PRELIMINARY PLAT
SUBDIVISION REPORT

SUBDIVISION COMMITTEE
METROPOLITAN AREA
PLANNING COMMISSION

S/D NO. 76-39 Name WASHINGTON SQUARE ADDITION
Date Application Rec'd. 5-10-76 Preliminary Approval
Scheduled S/D Meeting 7-1-76

DESCRIPTION

General Location West side of Washington, between 43rd Street South and 47th Street South.
Owner Hazel Brookings and B.F.P., Inc.
Surveyor/Engineer Baughman Company
Address 330 Laura Phone 262-7271

1. Gross Acreage of Plat 22.5
2. Number of Lots:
   Residential 77
   Commercial
   Industrial
   Other
   Total Number of Lots 77
3. Minimum Lot Frontage *60 ft.
4. Minimum Lot Area 7,200 sq. ft.
5. Existing Zoning AA
6. Proposed Zoning

7. Lineal Feet of New Streets:
   a. 30 R/W 2300 ft.
   b. 60 R/W 2340 ft.
   c. R/W ft.
   d. R/W ft.
   e. R/W ft.
   TOTAL 4640 ft.
8. Sidewalk adjacent to all streets? X yes no

*At building setback line.

9. Public Water Supply Yes (Yes-No), Name City of Wichita
10. Public Sanitary Sewers Yes (Yes-No), Name City of Wichita
11. Health Department Approval (where applicable) Yes (Yes-No)
12. City of Wichita X : Three-Mile Area

STAFF COMMENTS:

NOTE: The applicant has submitted a zone change application for duplex zoning on Lots 1, 2 and 3.

A. On local streets with a right-of-way of 64 feet or less, centerline offsets of less than 150 feet shall be avoided. Streets on the west side of Washington should either align with 44th, 45th, and 46th Streets South or have an offset of at least 150 feet.

B. The applicant's surveyor shall contact the Flood Control Office regarding the handling of the drainage involved with subject property.

C. The north portion of this property should be redesigned to avoid double frontage lots. It is also noted that the north portion of subject property cannot be developed until the east half of Washington has been dedicated and said street opened and improved in this area.

D. The applicant shall guarantee the paving of Washington Avenue and all interior streets and shall attempt to get a valid petition for paving 43rd Street South.

E. The applicant shall guarantee the installation of sidewalks along both sides of all interior streets and along the south side of 43rd Street and the west side of Washington Avenue.

F. The applicant shall guarantee the installation of sanitary sewer to serve all lots within the subject area.

G. The applicant shall guarantee the installation of city water to serve all lots within the subject area.

H. 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. The applicant should be prepared to discuss with the Subdivision Committee the manner in which it is proposed to

T9-303 (OVER)

provide for such utilities and facilities, e.g., petition, actual construction, monetary guarantee, etc.

I. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

FINAL PLAT
SUBDIVISION REPORT

SUBDIVISION COMMITTEE
METROPOLITAN AREA
PLANNING COMMISSION

S/D NO. 76-39 Name WASHINGTON SQUARE
Date Application Rec'd. 5-10-76 Preliminary Approval 7-1-76
Scheduled S/D Meeting 7-29-76

DESCRIPTION

General Location West side of Washington, between 43rd Street South and 47th Street South
Owner Hazel Brookings and B.F.P., Inc.
Surveyor/Engineer Baughman Company
Address 330 Laura Phone 262-7271

1. Gross Acreage of Plat 22.5
2. Number of Lots:
   Residential 77
   Commercial
   Industrial
   Other
   Total Number of Lots 77
3. Minimum Lot Frontage *60 ft.
4. Minimum Lot Area 7,200 sq. ft.
5. Existing Zoning AA
6. Proposed Zoning

7. Lineal Feet of New Streets:
   a. 30 R/W 2300 ft.
   b. 60 R/W 2340 ft.
   c. R/W ft.
   d. R/W ft.
   e. R/W ft.
   TOTAL 4640 ft.
8. Sidewalk adjacent to all streets? X yes no

*At building setback line

9. Public Water Supply Yes (Yes-No), Name City of Wichita
10. Public Sanitary Sewers Yes (Yes-No), Name City of Wichita
11. Health Department Approval (where applicable) Yes (Yes-No)
12. City of Wichita X : Three-Mile Area

STAFF COMMENTS:

NOTE: The applicant's sureveyor has notified MAPD that the east lot line dimensions on Lots 26, 27, 36, 37, 48, 49, 61, 62 and 75 should read 102 feet rather than 104 feet.

A. The applicant's surveyor shall continue to work with the Flood Control Office and resolve the drainage problem associated with this property.

B. The easement shown between Lots 3, 4, and 5 shall be labeled as a 20 foot utility easement.

C. The condemation case number for the I-235 right-of-way shall be indicated on the face of the plat.

D. The applicant shall attempt to obtain the dedication of the east half of Washington Avenue south of 43rd Street.

E. The applicant shall guarantee the paving of Washington Avenue and all interior streets and shall attempt to get a valid petition for paving 43rd Street South.

F. The applicant shall guarantee the installation of sidewalks along both sides of all interior streets and along the south side of 43rd Street and the west side of Washington Avenue.

G. The applicant shall guarantee the installation of sanitary sewer to serve all lots within Washington Square Addition.

H. The applicant shall guarantee the installation of city water to serve all lots within Washington Square Addition.

I. Recording of the plat within 30 days of approval by the Board of City Commissioners.

T9-303

See prelim. plat

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING COMMISSION
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

Baughman Company
330 Laura
Wichita, Kansas 67211

July 6, 1976

Re: S/D 76-39 - Preliminary plat
of WASHINGTON SQUARE ADDITION

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, July 1, 1976, the above captioned plat was considered. The action of the Committee was to approve the preliminary and authorize preparation of the final plat, subject to the following:

A. The applicant's surveyor shall contact the Flood Control Office regarding the handling of the drainage involved with subject property.

B. The applicant shall guarantee the paving of Washington Avenue and all interior streets and shall attempt to get a valid petition for paving 43rd Street South.

C. The applicant shall guarantee the installation of sidewalks along both sides of all interior streets and along the south side of 43rd Street and the west side of Washington Avenue.

D. The applicant shall guarantee the installation of sanitary sewer to serve all lots within the subject area.

E. The applicant shall guarantee the installation of city water to serve all lots within the subject area.

F. The applicant shall contact Kansas Gas & Electric Company relative to additional easements to be indicated on the final plat.

G. The applicant shall obtain written permission from the State Department of Transportation to drain subject property onto the highway right-of-way, or if such permission is not granted an alternate drainage plan will need to be devised.

H. The City Engineer advises that a temporary paving of Washington will not be possible until a paving project for said street has been assured.

I. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

Enclosed herewith is the "marked" copy of the preliminary plat for your information and files.

If you should have any questions concerning this matter, please call.

Sincerely,

Curtis L. Newby
Junior Planner

CLN:rme
Encl.

cc: Hazel Brookings, 1732 S. Topeka, 67211
B.F.P., Inc., Attn: Joel M. Pollack, 1901 W. 13th, 67203
Dean Sellers, Assistant City Engineer

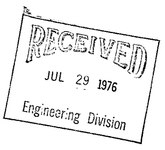
PHONE: (316) 267-7331

Bill Bachman and Associates

1901 WEST THIRTEENTH • WICHITA, KANSAS 67203

Builders Realtors Developers

July 28, 1976



Mr. Dick Linn
City Engineer
City of Wichita
455 North Main
Wichita, Kansas 67202

Re: Washington Square Addition
Drainage Study

Dear Mr. Linn:

This letter will confirm our phone conversation of yesterday in which it was agreed upon that we would receive enough information by August 10, 1976, at the latest, (from a preliminary drainage study done by your department) to apply to the State Highway Department for a permit to drain on to their property and have flood control set minimum pad elevations.

