Adopted: February 23, 2007

CITY OF WICHITA

Public Works, Engineering Division
Final Drainage Plan Submittal Checklist

Reviewer:_____ Date: 10-23-09

Subdivision Name: Lot 9, Rock Island Industrial Park Location:_____

Total Land Area Of Ownership: 5.85 Acres

Type: _____Residential _____Commercial _____Industrial _____Recreation _____Municipal _____Other

Applicant:_____ Contact:_____ Phone #:_____

Engineer:_____ Contact:_____ Phone #_____

Please check the appropriate box: I = Included; NA = Non-Applicable; R= Required prior to development
(If "NA" is checked, an explanation must be entered)

	Applicant			Engr	
Tab 1. Project Narrative	**I**	**NA**	**Explanation / Location in Plan**	**I**	**NA**
A. Site Location Map, using USGS Map			DRAINAGE REPORT	X	
B. Discussion of development, existing conditions, and proposed impacts on stormwater, wetland, riparian, and flood plain			DRAINAGE REPORT	X	
C. Discussion of offsite conditions			DRAINAGE REPORT	X	
D. Summary of runoff calculations (pre/post development) No increase in peak discharge for all storm series			DRAINAGE REPORT	X	
E. Narrative description of the type and function of the permanent best management practices that are incorporated into the site design			DRAINAGE REPORT	X	
F. Copy of the plat			DRAINAGE REPORT	X	
G. Preliminary grading plan (The final grading plan shall be sealed, signed and dated prior to Engineering receiving the final sanitary sewer plans. One plan sheet and PDF shall be submitted to the Subdivision Engineer.)			N/A		X
H. Professional Engineer seal, signature and date on cover of report			DRAINAGE REPORT	X	
I. CD of drainage plan in PDF format (one file) and one paper copy bound with this checklist included behind the cover					

	Applicant			Engr	
Tab 2. Existing Conditions Runoff Calculations	**I**	**NA**	**Explanation / Location in Plan**	**I**	**NA**
A. Copy of applicable orthophoto showing proposed project boundaries (preferable in color)			DRAINAGE REPORT	X	
B. Runoff Method (Rational, Hydrograph Method, or other approved methods by Engineering)			DRAINAGE REPORT	X	
C. Existing topography (no greater than 2-foot contours, 1-foot recommend)			DRAINAGE MAP	X	
D. Total Site Area and Total Impervious Area (acres)			DRAINAGE MAP	X	
E. Benchmarks used for site control			DRAINAGE MAP	X	
F. Streams, creeks, and waterway labeled			DRAINAGE MAP	X	
G. Predominant soils from USDA soil surveys, and/or on site soil borings			DRAINAGE MAP & REPORT	X	
H. Location and boundaries of natural features such as wetlands, lakes, and ponds with the normal water elevation noted			N/A	~~X~~	X
I. Location of existing roads, buildings, parking lots and other impervious areas.			DRAINAGE MAP	X	

Consulting Engineer Initials AML

J. Location of existing utilities (e.g., water, sewer, gas, electric) and easements			DRAINAGE MAP	X	
K. Location of existing conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow			DRAINAGE MAP	X	
L. Flow paths			DRAINAGE MAP	X	
M. Location and dimensions of existing channels, bridges or culvert crossings			DRAINAGE MAP	X	
N. Existing conditions hydrologic analysis for runoff rates, volumes and velocities showing methodologies used and supporting calculations (2, 5, 10, 25 & 100 year, 24-hour storm events) or Critical Duration			DRAINAGE REPORT	X	
O. Assumed pre-developed runoff curve numbers			DRAINAGE REPORT	X	
P. Existing time of concentrations used in calculations			DRAINAGE REPORT	X	
Q. Evaluate immediate downstream drainage capacity, not to exceed more than 0.25 miles downstream of site			POST DEVELOPMENT RUNOFF DEMONSTRATED TO BE LESS THAN PRE	X	
R. Existing structural elevations (e.g., invert of pipes, manholes, etc.)			DRAINAGE MAP	X	
S. Cross-section data for open channels			N/A		X
T. Ground water elevations, if applicable			N/A		X

	Applicant			Engr	
Tab 3. Post-Development Hydrologic Analysis	**I**	**NA**	**Explanation / Location in Plan**	**I**	**NA**
A. Proposed (post-development) conditions hydrologic and hydraulic analysis for runoff rates, volumes, HGL, and velocities showing the methodologies used and supporting calculations for all applicable design storms (2, 5, 10, 25 & 100 year, 24-hour storm events)			DRAINAGE REPORT	X	
B. Proposed time of concentrations used in calculations			DRAINAGE REPORT	X	
C. Assumed post-developed runoff curve numbers			DRAINAGE REPORT	X	
D. Proposed contours for detention facilities (to equal area used in outlet rating curves)			DRAINAGE MAP	X	
E. Preliminary sizing calculations for stormwater controls including contributing drainage area, storage, and outlet configuration			DRAINAGE MAP	X	
F. Stage-storage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities			DRAINAGE REPORT	X	
G. Final analysis of potential upstream/downstream impact/effects of project, where necessary			N/A	X	X
H. Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.)			DRAINAGE MAP & REPORT	X	
I. Design water surface elevations and normal pool elevation for ponds.			N/A DRY BOTTOM POND	X	X
J. Typical detail for outlet structures, embankments, spillways, grade control structures, conveyance channels, etc. To include height, width, elevation, and/or diameter.			N/A OUTLET IS SIMPLE RCP	X	X
K. Proposed limits of clearing and grading			DRAINAGE MAP	X	
L. Location of existing and proposed roads, buildings, parking lots and other impervious areas.			DRAINAGE MAP	X	
M. Location of existing and proposed utilities (e.g., water, sewer) and easements			DRAINAGE MAP	X	
N. Location of existing and proposed conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow			DRAINAGE MAP	X	
O. Preliminary location and dimensions of proposed channel modifications, such as bridge or culvert crossings			N/A	X	X

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P. Preliminary selection and location of stormwater controls			DRAINAGE MAP	X	
Q. Emergency overflow structure's flow path			DRAINAGE MAP	Y	
R. Detention facility provides one-foot of freeboard above the HWL and emergency outfall shown (top of berm elevation shown)			DRAINAGE MAP	X	
S. The 100-year 24-hour HWL delineated on the plan for detention pond			DRAINAGE MAP	Y	
T. Lowest opening elevations table on the plat for structures located adjacent to channels or ponds			DRAINAGE MAP	X	
U. Stormwater Management Facilities located within a Reserve			LOT 9, IS NOT BEING REPLATTED		X
V. Maintenance responsibility of stormwater management facility shall be specified in the platters text. (e.g. HOA, Lot Owners Association, or lot)			NO PLATTERS TEXT		X
W. Off-site drainage easements or agreements required, where necessary			N/A		Y

