Drain: EXIT TEL	Drain #: 245
Improvement/Arm:	Diam #
Operator: J. LIVING STON	Date: 12-11-03
Drain Classification: Urban Rural Y	ear Installed: _/996

# **GIS Drain Input Checklist**

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

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# <u>Gasb 34 Footages for Historical Cost</u> <u>Drain Length Log</u>

Drain-Improvement: \_\_\_\_ EXIT TEN - PHASE I III

Drain Type:	Size:	Length ()	Length (DB Query)	Length Reconcile	Price:	Cost:
RCP	15"	198'	198'			0031.
	/8 "	340'	340'			
	21"	385'	385'			
	* 24"	3049	2835'	-214		
	27"	282'	282'			
	30"	443'	443'		,	
	36"	314'	314'			
	42"	560'	560'			
	48"	878'	898'			
	40 "	309'	309			
STEEL PIPE		124'	124'			
						·····
OPEN DITCH		856'	856'			
	Sum:	7758	7544'	-214		301,975

Comments:

\* Z14' 24" REP REMOVED : REPLACED OF WITH THIN 30" RCP FOR DEER CREEK INDUSTRIAL PARK CONSTRUCTION



TO: Hamilton County Drainage Board RE: Exit Ten Drain

Attached is a petition, non-enforcement request, plans, calculations, quantity summery and assessment roll for the Exit Ten Drain. I have reviewed the submittals and petition and have found each to be in proper form.

I have made a personal inspection of the land described in this petition. Upon doing so, I believe that the drain 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 benefited. The drain will consist of the following:

15"	?	198 LF	36" ?	314 LF
18"		369 LF	42"	578 LF
21"		385 LF	48"	1199 LF
24"		3147 LF		
27"		282 LF	Pipe #45 to #46	560 LF
30"		443 LF	Pipe #47 to Mud Creek	200 LF

The Total length of the drain will be 7675 Feet.

The retention pond (lake) located on the proposal is not to be considered part of the regulated drain. Only the inlet and outlet will be maintained as part of the regulated drain. The maintenance of the pond (lake) will be the responsibility of Exit Ten, Inc.. The Board will however, retain jurisdiction for ensuring the storage volume for which the lake was designed will be retained. Thereby, allowing no fill or easement encroachments.

y . . .

26.

Pipes shown on plan by Howard K. Bell Consulting Engineers, Inc, which are be part of the regulated drain are listed below. The composite drainage plan is date October 22, 1993, Sheet 3 of

Pipe #	Length	Size
1	17"	18"
1 2 3	58'	15"
3	3851	21"
4	581	15"
4 5	10'	24"
6	120'	24"
7	192'	24*
7 8 9	10'	18"
9	2821	27"
10	443 '	30"
11	621	1.5"
12	30'	18"
12A	521	36"
13	17'	18"
14	40'	18"
1.5	2051	18"
1.6	262'	36"
17	10'	<b>26" 18</b> "
18	261'	42"
19	10'	18"
20	10'	15"
21	317'	42"
22	10'	18'
23	10'	15"
24	500*	48"
2.5	10'	18"
26	1.0 '	18"
27	394 '	48"

### Outfall to Mud Creek

38	2301	24"
39	371'	24"
40	278'	24"
41	341'	24"
42	464'	24"
43	500'	24"
44	500 <sup>v</sup>	24"
45	141'	2.4"
46	223	48"
47	821	48"

### Open Drain (ditch)

From	45	to	46		560	feet	
From	47	to	Muđ	Creek	200	feet	

I have reviewed the plans and believe the drain will benefit each tract equally when developed. Therefore, I recommend each tract be assessed equally. I also believe that no damages will result to landowners by the construction of this drain. I recommend a maintenance assessment of \$10.00 per acre, with a \$50.00 minimum. With this assessment the total annual assessment for the drain/this section will be \$ $2,263^{co}$ ,

Parcels assessed for this drain may be assessed for Mud Creek at sometime in the future.

I believe this proposed drain meets the requirements for Urban Drain Classification as set out in IC 26-9-27-67 to 69. Therefore, this drain shall be designated as an Urban Drain.

I recommend that upon approval of the above proposed drain that the Board also approve the attached non-enforcement requests These requests are for the reduction of the regulated drain

easement to those easement widths as shown on the form for Exit Ten, Inc., Bertus J. & Richard N. Beitman, David & Marilyn Carter and Richard Nay.

I recommend the Board set a hearing for this proposed drain for May 1994.

Kenton C. Ward Hamilton County Surveyor

KCW/no

# HAMILTON COMMONS AND E. 136TH STREET IMPROVEMENT PHASE I CONSTRUCTION PLANS

The following is a list of roadway, drainage and sanitary sewer additions not completed as of December, 1995.

- 1. SR 238 turning lane improvements at the Olio Road intersection. (sheet 8)
- 2. Olio Road improvements from SR 238 and E. 136th Street. (sheet 8)
- 3. Storm line '1' from E. 136th Street to the north side of SR 238. (sheet 7)
- 4. Large retention pond near Pennington Road. (sheet 9) This facility is about 60% complete.
- 5. Storm line '2' from the large retention pond to Olio Road. (sheets 13 and 18)
- 6. Off-site drain pipe to Mud Creek (sheet 17)
- 7. Sanitary Sewer line 'C' and 'C-1' from the WWTP to SR 238. (sheets 15 and 20)

The above items are scheduled for construction in the Spring and Summer of 1996.

CHANGE ORDER AIA DOCUMENT	G701	OWNER ARCHITECT Contractor Field Other	
(name, address) TO CONTRACTC (name, address)	t Ten, Inc. STorm Sewer 1, 2 Hamilton Commons OR: Skinner & Broad 201 N. Illinois Indianapolis, Il	s Dent Const. Street	CHANGE ORDER NUMBER: 1 DATE: 12/19/96 ARCHITECT'S PROJECT NO: 96-215 CONTRACT DATE: CONTRACT FOR: Storm Sewer 1,2 & 3
The Contract is ch Add to the at the requ	-	ed contract to 1 County = \$1	o upsize the RCP pipe from 54" to 60" under Olio Road 7,968.91.
	l conditions as Superintendent Utilities Phone Travel Temp. Toilet Project Mgr. Mgt. Fee	follows to c 1900 250 125 50 37.50 500 2293.10	over (31) days extension on schedule: Insurance 15

The original (Contract Sum) (Guaranteed Maximum Price) was	278,836.00		
Net change by previously authorized Change Orders\$	0.00		
The (Contract Sum) (Guaranteed Maximum Price) prior to this Change Order was	278,836.00		
The (Contract Sum) (Guaranteed Maximum Price) will be (increased) (decreased)	-		
(unchanged) by this Change Order in the amount of	23,139.51		
The new (Contract Sum) (Guaranteed Maximum Price) including this Change Order will be \$	301,975.51		
The Contract Time will be (increased) (decreased) (unchanged) by thirty-one calendar The date of Substantial Completion as of the date of this Change Order therefore is Janua	days ary 20, 1997	( <b>31</b> ) day	<b>S</b> .

NOTE: This summary does not reflect changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive.

	Sk <u>inner &amp; Broadbent Const.</u>	Exit TEn, Inc.
ARCHITECT	201 N. Illinois St, 23rd F1.	OWNER 2006 Robinwood
Address	INdianapolis, IN 46204	Address Muncie, IN 47304
BY:	Pamela K. Mathilas	BY
DATE	DATE	DATE

CAUTION: You should sign an original AIA document which has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced.

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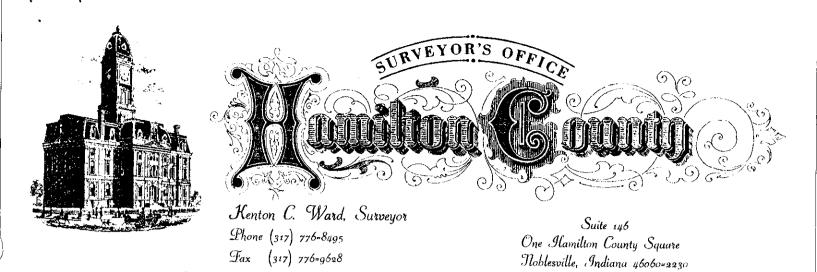
## STATEMENT OF COMPLETION AND COMPLIANCE

- To: Mr. Jerry L. Liston HAMILTON COUNTY SURVEYOR'S OFFICE Suite 146 **One Hamilton County Square** Noblesville, IN 46060
- EXIT TEN/HAMILTON COMMONS Re: PUBLIC DRAINAGE FACILITIES

I hereby state that:

- I am a Registered Engineer in the State of Indiana. 1.
- I am familiar with the plans and specifications for the above referenced 2. development.
- 3. I have inspected the drainage facilities for the above referenced development after construction was completed. This inspection was made during two field visits to the site.
- 4. The drainage facilities within the above referenced development to the best of my knowledge, information and belief and from information compiled and furnished by others have been installed and completed in conformity with all plans and specifications with the exception of the improvements listed on the attached sheet

Signature:	J. P-	Date:	March 28, 19	96				
Type or Print Name: _	Nevin J. Brian				<u>.</u>			
Business Address:			igineers, Inc.					
	111 East Kentucky		- March 1997					
-	Louisville, KY 40203	3						
Telephone Number	(502) 584-8877	Fax N	umber: (502) 58	84-9393				
SEAL		ANA RE	GISTRATION	NUMBER	ĩ	Ŧ	5	D
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To: Hamilton County Drainage Board

December 30, 1998

### Re: Exit Ten Drain

Attached are as-builts, certificate of completion & compliance, and other information for Exit Ten Drain. 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 report for this drain dated March 27, 1994. The changes are as follows:

Structure:	T.C.:	I.E.:	Pipe:	Length:	<b>Original Plans:</b>	Difference:
str 5-6a	not	installed	24	0	10	-10
6a	840.06	838.23				
6	841.38	838.14	18	124	120	4
6	841.38	838.14				, , , , , , , , , , , , , , , , , , , ,
7	841.5	837.5	24	192	· · · · · · · · · · · · · · · · · · ·	
7	841.5	837.5	· · · · ·		· · · · · · · · · · · · · · · · · · ·	
stub# 8			18	10		
7	841.5	837.5			· · · · · · · · · · · · · · · · · · ·	
9	842.2	836.7	27	282	· · · · · · · · · · · · · · · · · · ·	
46		820.45				
47	831.24	819.4	60	232	48"- 223	9
47	821.24	819.3				
47a		818.61	60	77	48" - 82	-5
45a		821.9				
45	834.99	822.49	24	214	141	73
45	834.99	822.49				
44	852.4	823.61	24	484	500	-16
44	852.4	823.69			· · · · · · · · · · · · · · · · · · ·	
43	840.18	824.75	24	501	500	1

				824.8	840.18	43
41	464	505	24	826.13	841.43	42
				826.11	841.43	42
158	341	499	24	827.33	841.71	41
				827.37	841.71	41
56	371	427	24	828.5	840.42	39
				828.57	840.42	39
-3	230	227	24	829		38
-278	278	0	24	installed	not	pipe 40
-210				827.39		27a
		394	48	828.86	838.5	27
·······				833.09	838.5	27
4	500	504	48	830.13	840.2	24
				830.13	840.2	24
-13	317	304	42	831.03	841.5	21
				831.03	841.5	21
-5	261	256	42	831.81	837.5	18
		10	18			stub# 25
		10	18			stub# 26
		10	18			stub# 22
		10	15			stub# 23
		10	18			stub# 19
		10	15			stub# 20
		10	18			stub# 17
				938.61	842.8	3
		385	21	837.46	842.2	9
				836.71	842.2	9
<u> </u>		443	30	832.98	838	10
				832.98	838	10
12	52	64	36	832.72	837.85	12a
				832.72	837.85	12a
12	262	250	36	831.81	837.5	16
				839.11	842.8	3
		6	15	839.15	842.21	2
				839.15	842.21	2
		52	15	839.47	842.47	2a
				837.76	842.2	9
		6	15	837.19	840.31	4
				837.19	840.31	4
		52	15	838.05	840.55	4a
				834.25	837.85	12a
		62	15	835.35	838.35	11
		17	18			stub# 1
				832.98	838	10
10	205	215	18	833.59	836.7	15
				833.59	836.7	15

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14	836.67	833.59	18	8	additional	8
14	836.67	833.59		·		
14a	836.67	833.73	18	40		
Stub# 13	not	installed	18	0	17	-17

### **RCP Pipe Totals:**

15"	198	48"
18"	464	60"
21"	385	
24"	3049	Other Drain:
27"	282	open ditch 45-46
30"	443	open ditch 47-mud
36"	314	
42"	560	

The length of the drain due to the changes described above is now 7,758 feet.

The non-enforcement was approved by the Board at its meeting on June 27, 1994 and recorded under instrument #9432305.

This project was a tiff district area and constructed with these funds. Therefore, bonds were not obtained.

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

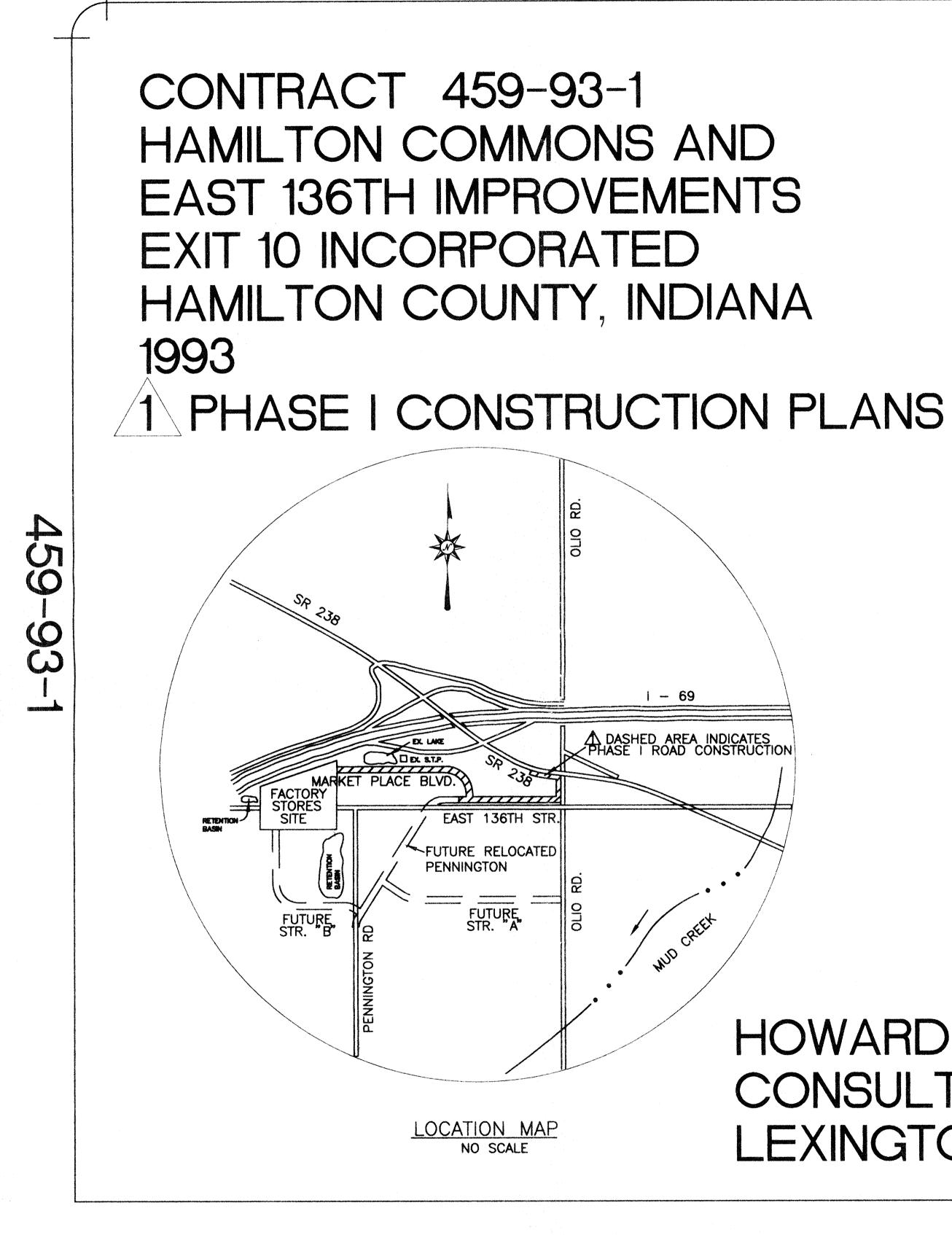
Sincerely,

898 309

650 206

Kenton C. Ward./ Hamilton County Surveyor

KCW/slm



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

# RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED, ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY THE CONTRACTOR DURING CONSTRUCTION. THE ENGINEER IS NOT RESPONSIBLE FOR ANY RESULTING ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DOCUMENT. PART OF THE STORM DRAINAGE FACILITIES, ROADWAYS, AND SANITARY SEWERS SHOWN ON THESE PLANS WERE NOT COMPETED AT THE TIME THESE RECORD DRAWINGS WERE PREPARED. THESE IMPROVEMENTS ARE SHOWN AS "NOT CONSTRUCTED".

