**Drain:** MASTHEAD DRAIN **Drain #:** 203

**Improvement/Arm:** MASTHEAD - SECTION 12

**Operator:** JOH **Date:** 1-27-04

**Drain Classification:** Urban/Rural **Year Installed:** 1985

## GIS Drain Input Checklist

- Pull Source Documents for Scanning — JH 1-27
- Digitize & Attribute Tile Drains — N/A
- Digitize & Attribute Storm Drains — JH 1-27
- Digitize & Attribute SSD — JH 1-27
- Digitize & Attribute Open Ditch — N/A
- Stamp Plans — JH 1-27
- Sum drain lengths & Validate — JH 1-27
- Enter Improvements into Posse — JH 1-27
- Enter Drain Age into Posse — JMJ 3-2
- Sum drain length for Watershed in Posse — JMJ 3-2
- Check Database entries for errors — JH 1-27

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## Gasb 34 Footages for Historical Cost
## Drain Length Log

**Drain-Improvement:** MASTHEAD DRAIN - MASTHEAD - SECTION 12

| Drain Type: | Size: | Length (SURVEYOR'S REPORT) | Length (DB Query) | Length Reconcile | If Applicable Price: | If Applicable Cost: |
|---|---|---|---|---|---|---|
| SSD | 6" | 1,070' | 1,070' | Ø | $2.00 | $2,140.00 |
| RCP | 12" | 1174 | 186' | -988 | 7.25 | 1,348.50 |
| | 15" | 724' | 102' | -622 | 9.50 | 969.00 |
| | 24" | 204' | 204' | Ø' | 18.00 | 3,672.00 |
| | 30" | 177' | 167' | -10' | 24.60 | 4108.20 |
| | 33" | 249' | 219' | -30' | 28.50 | 6,241.50 |
| CMP | 12" | 26" | 1098' | +1,072 | 14.00 | 15,372.00 |
| | 15" | Ø | 622' | +622 | 18.00 | 11,196.00 |
| | 24" | 45' | 45' | Ø' | 50.00 | 2,250.00 |
| | 33" | Ø | 20' | +20 | 67.00 | 1,340.00 |
| SWALE/OPEN DITCH | | 1,650' | 1,650' | Ø' | 19.55 | 32,257.50 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Sum: | | 5319' | 5383' | +64' | | $80,894.70 |

Final Report: _____

Comments:

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SURVEYOR'S OFFICE

# Hamilton County

Kenton C. Ward, Surveyor

776-9626

Noblesville, Ind. 46060

December 26 198 4

TO: Hamilton County Drainage Board

RE: Masthead Drain, Section 12

Attached is a petiton, non-enforcement request, plans, calculations, quanity summary and assessment roll for the Masthead Drain, Section 12. 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 benefitted.

The drain will consist of the following:

| | | | | | |
|---|---|---|---|---|---|
| 12" | RCP | 1174 L.F. | 12" CMP | 26' |
| 15" | RCP | 724 L.F. | 24" CMP | 45' |
| 30" | RCP | 177 L.F. | 24" RCP | 204' |
| 33" | RCP | 249 L.F. | | |
| 6" | SSD | 1070 L.F. | | |
| Swales/open ditch | | 1650 L.F. | | |

The total length of the drain will be 5319 feet.

I recommend a maintenance assessment of $20.00 per lot or block with $2.00 per acre for roadways with this assessment the total annual assessment for this section will be $1060.00

At this time the system is complete except for the SSD. A certified check has been submitted to cover the cost of completion. This check will be returned to Shorewood upon completion of the section.

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I recommend a hearing be set for the February 1985 meeting.

Kenton C. Ward

Kenton C. Ward
Hamilton County Surveyor

KCW/no

Filed
Hamilton County Drainage Board
Mary Ellen Oldham - Secretary

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# CERTIFICATE OF COMPLETION AND COMPLIANCE

TO: COUNTY SURVEYOR'S OFFICE, HAMILTON COUNTY
ATTN: Mr. Kenton Ward
FROM: Paul I. Cripe, Inc., Engineers

SUBJECT: Masthead Subdivision - Section 12

I hereby certify that

1) I am familiar with the plans and specifications for the above referenced project,

2) I have personally observed the completion of the above referenced project, and

3) To the best of my knowledge, information and belief, the above referenced project has been performed and completed in conformity with all plans and specifications, except for revisions as noted on as-built plans.

Signature Joseph A. Sharp Date 8/23/85

Type or Printed Name Joseph A. Sharp

Business Address 7172 Graham Road
Indianapolis, IN 46250

Telephone 842-6777

Seal

Indiana Registration Number

15179

ADM:tl
1/15/84

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SURVEYOR'S OFFICE

# Hamilton County

Kenton C. Ward, Surveyor

776-9626

Noblesville, Ind. 46060

December 31, 1985

TO: Hamilton County Drainage Board

RE: Masthead Drain, Section 12

Attached is an engineers Certificate of Completion and Compliance and a as built development plan, showing the regulated drainage facilities for Masthead Section 12. A final inspection on the drainage facilities was conducted in October 1985. At that time it was found, that the drainage system was complete and acceptable.

The Board should note a few modifications from the original set of plans and my report dated December 26, 1984. One of the changes is West of Structure 460. During construction, it was discovered that the 12" CMP shown as existing, in fact did not exist. Instead of extending a 12" RCP to pick up the structure, a 10' length of 12" RCP was stubed out of Structure 460, to the West. This reduced the length by 16' of 12" CMP. The storm sewer along the East line of Lots 411 and 412 was reduced in length by ten (10) feet of 33" RCP.

Also, at the North East corner of Lot 411, 55' of 12" CMP was added. The total length for this section is now 5,348 feet.

The Board should also note that the only S.S.D included in the regulated drain system is that 6' S.S.D which serves Lots 408, 411, 398 to 400, 385, 386 and 403 to 406.

Also, attached is a nonenforcement request, which should be approved and signed by the Board.

