTURAL GROUP  
240 NORTH 22ND STREET  
PHILADELPHIA, PA 19103  
(215) 665-1080

SITE ENGINEER: CDS ASSOCIATES, INC.  
1120 KENWOOD ROAD  
CINCINNATI, OHIO 45242  
(513) 791-1700

EXISTING USE: FIELD

PROPOSED USE: CONDOMINIUM DEVELOPMENT

THE CONTRACTOR SHALL INSURE THAT ALL REQUIRED NOTICES ARE GIVEN AND ALL PERMITS ARE ACQUIRED BEFORE THE COMMENCEMENT OF WORK.

COMPACTION TESTING OF EMBANKMENT, GRANULAR BACKFILL, AND/OR SUBGRADE SHALL BE DONE BY AN INDEPENDENT QUALIFIED TESTING LABORATORY UNDER A CONTRACT WITH THE CONTRACTOR. EMBANKMENT SHALL MEET TESTING AS SPECIFIED IN ODOT ITEM 203.12 AND UTILITY TRENCH BACKFILL AS SPECIFIED IN ODOT ITEM 603.08.

ALL BUILDINGS TO BE SERVED BY THE PUBLIC SEWER SYSTEM SHALL BE CONSTRUCTED SO AS TO PROVIDE A MINIMUM OF FOUR FEET (4') OF VERTICAL SEPARATION BETWEEN THE PUBLIC SANITARY SEWER, AT THE POINT OF CONNECTION, AND THE LOWEST BUILDING LEVEL SERVED BY A GRAVITY SEWER CONNECTION. IN ADDITION, SAID BUILDING LEVEL SHALL BE AT LEAST ONE FOOT (1') ABOVE THE LOWEST POINT OF FREE-OVERFLOW (NON-SEALED MANHOLE COVER) UPSTREAM OF ANY TREATMENT FACILITY OR WASTEWATER PUMPING FACILITY THAT RECEIVES THE DISCHARGE FROM SAID BUILDING. SAID MINIMUM SERVICE LEVELS SHALL BE RECORDED ON THE "AS-BUILT" PLANS FOR THE DEVELOPMENT WHICH WILL BE KEPT ON FILE IN THE OFFICE OF THE BUTLER COUNTY SANITARY ENGINEER.

LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY GROUND CONDITIONS AND EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION.

THE UTILITIES SHOWN ARE FOR CONTRACTOR'S CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

BUTLER COUNTY ASSUMES NO MAINTENANCE RESPONSIBILITY FOR PRIVATE DRIVES.

BUTLER COUNTY WILL NOT BE RESPONSIBLE FOR ANY PAVEMENT OR STORM SEWER REPAIRS RESULTING FROM WATER MAIN REPAIRS. BUTLER COUNTY ALSO WILL NOT BE RESPONSIBLE FOR ADJUSTING VALVES, FIRE HYDRANTS, METER PITS, ETC. AS A RESULT OF GRADE CHANGES. THE GRANTOR SHALL BE RESPONSIBLE FOR THE PROPER ADJUSTMENT OF VALVES, FIRE HYDRANTS, METER PITS, ETC., TO THE SATISFACTION OF BUTLER COUNTY, DUE TO GRADE CHANGES, PAVING, REPAVING, ETC., INITIATED BY THE GRANTOR.

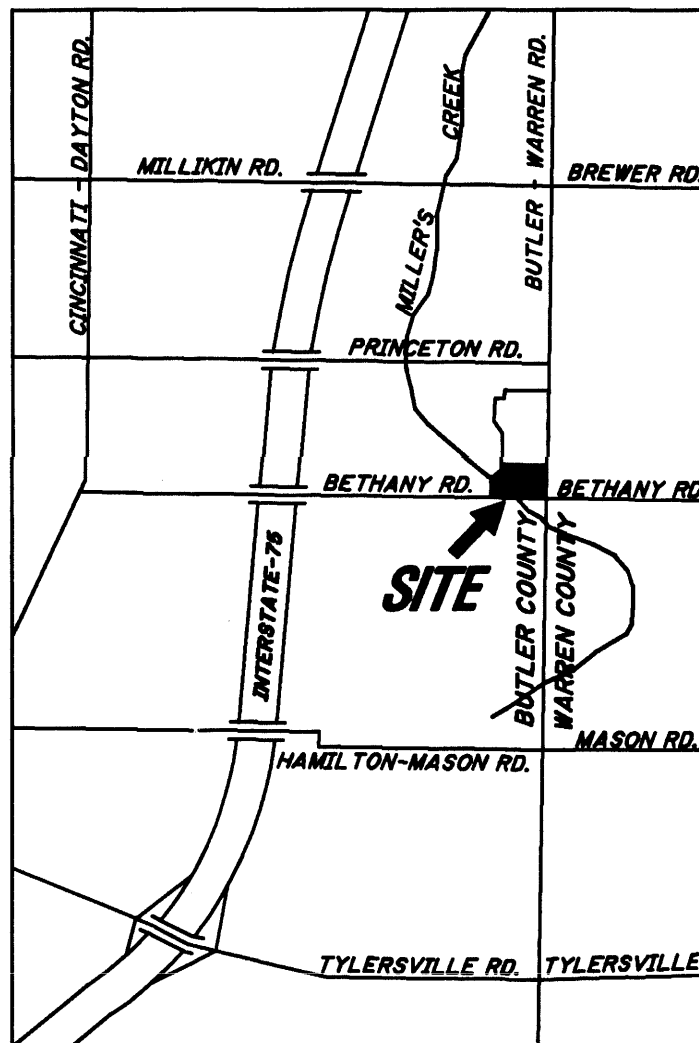
## MATERIAL SPECIFICATIONS

ALL STORM SEWERS SHALL MEET THE MATERIAL AND INSTALLATION REQUIREMENTS OF ODOT ITEM #603 TYPE B CONDUITS, WITH POST CONSTRUCTION TESTING AS DEFINED BELOW.

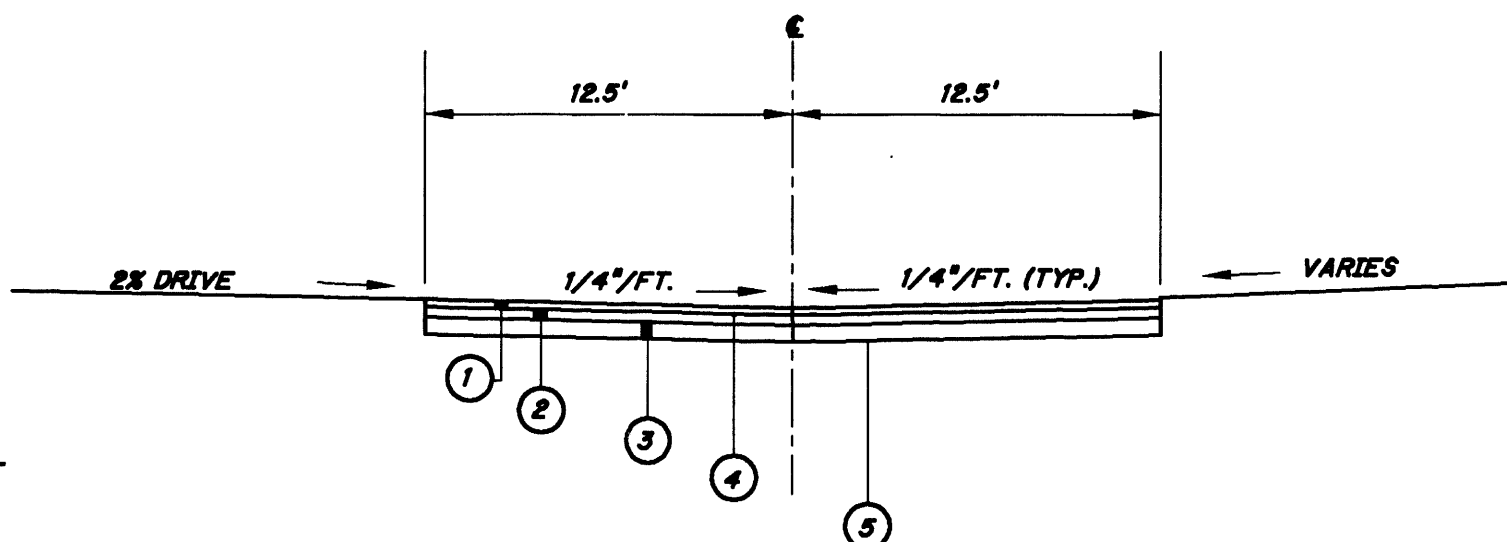
## DEFLECTION TESTING FOR STORM SEWERS AND CULVERTS

15% OF ALL STORM SEWERS SHALL BE TESTED FOR DEFLECTION WITHIN 30 DAYS AFTER THEY ARE COMPLETE. THE OWNER OR HIS DESIGNATED REPRESENTATIVE WILL DETERMINE WHAT 15% WILL BE TESTED. IF ANY STORM SEWER IN THE ORIGINAL 15% IS FOUND OUT OF COMPLIANCE, DEFLECTION TESTS WILL BE REQUIRED ON 100% OF THE REMAINING STORM SEWER. A VERTICAL RING DEFLECTION GREATER THAN 5% WILL NOT BE ALLOWED. THIS DEFLECTION IS DEFINED AS 5% REDUCTION IN THE VERTICAL BASE OR AVERAGE INSIDE DIAMETER. THE METHOD OF TESTING SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. IF RIGID BALLS OR MANDRELS ARE USED TO TEST PIPE DEFLECTION, NO MECHANICAL PULLING DEVICES SHALL BE USED. THE DEFLECTION TEST MAY BE CONDUCTED WITH A NINE PRONG MANDREL, A BALL OR A CYLINDER OR ANOTHER MANNER ACCEPTABLE TO THE OWNER OR HIS DESIGNATED REPRESENTATIVE. THE TESTING WILL BE ACCOMPLISHED FROM MANHOLE TO MANHOLE OR CATCH BASIN TO CATCH BASIN, FOLLOWING COMPLETE FLUSHING OF THE LINE. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT REQUIRED TO COMPLETE THE DEFLECTION TESTING. THE DEFLECTION TEST SHALL BE WITNESSED BY THE OWNER OR HIS DESIGNATED REPRESENTATIVE. ANY SECTION OF PIPE THAT FAILS TO MEET THE AFOREMENTIONED REQUIREMENTS SHALL BE REBROUNDED BY A PROCEDURE ACCEPTABLE TO THE COUNTY OR BE EXCAVATED AND EITHER RELAYED OR REPLACED, AND RETESTED UNTIL THE REQUIREMENTS ARE MET.

