LETTER OF TRANSMITTAL

Professional Engineering Consultants, P.A.
303 S. TOPEKA ▪ WICHITA, KANSAS 67202 ▪ 316-262-2691 ▪ FAX 316-262-3003
www.pec1.com ▪ designers@pec1.com

ASHLEY PARK TOWNE CENTRE ADDITION

TO: Kansas Dept of Agriculture
Division of Water Resources
901 SW 9th Street, 2nd Floor
Topeka, KS 66612-1283

PROJECT NO.: 32-03503-3901
PROJECT: Target Store at Ashley Towne Centre
General Permit Application - Stream Obstructions

ATTENTION: Mr. Matt Scherer, P.E.

DATE: January 24, 2004

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	Jan. 2004		**Bound Hydraulic Report (Includes Application for General Permit)**
1	Jan. 2004		**Check in the Amount of $100.00**
1	Jan. 2004		**Aerial Photoimage of Project Location**
1	Jan. 2004		**RCB Extension Plan Sheet**

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Please note that PEC is submitting the permit application for the referenced project on behalf of the City of Wichita.

We would appreciate being copied into any correspondence from DWR regarding the permit application.

RECEIVED
JAN 26 2004
CITY - ENGINEERING

COPY TO: James Armour, City of Wichita and
Jana Bean, Target Corporation

SIGNED Philip Frazier, P.E.

If enclosures are not as noted, kindly notify us at once.

LETTER OF TRANSMITTAL

Professional Engineering Consultants, P.A.
303 S. TOPEKA ▪ WICHITA, KANSAS 67202 ▪ 316-262-2691 ▪ FAX 316-262-3003
www.pec1.com ▪ designers@pec1.com

TO: Kansas State Regulatory Office
U.S. Army Corps of Engineers
2710 NE Shady Creek Access Rd.
El Dorado, KS 67042

PROJECT NO.: 32-03503-3901
PROJECT: Target Store at Ashley Towne Centre
Nationwide Permit Application

ATTENTION: Stephen Penaluna

DATE: January 24, 2004

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	Jan. 2004		**Application for Department of the Army Permit**
1	Jan. 2004		**Aerial Photoimage of Project Location**
1	Jan. 2004		**RCB Extension Plan**
1	Jan. 2004		**Vicinity Map**

THESE ARE TRANSMITTED as checked below:

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☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

Please note that PEC is submitting the permit application for the referenced project on behalf of the City of Wichita.

We would appreciate being copied into any correspondence from DWR regarding the permit application.

COPY TO: James Armour, City of Wichita and
Jana Bean, Target Corporation

SIGNED Philip Frazier, P.E.

If enclosures are not as noted, kindly notify us at once.

DATE: January 16, 2004

Professional Engineering Consultants, P.A.
303 S. TOPEKA ▪ WICHITA, KANSAS 67202 ▪ 316-262-2691 ▪ FAX 316-262-3003 ▪ www.pecl.com ▪ designers@pecl.com

MEMO

TO: Kansas Department of Agriculture – Division of Water Resources

ATTENTION:

REFERENCE: DWR Permit Application

FROM: Philip Frazier, P.E.

PROJECT NO.: 32-03503-3901

PROJECT: Target Store at Ashley Towne Centre

COPIES TO: James Armour, P.E.

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

This memo presents the results of a hydrologic and hydraulic analysis undertaken to determine the effects of extending the existing 2-8'x6'x100' reinforced box culvert (RCB) located under Maple Road, approximately ¼ mile west of Ridge Road in Wichita, Kansas. It is proposed that the existing RCB be extended 25' south (downstream) to accommodate improvements to Maple Road, which will include construction of turn lanes to provide access to a Target Store site south of Maple. The project location, and the associated drainage area for the RCB, are shown in Figure 1.

The drainage area for the existing RCB is estimated to be 0.6 square miles. Since, for Sedgwick County, streams are defined by the DWR as watercourses with drainage areas greater than 240 acres, and because the project includes modification of a culvert, a completed "APPLICATION FOR GENERAL PERMIT, Bridge or Culvert Replacement Project" form, along with the supporting calculations included with this memo, are being provided to the DWR.

HYDROLOGY

Peak discharges were computed for the existing RCB at Maple by using the following hydrologic methods that were developed by the U.S.G.S.:

1. U.S.G.S. Water Resources Report 87-4008 "Floods in Kansas and Techniques for Estimating their Magnitude and Frequency on Unregulated Streams."

2. U.S.G.S. Water-Supply Paper 2207 "Flood Characteristics of Urban Watersheds in the United States."

A copy of the hydrologic computations is included with this memo behind the tab "HYDROLOGY."

The results of the hydrologic analysis are shown in Table 1.

TABLE 1. Peak Stream Discharges computed at Maple Street RCB.

Return Period (years)	Peak Discharge (cfs)
2	192
5	350
10	455
25	591
50	710
100	823

HYDRAULICS

Culvert hydraulics computations were made using the FHWA Culvert Analysis Program "HY-8," (Version 3.2). A copy of the hydraulic computations is included with this memo behind the tab "HYDRAULICS."

The results of the hydraulic analysis are shown in Table 2.

TABLE 2. Results of Culvert Hydraulics computations at Maple.