Kenton C. Ward
Hamilton County Surveyor

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KCW/no

# CONSTRUCTION PLANS
## FOR
# MASTHEAD SECTION 12

## INDEX

| SHT | DESCRIPTION |
|---|---|
| 1 | cover sheet |
| 2 | site development plan ~ South ½ |
| 3 | site development plan ~ North ½ |
| ~~4~~ | ~~streets ~ plan & profile~~ |
| ~~5~~ | ~~streets ~ plan & profile~~ |
| ~~6~~ | ~~streets ~ plan & profile~~ |
| ~~7~~ | ~~streets ~ details~~ |
| ~~8~~ | ~~streets ~ details~~ |
| ~~9~~ | ~~streets ~ details~~ |
| ~~10~~ | ~~streets ~ details~~ |
| ~~11~~ | ~~sanitary sewer ~ plan & profile~~ |
| ~~12~~ | ~~sanitary sewer ~ plan & profile~~ |
| ~~13~~ | ~~sanitary sewer ~ plan & profile~~ |
| ~~14~~ | ~~sanitary sewer ~ plan & profile~~ |
| ~~15~~ | ~~sanitary sewer ~ plan & profile~~ |
| ~~16~~ | ~~lift station details~~ |
| ~~17~~ | ~~lift station details~~ |
| 18 | storm sewer ~ plan & profile |
| 19 | storm sewer ~ plan & profile |
| 20 | storm sewer ~ plan & profile |
| 21 | standard details & specifications |
| 22 | standard details & specifications |

## BENCHMARKS

## REVISIONS

7-12-84 NOTED EXISTING PIPES ALONG GEIST RD.
8-20-84 SHOW PROPOSED PVMT. ALONG GEIST RD. & REV. STORM SEW.
10-12-84 REV PER NOBLESVILLE TAC
10-31-84 REV SSD

| CERTIFIED BY | REVISIONS | | TECH. CHK. | DRAWN BY | SCALE | DATE | CLIENT |
|---|---|---|---|---|---|---|---|
| DATE | 10 | PAUL I. CRIPE, INC. 7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 (317) 842-6777 • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING | DFTNG. CHK. | BTW | noted | 6-27-84 | Masthead Sec. 12 |
| | | | | DRAWING TITLE: Cover Sheet | | | |

| DWG. TYPE | FILE NUMBER | SHEET |
|---|---|---|
| | | 1 |
| JOB NUMBER | 84100-00012 | OF 22 |

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MARBAUGH -- 19 1153

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|---|---|---|---|---|---|---|---|---|---|---|
| DATE | 10-12-84 REV. PER TAC | 7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 (317) 842-6777 | DFTNG. CHK. | JG | 1:50 | 6-27-84 | MASTHEAD - SEC. 12 | | | 3 |
| | 10-31-84 REV. SITE | | | DRAWING TITLE: SITE DEVELOPMENT PLAN - NORTH HALF | | | | JOB NUMBER: 84100-00012 | | OF 22 |

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## LEGEND

SANITARY SEWER — STANDARD MANHOLE; FM — FM — FORCE MAIN

STORM SEWER — SUBSURFACE DRAINAGE (SSD); CURB INLET; BEEHIVE; AUTOMATIC DRAINAGE GATE; MANHOLE W/FLAT TOP CSTG; (444) TYPICAL STRUCTURE NUMBER; STEEL END SECTION; RIP RAP

WATER — WATER MAIN; FIRE HYDRANT ASSEMBLY

NOTE: WATER BY INDPLS WATER CO.

NOTE: BEARINGS, DIMENSIONS & EASEMENTS ARE SHOWN FOR REFERENCE ONLY & DO NOT NECESSARILY DEPICT ACTUAL RECORDED INFORMATION. SEE RECORDED PLAT FOR EXACT INFORMATION.

HAMILTON COUNTY INDIANA 1823
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Entry Date: 1-23-04
Entered by: JOH

ex. elevation @ bottom (typical)

Geist Reservoir elev. = 785.3±

proposed timber bridge (by other contract)

393 379 0.5 Ac± · 378 0.4 Ac± · 377 0.7 Ac± · 392 380 0.49 Ac± · "A" 0.08 Ac± · 391 381 0.49 Ac± · 390 382 0.71 Ac± · 389 384 1.25 Ac± · 388 383 0.66 Ac± · 387 · 376 0.7 Ac± · 371 0.5 Ac± · 375 0.45 Ac± · 374 0.49 Ac± · 373 0.59 Ac± · 372 0.76 Ac± · 370 0.4 Ac± · 369 0.4 Ac± · 368 0.4 Ac± · 367 0.7 Ac±

UNDERWATER DISCHARGE (163) · UNDERWATER DISCHARGE (455) · TC: EX GR (444) · CHECK DAM · TC=980 · TC=984 · TC=988 · TC=1050 · TC=1080

ARMADA CT. · SOLOMONS CT. · 25' BUILDING LINE · 40' BUILDING LINE · 100 yr. flood elev: 788.5

4" ssd (40' each way typ) · 40 LF 6" SSD · PLACE SOD IN BOTTOM 3' OF SWALE · 5' non-access esmt · 15' SD & UE · 20' SD & UE · 30' D.E. · 15' D.E. · 100' D.E. · 50' D.E. · 12' D.E. · 10' D.E. · 7' SD & UE · 2' SD & UE

GUARD RAIL · PRECAST RIP-RAP · RIP RAP · 50' proposed culvert

FALL CREEK ROAD · GEIST RESERVOIR · FALL CREEK INTERCEPTOR SEWER

N 49° 45' E 55.00 · S 77° 10' 15" E 126.36 · S 77° 10' 15" E 73.64

S 00° 01' 14" W 510.48 · EXTEND TO EX. R/W (10%) · 22' pvmt. w/6" shldrs. proposed under separate contract see Geist Road plans

GEIST ROAD

| CERTIFIED BY | REVISIONS | | TECH. CHK. | DRAWN BY | SCALE | DATE | CLIENT | DWG. TYPE | FILE NUMBER | SHEET |
|---|---|---|---|---|---|---|---|---|---|---|
| | 8-17-84 rev storm lots 383/384 added esmts. | | | JG | 1" = 50' | 6-27-84 | MASTHEAD - SEC. 12 | | | 2 |
| DATE | 9-12-84 REV PER TAC | | DFTNG. CHK. | DRAWING TITLE | | | | JOB NUMBER | | OF 22 |
| | 10-31-84 REV SSD | | | SITE DEVELOPMENT PLAN - SOUTH HALF | | | | 8 4 1 0 0 - 0 0 0 1 2 | | |

PAUL I. CRIPE, INC. • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING
7172 GRAHAM ROAD
INDIANAPOLIS, INDIANA 46250
(317) 842-6777

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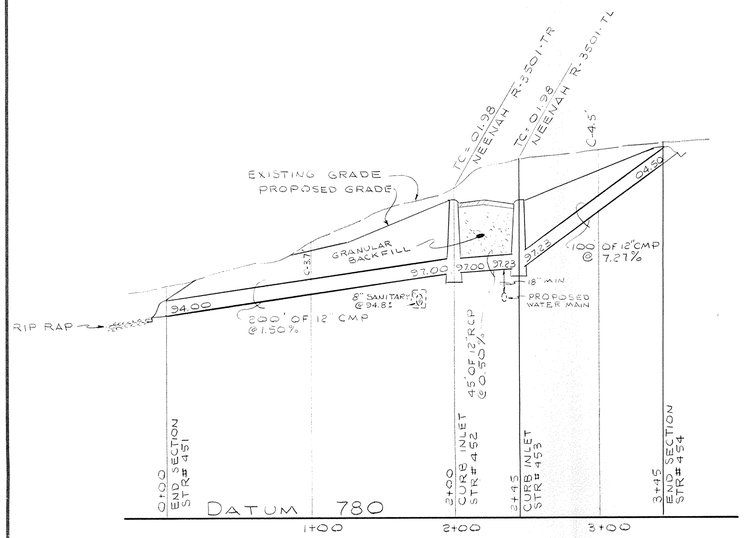
NOTE: CUTS SHOWN ARE APPROXIMATE FROM EXISTING GRADE TO INVERT OF PROPOSED PIPE