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# HOWARD K. BELL CONSULTING ENGINEERS, INC. LEXINGTON - HOPKINSVILLE - LOUISVILL

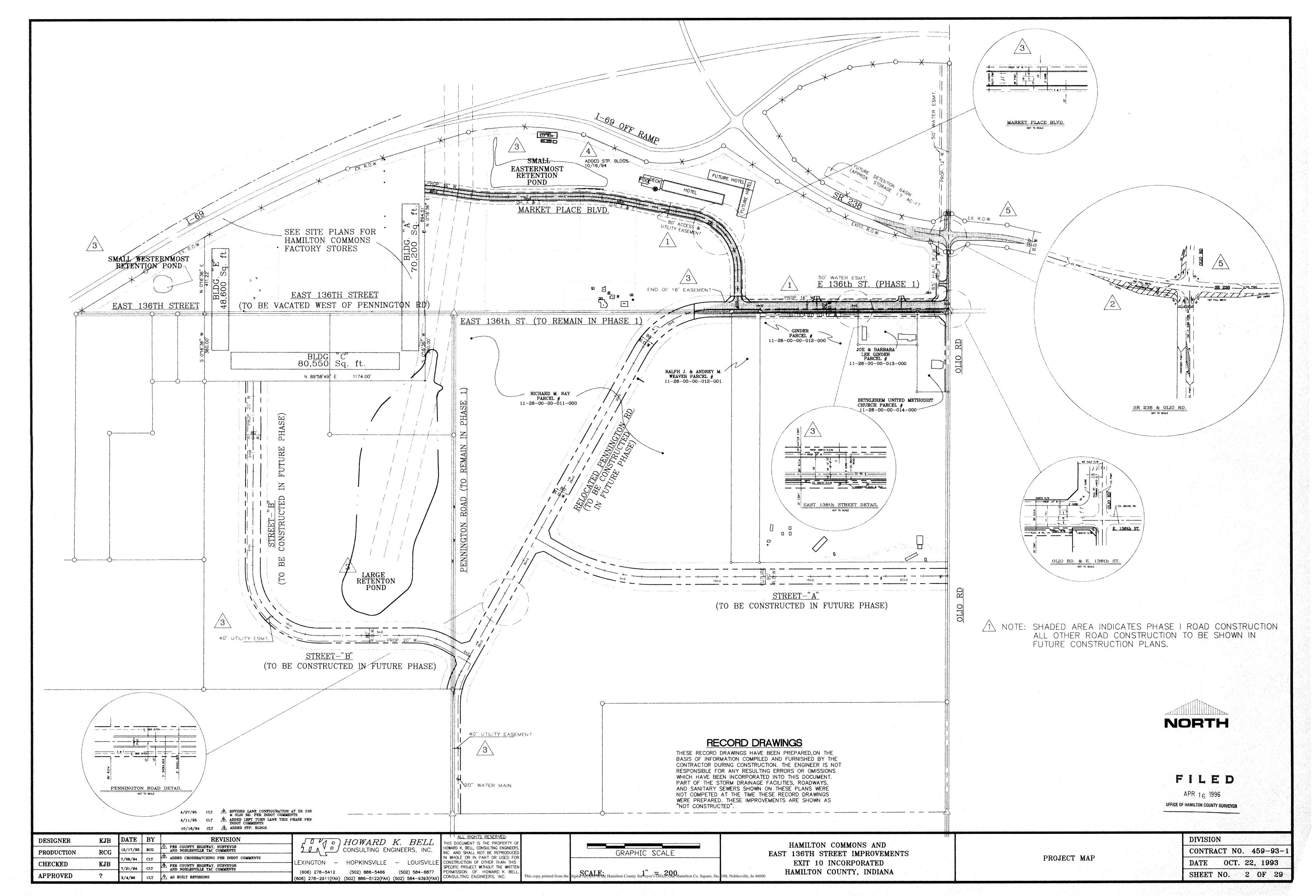
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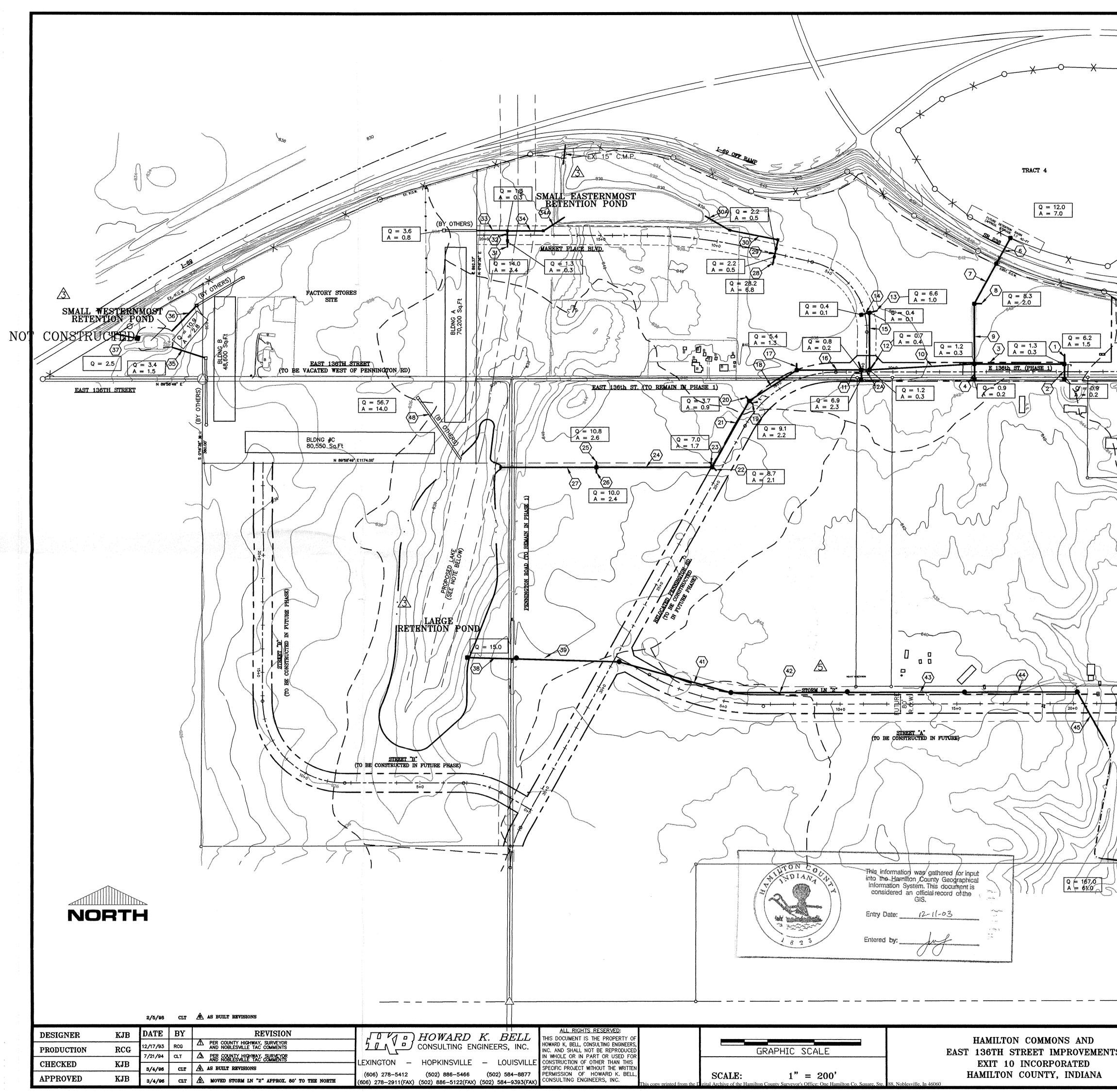
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OFFICE OF HAMILTON COUNTY SURVEYOR



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NT IS THE PROPERTY OF LL, CONSULTING ENGINEERS,					H	IAMILT(	ON COM	MON	S AND
ALL NOT BE REPRODUCED	GR	APHIC S	CALE		EAST 1	136TH	STREET	IMP	ROVEMENT
N OF OTHER THAN THIS						EXIT 1	0 INCOF	RPOR	ATED
JECT WITHOUT THE WRITTEN OF HOWARD K. BELL,	SCALE:	1"	= 200'		HA	MILTO	N COUN	FY.	INDIANA

	PIPE NO.	A ACRES	Q C.F.S.	LENGTH FEET	SIZE	SLOPE	VELOCITY F.P.S.	Tc MIN.	I INTEN.	CAPACIT
	1	1.5 0.2	6.2 0.9	17 58	18 15	0.30	4.0	10.0	5.0 5.0	6.8
$\vdash$	23	2.0	8.0	385	21	0.82	4.4	10.0	5.0	5.8 11.0
$\mathbf{F}$	4	0.2	0.9	58	15	0.50	3.1	10.0	5.0	5.2
1		V.L	12.0			0.00	4.6	10.0	0.0	15.0
F	6		12.0	124	18	0.07	4.6	****		15.0
F	7		12.0	192	24	0.25	4.6			15.0
F	8	2.0	8.3	10	18	0.50	5.2	10.0	5.0	8.6
Γ	9	9.0	19.9	282	27	0.28	5.3	11.2	4.8	20.0
	10	11.2	28.4	443	30	0.83	8.5	12.1	4.7	44.0
	11	2.3	6.9	62	15	1.77	6.5	10.0	5.0	15.0
	12	0.4	0.7	30	18	0.30	2.5	10.0	5.0	6.8
	13	1.0	4.1	17	18	0.50	5.0	10.0	5.0	8.6
L	14	0.1	0.4	40	15	0.35	2.0	10.0	5.0	4.0
	15	1.2	5.0	205	18	0.20	2.9	10.3	5.0	5.0
	16	17.1	48.8	262	36	0.39	7.2	13.1	4.6	50.0
F	17	1.3	5.4	10	18	0.50	4.8	10.0	5.0	8.6
	18 19	18.4	52.6	261	42	0.30	6.2	13.7	4.5	59.8
	20	2.2 0.9	9.1 3.7	10 10	18 15	1.00	7.2	10.0	5.0	13.0
$\vdash$	20	21.5	63.0	317	42	0.35	5.8 6.7	10.0 14.4	5.0 4.4	7.2
$\vdash$	22	21.5	8.7	10	18	1.00	7.0	14.4	<u>4.4</u> 5.0	64.6 13.0
$\vdash$	23	1.7	7.0	10	15	2.00	8.5	10.0	5.0	11.0
$\mathbf{F}$	24	25.3	75.4	500	48	0.25	6.0	15.2	4.3	78.0
$\mathbf{F}$	25	2.6	10.8	10	18	1.00	7.5	10.0	5.0	13.0
F	26	2.4	10.0	10	18	1.00	7.2	10.0	5.0	13.0
F	27	30.3	91.4	394	48	0.35	7.3	16.6	4.2	92.3
F	28	6.8	28.2	17	30	0.50	7.1	10.0	5.0	34.0
Γ	29	7.3	30.5	40	30	0.50	7.2	10.0	5.0	34.0
	30	7.8	32.7	218	30	0.67	7.1	10.1	5.0	40.0
	30A	7.8	32.7	121	30	0.50	7.1	10.0	5.0	35.0
	31	3.4	14.0	17	21	0.60	6.2	10.0	5.0	15.5
	32	3.8	15.4	40	21	0.60	6.0	10.0	5.0	15.5
L	33	0.8	3.6	153	15	0.60	4.6	10.0	5.0	6.0
	34	4.8	19.6	180	24	0.70	6.6	11.1	4.8	22.5
	35	1.4	3.4	150	12	0.66	4.5	11.7	4.8	3.5
	36	2.8	10.9	145	18	0.86	6.0	12.4	4.7	11.0
	37		2.5	90	12	0.50	3.2			2.5
	38		15.0	230	24	0.29	4.8	****	***	15.0
F	<u>39</u> 40		15.0	427	24 24	0.26	4.8			15.0
-	40		15.0 15.0	<del>278</del> 500	24	0.25 0.23	4.8 4.8			15.0
-	42		15.0	500	24	0.25	4.8			15.0 15.0
$\mathbf{F}$	43		15.0	500	24	0.28	4.8			15.0
F	44		15.0	500	24	0.24	4.8			15.0
F	45		15.0	208	24	0.27	4.8			15.0
F	46	61.0	167.0	232	60	0.45	6.5	16.5	3.6	170.0
F	47	61.0	167.0	77	60	0.90			<u> </u>	+
F	48	14.0	56.7	298	48	0.20	4.8	13.8	4.5	69.8
	12A	12.8	34.5	52	36	0.72	8.9	13.0	4.6	64.0

