Drain: MASTHEAD DRAIN **Drain #:** 203
Improvement/Arm: MASTHEAD - SECTION 16
Operator: JOH **Date:** 2-3-04
Drain Classification: Urban/Rural **Year Installed:** 1986

GIS Drain Input Checklist

- Pull Source Documents for Scanning — JH 2-3
- Digitize & Attribute Tile Drains — N/A
- Digitize & Attribute Storm Drains — JH 2-3
- Digitize & Attribute SSD — JH 2-3
- Digitize & Attribute Open Ditch — JH 2-3
- Stamp Plans — JH 2-3
- Sum drain lengths & Validate — JH 2-3
- Enter Improvements into Posse — JH 2-3
- Enter Drain Age into Posse — JW 3-2
- Sum drain length for Watershed in Posse — JW 3-2
- Check Database entries for errors — JH 2-3

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Gasb 34 Footages for Historical Cost
Drain Length Log

Drain-Improvement: MASTHEAD DRAIN - MASTHEAD - SECTION 16

Drain Type:	Size:	Length (SURVEYOR'S REPORT)	Length (DB Query)	Length Reconcile	If Applicable Price:	If Applicable Cost:
SSD	6"	1240'	970'	-270'		
	4"	Ø	270'	+270'		
RCP	12"	313'	313'	Ø		
	15"	502'	422'	-80		
	18"	160'	240'	+80		
OPEN DITCH		690'	690'	Ø		
Sum:		2,905'	2,905'	Ø		

Final Report:

Comments:

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SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor

776-9626

Noblesville, Ind. 46060

FILED

October 14, 1986

HAMILTON COUNTY DRAINAGE BOARD
Nancy Allen O'Neal
SECRETARY

TO: Hamilton County Drainage Board

RE: Masthead Drain, Section 16

Attached is a petition, non-enforcement request, plans and assessment roll for the Masthead Drain, Section 16 Drain.

I have reviewed the submittals and petition and have found each to be in proper form.

I have made a personal inspection of the land described in the petition. Upon doing so, I believe that the drain is practicable; will improve the public health; benefit a public highway and be of public utility; and that the costs damages and expenses of the proposed drain will probably be less than the benefits accuruing to the owners of land likely to be benfitted. The drain will consist of the following:

Open Ditch	690ft	15" RCP	502ft
6" SSD	1240ft	18" RCP	160ft
12" RCP	313ft		

The total length of the drain will be 2905 feet. The open ditch section shall be from Structure 504 to the reservoir and structure 507 to the reservoir.

I have reviewed the plans and believe the drain will benefit each lot equally. THerefore, I recommend each lot be assessed equally. I recommend a maintenance assessment of $20.00 per lot, $2.00 per acres for roadways, with a $6.00 minimum. With this assessment the total annual assessment for the drain/this section will be $486.00. Irecommend this drain be classified as an Urban Drain. Block Z will not be assessed, because title is divided between lots

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and will be considered part of the assessment for those lots.

I recommend a hearing be set for December 8, 1986.

Kenton C. Ward
Hamilton County Surveyor

KCW/no

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Commercial Banking Department

need final map by [illegible]

M. L. 16

Meritor

October 7, 1986

FILE
POLICY
AUDIT

Irrevocable Letter of Credit No. 2781695685-01115
Expiration Date: October 7, 1989

OCT 2 0 1986

Hamilton County Commissioners,
Hamilton County, Indiana

Gentlemen:

For the account of The Shorewood Corporation, we hereby authorize you to draw on us at sight to the extent of **U.S. $7,220.00**.

Each of your drafts must:

1. Be marked "Drawn under PSFS Letter of Credit No. 2781695685-01115 dated October 7, 1986."

2. Be presented, together with this original Letter of Credit at our offices at 1234 Market Street, 9th Floor, Philadelphia, Pennsylvania, 19107, no later than 3:00 p.m. Philadelphia time on October 7, 1989.

3. Be accompanied by the following:

   Certification by Hamilton County Commissioners, Hamilton County, Indiana of non-compliance with the specifications required for Storm Sewers in Section 16 of the Masthead by the Shorewood Corporation. Such certification may not antedate this Letter of Credit and;

   Certification by Hamilton County Commisioners, Hamilton County, Indiana that funds drawn under this Letter of Credit will be used to bring the Storm Sewers into compliance in accordance with the specifications referenced.

4. Not exceed, in the cumulative aggregate, $7,220.00.

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To: Kent Ward

CERTIFICATE OF COMPLETION AND COMPLIANCE

TO: HAMILTON COUNTY SURVEYOR

RE: Masthead Subdivision, Section 16

I hereby certify that:

1.) I am a Registered Land Surveyor in the State of Indiana,

2.) I am familiar with the plans and specifications for the above referenced subdivision,

3.) I have personally observed and supervised the completion of the Drainage Facilities for the above referenced subdivision, and

4.) To the best of my knowledge, information and belief, the Drainage Facilities within the subdivision has been installed and completed in conformity with all plans and specifications.

Signature: Joseph A. Sharp Date: 9-30-86

Type or Printed Name: Joseph A. Sharp

Business Address: 7172 Graham Road

Indianapolis, IN 46250

Telephone: 317/842-6777

INDIANA REGISTRATION NUMBER

S0076

SEAL

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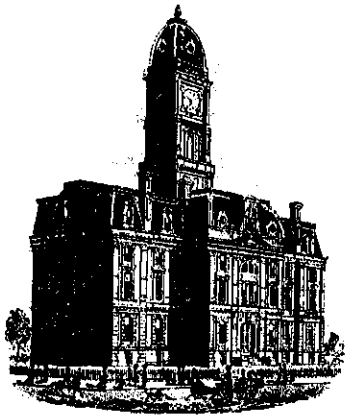

SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor

~~773-6110 Ext. 19~~
776-9626

Noblesville, Ind. 46060

August 7, 1987

TO: Hamilton County Drainage Board

RE: Masthead Drain Section 16

Attached is an as built of the development plan for Masthead Drain, Section 16. On June 29th I made a final inspection of the drainage facilities and found them to be complete and acceptable. No changes were made during the construction of the drainage facilities. Therefore, the length remains at 2905 feet.

I recommend the Board approve the drain as constructed. I further recommend the Board approve the attached non-enforcement of easements.

Kenton C. Ward
Hamilton County Surveyor

KCW/no

FILED
AUG 10 1987
HAMILTON COUNTY DRAINAGE BOARD
Nancy Ellen Aldham

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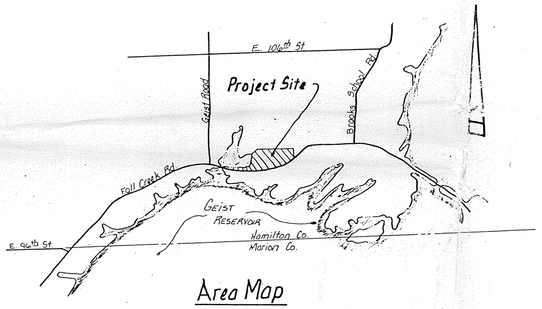
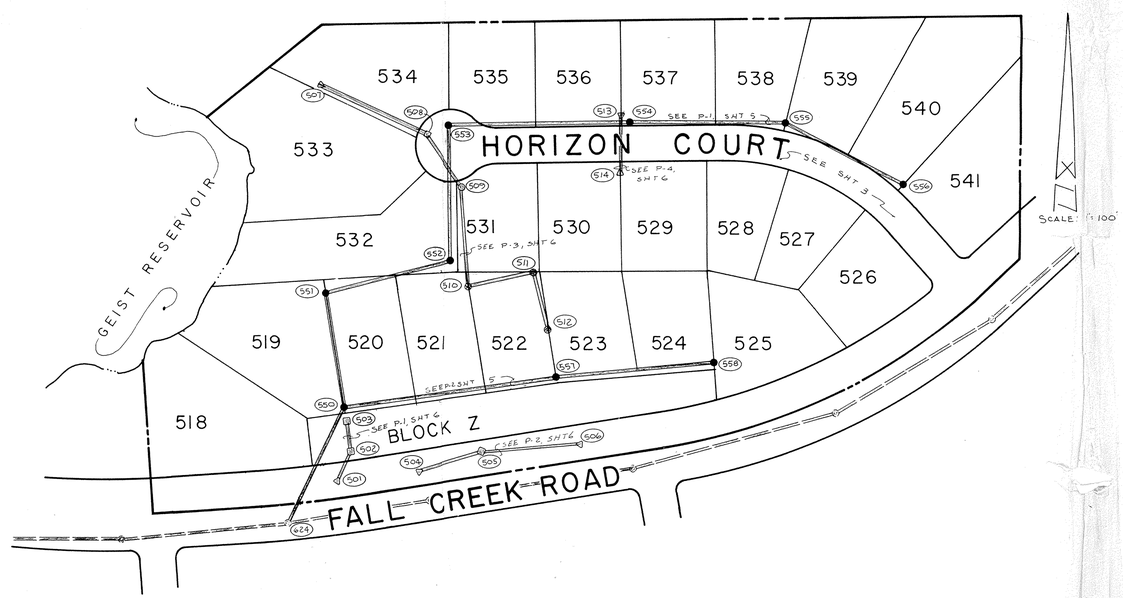
CONSTRUCTION PLANS
FOR
MASTHEAD SECTION 16