This information should be sent to our engineer, Mr. John Lundblade of Baughman & Co., so that he can proceed with the application to the highway department.

As was brought out in our meeting with you, a realistic time schedule which we can plan on is essential so that the solution to the drainage in the area can be worked on simultaneously to the platting process. Since I will be out of town for the next two weeks, I would appreciate your coordinating with Mr. Lundblade the progress of the drainage study.

Very truly yours,

Jerrold A. Feldman

JAF:ht

cc: Mr. John Lundblade

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING COMMISSION
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

July 30, 1976

Baughman Company
330 Laura
Wichita, Kansas 67211

Re: S/D 76-39 - Final plat of
WASHINGTON SQUARE ADDITION

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, July 29, 1976, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved, subject to:

A. The applicant and/or his surveyor shall obtain approval of a drainage plan for subject property from the Flood Control Office. Said plan may include minimum building pad requirements, depending upon the outcome of the applicant's request to the State for approval to utilize the drainage system along the Interstate Highway west of the plat.

B. All easements as shown on the plat shall be properly labeled on the final tracing.

C. The condemnation case number for the I-235 right-of-way shall be indicated on the face of the plat.

D. The applicant shall attempt to obtain the dedication of the east half of Washington Avenue south of 43rd Street.

E. The applicant shall guarantee the paving of all interior streets and shall attempt to get a valid petition for paving 43rd Street South, and Washington Avenue.

F. The applicant shall guarantee the installation of sidewalks along both sides of all interior streets and along the south side of 43rd Street and the west side of Washington Avenue.

G. The applicant shall guarantee the installation of sanitary sewer to serve all lots within Washington Square Addition.

H. The applicant shall guarantee the installation of City water to serve all lots within Washington Square Addition.

I. The applicant and/or his surveyor shall contact the Wichita Fire Department relative to location of fire hydrants within the subdivision.

J. Recording of the plat within 30 days after approval by the Board of City Commissioners.

Enclosed with the applicant's copy of this letter is a list of the five methods which have been adopted as being acceptable for guaranteeing improvements required in the approval of plats. Forms for the bond and irrevocable letter of credit are available from this office.

The enclosed "marked" copy of the final plat is for your information and files.

This matter will be forwarded to the Planning Commission for its consideration on Thursday, August 5, 1976, at 1:30 p.m. If you should have any questions concerning this matter, please call.

Sincerely,

Curtis L. Newby
Junior Planner

CLN:rme
Encl.

cc: Hazel Brookings, 1732 S. Topeka, 67211
B.F.P., Inc., Attn: Joel M. Pollack, 1901 W. 13th, 67203
Dean Sellers, Assistant City Engineer

VOID

STORM SEWER DATA

Project Name: Washington Square

Project No. ______

Base Map No. 5542

WSK 8-4-76

Point or Reach	Drain. Area Acre	Flow length feet	Flow drop feet	t_c min.	I_2	C	Q_2	Remarks: Number of Inlets. Pipe size, slope, velocity, length, time.
Lulu 46th S.	10.0	990	1.98	25	2.45	0.5	13.3	Use Valley Gutters, Depth of Flow = 0.4'
	No Pipe							
Pattie 46th S.	20.0	1320	2.64	29	2.45	0.5	24.5	Use 6 curb Inlets TC 83±
	Pipe level, s = 0.1% Use 330' of 36" RCP (Qu = 22.85 cfs, V = 3.23 fps)							
Laura 46th S.	30.0	1650	3.30	32	2.33	0.5	35.0	Use 4 curb Inlets
	Conduit Level, s = 0.1% Use 330' of 3½'x3' RCB (Qu = 35.66 cfs, Vu = 3.40 fps)							
Ida 46th S	38.9	1980	3.96	34	2.25	0.5	43.8	Use 4 curb Inlets
	Conduit Level, s = 0.1% Use 330' of 4.1'x3' RCB (Q = 43.77, V = 3.56 fps)							
Washington 46th S	46.8	2110	4.62	36	2.17	0.5	50.8	Use 4 curb Inlets
	Conduit level, s = 0.1% Use 300' of 4.6'x3' RCB (Q = 50.67 cfs, V = 3.68 fps)							
Washington 45th S								Valley Gutter
Washington 44th S								Valley Gutter
South Cul-de-sac	1.4	320	0.6	14	3.40	0.5	2.4	Use 1 curb Inlet Use 150' of 15" RCP Qu = 3.1 cfs
Next Cul-de-sac north	1.9	450	0.9	17	3.15	0.5	3.0	Use 1 curb Inlet Use 150' of 15" RCP Qu = 3.1 cfs
Next Cul-de-sac north	7.7	1550	3.1	31	2.37	0.5	9.12	Use 3 curb Inlets Use 150' of 24" RCP Qu = 11.0
Next Cul-de-sac north	2.3	530	1.1	18	3.07	0.5	3.5	Use 2 curb Inlet Use 150' of 18" RCP Qu = 5.1 cfs
Next Cul-de-sac north	13.2	1740	3.5	33	2.29	0.5	15.1	Use 5 curb Inlets Use 150' of 30" RCP Qu = 19.9 cfs
Next Cul-de-sac north	3.9	620	1.2	20	2.90	0.5	5.7	Use 2 curb Inlet Use 150' of 18" RCP Qu = 5.1 cfs
North Cul-de-sac	3.2	560	1.1	19	3.00	0.5	4.8	Use 2 curb Inlet Use 150' of 18" RCP Qu = 5.1 cfs

OK

WICHITA—SEDGWICK COUNTY
W SC
METROPOLITAN AREA PLANNING COMMISSION
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

August 6, 1976

Baughman Company
330 Laura
Wichita, Kansas 67211

Re: S/D 76-39 - Final Plat of
WASHINGTON SQUARE ADDITION

Gentlemen:

At the regular meeting of the Metropolitan Area Planning Commission on August 5, 1976, the above-captioned plat was considered. The action of the Commission was to recommend that the plat be approved as recommended by the Subdivision Committee, subject to the conditions stated in our letter of July 30, 1976.

In addition to complying with those conditions, it is necessary that you meet the following requirements before this plat can be forwarded to the Board of City Commissioners for consideration:

1. Compliance with the requirements of the Metropolitan Area Planning Commission.

2. Submission of the fully completed and signed tracing of the subdivision to the Metropolitan Area Planning Department.

3. Submission of a title report by an abstract or title insurance company, or an attorney's opinion that fee title is vested in the plattor.

4. Certification that all taxes due and payable for 1975 and prior years have been paid.

Please call if you have any questions.

Sincerely,

Jack H. Galbraith
Chief Planner

JHG:ber
cc: Hazel Brookings, 1732 S. Topeka 67211
B.F.P., Inc., Attn: Joel M. Pollack, 1901 W. 13th 67203
Dean Sellers, Assistant City Engineer

Preliminary Cost Est.

SWS (Wash Sq Add'l of 34.64 Private Property East of Wash. Ave)

(48" RCP through Wash. Sq. Addition)

BHKB 500000
WSK 9-7-76

				1	2	3	4
1	150	LF	48" RCP (Jacked)	80 00	12000 00		
2	300	LF	48" RCP	53 00	15900 00		
3	270	LF	42" RCP	46 00	12420 00		
4	50	LF	36" RCP	40 00	2000 00		
5	480	LF	30" RCP	33 00	15840 00		
6	480	LF	24" RCP	26 00	12480 00		
7	540	LF	18" RCP	20 00	10800 00		
8	810	LF	15" RCP	17 00	13770 00		
9	35	Ea	Curb Inlets	600 00	21000 00		
10	3	Ea	Reinf. Conc. MH	2000 00	6000 00		
11	4	Ea	Type B MH	1200 00	4800 00		
12	2.3	Ac	Prairie Hay Mulch	500 00	1150 00		
13	160	lbs	Grass Seed	2 00	320 00		
14	1200	lbs	Fertilizer	0 50	600 00		
15	8000	CY	Common Excavation	1 50	12000 00		
16							
17							
18			Sub-total			141080 00	
19							
20							
21			Eng. Insp. TV (10% + TV)		15186 00		
22			Adm		1910 80		
23			Publication		200 00		
24							
25			Sub-total			17296 80	
26							
27			TOTAL				158376 80
28							
29							
30							
31							
32			Private Property 51.27 Ac				
33							
34			Cost/Ac #3089.07				
35							
36			Typical (120' x 135') Lot = .37 Ac = #11148 83				
37							
38							
39			(Private Property 43.58 Ac cost/Ac = #36034 16) Typical (120' x 135') Lot = #1,351.55				
40							
			TV (3080 x .35) = #1078.00				

Benefit District for SWS to dram Wash. Sq Add'n and 34.64 Ac East of Wash. Ave.

