

**Conquest North Second Addition  
Drainage Report  
8/30/2005**

This is the drainage report for Conquest North Second Addition to Wichita, Sedgwick County, Kansas. Within the report, the pre-developed and post-developed drainage conditions for the addition are studied and compared.

**Pre-Developed Conditions**

HEC-HMS was used to determine existing onsite drainage discharge. Drainage areas for the basin were determined by using USGS quad maps. The areas are as follows:

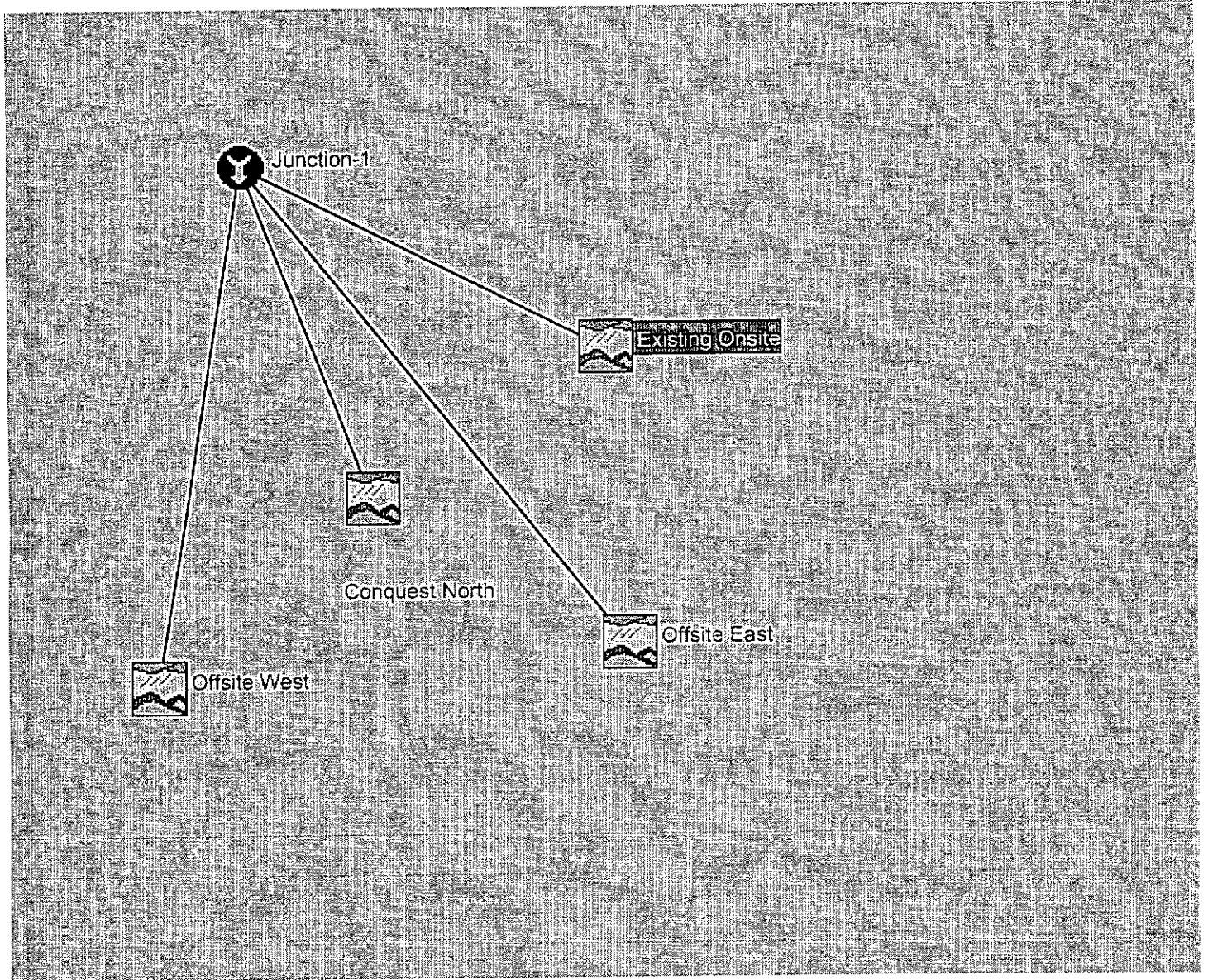
- West Basin drainage area = 0.067 sq. mi.
- East Basin drainage area = 0.041 sq. mi.
- Conquest North drainage area = 0.003 sq. mi.
- Existing onsite drainage area = 0.024 sq. mi.

SCS curve numbers are assumed to be 83 for the urban basins and 75 for the undeveloped basins.

SCS Lag for each basin:

- West basin = 18 minutes
- East basin = 18 minutes
- Conquest North = 9 minutes
- Existing onsite = 9 minutes

Inputting these values into HEC-HMS produced the results on the following page.



HMS \* Summary of Results for Junction-1

Project : Conquest North 2nd      Run Name : Run 8

Start of Run    : 01Jan05 1200    Basin Model    : Existing  
End of Run      : 02Jan05 1200    Met. Model    : Met 1  
Execution Time : 29Aug05 1600    Control Specs : Control 1

Computed Results

Peak Outflow : 403.36 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0010  
Total Outflow : 5.59 (in)

Now that the pre-developed condition has been determined, the post-developed condition must be studied.

### Post Developed Conditions

First, the flow diverted through across the site through an existing storm water sewer network must be determined. (assume full flow in all pipes)

Hydraulic grade in upstream 30" pipe = 142.33  
 Hydraulic grade in downstream 36" pipe = 138.75  
 Distance from upstream inlet to downstream inlet = 1093'  
 Slope on hydraulic grade line =  $3.6'/1093' = 0.33\%$

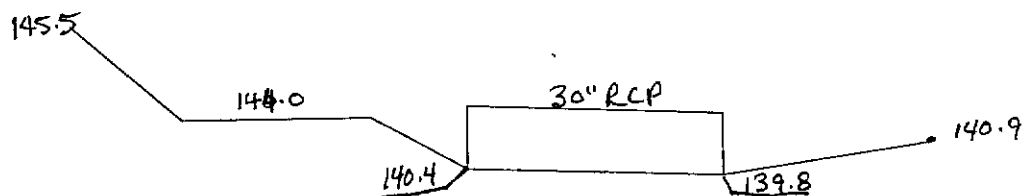
From Table 111: Circular Concrete & Corrugated Metal Pipe from American Concrete Pipe Association's Design Data 4:

$$K = 410.1$$

$$Q = K * (S)^{1/2} = 410.1 * (0.033)^{1/2} = 23.6 \text{ cfs}$$

This flow will be diverted from the south pond basin through the existing sws pipe network.

Next the routing of the south east pond will be determined. Initial flows will route through a 30" RCP under the existing roadway and into a proposed channel.



Using the "Hydraulic Charts for the Selection of Highway Culverts" the flow through the 30" RCP was found to be: (Inlet control assumed)

Elevation	Head	HW/D	Q (cfs)
144.0	3.1	1.24	30
144.5	3.6	1.44	34
145.0	4.1	1.64	37
145.5	4.6	1.84	42

(D = 2.5 ft, 30" RCP)

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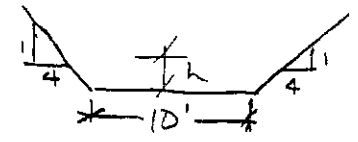
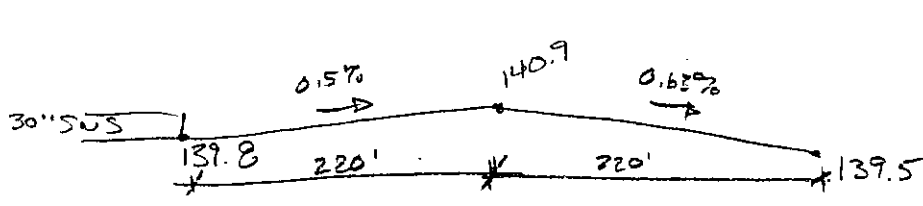
Once the water surface reaches an elevation of 144.3 the pond is able to overtop the roadway. The flow will then cross the road into the proposed channel. The shape of the pond restricts the ability of the pond to discharge. The outlet will be considered as weir flow with a length of 57.0 feet.

Weir Output Rating

Elev	Depth	Q (cfs)
144.3	0.0	0.0
144.5	0.2	17.7
145.0	0.7	116.0
145.5	1.2	260.5

Next to be studied is the proposed channel. The detention capacity calculations for the proposed channel are shown on the spreadsheet on the following page.

	ELEV	Depth Of Flow	Deep End Area	Shallow End Area	Length	Volume	Vol (Acre-Ft)
UPSTREAM	40.00	0.20	2.16	0.00	40.00	43.20	
DOWNSTREAM	40.00	0.50	6.00	0.00	100.00	300.00	
TOTAL						343.20	0.01
UPSTREAM	40.50	0.70	8.96	0.00	140.00	627.20	
DOWNSTREAM	40.50	1.00	14.00	0.00	200.00	1400.00	
TOTAL						2027.20	0.05
UPSTREAM	41.00	1.20	17.76	1.04	220.00	2088.00	
DOWNSTREAM	41.00	1.50	24.00	1.04	220.00	2754.40	
TOTAL						4822.40	0.11
UPSTREAM	41.50	1.70	28.56	7.44	220.00	3960.00	
DOWNSTREAM	41.50	2.00	36.00	7.44	220.00	4778.40	
TOTAL						8738.40	0.20
UPSTREAM	42.00	2.20	41.36	15.84	220.00	6292.00	
DOWNSTREAM	42.00	2.50	50.00	15.84	220.00	7242.40	
TOTAL						13534.40	0.31
UPSTREAM	42.50	2.70	56.16	26.24	220.00	9064.00	
DOWNSTREAM	42.50	3.00	66.00	26.24	220.00	10146.40	
TOTAL						19210.40	0.44
UPSTREAM	43.00	3.20	72.96	38.64	220.00	12276.00	
DOWNSTREAM	43.00	3.50	84.00	38.64	220.00	13490.40	
TOTAL						25766.40	0.59
UPSTREAM	43.50	3.70	91.76	53.04	220.00	15928.00	
DOWNSTREAM	43.50	4.00	104.00	53.04	220.00	17274.40	
TOTAL						33202.40	0.76
UPSTREAM	44.00	4.20	112.56	69.44	220.00	20020.00	
DOWNSTREAM	44.00	4.50	126.00	69.44	220.00	21498.40	
TOTAL						41518.40	0.95
UPSTREAM	44.50	4.70	135.36	87.84	220.00	24552.00	
DOWNSTREAM	44.50	5.00	150.00	87.84	220.00	26162.40	
TOTAL						50714.40	1.16
UPSTREAM	45.00	5.20	160.16	108.24	220.00	29524.00	
DOWNSTREAM	45.00	5.50	176.00	108.24	220.00	31266.40	
TOTAL						60790.40	1.40



Areas determined by  $10(h) + 4(h)^2$

Volume = length of section \*  $\left( \frac{\text{upstream section} + \text{downstream section}}{2} \right)$

Upstream  $L = \text{slope} * \text{Elev} - 139.8$  until  $L > 220'$  then  $L = 220'$   
 Downstream  $L = \text{slope} * \text{Elev} - 139.5$