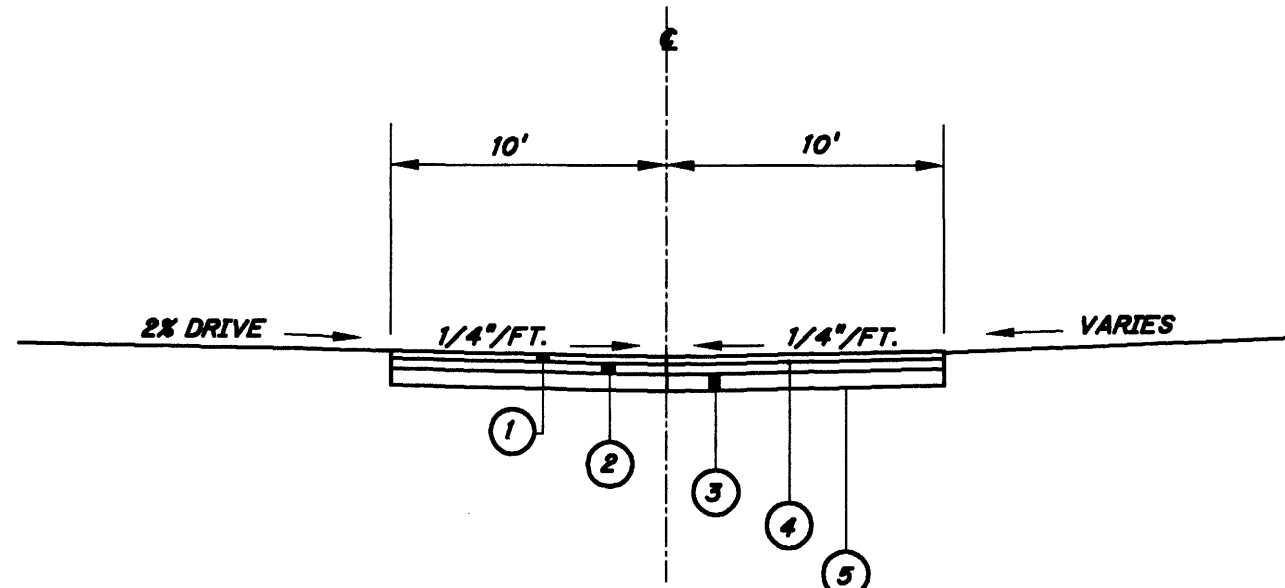
## SITUATED IN: SECTION 8, TOWN 3, RANGE 3 LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO OCTOBER 1998



VICINITY MAP



TYPICAL SECTION  
STREETS A & B



TYPICAL SECTION  
STREET C

## UNDERGROUND UTILITIES



2 WORKING DAYS  
**BEFORE YOU DIG**

CALL 1-800-362-2764 (TOLL FREE)  
NON-MEMBERS MUST BE CALLED DIRECTLY



## INDEX TO SHEETS

TITLE, TYPICAL SECTION, & GENERAL NOTES SHEET.....C1  
SITE LAYOUT SHEET.....C2  
UTILITY LAYOUT SHEET.....C3  
GRADING/EROSION CONTROL SHEET.....C4  
PROFILE SHEETS.....C5-C6  
DETAIL SHEETS.....C7-C8  
EROSION CONTROL DETAIL SHEET.....C9

## LEGEND

	EX. BUSH
	EX. TREE
	EX. FENCE
	EX. GUARDRAIL
	EX. UTILITY POLE
	EX. POST
	EX. SIGN POLE
	PROP. CATCH BASIN
	PROP. CLEANOUT
	PROP. FIRE HYDRANT
	PROP. STORM MANHOLE
	PROP. SANITARY MANHOLE
	PROP. WATER SERVICE METER
	PROP. WATER VALVE
	EX. RIGHT-OF-WAY
	EX. SANITARY
	EX. WATER
	PROP. SANITARY
	PROP. STM
	PROP. WATER

## TOWNSHIP TRUSTEES

BOB SHELLEY  
MARGY CONDITT  
SHELDON STRAND  
BARB JONES, CLERK

## TOWNSHIP ZONING COMMISSIONERS

NORRIS DAHLSTROM, CHAIRPERSON  
GAYLE KEETON  
BOB HELSINGER  
GARY ARNOLD  
CAM HEGER

IRENE DUNNE, ZONING ADMINISTRATOR

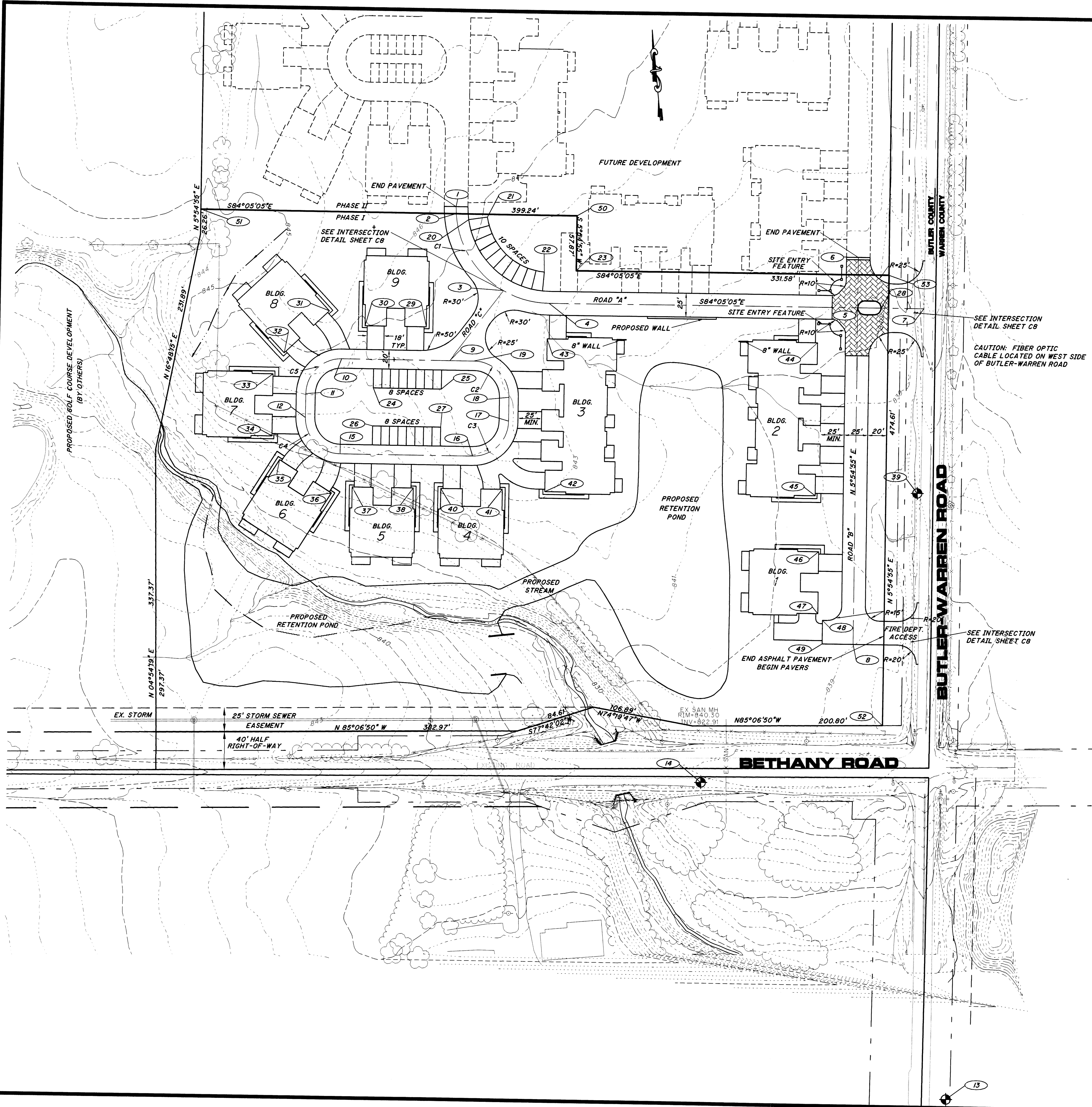
APPROVED-BUTLER COUNTY ENGINEER

DATE

J. FREDERICK GOSSMAN, P.E. 37931 (OHIO)

DATE





COORDINATE TABLE

COORD #	NORTHING	EASTING	DESCRIPTION	STATION - ROAD
1	1110.2426	12098.1834	C - PT	STA. 5+67.08 - RD. "A"
2	1102.7323	12097.6900	C - AT #	STA. 5+59.55 - RD. "A"
3	11017.9233	12140.4339	C - INTERSECTION	STA. 4+60.59 - RD. "A"
4	11000.4693	12187.3452	C - PC	STA. 6+00 - RD. "C"
5	10966.7179	12513.1013	C - INTERSECTION	STA. 4+10.00 - RD. "A"
6	11019.4069	12518.5604	C - END DRIVE	STA. 17+54.83 - RD. "B"
7	10959.4799	12582.9593	C - BEGIN DRIVE	STA. 0+00 - RD. "A"
8	10614.2712	12476.5845	C - END DRIVE - EP	STA. 14+00 - RD. "B"
9	10949.4640	12077.0949	C - INTERSECTION	STA. 6+93.27 - RD. "C"
10	10961.2810	11963.0423	C - PT	STA. 11+45.46 - RD. "C"
11	10927.8453	11921.8773	C - PC	STA. 10+86.55 - RD. "C"
12	10902.9784	11919.3008	C - PT	STA. 10+61.55 - RD. "C"
13	10861.8134	11952.7365	C - PC	STA. 10+02.65 - RD. "C"
14	10847.3219	12092.6041	C - PT	STA. 8+62.03 - RD. "C"
15	10860.5344	12133.7691	C - PC	STA. 8+03.13 - RD. "C"
16	10846.7893	12102.9099	C - PT	STA. 7+78.13 - RD. "C"
17	10946.7893	12102.9099	C - PC	STA. 7+19.22 - RD. "C"
18	10953.3752	12102.9099	EP - PARKING STALL	
19	11036.5920	12185.2164	EP - PARKING STALL	
20	11031.9620	12219.1763	EP - PARKING STALL	
21	11027.9050	11994.0760	EP - PARKING STALL	
22	10920.4848	12065.6927	EP - PARKING STALL	
23	10888.1180	11989.9537	EP - PARKING STALL	
24	10880.6978	12061.9704	EP - PARKING STALL	
25	10861.1414	12057.9682	EP - ISLAND	STA. 0+45.23 - RD. "A"
26	10993.5797	11990.9226	FRONT BLDG. CORNER	
27	11012.3922	11954.5040	FRONT BLDG. CORNER	
28	10972.5425	11902.9415	FRONT BLDG. CORNER	
29	10951.4287	11889.1334	FRONT BLDG. CORNER	
30	10886.6090	11882.4174	FRONT BLDG. CORNER	
31	10860.8873	11888.2101	FRONT BLDG. CORNER	
32	10821.0375	11939.7727	FRONT BLDG. CORNER	
33	10825.6283	11962.3661	FRONT BLDG. CORNER	
34	10818.9124	12027.1858	FRONT BLDG. CORNER	
35	10815.9237	12056.0313	FRONT BLDG. CORNER	
36	10803.2078	12120.8510	FRONT BLDG. CORNER	
37	10803.3105	12165.5081	FRONT BLDG. CORNER	
38	10773.7545	12182.1176	FRONT BLDG. CORNER	
39	10773.4460	12460.7679	FRONT BLDG. CORNER	
40	10714.2878	12449.2465	FRONT BLDG. CORNER	
41	10649.4682	12442.5305	FRONT BLDG. CORNER	
42	10641.9901	12446.7825	EP - CORNER	
43	10617.1233	12444.2061	EP - CORNER	
44	10589.5272	12225.1406	EP	
45	11130.6718	11828.0282	EP	
46	10525.7113	12500.0829	EP	
47	10997.7897	12548.9947	EP	