	Applicant			Engr	
Tab 4. Floodplain Submittal	**I**	**NA**	**Explanation / Location in Plan**	**I**	**NA**
A. Provide source of flood profile			FEMA FIRM IN DRAINAGE REPORT	X	
B. Nearest base flood elevations			DRAINAGE MAP	X	
C. Delineation of pre-developed regulatory floodplain/floodway limits			DRAINAGE MAP	X	
D. Delineation of post-developed regulatory floodplain and floodway limits			NO CHANGE	X	
E. Floodplain boundary determination per elevation (project limits shown)			N/A		X
F. Provide source of floodway data table and discharges			N/A		X
G. Provide all hydrologic and hydraulic study information for site-specific floodplain studies, unnumbered Zone A area elevation determinations and flood plain map revisions or required permits			N/A		X
H. Provide regulatory floodway and four natural profile models (10,50,100, and 500-yr) for existing and future watershed conditions			N/A		X
I. Location of floodplain/floodway limits and relationship of site to upstream/downstream properties (floodplain limits to be per elevation and scaled location)			DRAINAGE MAP	X	
J. Flood plains and floodways located within a Reserve, where necessary			ALMOST ENTIRE SITE IS LOCATED IN FLOODPLAIN, ONLY BUILDING PAD IS REMOVED	X	

	Applicant			Engr	
Tab 5. Federal, State and Local Permits (to be provided prior to construction unless otherwise specified)	**I/R**	**NA**	**Explanation / Location in Plan**	**I/R**	**NA**
A. US Army Corps of Engineers - Regulatory program permits (404 water quality certification)			N/A		X
B. Kansas Department of Agriculture - Division of Water Resources Permits (Stream Obstruction, Channel Change, Flood Plain Fill, Levee, Water Appropriations, Dam safety permit, etc.)			COPY OF APPLICATION PROVIDED IN DRAINAGE REPORT	Y	
C. Federal Emergency Management Agency (FEMA) Letter of Map Changes (LOMA, LOMR, LOMR-f, CLOMR, etc.) Shall be included and approved when project modifies the limits of the floodway.			LOMR-F TO BE PROVIDED BY OTHERS (BENCHMARK SURVEYING)		
D. Kansas Department of Transportation					X
E. Sedgwick County Right-of-way Permit					X

Consulting Engineer Initials AML

DRAINAGE REPORT

Lot 9, Rock Island Industrial Park

WICHITA, SEDGWICK COUNTY, KANSAS

December 29, 2009

Lot 9, Rock Island Industrial Park
DRAINAGE ANALYSIS
November 12, 2009

INTRODUCTION

This report contains supporting documentation and calculations for development on Lot 9, Rock Island Industrial Park. The site is located on Palisade Avenue in the NE ¼ of Section 17-28S-1E. The 5.85 acre site currently exists in an undeveloped condition. The soil type of the site is designated as Waldeck sandy loam. The site is located on FEMA FIRM 20173C0505E in both shaded Zone X and Zone AE. No offsite area drains onto the site. The site generally drains to the southeast to a grouping of inlets located in the Palisade Avenue cul-de-sac. The inlets drain north in a 24" RCP which outlets into the Big Slough South. The 24" storm sewer line is located in a 20' easement along the east property line of Lot 9. Portions of the adjacent lot, Lot 10, also drain into the storm sewer line by way of inlets and manholes located periodically along the sewer.

HYDROLOGY

The lot will be developed with a commercial building and a parking lot. The existing and proposed conditions are modeled using HEC-HMS. The model parameters and results for the pre and proposed conditions are shown in the tables below.

Existing	Area (ac.)	CN	TC (min.)	Q2 (cfs)	Q5 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
A	5.1	72	23	5.7	9.7	12.3	16.7	24.6
B	0.5	72	5	0.4	0.6	0.8	1.1	1.7
Site	--	--	--	6.1	10.3	13.1	17.8	26.3

Proposed	Area (ac.)	CN	(min.)	Q2 (cfs)	Q5 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
A	4.1	75.3	5	6.3	9.6	11.6	15.1	21.3
B	0.5	75.3	23	0.4	0.6	0.8	1.1	1.7
C	0.9	88	15	1.6	2.7	3.3	4.4	6.4
Site	--	--	--	4.5	6.4	7.6	9.6	12.6

In the proposed condition Area A will drain the proposed building and the northern portion of the lot to a proposed detention pond. Area B shall remain as it is in the existing condition. The runoff from Area C will drain to Palisade Avenue and be collected into the existing group of inlets.

