



Kenton C. Ward, CFM Surveyor of Hamilton County Phone (317) 776-8495 Fax (317) 776-9628 Suite 188 One Hamilton County Square Noblesville, Indiana 46060-2230

August 7, 2012

To: Hamilton County Drainage Board

Re: John Osborne Drain, Bridlebourne Reconstruction - Revised

This report is a revision of the John Osborne Drain, Bridlebourne Reconstruction report to the Board dated April 11, 2011 and approved at a hearing on May 23, 2011 (see Hamilton County Drainage Board Minutes Book 13, pages 404 to 414). Since that time there have been several meetings with the Bridlebourne Homeowners Association, City of Carmel and my office. This revision is based on the final agreed fixed between the City of Carmel and the Bridlebourne HOA.

Attached are plans, specifications and drain map for the reconstruction of the Bridlebourne Drain. This drain is located in Clay Township, more specific on the east side of Shelborne Road between 106<sup>th</sup> and 116<sup>th</sup> Streets.

The Bridlebourne Drain was established as an arm to the John Osborne Drain by the Board through a petition by the developer. My report to the Board for sections 2 and 3 dated January 7, 1988 was approved by the Board at hearing on February 8, 1988 (see Hamilton County Drainage Board Minutes Book 2, pages 254 – 255). The portion across Section 5 was included in my report dated February 21, 1989 for Larkspur Drain, Section1 which was approved by the Board at hearing on April 24, 1989 (see Hamilton County Drainage Board Minutes Book 2, page 357). The remainder of the drain is covered in my report for the John Osborne Drain dated December 22, 1994 which was approved by the Board at hearing on February 27, 1995 (see Hamilton County Drainage Board Minutes Book 4, pages 72-75).

Over the period of time that Larkspur and Bridlebourne have been completed, this office has had many complaints regarding high water. Because of the complaints the Board contracted American Consulting, Inc. (now American Structurepoint, Inc.) at the meeting on August 23, 2004 through a RFP process (see Hamilton County Drainage Board Minutes Book 7, page 549). Three options were submitted to this office for review on April 18, 2005. After years of working with the Bridlebourne HOA and additional investigation, it was determine the lakes could not be lowered without causing problems. In mid-2011, Mike McBride, City of Carmel Engineer, and I worked with American Structurepoint to determine a plan to add additional storage volume

without being able to lower the normal pool elevations in Bridlebourne. Several options were reviewed during this process.

The result of that new engineering was to add a new off-site dry detention basin on the University High School property, which increase the storage capacity available for Pond 1. The dry detention basin will be connected to Pond 1 by a 36" pipe that will be sloped from the dry basin to Pond 1 and has been sized to allow Pond 1 to back up through this pipe into the dry basin. As the level of Pond 1 recedes after the storm events, this runoff stored in the dry basin will be released back into Pond 1 and drain through the existing system. The dry basin was sized to accommodate runoff from storms up to the 10-year storm event. Larger storm events will utilize the spillway provided on the eastern end of the dry detention basin to overflow into the existing University High School dry basin. The existing University High School pond system was analyzed to verify that there would not be an increase in the runoff rate to the east towa5rs the Spring Mill Run Legal Drain from what was designed release rate of this existing basin. The analysis shows that no detrimental impact will occur to the University High School pond or storm sewer system.

Along with the additional dry basin, some work is proposed to the storm sewer system in Bridlebourne, which is part of the John Osborne Regulated Drain, to remove restriction and improve flow. This work is all shown in the revised final plans that were filed in my office on July 31, 2012. These plans call for the following improvements:

- 1. The existing 24" RCP between the north inlet on Hintocks Circle and the Larkspur pond to be removed and replaced with a 30" RCP.
- 2. Expand the storage volume of the Bridlebourne north pond (Pond 1) by creating a separate basin located adjacent to the existing dry basin on the University High School property. The dry detention basin will be connected to Pond 1 by a 36" RCP.
- 3. The current 18" RCP outlet pipe for the Bridlebourne south pond (Pond 2) to be removed and replaced with an 18" RCP pipe.
- 4. The current outlet channel between the Bridlebourne south pond (Pond 2) and Sedgemoor Circle Road will be cleared of large woody vegetation and regraded as needed.

The reconstructed drain will consist of the following:

18" RCP	140 feet	36" RCP	586 feet
30" RCP	151 feet		

The total length of new tile shall be 877 feet. Of that footage, 288 feet is replacing existing regulated drain tile or open ditch. This proposal will add an additional 589 feet to the drains total length.

The above improvements are outlined in the report submitted by American Structurepoint dated July 29, 2012 and the accompanying plans dated July 30, 2012. The cost estimate prepared by American Structurepoint dated July 30, 2012 for this work is as follows:

	Description	<u>Unit</u>	Quantity	Unit Price	<u>Total</u>
1.	Mobilization, Demobilization	LS	1	\$17,600.00	\$17,600.00

2.	Clearing & Grubbing	LS	1	\$7,000.00	\$7,000.00
3.	Tree Removal	LS	1	\$5,000.00	\$5,000.00
4.	Utility Coordination	LS	1	\$10,000.00	\$10,000.00
5.	Pipe Removal	LFT	720	\$25.00	\$18,000.00
6.	Curb Removal	LFT	44	\$18.00	\$792.00
7.	Fence, Remove & Replace	LFT	20	\$105.00	\$2,100.00
8.	Storm Structure Removal	EACH	6	\$1,000.00	\$6,000.00
9.	Paver Salvage & Replacement	SYD	55	\$200.00	\$11,000.00
10.	Earthwork, Export	CYS	17,975	\$10.00	\$179,750.00
	Concrete Curb	LFT	44	\$28.00	\$1,232.00
12.	Type "J" Manhole	EACH	4	\$3,500.00	\$14,000.00
	30-Inch RCP Pipe	LFT	151	\$80.00	\$12,080.00
	36-Inch RCP Pipe	LFT	586	\$80.00	\$46,880.00
	End Section – 30"	EACH	1	\$500.00	\$500.00
	End Section – 36"	EACH	2	\$750.00	\$1,500.00
	18-Inch RCP Pipe	LFT	140	\$45.00	\$6,300.00
	End Section – 18"	EACH	2	\$250.00	\$500.00
	B-Borrow for Backfill	CYS	34	\$20.00	\$680.00
20.	Compacted #8 Stone	TONS	29	\$30.00	\$870.00
	Erosion Control Blanket	SYD	3,957	\$2.50	\$9,892.50
	Seeding	LBS	610	\$2.50	\$1,525.00
	Silt Fence Inlet Protection	EACH	3	\$250.00	\$750.00
24.	Catch All Inlet Protection	EACH	4	\$350.00	\$1,400.00
	#2 Stone Construction Entrance	TONS	210	\$25.00	\$5,250.00
	Riprap, Class 2	TONS	305	\$25.00	\$7,625.00
	Rock Check Dam	EACH	3	\$400.00	\$1,200.00
	Contingency			10%	\$34,742.65
	Grand Total				\$382,169.15

The work shall be conducted in existing platted easements for Larkspur and Bridlebourne. Those easements are shown on the following secondary plats:

•	Larkspur Phase 1	Instrument Number 8905082
•	Bridlebourne Section 2	Instrument Number 8742244
•	Bridlebourne Section 3	Instrument Number 8804920
•	Bridlebourne Section 4	Instrument Number 8820715
•	Bridlebourne Section 5	Instrument Number 9026131
•	Bridlebourne Section 6	Instrument Number 9134257

The above listed secondary plats are on file in the office of the Hamilton County Recorder.

The following lots will be affected with the removal and replacement of pipe and the clearing and regrading of the open ditch:

Owner	Lot	Parcel Number
Larkspur HOA	Common Area A	17-13-05-00-06-009.000
Roger & Jacqueline Malone	Lot 9	17-13-05-00-06-010.000

Bridlebourne HOA	Common Area G	17-13-05-00-08-015.000
Bridlebourne HOA	Common Area	17-13-05-00-08-016.000
Bridlebourne HOA	Common Area J	17-13-05-00-07-017.000
Niraj Gupta & Parul Agarwal	Lot 8A	17-13-05-00-08-001.000
Christopher & Mercy Obeime	Lot 7	17-13-05-00-08-002.000
Yiming Yang & Qi Huang Zheng	Lot 10	17-13-05-00-07-005.000
Christopher & Jane Clark	Lot 11	17-13-05-00-07-006.000
University High School of Indiana I	nc.	17-13-05-00-00-001.103
Bridlebourne HOA	Common Area I	17-13-05-00-05-012.000
Tahir & Afia Naqvi	Lot 61	17-13-05-00-04-012.000
William F. Conour	Lot 62	17-13-05-00-04-011.000
William F. Conour	Pt. Lot 63	17-13-05-00-02-003.001

Additional easement is needed beyond the existing easement on the following parcels and the City of Carmel has appraisals complete and offer pending with the landowners. The City of Carmel will be purchasing the required easements from the following landowners

Owner	Lot	Parcel Number
University High School of India Niraj Gupta & Parul Agarwal	ana Inc. Lot 8A	17-13-05-00-00-001.103 17-13-05-00-08-001.000
Christopher & Mercy Obeime	Lot 7	17-13-05-00-08-002.000

Since the submission of the 2007 report the area of southwest Clay has been annexed into the City of Carmel. Prior to this time Carmel passed Ordinance C-263 which annexed Southwest Clay on November 24, 2004. This was remonstrated against in Hamilton County Superior Court, Cause No. 29D03-0502-MI-188. After the filing negotiations between the residents of Southwest Clay and the City of Carmel produced a settlement agreement dated September 6, 2005. This agreement is attached as Exhibit B to the annexation ordinance, Ordinance No. C-263-A which was passed on October 7, 2005, Instrument No. 200500011849. In this agreement the drainage problems associated with Bridlebourne and Larkspur are set out as items to be addressed with the annexation. The project is mentioned in the Southwest Clay Township Annexation Master Drainage Plan dated July 20, 2009. This plan was prepared for the City of Carmel by Cross Roads Engineers, Inc. In that plan the proposed project for Bridlebourne / Larkspur is considered a first level priority.

On February 8, 2011 the City of Carmel passed a bond issue with the Bridlebourne / Larkspur project, Interlocal Agreement C-266-11, Instrument No. 2011012198, which included in the funding package. On November 8, 2010 the Hamilton County Drainage Board approved an Interlocal Agreement for the construction by the Drainage Board of the improvements with the funding for the improvements to come from Carmel. On February 7, 2011 this agreement was approved by the City of Carmel.

Therefore, the funding of the proposed reconstruction project will be provided by the City of Carmel. Property Owners within the drainage shed will not be assessed for the reconstruction. The current maintenance assessments will not change with this proposal. Other than the purchase of easements mentioned above, no damages will result to property owners by the work; therefore, all damages other than required easements shall be set at \$0.00.

No state or federal permits are required for this reconstruction.

I recommend that this item be set for hearing for September 26, 2012.

Sincerely,

Kenton C. Ward, CFM Hamilton County Surveyor

KCW/llm

# BRIDLEBOURNE SUBDIVISION - DRAINAGE IMPROVEMENTS ENGINEER'S PRELIMINARY OPINION OF PROBABLE COSTS OF CONSTRUCTION

July 30, 2012

	CARME	EL, INDIANA					
ITEM NO.	DESCRIPTION	UNIT	QUANTITY		UNIT PRICE		TOTAL
1	CLEARING AND GRUBBING	LS	1	\$	7,000.00	\$	7,000.00
2	TREE REMOVAL	LS	1	\$	5,000.00	\$	5,000.00
3	UTILITY COORDINATION	LS	1	\$	10,000.00	\$	10,000.00
4	PIPE REMOVAL	LFT	720	\$	25.00	\$	18,000.00
5	CURB REMOVAL	LFT	44	\$	18.00	\$	792.00
6	FENCE, REMOVE AND REPLACE	LFT	20	\$	105.00	\$	2,100.00
7	STORM STRUCTURE REMOVAL	EA	6	\$	1,000.00	\$	6,000.00
8	PAVER SALVAGE AND REPLACEMENT	SYD	55	\$	200	\$	11,000.00
9	EARTHWORK, EXPORT	CYS	17,975	\$	10.00	\$	179,750.00
10	CONCRETE CURB	LFT	44	\$	28.00	\$	1,232.00
11	TYPE "J" MANHOLE	EA	4	\$	3,500.00	\$	14,000.00
12	PIPE, 30" RCP	LFT	151	\$	80.00	\$	12,080.00
13	PIPE, 36" RCP	LFT	586	\$	80.00	\$	46,880.00
14	END SECTION, 30"	EA	1	\$	500.00	\$	500.00
15	END SECTION, 36"	EA	2	\$	750.00	\$	1,500.00
16	PIPE, 18" RCP	LFT	140	\$	45.00	\$	6,300.00
17	END SECTION, 18"	EA	2	\$	250.00	\$	500.00
18	B-BORROW FOR STRUCTURAL BACKFILL	CYS	34	\$	20.00	\$	680.00
19	COMPACTED AGGREGATE, #8 STONE	TONS	29	\$	30.00	\$	870.00
20	EROSION CONTROL BLANKET	SYS	3,957	\$	2.50	\$	9,892.50
21	SEEDING	LBS	610	\$	2.50	\$	1,525.00
22	SILT FENCE INLET PROTECTION	EA	3	\$	250.00	\$	750.00
23	CATCH ALL INLET PROTECTION	EA	4	\$	350.00	\$	1,400.00
24	#2 STONE FOR CONSTRUCTION ENTRANCE	TONS	210	\$	25.00	\$	5,250.00
25	RIPRAP, CLASS 2	TONS	305	\$	25.00	\$	7,625.00
26	ROCK CHECK DAM	EA	3	\$	400.00	\$	1,200.00
27	MOBILIZATION/DEMOBILIZATION	LS	1	\$	17,600.00	\$	17,600.00
	TOTAL					\$	347,426.50
					15%		52,113.9
			CO	NTIN	IGENCY (10%)		<del>34,742.65</del>
					TOTAL	\$	382,169.15

EASEMENTS

399,540.48 205,800.00 605,340.48

399,540,48

STATE OF INDIANA )
) ss:
COUNTY OF HAMILTON )

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD NOBLESVILLE, INDIANA

IN THE MATTER OF THE RECONSTRUCTION OF THE

John Osborne Drain, Bridlebourne Reconstruction (Revised)

#### FINDINGS AND ORDER FOR RECONSTRUCTION

The matter of the proposed Reconstruction of the John Osborne Drain, Bridlebourne Reconstruction came before the Hamilton County Drainage Board for hearing on September 26, 2012, on the Reconstruction Report consisting of the report and the Schedule of Damages and Assessments. The Board also received and considered the written objection of an owner of certain lands affected by the proposed Reconstruction, said owner being:

Evidence was heard on the Reconstruction Report and on the aforementioned objections.

The Board, having considered the evidence and objections, and, upon motion duly made, seconded and unanimously carried, did find and determine that the costs, damages and expenses of the proposed Reconstruction will be less than the benefits accruing to the owners of all land benefited by the Reconstruction.

The Board having considered the evidence and objections, upon motion duly made, seconded and unanimously carried, did adopt the Schedule of Assessments as proposed, subject to amendment after inspection of the subject drain as it relates to the lands of any owners which may have been erroneously included or omitted from the Schedule of Assessments.

The Board further finds that it has jurisdiction of these proceedings and that all required notices have been duly given or published as required by law.

Wherefore, it is ORDERED, that the proposed Reconstruction of the *John Osborne Drain, Bridlebourne Reconstruction* be and is hereby declared established.

Thereafter, the Board made inspection for the purpose of determining whether or not the lands of any owners had been erroneously included or excluded from the Schedule of Assessments. The Board finds on the basis of the reports and findings at this hearing as follows:

MAMILTON COUNTY DRAINAGE BOARD

PRESIDENT

Mambana

Member

ATTEST

# OFFICE OF HAMILTON COUNTY DRAINAGE BOARD August 24, 2012

RETURNED

Notice of Hearing on Reconstruction & Schedule of Assessments and Damages on the **John Osborn Drain**, **Bridlebourne Reconstruction - Revised**.

Christian, Justin & Darrianne P 8921 Greenridge Dr Indianapolis, IN 46278

Under the Indiana Drainage Code, all land which drains directly, or indirectly, may be assessed for either maintenance cost or reconstruction cost within the drain. In making the calculation for each parcel, the Drainage Board must calculate the percentage of the cost attributable to each parcel of land benefitted. The Drainage Board has received a reconstruction report and schedule of assessments which affects your land. The purpose of the reconstruction project is to perform work which will substantially improve the drainage for the entire watershed served by the drain.

You are hereby notified that the reconstruction report of the County Surveyor and the schedule of assessments made by the Drainage Board have been filed and are available for public inspection in the office of the County Surveyor. The chart below contains your proposed assessment and your percentage of the total reconstruction assessment.

The reconstruction report of the Surveyor and schedule of damages and benefits as determined by the Drainage Board for the proposed improvement known as the **John Osborn Drain**, **Bridlebourne Reconstruction** have been filed and are available for inspection in the office of the County Surveyor. The schedule of assessments shows the following lands in your name are affected as follows. This assessment is not a charge for services associated with regulating the quality of storm water within your city or town.

Description of Land 17-13-05-00-08-008.000	Acres Benefited	Damages	Reconst. Assmt.	% of Total Benefit	Maint. Assmt.
S5 T17 R3 Bridlebourne 6th Lot 1 1.29Ac	1.29	Zero	*	0.67%	*

The hearing on the Surveyor's reconstruction report and on the schedules of damages and assessments are set for hearing at 9:50 A.M. on September 26, 2012, in the Commissioner's Court. The law provides that objections must be written and filed not less than 5 days before the date of the hearing. Objections may be for causes as specified by law and which are available at the Surveyor's Office. Written evidence in support of objections may be filed. The failure to file objections constitutes a waiver of your right to thereafter object, either before the Board or in court on such causes, to any final action of the Board. On or before the day of the hearing before the Board, the Surveyor shall and any owner of affected lands may cause written evidence to be filed in support of or in rebuttal to any filed objections.

HAMILTON COUNTY DRAINAGE BOARD One Hamilton County Square, Ste. 188 Noblesville, IN 46060-2230

For a copy of the Surveyor's Report to the Drainage Board and a copy of the map, if applicable, please go to www.hamiltoncounty.in.gov/drainageboardnotices.

# BEFORE THE HAMILTON COUNTY DRAINAGE BOARD IN THE MATTER OF

#### John Osborne Drain, Bridlebourne Reconstruction (Revised)

NOTICE

То	Whom	It	May	Concern	and:			

Notice is hereby given of the hearing of the Hamilton County Drainage Board concerning the reconstruction of the John Osborne Drain, Bridlebourne Reconstruction (Revised) on September 26, 2012 at 9:50 A.M. in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana. Construction and maintenance reports of the Surveyor and the Schedule of Assessments proposed by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest:Lynette Mosbaugh

ONE TIME ONLY

STATE	OF	INDIANA	)	SS	BEFORE	THE	HAMILTON
			)				
COUNTY	OF	HAMILTON	)		DRAINAC	GE BO	DARD

IN THE MATTER OF John Osborne Drain, Bridlebourne Reconstruction

#### NOTICE

Notice is hereby given that the Hamilton County Drainage Board at its regular meeting September 26, 2012 adopted the reconstruction report of the Surveyor and the Amended Schedule of damages and assessments including annual assessment for periodic maintenance, finding that the costs, damages and expense of the proposed improvement would be less than the benefits which will result to the owner of lands benefited thereby.

The Board issued an order declaring the proposed improvement established. Such findings and order were marked filed and are available for inspection in the Office of the Hamilton County Surveyor.

If judicial review of the findings and order of the Board is not requested pursuant to Article VIII of the 1965 Indiana Drainage Code as amended within twenty (20) days from the date of publication of this notice, the findings and order shall become conclusive.

HAMILTON COUNTY DRAINAGE BOARD

BY: Steven C. Dillinger
PRESIDENT

ATTEST: Lynette Mosbaugh
SECRETARY





To: Hamilton County Drainage Board

October 27, 2016

#### Re: John Osborn Drain: Bridlebourne Reconstruction

Phone (317) 776-8495 Tax (317) 776-9628

Attached are as-built, certificate of completion & compliance, and other information for Bridlebourne Reconstruction. 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 August 7, 2012. The report was approved by the Board at the hearing held September 26, 2012. (See Drainage Board Minutes Book 14, Pages 314-319) The changes are as follows: the 18" RCP was shortened from 140 feet to 133 feet. The 30" RCP was lengthened from 151 feet to 154 feet. The 36" RCP was shortened from 586 feet to 582 feet. The length of the drain due to the changes described above is now **869 feet**. It should be noted that the project removed 141 feet of the existing Bridlebourne drain. Also removed was 148 feet of the Larkspur Drain.

The additional drainage easements required for this project were recorded in the Hamilton County Recorder's office under instrument #'s 2014041513, 2013019386, and 2013019387. The project was paid for by the City of Carmel. The final project cost was \$560,517.08 which consisted of \$203,000 for easements and \$357,517.08 for construction.

I recommend the Board approve the drain's construction as complete and acceptable.

Sincerely.

Kenton C. Ward, CFM Hamilton County Surveyor From: Lustig, Kate [mailto:klustig@carmel.in.gov]

Sent: Tuesday, November 01, 2016 11:36

To: Gary Duncan

Subject: RE: Bridlebourne/Carmel

Hi Gary,

So the P.O. was for \$348,000. \$357,517.08 was billed. Here are the change orders:

- 1. \$12,920.62
- 2. \$3,394.90
- 3. -\$6,798.44
- 4. Sub-Surface sent in a check for \$2,500.00

Make sense?

From: Gary Duncan [mailto:Gary.Duncan@hamiltoncounty.in.gov]

Sent: Tuesday, November 01, 2016 9:57 AM

To: Lustig, Kate

Subject: RE: Bridlebourne/Carmel

Good morning! Has Dan had a chance to confirm the final cost?

Thanks so much!

G

#### Suzie L. Mills

From:

Lustig, Kate <klustig@carmel.in.gov>

Sent:

Wednesday, November 09, 2016 9:48 AM

To:

Suzie L. Mills

Subject:

RE: Bridlebourne Reconstruction 2012

Hi Suzie,

We paid \$203,000 for the drainage easement to University High School. I believe that this is the only easement purchase.

Thanks, Kate

From: Suzie L. Mills [mailto:Suzie.Mills@hamiltoncounty.in.gov]

Sent: Monday, November 07, 2016 10:08 AM

To: Lustig, Kate

**Subject:** Bridlebourne Reconstruction 2012

Hi Katie,

Gary Duncan worked with you on the final project cost for this. Any chance you could get me the cost of the easement purchases as well. I had a figure of \$190,900.00.