CURVE DATA TABLE

CURVE	Δ	RADIUS	TANGENT	LENGTH	PC	PT
C1	90°00'00"	100.00'	100.00'	157.08'	STA. 4+10.00 - RD. "A"	STA. 5+67.08 - RD. "A"
C2	90°00'00"	37.50'	37.50'	58.90'	STA. 7+19.22 - RD. "C"	STA. 7+78.13 - RD. "C"
C3	90°00'00"	37.50'	37.50'	58.90'	STA. 8+03.13 - RD. "C"	STA. 8+62.03 - RD. "C"
C4	90°00'00"	37.50'	37.50'	58.90'	STA. 10+02.65 - RD. "C"	STA. 10+61.55 - RD. "C"
C5	90°00'00"	37.50'	37.50'	58.90'	STA. 10+86.55 - RD. "C"	STA. 11+45.46 - RD. "C"

HORIZONTAL & VERTICAL CONTROL TABLE

COORD #	NORTHING	EASTING	DESCRIPTION	ELEVATION
13	10128.1985	12532.3733	IRON PIN	835.92
14	10482.6973	12503.1168	IRON PIN	836.68
39	10766.2087	12558.5212	IRON PIN	837.42

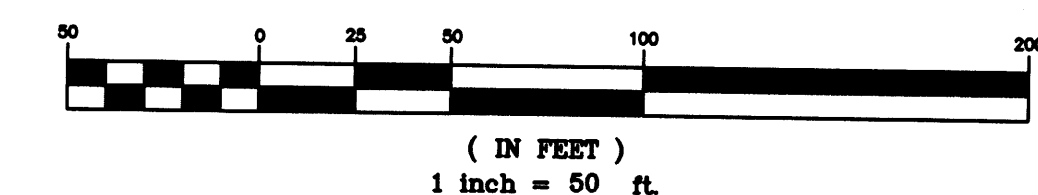
BENCHMARK: GPS-7. CONCRETE MONUMENT W/ BRASS CAP, MARKED "BUTLER COUNTY ENGINEER REF. MONUMENT" (NO NUMBER ACTUALLY ON MONUMENT).  
NORTHING: 503,357.2928 LATITUDE: 39°22'02.308710" ELEVATION: 876.650  
EASTING: 1,446,613.9740 LONGITUDE: 84°20'46.961670"

NOTES:

- ALL DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE SPECIFIED.
- PHASE 1 NET AREA = 9.00 ACRES
- ZONING DENSITY = 5 UNITS/ACRE
- NUMBER OF UNITS = 24, 2.67 DU/AC.
- PARKING:  
GARAGE SPACES = 48 SPACES  
DRIVEWAY SPACES = 48 SPACES  
OFF STREET SPACES = 26 SPACES  
122 SPACES
- BUILDING CONTRACTOR TO VERIFY MINIMUM BUILDING SEPARATION PER BUILDING CODE.

BRICK PAVERS  
SEE DETAIL SHEET C8

GRAPHIC SCALE



SCALE

CONSULTANTS

**CDS**  
engineers  
architects  
planners  
surveyors

CDS ASSOCIATES, INC.  
11120 KENWOOD ROAD  
CINCINNATI, OHIO 45242  
513 791-1700  
513 791-1936 FAX

240 MAIN ST.  
FLORENCE, KY 41042  
606 525-0544  
606 525-0561 FAX

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SITE LAYOUT PLAN - PHASE 1

THE VILLAS AT FOUR BRIDGES  
LIBERTY TOWNSHIP, OHIO  
TOWNE DEVELOPMENT GROUP, LTD.

PROJECT TITLE

PROJECT TITLE

PROJECT TITLE

PROJECT TITLE

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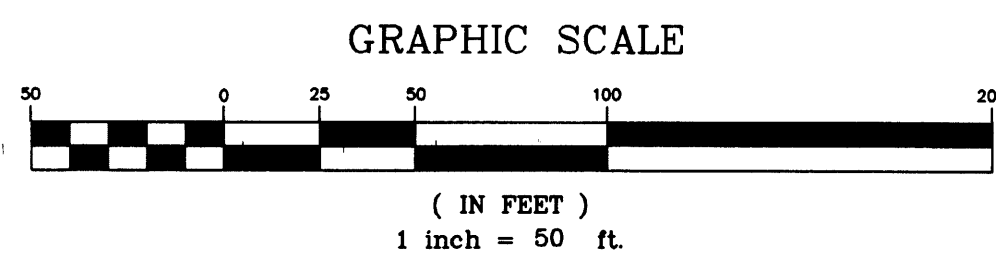
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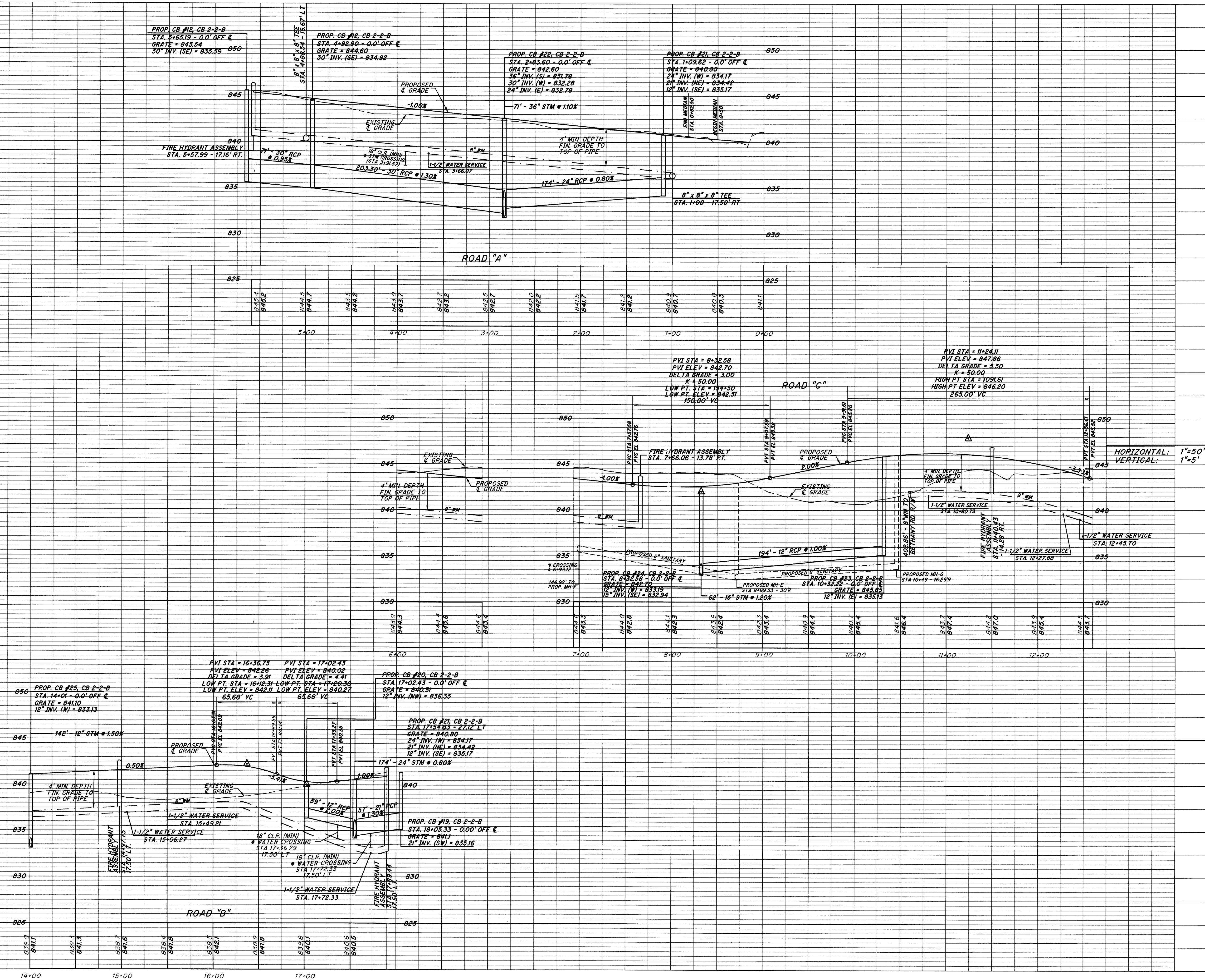
STATIONING INFORMATION	
SANITARY SEWER EQUATIONS	STREET CENTERLINE EQUATIONS
0+00 = 5+00	0+82.50 = 17+54.83
9+21.99 = 12+00	4+60.59 = 6+00

SANITARY RUN TABULATION	
RUN	PIPE
A-B	67.05' - 8" SAN @ 0.80%
B-C	400' - 8" SAN @ 0.80%
A-D	39.32' - 8" SAN @ 0.80%
D-E	382.67' - 8" SAN @ 0.80%
E-F	218.05' - 8" SAN @ 0.80%
F-G	150' - 8" SAN @ 0.80%

**LEGEND**

- SANITARY MANHOLE
- 8" SANITARY LINE
- 8" WATER LINE
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- STORM DRAINAGE MANHOLE
- SANITARY SEWER EASEMENT





SCALE

CONSULTANTS

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STREET PROFILE

THE VILLAS AT FOUR BRIDGES  
LIBERTY TOWNSHIP, OHIO  
TOWNE DEVELOPMENT GROUP, LTD.