Beginning at a point on the south line of 45th St. So and on the west line of Lulu Ave; thence south along west line of Lulu Ave to a point 59.4' S. of the NE cor. of Lot 1, Blk 1, Ives Addition; thence west parallel to NL of said Lot 1 to the WL of said Lot 1; thence S along rear lines of Lot 1 & 9 of said Blk 1 to a point 59.25' S of NE Cor of said Lot 9; thence W parallel to NL of said Lot 9 to the WL of said Lot 9; thence NW to the NE cor of Lot 2, Blk 2 of said Add'n; thence W along NL of said Lot 2 to the NW cor of said Lot 2, thence S along rear lines of Lot 2 & 8 of said Blk 2 to a point 59.25' S of NE cor of said Lot 8; thence W parallel to NL of said Lot 8 to the WL of said Lot 8; thence westerly to the EL of Lot 3, Blk 2, Cedarvale Acres, said point being 61.45' S of NE Cor. of said Lot 3; thence W parallel to SL of said Lot 3 to the WL of said Lot 3, thence S along WL of said Lot 3 to the SW cor. of said Lot 3; thence SWerly to the intersection of NL of 47th St So. and EL of Ida Ave; thence west along NL of 47th St So to the intersection of the easterly Right-of-Way line of I-235; thence northwesterly along said I-235 ROW Line to the S.L. of 43rd St. So; thence E along S.L. of 43rd St So to the EL of Washington Ave; thence southeasterly to the NE cor. of Lot 1, Bryant Add.; thence south along EL of Lot 1 & 2, Bryant Add extended to the SL of 44th St. So; thence E along S.L. of 44th St So to the WL of Pattie Ave; thence S along WL of Pattie Ave to the S.L of 45th St. So; thence E along S.L. of 45th St So to the point of Beginning.

Preliminary Cost Est.

SWS (Wash. Ave to Lulu Ave; 45± So to 47± So)

(Channel through Washington Square Add'n; 70' Min. ROW)

BHKB 500 000

WSK 8-12-76

				1	2	3	4
1	150	LF	48" RCP (Jacked)	80 00	12000 00		
2	80	LF	48" RCP	53 00	4240 00		
3	270	LF	42" RCP	46 00	12420 00		
4	50	LF	36" RCP	40 00	2000 00		
5	330	LF	30" RCP	33 00	10890 00		
6	330	LF	24" RCP	26 00	8580 00		
7	80	LF	18" RCP	20 00	1600 00		
8	440	LF	15" RCP	17 00	7480 00		
9	19	Ea	Curb Inlet	600 00	11400 00		
10	3	Ea	Reinf. Conc. MH	2000 00	6000 00		
11	4	Ea	Type B MH	1200 00	4800 00		
12	2.8	Ac	Prairie Hay Mulch	500 00	1400 00		
13	200	lbs	Grass Seed	2 00	400 00		
14	1400	lbs	Fertilizer	0 50	700 00		
15	11,000	CY	Common Excavation	1 50	16500 00		
16							
17			Sub-total			100410 00	
18							
19			Eng, Insp, TV (10% + TV)		10646 50		
20			Adm		1504 10		
21			Publication		200 00		
22							
23			Sub-total			12350 60	
24							
25			Total				112760 60
26							
27							
28			Private Property 23.36 Ac				
29							
30			Cost/Ac = #4,827.08				
31							
32			Typical (120'x135') Lot = 0.37 Ac or #1,795.20				
33							
34							
35							
36							
37							
38							
39							
40			TV (1730 x 35) = #605.50				272185 00

Preliminary Cost Est.

SWS (Wash. Ave to Lulu Ave; 45th So to 47th So)

(48" RCP through Washington Square Addn)

BHKB 500 000
WSK 8-11-76

150	LF	48" RCP (Jacked)	80	00	12000	00	
300	LF	48" RCP	53	00	15900	00	
270	LF	42" RCP	46	00	12420	00	
50	LF	36" RCP	40	00	2000	00	
330	LF	30" RCP	33	00	10890	00	
330	LF	24" RCP	26	00	8580	00	
80	LF	18" RCP	20	00	1600	00	
440	LF	15" RCP	17	00	7480	00	
19	Ea	Comb Inlets	600	00	11400	00	
3	Ea	Remt. Conc MH	2000	00	6000	00	
4	Ea	Type B MH	1200	00	4800	00	
2.3	Ac	Prairie Hay Mulch	500	00	1150	00	
160	lbs	Grass Seed	2	00	320	00	
1200	lbs	Fertilizer	0	50	600	00	
8000	CY	Common Excavation	1	50	12000	00	
		Sub-total					107140 00
		Eng, Insp, TV (10% + TV)			11396	50	
		Adm.			1571	40	
		Publication			200	00	
		Sub-total					13167 90
		TOTAL					120307 90

Private Property 23.36 Ac

Cost/Ac $5,150.17

Typical (120' x 135') Lot (0.37 Ac) = $1,915.35

TV (1950 x .35) = 682.50

Preliminary Cost Est.

SWS of Washington Square Add'n (Drainage of Streets)

BHKB 500000
WSK 8-12-76

			1	2	3	4
150	LF	30" RCP	33.00	4950.00		
150	LF	24" RCP	26.00	3900.00		
460	LF	18" RCP	20.00	9200.00		
370	LF	15" RCP	17.00	6290.00		
16	Ea	Curb Inlet	600.00	9600.00		
	Sub-total				33940.00	
	Eng, Insp, TV (12% + TV)			4468.30		
	Adm			509.10		
	Publication			200.00		
	Sub-total				5177.40	
	TOTAL					39117.40

TV (1130 x .35) = 395.50

Washington Square Addition

Flow thru Existing 8'x3' RCB & Proposed 48" RCP under I235

Project Name: Washington Square Add'n

Project No. BHKB 500 000

Base Map No. 5542

STORM SEWER DATA

WSK 8-11-76

Point or Reach	Drain. Area Acre	Flow length feet	Flow drop feet	tc min.	I_2	C	Q_2	Remarks: Number of Inlets. Pipe size, slope, velocity, length, time.
46th & Pattie	6.4	950	3.0	22	2.81	0.5	9.0	Use 4 inlets (max typ of Pipe = 80.1)
	6.4	950	3.0	22	2.81	0.5	9.0	Use 24" RCP @ 0.1% (Q_n = 7.8 cfs, V_n = 2.47) USFL 78.1 DSFL 77.77
46th & Laura	9.7	950	3.3	21	2.87	0.5	13.9	Use 5 inlets (max typ of Pipe 79.8)
	16.1	1280	3.3	26	2.60	0.5	20.9	Use 30" RCP @ 0.17% (Q_n = 18.3 cfs, V_n = 3.73) USFL = 77.27 DSFL 76.71
46th & Ida	9.2	950	3.5	21	2.87	0.5	13.2	Use 5 inlets (max typ of Pipe 79.2)
	25.3	1610	3.9	30	2.41	0.5	30.5	Use 42" RCP @ 0.1% (Q_n = 34.5 cfs, V_n = 3.58) USFL 75.71 DSFL 75.38
46th & Washington	6.9	950	2.7	22	2.81	0.5	9.7	Use 4 inlets max typ of Pipe 79.2)
	32.2	1940	3.9	35	2.21	0.5	35.6	Use 48" RCP @ 0.1% (Q_n = 42.2 cfs, V_n = 3.92) USFL 74.88 DSFL 74.78 } 100'±
Ditch from Outfall of 48" RCP to New Culvert under I235 is 430' @ 0.1% USFL 74.78 DSFL 74.35								
Jack 150'± of 48" RCPC under I235 (Requires min of 70' ROW thru Wash. Square) * USFL 74.35 DSFL 74.20								
Ditch from 48" RCPC under I235 to Drainage Channel 750'± @ 0.1% USFL 74.20 DSFL 73.45								

* Omit 70' ROW; Install 500'± of 48" RCP (Requires min. 20' Drainage Easement) ($27,000)

Benefit District for SWS to drain area between 45th St. So and 47th St. So. and between Washington Ave and Lulu Ave.

