

Drain: LARKSAUR DRAIN Drain #: 232
 Improvement/Arm: LARKSAUR-SECTION 4
 Operator: JDH Date: 1-12-04
 Drain Classification: Urban/Rural Year Installed: 1988

GIS Drain Input Checklist

- Pull Source Documents for Scanning JDH 1-12
- Digitize & Attribute Tile Drains N/A
- Digitize & Attribute Storm Drains JDH 1-13
- Digitize & Attribute SSD N/A
- Digitize & Attribute Open Ditch N/A
- Stamp Plans JDH 1-13
- Sum drain lengths & Validate JDH 1-13
- Enter Improvements into Posse JDH 1-13
- Enter Drain Age into Posse JDH 1-22
- Sum drain length for Watershed in Posse JDH 1-22
- Check Database entries for errors JDH 1-13

Gasb 34 Footages for Historical Cost
Drain Length Log

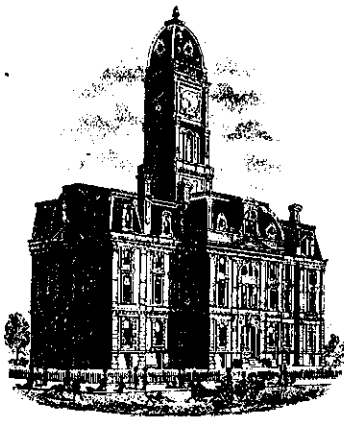
Drain-Improvement: LARKSPUR DRAIN - LARKSPUR SECTION 1

Drain Type:	Size:	Length <small>(SURVEYORS REPORT)</small>	Length (DB Query)	Length Reconcile	If Applicable	
					Price:	Cost:
RCP	12"	1896'	1896'	Ø		
	15"	375'	375'	Ø		
	18"	72'	72'	Ø		
	21"	372'	372'	Ø		
	24"	863'	863'	Ø		
	30"	1,040'	1,040'	Ø		
	36"	427'	427'	Ø		

Sum: 5045' 5045' Ø

Final Report: _____

Comments:



SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor

776-9626

Noblesville, Ind. 46060 February 21, 1989

TO: Hamilton County Drainage Board

RE: Larkspur Drain-Section 1

Attached is a petition, non-enforcement request, plans, calculations, and assessment roll for the Larkspur Drain, Section 1.

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 accruing to the owners of land likely to be benefitted. The drain will consists of the following:

6" SSD	1930 feet	21" RCP	380 feet
12" RCP	1600 feet	24" RCP	149 feet
15" RCP	165 feet	30" RCP	687 feet
18" RCP	30 feet	36" RCP	420 feet

The total length of the drain will be 5361 feet.

The drain includes the portion of storm sewer across Lots 4 and 5 of Bridlebourne Section 5. The drain will terminate in the future Lake 1 in Bridlebourne. At this time the Bridlebourne tracts will not be assessed. The lake in Common Area Block A in Larkspur Section 1 shall not be part of the regulated drain but be the responsibility of the Property Owners Associations. Only the inlets and outlet of the lake shall be regulated drain.

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 \$50.00 per lot, \$5.00 per acre for roadways, with a \$50.00 minimum. With this assessment the total annual assessment for the drain/ this section will be 1000.00.

The lots of this subdivision shall also be assessed to the John Osborn Drain. This is necessary because the tract is now within the drainage shed for the Osborn Drain. If, in the future the portion of drain between the terminus of this drain and the Osborn Drain becomes regulated drain the Larkspur Drain may become an arm of the John Osborn Drain.

The SSD which is to be included in the regulated drain is the section along the West side of Lots 3 and 5; North side of Lot 18; in front of Lots 13 to 18 and 11 the rear of Lots 12 to 18. SSD laterals to the lots from the above described main lines shall not be part of the drain along with those sections under the street crubs.

I recommend a hearing be set for April 1989. I also recommend the non-enforcement request be approved at the hearing if the petition is approved.

KCW/no


Kenton C. Ward
Hamilton County Surveyor

TO: Hamilton County Drainage Board December 22, 1994

RE: John Osborn Drain

Attached are plans and petition for the partial relocation/reconstruction of the John Osborn Drain. The petition was filed by Kingsmill Corporation.

The reconstruction will consist of relocating the portion of the drain which was reconstructed by Bridleborne Development Co. in 1988. The first portion of the relocation will be between Structure #106 and to a point 70 feet downstream of Structure #105 as shown on the Record Drawing for the 1988 reconstruction as filed by Schneider Engineering Corp. dated 6/22/88. The 280 foot section of 21" RCP between Structure #106 and #105 along with 70 feet of 24" RCP downstream of Structure #105 will be removed. This will be replaced with 455 feet of 21" RCP placed along the proposed lot line between Kingsmill lots 15 and 16 and along the east lot line of Kingsmill Lots 14 & 15.

The second portion of the relocation will be between STR. #108A and a point 167' downstream of Structure #108A as shown on the Record Drawing for the 1988 reconstruction as filed by Schneider Eng. Corp dated 6-22-88. The 167 foot section of RCP described above will be removed. This will be replaced with 196 feet of 21" RCP placed along the proposed west lot line of Kingsmill lot 31 and between Kingsmill lots 31 and 32.

Both of the above described locations will result in a net gain in drain length by 134'. These are shown on the attached Sheet 3, development plan for Kingsmill Section 1 by Weihe Eng. Inc. dated 1/3/94 & sheet 2, development plan for Kingsmill Sec. 2 by Weihe Eng. Inc. dated 11/4/94. The cost for this work will be paid by the Kingsmill Corp.

Also as part of this hearing, I recommend the inclusion of the portions of the Bridlewood subdivision which are now currently private and not part of either the John Osborn (see report dated Jan. 7, 1988 for Bridleborne Sec. 2 and Sec. 3) nor Larkspur (see report dated Feb. 1. 1989 for Larkspur Sec. 1) Drains.

This includes the portion of Section 5 between lots 16 and 17 and the 18" RCP across the Esplanade; the portion of Section 4 between lots 49 and 50; the portion of Sections 2 and 3 that is between lots 61 and 63; across lots 61 and 63, across lots 61, 62, and between lots 36 and 37 to Structure #109 to the existing Osborn Drain. This will consist of the following lengths: 12" RCP-320'; 15" RCP-22'; 18" RCP-222'; 21" RCP-22'; 24" RCP-320'; Open drain-646'

The total length for this portion is 1552'. The interior portions of the storm sewer system for Bridleborne will not be regulated drain. Also, lakes 1 and 2 in Bridleborne will not be included as part of the regulated drain, Only the lake inlets and outlets of the drain which are regulated drain as noted in the two previous reports (Jan. 7, 1988 and Feb 1, 1989) and above in this report shall be maintained as part of the Osborn Drain.

The easement for this portion through Bridleborne is that which is shown on the secondary plats as recorded in the Hamilton County Recorder's Office. Bridleborne Sec. 2-Plat Book 14, pages 80-82; Bridleborne Sec. 3-Plat Book 15, pages 62-64; Bridleborne Sec. 4-Plat Book 16, pages 62-63; Bridleborne Sec. 5-Plat Cabinet 1 Slide 134

Although not mentioned in the original report for Larkspur as mentioned above, the portion of storm sewer from Larkspur Section 1 to Shelborne Road was included as a change order to Section 1. Since the final report for this section is not prepared, I wish to mention this section at this time for inclusion. This will include the portion of storm drain from Structure #107 in Larkspur Section 1 to Structures #201, 202, 211, 212, 213, 214 and 215 as shown on sheet S-10, Larkspur Phase 2, Storm Sewer Plan as prepared by Schneider Engineering Corp., dated 9/1/88. This shall include the following lengths:

18" RCP- 45 ft; 24" RCP- 715 ft; 30" RCP- 355 ft

The total length for this section is 1115'. Since it was a change order request from the Developer, easement was established previously.

The total length to be added at this time for all portions mentioned above is 2801 feet.

At this time I recommend to the Board that the Larkspur Drain be included as part of the John Osborn Drain drainage shed for assessment purposes. The current assessment for the Larkspur Drain should be continued and all tracts within Larkspur be assessed for both drains.

Additional tracts should be assessed to the drain at this time. These tracts were overlooked originally when the Larkspur Drain was installed, and the area around 106th Street and Shelborne Road was provided drainage. The tracts to be added are as follows:

JMP Corp.	17-13-05-00-00-001.001	16.16ac	16.16 Ben	\$32.32
Froymovich, Etelka Phillip	17-13-05-00-00-001.101	4.94ac	4.94 Ben	25.00
Kelley Group Inc.	17-13-05-00-06-001.000	Larkspur Lot 1		25.00
Biltmore Homes Inc.	17-13-05-00-06-002.000	Larkspur Lot 2		25.00
Kelley Group Inc.	17-13-05-00-06-003.000	Larkspur Lot 3		25.00
Sung Jo & Hee Sun Kim	17-13-05-00-06-004.000	Larkspur Lot 4		25.00
Sung Jo Kim	17-13-05-00-06-005.000	Larkspur Lot 5		25.00
Stanley & Janet Thompson	17-13-05-00-06-006.000	Larkspur Lot 6		25.00
John H. & Elizabeth Moorin	17-13-05-00-06-007.000	Larkspur Lot 7		25.00
Morris & Anna Coats	17-13-05-00-06-008.000	Larkspur Lot 8		25.00
Kelley Group Inc.	17-13-05-00-06-009.000	Larkspur C.A.		25.00
Kelley Group Inc.	17-13-05-00-06-010.000	Larkspur Lot 9		25.00
Kelley Group Inc.	17-13-05-00-06-011.000	Larkspur Lot 10		25.00
Kelley Group Inc.	17-13-05-00-06-012.000	Larkspur Lot 11		25.00
Kelley Group Inc.	17-13-05-00-06-013.000	Larkspur Lot 12		25.00
Jacques Villeneuve	17-13-05-00-06-014.000	Larkspur Lot 13		25.00
Kelley Group	17-13-05-00-06-015.000	Larkspur Lot 14		25.00
Leroy & Kathryn Butler	17-13-05-00-06-016.000	Larkspur Lot 15		25.00

K & L Const.	17-13-05-00-06-017.000	Larkspur Lot 16	\$25.00
Timothy & Maureen Krupa	17-13-05-00-06-018.000	Larkspur Lot 17	25.00
Kelley Group Inc.	17-13-05-00-06-019.000	Larkspur Lot 18	25.00
Henry B. & Nancy N. Blackwell	17-13-06-00-00-012.000	15.50 ac 4.50 Ben	25.00
Andris Berzins	17-13-06-00-00-013.000	1.20 ac 1.00 Ben	25.00
Jackie L. & Barbara A. Bigham	17-13-06-00-00-014.000	1.23 ac 1.23 Ben	25.00
Dewey & Jeanette L Vawter	17-13-06-00-00-015.000	1.23 ac 1.23 Ben	25.00
Steve A. & Elaine Schmidt	17-13-06-00-00-016.000	1.20 ac 1.20 Ben	25.00
John Raymond & Janette Barb	17-13-06-00-00-017.000	2.00 ac 2.00 Ben	25.00
Curtis M. & Marcia Stumm	17-13-06-00-00-018.000	2.00 ac 2.00 Ben	25.00
Curtis M. & Marcia Stumm	17-13-06-00-00-019.000	2.00 ac 2.00 Ben	25.00
Curtis M. & Marcia Stumm	17-13-06-00-00-020.000	2.00 ac 2.00 Ben	25.00
Lowell & Mildred Van De Mark	17-13-06-00-00-021.000	2.00 ac 2.00 Ben	25.00
Lowell & Mildred Van De Mark	17-13-06-00-00-022.000	0.91 ac 0.91 Ben	25.00
Roberta S Carr	17-13-06-00-00-022.001	0.91 ac 0.70 Ben	25.00
Cordingley, Bruce A. & Sexton	17-13-06-00-00-023.000	53.92 ac 0.40 Ben	25.00
Martin K. & Linda J. Hanson	17-13-06-00-00-023.002	2.00 ac 0.70 Ben	25.00
Bennett Family Farms Inc	17-09-31-00-00-018.000	80.00 ac 6.00 Ben	25.00
Phyllis A. Brown	17-09-32-00-00-015.000	0.35 ac 0.35 Ben	25.00
Aaron M. & Lisa O'Cull	17-09-32-00-00-005.000	1.00 ac 1.00 Ben	25.00
Gladys C. Magan	17-09-32-03-01-006.000	0.76 ac 0.76 Ben	25.00
C. Michael Steele	17-09-32-03-01-007.000	0.76 ac 0.76 Ben	25.00
Joseph Jr. & Shirley Padgett	17-09-32-03-01-008.000	0.57 ac 0.57 Ben	25.00
Hamilton County Highway	Add 5.68 ac for Shelborne & 106th and 7.59 for Larkspur	19.77 Ben	39.54

These tracts should be assessed at the current rate of assessment. I recommend no change in the assessment rate at this time.

I recommend the Board set a hearing date for this matter in February 1995.

Kenton C. Ward,
Hamilton County Surveyor

1ST NATIONAL BANK

735 MAIN STREET
P.O. Box 351
ANDERSON, INDIANA 46015
(317) 642-4901

STANDBY LETTER OF CREDIT

Irrevocable

Letter of Credit No.: 67-8010-7 (A)

Dated: November 23rd, 1988

Expiration Date: November 23rd, 1989

BENEFICIARY:

Hamilton County Commissioners
Court House
Noblesville, Indiana 46060

FOR ACCOUNT OF:

The Kelly Group, Inc.
6461 N. Broadway Ave.
Indianapolis, IN 46220

We hereby establish our irrevocable Letter of Credit in your favor, for the account indicated above, for the sums not exceeding an aggregate amount of US\$ (146,932.00) One hundred forty six thousand nine hundred thirty two dollars and 00/100 -----

Funds are available by your draft(s) at sight drawn on First National Bank of Madison County, P.O. Box # 351, Anderson, IN 46015.

Drafts are to be accompanied by:

1. The original of this Letter of Credit No. 67-8010-7 (A)
2. A signed statement from the Chairman of the Hamilton County Drainage Board stating that, "The Kelley Group, Inc., Developers of Larkspur subdivision have not satisfactorily completed construction of site excavation in said development."

All drafts drawn under this Letter of Credit are to be endorsed hereon and shall bear the clause: "Drawn under First National Bank of Madison County, Anderson, Indiana Letter of Credit No. (as indicated above)", and must be drawn and presented on or before the above expiration date.

We hereby agree with you that all drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored upon proper presentation.

Except as otherwise expressly stated herein, this credit is subject to the Uniform Customs and Practice for Documentary Credits (1983 Revision, International Chamber of Commerce, Publication No. 400.

Sincerely,

Hans Wuelz U.P.

Authorized Signature

Vice President

Title



SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor

Suite 146

776-8495

One Hamilton County Square

Noblesville, Indiana 46060-2230

May 8, 1996

To: Hamilton County Drainage Board

Re: Larkspur Drain
Larkspur Section 1

Attached are as-builts, certificate of completion & compliance, and other information for Larkspur Section 1. An inspection of the drainage facilities of this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain which will alter the plans submitted with my report for this drain dated February 21, 1989. The changes are as follows:

The drain constructed as Larkspur Section 2 will be considered a part of Larkspur Section 1 drain and was constructed as change order #1 per my report dated December 22, 1994.

The total length of the drain for Section 2 remains at 1115' feet as listed in the report dated December 22, 1994. The following are changes for Section 1:

- STR 105-106 36" RCP shortened from 39' feet to 35' feet. ✓
- STR 106-107 36" RCP lengthened from 385' feet to 388' feet. ✓
- STR 107-108 30" RCP shortened from 330' feet to 328' feet. ✓
- STR 108-109 12" RCP shortened from 425' feet to 423' feet. ✓
- STR 109-110 12" RCP lengthened from ~~350'~~^{330'} feet to 332' feet. ✓
- STR 116-115 12" RCP shortened from 315' feet to 303' feet. ✓
- STR 115-114 18" RCP shortened from 30' feet to 27' feet. ✓
- STR 114-113 21" RCP shortened from 70' feet to 68' feet. ✓
- STR 113-108 21" RCP shortened from 310' feet to 304' feet. ✓
- STR 112-111 12" RCP shortened from 30' feet to 26' feet. ✓
- STR 111-107 15" RCP shortened from 165' feet to 162' feet. ✓
- STR 104-103 12" RCP shortened from 305' feet to 300' feet. ✓

The following structures are a portion of the offsite that was not included in the original report. They are as follows:

- Exist Stub-Structure 1 15" RCP lengthened from 184' feet to 190' feet. ✓
- STR 2-3 12" RCP shortened from 320' feet to 317' feet. ✓
- STR 1-2 15" RCP lengthened from 22' feet to 23' feet. ✓



SURVEYOR'S OFFICE
Hamilton County

Kenton C. Ward, Surveyor

Phone (317) 776-8495

Fax (317) 776-9628

Suite 146

One Hamilton County Square

Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

April 8, 1998

**Re: Larkspur Drain:Larkspur Sec. 1 Revised
Report**

Attached are as-builts, certificate of completion & compliance, and other information for Larkspur Sec. 1. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.


During construction, changes were made to the drain which will alter the plans submitted with my final report for this drain dated May 8, 1996. The changes are as follows:

The "6 SSD at 1930 feet was not installed.

The length of the drain due to the changes described above is now **5045 feet.**

I recommend the Board approve the drains construction as complete and acceptable.

Sincerely,



Kenton C. Ward,
Hamilton County Surveyor

KCW/slm

LARKSPUR PHASE 1

SECONDARY PLAT

THIS INSTRUMENT WAS PREPARED
BY EDWARD D. GIACOLETTI
REGISTERED LAND SURVEYOR-INDIANA #S0560
SCHNEIDER ENGINEERING CORP.
3020 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46226
TELEPHONE - (317) 898-8282

(DECEMBER, 1988)

LAND DESCRIPTION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THE WITHIN PLAT IS A REPRESENTATION OF THE LANDS SURVEYED, SUBDIVIDED AND PLATTED UNDER MY DIRECT SUPERVISION AND CONTROL AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF:

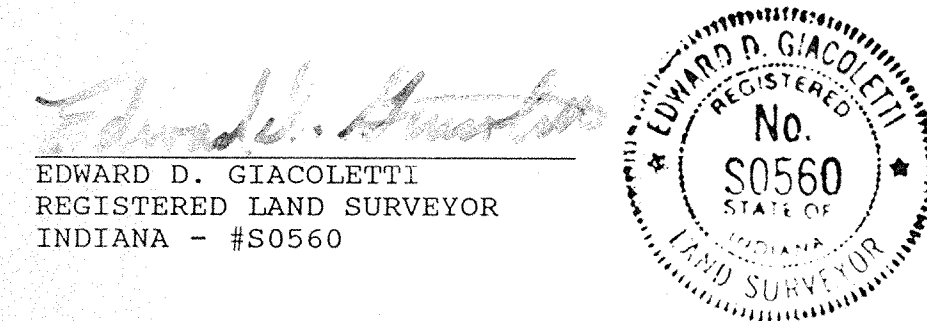
OWNER & SUBDIVIDER:
THE KELLEY GROUP
6461 NORTH BROADWAY
INDIANAPOLIS, INDIANA 46220
(317)291-1772

Part of the Northwest Quarter of Section 5, Township 17 North, Range 3 East, Hamilton County, Indiana, and being more particularly described as follows: Beginning at a point on the North line of said quarter section being North 89 degrees 36 minutes 06 seconds East (assumed bearing) 698.26 feet from the Northwest corner thereof; thence continue North 89 degrees 36 minutes 06 seconds East along said north line 664.73 feet; thence South 00 degrees 01 minutes 15 seconds West, parallel with the West line of said quarter section, 1307.65 feet; thence South 89 degrees 05 minutes 09 seconds West 664.80 feet; thence North 00 degrees 01 minutes 15 seconds East, parallel with said west line, 1313.63 feet to the Point of Beginning and containing 20.00 acres, more or less.

THIS SUBDIVISION CONSISTS OF 18 LOTS, NUMBERED 1 THROUGH 18, TOGETHER WITH COMMON AREAS, STREETS AND EASEMENTS AS SHOWN ON THE WITHIN PLAT.

THE SIZE OF LOTS AND COMMON AREAS AND WIDTHS OF STREETS AND EASEMENTS ARE SHOWN IN FIGURES DENOTING FEET AND DECIMAL PARTS THEREOF.

WITNESS MY SIGNATURE THIS 13TH DAY OF December, 1988.



EDWARD D. GIACOLETTI
REGISTERED LAND SURVEYOR
INDIANA - #S0560

I, EDWARD GIACOLETTI, HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, LICENSED IN COMPLIANCE WITH THE LAWS OF THE STATE OF INDIANA, THAT THIS PLAT CORRECTLY REPRESENTS A SURVEY COMPLETED BY ME ON THE THAT ALL THE MONUMENTS SHOWN THEREON ARE TO BE SET, AND THAT THE LOCATION, SIZE, TYPE AND MATERIAL OF SAID MONUMENTS ARE ACCURATE.

BOARD OF COUNTY COMMISSIONERS' CERTIFICATE

UNDER AUTHORITY PROVIDED BY TITLE 36, ACTS OF 1981, P. L. 309 ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF INDIANA, AND ALL ACTS AMENDATORY OR SUPPLEMENTARY THERETO, THIS PLAT WAS GIVEN APPROVAL BY THE BOARD OF COMMISSIONERS OF COUNTY OF HAMILTON AT A MEETING HELD February 21, 1988.

BOARD OF COMMISSIONERS OF COUNTY OF HAMILTON

Steven C. Dillinger
STEVEN C. DILLINGER

Peg L. Goldberg
PEG L. GOLDBERG

Steven A. Holt
STEVEN A. HOLT

ATTEST: Billy Pearce
FOLLY PEARCE, COUNTY
AUDITOR

Plan Commission: Under authority provided by Title 36, Acts of 1981, P. L. 309 enacted by the General Assembly of the State of Indiana, and all acts amendatory or supplementary thereto, and on ordinance adopted by the common council of the City of Carmel, Indiana, this plat was given approval by the City of Carmel, as follows:

Adopted by the Carmel Plan Commission at a meeting held 1988.
Carmel/Clay Plan Commission

By: Wesley G. Bucher
Wesley G. Bucher, Director
Department of Community Development
Carmel, Indiana

DECLARATION OF RESTRICTIONS
RECORDED AS INSTRUMENT #8827023

SHEET 2 OF 2

PT. N.W. 1/4 SEC. 5-17N-3E

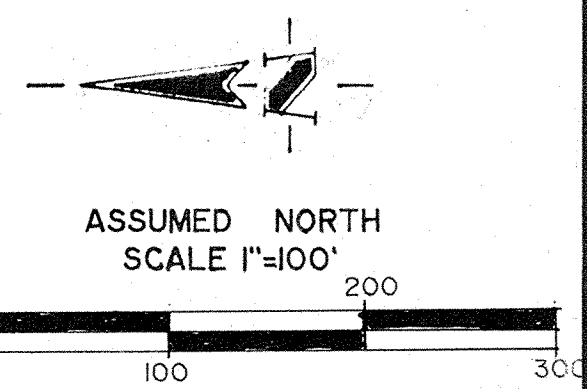
LARKSPUR PHASE 1

SECONDARY PLAT

Plan Commission: Under authority provided by Title 36, Acts of 1981, P. L. 309 enacted by the General Assembly of the State of Indiana, and all acts amendatory or supplementary thereto, and on ordinance adopted by the common council of the City of Carmel, Indiana, this plat was given approval by the City of Carmel, as follows:

Adopted by the Carmel Plan Commission at a meeting held 1988.
Carmel/Clay Plan Commission

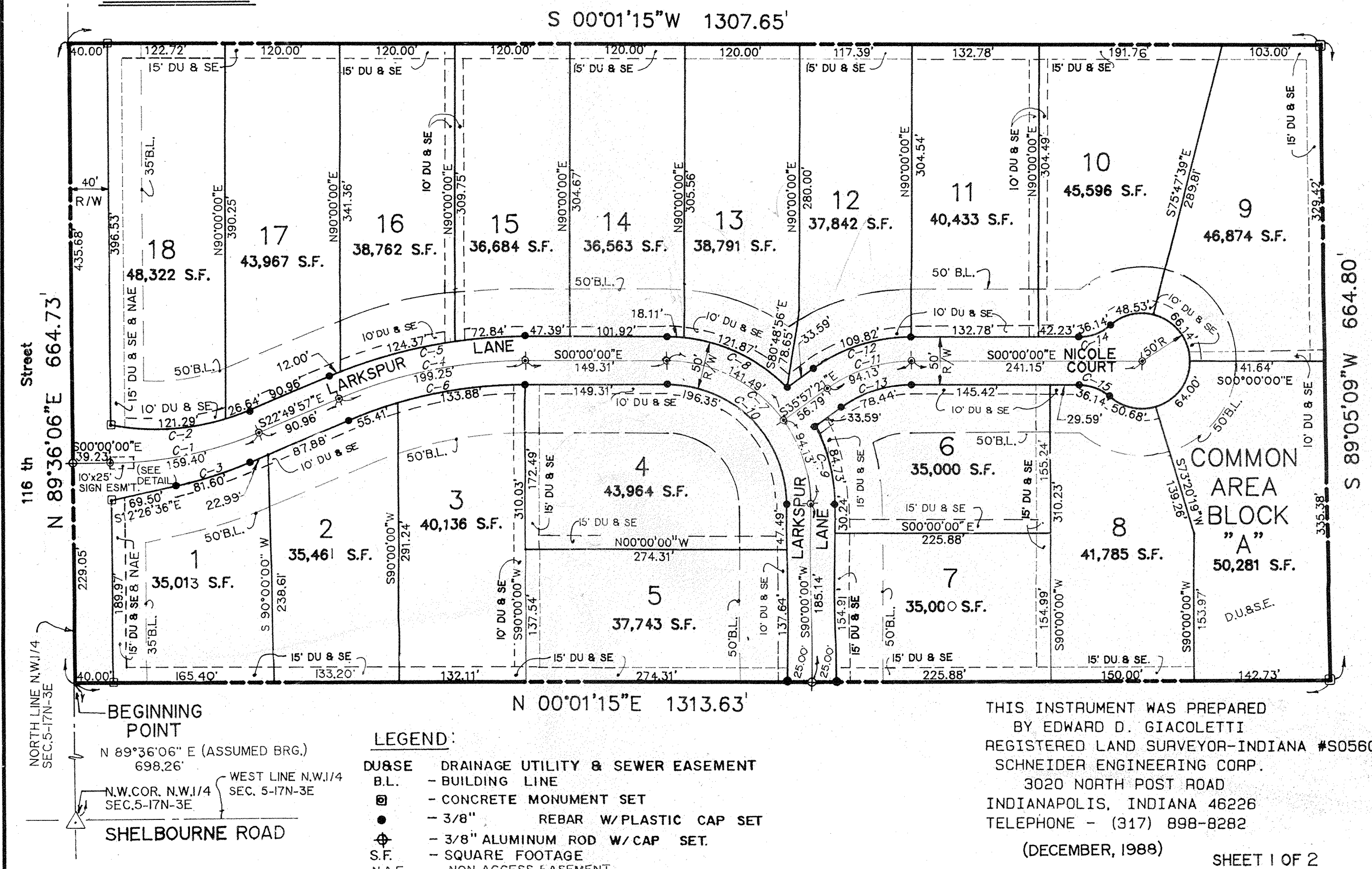
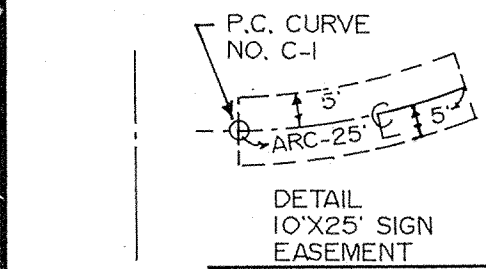
By: Wesley G. Bucher
Wesley G. Bucher, Director
Department of Community Development
Carmel, Indiana



OWNER & SUBDIVIDER:
THE KELLEY GROUP
6461 NORTH BROADWAY
INDIANAPOLIS, INDIANA 46220
(317)291-1772

CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C-1	400.00'	159.40'	80.77'	158.35'	S11°24'58"E	22°49'57"
C-2	251.81'	147.93'	76.17'	145.82'	S06°00'09"E	33°39'36"
C-3	450.00'	81.60'	40.81'	81.48'	S17°38'17"E	102°31'21"
C-4	500.00'	199.25'	100.97'	197.94'	S11°24'58"E	22°49'57"
C-5	525.00'	209.21'	106.01'	207.83'	S11°24'58"E	22°49'57"
C-6	475.00'	189.29'	95.92'	188.04'	S11°24'58"E	22°49'57"
C-7	150.00'	235.62'	150.00'	212.13'	S45°00'00"W	90°00'00"
C-8	175.00'	139.96'	73.98'	138.28'	S22°54'55"W	45°49'52"
C-9	175.00'	84.73'	43.22'	83.91'	S78°07'43"W	27°44'33"
C-10	125.00'	196.35'	125.00'	176.78'	S45°00'00"W	90°00'00"
C-11	150.00'	94.13'	48.67'	92.59'	S17°58'40"E	35°57'21"
C-12	175.00'	109.82'	56.79'	108.03'	S17°58'40"E	35°57'21"
C-13	125.00'	78.44'	40.56'	77.16'	S17°58'40"E	35°57'21"
C-14	50.00'	36.14'	18.90'	35.36'	S20°42'17"E	41°24'35"
C-15	50.00'	36.14'	18.90'	35.36'	S20°42'17"W	41°24'35"

