

8-14-79

REVISED FROM
7-26-79

(1)

RAINBOW LAKES WEST 3RD ADDN.
DRAINAGE TO SE COR. SW 1/4 SEC 24

1330 x 1500 = 1,995,000

1150 x 550 ÷ 2 = 316,250

1650 x 350 = 577,500

1400 x 900 = 1,260,000

800 x 600 = 480,000

800 x 700 = 560,000

1300 x 750 = 975,000

1300 x 300 ÷ 2 = 195,000

400 x 350 ÷ 2 = 70,000

6,011,250 ÷ 43,560 = 138.0 AC

AREA S. OF MAPLE = 53.3 AC

5TH ADDN & PART OF 4TH = 71.0 AC

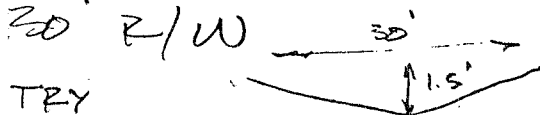
TOTAL AREA 262.3 AC

DA = 262.3 AC L = 7400 = 1.4 MI. F = 1405 - 1320 = 85'

$T_L = \left(\frac{11.9 \times 1.4^3}{85} \right)^{0.385} = 0.69 \text{ HRS} = 41.5 \text{ MIN. } i_{100} = 5.27$

Q₁₀₀ = 262.3 x 0.5 x 5.27 = 691.2 cfs

STORM SEWER OUTLET BETWEEN LOTS 27-28 BLK 5
EL. 18⁶ - PROVIDE DITCH ALONG S. SIDE OF
ADDN TO CHANNEL - LENGTH = 360' - PROVIDE
20' R/W



a = 22.5 S = .003 R = $\frac{22.5}{30} = .75$

Q = 22.5 $\frac{1.486}{1035} .75^{2/3} .003^{1/2} = 43^2 \text{ cfs OK.}$
360' x .003 = 1.08

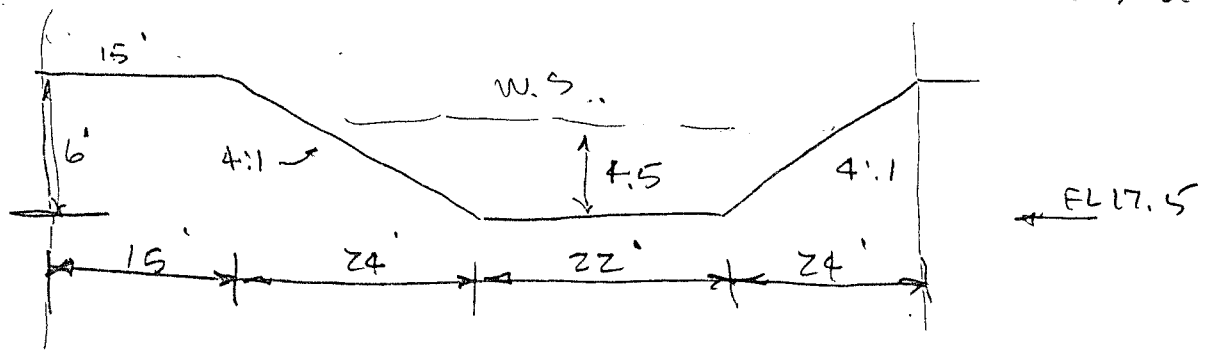


FL STORM LOWER 18.6 - 1.08 = 17.52 FL @ CHANNEL

MIN PAD AT LOTS 25.3 - 3' = 22.3 MAX. W.S. ALLOWABLE

22.3 - 17.5 = 4.8 ALLOWABLE DEPTH OF FLOW

TRY 85' R/W WITH 4.5' DEEP FLOW - 6' DEEP CHANNEL



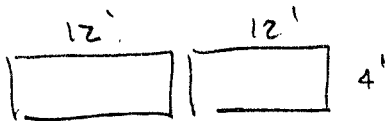
DEPTH 4.5

$$Q = 180 \quad R = \frac{180}{58} = 3.1 \quad S = .003^{1/2}$$

$$Q = 180 \frac{1.486}{0.35} 3.1^{2/3} .003^{1/2} = 889.9 \text{ O.K.}$$

D=4' A=152 R=152/54=2.8 Q=705 O.K. *2' freeboard. maintenance easement one side only? The other side can be Road R/W?*

R/CBC ACROSS FOREST VIEW DOUBLE 12x4



$$A = 96 \quad R = \frac{96}{64} \quad S = .003$$

$$Q = 96 \frac{1.486}{.013} 1.5^{2/3} .003^{1/2} = 787.6 \text{ cfs O.K.}$$

$$Q = 691.2 / 24 = 28.8 \text{ cfs/1}$$

From Chart HW/RSE=1.2 HW = 1.2 x 4 = 4.8' O.K



THE STATE



OF KANSAS

STATE BOARD OF AGRICULTURE

W. W. Duitsman, *Secretary*

DIVISION OF WATER RESOURCES

Guy E. Gibson, *Chief Engineer*

PERMIT

The Chief Engineer of the Division of Water Resources, Kansas State Board of Agriculture, by virtue of the powers and duties imposed by K.S.A. 82a-301 to 304, as amended and supplemented by Chapter 431 of the 1978 Session Laws of Kansas, hereby issues this permit to Rainbow Lakes, Incorporated

giving his consent to the construction of a channel change along a tributary of
Cowskin Creek, at a location in the Southwest Quarter (SW $\frac{1}{4}$) of Section 24,
Township 27 South, Range 2 West, City of Wichita, Sedgwick County, Kansas.

This permit is issued in response to an application filed in the office of the Division of Water Resources, Kansas State Board of Agriculture, on the 15th day of February, 19 79, with the understanding that the work shall be performed in accordance with the maps, plans, profiles and specifications filed with and made part of the application, and approved by the Chief Engineer, Division of Water Resources, Kansas State Board of Agriculture, on the 23rd day of May, 19 79, and in accordance with plans for any changes or modifications subsequently approved by the Chief Engineer subject, however, to the provisions of the aforementioned statute, and the following conditions, regulations and restrictions:

1. That this permit grants no water rights nor other property rights, nor does it authorize any injury to private property nor invasion of private rights, nor does it obviate the necessity of obtaining assent from Federal or Local Governmental authorities when necessary;
2. That the work shall at all times be subject to supervision and inspection by representatives of the Division of Water Resources, and that no changes in the maps, plans, profiles and specifications as approved shall be made except with the written consent of the Chief Engineer;
3. That no changes in the work authorized by this permit shall be made without first having revised plans for such changes approved by the Chief Engineer. The Chief Engineer reserves the right to require such changes in the maps, plans, profiles and specifications as may be considered necessary;
4. That any dam authorized by this permit will be maintained in a condition satisfactory to the Chief Engineer;
5. That the construction of any dam authorized by this permit will not impair the rights of downstream water users to any portion of the water, originating above the dam site, to which they may be entitled;
6. That any new channel authorized by this permit shall be kept cleared of trees, brush, drift and other debris, and be maintained substantially in accordance with the approved plans;
7. That any new channel authorized by this permit will not impair the rights of water users along the previously existing natural channel of the stream;

AMENDMENT OF RIGHT OF WAY AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, on the 15th day of July, 1930, Alfred T. Heinig and Gertrude Heinig, husband and wife, executed and delivered to Phillips Pipe Line Company, its successors and assigns, a Right of Way Contract covering the following described lands in Sedgwick County, State of Kansas, to wit:

SW $\frac{1}{4}$ of Section 24, Township 27 South, Range 2 West

Said Right of Way Contract being filed of record in Miscellaneous Book 98, Page 137, Register of Deeds Office, Sedgwick County, Kansas; and

WHEREAS, L. V. Bell, Sharon A. Bell and Rainbow Lakes, Inc., hereinafter called Landowner, whether one or more, represents that he is the present owner, subject to the above-mentioned Right of Way Contract, of the above described tract(s) of land, (hereinafter called "owned land" whether one or more tracts); and

WHEREAS, Landowner has requested that Phillips Pipe Line Company, hereinafter called Phillips, amend said Right of Way Contract only insofar as it affects the owned land, and Phillips is willing to do so subject to the terms and conditions of this instrument;

NOW, THEREFORE, in consideration of the premises and the terms and conditions contained herein Phillips and Landowner do hereby agree to amend said Right of Way Contract, in the following particulars:

I. From and after the date hereof all of Phillips' pipelines and other incidental equipment and facilities heretofore or hereafter laid on the owned land, by authority of said Right of Way Contract or this instrument shall be confined within the strip of land more particularly described as follows:

A strip of land 60 feet in width, across the Southwest Quarter of Section 24, T27S, R2W, Sedgwick County, Kansas, being 30 feet on each side of the following described line:

Beginning at the intersection of the centerline of an 8 inch pipeline, being the most Southerly of three existing pipelines owned by Phillips Pipe Line Company, with the West line of Section 24, T27S, R2W Sedgwick County, Kansas, said intersection being 428 feet Southerly from the West Quarter corner of Section 24;

Thence Northeasterly with the centerline of said 8 inch pipeline 951 feet to the North line of the Southwest Quarter of Section 24, being 838 feet Easterly from the Northwest corner thereof, for the terminal point of this strip

hereinafter called "Defined Easement."