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REVISIONS

BY

DATE

NO

SCALE

DATE

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FILE

98652-21

FF-12

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C5

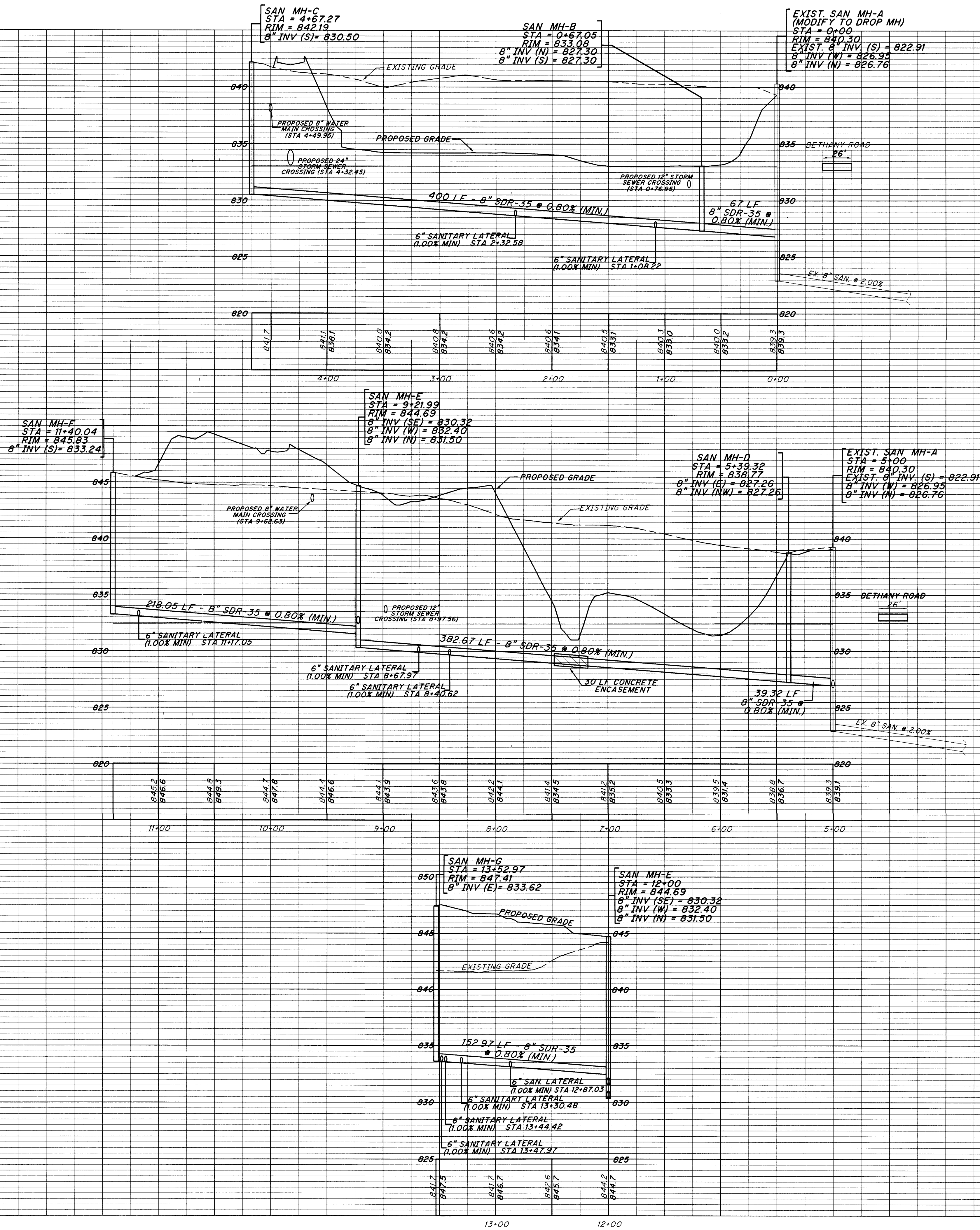
SHEET

5

OF

9





HORIZONTAL: 1"=50'  
VERTICAL: 1"=5'

SCALE

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**SANITARY SEWER PROFILE**  
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DESCRIPTION

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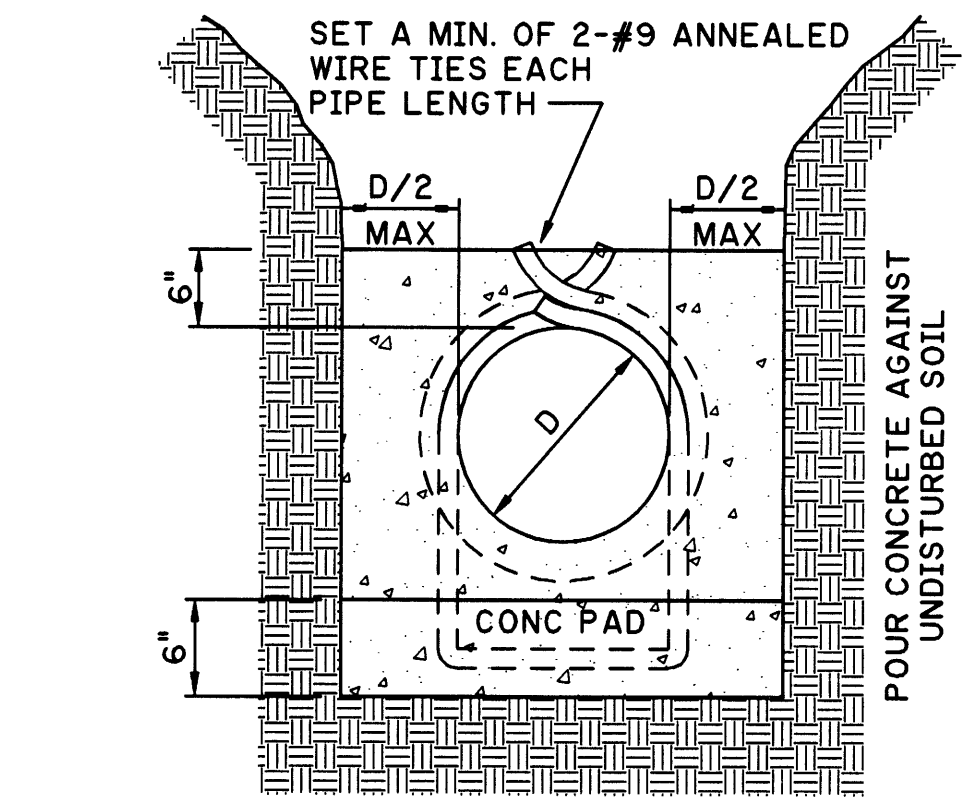
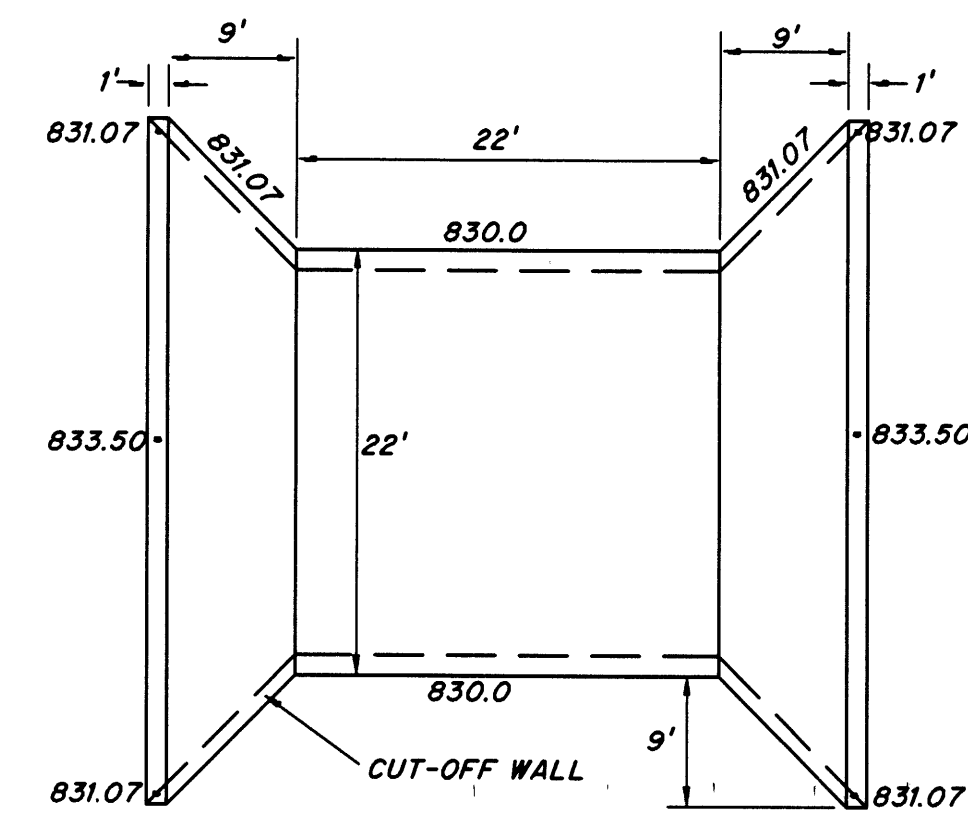
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98652-21	FF-12

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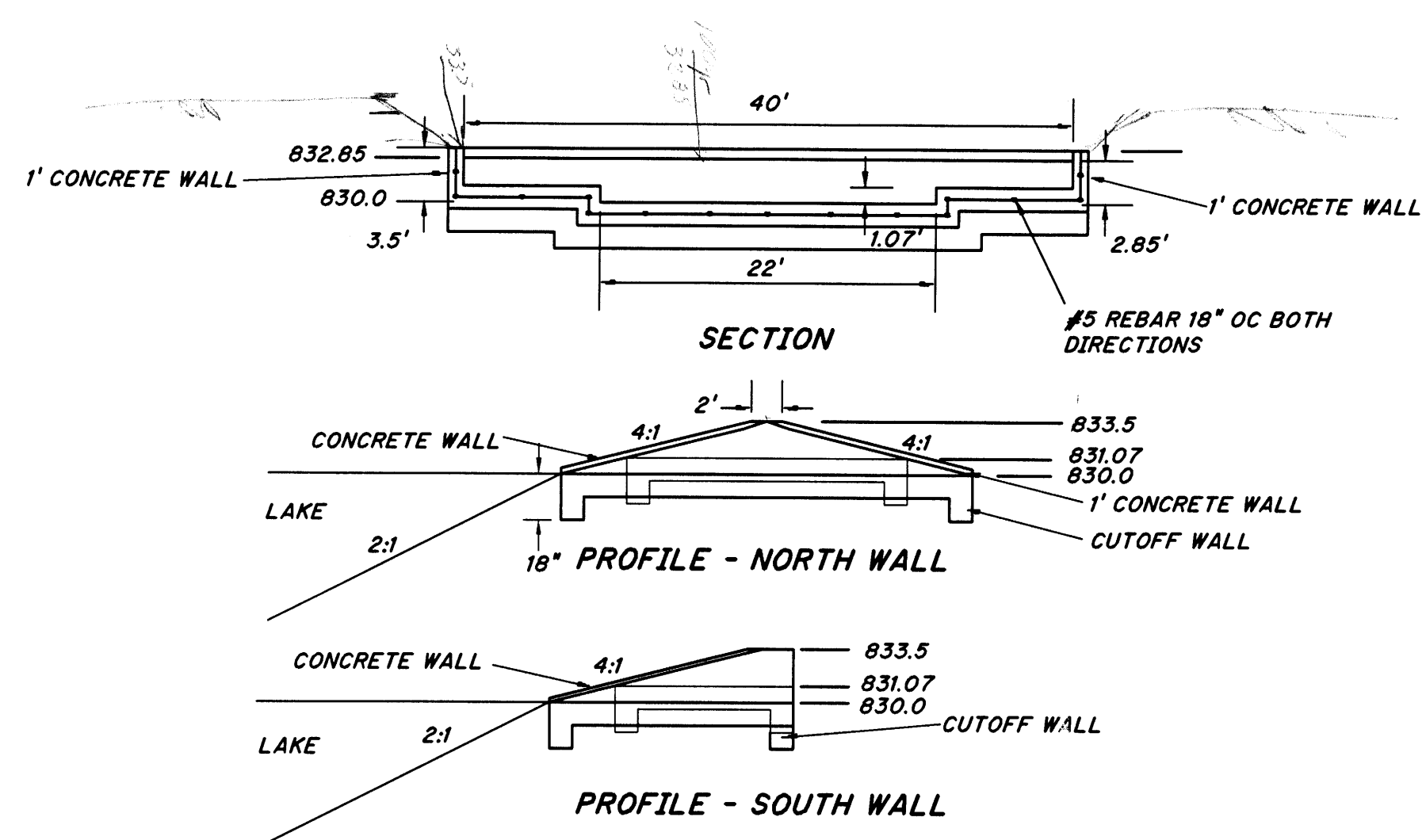
SHEET 6 OF 9