Stream Discharge (cfs)	Existing RCB Computed Highwater Elevation	Extended RCB Computed Highwater Elevation
0	1317.32	1317.32
100	1319.95	1319.95
200	1320.33	1320.34
300	1320.71	1320.72
400	1321.38	1321.39
500	1322.09	1322.09
600	1322.77	1322.77
700	1323.44	1322.45
800	1324.12	1324.13
900	1324.82	1324.83
1000	1325.55	1325.56

The results in Table 2 indicate that extending the RCB in the downstream direction by 25'-0" will have virtually no effect on upstream flood profiles for all flood events up to and even exceeding the 100-year flood. The analysis indicates that the upstream flood levels are determined by "inlet control" culvert conditions, so it is not unexpected that extending the RCB in the downstream direction will not raise the flood profile. The road profile at Maple will not be altered (raised or lowered) by the proposed construction; therefore, for very large flood events that overtop Maple Road, it may be concluded that upstream flood levels would not be changed from "existing conditions" by the proposed construction.

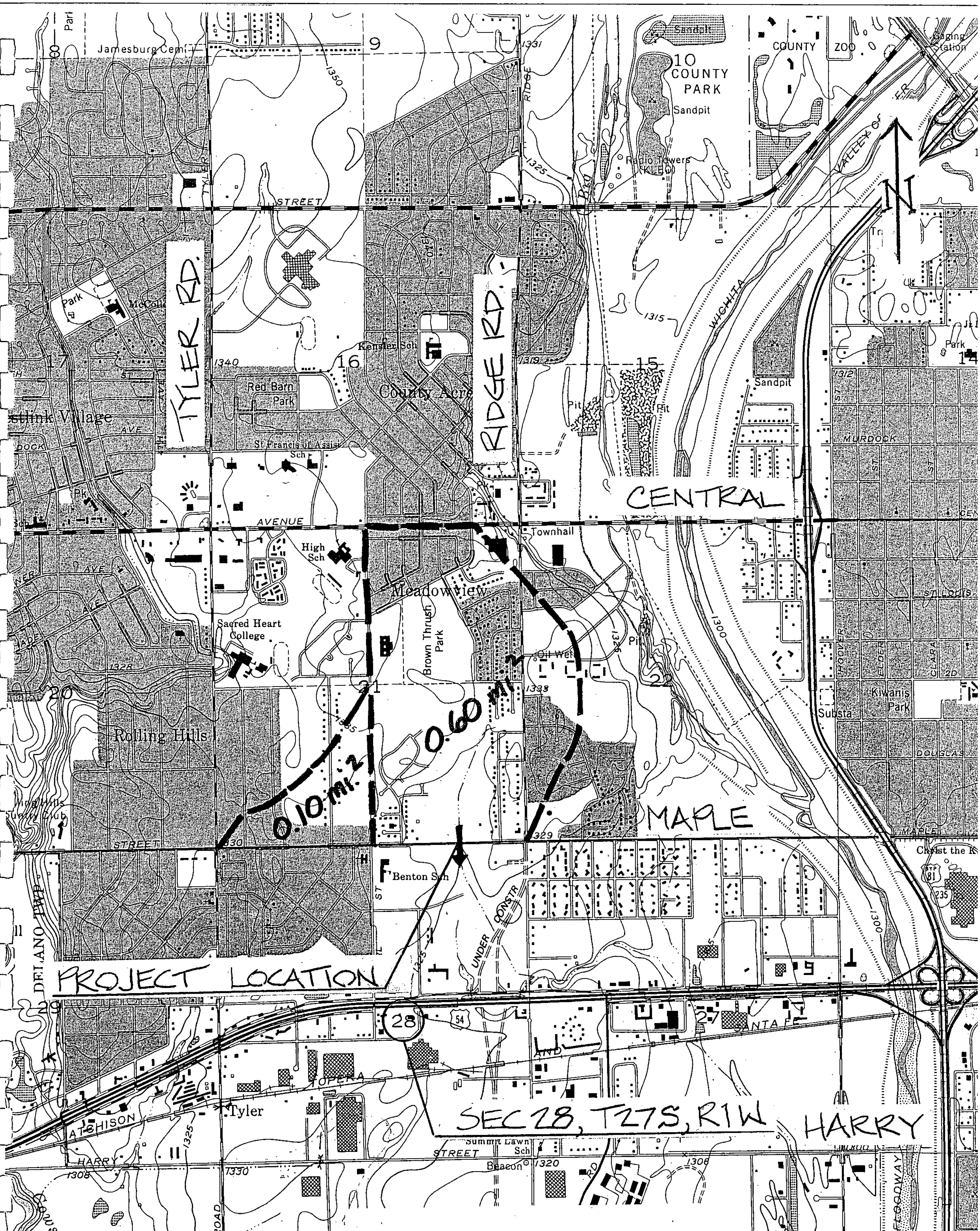

TYLER RD.
RIDGE RD.
CENTRAL
MAPLE
HARRY
PROJECT LOCATION
SEC 28, T27S, R1W
0.10 mi²
0.60 mi²
N
COUNTY PARK
COUNTY ZOO
Jamesburg Cem
Radio Towers (KLEO)
Sandpit
Red Barn Park
County Acres
Kensler Sch
St Francis of Assisi Sch
High Sch
Meadowview
Brown Thrush Park
Sacred Heart College
Rolling Hills
Townhall
Oil Well
Benton Sch
Kiwanis Park
Substa
Tyler
Summit Lawn Sch
Beacon
WICHITA
MURDOCK
ST LOUIS
DOUGLAS
ATCHISON
TOPEKA
SANTA FE
UNDER CONSTR
FLOODWAY
DELANO TWP
Christ the K