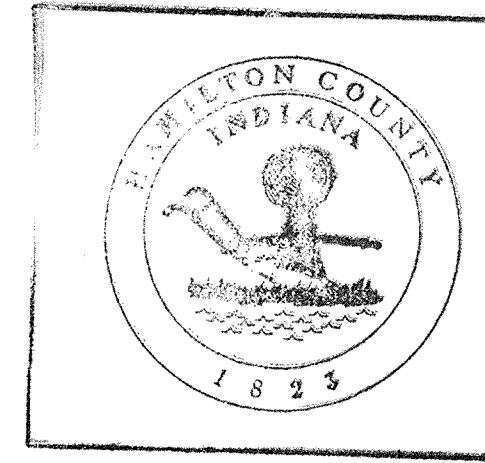


LEGEND:

- DU&SE DRAINAGE UTILITY & SEWER EASEMENT
- B.L. - BUILDING LINE
- ☐ - CONCRETE MONUMENT SET
- - 3/8" REBAR W/PLASTIC CAP SET
- ⊕ - 3/8" ALUMINUM ROD W/CAP SET
- S.F. - SQUARE FOOTAGE
- N.A.E. - NON ACCESS EASEMENT

THIS INSTRUMENT WAS PREPARED
BY EDWARD D. GIACOLETTI
REGISTERED LAND SURVEYOR-INDIANA #S0560
SCHNEIDER ENGINEERING CORP.
3020 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46226
TELEPHONE - (317) 898-8282
(DECEMBER, 1988)

SHEET 1 OF 2



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: 1-13-04
Entered by: JDH

FILED
NOV 10 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

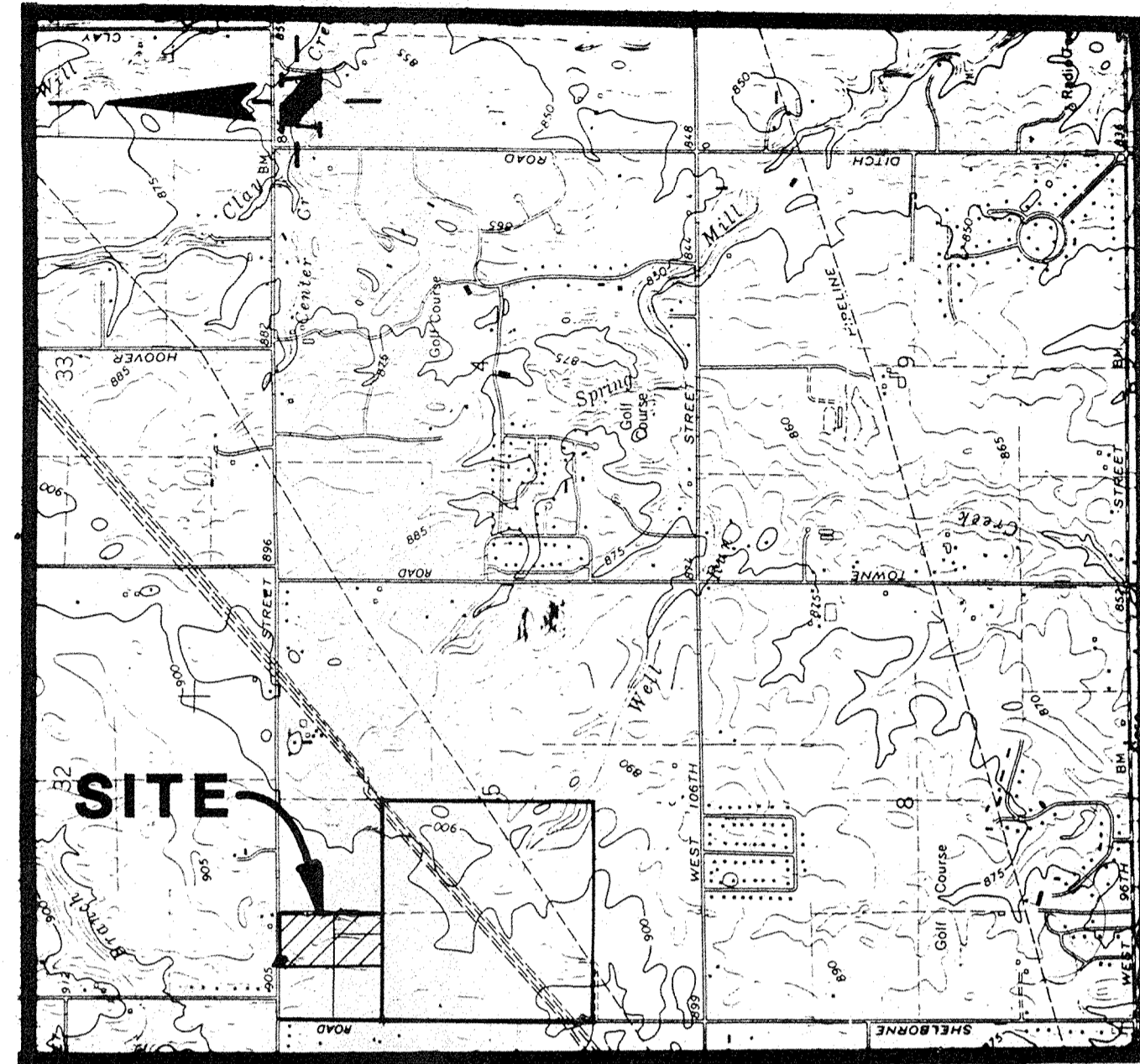
LARKSPUR PHASE 1 CONSTRUCTION PLANS

Developer:

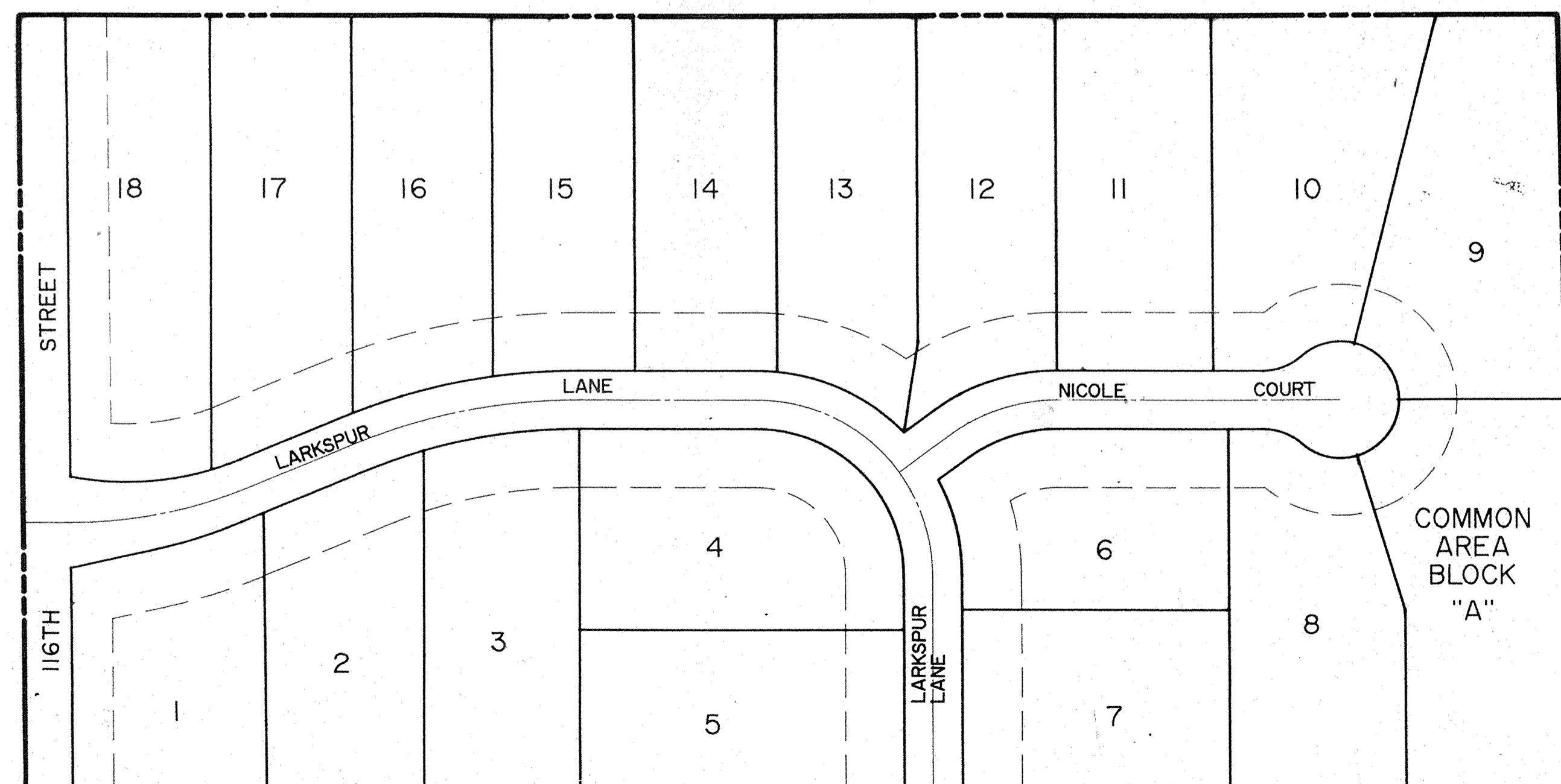
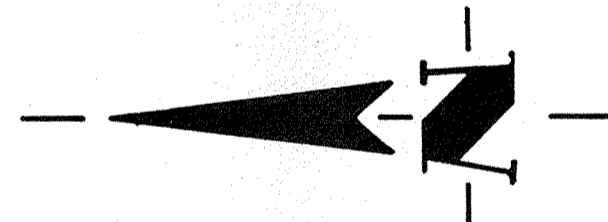
THE KELLEY GROUP
6461 NORTH BROADWAY
INDIANAPOLIS, INDIANA 46220
(317) 251-1772

Engineer:

SCHNEIDER ENGINEERING CORP.
3020 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46226
(317) 898-8282



AREA MAP



SITE MAP

INDEX

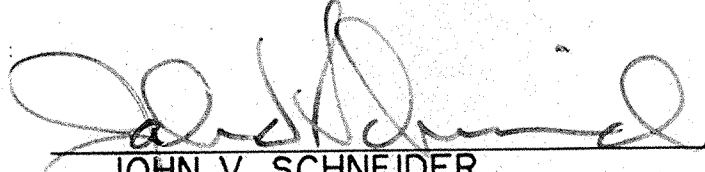
SHEET N ^o	DESCRIPTION
S-1	TITLE SHEET
S-2	LAND DESCRIPTION
S-3	TOPOGRAPHY
S-4	DEVELOPMENT PLAN
S-5	STREET PLAN
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S-7-S-8	OFF SITE STORM SEWER PLAN
S-9-S-10	STORM SEWER PLAN
S-11	WATER DISTRIBUTION SYSTEM
S-12-S-13	GENERAL DETAILS
S-14	SPECIFICATIONS
S-15	EROSION CONTROL PLAN

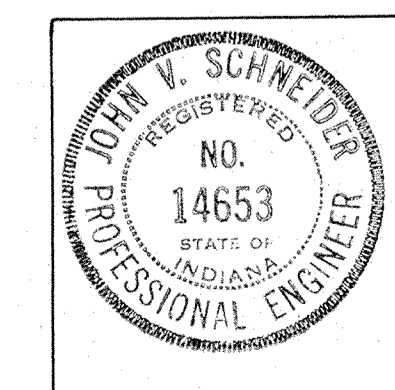
PLANS PREPARED BY:

 **Schneider Engineering Corporation**
CIVIL ENGINEERS — LAND SURVEYORS

3020 North Post Road
Indianapolis, Indiana 46226
Phone: (317) 898-8282

CERTIFIED BY:


JOHN V. SCHNEIDER
DATE: 7/12/88

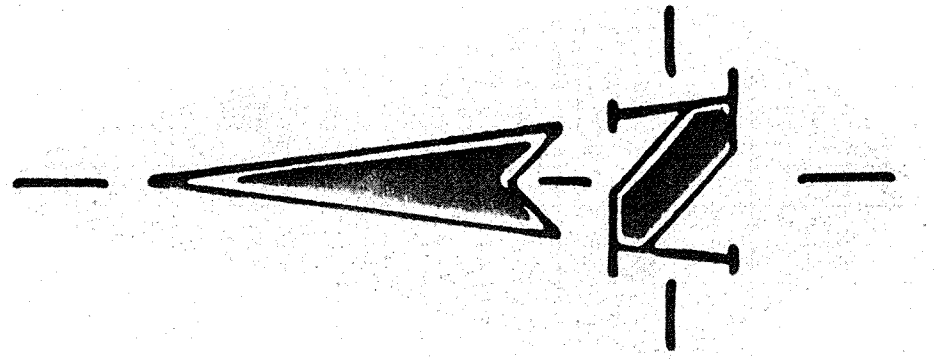


DRAWN BY: MRW
DATE: 7/11/88
CHECKED BY:

FILED

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OFFICE OF HAMILTON COUNTY SURVEYOR

SHEET S-1
OF 15



ASSUMED NORTH
SCALE: 1"=50'

S 00°01'15"W 1307.65

STREET

N 89°36'06"E 664.73

116TH

North Line N.W. 1/4 Sec. 5-17-3 E.
698.26'

N 89° 36' 06" E
(Assumed Bearing)

N.W. Corner N.W. 1/4
Section 5, T.17N., R.3 E.

West Line N.W. 1/4 Sec. 5-17-3 E
N 00° 01' 15" E

Shelbourne Road

(20.00 Ac. ±)

Part N.W. 1/4 Sec. 5-17-3E

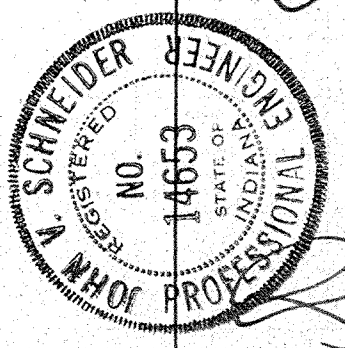
N 00°01'15"E 1313.63

S 89°05'09"W 664.80

LAND DESCRIPTION

Part of the Northwest Quarter of Section 5, Township 17 North, Range 3 East, Hamilton County, Indiana, and being more particularly described as follows: Beginning at a point on the North line of said quarter section being North 89 degrees 36 minutes 06 seconds East (assumed bearing) 698.26 feet from the Northwest corner thereof; thence continue North 89 degrees 36 minutes 06 seconds East along said north line 664.73 feet; thence South 00 degrees 01 minutes 15 seconds West, parallel with the West line of said quarter section, 1307.65 feet; thence South 89 degrees 05 minutes 09 seconds West 664.80 feet; thence North 00 degrees 01 minutes 15 seconds East, parallel with said west line, 1313.63 feet to the Point of Beginning and containing 20.00 acres, more or less.

BY	DATE	CHECK NO.	BY	DATE	CHECK



[Signature]
CERTIFIED

SCHNEIDER ENGINEERING CORPORATION
3020 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46228-9518
(317) 898-8282
P.O. BOX 26088



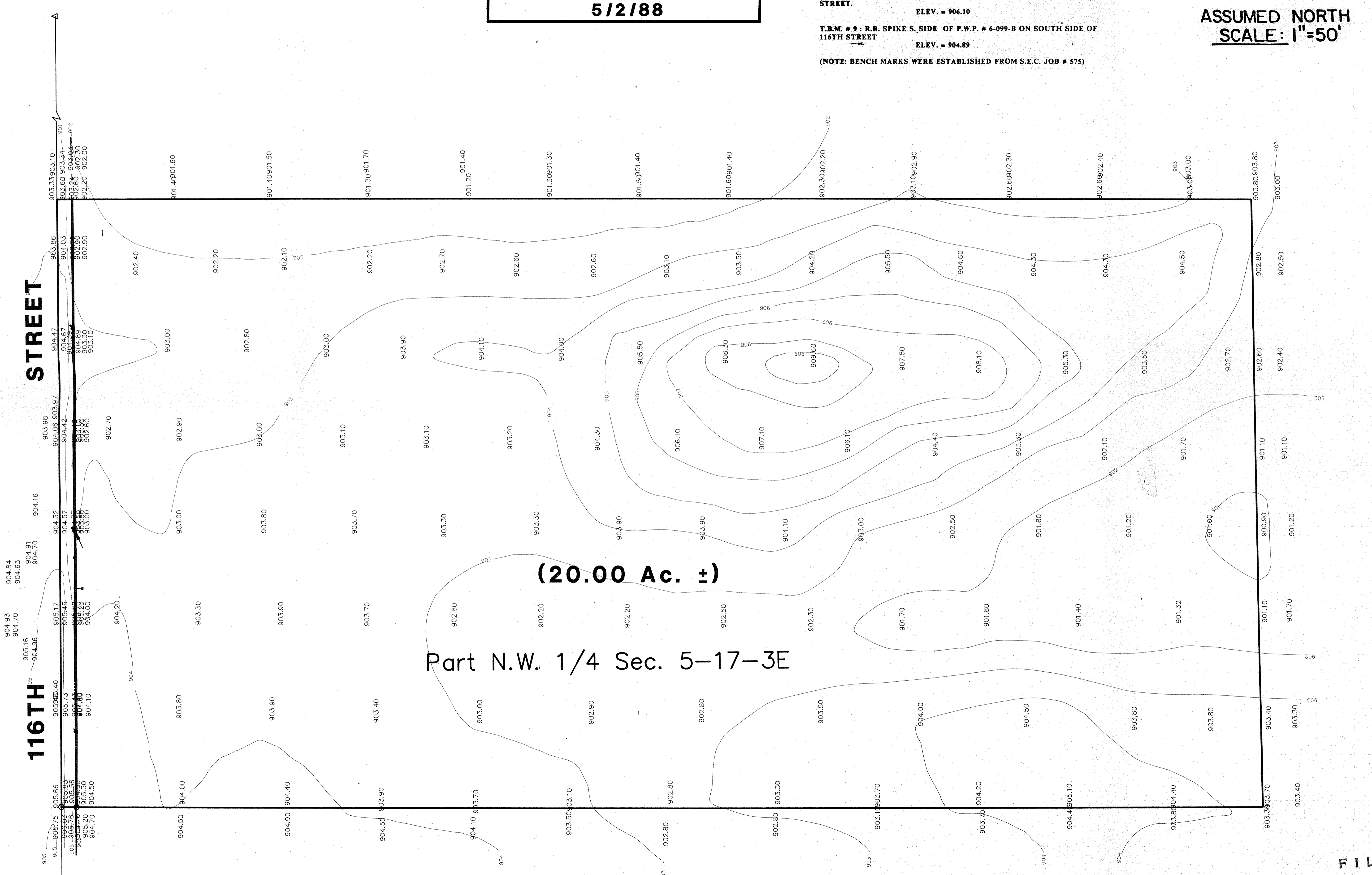
PROJECT: LARKSPUR (PHASE I)
JOB NO.: 657
PREPARED FOR: THE KELLEY GROUP
TITLE: LAND DESCRIPTION
SCALE: AS NOTED

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NOV 10 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

SHEET 5-2
OF 15

PRINT GRAPHICS NOSH



**TOPOGRAPHY
WAS COMPLETED ON
5/2/88**

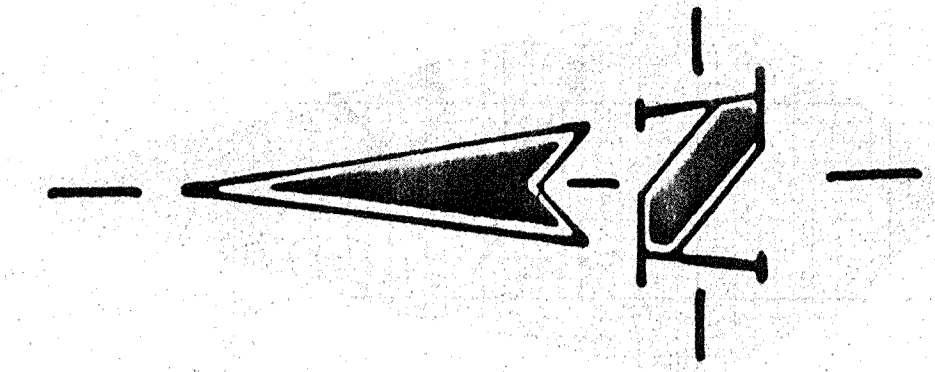
BENCH MARKS

ORIGINATING BENCH MARK : A STANDARD BRASS DISC SET IN CONCRETE STAMPED "S-78-1946, EAST SIDE OF U.S. 421, APPROXIMATELY 1,110 FEET NORTH OF WEST 106TH STREET.
ELEV. = 901.16

T.B.M. # 8 : R.R. SPIKE 1.6' UP S. SIDE OF P.W.P. ON SOUTH SIDE OF 116TH STREET.
ELEV. = 906.10

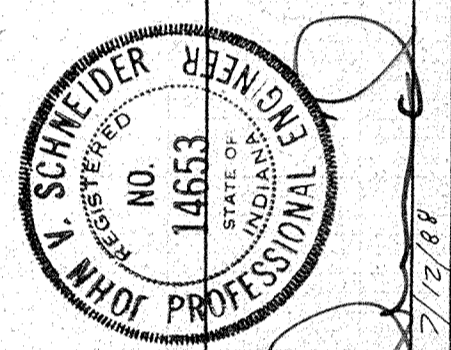
T.B.M. # 9 : R.R. SPIKE S. SIDE OF P.W.P. # 6-099-B ON SOUTH SIDE OF 116TH STREET
ELEV. = 904.89

(NOTE: BENCH MARKS WERE ESTABLISHED FROM S.E.C. JOB # 575)



**ASSUMED NORTH
SCALE: 1"=50'**

NO.	DATE	CHECKED BY	DATE	CHECKED BY
1	5/2/88			



[Signature]
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3020 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46228-6518
(317) 898-8282
P.O. BOX 260688



PROJECT: **LARKSPUR (PHASE I)**
JOB NO.: **657**
PREPARED FOR: **THE KELLEY GROUP**
TITLE: **TOPOGRAPHY**
SCALE: **AS NOTED**

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NOV 10 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

SHEET **S-3**
OF **5**

- GENERAL NOTES:**
1. ALL GRADES AT BOUNDARY SHALL MEET EXISTING GRADES.
 2. IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF WORK. IT SHALL ALSO BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATION OF EACH UTILITY BEFORE WORK IS STARTED. THE SUBCONTRACTOR SHALL NOTIFY IN WRITING THE OWNER OR THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN FIELD BEFORE WORK IS STARTED OR RESUMED.
 3. STANDARD SPECIFICATIONS FOR THE CITY OF CARMEL, INDIANA SHALL APPLY FOR ALL STORM SEWERS.
 4. ANY PART OF THE STORM SEWER TRENCHES RUNNING UNDER PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
 5. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ARE PER INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES. ALL UTILITY COMPANIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION FOR FIELD LOCATION OF SERVICES.
 6. SERVICE WALKS SHALL OF NON-REINFORCED CONCRETE 4" THICK AND 4' IN WIDTH.
 7. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
 8. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
 9. EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTIONS AND BETWEEN WALKS AND PLATFORMS. SIDEWALK SCORES ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS. CONTRACTION JOINTS AND PERPENDICULAR SIDEWALKS AT 5' INTERVALS OR LESS WITH A CONTRACTION JOINT EVERY 20' OR LESS.
 10. 4" CONCRETE SERVICE WALK ACROSS FRONTAGE OF EACH LOT TO BE CONSTRUCTED BY OTHERS.

NOTE
ABSOLUTELY NO TRAFFIC TO BE PERMITTED ON THE PROPOSED SEPTIC ABSORPTION FIELD AREAS.

CERTIFICATION FOR "RECORD DRAWING"

CERTIFIED BY: *Stephen Case* 4/6/90

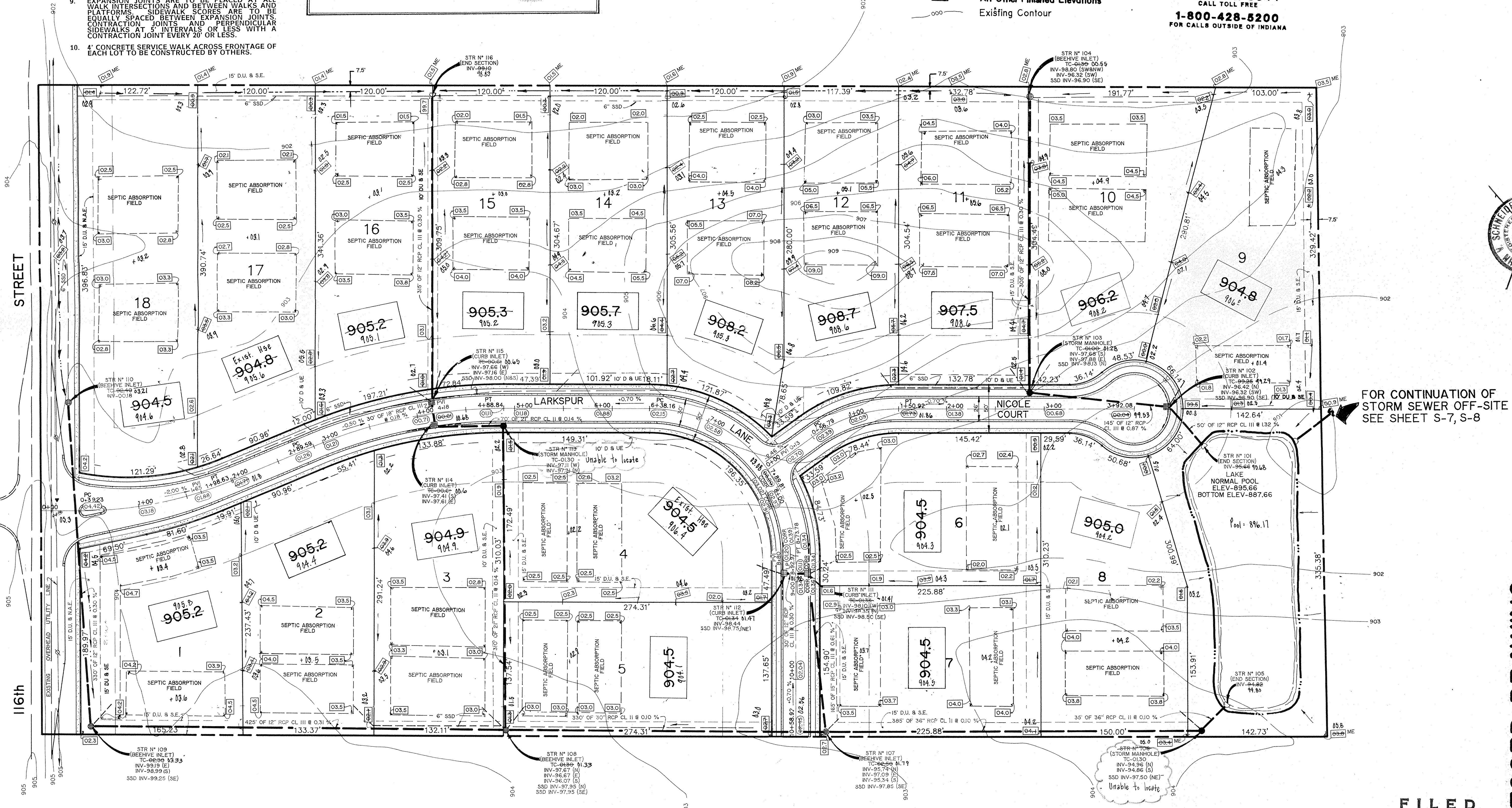
- Utilities**
- Gas**
Indiana Gas Company
15900 Allisonville Road
Noblesville, Indiana 46060
(317)773-0430
 - Water**
Indianapolis Water Company
220 Waterway Blvd
Indianapolis, Indiana 46220
(317)639-1501
 - Telephone**
Indiana Bell Telephone Co.
220 North Meridian Street
Indianapolis, Indiana 46220
252-5878 or 1-800-382-5544
 - Electric**
Utility Hotline: within Indiana 1-800-382-5544 outside Indiana 1-800-428-5200
- BENCH MARKS**
- Storm Sewer**
Hamilton County Surveyor
Hamilton County Courthouse
Noblesville, Indiana 46060
(317)886-9626
 - Streets**
Hamilton County Highway Dept.
171 East Pleasant
Noblesville, Indiana 46060
(317)773-7770
 - Cable TV**
ACCU Cable
516 East Carmel Drive
Carmel, Indiana 46032
(317)844-8877
- ORIGINATING BENCH MARK: A STANDARD BRASS DISC SET IN CONCRETE STAMPED S-78-194A, EAST SIDE OF U.S. 421, APPROXIMATELY 1,110 FEET NORTH OF WEST 104TH STREET. ELEV. = 901.16**
- T.B.M. # 8: R.R. SPIKE 1.0' UP & SIDE OF P.W.P. ON SOUTH SIDE OF 116TH STREET. ELEV. = 906.10**
- T.B.M. # 9: R.R. SPIKE S. SIDE OF P.W.P. # 6-099-B ON SOUTH SIDE OF 116TH STREET. ELEV. = 904.89**
- (NOTE: BENCH MARKS WERE ESTABLISHED FROM S.E.C. JOB # 575)**