Thanks for your help.

Suzie

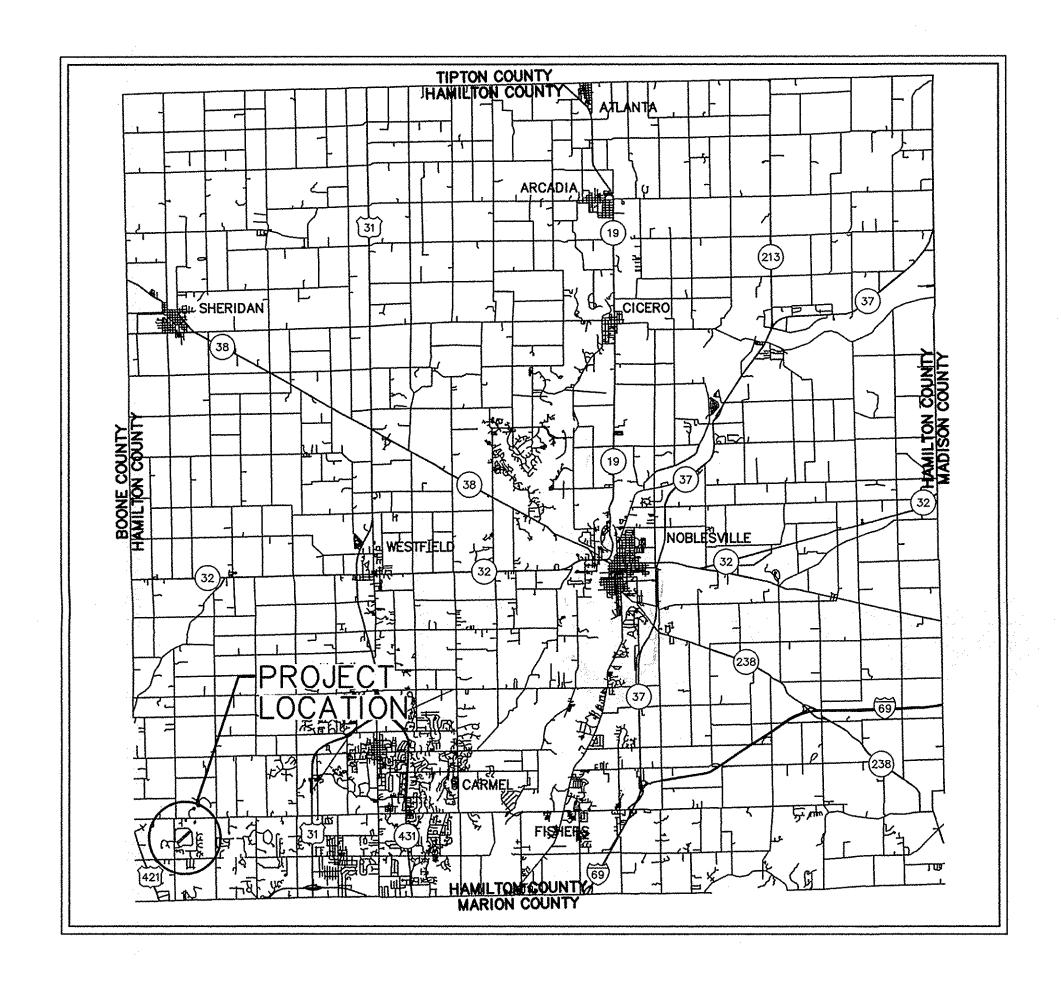
Suzie Mills, GIS Specialist Hamilton County Surveyor's Office

# CONSTRUCTION PLANS

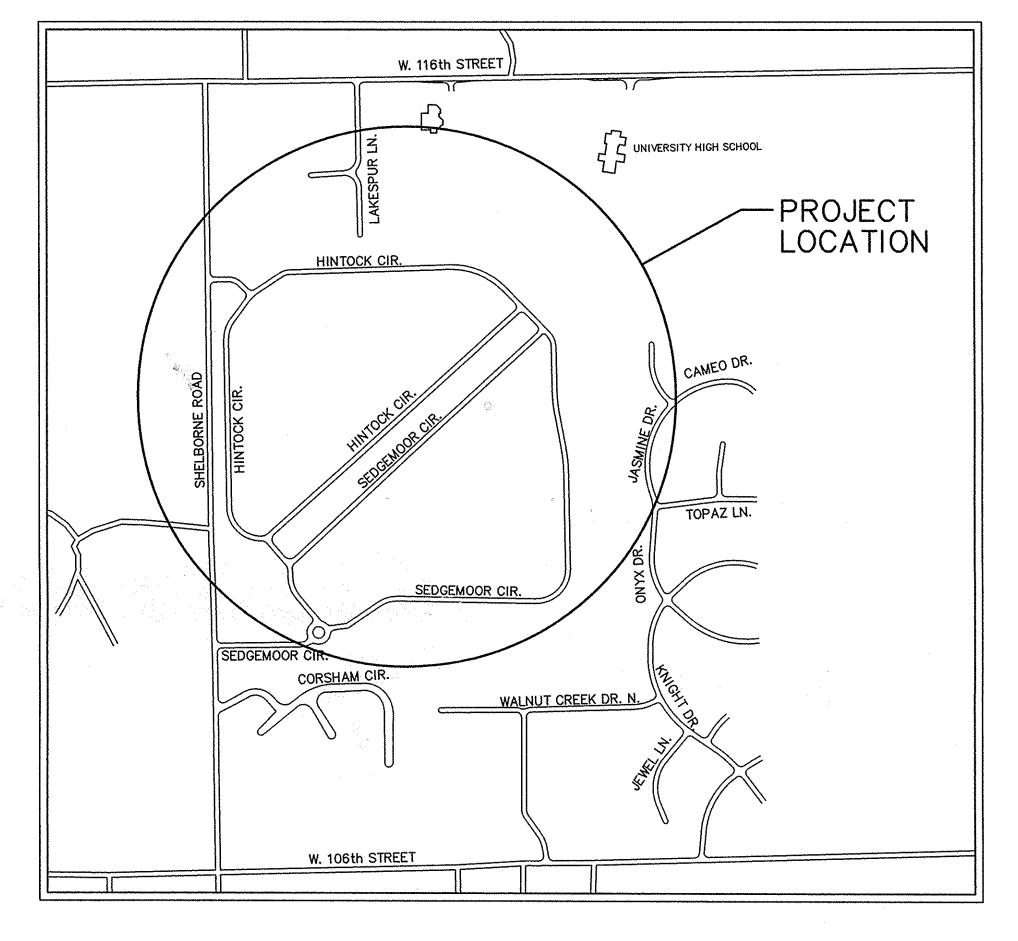
# **FOR**

# AS-BUILT

# BRIDLEBOURNE DRAINAGE MODIFICATION 106th STREET & SHELBORNE ROAD CARMEL, INDIANA



LOCATION MAP





INDEX	
DESCRIPTION	SHEET No.
TITLE SHEET	C0.1
OVERALL DEVELOPMENT PLAN	C1.1
EXISTING TOPOGRAPHY / DEMOLITION PLAN	C2.1-C2.3
GRADING PLAN & PROFILE	C3.1-C3.4
BUCKEYE PIPELINE PLAN & PROFILE	C3.5
EROSION CONTROL PLAN	C4.1-C4.2
EROSION CONTROL DETAILS	C5.1
STORM WATER PREVENTION POLLUTION PLAN	C6.1
DETAILS	. C7.1-C7.2
·	

20500012

STATE OF

PLAN DATE: 07/30/2012

STORM SEWER AS-BUILT STATEMENT

As—Built information for storm sewer rims are based upon above ground evidence of the existing storm sewer system. The strike through data shown on the Storm Sewers are the proposed elevations for all the structures to be placed. Said information has been replaced by the as—built information per elevations collected in the field on July 2, 2015.

Sold

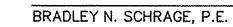
Bryan J. Moll Registered Land Surveyor No. 20500012

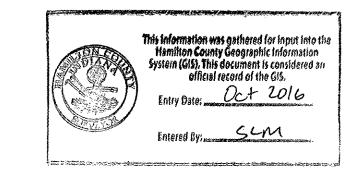
PLANS PREPARED FOR:

HAMILTON COUNTY DRAINAGE BOARD
1 HAMILTON COUNTY SQUARE, SUITE #188
NOBLESVILLE, IN 46060

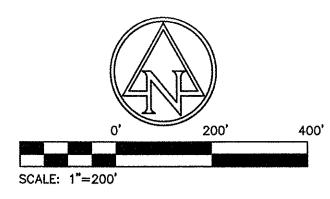


7260 SHADELAND STATION INDIANAPOLIS, IN 46256-3957 TEL 317.547.5580 FAX 317.543.0270 www.structurepoint.com









### BENCH INFORMATION

SCHNEIDER TBM #100 = 906.07' (29' DATUM)

RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE CENTERLINE OF TOWNE ROAD +/- 90'

ACE TBM #70 = 895.83'

CHISELED "BOX" ON THE NORTHWEST CORNER TRAFFIC PEDESTAL @ THE SOUTHWEST CORNER OF 116TH STREET AND TOWNE ROAD

ACE TBM #100 = 903.92'

CHISELED "X" IN SOUTH BOLT OF A FIRE HYDRANT LOCATED ON THE SOUTHERN SIDE OF HINTOCKS CIRCLE ON THE EXTENDED CENTERLINE OF THE NORTH ENTRANCE TO BRIDLEBOURNE SUBDIVISION

ACE TBM #101 = 899.90'

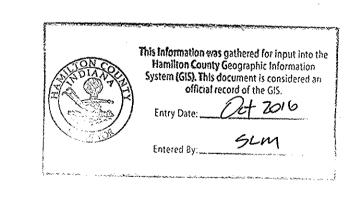
CHISELED "BOX" TOP OF CURB ON THE NORTH SIDE OF THE SOUTHERN MOST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM LOT LINE BETWEEN RESIDENCE NO. 3569 AND RES. NO. 3557

ACE TBM #102 = 902.44'

CHISELED "X" ON NORTH BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF SEDGEMOOOR CIRCLE ACROSS FROM THE LINE BETWEEN RESIDENCE NO. 3535 AND RESIDENCE NO. 3515

ACE TBM #103 = 892.92'

CHISELED "BOX" ON TOP OF CURB LOCATED ON THE WEST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM RESIDENCE NO. 10887



CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.

CONTRACTOR TO VERIFY LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION. CONTACT ENGINEER IF VARIATION EXISTS.

# CAUTION !!

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1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND —

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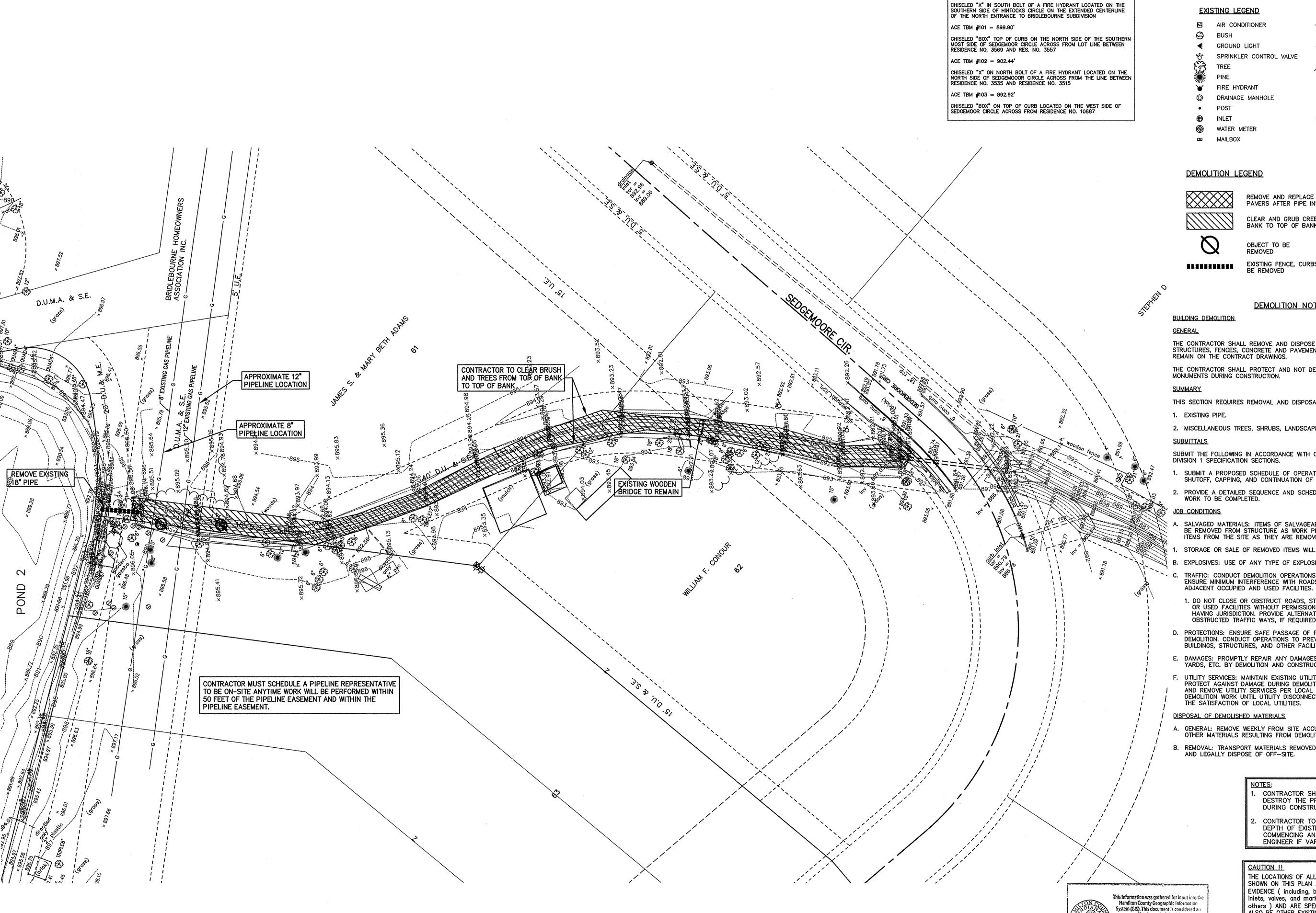
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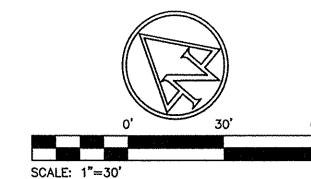
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TELEPHONE PEDESTAL

SANITARY MANHOLE

TRANSFORMER

YARD LIGHT

CLEAN OUT

STAND PIPE

CURB INLET

STUMP

SIGN

S

## **EXISTING LEGEND**

BENCHMARK INFORMATION

RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE

CHISELED "BOX" ON THE NORTHWEST CORNER TRAFFIC PEDESTAL • THE SOUTHWEST CORNER OF 116TH STREET AND TOWNE ROAD

SCHNEIDER TBM #100 = 906.07' (29' DATUM)

CENTERLINE OF TOWNE ROAD +/- 90'

ACE TBM #70 = 895.83

ACE TBM #100 = 903.92

AIR CONDITIONER BUSH GROUND LIGHT

SPRINKLER CONTROL VALVE

FIRE HYDRANT DRAINAGE MANHOLE

POST WATER METER SATELLITE 曽 BEEHIVE INLET MAILBOX

## **DEMOLITION LEGEND**

REMOVE AND REPLACE EXISTING BRICK PAVERS AFTER PIPE INSTALLATION.

CLEAR AND GRUB CREEK FROM TOP OF

BANK TO TOP OF BANK

OBJECT TO BE REMOVED

EXISTING FENCE, CURBS, PIPES OR DRAIN TILES TO BE REMOVED

# **DEMOLITION NOTES:**

### BUILDING DEMOLITION

THE CONTRACTOR SHALL REMOVE AND DISPOSE OFF SITE, ALL EXISTING STRUCTURES, FENCES, CONCRETE AND PAVEMENT ON SITE, UNLESS NOTED TO REMAIN ON THE CONTRACT DRAWINGS.

THE CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.

THIS SECTION REQUIRES REMOVAL AND DISPOSAL, OFF SITE, OF THE FOLLOWING:

2. MISCELLANEOUS TREES, SHRUBS, LANDSCAPING, ETC., LOCATED ON SITE.

SUBMIT THE FOLLOWING IN ACCORDANCE WITH CONDITIONS OF CONTRACT AND

SUBMIT A PROPOSED SCHEDULE OF OPERATIONS COORDINATION FOR SHUTOFF,

SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.

2. PROVIDE A DETAILED SEQUENCE AND SCHEDULE OF DEMOLITION AND REMOVAL WORK TO BE COMPLETED.

SALVAGED MATERIALS: ITEMS OF SALVAGEABLE VALUE TO CONTRACTOR MAY BE REMOVED FROM STRUCTURE AS WORK PROGRESSES. TRANSPORT SALVAGED ITEMS FROM THE SITE AS THEY ARE REMOVED.

STORAGE OR SALE OF REMOVED ITEMS WILL NOT BE PERMITTED ON SITE.

B. EXPLOSIVES: USE OF ANY TYPE OF EXPLOSIVES WILL NOT BE PERMITTED.

- C. TRAFFIC: CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER

1. DO NOT CLOSE OR OBSTRUCT ROADS, STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM THE LOCAL AUTHORITIES

HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS, IF REQUIRED BY GOVERNING AUTHORITIES.

D. PROTECTIONS: ENSURE SAFE PASSAGE OF PERSONS AROUND AREAS OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, AND OTHER FACILITIES AND INJURY TO PERSONS.

E. DAMAGES: PROMPTLY REPAIR ANY DAMAGES CAUSED TO ADJACENT FACILITIES, YARDS, ETC. BY DEMOLITION AND CONSTRUCTION OPERATIONS.

F. UTILITY SERVICES: MAINTAIN EXISTING UTILITIES TO STAY IN SERVICE AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DISCONNECT, CAP AND REMOVE UTILITY SERVICES PER LOCAL REQUIREMENTS. DO NOT START DEMOLITION WORK UNTIL UTILITY DISCONNECTIONS HAVE BEEN COMPLETED TO THE SATISFACTION OF LOCAL UTILITIES.

# DISPOSAL OF DEMOLISHED MATERIALS

- A. GENERAL: REMOVE WEEKLY FROM SITE ACCUMULATED DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS.
- B. REMOVAL: TRANSPORT MATERIALS REMOVED FROM DEMOLITION OPERATIONS AND LEGALLY DISPOSE OF OFF-SITE.

#### CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.

CONTRACTOR TO VERIFY LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION. CONTACT ENGINEER IF VARIATION EXISTS.

# CAUTION !!

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Entry Date: 0 t 2016

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> 1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND

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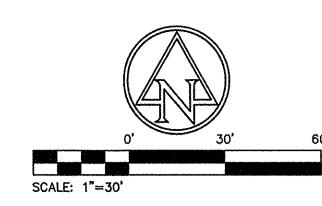
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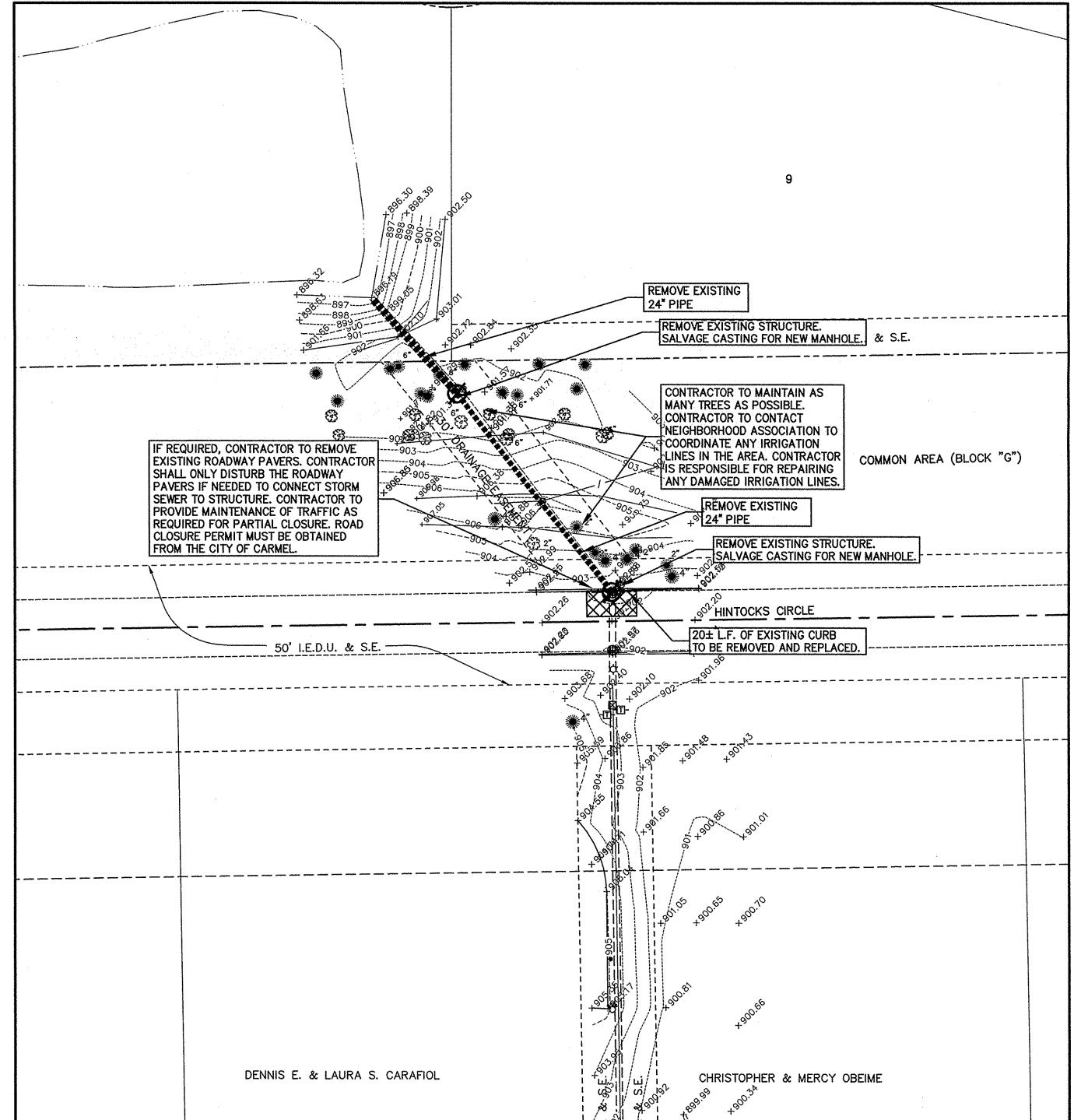
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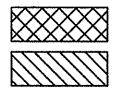
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#### EXISTING LEGEND

AIR CONDITIONER -TI- TELEPHONE PEDESTAL BUSH TRANSFORMER GROUND LIGHT YARD LIGHT SPRINKLER CONTROL VALVE CLEAN OUT TREE STUMP SANITARY MANHOLE FIRE HYDRANT SPIGOT SIGN DRAINAGE MANHOLE POST STAND PIPE CURB INLET SATELLITE WATER METER

#### DEMOLITION LEGEND

MAILBOX



REMOVE AND REPLACE EXISTING BRICK PAVERS AFTER PIPE INSTALLATION.