FIGURE 1

USGS WATER RESOURCES INVESTIGATIONS REPORT 87-4008

0.60	CDA (CONTRIBUTING DRAINAGE AREA), SQ. MI.
3.50	I2 (2-YEAR, 24-HOUR RAINFALL), INCHES
15.00	SI (MAIN CHANNEL SLOPE), FEET/MILE
0.70	SP (SOIL PERMEABILITY)
1.00	L (MAIN CHANNEL LENGTH), MILES
1.667	Sh (BASIN SHAPE) L*L/CDA

a	b1	b2	b3	b4	b5
0.135	0.878	5.321	0.286	-0.147	-0.134
1.000	0.860	4.195	0.282	-0.157	-0.112
2.510	0.862	3.710	0.281	-0.156	-0.094
6.480	0.867	3.201	0.279	-0.153	-0.075
12.100	0.871	2.863	0.276	-0.153	-0.065
21.200	0.874	2.552	0.272	-0.154	-0.056

CDA	I2	SI	SP	Sh
0.60	3.50	15.00	0.70	1.667
0.60	3.50	15.00	0.70	1.667
0.60	3.50	15.00	0.70	1.667
0.60	3.50	15.00	0.70	1.667
0.60	3.50	15.00	0.70	1.667
0.60	3.50	15.00	0.70	1.667

0.14	1.02	0.90	0.63	785.21	2.17	1.05	0.93	143.19
1.00	1.02	0.88	0.64	191.59	2.15	1.06	0.94	262.28
2.51	1.02	0.88	0.64	104.35	2.14	1.06	0.95	360.39
6.48	1.02	0.88	0.64	55.15	2.13	1.06	0.96	492.06
12.10	1.02	0.89	0.64	36.11	2.11	1.06	0.97	598.57
21.20	1.02	0.89	0.63	24.46	2.09	1.06	0.97	705.06

RECURRENCE INTERVAL (YEARS)	COMPUTED Q (CFS)
2	**143**
5	**262**
10	**360**
25	**492**
50	**599**
100	**705**

Discharges were computed for Rural Conditions (RQ) based on USGS Regression Equations. The rural discharges were adjusted to account for Urbanized Conditions (UQ) based on the "Three Parameter Estimating Equations" contained in USGS Water Supply Paper 2207 "Flood Characteristics of Urban Watersheds in the U.S." BDF(Basin Development Factor) ranges between 1 and 12 (sparsely to heavily)

	Recurrence Interval (years)	Drainage Area (sq. mi.)	Basin Development Factor BDF	Rural Discharge RQ (cfs)	**Urban Discharge UQ (cfs)**
UQ2	2	0.60	6.00	143	**192**
UQ5	5	0.60	6.00	262	**350**
UQ10	10	0.60	6.00	360	**455**
UQ25	25	0.60	6.00	492	**591**
UQ50	50	0.60	6.00	599	**710**
UQ100	100	0.60	6.00	705	**829**
		0.21	-0.43	0.73	
		0.17	-0.39	0.78	
		0.16	-0.36	0.79	
		0.15	-0.34	0.80	
		0.15	-0.32	0.81	
		0.15	-0.32	0.82	
13.20		0.8983	0.4331	37.45	192
10.60		0.9168	0.4682	76.96	350
9.51		0.9215	0.4963	104.59	455
8.68		0.9262	0.5160	142.42	591
8.04		0.9262	0.5365	177.71	710
7.70		0.9262	0.5365	216.53	829

Rating Curve for Existing 2-8x6 RCB at Maple south of Ashley Park Addition

CURRENT DATE: 01-15-2004 FILE DATE: 01-15-2004
CURRENT TIME: 10:26:40 FILE NAME: ASHLEY1

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

C U L V	SITE DATA: INLET ELEV. (FT)	SITE DATA: OUTLET ELEV. (FT)	SITE DATA: CULVERT LENGTH (FT)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	1317.32	1316.39	100.00	2 RCB	8.00	6.00	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: ASHLEY1 DATE: 01-15-2004

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1317.32	0	0	0	0	0	0	0	0	1
1319.95	100	100	0	0	0	0	0	0	1
1320.33	200	200	0	0	0	0	0	0	1
1320.71	300	300	0	0	0	0	0	0	1
1321.38	400	400	0	0	0	0	0	0	1
1322.09	500	500	0	0	0	0	0	0	1
1322.77	600	600	0	0	0	0	0	0	1
1323.44	700	700	0	0	0	0	0	0	1
1324.12	800	800	0	0	0	0	0	0	1
1324.82	900	900	0	0	0	0	0	0	1
1325.55	1000	1000	0	0	0	0	0	0	1
1326.00	1058	1058	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: ASHLEY1 DATE: 01-15-2004

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
1317.32	0.00	0	0	0.00
1319.95	0.00	100	0	0.00
1320.33	0.00	200	0	0.00
1320.71	0.00	300	0	0.00
1321.38	0.00	400	0	0.00
1322.09	0.00	500	0	0.00
1322.77	0.00	600	0	0.00
1323.44	0.00	700	0	0.00
1324.12	0.00	800	0	0.00
1324.82	0.00	900	0	0.00
1325.55	0.00	1000	0	0.00