Using Autodesk LDD integrated hydrologic calculators the capacity of the proposed channel is calculated and given in the following table:  
(Manning's  $n = 0.02$ )

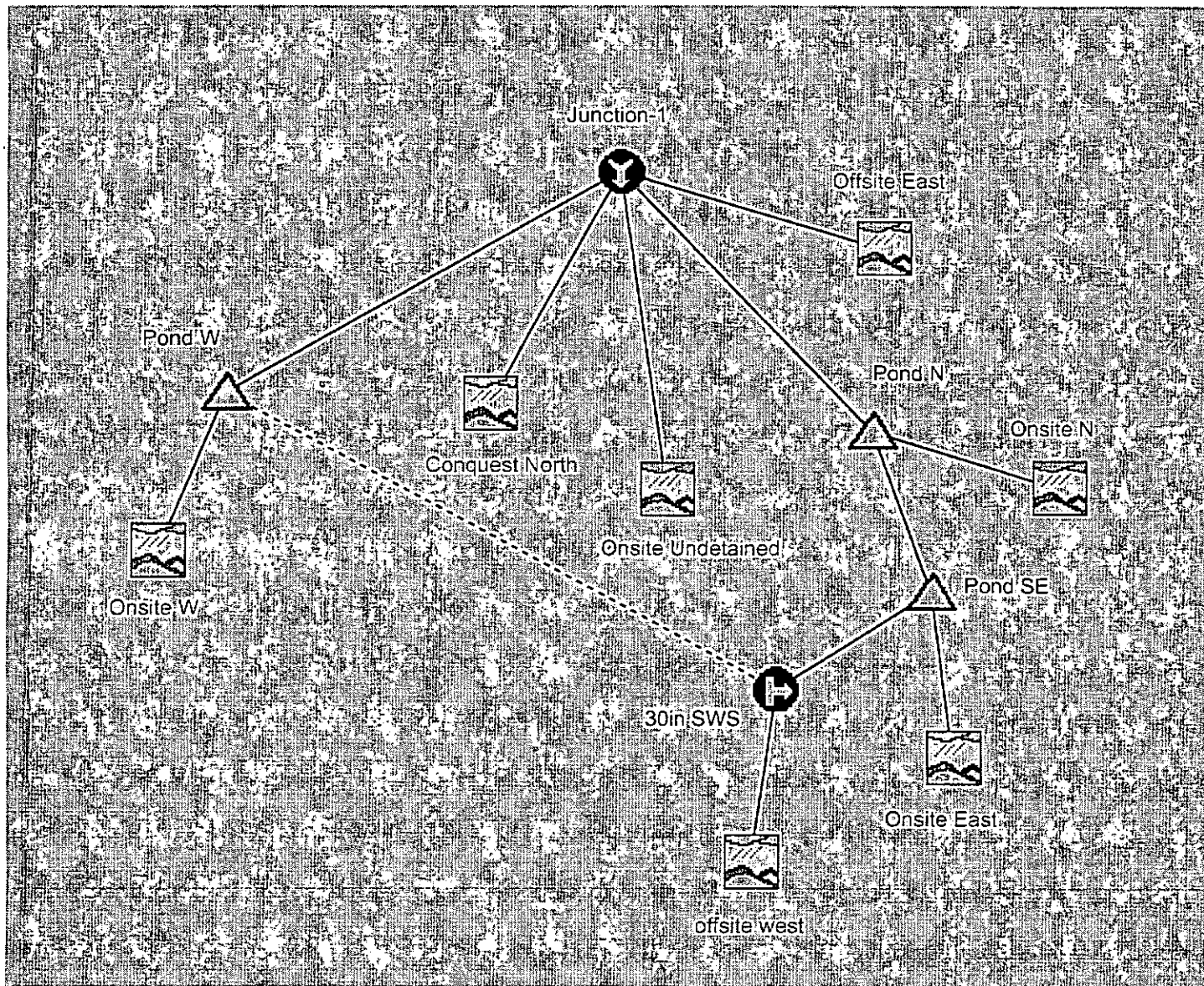
Elevation	Flow Depth	Q (cfs)
140.5	0.0	0.0
141.0	0.1	1.3
141.5	0.6	27.8
142.0	1.1	83.2
142.5	1.6	169.3
143.0	2.1	289.4
143.5	2.6	446.8
144.0	3.1	644.8

#### Northwest Pond

The northwest pond first discharges into a storm water sewer manhole with a beehive top. Once the water surface elevation reaches 144.5 the pond is able to discharge via weir flow into an existing channel. The capacity of the beehive inlet is determined using orifice flow equations, then once the water surface reaches 144.5 weir flow controls. The effective length of the weir is 150'.

Elevation	Area (acres)	Q (cfs)
143.0	0.56	0
143.5	0.59	13.8
144.0	0.63	19.5
144.5	0.66	24.0
145.0	0.69	184

Finally, the information for the post-developed site conditions was put into HEC-HMS to calculate the drainage condition. The results are given on the following page.



HMS \* Summary of Results for Junction-1

Project : Conquest North 2nd

Run Name : Run 9

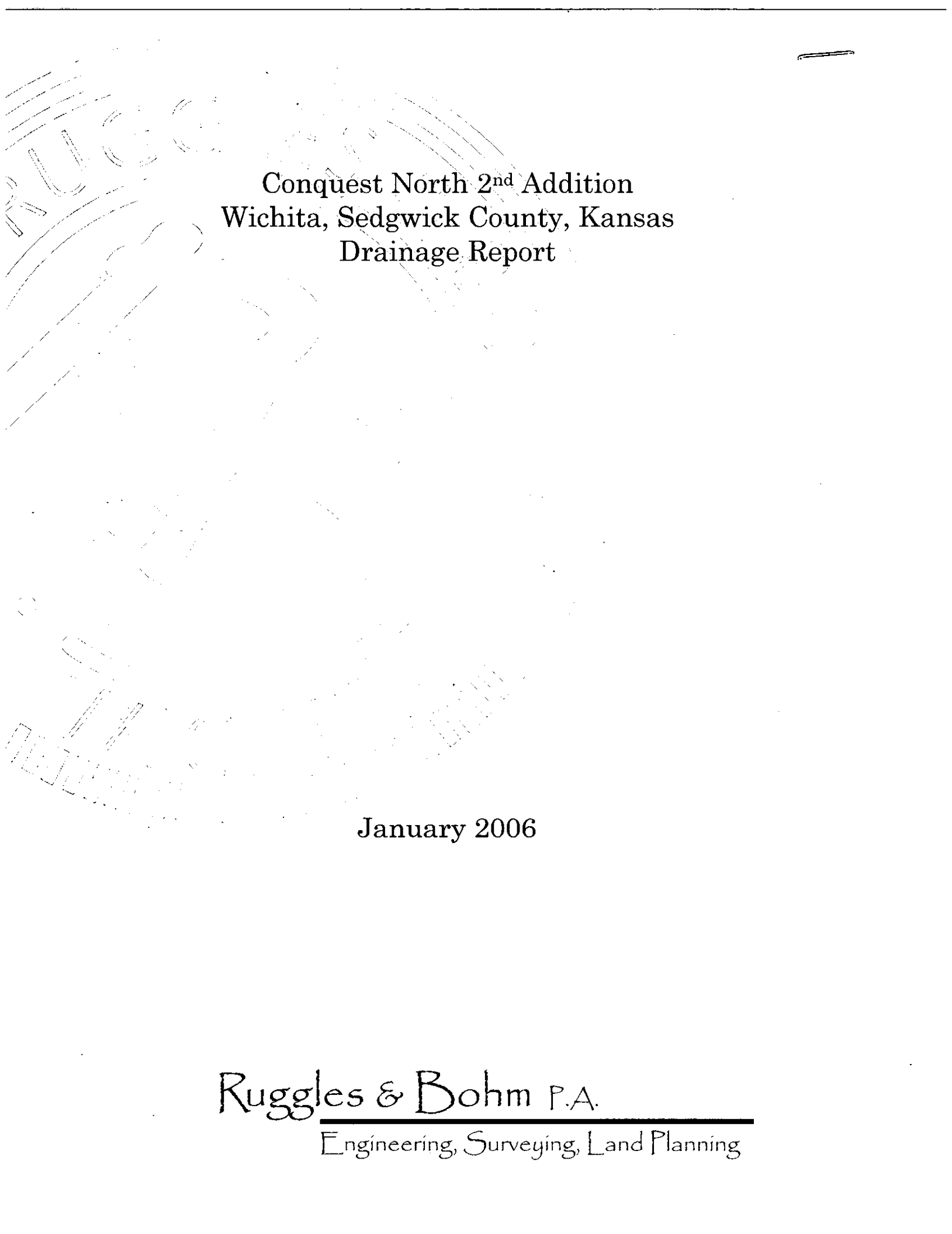
Start of Run : 01Jan05 1200 Basin Model : Proposed  
End of Run : 02Jan05 1200 Met. Model : Met 1  
Execution Time : 29Aug05 1603 Control Specs : Control 1

Computed Results

Peak Outflow : 402.03 (cfs) Date/Time of Peak Outflow : 02 Jan 05 0010  
Total Outflow : 5.74 (in)

## **Conclusion**

The pre-developed peak outflow was determined to be 403.4 cfs and the post developed peak outflow was determined to be 402.0 cfs. The site provides enough storage so that the developed peak outflow is less than the pre-developed peak outflow.



Conquest North 2<sup>nd</sup> Addition  
Wichita, Sedgwick County, Kansas  
Drainage Report

January 2006

Ruggles & Bohm P.A.

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Engineering, Surveying, Land Planning

**CONQUEST NORTH 2ND ADDITION  
WICHITA, SEDGWICK COUNTY, KANSAS  
DRAINAGE REPORT  
JANUARY 2006**

**INTRODUCTION**

The subject property is in northeast Wichita in Sedgwick County, Kansas. The property is located west of Hillside between 21<sup>st</sup> N and Grove Park. It is primarily in the north half of Section 3, Township 27 South, Range 1 East. There is approximately 14 acres in the development that will be subdivided into 53 residential lots. The drainage plan for this report covers the entire addition.

**PREDEVELOPED CONDITIONS**

The site is currently not being used in any capacity. USGS maps indicate that 0.05 square miles drain to the site. There is an existing network of storm sewer that carries runoff through the site. There is also an existing subdivision, Conquest North, that contributes runoff to the storm sewer network.

There is an adjacent channel that runs along the east and north sides of the addition. The channel has a 5' flat bottom with 4:1 sideslopes. The channel terminates at a 36" rcp at the street that runs through Grove Park. USGS map shows that a drainage area of approximately 0.37 square miles drains into the adjacent channel.

**DEVELOPED CONDITIONS**

The site will eventually be subdivided into 53 residential lots. There are two detention ponds and a drainage channel proposed with this project. They will provide detention for on-site flows.

The channel will be improved to a minimum width of 10' with side slopes no steeper than 4:1. Fill will be placed to property lines to bring each lot approximately 1.0' above the anticipated 100 year water surface. An erosion control plan will be prepared prior to construction to limit silt transport.