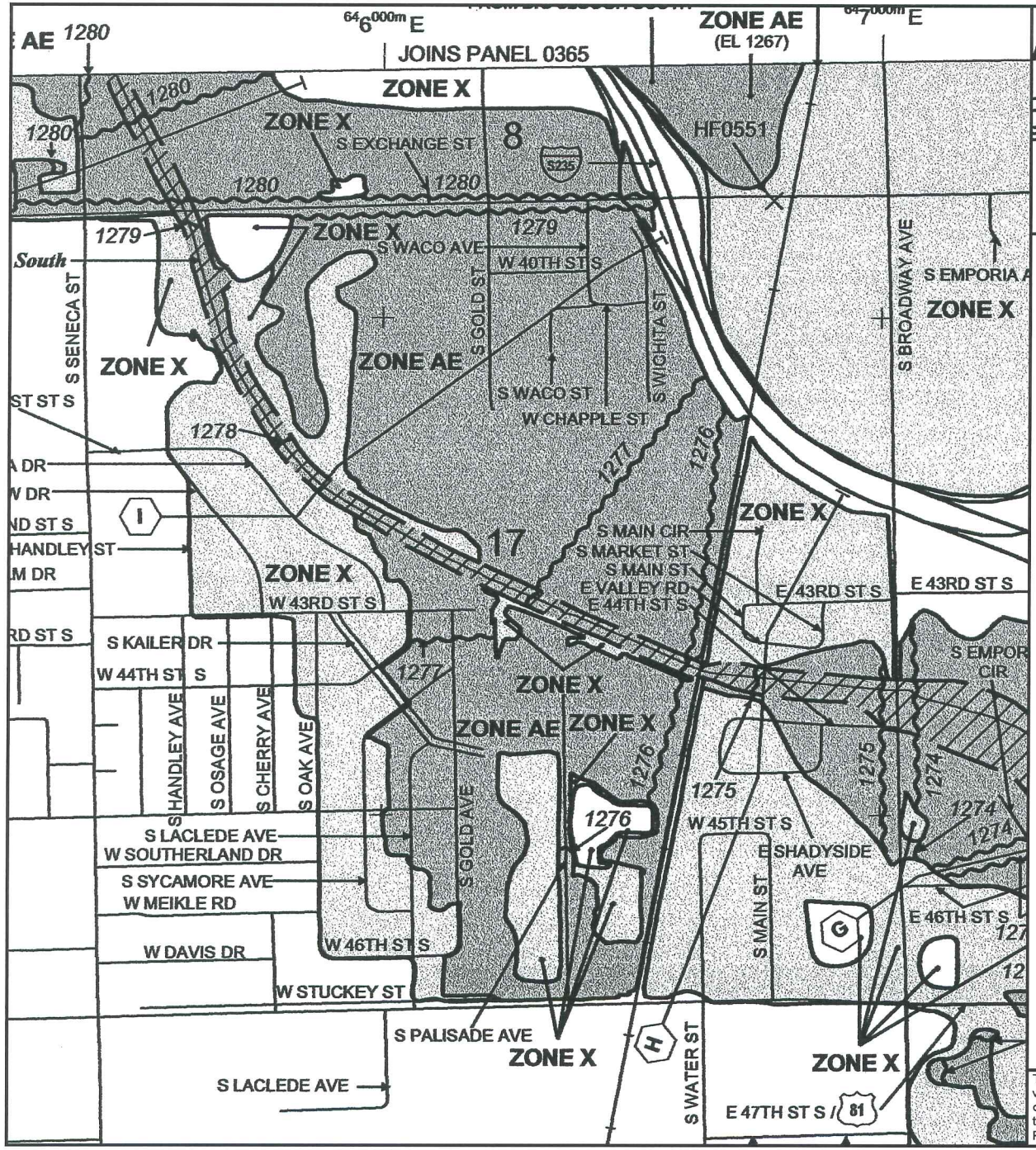
The detention pond located on site shall be a dry bottom pond with a flowline out of 1269.00 while the outlet flow will be controlled by a 12" RCP. The pond will outlet to the Big Slough South and is subject to the water surface of the slough. The times of concentration for the site compared to the slough are such that the peak flow from the site will be long passed before the peak flow of the slough is present at the 24" outlet pipe which the pond outlets to. Therefore the effect of the slough tailwater is ignored in the modeling of the

detention pond. The performance of the detention pond is the various design storms is shown in the following table;

Design Storm	Max Flow In	Max Flow Out	Max W.S.	Max Storage
2-yr	6.3 cfs	3.0 cfs	1270.3	0.1 ac.-ft.
5-yr	9.6 cfs	4.0 cfs	1271.0	0.2 ac.-ft.
10-yr	11.6 cfs	4.3 cfs	1271.1	0.2 ac.-ft.
25-yr	15.1 cfs	4.8 cfs	1271.4	0.3 ac.-ft.
100-yr	21.3 cfs	5.6 cfs	1272.0	0.5 ac.-ft.

An emergency outlet location has not been provided on the drainage map. The inlets at the head of the cul de sac are at the lowest point of Palisade Avenue, with the top of inlets at an elevation of 1272.6 while the highest point is a half mile south at the intersection of Palisade and 47th Street South the elevation is 1277. Also the levee of the Big Slough South has a top elevation of app. 1279. Therefore, the site sits in a hole with the only outlet from the area the 24" RCP flowing north from the cul de sac through the levee. As noted above, the lot is located within Zone AE and the base flood elevation on the lot is 1277. Fill will be placed to bring the building pad out of the floodplain, and the minimum pad elevation for the lot must be 1279. An application to DWR has been submitted for the floodplain fill while a LOMA-F will be submitted after the fills are completed.

FEMA FIRM



MAP SCALE 1" = 1000'

1000 2000 FEET

0 300 600 METERS

PANEL 0505E

FIRM

FLOOD INSURANCE RATE MAP

SEDGWICK COUNTY, KANSAS AND INCORPORATED AREAS

PANEL 505 OF 700

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HAYSVILLE, CITY OF	200324	0505	E
SEDGWICK COUNTY	200321	0505	E
WICHITA, CITY OF	200328	0505	E

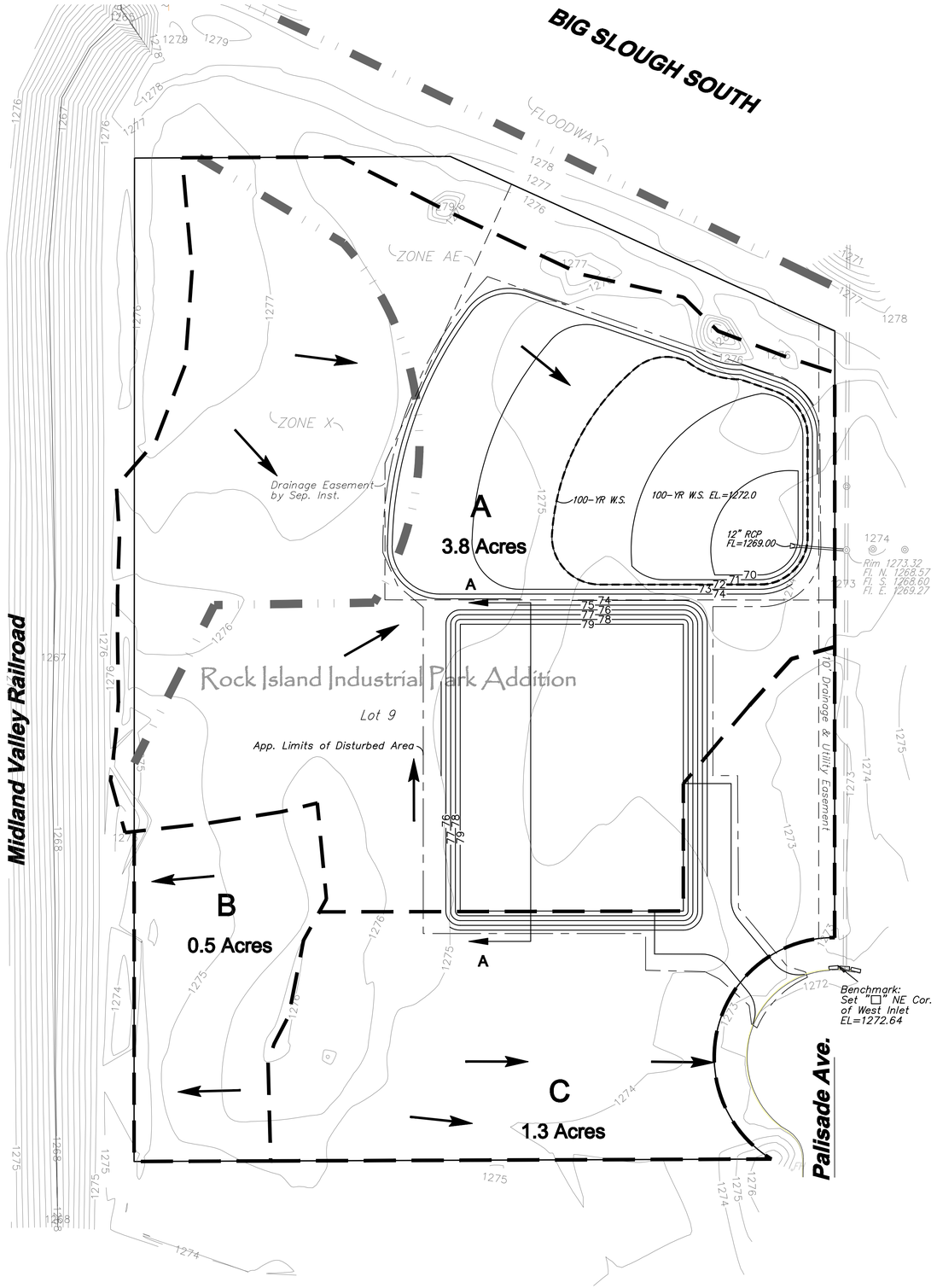
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