- MUD CREEK

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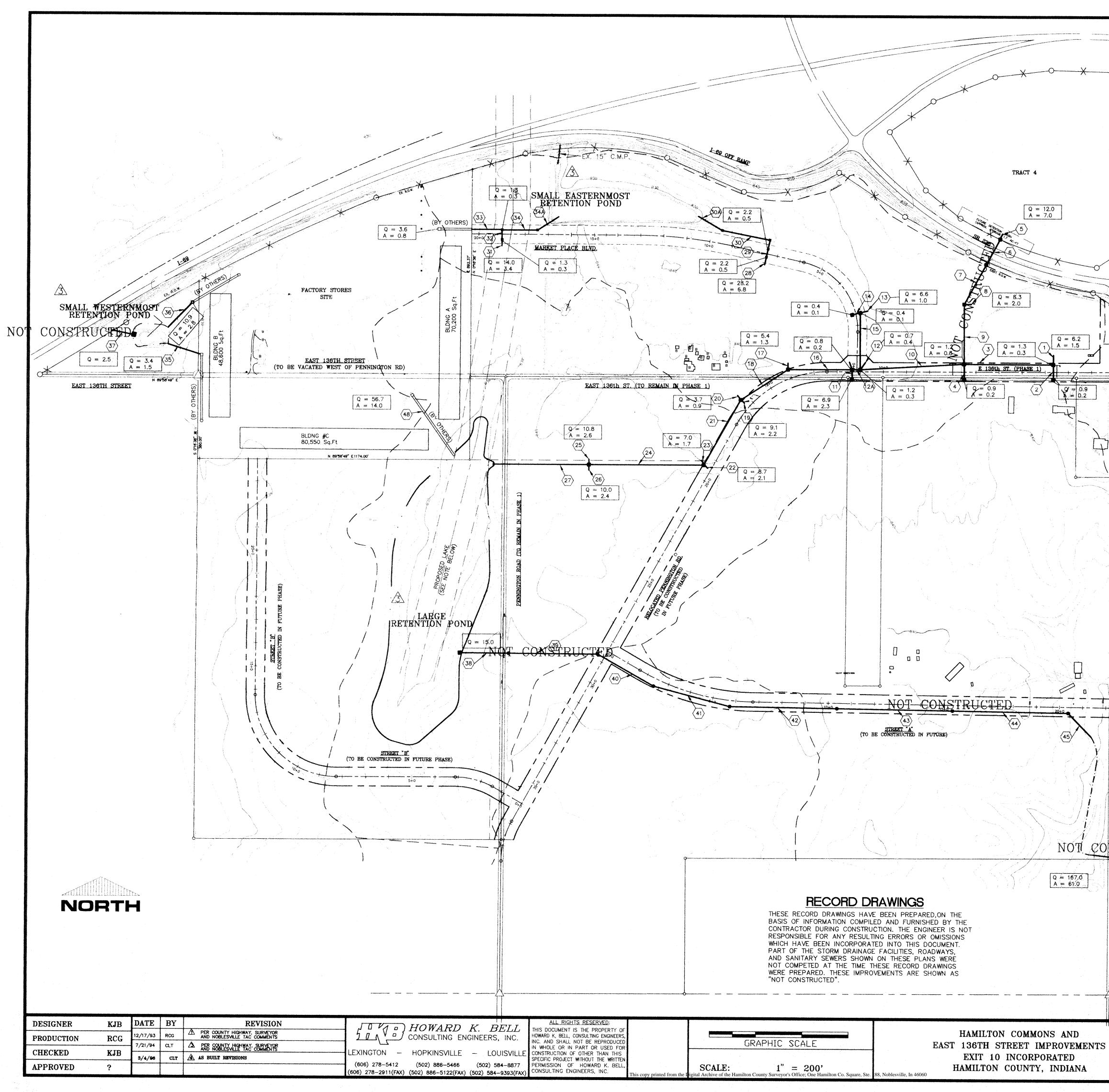
- 1. ALL PERSONS ON SITE MUST ABIDE BY ALL I.O.S.H.A. STANDARDS INCLUDING BUT NOT LIMITED TO "GENERAL CONSTRUCTION PRACTICES" AND "TRENCH SAFETY STANDARDS"
- 2. SLOPES AND SIDES OF EXCAVATIONS SHALL BE STABILIZED AND SHALL COMPLY WITH CODES AND ORDINANCES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED.
- 3. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN SAFE CONDITION UNTIL COMPLETION OF BACKFILLING.
- 4. SHEETING AND SHORING OF TRENCHES SHALL BE PROVIDED BY THE CONTRACTOR WHERE NECESSARY TO PROTECT LIFE, PROPERTY AND THE NEW OR EXISTING STRUCTURES FROM DAMAGE OR TO MAINTAIN MAXIMUM PERMISSIBLE TRENCH WIDTH AT TOP OF PIPE. ALL NECESSARY MATERIALS, INCLUDING, BUT NOT LIMITED TO, SHEETING, SHEET PILING, TRENCH JACKS, BRACES, SHORES AND STRINGERS, SHALL BE USED TO HOLD TRENCH WALLS. SHEETING AND SHORING MAY BE WITHDRAWN AS THE TRENCHES ARE BEING BACKFILLED, AFTER BACKFILL HAS BEEN TAMPED OVER TOP OF PIPE AT LEAST 18 INCHES. IF REMOVAL BEFORE BACKFILL IS COMPLETED TO SURFACE ENDANGERS LIFE AND ADJACENT STRUCTURES, THEN THE SHEETING AND SHORING SHALL BE LEFT IN PLACE UNTIL SUCH DANGER HAS PASSED, AND THEN PULLED IF PRACTICAL. VOIDS CAUSED BY SHEETING WITHDRAWAL SHALL BE BACKFILLED AND TAMPED. IF NOT WITHDRAWN, SHEETING SHALL BE CUT OFF AT LEAST 18 INCHES BELOW FINAL SURFACE GRADE.
- 5. CULVERTS AND STORM SEWERS ARE DESIGNED FOR A TEN YEAR STORM EVENT.
- 6. THE RATIONAL METHOD WAS UTILIZED TO CALCULATE PEAK DISCHARGES. A RUNOFF COEFFICIENT OF 0.83 WAS USED FOR UNDEVELOPED AREAS TO ALLOW FOR FUTURE DEVELOPMENT. MANNING'S N OF 0.012 WAS USED FOR CONCRETE PIPE.
- 7. A RETENTION POND WILL BE PROVIDED IN THE FUTURE WHEN TRACT 4 DEVELOPS. THE RETENTION POND SHALL BE DESIGNED TO LIMIT THE 100 YEAR POST-DEVELOPED OUTFLOW (TO PIPE #6) TO 12 CFS.
- 8. STORM PIPES DRAINING THE HAMILTON COUNTY ROAD RIGHT-OF-WAYS AND PIPE FROM THE LARGE RETENTION POND TO MUD CREEK SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76. PIPE SHALL BE CLASS III AND CLASS IV (BACKFILL GREATER THAN 14 FT.) WALL "B" TYPE.
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Phase II - SLM 12/30/98

### RECORD DRAWINGS

PLOT DATE 2/9/98

DIVISION E.I CONTRACT NO. 459-93-FEB 10 . COMPOSITE DRAINAGE PLAN DATE OCT. 22, 1993 OFFICE OF HAMILTON COL SHEET NO. 3 OF 29



EXIT 10	INCORPO	RATED
HAMILTON	COUNTY.	INDIANA

PIPE NO.	A ACRES	Q C.F.S.	LENGTH	SIZE INCHES	SLOPE %	VELOCITY F.P.S.	Tc MIN.	INTEN.	CAPACITY
-1	1.5	6.2	17	18	0.30	4.0	10.0	5.0	6.8
2	0.2	0.9	58	15	0.62	3.3	10.0	5.0	5.8
3	2.0	8.0	385	21	0.30	4.4	10.3	5.0	11.0
4	0.2	0.9	58	15	0.50	3.1	10.0	5.0	5.2
5		12.0	10	24	0.25	4.6			15.0
6		12.0	120	24	0.25	4.6		-	15.0
7		12.0	192	24	0.25	4.6		1	15.0
8	2.0	8.3	10	18	0.50	5.2	10.0	5.0	8.6
9	9.0	19.9	282	27	0.28	5.3	11.2	4.8	20.0
10	11.2	28.4	443	30	0.83	8.5	12.1	4.7	44.0
11	2.3	6.9	62	15	1.77	6.5	10.0	5.0	15.0
12	0.4	0.7	30	18	0.30	2.5	10.0	5.0	6.8
13	1.0	4.1	17	18	0.50	5.0	10.0	5.0	8.6
14	0.1	0.4	40	15.18	0.35	2.0	10.0	5.0	4.0
15	1.2	5.0	205	18	0.20	2.9	10.3	5.0	5.0
16	17.1	48.8	262	36	0.39	7.2	13.1	4.6	50.0
17	1.3	5.4	10	18	0.50	4.8	10.0	5.0	8.6
18	18.4	52.6	261	42	0.30	6.2	13.7	4.5	59.8
19	2.2	9.1	10	18	1.00	7.2	10.0	5.0	13.0
20	0.9	3.7	10	15	1.00	5.8	10.0	5.0	7.2
21	21.5	63.0	317	42	0.35	6.7	14.4	4.4	64.6
22	2.1	8.7	10	18	1.00	7.0	10.0	5.0	13.0
23	1.7	7.0	10	15	2.00	8.5	10.0	5.0	11.0
24	25.3	75.4	500	48	0.25	6.0	15.2	4.3	78.0
25	2.6	10.8	10	18	1.00	7.5	10.0	5.0	13.0
26	2.4	10.0	10	18	1.00	7.2	10.0	5.0	13.0
27	30.3	91.4	394	48	0.35	7.3	16.6	4.2	92.3
28	6.8	28.2	17	30	0.50	7.1	10.0	5.0	34.0
29	7.3	30.5	40	30	0.50	7.2	10.0	5.0	34.0
30	7.8	32.7	218	30	0.67	7.1	10.0	5.0	40.0
30A	7.8	32.7	121	30	0.50	7.1	10.0	5.0	
00/1	+				0.00	<u>}</u> ∕.1	10.0	3.0	35.0
31	3.4	14.0	17	21	0.60	6.2	10.0	5.0	15.5
32	3.8	15.4	40	21	0.60	6.0	10.0	5.0	15.5
33	0.8	3.6	153	15	0.60	4.6	10.0	5.0	15.5
34	4.8	19.6	180	24	0.70	6.6	11.1		6.0
35	1.4	3.4	150	12	0.76	4.5	11.7	4.8	22.5
36	2.8	10.9	145	12	0.86	6.0	12.4	4.8	3.5
37	-	2.5	90	12	0.50	3.2	14.7	<b>T</b> , /	
38		15.0	230	24	0.25	4.8		<u> </u>	2.5
39	-	15.0	371	24	0.25	4.8			15.0
40		15.0	278	24					15.0
41		15.0	341	24	0.25	4.8 4.8			15.0
42		15.0	464	24	0.25	4.0			15.0
43	-	15.0	500	24	0.25	ł		-	15.0
44	_	15.0	500	24		4.8			15.0
45		15.0	141		0.25	4.8	<b></b>		15.0
45		167.0	305	24 54	0.25	4.8	10 5	-	15.0
UT	61.0	107.0	CUC	54	0.55	6.5	16.5	3.6	170.0
48	14.0	56.7	200	10	0.00		(7.0		<u> </u>
- UT	1 14.0		298	48	0.20	4.8	13.8	4.5	69.8