Legend

- 00.00 ME Match Existing Grade Elevation
- Subsurface Drain
- New Storm Sewer Inlet
- New Storm Sewer End Section
- Finished Pavement Elevations
- All Other Finished Elevations
- Existing Contour

HOLEY MOLEY SAYS,
"DON'T DIG BLIND"

1-800-382-5544
CALL TOLL FREE
1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA



FOR CONTINUATION OF STORM SEWER OFF-SITE SEE SHEET S-7, S-8

SCHNEIDER ENGINEERING CORPORATION
300 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46204-6818
(317) 898-8282
P.O. BOX 26068

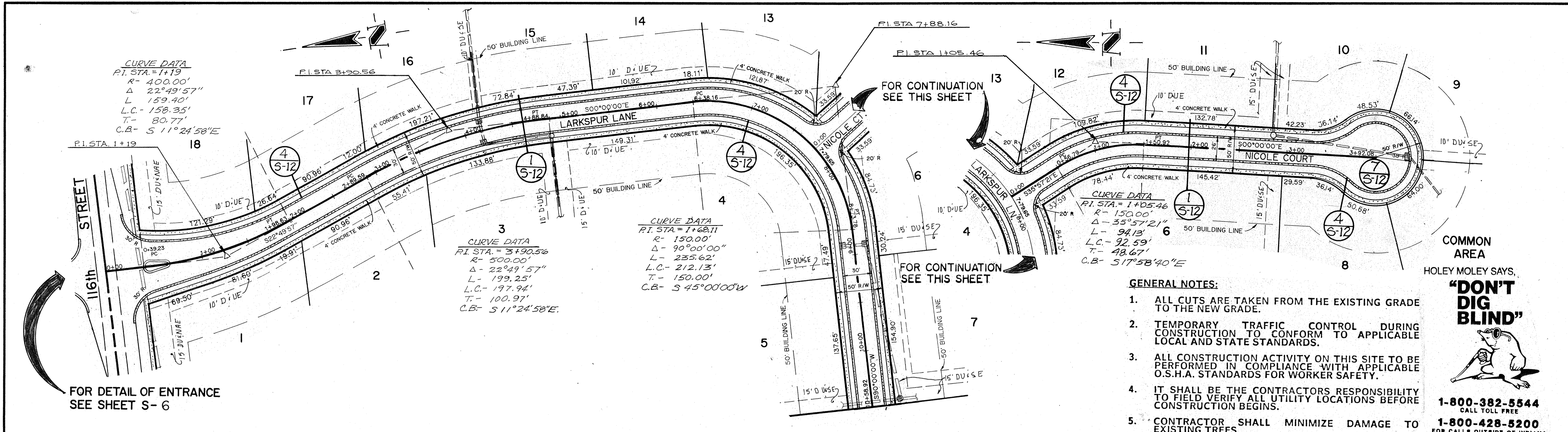
RECORD DRAWING

PROJECT: LARKSPUR PHASE I
PREPARED FOR: THE KELLEY GROUP
TITLE: DEVELOPMENT PLAN

JOB NO. 657
SCALE: 1" = 50'

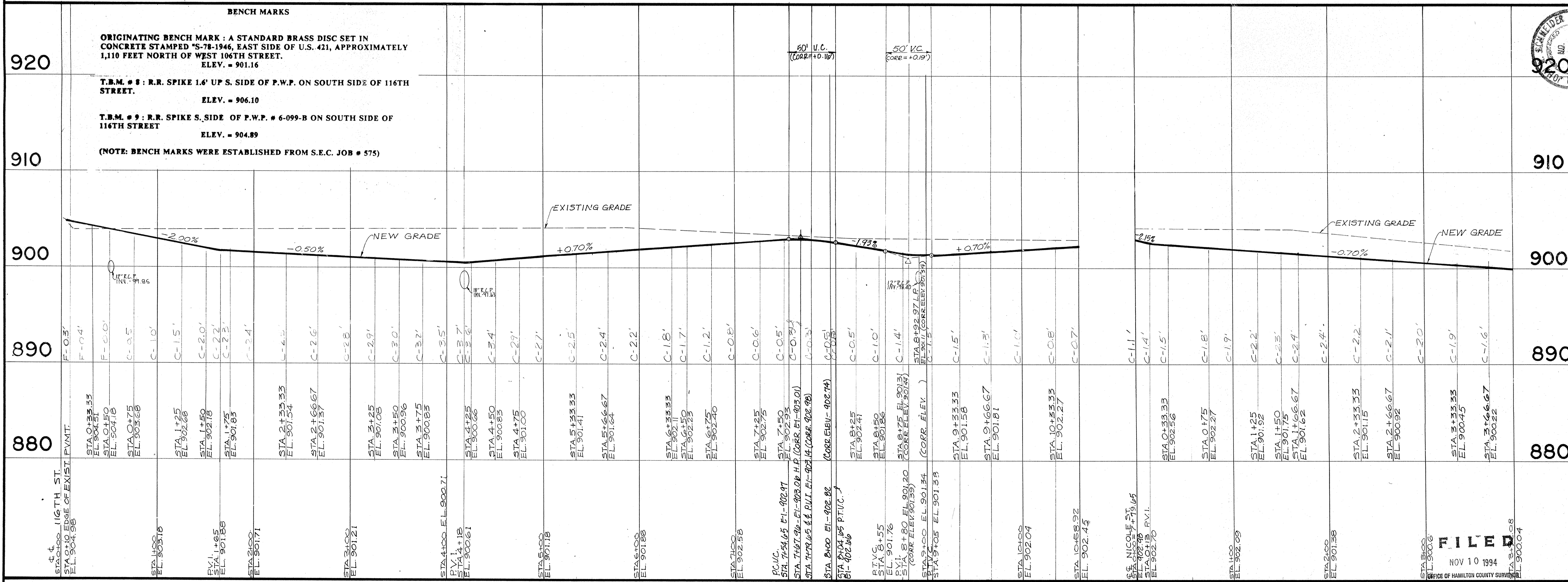
SHEET OF 4
15

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PLAN OF STREET

SCALE: 1" = 50'



PROFILE OF STREET

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

REVISIONS

NO.	DATE	BY	CHECK	DESCRIPTION
1	7/1/88	J.E.E.	J.E.E.	ADD P.I. & L.C. TO LARKSPUR LANE & NICOLE COURT
2	7/1/88	J.E.E.	J.E.E.	ADD P.I. & L.C. TO LARKSPUR LANE & NICOLE COURT

DATE 7/1/88
BY J.E.E.
CHECK J.E.E.

PROJECT LARKSPUR (PHASE I)
PREPARED FOR THE KELLEY GROUP
TITLE STREET PLAN

SCALE 1" = 50'

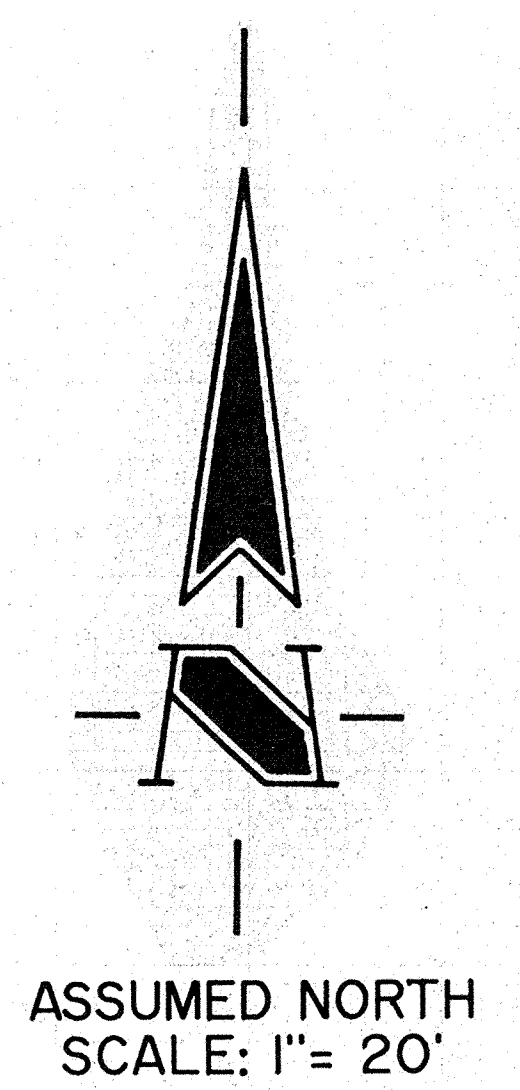
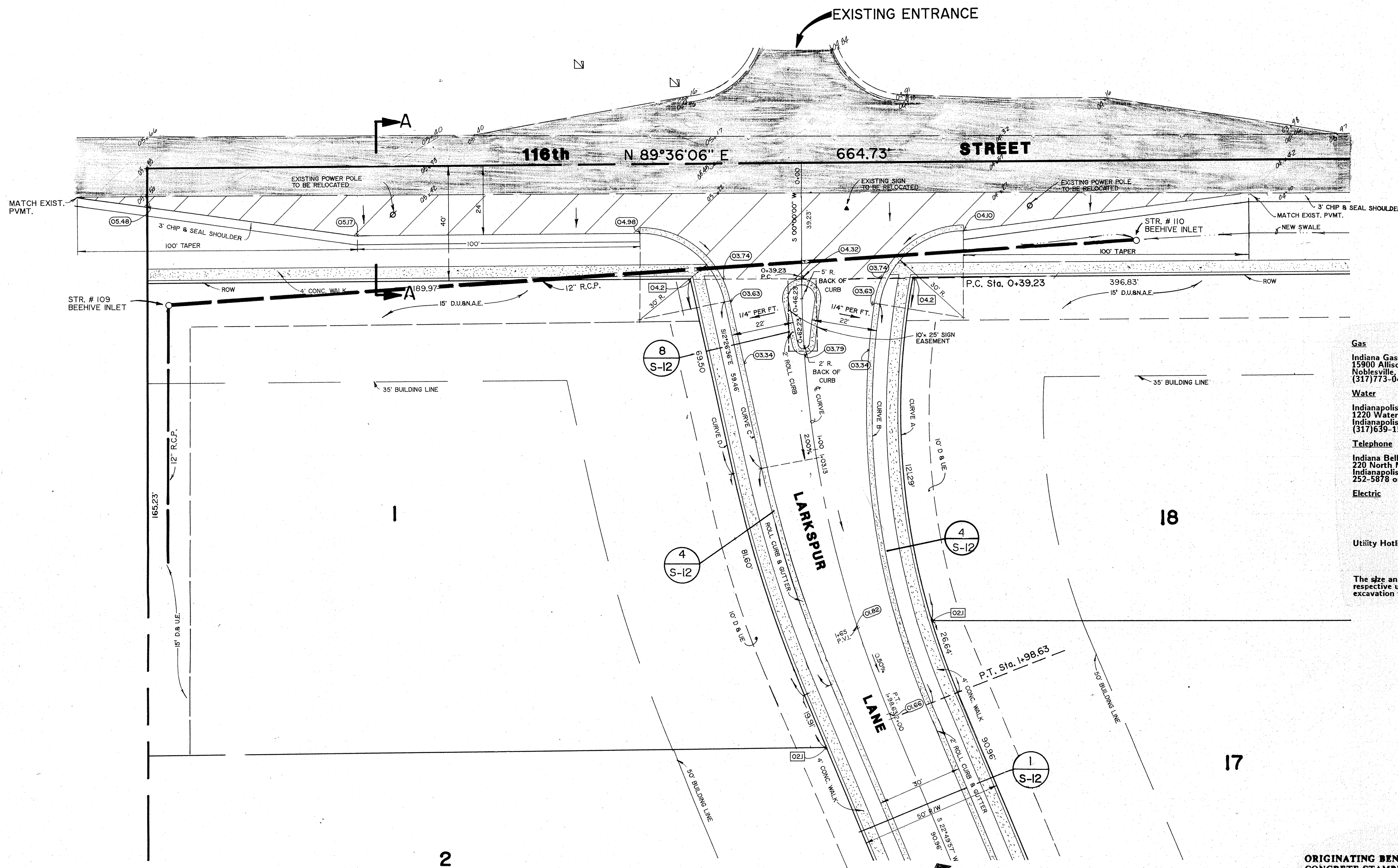
SHEET 6 OF 15

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 NOV 10 1994
 OFFICE OF HAMILTON COUNTY SURVEYOR

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 INDIANAPOLIS, INDIANA 46201
 (317) 898-9282
 P.O. BOX 2068

CIVIL ENGINEERS
 LAND SURVEYORS

920 PROFESSIONAL SEAL



- Utilities**
- Gas**
Indiana Gas Company
15900 Allisonville Road
Noblesville, Indiana 46060
(317)773-0430
 - Water**
Indianapolis Water Company
1220 Waterway Blvd
Indianapolis, Indiana 46220
(317)659-1501
 - Telephone**
Indiana Bell Telephone Co.
220 North Meridian Street
Indianapolis, Indiana 46220
252-5878 or 1-800-382-5544
 - Electric**
Utility Hotline: within Indiana 1-800-382-5544 outside Indiana 1-800-428-5200
 - Storm Sewer**
Hamilton County Surveyor
Hamilton County Courthouse
Noblesville, Indiana 46060
(317)886-9626
 - Streets**
Hamilton County Highway Dept.
1717 East Pleasant
Noblesville, Indiana 46060
(317)773-7770
 - Cable TV**
ACCU Cable
516 East Carmel Drive
Carmel, Indiana 46032
(317)844-8877

Note
The size and location of utilities are per plans and locations provided by the respective utility companies. All utility companies should be notified prior to any excavation for field location of services.

HOLEY MOLEY SAYS,
"DON'T DIG BLIND"

1-800-382-5544
CALL TOLL FREE
1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA

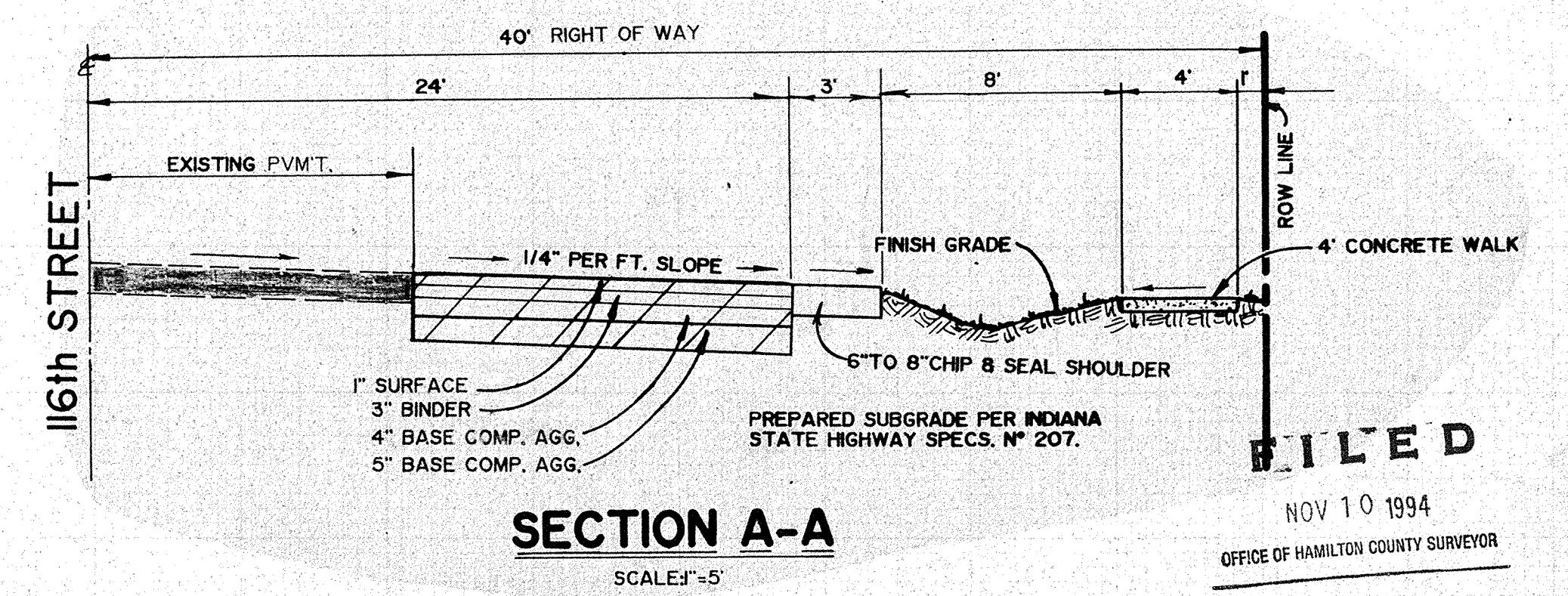
BENCH MARKS

- ORIGINATING BENCH MARK : A STANDARD BRASS DISC SET IN CONCRETE STAMPED "S-78-1946, EAST SIDE OF U.S. 421, APPROXIMATELY 1,110 FEET NORTH OF WEST 106TH STREET. ELEV. = 901.16**
- T.B.M. # 8 : R.R. SPIKE 1.6' UP S. SIDE OF P.W.P. ON SOUTH SIDE OF 116TH STREET. ELEV. = 906.10**
- T.B.M. # 9 : R.R. SPIKE S. SIDE OF P.W.P. # 6-099-B ON SOUTH SIDE OF 116TH STREET ELEV. = 904.89**
- (NOTE: BENCH MARKS WERE ESTABLISHED FROM S.E.C. JOB # 575)

CURVE DATA						
CURVE N ^o	R	Δ	L	L.C.	T	C.B.
CURVE A	251.81'	33°39'36"	147.93'	145.82'	76.17'	S.06°00'09"E
CURVE B	261.81'	31°07'25"	142.22'	140.48'	72.91'	S.07°16'15"E
¢ CURVE	400.00'	22°49'57"	159.40'	158.35'	80.77'	S.11°24'58"E
CURVE C	440.00'	10°23'21"	79.78'	79.67'	40.00'	S.17°38'21"E
CURVE D	450.00'	10°23'21"	81.60'	81.48'	40.91'	S.17°38'17"E

LEGEND

- Existing Elevation
- Existing Pavement
- New Pavement Within ROW
- Finish Pavement Grade
- Finish Top of Curb Grade
- All Other Finish Elevations



REVISIONS

NO.	DATE	CHECK	BY
1	11.28.88		ADD. W. D. U.E. AS-CAT
2	11.28.88		ADD. ELEVATION TRACK PALES

ENGINEER
NO. 14653
STATE OF INDIANA
PROFESSIONAL

SCHNEIDER ENGINEERING CORPORATION
13171 888-8282
P.O. BOX 25888
INDIANAPOLIS, INDIANA 46228-8818

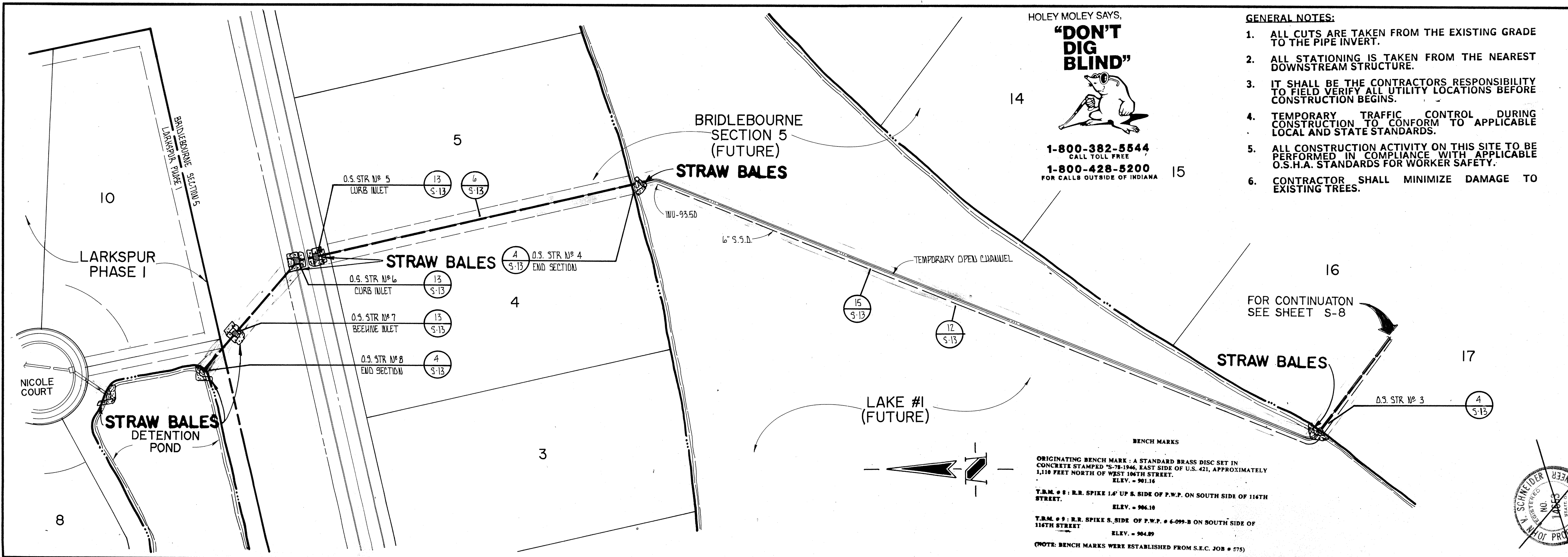
PROJECT LARKSPUR (PHASE I)
PREPARED FOR THE KELLEY GROUP
TITLE ENTRANCE PLAN

SCALE AS NOTED

JOB NO. 657

SHEET OF S-6
15

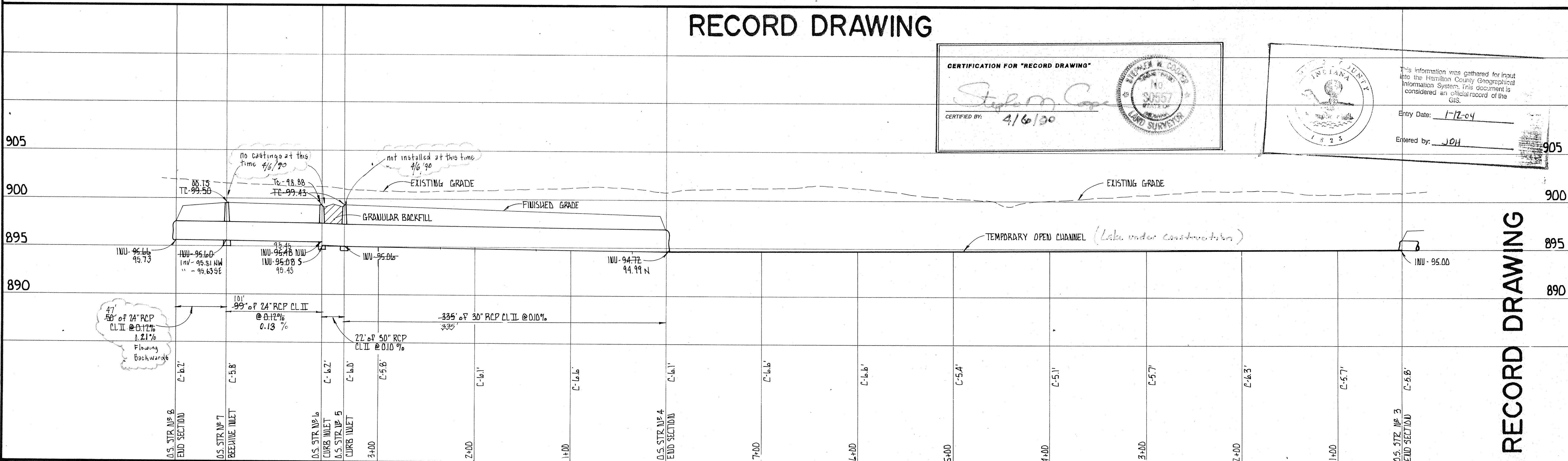
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PLAN OF OFF-SITE STORM SEWER

SCALE: 1" = 50'

RECORD DRAWING



PROFILE OF OFF-SITE STORM SEWER

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

NOV 10 1994
 OFFICE OF HAMILTON COUNTY SURVEYOR

REVISIONS

NO.	DATE	CHECKED BY	DATE	CHECKED BY

PROJECT: LARKSPUR (PHASE I)
 SHEET: 6-7
 TITLE: OFF-SITE STORM-SEWER PLAN AS NOTED

SCALE: AS NOTED

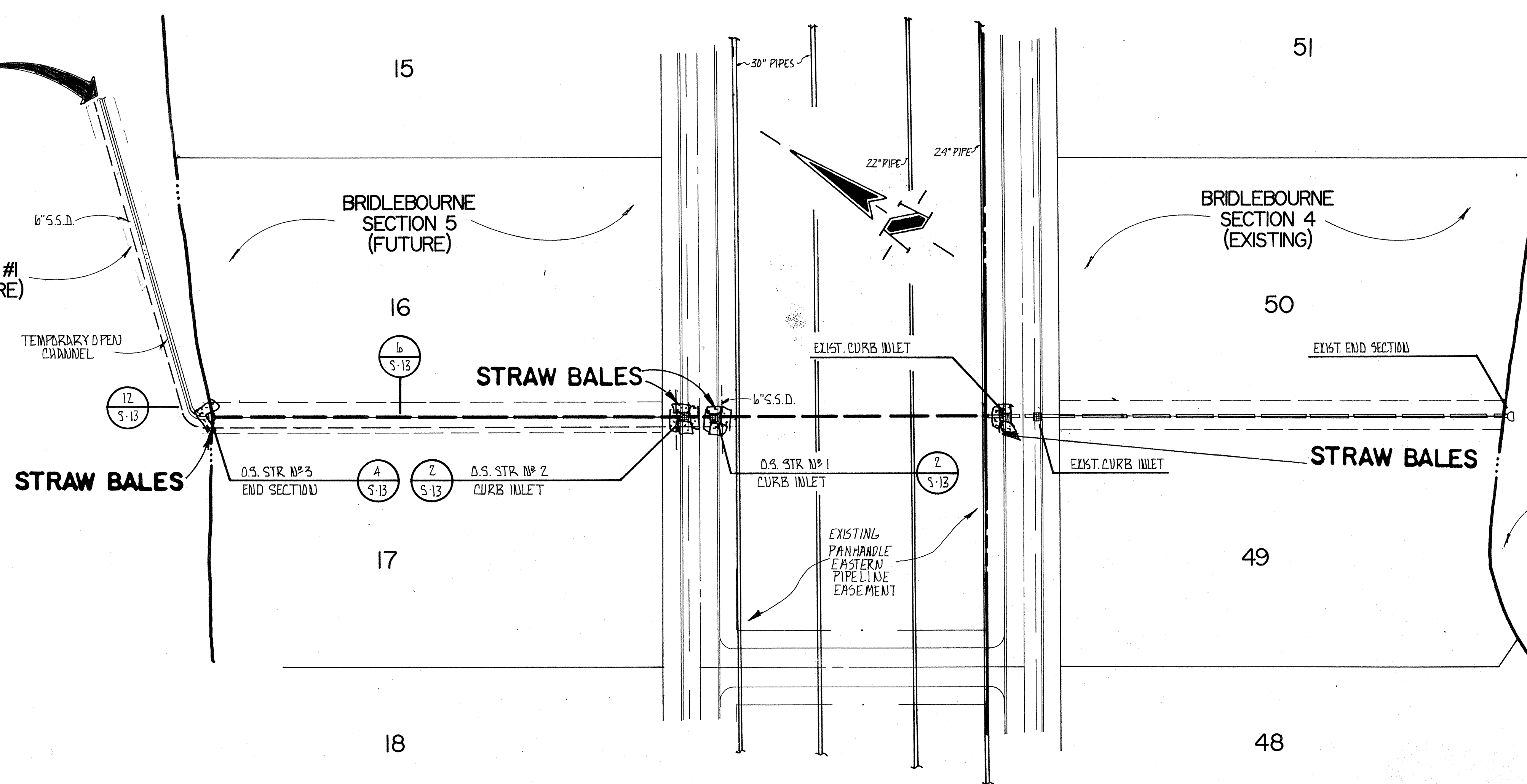
NO. 15

FOR CONTINUATION
SEE SHEET S-7

HOLEY MOLEY SAYS,
**"DON'T
DIG
BLIND"**

1-800-382-5544
CALL TOLL FREE
1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA

- GENERAL NOTES:**
1. ALL CUTS ARE TAKEN FROM THE EXISTING GRADE TO THE PIPE INVERT.
 2. ALL STATIONING IS TAKEN FROM THE NEAREST DOWNSTREAM STRUCTURE.
 3. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
 4. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
 5. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
 6. CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.