**HYDROLOGY & HYDRAULICS**

First, a study was done looking at onsite flows only to verify that the detention ponds would detain a locally concentrated storm to pre-developed runoff levels. Second, the entire basin system was analyzed. HEC-HMS 2.2.2 was used to perform hydrologic modeling of this project. Output is included in the appendix.

## CONCLUSIONS

The pre-developed peak outflow was determined to be 237.9 cfs and the post-developed peak outflow was determined to be 229.4 cfs. The site provides enough storage so that the developed peak outflow is less than the pre-developed peak outflow.

The existing East and Northeast basins generate 151 cfs routed into the existing channel to the east and north of the Conquest North 2<sup>nd</sup> site. Combined with the flow from the Conquest North 2<sup>nd</sup>, 357 cfs of flow is routed to a 36" RCP to outlet the drainage channel. The 36" RCP is rated at a capacity of 52.5 cfs when the ditch is running completely full. This RCP is clearly inadequate to handle the amount of water routed to it. The plan elevation of the curb above the outlet pipe is 141.31. When the outlet pipe is overwhelmed, the curb will then be overtopped and any excess flow will then be diverted into the street and into additional storm sewer networks. There should not be a negative impact on our site as the peak elevation of the onsite channel is a 142.4.

## RECOMMENDATIONS

It was observed in the field that the natural drainage path for the East Offsite Basin, an area of depressed curb, has been blocked by a build up of silt. This blockage diverts flow from its natural drainage path onto the proposed site. It is recommended that the drainage path be cleared to restore the basins natural storm water path.

## **Pre-Developed Basins**

HEC-HMS was used to determine existing onsite drainage discharge. Drainage areas for the basin were determined by using USGS quad maps and field observation. Velocity method was used in determining the times of concentration. The data input for each basin follows:

### West Basin

Area = 30.7 acres = 0.048 square miles

CN = 83, 30% Impervious

Time of concentration = 23 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 155.5$  cfs

### Conquest North

Area = 2.0 acres = 0.0031 square miles

CN = 83, 30% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 11.8$  cfs

### Existing Onsite

Area = 15.4 acres = 0.024 square miles

CN = 75, 0% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 74.4$  cfs

### East Basin

Area = 25.0 acres = 0.039 square miles

CN = 83, 30% Impervious

Time of concentration = 30 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 97.4$  cfs

### Northeast Basin

Area = 21.1 acres = 0.033 square miles

CN = 75, 0% Impervious

Time of concentration = 40 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 54.1$  cfs

The only offsite basins to contribute flow to the site are the West and Conquest North basins. The East and Northeast basins were studied to study the existing drainage channel that flows around the east and north sides of the site. Generated results are included in the "HEC-HMS Data" of this report:

## Post Developed Basins

### West Basin

Area = 30.7 acres = 0.048 square miles

CN = 83, 30% Impervious

Time of concentration = 23 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 155.5$  cfs

### Conquest North

Area = 2.0 acres = 0.0031 square miles

CN = 83, 30% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 11.8$  cfs

### Onsite West

Area = 1.7 acres = 0.0027 square miles

CN = 83, 30% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 10.3$  cfs

### Onsite North

Area = 7.0 acres = 0.011 square miles

CN = 83, 30% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 41.8$  cfs

### Onsite East

Area = 1.3 acres = 0.0021 square miles

CN = 83, 30% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 8.0$  cfs

### Onsite Undetained

Area = 5.1 acres = 0.0079 square miles

CN = 83, 30% Impervious

Time of concentration = 15 minutes

SCS Type II Storm, Depth = 7.8"

$Q_{100} = 30.1$  cfs

## Post Developed Conditions

### Existing SWS Network

First, the flow diverted through across the site through an existing storm water sewer network must be determined. (assume full flow in all pipes)

Hydraulic grade in upstream 30" pipe = 142.33

Hydraulic grade in downstream 36" pipe = 138.75

Distance from upstream inlet to downstream inlet = 1093'

Slope on hydraulic grade line =  $3.6'/1093' = 0.33\%$

From Table 111: Circular Concrete & Corrugated Metal Pipe from American Concrete Pipe Association's Design Data 4:

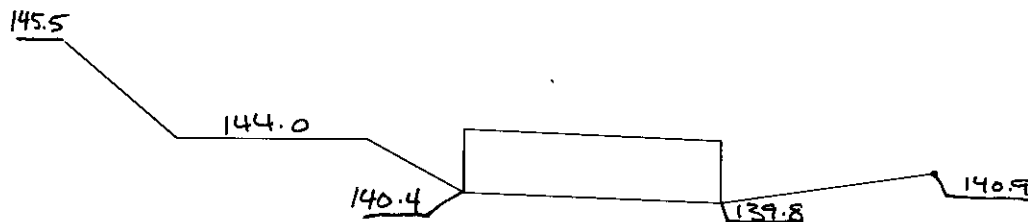
$$K = 410.1$$

$$Q = K * (S)^{1/2} = 410.1 * (0.033)^{1/2} = 23.6 \text{ cfs}$$

This flow will be diverted from the south pond basin through the existing sws pipe network.

### South East Pond

Initial flows will route through a 30" RCP under the existing roadway and into a proposed channel.



Using the "Hydraulic Charts for the Selection of Highway Culverts" the flow through the 30" RCP was found to be: (Inlet control assumed)

Elevation	Head	HW/D	Q (cfs)
144.0	3.1	1.24	30
144.5	3.6	1.44	34
145.0	4.1	1.64	37
145.5	4.6	1.84	42

(D = 2.5 ft, 30" RCP)

Once the water surface reaches an elevation of 144.3 the pond is able to overtop the roadway. The flow will then cross the road into the proposed channel. The shape of the pond restricts the ability of the pond to discharge. The outlet will be considered as weir flow with a length of 57.0 feet.

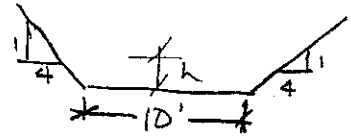
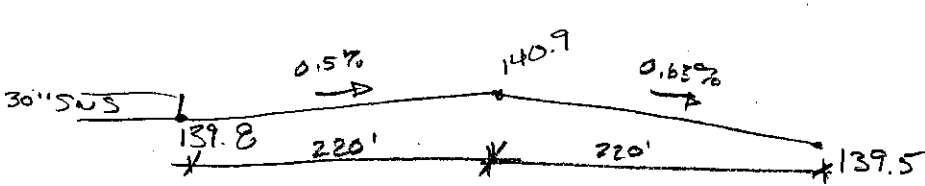
#### Weir Output Rating

Elev	Depth	Q (cfs)
144.3	0.0	0.0
144.5	0.2	17.7
145.0	0.7	116.0
145.5	1.2	260.5

#### Proposed Channel

The detention capacity calculations for the proposed channel are shown on the spreadsheet on the following page:

	ELEV	Depth Of Flow	Deep End Area	Shallow End Area	Length	Volume	Vol (Acre-Ft)
UPSTREAM	40.00	0.20	2.16	0.00	40.00	43.20	
DOWNSTREAM	40.00	0.50	6.00	0.00	100.00	300.00	
TOTAL						343.20	0.01
UPSTREAM	40.50	0.70	8.96	0.00	140.00	627.20	
DOWNSTREAM	40.50	1.00	14.00	0.00	200.00	1400.00	
TOTAL						2027.20	0.05
UPSTREAM	41.00	1.20	17.76	1.04	220.00	2088.00	
DOWNSTREAM	41.00	1.50	24.00	1.04	220.00	2754.40	
TOTAL						4822.40	0.11
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TOTAL						8738.40	0.20
UPSTREAM	42.00	2.20	41.36	15.84	220.00	6292.00	
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TOTAL						41518.40	0.95
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TOTAL						50714.40	1.16
UPSTREAM	45.00	5.20	160.16	108.24	220.00	29524.00	
DOWNSTREAM	45.00	5.50	176.00	108.24	220.00	31266.40	
TOTAL						60790.40	1.40



Areas determined by  $10(h) + 4(h)^2$

Volume = length of section \*  $\left( \frac{\text{upstream section} + \text{downstream section}}{2} \right)$

upstream  $L = \text{slope} * \text{Elev} - 139.8$

upstream  $L = \text{slope} * \text{Elev} - 139.5$  until  $L > 220'$  then  $L = 220'$

Using Autodesk LDD integrated hydrologic calculators the capacity of the proposed channel is calculated and given in the following table:  
(Manning's n = 0.02)

Elevation	Flow Depth	Q (cfs)
140.5	0.0	0.0
141.0	0.1	1.3
141.5	0.6	27.8
142.0	1.1	83.2
142.5	1.6	169.3
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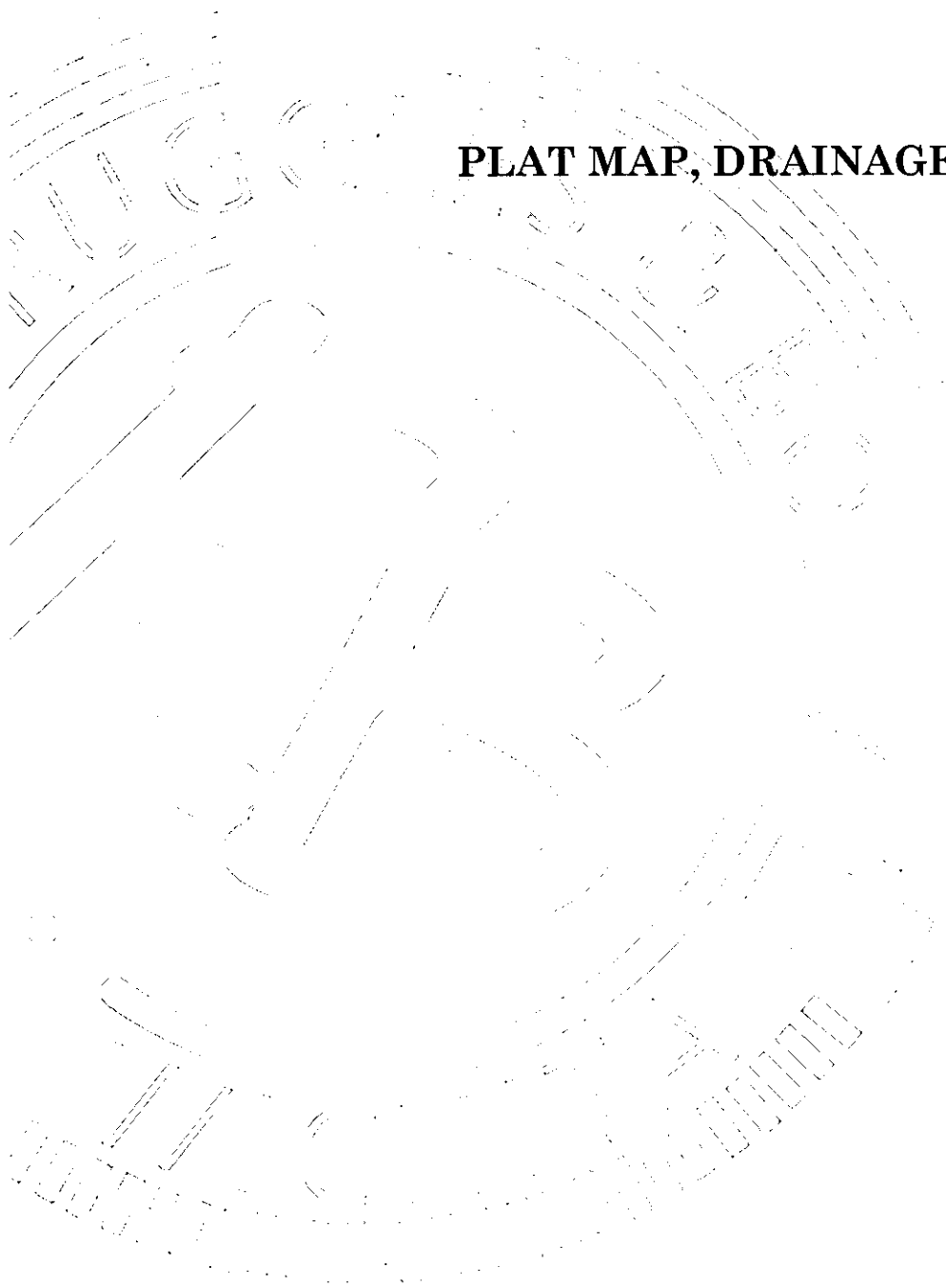
### Northwest Pond

The northwest pond first discharges into a storm water sewer manhole with a beehive top. Once the water surface elevation reaches 144.5 the pond is able to discharge via weir flow into an existing channel. The capacity of the beehive inlet is determined using orifice flow equations, then once the water surface reaches 144.5 weir flow controls. The effective length of the weir is 150'.