Area Map

WOS
15-09-00-00-005.102 - 5.256 Ac ±
pt of 15-10-00-00-026.005



INDEX

SHT.	DESCRIPTION
2	SITE DEVELOPMENT PLAN
3	STREETS - PLAN & PROFILE
4	STREET DETAILS
5	SANITARY SEWER - PLAN & PROFILE
6	STORM SEWER - PLAN & PROFILE
7	STANDARD DETAILS
8	STANDARD DETAILS & SPECIFICATIONS

BENCHMARKS

REVISIONS

This information was gathered for input into the Hamilton County Geographical Information System. This document is considered an official record of the GIS.

Entry Date: 2-3-04

Entered by: JOH

CERTIFIED BY	REVISIONS	PAUL I. CRIPE, INC. 7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 (317) 842-6777 • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING	TECH. CHK.	DRAWN BY	SCALE	DATE	CLIENT	DWG. TYPE	FILE NUMBER	SHEET
DATE			DFTNG. CHK.	JG	NOTED	1-31-86	MASTHEAD - SECTION 16	JOB NUMBER		1
				DRAWING TITLE: COVER SHEET				79100-10016		OF 8

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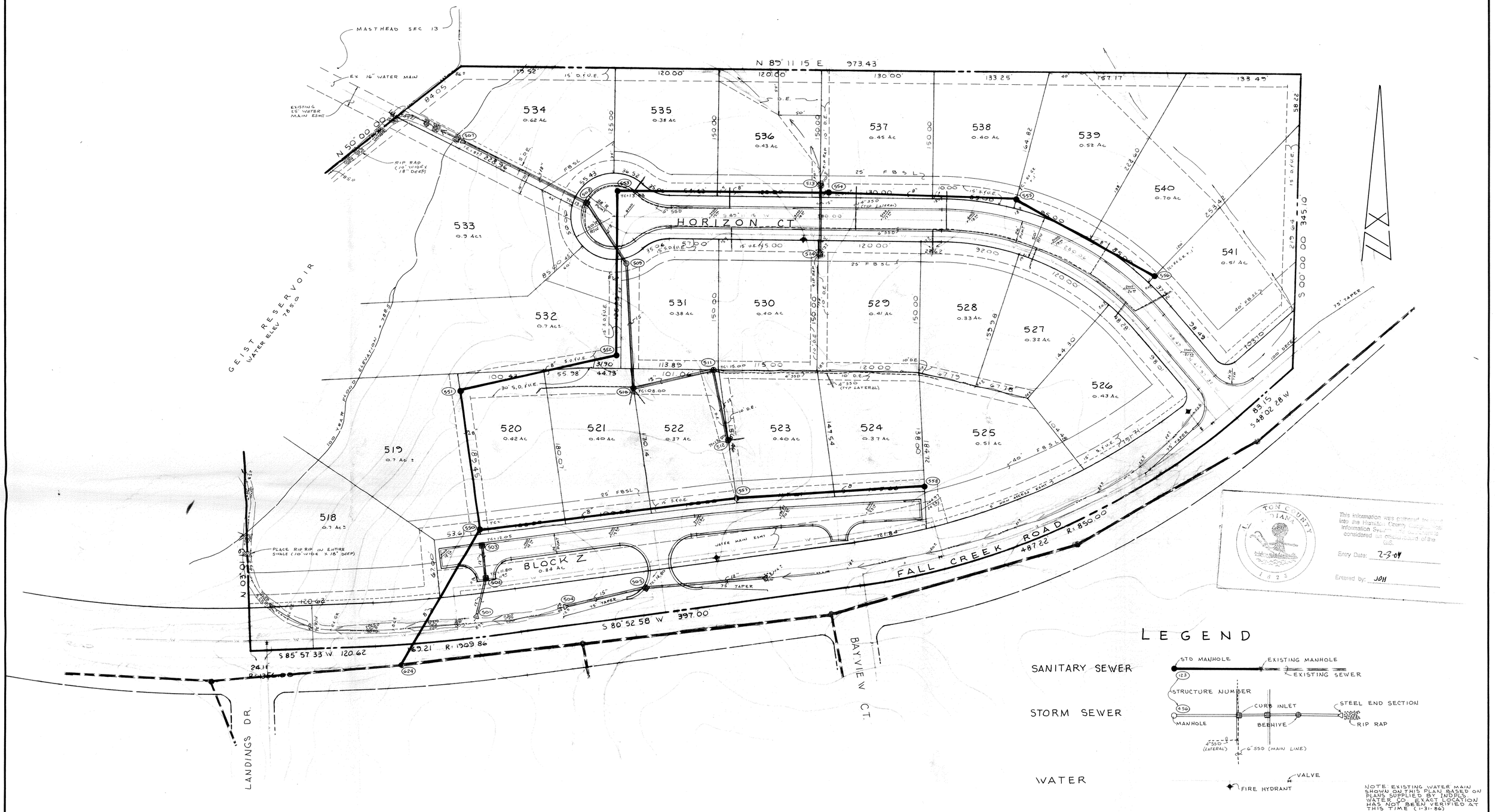

CERTIFIED BY	REVISIONS	PAUL I. CRIPE, INC. • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING	TECH. CHK.	DRAWN BY	SCALE	DATE	CLIENT	DWG. TYPE	FILE NUMBER	SHEET
DATE		7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 (317) 842-6777	DFTNG. CHK.	JG	1" = 50'	1-31-86	MASTHEAD - SECTION 16			2
				DRAWING TITLE: SITE DEVELOPMENT PLAN				JOB NUMBER: 79100-10016		OF 8