BENCH MARKS

ORIGINATING BENCH MARK: A STANDARD BRASS DISC SET IN CONCRETE STAMPED "S-78-1946, EAST SIDE OF U.S. 421, APPROXIMATELY 1,110 FEET NORTH OF WEST 116TH STREET. ELEV. = 901.16

T.B.M. # 1: R.R. SPIKE 1 1/2" UP & SIDE OF P.W.P. ON SOUTH SIDE OF 116TH STREET. ELEV. = 906.10

T.B.M. # 2: R.R. SPIKE S. SIDE OF P.W.P. # 6-099-B ON SOUTH SIDE OF 116TH STREET. ELEV. = 904.89

(NOTE: BENCH MARKS WERE ESTABLISHED FROM S.E.C. JOB # 575)

PLAN OF OFF-SITE STORM SEWER

SCALE: 1" = 50'

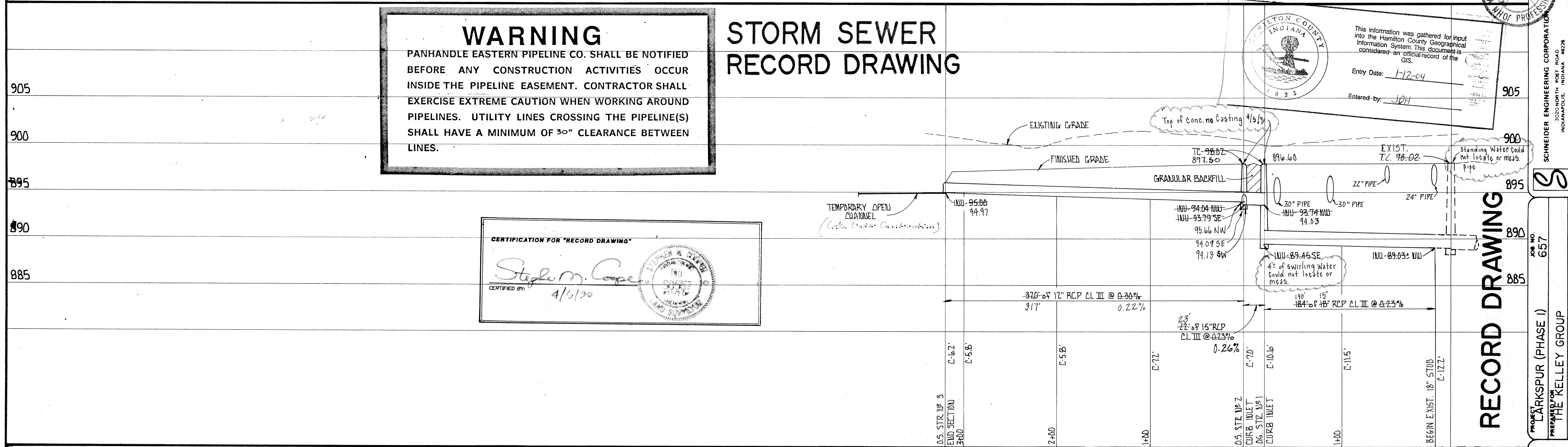
WARNING

PANHANDLE EASTERN PIPELINE CO. SHALL BE NOTIFIED BEFORE ANY CONSTRUCTION ACTIVITIES OCCUR INSIDE THE PIPELINE EASEMENT. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING AROUND PIPELINES. UTILITY LINES CROSSING THE PIPELINE(S) SHALL HAVE A MINIMUM OF 30" CLEARANCE BETWEEN LINES.

STORM SEWER RECORD DRAWING

CERTIFICATION FOR "RECORD DRAWING"

CERTIFIED BY: *Stephen M. Cope*
4/13/99



RECORD DRAWING

PROFILE OF OFF-SITE STORM SEWER

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

NOV 10 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

REVISIONS

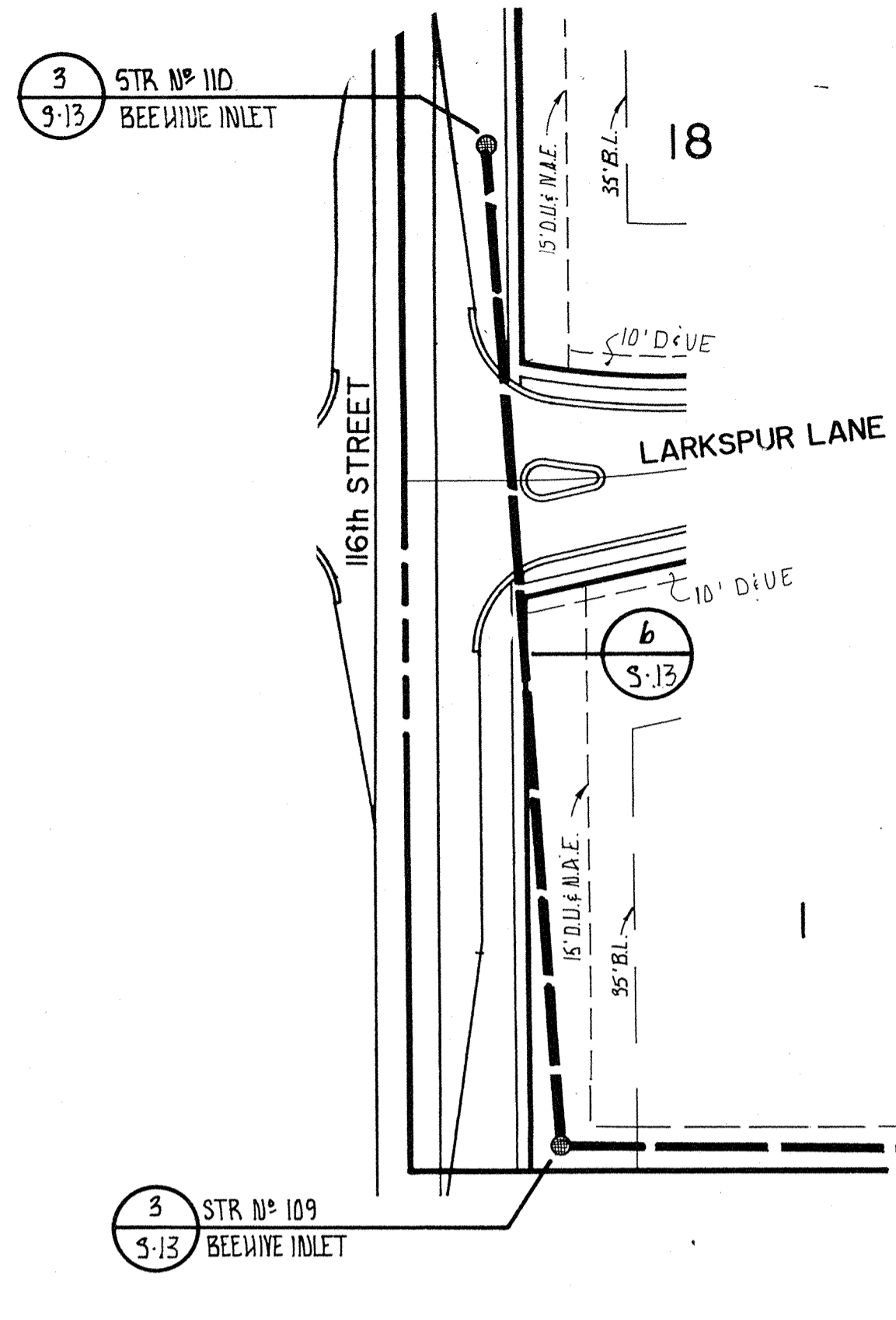
NO.	DATE	CHECKED	BY

DRAWN BY: *[Signature]*

PROJECT: LARKSPUR (PHASE I)
PREPARED FOR: THE KELLEY GROUP
TITLE: OFF-SITE STORM SEWER PLAN

FOR NO. 657
SCALE: AS NOTED

SHEET 9 OF 15



CERTIFICATION FOR "RECORD DRAWING"

Stephen M. Coe

CERTIFIED BY: 4/6/99

BENCH MARKS

ORIGINATING BENCH MARK: A STANDARD BRASS DISC SET IN CONCRETE STAMPED "S-78-1946, EAST SIDE OF U.S. 421, APPROXIMATELY 1,110 FEET NORTH OF WEST 106TH STREET. ELEV. = 901.16

T.B.M. # 8: R.R. SPIKE 1.6' UP E. SIDE OF F.W.P. ON SOUTH SIDE OF 116TH STREET. ELEV. = 906.10

T.B.M. # 9: R.R. SPIKE S. SIDE OF F.W.P. # 6-099-B ON SOUTH SIDE OF 116TH STREET. ELEV. = 904.89

(NOTE: BENCH MARKS WERE ESTABLISHED FROM S.E.C. JOB # 575)

HOLEY MOLEY SAYS.

"DON'T DIG BLIND"

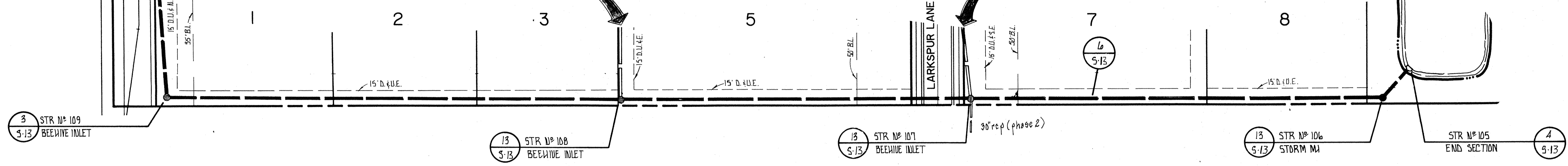
1-800-382-5544
CALL TOLL FREE

1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA

- GENERAL NOTES:**
- ALL CUTS ARE TAKEN FROM THE EXISTING GRADE TO THE PIPE INVERT.
 - ALL STATIONING IS TAKEN FROM THE NEAREST DOWNSTREAM STRUCTURE.
 - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL UTILITY LOCATIONS BEFORE CONSTRUCTION BEGINS.
 - TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
 - ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
 - CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.

FOR CONTINUATION SEE SHEET S-10

FOR CONTINUATION SEE SHEET S-10



PLAN OF STORM SEWER

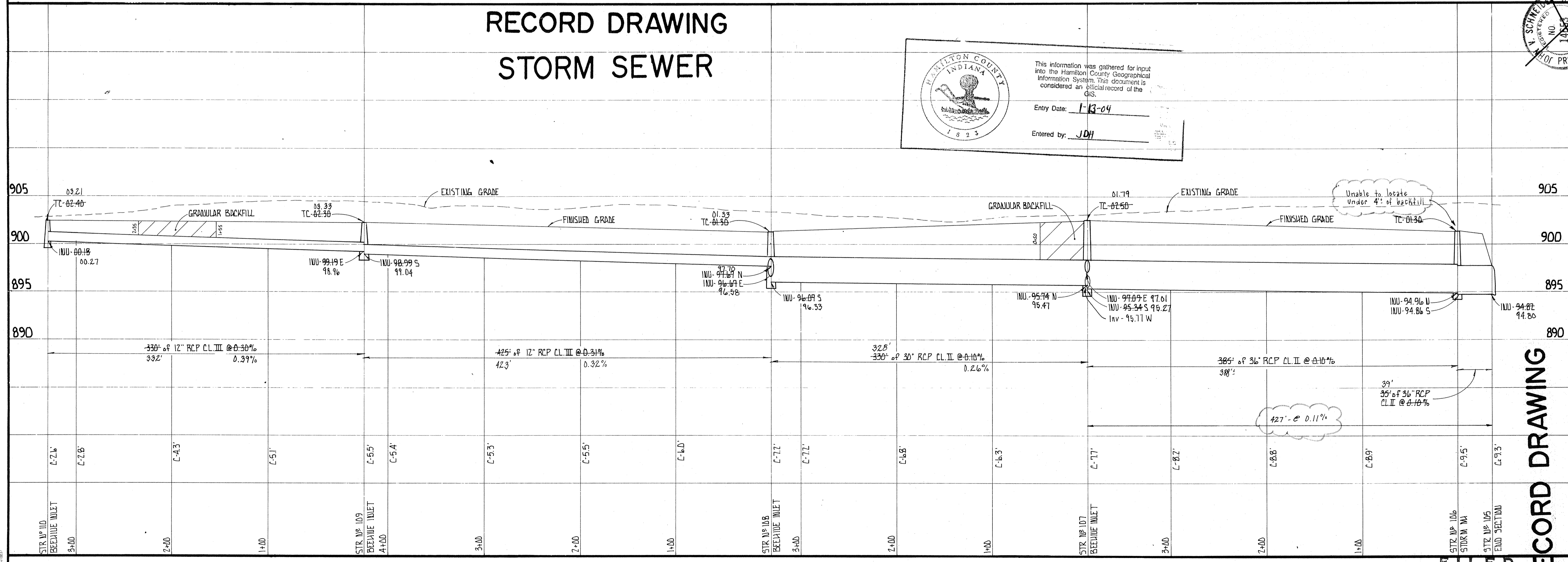
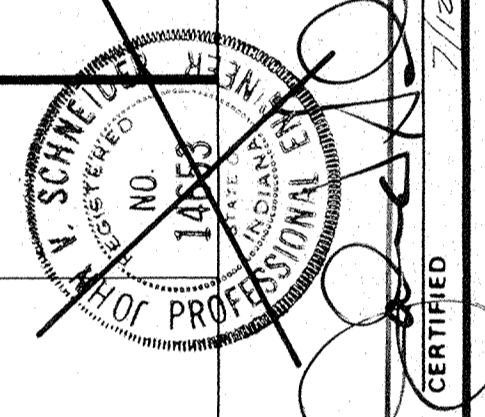
SCALE: 1" = 50'

**RECORD DRAWING
STORM SEWER**

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: 1-13-04

Entered by: JDI



PROFILE OF STORM SEWER

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

NOV 10 1994

OFFICE OF HAMILTON COUNTY SURVEYOR

RECORD DRAWING

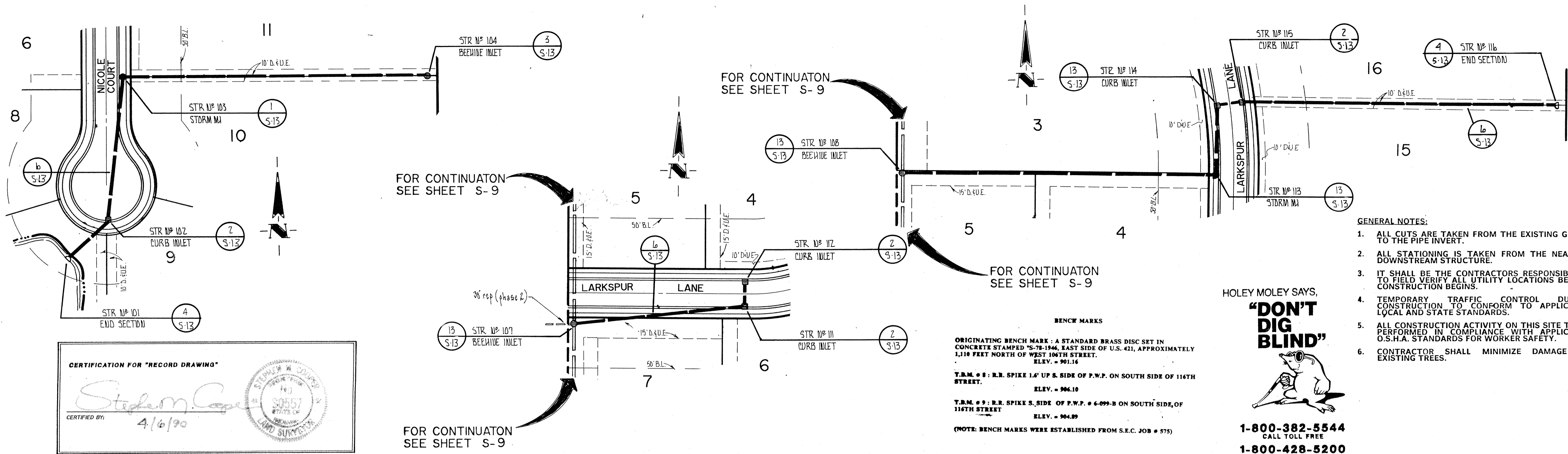
PROJECT: LARKSPUR (PHASE I)
PREPARED FOR: THE KELLEY GROUP
TITLE: STORM SEWER PLAN

JOB NO. 657
SCALE: AS SHOWN

SCHNEIDER ENGINEERING CORPORATION
300 NORTH WEST ROAD
INDIANAPOLIS, INDIANA 46224-5118
CIVIL ENGINEERS
LAND SURVEYORS

(317) 898-8282
P.O. BOX 26088

SHEET 6-9
OF 15



PLAN OF STORM SEWER

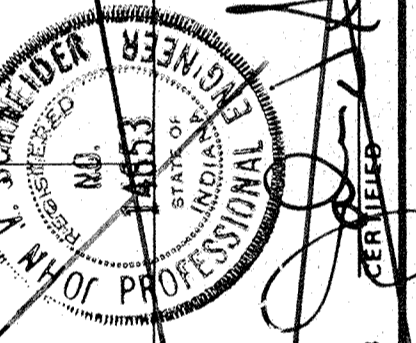
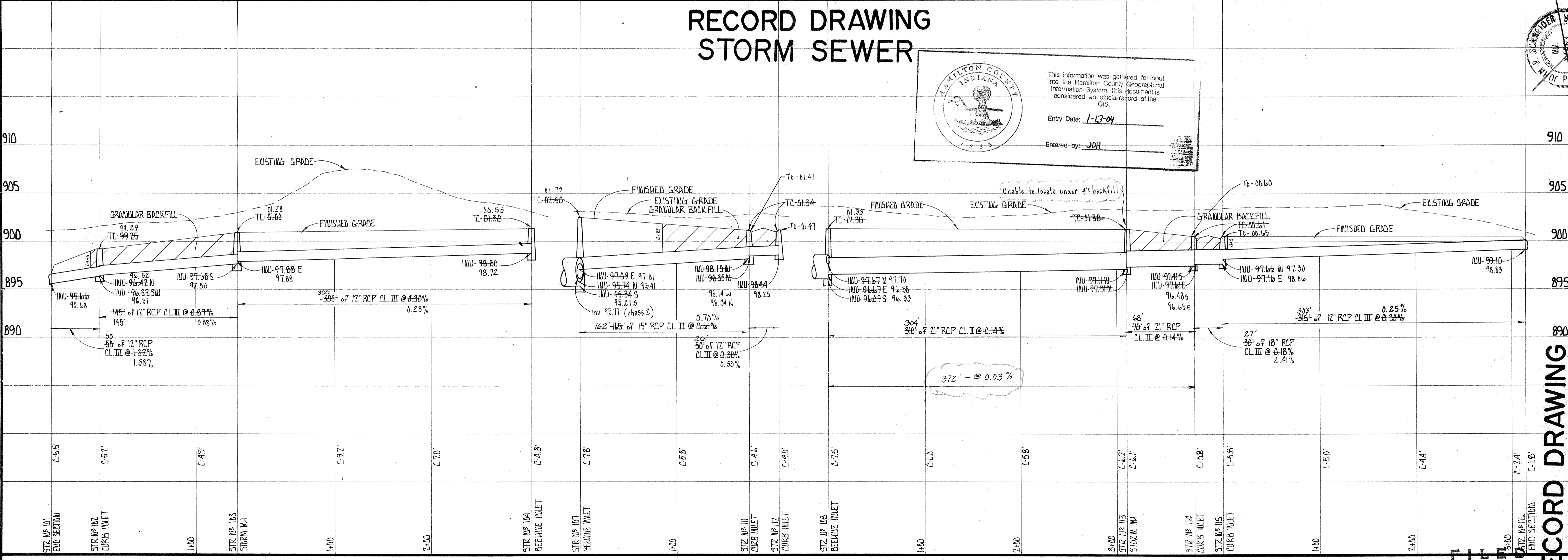
SCALE: 1" = 50'

RECORD DRAWING STORM SEWER

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Entry Date: 1-13-04

Entered by: JDH



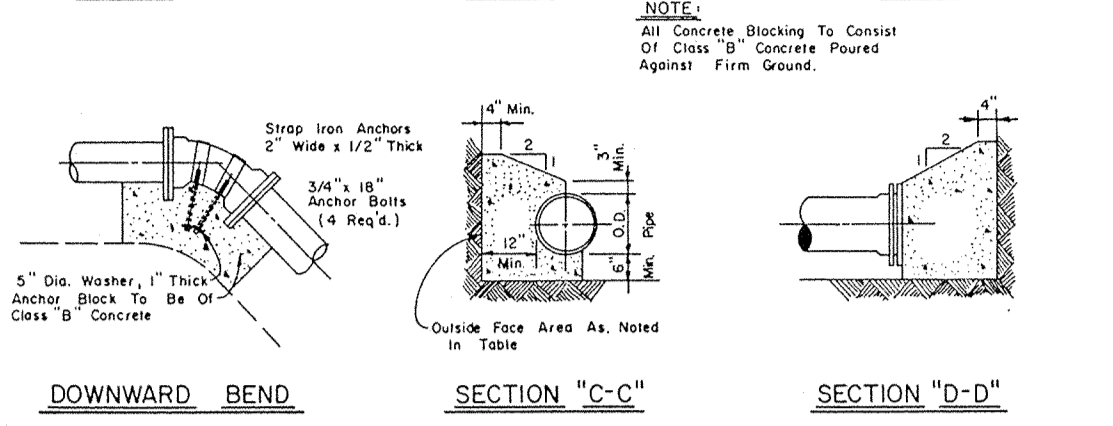
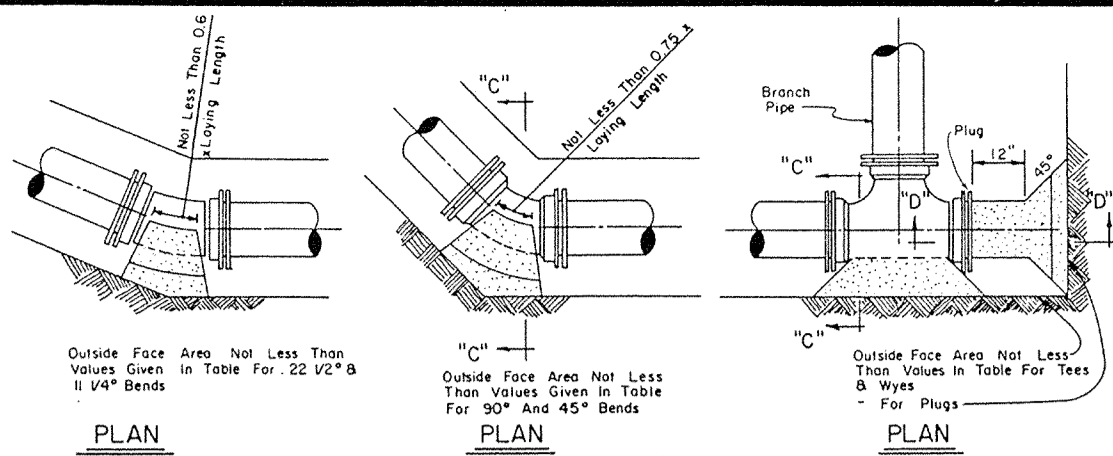
SCHNEIDER ENGINEERING CORPORATION
300 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46204-5818
civil engineers
land surveyors

RECORD DRAWING

PROJECT: LARKSPUR (PHASE I)
PREPARED BY: THE KELLEY GROUP
TITLE: STORM SEWER PLAN

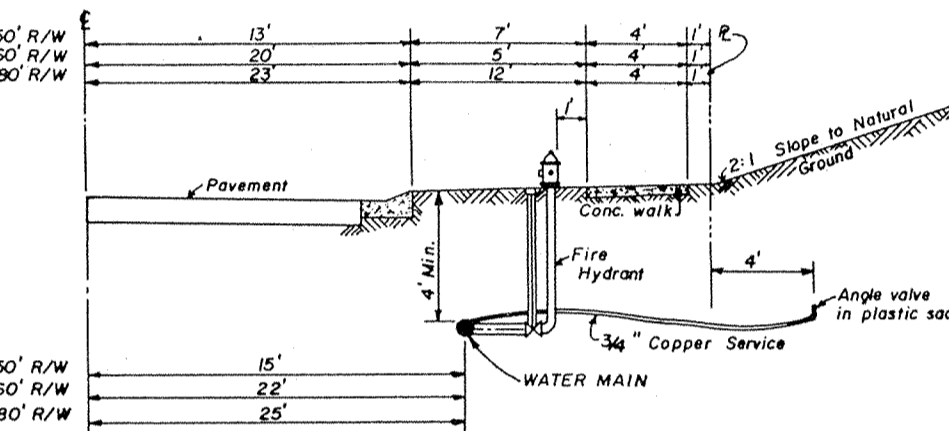
JOB NO. 657

SHEET OF S-10 15

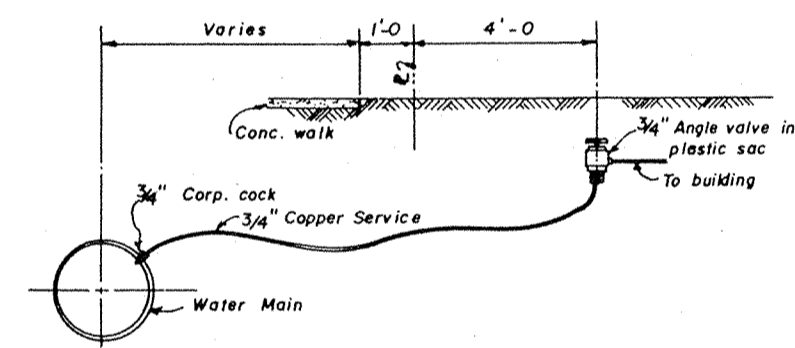


PIPE SIZE	BLOCKING FOR PLUGS & BENDS				BLOCKING FOR TEES & WYES			
	OUTSIDE FACE AREA (SQ. FT.)	PLUG	BEND	TEE	SIZE OF OUTSIDE FACE RUN	SIZE OF OUTSIDE FACE BRANCH AREA (SQ. FT.)	TEE	WYE
20"	16	23	14	7	4	12	12	12
18"	12	16	9	5	3	8	8	8
16"	7	9	5	3	2	6	6	6
14"	4	7	4	2	1	4	4	4
12"	3	5	3	2	1	3	3	3
10"	2	3	2	1	1	2	2	2
8"	2	3	2	1	1	2	2	2
6"	2	3	2	1	1	2	2	2
4"	2	3	2	1	1	2	2	2

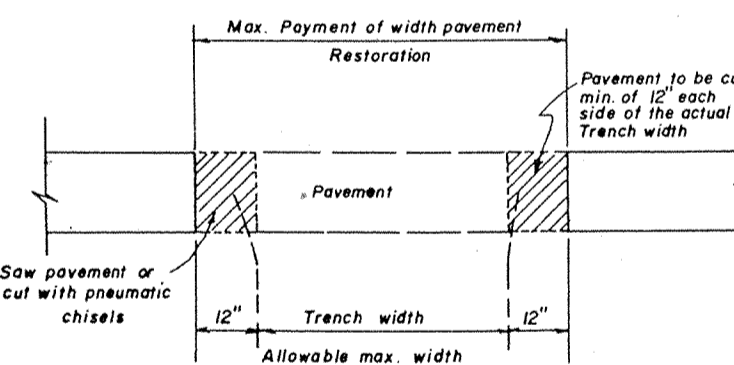
DETAIL - CONCRETE BLOCKING



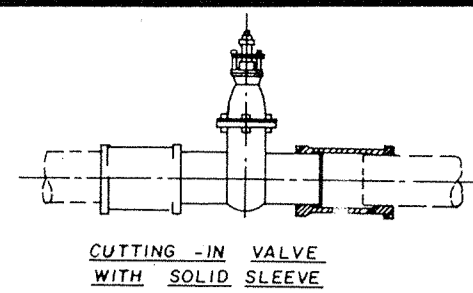
TYPICAL SECTION HYDRANT & MAIN LOCATION



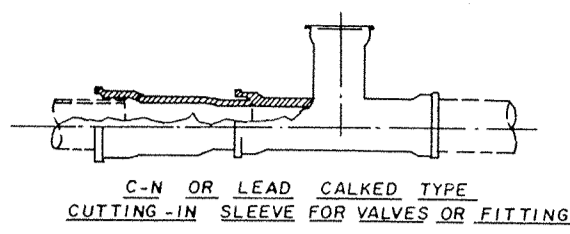
TYPICAL BUILDING CONNECTION



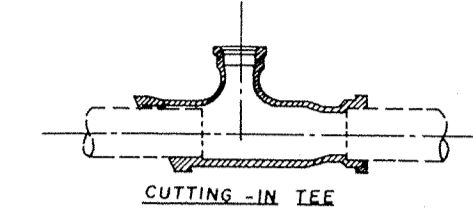
TYPICAL DETAIL PAVEMENT CUTTING AND RESTORATION