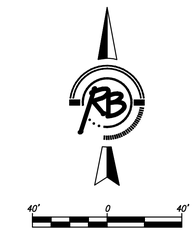
MAP NUMBER
20173C0505E

EFFECTIVE DATE
FEBRUARY 2, 2007

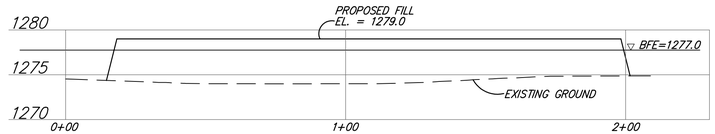
Federal Emergency Management Agency

DRAINAGE MAP



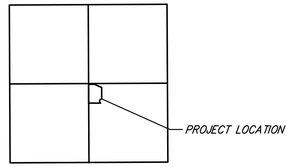


SOIL TYPE : WALDECK SANDY LOAM
HYDROLOGIC GROUP : C
PROPOSED CONDITION : 0.72 AC. IMPERVIOUS AREA
TOTAL SITE AREA: 5.85 AC.

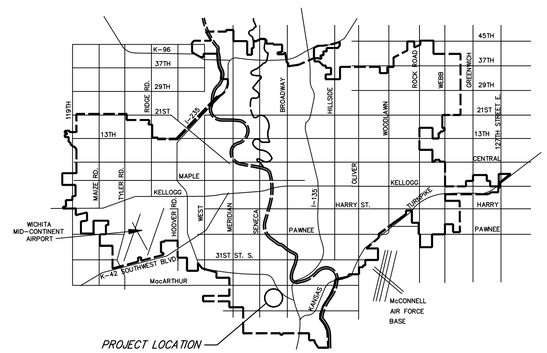


SECTION A-A

MINIMUM PAD ELEVATION	
LOT	MIN. PAD
9	1279.0



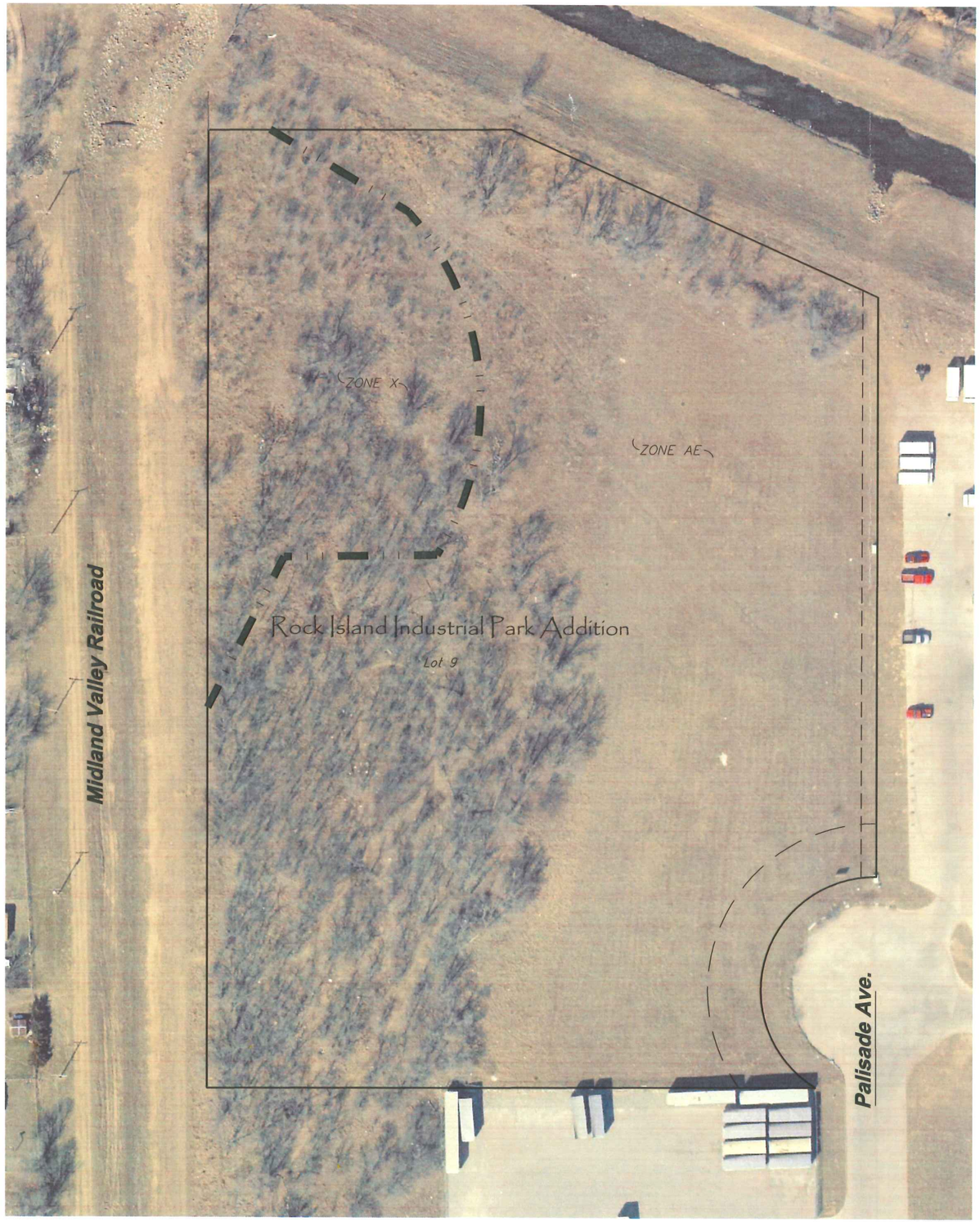
SEC 17-28S-1E
N.T.S.