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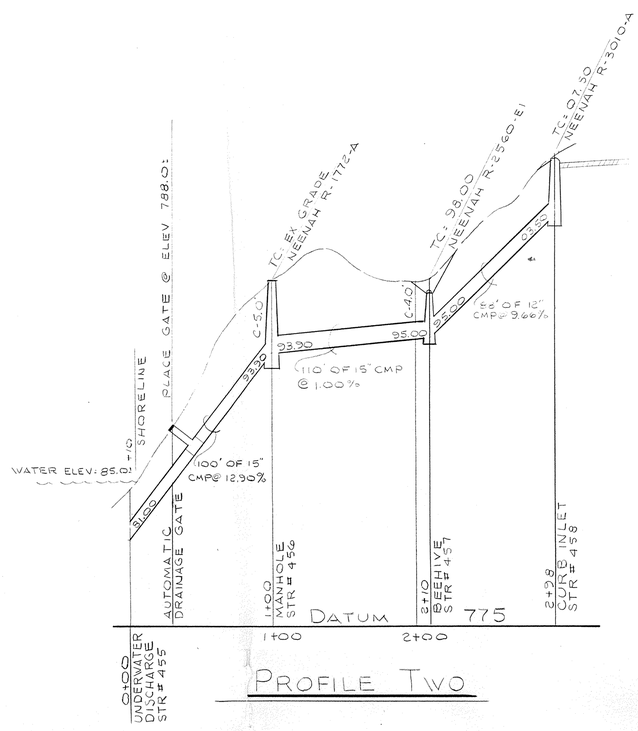


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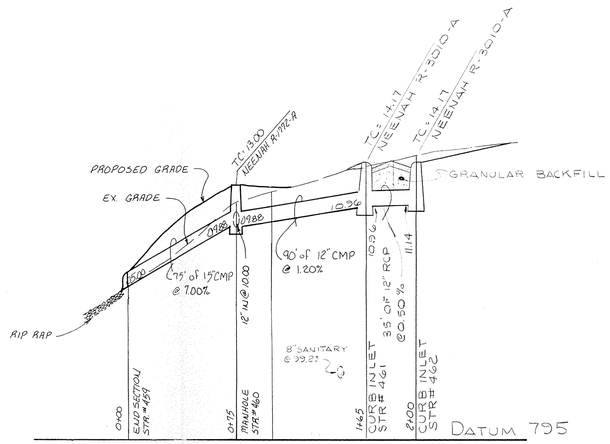


PROFILE THREE


HAMILTON COUNTY INDIANA 1823

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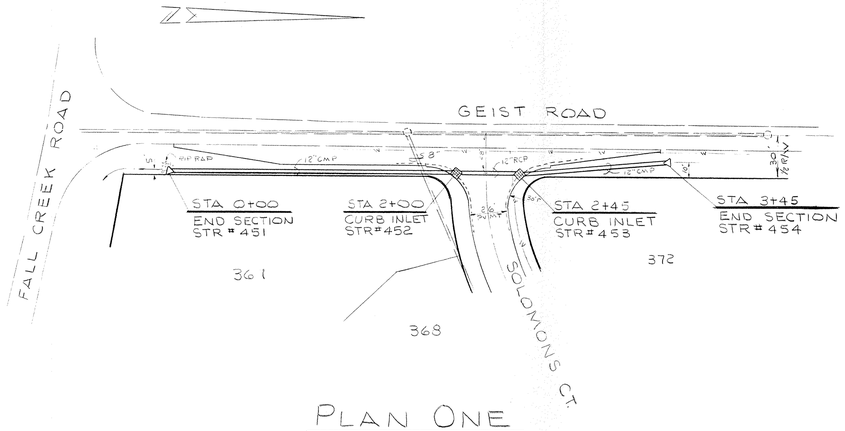
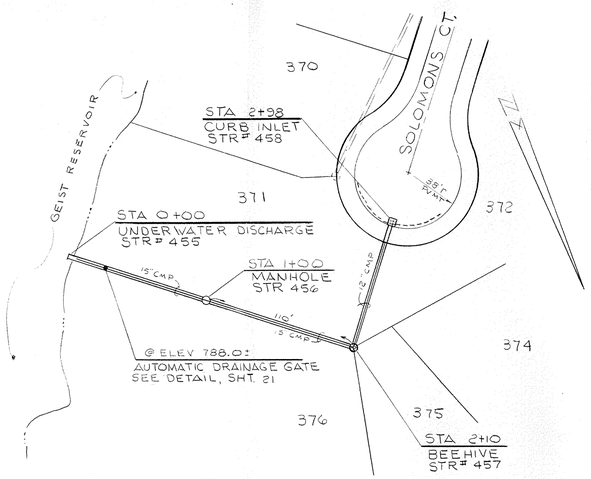
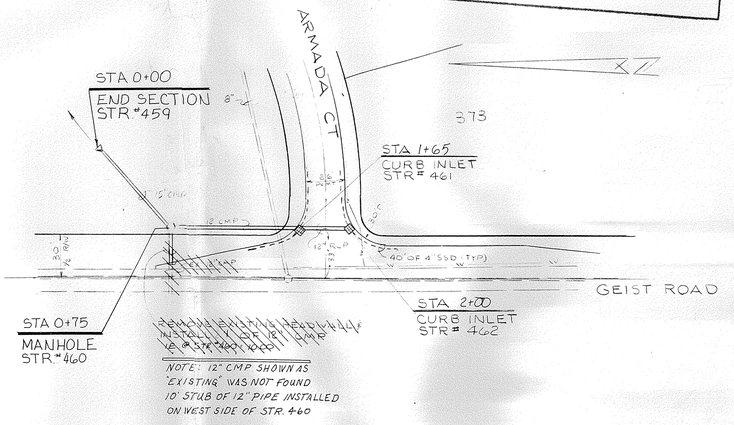



PLAN ONE




PLAN TWO




NOTE: 12" CMP SHOWN AS "EXISTING" WAS NOT FOUND 10' STUB OF 12" PIPE INSTALLED ON WEST SIDE OF STR. 460

PLAN THREE

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|---|---|---|---|---|---|---|---|---|---|---|
| DATE | | | DFTNG. CHK. | DRAWING TITLE STORM SEWERS - PLAN & PROFILE | | | | JOB NUMBER 84100-00012 | | OF 22 |