\* PIPES NOT CONSTRUCTED

# NOTES:

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

12-11-03 Entry Date: FILED

APR 16 1996

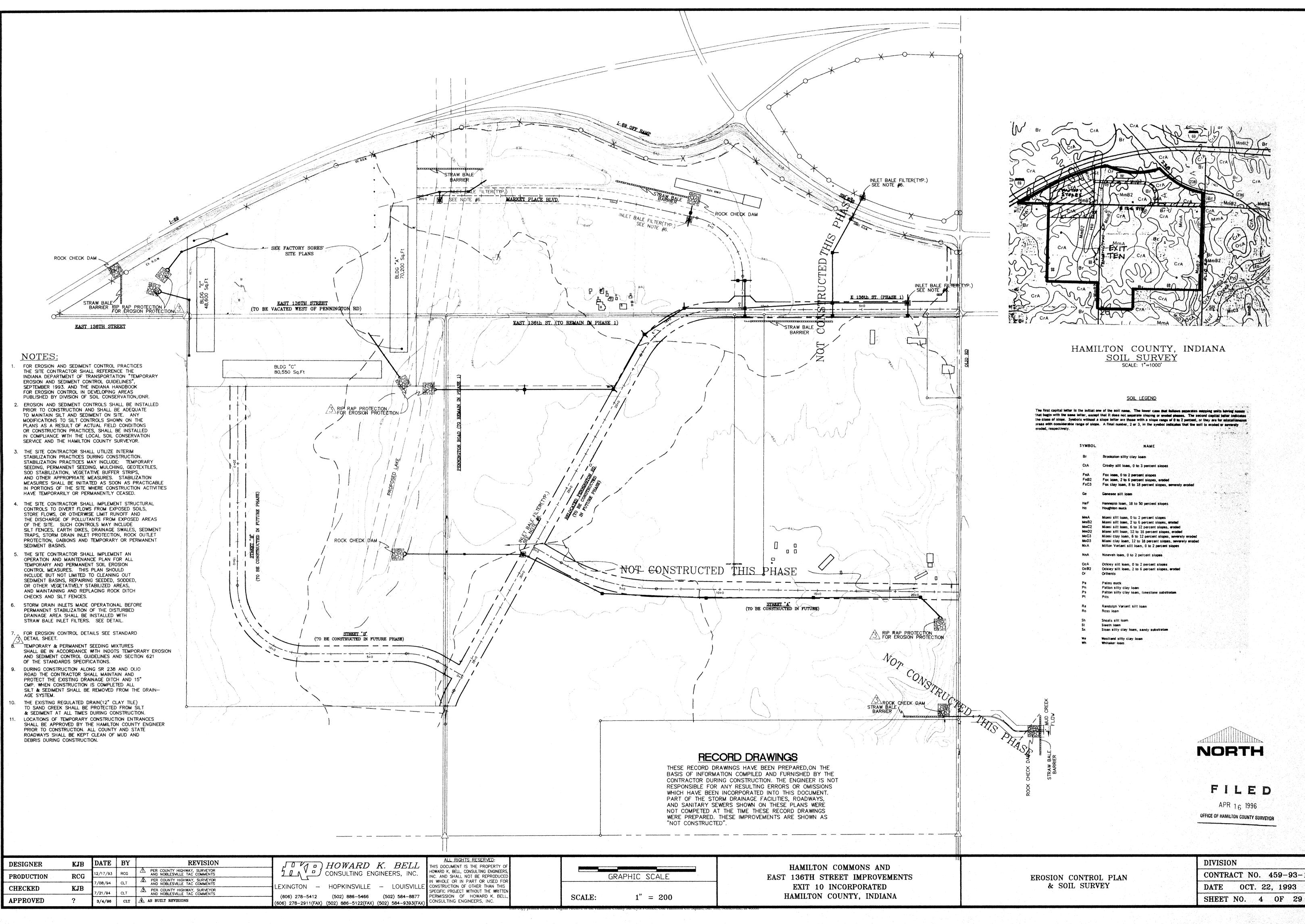
CE OF HAMILTON COUNTY SURVEYOR

		DIVISION
COMPOSITE	DDAINACE DI AN	CONTRACT NO. 459-93-1
COMPOSITI	E DRAINAGE PLAN	DATE OCT. 22, 1993
		SHEET NO. 3 OF 29

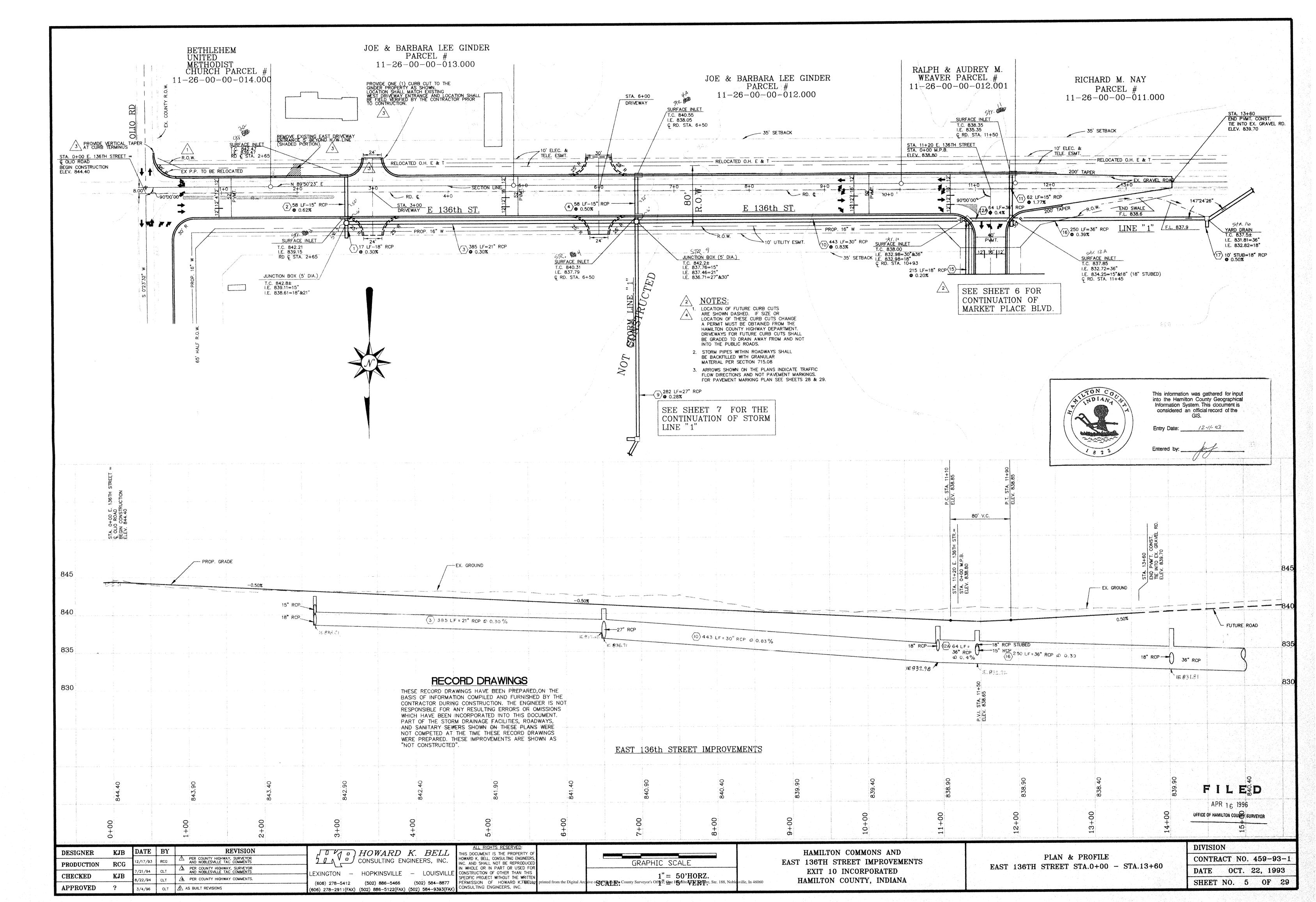
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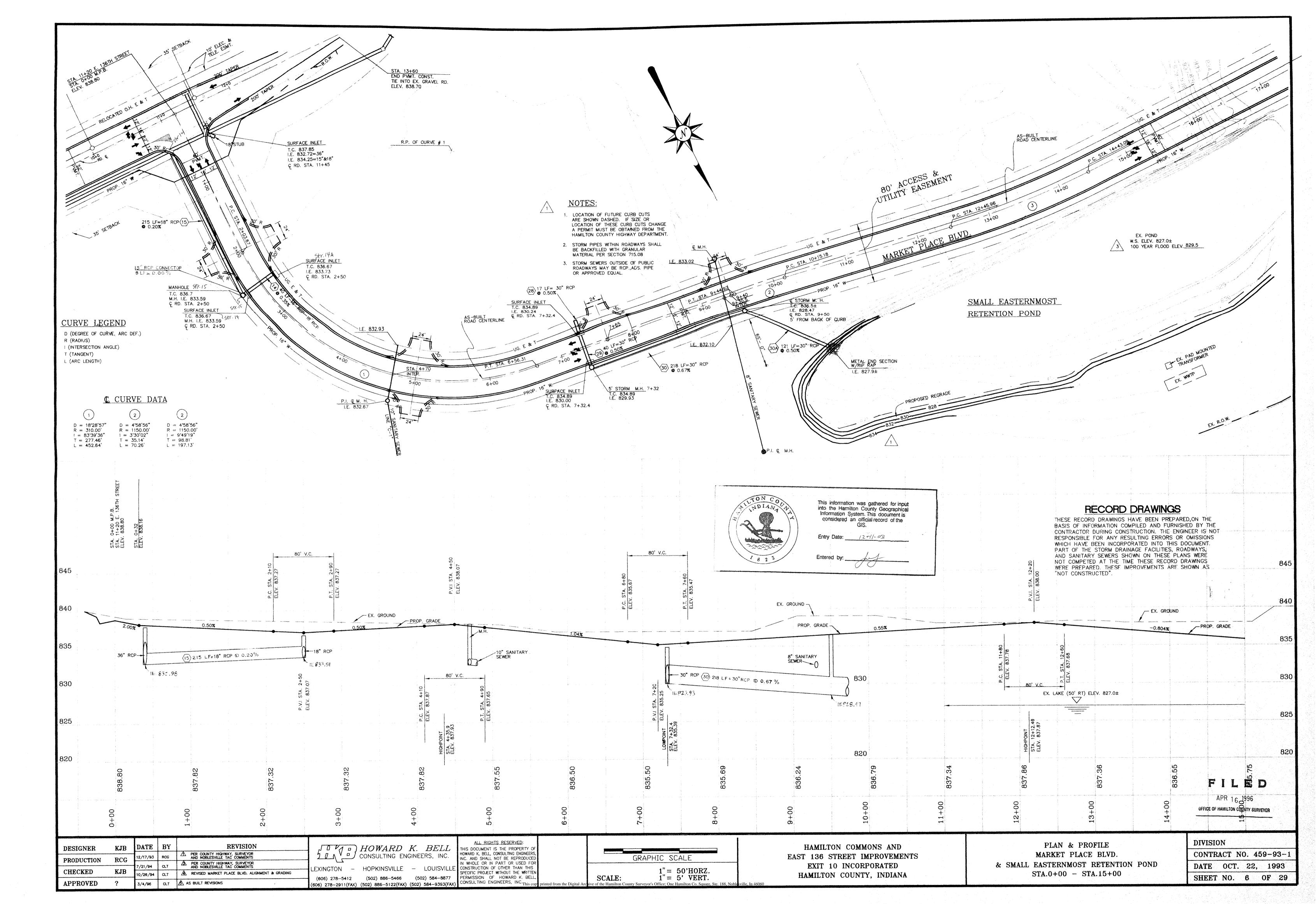




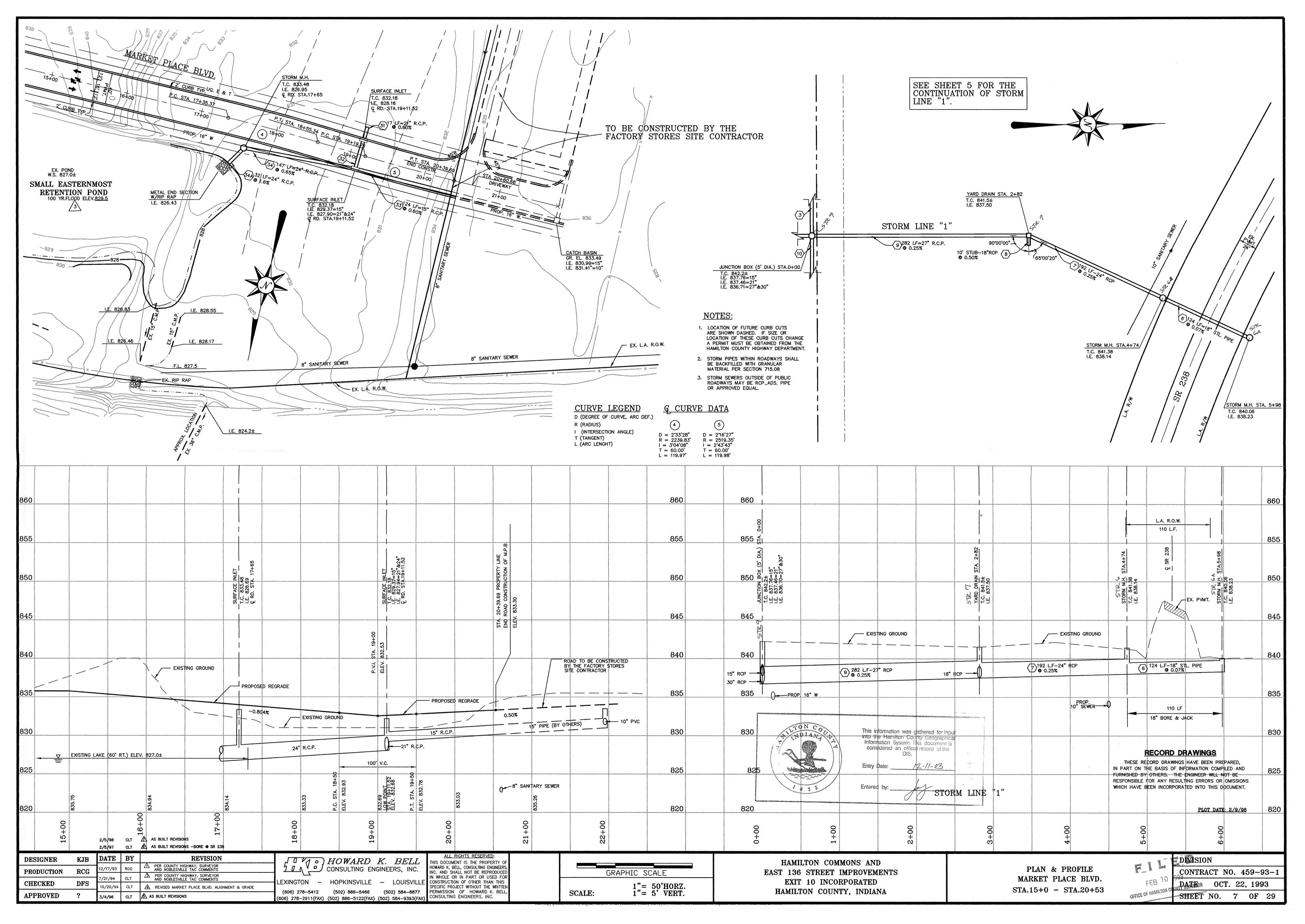
DESIGNER	KJB	DATE	BY	REVISION	JULAD	HOWARD	K BELL
PRODUCTION	RCG	12/17/93	RCG	A PER COUNTY HIGHWAY, SURVEYOR AND NOBLESVILLE TAC COMMENTS	50 Voj	CONSULTING EN	
		7/08/94	CLT	AND NOBLESVILLE TAC COMMENTS	LEXINGTON -	HOPKINSVILLE	– LOUISVILL
CHECKED	KJB	7/21/94	CLT	AND NOBLESVILLE TAC COMMENTS	(606) 278-5412	(502) 886-5466	(502) 584-8877
APPROVED	?	3/4/96	CLT	AS BUILT REVISIONS	(606) 278-3412 (606) 278-2911(FAX)	(502) 886-5122(FAX)	(502) 584-9393(FA