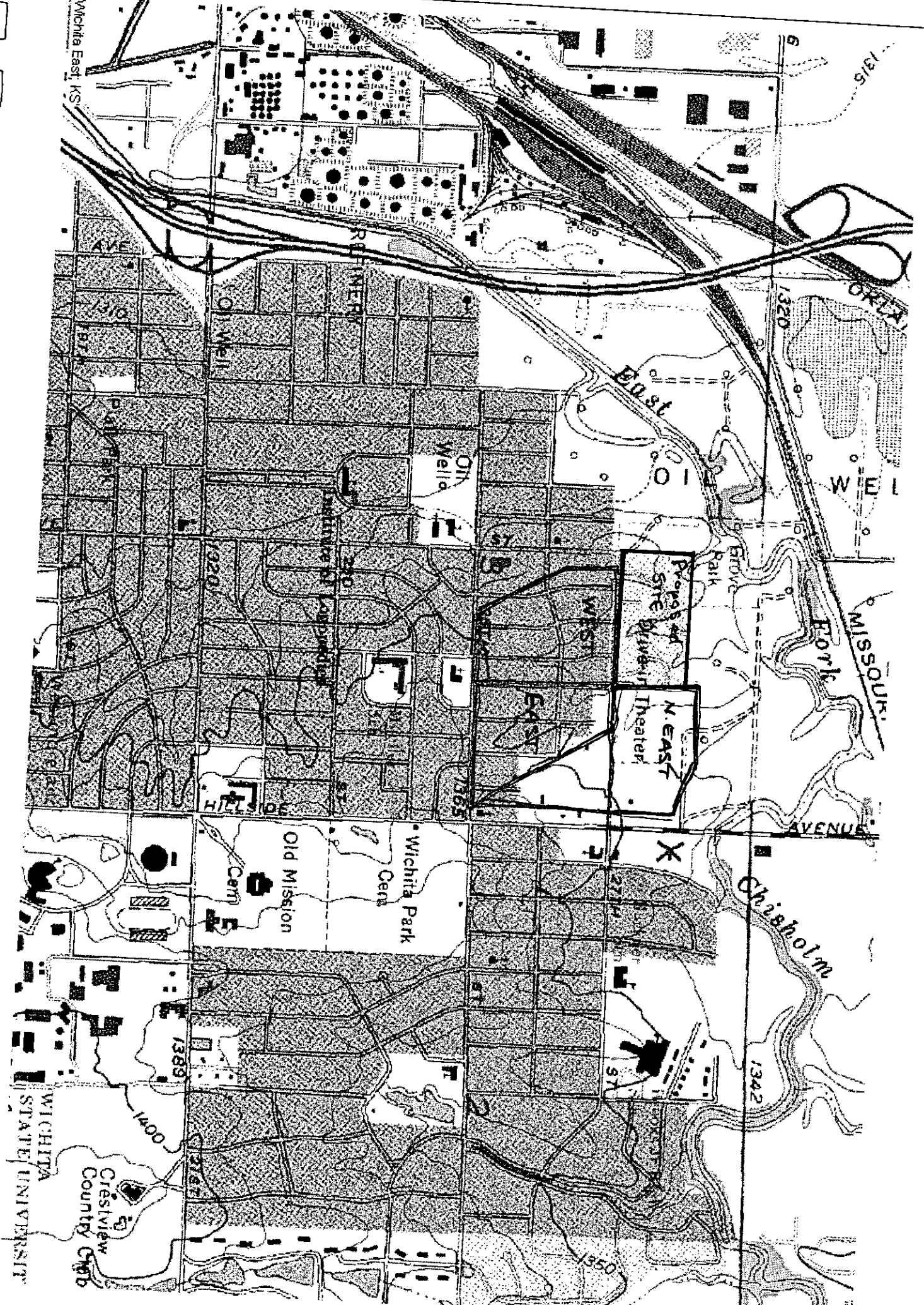
Elevation	Area (acres)	Q (cfs)
143.0	0.56	0
143.5	0.59	13.8
144.0	0.63	19.5
144.5	0.66	24.0
145.0	0.69	184

This information for the post-developed site conditions was put into HEC-HMS to calculate the drainage condition. Generated results are included in the "HEC-HMS Data" of this report.

# PLAT MAP, DRAINAGE PLAN



Wichita East, KS



WICHITA STATE UNIVERSITY

Crestview Country Club

Old Mission Cem

Wichita Park Cem

Proposed Site for Theater  
N. EAST

East

WEST

EAST

Chisholm

AVENUE

MISSOURI

ORIENTAL

WELL

WELL

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# CONQUEST NORTH SECOND ADDITION

## A Replat of part of Conquest North Addition Wichita, Sedgwick County, Kansas

This plat of "CONQUEST NORTH SECOND ADDITION", a Replat of part of Conquest North Addition, Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2008.  
Wichita-Sedgwick County Metropolitan Area Planning Commission

\_\_\_\_\_  
Harold L. Warner, Jr. \_\_\_\_\_  
Chair

\_\_\_\_\_  
John L. Schlegel \_\_\_\_\_  
Secretary

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

At the Direction of the City Council  
\_\_\_\_\_  
Carole Meyers \_\_\_\_\_  
Mayor

\_\_\_\_\_  
Karen Sublett \_\_\_\_\_  
City Clerk

Reviewed in accordance with K.S.A. 58-2025 on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
Trisha L. Robbels, LS #1246  
Deputy County Surveyor  
Sedgwick County, Kansas

Entered on transfer record this \_\_\_\_\_ day of \_\_\_\_\_, 2008.  
\_\_\_\_\_  
Dan Bruce \_\_\_\_\_  
County Clerk

State of Kansas) SS  
Sedgwick County)

This is to certify that this plat has been filed for record in the office of the Register of Deeds, this \_\_\_\_\_ day of \_\_\_\_\_, 2008, at \_\_\_\_\_ o'clock \_\_\_\_\_ M., and is duly recorded.

\_\_\_\_\_  
BRI Meert \_\_\_\_\_  
Register of Deeds

\_\_\_\_\_  
Tanya Buckingham \_\_\_\_\_  
Deputy



**Ruggles & Bohm, P.A.**  
Engineering, Surveying, Land Planning  
924 North Main  
Wichita, Kansas 67203  
www.rblpa.com  
(316) 264-8008  
(316) 264-8271 fax  
E-mail: info@rblpa.com

ONE FILE, SURVEY BASE  
PROJECT NO. 2377  
DATE OF RECORDING: 02/21/08  
REVISED: 02/21/08

THIS ADDITION IS SUBJECT TO THE CONDITIONS OF THE CONQUEST NORTH COMMUNITY UNIT PLAN (DP-24)

BUILDING SETBACKS PER C.U.P. DP-24

OWNER MAY NOT EXCEED THE SETBACKS SHOWN HEREON WITHOUT THE WRITTEN APPROVAL OF THE CITY OF WICHITA.

State of Missouri) SS  
Taney County)

The foregoing instrument acknowledged before me, this \_\_\_\_\_ day of \_\_\_\_\_, 2008, by Steve Redford, President, on behalf of Missouri Partners Inc.

My appointment expires \_\_\_\_\_  
Notary Public

State of Kansas) SS  
Sedgwick County)

The foregoing instrument acknowledged before me, this \_\_\_\_\_ day of \_\_\_\_\_, 2008, by Patrick J. Regan, Jr., President, on behalf of ANEW Properties, Inc.

My appointment expires \_\_\_\_\_  
Notary Public

I, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, Blocks and Reserves to be known as CONQUEST NORTH SECOND ADDITION, a Replat of part of Conquest North Addition, Wichita, Sedgwick County, Kansas. Access easements, as indicated, are hereby granted to the appropriate generally held. The Reserves shall be owned and maintained by the homeowners association for the Addition. Reserves "A", "B", and "C" are hereby reserved for the purposes of drainage, landscaping, and open space purposes, and for public utilities with easements. The private street easements are hereby reserved for private street, parking, sidewalk and drainage purposes. The utility easements are hereby granted as indicated for the construction and maintenance of public utilities. The drainage easements are hereby granted for drainage and storm sewer purposes. A drainage plan has been developed for this plat, all easements, reserves and right-of-way and remain of established grades, or as modified with the approval of the City Engineer, and unobstructed to allow for the conveyance of storm water.

\_\_\_\_\_  
Steve Redford, President  
Missouri Partners Inc.

\_\_\_\_\_  
Patrick J. Regan, Jr., President  
ANEW Properties, Inc.