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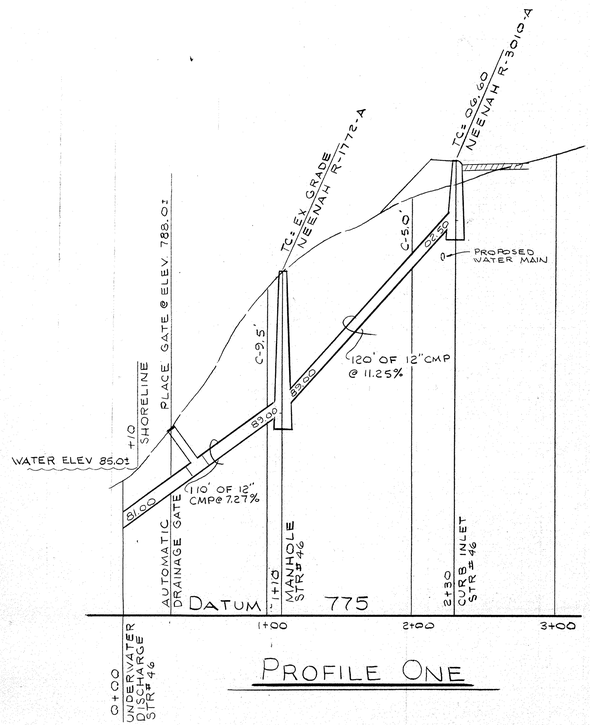
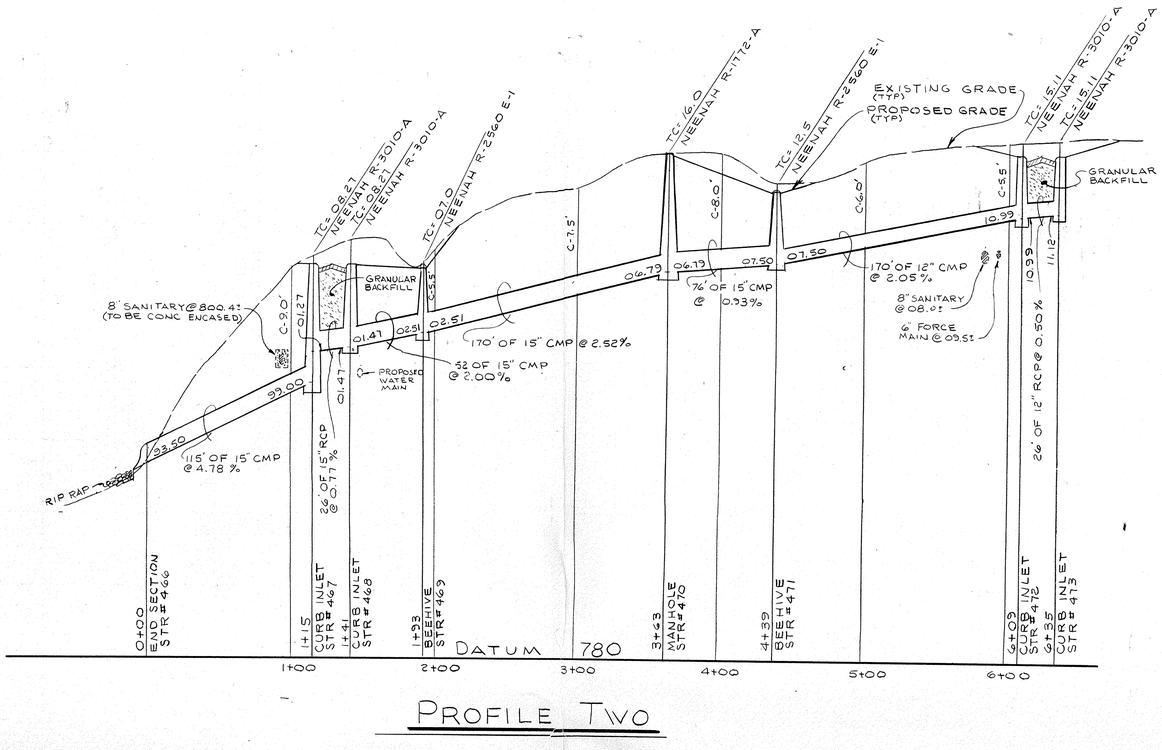
NOTE: CUTS SHOWN ARE APPROXIMATE FROM EXISTING GRADE TO INVERT OF PROPOSED PIPE




PROFILE ONE

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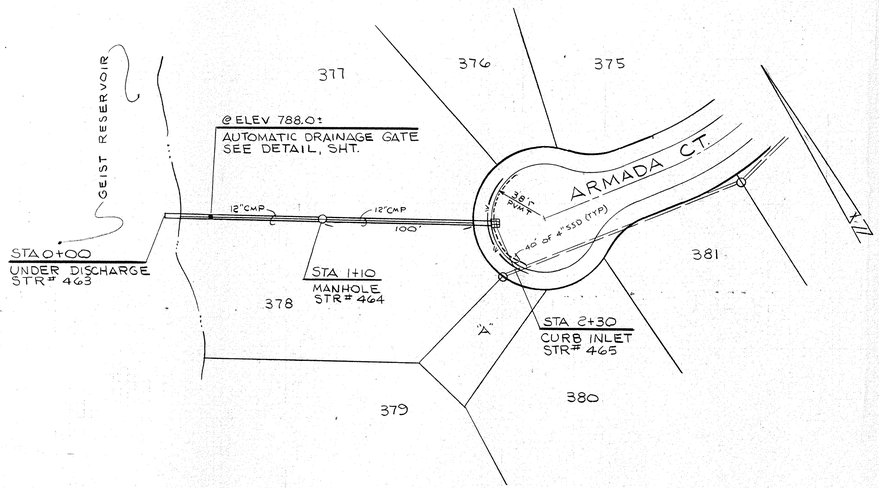
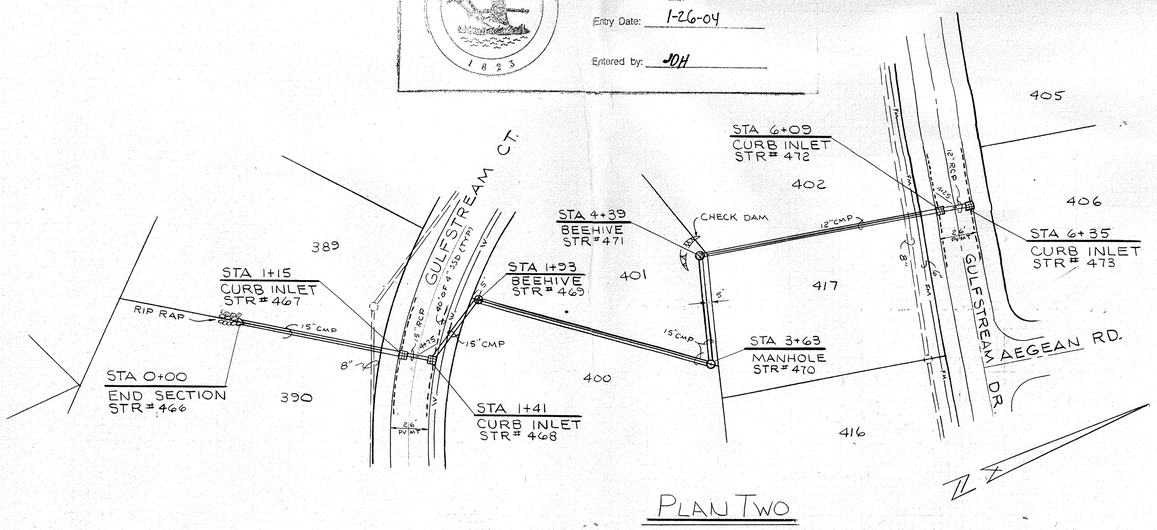