BEEHIVE INLET

CLEAR AND GRUB CREEK FROM TOP OF BANK TO TOP OF BANK



BUILDING DEMOLITION

OBJECT TO BE

REMOVED

EXISTING FENCE, CURBS, PIPES OR DRAIN TILES TO BE REMOVED

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2. MISCELLANEOUS TREES, SHRUBS, LANDSCAPING, ETC., LOCATED ON SITE.

SUBMIT THE FOLLOWING IN ACCORDANCE WITH CONDITIONS OF CONTRACT AND DIVISION 1 SPECIFICATION SECTIONS.

1. SUBMIT A PROPOSED SCHEDULE OF OPERATIONS COORDINATION FOR SHUTOFF, SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.

2. PROVIDE A DETAILED SEQUENCE AND SCHEDULE OF DEMOLITION AND REMOVAL WORK TO BE COMPLETED.

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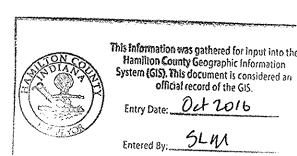
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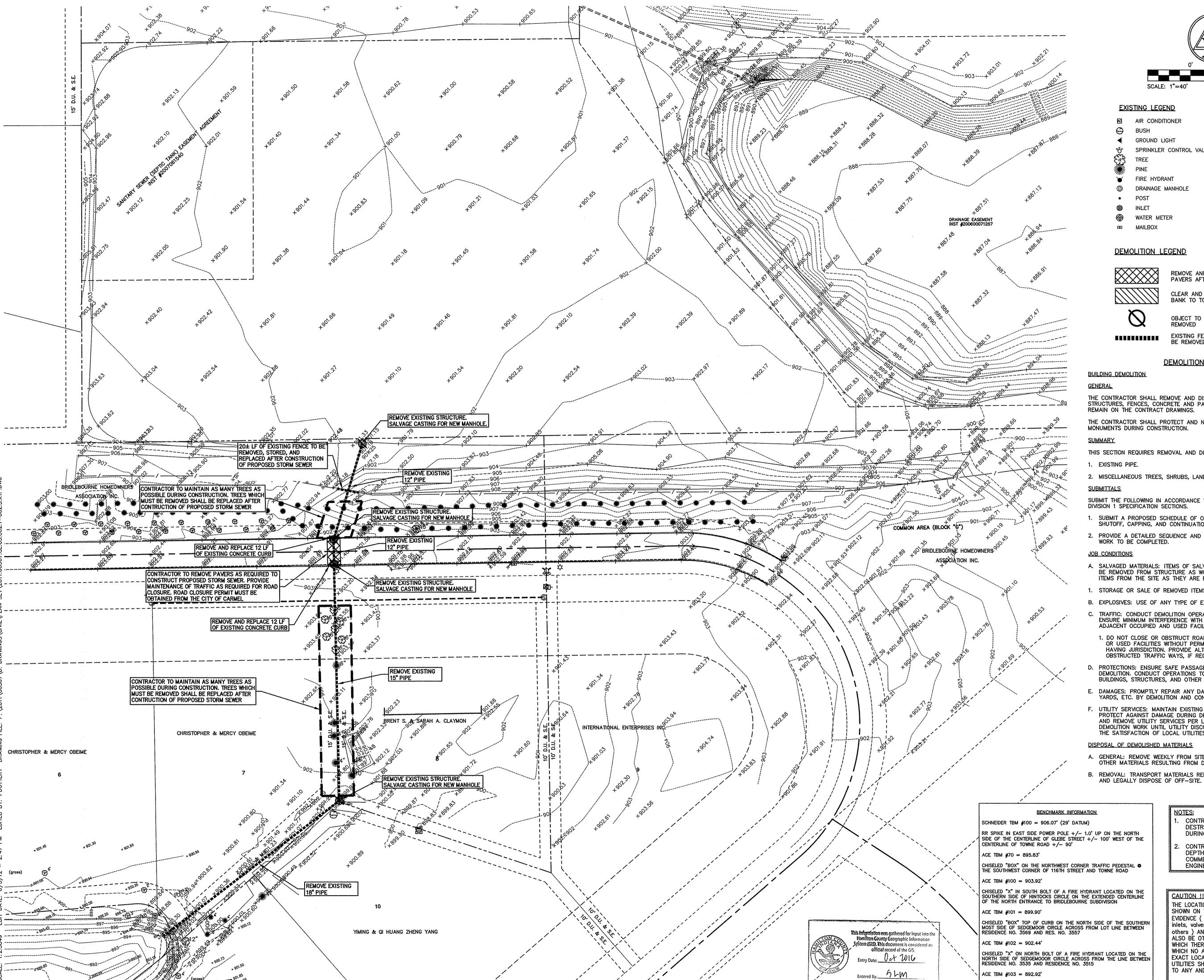
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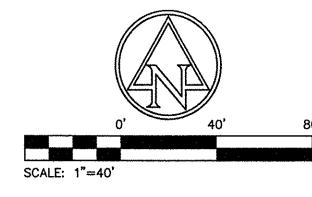
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### EXISTING LEGEND

AIR CONDITIONER -T- TELEPHONE PEDESTAL TRANSFORMER GROUND LIGHT SPRINKLER CONTROL VALVE CLEAN OUT STUMP SANITARY MANHOLE WATER METER SATELLITE

### **DEMOLITION LEGEND**



REMOVE AND REPLACE EXISTING BRICK PAVERS AFTER PIPE INSTALLATION.

贸 BEEHIVE INLET

CLEAR AND GRUB CREEK FROM TOP OF BANK TO TOP OF BANK

REMOVED EXISTING FENCE, CURBS, PIPES OR DRAIN TILES TO BE REMOVED

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RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH

CHISELED "X" ON NORTH BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF SEDGEMOOOR CIRCLE ACROSS FROM THE LINE BETWEEN RESIDENCE NO. 3535 AND RESIDENCE NO. 3515

CHISELED "BOX" ON TOP OF CURB LOCATED ON THE WEST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM RESIDENCE NO. 10887

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1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND

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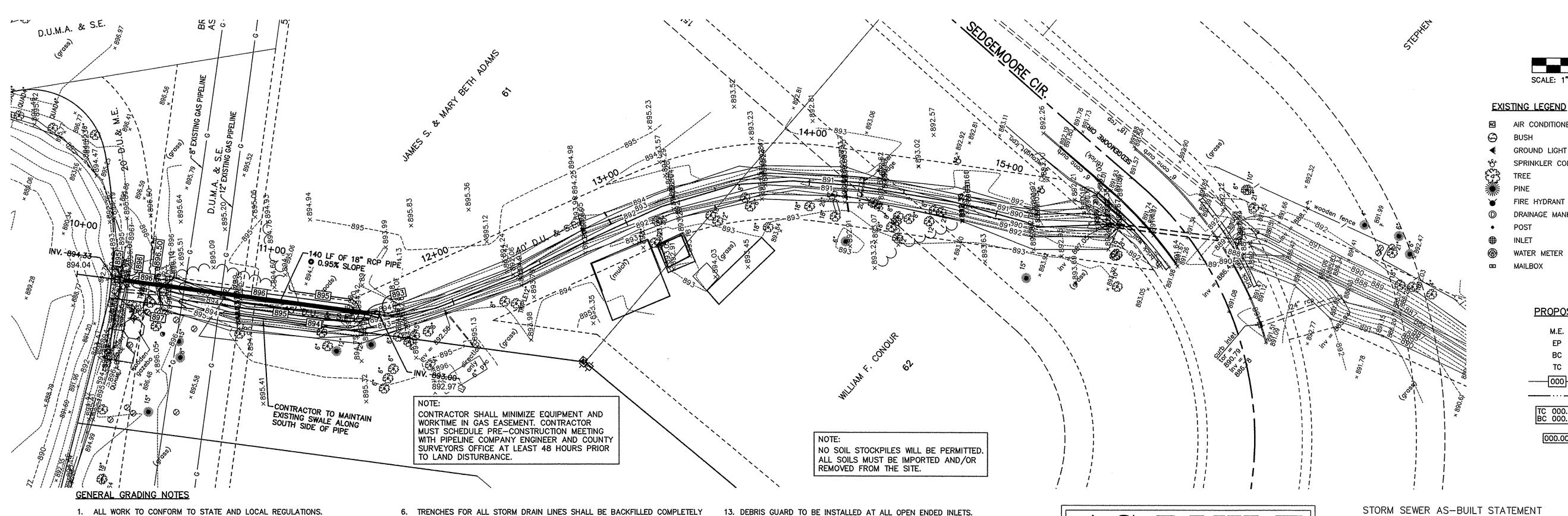
VAGE MODIFICATION OF SHELBORNE INDIANA STREET CARI

07/30/12 RAWN BY: PED BNS

RIDLEB 106th

CHK'D BY: OB NO. 2011.00507 REVISIONS

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6. TRENCHES FOR ALL STORM DRAIN LINES SHALL BE BACKFILLED COMPLETELY

WITH SELECT GRANULAR MATERIAL IF WITHIN 5 FEET OF PAVEMENT. 7. AFTER STRIPPING TOPSOIL MATERIAL, PROOFROLL WITH A MEDIUM WEIGHT ROLLER TO DETERMINE LOCATIONS OF ANY POCKETS OF UNSUITABLE MATERIAL. THE NECESSITY FOR SUBDRAINS AND/OR REMOVAL OF ANY UNSUITABLE MATERIAL WITHIN THE PROPOSED PARKING AREAS WILL BE

8. PROVIDE POSITIVE DRAINAGE WITHOUT PONDING, IN ALL AREAS. AFTER INSTALLATION, CONTRACTOR TO TEST FOR, AND CORRECT, IF ANY, "BIRD BATH" CONDITIONS.

DETERMINED AT THE TIME OF CONSTRUCTION.

9. ALL PROPOSED SPOT ELEVATIONS ARE THE FINAL PAVEMENT AND FINAL GRADE ELEVATIONS.

10. SEE APPROPRIATE DETAILS TO DETERMINE SUBGRADE ELEVATIONS BELOW FINISH GRADE ELEVATIONS INDICATED.

11. ALL STORM SEWER MATERIALS AND INSTALLATION SHALL CONFORM

TO THE HAMILTON COUNTY SURVEYOR AND THE CITY OF CARMEL STANDARDS. 12. INVERTS AT PIPE OUTLETS ARE GIVEN AT END OF PIPE END SECTION.

12+00

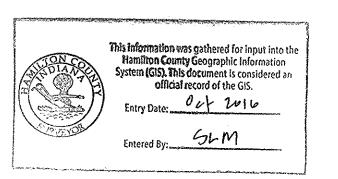
13. DEBRIS GUARD TO BE INSTALLED AT ALL OPEN ENDED INLETS.

14. DUE TO SITE CONSTRAINTS, THE SITE MAY OR MAY NOT BALANCE. THE CONTRACTOR IS RESPONSIBLE FOR ALL EARTHWORK IMPORTS AND/OR

15. THE SITE IS NOT LOCATED WITHIN ANY FLOODPLAIN, FLOODWAY OR FLOODWAY FRINGE AS INDICATED ON THE FLOODWAY INSURANCE RATE MAP COMMUNITY PANEL NUMBER 18057C0205F FOR THE COUNTY OF HAMILTON, INDIANA, DATED FEB. 19, 2003.

CONTRACTOR MUST SCHEDULE A PIPELINE REPRESENTATIVE TO BE ON-SITE ANYTIME WORK WILL BE PERFORMED WITHIN 50 FEET OF THE PIPELINE EASEMENT AND WITHIN THE PIPELINE EASEMENT.





STORM SEWER AS-BUILT STATEMENT

As—Built information for storm sewer rims are based upon above ground evidence of the existing storm sewer system. The strike through data shown on the Storm Sewers are the proposed elevations for all the structures to be placed. Said information has been replaced by the as-built information per elevations collected in the field on July 2, 2015.

SCALE: 1"=30"

SPRINKLER CONTROL VALVE

PROPOSED GRADING LEGEND

MATCH EXISTING EDGE OF PAVEMENT BOTTOM OF CURB TOP OF CURB

CURB ELEVATIONS

SPOT ELEVATIONS

CONTOURS FLOW LINE

-II- TELEPHONE PEDESTAL

SANITARY MANHOLE

TRANSFORMER

YARD LIGHT

CLEAN OUT STUMP

STAND PIPE CURB INLET

SATELLITE 器 BEEHIVE INLET

AIR CONDITIONER

GROUND LIGHT

FIRE HYDRANT

WATER METER

MAILBOX

DRAINAGE MANHOLE

-----

BUSH

Bryan J. Moll Registered Land Surveyor No. 20500012

SCALE: 1"=30' (HORIZ)

20500012 STATE OF MOIANA

LINE "A" 1"=5' (VERT) ( -PROPOSED GRADE EXISTING GRADE LEXISTING 12" GAS PIPELINE LEXISTING 8" GAS PIPELINE 885 \_EXISTING RCP: 0.80% INV: 887.05 

13+00

# BENCHMARK INFORMATION

SCHNEIDER TBM #100 = 906.07' (29' DATUM)

RR SPIKE IN EAST SIDE POWER POLE  $\pm/-$  1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET  $\pm/-$  100' WEST OF THE CENTERLINE OF TOWNE ROAD  $\pm/-$  90'

CHISELED "BOX" ON THE NORTHWEST CORNER TRAFFIC PEDESTAL • THE SOUTHWEST CORNER OF 116TH STREET AND TOWNE ROAD

CHISELED "X" IN SOUTH BOLT OF A FIRE HYDRANT LOCATED ON THE

SOUTHERN SIDE OF HINTOCKS CIRCLE ON THE EXTENDED CENTERLINE OF THE NORTH ENTRANCE TO BRIDLEBOURNE SUBDIVISION

ACE TBM #101 = 899.90'

ACE TBM #103 = 892.92'

ACE TBM #70 = 895.83'

CHISELED "BOX" TOP OF CURB ON THE NORTH SIDE OF THE SOUTHERN MOST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM LOT LINE BETWEEN RESIDENCE NO. 3569 AND RES. NO. 3557 ACE TBM #102 = 902.44'

CHISELED "X" ON NORTH BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF SEDGEMOOOR CIRCLE ACROSS FROM THE LINE BETWEEN RESIDENCE NO. 3515

CHISELED "BOX" ON TOP OF CURB LOCATED ON THE WEST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM RESIDENCE NO. 10887

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# CAUTION !!

870

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1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND

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INAGE MODIFICATION SHELBORNE ., INDIANA

DRAWN BY: PED CHK'D BY: BNS JOB NO. 2011.00507 **REVISIONS** 

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11+00

2. SITE GRADING SHALL <u>NOT</u> PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

4. THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN

EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTOR'S AND/OR UTILITY

5. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS BEFORE

CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON

APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATING IS AROUND OR OVER

EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY

SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO

SITE. ALL VERIFICATIONS (location, size and depth ) SHALL BE MADE BY THE

SHALL NOTIFY THE ENGINEER IMMEDIATELY.

COMPANIES SO AS NOT TO CAUSE DAMAGE.

INSTRUCT AND OBSERVE DURING CONSTRUCTION.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS (VERTICAL AND HORIZONTAL)

IN THE FIELD PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BÉ

RESPONSIBLE FOR ALL FIELD DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM THE ACTUAL FIELD CONDITIONS, THE CONTRACTOR

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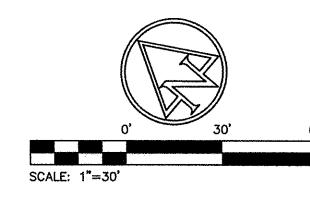
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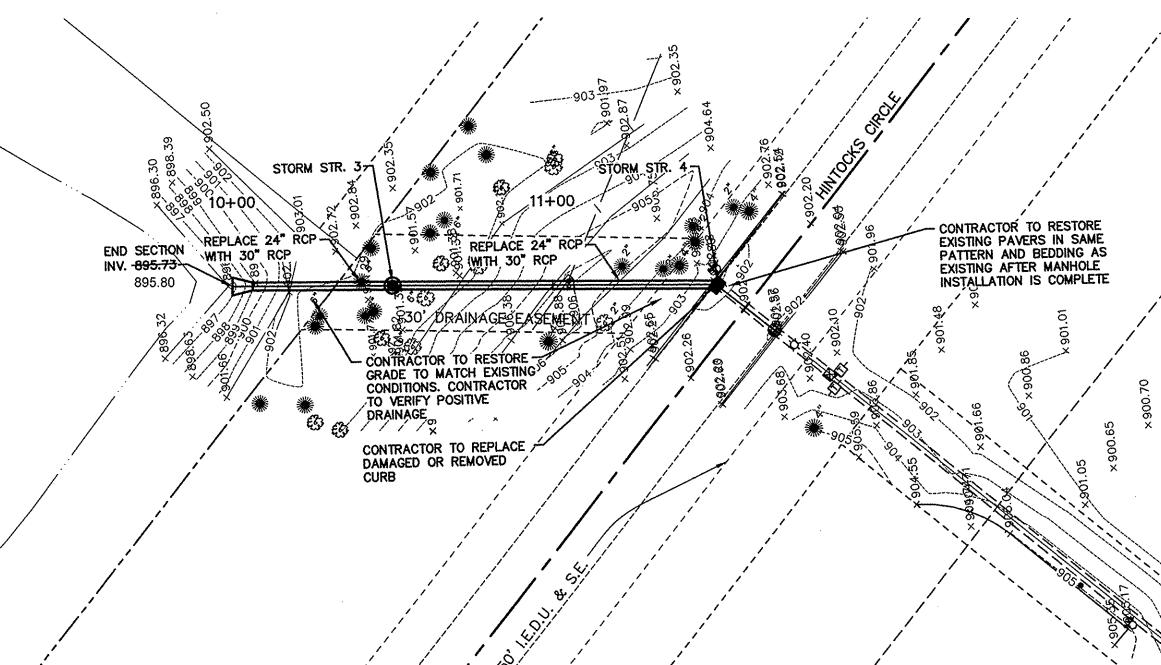
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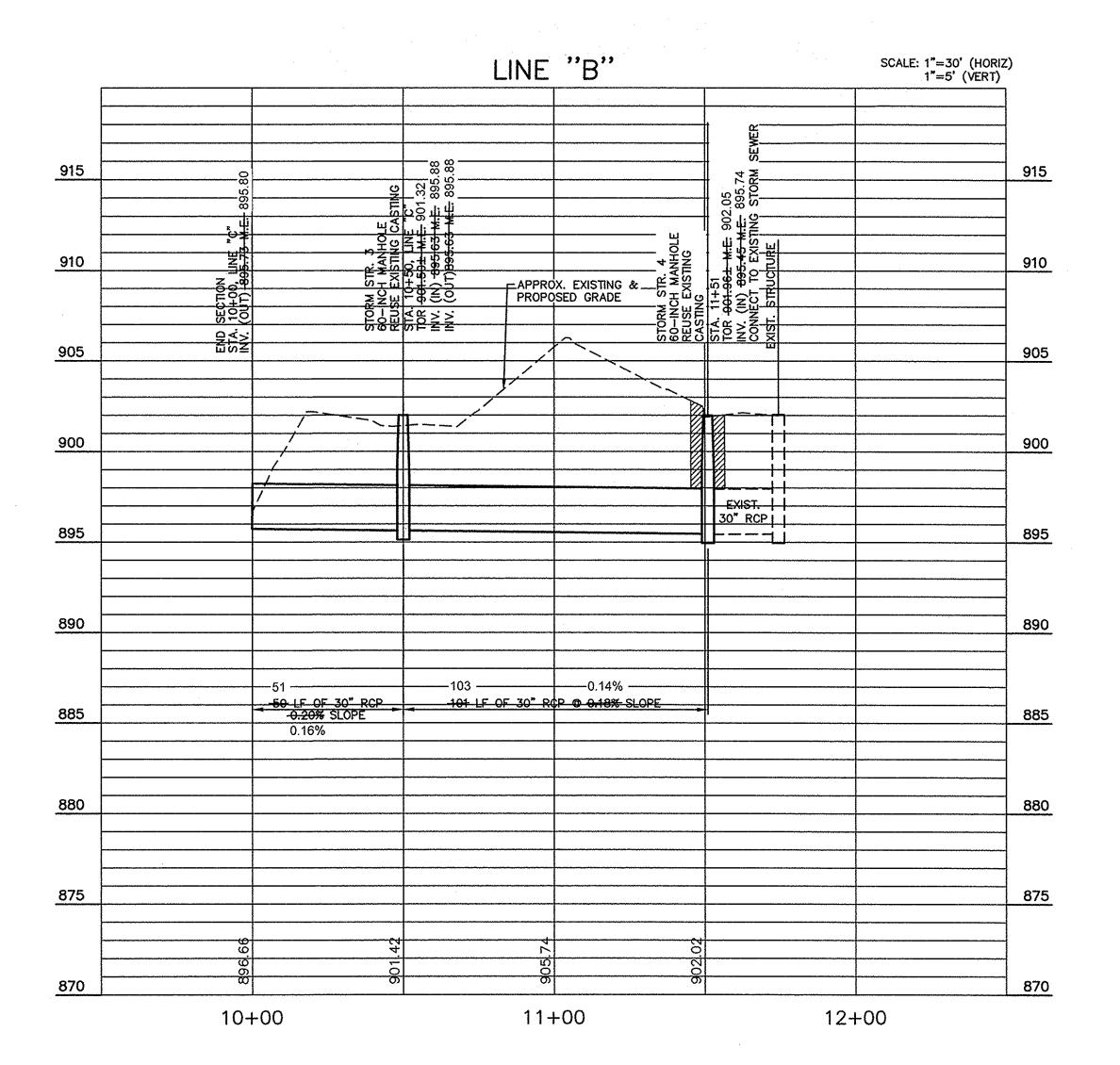
11. ALL STORM SEWER MATERIALS AND INSTALLATION SHALL CONFORM

- TO THE HAMILTON COUNTY SURVEYOR AND THE CITY OF CARMEL STANDARDS.
- 12. INVERTS AT PIPE OUTLETS ARE GIVEN AT END OF PIPE END SECTION.