State of Kansas) SS  
Sedgwick County)

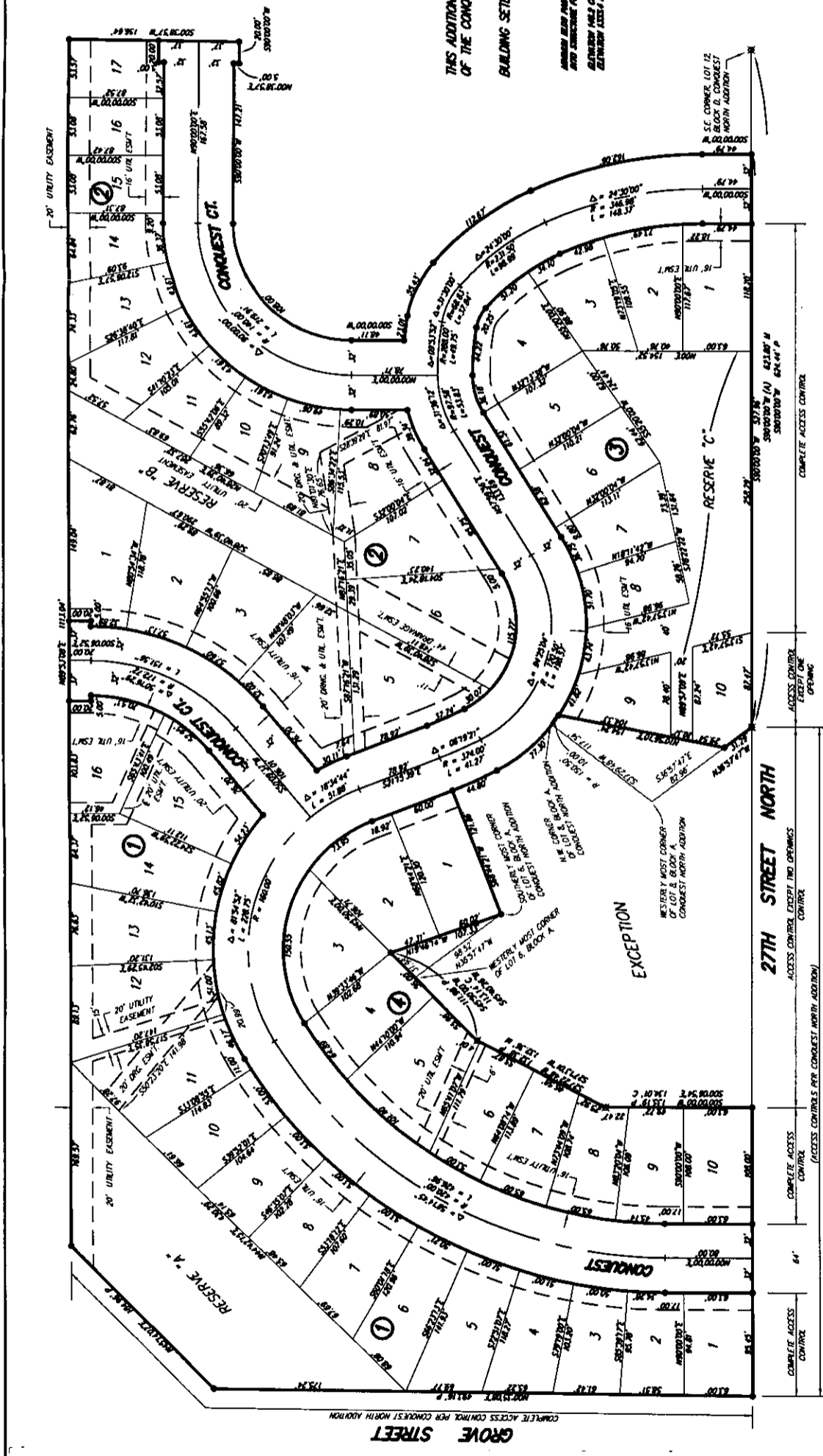
We, Ruggles & Bohm, P.A., Land Surveyors in official county and state, do hereby certify that, under the supervision of the undersigned, we have surveyed and platted CONQUEST NORTH SECOND ADDITION, a Replat of part of Conquest North Addition, Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of the property surveyed, described as follows:

**LEGAL DESCRIPTION:**  
Blocks A, B and C, and Reserves A and B, Conquest North Addition, Wichita, Sedgwick County, Kansas; EXCEPT Lots 1 and 7, Block A; AND EXCEPT that part of Lot 6, Block A, described as beginning at the westerly-most corner thereof; thence N45°30'00"E along the northwesterly line of said Lot 6, 31.98 feet; thence S19°45'14"E, 107.33 feet to the southerly-most corner of said Lot 6; thence N35°57'47"W along the southerly line thereof to the place of beginning. AND EXCEPT that part of Lot 8, Block A, described as beginning at the N.W. corner thereof; thence S37°29'49"W along the northwesterly line of said Lot 8, 117.34 feet to the westerly-most corner thereof; thence S39°57'47"E along the southerly line thereof to the south line of Reserve "B" as platted in said Addition, said point being on a curve to the right having a radius of 150.50 feet and a chord bearing N54°24'25"W, thence northwesterly along said curve, 10.00 feet to the place of beginning; together with that part of said Lot 7 being the northwesterly 2.00 feet (1/2) adjacent to said Reserve B and that part of said Lot 8 described as being the northerly 2.00 feet of the westerly 10.00 feet (1/2) adjacent to said Reserve B.

All public easements and dedications are hereby vacated by virtue of K.S.A. 12-512(b).

\_\_\_\_\_  
Ruggles & Bohm, P.A.

\_\_\_\_\_  
Thomas C. Ruggles  
Land Surveyor



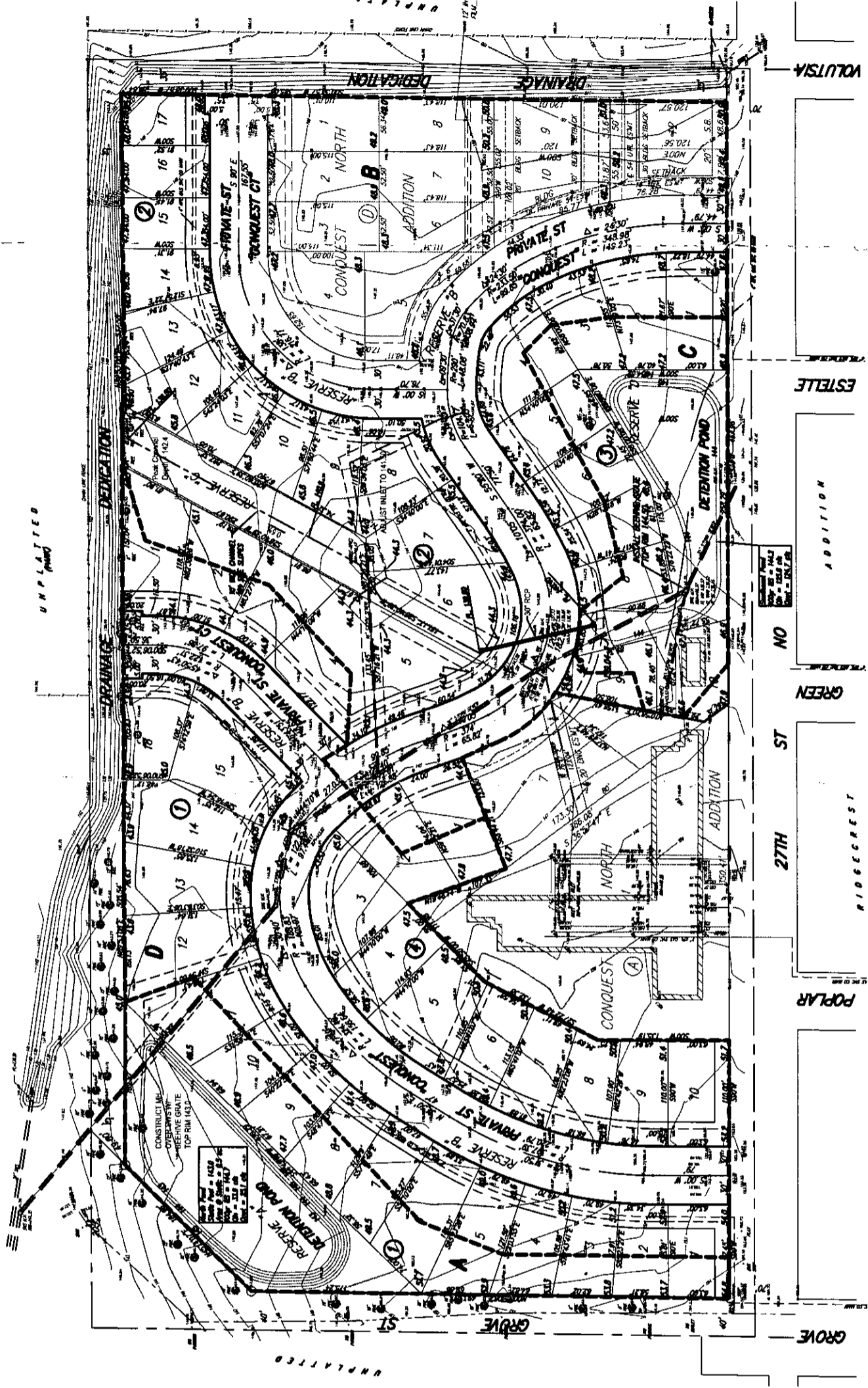
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1" = 40'  
N = North  
S = South  
E = East  
W = West  
P = Partial (Conquest North Addition)  
S = Surveyor's Markers (Legend)  
B = 5/8" REBAR (RANGE)  
X = 1/2" REBAR (RANGE)  
O = 1/2" REBAR (RANGE) & BONE CAP (EXT)

SENDER MARK:  
4 CORNER MARKS @ 270, 135, 45, 315 DEGREES, 1/2" X 1/2" OF THE CENTERLINE OF 1/2" DIA. BURN  
RETURN = 12345678  
SENDER MARK:  
STAKE OUT ON 100' OF CORNER  
OF CONQUEST NORTH ADDITION  
OF WICHITA-SWEDGWICK COUNTY METRO AREA  
RETURN = 12345678

# DRAINAGE PLAN CONQUEST NORTH SECOND ADDITION

A Replat of part of Conquest North Addition  
Wichita, Sedgwick County, Kansas



DRAINAGE BASINS	AREA	Q <sub>100</sub>
A	1.7 acres	10.3 cfs
A.1 Onsite North	7.0 acres	41.8 cfs
C	1.3 acres	8.0 cfs
D	1.0 on-site Undeveloped	30.1 cfs

	Junction 1
Existing 2 year	73.1 cfs
Developed 2 year	72.8 cfs
Existing 5 year	105.9 cfs
Developed 5 year	105.5 cfs
Existing 100 year	218.4 cfs
Developed 100 year	216.1 cfs

MINIMUM BUILDING PAD ELEVATION FOR LOWEST OPENING INTO ALL LOTS  
ELEVATION 146.2 CITY DATUM  
ELEVATION 1331.6 NS

Ruggles & Bohm, P.A.  
Engineering, Surveying, Land Planning  
624 North Main  
Wichita, Kansas 67203  
www.rbanas.com  
E-mail: info@rbanas.com



See Drainage Report: January 27, 2006



**HEC-HMS Output  
Existing Conditions**

# HMS \* Summary of Results

Project : Cong North 2nd

Run Name : Existing

Start of Run : 01Jan05 1200 Basin Model : Existing

End of Run : 02Jan05 1200 Met. Model : Met 1

Execution Time : 26Jan06 1503 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Existing Onsite	74.407	02 Jan 05 0008	6.1902	0.024
Offsite West	142.55	02 Jan 05 0014	16.252	0.048
Conquest North	11.793	02 Jan 05 0008	1.0521	0.003
Junction-1	219.39	02 Jan 05 0012	23.495	0.075

HMS \* Summary of Results for Offsite West

Project : Cong North 2nd      Run Name : Existing

Start of Run : 01Jan05 1200    Basin Model : Existing

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1503    Control Specs : Control 1

Computed Results

Peak Discharge : 142.55 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0014

Total Precipitation : 7.80 (in)    Total Direct Runoff : 6.35 (in)

Total Loss : 1.41 (in)    Total Baseflow : 0.00 (in)

Total Excess : 6.39 (in)    Total Discharge : 6.35 (in)