II. For and in consideration of the benefits to be derived herefrom, Phillips, its parent, subsidiaries, successors and assigns, shall hereafter have and it is hereby granted by Landowner:

- A. The right of way and easement from time to time to maintain, operate, re-lay, replace, change the size of and remove any or all of Phillips' pipelines currently in place within the owned land; and
- B. The right of way and easement from time to time to lay, maintain, operate, re-lay, replace, change the size of and remove additional pipelines within the Defined Easement, for the transportation of oil, gas, water, petroleum products and any other gases or substances (whether or not of a similar nature) which can be transported through a pipeline;

together with the right of ingress and egress across the owned land for all purposes incident to the exercise of the aforesaid rights and the right to place on the owned lands incidental equipment to facilitate the use of pipelines. No additional compensation shall be payable to Landowner for the exercise of the aforesaid rights or any damage resulting to the property of Landowner, his successors or assigns, except that damages will be paid to Landowner for damage to growing agriculture crops.

III. Landowner, for himself, his successors and assigns, covenants and agrees that no dwellings, buildings, structures, obstructions or engineering works of whatsoever kind shall be erected on said Defined Easement and Landowner further covenants and agrees that no dwellings or buildings shall be erected within 50 feet on either side of said Defined Easement and that no change will be effected in the present grade of said Defined Easement. Landowner, for himself, his heirs, successors and assigns agrees that no hard surface or regularly traveled streets, roads or highways will cross or be placed over the Defined Easement unless and until Phillips' pipelines or incidental equipment located thereon are properly adjusted and protected in the opinion of Phillips. Any such adjustment or protection shall be done under the supervision and to the specifications determined solely by Phillips and at the expense of the Landowner, his successors or assigns.

IV. Nothing herein contained shall be construed as releasing any rights or privileges under said Right of Way Contract insofar as said Right of Way Contract covers said Defined Easement; but said Right of Way Contract, insofar as it relates to said Defined Easement, and insofar as it may be inconsistent

and in conflict herewith, is hereby amended so that the rights and obligations of the parties hereto shall be determined under the terms and provisions of this instrument. Said Right of Way Contract, insofar as it may cover and relate to land other than the owned land described above, shall remain in effect in accordance with all of its terms and provisions.

V. It is the intention of both Phillips and Landowner that said Defined Easement shall extend completely across the land owned by Landowner and recited above and be located in such manner that all of Phillips' presently existing pipelines will be within its boundaries. To this extent it is understood and agreed that, in the event it should ever be determined that either of said boundary lines have not been properly located or that there is a conflict between calls for the boundary lines or for the existing pipeline or pipelines and calls for other objects or monuments or calls for course or distance in a description of said Defined Easement, the Defined Easement shall for all purposes be deemed to be extended in length and/or adjusted as to location in order that the intention of the parties will be carried out.

VI. Phillips shall have the right from time to time to assign the rights granted hereunder in whole or in part.

The provisions hereof shall extend to, be binding upon and inure to the benefit of the parties hereto and his respective successors and assigns.

EXECUTED this 14 day of May, 1979.

LANDOWNER

L. V. Bell
L. V. BELL
Sharon A. Bell
SHARON A. BELL

PHILLIPS PIPE LINE COMPANY

By Tammy Y. Bailey
Attorney-in-Fact

RAINBOW LAKES INC.

J. W. A.
President

ATTEST:

Boyd Wilks
Secretary (Rainbow Lakes Inc.)

STATE OF OKLAHOMA)
COUNTY OF WASHINGTON)

Be it remembered that on this 14th day of May, 1979, before me, Sandra L. Haberly, the undersigned Notary Public in and for said county and state, personally appeared Larry G. Sickey, to me personally known to be the Attorney-in-Fact of PHILLIPS PIPE LINE COMPANY, a corporation, grantor in the foregoing instrument, and who is to me personally known to be the same person who executed the foregoing instrument as such grantor, and he duly acknowledged the execution of the same for himself and for said Phillips Pipe Line Company.

In witness whereof, I have hereunto set my hand and affixed my official seal the day and year above written.

Sandra L. Haberly
Notary Public in and for
Washington County, Oklahoma



My commission expires:
June 13, 1979

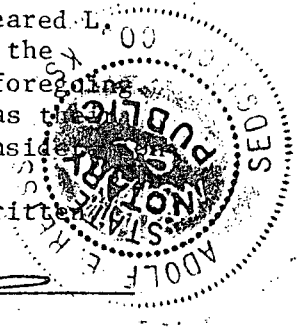
STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

Before me, the undersigned, a Notary Public, within and for said County and State, on this 22nd day of May, 1979, personally appeared L. V. Bell and Sharon A. Bell, husband and wife, to me known to be the identical persons described in and who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their free and voluntary act and deed, for the uses, purposes, and considerations therein set forth.

Given under my hand and seal the day and year last above written.

My commission expires:
1-21-82

[Signature]
Notary Public



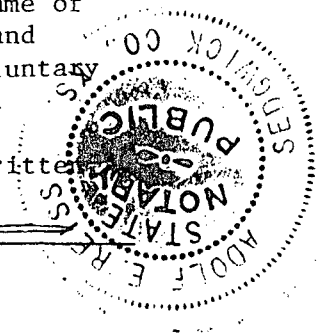
STATE OF KANSAS)
) SS.
COUNTY OF SEDGWICK)

Before me, the undersigned Notary Public, in and for said County and State, on this 22nd day of May, 1979, personally appeared John Fry to me known to be the identical person who subscribed the name of the maker thereof to the foregoing instrument as its President and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth.

Given under my hand and seal the day and year last above written.

My commission expires:
1-21-82

[Signature]
Notary Public



RAINBOW LAKES WEST THIRD ADDITION

PHASE I STREETS

&

RAINBOW LAKES WEST FOURTH ADDITION

STREETS

TOTAL ASSESSMENT

\$1,420,800.00

RAINBOW LAKES WEST THIRD ADDITION

PHASE 1 STREET ASSESSMENTS

	Name & Address Property Owner	Proposed Street Assessment
Lot 33 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,954.58
Lot 34 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,669.69
Lot 35 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,669.69
Lot 36 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,954.58
Lot 37 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,139.60
Lot 38 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	9,125.64
Lot 39 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	8,161.24
Lot 40 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	9,083.71
Lot 41 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	9,023.48
Lot 42 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,682.65
Lot 43 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	14,416.53
Lot 44 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	13,722.77
Lot 45 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,063.36
Lot 46 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	8,233.66
Lot 47 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	8,233.66
Lot 48 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,063.36
Lot 49 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	15,303.94

RAINBOW LAKES WEST THIRD ADDITION
PHASE 1 STREET ASSESSMENTS (cont.)

	Name & Address Property Owner	Proposed Street Assessment
Lot 50 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,971.59
Lot 51 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	8,856.52
Lot 52 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	9,723.34
Lot 53 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	13,405.62
Lot 54 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	12,699.66
Lot 55 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,799.06
Lot 56 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	9,396.28
Lot 57 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	9,431.35
Lot 58 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,764.75
Lot 59 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	13,471.18
Lot 60 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	14,338.77
Lot 61 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,596.26
Lot 62 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	15,948.91
Lot 63 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	13,027.48
Lot 64 Block 4	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	12,200.30
Lot 65 Block 4	Board of County Commissioners 525 N. Main Wichita, KS 67203	11,466.14

RAINBOW LAKES WEST THIRD ADDITION
PHASE 1 STREET ASSESSMENTS (cont.)