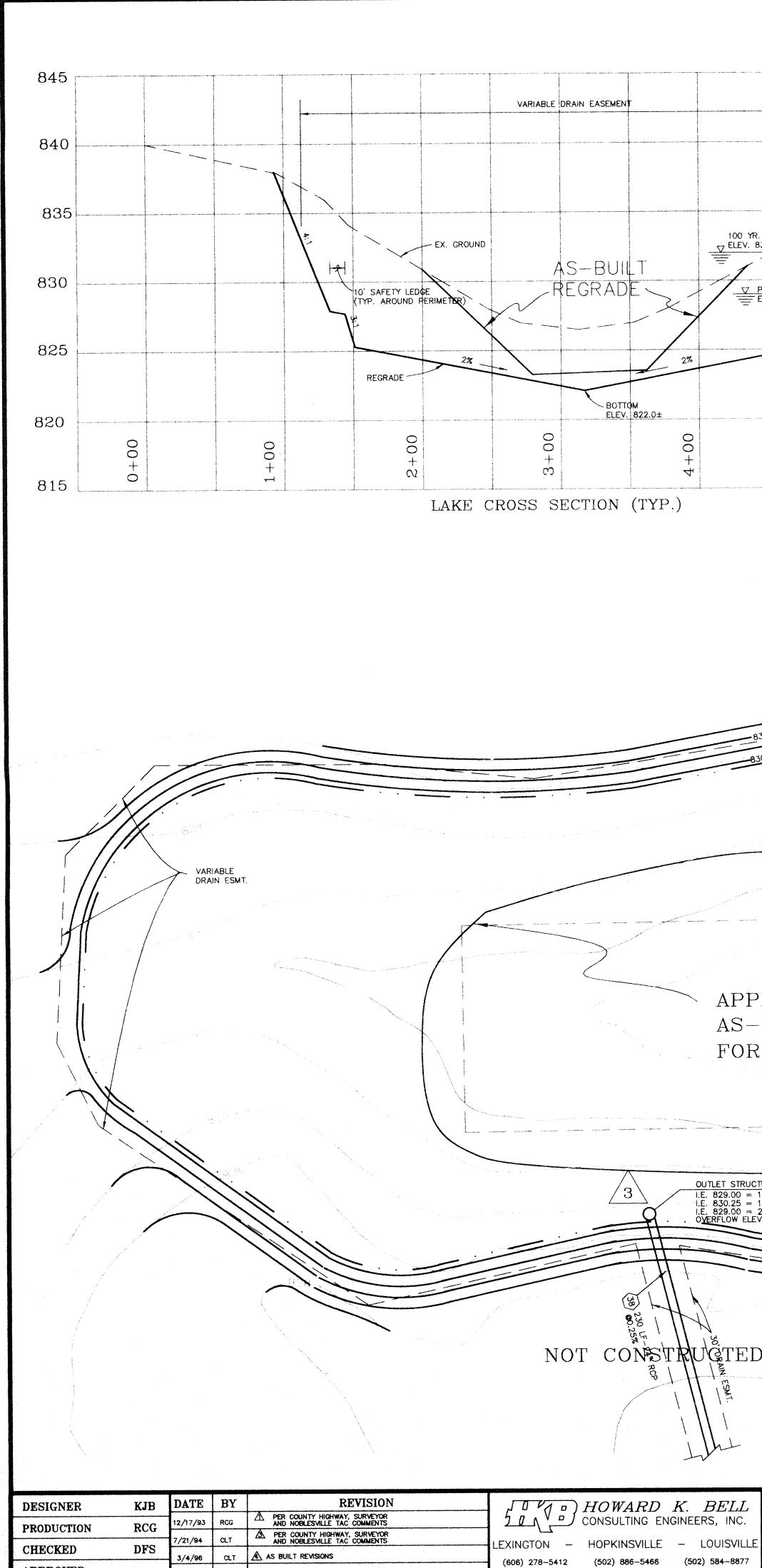


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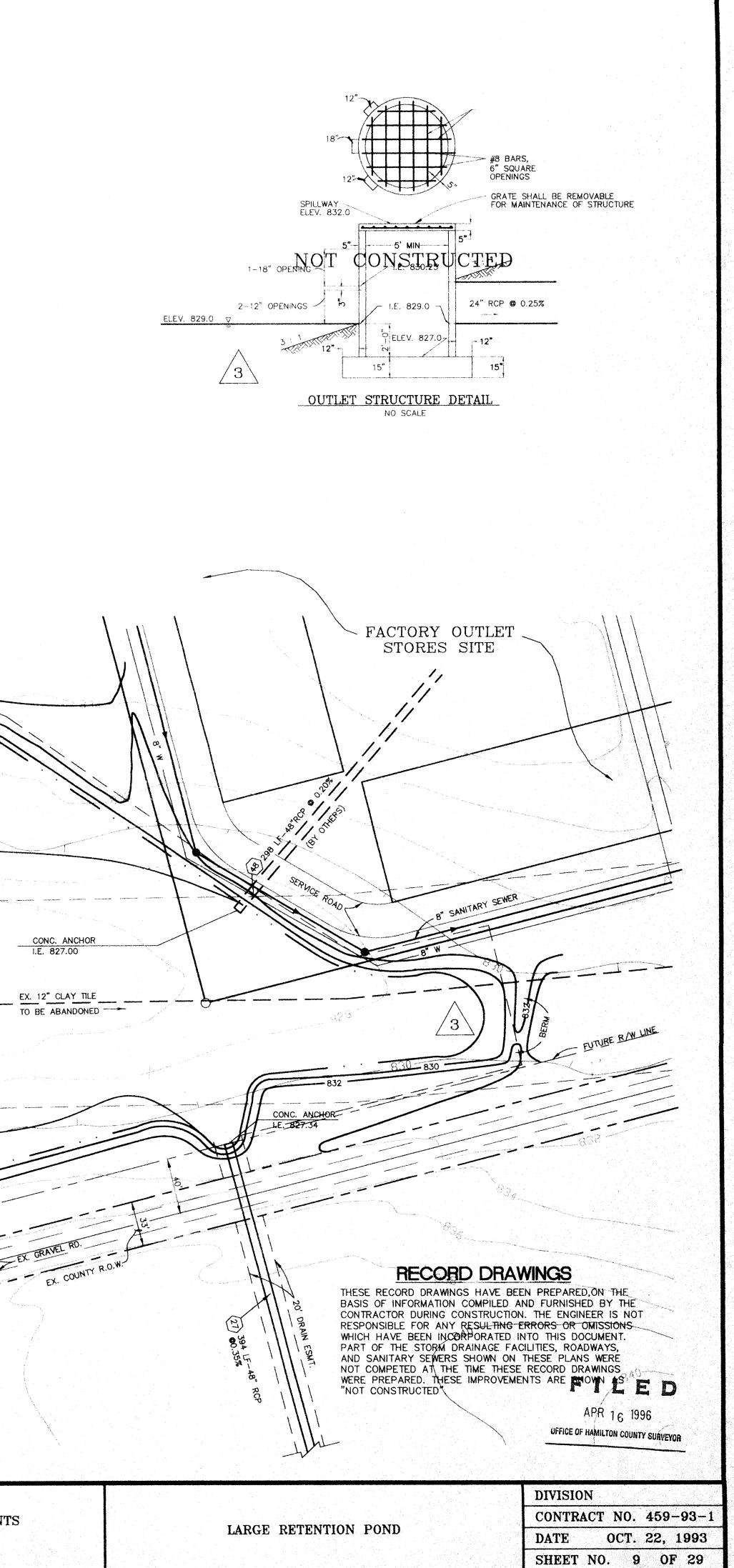
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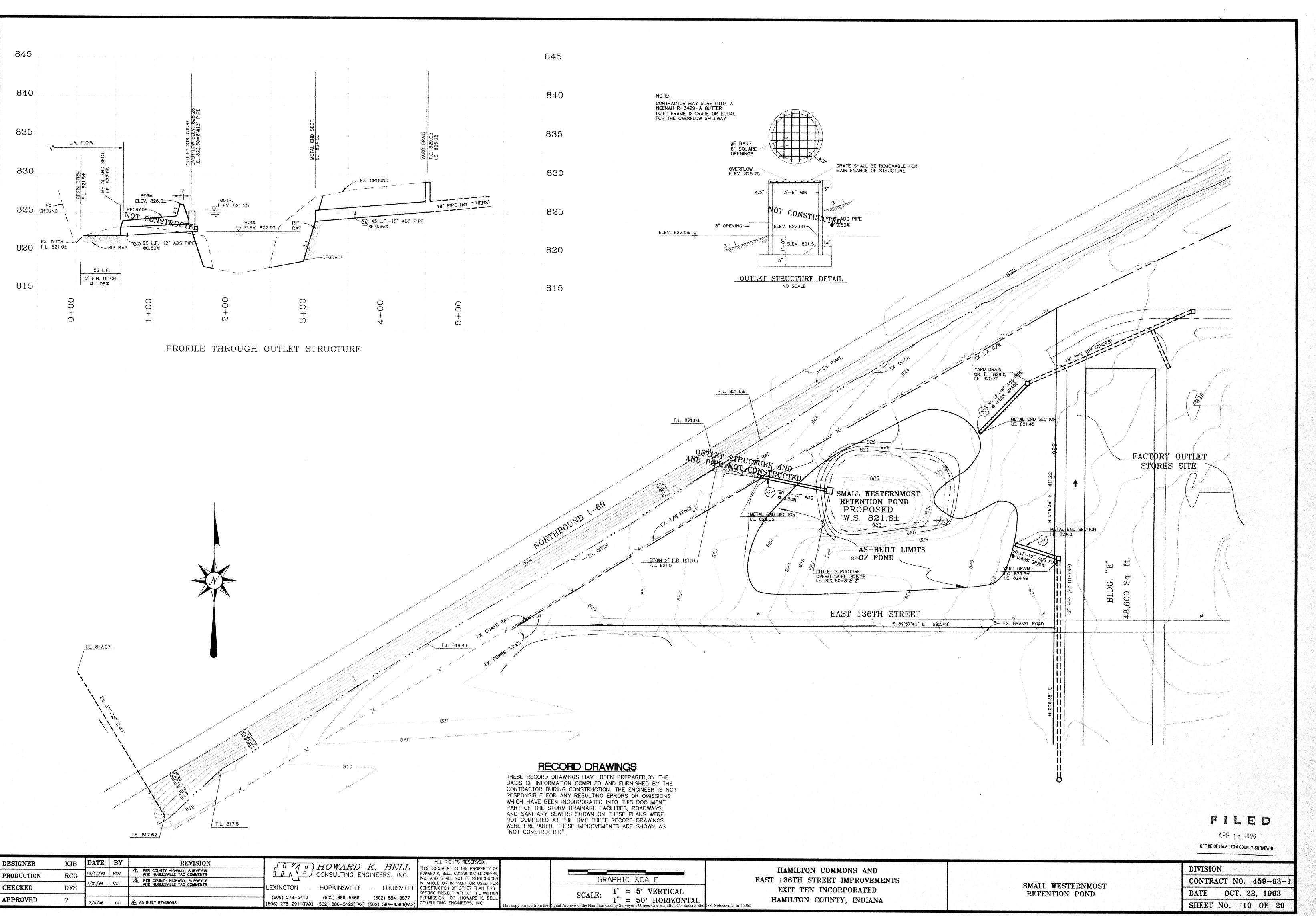




APPROVED

	0.45
VARIABLE DRAIN EASEMENT	845
	840
_ 1	
AS = BI III T $100 YR. FLOOD$ $VELEV. 832.0$ $V$	835
	830
$\frac{\nabla POOL}{\equiv ELEV. 829.0 1}$	
2%	825
BOTTOM ELEV. 822.0±	
	820
$\begin{array}{c c} & & 4 \\ & & + \\ & + \\ & + \\ & & + \\ \end{array} \qquad \begin{array}{c} & & 0 \\ & & + \\ & & + \\ & & + \\ \end{array} \qquad \begin{array}{c} & & 0 \\ & & 0 \\ & & + \\ & & + \\ \end{array} \qquad \begin{array}{c} & & 0 \\ & & + \\ & & + \\ & & + \\ \end{array} $	815
ROSS SECTION (TYP.)	
836	
830	
83	0
	VARIABLE DRAIN ESMT.
APPROXIMATE LIMITS OF	3 EX. 150' DRAIN EASEMENT TO BE VACATED
AS-BUILT POND	PROPOSED POND W.S. 829.0
FOR THIS PHASE	100 YR. FLOOD ELEV.832.0
	830
3 OUTLET STRUCTURE I.E. 829.00 = 12" INLET OPENING	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
832 830	
836_834_	
8.25% J 30	TON ROAD
NOT CONSTRUCTED	PENNINGTON ROAD
840	
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ALL RIGHTS RESERVED:	
HOWARD K. BELL CONSULTING ENGINEERS, INC.	GRAPHIC SCALE HAMILTON COMMONS AND EAST 136TH STREET IMPROVEMEN'
ALL INSTITUT RESERVED.Image: Strain St	SCALE: $1^{"}_{"} = 5^{"}_{0}$ HORIZONTAL $1^{"}_{"} = 50^{"}_{0}$ VERTICAL EVALUATED OF THE ADDITION COUNTY, INDIANA