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

Rating Curve for Existing 2-8x6 RCB at Maple south of Ashley Park Addition

CURRENT DATE: 01-15-2004 FILE DATE: 01-15-2004
CURRENT TIME: 10:26:40 FILE NAME: ASHLEY1

CULVERT # 1

PERFORMANCE CURVE FOR 2 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	1317.32	1317.32	0.00	0.00	0-NF	0.00	1317.32	0.00	0.00
100	1319.95	1317.32	1.58	2.63	6-FF	0.00	0.00	0.00	5.85
200	1320.33	1317.32	2.51	3.01	6-FF	0.00	0.00	0.00	7.37
300	1320.71	1317.32	3.31	3.39	6-FF	0.00	0.00	0.00	8.43
400	1321.38	1317.32	4.06	3.80	6-FF	0.00	0.00	0.00	12.41
500	1322.09	1317.32	4.77	4.22	6-FF	0.00	0.00	0.00	13.13
600	1322.77	1317.32	5.45	4.69	6-FF	0.00	0.00	0.00	13.79
700	1323.44	1317.32	6.12	5.18	6-FF	0.00	0.00	0.00	14.33
800	1324.12	1317.32	6.80	5.72	6-FF	0.00	0.00	0.00	14.84
900	1324.82	1317.32	7.50	6.30	6-FF	0.00	0.00	0.00	15.28
1000	1325.55	1317.32	8.23	6.92	6-FF	0.00	0.00	0.00	15.70

El. inlet face invert 1317.32 ft El. outlet invert 1316.39 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	1317.32
OUTLET STATION (FT)	100.00
OUTLET ELEVATION (FT)	1316.39
NUMBER OF BARRELS	2.00
SLOPE (V-FT/H-FT)	0.0093
CULVERT LENGTH ALONG SLOPE (FT)	100.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	BOX
BARREL SPAN	8.00 FT
BARREL RISE	6.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	1:1 BEVEL (45 DEG. FLARE)
INLET DEPRESSION	NONE

Rating Curve for Existing 2-8x6 RCB at Maple south of Ashley Park Addition

CURRENT DATE: 01-15-2004
CURRENT TIME: 10:26:40

FILE DATE: 01-15-2004
FILE NAME: ASHLEY1

TAILWATER

CONSTANT WATER SURFACE ELEVATION
1317.32

ROADWAY OVERTOPPING DATA

WEIR COEFFICIENT	3.00
EMBANKMENT TOP WIDTH (FT)	60.00
CREST LENGTH (FT)	300.00
OVERTOPPING CREST ELEVATION (FT)	1326.00

Rating Curve for Extended (by 25') 2-8x6 RCB at Maple south of Ashley Park Addition

CURRENT DATE: 01-15-2004 FILE DATE: 01-15-2004
CURRENT TIME: 10:35:05 FILE NAME: ASHLEY1

FHWA CULVERT ANALYSIS
HY-8, VERSION 3.2

C U L V	SITE DATA: INLET ELEV. (FT)	OUTLET ELEV. (FT)	CULVERT LENGTH (FT)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (FT)	RISE (FT)	MANNING n	INLET TYPE
1	1317.32	1316.39	125.00	2 RCB	8.00	6.00	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (CFS) FILE: ASHLEY1 DATE: 01-15-2004

ELEV (FT)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1317.32	0	0	0	0	0	0	0	0	1
1319.95	100	100	0	0	0	0	0	0	1
1320.34	200	200	0	0	0	0	0	0	1
1320.72	300	300	0	0	0	0	0	0	1
1321.39	400	400	0	0	0	0	0	0	1
1322.09	500	500	0	0	0	0	0	0	1
1322.77	600	600	0	0	0	0	0	0	1
1323.45	700	700	0	0	0	0	0	0	1
1324.13	800	800	0	0	0	0	0	0	1
1324.83	900	900	0	0	0	0	0	0	1
1325.56	1000	1000	0	0	0	0	0	0	1
1326.00	1057	1057	0	0	0	0	0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: ASHLEY1 DATE: 01-15-2004

HEAD ELEV(FT)	HEAD ERROR(FT)	TOTAL FLOW(CFS)	FLOW ERROR(CFS)	% FLOW ERROR
1317.32	0.00	0	0	0.00
1319.95	0.00	100	0	0.00
1320.34	0.00	200	0	0.00
1320.72	0.00	300	0	0.00
1321.39	0.00	400	0	0.00
1322.09	0.00	500	0	0.00
1322.77	0.00	600	0	0.00
1323.45	0.00	700	0	0.00
1324.13	0.00	800	0	0.00
1324.83	0.00	900	0	0.00
1325.56	0.00	1000	0	0.00

<1> TOLERANCE (FT) = 0.010 <2> TOLERANCE (%) = 1.000

Rating Curve for Extended (by 25') 2-8x6 RCB at Maple south of Ashley Park Addition

CURRENT DATE: 01-15-2004 FILE DATE: 01-15-2004
CURRENT TIME: 10:35:05 FILE NAME: ASHLEY1

CULVERT # 1

PERFORMANCE CURVE FOR 2 BARREL(S)

Q (cfs)	HWE (ft)	TWE (ft)	ICH (ft)	OCH (ft)	FLOW TYPE	CCE (ft)	FCE (ft)	TCE (ft)	VO (fps)
0	1317.32	1317.32	0.00	0.00	0-NF	0.00	1317.32	0.00	0.00
100	1319.95	1317.32	1.58	2.63	6-FF	0.00	0.00	0.00	5.85
200	1320.34	1317.32	2.51	3.02	6-FF	0.00	0.00	0.00	7.37
300	1320.72	1317.32	3.31	3.40	6-FF	0.00	0.00	0.00	8.43
400	1321.39	1317.32	4.07	3.81	6-FF	0.00	0.00	0.00	11.98
500	1322.09	1317.32	4.77	4.25	6-FF	0.00	0.00	0.00	12.70
600	1322.77	1317.32	5.45	4.72	6-FF	0.00	0.00	0.00	13.34
700	1323.45	1317.32	6.13	5.23	6-FF	0.00	0.00	0.00	13.88
800	1324.13	1317.32	6.81	5.78	6-FF	0.00	0.00	0.00	14.39
900	1324.83	1317.32	7.51	6.37	6-FF	0.00	0.00	0.00	14.82
1000	1325.56	1317.32	8.24	7.00	6-FF	0.00	0.00	0.00	15.23