CUTTING-IN VALVE WITH SOLID SLEEVE

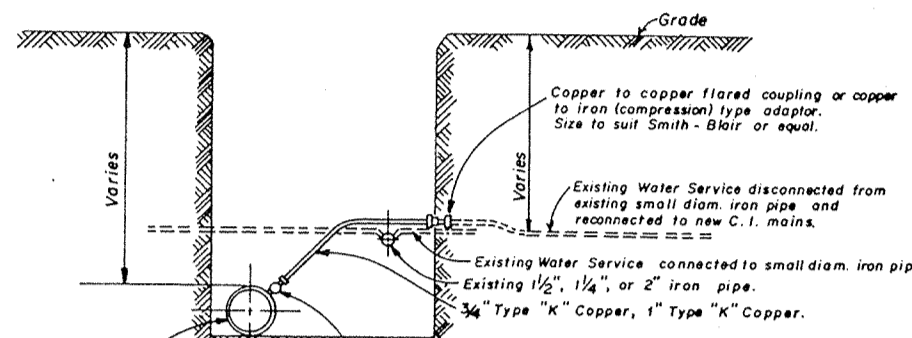


CUTTING-IN SLEEVE FOR VALVES OR FITTINGS

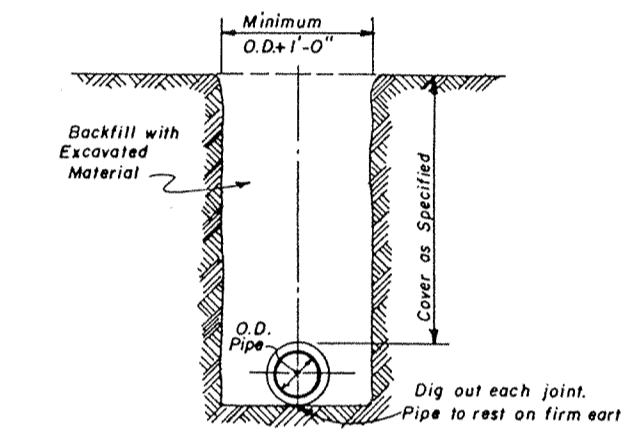


CUTTING-IN TEE

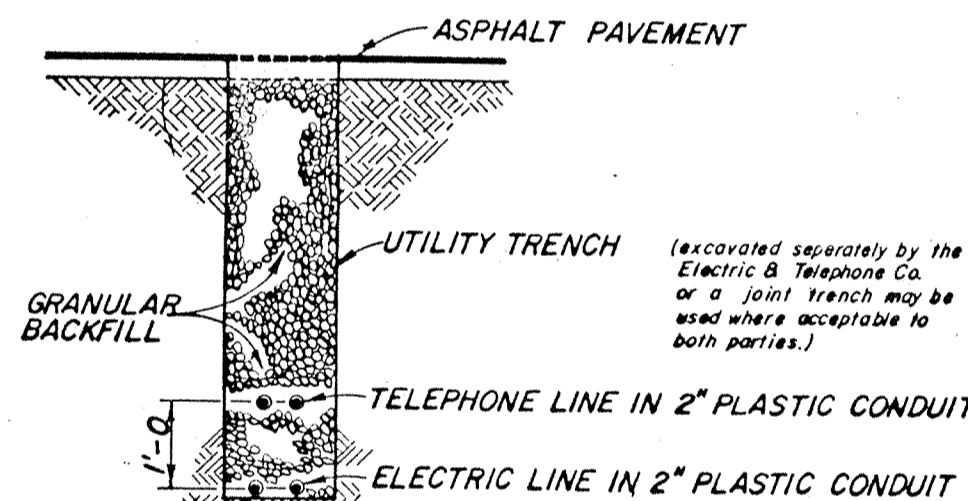
OPTIONAL METHODS OF CUTTING IN NEW VALVES AND FITTINGS IN EXISTING MAINS



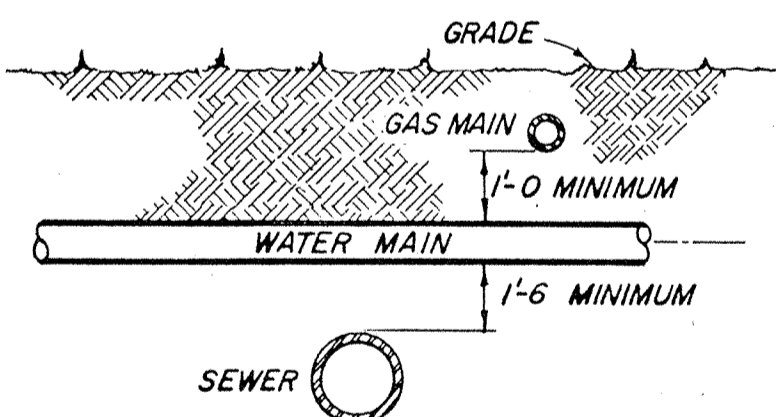
TYPICAL RECONNECTION OF EXISTING WATER SERVICE



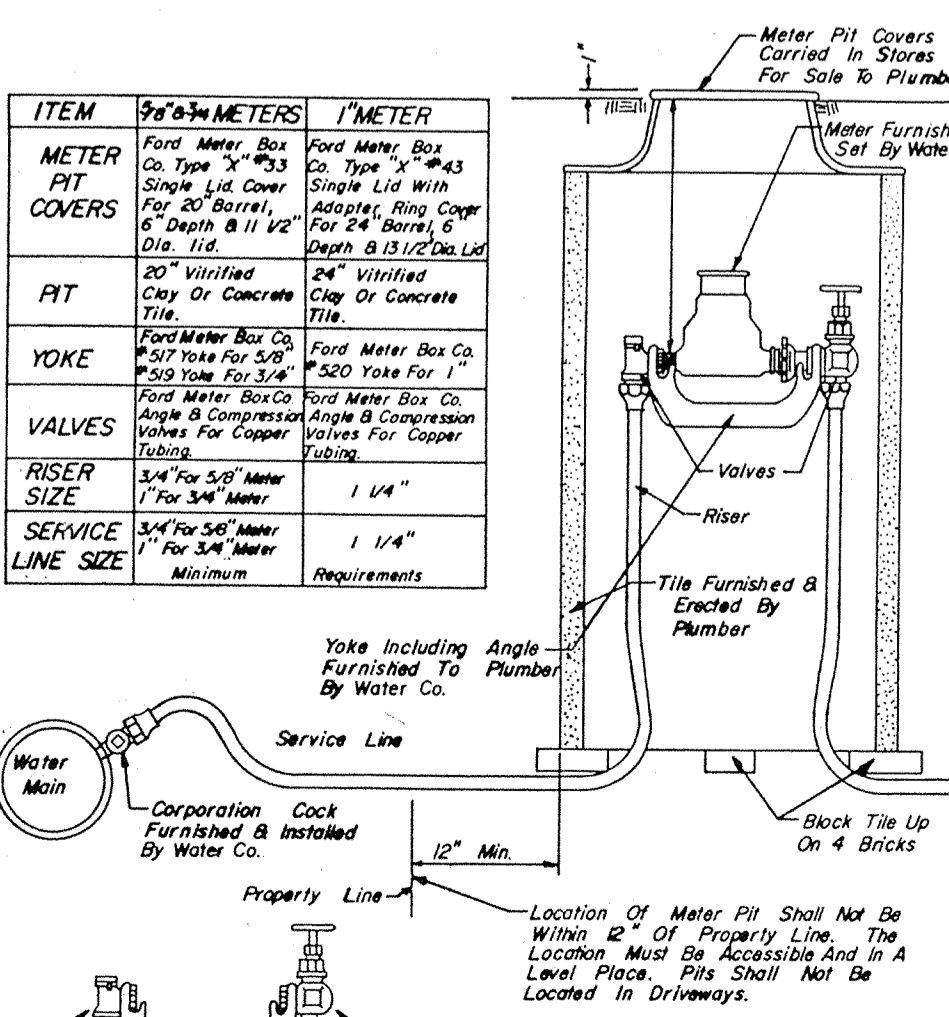
TYPICAL WATER MAIN INSTALLATION



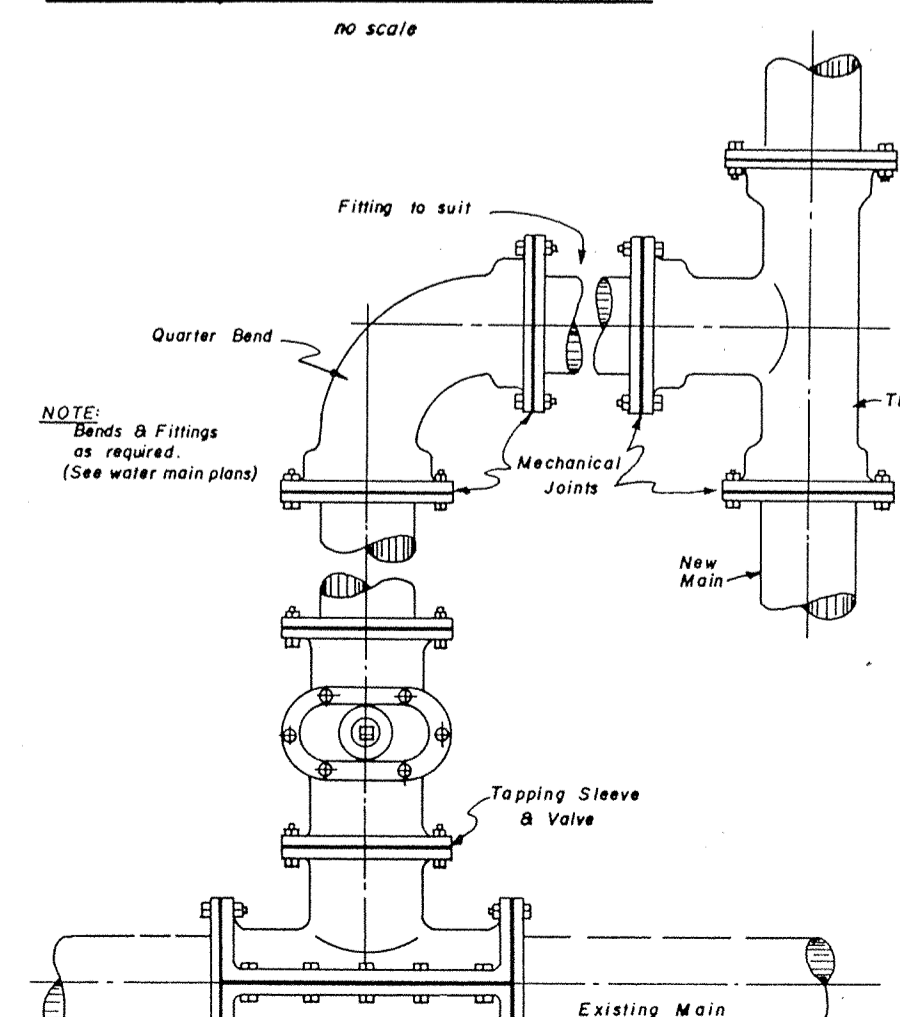
UTILITY TRENCH DETAIL



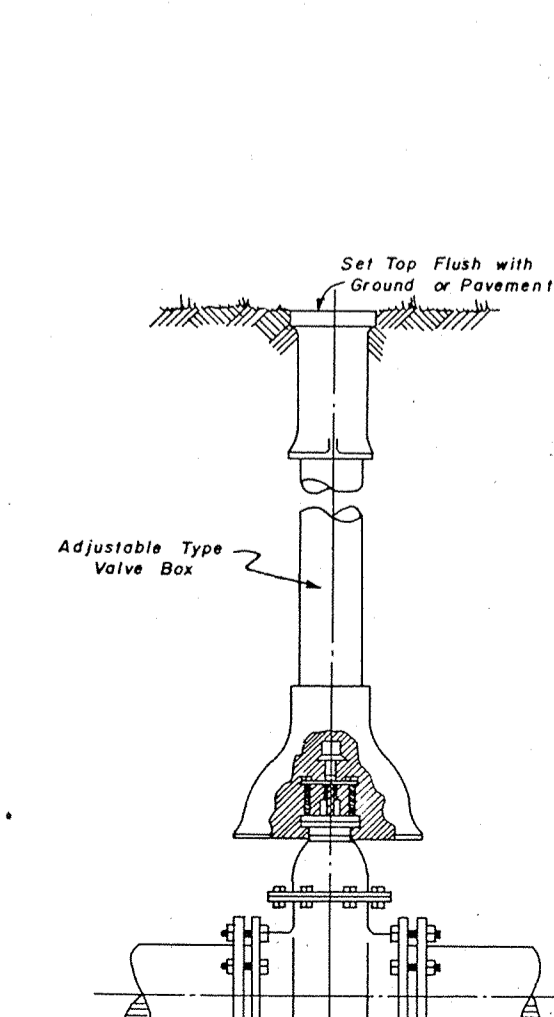
TYPICAL UTILITY CROSSING



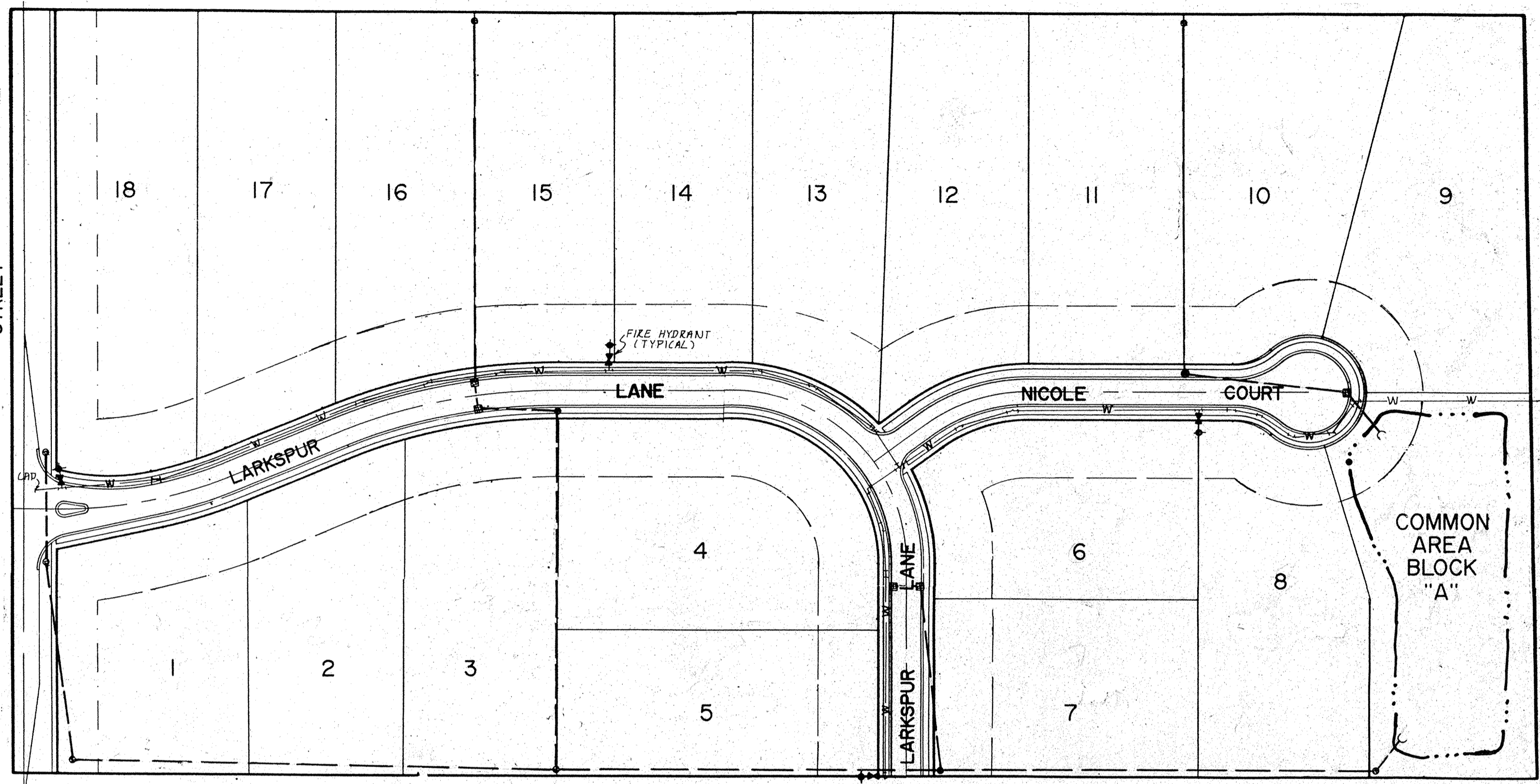
TYPICAL CONNECTION TYPE "B"



TYPICAL CONNECTION TYPE "A"



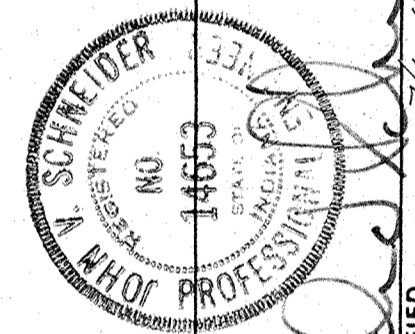
TYPICAL GATE VALVE & VALVE BOX



NOTE: WATER MAIN TO BE SIZED BY INDIANAPOLIS WATER CO.

- LEGEND**
- W --- EXISTING WATER LINE
 - - - W - - - NEW WATER LINE W/VALVE
 - F --- FIRE HYDRANT
 - S --- NEW STORM SEWER W/ INLET

EXISTING WATER LINE FROM BRIDLEBOURNE SUBDIVISION (FUTURE SEC. 6)

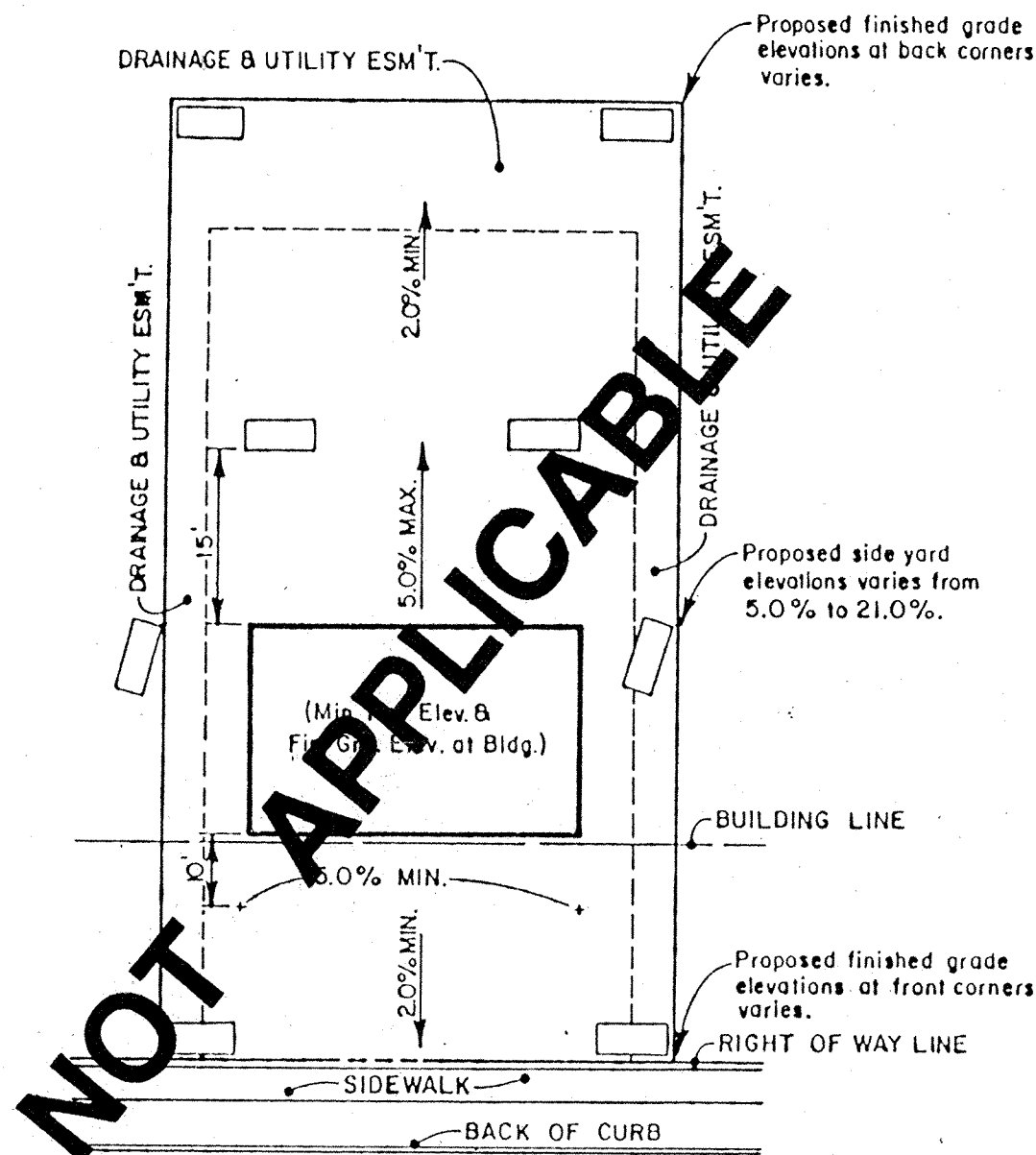
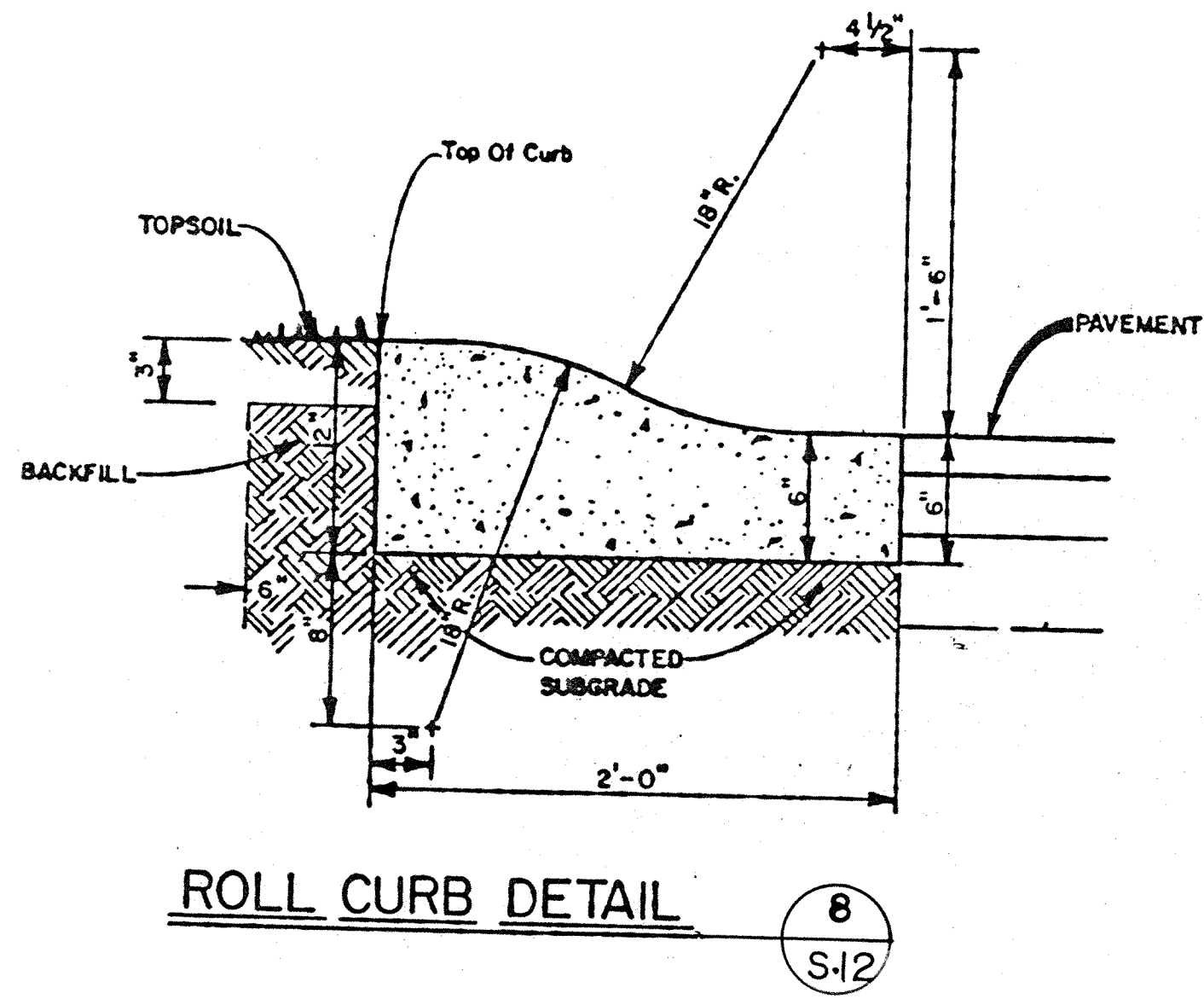


SCHNEIDER ENGINEERING CORPORATION
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 civil engineers
 land surveyors

PROJECT: LARKSPUR (PHASE I)
 PREPARED FOR: THE KELLEY GROUP
 TITLE: WATER DISTRIBUTION SYSTEM
 JOB NO.: 657
 SCALE: as noted
 SHEET: 6-11
 15

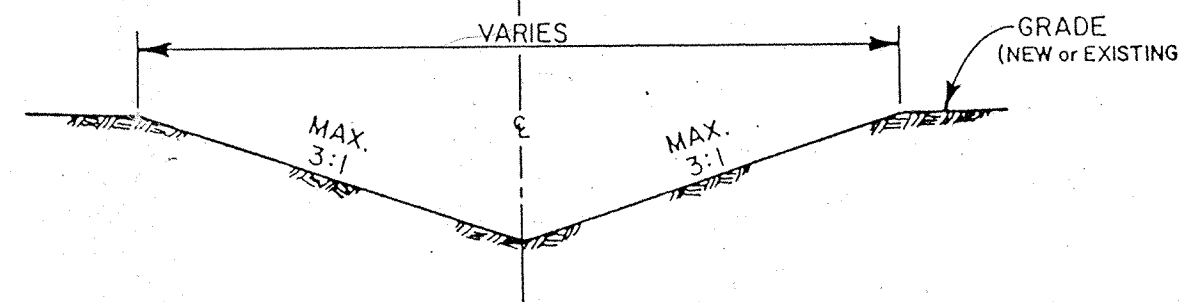
WATER DISTRIBUTION SYSTEM

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 OFFICE OF HAMILTON COUNTY SURVEYOR

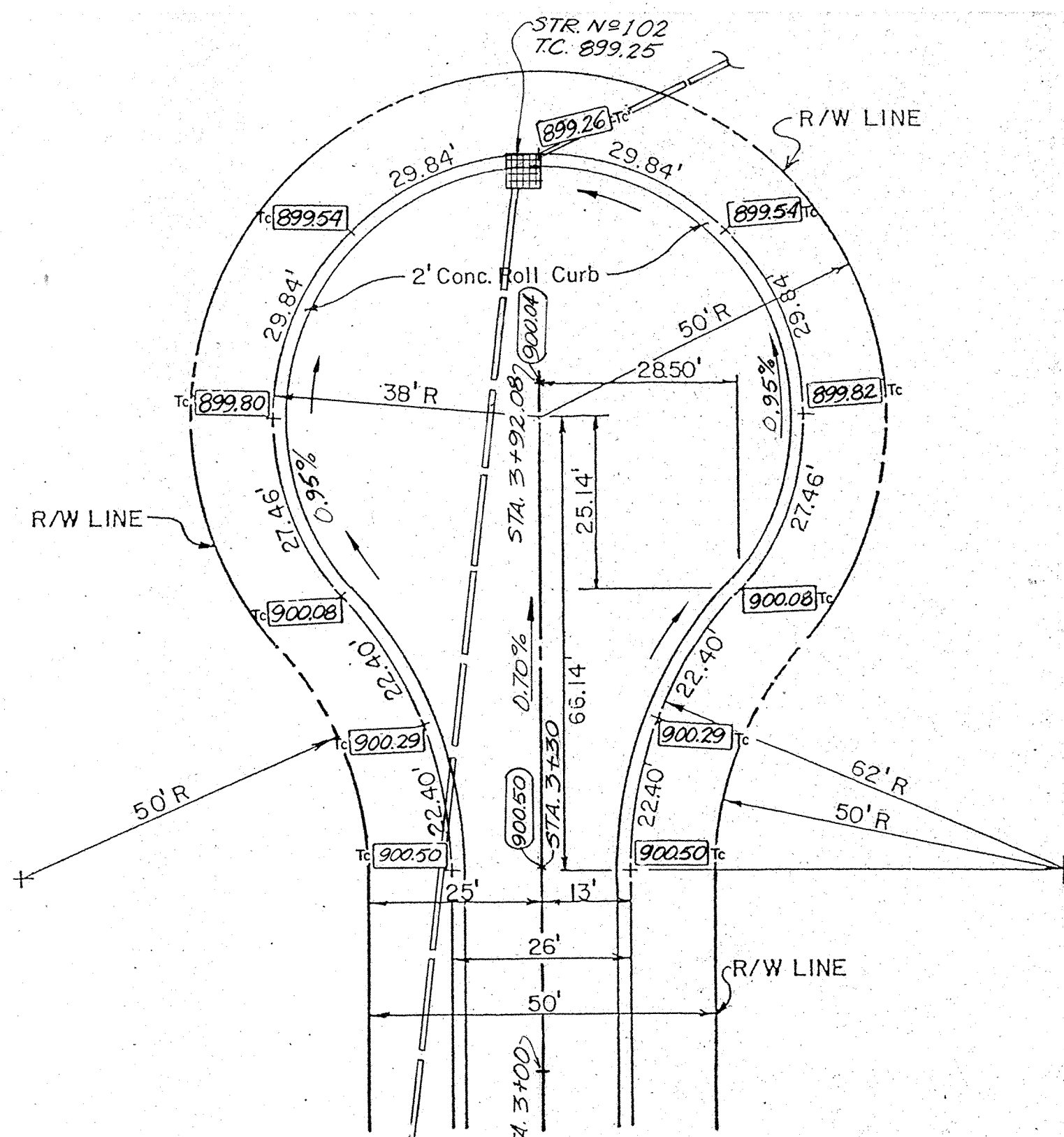


• The location of houses (depicted by rectangles) and the "finish ground grade" connected thereto, are intended as guide-lines only, showing how each lot may be graded to drain effectively. The "finish ground grade" should however, be treated as a minimum elevation, and the same drainage pattern should be maintained but adapted to the particular house selected for each lot.