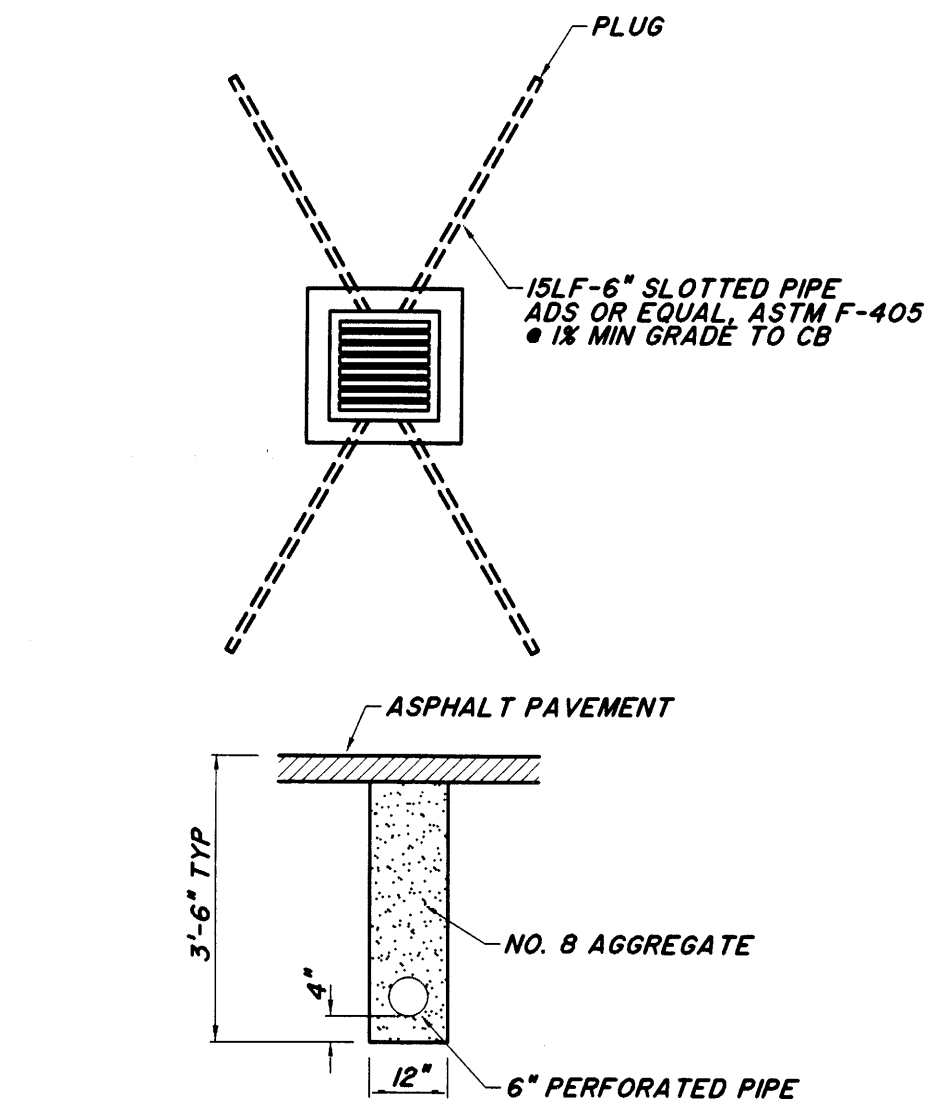


NOTE: CONCRETE SHALL BE 3000 PSI MINIMUM 28 DAYS STRENGTH (4" SLUMP).  
IF A SINGLE POUR METHOD OF ENCASEMENT IS USED, THE WIRE TIES MAY BE ELIMINATED.  
SUPPORT PIPES ON CHIPS OR MASONARY BRICK • L & G.  
BEGIN OR END ENCASEMENT AT JOINT ONLY.