Beginning at a point on south line of 45th St. So and on the west line of Lulu Ave; thence south along west line of Lulu Ave to a point 59.4 feet south of the NE cor of Lot 1, Block 1, Ives Addition; thence west parallel to north line of said Lot 1 to the west line of said Lot 1; thence south along rear lines of Lot 1 & Lot 9 of said Block 1 to a point 59.25 feet south of NE Cor. of said Lot 9; thence west parallel to north line of said Lot 9 to the west line of said Lot 9; thence northwest to the NE corner of Lot 2, Block 2 of said Addition; thence west along north line of said Lot 2 to the NW corner of said Lot 2; thence south along rear lines of Lot 2 and Lot 8 of said Block 2 to a point 59.25 feet south of NE corner of said Lot 8; thence west parallel to north line of said Lot 8 to the west line of said Lot 8; thence westerly to the east line of Lot 3, Block 2, Cedarvale Acres, said point being 61.45 feet south of NE cor. of said Lot 3; thence west parallel to south line of said Lot 3 to the west line of said Lot 3; thence south along west line said Lot 3 to the southwest corner of said Lot 3; thence southwesterly to the intersection of the north line of 47th St. So and the east line of Ida Ave.; thence west along north line of 47th St. So. to the intersection of easterly Right-of-way line of I-235; thence northwesterly along said I-235 ROW line to a point 80 feet west of the west line of SE1/4, Sec. 16, T28S, R1E; thence north parallel to said west line of SE1/4 to the extended south line of 45th St. So; thence east along the extended south line and the south line of 45th St. So. to the point of beginning.

Private Property

West of Wash. 50' x 725' 1.06 Ac

Blk 4 Cedarvalle = 265.06 x 600.855 3.66 Ac

3 " 264.5 x 601.2 3.65 Ac

Blk 2 " 132.25 x 307.05

132.25 x 368.5

66 x 214

Blk 1 " 264.75 x 368.5 2.38 Ac

132.5 x 194.5

132.5 x 102.5

Blk 2 Ives 2nd 270.095 x 607.33 3.14 Ac

Blk 1 " 269.5 x 602.68 3.73 Ac

Blk 2 Ives Add. 134.75 x 118.5 3.73 Ac

135.04 x 295.95

Blk 1 " 134.75 x 177.75 1.28 Ac

134.75 x 59.4 0.73 Ac

TOTAL 23.36 Ac

73.55% of Total Area

So. of 45th E of Wash 22.30 Ac

No of 45th E of Wash. 3.73 + 3.65 + 3.65 + 0.79 + 0.52 = 12.34 Ac

Wash. Sq Add.

185 x 100 2

$\frac{185+305}{2}$ 360 0.46 Ac

2.02 Ac

$\frac{305+590}{2}$ 1680

17.26 Ac

$-(460+420+370+340+280+230+150)60 =$ -3.07 Ac

Total 51.27 Ac

Washington Square Drainage (47th So & I35W & I23
Preliminary Cost Est.

(TO USE EXISTING CULVERT UNDER I235)

VOID

WSK 8-4-76

300	LF	4.6'x3' RCB	56	00	16800	00
330	LF	4.1'x3' RCB	52	00	17160	00
330	LF	3.5'x3' RCB	49	00	16170	00
330	LF	36" RCP	40	00	13206	00
150	LF	30" RCP	33	00	4950	00
150	LF	24" RCP	26	00	3900	00
590	LF	18" RCP	20	00	11800	00
520	LF	15" RCP	17	00	8840	00
34	Ea	Curb Inlet	600	00	20400	00
5	Ea	Manholes	3000	00	15000	00
1	Ea	Headwall	3000	00	3000	00
31	SY	Grouted Rock Rip-Rap	10	00	316	00

Sub total 131530 00

Eng, Insp, TV (10% + TV)	14098	00
Adm	1972	95
Publication	200	00

Sub-total 16270 95

TOTAL 147800 95

NOTE: All 36" RCP's & all RCB's are level!
(To produce a 0.1% slope, the existing Box under I235 has to be lowered approx. 1.7' or the intersection at Pattie & 46th St has to be raised 1.7'. If the latter is done, all areas draining to Pattie & 46th has to be raised 1.7'. This latter elev. is estimated to be above existing grade at existing homes.)

TV (2700 x 0.35) = $945 00

PARTIAL RELEASE OF PIPE LINE RIGHTS-OF-WAY

THIS PARTIAL RELEASE OF PIPE LINE RIGHTS-OF-WAY made this 6th day of April, 1976, by DERBY REFINING COMPANY, successor to Derby Oil Company, a corporation, hereinafter referred to as the First Party; to HAZEL O. BROOKINGS and her heirs, assigns and successors in interest, hereinafter referred to as the Second Party.

WHEREAS, on the 2nd day of April, 1948, there was granted to the First Party an easement or pipe line right-of-way covering the following described real property, to-wit:

> The Southwest Quarter of Section 16, Township 28 South, Range 1 East of the 6th P.M., Sedgwick County, Kansas,

such right-of-way agreement being recorded in Book Misc. 232 at Page 426 on the 8th day of April, 1948, at 8:30 A.M. in the office of the Register of Deeds of Sedgwick County, Kansas; and

WHEREAS, on the 17th day of July, 1934, the First Party was granted a pipe line right-of-way easement covering the above described real property, the same being recorded in Book Misc. 164, Page 123, in the office of the Register of Deeds of Sedgwick County, Kansas, on July 14, 1942, at 10:00 o'clock A.M.; and

WHEREAS, it is now the desire of the First and Second Parties that such pipe line rights-of-way be confined to a specific area and that a part of said Southwest Quarter above described be released from the above described pipe line rights-of-way.

WITNESSETH IT THEN, that the First Party does hereby release the said pipe line rights-of-way above described insofar as they affect the following described real property, to-wit:

> A tract beginning at a point on the East line of the Southwest Quarter of Section 16, Township 28 South, Range 1 East of the 6th P.M., Sedgwick County, Kansas, said point being 298.92 feet North of the Southeast corner thereof, thence northerly along the said East line to the Northeast corner of said Southwest Quarter, thence westerly along the North line of said Southwest Quarter to the East right-of-way line of Interstate Highway No. 235; thence southeasterly, along said East line, to the point of beginning; and
>
> That part of the Southwest Quarter of Section 16, Township 28 South, Range 1 East of the 6th P.M., Sedgwick County, Kansas, lying North and East of the Riverside Drainage Canal as condemned in District Court Case No. 48670, except the South 240 feet of the North 270 feet of the West 363 feet thereof and except that part platted as Aikman Addition and except that part platted as Brookings By-Pass Addition, and except that

part condemned for Interstate Highway No. 235 in District Court Case No. A-76777, and except a tract of land beginning at a point on the East line of said Southwest Quarter, said point being 724.00 feet North of the Southeast corner thereof; thence Northerly along said East line a distance of 280.00 feet; thence Westerly parallel with the North line of said Southwest Quarter to the East line of Interstate Highway No. 235; thence Southeasterly along said East line to the intersection of said East line with a line that is parallel to the North line of said Southwest Quarter and passes through the point of beginning; thence Easterly parallel with the North line of said Southwest Quarter to the point of beginning;

provided, however, that such pipe line rights-of-way above described shall remain in full force and effect in regard to the following described real property which is a part of the last above described real property, to-wit:

Beginning at the intersection of the North line of the Southwest Quarter of Section 16, Township 28 South, Range 1 East of the 6th P.M., Sedgwick County, Kansas, and the East right-of-way line of Interstate Highway No. 235, said point being 623.39 feet West of the Northeast corner of the Southwest Quarter of said Section 16; thence easterly along the North line of said Southwest Quarter 20.28 feet; thence southeasterly parallel with the said East right-of-way line 134.73 feet; thence Easterly parallel with the North line of said Southwest Quarter, 15.21 feet; thence southeasterly parallel with the East right-of-way line, 1612.61 feet; thence westerly, parallel with the North line of said Southwest Quarter, 30.88 feet to the said East right-of-way line, thence northwesterly, along the said East right-of-way line 1748.48 feet to the point of beginning, containing 1.36 acres, more or less.

W25, Huston Square

It being the intent of the parties hereto, that the two above described rights-of-way easements shall remain in full force and effect and as valid and subsisting easements insofar as the last above described tract of real property is concerned. A survey of the existing pipe line showing the last above described tract of land which is to remain in full force and effect as a pipe line easement for the benefit of the First Party is attached hereto and made a part hereof.

IN TESTIMONY WHEREOF, the Party of the First Part has hereunto caused this instrument to be executed by the properly authorized officers on the day and year first above written.

DERBY REFINING COMPANY

By _____
J. F. Beardslee, Vice President

ATTEST:

_____
Secretary

STATE OF KANSAS)
) ss:
SEDGWICK COUNTY)

The foregoing instrument was acknowledged before me this _____ day of September, 1976, by J. F. Beardslee and _____, Vice President and Secretary respectively, of Derby Refining Company, a corporation, on behalf of the corporation.

_____
Notary Public

My Appointment Expires:

_____

ARCHITECTS - ENGINEERS - PLANNERS
VAN DOREN - HAZARD - STALLINGS
250 ROCKBOROUGH BUILDING, 260 NORTH ROCK ROAD WICHITA, KANSAS 67206
TELEPHONE 316 686-7303

October 25, 1976

Mr. Yash Desai
Storm Drainage Engineer
City Engineering Department
City Hall-7th Floor
455 North Main
Wichita, Kansas 67202

Re: Washington Square Addition
Drainage Improvements.

Dear Mr. Desai:

I would like to be provided the following information regarding the above referenced project:

1. A map of the areas draining into the east right-of-way of I-135 Highway.
2. Run-off for the entire area served with Washington Square in an undeveloped, and in a developed condition.
3. Proposed flow-line elevations for the 48" diameter crossing.
4. Affect on headwater elevations with the recommended improvements.

Your help in supplying this information as soon as possible is appreciated.

Very truly yours,

Kenneth H. Bengtson

Kenneth H. Bengtson, P.E.

686-7303

KHB/js

cc: Jerry Feldman
File

checked information provided Nov. 1, 1976 to Mr. Ken Bengtson personally.

KANSAS DEPARTMENT OF TRANSPORTATION

Hutchinson, Kansas
P. O. Box 769
November 16,1976

Washington Sq. Plat

RECEIVED
NOV 17 1976
Engineering Division

Highway Permit No. 5-6278
I-235, Sedgwick County

Mr. LaRue Delp, P. E.
Engineer of Maintenance
Kansas Dept. of Transportation
State Office Building
Topeka, Kansas

Dear Mr. Delp:

For your review and approval, we are attaching a request for the above numbered highway permit, submitted by the City of Wichita, Kansas, requesting permission to construct storm drains along I-235 in Wichita, Kansas, as per attached.

Very truly yours,

M.G. SEIBEL, P. E.
DISTRICT ENGINEER

Jerry G. Menefee

BY: JERRY G. MENEFEE, C.E.T.
OFFICE COORDINATOR

cc: Scott-KDOT
n-City of Wichita
McKinney-KDOT

KANSAS DEPARTMENT OF TRANSPORTATION

O. D. TURNER, Secretary of Transportation

ROBERT F. BENNETT, Governor

1776 1976

Hutchinson, Kansas
P. O. Box 769
December 20,1976

RECEIVED
DEC 21 1976
Engineering Division

Highway Permit No. 5-6278
I-235, Sedgwick County

Mr. R. W. Linn
City Engineer of Wichita
455 North Main
Wichita, Kansas 67202

Dear Sir:

We are attaching your copy of the above numbered highway permit, granting permission to construct strom drains along I-235 in Wichita, Sedgwick County, Kansas, as per attached.

Before beginning this work, please notify our Area Six Maintenance Superintendent, Mr. W. R. Scott, in Wichita, Kansas. When this work has been completed, if you will so inform Mr. Scott, your work will be inspected and, upon approval, your permit will be released.

If there are any questions or further correspondence concerning this permit, please refer to the highway permit number.

Very truly yours,

M. G. SEIBEL, P. E.
DISTRICT ENGINEER

BY: JERRY G. MENEFEE, C.E.T.
OFFICE COORDINATOR

JGM:jb
attachs.
cc Permit to LaRue Delp, Engineer of Maintenance
W. R. Scott, Area Six Maint. Supt.

White—Maint. Dept.
Yellow—Petitioner
Pink—District
Green—Area
Blue—F. H. W. A., City or Sub-area

KANSAS DEPARTMENT OF TRANSPORTATION
Maintenance Department

HIGHWAY PERMIT

District Permit No. 5-6278

Whereas, City of Wichita, Kansas (Name) 455 North Main (Street & No.) Wichita (City)

Owner, and R.W. Linn, City Engineer (Name) 455 North Main (Street & No.) Wichita (City)

as Agent, Lessee, Contractor, hereinafter termed the petitioner, request permission and authority to do certain work involving State Highway right-of-way in, upon or along State Highway Route ~~xxxxx~~ I-235 Sec 16 Twp 28 S Range 1 E

Sedgwick County, 0.13 Miles North From 47th Street South (City) (Jct.), described as follows:

1. Construct Storm Water Drains at Sta. 29+80± , 35+90±, and 42+10± on the east side of I-235, between 47th Street South and 43rd Street South. These drains will discharge surface drainage into the east roadside ditch on I-235.

2. Construct 48" diameter Storm Drain across I-235 at Sta. 31+25± (by boring, jacking or tunnel.)

subject to the following conditions and restrictions:

1.0 PLANS: Petitioner shall furnish five (5) sets of comprehensive plans or sketches, 8½" x 11" or larger, of the proposed work.

1.1: Plans for commercial entrances must include the plot plan of the proposed installation and will be reviewed by the Urban Highways Department.

1.2: Entrance locations and utility installations must be approved by the Transportation Engineer or his duly authorized representative.

1.3: Drainage structure requirements to be determined by the District.

2.0 MATERIALS AND METHODS: All materials and construction methods used on work within the limits of the right-of-way shall be equal to or better than that required by the Standard Specifications for State Road and Bridge Construction, current edition.

2.1: Commercial Entrances shall be surfaced with material of the same general type as roadway surfacing.

3.0 COMPLETION: The Petitioner shall furnish all material, do all work, pay all costs and restore said right-of-way to the condition existing prior to approval of work described on this permit. Work to be completed within_____Da./Mo. of APPROVAL DATE, otherwise permit null and void. An extension of time may be requested in writing.

3.1: Petitioner agrees that an approved signed copy of permit will be on premises before any work is performed.