HMS \* Summary of Results for Conquest North

Project : Cong North 2nd      Run Name : Existing

Start of Run : 01Jan05 1200    Basin Model : Existing

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1503    Control Specs : Control 1

Computed Results

Peak Discharge : 11.793 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 7.80 (in)    Total Direct Runoff : 6.36 (in)

Total Loss : 1.41 (in)    Total Baseflow : 0.00 (in)

Total Excess : 6.39 (in)    Total Discharge : 6.36 (in)

HMS \* Summary of Results for Existing  
Onsite

Project : Conq North 2nd      Run Name : Existing

Start of Run : 01Jan05 1200    Basin Model : Existing

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1503    Control Specs : Control 1

Computed Results

Peak Discharge : 74.407 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 7.80 (in)    Total Direct Runoff : 4.84 (in)

Total Loss : 2.94 (in)    Total Baseflow : 0.00 (in)

Total Excess : 4.86 (in)    Total Discharge : 4.84 (in)

HMS \* Summary of Results

Project : Cong North 2nd

Run Name : Existing 2 yr

Start of Run : 01Jan05 1200 Basin Model : Existing

End of Run : 02Jan05 1200 Met. Model : Met2

Execution Time : 26Jan06 1504 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
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Existing Onsite	19.238	02 Jan 05 0008	1.6548	0.024
Offsite West	52.084	02 Jan 05 0016	5.9741	0.048
Conquest North	4.3403	02 Jan 05 0008	0.38683	0.003
Junction-1	73.128	02 Jan 05 0012	8.0158	0.075

HMS \* Summary of Results for Junction-1

Project : Conq North 2nd            Run Name : Existing 2 yr

Start of Run : 01Jan05 1200    Basin Model : Existing

End of Run : 02Jan05 1200    Met. Model : Met2

Execution Time : 26Jan06 1504    Control Specs : Control 1

Computed Results

Peak Outflow : 73.128 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0012

Total Outflow : 2.00 (in)

HMS \* Summary of Results for Offsite West

Project : Cong North 2nd      Run Name : Existing 2 yr

Start of Run : 01Jan05 1200    Basin Model : Existing  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1504    Control Specs : Control 1

Computed Results

Peak Discharge : 52.084 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0016  
Total Precipitation : 3.50 (in)    Total Direct Runoff : 2.33 (in)  
Total Loss : 1.15 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 2.35 (in)    Total Discharge : 2.33 (in)

HMS \* Summary of Results for Conquest North

Project : Cong North 2nd      Run Name : Existing 2 yr

Start of Run : 01Jan05 1200    Basin Model : Existing

End of Run : 02Jan05 1200    Met. Model : Met2

Execution Time : 26Jan06 1504    Control Specs : Control 1

Computed Results

Peak Discharge : 4.3403 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 3.50 (in)    Total Direct Runoff : 2.34 (in)

Total Loss : 1.15 (in)    Total Baseflow : 0.00 (in)

Total Excess : 2.35 (in)    Total Discharge : 2.34 (in)

HMS \* Summary of Results for Existing  
Onsite

Project : Cong North 2nd            Run Name : Existing 2 yr

Start of Run    : 01Jan05 1200    Basin Model    : Existing  
End of Run      : 02Jan05 1200    Met. Model    : Met2  
Execution Time  : 26Jan06 1504    Control Specs  : Control 1

Computed Results

Peak Discharge        : 19.238 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 3.50 (in)        Total Direct Runoff : 1.29 (in)  
Total Loss            : 2.20 (in)        Total Baseflow        : 0.00 (in)  
Total Excess         : 1.30 (in)        Total Discharge       : 1.29 (in)

# HMS \* Summary of Results

Project : Conq North 2nd

Run Name : Exist 5yr

Start of Run : 01Jan05 1200 Basin Model : Existing

End of Run : 02Jan05 1200 Met. Model : Met 5yr

Execution Time : 26Jan06 1504 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Existing Onsite	31.111	02 Jan 05 0008	2.6081	0.024
Offsite West	72.671	02 Jan 05 0016	8.2810	0.048
Conquest North	6.0467	02 Jan 05 0008	0.53615	0.003
Junction-1	105.92	02 Jan 05 0012	11.425	0.075

HMS \* Summary of Results for Junction-1

Project : Cong North 2nd      Run Name : Exist 5yr

Start of Run : 01Jan05 1200    Basin Model : Existing

End of Run : 02Jan05 1200    Met. Model : Met 5yr

Execution Time : 26Jan06 1504    Control Specs : Control 1

Computed Results

Peak Outflow : 105.92 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0012

Total Outflow : 2.85 (in)

HMS \* Summary of Results for Offsite West

Project : Cong North 2nd

Run Name : Exist 5yr

Start of Run : 01Jan05 1200 Basin Model : Existing

End of Run : 02Jan05 1200 Met. Model : Met 5yr

Execution Time : 26Jan06 1504 Control Specs : Control 1

Computed Results

Peak Discharge	: 72.671 (cfs)	Date/Time of Peak Discharge	: 02 Jan 05 0016
Total Precipitation	: 4.50 (in)	Total Direct Runoff	: 3.23 (in)
Total Loss	: 1.24 (in)	Total Baseflow	: 0.00 (in)
Total Excess	: 3.26 (in)	Total Discharge	: 3.23 (in)

HMS \* Summary of Results for Conquest North

Project : Cong North 2nd            Run Name : Exist 5yr

Start of Run : 01Jan05 1200    Basin Model : Existing  
End of Run : 02Jan05 1200    Met. Model : Met 5yr  
Execution Time : 26Jan06 1504    Control Specs : Control 1

Computed Results

Peak Discharge : 6.0467 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 4.50 (in)    Total Direct Runoff : 3.24 (in)  
Total Loss : 1.24 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 3.26 (in)    Total Discharge : 3.24 (in)

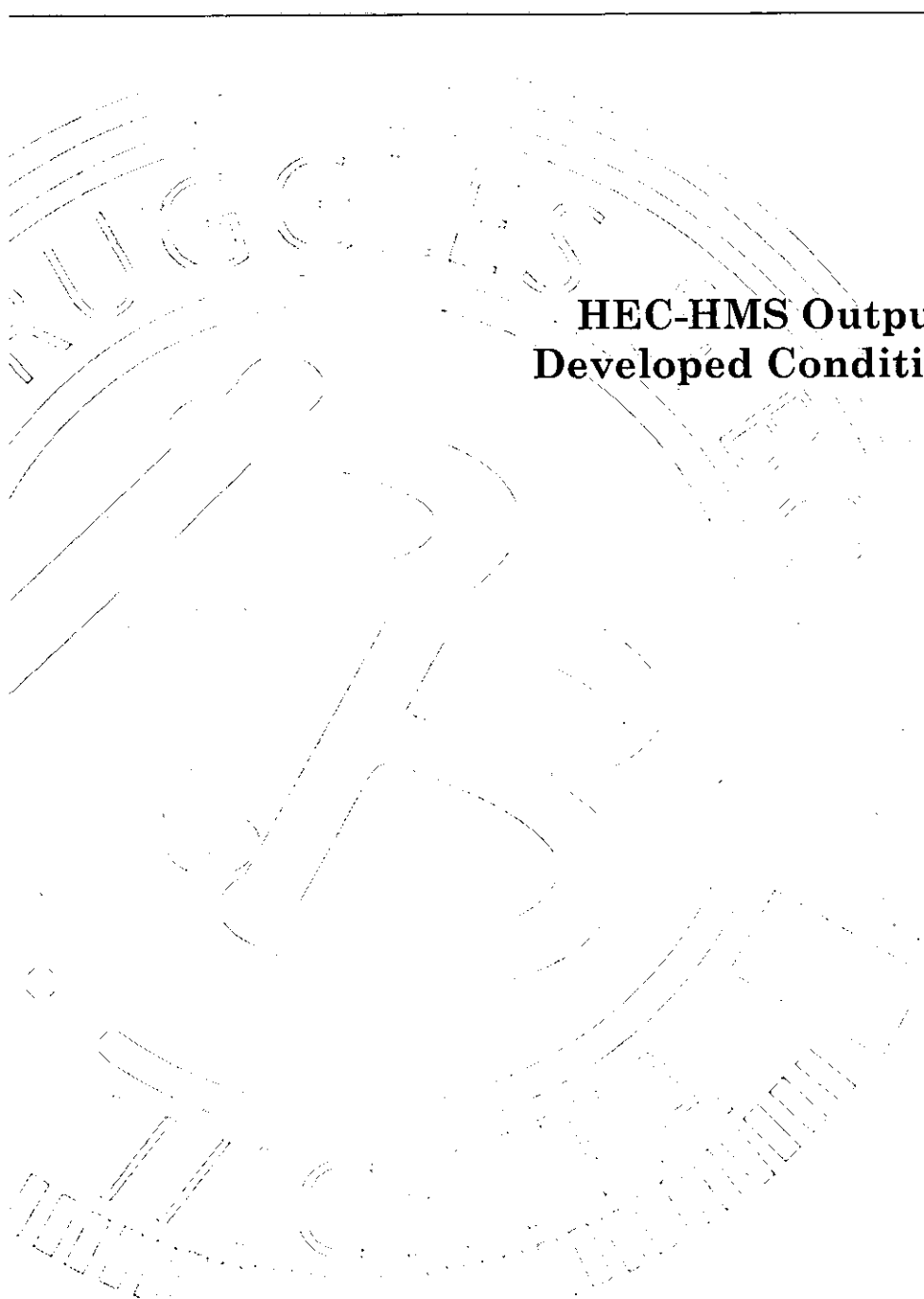
HMS \* Summary of Results for Existing  
Onsite

Project : Conq North 2nd            Run Name : Exist 5yr

Start of Run    : 01Jan05 1200    Basin Model    : Existing  
End of Run      : 02Jan05 1200    Met. Model    : Met 5yr  
Execution Time : 26Jan06 1504    Control Specs : Control 1

Computed Results

Peak Discharge        : 31.111 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 4.50 (in)        Total Direct Runoff : 2.04 (in)  
Total Loss            : 2.45 (in)        Total Baseflow        : 0.00 (in)  
Total Excess          : 2.05 (in)        Total Discharge       : 2.04 (in)



**HEC-HMS Output  
Developed Conditions**

# HMS \* Summary of Results

Project : Cong North 2nd

Run Name : Proposed

Start of Run : 01Jan05 1200 Basin Model : Proposed

End of Run : 02Jan05 1200 Met. Model : Met 1

Execution Time : 26Jan06 1505 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Onsite W	10.271	02 Jan 05 0008	0.91631	0.003
30in SWS(br)	23.600	01 Jan 05 2350	10.410	0.000
Pond W	25.067	02 Jan 05 0048	11.276	0.003
offsite west	142.55	02 Jan 05 0014	16.252	0.048
30in SWS	118.95	02 Jan 05 0014	5.8425	0.048
Onsite East	7.9886	02 Jan 05 0008	0.71268	0.002
Pond SE	124.74	02 Jan 05 0016	6.5549	0.050
Onsite N	41.845	02 Jan 05 0008	3.7331	0.011
Channel	157.76	02 Jan 05 0014	10.254	0.061
Conquest North	11.793	02 Jan 05 0008	1.0521	0.003
Onsite Undetained	30.053	02 Jan 05 0008	2.6810	0.008
Junction-1	216.12	02 Jan 05 0014	25.264	0.075