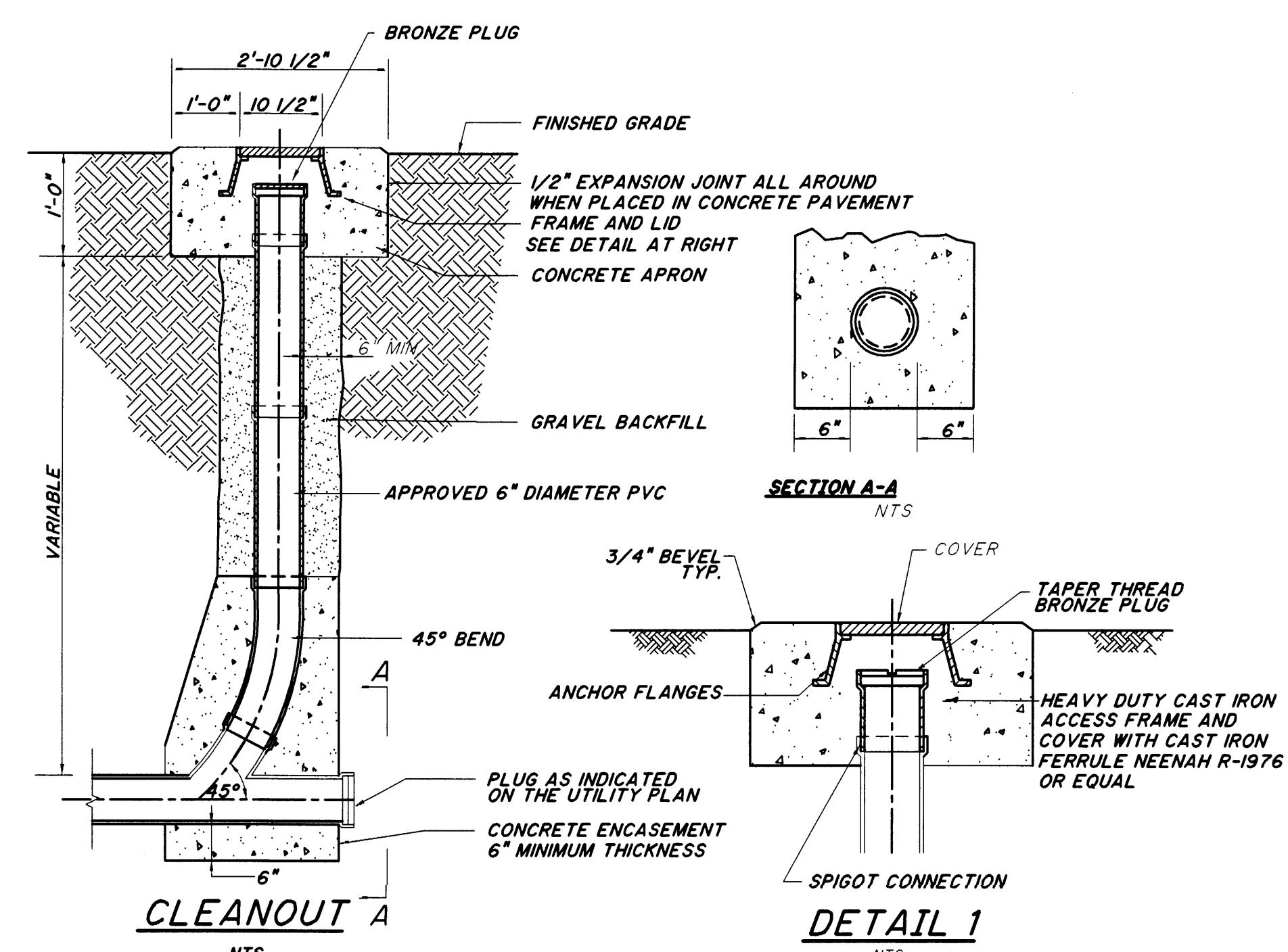
### FULL CONCRETE ENCASEMENT



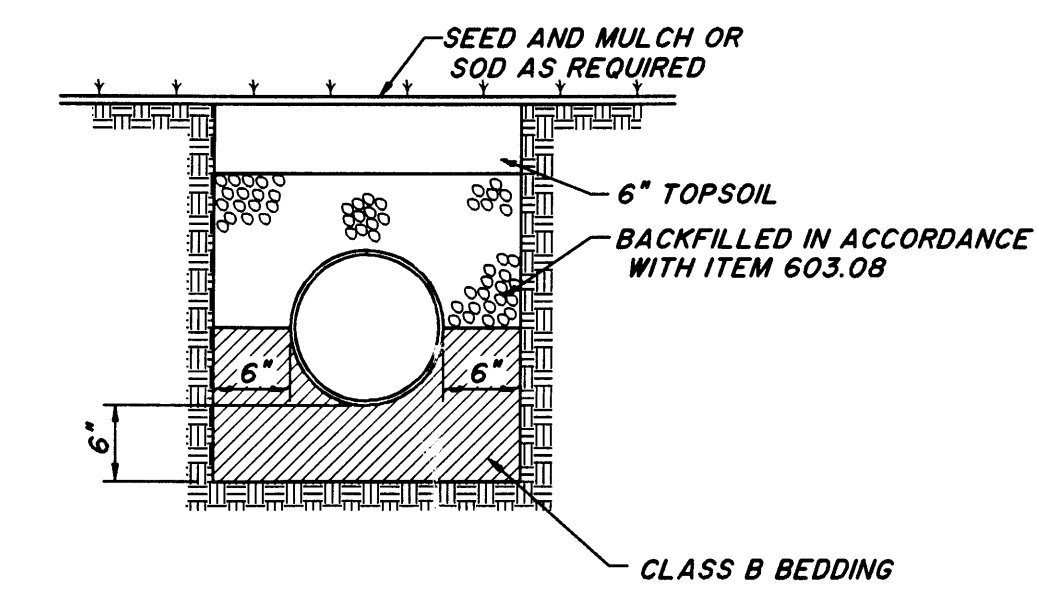
### OUTLET CONTROL STRUCTURE DETAILS



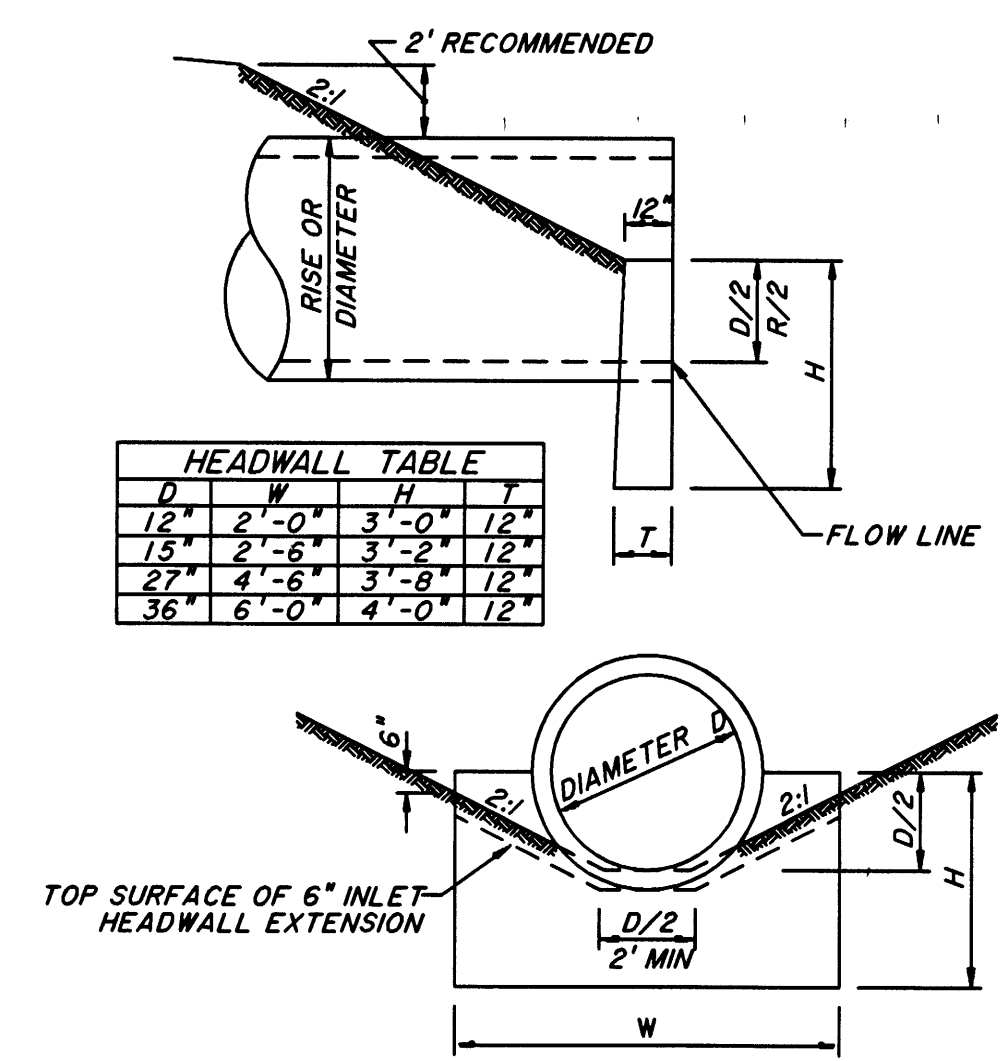
### TYPICAL UNDERDRAIN AT CATCH BASINS



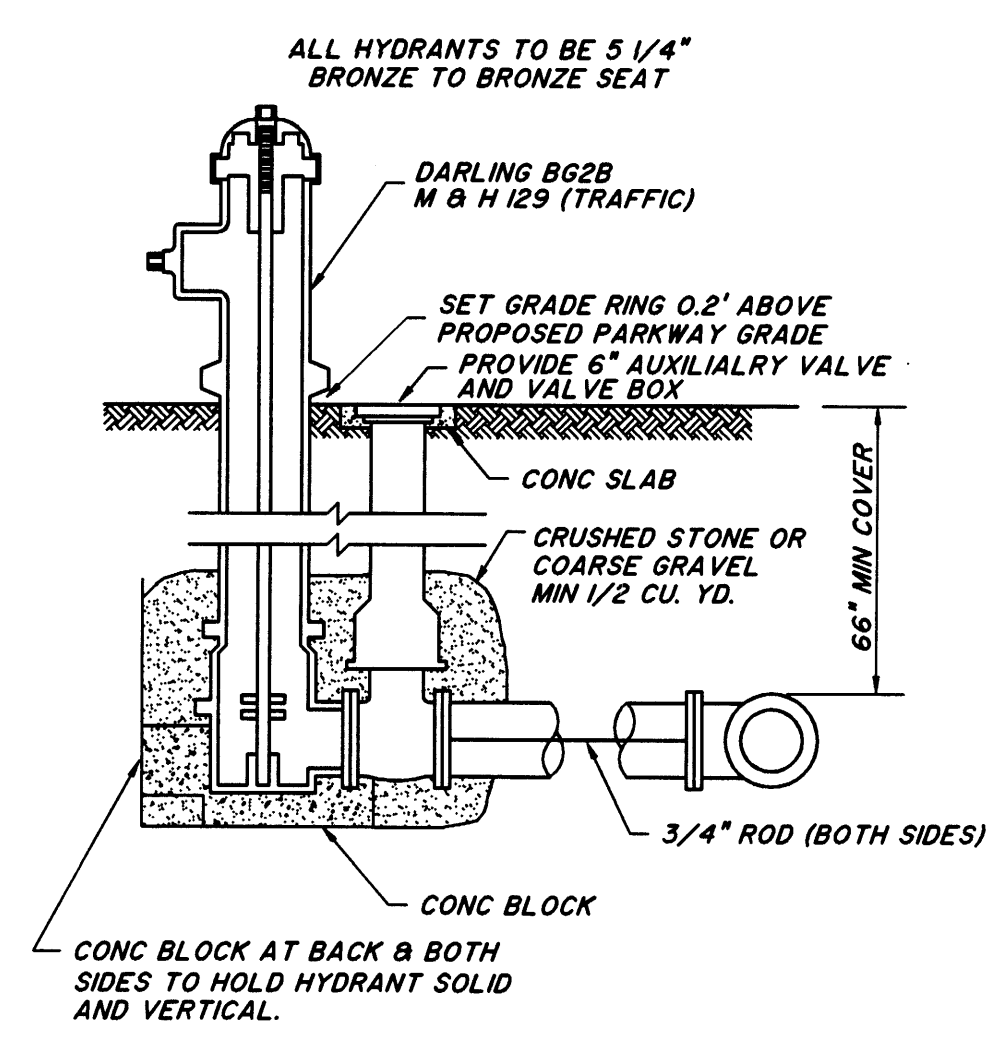
### STORM AND SANITARY SEWER CLEANOUT DETAIL



### TYPICAL TRENCH RESTORATION

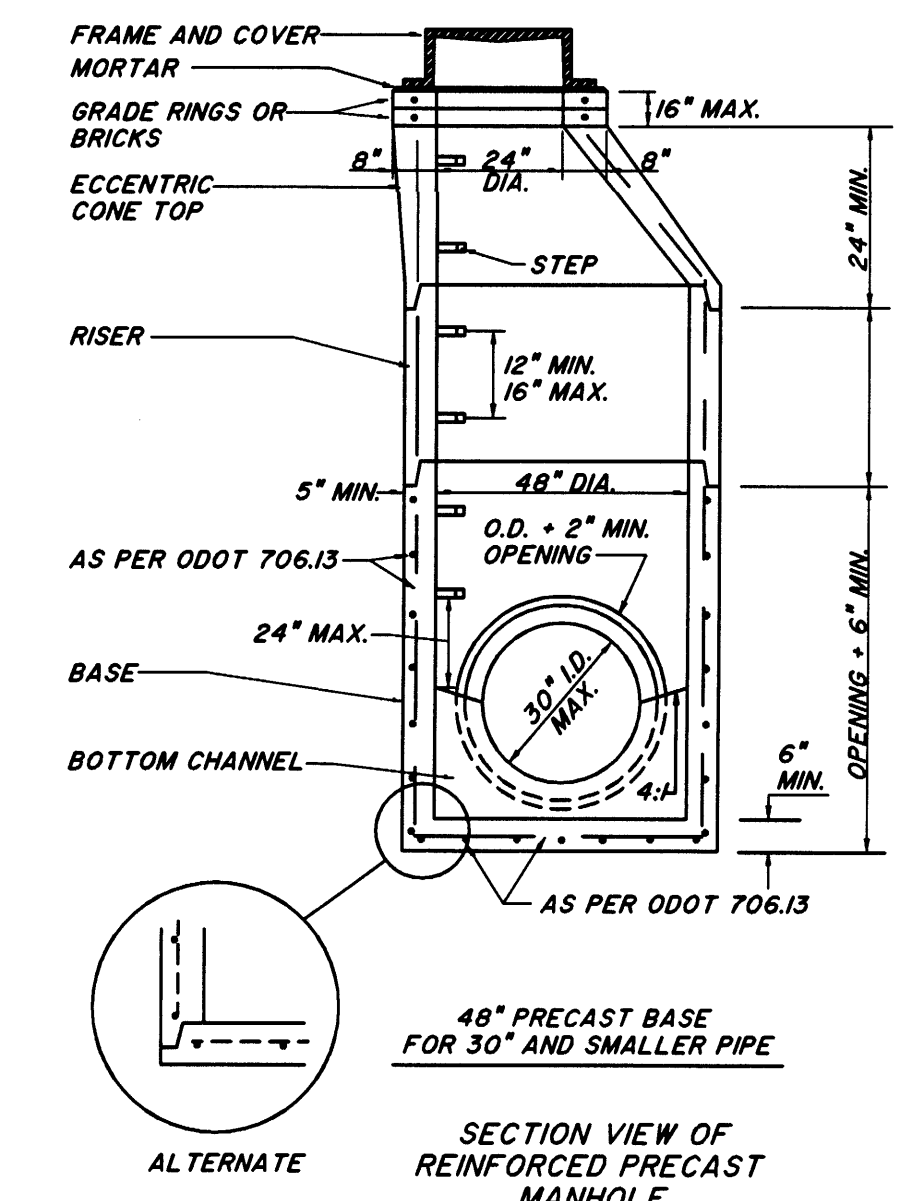


### ODOT HW-4B



NOTE: ALL VALVES MUST BE RESILIENT SEATED.  
APPROVED VALVE TYPES: CLOW, DRESSER AND AMERICAN DARLING.  
RODDING SHALL NOT BE REQUIRED IF ANCHOR FLANGES ARE USED.