PLAN ONE




PLAN TWO

HAMILTON COUNTY INDIANA 1823

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Entered by: JOH

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10-31-84 REV PIPE LENGTH & SLOPE BET. 468 & 469 | PAUL I. CRIPE, INC. 7172 GRAHAM ROAD INDIANAPOLIS, INDIANA 46250 (317) 842-6777 • CIVIL ENGINEERING • LAND SURVEYING • ARCHITECTURE • LAND PLANNING | TECH. CHK. | DRAWN BY JG | SCALE HORZ: 1"=50' VERT: 1"=5' | DATE 6-27-84 | CLIENT MASTHEAD - SEC 12 | DWG. TYPE | FILE NUMBER | SHEET 19 |
| DATE | | | DFTNG. CHK. | DRAWING TITLE STORM SEWERS - PLAN & PROFILE | | | | JOB NUMBER 84100-00012 | | OF 22 |

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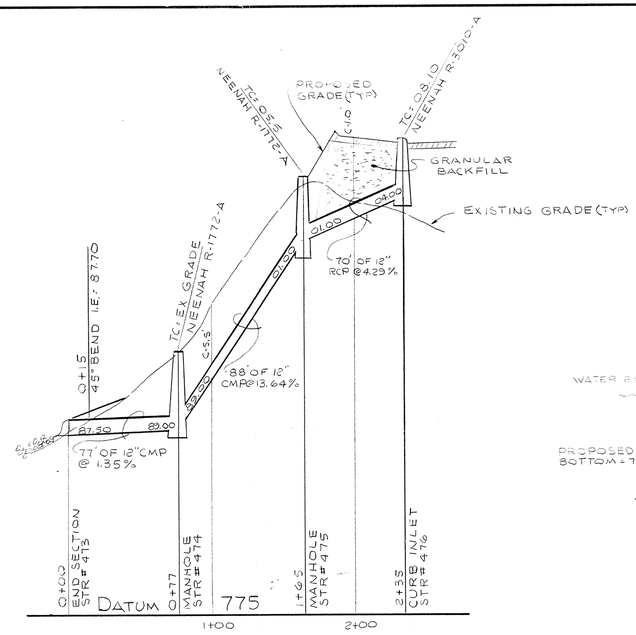


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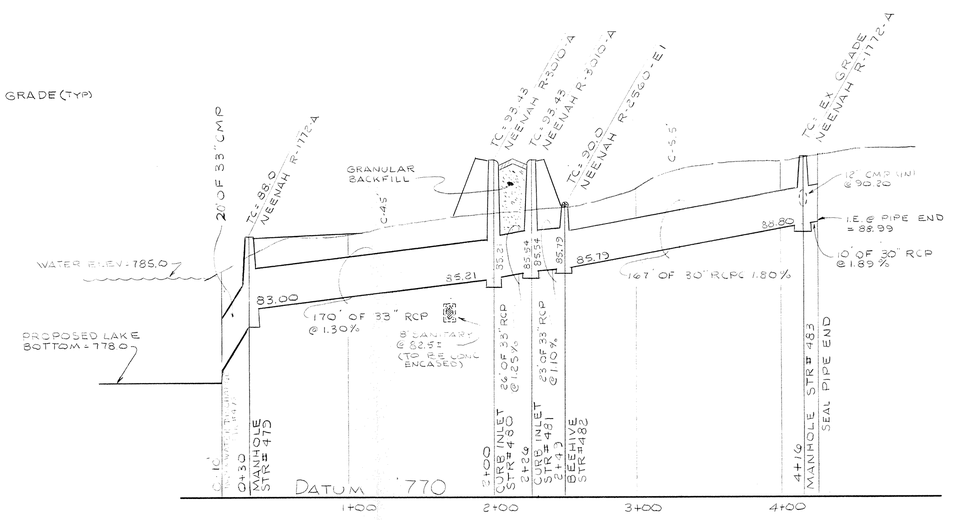


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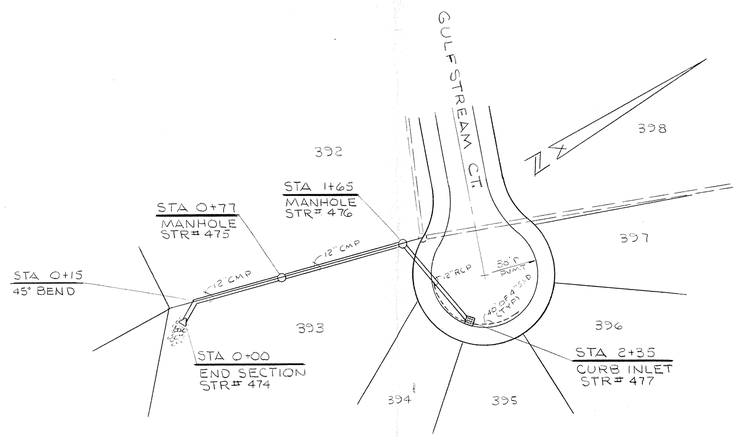