4.0 BOND: A check, or other suitable bond, in the amount of _____ dollars $_____, made payable to the Kansas Department of Transportation, is hereby deposited with this permit to guarantee satisfactory performance of the conditions of the permit.

4.1: The Petitioner agrees that bond will be forfeited in case of failure or refusal to perform the work to the satisfaction of the Department.

4.2: The Petitioner agrees to notify the District Engineer or Highway Maintenance Superintendent when work covered by the permit is initiated and again when completed.

4.3: The Department agrees that upon satisfactory compliance with all conditions of the permit, said bond will be released.

5.0 OBSTRUCTION OF TRAFFIC: Petitioner agrees that highway traffic will be free of interference unless specifically provided for as part of the permit. Traffic protection to be in accordance with the Manual on Uniform Traffic Control Devices.

6.0 RIGHT-OF-WAY: Petitioner agrees that the right-of-way will be kept free from parking, advertising signs or any other commercial activity.

6.1: Any sod, shrubs or trees destroyed by this work shall be replaced as directed by the Transportation Engineer or his authorized representative.

7.0: The Petitioner, his successors, or assigns, shall assume all risk and liability for accidents and damages that may accrue to persons or property on account of this work.

8.0: That in the event the Department of Transportation deems it necessary or proper to make any alteration or improvement along or upon the highway or right-of-way, the petitioner agrees to save the Department of Transportation harmless for any damage to said petitioner's construction along or upon the said highway or right-of-way and the Petitioner further agrees that upon notice being served upon him, he will, within a reasonable time, alter, change the location, or move his construction or work as requested by said Department or its duly authorized representative without expense to the Department aforesaid.

9.0: ATTACHMENT TO STRUCTURES: Permits for the attachment of pipelines carrying liquid petroleum, hazardous and/or corrosive products must have attached D. O. T. Form No. 304B, Attachment of Pipeline to Bridges.

Rev. 11-75

D. O. T. Form No. 304

10.0: MAINTENANCE: All utility installations must be maintained by the owner.

11.0: ADDITIONAL CONDITIONS where Interstate or other Freeway Right-of-way is Involved: The Petitioner agrees that the installations and maintenance of work covered by this permit will be done in accordance with the current "POLICY ON THE ACCOMMODATION OF UTILITIES ON THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS OR OTHER FREEWAYS," adopted by the American Association of State Highway Officials, with which the Kansas Department of Transportation is affiliated.

Proposed construction approved on this Permit is to be conducted in such a manner to prevent any interference with construction or contractor's work on a project.

This permit is hereby accepted and its provisions agreed to this _____ day of _____ 19____

RECOMMENDED: _____ Hwy. Maint. Supt.—Res. Engr.

OWNER City of Wichita

RECOMMENDED: _____ District Engineer

AGENT _____
LESSEE _____
CONTRACTOR _____

Permit Granted this 20th day of December 19 76

ALL PARTIES TO THIS AGREEMENT ARE ON NOTICE OF THE PROVISIONS OF K.S.A. 1970 SUPP. 46-901 ET SEQ.

Kansas Department of Transportation

BY: O. D. Turner
Secretary of Transportation

jb

SCHEDULE OF DEPOSITS

The MINIMUM deposit which must accompany all permits is as follows:

EXCAVATION:

Excavation within Right-of-Way limits $100.00
Boring under pavement with auger 100.00
Tunneling under pavement 500.00

Trenching across driving surface of Highway is prohibited unless specifically approved by the District Engineer or his Agent.

ENTRANCES:

Private entrance for farm or home 24' or less in width $25.00
Commercial entrances including filling stations, each 150.00
(Maximum width 40 feet)

TREE TRIMMING:

A deposit of $5.00 for each tree to be trimmed with a minimum deposit of $100.00.

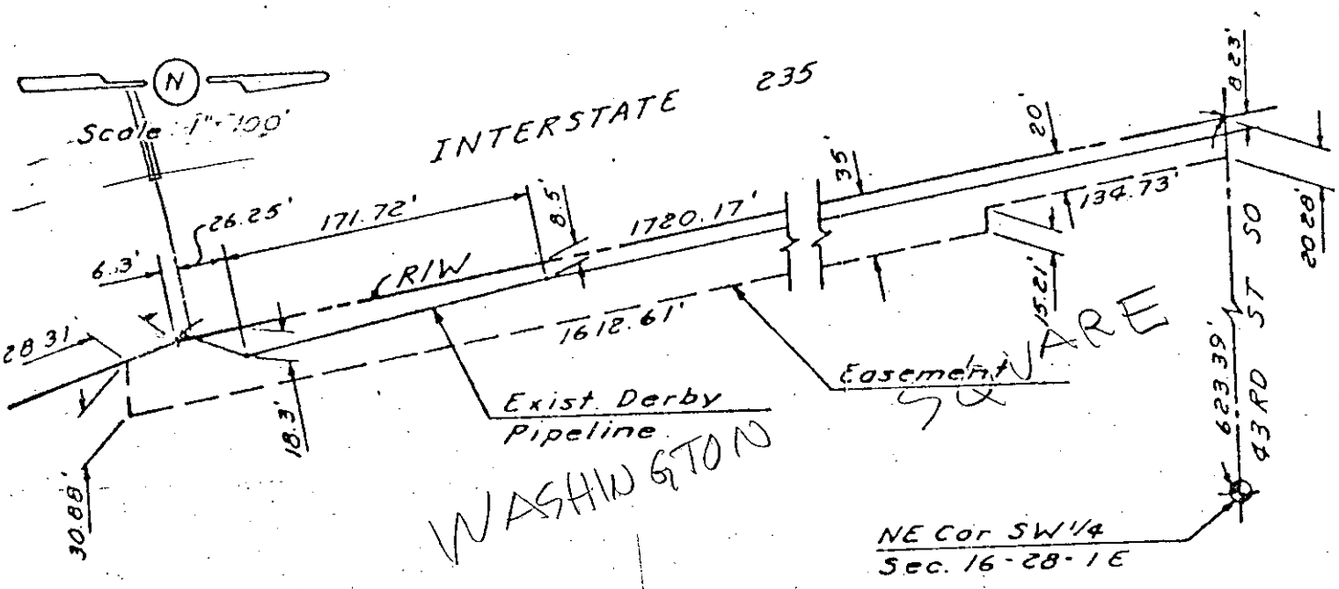
SIDEWALKS:

A deposit of $10.00 per each lineal foot of sidewalk is required for all sidewalks built on highway right-of-way.

EXCEPTIONS:

A deposit is not required from non-profit governmental units doing work with own forces.

WILLIAM L. KORBER
BAUGHMAN CO.
SURVEYORS
PHONE 316/262-7271 • 330 LAURA • WICHITA, KANSAS 67211



DERBY REFINING CO. EASEMENT

Beginning at the intersection of the north line of SW¼ of Sec. 16, T. 28-S R-1-E, Sedgwick County, Kansas, and the east right-of-way line of Interstate Highway No. 235, said point being 623.39 feet west of the N.E. Corner of the SW¼ of said Section 16; thence easterly along the north line of said SW¼, 20.28 feet; thence southeasterly, parallel with said east right-of-way line, 134.73 feet; thence easterly, parallel with the north line of said SW¼, 15.21 feet; thence southeasterly, parallel with said east right-of-way line, 1612.61 feet; thence westerly, parallel with the north line of said SW¼, 30.88 feet to said east right-of-way line; thence northwesterly, along said east right-of-way line, 1748.48 feet to the point of beginning. Containing 1.36 acres, more or less.

Sept., 1976

DRAINAGE EASEMENT

THIS EASEMENT made this _____ day of _____, 19____, by and between _____ of the first part and the City of Wichita on the second part.