### HYDRANT SETTING



**NOTES**  
GENERAL: WITH NORMAL SOIL AND SITE CONDITIONS STANDARD PRECAST MANHOLE MAY BE USED FOR ANY REQUIRED DEPTH.  
SECTIONS OF THE PRECAST MANHOLE SHALL BE CAST AND ASSEMBLED WITH EITHER ALL TONGUE OR ALL GROOVE ENDS UP. LIFT HOLES MAY BE PROVIDED IN EACH SECTION FOR HANDLING.  
TOP AND TRANSITION (OR REDUCER) SECTIONS MAY BE EITHER ECCENTRIC CONE OR FLAT SLAB.  
BASES FOR NO. 3 MANHOLES ARE SHOWN WITH MONOLITHIC FLOOR AND RISER WHICH MAY BE CAST IN ONE OR TWO OPERATIONS. A PERMISSIBLE ALTERNATE IS TO CAST AND SHIP THE FLOOR AND BARREL SEPARATELY. OPENINGS FOR INLET AND OUTLET PIPES SHALL BE PROVIDED, EITHER WHEN THE UNIT IS CAST OR LATER, TO MEET PROJECT REQUIREMENTS. BOTTOM CHANNELS MAY BE FORMED OF CONCRETE PRECAST IN THE BASE OR BY FIELD CONSTRUCTION.  
OPENINGS IN RISER SECTIONS FOR 18" AND SMALLER INLET PIPES MAY BE PREFABRICATED OR CUT IN THE FIELD PROVIDED THE SIDES OF THE PIPE AT THE SPRINGLINE DO NOT PROJECT INTO THE MANHOLE.  
MATERIALS FOR BASES AND OTHER PRECAST SECTIONS, INCLUDING REINFORCEMENT NOT SPECIFIED HEREON, SHALL COMPLY WITH THE REQUIREMENTS OF ODOT 706.13.  
STEPS SHALL BE COPOLYMER POLYPROPYLENE PLASTIC ON 1/2" GRADE 60 STEEL REINFORCEMENT PSI-PP MANHOLE STEP BY M.A. INDUSTRIES INC. OR APPROVED EQUAL. DRILL AND GROUT STEPS INTO PRECAST CONCRETE WALLS.  
MANHOLE CASTINGS AND FRAMES SHALL BE NEENAH R-1642 OR APPROVED EQUAL.

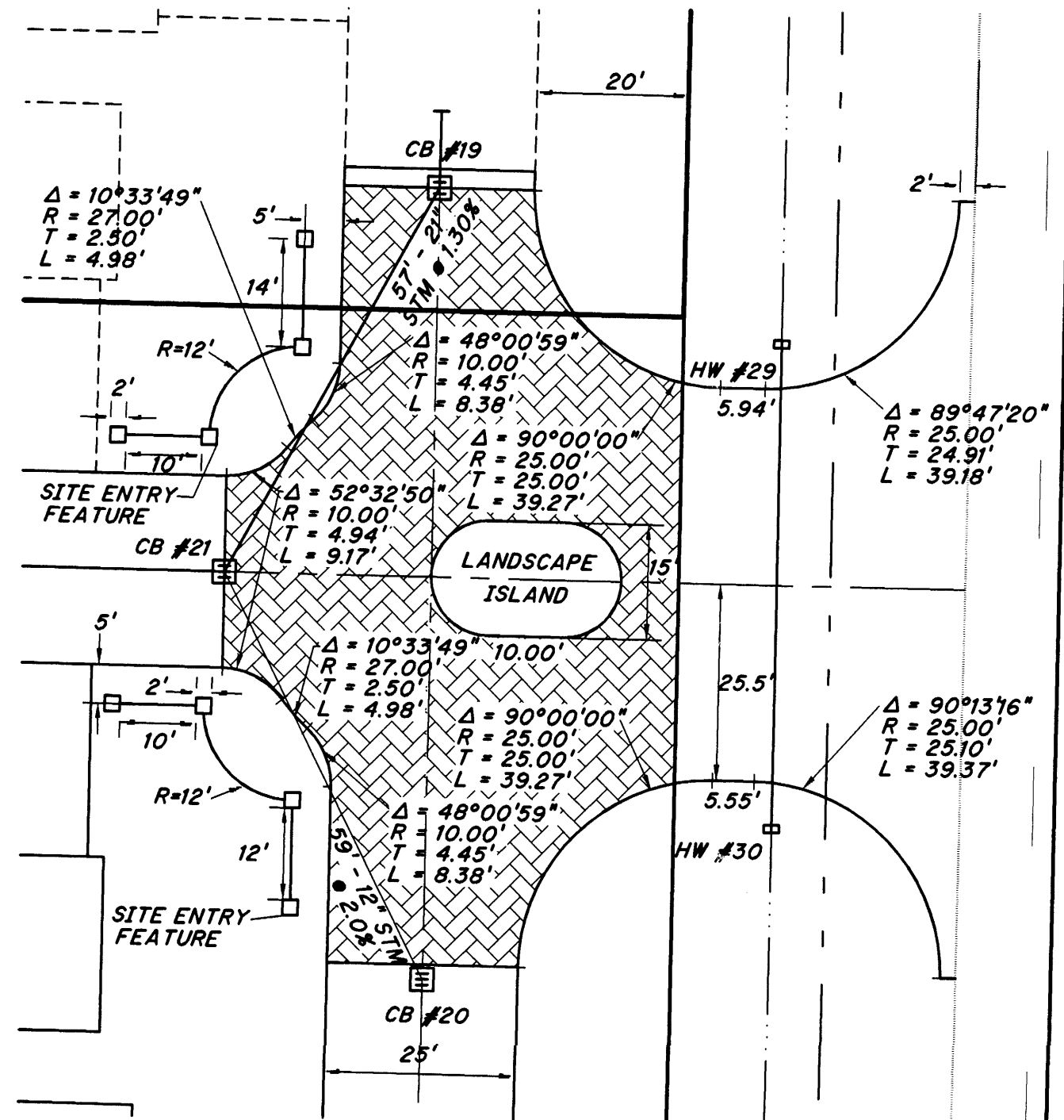
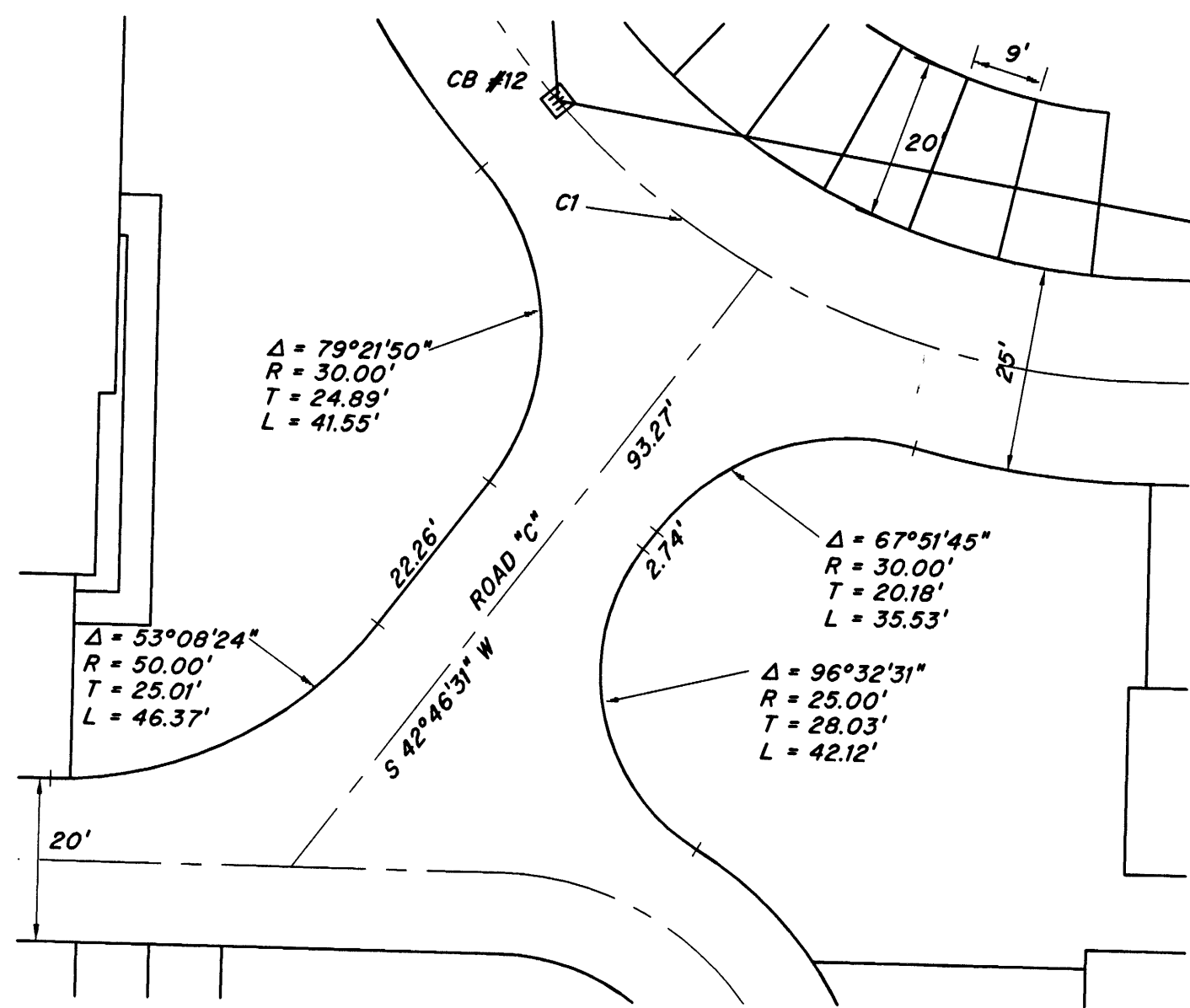
### ODOT MH-3 MANHOLE

DETAIL SHEET  
THE VILLAS AT FOUR BRIDGES  
LIBERTY TOWNSHIP, OHIO  
TOWNE DEVELOPMENT GROUP, LTD.