HMS \* Summary of Results for offsite west

Project : Conq North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Discharge	: 142.55 (cfs)	Date/Time of Peak Discharge	: 02 Jan 05 0014
Total Precipitation	: 7.80 (in)	Total Direct Runoff	: 6.35 (in)
Total Loss	: 1.41 (in)	Total Baseflow	: 0.00 (in)
Total Excess	: 6.39 (in)	Total Discharge	: 6.35 (in)

HMS \* Summary of Results for Conquest North

Project : Cong North 2nd            Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Discharge : 11.793 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 7.80 (in)    Total Direct Runoff : 6.36 (in)

Total Loss : 1.41 (in)    Total Baseflow : 0.00 (in)

Total Excess : 6.39 (in)    Total Discharge : 6.36 (in)

HMS \* Summary of Results for Onsite N

Project : Cong North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 1  
Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Discharge : 41.845 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 7.80 (in)    Total Direct Runoff : 6.36 (in)  
Total Loss : 1.41 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 6.39 (in)    Total Discharge : 6.36 (in)

HMS \* Summary of Results for Onsite East

Project : Conq North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Discharge : 7.9886 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 7.80 (in)    Total Direct Runoff : 6.36 (in)

Total Loss : 1.41 (in)    Total Baseflow : 0.00 (in)

Total Excess : 6.39 (in)    Total Discharge : 6.36 (in)

HMS \* Summary of Results for Onsite W

Project : Cong North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Discharge : 10.271 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 7.80 (in)    Total Direct Runoff : 6.36 (in)

Total Loss : 1.41 (in)    Total Baseflow : 0.00 (in)

Total Excess : 6.39 (in)    Total Discharge : 6.36 (in)

HMS \* Summary of Results for Onsite  
Undetained

Project : Cong North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 1  
Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Discharge	: 30.053 (cfs)	Date/Time of Peak Discharge	: 02 Jan 05 0008
Total Precipitation	: 7.80 (in)	Total Direct Runoff	: 6.36 (in)
Total Loss	: 1.41 (in)	Total Baseflow	: 0.00 (in)
Total Excess	: 6.39 (in)	Total Discharge	: 6.36 (in)

HMS \* Summary of Results for Pond SE

Project : Cong North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Inflow : 125.58 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0014

Peak Outflow : 124.74 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0016

Total Inflow : 2.45 (in)      Peak Storage : 0.32681(ac-ft)

Total Outflow : 2.45 (in)      Peak Elevation : 144.17(ft)

HMS \* Summary of Results for Pond W

Project : Cong North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1506    Control Specs : Control 1

Computed Results

Peak Inflow : 33.871 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0008

Peak Outflow : 25.067 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0048

Total Inflow : 78.65 (in)    Peak Storage : 0.86454(ac-ft)

Total Outflow : 78.31 (in)    Peak Elevation : 144.68(ft)

HMS \* Summary of Results for Channel

Project : Cong North 2nd      Run Name : Proposed

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 1

Execution Time : 26Jan06 1505    Control Specs : Control 1

Computed Results

Peak Inflow : 158.33 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0014

Peak Outflow : 157.76 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0014

Total Inflow : 3.16 (in)      Peak Storage : 0.42170(ac-ft)

Total Outflow : 3.15 (in)      Peak Elevation : 142.43(ft)

# HMS \* Summary of Results

Project : Cong North 2nd

Run Name : Prop 5 yr

Start of Run : 01Jan05 1200 Basin Model : Proposed

End of Run : 02Jan05 1200 Met. Model : Met 5yr

Execution Time : 26Jan06 1539 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Onsite W	5.2665	02 Jan 05 0008	0.46697	0.003
30in SWS(br)	23.600	01 Jan 05 2358	6.3443	0.000
Pond W	22.765	02 Jan 05 0046	6.7838	0.003
offsite west	72.671	02 Jan 05 0016	8.2810	0.048
30in SWS	49.071	02 Jan 05 0016	1.9367	0.048
Onsite East	4.0961	02 Jan 05 0008	0.36320	0.002
Pond SE	51.834	02 Jan 05 0016	2.2997	0.050
Onsite N	21.456	02 Jan 05 0008	1.9025	0.011
Channel	68.173	02 Jan 05 0016	4.1836	0.061
Conquest North	6.0467	02 Jan 05 0008	0.53615	0.003
Onsite Undetained	15.409	02 Jan 05 0008	1.3663	0.008
Junction-1	105.51	02 Jan 05 0014	12.870	0.075

HMS \* Summary of Results for offsite west

Project : Cong North 2nd                      Run Name : Prop 5 yr

Start of Run    : 01Jan05 1200    Basin Model    : Proposed  
End of Run      : 02Jan05 1200    Met. Model     : Met 5yr  
Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Discharge        : 72.671 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0016  
Total Precipitation : 4.50 (in)        Total Direct Runoff : 3.23 (in)  
Total Loss            : 1.24 (in)        Total Baseflow        : 0.00 (in)  
Total Excess          : 3.26 (in)        Total Discharge       : 3.23 (in)

HMS \* Summary of Results for Conquest North

Project : Conq North 2nd      Run Name : Prop 5 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 5yr  
Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Discharge : 6.0467 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 4.50 (in)    Total Direct Runoff : 3.24 (in)  
Total Loss : 1.24 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 3.26 (in)    Total Discharge : 3.24 (in)

HMS \* Summary of Results for Onsite N

Project : Cong North 2nd      Run Name : Prop 5 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met 5yr

Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Discharge : 21.456 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 4.50 (in)    Total Direct Runoff : 3.24 (in)

Total Loss : 1.24 (in)    Total Baseflow : 0.00 (in)

Total Excess : 3.26 (in)    Total Discharge : 3.24 (in)

HMS \* Summary of Results for Onsite East

Project : Cong North 2nd      Run Name : Prop 5 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 5yr  
Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Discharge : 4.0961 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 4.50 (in)    Total Direct Runoff : 3.24 (in)  
Total Loss : 1.24 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 3.26 (in)    Total Discharge : 3.24 (in)

HMS \* Summary of Results for Onsite W

Project : Cong North 2nd

Run Name : Prop 5 yr

Start of Run : 01Jan05 1200 Basin Model : Proposed

End of Run : 02Jan05 1200 Met. Model : Met 5yr

Execution Time : 26Jan06 1539 Control Specs : Control 1

Computed Results

Peak Discharge : 5.2665 (cfs) Date/Time of Peak Discharge : 02 Jan 05 0008

Total Precipitation : 4.50 (in) Total Direct Runoff : 3.24 (in)

Total Loss : 1.24 (in) Total Baseflow : 0.00 (in)

Total Excess : 3.26 (in) Total Discharge : 3.24 (in)

HMS \* Summary of Results for Onsite  
Undetained

Project : Cong North 2nd      Run Name : Prop 5 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 5yr  
Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Discharge : 15.409 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 4.50 (in)    Total Direct Runoff : 3.24 (in)  
Total Loss : 1.24 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 3.26 (in)    Total Discharge : 3.24 (in)

HMS \* Summary of Results for Pond SE

Project : Cong North 2nd      Run Name : Prop 5 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 5yr  
Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Inflow : 52.500 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0014  
Peak Outflow : 51.834 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0016  
Total Inflow : 0.86 (in)      Peak Storage : 0.15261(ac-ft)  
Total Outflow : 0.86 (in)      Peak Elevation : 143.61(ft)

HMS \* Summary of Results for Pond W

Project : Cong North 2nd      Run Name : Prop 5 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met 5yr  
Execution Time : 26Jan06 1539    Control Specs : Control 1

Computed Results

Peak Inflow : 28.866 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0008  
Peak Outflow : 22.765 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0046  
Total Inflow : 47.30 (in)    Peak Storage : 0.69223(ac-ft)  
Total Outflow : 47.11 (in)    Peak Elevation : 144.36(ft)

HMS \* Summary of Results for Channel

Project : Cong North 2nd

Run Name : Prop 5 yr

Start of Run : 01Jan05 1200 Basin Model : Proposed

End of Run : 02Jan05 1200 Met. Model : Met 5yr

Execution Time : 26Jan06 1539 Control Specs : Control 1

Computed Results

Peak Inflow : 68.691 (cfs) Date/Time of Peak Inflow : 02 Jan 05 0014

Peak Outflow : 68.173 (cfs) Date/Time of Peak Outflow : 02 Jan 05 0016

Total Inflow : 1.29 (in) Peak Storage : 0.28035(ac-ft)

Total Outflow : 1.28 (in) Peak Elevation : 141.87(ft)

HMS \* Summary of Results for Onsite W

Project : Cong North 2nd . Run Name : Prop 2 yr

Start of Run : 01Jan05 1200 Basin Model : Proposed  
End of Run : 02Jan05 1200 Met. Model : Met2  
Execution Time : 26Jan06 1536 Control Specs : Control 1

Computed Results

Peak Discharge : 3.7803 (cfs) Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 3.50 (in) Total Direct Runoff : 2.34 (in)  
Total Loss : 1.15 (in) Total Baseflow : 0.00 (in)  
Total Excess : 2.35 (in) Total Discharge : 2.34 (in)

HMS \* Summary of Results for Onsite  
Undetained

Project : Cong North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Discharge : 11.061 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 3.50 (in)    Total Direct Runoff : 2.34 (in)  
Total Loss : 1.15 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 2.35 (in)    Total Discharge : 2.34 (in)

HMS \* Summary of Results for Pond SE

Project : Cong North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met2

Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Inflow : 30.876 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0014

Peak Outflow : 30.153 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0016

Total Inflow : 0.46 (in)      Peak Storage : 0.092345(ac-ft)

Total Outflow : 0.46 (in)      Peak Elevation : 143.39(ft)

# HMS \* Summary of Results

Project : Cong North 2nd

Run Name : Prop 2 yr

Start of Run : 01Jan05 1200 Basin Model : Proposed

End of Run : 02Jan05 1200 Met. Model : Met2

Execution Time : 26Jan06 1536 Control Specs : Control 1

Hydrologic Element	Discharge Peak (cfs)	Time of Peak	Volume (ac ft)	Drainage Area (sq mi)
Onsite W	3.7803	02 Jan 05 0008	0.33692	0.003
30in SWS(br)	23.600	02 Jan 05 0002	5.0164	0.000
Pond W	21.483	02 Jan 05 0042	5.3327	0.003
offsite west	52.084	02 Jan 05 0016	5.9741	0.048
30in SWS	28.484	02 Jan 05 0016	0.95776	0.048
Onsite East	2.9402	02 Jan 05 0008	0.26205	0.002
Pond SE	30.153	02 Jan 05 0016	1.2197	0.050
Onsite N	15.401	02 Jan 05 0008	1.3726	0.011
Channel	41.789	02 Jan 05 0016	2.5784	0.061
Conquest North	4.3403	02 Jan 05 0008	0.38683	0.003
Onsite Undetained	11.061	02 Jan 05 0008	0.98579	0.008
Junction-1	72.600	02 Jan 05 0014	9.2837	0.075

HMS \* Summary of Results for Junction-1

Project : Cong North 2nd      Run Name : Prop 20yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Outflow : 72.600 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0014  
Total Outflow : 2.33 (in)