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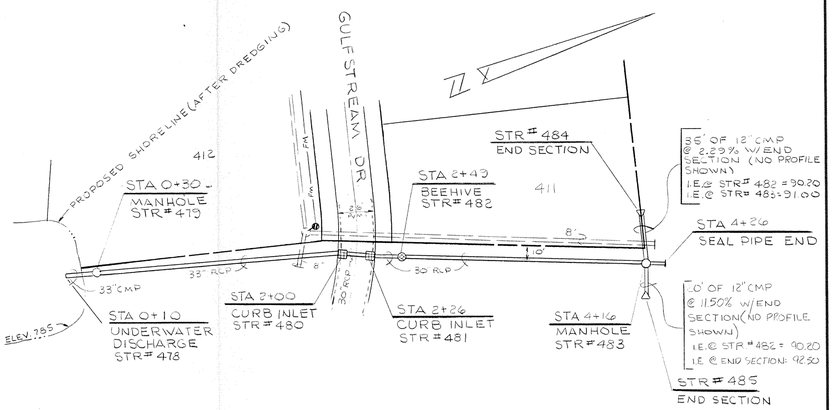


PLAN TWO

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10-12-84 REV PLAN & PROFILE TWO | | | DFTNG. CHK. | DRAWING TITLE STORM SEWERS - PLAN & PROFILE | | | | JOB NUMBER 84100-00012 | | OF 22 |
| DATE | | | | | | | | | | | |

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## DIMENSIONS OF GALVANIZED STEEL END SECTIONS FOR ROUND PIPE

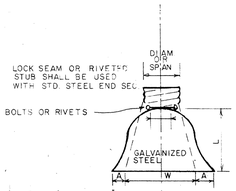
| PIPE DIA IN INCHES | GAGE | DIMENSIONS IN INCHES 'A' ± 1 | 'B' (min) | H ± 1 |
|---|---|---|---|---|
| 12 | 16 | 6 | 6 | 6 |
| 15 | 16 | 7 | 8 | 6 |
| 18 | 16 | 8 | 10 | 6 |
| 21 | 16 | 9 | 12 | 6 |
| 24 | 16 | 10 | 13 | 6 |
| 30 | 14 | 12 | 16 | 8 |
| 36 | 14 | 14 | 19 | 9 |
| 42 | 12 | 16 | 22 | 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 | 3pc. |
| 72 | 87 | 126 | 1 1/3 | 3pc. |
| 78 | 87 | 132 | 1 1/4 | 3pc. |
| 84 | 87 | 138 | 1 1/6 | 3 pc. |

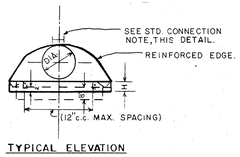
| STD. PIPE SIZE & CONN. USAGE GALVANIZED STEEL PIPE | |
|---|---|
| TYPE CONN. | ROUND |
| # 1 | 12" THRU 24" |
| # 2 | 30" THRU 36" |
| # 3 | 42" THRU 84" |
| | PIPE — ARCH |
| # 2 | 18"x11" THRU 58"x36" |
| * # 3 | 65"x40" THRU 85"x54" |

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.

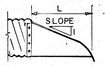
NOTE: STANDARD DIMENSIONS FOR GALVANIZED STEEL END SECTIONS FOR PIPE-ARCH MAY BE FOUND ON MISC. STANDARDS SHEET $E_2$, DATED JULY, 1972, OF THE INDIANA STATE HIGHWAY STANDARD SPECIFICATIONS.




TYPICAL PLAN

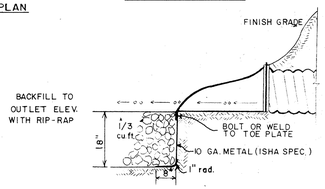



TYPICAL ELEVATION



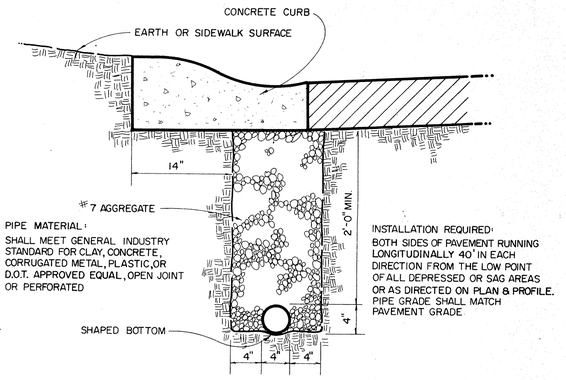

TYPICAL CROSS SECTION

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




## STANDARD STEEL END SECTION DETAIL

SCALE: NONE

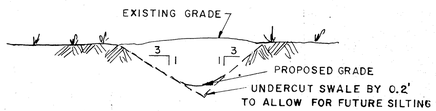



PIPE MATERIAL:
SHALL MEET GENERAL INDUSTRY STANDARD FOR CLAY, CONCRETE, CORRUGATED METAL, PLASTIC, OR D.O.T. APPROVED EQUAL, OPEN JOINT OR PERFORATED

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



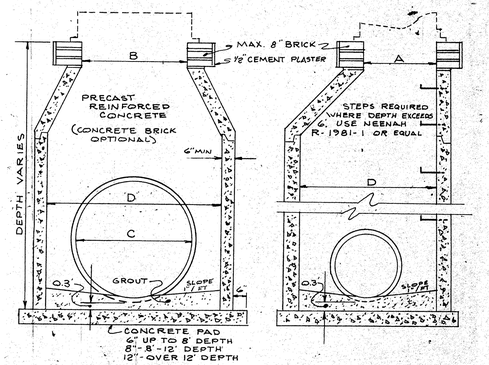

## TYPICAL SWALE DETAIL

SCALE NONE

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

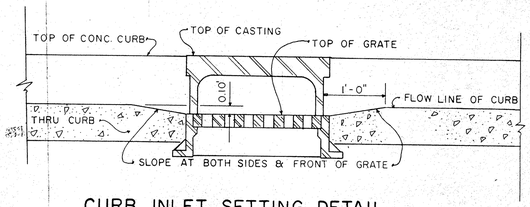
| C | D |
|---|---|
| 21" | 4'-0" |
| 24" | 4'-0" |
| 27" | 4'-0" |
| 30" | 4'-4" |
| 36" | 5'-0" |
| 42" | 5'-4" |
| 48" | 6'-0" |
| 54" | 6'-6" |

NOTE: STRUCTURES TO BE CIRCULAR UNLESS OTHERWISE SPECIFIED.



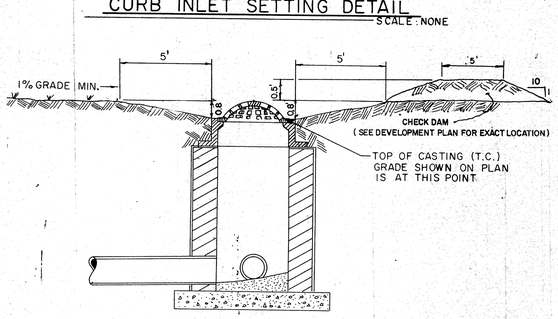

## STORM MANHOLE & DEEP INLET

N.T.S.