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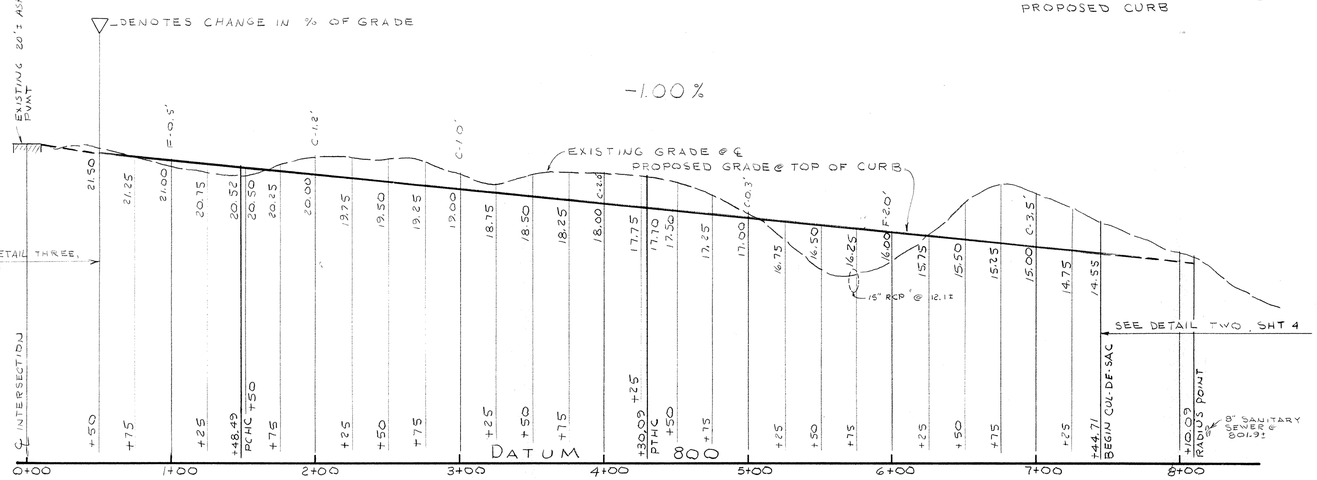
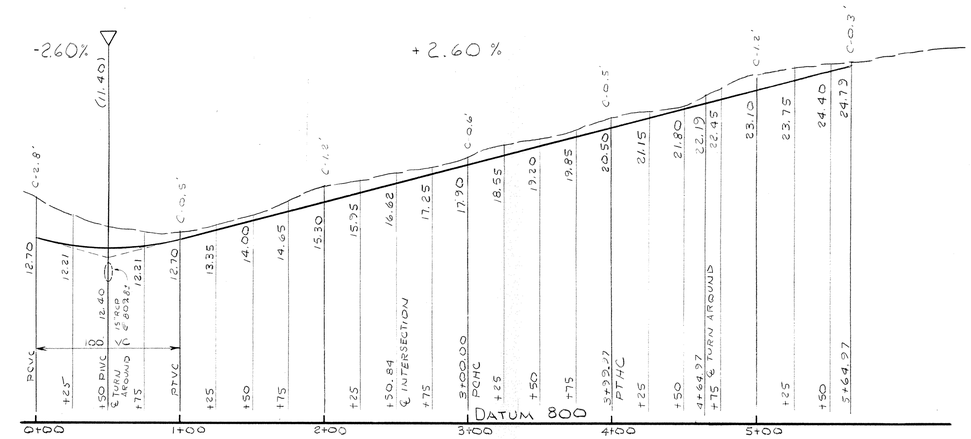
NOTE: CUTS & FILLS SHOWN ARE APPROXIMATE FROM EXISTING GRADE @ ℄ TO TOP OF PROPOSED CURB



PROFILE ONE

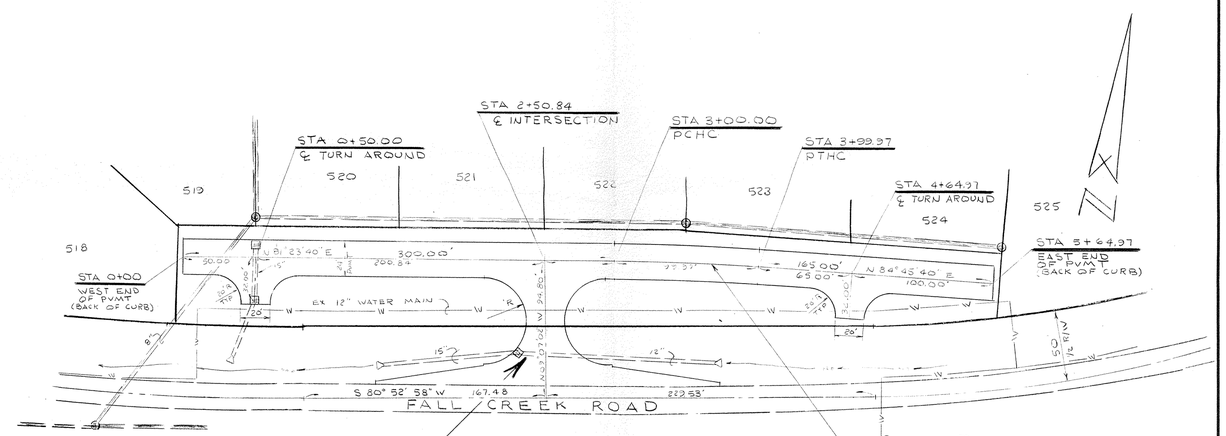
SCALE: HORZ: 1" = 50'
VERT: 1" = 5'



PROFILE TWO

SCALE: HORZ: 1" = 50'
VERT: 1" = 5'

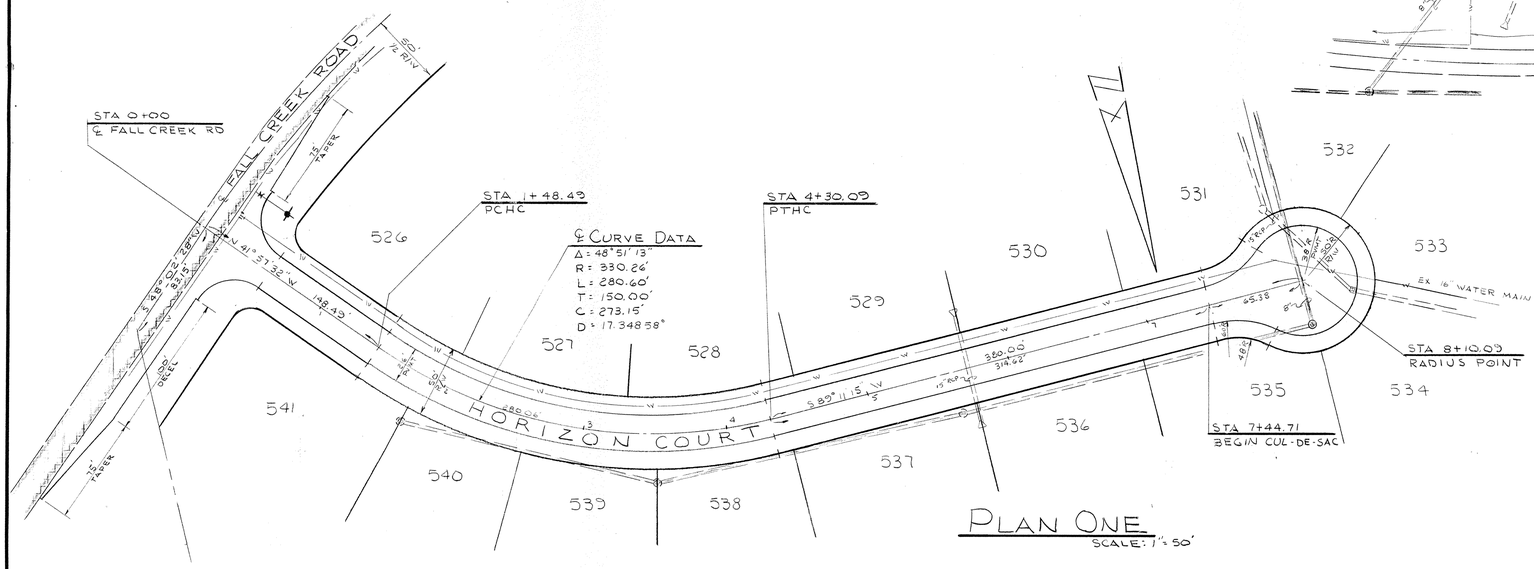
8" SANITARY @ 794.6±



PLAN TWO

SCALE: 1" = 50'

SEE DETAIL ONE, SHT 4



PLAN ONE

SCALE: 1" = 50'

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DATE		PAUL I. CRIPE, INC. • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING 7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 317-842-6777	DFTNG. CHK.	VG	NOTED	1-31-86	MASTHEAD - SECTION 16	JOB NUMBER 7910 0-1001 6		3 OF 8
				DRAWING TITLE STREETS - PLAN, PROFILE & DETAILS						