	Name & Address Property Owner	Proposed Street Assessment
Lot 16 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 17 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 18 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 19 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 20 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 21 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 22 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 23 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 24 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,692.32
Lot 25 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,321.28
Lot 26 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,321.28
Lot 27 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,321.28
Lot 28 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	11,321.28
Lot 29 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	10,972.12
Lot 30 Block 5	Rainbow Lakes Inc. 360 N. 135th St. W. Wichita, KS 67235	18,802.48

Total - Rainbow Lakes West Third Addition
Phase 1 Street Assessment \$541,889.95

RAINBOW LAKES WEST FOURTH ADDITION
STREET ASSESSMENTS

	Name & Address Property Owner	Proposed Street Assessment
Lot 1 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	8,166.99
Lot 2 Block 1	125 Inc. 125 S. West Wichita, KS 67213	8,381.92
Lot 3 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	11,157.31
Lot 4 Block 1	125 Inc. 125 S. West Wichita, KS 67213	8,099.20
Lot 5 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	8,428.62
Lot 6 Block 1	125 Inc. 125 S. West Wichita, KS 67213	9,762.33
Lot 7 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	9,337.01
Lot 8 Block 1	125 Inc. 125 S. West Wichita, KS 67213	9,674.96
Lot 9 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	7,798.92
Lot 10 Block 1	125 Inc. 125 S. West Wichita, KS 67213	7,472.02
Lot 11 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	8,325.67
Lot 12 Block 1	125 Inc. 125 S. West Wichita, KS 67213	10,904.73
Lot 13 Block 1	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	14,264.12
Lot 14 Block 1	125 Inc. 125 S. West Wichita, KS 67213	11,947.19
Lot 15 Block 1	125 Inc. 125 S. West Wichita, KS 67213	11,875.89
Lot 16 Block 1	125 Inc. 125 S. West Wichita, KS 67213	11,568.07
Lot 1 Block 2	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	8,643.54

RAINBOW LAKES WEST FOURTH ADDITION
STREET ASSESSMENTS (cont.)

	Name & Address Property Owner	Proposed Street Assessment
Lot 2 Block 2	125 Inc. 125 S. West Wichita, KS 67213	10,187.15
Lot 3 Block 2	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	9,059.32
Lot 4 Block 2	125 Inc. 125 S. West Wichita, KS 67213	8,223.24
Lot 5 Block 2	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	7,030.12
Lot 6 Block 2	125 Inc. 125 S. West Wichita, KS 67213	8,088.16
Lot 7 Block 2	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	11,384.28
Lot 8 Block 2	125 Inc. 125 S. West Wichita, KS 67213	8,831.84
Lot 9 Block 2	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	9,828.61
Lot 10 Block 2	125 Inc. 125 S. West Wichita, KS 67213	10,002.86
Lot 11 Block 2	L.V. Bell 320 N. 135th St. W. Wichita, KS 67235	9,578.54
Lot 12 Block 2	125 Inc. 125 S. West Wichita, KS 67213	13,115.20
Lot 13 Block 2	L.V. Bell 320 N. 135th St. W. Wichita, KS 67235	13,943.24
Lot 14 Block 2	125 Inc. 125 S. West Wichita, KS 67213	8,084.64
Lot 15 Block 2	L.V. Bell 320 N. 135th St. W. Wichita, KS 67235	7,381.63
Lot 16 Block 2	125 Inc. 125 S. West Wichita, KS 67213	7,381.63
Lot 17 Block 2	125 Inc. 125 S. West Wichita, KS 67213	8,084.64
Lot 1 Block 3	L.V. Bell 320 N. 135th St. W. Wichita, KS 67235	8,957.38

RAINBOW LAKES WEST FOURTH ADDITION

STREET ASSESSMENTS (cont.)

	Name & Address Property Owner	Proposed Street Assessment
Lot 2 Block 3	125 Inc. 125 S. West Wichita, KS 67213	7,889.81
Lot 3 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	9,336.00
Lot 4 Block 3	125 Inc. 125 S. West Wichita, KS 67213	8,298.06
Lot 5 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	7,530.27
Lot 6 Block 3	125 Inc. 125 S. West Wichita, KS 67213	6,725.82
Lot 7 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	14,323.88
Lot 8 Block 3	125 Inc. 125 S. West Wichita, KS 67213	15,667.13
Lot 9 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	18,975.81
Lot 10 Block 3	125 Inc. 125 S. West Wichita, KS 67213	11,713.69
Lot 11 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	12,360.46
Lot 12 Block 3	125 Inc. 125 S. West Wichita, KS 67213	10,566.27
Lot 13 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67213	10,281.55
Lot 14 Block 3	125 Inc. 125 S. West Wichita, KS 67213	8,400.49
Lot 15 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67213	8,466.28
Lot 16 Block 3	125 Inc. 125 S. West Wichita, KS 67213	12,595.47
Lot 17 Block 3	125 Inc. 125 S. West Wichita, KS 67213	11,423.95
Lot 18 Block 3	125 Inc. 125 S. West Wichita, KS 67213	11,423.95

RAINBOW LAKES WEST FOURTH ADDITION
STREET ASSESSMENTS (cont.)

	Name & Address Property Owner	Proposed Street Assessment
Lot 19 Block 3	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	10,545.18
Lot 20 Block 3	125 Inc. 125 S. West Wichita, KS 67213	15,211.68
Lot 21 Block 3	125 Inc. 125 S. West Wichita, KS 67213	20,895.53
Lot 1 Block 4	125 Inc. 125 S. West Wichita, KS 67213	18,456.08
Lot 2 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	15,456.23
Lot 3 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	13,810.68
Lot 4 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	13,181.48
Lot 5 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	15,311.11
Lot 6 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	16,234.56
Lot 7 Block 4	125 Inc. 125 S. West Wichita, KS 67213	11,770.43
Lot 8 Block 4	125 Inc. 125 S. West Wichita, KS 67213	10,242.39
Lot 9 Block 4	125 Inc. 125 S. West Wichita, KS 67213	14,174.23
Lot 10 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	17,545.18
Lot 11 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	16,672.44
Lot 12 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	11,501.78
Lot 13 Block 4	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	14,783.34
Lot 14 Block 4	125 Inc. 125 S. West Wichita, KS 67213	15,817.78

RAINBOW LAKES WEST FOURTH ADDITION

STREET ASSESSMENTS (cont.)

	Name & Address Property Owner	Proposed Street Assessment
Lot 15 Block 4	125 Inc. 125 S. West Wichita, KS 67213	16,593.10
Lot 1 Block 5	Rodney K. Sweetman ETUX 220 Rainbow Lakes Road Wichita, KS 67235	14,426.82
Lot 2 Block 5	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	23,573.01
Lot 3 Block 5	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	21,479.54
Lot 4 Block 5	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	17,692.81
Lot 5 Block 5	John R. Krablin ETUX 442 Perk Drive Haysville, KS 67060	17,938.36
Lot 1 Block 6	L.V. Bell 360 N. 135th St. W. Wichita, KS 67235	4,646.41

Proposed
Ⓜ

Total - Rainbow Lakes West Fourth Add.
Street Assessments 878,910.01

MARTIN, PRINGLE, FAIR, DAVIS & OLIVER
320 Page Court, 220 W. Douglas
Wichita, Kansas 67202
(316) 265-9311

BEFORE THE BOARD OF COUNTY COMMISSIONERS
OF SEDGWICK COUNTY, KANSAS

IN RE:)
)
RAINBOW LAKES WEST THIRD ADDITION)
TO SEDGWICK COUNTY, KANSAS AND)
RAINBOW LAKES WEST FOURTH ADDITION)
TO SEDGWICK COUNTY, KANSAS.)
_____)

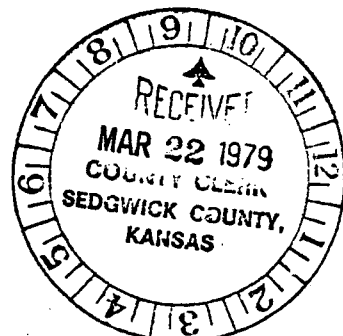
PETITION

TO: THE BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS

1. The undersigned are the owners of one hundred percent of the following described real estate which is being platted into Rainbow Lakes West Third Addition to Sedgwick County, Kansas, to-wit:

A tract in the SW 1/4 of Section 24, T27S, R2W of the 6th P.M., Sedgwick County, Kansas, described as follows: Beginning at the SE corner of said SW 1/4; thence S88°55'03"W along the south line of said SW 1/4, 330 feet; thence N0°11'20"W parallel to the east line of said SW 1/4, 264.18 feet; thence N52°01'37"W, 2542.09 feet; thence S37°58'23"W, 19.12 feet to the P.C. of a curve; thence southerly on a curve to the left having a radius of 236 feet and a deflection angle of 38°02'30", 159.69 feet to the P.T. of said curve; thence S0°04'07"E parallel to the west line of said SW 1/4, 250 feet; thence S89°55'53"W, 244 feet to the West line of said SW 1/4; thence N0°04'07"W along the west line of said SW 1/4, 750.27 feet to a point 427.73 feet south of the NW corner of said SW 1/4; thence N61°47'03"E, 950.52 feet to a point on the north line of said SW 1/4, 838.36 feet east of the NW corner of said SW 1/4; thence N88°31'08"E along the north line of said SW 1/4, 1795.34 feet to the NE corner of said SW 1/4; thence S0°11'20"E, 2657.3 feet to the point of beginning;

the owners of one hundred percent of the land not in the said addition but abutting the streets in said addition, said land being described as follows, to-wit:



Commencing at the SE corner of the SW 1/4 of Section 24, T27S, R2W of the 6th P.M., Sedgwick County, Kansas; thence S88°55'03"W along the south line of said SW 1/4, 330 feet to a point of beginning; thence N0°11'20"W, 264.18 feet; thence north 52°01'37"W, 2542.09 feet; thence S 37°58'23"W, 19.12 feet to the P.C. of a curve; thence southerly on a curve to the left having a radius of 236 feet and a deflection angle of 38°02'30", a distance of 159.69 feet to the P.T. of said curve; thence S0°04'07"E, 250 feet; thence S89°55'53"W, 244 feet to the west line of said SW 1/4; thence S0°04'07"E along the west line of said SW 1/4, 1461.07 feet to the SW corner of said SW 1/4; thence N88°55'03"E along the south line of said SW 1/4, 2308.89 feet to the point of beginning;

the owners of one hundred percent of the following described real estate which is being platted into Rainbow Lakes West Fourth Addition to Sedgwick County, Kansas, to-wit:

Part of the SW 1/4 of Section 24 and part of the NW 1/4 of Section 24, all in T27S, R2W of the 6th P.M., Sedgwick County, Kansas, described as follows: Beginning at the SW corner of said NW 1/4; thence N0°00'E along the west line of said NW 1/4, 2364.20 feet to a point 280 feet south of the NW corner of said NW 1/4; thence N89°18'30"E parallel to the north line of said NW 1/4, 520 feet; thence S0°00'W, 806.21 feet; thence S41°25'E, 669.66 feet; thence N45°43'15"E, 200.25 feet; thence S41°25'E, 234.28 feet to the P.C. of a curve; thence southeasterly on a curve to the right having a radius of 258 feet and a deflection angle of 20°30', 92.31 feet to the P.T. of said curve; thence S20°55'E on a tangent to said curve, 88.07 feet to the P.C. of a curve; thence southeasterly on a curve to the left having a radius of 200 feet and a deflection angle of 21°55', 103.28 feet; thence S42°50'E, on a tangent to said curve, 120 feet; thence N47°10'E, 70 feet; thence N50°19'E, 183.84 feet; thence S55°04'22"E, 377.86 feet; thence S15°46'49"E, 606.26 feet to the south line of said NW 1/4; thence S88°31'08"W on the south line of said NW 1/4, 1305.91 feet to a point 838.36 feet east of the SW corner of said NW 1/4; thence S61°47'03"W, 950.52 feet to the west line of the SW 1/4 of said Section 24; thence N0°04'07"W, 427.73 feet to the point of beginning.

2. That all of said real estate lies outside the limits of any incorporated city.

3. That petitioners are desirous of improving the streets within said additions and therefore petition the Board for the curbing, guttering and paving, including drainage, of the streets within said additions as put forth in the accompanying Resolution and Order.

4. Petitioners further request the Board to employ and appoint engineers to plan and superintend the construction of said street improvements.

WHEREFORE, petitioners pray that the Board of County Commissioners, by resolution, pursuant to K.S.A. 1978 Supp. 68-728, declare such work and improvements necessary to be done and cause a resolution thereof to be published for three (3) consecutive weeks in the official paper of Sedgwick County, Kansas, and if the owners of more than one half of the property liable for taxation for such improvements shall not within twenty days (20) from the date of last publication, file with the County Clerk their protest against said improvements, that the Board cause such work to be done and contract therefor and levy taxes for the payment thereof as provided by law.

RAINBOW LAKES, INC.

By *John Fry*
JOHN FRY - President

Subscribed and sworn to before me this 3rd day of April, 1979, by JOHN FRY, President & BOYD L. MILLS, Secretary, of RAINBOW LAKES, INC.

ATTEST:

Boyd L. Mills
Secretary

Connie Johnson
Notary Public

By *L. V. Bell*
L. V. BELL My Commission expires: 7-13-81

By *Sharon A. Bell*
SHARON A. BELL

APPROVED AS TO FORM ONLY:

Subscribed and sworn to before me this 3rd day of April, 1979, by L. V. BELL and SHARON A. BELL.

County Counselor

Connie Johnson
Notary Public

William P. Zimmerman

My commission expires:

Board Counsel
State of Kansas
County of Sedgwick

7-13-81

I, County Clerk of said County, do hereby certify this to be a true and correct copy of the original instrument which is on file or of record in my office.

Done this 20 day of April, 19 79.

DOROTHY K. WHITE, County Clerk

By *Dorothy White*, Deputy



R#106-1979

MARTIN, PRINGLE, FAIR, DAVIS & OLIVER
320 Page Court, 220 West Douglas
Wichita, Kansas 67202
(316) 265-9311

BEFORE THE BOARD OF COUNTY COMMISSIONERS
OF SEDGWICK COUNTY, KANSAS

IN THE MATTER OF)
RAINBOW LAKES WEST THIRD ADDITION)
TO SEDGWICK COUNTY, KANSAS, AND)
RAINBOW LAKES WEST FOURTH ADDITION)
TO SEDGWICK COUNTY, KANSAS.)
_____)

RESOLUTION

NOW, on this 2nd day of May, 1979, come the owners of land abutting on and fronting on all of the streets, roads and avenues contained within the following described real property, to-wit:

A tract in the SW 1/4 of Section 24, T27S, R2W of the 6th P.M., Sedgwick County, Kansas, described as follows: Beginning at the SE corner of said SW 1/4; thence S88°55'03"W along the south line of said SW 1/4, 330 feet; thence N0°11'20"W parallel to the east line of said SW 1/4, 264.18 feet; thence N52°01'37"W, 2542.09 feet; thence S37°58'23"W, 19.12 feet to the P.C. of a curve; thence southerly on a curve to the left having a radius of 236 feet and a deflection angle of 38°02'30", 159.69 feet to the P.T. of said curve; thence S0°04'07"E parallel to the west line of said SW 1/4, 250 feet; thence S89°55'53"W, 244 feet to the West line of said SW 1/4; thence N0°04'07"W along the west line of said SW 1/4, 750.27 feet to a point 427.73 feet south of the NW corner of said SW 1/4; thence N61°47'03"E, 950.52 feet to a point on the north line of said SW 1/4, 838.36 feet east of the NW corner of said SW 1/4; thence N88°31'08"E along the north line of said SW 1/4, 1795.34 feet to the NE corner of said SW 1/4; thence S0°11'20"E, 2657.3 feet to the point of beginning;