- 14. DUE TO SITE CONSTRAINTS, THE SITE MAY OR MAY NOT BALANCE. THE CONTRACTOR IS RESPONSIBLE FOR ALL EARTHWORK IMPORTS AND/OR
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BENCHMARK INFORMATION

SCHNEIDER TBM #100 = 906.07' (29' DATUM)

RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE CENTERLINE OF TOWNE ROAD +/- 90'

ACE TBM #70 = 895.83'

CHISELED "BOX" ON THE NORTHWEST CORNER TRAFFIC PEDESTAL • THE SOUTHWEST CORNER OF 116TH STREET AND TOWNE ROAD ACE TBM #100 = 903.92

CHISELED "X" IN SOUTH BOLT OF A FIRE HYDRANT LOCATED ON THE SOUTHERN SIDE OF HINTOCKS CIRCLE ON THE EXTENDED CENTERLINE OF THE NORTH ENTRANCE TO BRIDLEBOURNE SUBDIVISION

ACE TBM #101 = 899.90'

CHISELED "BOX" TOP OF CURB ON THE NORTH SIDE OF THE SOUTHERN MOST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM LOT LINE BETWEEN RESIDENCE NO. 3569 AND RES. NO. 3557

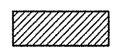
ACE TBM #102 = 902.44'

CHISELED "X" ON NORTH BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF SEDGEMOOOR CIRCLE ACROSS FROM THE LINE BETWEEN RESIDENCE NO. 3535 AND RESIDENCE NO. 3515 ACE TBM #103 = 892.92'

CHISELED "BOX" ON TOP OF CURB LOCATED ON THE WEST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM RESIDENCE NO. 10887

CONTRACTOR SHALL MINIMIZE EQUIPMENT AND WORKTIME IN GAS EASEMENT, CONTRACTOR MUST SCHEDULE PRE-CONSTRUCTION MEETING WITH PIPELINE COMPANY ENGINEER AND COUNTY SURVEYORS OFFICE AT LEAST 48 HOURS PRIOR TO LAND DISTURBANCE.

NO SOIL STOCKPILES WILL BE PERMITTED. ALL SOILS MUST BE IMPORTED AND/OR REMOVED FROM THE SITE.



FULL DEPTH GRANULAR BACKFILL REQ'D UNDER AND WITHIN 5' OF PAVEMENT

EXISTING LEGEND

-[]- TELEPHONE PEDESTAL AIR CONDITIONER ☑ TRANSFORMER GROUND LIGHT YARD LIGHT SPRINKLER CONTROL VALVE CLEAN OUT STUMP S SANITARY MANHOLE PINE FIRE HYDRANT SPIGOT DRAINAGE MANHOLE SIGN

 STAND PIPE INLET CURB INLET WATER METER SATELLITE ∞ MAILBOX 器 BEEHIVE INLET

PROPOSED GRADING LEGEND

MATCH EXISTING EDGE OF PAVEMENT BOTTOM OF CURB TOP OF CURB CONTOURS

FLOW LINE \_\_\_\_\_ CURB ELEVATIONS

SPOT ELEVATIONS

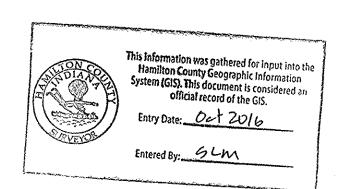
**AS-BUILT** 

STORM SEWER AS-BUILT STATEMENT

As—Built information for storm sewer rims are based upon above ground evidence of the existing storm sewer system. The strike through data shown on the Storm Sewers are the proposed elevations for all the structures to be placed. Said information has been replaced by the as-built information per elevations collected in the field on July 2, 2015.

Registered Land Surveyor No. 20500012





CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.

CONTRACTOR TO VERIFY LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION. CONTACT ENGINEER IF VARIATION EXISTS.

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1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND GRADING

PROF

STRUCTURE

CERTIFIED BY

INAGE MODIFI SHELBORNE ", INDIANA BRIDLEBOURNE 106th STREET

LTON COU

ICATION ROAD

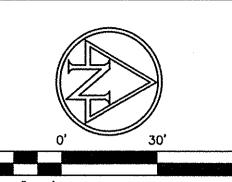
07/30/12 DRAWN BY: PED CHK'D BY: BNS OB NO. 2011.00507 REVISIONS

SHEET NO.

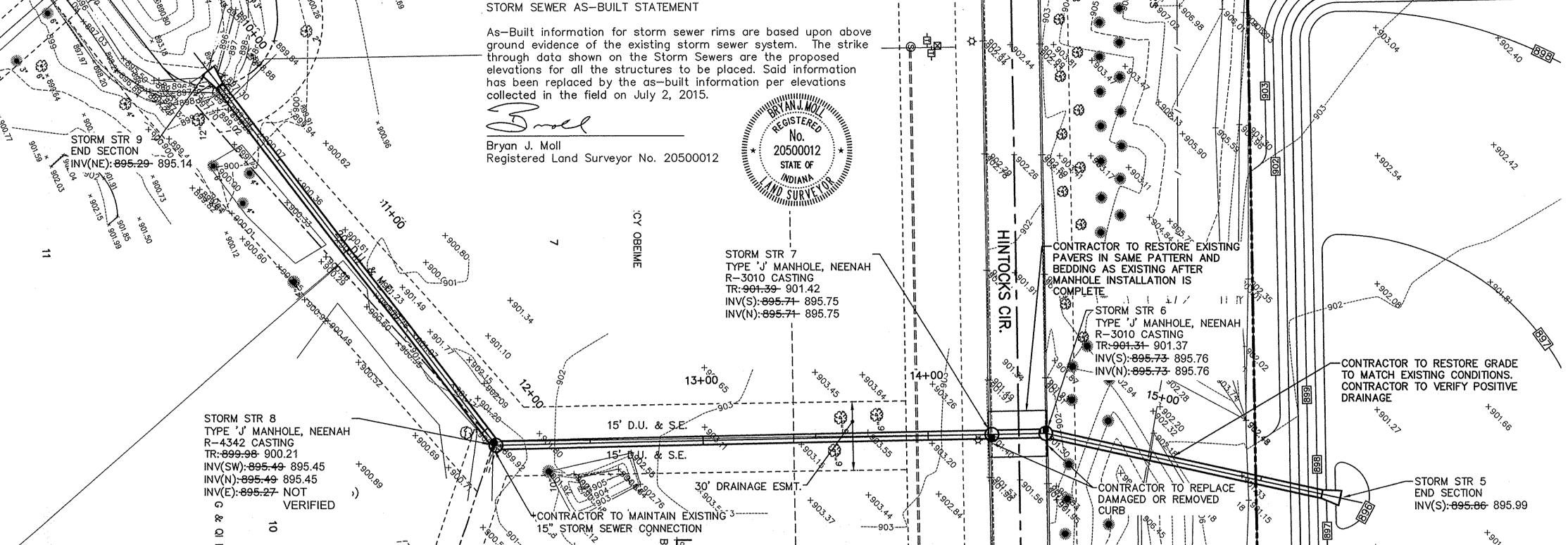
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TO THE HAMILTON COUNTY SURVEYOR AND THE CITY OF CARMEL STANDARDS.



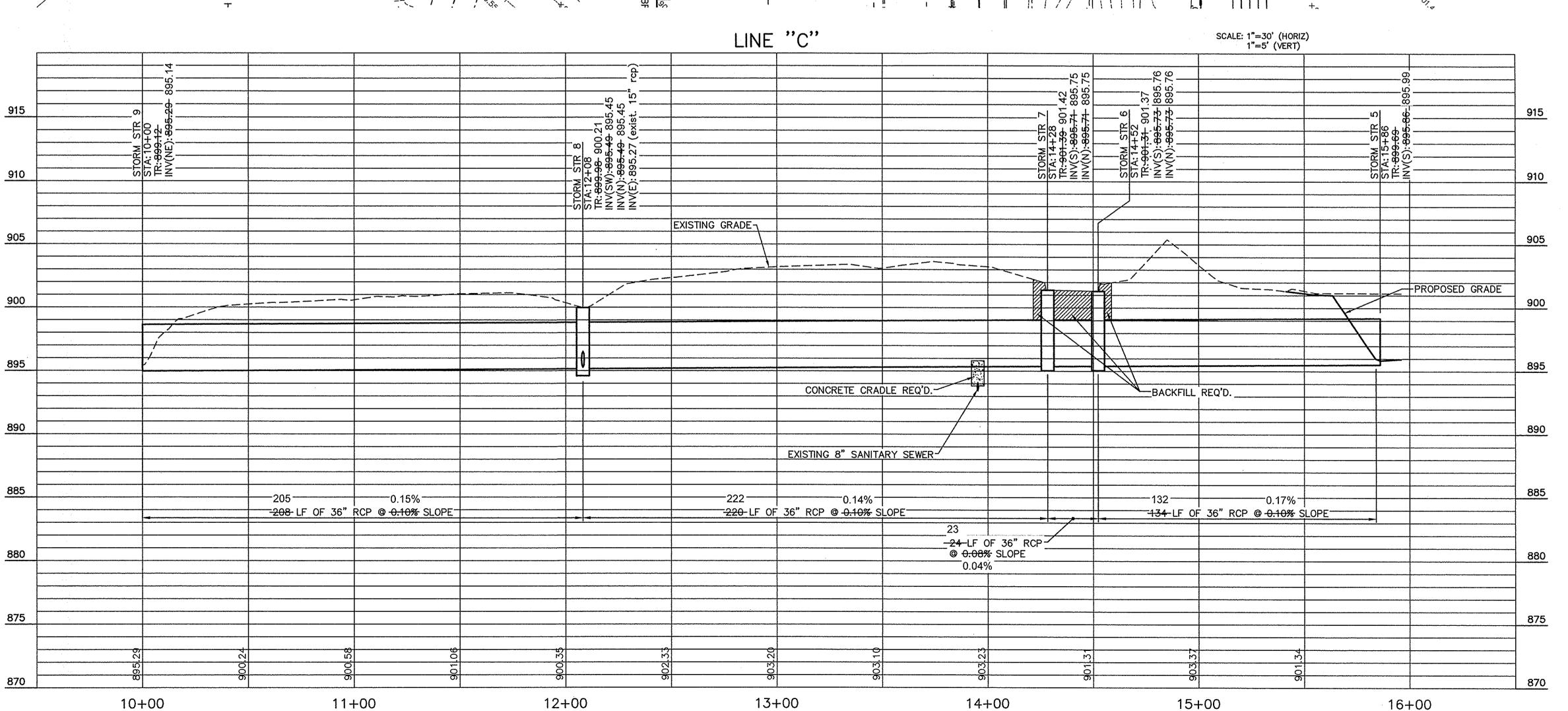


SCALE: 1"=30"



CONTRACTOR IS RESPONSIBLE FOR ALL EARTHWORK IMPORTS AND/OR

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### EXISTING LEGEND

-[]- TELEPHONE PEDESTAL 図 AIR CONDITIONER BUSH TRANSFORMER YARD LIGHT CLEAN OUT

STUMP

SPRINKLER CONTROL VALVE

S SANITARY MANHOLE FIRE HYDRANT SPIGOT DRAINAGE MANHOLE ▼ SIGN POST

 STAND PIPE CURB INLET WATER METER SATELLITE MAILBOX 舅 BEEHIVE INLET

## PROPOSED GRADING LEGEND

MATCH EXISTING EDGE OF PAVEMENT BOTTOM OF CURB TOP OF CURB CONTOURS

**CURB ELEVATIONS** 

SPOT ELEVATIONS FULL DEPTH GRANULAR

BACKFILL REQ'D UNDER AND WITHIN 5' OF PAVEMENT

BENCHMARK INFORMATION

SCHNEIDER TBM #100 = 906.07' (29' DATUM) RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE CENTERLINE OF TOWNE ROAD +/- 90' ACE TBM #70 = 895.83'

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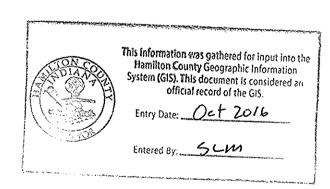
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1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND

TRUCTURE 

CERTIFIED BY

DRAINAGE SQUARE, SUIT E, IN 46060

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PROF

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**ADING** 

GR.

DATE:

RO B VINAGE MODIFI SHELBORNE , INDIANA DRAI T & S STREET CARA

BRIDLEB( 106th 07/30/12 DRAWN BY: PED CHK'D BY: JOB NO. 2011.00507 REVISIONS

SHEET NO.

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RAINAGE EASEMENT ວັ.522 ACRES +/-ຽງ-YEAR ELEV. = 898.74

CONTRACTOR TO MAINTAIN AS MANY TREES AS

MUST BE REMOVED SHALL BE REPLACED AFTER CONTRUCTION OF PROPOSED STORM SEWER

+230' DRAINAGE ESMT.

POSSIBLE DURING CONSTRUCTION. TREES WHICH

STORM STR 5 -END SECTION

ŚTYPE 'J' MANHOLE, NEENAH 🚄

895./6JCKS CIR.

INV(S): 895.73 895.76

TYPE 'J' MANHOLE, NEENAH

STORM STR 7

R-3010 CASTING

TR: <del>901.39</del> 901.42

INV(S): 895.71 895.75

INV(N): <del>895.71</del> 895.75

CONTRACTOR TO

COORDINATE OFFSITE EARTHWORK WITH

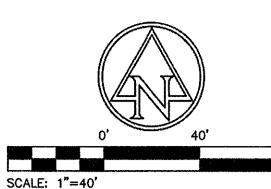
UNIVERSITY HIGH SCHOOL

12. INVERTS AT PIPE OUTLETS ARE GIVEN AT END OF PIPE END SECTION.

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N8905'09"E - 285.96"





STORM SEWER AS-BUILT STATEMENT

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Bryan J. Moll Registered Land Surveyor No. 20500012

DRAINAGE EASEMENT

COMMON AREA (BLOCK "G")

) BRIDLEBOÜRNE HOMEOWNERS

ASSOCIATION INC.

20500012 STATE OF AMAION.

BENCHMARK INFORMATION SCHNEIDER TBM #100 = 906.07' (29' DATUM)

EXISTING LEGEND

AIR CONDITIONER

**◀** GROUND LIGHT

FIRE HYDRANT

WATER METER

POST

MAILBOX

SPRINKLER CONTROL VALVE

BUSH

RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE CENTERLINE OF TOWNE ROAD +/- 90' ACE TBM #70 = 895.83'

PROPOSED GRADING LEGEND

MATCH EXISTING

EDGE OF PAVEMENT

BOTTOM OF CURB

**CURB ELEVATIONS** 

SPOT ELEVATIONS

TOP OF CURB

CONTOURS FLOW LINE

CHISELED "BOX" ON THE NORTHWEST CORNER TRAFFIC PEDESTAL . THE SOUTHWEST CORNER OF 116TH STREET AND TOWNE ROAD

ACE TBM #100 = 903.92"

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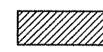
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FULL DEPTH GRANULAR BACKFILL REQ'D UNDER AND WITHIN 5' OF PAVEMENT



This information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS. Entry Date: Oct 2016

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1-800-382-5544 CALL TOLL FREE INDIANA UNDERGROUND

-IT- TELEPHONE PEDESTAL ▼ TRANSFORMER -

YARD LIGHT

CLEAN OUT

S SANITARY MANHOLE

STUMP

O STAND PIPE

CURB INLET

窝 BEEHIVE INLET

SATELLITE

SPIGOT

CERTIFIED BY

883

AN

ADIN

TION RO R DRA

BRIDLEBOURNE 106th STREET CARI

DATE: 07/30/12 DRAWN BY: PED CHK'D BY: 2011.00507

JOB NO. REVISIONS

SHEET NO.

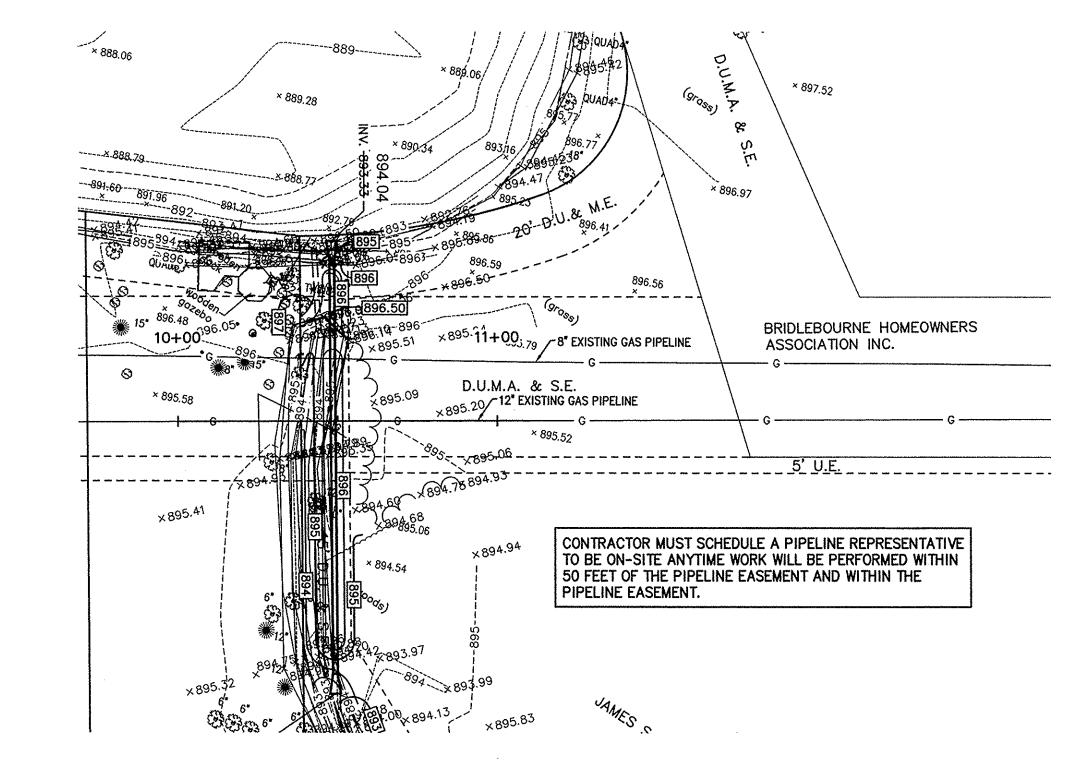
This copy printed from Digital Archive of the Hamilton County Surveyor's Office; One Hamilton Co. Square, Ste., Noblesville, In 46060

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- General Guidelines a. The safety of the pipeline must be considered at all times. No attempt to probe for or engage in any construction activities which might damage the pipeline is permitted
- b. Before any preliminary field work or construction begins in the vicinity of Buckeye's pipeline, a determination of the exact location and elevation of the pipeline must be made. To coordinate this procedure, please contact our local Field Operations Supervisor at the Buckeye facility nearest to your proposed project.
- c. When any construction activity is conducted in or around our pipeline right-of-way, Buckeye's On-Site Inspector must be present at all times. NO WORK SHALL TAKE PLACE WITHOUT A BUCKEYE ON-SITE INSPECTOR PRESENT. For this free service, contact our local Field Operations Supervisor at the Buckeye facility nearest to your proposed project.
- d. The Contractor shall contact Buckeye for re-marking of a pipeline if the existing markers are inadequate for any reason, including disturbance due to construction activities.
- Note: Federal law prohibits the removal of pipeline markers. e. The Contractor shall not burn trash, brush, or other items or substances on-site.
- f. The Contractor shall not store any equipment or materials on the pipeline or public
- g. During routine or emergency maintenance on the pipeline, the cost to restore approved surface improvements (e.g., pavement, landscaping, sidewalks, etc.) shall be the responsibility of the Crossing Party.
- 2. Excavation and Construction Restrictions a. Excavation operations shall be performed in accordance with appropriate State "One-Call" utility locating system requirements. As a matter of State law, anyone undertaking excavation work is required to call three (3) working days before excavating.
- b. The Contractor must conduct "white-lining" of any proposed excavation areas. Buckeye will erect temporary pipeline markers/flags (yellow) identifying the location of the pipeline within the work area, and will provide information on how to respond should the pipeline be damaged or a commodity release occur. All personnel operating equipment over or around the pipeline must be made aware of its location and what to do if they make contact with the
- c. When the Contractor excavates near Buckeye's pipeline, a Buckeye Representative must locate the pipeline and determine the depth of cover before the Contractor begins excavation. The Contractor shall not perform any excavation, crossing, backfilling, or construction operations until Buckeye's On-Site Inspector has reviewed the proposed work on site and given approval for work to proceed. Buckeye's On-Site Inspector shall have full authority to stop the work if it is determined that the work is being performed in an unsafe manner.
- d. No equipment shall work directly over the pipeline. The Contractor shall install temporary fencing along Buckeye's right-of-way boundaries so that equipment will not inadvertently pass over the pipeline at locations other than those established for crossing.
- e. When excavating within the pipeline right-of-way, the Contractor's backhoe shall have a plate welded over the teeth of the backhoe bucket, and the side cutters must be removed prior to excavation. Within 24 inches of the outer edge of the pipe (this "tolerance zone" extends on all sides of the pipe), only hand excavation, air cutting, and vacuum excavation are permitted. f. No excavations shall be made on land adjacent to the pipeline that will in any way impair, withdraw lateral support, cause subsidence, create the accumulation of water, or cause damage to the pipeline or right-of-way.
- g. The Contractor shall ensure all excavation work complies with OSHA's excavation standards outlined in 29 CFR 1926 and correct any noncompliant excavation site before Buckeye's On-Site Inspector or the Contractor enters the site to perform work.
- h. If conditions require, the Contractor shall be directed by Buckeye to install sand or cement bags or other suitable insulating materials to maintain proper vertical clearance from the
- i. At any location where the pipeline is exposed, the Contractor shall provide Buckeye the opportunity to inspect the pipeline condition, install cathodic protection test leads, and/or install underground warning mesh. The maximum unsupported exposed length of pipe shall be 20 feet for 4-inch-diameter pipe, 25 feet for 6-inch- to 10-inch-diameter pipe, and 35 feet for 12-inch- to 24-inch-diameter pipe.
- When required, the pipeline shall be supported with grout and sand bags or padded skids. At no time shall the pipeline be used as a brace to support equipment or sheeting/shoring k. No buried pipeline may be left exposed for any duration of time without concurrence of
- Buckeye's On-Site Inspector. I. Backfill and compaction shall be performed to the satisfaction and in the presence of Buckeye's On-site Inspector. At least 6 inches of fine, loose earth or sand with no sharp gravel, rock, hard clods, vegetation, or other debris shall be placed on all sides of any pipeline, and remaining backfill shall be placed so as not to disturb this padding material or damage the pipeline. Backfill over the pipe shall be compacted by hand until 18 inches of cover is achieved. The disturbed ground shall be compacted to the same degree of compaction of surrounding areas. The Contractor shall restore the site to its original condition except for items that are part of the Buckeye approved change.