El. inlet face invert 1317.32 ft El. outlet invert 1316.39 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION (FT)	0.00
INLET ELEVATION (FT)	1317.32
OUTLET STATION (FT)	125.00
OUTLET ELEVATION (FT)	1316.39
NUMBER OF BARRELS	2.00
SLOPE (V-FT/H-FT)	0.0074
CULVERT LENGTH ALONG SLOPE (FT)	125.00

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	BOX
BARREL SPAN	8.00 FT
BARREL RISE	6.00 FT
BARREL MATERIAL	CONCRETE
BARREL MANNING'S N	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	1:1 BEVEL (45 DEG. FLARE)
INLET DEPRESSION	NONE

Rating Curve for Extended (by 25') 2-8x6 RCB at Maple south of Ashley Park Addition

CURRENT DATE: 01-15-2004 FILE DATE: 01-15-2004
CURRENT TIME: 10:35:05 FILE NAME: ASHLEY1

TAILWATER

CONSTANT WATER SURFACE ELEVATION
1317.32

ROADWAY OVERTOPPING DATA

WEIR COEFFICIENT	3.00
EMBANKMENT TOP WIDTH (FT)	60.00
CREST LENGTH (FT)	300.00
OVERTOPPING CREST ELEVATION (FT)	1326.00

THE STATE OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE
Adrian J. Polansky, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David L. Pope, Chief Engineer

APPLICATION FOR GENERAL PERMIT
Bridge or Culvert Replacement Project

OBSTRUCTIONS IN STREAMS
K.S.A. 82a-301 - 305a (as amended July 1, 2002)

WATER STRUCTURE NUMBER _____
(For Office Use Only)

ENVIRONMENTAL COORDINATION ACT NUMBER _____
(For Office Use Only)

Application is hereby made for written consent or permit of the Chief Engineer, Division of Water Resources, by (PLEASE TYPE OR PRINT CLEARLY):

1. **Owner:** City of Wichita, Kansas
   455 N. Main, Wichita, KS 67202
   Agent: James Armour, P.E.
   Title: City Engineer
   Mailing Address: 455 N. Main - 7th Floor
   Wichita, KS 67202
   E-Mail Address: JArmour@wichita.gov
   Telephone No.: 316-268-4501 FAX No.: 316-268-4114
2. **Designer:** Richard Schlitt, P.E.
   Firm: Professional Engineering Consultants, P.A.
   Contact Person: Philip Frazier, P.E.
   Mailing Address: 303 S. Topeka, Wichita, KS 67202
   E-Mail Address: phil.frazier@pec1.com
   Telephone No.: 316-262-2691 FAX No.: 316-262-3003

For Office Use Only: *Code* _____ *Fee $* _____ *TR #* _____ *Receipt Date* _____ *Check #* _____

Continue to Next Page

3. **Determination of eligibility for General Permit**

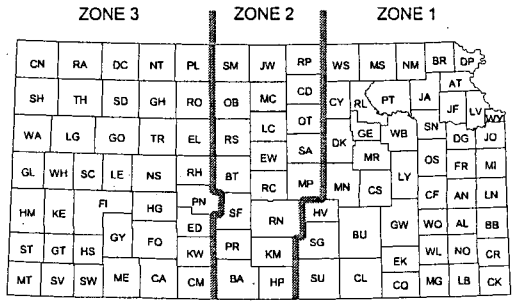
Instructions

Effective September 22, 2000, the Chief Engineer adopted rules and regulations providing for General Permits for certain types of projects that require permits under the provisions of K.S.A. 82a-301 *et seq*. This worksheet can be used to determine if a project qualifies for a General Permit under the provisions of K.A.R. 5-46-1 which applies only to replacement of an existing bridge or culvert.

A General Permit requires the applicant to provide less information than a standard permit application requires. In addition, the processing time for a General Permit is generally shorter than the time required for a standard permit application. The requirements for a project to qualify for a General Permit are significant.

To determine if a project qualifies for a General Permit, complete the worksheet below and continuing to the next page. If the completed worksheet indicates that the project qualifies for a General Permit, complete this application form, sign where indicated on the final page, and send the following items to the Division of Water Resources:

- This application (signed on the final page)
- Required fee (see final page for fee schedule)
- If the drainage area equals or exceeds 4 square miles in Zone 1, 6 square miles in Zone 2, or 8 square miles in Zone 3, provide a location map, plan view, and a view showing the cross-section at the roadway.
- Any other information you wish to provide in support of the application



If any item on the completed worksheet indicates that the project does not qualify for a General Permit, you must make application using DWR Form 2-100, Application for Permit; Dams, Stream Obstructions and Channel Changes.

Worksheet for General Permit Eligibility Determination

Bridge or Culvert and Roadway Characteristics

Existing opening size: 96 ft² (or m²)

Proposed opening size: 96 ft² (or m²)

Is proposed opening greater or equal to existing? (Yes)

No – Does not qualify for General Permit

Average rise in road grade across the floodplain: 0 feet

Is the proposed rise in the average road grade less than 1.0 foot? (Yes)

No – Does not qualify for General Permit

Continue to Next Page

Related Channel Change Characteristics

The length of the stream through which changes in the alignment or cross-section occur: 25 ft

Is the length of changes in alignment or cross-section less than 200 feet for streams with an average annual discharge less than 5 c.f.s., or 400 feet for streams with an average annual discharge of 5 c.f.s. or more?