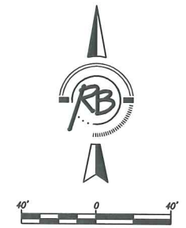


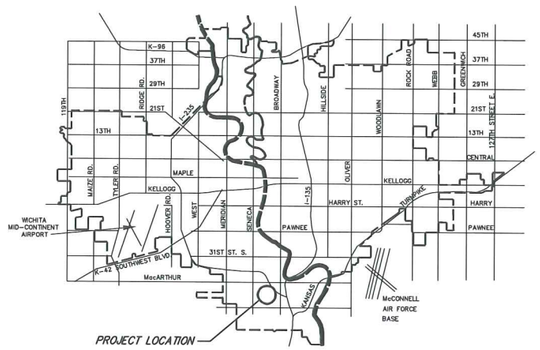
DRAINAGE PLAN
Lot 9 - Rock Island Industrial Park Addition
WICHITA, KANSAS

Ruggles & Bohm, P.A.
Engineering, Surveying, Land Planning
104 North Main
Wichita, Kansas 67203
www.rbkansas.com
(316) 264-6696
(316) 264-4221 fax
E-mail: info@rbkansas.com

DESIGN	AML
DRAWN	AML
CHECKED	
QA/QC	
DATE	Oct. 21, 2009
DRAWING FILE	Drainage Plan {Plan 1}
PROJECT NUMBER	.
JOB NO.	3538D
SHEET	1 OF 1







AERIAL

Lot 9 - Rock Island Industrial Park Addition

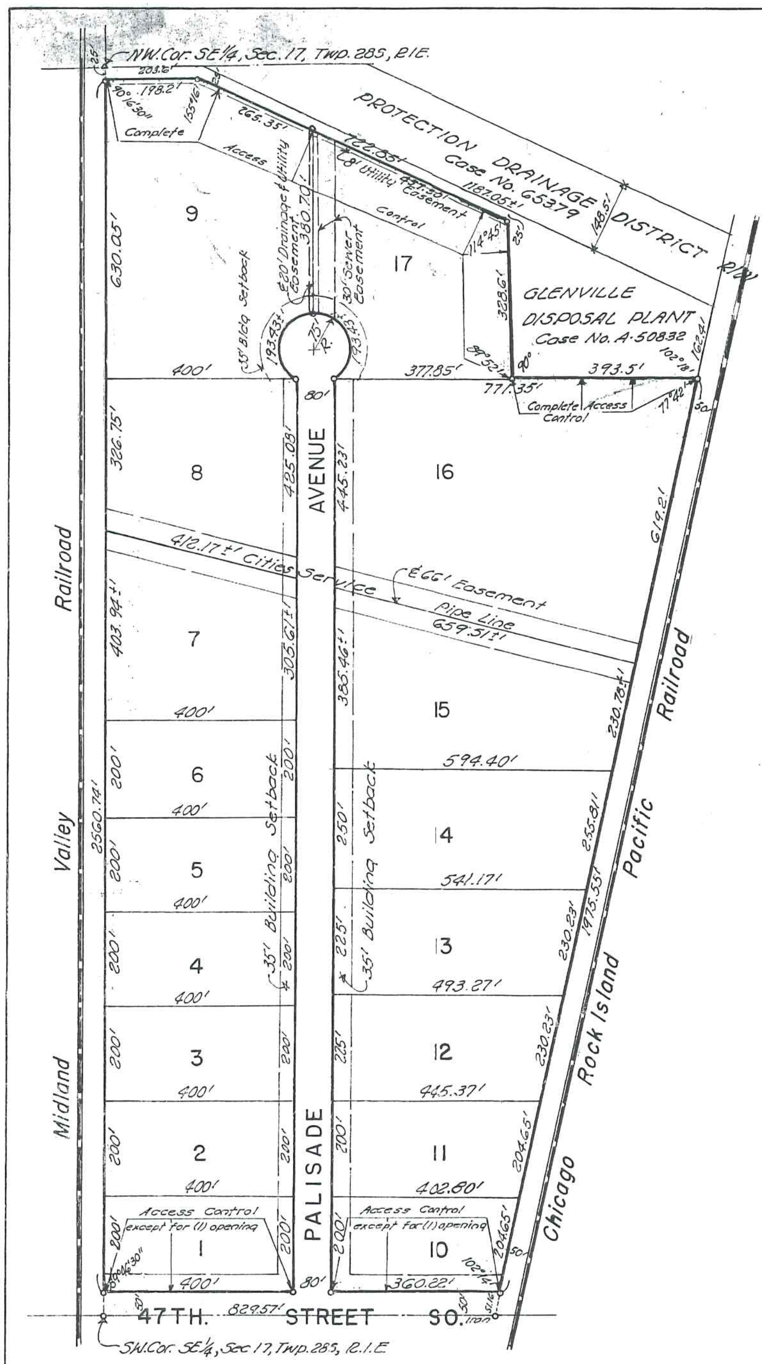
WICHITA, KANSAS

Ruggles & Bohm, P.A.
Engineering, Surveying, Land Planning
924 North Main
Wichita, Kansas 67203
www.rbkansas.com
(316) 264-8008
(316) 264-4621 fax
E-mail: info@rbkansas.com

DESIGN	AML
DRAWN	AML
REVIEW	
UTILITY	
DATE	Oct. 21, 2009
RB JOB	3538D
SHEET	1 OF 1
DRAWING FILE	Drainage Plan {Plan 1}
PROJECT NUMBER	.

ROCK ISLAND INDUSTRIAL PARK ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS



State of Kansas
County of Sedgwick } SS

I, Gerald Young, Civil Engineer in said State and County, do hereby certify that I have surveyed and platted "ROCK ISLAND INDUSTRIAL PARK ADDITION," Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of said survey, described as follows: Beginning at the S.W. Cor. of the S.E.1/4, Sec.17, T28S, R.1E. of the 6th. Principal Meridian, thence North a dist. of 2610.74 feet more or less to a pt. 25.0' So. of the N.W. Cor. of said SE.1/4; thence with a deflection to the right of 89°43'30" a dist. of 198.2'; thence with a deflection to the Right of 24°44' a dist. of 722.85 feet; thence with a deflection to the Right of 65°15' a dist. of 328.6 feet; thence with a deflection to the Left of 90° a dist. of 393.5 feet to a pt. on the West Line of the C.R.I. & Pacific Railroad Right-of-way; thence in a Southwesterly direction along said West Right-of-way Line a dist. of 2026.7 ft. more or less to a pt. on the South Line of said SE1/4; thence West 829.57 feet to the pt. of beginning.