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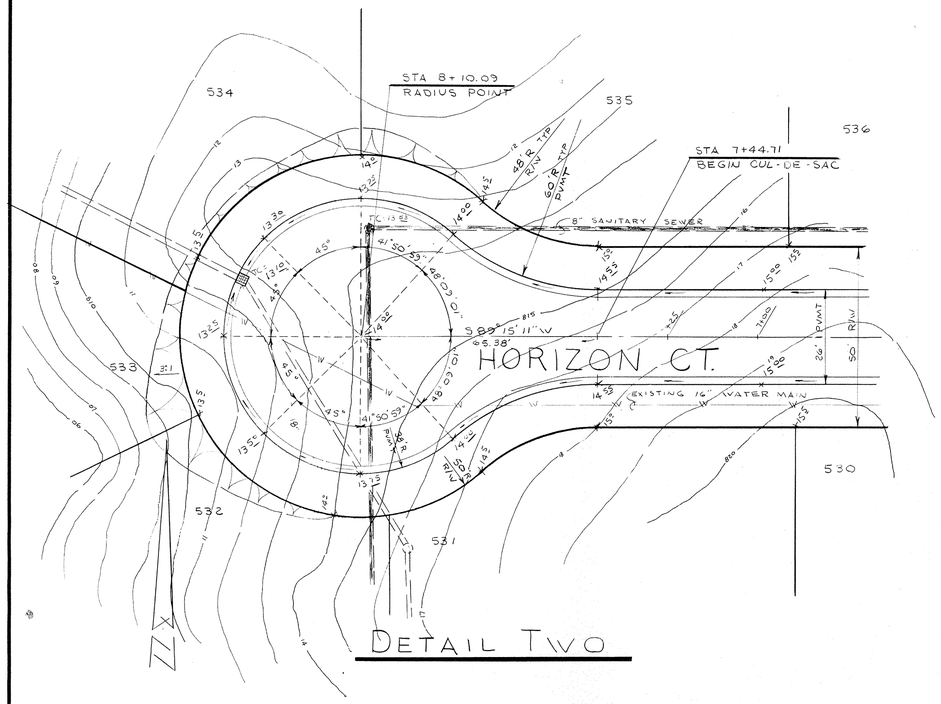

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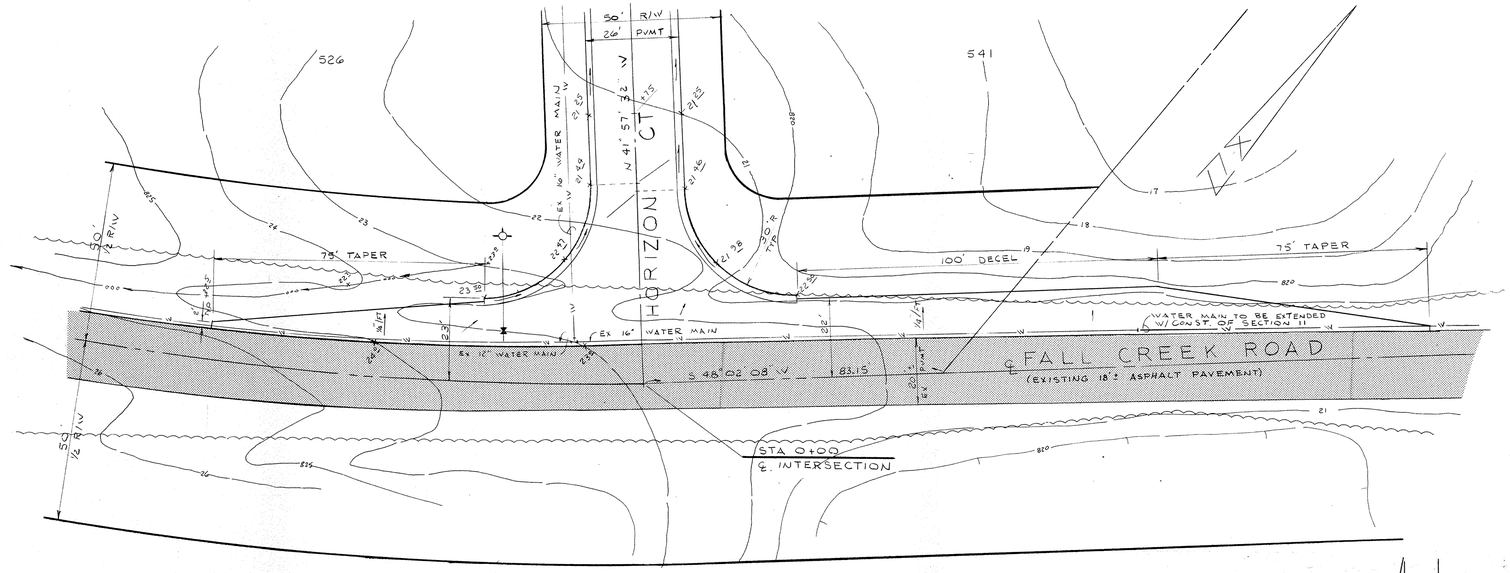

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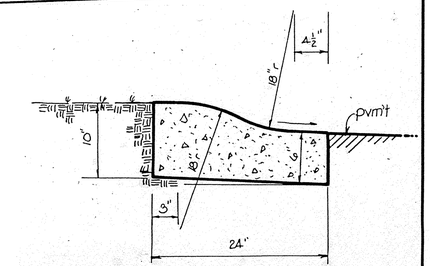
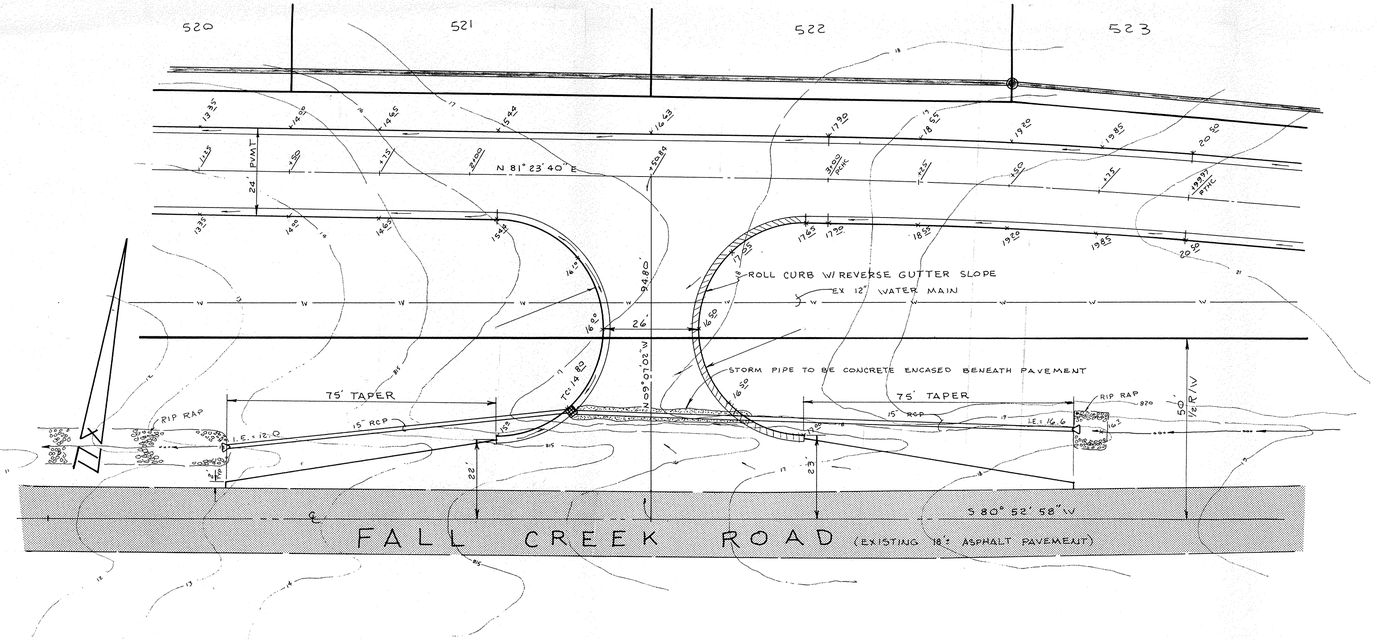


Roll Curb w/ Reversed Gutter Slope no scale



DETAIL ONE

CERTIFIED BY	REVISIONS	PAUL I. CRIPE, INC.	TECH. CHK.	DRAWN BY	SCALE	DATE	CLIENT	DWG. TYPE	FILE NUMBER	SHEET
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				DRAWING TITLE: STREET DETAILS						