Commencing at the SE corner of the SW 1/4 of Section 24, T27S, R2W of the 6th P.M., Sedgwick County, Kansas; thence S88°55'03"W along the south line of said SW 1/4, 330 feet to a point of beginning; thence N9°11'20"W, 264.18 feet; thence north 52°01'37"W, 2542.09 feet; thence S37°58'23"W, 19.12 feet to the P.C. of a curve; thence southerly on a curve to the left having a radius of 236 feet and a deflection angle of 38°02'30", a distance of 156.69 feet to the P.T. of said curve; thence S0°04'07"E, 250 feet; thence S89°55'53"W, 244 feet to the west line of said SW 1/4; thence S0°04'07"E along the west line of said SW 1/4, 1461.07 feet to the SW corner of said SW 1/4; thence N88°55'03"E along the south

line of said SW 1/4, 2308.89 feet to the point of beginning; and

Part of the SW 1/4 of Section 24 and part of the NW 1/4 of Section 24, all in T27S, R2W of the 6th P.M., Sedgwick County, Kansas, described as follows: Beginning at the SW corner of said NW 1/4; thence N0°00'E along the west line of said NW 1/4, 2364.20 feet to a point 280 feet south of the NW corner of said NW 1/4; thence N89°18'30"E parallel to the north line of said NW 1/4, 520 feet; thence S0°00'W, 806.21 feet; thence S41°25'E, 669.66 feet; thence N45°43'15"E, 200.25 feet; thence S41°25'E, 234.28 feet to the P.C. of a curve; thence southeasterly on a curve to the right having a radius of 258 feet and a deflection angle of 20°30', 92.31 feet to the P.T. of said curve; thence S20°55'E on a tangent to said curve, 88.07 feet to the P.C. of a curve; thence southeasterly on a curve to the left having a radius of 200 feet and a deflection angle of 21°55', 103.28 feet; thence S42°50'E, on a tangent to said curve, 120 feet; thence N47°10'E, 70 feet; thence N50°19'E, 183.84 feet; thence S55°04'22"E, 377.86 feet; thence S15°46'49"E, 606.26 feet to the south line of said NW 1/4; thence S88°31'08"W on the south line of said NW 1/4, 1305.91 feet to a point 838.36 feet east of the SW corner of said NW 1/4; thence S61°47'03"W, 950.52 feet to the west line of the SW 1/4 of said Section 24; thence N0°04'07"W, 427.73 feet to the point of beginning.

and present to the Board of County Commissioners of Sedgwick County, Kansas, a petition signed by the owner of all of the land within such described real property praying that the Board of County Commissioners, in conformity with K.S.A. 68-728, et seq., find that the construction of curb and gutter and paving or macadamizing, including drainage, of the aforesaid streets, roads or avenues, is necessary and that the Board of County Commissioners by resolution, declare such work or improvement necessary to be done.

WHEREFORE, said petition is examined by the Board of County Commissioners and found to be in due legal form and the Board of County Commissioners being advised in all the premises finds:

1. That the signers of said petition are the owners of all of the land and front footage of the lots abutting on or fronting on the streets, roads or avenues sought to be improved.
2. That such streets, roads and avenues, to-wit: All of those contained in Rainbow Lakes West Third

Addition and Rainbow Lakes West Fourth Addition, Sedgwick County, Kansas, as will be shown on the recorded plat thereof, are within Sedgwick County, Kansas, and outside of the limits of any incorporated city.

3. That there is no street, road or avenue included in those which are sought to be improved on which less than 50 percent of the property abutting or fronting is platted into lots and blocks.
4. That it is necessary that curb and gutter be constructed and paving or macadamizing, including drainage, be constructed on all of the streets, roads and avenues abutting upon and contained in Rainbow Lakes West Third Addition and Rainbow Lakes West Fourth Addition, Sedgwick County, Kansas.

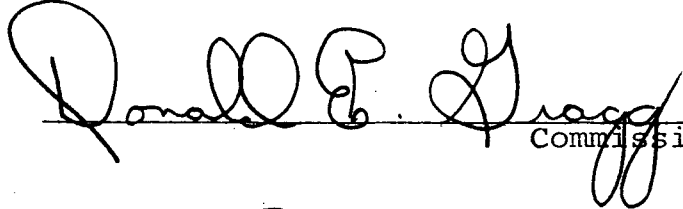
THEREFORE, BE IT RESOLVED, by the Board of County Commissioners of Sedgwick County, Kansas, in regular session duly assembled, on this 2nd day of May, 1979, that it is necessary that all of the streets, roads or avenues which abut upon and are contained with Rainbow Lakes West Third Addition and Rainbow Lakes West Fourth Addition, Sedgwick County, Kansas, have curb and gutter constructed thereon and that said streets, roads or avenues be paved or macadamized, including drainage.

BE IT RESOLVED that this resolution be published for three consecutive weeks in the official paper of this county; and if the owners of more than one-half of the property liable to taxation for said work shall not within twenty (20) days from the date of such last publication, file with the County Clerk their protests against such improvements, that the Board of County Commissioners shall thereupon cause such streets, roads and avenues to be improved, constructed or built as aforesaid, and to contract therefore, and to levy taxes as provided by law, and

now, therefore, all owners of said property liable for taxation to pay for the cost of the same take notice hereof.

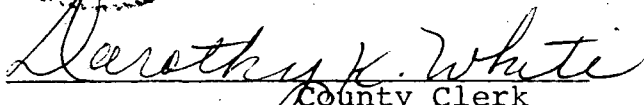
BOARD OF COUNTY COMMISSIONERS
OF SEDGWICK COUNTY, KANSAS

By 
Chairman


Commissioner


Commissioner




County Clerk

R#162-1979

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS

IN THE MATTER OF THE APPLICATION)
OF RAINBOW LAKE, INC.)
FOR THE IMPROVEMENT OF STREETS)
IN RAINBOW LAKES WEST 3RD & 4TH ADDITIONS)
IN SEDGWICK COUNTY, KANSAS)
Pursuant to K.S.A. 68-728 et seq)
as amended)

ORDER EMPLOYING ENGINEER

At a regular meeting of the Board of County Commissioners held on the 20 day of June, 1979, at 9:00 o'clock the following resolution was moved, seconded and unanimously carried:

"BE IT RESOLVED THAT REISS & GOODNESS ENGINEERS, a firm of Registered Engineers, be employed to plan and superintend the construction of paving for Rainbow Lakes West 3rd & 4th Additions to Sedgwick County, Kansas, consisting of paving, curbing, guttering and incidental drainage and that such engineers prepare a preliminary survey and determine the cost of such construction and such plans and specifications to be approved by the County Commissioners."

"BE IT FURTHER RESOLVED THAT the compensation or fee of the engineers shall be conditioned upon and contingent upon such work being actually done, and that the cost of such preliminary survey and other work shall be and become a part of the completed project, as shall all other engineering work and services performed in connection therewith by the said Reiss & Goodness Engineers, a firm of Registered Engineers, and that as such construction is performed upon completion thereof the said engineer shall be paid from a part of special assessments levied to pay for such construction in conformity with the statutes in such cases made and provided, Section 68-728, K.S.A."


BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS


TOM SCOTT, Chairman


DONALD E. GRAGG, Commissioner


EVERETT PATRICK, Commissioner




DOROTHY K. WHITE
County Clerk *by Dorothy Peil, Deputy*
Sedgwick County, Kansas

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS

RESOLUTION APPROVING THE FINAL PLANS AND SPECIFICATIONS AND AUTHORIZING THE ADVERTISEMENT FOR BIDS ON THE STORM DRAIN IMPROVEMENTS AND STREET IMPROVEMENTS WITHIN A TRACT OF LAND IDENTIFIED AS RAINBOW LAKES WEST THIRD ADDITION TO SEDGWICK COUNTY, KANSAS, IN ACCORDANCE WITH K.S.A. 68-728.

- WHEREAS: The Board of County Commissioners of Sedgwick County, Kansas, did on May 2, 1979, by Resolution #106-1979, approve the petition submitted by the owners and developers of the Rainbow Lakes West Third Addition, and said developers have agreed to participate in the costs of the construction of the storm drain and street improvements for the Rainbow Lakes West Third Addition; and
- WHEREAS: The Board of County Commissioners of Sedgwick County, Kansas, did on June 20, 1979, by Resolution #162-1979, appoint Reiss & Goodness Engineers, a firm of registered professional engineers to design, prepare plans and specifications for the construction of storm drain and street improvements in accordance with K.S.A. 68-728; and
- WHEREAS: The Final Plans and Specifications have been prepared for the Rainbow Lakes West Third Addition project, comprised of Storm Drain Improvements and Street Improvements; and
- WHEREAS: The Sedgwick County Department of Public Works has reviewed said plans and specifications and finds that they are in proper order.


NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS, THAT:

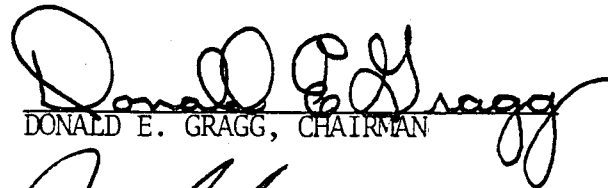
The Final Plans and Specifications for the construction of storm drain improvements and street improvements within Rainbow Lakes West Third Addition to Sedgwick County, Kansas, be, and hereby are, approved and that authorization is hereby given to proceed with the taking of bids for said project.

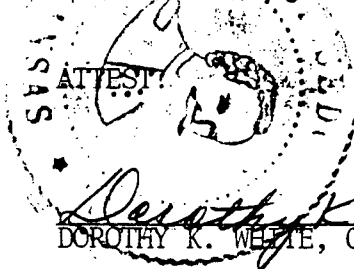
DATED THIS 25th DAY OF February, 1981.

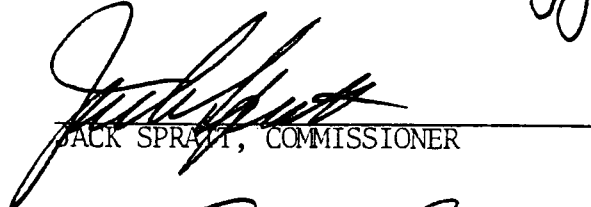
RECOMMENDED BY:

BOARD OF COUNTY COMMISSIONERS
SEDGWICK COUNTY, KANSAS


JOE D. FREEMAN, ACTING COUNTY
ENGINEER/DIRECTOR OF PUBLIC WORKS



DONALD E. GRAGG, CHAIRMAN

ATTEST:

DOROTHY K. WHITE, COUNTY CLERK


JACK SPRATT, COMMISSIONER


TOM SCOTT, COMMISSIONER

APPROVED AS TO FORM ONLY:


RICHARD A. EUSON, ASST. COUNTY
COUNSELOR

State of Kansas
County of Sedgwick

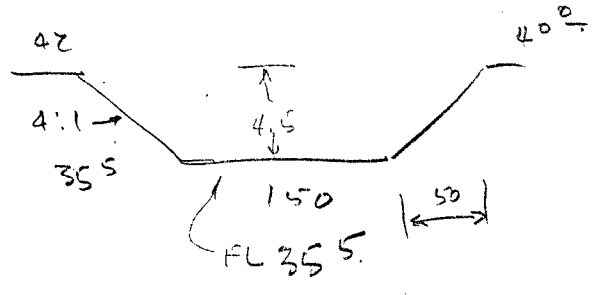
I, County Clerk of said County, do hereby certify this to be a true and correct copy of the original instrument which is on file or of record in my office.

Done this 27th day of February, 19 81.
DOROTHY K. WHITE, County Clerk

By Judy Smith, Deputy

5

30+00 W @ 1340⁰



$$a = 828 \quad R = \frac{828}{220} = 3.76$$

$$R^{2/3} = 2.42$$

SUBTRACT 55 A_c FROM D.A. FOR STA. 26+00 AND 30+00

$$55 A_c = .0104166 \text{ MI.}$$

$$Q_{100} = 88.8 \cdot .0104166^{.524} \cdot 3.5^{2.529} = 182 \text{ cfs}$$

$$\text{DESIGN } Q_{100} = 6210 - 182 = 6028 \text{ cfs}$$

26+00 TRY W @ 1339⁵

$$a = 994 \quad R = \frac{994}{372} = 2.67 \quad R^{2/3} = 1.92$$

BACKWATER COMPUTATION WORK SHEET

Project: RAINBOW LAKES (WEST) 3RD ADDITION
0+00 E. LINE OF ADDITION

Page 1

Computed by: K.H. Date 8-8-79

Checked by: _____ Date _____

Q = 6210 cfs .035 EARTH
n = .015 WTR. c = VARIES

Station	Reach Length	Est. W.S. Elev.	Area	2/3 r	S ^{1/2} = 0.01		S	Mean S	hf	V	Q	V ² Q	h _v	h _v Diff.	H	Comp. Elev.	
C 0+00	-	1323.2	1289	2.12			.0029	.0029		4.86	6266		0.37			1323.2	
32.56 1+45	145	1323.3	572	2.11	1.74	996.43	.00389	.00339	.49	6.86	6210		1.83	-.73	-.24	1322.96	
1+45	145	1323.0	516	1.98	1.63	943.50	.00542	.00416	.60	12.03	6210		2.75	-.94	-.34	1322.86	
1+45	CRITICAL DEPTH CONTROLS							.00207	.00228		10.2	6210		1.61			1323.5
78.21 7+00	555	1325.0	900	2.72	2.13	1910.16	.00105	.00156	.87	6.9	6210		.74	.87	1.74	1325.24	
10+70	370	1326.0	1164	3.04	2.38	2767.5	.0005	.00078	.29	5.34	6210		.44	.30	.59	1325.83	
17+70	650	1326.5	1599	3.25	2.54	4064.4	.00023	.00037	.24	3.88	6210		.23	.21	.45	1326.28	
19+70	700	1326.5	1599	3.25	2.54	4064.4	.00023	.00023	.05	3.88	6210		.23	-	.05	1326.33	
42.46 20+00	80	1337.0	880	2.25	.96	840.7	.00546	.00264	.23	7.06	6210		.77	-.54	-.31	1325.46	
20+00	80	1335.5	476	1.55	.65	313.77	.03930	.01976	1.58	13.04	6710		2.65	-1.21	-.37	1326.16	
20+00	CRITICAL DEPTH CONTROLS							.12212			9.55	6210		1.42			1336.1
26+00	600	1338.0	445	2.06	.87	329.2	.02545	.07379	4.3	13.95	6710		3.03	-.8			
26+00	600	1339.0	809	1.69	.72	540.5	.01144	.06178	37.07	7.68	6210		0.9	.52			
20+10	10	1336.5	813	2.06	.87	711.1	.00762	.06447	.65	7.64	6210		0.9	.51	1.16	1337.26	

$V = Cr \frac{2}{3} S^{1/2}$
 $C = \frac{1.486}{n}$
 $S = (0.01 \frac{Q}{Q_1})^2$
 $V = V \frac{Q}{Q_1}$
 $h_v = \frac{V^2 Q}{64.4 Q}$
 $H = h_v \text{ Diff.} + hf$

BACKWATER COMPUTATION WORK SHEET

Project: RAINBOW LAKES WEST 3RD ADDN.

Page 2

Computed by: K.H. Date 8-8-79

Checked by: _____ Date _____

Q = _____ n = _____ c = _____

Alle or Sec. No.	Reach Length	Est. W.S. Elev.	Area	2/3 r	S ^{1/2} = 0.01	Q	S	Mean S	hf	V	Q	V ² Q	h _v	h _v Diff.	H	Comp. Elev.
20+10	10	1337.0	952	2.26	.96	913.5	.00462	.06337	.63	6.52	6210		.66	.76	1.39	1337.5
20+05	5	1337.0	952	2.26	.96	913.5	.00462	.06337	.32	6.52	6210		.66	.76	1.08	1337.18
20+10	5	1337.0	952	2.26	.96	913.5	.00462	.00462	.02	6.52	6210		.66	-	.02	1337.20
26+00	500	1339.0	409	1.69	.72	540.5	.01144	.00463	4.73	7.68	6210		.91	-.13	4.6	1341.96
21+00	90	1338.0	1495	2.14	.92	1343.8	.00201	.003316	0.30	4.15	6210		.27	.39	.69	1337.49
26+00	500	1339.0	409	1.69	.72	540.5	.01144	.00673	3.36	7.68	6210		.91	-.32	3.04	1340.9
26+00	500	1340.0	997	1.91	.81	408.6	.005598	.00375	1.98	6.22	6210		.60	-.17	1.41	1339.69
20+00	400	1340.0	428	2.42	1.03	850.8	.005327	.005612	2.24	7.5	6210		.87	-.14	2.1	1341.79
SUBTRACT 55 AC D.A. FROM STA 26+00 AND 30+00																
21+00	500	1339.0	409	1.69	.72	540.5	.01078	.00640	3.19	7.45	6028		.86	-.30	2.89	1340.77
26+00	500	1339.5	994	1.92	.82	410.3	.005533	.003771	1.89	6.06	6024		.57	-.15	1.74	1339.63
30+00	400	1340.0	428	2.42	1.03	850.8	.00501	.005174	2.11	7.28	6028		.82	-.13	1.98	1341.61

$V = Cr \frac{2}{3} S^{1/2}$

$c = \frac{1.486}{n}$

$S = (0.01 \frac{Q}{Q_1})^2$

$V = V \frac{Q}{Q_1}$

$h_v = \frac{V^2 Q}{64.4 Q_1} \quad H = h_v \text{ Diff.} + hf$

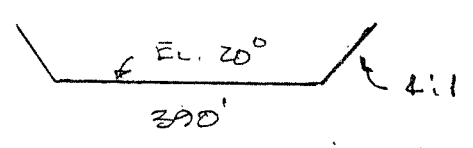
8-8-79

RAINBOW LAKES WEST 3RD ADDN.