- 3. Foreign Utility Crossings
- a. General Requirements: i. Utilities shall cross perpendicular to the pipeline.
- ii. Sand or select fill shall be placed between the pipeline and utility. iii. Warning tape, in accordance with A.P.W.A. Uniform Color Code, shall be placed above utility,
- 12 inches below ground, for a distance of 25 feet on either side of crossing. iv. Signage shall be placed at crossing as determined appropriate by Buckeye. v. Blind boring is not permitted within Buckeye's right-of-way.
- a. Utilities shall be wrapped with tracer wire within the width of the right-of-way. 5. Temporary Access Roads and Construction Vehicle Crossings
- a. General Requirements: i. Trucks carrying a maximum axle load up to 15,000 pounds may cross the right-of-way after
- Buckeye has confirmed a minimum cover of 48 inches over the pipeline. ii. For all other cases, earthen ramps, swamp mats, reinforced-concrete slabs, or steel plates may be required. Loading conditions and protection measures will be evaluated and dictated by Buckeye's Relocation Engineer.
- iii. During the use of an approved temporary construction road, Buckeye may require that the Contractor provide additional protective measures deemed necessary to prevent damage to
- iv. Buckeye will limit the number of temporary construction roads constructed by the Crossing
- 6. Blasting and Construction-Induced Vibrations
  - a. Blasting Requirements: i. Blasting and seismic vibrating operations shall be performed in accordance with Buckeye
- Specification "Blasting by Outside Parties" ii. A blasting plan and DEP approval letter shall be submitted to Buckeye if blasting is planned within 500 feet of the pipeline.
- iii. The blasting plan shall be submitted for approval at least 14 calendar days prior to blasting for evaluation. The Contractor shall also make arrangements for a Buckeye On-Inspector to be on site to witness the blast operation.
- iv. Blasting within 300 feet of the pipeline shall be monitored by a seismograph to ensure the peak particle velocity does not exceed 2.0 inches per second. The Contractor shall provide monitoring equipment and service.
- 7. Construction-Induced Vibrations: a. Construction activities that generate ground vibrations, including, but without limitation, pile driving, sheet driving, soil compaction work, jackhammering, or ramming, shall be reviewed
- by Buckeye on a case-by-case basis. b. If the Contractor anticipates such an activity within 300 feet of the pipeline, then continuous testing monitored by a seismograph located directly over the pipeline at its closest point to the activity must be conducted. The Contractor shall provide monitoring equipment and service.
- c. The particle velocity of any one component of a three-component seismograph must not exceed 2.0 inches per second as recorded on the seismograph placed directly over the
- 8. Deviations and Exceptions a. When and where special circumstances dictate, deviation from these requirements must be formally approved by Buckeye in writing prior to commencement of any excavation or other construction activity that may impact the pipeline. Any such deviations must be explained and documented and provided to Buckeye for review and approval.



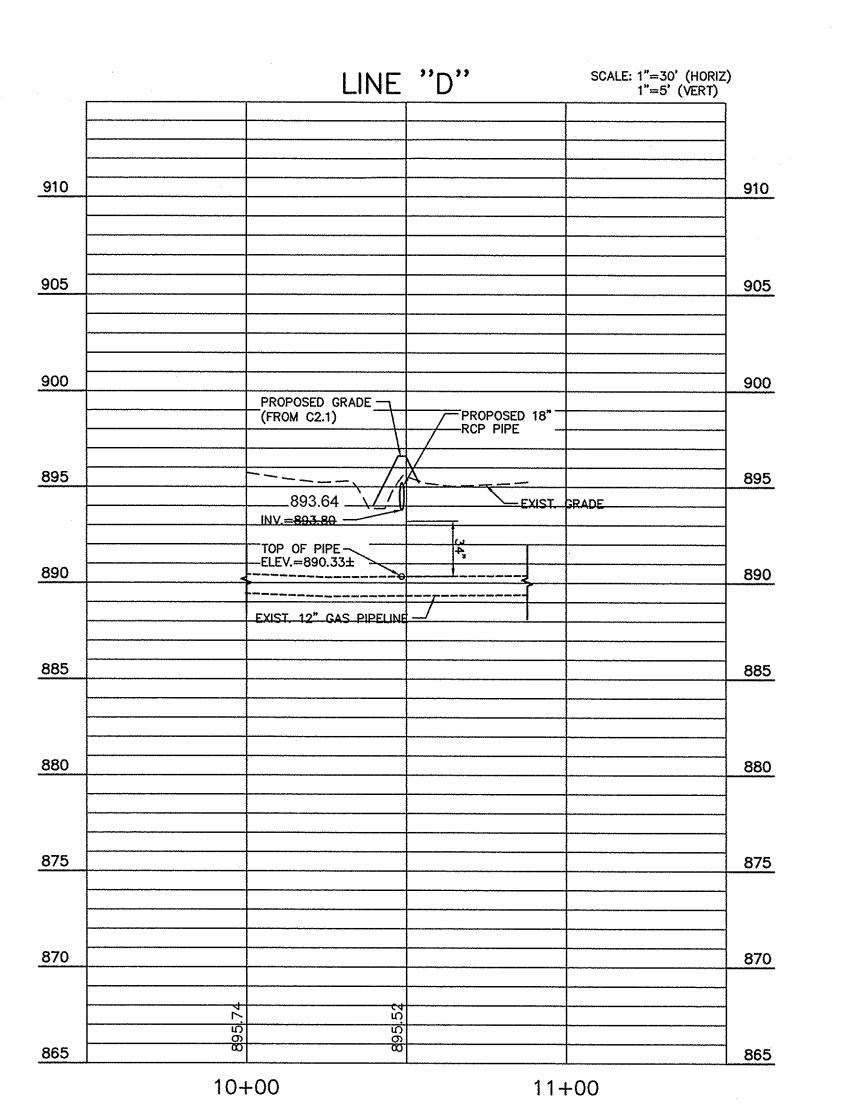


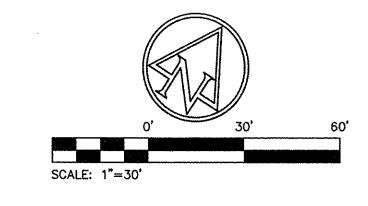
STORM SEWER AS-BUILT STATEMENT

As—Built information for storm sewer rims are based upon above ground evidence of the existing storm sewer system. The strike through data shown on the Storm Sewers are the proposed elevations for all the structures to be placed. Said information has been replaced by the as-built information per elevations collected in the field on July 2, 2015.

Registered Land Surveyor No. 20500012







### EXISTING LEGEND

AIR CONDITIONER

A BUSH

€	GROUND LIGHT	ф-	YARD LIGHT
%	SPRINKLER CONTROL VALVE	0	CLEAN OUT
<b>~~</b>	TREE	M	STUMP
**	PINE	S	SANITARY MANHOLE
Ÿ	FIRE HYDRANT	•	SPIGOT
<b>(</b>	DRAINAGE MANHOLE	₩.	SIGN
•	POST	0	STAND PIPE
<b>#</b>	INLET		CURB INLET
<b>@</b>	WATER METER	Ø	SATELLITE
හ	MAILBOX	蠶	BEEHIVE INLET

-T- TELEPHONE PEDESTAL

TRANSFORMER

### PROPOSED GRADING LEGEND

THE THE THE THE TENTE						
M.E.	MATCH EXISTING					
EP	EDGE OF PAVEMENT					
BC	BOTTOM OF CURB					
TC	TOP OF CURB					
000	CONTOURS					
***************************************	FLOW LINE					
TC 000.50 BC 000.00	CURB ELEVATIONS					

SPOT ELEVATIONS

# BENCHMARK INFORMATION

SCHNEIDER TBM #100 = 906.07' (29' DATUM) RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE CENTERLINE OF TOWNE ROAD +/- 90'

ACE TBM #70 = 895.83CHISELED "BOX" ON THE NORTHWEST CORNER TRAFFIC PEDESTAL OF THE SOUTHWEST CORNER OF 116TH STREET AND TOWNE ROAD

ACE TBM #100 = 903.92'

CHISELED "X" IN SOUTH BOLT OF A FIRE HYDRANT LOCATED ON THE SOUTHERN SIDE OF HINTOCKS CIRCLE ON THE EXTENDED CENTERLINE OF THE NORTH ENTRANCE TO BRIDLEBOURNE SUBDIVISION

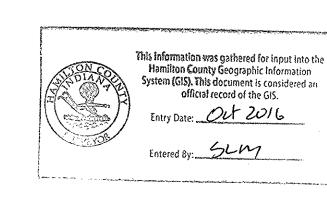
CHISELED "BOX" TOP OF CURB ON THE NORTH SIDE OF THE SOUTHERN MOST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM LOT LINE BETWEEN RESIDENCE NO. 3569 AND RES. NO. 3557

ACE TBM #102 = 902.44

CHISELED "X" ON NORTH BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF SEDGEMOOOR CIRCLE ACROSS FROM THE LINE BETWEEN RESIDENCE NO. 3535 AND RESIDENCE NO. 3515

ACE TBM #103 = 892.92' CHISELED "BOX" ON TOP OF CURB LOCATED ON THE WEST SIDE OF

SEDGEMOOR CIRCLE ACROSS FROM RESIDENCE NO. 10887



CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.

CONTRACTOR TO VERIFY LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION. CONTACT ENGINEER IF VARIATION EXISTS.

# CAUTION !!

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, inlets, valves, and marks made upon the ground by others ) AND ARE SPECULATIVE IN NATURE, THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

1-800-382-5544 CALL TOLL FREE - INDIANA UNDERGROUND -

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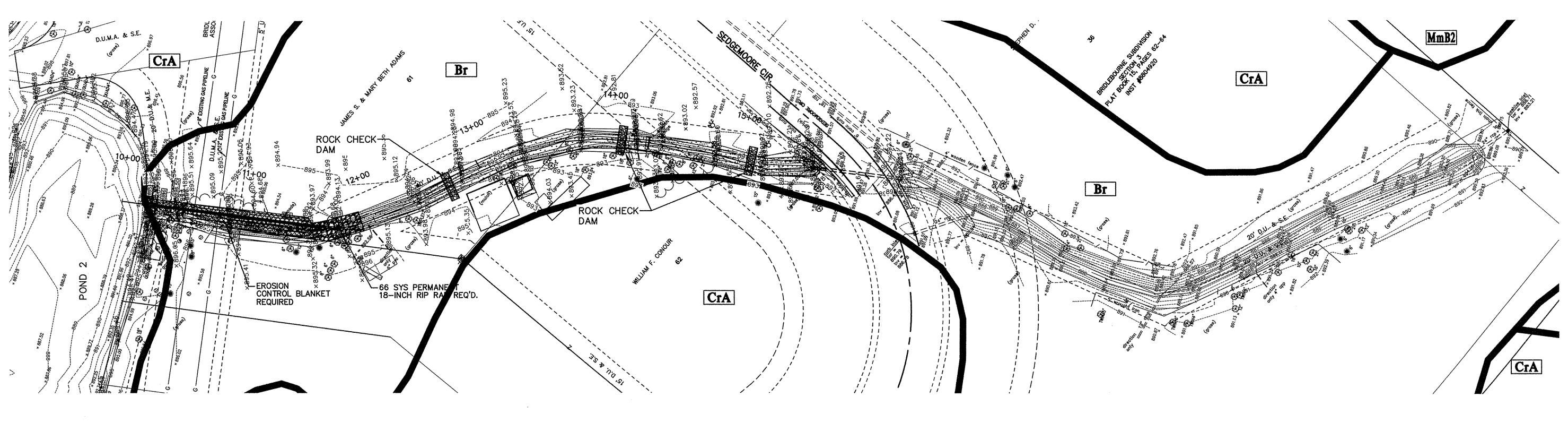
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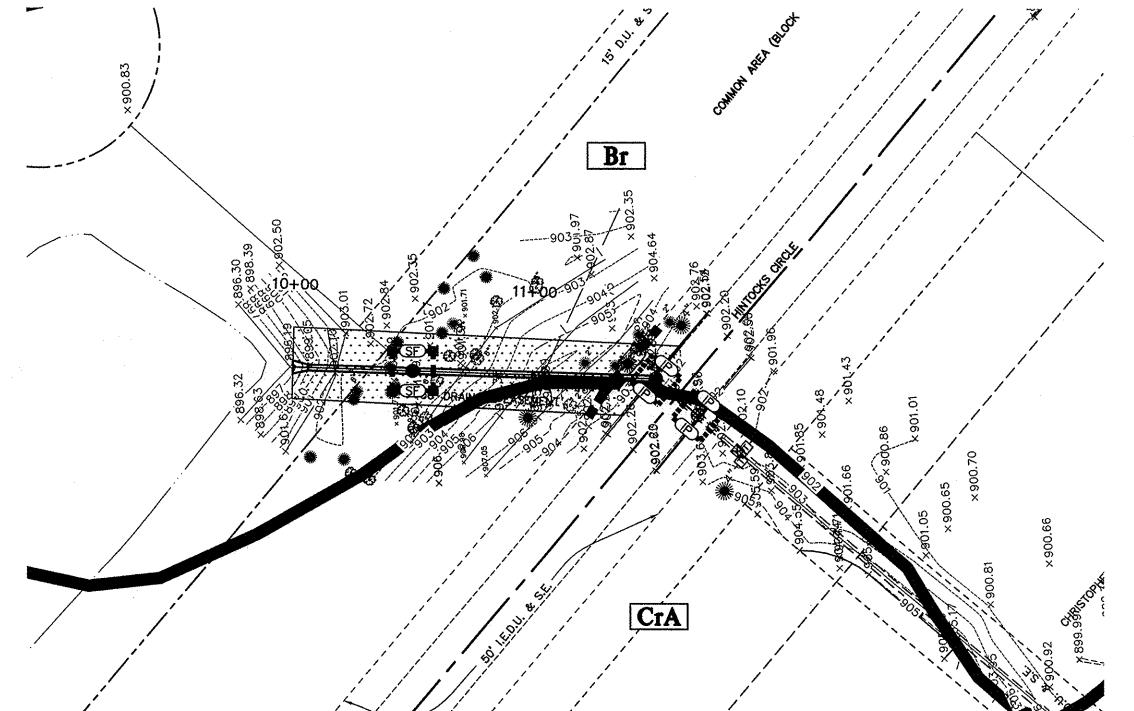
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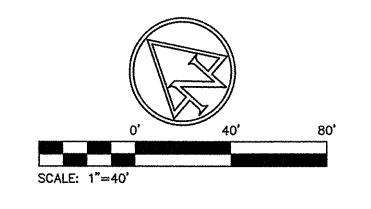
RIDLEB 106th

DATE: 07/30/12 DRAWN BY: PED CHK'D BY: BNS JOB NO. 2011.00507 REVISIONS

SHEET NO.









**EXISTING LEGEND** AIR CONDITIONER -T- TELEPHONE PEDESTAL BUSH TRANSFORMER

GROUND LIGHT SPRINKLER CONTROL VALVE PINE

FIRE HYDRANT DRAINAGE MANHOLE POST

INLET WATER METER MAILBOX

STUMP SANITARY MANHOLE SPIGOT

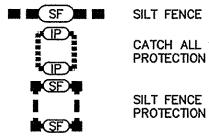
YARD LIGHT

CLEAN OUT

SIGN STAND PIPE CURB INLET SATELLITE

器 BEEHIVE INLET

PROPOSED EROSION CONTROL LEGEND



CATCH ALL INLET PROTECTION

SILT FENCE INLET PROTECTION

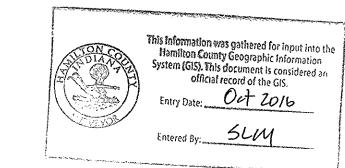
ROCK CHECK DAM

EROSION CONTROL BLANKET

PERMANENT SEEDING

SOIL TYPE

SOIL BOUNDARY LINE



# **EROSION CONTROL NOTES**

- 1. LAND ALTERATION WHICH STRIPS THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION. 2. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
- THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
- 4. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
- 5. SEDIMENT LADEN WATER SHALL BE DETAINED BY EROSION CONTROL PRACTICES AS NEEDED TO MINIMIZE SEDIMENTATION IN THE RECEIVING STREAM. NO STORM WATER SHALL BE DISCHARGED FROM THE SITE IN A MANNER THAT CAUSES EROSION AT THE POINT OF DISCHARGE.
- 6. WASTES AND UNUSED BUILDING MATERIALS SHALL NOT BE ALLOWED TO BE CARRIED FROM THE SITE BY STORM WATER RUNOFF. PROPER DISPOSAL OF ALL WASTES AND UNUSED BUILDING MATERIALS IS REQUIRED.
- 7. SEDIMENT BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS SHALL BE MINIMIZED. CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING WITH WATER. CLEARED SEDIMENT SHALL BE RETURNED TO THE SITE FOR DISPOSAL.
- 8. SOIL WHICH HAS ACCUMULATED NEXT TO EROSION CONTROL DEVICES SHALL BE BE COLLECTED AND RE-DISTRIBUTED ON SITE AFTER EACH RAINFALL EVENT, AND AT LEAST ONCE A WEEK.
- 9. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER
- 10. ALL EXISTING STRUCTURES, FENCING, TREES AND ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF SITE. BURNING IS NOT ALLOWED
- 11. THE SITE IS NOT LOCATED WITHIN ANY FLOODPLAIN, FLOODWAY OR FLOODWAY FRINGE AS INDICATED ON THE FLOODWAY INSURANCE RATE MAP COMMUNITY PANEL NUMBER 18057C0205F FOR THE COUNTY OF HAMILTON, INDIANA, DATED FEBRUARY 19, 2003.
- 12. SCHEDULE OF EARTHWORK ACTIVITIES:
- a. THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM. THE AREA SHALL BE STABILIZED AS SOON AS POSSIBLE. TEMPORARY VEGETATION OR MULCHING SHALL BE USED TO PROTECT EXPOSED AREAS IF PERMANENT VEGETATION CANNOT BE SEEDED WITHIN 14 DAYS OR ACTIVITY CEASES FOR MORE THAN 21 DAYS OR AS DIRECTED BY THE ENGINEER.
- b. TOPSOIL REPLACEMENT SHALL TAKE PLACE FROM MARCH 1 TO OCTOBER 31. STOCKPILE TOPSOIL AT ALL OTHER TIMES OF THE YEAR. PERMANENT AND FINAL VEGETATION AND STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADING OR AS SOON AS POSSIBLE.

This information was gathered for input into the Hamilton County Geographic Information

BENCHMARK INFORMATION SCHNEIDER TBM #100 = 906.07' (29' DATUM)

RR SPIKE IN EAST SIDE POWER POLE +/- 1.0' UP ON THE NORTH SIDE OF THE CENTERLINE OF GLEBE STREET +/- 100' WEST OF THE CENTERLINE OF TOWNE ROAD +/- 90' ACE TBM #70 = 895.83'

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ACE TBM #101 = 899.90' CHISELED "BOX" TOP OF CURB ON THE NORTH SIDE OF THE SOUTHERN MOST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM LOT LINE BETWEEN RESIDENCE NO. 3569 AND RES. NO. 3557

ACE TBM #102 = 902.44'

CHISELED "X" ON NORTH BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF SEDGEMOOOR CIRCLE ACROSS FROM THE LINE BETWEEN RESIDENCE NO. 3535 AND RESIDENCE NO. 3515 ACE TBM #103 = 892.92

CHISELED "BOX" ON TOP OF CURB LOCATED ON THE WEST SIDE OF SEDGEMOOR CIRCLE ACROSS FROM RESIDENCE NO. 10887

NOTES:

CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.