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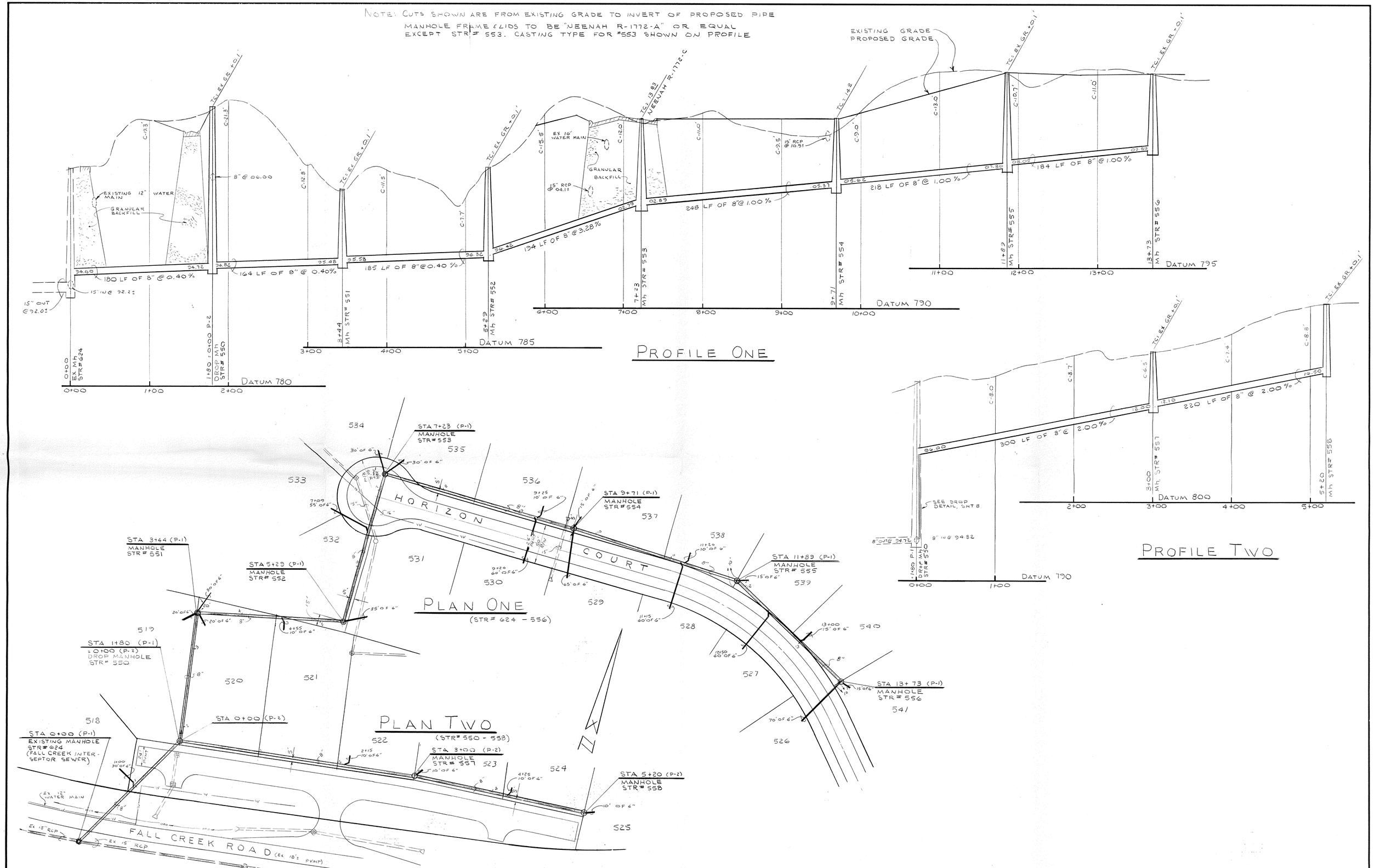
NOTE: CUTS SHOWN ARE FROM EXISTING GRADE TO INVERT OF PROPOSED PIPE
MANHOLE FRAME & LIDS TO BE "NEENAH R-1772-A" OR EQUAL
EXCEPT STR# 553. CASTING TYPE FOR #553 SHOWN ON PROFILE



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DATE			DFTNG. CHK.	DRAWING TITLE SANITARY SEWER - PLAN & PROFILE				JOB NUMBER 79100-10016		OF 8

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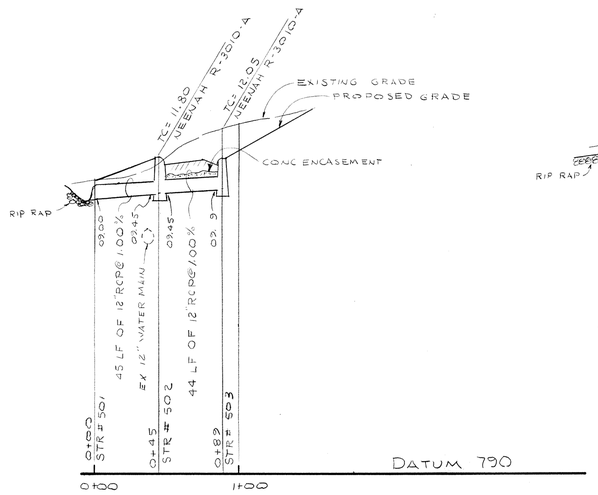
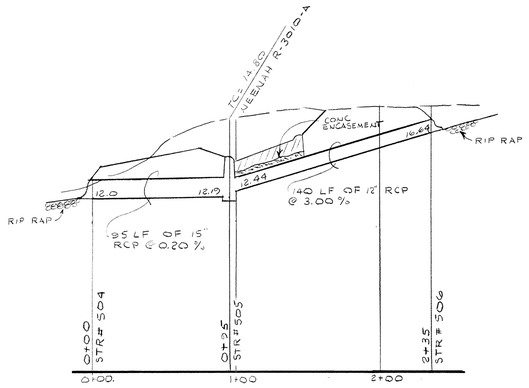


PROFILE ONE



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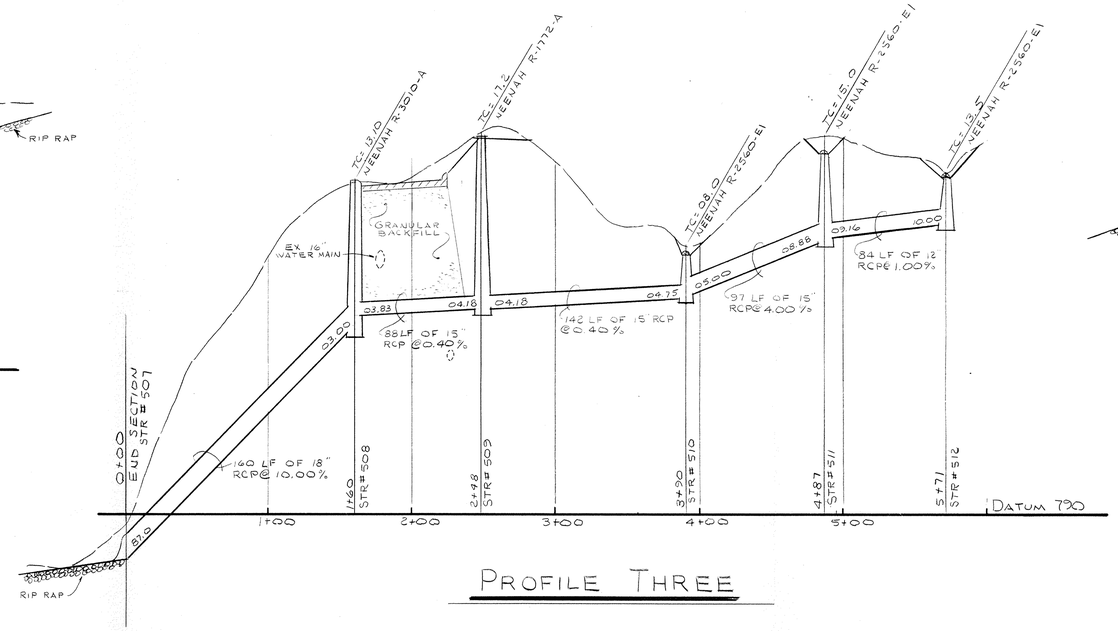
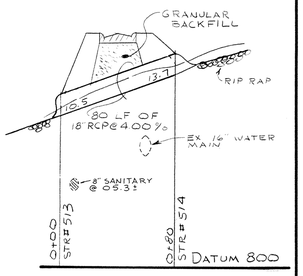
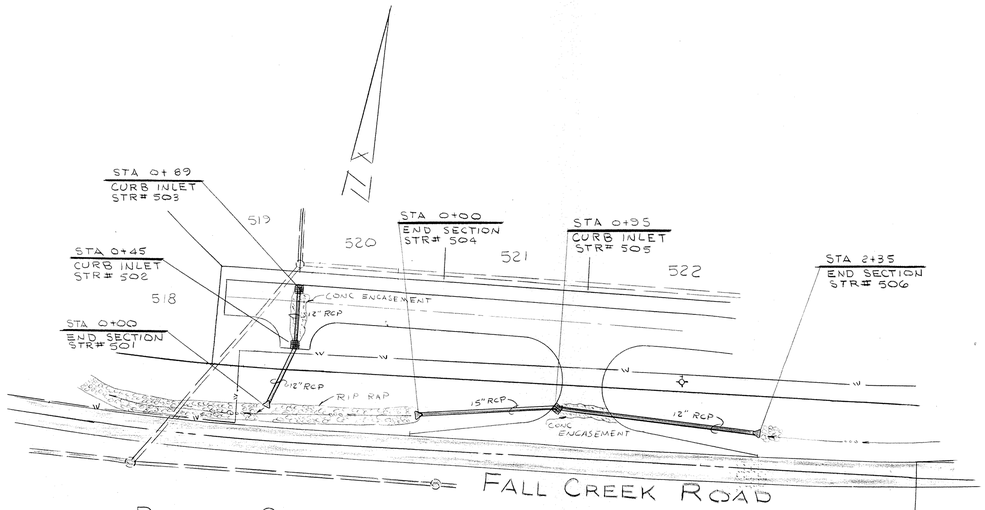