REQ'D Q = 6210 cfs

STATION

0+00 EAST LINE OF ADDN @ LAKE



$$Q = CLH^{3/2}$$

$$6210 = 3.087 \times 390 \times H^{3/2}$$

$$6210 = 1203.93 H^{3/2}$$

$$5.16^{2/3} = H$$

H = 3.0' W.S. ELEU. 1323' @ 6210 cfs

$$V = \frac{6210}{1206} = 5.15 \quad H_v = \frac{5.15^2}{64.4} = 0.41$$

TRY MANNING'S AT SAME DEPTH

AVE. SLOPE 6" IN 2035' = .0029

$$Q = 1206 \quad R = \frac{1206}{415} = 2.91 \quad S = .0029$$

$$Q = 1206 \frac{1.486}{.035} 2.91^{2/3} .0029^{1/2} = 5620 \text{ cfs}$$

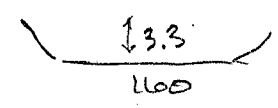
RAISE WS 0.2'

$$Q = 1289 \quad R = \frac{1289}{416} = 3.1 \quad S = .0029 \quad H_v = \frac{4.46^2}{64.4} = 0.30$$

$$Q = 1289 \frac{1.486}{.035} 3.1^{2/3} .0029^{1/2} = 6266 \text{ cfs}$$

USE WS @ 1323' TO BEG. BACKWATER COMPUTATIONS @ STA. 0+00

H45 TRY WS @ 1323'



$$Q = 572 \quad R = \frac{572}{187} = 3.06 \quad R^{2/3} = 2.11$$

USE COMPOSITE n

n = 0.15 W.S.
0.35 EARTH

$$2.7 \times 0.035 = 1.945$$

$$160 \times 0.15 = 2.4$$

1+45 TRY WS @ 1323.0

q = 516 R = 516 / 145 = 2.79

R^(2/3) = 1.98 n = .018 C = 42.56

CHECK CRITICAL DEPTH @ Q = 6210 cfs

Kc = Q / b^(5/2) = 6210 / 160^(5/2) = .0192 KINGS PG 383

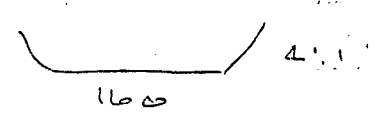
			TABLE 125 PG 436
<u>Dc</u>	.02	.0167	<u>Dc</u>
<u>b</u>	x	.0192	<u>b</u> = .0217
	.03	.0314	160 = .0217
			Dc = 3.5

CRITICAL DEPTH 1323.5 CONTROLS @ STA 1+45

q = 609 v = 6210 / 609 = 10.2 Hv = 10.2^2 / 64.4 = 1.61

S = .3 / 145 = .00207

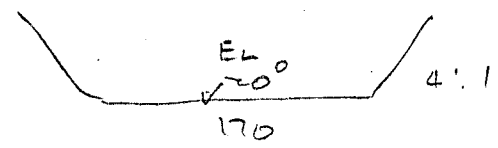
7+00 TRY WS @ 1325.0



q = 900 R = 900 / 201 = 4.48 R^(2/3) = 2.72

41 @ .035	1.435	
160 @ .015	<u>2.4</u>	<u>1.436</u>
	3.835 ÷ 201 = .019	.019 = 78.21

10+70 Try WS @ 1326°



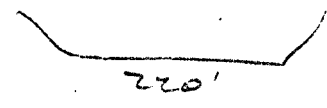
q = 1164 R = 1164 / 219 = 5.31 R^{2/3} = 3.04

.49 @ .035 1.72

170 @ .015 2.55

4.27 ÷ 219 = .019 C = 78.21

17+20 Try WS @ 1326°



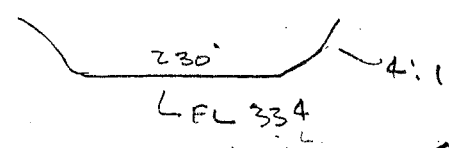
q = 1599 R = 1599 / 273 = 5.86 R^{2/3} = 3.25

53 @ .035 1.46

220 @ .015 3.30

5.16 ÷ 273 = .019 C = 78.21

20+00 Try W.S. @ 1337°



q = 880 R = 880 / 260 = 3.38 R^{2/3} = 2.25

C = 1.446 / .035 = 42.46

20+00 Try WS @ 1335°

q = 476 R = 476 / 246 = 1.93 R^{2/3} = 1.55

CHECK CRITICAL DEPTH

K_c = 6210 / 230^{5/2} = .0077

D_c .01 .0054 D_c / b = .01174 D_c / 230 = .01174

b .020 .0167

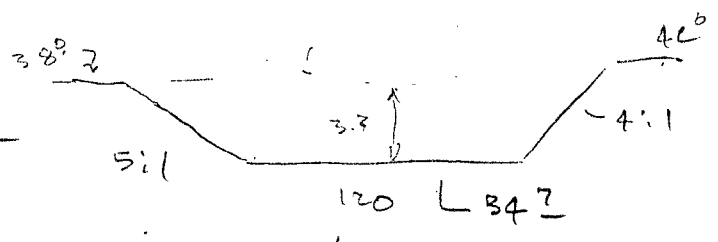
D_c = 2.7

20+00 WS 1336.1

a = 650 v = $\frac{6210}{650} = 9.55$ $A_v = \frac{9.55^2}{644} = 1.42$

S = $\frac{9.77}{80} = .12212$

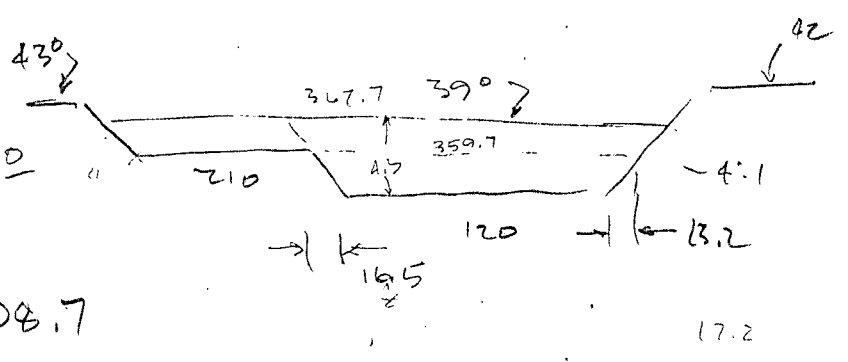
26+00 Try WS @ 1336.0



q = 445 R = $\frac{445}{150.4} = 2.96$ $R^{2/3} = 2.06$

C = 42.46

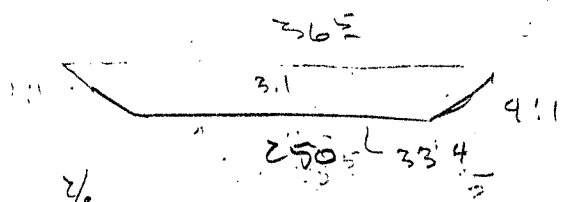
26+00 Try WS @ 1339.0



q = 363.7 + 445 = 808.7

R = $\frac{809}{364} = 2.20$ $R^{2/3} = 1.69$

20+10 Try WS @ 1336.5

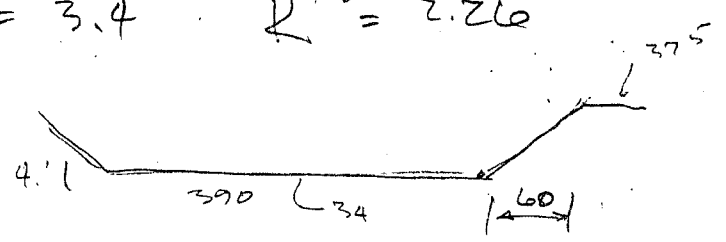


q = 813 R = $\frac{813}{276} = 2.95$ $R^{2/3} = 2.06$

20+10 Try WS @ 1337.0

a = 95.2 R = $\frac{952}{280} = 3.4$ $R^{2/3} = 2.26$

21+00 Try WS @ 1337.5



q = 1495 R = $\frac{1495}{463} = 3.23$ $R^{2/3} = 2.18$

~~26+00 Try WS @ 1339.0~~

ERROR

~~q = 144 + 809 = 997 R = $\frac{997}{376} = 2.65$ $R^{2/3} = 1.91$~~

PRELIMINARY PLAT
SUBDIVISION REPORT

SUBDIVISION COMMITTEE
METROPOLITAN AREA
PLANNING COMMISSION

S/D NO. 77-108 Name Rainbow Lakes West Third Addition
Date Application Rec'd. 8-18-77 Preliminary Approval
Scheduled S/D Meeting 1-26-78