WITNESSETH: That the said first part____, in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing a drainage system, over, along and under the following described real estate situated in Sedgwick County, Kansas; to wit:

The North ten (10) feet of Lot 13, Washington Square Addition
The South ten (10) feet of Lot 14, Washington Square Addition
The North ten (10) feet of Lot 31, Washington Square Addition
The South ten (10) feet of Lot 32, Washington Square Addition
The Northwesterly ten (10) feet of Lot 54, Washington Square Addition
The Southeasterly ten (10) feet of Lot 55, Washington Square Addition
Also that part of Lots 2 & 3, Washington Square Addition more fully described as beginning at the Northeast Corner Lot 3, Washington Square Addition; thence South along the West line Washington Street, a distance of seventy (70) feet; thence Westerly parallel to the North line of Lot 3 in said Addition to the East right-of-way line of I-235; thence Northwesterly along said East right-of-way line to the Northwest Corner of Lot 3 in said Addition; thence Easterly along the North line of said Lot 3 to the point of beginning.

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such drainage system.

IN WITNESS WHEREOF: The said first part___ ha___ signed these presents the day and year first written.

_____

_____

STATE OF KANSAS)
SEDGWICK COUNTY) SS

Personally appeared before me, a notary public, in and for the County and State aforesaid _____ to me personally known to be the same person___ who executed the foregoing instrument of writing and said person___ duly acknowledged the execution thereof.

Dated at Wichita, Kansas, this_____ day of _____, 19____.

_____
Notary Public

My Commission Expires _____

Drainage Easm'ts Needed

The North 10'ft of Lot 13, Wash. Sq. Addn
The South 10'ft of Lot 14, " " "
The North 10'ft of Lot 31, " " "
The South 10'ft of Lot 32, " " "
The Northwesterly 10'ft of Lot 54, " " "
The Southeasterly 10'ft of Lot 55, " " "
Also that part of Lots 283 Wash. Sq Addn more fully desc. as beg @ the N.E. Cor Lot 3, Wash Sq. Addn. thence S along the W line Wash. St. a dist of 70'ft.; thence Westerly parallel to the N line of Lot 3 in sd Addn to the E R/W line of I-235; thence Northwesterly along sd E. R/W line to the N.W. Cor of lot 3 in sd Addn; thence Easterly along the N line of sd lot 3 to the p.o.b.

Make 3 copies Orig + 2

Bdfile
2nd Retain by owner
1st Orig to be returned

Wash Sq Addn
For R/W C.

Please return to: Yash Desai

ARCHITECTS - ENGINEERS
VAN DOREN - HAZARD - STALLINGS
250 ROCKBOROUGH BUILDING, 260 NORTH ROCK ROAD WICHITA, KANSAS 67206
TELEPHONE 316 686-7303

DESIGN MEMORANDUM

DATE: January 11, 1977

SUBJECT: Washington Square and drainage area contributing runoff to an 8'x3' box culvert at station 31+50 of I-235.

Hydrology and Hydrologic Computations. The "Rational Formula" was used in determining peak discharge from the drainage areas. This formula is applicable to small drainage areas and for storms whose duration coincide with the time required for a drop of excess rainfall to travel from the most distant point of the drainage area to the point being considered.

The approach used here is that recommended in the "Urban Storm Drainage Criteria Manual". The general formula is Q=CAI, where Q is the peak runoff in cfs, C is coefficient relating the rate of rainfall to runoff which depends upon the surface characteristic of the area, I is the rainfall intensity in inches per hour and A is the size of the drainage area in acres.

The runoff coefficient C was determined by studying each drainage area and determining a composite value based on the types of surfaces such as roofs, pavement and lawns. The study examines existing conditions and proposed improvements.

The value of I was taken from "Technical Paper No. 25, Rainfall Intensity-Duration-Frequency Curves" published by the Weather Bureau.

Our analysis considers the following conditions:

1. Washington Square developed with other contributing areas remaining as they are.
2. Washington Square developed and the drainage area to the east adding an underground storm drainage system and paved streets.
3. All areas fully developed.

actually for 70 min, it should be $I_2 = 1.6$, $I_{100} = 3.4$

Analysis I

A (Drainage Area)	=	188.5 Acres
T_c (Time of Concentration)	=	78 minutes
I_{100} (Rainfall Intensity)	=	2.9 inches/hr
*Depth of Temporary Storage during Peak Runoff	=	0.5 inches
Excess Rainfall	2.9 =	2.9-0.5=2.4 inches/hr
Composite C	=	.295
C_f	=	1.25

$\therefore Q_{100} = 0.5 \times 188.5 \times 3.4 = 320.45$ cfs.

$Q_p = CIAC_f = .295 \times 2.4 \times 188.5 \times 1.25 = \underline{166.8 \text{ cfs.}}$

Allowing for 0.2 in detention $Q_{100} = 0.5 \times 188.5 \times 3.2 = 301.6$ cfs.

Analysis II

A	=	188.5 Acres
T_c	=	78 minutes
I_{100}	=	2.9 inches/hr
*Depth of Temporary storage during Peak Runoff	=	0.5 inches
Excess Rainfall	=	2.9-0.5=2.4 inches/hr
Composite C	=	.340
C_f	=	1.25

$Q_p = CIAC_f = .340 \times 2.4 \times 188.5 \times 1.25 = \underline{192.3 \text{ cfs.}}$

Analysis III

A	=	188.5 Acres
T_c	=	78 minutes
I_{100}	=	2.9 inches/hr
*Depth of Temporary Storage during Peak Runoff	=	0.5 inches
Excess Rainfall	=	2.9-0.5=2.4 inches/hr
Composite C	=	.412
C_f	=	1.25

$Q_p = CIAC_f = .412 \times 2.4 \times 188.5 \times 1.25 = \underline{233 \text{cfs}}$

* As the rate of runoff or of overland flow increases the depth of flow must also increase. As the depth increases, a quantity of water is stored temporarily over the drainage area until the runoff rate decreases. When the runoff rate decreases, the flow depth also decreases and eventually the water which was temporarily stored during the period of highest storm intensity becomes part of the total runoff from the drainage area. This concept is explained further in "Water-Resources Engineering", Second Edition,

Page No.? Chapt. No.?

Applies only if an Urban Hydrograph procedure is used. Then also it would be about 0.1 in ± in our case

by Ray K. Linsley and Joseph B. Franzini of Stanford University. For this study, the maximum depth of this temporary storage has been assumed at 0.5 inch. This amount was subtracted from the I values taken from Technical Paper No. 25 for use in the rational formula.

Conclusions:

When the area to the east of the proposed Washington Square Addition is further improved, and a benefit district is established for the storm drainage work proposed, that the Washington Square Development be a part of that benefit district, and that until then they be allowed to proceed with the development using a minimum pad elevation of ~~85~~ 86.

Very truly yours,

Van Doren-Hazard-Stallings

By: Kenneth H. Bengtson

Kenneth H. Bengtson,P.E.