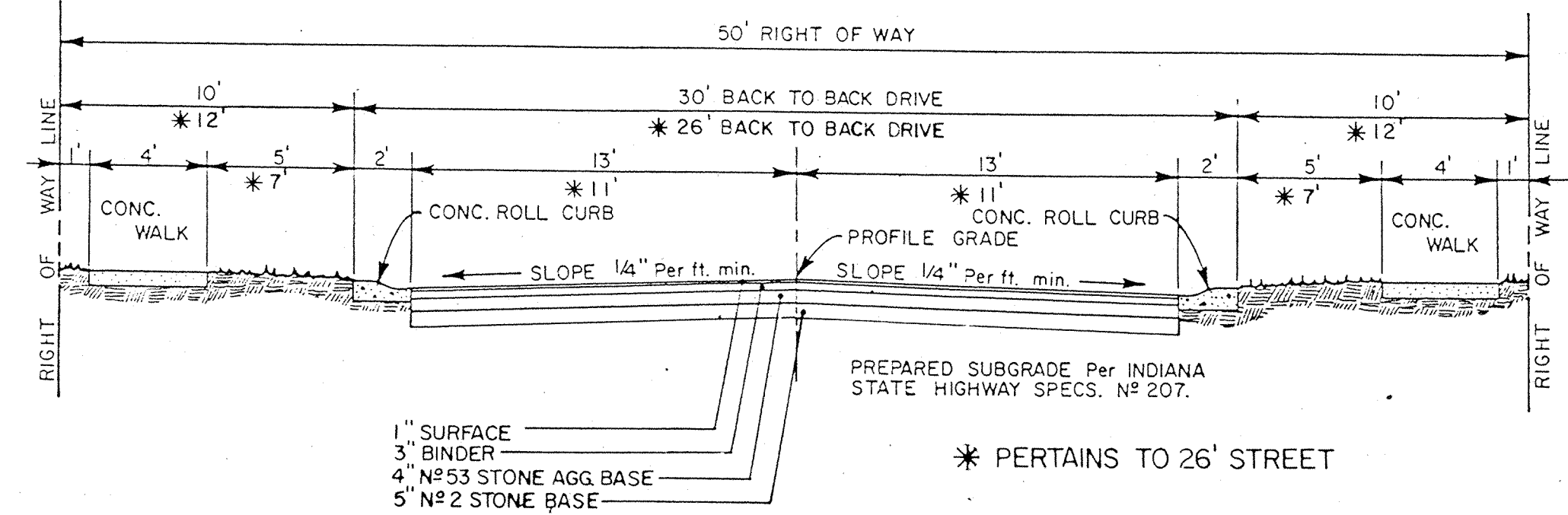
TYPICAL LOT DETAIL (5) S/12



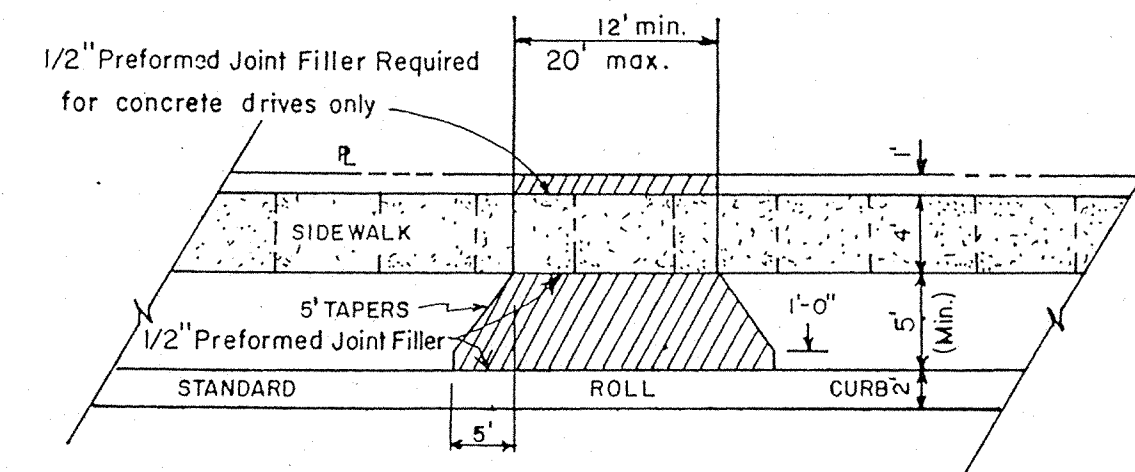
TYPICAL SWALE SECTION (6) S/12



NICOLE COURT CUL-DE-SAC DETAIL (7) S/12



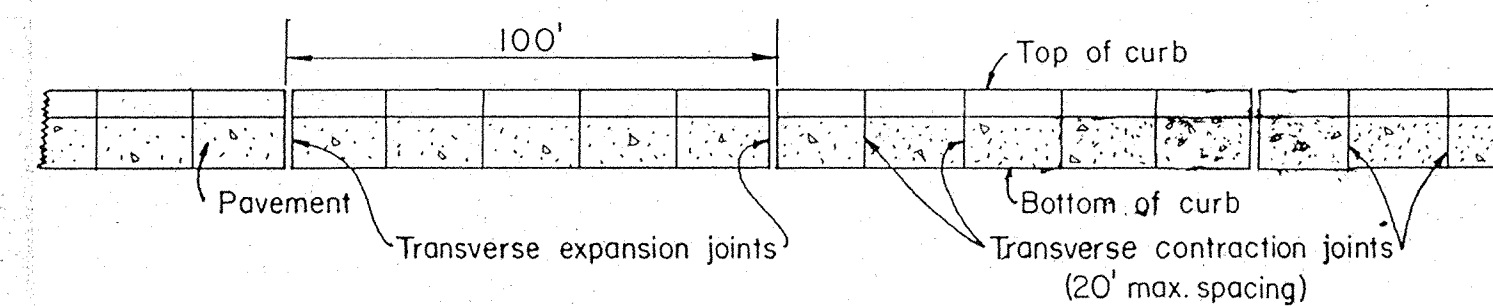
TYPICAL STREET SECTION DETAIL (1) S/12



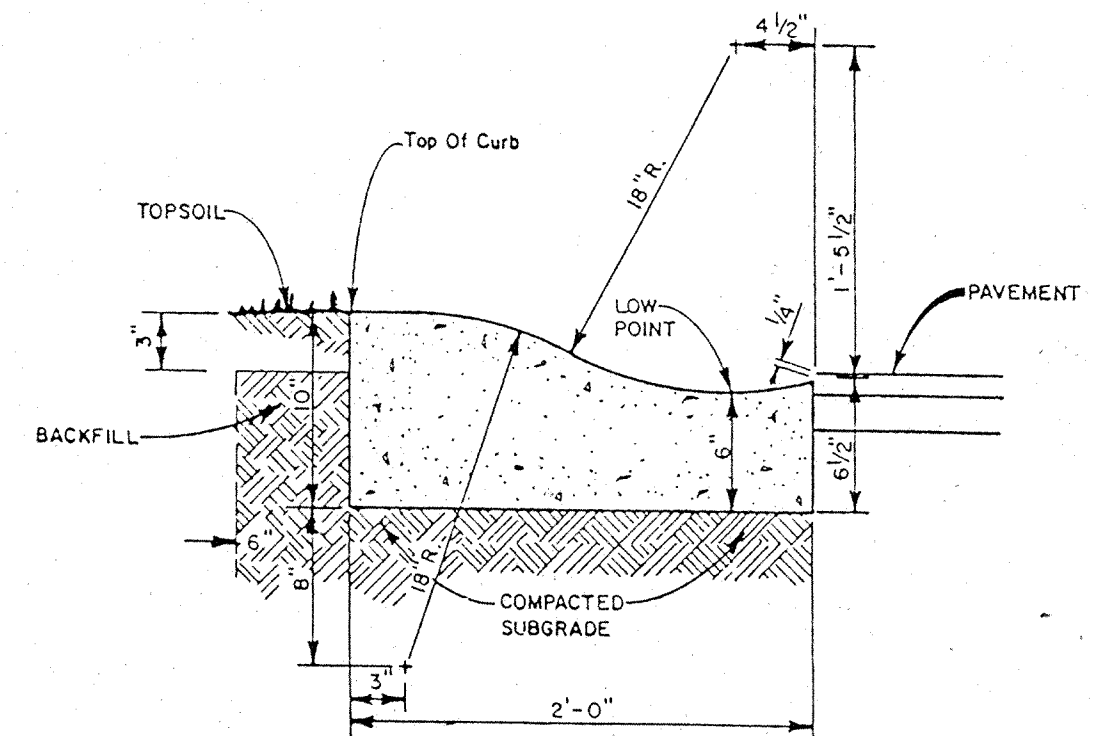
GENERAL NOTES:

- Cross-hatched areas shall be either 6" plain concrete or 1" bituminous surface on 2" bituminous base on 4" type "P" compacted aggregate base or 1" bituminous surface on 4" bituminous coated aggregate base with 53B stone, extending to the sidewalk or R/W Line whichever is nearest to the roadway.
- Subgrade under all curbs, sidewalk, & drives shall be compacted in accordance with section 207.02 of Indiana State Highway Department Standard Specifications.
- Sidewalks shall be constructed in accordance with the appropriate standard and shall be continuous across the driveway.

PRIVATE DRIVEWAY DETAIL (2) S/12



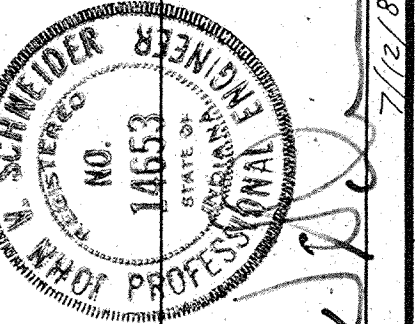
CURB JOINT DETAIL (3) S/12



2' CONCRETE ROLL CURB & GUTTER (4) S/12

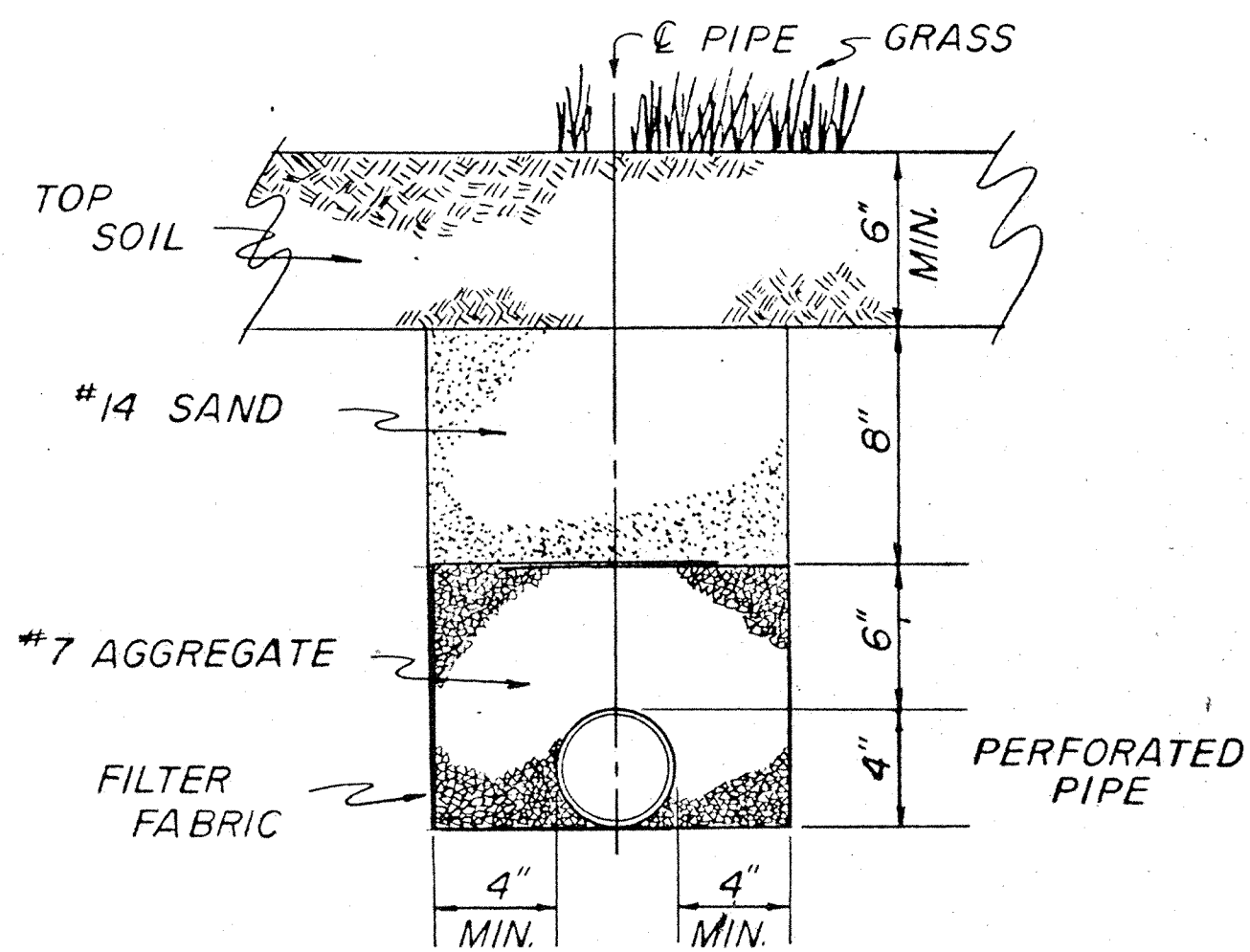
FILED
NOV 10 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

PROJECT	LARKSPUR (PHASE I)	JOB NO.	657
PREPARED FOR	THE KELLEY GROUP	SCALE	N/A
TITLE	GENERAL DETAILS	SHEET	S-12
		OF	15



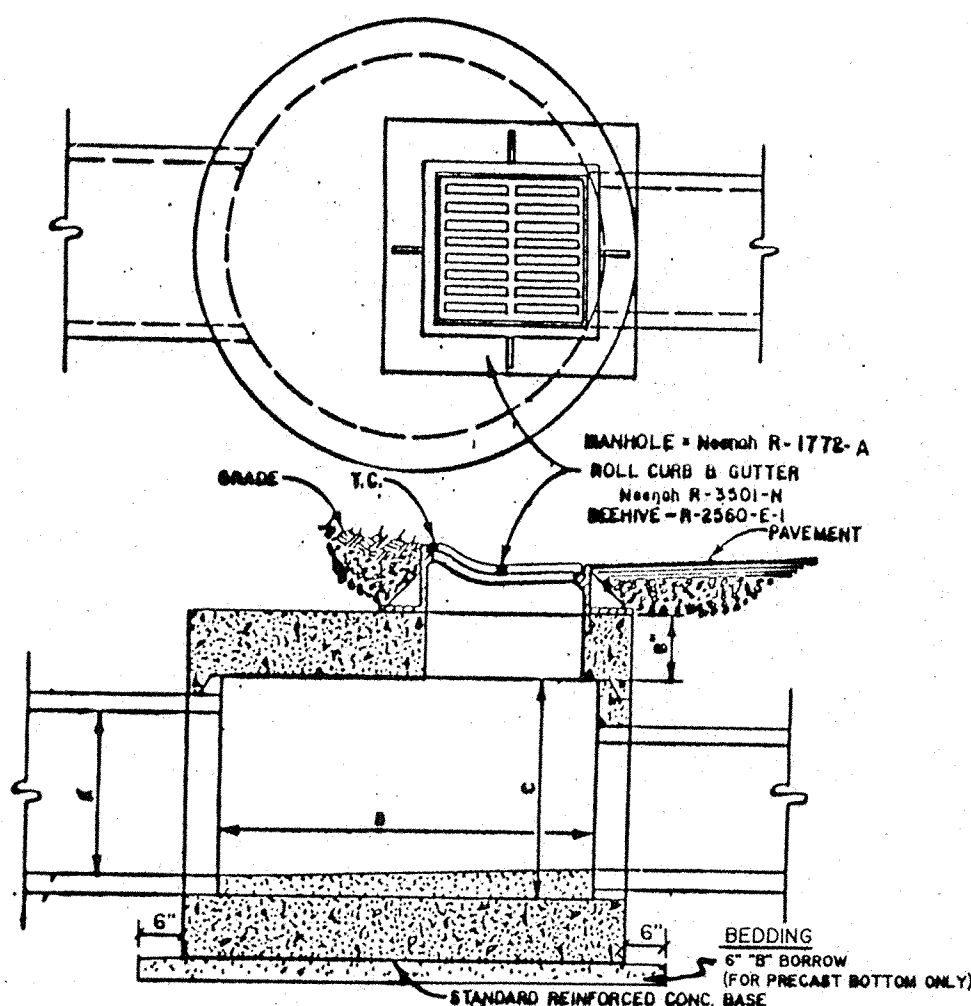
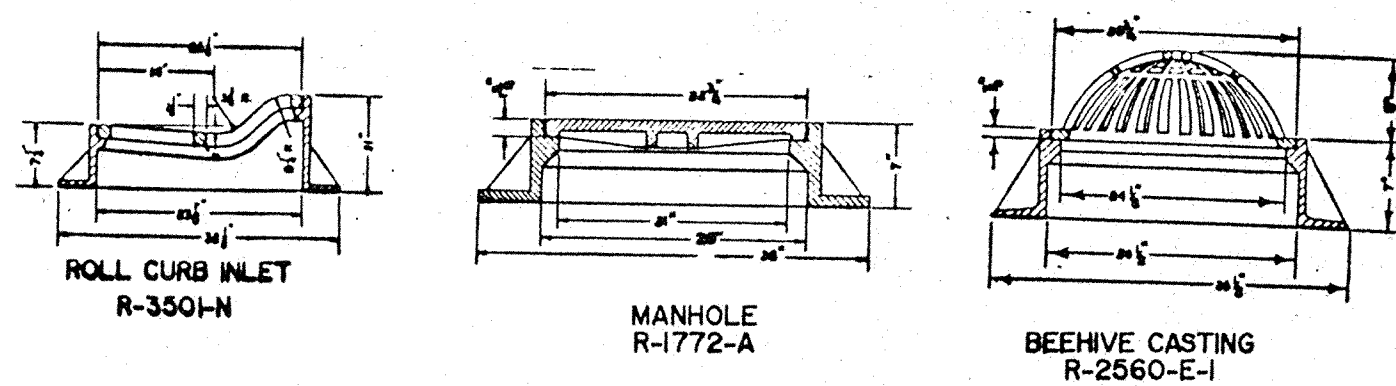
SCHNEIDER ENGINEERING CORPORATION
3025 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46246-6118
(317) 899-9292
P.O. BOX 26088

civil engineers
land surveyors

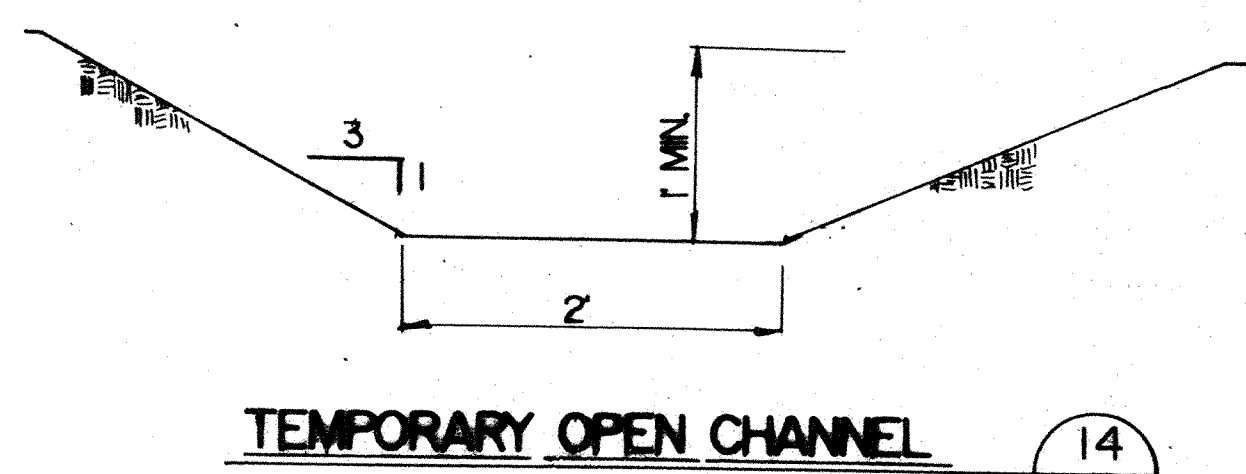


TYPICAL SUBSURFACE DRAIN (12) S-13
SCALE 1"=6"

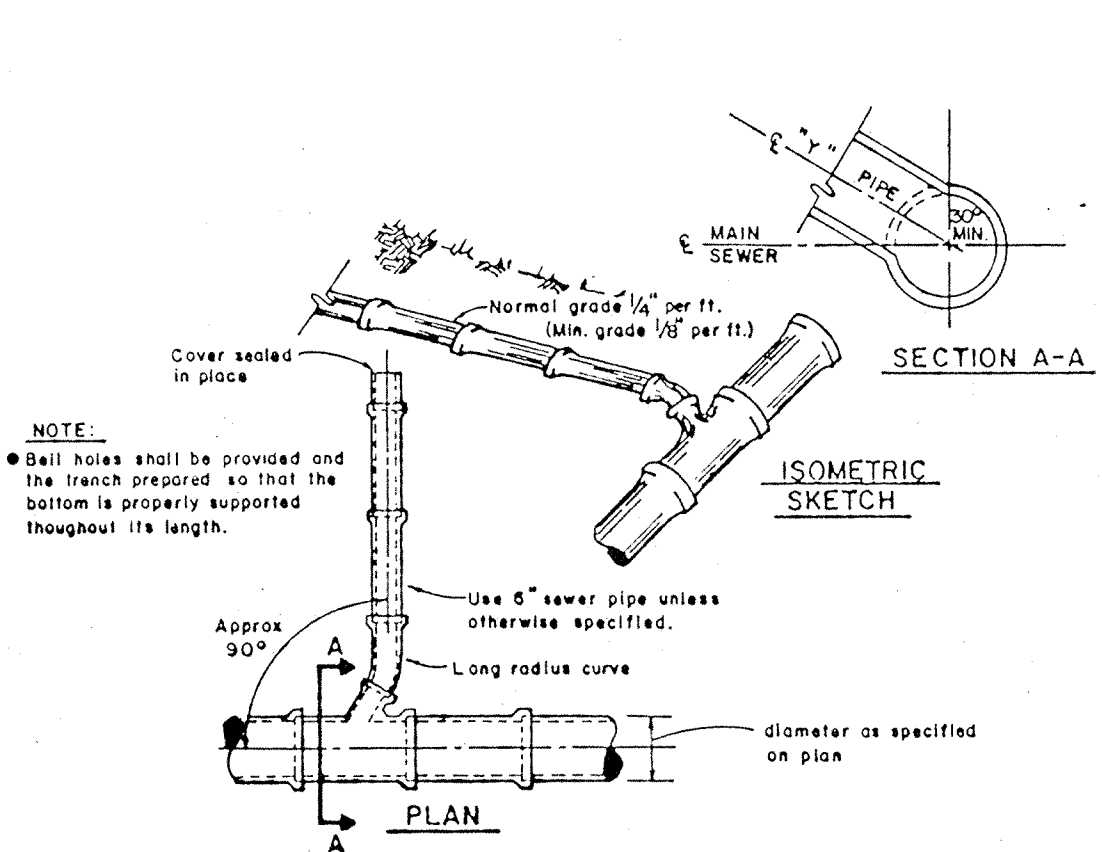
SUBSURFACE DRAIN: For specifications, see Indiana Highway Standard Specifications, Sec. 718.01, 718.02, 718.03 and 718.04.
FILTER FABRIC: Use Dupont "Tyvar", Webtec "Terratex SD" or equal.