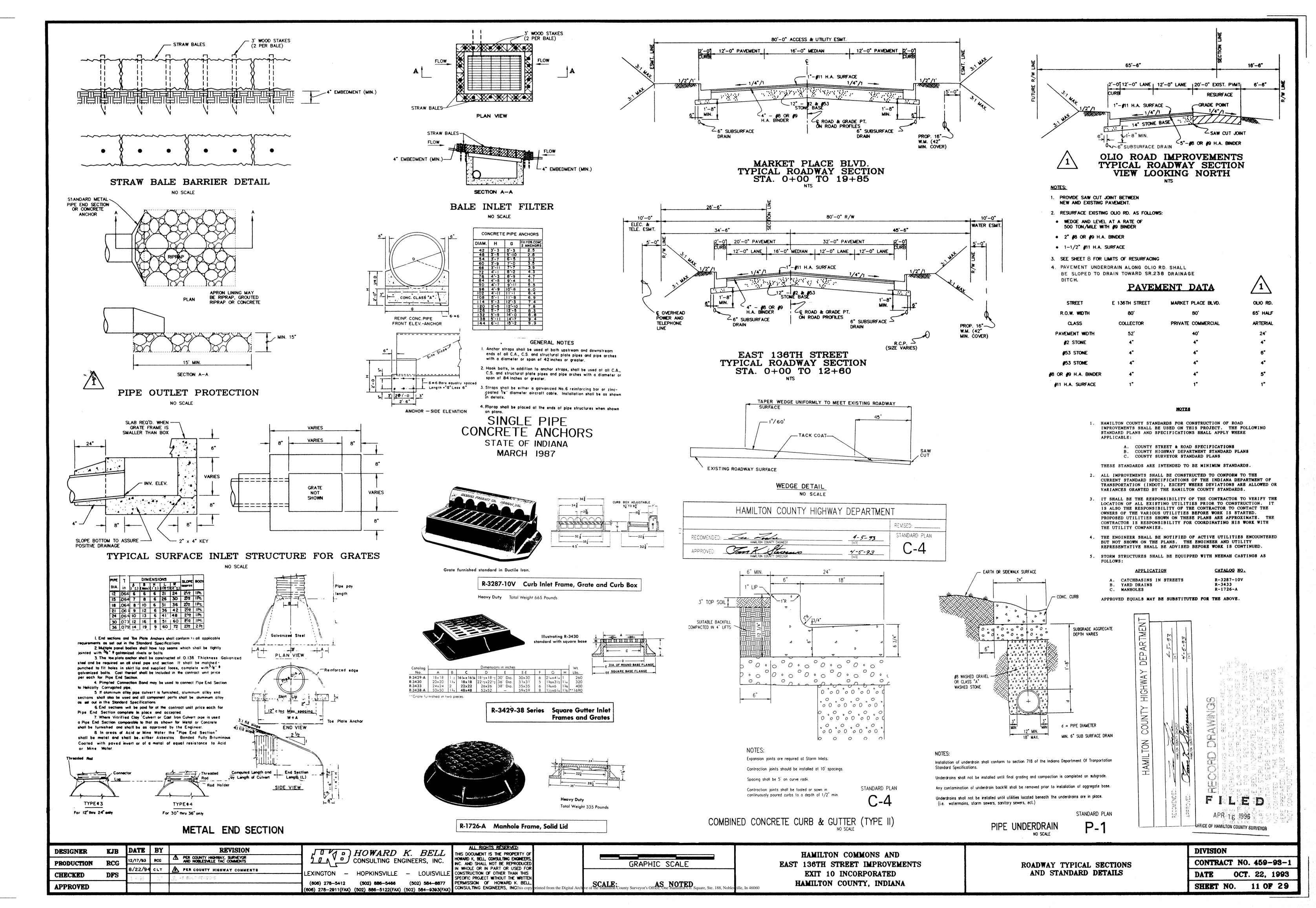




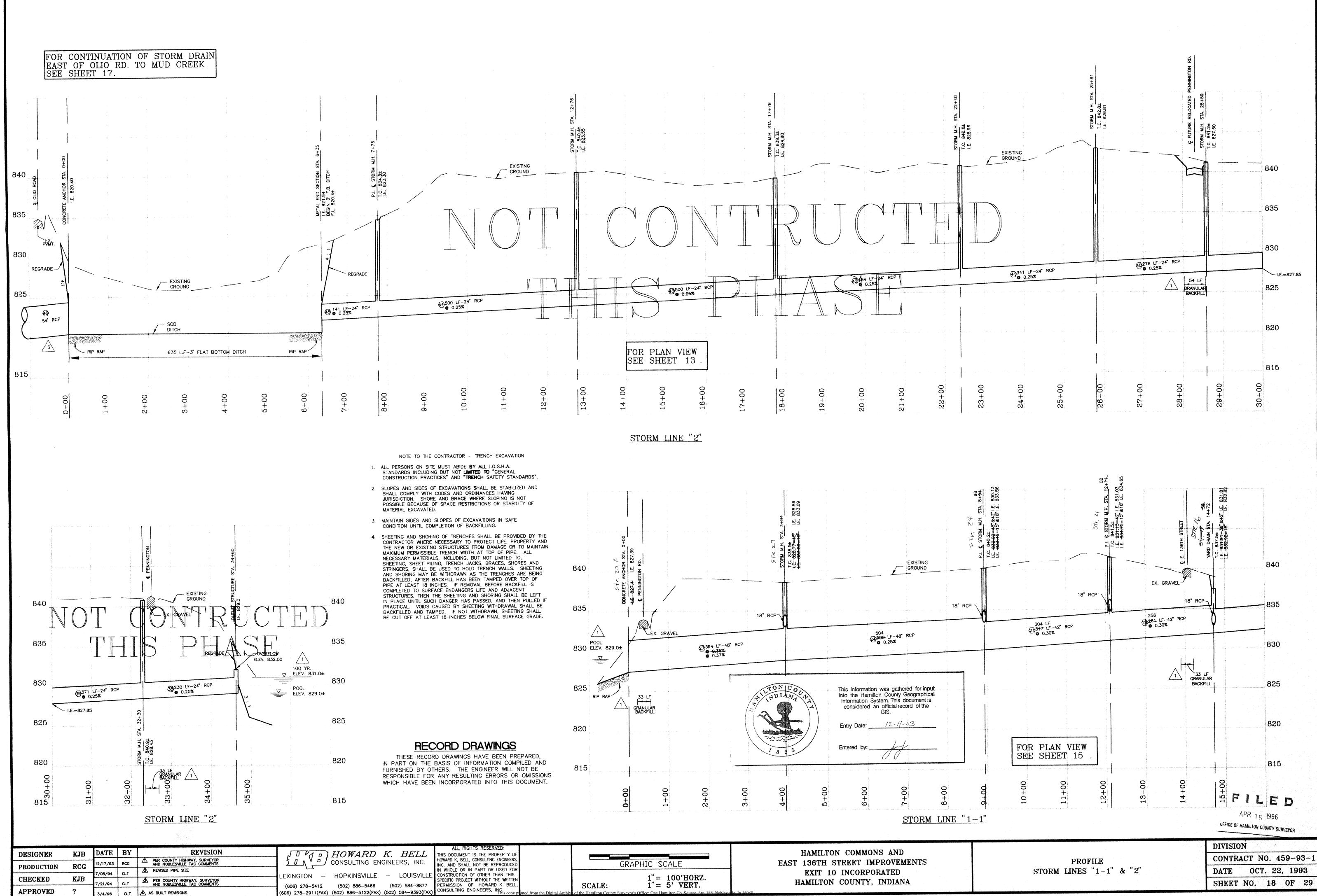
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DESIGNER	KJB	DATE	BY	REVISION	HOWARD K. BELL
PRODUCTION	RCG	12/17/93	RCG	A PER COUNTY HIGHWAY, SURVEYOR AND NOBLESVILLE TAC COMMENTS	CONSULTING ENGINEERS, INC.
CHECKED	1	7/21/94	at	AND NOBLESVILLE TAC COMMENTS	LEXINGTON – HOPKINSVILLE – LOUISVILLE
CHECKED	DFS				
APPROVED	?	3/4/96	ar	AS BUILT REVISIONS	(606) 278-5412 (502) 886-5466 (502) 584-8877 (606) 278-2911(FAX) (502) 886-5122(FAX) (502) 584-9393(FAX)
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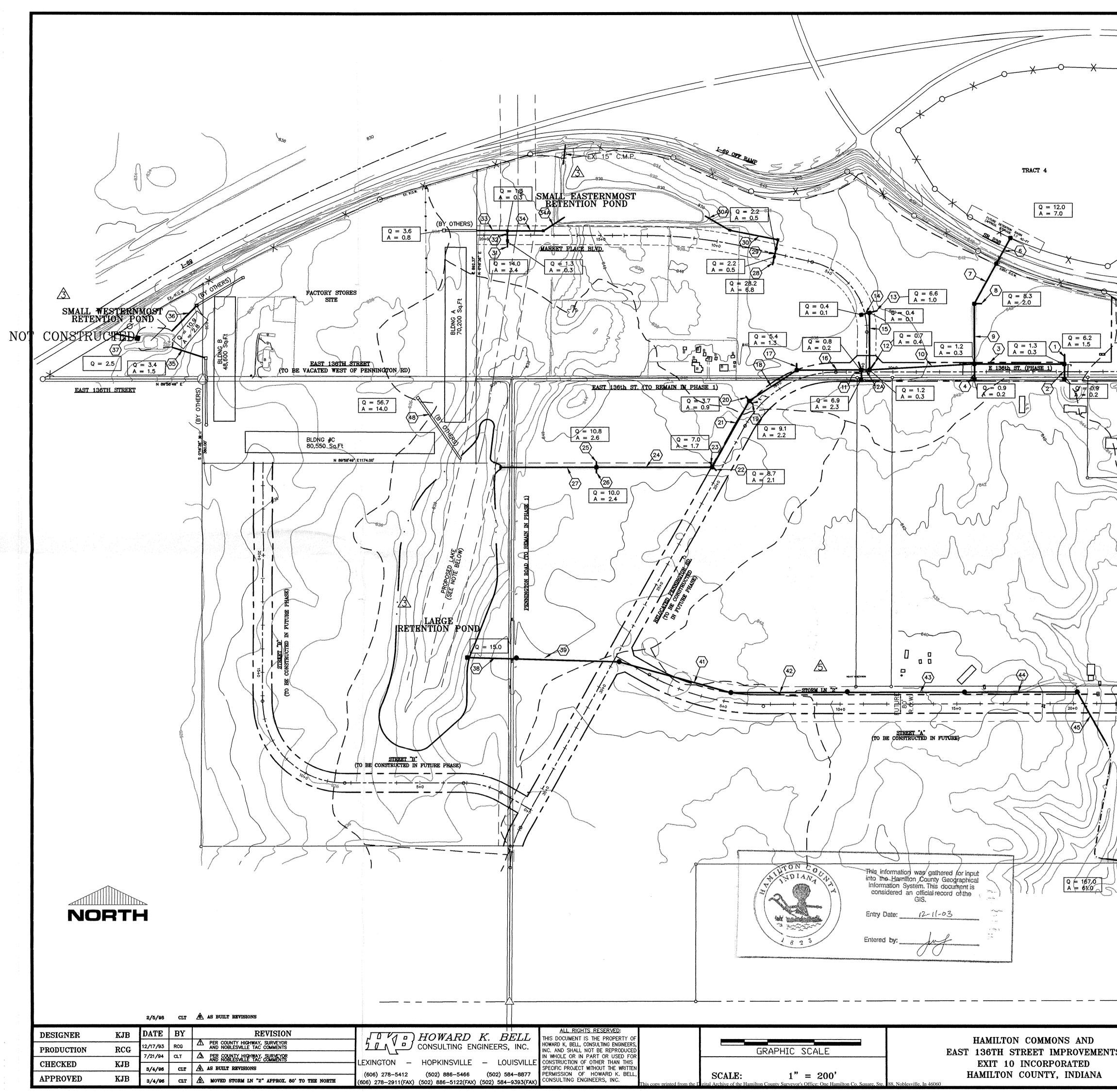
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CONSULTING ENGINEERS, INC.



CADATA\HANCON\45931H10 Wed Jan 12 21:01:16 1994



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5848877	PERMISSION OF HOWARD K. BELL,		SCALE: $1^{\prime\prime} = 5$	5' VERT.	HAMILION COUNTI, INDIAN
4-9393(FAX)	CONSULTING ENGINEERS, INC. This copy plinted	d from the Digital Archiv	of the Hamilton County Surveyor's Office: One Hami	ton Co. Square, Ste. 188, Noblesvill	e. In 46060



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	PIPE NO.	A ACRES	Q C.F.S.	LENGTH FEET	SIZE	SLOPE	VELOCITY F.P.S.	Tc MIN.	I INTEN.	CAPACIT CFS
$\mathbf{F}$	1	1.5 0.2	6.2 0.9	17 58	18 15	0.30	4.0 3.3	10.0	5.0 5.0	6.8
$\mathbf{F}$	23	2.0	8.0	385	21	0.82	4.4	10.0	5.0	5.8 11.0
$\mathbf{F}$	4	0.2	0.9	58	15	0.50	3.1	10.0	5.0	5.2
+		0.2	12.0			0.00	4.6	10.0	0.0	15.0
$\mathbf{F}$	6		12.0	124	18	0.07	4.6			15.0
F	7		12.0	192	24	0.25	4.6			15.0
F	8	2.0	8.3	10	18	0.50	5.2	10.0	5.0	8.6
F	9	9.0	19.9	282	27	0.28	5.3	11.2	4.8	20.0
Γ	10	11.2	28.4	443	30	0.83	8.5	12.1	4.7	44.0
Γ	11	2.3	6.9	62	15	1.77	6.5	10.0	5.0	15.0
	12	0.4	0.7	30	18	0.30	2.5	10.0	5.0	6.8
	13	1.0	4.1	17	18	0.50	5.0	10.0	5.0	8.6
	14	0.1	0.4	40	15	0.35	2.0	10.0	5.0	4.0
L	15	1.2	5.0	205	18	0.20	2.9	10.3	5.0	5.0
L	16	17.1	48.8	262	36	0.39	7.2	13.1	4.6	50.0
L	17	1.3	5.4	10	18	0.50	4.8	10.0	5.0	8.6
	18	18.4	52.6	261	42	0.30	6.2	13.7	4.5	59.8
	19	2.2	9.1	10	18	1.00	7.2	10.0	5.0	13.0
	20	0.9	3.7	10	15	1.00	5.8	10.0	5.0	7.2
	21	21.5	63.0	317	42	0.35	6.7	14.4	4.4	64.6
	22	2.1	8.7	10	18	1.00	7.0	10.0	5.0	13.0
$\vdash$	<u>23</u> 24	1.7 25.3	7.0	10 500	15	2.00	8.5	10.0	5.0	11.0
-	24	25.5	10.8	10	48 18	0.25	6.0 7.5	15.2	4.3	78.0
+	26	2.6	10.0	10	18	1.00	7.3	10.0 10.0	5.0 5.0	13.0
$\mathbf{F}$	27	30.3	91.4	394	48	0.35	7.3	16.6	4.2	92.3
$\mathbf{F}$	28	6.8	28.2	17	30	0.50	7.1	10.0	5.0	34.0
F	29	7.3	30.5	40	30	0.50	7.2	10.0	5.0	34.0
F	30	7.8	32.7	218	30	0.67	7.1	10.1	5.0	40.0
	30A	7.8	32.7	121	30	0.50	7.1	10.0	5.0	35.0
	31	3.4	14.0	17	21	0.60	6.2	10.0	5.0	15.5
Γ	32	3.8	15.4	40	21	0.60	6.0	10.0	5.0	15.5
	33	0.8	3.6	153	15	0.60	4.6	10.0	5.0	6.0
L	34	4.8	19.6	180	24	0.70	6.6	11.1	4.8	22.5
L	35	1.4	3.4	150	12	0.66	4.5	11.7	4.8	3.5
	36	2.8	10.9	145	18	0.86	6.0	12.4	4.7	11.0
	37		2.5	90	12	0.50	3.2			2.5
	38		15.0	230	24	0.29	4.8		****	15.0
	39	-	15.0	427	24	0.26	4.8			15.0
t	40		15.0	278	24	0.25	4.8		-	15.0
	41		15.0	500	24	0.23	4.8			15.0
$\vdash$	42		15.0 15.0	500 500	24 24	0.26	4.8			15.0
$\mathbf{F}$	<u> </u>		15.0	500	24	0.24	4.8 4.8			15.0
$\vdash$	44 45		15.0	208	24	0.24	4.8 4.8			15.0
$\vdash$	46	61.0	167.0	208	60	0.27	4.0 6.5	16.5	3.6	170.0
$\mathbf{F}$	47	61.0	167.0	77	60	0.90	0.0	10.0		170.0
$\mathbf{F}$	48	14.0	56.7	298	48	0.30	4.8	13.8	4.5	69.8
$\vdash$	12A	12.8	34.5	52	36	0.72	8.9	13.0	4.6	64.0

- MUD CREEK

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- 1. ALL PERSONS ON SITE MUST ABIDE BY ALL I.O.S.H.A. STANDARDS INCLUDING BUT NOT LIMITED TO "GENERAL CONSTRUCTION PRACTICES" AND "TRENCH SAFETY STANDARDS"
- 2. SLOPES AND SIDES OF EXCAVATIONS SHALL BE STABILIZED AND SHALL COMPLY WITH CODES AND ORDINANCES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED.
- 3. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN SAFE CONDITION UNTIL COMPLETION OF BACKFILLING.
- 4. SHEETING AND SHORING OF TRENCHES SHALL BE PROVIDED BY THE CONTRACTOR WHERE NECESSARY TO PROTECT LIFE, PROPERTY AND THE NEW OR EXISTING STRUCTURES FROM DAMAGE OR TO MAINTAIN MAXIMUM PERMISSIBLE TRENCH WIDTH AT TOP OF PIPE. ALL NECESSARY MATERIALS, INCLUDING, BUT NOT LIMITED TO, SHEETING, SHEET PILING, TRENCH JACKS, BRACES, SHORES AND STRINGERS, SHALL BE USED TO HOLD TRENCH WALLS. SHEETING AND SHORING MAY BE WITHDRAWN AS THE TRENCHES ARE BEING BACKFILLED, AFTER BACKFILL HAS BEEN TAMPED OVER TOP OF PIPE AT LEAST 18 INCHES. IF REMOVAL BEFORE BACKFILL IS COMPLETED TO SURFACE ENDANGERS LIFE AND ADJACENT STRUCTURES, THEN THE SHEETING AND SHORING SHALL BE LEFT IN PLACE UNTIL SUCH DANGER HAS PASSED, AND THEN PULLED IF PRACTICAL. VOIDS CAUSED BY SHEETING WITHDRAWAL SHALL BE BACKFILLED AND TAMPED. IF NOT WITHDRAWN, SHEETING SHALL BE CUT OFF AT LEAST 18 INCHES BELOW FINAL SURFACE GRADE.
- 5. CULVERTS AND STORM SEWERS ARE DESIGNED FOR A TEN YEAR STORM EVENT.
- 6. THE RATIONAL METHOD WAS UTILIZED TO CALCULATE PEAK DISCHARGES. A RUNOFF COEFFICIENT OF 0.83 WAS USED FOR UNDEVELOPED AREAS TO ALLOW FOR FUTURE DEVELOPMENT. MANNING'S N OF 0.012 WAS USED FOR CONCRETE PIPE.
- 7. A RETENTION POND WILL BE PROVIDED IN THE FUTURE WHEN TRACT 4 DEVELOPS. THE RETENTION POND SHALL BE DESIGNED TO LIMIT THE 100 YEAR POST-DEVELOPED OUTFLOW (TO PIPE #6) TO 12 CFS.
- 8. STORM PIPES DRAINING THE HAMILTON COUNTY ROAD RIGHT-OF-WAYS AND PIPE FROM THE LARGE RETENTION POND TO MUD CREEK SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76. PIPE SHALL BE CLASS III AND CLASS IV (BACKFILL GREATER THAN 14 FT.) WALL "B" TYPE.
- 9. ADS PIPE MAY BE USED FOR PIPES 5,6,7,8,35,36 AND 37.
- 10. PIPES 38 THROUGH 45 (24-INCH RCP) ARE SIZED FOR THE 100 YEAR POST-DEVELOPED OUTFLOW FROM THE LARGE RETENTION POND. THE 100 YEAR POST DEVELOPED OUTFLOW IS LESS THAN THE 10 YEAR PRE-DEVELOPED OUTFLOW.