Gerald Young — Civil Engineer

Know all men by these presents that we, Sherwood Construction Co. Inc. a corporation by Joy L. Sherwood, President and Howard Sherwood, Secretary, and Eugene W. Kessinger and Dolpha M. Kessinger, his wife, and Abbot J. Cook and Wilma M. Cook, his wife, and Leslie Henry and Betty Ann Henry, his wife, have caused the land described in the Civil Engineer's certificate to be platted into Lots, Street and Avenue to be know as "ROCK ISLAND INDUSTRIAL PARK ADDITION" to Wichita, Kansas. Easements are hereby granted as indicated for the construction and maintenance of all public utilities. The street and avenue are hereby dedicated to and for the use of the public. All abutters rights of access over and across the north line of Lots 9 & 17, east line Lot 17, and the north line Lot 16, also all abutters rights of access to and from 47th Street South, over and across Lots 1 & 10, except for (1) opening per Lot which may be established by the City of Wichita, is hereby granted to the City of Wichita.

Eugene W. Kessinger — Dolpha M. Kessinger — Sherwood Construction Co. Inc.
Abbot J. Cook — Wilma M. Cook — Joy L. Sherwood, President
Leslie Henry — Betty Ann Henry — Howard Sherwood, Secretary

State of Kansas
Sedgwick County } SS

Be it remembered that on this 23rd day of December 1967, before me a notary public in aforesaid county and state came Joy L. Sherwood, President, and Howard Sherwood, secretary of Sherwood Construction Co. Inc. and Eugene W. Kessinger and Dolpha M. Kessinger, his wife, and Abbot J. Cook and Wilma M. Cook, his wife, and Leslie Henry and Betty Ann Henry, his wife, to me known to be the same persons who executed the foregoing instrument of writing and duly acknowledged the execution of the same. In testimony whereof I have hereunto set my hand and affixed my notorial seal the day and year above written.

Virginia L. Sell — Notary Public

My Commission expires: October 31, 1970

2539

State of Kansas
Sedgwick County } SS

This is to certify that this plat was filed for record in the office of the Register of Deeds this 9th day of Feb. 1968, at 3:03 o'clock P. M., and is duly recorded.

Rufus E. Deering — Register of Deeds
Pearl B. Gilbert — Deputy

This plat of "ROCK ISLAND INDUSTRIAL PARK ADDITION" to Wichita, Kansas, has been approved by the Wichita Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas, and is hereby transmitted to the Board of Commissioners of the City of Wichita, Kansas, with the recommendation that such plat be approved as proposed.

Dated this 9th day of November, 1967.

Wichita-Sedgwick County Metropolitan Area Planning Commission.

Theodore H. Hill — Chairman
C. Bickley Foster — Secretary

Approved by the Board of City Commissioners this 9th day of January 1968.

Clarence E. Vollmer — Mayor
Ralph C. Eberly — City Clerk

Approved by the Board of County Commissioners this ___ day of Feb. 1968.

Elmer S. Peters — Chairman
Tom Scott — Commissioner
Earl E. Rush — Commissioner
Marie Warden — County Clerk

Entered on transfer record this 7 day of February 1968.

Marie Warden — County Clerk

M-1 3-18

HEC-HMS OUTPUT

Project: 3538D Simulation Run: 002 EXIST

Start of Run: 01Jan2009, 12:00 Basin Model: EXISTING
End of Run: 02Jan2009, 12:15 Meteorologic Model: 002-YR
Compute Time: 22Oct2009, 15:43:29 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.0078125	5.7	02Jan2009, 00:0
B	.00078125	0.4	02Jan2009, 00:1
SITE	0.0085938	6.1	02Jan2009, 00:0

Project: 3538D Simulation Run: 005 EXIST

Start of Run: 01Jan2009, 12:00 Basin Model: EXISTING
End of Run: 02Jan2009, 12:15 Meteorologic Model: 005-YR
Compute Time: 22Oct2009, 15:43:33 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.0078125	9.7	02Jan2009, 00:0
B	.00078125	0.6	02Jan2009, 00:0
SITE	0.0085938	10.3	02Jan2009, 00:0

Project: 3538D Simulation Run: 010 EXIST

Start of Run: 01Jan2009, 12:00 Basin Model: EXISTING
End of Run: 02Jan2009, 12:15 Meteorologic Model: 010-YR
Compute Time: 22Oct2009, 15:43:37 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.0078125	12.3	02Jan2009, 00:0
B	.00078125	0.8	02Jan2009, 00:0
SITE	0.0085938	13.1	02Jan2009, 00:0

Project: 3538D Simulation Run: 025 EXIST

Start of Run: 01Jan2009, 12:00 Basin Model: EXISTING
End of Run: 02Jan2009, 12:15 Meteorologic Model: 025-YR
Compute Time: 22Oct2009, 15:43:40 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.0078125	16.7	02Jan2009, 00:0
B	.00078125	1.1	02Jan2009, 00:0
SITE	0.0085938	17.8	02Jan2009, 00:0

Project: 3538D Simulation Run: 100 EXIST

Start of Run: 01Jan2009, 12:00 Basin Model: EXISTING
End of Run: 02Jan2009, 12:15 Meteorologic Model: 100-YR
Compute Time: 27Oct2009, 07:39:10 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.0078125	24.6	02Jan2009, 00:0
B	.00078125	1.7	02Jan2009, 00:0
SITE	0.0085938	26.3	02Jan2009, 00:0

Project: 3538D Simulation Run: PROP 002

Start of Run: 01Jan2009, 12:00 Basin Model: PROPOSED
End of Run: 02Jan2009, 12:15 Meteorologic Model: 002-YR
Compute Time: 29Dec2009, 16:37:27 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.005940	6.3	02Jan2009, 00:0
Reservoir-1	0.005940	3.0	02Jan2009, 00:1
C	0.002030	1.6	02Jan2009, 00:0
B	0.000781	0.4	02Jan2009, 00:1
SITE	0.008751	4.5	02Jan2009, 00:0

Project: 3538D Simulation Run: PROP 005

Start of Run: 01Jan2009, 12:00 Basin Model: PROPOSED
End of Run: 02Jan2009, 12:15 Meteorologic Model: 005-YR
Compute Time: 29Dec2009, 16:52:58 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.005940	9.6	02Jan2009, 00:0
Reservoir-1	0.005940	4.0	02Jan2009, 00:1
C	0.002030	2.7	02Jan2009, 00:0
B	0.000781	0.6	02Jan2009, 00:0
SITE	0.008751	6.4	02Jan2009, 00:0