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> 1-800-382-5544 CALL TOLL FREE - INDIANA UNDERGROUND -

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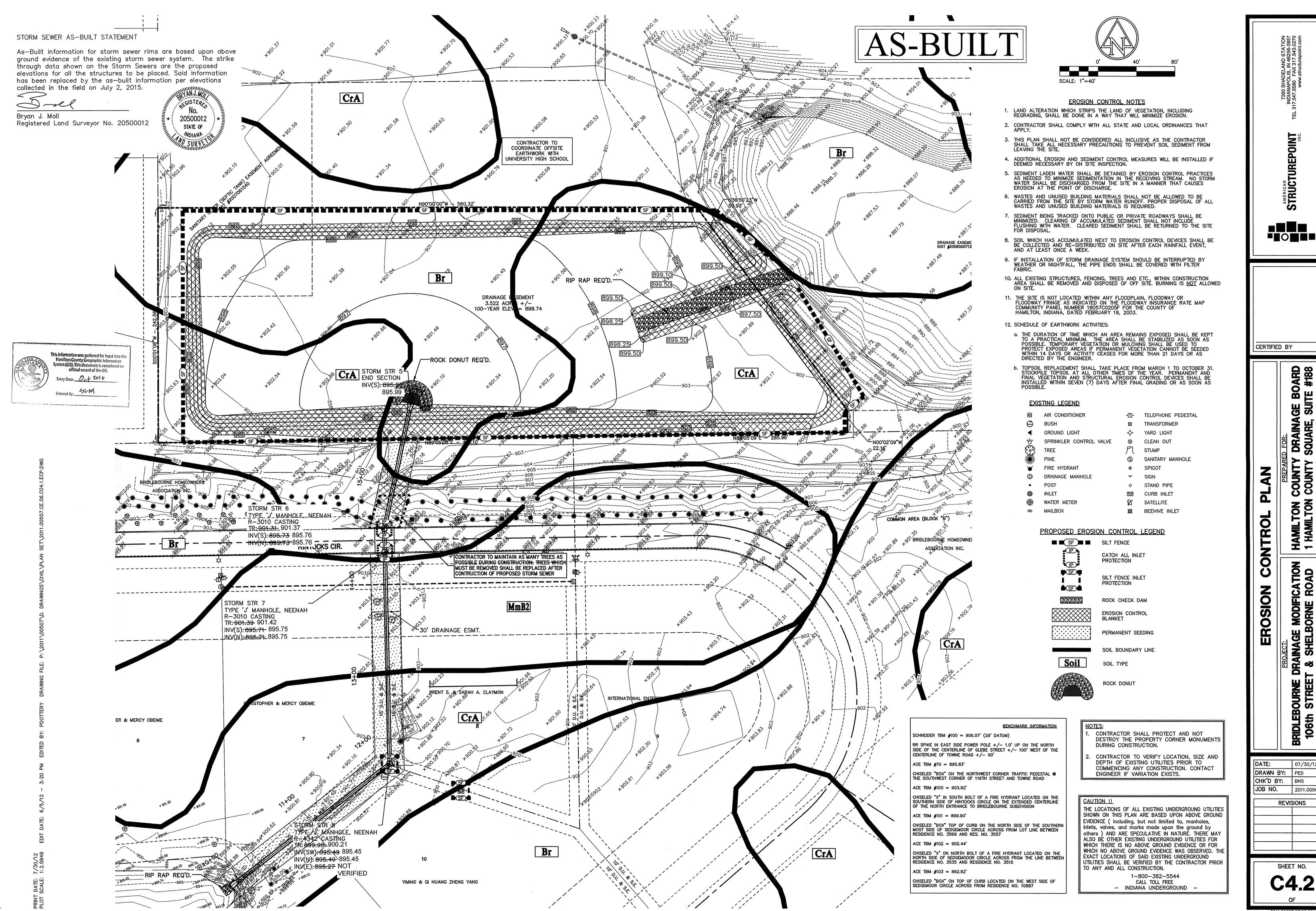
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CHK'D BY: BNS



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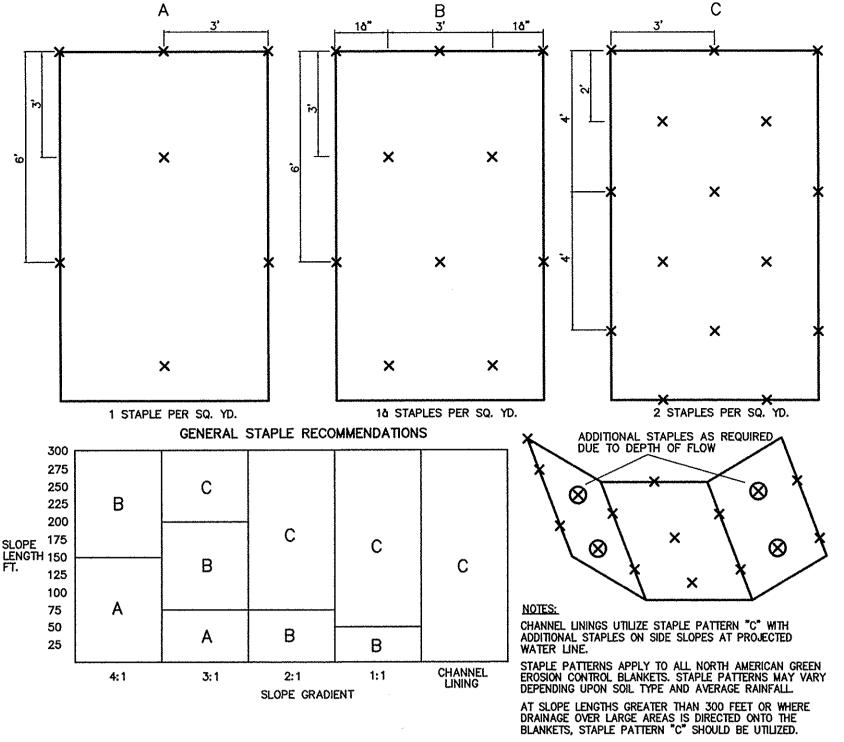
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#### **EROSION CONTROL NOTES:**

- 1. CONSTRUCTION ACTIVITY SHALL CONSIST OF UTILITIES. DRAINAGE SWALES AND DETENTION BASIN.
- 2. PRELIMINARY CONSTRUCTION SCHEDULE: EARTHWORK SHALL BEGIN IN THE FALL 2012. INSTALLATION OF STORM DRAINAGE STRUCTURES, SHALL BEGIN IN THE WINTER OF 2012. COMPLETION OF THE PROJECT IS ANTICIPATED IN 2013. THIS SCHEDULE IS SUBJECT TO CHANGE.
- 3. LAND ALTERATION WHICH STRIPS THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION.
- 4. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
- 5. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING
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- 10. SOIL WHICH HAS ACCUMULATED NEXT TO EROSION CONTROL DEVICES SHALL BE COLLECTED AND RE-DISTRIBUTED ON SITE AFTER EACH RAINFALL EVENT, AND AT LEAST ONCE A WEEK.
- 11. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- 12. EXISTING VEGETATION SHALL BE PRESERVED IN AREAS NOT DISTURBED BY CONSTRUCTION ACTIVITY.
- 13. THERE ARE NO BORROW AREAS OTHER THAN THOSE DESIGNATED.
- 14. ALL APPLICABLE EROSION CONTROL MEASURES SHALL BE PLACED BEFORE ANY LAND DISTURBING ACTIVITIES.
- 15. SCHEDULE OF EROSION CONTROL ACTIVITIES:
- a. INSTALL INLET PROTECTION AROUND INLETS IMMEDIATELY UPON COMPLETION OF THE STRUCTURE. REMOVE INLET PROTECTION FOR PAVING OPERATION. REPLACE INLET PROTECTION AFTER PAVING IS COMPLETE. INLET PROTECTION SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED ON SEEDED AREAS BEHIND THE
- b. THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM. THE AREA SHALL BE STABILIZED AS SOON AS POSSIBLE. TEMPORARY VEGETATION OR MULCHING SHALL BE USED TO PROTECT EXPOSED AREAS IF PERMANENT VEGETATION CANNOT BE SEEDED WITHIN 14 DAYS OR ACTIVITY CEASES FOR MORE THAN 21 DAYS OR AS DIRECTED BY THE ENGINEER.
- c. TOPSOIL REPLACEMENT SHALL TAKE PLACE FROM MARCH 1 TO OCTOBER 31. STOCKPILE TOPSOIL AT ALL OTHER TIMES OF THE YEAR. PERMANENT AND FINAL VEGETATION AND STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADING OR AS SOON AS POSSIBLE.
- 16. CONTRACTOR SHALL BE RESPONSIBLE FOR FILING A NOTICE OF INTENT WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
- 17. APPLY FERTILIZER AT A RATE ADEQUATE TO PROVIDE 1 LB. OF ACTUAL NITROGEN PER 1,000 SQUARE FEET. USE COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER CONSISTING OF FAST AND SLOW RELEASE NITROGEN, 50 PERCENT DERIVED FROM NATURAL ORGANIC SOURCES OF UREA-FORM, PHOSPHOROUS, AND IN FOLLOWING COMPOSITION:
- a. FERTILIZER FOR LAWNS: PROVIDE A FAST RELEASE FERTILIZER WITH A COMPOSITION OF 1 LB PER 1,000 SQ. FT. OF ACTUAL NITROGEN, 4 PERCENT PHOSPHOROUS, AND 2 PERCENT POTASSIUM BY WEIGHT.
- b. SLOW-RELEASE FERTILIZER FOR TREES AND SHRUBS: GRANULAR FERTILIZER CONSISTING OF 50 PERCENT WATER-INSOLUBLE NITROGEN, PHOSPHOROUS AND POTASSIUM MADE UP OF A COMPOSITION BY WEIGHT OF 5
- 5 18. ADD LIME TO TOPSOIL TO OBTAIN A pH RANGE OF 6.0 TO 7.0. LIME SHALL BE ASTM C 602, CLASS T, AGRICULTURAL LIMESTONE CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT, WITH A MINIMUM 99 PERCENT PASSING A NO. 8 (2.36 mm) SIEVE AND A MINIMUM 75 PERCENT PASSING A NO. 50 (250 MICROMETER) SIEVE.
- 19. CONSTRUCTION TRAFFIC SHALL ENTER THE SITE AT DRIVES WHICH ARE CURRENTLY
- 20. CONTRACTOR TO SEED ALL DISTURBED AREAS. FINISH GRADE TO BE SEED AND

PROVIDE CROSS BRACING — WHEN NECESSARY

21. CONTRACTOR SHALL MONITOR TRUCK WASHING AND SEDIMENT TRACKING ONTO STREETS. STREET CLEANING WILL BE REQUIRED BY OWNER, TOWN OF FISHERS OR THE HAMILTON COUNTY SOIL AND WATER CONSERVATION DISTRICT IF ROADWAYS HAVE SOIL FROM THE SITE TRACKED ONTO THEM.



### EROSION CONTROL MAT INSTALLATION GUIDE DETAIL

## EROSION CONTROL BLANKET (SURFACE APPLIED) INSTALLATION REQUIREMENTS

- 1. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g., SLOPE, CHANNEL
- FLOW VELOCITY). 2. INSTALL ANY PRACTICES NEEDED TO CONTROL EROSION AND RUNOFF, SUCH AS TEMPORARY OR PERMANENT DIVERSION, SEDIMENT BASIN OR TRAP, SILT FENCE.
- 3. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.
- 4. ADD TOPSOIL WHERE APPROPRIATE. 5. PREPARE THE SEEDBED, FERTILIZE (AND LIME, IF NEEDED), AND SEED THE AREA IMMEDIATELY AFTER GRADING
- 6. FOLLOWING MANUFACTURER'S DIRECTIONS, LAY THE BLANKETS ON THE SEEDED AREA SUCH THAT THEY ARE IN CONTINUOUS CONTACT WITH THE SOIL AND THAT THE UPSLOPE OR UPSTREAM ONES OVERLAP THE LOWER ONES BY AT LEAST 8 in.
- 7. TUCK THE UPPERMOST EDGE OF THE UPPER BLANKETS INTO A CHECK SLOT (SILT TRENCH), BACKFILL WITH SOIL, AND TAMP DOWN. 8. ANCHOR THE BLANKETS AS SPECIFIED BY THE MANUFACTURER. THIS TYPICALLY INVOLVES DRIVING 6-8 in. METAL STAPLES INTO THE GROUND IN A PATTERN DETERMINED BY THE SITE CONDITIONS.

#### EROSION CONTROL BLANKET (SURFACE APPLIED) MAINTENANCE REQUIREMENTS

3. AFTER VEGETATIVE ESTABLISHMENT CHECK THE TREATED AREA PERIODICALLY.

- 1. DURING VEGETATIVE ESTABLISHMENT INSPECT AFTER STORM EVENTS FOR ANY EROSION BELOW THE BLANKET.
- 2. IF ANY AREA SHOWS EROSION PULL BACK THAT PORTION OF THE BLANKET COVERING IT, ADD SOIL, RE-SEED THE AREA, AND RE-LAY AND STAPLE THE BLANKET.

SEASONAL SOIL PROTECTION CHART												
STABILIZATION PRACTICE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ост.	NOV.	DEC.
PERMANENT SEEDING		A			-* ///	////\	////*/>	*	/1/-			
,	1	1 1	, 1	'	1 '	( '	1 '	1 '	1	1 - '	1 '	

- A = KENTUCKY BLUEGRASS 100 LBS./ACRE; CREEPING RED FESCUE 100 LBS./ACRE; HYDROSEEDED
- C = SPRING OATS 3 BUSHELS/ACRE
- D = WHEAT OR RYE 2 BUSHELS/ACRE

KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND

THE ABUTMENTS A MINIMUM OF 18" (0.5m) TO PREVENT FLOW AROUND DAM.

-WOOD, METAL, OR

SYNTHETIC FRAME

3' MAX.

BURIED GEOTEXTILE—FABRIC. 4oz. MIN.

TRENCH DETAIL

COMPACTED FILL

FRAME DETAIL

E = ANNUAL RYE GRASS 40 LBS./ACRE ( 1 LB/1000 SQ. FT. ) \*/I/\* = IRRIGATION NEEDED DURING JUNE, JULY, AUGUST AND/OR SEPTEMBER

VIEW LOOKING UPSTREAM

— 8' (2.4m)

'L' = THE DISTANCE SUCH THAT POINTS 'A' AND 'B' ARE OF EQUAL ELEVATION.

SPACING BETWEEN CHECK DAMS

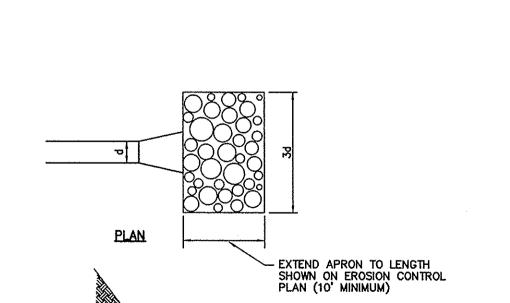
**ROCK CHECK DAM** 

NOT TO SCALE

SECTION A - A

# DORMANT SEEDING TEMPORARY SEEDING

B = KENTUCKY BLUEGRASS 120 LBS./ACRE: CREEPING RED FESCUE 120 LBS./ACRE: HYDROSEEDED





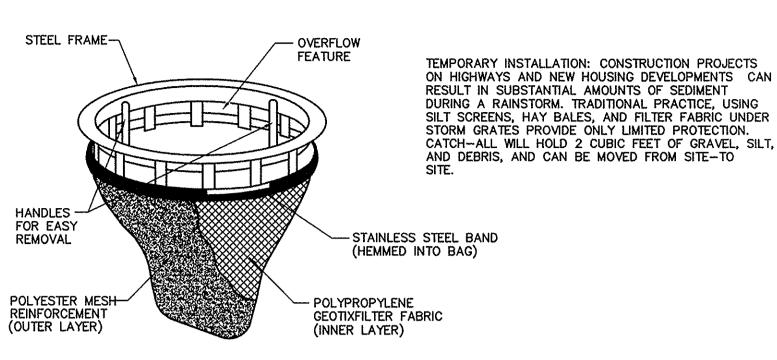
3. MAKE SURE THE TOP OF THE RIPRAP APRON IS LEVEL WITH OR SLIGHTLY BELOW THE RECEIVING STREAM. (RIPRAP SHOULD NOT RESTRICT THE CHANNEL OR PRODUCE AN OVERFALL).

1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING, AND EROSION AT EDGES, ESPECIALLY DOWNSTREAM OR DOWNSLOPE.

# CATCH -ALL

# STORMWATER INLET PROTECTOR

THE CATCH-ALL IS AN INLET AND CATCH BASIN FILTRATION DEVICE DEVELOPED TO PREVENT SEDIMENTATION. CATCH-ALLS ARE AVAILABLE TO FIT VIRTUALLY ANY DRAINAGE STRUCTURE CASTING, AND COULD REPRESENT A BEST MANAGEMENT PRACTICE FOR YOUR EPA PHASE 2 PROGRAM.



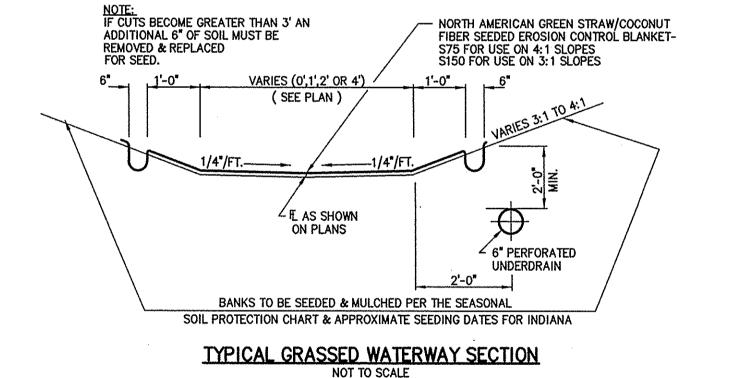
CATCH-ALL HAS BEEN APPROVED FOR USE ON MANY MOT ROAD CONSTRUCTION PROJECTS.

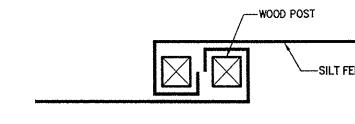
#### PERMANENT INSTALLATION:

COMMERCIAL AND INDUSTRIAL SITES WITH IMPERVIOUS SURFACES, SUCH AS ROADS AND PARKING LOTS, PRODUCE STORMWATER RUN-OFF THAT MAY INCLUDE PAPER REFUSE, CIGARETTES, SEDIMENT, AND EVEN SOME FLOATING OILS. THESE CONTAMINANTS CAN QUICKLY ADD UP TO A SIGNIFICANT AMOUNT IN CATCH BASINS OR MUNICIPAL SYSTEMS. WITHOUT PROPER TREATMENT, STORMWATER LADEN WITH SUCH MATERIALS CAN POLLUTE STREAMS, LAKES, AND NEAR-SHORE WATERS. THE UNIQUE DESIGN OF THE REUSABLE STEEL FRAME OF CATCH-ALL PROVIDES AN OVERFLOW CAPACITY GREATER THAN THE OPEN AREA OF THE GRATE IT FITS UNDER. THIS MEANS LITTLE CHANCE FOR WATER TO BACK UP OR POOL, EVEN BETWEEN SCHEDULED CLEANINGS. THE DURABLE, REINFORCED SEDIMENT BAG CAN BE CLEANED NUMEROUS TIMES AND IS EASILY REPLACED IN THE FIELD. THE ENTIRE UNIT IS INSTALLED BELOW GRADE AND NO REBAR, CLIPS, OR STRAPS ARE EXPOSED ON THE SURFACE. WITH A TOP FLANGE LESS THAN 1/8" THICK, THE ADDITIONAL HEIGHT EXPOSURE OF THE GRATE IS MINIMAL. CATCH-ALL CAN BE AN IMPORTANT SUPPLEMENT FOR CATCH BASINS AND UNDERGROUND STORMWATER STORAGE SYSTEMS THAT ARE USUALLY DIFFICULT TO ACCESS FOR CLEANING. CATCH-ALLS ARE AVAILABLE TO FIT VIRTUALLY ANY DRAINAGE STRUCTURE CASTING.

# D2 LAND & WATER RESOURCE INC

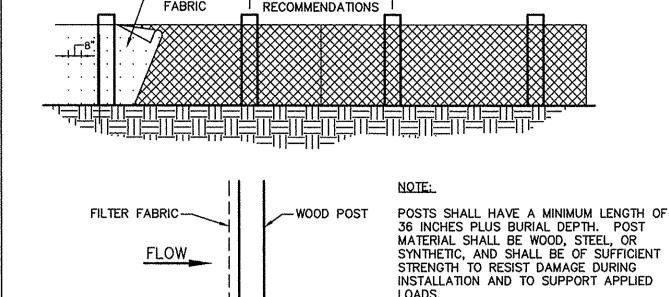
P.O. BOX 20792 INDIANAPOLIS, IN 46220 PHONE (317) 917-2180 FAX (317) 917-2181 TOLL FREE (800) 597-2180 www.d2lwr.com





SPACE POSTS PER MANUFACTURER

GEOTEXTILE



FABRIC SHALL BE A NEEDLE PUNCHED NON-WOVEN GEOTEXTILE FABRIC CONSISTING OF STRONG, ROT RESISTANT, MATERIALS RESISTANT TO DETERIORATION FROM ULTRAVIOLET AND HEAT EXPOSURE.

MINIMUM 8" FABRIC BURY REQUIRED.

# SILT FENCE CONSTRUCTION

### SITE PREPARATION:

EXTEND FABRIC

TO 8" BELOW

SURFACE

1. PLAN FOR THE FENCE TO BE AT LEAST 10 ft. FROM THE TOE OF THE SLOPE TO PROVIDE A SEDIMENT STORAGE AREA.

2. PROVIDE ACCESS TO THE AREA IF SEDIMENT CLEANOUT WILL BE NEEDED.

#### OUTLET CONSTRUCTION (OPTIONAL):

SILT FENCE INSTALLATION REQUIREMENTS

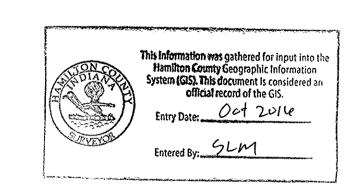
- DETERMINE THE APPROPRIATE LOCATION FOR A REINFORCED, STABILIZED BYPASS FLOW OUTLET (UNLESS THE FENCE IS DESIGNED TO RETAIN ALL RUNOFF FROM A 2 YEAR FREQUENCY, 24 HR DURATION STORM EVENT)
- 2. SET THE OUTLET ELEVATION SO THAT WATER DEPTH CANNOT EXCEED 12 ft. AT THE LOWEST POINT ALONG THE FENCE LINE.
- 3. LOCATE THE OUTLET WEIR SUPPORT POSTS NO MORE THAN 4 ft. APART, AND INSTALL A
- HORIZONTAL BRACE BETWEEN THEM. (WEIR HEIGHT SHOULD BE NO MORE THAN 1 ft. DEEP, 5 ft. WIDE, AND 3 ft. LONG ON LEVEL GRADE.
- 4. EXCAVATE THE FOUNDATION FOR THE OUTLET SPLASH PAD TO MINIMUMS OF 1 ft. AND WATER DEPTH NO MORE THAN 11 ft. ANYWHERE ELSE ALONG THE FENCE.)
- FILL THE EXCAVATED FOUNDATION WITH INDOT CA NO. 1 STONE, BEING CAREFUL THAT THE FINISHED SURFACE BLENDS WITH THE SURROUNDING AREA, ALLOWING NO OVERFILL. 6. STABILIZE THE AREA AROUND THE PAD.

### FENCE CONSTRUCTION:

- 1. ALONG THE ENTIRE INTENDED FENCE LINE, DIG AN 8 in, DEEP FLAT-BOTTOMED OR V-SHAPED TRENCH.
- 2. ON THE DOWNSIDE SLOPE OF THE TRENCH, DRIVE THE WOOD OR STEEL SUPPORT POSTS AT LEAST 1 ft. INTO THE GROUND (THE DEEPER THE BETTER!), SPACING THEM NO MORE THAN 8 ft. APART IF THE FENCE IS SUPPORTED BY WIRE OR 6 ft. IF EXTRA-STRENGTH FABRIC IS USED WITHOUT SUPPORT WIRE. ADJUST SPACING, IF NECESSARY, TO ENSURE THAT POSTS ARE SET AT THE LOW POINTS ALONG THE FENCE LINE. (NOTE: IF THE FENCE HAS PRE-ATTACHED POSTS OR STAKES, DRIVE THEM DEEP ENOUGH SO THE FABRIC IS
- SATISFACTORILY IN THE TRENCH AS DESCRIBED IN STEP 6). 3. FASTEN SUPPORT WIRE FENCE (IF THE MANUFACTURER RECOMMENDS ITS USE) TO THE
- UPSLOPE SIDE OF THE POSTS, EXTENDING IT 8 in. INTO THE TRENCH. 4. RUN A CONTINUOUS LENGTH OF GEOTEXTILE FABRIC IN FRONT (UPSLOPE) OF THE SUPPORT WIRE AND POSTS, AVOIDING JOINTS, PARTICULARLY AT LOW POINTS IN THE
- 5. IF A JOINT IS NECESSARY, NAIL THE OVERLAP TO THE NEAREST POST WITH LATH.
- 6. PLACE THE BOTTOM 1 ft. OF FABRIC IN THE 8 in. DEEP TRENCH, EXTENDING THE REMAINING 4 in. TOWARD THE UPSLOPE SIDE.
- 7. BACKFILL THE TRENCH WITH COMPACTED EARTH OR GRAVEL.
  - NOTE: IF USING A PRE-PACKED COMMERCIAL SILT FENCE RATHER THAN CONSTRUCTING ONE, FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

# SILT FENCE MAINTENANCE REQUIREMENTS:

- INSPECT THE SILT FENCE PERIODICALLY AND AFTER EACH STORM EVENT. 2. IF FABRIC TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE.
- REPLACE THE AFFECTED PORTION IMMEDIATELY. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE AT ITS
- LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEAN OUT.
- 5. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED REMOVE THE FENCE AND SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.