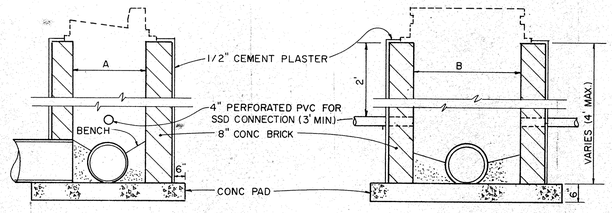

## CURB INLET SETTING DETAIL

SCALE: NONE




## BEEHIVE CASTING SETTING DETAIL

NOT TO SCALE

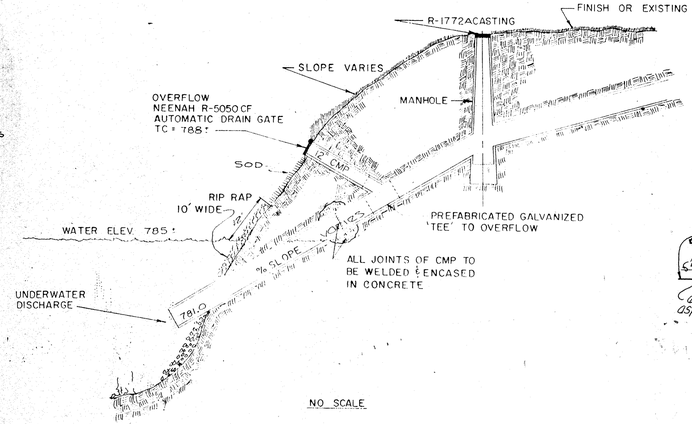



NOTE: ALL JOINTS, HORIZONTAL & VERTICAL TO BE MORTARED WITH INTERIOR JOINTS STRUCK FLUSH.

BACKFILL W/ No. 7 WASHED GRAVEL

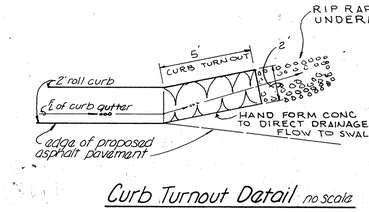
## SHALLOW CURB INLET

NO SCALE

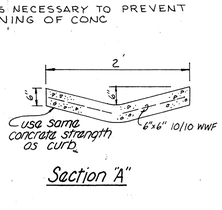



NO SCALE

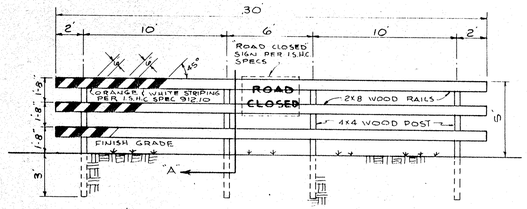
## TYPICAL UNDERWATER DISCHARGE DETAIL



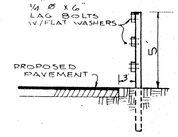

## Curb Turnout Detail no scale




## Section "A"




ELEVATION

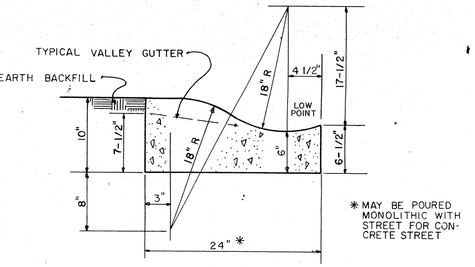



SECTION "A"

NOTE ALL WOOD MEMBERS SHALL BE PAINTED W/TWO(2) COATS OF WHITE PAINT

## BARRICADE DETAIL

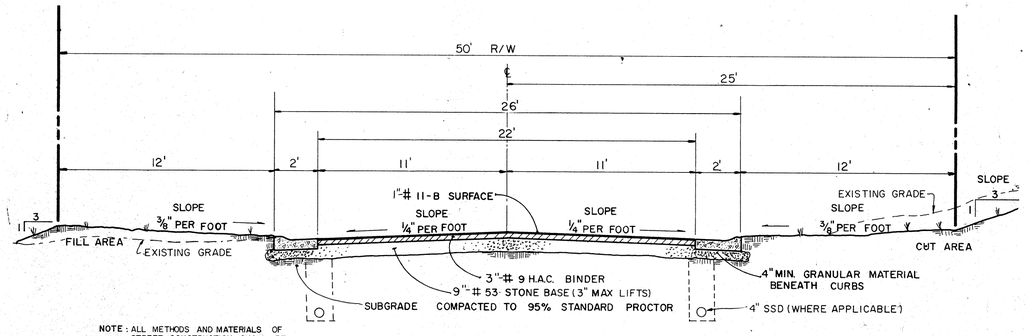
NTS




* MAY BE POURED MONOLITHIC WITH STREET FOR CONCRETE STREET

## TYPICAL CURB DETAIL WITH VALLEY GUTTER

(STD. PLAN # 12-01-TYPE I) SCALE: NONE




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

CERTIFIED BY

DATE

REVISIONS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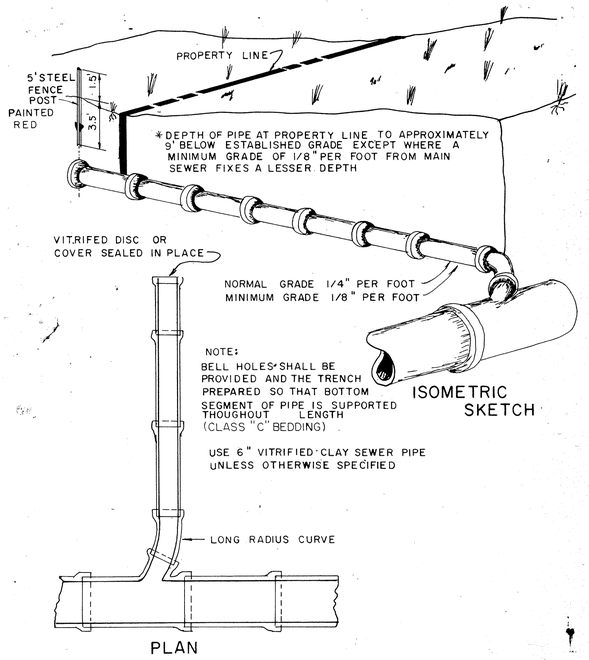
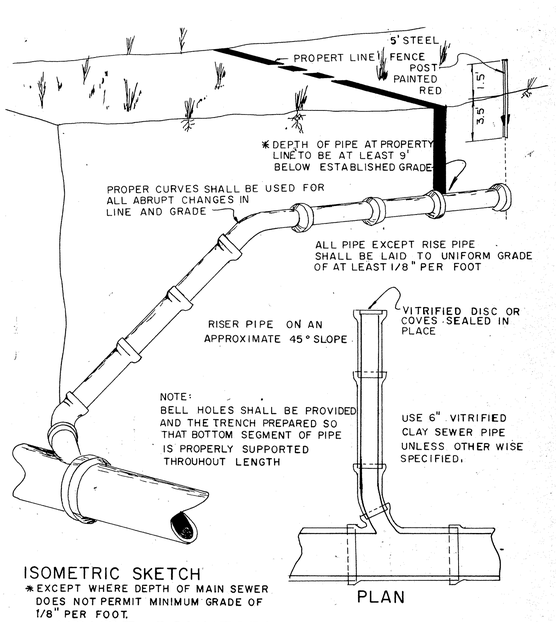
| TECH. CHK. | DRAWN BY | SCALE | DATE | CLIENT |
|---|---|---|---|---|
| | J.G. | noted | 6-27-84 | Masthead Sec. 12 |
| DFTNG. CHK. | DRAWING TITLE | | | |
| | Standard Details & Specifications | | | |