Project: 3538D Simulation Run: PROP 010

Start of Run: 01Jan2009, 12:00
End of Run: 02Jan2009, 12:15
Compute Time: 29Dec2009, 16:53:07

Basin Model: PROPOSED
Meteorologic Model: 010-YR
Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.005940	11.6	02Jan2009, 00:0
Reservoir-1	0.005940	4.3	02Jan2009, 00:1
C	0.002030	3.3	02Jan2009, 00:0
B	0.000781	0.8	02Jan2009, 00:0
SITE	0.008751	7.6	02Jan2009, 00:0

Project: 3538D Simulation Run: PROP 025

Start of Run: 01Jan2009, 12:00 Basin Model: PROPOSED
End of Run: 02Jan2009, 12:15 Meteorologic Model: 025-YR
Compute Time: 29Dec2009, 16:53:16 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.005940	15.1	02Jan2009, 00:0
Reservoir-1	0.005940	4.8	02Jan2009, 00:3
C	0.002030	4.4	02Jan2009, 00:0
B	0.000781	1.1	02Jan2009, 00:0
SITE	0.008751	9.6	02Jan2009, 00:0

Project: 3538D Simulation Run: PROP 100

Start of Run: 01Jan2009, 12:00 Basin Model: PROPOSED
End of Run: 02Jan2009, 12:15 Meteorologic Model: 100-YR
Compute Time: 29Dec2009, 16:37:36 Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak
A	0.005940	21.3	02Jan2009, 00:0
Reservoir-1	0.005940	5.6	02Jan2009, 00:3
C	0.002030	6.4	02Jan2009, 00:0
B	0.000781	1.7	02Jan2009, 00:0
SITE	0.008751	12.6	02Jan2009, 00:0

Project: 3538D

Simulation Run: PROP 002 Reservoir: Reservoir-1

Start of Run:	01Jan2009, 12:00	Basin Model:	PROPOSED
End of Run:	02Jan2009, 12:15	Meteorologic Model:	002-YR
Compute Time:	29Dec2009, 16:37:27	Control Specifications:	Control 1

Volume Units: IN

Computed Results

Peak Inflow :	6.3 (CFS)	Date/Time of Peak Inflow :	02Jan2009, 00:00
Peak Outflow :	3.0 (CFS)	Date/Time of Peak Outflow :	02Jan2009, 00:15
Total Inflow :	1.63 (IN)	Peak Storage :	0.1 (AC-FT)
Total Outflow :	1.60 (IN)	Peak Elevation :	1270.5 (FT)

Project: 3538D

Simulation Run: PROP 005 Reservoir: Reservoir-1

Start of Run:	01Jan2009, 12:00	Basin Model:	PROPOSED
End of Run:	02Jan2009, 12:15	Meteorologic Model:	005-YR
Compute Time:	29Dec2009, 16:52:58	Control Specifications:	Control 1

Volume Units: IN

Computed Results

Peak Inflow :	9.6 (CFS)	Date/Time of Peak Inflow :	02Jan2009, 00:00
Peak Outflow :	4.0 (CFS)	Date/Time of Peak Outflow :	02Jan2009, 00:15
Total Inflow :	2.42 (IN)	Peak Storage :	0.2 (AC-FT)
Total Outflow :	2.38 (IN)	Peak Elevation :	1271.0 (FT)

Project: 3538D

Simulation Run: PROP 010 Reservoir: Reservoir-1

Start of Run:	01Jan2009, 12:00	Basin Model:	PROPOSED
End of Run:	02Jan2009, 12:15	Meteorologic Model:	010-YR
Compute Time:	29Dec2009, 16:53:07	Control Specifications:	Control 1

Volume Units: IN

Computed Results

Peak Inflow :	11.6 (CFS)	Date/Time of Peak Inflow :	02Jan2009, 00:00
Peak Outflow :	4.3 (CFS)	Date/Time of Peak Outflow :	02Jan2009, 00:15
Total Inflow :	2.92 (IN)	Peak Storage :	0.2 (AC-FT)
Total Outflow :	2.88 (IN)	Peak Elevation :	1271.1 (FT)

Project: 3538D

Simulation Run: PROP 025 Reservoir: Reservoir-1

Start of Run:	01Jan2009, 12:00	Basin Model:	PROPOSED
End of Run:	02Jan2009, 12:15	Meteorologic Model:	025-YR
Compute Time:	29Dec2009, 16:53:16	Control Specifications:	Control 1

Volume Units: IN

Computed Results

Peak Inflow :	15.1 (CFS)	Date/Time of Peak Inflow :	02Jan2009, 00:00
Peak Outflow :	4.8 (CFS)	Date/Time of Peak Outflow :	02Jan2009, 00:30
Total Inflow :	3.78 (IN)	Peak Storage :	0.3 (AC-FT)
Total Outflow :	3.74 (IN)	Peak Elevation :	1271.4 (FT)

Project: 3538D

Simulation Run: PROP 100 Reservoir: Reservoir-1

Start of Run:	01Jan2009, 12:00	Basin Model:	PROPOSED
End of Run:	02Jan2009, 12:15	Meteorologic Model:	100-YR
Compute Time:	29Dec2009, 16:37:36	Control Specifications:	Control 1

Volume Units: IN

Computed Results

Peak Inflow :	21.3 (CFS)	Date/Time of Peak Inflow :	02Jan2009, 00:00
Peak Outflow :	5.6 (CFS)	Date/Time of Peak Outflow :	02Jan2009, 00:30
Total Inflow :	5.31 (IN)	Peak Storage :	0.5 (AC-FT)
Total Outflow :	5.26 (IN)	Peak Elevation :	1272.0 (FT)