STRUCTURE 

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RIDLEE 106th 07/30/12 DRAWN BY: PED CHK'D BY: BNS JOB NO. 2011.00507 REVISIONS

SHEET NO.

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SECTION A-A SILT FENCE INLET FILTER NOT TO SCALE

BURIED GEOTEXTILE FABRIC. 4oz. MIN.

BURIED GEOTEXTILE-FABRIC. 4oz. MIN.

NO OVERFALL - FILTER FABRIC STORM PIPE-SECTION

1. FOUNDATION SHALL BE GEOTEXTILE FABRIC FOR STABILIZATION AND WELL-GRADED FILTRATION OR GRAVEL FILTER LAYER AT LEAST 6 IN. THICK STONE SHALL BE HARD, ANGULAR, AND HIGHLY WEATHER-RESISTANT RIPRAP STONE AT A THICKNESS OF 12 IN. MINIMUM OR TWO TIMES THE STONE DIAMETER, WHICHEVER IS GREATER.

4. REFER TO SHEET C4.9 FOR DETAIL OF BANK ARMORMENT AT OUTLET TO LEGAL DRAIN. RIPRAP MAINTENANCE REQUIREMENTS

OUTLET PROTECTION DETAIL

A11 IDENTIFICATION OF ALL RECEIVING WATERS South: Residential engineered material.

The area scheduled for construction is known as "Bridlebourne" (hereinafter referred to as the "Project"). The property is located north and of 106th street and east of Shelborne Rd. in Carmel, Indiana, at latitude of 39°56'54" N and a longitude of 86°13'07" W. OWNER'S INFORMATION Name: Hamilton County Drainage Board Address: 1 Hamilton County Square, Suite #188 Representative: Telephone: (317) 776-8495 Facsimile: (317) 776-9628 OPERATOR'S INFORMATION Address: Representative Telephone: NOTICE OF INTENT All parties defined as owners or operators must submit a Notice of Intent (NOI) at least 48 hours prior to commencement of on-site construction activities. Submittal of late NOI's is not prohibited; however, authorization under the construction general permit is only for discharges that occur after permit coverage is granted. Unpermitted discharges may be subject to enforcement actions by the EPA. For the purposes of this permit, an operator is defined as any party meeting either of the following requirements: a) The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications. b) The party has day—to—day operational control of those activities at a project that are necessary to ensure compliance with a stormwater pollution prevention plan for the site or A2 11" x 17" PLAT Enclosed in Soil and Water Conservation District submittal. A3 PROJECT NARRATIVE The project consists of the maintenance of a county legal drain. Construction will consist of but not limited to: rough grading, storm sewer installation, paving, and landscaping. The proposed drainage for the site will discharge into the existing storm sewer and ponds. No additional impervious area is generated by this project. A4 VICINITY MAP See sheet CO.1 for vicinity map.

This propject is located at 39'56'54"N latitude and 86°13′17″W longitude. A6 LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS

The site will not be subdivided; therefore, there are no individual lots on the property. The overall site plan, Sheet C1.1, shows the areas of the proposed improvements. A7 HYDROLOGIC UNIT CODE (HUC)

05120201090060 The name of this HUC is Williams Creek

A8 STATE AND FEDERAL WATER QUALITY PERMITS

None are required for this project.

A5 LEGAL DESCRIPTION OF PROJECT SITE

A9 SPECIFIC POINT WHERE STORMWATER DISCHARGE WILL LEAVE THE SITE

Stormwater runoff from this project will discharge to the southeast as it does currently up to the 10-year storm event. In larger storm events, a portion of this runoff will discharge to the northeast through the University High School property.

A10 LOCATION AND NAME OF ALL WETLANDS, LAKES, AND WATERCOURSES ON AND ADJACENT TO

No wetlands, or watercourses have been identified on the site or downstream of the project that may be impacted by stormwater discharges as a result of the proposed construction activities. The existing lakes will have their outlets modified as a part of the maintenance.

Williams Creek is the receiving water for the project area.

A12 IDENTIFICATION OF ALL POTENTIAL DISCHARGES TO GROUND WATER

There are no locations on site where surface water may be discharged into ground water.

A13 100-YEAR FLOODPLAINS, FLOODWAYS, AND FLOODWAY FRINGES

The site does not lie within any floodplain, floodway, or floodway fringe. The information was obtained from Flood Insurance Rate Map Panel 18057C0205F for Hamilton County, Indiana dated February 19, 2003.

A14 PRE-CONSTRUCTION AND POST-CONSTRUCTION ESTIMATE OF PEAK DISCHARGE

Pre-construction 10-year discharge: ±31cfs Post-construction 10-year discharge: ±30cfs

A15 ADJACENT LAND USE

Upstream watershed: Currently agricultural and Residental

North: Agricultural, and Residentia East: Agricultural, and Residential

A16 LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS

The project site is noted on the overall siteplan, only a small portion will be disturbed by construction activities. Refer to plan sheet C1.1 for the construction limits.

A17 IDENTIFICATION OF EXISTING VEGETATIVE COVER

At this time, grass cover exists.

A18 SOILS MAP INCLUDING SOIL DESCRIPTIONS AND LIMITATIONS

Soil information from the Hamilton County Soil Survey is on sheet C5.1 and C5.2. This site has Brookston Silty Clay Loam, Miami and Crosby.

The suitability of the soils for small commercial buildings is listed in Table 8 as moderate to severe because of wetness, low strength and shrink-swell. The on-site soil will be treated as recommended by the geotechnical engineer if the conditions are unsuitable for the pavement system. Remedial treatments may include, but are not limited to, removal of unsuitable soil and backfilling with engineered material, installation of a geofabric within or under the pavement system, or treatment of the subgrade with lime.

The limitation of the soils for building foundations is listed in Table 8 as moderate. The foundations of the building will be designed by the structural engineer to accommodate  $\cdot$  the actual bearing capacity of the soil. The on-site soil will be treated as recommended by the geotechnical engineer if the conditions are unsuitable for the foundation system. Remedial treatment may include, but is not limited to, removal of the suitable soil and backfilling with

Other suitability or limitations of the soil for the other classifications of use listed in the table are not applicable to this project.

A19 LOCATIONS, SIZE, AND DIMENSIONS OF PROPOSED STORMWATER SYSTEMS

Locations of stormwater systems: Sheets C3.1 thru C3.4 Size of storm sewers: C3.1 thru C3.4 Details of storm inlets and manholes: C7.1

A20 PLANS FOR ANY OFF-SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT

No off-site construction is expected with this site.

A21 LOCATIONS OF PROPOSED SOIL STOCKPILES AND/OR BORROW/DISPOSAL AREAS

Soil stockpiles, borrow areas and disposal areas are not permitted.

A22 EXISTING SITE TOPOGRAPHY

Refer to Sheets C2.1 thru C2.3

A23 PROPOSED FINAL SITE TOPOGRAPHY Refer to Sheets C3.1 thru C3.4

B1 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION

The following potential pollutant sources may be associated with construction activities on site:

 Material storage areas (more specifically described below) 2. Construction waste material 5. Fuel storage areas and fueling stations

4. Exposed soils 5. Leaking vehicles and equipment

. Sanitary waste from temporary toilet facilities 7. Litter 8. Windblown dust

9. Soil tracking off site from construction equipment The following construction materials will be staged or stored on site at various points during development of the site. . Structural fill

2. Concrete and pvc drainage pipe 3. Precast concrete manholes/inlets

B2 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND-

 Install silt fence and perimeter controls Protect existing inlets in road.

3. Begin earthwork operations 4. Install erosion control blanket and rock check dams as needed

5. Install staging areas . Begin demolition, excavating, backfilling, and grading activities

Temporary seed disturbed areas if to be undisturbed for more than 15 days . Permanent seed any disturbed areas that are at final grade and will remain undisturbed 9. Begin trenching and installation of storm sewers

10. Install remaining inlet protection measures 11. Complete pavement repair as soon as storm installation is complete.

12. Final grade, seed, install landscaping, and remove sediment control measures as soon as seed is established.

B3 STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS

The existing streets will provide stable construction access.

**B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS** 

Sheet flow areas will be protected by seed and mulch or hydroseeding and riprap. Erosion control blankets will be installed on sloped areas where the slope exceeds 6:1 (horizontal to vertical).

Silt fences will be installed at the toe of slopes where sediment may be washed from the site. Refer to Sheet C5.1 for details.

B5 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS

Concentrated flow area lengths have been kept to at pratice minimum to reduce velocity. Rock check dams aill also be installed.

Straw bales will not be allowed as concentrated flow protection measures.

B6 STORM SEWER INLET PROTECTION MEASURE LOCATIONS AND SPECIFICATIONS

The contractor has the option to use one of several storm sewer inlet protection methods, depending on the inlet location and the stage of construction. Refer to Sheet C4.1 for location and C5.1 for details. Manufactured products such as Dandy Bag or Catch—All products may also be used at the contractor's discretion.

Straw bales will not be allowed as inlet protection measures.

B7 RUNOFF CONTROL MEASURES

Refer to Sheet C4.1. silt fence will be used to control runoff in concentrated

B8 STORMWATER OUTLET PROTECTION SPECIFICATIONS

Stormwater from the site will be directed through the existing sewers and conveyed to the existing detention ponds. Refer to Sheet C4.1

B9 GRADE STABILIZATION STRUCTURE LOCATIONS AND SPECIFICATIONS

Erosion control blankets will be utilized as grade-stabilization structures. Refer to sheet C4.1

B10 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE

Stormwater will discharge to existing detention ponds. The detention ponds will provide a sediment removal function in addition to the primary function of controlling peak discharges from the site.

B11 TEMPORARY SURFACE STABILIZATION METHODS APPROPRIATE FOR EACH SEASON

Refer to Sheet C4.1, within the Seasonal Soil Protection Chart.

**B12 PERMANENT SURFACE STABILIZATION SPECIFICATIONS** 

A. Loosen lawn area to a minimum depth of 6 inches. Mix soil amendments and fertilizers with topsoil rates specified. Organic soil amendments such as peat, compost or manure shall be applied at 2" depth evenly over soil and incorporated into the top 6" of topsoil. Provide fertilizer with percentage of nitrogen required to provide not less than 1 pound of actual nitrogen per 1,000 sq. ft. of lawn area and not less than 4 percent phosphoric acid and 2 percent potassium. At least 50 percent of nitrogen to be organic form. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.

Provide a fast release fertilizer with a composition of 1 lb. per 1,000 sq-ft. of actual nitrogen and 2 percent potassium by weight.

C. Slow-release fertilizer for trees and shrubs; granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus and potassium made up of a composition by weight of 5 percent.

D. Grade lawn and grass areas to a smooth, even surface with loose, uniformly fine texture. Limit fine grading to areas that can be planted within immediate future. Remove trash, debris, stones larger than 1 inch diameter, and other objects that may interfere with planting or maintenance operations.

E. Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each

F. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with a fine spray.

G. Install erosion control blankets as indicated on the plan.

H. Protect seeded areas against erosion by spreading clean, seed-free straw mulch after completion of seeding operations. Spread uniformly to form a continuous blanket not less than 1-1/2 inches loose

I. Water newly planted lawn areas and keep moist until new grass is established. Immediately repair any lawn areas disturbed by construction activities including tree and shrub installation.

J. Refer to Sheet C5.1, within the Seasonal Soil Protection Chart for timing of temporary and permanent seeding and grass seed specifications.

B13 MATERIAL HANDLING AND SPILL PREVENTION PLAN

Carmel Fire Department - (317)571-2600 IDEM 24 Hr. Emergency spill response - 1-888-233-7745 No solid material, including building materials, is permitted to be discharged to surface waters or buried on site. All solid waste materials, including disposable materials incidental to the construction activity, must be collected in containers or closed dumpsters. The collection

**Hazardous Waste** 

containers must be emptied periodically and the collected material hauled to a landfill permitted by the State and/or appropriate local municipality to accept the waste for disposal. A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper solid waste procedures.

Whenever possible, minimize the use of hazardous materials and generation of hazardous wastes. All hazardous waste materials will be disposed in the manner specified by federal, state, or local

Use containment berms in fueling and maintenance areas and where potential for spills is high.

A foreman or supervisor should be designated in writing to oversee, enforce and instruct construction workers on proper hazardous waste procedures. The location of any hazardous waste storage areas should be indicated on the stormwater pollution prevention plan by the operator following on-site location of the facility.

Dust Control/Off-Site Vehicle Tracking

During construction, water trucks should be used, as needed, by each contractor or subcontractor to reduce dust. After construction, the site should be stabilized to reduce dust.

Construction traffic should enter and exit the site at a Construction Entrance with a rock pad or equivalent device. The purpose of the rock pad is to minimize the amount of soil and mud that is tracked onto existing streets. If sediment escapes the construction site, off—site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts.

Sanitary/Septic

Contractors and subcontractors must comply with all state and local sanitary sewer, portable toilet, or septic system regulations. Sanitary facilities shall be provided at the site by each contractor or subcontractor throughout construction activities. The sanitary facilities should be utilized by all construction personnel and be serviced regularly. All expenses associated with providing sanitary facilities are the responsibility of the contractors and subcontractors. The ocation of any sanitary facilities should be indicated on the stormwater pollution prevention plan by the operator following on—site location of said facilities.

Water used to establish and maintain grass, to control dust, and for other construction purposes must originate from a public water supply or private well approved by the State or local health

Equipment Fueling and Storage Areas

Equipment fueling, maintenance, and cleaning should only be completed in protected areas (i.e., bermed area). Leaking equipment and maintenance fluids will be collected and not allowed to discharge onto soil where they may be washed away during a rain event.

Equipment wash down (except for wheel washes) should take place within an area surrounded by a berm. The use of detergents is prohibited.

Hazardous Material Storage

Chemicals, paints, solvents, fertilizers, and other toxic or hazardous materials should be stored in their original containers (if original container is not resealable, store the products in clearly labeled, waterproof containers). Except during application, the containers should be kept in trucks or in bermed areas within covered storage facilities. Runoff containing such materials shall be collected, removed from the site, and disposed of in accordance with the federal, state, and local

As may be required by federal, state, or local regulations, the Contractor should have a Hazardous Materials Management Plan and/or Hazardous Materials Spill and Prevention Program is place. A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper hazardous materials storage and handling procedures. The location of any hazardous material storage areas should be indicated on the stormwater pollution prevention plan by the operator following on-site location of the storage areas.

B14 MONITORING AND MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE

Inspection Schedule/Reporting

All impacted areas, as well as all erosion and sediment control devices, will be inspected every seven (7) calendar days and within 24 hours after a rainfall of 0.5 inch or greater. Where sites have been final or temporarily stabilized or on sites where runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or frozen ground exists), such inspections shall be conducted at least once every month.

Inspections shall be conducted and a written report prepared, by a designated and qualified person familiar with the USEPA NPDES Storm Water General Permit, this SWPPP, and the Project.

Inspection reports shall be completed including scope of the inspection, name(s) and qualifications of personnel making the inspection, the date of the inspection, observations relating to the implementation of the SWPPP, and any actions taken as a result of incidents of noncompliance noted during the inspection. The inspection report should state whether the site was in compliance or identify any incidents of noncompliance. The contractor shall keep a copy of the inspection reports on site and permanently for a period of two years following construction. The on-site reports may be requested by inspections conducted by the City of Noblesville.

Construction Entrance

Locations where vehicles exit the site shall be inspected for evidence of off-site sediment tracking. Each contractor and subcontractor shall be responsible for maintaining the Construction Entrance and other controls as described in this SWPPP.

Material Storage Inspections

nspectors must evaluate areas used for storage of materials that are exposed to precipitation. The purpose is to ensure that materials are protected and/or impounded so that pollutants cannot discharge from storage areas. Off—site material storage areas used solely by the subjections. project are considered to be part of the project and must be included in the erosion control plans and the site inspection reports.

Soil Stabilization Inspections

Seeded areas will be inspected to confirm that a healthy stand of vegetation is maintained. The site has achieved final stabilization once all areas are covered with pavement or have a stand of vegetation with at least 70% of the background vegetation density. The density of 70% or greater must be maintained to be considered as stabilized. The operator or their representative will water, fertilize, and reseed disturbed areas as needed to achieve this goal.

Erosion and Sediment Control Inspections

All controls should be inspected at least once every seven (7) calendar days and following any storm event of 0.5 inch or greater. The following is a list of inspection/maintenance practices that will be used for specific controls:

Geotextiles/Erosion Control Mats: Missing or loose matting must be replaced or re-anchored. 2. Inlet Protection: Sediment should be removed when it reaches approximately one—half the height of the fence. If a sump is used, sediment should be removed when the volume of the

basin is reduced by 30 3. Mulching: Inspect for thin or bare spots caused by natural decomposition or weather—related events. Mulch in high traffic area should be replaced on a regular basis to maintain uniform

4. Sediment Trap: Accumulated silt shall be removed and the basin shall be regraded to its original dimensions at such point that the capacity of the impoundment has been reduced to one—half of its original storage capacity. The removed sediment shall be stockpiled or redistributed in areas that are protected from erosion. 5. Silt Fence: Removal of built—up sediment will occur when the sediment reaches one—third the

height of the fence.

Stabilized Construction Entrance: Periodic regarding and top dressing with additional stones.

Vegetation: Protect newly seeded areas from excessive runoff and traffic until vegetation is established. Establish a watering and fertilizing schedule.

8. Good Housekeeping: Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges through screening of outfalls and daily pickup of litter. In the event that sediment escapes the construction site, off-site accumulations of sediment

must be removed at a frequency sufficient to minimize adverse impacts. An example of this may be the situation where sediment has washed into the street and could be carried into the storm sewers by the next rainfall and/or pose a safety hazard to users of public streets. Modifications/Revisions to SWPPP

Based on inspection results, any necessary modification to this SWPPP shall be implemented within seven calendar days of the inspection. A modification is necessary if a control measure or operational procedure does not provide adequate pollutant control. All revisions shall be recorded on a Record of Revisions within seven calendar days of the inspection.

It is the responsibility of the operator to maintain effective pollutant discharge controls. Physical site conditions or contractor/subcontractor practices could make it necessary to install more controls than were originally planned. For example, localized concentrations of surface runoff or unusually steep areas could require additional silt barrier or other structural controls. Assessing the need for and installing additional controls will be a continuing contractor/subcontractor responsibility until final stabilization is achieved. Contractors and subcontractors implementing this SWPPP must remain alert to the need to periodically refine and update this SWPPP in order to accomplish the intended goals.

Material Handling and Spill Prevention

Discharge of hazardous substances or oil into stormwater is subject to reporting requirements. In the event of a spill of a hazardous substance, the operator is required to notify the National Response Center (1—800—424—8802) to properly report the spill. In addition, the operator shall submit a written description of the release (including the type and amount of material released, the date of the release, the circumstances of the release, and the steps to be taken to prevent future spills) to the City of Noblesville. The SWPPP must be revised within 14 calendar days after the release to reflect the release, stating the information above along with modifications to minimize the possibility of future occurrences. Each contractor and subcontractor is responsible for complying with these reporting requirements.

Notice of Termination

Compliance of the site with the General Construction Permit remains the responsibility of all operators that have submitted an NOI until such time as they have submitted a Notice of Termination (NOT). The permittee's authorization to discharge under the General Construction Permit terminates at midnight of the day the NOT is signed.

All permittees must submit an NOT within thirty (30) days after one or more of the following 1. Final stabilization has been achieved on all portions of the site for which the permittee was

Another operator/permittee has assumed control over all areas of the site that have not been finally stabilized. 3. In residential construction operations, temporary stabilization has been completed and the residence has been transferred to the homeowner

B15 EROSION AND SEDIMENT CONTROL SPECIFICATIONS FOR INDIVIDUAL BUILDING LOTS Since the current project consists of the development of a single lot, there are not any individual building lots.

C1 DESCRIPTION OF POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH THE PROPOSED LAND USE The existing land use is a subdivision. The pollutants and sources of each pollutant normally expected from this type of land use are listed below:

Pollutant Source: Passenger vehicles, delivery vehicles, and trucks
Type of Pollutant: Oil, gasoline, diesel fuel, any hydrocarbon associated with vehicular fuels and lubricants, grease, antifreeze, windshield cleaner solution, brake fluid, brake dust, rubber, glass, metal and plastic fragments, grit, road de-icing materials

Pollutant\_Source: Trash\_dumpster Type of Pollutant: Cleaning solutions or solvents, litter (paper, plastic, general refuse associated with distribution operations), uneaten food products, bacteria

wind-blown litter from off-site sources, elevated water temperatures from contact with impervious

Type of Pollutant: Any pollutant associated with vehicular sources, grit from asphalt wearing surface, bituminous compounds from periodic maintenance (sealing, resurfacing and patching) pavement de-icing materials, paint fragments from parking stall stripes, concrete fragments

Pollutant Source: Lawn and landscape areas
Type of Pollutant: Fertilizers, soil, organic material (leaves, mulch, grass clippings)

The anticipated pollution sources are the vehicles that will use facility, including both truck and passenger vehicle traffic. Possible pollutants include oil, gasoline, anti-freeze and other pollutants associated with vehicular traffic.

C2 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION

An existing detention pond will remain in place as a permanent feature after construction is completed. Although the primary purpose of the pond is to restrict stormwater discharges, it will provide an incidental sediment removal function due to its linear geometry similar to a stormwater quality pond.