(Yes)

No – Does not qualify for General Permit

1. Cross-sectional area of existing channel (to top of bank): 108 ft^2 (or m^2)

2. Cross-sectional area of proposed channel (to top of bank): 108 ft^2 (or m^2)

Change in channel cross-section: 0 ft^2 (or m^2) [Line 2 minus line 1]

$\frac{\text{Change in channel cross-section}}{\text{Existing cross-sectional area}} \times 100 =$ 0 %

Is the proposed channel cross-sectional area within 15% (plus or minus) of the existing cross-sectional area? (Yes)

No – Does not qualify for General Permit

3. Length of existing channel (beginning of proposed change to end): 25 ft (or m)

4. Length of proposed channel (beginning of proposed change to end): 25 ft (or m)

Change in channel length: 0 ft (or m) [Line 4 minus line 3]

$\frac{\text{Change in channel length}}{\text{Existing Length}} \times 100 =$ 0 %

Is the proposed channel length within 10% (plus or minus) of the existing channel length? (Yes)

No – Does not qualify for General Permit

Are provisions made for a 50 feet wide vegetative strip, adjacent to any channel alternation, measured from each bank outward? (Yes)

No – Does not qualify for General Permit

4. **Description of proposed construction:**

Site Name: Target Store at Ashley Towne Centre

The project will (complete all that apply): be 25 feet long, 6 feet high, _____ feet deep; have 4:1 side slopes, _____ feet bottom width, _____ cubic yards of fill or cut; shorten the stream length from _____ feet to _____ feet; constrict the channel and floodplain by 0 %; cause a hydraulic restriction or backwater of 0 feet.

Further description: See attached drawings to clarify the proposed construction activity.

Continue to Next Page

5. **Legal description of location** (use intersection of project centerline and stream centerline where applicable; otherwise, use geographical center or midpoint of the project):

NW Quarter of the NE Quarter of the NE Quarter of Section 28, Township 27 South, Range 1 East/West (circle one), Sedgwick County, Kansas, across, along, or in (stream or watercourse name): Hoover Street Drain Dugan Tributary

Additional description: Along Maple approximately 1/4 mile West of Ridge Road

6. **Attach copies of Environmental Reviews, Assessments or Impact Statements, letters of comment and other pertinent information to the Water Projects Environmental Coordination Act, K.S.A. 82a-325 to 327, as amended. The following information should be provided in consultation with biologists, archaeologists, foresters or other professionals.**

a. The project will (check all that apply):

____	fill a channel	____	fill or drain deep pools
____	remove gravel, sand or silt bars	____	disturb or endanger historic sites or structures
____	fill or drain a wetland	____	inundate a stream
____	create deep pools	____	affect threatened and endangered species
____	relocate a channel	____	widen a channel
____	replace a bridge that is _____ years old		
____	remove streamside vegetation, including _____ acres of trees and _____ acres of vegetation		
X	Extend an existing R.C.B.		

b. Describe actions planned to minimize the project impact:

Describe any vegetative strip planned: Temporary and permanent seeding will be placed according to project plans.

Describe erosion control measures to be used during construction: Construction will conform to City of Wichita BMP Standards and plans.

Describe mitigation or replacement of environmental impacts or values: Condition imposed by project permits will be followed.

Project work will be halted and the Kansas State Historical Society contacted when historical sites or artifacts are encountered: X Yes or ____ No

Describe other planned activities: _____

Continue to Next Page

7. **Progress of construction (check the appropriate line and enter requested date):**

_____ Construction has begun or been completed. Started or completed (circle one): _____/_____/_____.

__X__ Construction has not begun. Planned date to begin construction: __3__/__1__/20__04__.

8. **By signing this application, I hereby warrant that the information contained in this application is true, correct and complete, and that I am the owner or I am authorized by the owner to make this application.**

Signature of Owner or Agent: James L Armour

Date: 1-21-04 Title: Wichita City Engineer

INSTRUCTIONS

a. Incomplete applications will be returned to applicant. Make sure you have filled in all applicable blanks, signed the application, and included the required fee (see below). Plans and other materials listed in the instructions for item 3 must accompany the application for it to be complete.
b. If the owner is a governmental entity, please identify the governmental unit responsible for construction and maintenance.
c. Questions regarding environmental impacts may be referred to the following environmental review agencies:

Kansas Corporation Commission	Kansas Biological Survey
Kansas Dept. Of Health & Environment	State Conservation Commission
Kansas State Historical Society	Kansas Forest Service
Kansas Dept. Of Wildlife and Parks	

FEE SCHEDULE

effective July 1, 2002

Applications for General Permit – Stream Obstructions and Channel Changes		
	Pre-construction	Construction in Progress*
General permit	$100	$200

*"Construction in progress" fees apply to projects where construction began before the project was approved by the Chief Engineer. These fees are in addition to any other penalties applicable under law.