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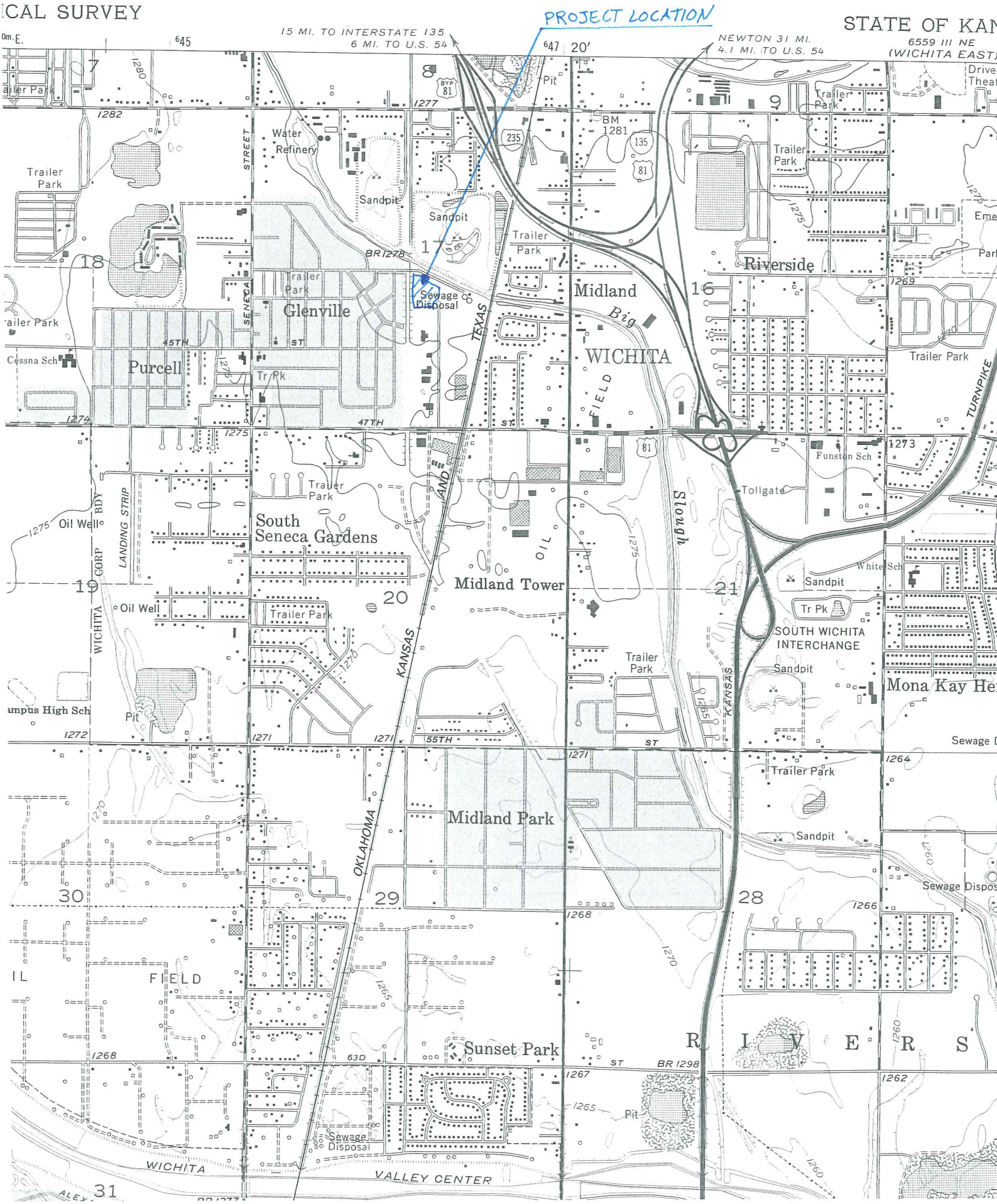

DWR PERMIT APPLICATION

THE STATE OF KANSAS

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

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

APPLICATION FOR APPROVAL
of PLANS FOR CONSTRUCTION or MAINTENANCE of LEVEES
or FLOODPLAIN FILLS
(K.S.A. 24-126)

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:** Lies Trash Service

Agent: _____

Title: _____

Mailing Address: 4631 S Palisade St. Wichita KS 67217

E-Mail Address: _____

Telephone No.: 316-522-1699 FAX No.: _____

2. **Designer:** _____

Firm: Ruggles & Bohm P.A.

Contact Person: Alex M. Lane P.E.

Mailing Address: 924 N. Main Wichita, KS 67203

E-Mail Address: alane@rbkansas.com

Telephone No.: 316-264-8008 FAX No.: 316-264-4621

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

DWR 3-100 (Rev. 8/2008)

Description of proposed construction:

Site Name: Lot 9, Rock Island Industrial Park Addition

a. If the project is a floodplain fill, check the locations that apply (check all that apply):

☐ floodway ☑ floodway fringe ☑ floodplain (Zone A for example)
☐ unmapped ☐ other (describe): _____

Does the community (city or county) in which the project is located participate in the National Flood Insurance Program: ☑ Yes ☐ No

b. If the project is a levee, proposed levee is Class _____ (A, B, or C. See rules and regulations, K.A.R. 5-45-8 for definitions)

c. The project purpose is (check all that apply):

☑ new construction ☐ repair ☐ modification
☐ maintenance ☐ erosion control ☐ replacement
☐ flood control ☐ road embankment
☐ the beneficial use of water (see Appropriation of Water, File No. _____)
☐ other (describe): _____

d. The project will (complete all that apply): be 180 feet long, 3 feet high, average feet in height with a maximum height of 4 feet; have 3 :1 side slopes, 140 feet top width, 2800 cubic yards of fill; constrict the channel and floodplain by N/A %; cause a hydraulic restriction or backwater of N/A feet.

Further description: The fill is to construct a building pad for a maintenance facility & office space for a trash service.

4. **Legal description of location** (for levees please describe the beginning and ending points of the levee. For floodplain fills, please use the geographical center or midpoint of the project):

Beginning in the NW Quarter of the NW Quarter of the SE Quarter of Section 17, Township 28 South, Range 1 E _____, SEDGWICK County, Kansas;

Additional description: _____

Ending in the _____ Quarter of the _____ Quarter of the _____ Quarter of Section _____,

Township _____ South, Range _____ _____, _____ County, Kansas

Additional description: _____

Across, along, or in (stream or watercourse name): _____

5. **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
   - ☐ remove gravel, sand or silt bars
   - ☐ fill or drain a wetland
   - ☐ create deep pools
   - ☐ relocate a channel
   - ☒ remove streamside vegetation, including _____ acres of trees and 0.58 acres of vegetation
   - ☐ fill or drain deep pools
   - ☐ disturb or endanger historic sites or structures
   - ☐ inundate a stream
   - ☐ affect threatened and endangered species
   - ☐ widen a channel

   b. Describe actions planned to minimize the project impact:

   Describe any vegetative strip planned: Dry bottom detention pond and 4.9 acres of 5.6 acres site shall be grass or other vegetation.

   Describe erosion control measures to be used during construction: Silt fence @ boundaries of disturbed area & detention pond can serve as temp. siltation basin.

   Describe mitigation or replacement of environmental impacts or values: _____

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

   Describe other planned activities: _____

6. **The design, construction, operation, and maintenance of the stream obstruction or channel change must conform to the requirements of the rules and regulations adopted by the Chief Engineer. Applicable regulations are K.A.R. 5-45-1 through 5-45-18. Please visit our web site, www.ksda.gov/dwr, or contact our office to obtain those rules and regulations.**