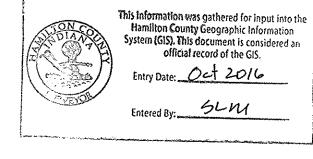
C3 DESCRIPTION OF PROPOSED POST—CONSTRUCTION STORMWATER QUALITY MEASURES Grading and Drainage

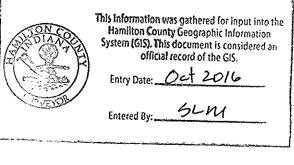
This project is to provide maintenance to an existing drain. New BMP measures are not required.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE The following items are stormwater quality measures that will remain in place after construction is completed and are considered to serve as post—construction stormwater quality BMPs.

C5 DESCRIPTION OF MAINTENANCE GUIDELINES FOR POST—CONSTRUCTION STORMWATER QUALITY

Maintenance requirements for the post-construction stormwater quality measures are described None





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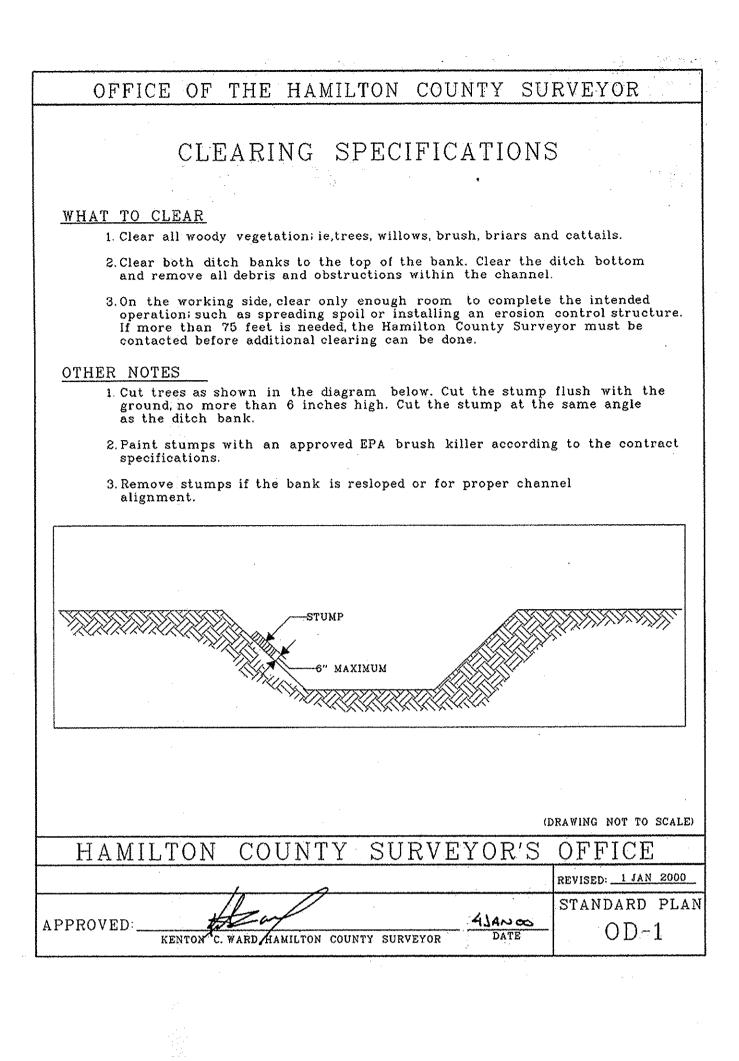
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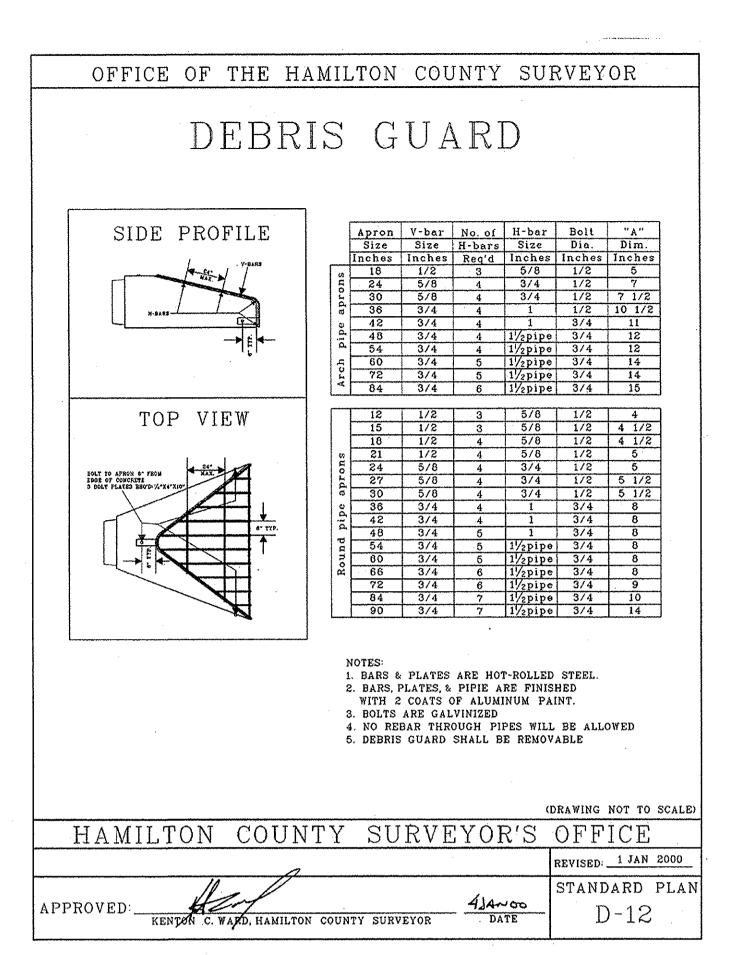
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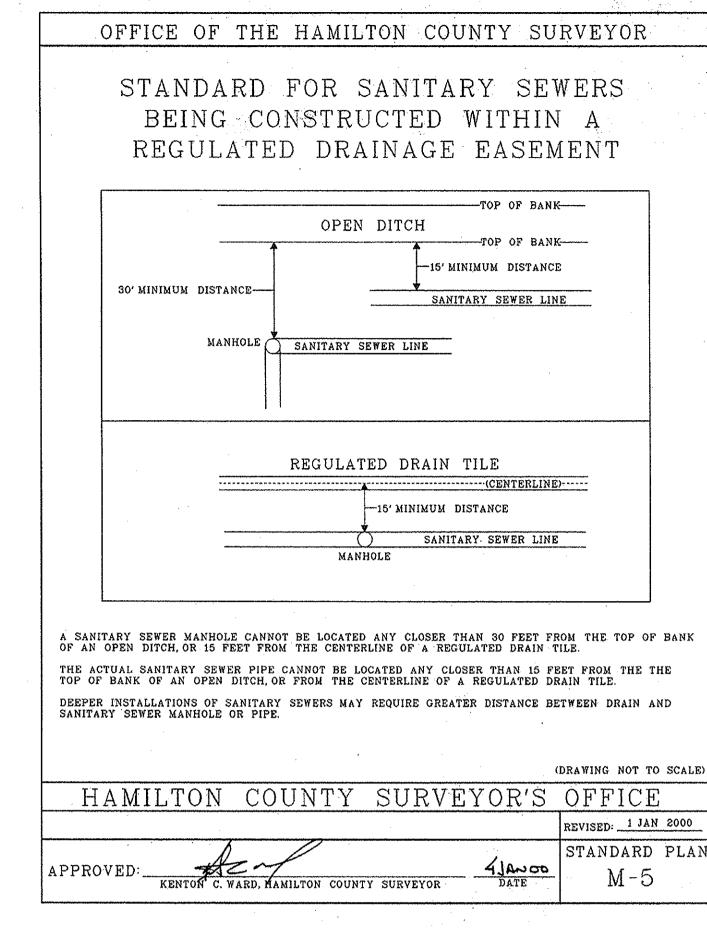
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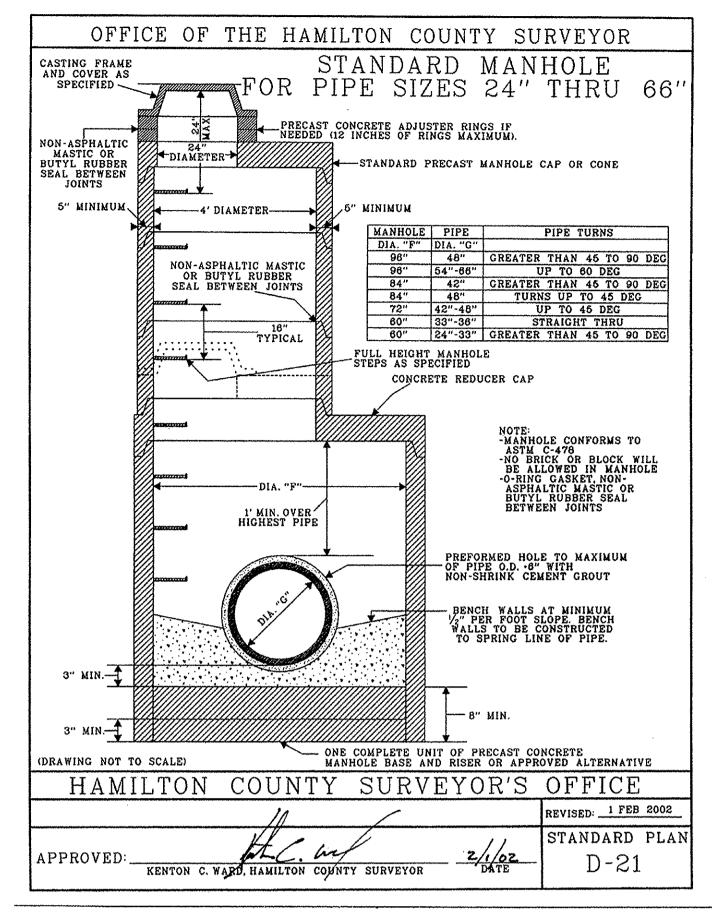
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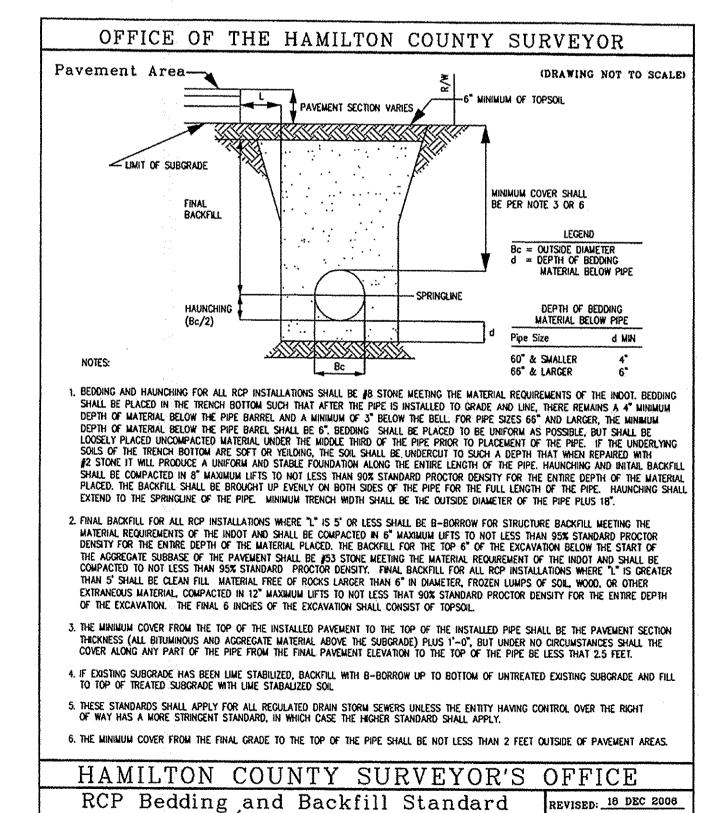
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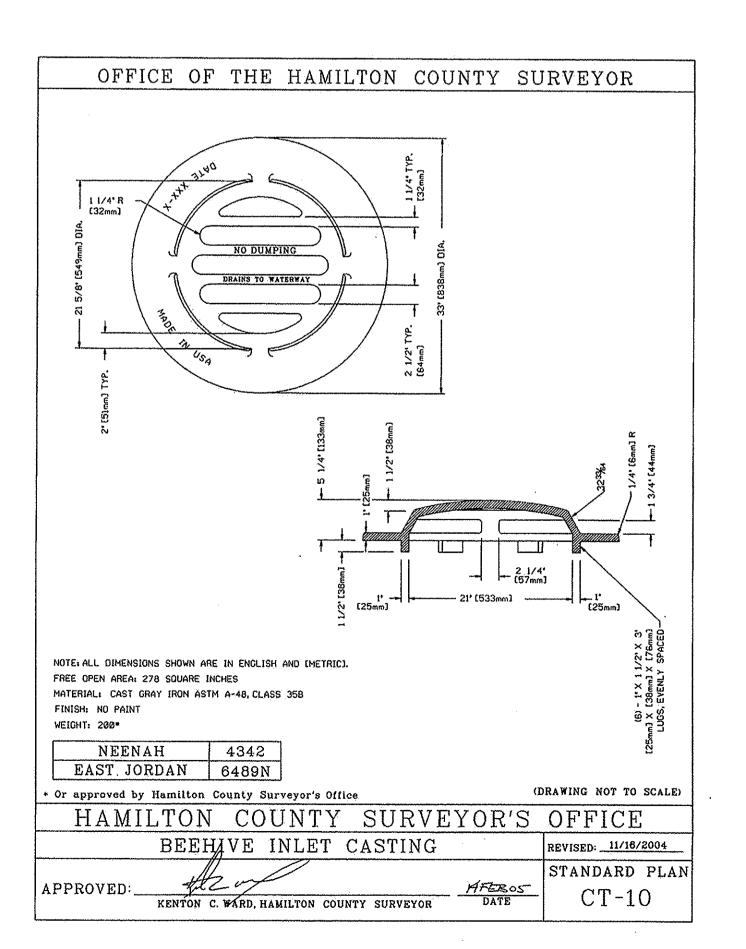


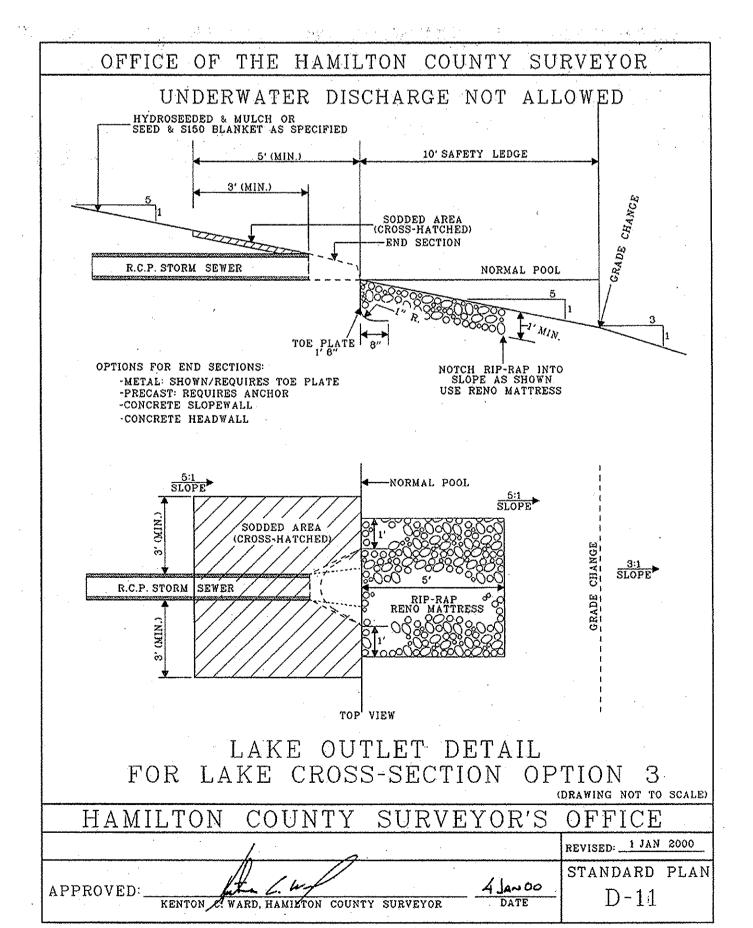


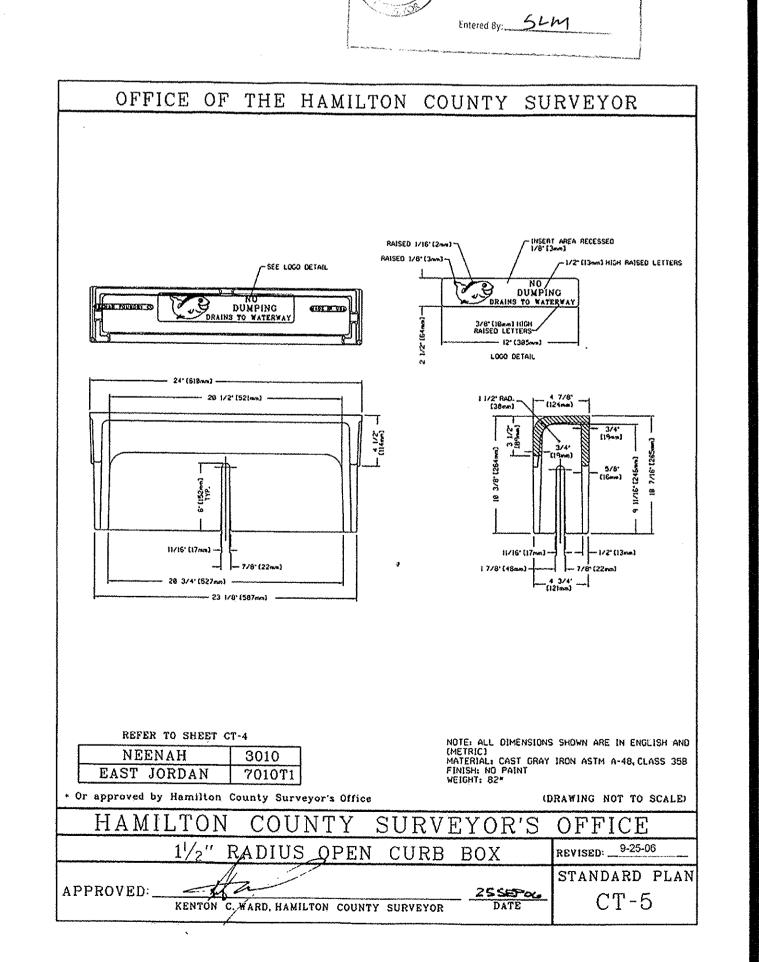


STANDARD PLAN

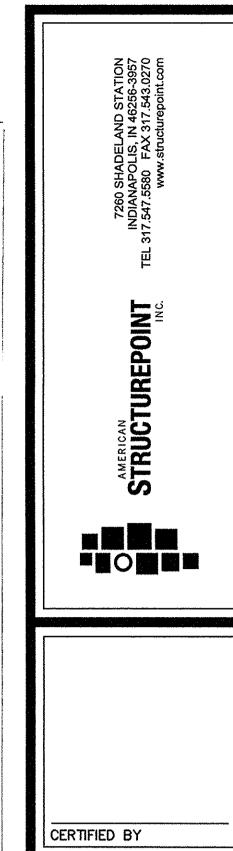
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ils information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an



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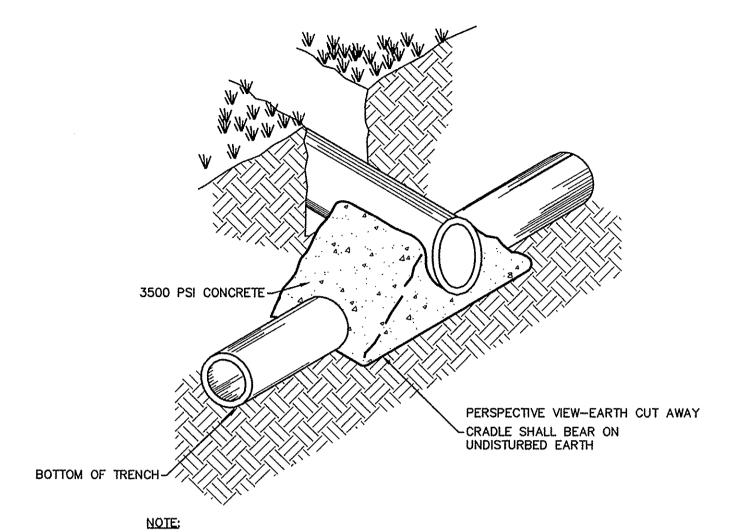
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KENTON C. WARD, HAMILTON COUNTY SURVEYOR

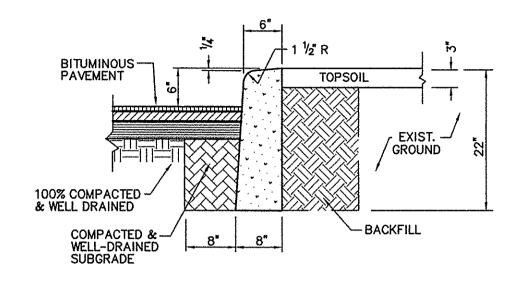


TO BE USED WHEN CLEAR DISTANCE (FROM EXTERIOR PIPE DIAMETER TO EXTERIOR PIPE DIAMETER) BETWEEN SANITARY SEWER PIPING (MAINS, LATERALS, FORCE MAINS, ETC.) AND ALL OTHER PIPES IS 18" OR LESS, PER ENGINEER'S DIRECTION, OR WHERE NOTED ON THE CONSTRUCTION PLANS. A MINIMUM CLEAR DISTANCE OF 3" MUST BE PROVIDED TO MAINTAIN STRUCTURAL INTEGRITY OF THE CONCRETE.

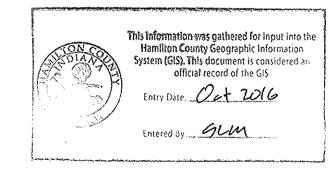
CONCRETE MUST NOT COME INTO CONTACT WITH FORCE MAIN. AT LEAST 3" OF SAND MUST BE PLACED AS A CUSHION AROUND THE FORCE MAIN. IF THE CONFLICT IS BETWEEN A WATER MAIN AND ANY SANITARY SEWER PIPING, 18" CLEARANCE MUST BE MAINTAINED OR NOTE ABOVE APPLIES AND ONLY GRANULAR FILL MAYBE USED.

CONCRETE CRADLE DETAIL

NOT TO SCALE



CONCRETE MONOLITHIC CURB DETAIL
NOT TO SCALE



07/30/12

STRUCTUREPOINT

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DETAILS

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