DESCRIPTION

General Location East side 135th Street West between Maple and Central

Owner L. V. Bell
Surveyor/Engineer K. O. Taylor
Address 1542 South St. Francis (67211) Phone 264-0341

- | | |
|---|---|
| 1. Gross Acreage of Plat <u>98±</u> | 7. Lineal Feet of New Streets: |
| 2. Number of Lots: | a. <u>50</u> R/W <u>3245</u> ft. |
| Residential <u>146</u> | b. <u>64</u> R/W <u>9620</u> ft. |
| Commercial _____ | c. <u>70</u> R/W <u>6260</u> ft. |
| Industrial _____ | d. <u>75</u> R/W <u>525</u> ft. |
| Other _____ | e. <u>100</u> R/W <u>100</u> ft. |
| Total Number of Lots <u>146</u> | TOTAL <u>19750</u> ft. |
| 3. Minimum Lot Frontage <u>45</u> ft. | 8. Sidewalk adjacent to all streets? <u>yes</u> <u>no</u> |
| 4. Minimum Lot Area <u>8020</u> sq. ft. | |
| 5. Existing Zoning <u>R-1</u> | |
| 6. Proposed Zoning <u>AA</u> | |
| 9. Public Water Supply <u>yes</u> (Yes-No), Name <u>City of Wichita</u> | |
| 10. Public Sanitary Sewers <u>yes</u> (Yes-No), Name <u>City of Wichita</u> | |
| 11. Health Department Approval (where applicable) <u>no</u> (Yes-No) | |
| 12. City of Wichita _____: Three-Mile Area <u>X</u> | |

STAFF COMMENTS:

- A. This property is within the urban growth area, is being designed as an urban plat, and therefore must have municipal sewer and water systems and paved streets. Before submitting a final plat, definite arrangements shall be made for the sewer and water systems to serve each lot. The applicant has requested that subject property be annexed to the City of Wichita.
- B. Before submitting a final plat, the applicant or his engineer shall contact the City Department of Public Works regarding street names to be shown on the final plat.
- C. The applicant shall contact the Flood Control Office regarding the proposed lake system. If dams are to be constructed, State permits will be required. Any drainage improvements required by the platting of this property shall be guaranteed by the applicant. Before submission of a final plat, the applicant shall obtain a memo from the Flood Control Office stating that the lake and drainage systems have been reviewed and will be acceptable. *Public Works*
- D. Any raising or lowering, relocation or encasement of either the Phillips Petroleum or Cities Service pipe lines crossing this property, as a result of the required improvements associated with this plat, shall be at the sole expense of the applicant.
- E. The applicant shall establish a Homeowners Association which provides for the continued maintenance of the lakes and all other common open space. Said association agreement shall also contain a provision or clause which will assure that the governing body can, upon proper notice and hearing, cause necessary maintenance to be done to said areas and the cost thereof assessed to the benefiting properties in the event the Homeowners Association fails to do so.

- F. Sidewalks will be required on both sides of all streets except Maple.
- G. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.
- H. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

SUBDIVISION REPORT

SUBDIVISION COMMITTEE
METROPOLITAN AREA
PLANNING COMMISSION

S/D NO. 77-108 Name RAINBOW LAKES WEST 3RD ADDITION
 Date Application Rec'd. 8-18-77 Preliminary Approval 3-23-78
 Scheduled S/D Meeting 8-10-78

DESCRIPTION

General Location Northeast corner of 135th Street West and Maple.

Owner L. U. Bell

Surveyor/Engineer K. O. Taylor

Address 1542 S. St. Francis, Wichita, Ks. 67211 Phone 264-0341

- | | |
|--|---|
| <p>1. Gross Acreage of Plat <u>100</u></p> <p>2. Number of Lots:
 Residential <u>151</u>
 Commercial _____
 Industrial _____
 Other _____
 Total Number of Lots <u>151</u></p> <p>3. Minimum Lot Frontage <u>40</u> ft.</p> <p>4. Minimum Lot Area <u>10,000</u> ft.</p> <p>5. Existing Zoning <u>R-1</u></p> <p>6. Proposed Zoning <u>AA</u></p> <p>9. Public Water Supply <u>yes</u> (Yes-No), Name <u>City of Wichita</u></p> <p>10. Public Sanitary Sewers <u>yes</u> (Yes-No), Name <u>City of Wichita</u></p> <p>11. Health Department Approval (where applicable) <u>no</u> (Yes-No)</p> <p>12. City of Wichita _____: Three-Mile Area <u>x</u></p> | <p>7. Lineal Feet of New Streets:
 a. <u>58'</u> R/W <u>1820</u> ft.
 b. <u>64'</u> R/W <u>6740</u> ft.
 c. <u>50'</u> R/W <u>1100</u> ft.
 d. _____ R/W _____ ft.
 e. _____ R/W _____ ft.
 TOTAL <u>9660</u> ft.</p> <p>8. Sidewalk adjacent to all streets? <u>yes</u> no</p> |
|--|---|

STAFF COMMENTS:

- A. The cul-de-sac street at the northeast corner of Angela and Forest View shall be labeled as Angela Court on the face of the plat.
- B. The plat's text on the final plat indicates that drainage easements are being granted covering all of Lot 68, Block 4 and all of Lot 30, Block 5. These two lots then should not be platted as lots and it is recommended that they be platted as either drainage easements or drainage reserves.
- C. The applicant shall be prepared to discuss the method to be used to obtain and guarantee sanitary sewer and water service to each lot being platted. It is recommended that this matter be definitely resolved and the appropriate guarantees for said service be submitted prior to forwarding the final plat to the Planning Commission for approval.
- D. A requirement of approving the preliminary plat was for the applicant to obtain a memo from the Flood Control Office stating that the lake and drainage systems have been reviewed and will be acceptable. It is recommended that the final plat not be forwarded to the Planning Commission for approval until this has been done.
- E. The applicant shall guarantee any drainage improvements required for this plat.
- F. The applicant shall guarantee the paving of all streets within the addition to City of Wichita Standards. The appropriate plans and profiles for said streets, when designed, shall be submitted to the City Engineer for approval and a copy of the approved plans and profiles shall be submitted to the County Engineer.

& drainage

(Over)

- G. The applicant shall guarantee the construction of sidewalks on both sides of all streets within the plat.
- H. The applicant shall submit a plan indicating on which side of the 58 streets parking will be permitted. The applicant shall also submit a restrictive covenant which shall indicate on which of said streets parking is limited to one side, and a covenant stating that 4 off-street parking spaces will be provided on each lot adjoining the 58 foot street.
- I. Any raising or lowering, relocation or encasement of either the Phillips Petroleum or Cities Service pipe line crossing this property, as a result of the required improvements associated with this plat, shall be at the sole expense of the applicant.
- J. The applicant shall submit a Homeowners Association which provides for the continued maintenance of the lakes and all other common open space. Said association agreement shall also contain a provision or clause which will assure that the governing body can, upon proper notice and hearing, cause necessary maintenance to be done to said areas and the cost thereof assessed to the benefiting properties in the event the Homeowners Associations fail to do so.
- K. Recording of the plat within 30 days after approval of the plat by the Board of City Commissioners.