| DWG. TYPE | FILE NUMBER | SHEET |
|---|---|---|
| | JOB NUMBER 8 4 1 0 0 — 0 0 0 1 2 | 21 OF 22 |

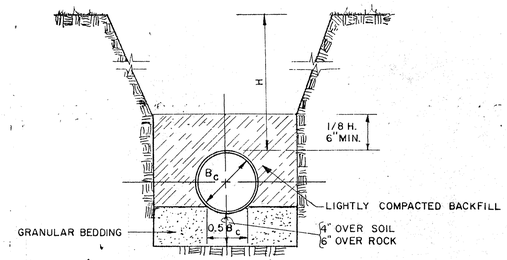



## HOUSE CONNECTION to MAIN SEWER



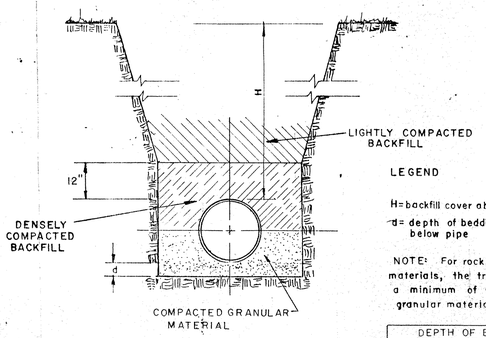

## HOUSE CONNECTION for DEEP SEWERS

No Scale




## STANDARD PIPE BEDDING

$L_f$ = 1.5 NO SCALE




## CLASS "B" BEDDING

NO SCALE

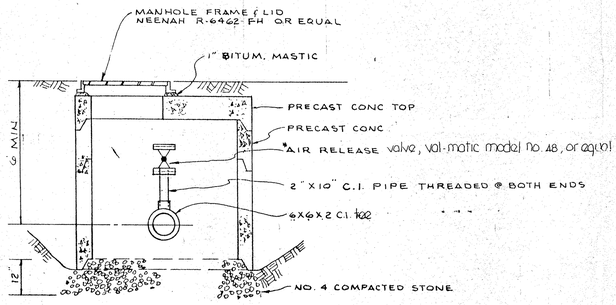
LEGEND

H=backfill cover above top of pipe

d= depth of bedding material below pipe

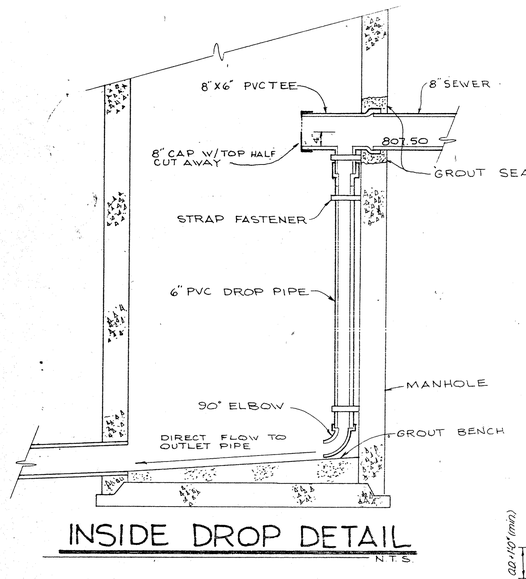
NOTE: For rock or other incompressible materials, the trench should be overexcavated a minimum of 6 inches and refilled with "11 granular material.

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




## AIR RELEASE - VACUUM VALVE DETAIL

NTS




## INSIDE DROP DETAIL

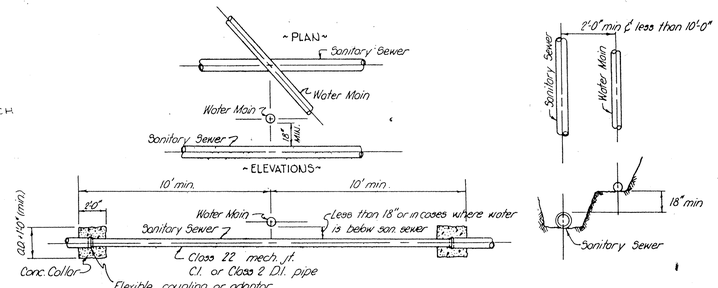
NTS

this type of concrete encasement is used when storm sewer is below sanitary sewer

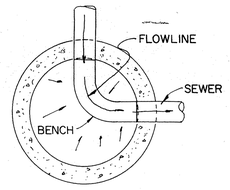
this type of concrete encasement is used when excavating is done just above sanitary sewer

## Concrete Encasement no scale

(for sanitary sewers)

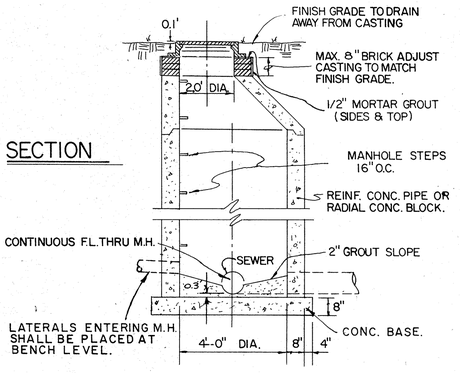



## MIN. CROSSOVER & SEPARATION REQUIREMENTS FOR WATER MAINS & SANITARY SEWERS




PLAN

NOTE: SEE SANITARY SEWER PROFILES FOR CASTING DESIGNATION.




SECTION

## STANDARD MANHOLE

FOR SANITARY SEWERS AS ILLUSTRATED

NOT TO SCALE

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 Chloride (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.
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 construcion 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 10" 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 | | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| | JG | NONE | 6-27-84 | MASTHEAD - SEC. 12 | | | 22 |
| DFTNG. CHK. | DRAWING TITLE | | | | JOB NUMBER | | OF 22 |
| | STANDARD DETAILS & SPECIFICATIONS | | | | 8410 0-0012 | | |