HMS \* Summary of Results for offsite west

Project : Cong North 2nd

Run Name : Prop 2 yr

Start of Run : 01Jan05 1200 Basin Model : Proposed

End of Run : 02Jan05 1200 Met. Model : Met2

Execution Time : 26Jan06 1536 Control Specs : Control 1

Computed Results

Peak Discharge : 52.084 (cfs) Date/Time of Peak Discharge : 02 Jan 05 0016

Total Precipitation : 3.50 (in) Total Direct Runoff : 2.33 (in)

Total Loss : 1.15 (in) Total Baseflow : 0.00 (in)

Total Excess : 2.35 (in) Total Discharge : 2.33 (in)

HMS \* Summary of Results for Conquest North

Project : Conq North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Discharge : 4.3403 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 3.50 (in)    Total Direct Runoff : 2.34 (in)  
Total Loss : 1.15 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 2.35 (in)    Total Discharge : 2.34 (in)

HMS \* Summary of Results for Onsite N

Project : Conq North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Discharge : 15.401 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 3.50 (in)    Total Direct Runoff : 2.34 (in)  
Total Loss : 1.15 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 2.35 (in)    Total Discharge : 2.34 (in)

HMS \* Summary of Results for Onsite East

Project : Cong North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Discharge : 2.9402 (cfs)    Date/Time of Peak Discharge : 02 Jan 05 0008  
Total Precipitation : 3.50 (in)    Total Direct Runoff : 2.34 (in)  
Total Loss : 1.15 (in)    Total Baseflow : 0.00 (in)  
Total Excess : 2.35 (in)    Total Discharge : 2.34 (in)

HMS \* Summary of Results for Pond W

Project : Cong North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed

End of Run : 02Jan05 1200    Met. Model : Met2

Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Inflow : 27.380 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0008

Peak Outflow : 21.483 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0042

Total Inflow : 37.18 (in)    Peak Storage : 0.61674(ac-ft)

Total Outflow : 37.03 (in)    Peak Elevation : 144.22(ft)

HMS \* Summary of Results for Channel

Project : Cong North 2nd      Run Name : Prop 2 yr

Start of Run : 01Jan05 1200    Basin Model : Proposed  
End of Run : 02Jan05 1200    Met. Model : Met2  
Execution Time : 26Jan06 1536    Control Specs : Control 1

Computed Results

Peak Inflow : 42.078 (cfs)    Date/Time of Peak Inflow : 02 Jan 05 0014  
Peak Outflow : 41.789 (cfs)    Date/Time of Peak Outflow : 02 Jan 05 0016  
Total Inflow : 0.80 (in)      Peak Storage : 0.22758(ac-ft)  
Total Outflow : 0.79 (in)      Peak Elevation : 141.63(ft)

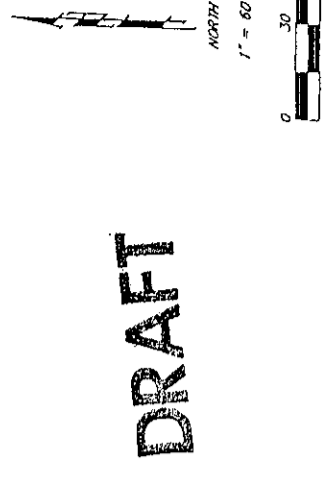
# CONQUEST NORTH COMMUNITY UNIT PLAN DP - 24

**GENERAL PROVISIONS**

- Total Land Area: 828,899 sq. ft. or 19.03 acres  
124,335 sq. ft. or 2.85 acres  
124,335 sq. ft. or 2.85 acres  
15 percent
- Maximum Building Coverage: 15 percent
- Maximum Gross Floor Area: 15 percent
- Floor Area Ratio: 15 percent
- Parking shall be provided in accordance with the Unified Zoning Code.
- Setbacks are as indicated on the C.U.P. drawing.
- A Drainage Plan will be submitted to City Engineering for approval.
- Signs shall be permitted in accordance with the City of Wichita Sign Ordinance.
- For those areas developed for assisted living uses, all exterior lighting shall be shielded to limit light trespass into residential areas. All exterior lighting shall be limited to a height of 14 feet within 100 feet of abutting residentially-zoned property, and 20 feet on the remainder of the tract.
- Utilities shall be installed underground on all parcels.
- Landscaping for the development of all parcels within the C.U.P. shall comply with the Landscape Ordinance of the City of Wichita.
- Trash receptacles for Parcels 1 and 2 shall be appropriately screened to reasonably hide them from ground view.
- The proposed development contains 5 parcels illustrating assisted living uses within Parcels 1 and 2, with the balance of the site available for those uses as permitted by the "R-3" Two-Family zoning district. For permitted uses and densities, see parcel descriptions and the following schedule:

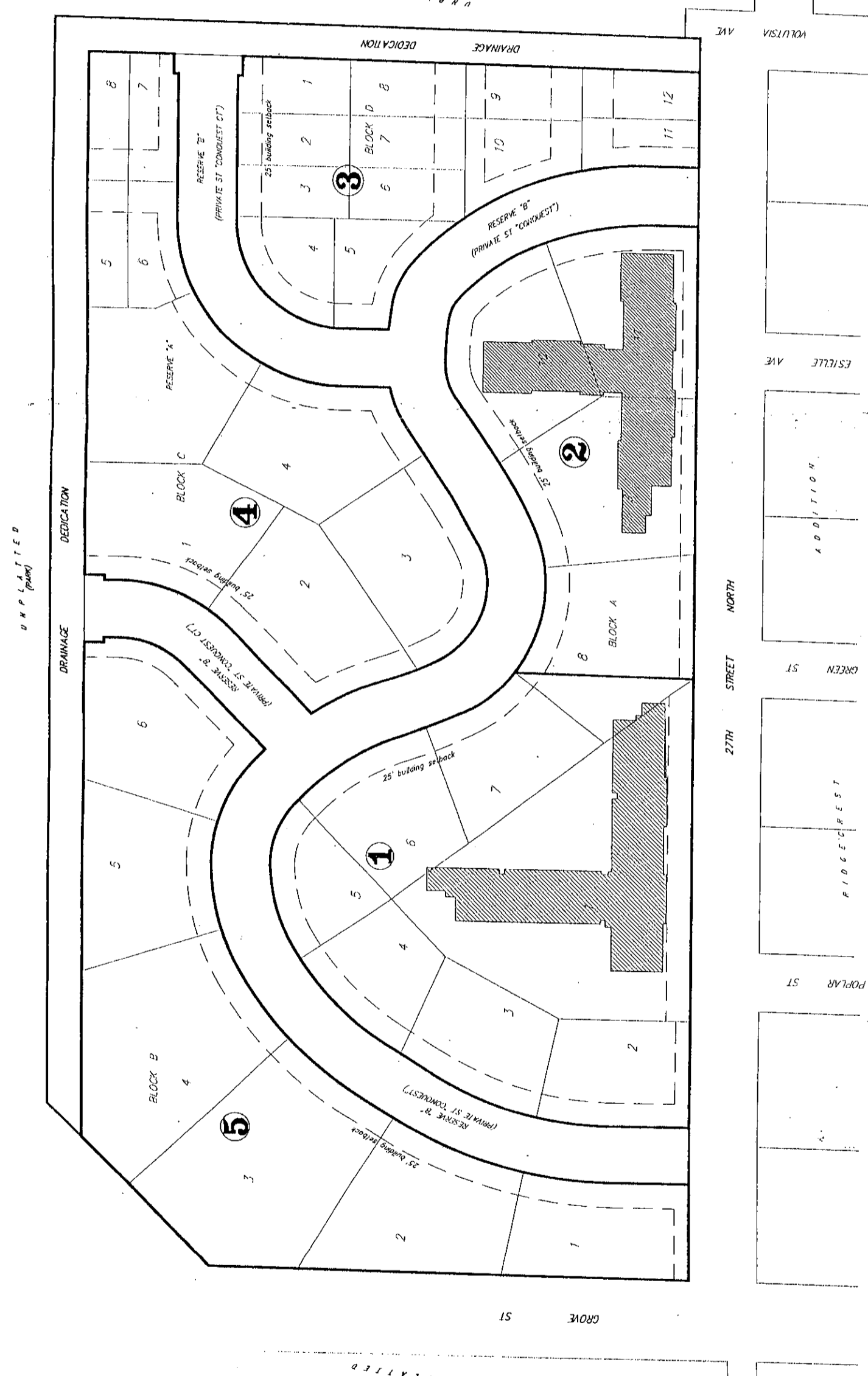
Parcel	Single-Family	Duplex	Townhouse	Assisted Living
Parcel 1	16	22	36	40
Parcel 2	10	13	22	40
Parcel 3	8	11	20	-
Parcel 4	14	19	33	-
Parcel 5	16	21	37	-
Totals	64	86	150	80

11. The transfer of title of all or any portion of land included within the Community Unit Plan (or any amendment thereto) shall not constitute a termination of the plan or any portion thereof, but shall remain binding upon present owners, their successors and assigns.



## DRAFT

APPROVED: JANUARY 10, 1967  
**CONQUEST NORTH  
COMMUNITY UNIT PLAN  
DP - 24**  
**BAUGHMAN COMPANY P. A.**  
 ENGINEERING SURVEYING & PLANNING



Parcel	Net Area	Maximum Building Coverage	Maximum Gross Floor Area	Floor Area Ratio	Maximum Building Height	Proposed Uses
PARCEL 1	158,084 sq. ft. or 3.63 acres	47,425 sq. ft. or 30 percent	55,329 sq. ft.	35 percent	35 feet	Proposed Uses: assisted living, single-family, duplex, townhouse (not to exceed 10.5 du/ac), church or place of worship, convalescent care facility (limited), day care (limited), group home (limited), parks and recreation, and school.
PARCEL 2	92,673 sq. ft. or 2.12 acres	27,791 sq. ft. or 30 percent	32,418 sq. ft.	35 percent	35 feet	Proposed Uses: assisted living, single-family, duplex, townhouse (not to exceed 10.5 du/ac), church or place of worship, convalescent care facility (limited), day care (limited), group home (limited), parks and recreation, and school.
PARCEL 3	52,007 sq. ft. or 1.88 acres	24,602 sq. ft. or 30 percent	28,703 sq. ft.	35 percent	35 feet	Proposed Uses: assisted living, single-family, duplex, townhouse (not to exceed 10.5 du/ac), church or place of worship, convalescent care facility (limited), day care (limited), group home (limited), parks and recreation, and school.
PARCEL 4	136,876 sq. ft. or 3.14 acres	41,063 sq. ft. or 30 percent	47,907 sq. ft.	35 percent	35 feet	Proposed Uses: single-family, duplex, townhouse (not to exceed 10.5 du/ac), church or place of worship, convalescent care facility (limited), day care (limited), group home (limited), parks and recreation, and school.
PARCEL 5	155,342 sq. ft. or 3.57 acres	46,603 sq. ft. or 30 percent	54,370 sq. ft.	35 percent	35 feet	Proposed Uses: single-family, duplex, townhouse (not to exceed 10.5 du/ac), church or place of worship, convalescent care facility (limited), day care (limited), group home (limited), parks and recreation, and school.