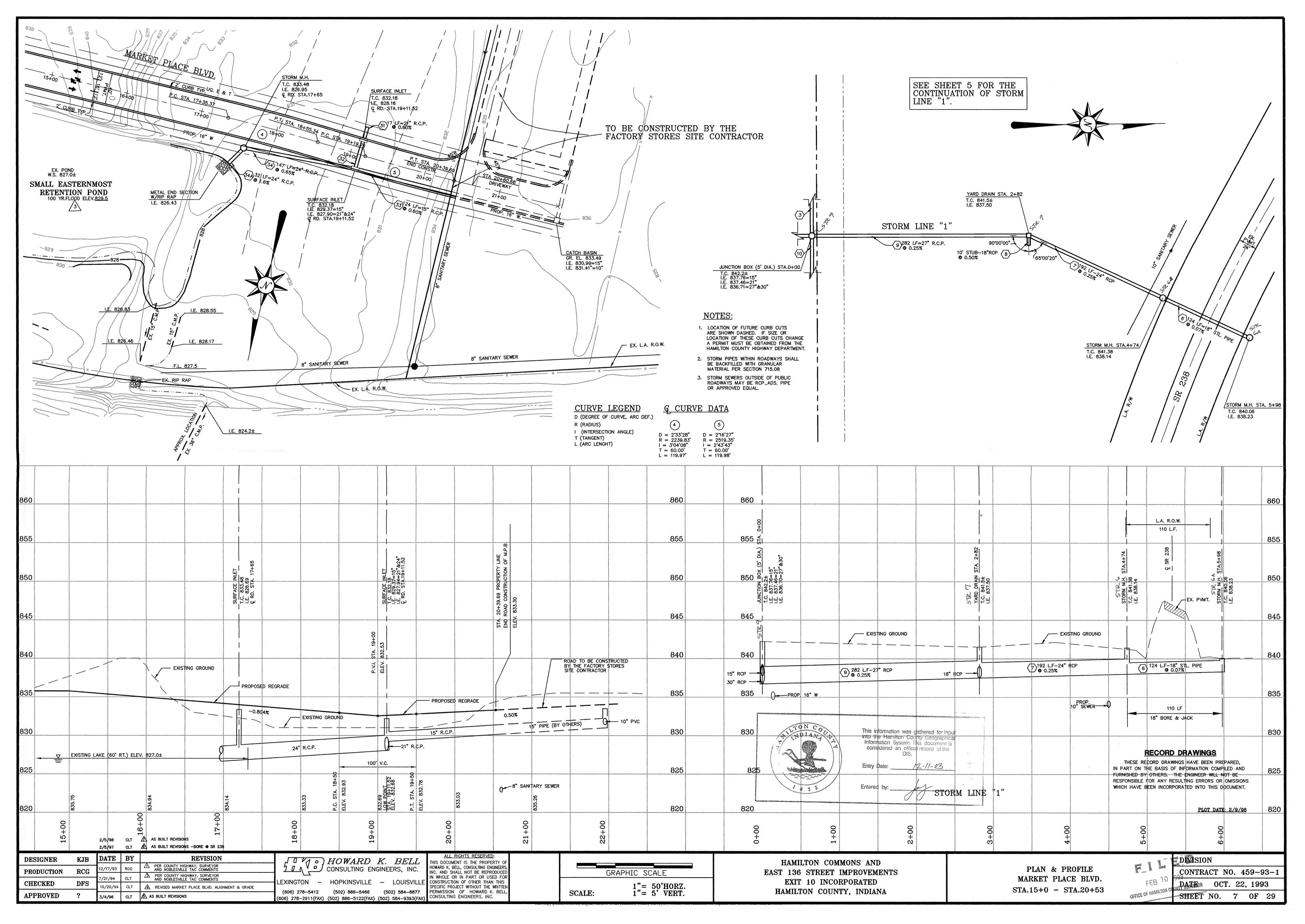
Phase II - SLM 12/30/98

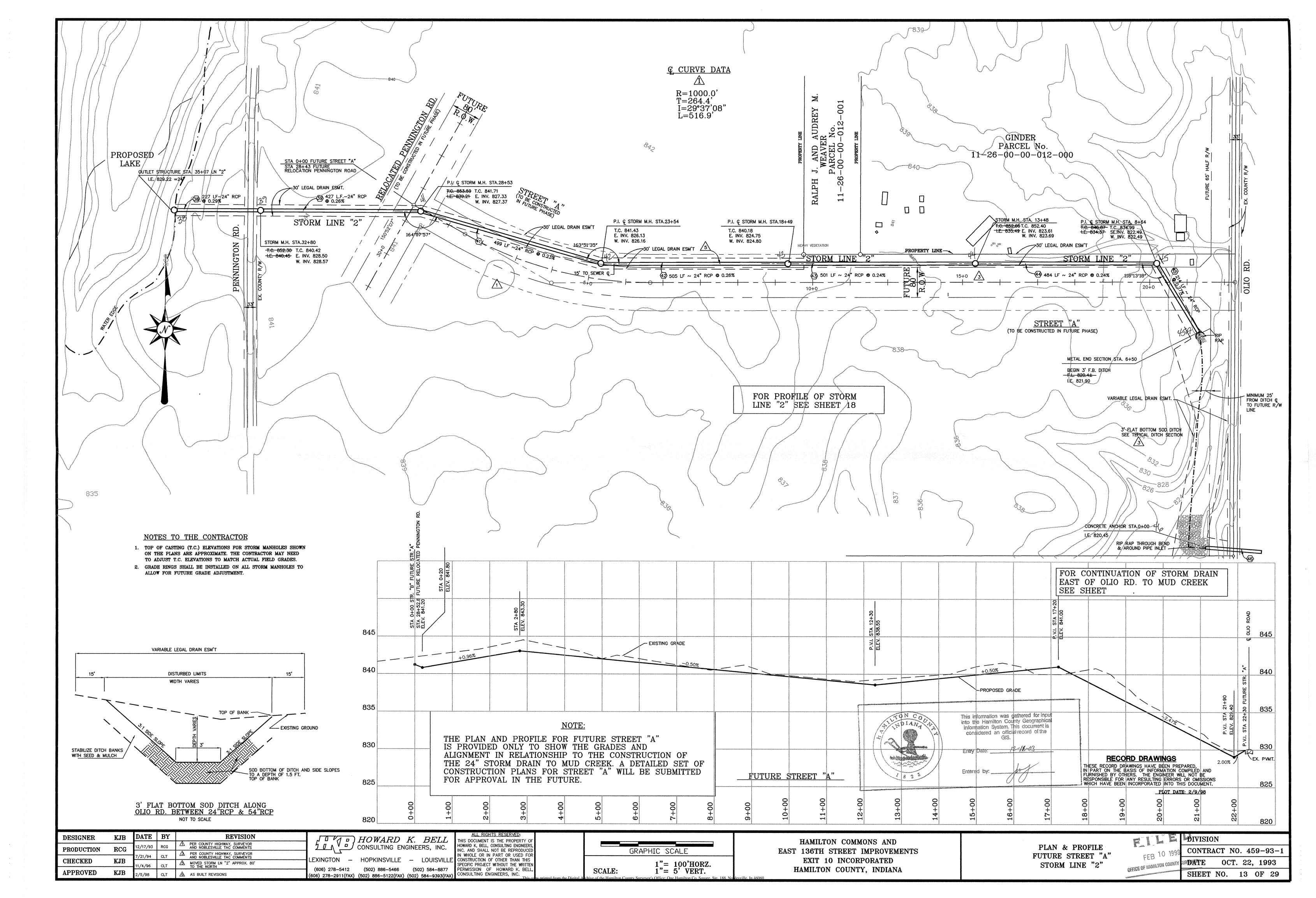
### RECORD DRAWINGS

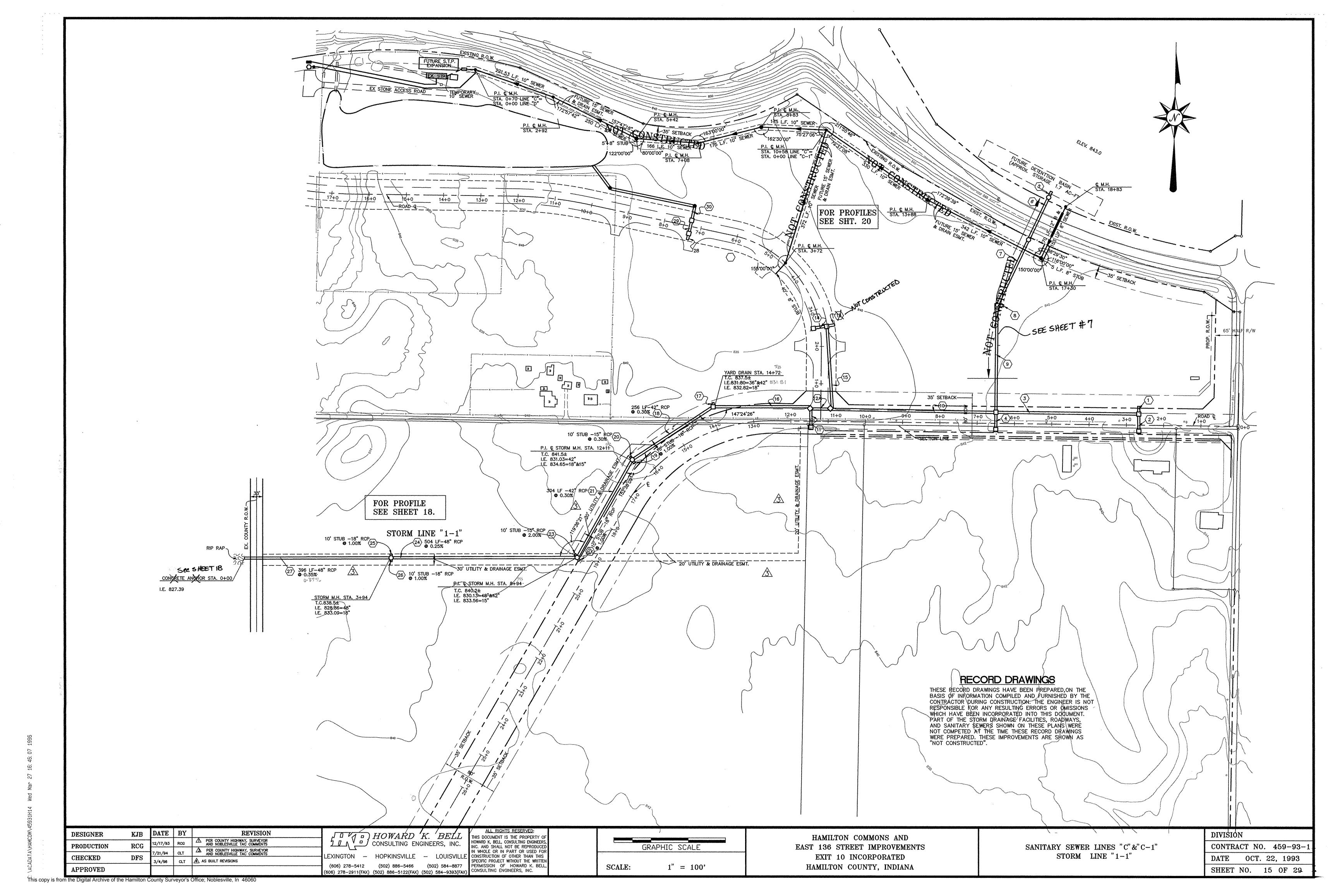
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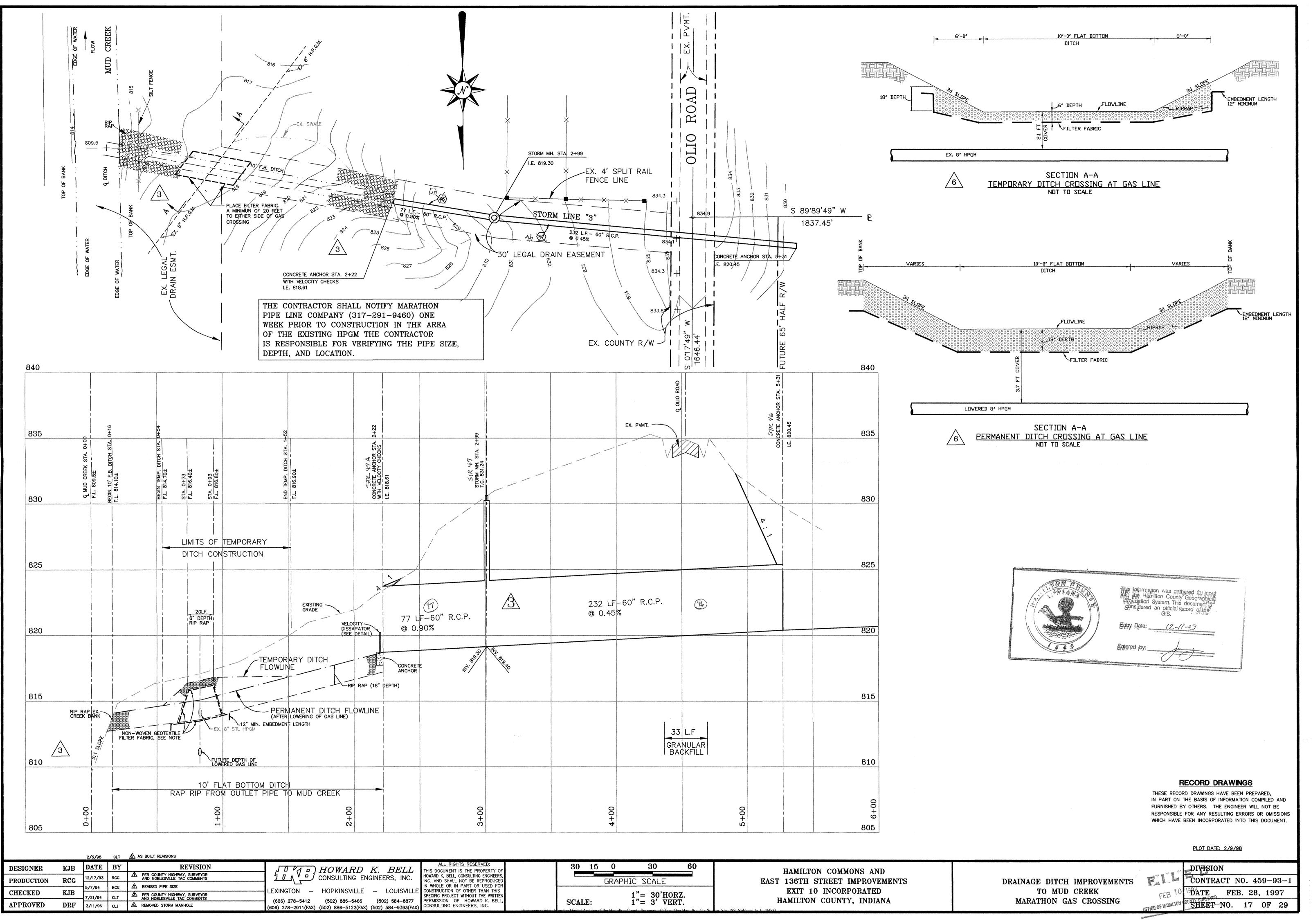
PLOT DATE 2/9/98