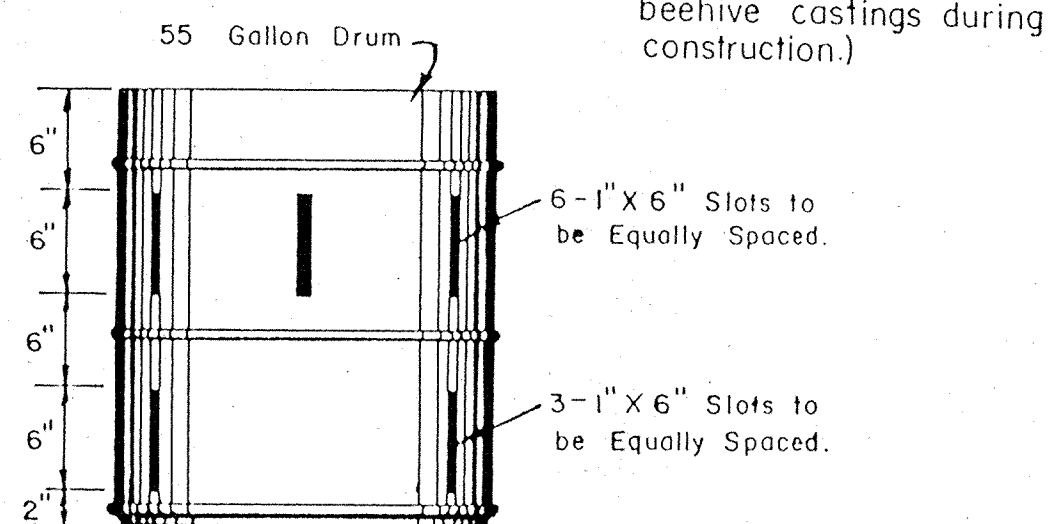
SPECIAL STORM STRUCTURE DETAIL (13) S-13



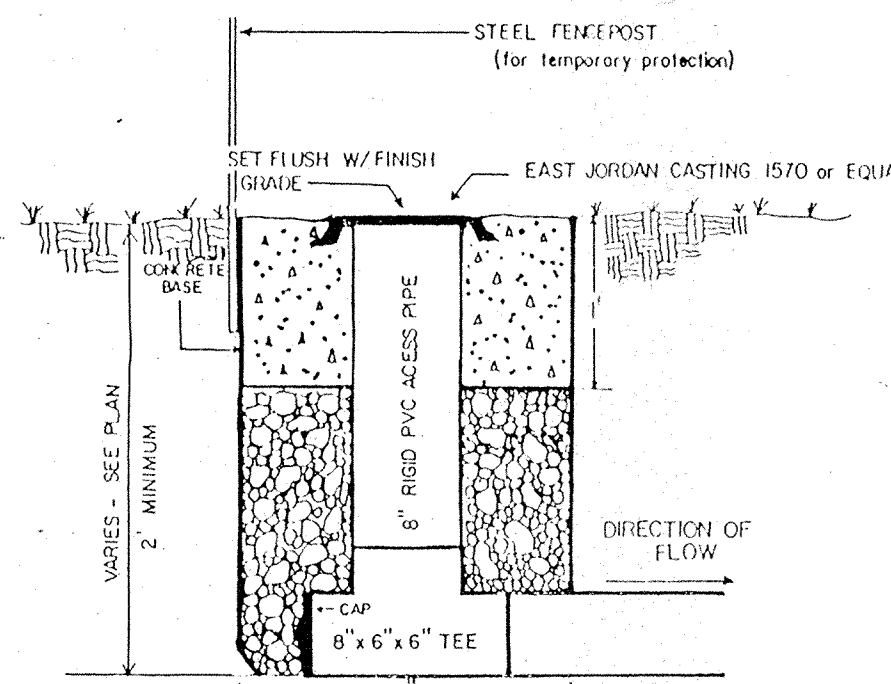
TEMPORARY OPEN CHANNEL (14) S-13



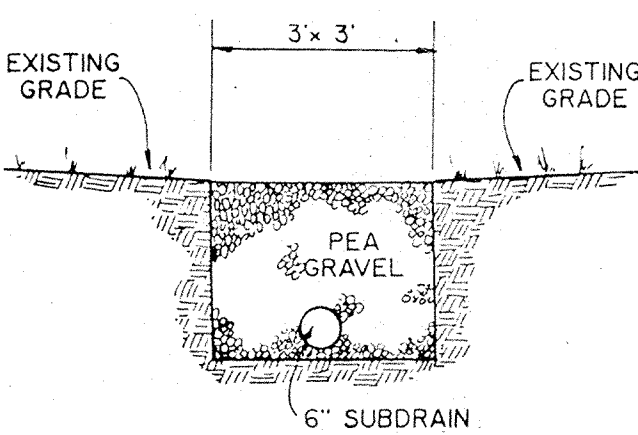
HOUSE CONNECTION TO MAIN SEWER (7) S-13



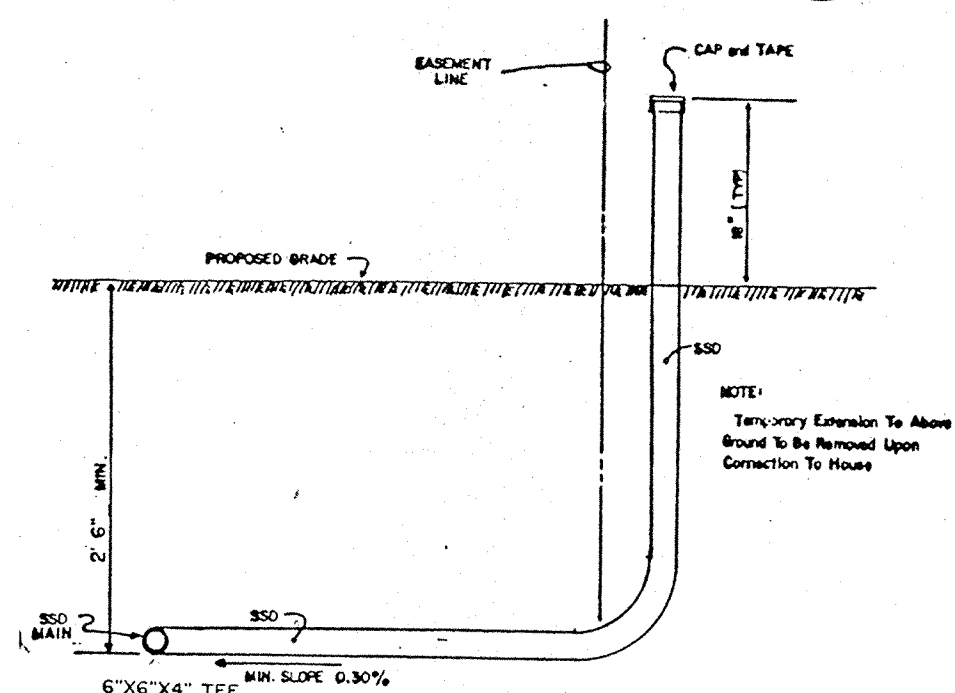
SLOTTED RISER FOR SEDIMENT RETENTION (8) S-13



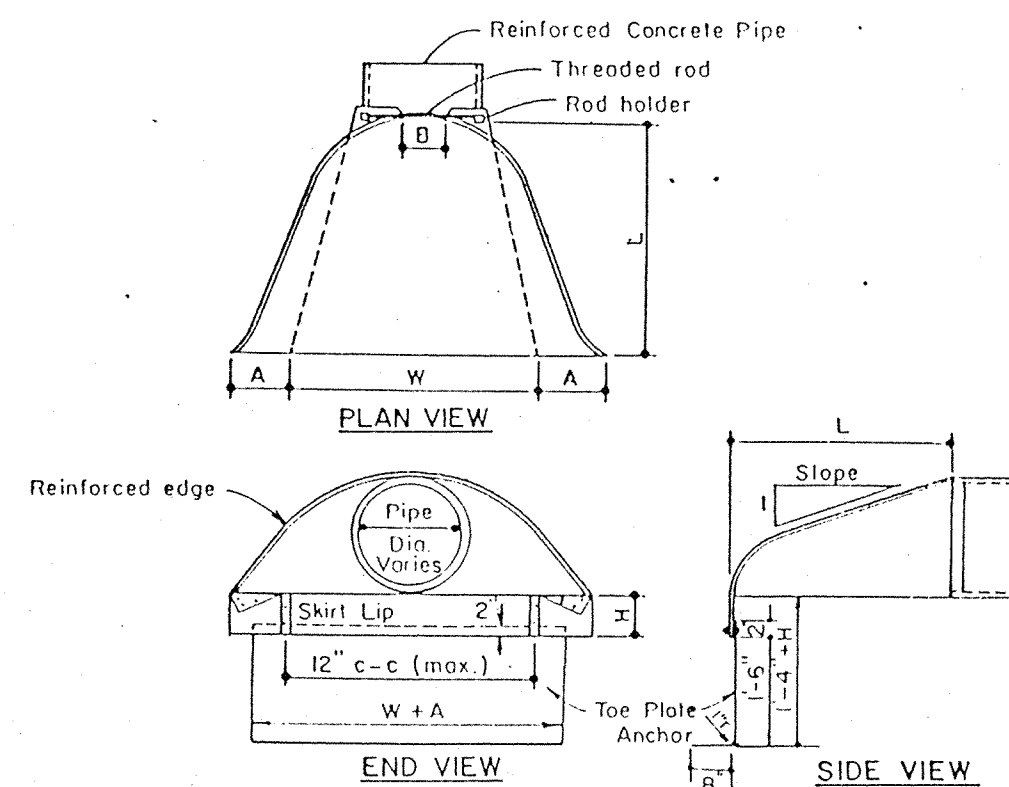
SUBSURFACE DRAIN (SSD) RISER DETAIL (9) S-13
NO SCALE



PEA GRAVEL PIT FOR LOW FLOW DRAINAGE (10) S-13



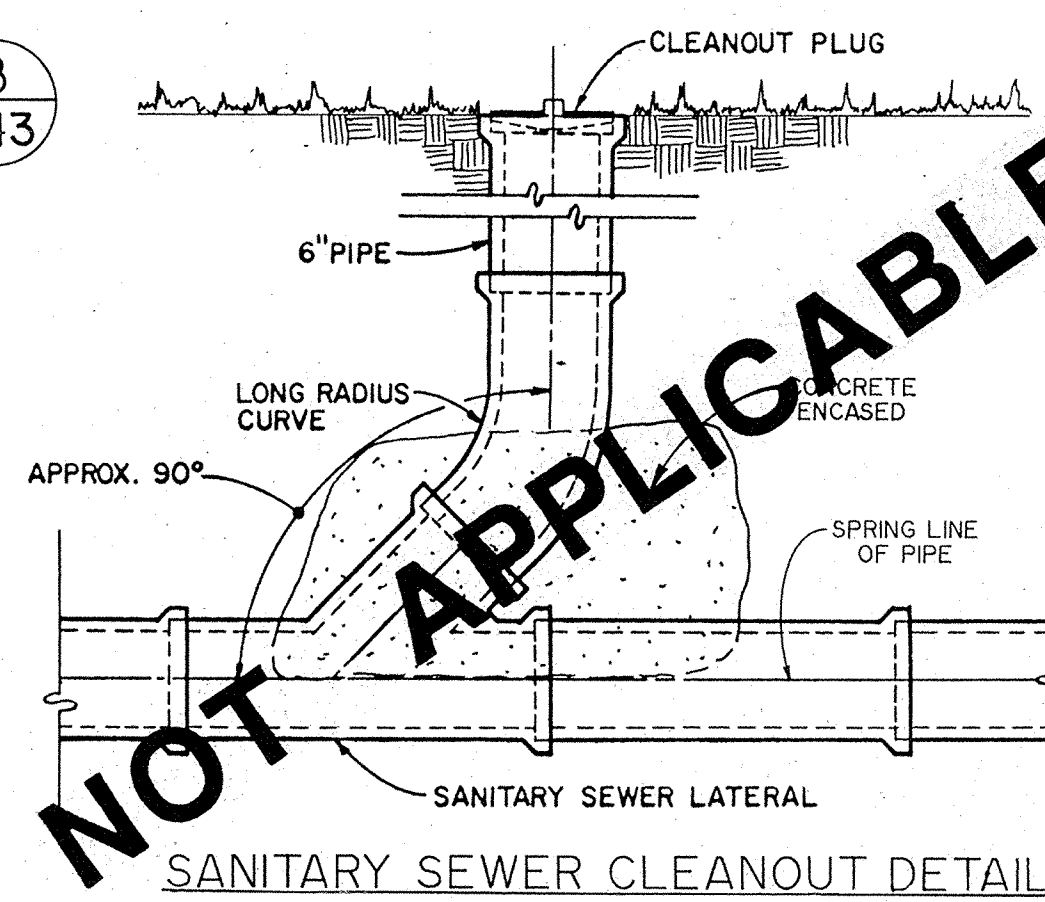
TYPICAL SSD CONNECTION TO INDIVIDUAL LOTS (11) S-13



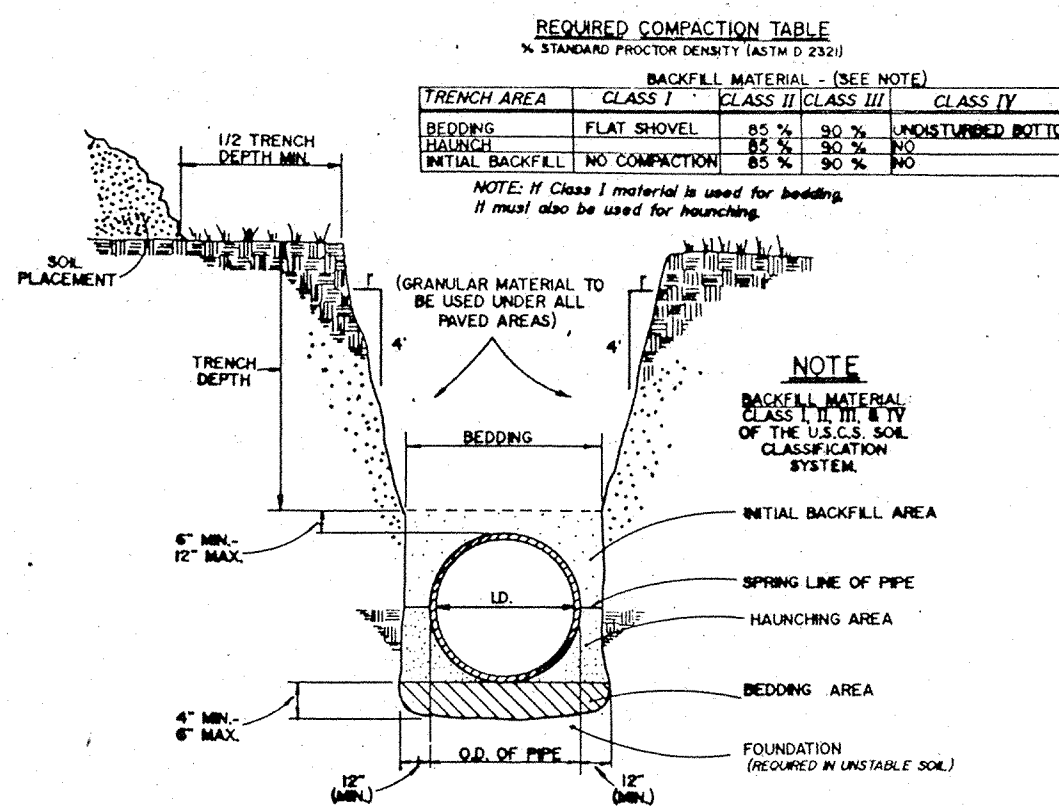
TYPE OF PIPE	PIPE DIA. IN INCHES	GAGE	DIMENSION				APPROX. SLOPE	
			A	B	H	W		
R.C.P.	12	.063	7	8	6	26	30	2 1/2
R.C.P.	15	.063	8	10	6	31	36	2 1/2
R.C.P.	18	.063	9	12	6	36	42	2 1/2
R.C.P.	21	.063	10	13	6	41	48	2 1/2
R.C.P.	24	.079	12	16	8	51	60	2 1/2
R.C.P.	30	.079	14	19	9	60	72	2 1/2
R.C.P.	36	.099	16	22	11	69	84	2 1/2
R.C.P.	42	.099	18	27	12	78	90	2 1/4
R.C.P.	48	.099	18	30	12	84	102	2
R.C.P.	54	.099	18	33	12	87	114	1 3/4

NOTE: For Corrugated Metal Pipe use next smaller diameter end section.

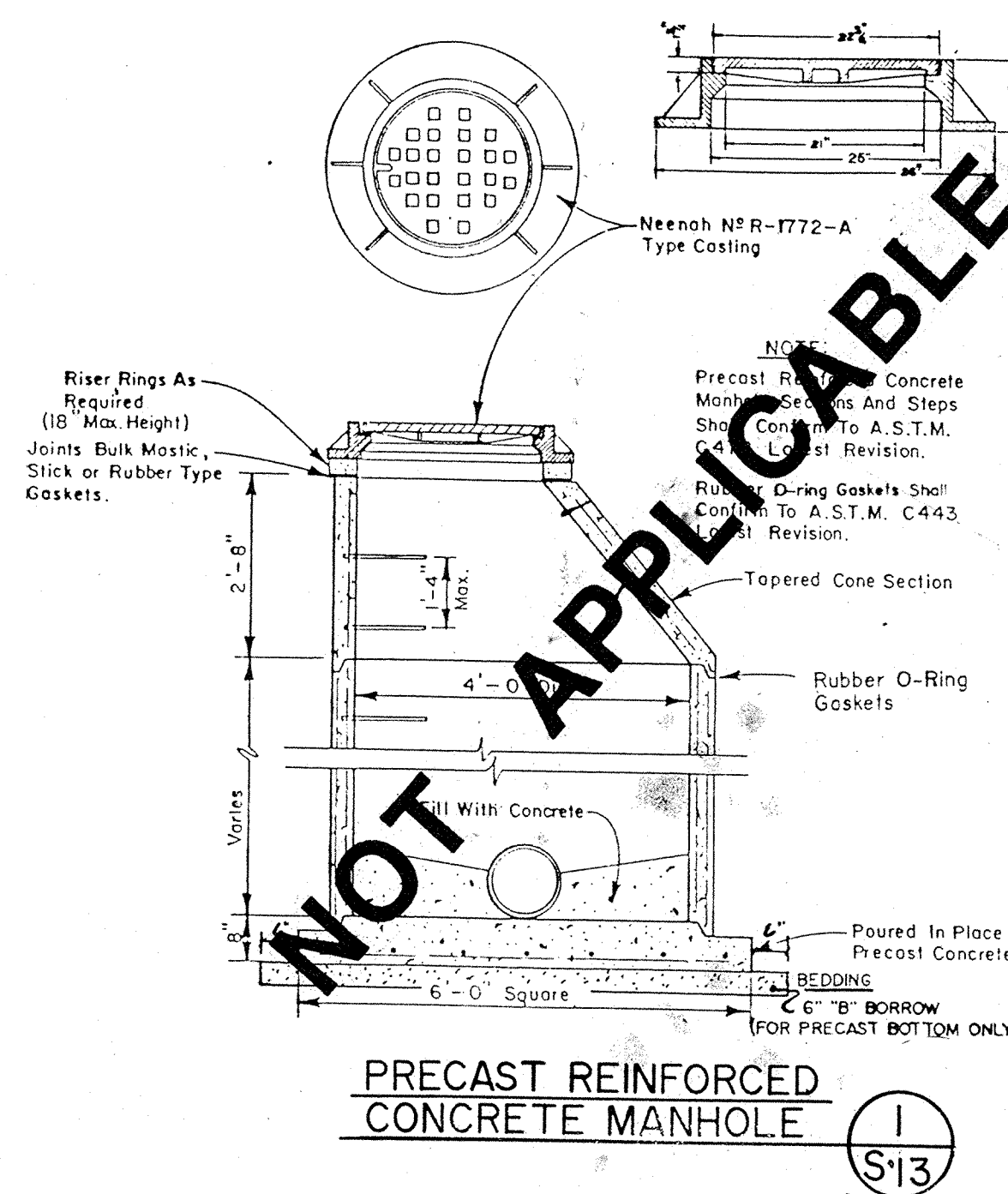
GALVANIZED STEEL END SECTION DETAIL (4) S-13



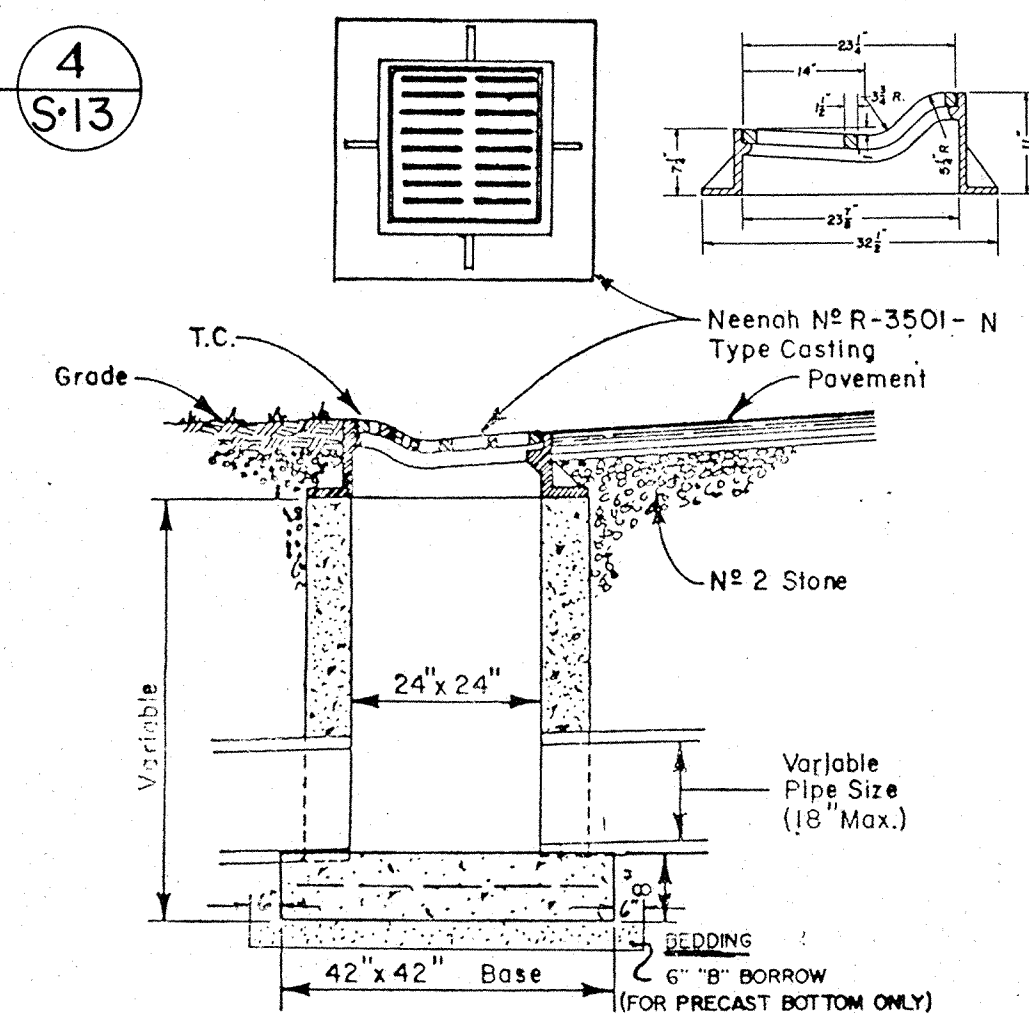
SANITARY SEWER CLEANOUT DETAIL (5) S-13



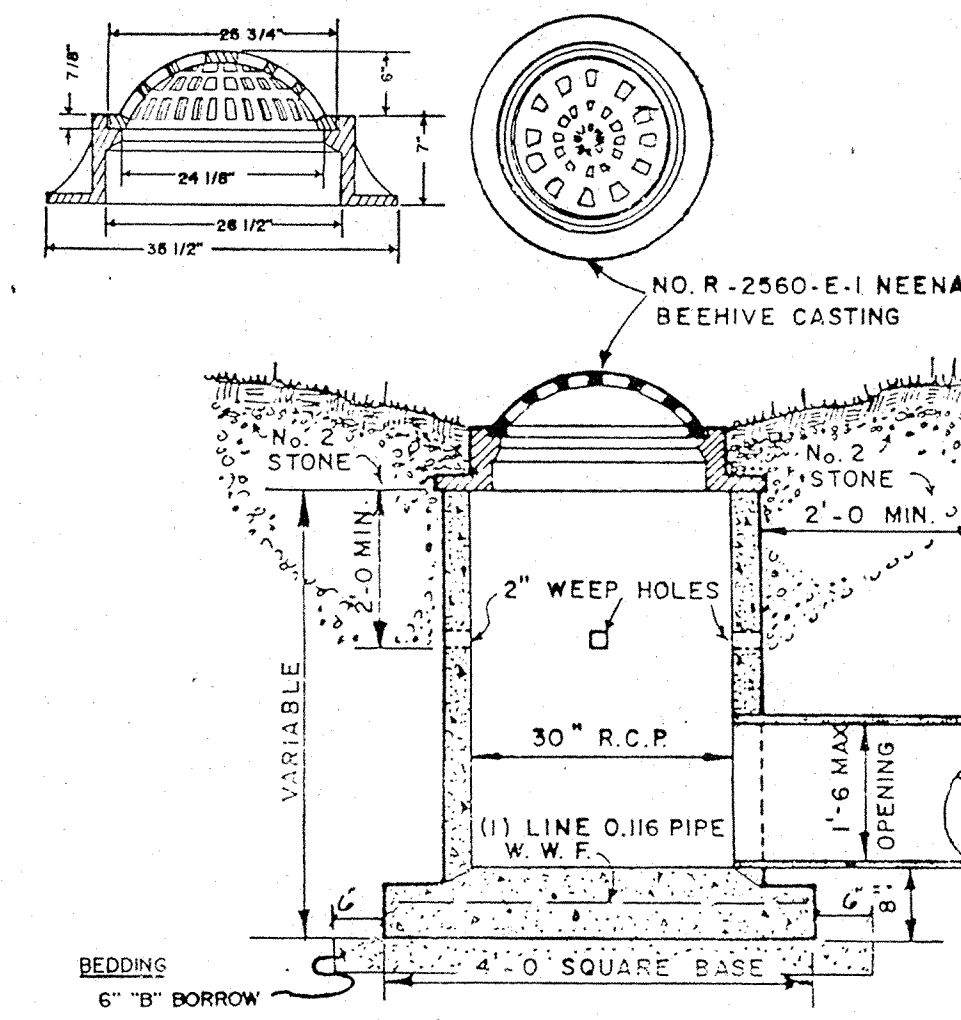
TRENCH & BEDDING DETAIL (6) S-13



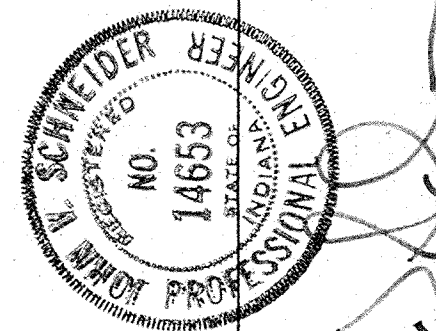
PRECAST REINFORCED CONCRETE MANHOLE (1) S-13



ROLL CURB INLET DETAIL (2) S-13



INLET DETAIL W/ BEEHIVE TYPE CASTING YARD AREA (3) S-13



SCHNEIDER ENGINEERING CORPORATION
3020 NORTH POST ROAD
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land surveyors

SCALE: N/A

PROJECT: LARKSPUR (PHASE I)
PREPARED FOR: THE KELLEY GROUP
TITLE: GENERAL DETAILS
JOB NO.: 657
SHEET OF S-13
NO. 15

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OFFICE OF HAMILTON COUNTY SURVEYOR

EARTHWORK

- 1. SCOPE OF WORK:
A. Extent: The work required under this section consists of all excavating, filling, rough grading and related items necessary to complete the work indicated on the drawings and described in the specifications.
1. In general the items of work to be performed under this section shall include: clearing and grubbing, removal of trees and stumps (where required), protection of trees to remain, stripping and storage of topsoil, fill compaction and rough grading of entire site as indicated on the drawings.
2. Excavated material that is suitable may be used for fills. All unsuitable material and all surplus excavated material not required shall be removed from the site. The location of dump and length of haul shall be the Contractor's responsibility.
3. Provide and place any additional fill material from off the site as may be necessary to produce the grades required. Fill obtained from off site shall be of kind and quality as specified for fills herein and the source approved by the Owner.
4. The Contractor shall accept the site as he finds it and shall remove all trash, rubbish and debris from the site prior to starting excavation.
B. Work not included: The following items of related work are specified and included in other sections of these specifications:
1. Excavation, grading and backfilling for utility lines.
2. Storm drainage systems.
3. Sanitary sewer systems.
4. Water supply systems.
5. Streets and paving.
2. BENCHMARKS:
Maintain carefully all bench marks, monuments and other reference points, if disturbed or destroyed, replace as directed by engineer.
3. REMOVAL OF TREES:
A. Remove all trees and stumps from area to be occupied by road and surfaced areas. Removal of trees outside these areas shall only be done as noted on drawings or approved by the Owner.
B. All brush, stumps, wood and other refuse from the trees shall be buried onsite or burned with proper permits (where applicable).
4. PROTECTION OF TREES:
A. General Protection: The Contractor shall be responsible for the protection of tops, trunks and roots of existing trees on the project site that are to remain. Existing trees subject to construction damage shall be boxed, fenced or otherwise protected before any work is started; do not stockpile within branch spread. Remove interfering branches without injury to trunks and cover scars with tree paint.
5. STRIPPING OF TOPSOIL:
A. Remove topsoil to a depth of 6 inches (or more if required) from the areas to be occupied by roads, walks, buildings and parking areas. Pile and store topsoil at a location where it will not interfere with construction operations. Top soil shall be reasonably free from subsoil, debris and stones.
6. DISPOSITION OF UTILITIES:
A. Rules and regulations governing the respective utilities shall be observed in executing all work under this section.
B. It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners of the engineers of any changes, errors or omissions found on these plans or in the field before work is started or resumed.
C. Where active utilities are encountered but not shown on the drawings, the Engineer shall be advised before work is continued.
D. Inactive and abandoned utilities encountered in excavating and grading operations shall be reported to the Engineer. They shall be removed, plugged or capped as directed by the Engineer.
7. SITE GRADING:
A. Grades: Do all cutting, filling, compacting of fills and rough grading required to bring entire project area to subgrade as shown on the drawings.
B. Rough Grading: The tolerance for paved areas shall not exceed 0.10 feet above established subgrade. All other areas shall not exceed 0.10 feet plus or minus the established grade. Provide roundings at top and bottom of banks and other breaks in grade.