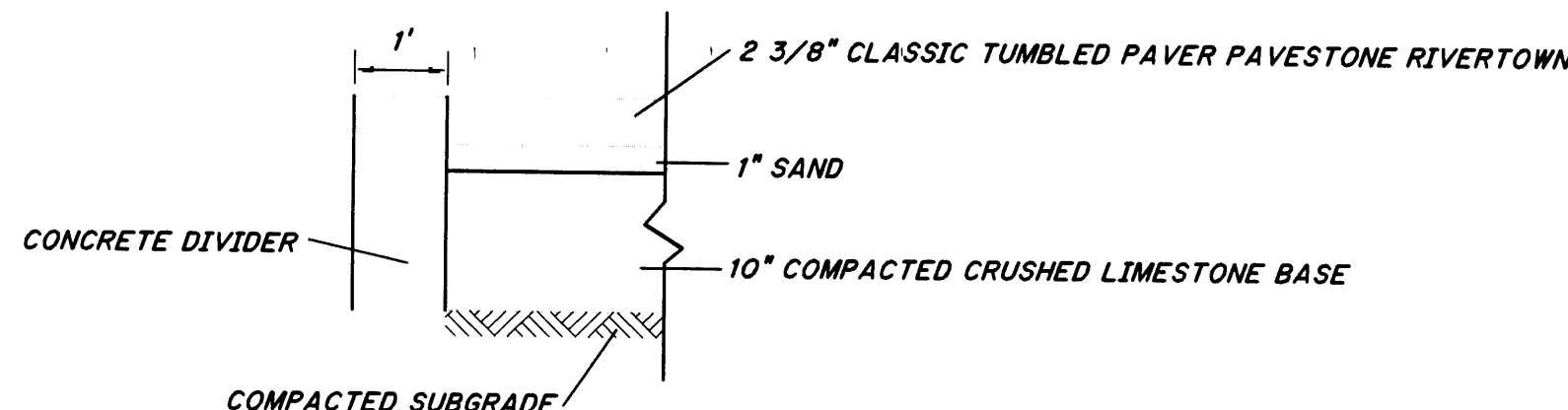
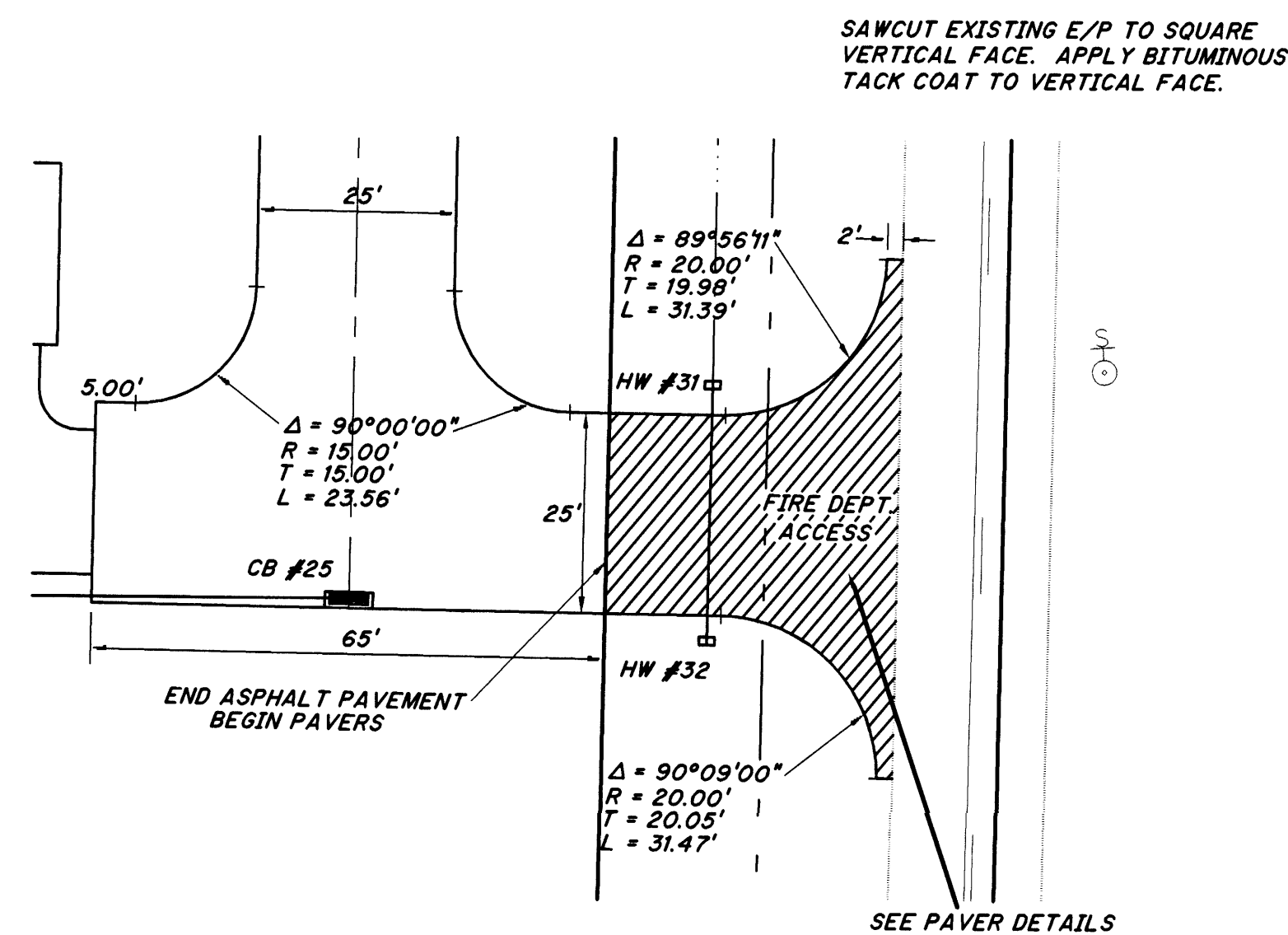
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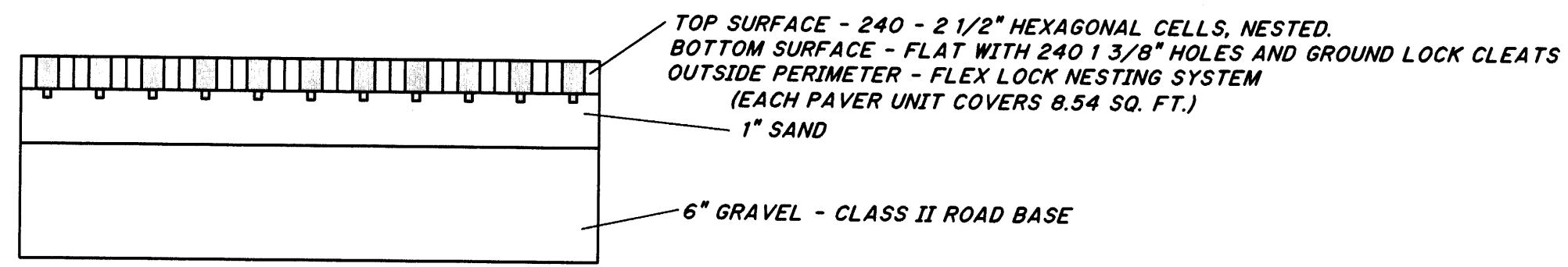




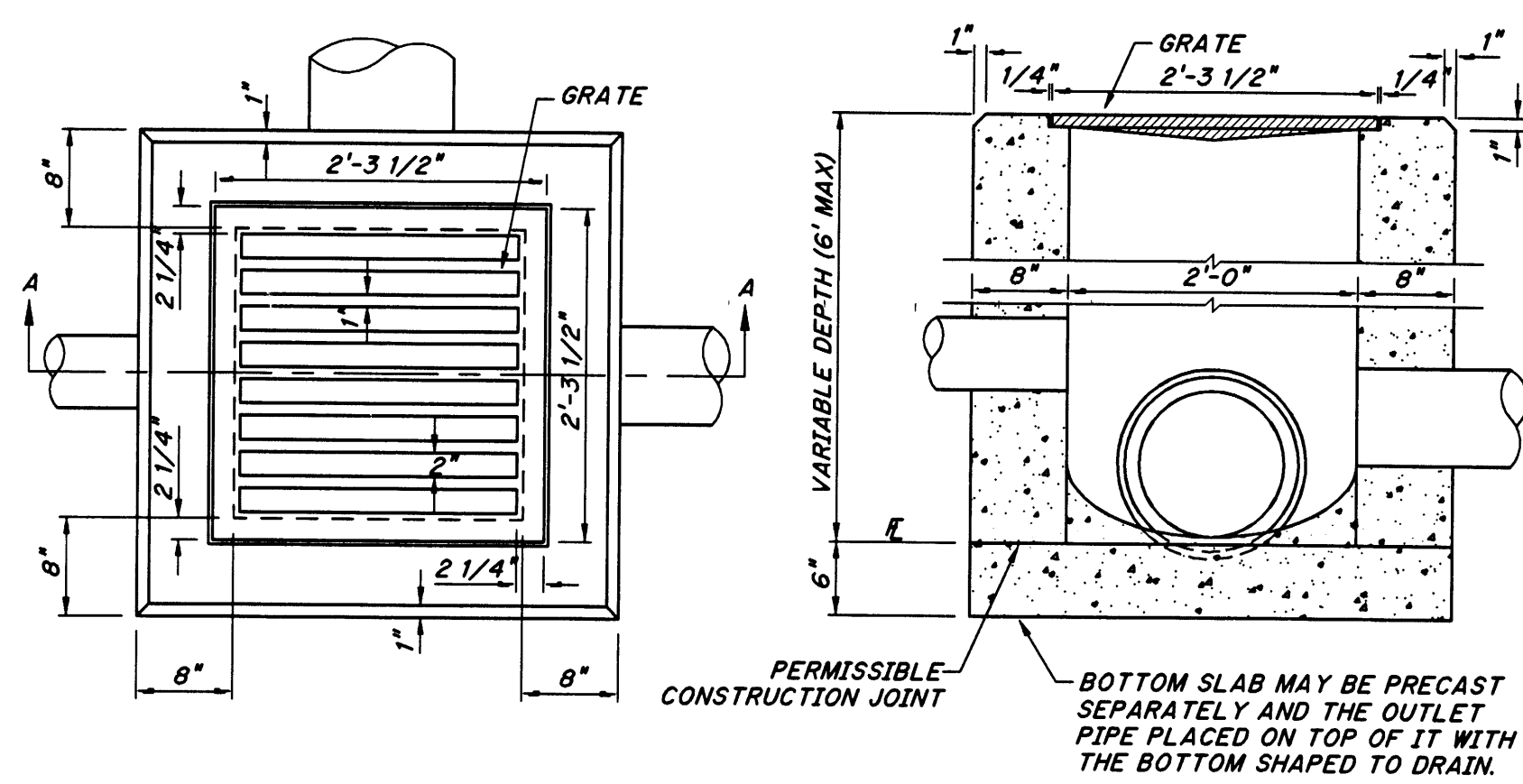
SAWCUT EXISTING E/P TO SQUARE VERTICAL FACE. APPLY BITUMINOUS TACK COAT TO VERTICAL FACE & JOINT SEALER AFTER 404 COURSE.



**BRICK PAVER DETAIL**  
NTS



**FIRE ACCESS DRIVE PAVERS DETAIL**  
NTS



**2-2-B CATCH BASIN**  
NTS

SCALE

CONSULTANTS

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