PROFILE THREE

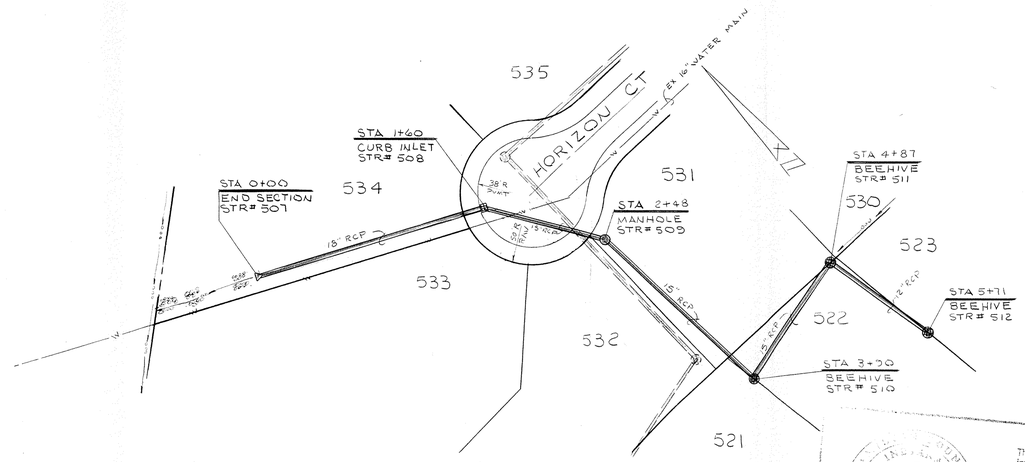


PROFILE FOUR



PLAN ONE

PLAN TWO



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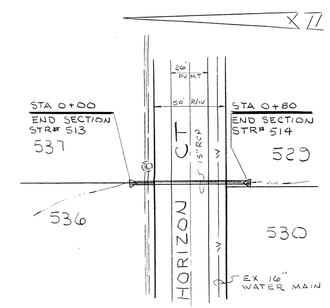

PLAN FOUR

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Entry Date: 2-3-04

Entered by: JDH

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DATE			DFTNG. CHK.	DRAWING TITLE STORM SEWERS - PLAN & PROFILE				JOB NUMBER 79100-10016		OF 8

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DIMENSIONS OF GALVANIZED STEEL END SECTIONS FOR ROUND PIPE

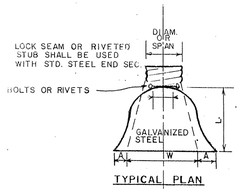
PIPE DIA. IN INCHES	GAGE	DIMENSIONS IN INCHES 'A' ± 1	'B'(max)	H ± 1
12	16	6	6	6
15	16	7	8	6
18	16	8	10	6
21	16	9	12	6
24	16	10	13	6
30	14	12	16	8
36	14	14	19	9
42	12	16	22	11
48	12	18	27	12
54	12	18	30	12
60	12	18	33	12
66	12	18	36	12
72	12	18	39	12
78	12	18	42	12
84	12	18	45	12

PIPE DIA. IN INCHES	DIMENSIONS IN INCHES L 1 1/2	W 2	APPROX SLOPE	BODY
12	21	24	2 1/2	1 pc.
15	26	30	2 1/2	1 pc.
18	31	36	2 1/2	1 pc.
21	36	42	2 1/2	1 pc.
24	41	48	2 1/2	1 pc.
30	51	60	2 1/2	1 pc.
36	60	72	2 1/2	2 pc.
42	69	84	2 1/2	2 pc.
48	78	90	2 1/4	2 pc.
54	84	102	2	2 pc.
60	87	114	1 3/4	3 pc.
66	87	120	1 1/2	3 pc.
72	87	126	1 1/3	3 pc.
78	87	132	1 1/4	3 pc.
84	87	138	1 1/6	3 pc.

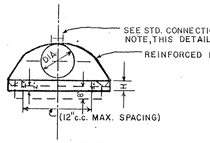
STD. PIPE SIZE & CONN. USAGE GALVANIZED STEEL PIPE	
TYPE CONN.	ROUND
# 1	12" THRU 24"
# 2	30" THRU 36"
# 3	42" THRU 84"
	PIPE — ARCH
# 2	18"x11" THRU 58"x36"
# 3	65"x40" THRU 85"x54"

STANDARD CONNECTIONS: TYPE # 1 SHALL BE CONNECTOR LUG WITH THREADED ROD.
TYPE # 2 SHALL BE THREADED ROD WITH ROD HOLDERS.
TYPE # 3 SHALL BE RIVETED OR BOLTED CONNECTION.

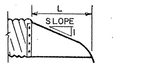
NOTE: STANDARD DIMENSIONS FOR GALVANIZED STEEL END SECTIONS FOR PIPE-ARCH MAY BE FOUND ON MISC. STANDARDS SHEET E_2, DATED JULY, 1972, OF THE INDIANA STATE HIGHWAY STANDARD SPECIFICATIONS.



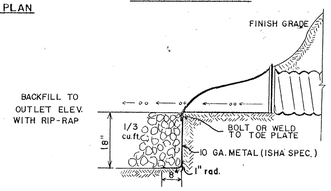
TYPICAL PLAN



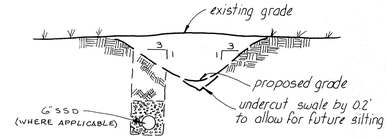
TYPICAL ELEVATION



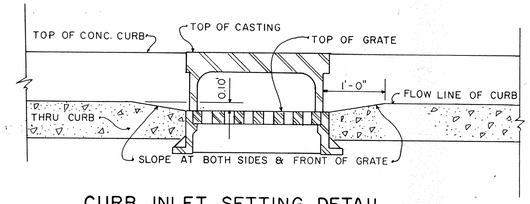
TYPICAL CROSS SECTION
PIPE OR PIPE-ARCH WITH # 3 CONN. TO LOCK SEAM OR RIVETED STUB.