DIVISION E.I CONTRACT NO. 459-93-FEB 10 . COMPOSITE DRAINAGE PLAN DATE OCT. 22, 1993 OFFICE OF HAMILTON COL SHEET NO. 3 OF 29



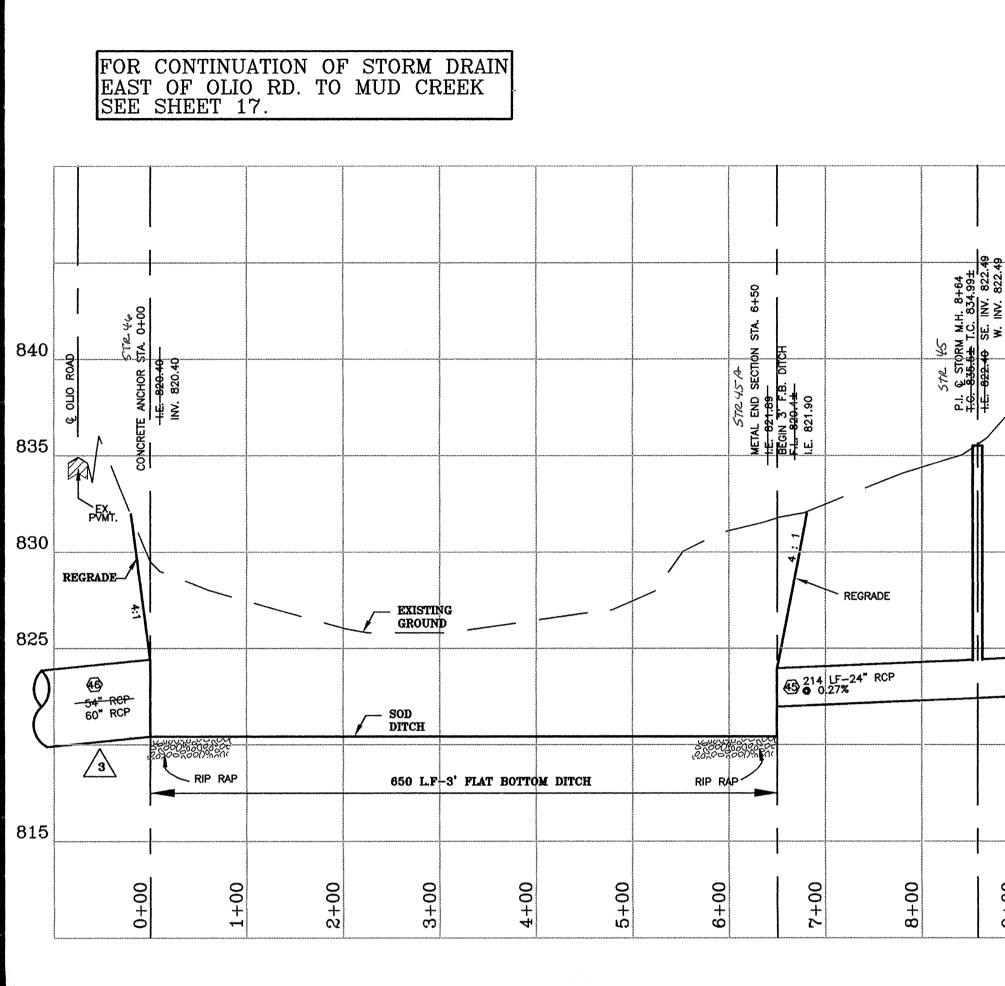


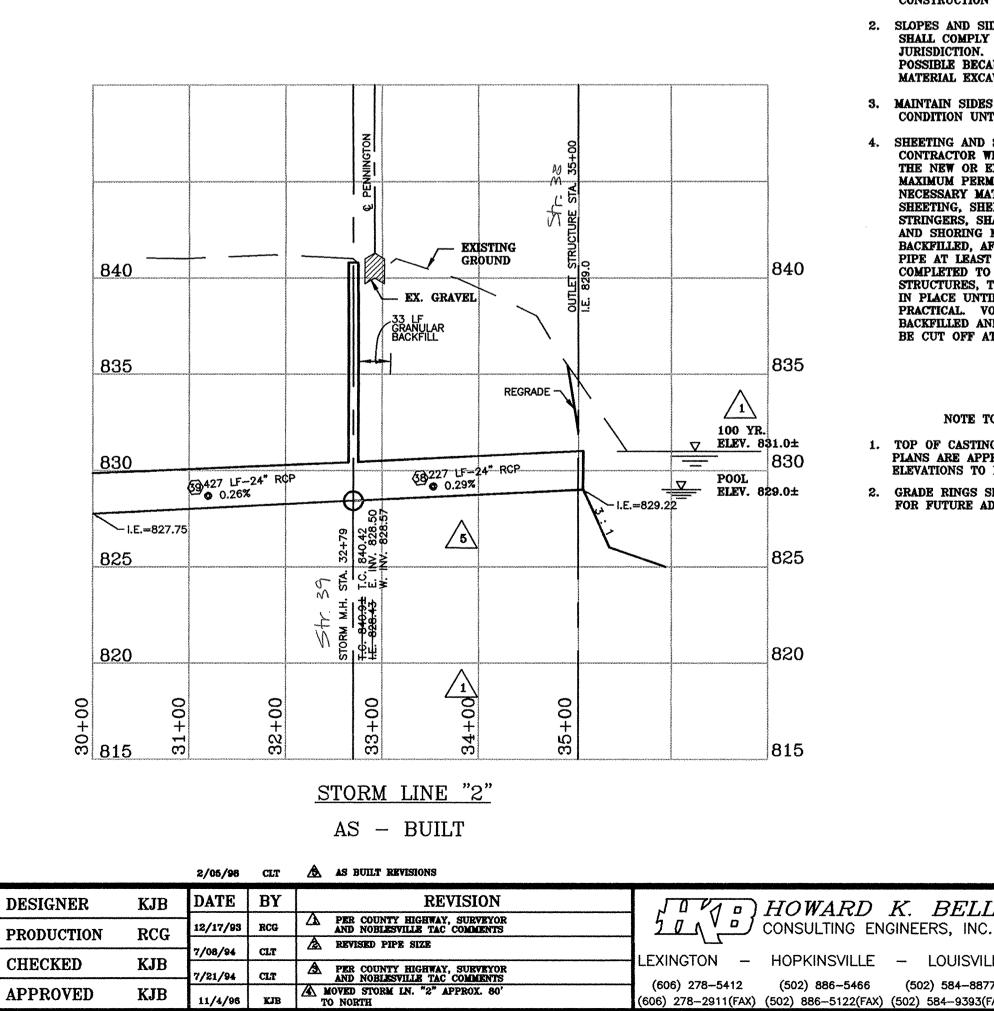


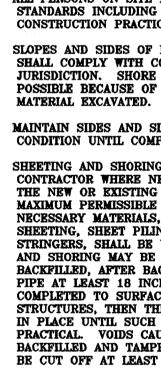


	2/5/98	CLT	AS BUILT REVISIONS		
DESIGNER KJB	DATE	BY	REVISION	JOVAD HOWARD K. BELL	THIS D
PRODUCTION RCG	12/17/93	RCG	A PER COUNTY HIGHWAY, SURVEYOR AND NOBLESVILLE TAC COMMENTS	50 V CONSULTING ENGINEERS, INC.	HOWARD
	5/7/94	RCG	A REVISED PIPE SIZE		IN WHO
CHECKED KJB	7/21/94	CLT	A PER COUNTY HIGHWAY, SURVEYOR AND NOBLESVILLE TAC COMMENTS	LEXINGTON – HOPKINSVILLE – LOUISVILLE	CONSTR SPECIFIC
APPROVED DRF	3/11/96	CLT	A REMOVED STORM MANHOLE	(606) 278-5412 (502) 886-5466 (502) 584-8877 (606) 278-2911(FAX) (502) 886-5122(FAX) (502) 584-9393(FAX)	PERMIS
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HOLE OR IN PART OR USED FOR TRUCTION OF OTHER THAN THIS FIC PROJECT WITHOUT THE WRITTEN MISSION OF HOWARD K. BELL, SULTING ENGINEERS, INC.	<b>SCALI</b>		1"		ERT.	EXIT 10 INCORPORATED HAMILTON COUNTY, INDIANA







2. GRADE RINGS SHALL BE INSTALLED ON ALL STORM MANHOLES TO ALLOW FOR FUTURE ADJUSTMENT.

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		Ĺ	EXISTING GROUND		STORN N						STORM M.H.	<u>1.6. 840.0</u> +.E. 824.86				
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						5									505 1	
					IL			43501.03	LF-24" RCP 26%			1		<b>4</b> 2	505 L © 02	6%
		⊕4 •	84 LF-24" RCP 0.24%					• 0.	26%							-00000000000000
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NOTE TO THE CONTRACTOR - TRENCH EXCAVATION

1. ALL PERSONS ON SITE MUST ABIDE BY ALL I.O.S.H.A. STANDARDS INCLUDING BUT NOT LIMITED TO "GENERAL CONSTRUCTION PRACTICES" AND "TRENCH SAFETY STANDARDS".

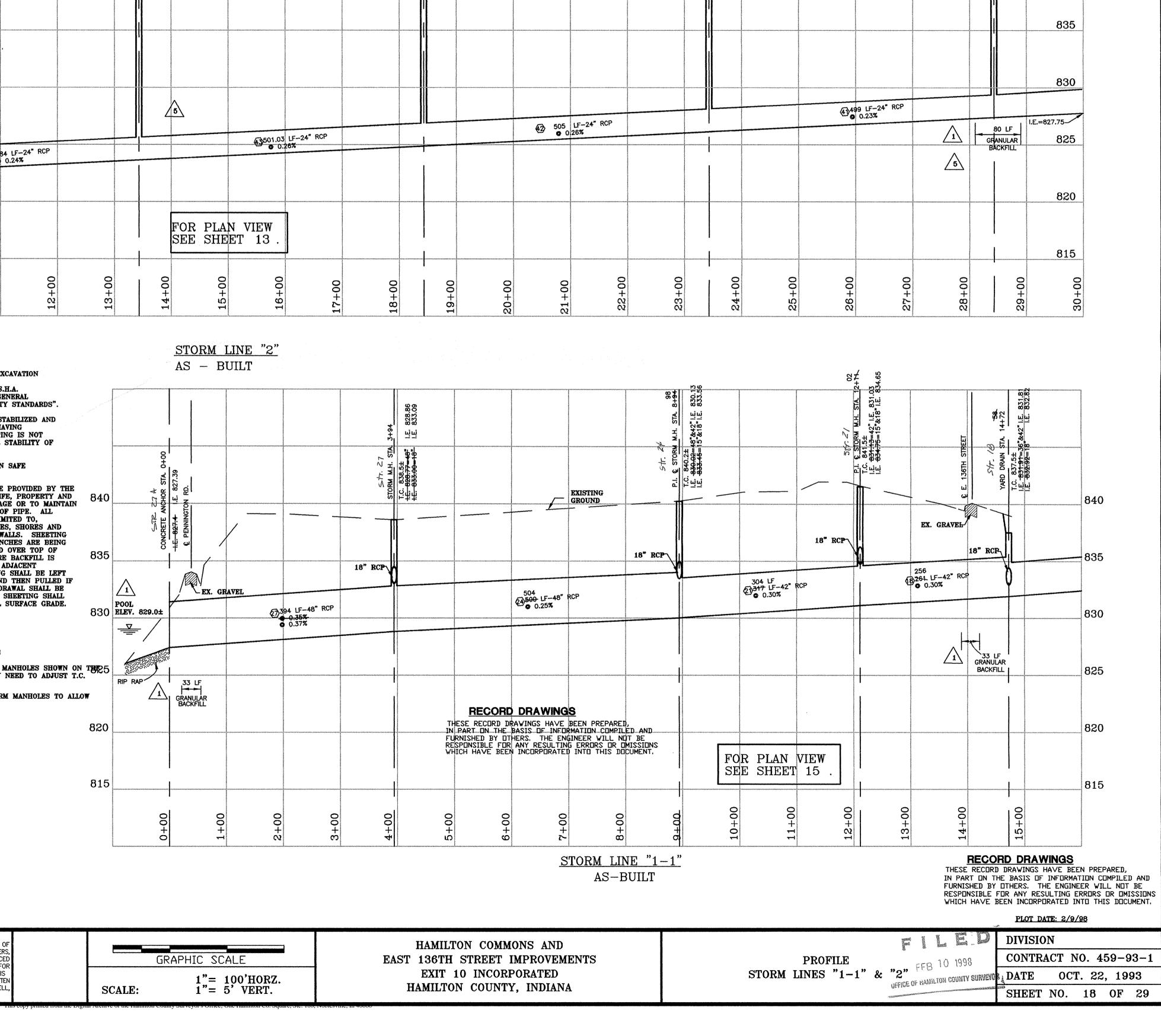
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NOTE TO THE CONTRACTOR - MANHOLES

1. TOP OF CASTING (T.C.) ELEVATIONS FOR STORM MANHOLES SHOWN ON THE 5 PLANS ARE APPROXIMATE. THE CONTRACTOR MAY NEED TO ADJUST T.C. ELEVATIONS TO MATCH ACTUAL FIELD GRADES.



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LL ALL RIGHTS RESERVED: THIS DOCUMENT IS THE PROPERTY OF HOWARD K, BELL, CONSULTING ENGINEERS, INC. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART OR USED FOR	GRAPHIC SCALE	HAMILTON COMMONS AND EAST 136TH STREET IMPROVEMENTS
VILLE CONSTRUCTION OF OTHER THAN THIS SPECIFIC PROJECT WITHOUT THE WRITTEN B877 PERMISSION OF HOWARD K. BELL, G(FAX) CONSULTING ENGINEERS, INC.	SCALE: $1" = 100'HORZ.$ 1" = 5' VERT.	EXIT 10 INCORPORATED HAMILTON COUNTY, INDIANA