Make checks payable to the **Kansas Department of Agriculture**

Mail application, check, and all supporting documents to:

Kansas Department of Agriculture
Division of Water Resources
109 SW 9th Street 2nd Floor
Topeka KS 66612-1283
Telephone: (785) 296-2933 Fax: (785) 296-4835

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-0003
Expires December 3 1, 2004

The Public burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection , Research and Sanctuaries Act, Section 103, 33 USC 1413. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE *(an agent is* nor *required)*
CITY OF WICHITA - JAMES ARMOUR, P.E.	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
455 N. MAIN - 7TH FLOOR WICHITA, KS 67202	
7. APPLICANT'S PHONE NOS. W/AREA CODE	**10. AGENT'S PHONE NOS. W/AREA CODE**
a. Residence	a. Residence
b. Business (316) 268-4509	b. Business

11. STATEMENT OF AUTHORIZATION

I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

James L Armour — 1-21-04

APPLICANT'S SIGNATURE — DATE

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE *(see instructions)*

TARGET STORE AT ASHLEY TOWNE CENTRE

13. NAME OF WATERBODY, IF KNOWN *(if applicable)*	14. PROJECT STREET ADDRESS *(if applicable)*
HOOVER STREET DRAIN - DUGAN TRIBUTARY	NOT APPLICABLE
15. LOCATION OF PROJECT	
SEDGWICK (COUNTY) — KANSAS (STATE)	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN, *(see instructions)*

NE QUARTER OF SECTION 28, TOWNSHIP 27 SOUTH, RANGE 1 WEST

17. DIRECTIONS TO THE SITE

APPROXIMATELY ONE QUARTER MILE WEST OF THE INTERSECTION OF MAPLE AND RIDGE IN WEST WICHITA, KANSAS.

18. Nature of Activity (*Description of project, include all features*)

AN EXISTING 2-8'X6' RCB WILL BE EXTENDED 25' SOUTH, INTO AN EXISTING TRAPEZOIDAL CHANNEL. APPROXIMATELY 315' C.Y. OF FILL WILL BE PLACED AROUND THE EXTERIOR PORTION OF THE R.C.B.

19. Project Purpose (*Describe the reason or purpose of the project, see instructions*)

MAPLE STREET IS PROPOSED TO BE WIDENED TO ACCOMMODATE CONSTRUCTION OF ADDITIONAL TRAFFIC LANES. CONSEQUENTLY, THE R.C.B. UNDER MAPLE MUST BE LENGTHENED.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

TO PLACE FILL UP TO AND AGAINST THE EXTERIOR WALLS AND WINGWALLS OF THE R.C.B. EXTENSION.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

315 C.Y. OF COMPACTED EARTH

22. Surface Area in Acres of Wetlands or Other Waters Filled (*see instructions*)

OTHER WATERS: 0.040 ACRES

23. Is Any Portion of the Work Already Complete? Yes ____ No ____ IF YES, DESCRIBE THE COMPLETED WORK

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list).

WILL PROVIDE AT A LATER DATE IF REQUESTED.

25. List of Other Certifications or Approvals/Denials Received from other Federal, State or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

*Would include but is not restricted to zoning, building and flood plain permits

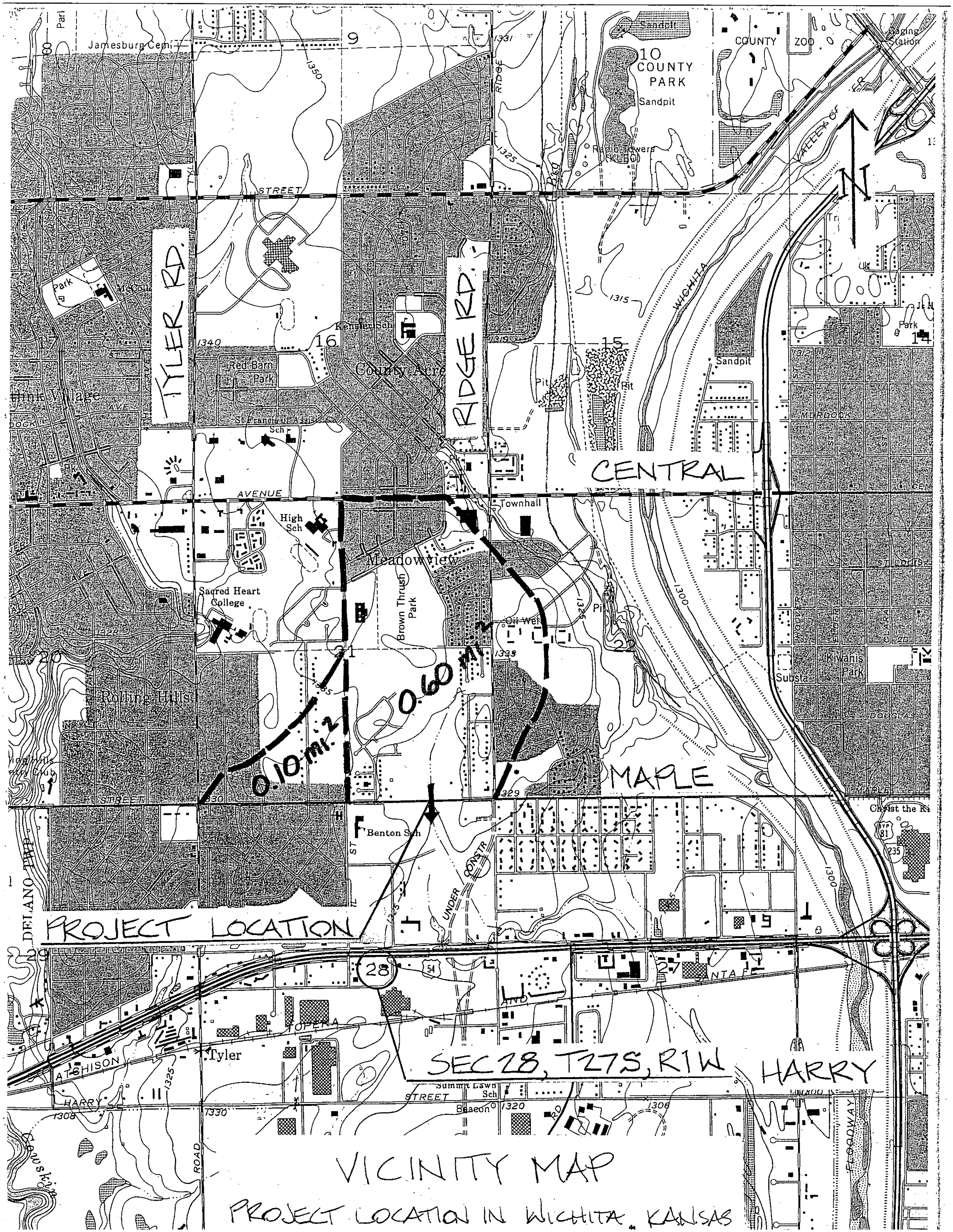
26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