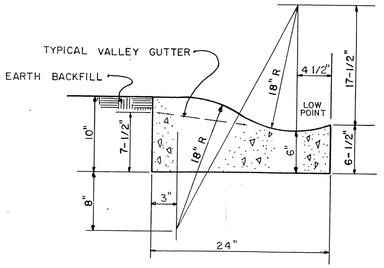
STANDARD STEEL END SECTION DETAIL
SCALE: NONE



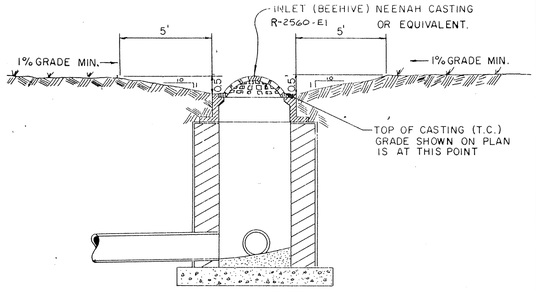
Typical Swale Detail
no scale



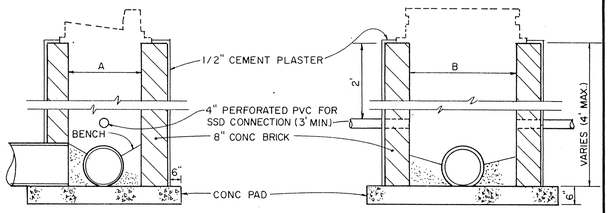
CURB INLET SETTING DETAIL
SCALE: NONE



TYPICAL CURB DETAIL WITH VALLEY GUTTER
(STD. PLAN # 12-01-TYPE I)
SCALE: NONE



BEEHIVE CASTING SETTING DETAIL
NOT TO SCALE



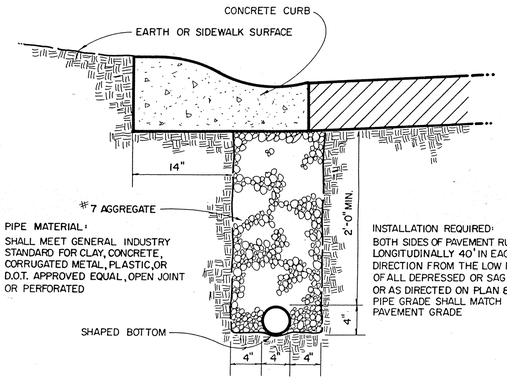
NOTE: ALL JOINTS, HORIZONTAL & VERTICAL TO BE MORTARED WITH INTERIOR JOINTS STRUCK FLUSH.

BACKFILL W/ No. 7 WASHED GRAVEL

SHALLOW CURB INLET
NO SCALE

CASTING	A	B
R-1772-A	25" DIAMETER	
R-2560-E1	27" DIAMETER	
R-3010-A	24"	25"
R-3501	25"	27"

C	D
21"	4'-0"
24"	4'-0"
27"	4'-0"
30"	4'-4"
36"	5'-0"
42"	5'-4"
48"	6'-0"
54"	6'-6"

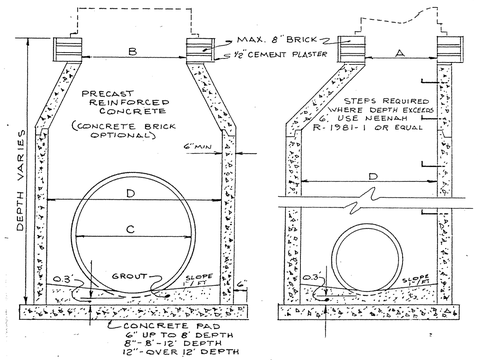


PIPE MATERIAL:
SHALL MEET GENERAL INDUSTRY STANDARD FOR CLAY, CONCRETE, CORRUGATED METAL, PLASTIC, OR D.O.T. APPROVED EQUAL, OPEN JOINT OR PERFORATED

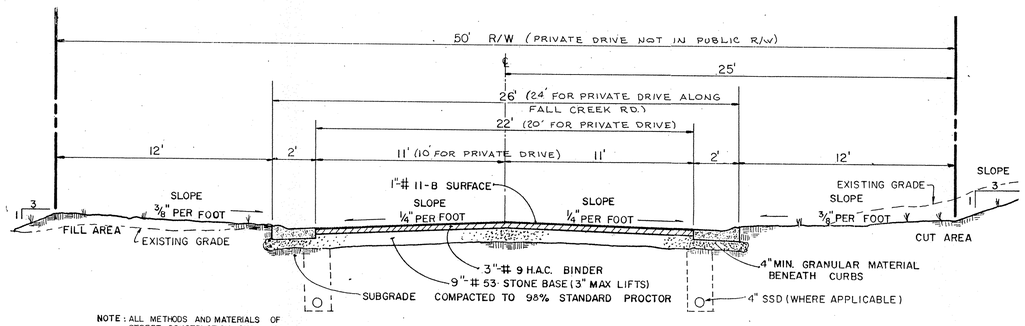
INSTALLATION REQUIRED:
BOTH SIDES OF PAVEMENT RUNNING LONGITUDINALLY 40' IN EACH DIRECTION FROM THE LOW POINT OF ALL DEPRESSED OR SAG AREAS OR AS DIRECTED ON PLAN & PROFILE. PIPE GRADE SHALL MATCH PAVEMENT GRADE

PIPE UNDERDRAIN
TYPICAL INSTALLATIONS NO SCALE

NOTE: STRUCTURES TO BE CIRCULAR UNLESS OTHERWISE SPECIFIED.



STORM MANHOLE & DEEP INLET
N.T.S.



NOTE: ALL METHODS AND MATERIALS OF STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH ISHA SPECS. (1978) SEC. 403, 902.01, 903.01 AND 903.02 WITHOUT WRITTEN CHANGE FROM ENGINEER

TYPICAL STREET CROSS-SECTION (W/CURBS)
SCALE: NONE

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DATE			DFTNG. CHK.	DRAWING TITLE STANDARD DETAILS				JOB NUMBER 7910-1001		OF 8

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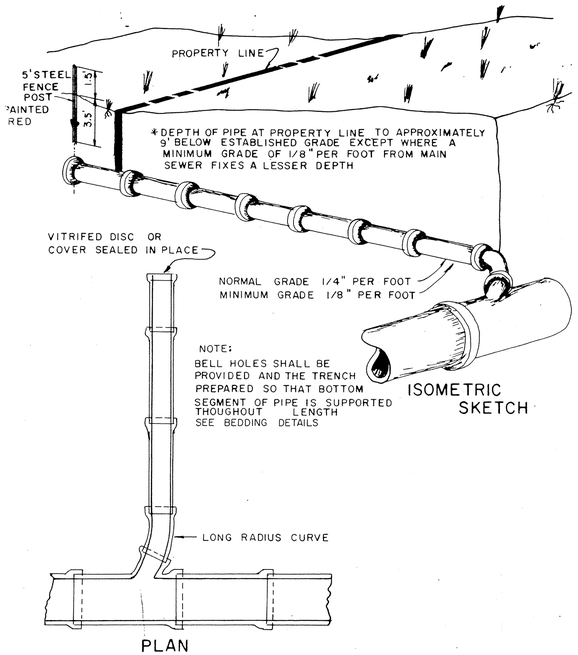
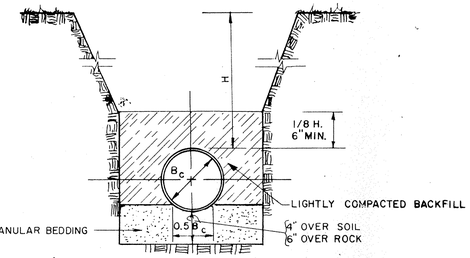
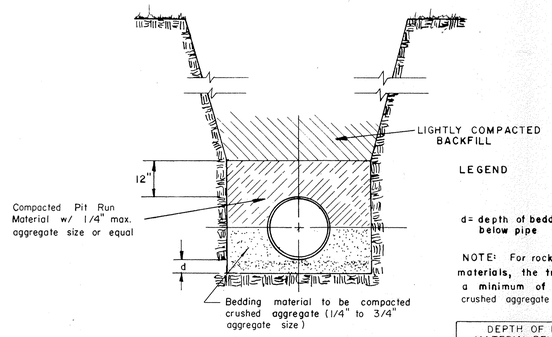