SANITARY SEWER SYSTEMS

- 1. SCOPE OF WORK:
The work under this section includes all sanitary sewers, manholes, catch basins, cleanouts, and related items, including excavation and backfilling, necessary to complete the work shown on the drawings, starting five feet outside the building walls. The ends of sewers shall be tightly plugged or capped at the terminal points, adjacent to buildings, pending the connecting of all such lines to the building drain as specified in the plumbing specifications and architectural drawings.
2. MATERIALS:
A. Sanitary Sewers:
1. All gravity plastic sewer pipe and fittings shall conform to ASTM D3034, SDR-35.
2. ABS Sewer Pipe and fittings shall conform to ASTM D2680 latest revision.
B. Manholes:
1. Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest revision.
2. Castings shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects. They shall be smooth and well-cleaned by shotblasting or by some other approved method. They shall be coated with asphalt paint which shall result in a smooth coating, tough and tenacious when cold, not tacky or brittle. They shall be meeting ASTM A-48 latest revision.
3. Joints - manhole sections shall be jointed with sealed "o" rings. The "o" rings shall meet ASTM A-48 latest revision.
3. APPLICATION:
A. Permits and Codes: The intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations as amended by any waivers. Contractor shall furnish all bonds necessary to get permits for cuts and connections to existing sewers.
B. Local Standards: The term "Local Standards" as used herein means the standards of design and construction of the respective municipal department or utility company.
C. Existing Improvements: Maintain in operating condition all active utilities, sewers and other drains encountered in the sewer installation. Repair to the satisfaction of the owner any damage to existing active improvements.
D. Workmanship: To conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction.
E. Trenching: Lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficiently ahead of pipe-laying to reveal any obstructions. The width of the trench shall be the inside pipe diameter plus 24 inches for 12 inches above the pipe. Sheet and brace trench as necessary to protect workmen and adjacent structures. All trenching to comply with Occupational Safety and Health Administration Standards. Keep trenches free from water while construction is in progress. Under no circumstances lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering to drains or natural drainage channels.
F. Special Supports: Whenever, in the opinion of the Engineer, the soil at or below the pipe grade is unsuitable for supporting sewers and appurtenances specified in this section, such special support, in addition to those shown or specified, shall be provided as the Engineer may direct, and the contract will be adjusted.
G. Backfilling: For a depth of at least 12 inches above the top of the pipe, backfill with granular material free from large stones, rock fragments, roots or sod. Tamp this backfill thoroughly, taking care not to disturb the pipe. For the remaining trench depth, backfill with earth or granular material containing stones or rocks no larger than 4 inches. Backfill under walks, parking areas, driveways and streets shall be granular material only - thoroughly compacted by approved methods. Trenches parallel to and within 5 feet of paved roadways shall be constructed the same.
H. Manhole Inverts: Construct manhole flow channels of concrete, sewer pipe or brick, smoothly finished and of semi-circular section conforming to the inside diameter of the connecting sewers. Make changes in size or grade gradually and changes in direction by true curves. Provide such channels for all connecting sewers at each manhole.
I. Infiltration: Furnish necessary equipment to test sewers for infiltration. Infiltration rates shall not exceed the Local Standards. All sanitary sewer lines upon completion will be tested to pass a low pressure air test, unless otherwise directed by the Indiana Department of Public Works. Said test shall be conducted according to NCPI Standard Method, and shall be witnessed by an inspector designated by the Department of Public Works. Infiltration under test shall not exceed 200 gallons per 100 feet of inside diameter of sewer pipe in a 24 hour period and inclusive of all appurtenances within the section being tested such as manholes, house connections, etc.
J. Flushing Sewers: Flush all sanitary sewers except building sewers with water to obtain free flow through each line. Remove all silt and trash from appurtenances just prior to acceptance of work.
K. Plastic Sewer Pipe Installation: Plastic sewer pipe shall be installed in accordance with A.S.T.M. D3231 per latest revision, and no plastic pipe shall exceed a deflection of 5%.
L. Storm Water Connections: No roof drains, footing drains and/or surface water drains may be connected to the sanitary sewer systems, including temporary connections during construction.
M. Waterline Connections: Where water lines and sanitary sewers cross and water lines are placed above the sewer with a minimum of 18 inches vertical clearance, the sewer must be constructed of water works grade ductile iron pipe with mechanical joints within 10 feet of the water line.
N. Utilities: It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.
O. Service Laterals: Individual lot service lines shall be 6" in diameter and of material equal to that specified in 2A of this section. Service lines shall be connected to the main sewer by a tee at locations generally shown within these plans. Service lines shall be extended and capped at a point 5 feet beyond the right-of-way line or one pipe length for service lines on the same side of the street as the main. Sewer service lines shall be marked on the curb with red paint and the end of the line with a wooden 2 x 4 above the ground.
P. New Sanitary Sewer Main Construction: Contractor to record dimensions of each service line stub from nearest downstream manhole measured along the sanitary sewer main. The locations of manholes and service lines along with any other construction changes are to be incorporated on the original construction drawings and "Record Drawing" prints submitted to the City of Hamilton County and the engineer as soon after completion of construction as possible.

STORM SEWER SYSTEMS

- 1. SCOPE OF WORK:
The work under this section includes all storm sewers, storm water inlets, and related items, including excavating and backfilling, necessary to complete the work shown on the drawings.
2. MATERIALS:
A. Storm Sewers:
1. Reinforced concrete sewer pipe shall conform to ASTM C-76 latest revision with joints conforming to ASTM C-443 latest revision.
B. Manholes:
1. Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest revision.
2. Castings shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects. They shall be smooth and well-cleaned by shotblasting or by some other approved method. They shall be coated with asphalt paint which shall result in a smooth coating, tough and tenacious when cold, not tacky or brittle. They shall be gray iron meeting ASTM A-48 latest revision.
3. Joints - manhole sections shall be jointed with rubber type gaskets. The rubber type gaskets shall meet ASTM C-443 latest revision.
C. SUBDRAINS:
1. Perforated plastic pipe subdrains shall conform to ASTM D 3034 SDR 35.
3. APPLICATION:
A. Permits and Codes: The intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations as amended by any waivers. Contractor shall furnish all bonds necessary to get permits for cuts and connections to existing sewers.
B. Local Standards: The term "Local Standards" as used herein means the standards of design and construction of the respective municipal department or utility company.
C. Existing Improvements: Maintain in operating condition all active utilities, sewers and other drains encountered in the sewer installation. Repair to the satisfaction of the owner any damage to existing active improvements.
D. Workmanship: To conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction.
E. Trenching: Lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficiently ahead of pipe-laying to reveal any obstructions. The width of the trench shall be the inside pipe diameter plus 24 inches for 12 inches above the pipe. Sheet and brace trench as necessary to protect workmen and adjacent structures. All trenching to comply with Occupational Safety and Health Administration Standards. Keep trenches free from water while construction is in progress. Under no circumstances lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering to drains or natural drainage channels.
F. Special Supports: Whenever, in the opinion of the Engineer, the soil at or below the pipe grade is unsuitable for supporting sewers and appurtenances specified in this section, such special support, in addition to those shown or specified, shall be provided as the Engineer may direct, and the contract will be adjusted.
G. Backfilling: For a depth of at least 12 inches above the top of the pipe, backfill with earth or granular material free from large stones, rock fragments, roots or sod. Tamp this backfill thoroughly, taking care not to disturb the pipe. For the remaining trench depth, backfill with earth or granular material containing stones or rocks no larger than 4 inches. Backfill under walks, parking areas, driveways and streets shall be granular material only - thoroughly compacted by approved methods. Trenches parallel to and within 10 feet of paved roadways shall be constructed the same.
H. Manhole Inverts: Construct manhole flow channels of concrete, sewer pipe or brick, smoothly finished and of semi-circular section conforming to the inside diameter of the connecting sewers. Make changes in size or grade gradually and changes in direction by true curves. Provide such channels for all connecting sewers at each manhole.
I. Subdrains: All subdrains onsite shall be of the size as shown and shall be placed as shown on the plans. They shall be constructed to the grades shown. All drains constructed offsite as part of the outlet drain will be located as shown.
J. Utilities: It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.

STREETS

- 1. SCOPE OF WORK:
The work required under this section includes all concrete and bituminous paving and related items necessary to complete the work indicated on drawings and described in the specifications, including but not limited to:
Curbs and gutters
Sidewalks and concrete slabs, exterior steps
2. MATERIALS:
A. Concrete: Concrete shall be ready-mixed concrete and shall be a mix of proportioned fine and coarse aggregates with Portland cement and water. Minimum cement content shall be 6 bags per cubic yard of concrete and maximum water content shall be 5.5 U.S. gallons per sack of cement, including moisture in the aggregate. Slump for normal weight concrete shall be a maximum of 4 inches and a minimum of 2 inches. The slump of machine placed concrete shall be no less than 1-1/4 inches nor more than 3 inches. Standard test ASTM C-143 shall be used to measure slump. Compressive strength of concrete at 28 days shall be 4000 psi. All exterior concrete shall have air entrainment of 5% to 8% by volume per ASTM C-260. Retempering of delivered concrete will not be allowed. Concrete shall be composed of:
1. Portland cement: Conforming to ASTM C-150, Type IA or Type IIIA.
2. Aggregates: Conforming to ASTM C-33.
3. Water: Shall be clear and free from injurious amounts of oils, acids, alkalis, organic materials or other deleterious substances.
B. Welded Steel Wire Fabric: Where required for concrete reinforcement shall conform to ASTM A185.
C. Premolded Joint Filler: Shall be of non-extruding type meeting ASTM D-344, except that premolded joint filler used in concrete walk construction may be either non-extruding or resilient.
D. Bituminous Pavement Materials: All materials proposed for the construction of bituminous pavements shall comply with the Indiana Department of Highways Specifications, per latest revisions.
E. Compacted Aggregate Subbase: Shall be crushed stone or gravel. Crushed gravel shall be a minimum of 35% crushed material. Chert shall be limited to a maximum of 8% of the total. Material shall be free from an excess of flat, elongated, thinly laminated, soft or disintegrated pieces, and shall be free from fragments coated with dirt. Compacted aggregate shall be graded as follows:
SIEVE SIZE % PASSING
1-1/2" 100
1" 70-90
3/4" 55-80
1/2" 35-60
#4 25-50
#10 12-30
#20 5-10
3. APPLICATION:
A. Grading: Do any necessary grading in addition to that performed in accordance with Earthwork Section, to bring subgrades, after final compaction, to the required grades and sections for final improvement.
B. Preparation of Subgrade: Remove spongy and otherwise unsuitable material and replace with stable material. No traffic will be allowed on prepared subgrade prior to paving.
C. Compaction of Subgrade: The first 6 inches below the subgrade shall be compacted to at least 100% of the maximum dry density as determined by the provisions of AASHTO T-99. Water shall be prevented from standing on the compacted subgrade.
D. Utility Structures: Check for correct elevation of all manhole covers, valve boxes and similar structures located within areas to be paved, and make, or have made, any necessary adjustments in such structures.
E. Placing Concrete:
1. Subgrade: Place concrete only on a moist, compacted subgrade or base free from loose material. Place no concrete on a muddy or frozen subgrade.
2. Forms: All forms shall be free from warp, tight enough to prevent leakage and substantial enough to maintain their shape and position without springing or settling, when concrete is placed. Forms shall be clean and smooth immediately before concreting.
3. Placing Concrete: Concrete shall be deposited so as to require as little rehandling as practicable. When concrete is to be placed at atmospheric temperature of 35 degrees F. or less, paragraph 702.10 of the Indiana Department of Highways Specifications, latest revision shall be followed.
F. Concrete Curb and Gutter:
1. Expansion Joints: Shall be 1/2 inch thick premolded at ends of all returns and at a maximum spacing of 100 feet.
2. Contraction Joints: Unless otherwise provided, contraction joints shall be sawed joints spaced 20 feet on center.
3. Finish: Tamp and screed concrete as soon as placed, and fill any honey combed places. Finish square corners to 1/4" radius and other corners to radii shown.
G. Concrete Walks and Exterior Steps:
1. Slopes: Provide 1/4 inch per foot cross slope. Make adjustments in slopes at walk intersections as necessary to provide proper drainage.
2. Dimensions: Walks and steps shall be one course construction and of widths and details shown on the drawings.
3. Finish: Screed concrete and trowel with a steel trowel to a hard dense surface after surface water has disappeared. Apply medium broom finish and serrate control joints at 5 foot spacing. Provide 1/2" expansion joints where sidewalks intersect, and at a maximum spacing of 48 feet between expansion joints.
H. Curing Concrete: Except as otherwise specified, cure all concrete by one of the methods described in Section 501.17 of the Indiana Department of Highways Specifications, latest revisions.
I. Bituminous Pavement: Hot asphalt concrete pavement shall be a specified in Section 403 of the Indiana Department of Highways Specifications, latest revisions. Paving will not be permitted during unfavorable weather or when the temperature is 40 degrees F. and falling.
J. Compacted Aggregate Subbase: The thickness shown on the drawings is the minimum thickness of the fully compacted subbase. Compaction shall be accomplished by rolling with a smooth wheeled roller weighing 8 to 10 tons. Compact to 90% compaction using Standard Testing Procedures. Along curbs, headers and walls and at all placed not accessible to the roller, the aggregate material shall be tamped with mechanical tampers or with approved hand tampers.

WATER MAINS

- 1. SCOPE OF WORK:
The work required under this section includes all cold water distribution lines, valves, meter pits, hydrants, and related items including excavating and backfilling necessary to complete the work shown on the drawings. The ends of water service lines shall be tightly plugged or capped at the terminal points pending the connecting to all such lines of the building piping as specified in the plumbing specifications and architectural drawings.
2. MATERIALS:
A. Cast Iron Pipe: Cast iron pipe shall meet AWWA Specification C-106 with push-on joints meeting AWWA Specification C-111. Wall thickness shall be determined from Table 6.4 in AWWA C-106. Ductile iron pipe shall meet AWWA C-150 and C-151 Specifications. Pipe to be cement lined per AWWA C-104.
B. Copper Tubing: Shall be seamless, annealed copper tubing complying with Federal Specification WW-T-799. Fittings shall be wrought copper or cast bronze with solder joints. Solder shall be of a composition recommended by the manufacturer of the fittings.
C. Fire Hydrants: Shall comply with AWWA Specification C-502 and shall meet local standards and requirements, particularly as to nozzle diameters and threads, direction of opening and dimensions of operating and cap nuts. Fire Hydrants shall have one pumper and two hose nozzles. A valve opening not less than 5 inches and a 6 inch inlet connection. The length of the hydrant barrel shall be determined by the specified depth of cover over the pipe.
D. Valves: All valves and stops shall have ends suited or adapters shall be provided for the proper installation in the lines in which they are located. Valves shall meet local standards or in the absence of such standards, the following requirements:
1. Valves in cast iron pipe shall be iron body, bronze mounted, disc gate valves conforming to AWWA Specification C-500. They shall open in the same direction as those used in the local waterworks system. Valve stems shall terminate in 2 inch wrench nuts. Furnish two (2) keys.
2. Valves in copper pipe shall be standard brass body, round-way, ground-key stops, with T heads. Furnish two (2) keys.
E. Valve Boxes: Shall meet local standards or in the absence of such, shall comply with the following requirements:
1. For iron body valves, boxes shall be approved standard buffalo-type, cast iron, adjustable shaft boxes, having a minimum shaft diameter of 5-1/4 inches.
2. For brass body valves (stops) boxes shall be approved standard cast iron extension service boxes, having a minimum diameter of 7-1/2 inches and having lid held in place by a brass bronze bolt. The castings shall be coated with two coats of coal-tar pitch varnish. Furnish two (2) keys for bolt in lids.
F. Plastic Pipe: Shall conform to ASTM D-2241-SDR 21 with flexible elastomeric joints conforming to ASTM D-3139. NSF SEAL OF APPROVAL SHALL BE STAMPED ON ALL PLASTIC PIPE.
G. Stops: Stop shall be those manufactured by Ford or Mueller Corporation with AWWA taper thread, and with copper compression type fitting on outlet, or equal.
H. Blow-off Valves: Blow-off valves shall be those manufactured by Mueller Corporation (H-10283 or H-10291), or equal.
I. Angle Valves: Angle valves at the end of water service stub are to be copper compression type fitting also, and are to be protected with plastic bag over the valve.
J. Taps: 3/4" taps in lines smaller than 4 inches shall be only by tapped tee or tapping saddle. Water service lines should be marked on curbs with blue paint. (Sewer lateral locations - red).
3. APPLICATION:
A. Permits and Codes: The intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations. Contractor shall furnish all necessary bonds to get permits for cuts and connections.
B. Existing Improvements: Maintain in operating condition all active utilities and sewers and other pipe system that may be encountered.
C. Trenching: Lay all pipe in open trenches, except when local authority gives written permission for tunneling. Provide a separate trench for the water line at least 10 feet horizontally from any sanitary sewer. In locations where separate trenches for sewer and water lines are impracticable, lay the water pipe on a solid shelf at least 18 inches above the top of the sewer.
D. Width of Trench: Excavate trenches 12 inches each side of the pipe for proper installation of pipe.
E. Sheeting and bracing: Sheet and brace trenches as necessary to protect workmen and adjacent structures. All trenching shall comply with the Occupational Safety and Health Administration Standards.
F. Water Removal: Keep trenches free from water while construction therein is in progress. Under no circumstances lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering to drains or natural drainage channels.
G. Grading Trench Bottoms: The bottom quadrant of the pipe shall be fully and uniformly supported. The full load shall rest on the barrel of the pipe. The trench may be excavated to a depth of 4 inches or more below final grade with sand, crushed stone or gravel backfill to bring it back to pipe laying grade. For a depth of at least 12 inches above the top of the pipe backfill with earth or granular material free from large stones, roots or frozen clods. Tamp this backfill thoroughly taking care not to disturb the pipe. Backfill under walks, parking areas, driveways and streets with granular material only and tamp thoroughly, by approved methods. Trenches parallel to and within 10 feet of paved roadways shall be constructed the same.
H. Tests: Before joints are covered, fill the piping with water, opening hydrants or other outlets to expel air. Test the piping for leakage for a period of at least two hours at a pressure of 100 pounds per square inch. Inspect all joints for leakage and remedy any leaks. Upon completion of the water distribution mains, flush out the system until the water runs clear. As soon as the system has been flushed out, it shall be sterilized in accordance with the requirements of the Water Company.
I. Shop Drawings: Submit Shop Drawings of hydrants and valves to the Water Company for approval.
J. If a horizontal distance of 10 feet cannot be maintained between the water line and the sanitary sewer line, the sewer must be constructed of water works grade ductile iron pipe with mechanical joints within 10' of the water line.
K. Utilities: It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.
L. New Water Main Construction: Contractor to record dimension of each water stub and valves from nearest fire hydrant measured along water main. The locations of hydrants and water valves, along with any other construction changes are to be incorporated on the original construction drawings and "Record Drawing" prints submitted to the Water Company as soon after completion of construction as possible.

NOT APPLICABLE

REVISIONS table with columns for DATE, CHECK, NO., BY, DATE, CHECK, NO., BY. Includes professional seal for V. SCHNEIDER, ENGINEER, No. 14653, State of Indiana. Project info: PROJECT LARKSPUR (PHASE I) PREPARED FOR THE KELLEY GROUP. Scale: N/A. Job No. 657. File No. 15. SHEET S-14 OF 15. OFFICE OF HAMILTON COUNTY SURVEYOR. Date: NOV 10 1994.

Soil Preparation

Apply lime to raise the pH to the level needed for species. Bring species. Apply 20 pounds of 12-21-21 analysis fertilizer (or equivalent) per 1000 sq. ft., approximately 1000 pounds per acre or fertilizer according to test. Application of 120 lbs. of ammonia sulfate on areas low in organic matter and fertilizer will greatly enhance vegetation growth.

Mark the Application and Time into the soil to a depth of 3-5 inches with a harrow, disk or rake operated across the slope as much as possible.

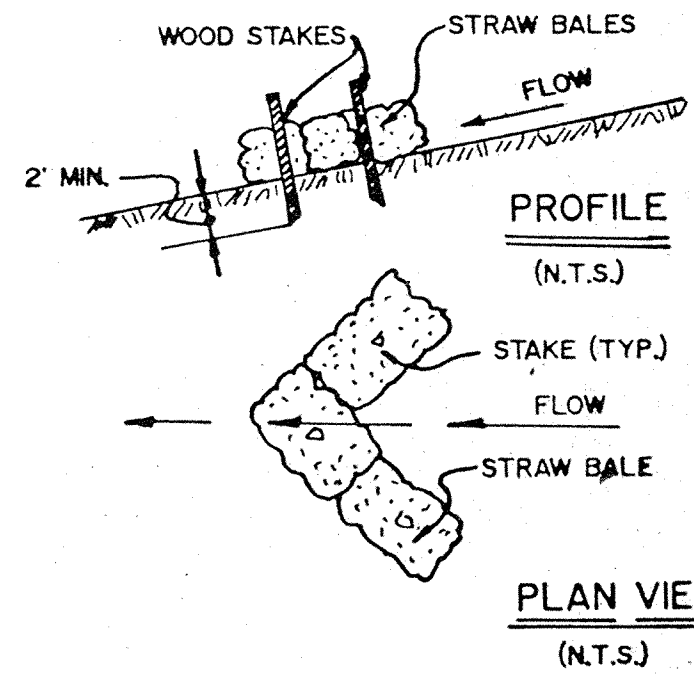
Seeding

Select a seed mixture based on projected use of the area (Figure 2-2), while considering best seeding rates. See Figure 2-3 on page 3-4. If tolerance area is a problem, use an equal mixture of seedings adjacent to streets and highways, see Figure 3-4 on page 3-5 before final selection.

Figure 2-2: Permanent Seed Mixtures

Level and Sloping, Open Areas	Seeding Rate lb/acre	Suitable pH 100/1000 % ¹	Site Suitability Well Drought Drained out			
1. Tall Fescue	25	6	5.5-8.3	2	1	2
2. Tall Fescue Red Clover	25	6	5.5-8.3	3	1	2
3. Kentucky Bluegrass Creeping Red Fescue	15	4	5.5-7.5	2	1	1
4. Tall Fescue	15	4	5.5-7.5	2	1	2
5. Kentucky Bluegrass Barnard Graminifolius	10	25	5.5-8.3	2	1	1
6. Kentucky Bluegrass Creeping Red Fescue	40	7	5.5-7.5	2	1	3
7. Perennial Ryegrass (Turf Type)	170	4.6	5.0-7.5	1	1	1
8. Tall Fescue	170	4.6	5.5-8.3	2	1	2

¹ - Preferred 2 - Will Tolerate ³ - Inoculate with specific inoculants.



STRAW BALE SEDIMENT FILTER DETAIL

-WARNING-
THIS SHEET TO BE USED FOR EROSION CONTROL PURPOSES ONLY. FOR ANY OTHER INFORMATION SEE DEVELOPMENT PLAN.

EROSION CONTROL

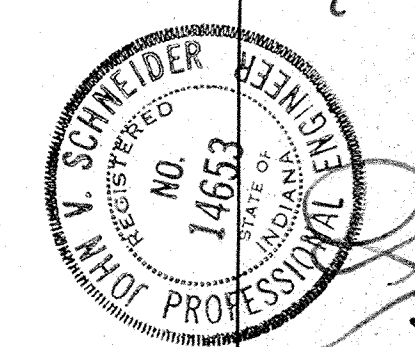
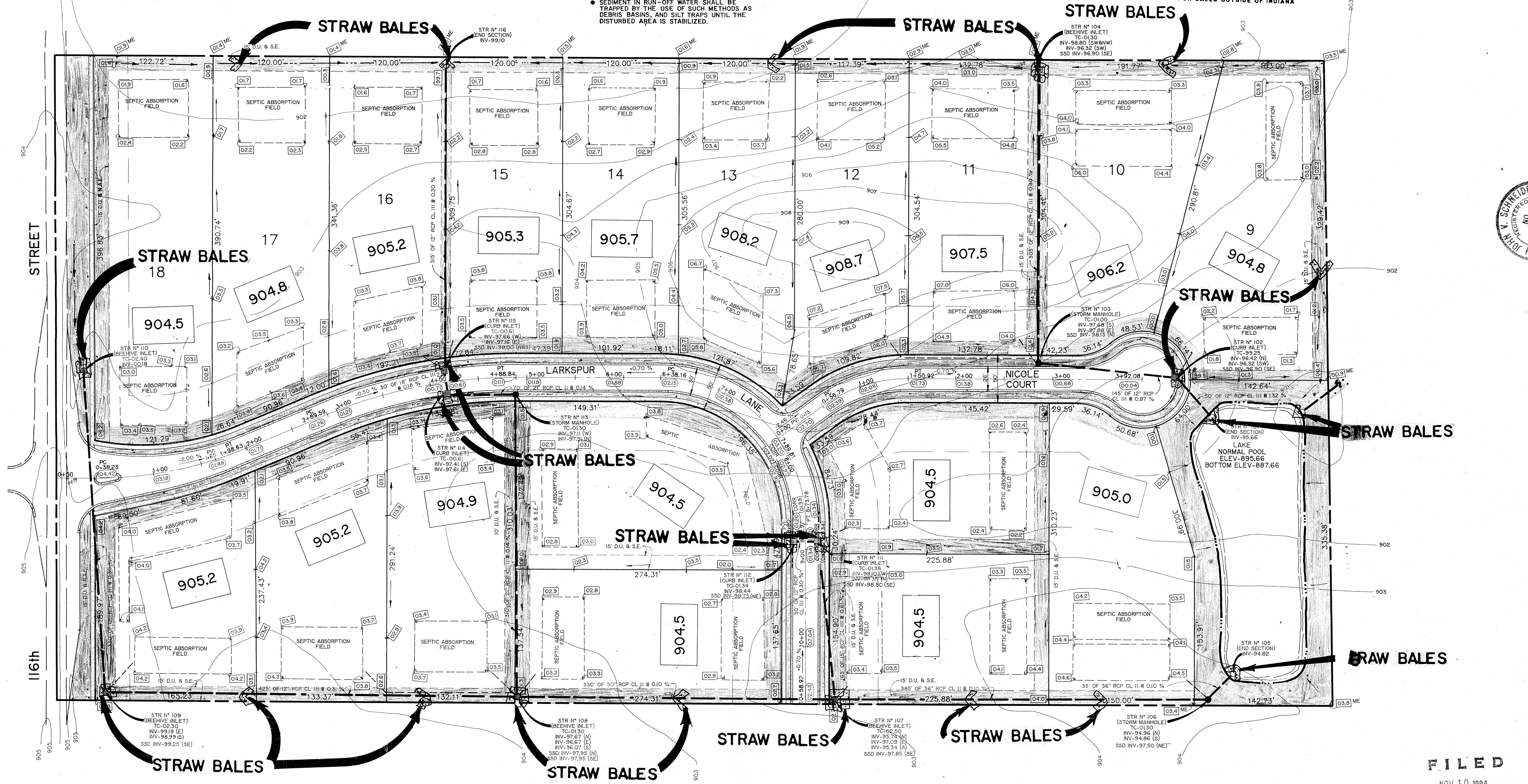
- LAND ALTERATIONS WHICH STRIP THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENT.
- THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM. THE AREA SHALL BE STABILIZED AS QUICKLY AS PRACTICAL.
- TEMPORARY VEGETATION OR MULCHING SHALL BE USED TO PROTECT EXPOSED AREAS DURING DEVELOPMENT.
- PERMANENT AND FINAL VEGETATION OR STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED AS SOON AS PRACTICAL UNDER THE CIRCUMSTANCES.
- SEDIMENT IN RUN-OFF WATER SHALL BE TRAPPED BY THE USE OF SUCH METHODS AS DEBRIS BASINS, AND SILT TRAPS UNTIL THE DISTURBED AREA IS STABILIZED.

NOTE:
SHADED AREA DENOTES AREA TO BE SEEDD AND STRAW MULCHED.

HOLEY MOLEY SAYS,
"DON'T DIG BLIND"

1-800-382-5544
CALL TOLL FREE
1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA

- LEGEND**
- Existing Sanitary Sewer Manhole
 - New Sanitary Sewer Manhole
 - New Storm Sewer Inlet
 - New Storm Sewer End Section
 - Finished Pavement Elevations
 - All Other Finished Elevations
 - Existing Contour



PROJECT NO. 657
PREPARED FOR DAVID KELLEY
FILE NO. 116th ST
EROSION CONTROL PLAN

SCHNEIDER ENGINEERING CORPORATION
300 NORTH POST ROAD
INDIANAPOLIS, INDIANA 46218
(317) 898-8282
P.O. BOX 76068
CIVIL ENGINEERS
LAND SURVEYORS

NOV 10 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

SHEET 15