James F. Clemons 1-22-04

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

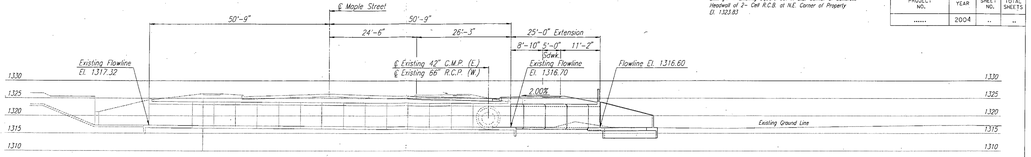
The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

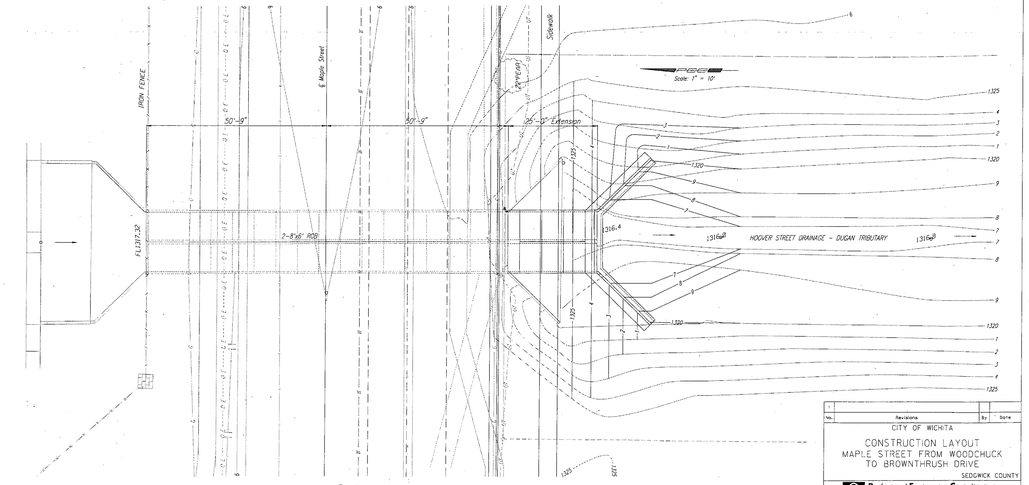

TYLER RD.
RIDGE RD.
CENTRAL
MAPLE
HARRY
N
0.10 mi²
0.60 mi²
PROJECT LOCATION
SEC 28, T27S, R1W
VICINITY MAP
PROJECT LOCATION IN WICHITA, KANSAS
Jamesburg Cem
COUNTY ZOO
Gaging Station
COUNTY PARK
Sandpit
Radio Towers (KLEO)
STREET
AVENUE
Park
Kensler Sch
Red Barn Park
County Acres
Pit
Sandpit
MURDOCK
Townhall
High Sch
Meadowview
Sacred Heart College
Brown Thrush Park
Oil Well
Rolling Hills
Substa
Kiwanis Park
Benton Sch
Christ the King
UNDER CONSTR
SANTA FE
TOPEKA
ATCHISON
Tyler
Summit Lawn Sch
Beacon
DELANO TWP
FLOODWAY
WICHITA
ROAD
VICINITY MAP
PROJECT LOCATION IN WICHITA, KANSAS

BM #1 - Existing Square Cut in S.E. Corner of Concrete Headwall at S. Cell R.C.B. at N.E. Corner of Property
El. 1323.81

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
.....	2004	..	..



ELEVATION
Existing 2-8'x5'x101'-6" RCB
Extend 2-8'x6' RCB 25'-0" Rt.
Skew 0°



PLAN

No.	Revisions	By	Date

CITY OF WICHITA

CONSTRUCTION LAYOUT
MAPLE STREET FROM WOODCHUCK TO BROWNTHRUSH DRIVE

SEDGWICK COUNTY

Professional Engineering Consultants, P.A.
3001 TOWNE • WICHITA, KANSAS 67207
316-262-2691 • FAX 316-262-3003

Designed by	R.A.S.	Checked by	R.A.S.	
Drawn by	M.L.L., R.A.S.	Date	Jan. 2004	Job No. 03503-001

Drawn By: Leaf 4
Plotted By: Leaf 4 - 19-2002
Drawing Name: I:\2003\03503\001\layout.dgn

/2003/03503/001/LAYOUTR.DGN 1/19/2004 2:49:10 PM