HOUSE CONNECTION to MAIN SEWER



STANDARD PIPE BEDDING (FOR RIGID PIPE)

$L_f = 1.5$ NO SCALE



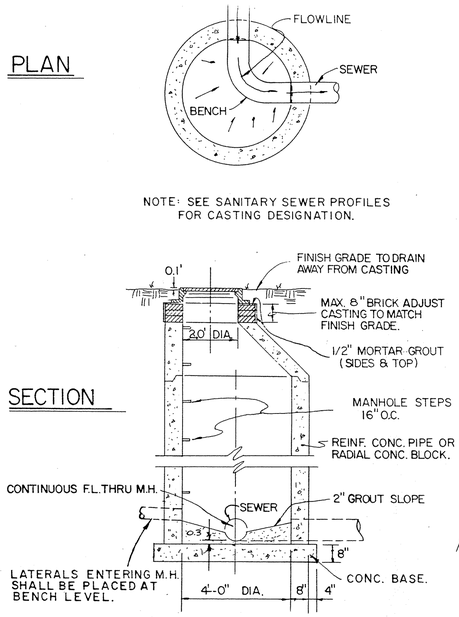
NOTE: For rock or other incompressible materials, the trench should be overexcavated a minimum of 6 inches and refilled with crushed aggregate (1/4" to 3/4")

DEPTH OF BEDDING MATERIAL BELOW PIPE	
inside diameter	d (min.)
27" and smaller	3"
30" to 60"	4"
66" & larger	6"

SANITARY CLASS "B" BEDDING

$L_f = 1.9$ NO SCALE

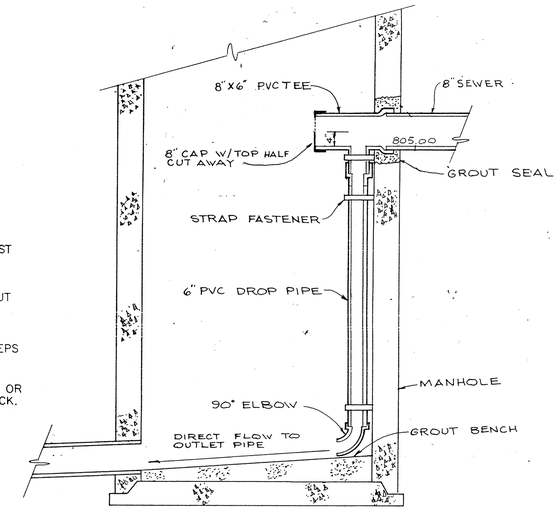
(FOR FLEXIBLE PIPE)



STANDARD MANHOLE

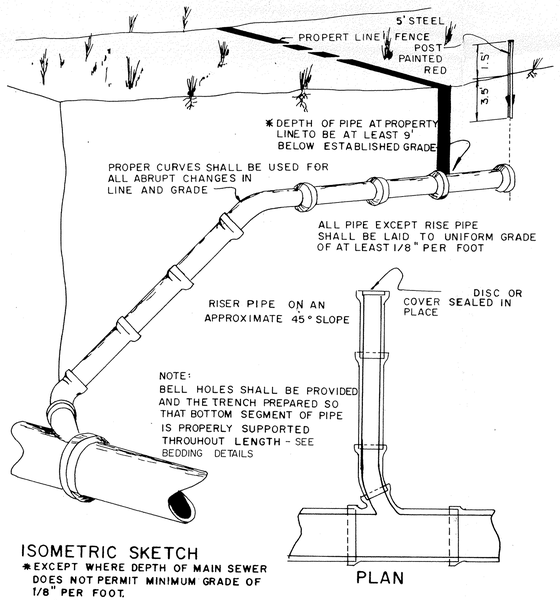
FOR SANITARY SEWERS AS ILLUSTRATED

NOT TO SCALE



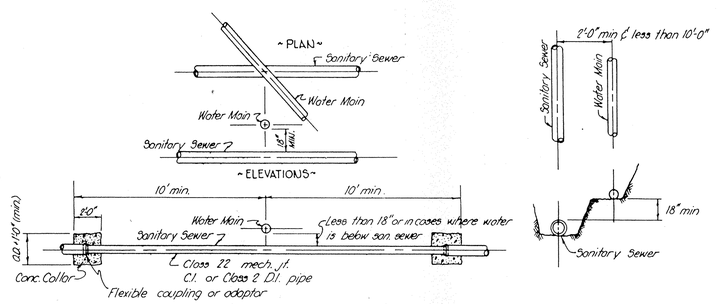
INSIDE DROP DETAIL

N.T.S.



HOUSE CONNECTION for DEEP SEWERS

No Scale



MIN. CROSSOVER & SEPARATION REQUIREMENTS FOR WATER MAINS & SANITARY SEWERS

Sanitary Sewer Specifications

1. Standard Specifications of the Indiana State Board of Health and the City of Noblesville shall apply for all work and materials.
2. All sanitary sewer in this project may be any of the following, unless specifically designated:
   a. Vitrified Clay (VCP) meeting requirements set forth in ASTM C-200
   b. Polyvinyl Choride (PVC) meeting requirements set forth in ASTM D-3034
   c. Cast Iron (C.I.) meeting requirements set forth in ASTM A-74
   d. ABS Composite meeting requirements set forth in ASTM D-2680 and ASTM D-2751
   All joints and fitting shall conform to the same standards as the pipe.
3. Installation of flexible pipe shall conform to ASTM D-2321-74.
4. Backfill around all structures and all cuts under paved area with granular material.
5. The Contractor shall be responsible for obtaining all State, City and County permits.
6. Alignment and grade changes in plan may be deviated from in field with engineer's approval. Final plans furnished with maintenance bond and completed affidavit shall reflect "as built" conditions.

Seeding Specifications

Swale Seeding: Seed and fertilize within construction limits immediately after construction with 5#/acre "Red Top" Grass, 20#/acre Rye Grass, 20#/acre Blue Grass, 25#/acre "Tall Fescue" Grass and 600#/acre 12/12/12 fertilizer.

Cut and Fill Seeding Along Streets: 25#/acre "Tall Fescue" Grass, 20#/acre "Rye Grass", 15#/acre "Blue Grass" and 600#/acre 12/12/12 fertilizer.

STORM SEWER SPECIFICATIONS

1. Standard specifications of the City of Noblesville shall apply for all work and materials.
2. All storm sewer pipe shall be reinforced concrete pipe conforming to ASTM Design C-76 Class III, or galvanized helical corrugated steel pipe conforming to AASHTO M 36, unless under street, then fully bituminous coated helical corrugated steel pipe conforming to AASHTO M 190 unless specified otherwise on plan. If either of the corrugated steel pipe types are used for pipes called out on the plans as being larger than 18", the corrugated steel pipe will need to be one size larger than the size called out on the plan.
3. Backfill around all structures and cuts under paved areas with granular material.
4. The Contractor shall be responsible for obtaining all State Highway, City and County permits.
5. See standard detail sheet for construction dimensions of storm structures.
6. Storm sewer discharge areas and inverts are tentative and are subject to field modifications by the Engineer or his representative. The Contractor will be reimbursed for any additional labor and materials necessary to complete any modifications according to the unit prices submitted by the Contractor on the contract documents.
7. The Contractor shall provide at least 2' of cover over all storm sewers.
8. Rip rap shall be a minimum 1/3 cubic foot in size and a minimum 18" in depth. Dimensions for rip rap on this plan are for estimating purposes only. Actual best placement of rip rap shall be determined by field conditions.
9. All drainage pipe and ditch outfalls to receiving streams shall be constructed in accordance with drawings, subject however, to any modifications required by the City of Noblesville at the time installation is completed and to any adjustments needed for field conditions not adequately anticipated by the design drawings.

CERTIFIED BY	REVISIONS											
DATE		PAUL I. CRIPE, INC. 7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 (317) 842-6777 • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING	TECH. CHK.	DRAWN BY DWT	SCALE NONE	DATE 1-31-86	CLIENT MASTHEAD-SEC. 16	DWG. TYPE	FILE NUMBER	SHEET 8
			DFTNG. CHK.	DRAWING TITLE STANDARD DETAILS & SPECIFICATIONS				JOB NUMBER 7910-1001		OF 8

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