ARCHITECTS - ENGINEERS - PLANNERS
VAN DOREN - HAZARD - STALLINGS
2910 TOPEKA AVENUE - P. O. BOX 719, TOPEKA, KANSAS 66601
TELEPHONE, 913-267-1414

Job No. [illegible]

Date 1-9-77

Sheet 1 of 2

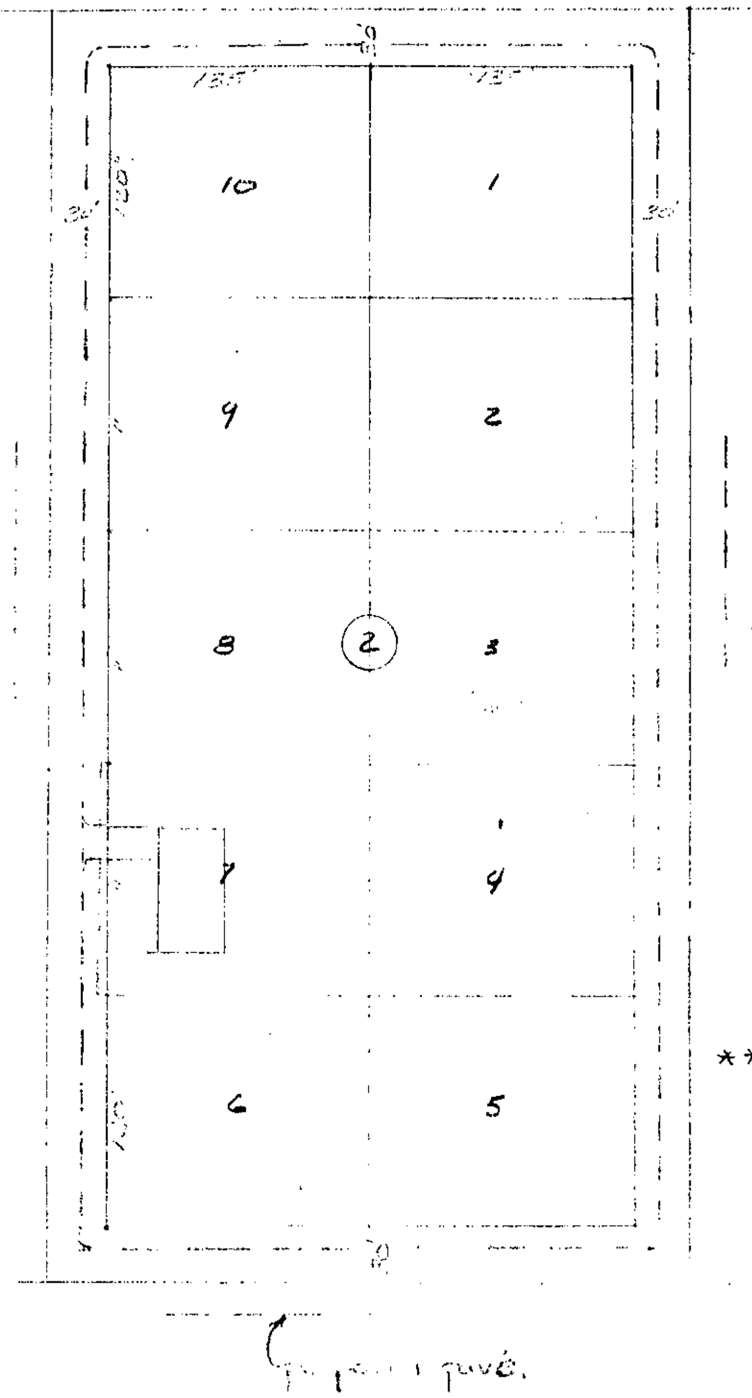
Project Washington Square

By [illegible]

Subject STORM DRAINAGE

Ck'd.

DATA: AVE STRUCTURE 35'x65' = W/ GARAGE 2275 SQ.FT.
SOIL: SANDY SILT



AREA = 217800 SQ. FT. = 5 Ac.

Roofs C = .9
Lawns C = .20
Unpaved Streets C = .20
Paved Areas C = .9

C_F (100 YR) = 1.25

$Q = CIAC_F$

* Composite C (unpaved rds)

A = .52 Ac, Roof
A = 4.48 Ac, Streets & Lawns

Ave. C = $\frac{.52 \times .9}{5} + \frac{4.48 \times .20}{5}$

= .273

use = .30

** Composite C (paved rds.)

A = .52 Roof
A = 1.09 Pav., Walks, Aprons
A = 3.39 Lawns

Ave. C = $\frac{.52 \times .9}{5} + \frac{1.09 \times .9}{5} + \frac{3.39 \times .20}{5}$

= .425

* Existing Condition
** Composite C if street improvements are made.

ARCHITECTS - ENGINEERS - PLANNERS

VAN DOREN - HAZARD - STALLINGS

2910 TOPEKA AVENUE - P. O. BOX 719, TOPEKA, KANSAS 66601

TELEPHONE, 913 - 267-1414

Job No. 0716-43-00

Date 1-10-77

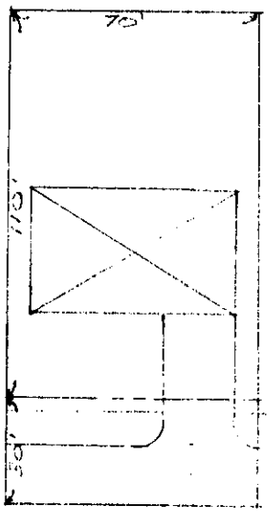
Sheet 2 of 3

Project WASHINGTON SQUARE DEVELOPMENT

By BERGTSON

Subject Storm Drainage

Ck'd.



Total Area = 9500 ☐'

house = 2025 ☐'

paved = 1975 ☐'

Composite C

$$C = \frac{.0466 \times .9}{.225} + \frac{.0453 \times .9}{.225} + \frac{.128 \times .20}{.225}$$

C = .486

ARCHITECTS · ENGINEERS · PLANNERS
VAN DOREN - HAZARD - STALLINGS
2910 TOPEKA AVENUE · P. O. BOX 719, TOPEKA, KANSAS 66601
TELEPHONE, 913-267-1414

Job No. [illegible]
Date 1-12-77
Sheet 2 of 2
Project Washington Square
By [illegible]
Subject Storm Drainage
Ck'd.

Area (Acres)	Comp C UNDEV.	Comp C DEV.	C x A UNDEV.	C x A DEV.	Comments.
21.7		.486		10.55	WASHINGTON SQUARE ADDITION
67.45	.3	.425	20.24	28.67	S.F. TO EAST OF WASH. SQ. ADD.
44.96	.25	.25	11.24	11.24	HIGHWAY R/W
54.3	.25	.50	13.58	27.15	PARCEL IN SE. Cor. Broadway & McArthur

SOIL TYPE * SILTY SAND - TO SAND VERY PERMEABLE

Analysis #1

$$C_{comp} = \frac{.486 \times 21.7}{188.5} + \frac{.3 \times 67.45}{188.5} + \frac{.25 \times 44.96}{188.5} + \frac{.25 \times 54.3}{188.5} = .295$$

Analysis #2

$$C_{comp} = \frac{.486 \times 21.7}{188.5} + \frac{.425 \times 67.45}{188.5} + \frac{.25 \times 44.96}{188.5} + \frac{.25 \times 54.3}{188.5} = .340$$

Analysis #3

$$C_{comp} = \frac{.486 \times 21.7}{188.5} + \frac{.425 \times 67.45}{188.5} + \frac{.25 \times 44.96}{188.5} + \frac{.5 \times 54.3}{188.5} = .412$$

C_F (FREQUENCY Factor = 1.25 FOR 100yr Storm)

$C \times C_F$ =

.25 X 1.25 = .3125
.5 X 1.25 = .625
.486 X 1.25 = .608
.425 X 1.25 = .531

(1)

Drainage for Washington Square Addition.

Capacities of 8x3 Box

1/13/77

Height of Box (Rise)	Q/W = x	Headwater Depth HW/Rise	Headwater Depth ft.	Water Surface Elevation	Q = 8.0x
3	15.0	1.0	3.0	81.30	120 cfs.
3	16.1	1.067	3.2	81.50	128.8 cfs.
3	17.0	1.1	3.3	81.60	136 cfs
3	19.0	1.2	3.6	81.90	152 cfs.
3	20.5	1.3	3.9	82.20	164 cfs
3	22.0	1.4	4.2	82.50	176 cfs.
3	24.0	1.5	4.5	82.80	192 cfs
3	25.0	1.6	4.8	83.10	200 cfs.
3	30.0	2.0	6.0	84.30	240 cfs.

8'x3' box is at 78.3

48" pipe
US ℄ 74.35
DS ℄ 74.20

Capacities of 6x4 Box

Height of Box (Rise)	Q/W = x	Headwater Depth HW/Rise	Headwater Depth ft.	Water Surface Elevation	Q = 6.0x
4	17.0	0.8	3.2	81.89	102
4	23.0	1.0	4.0	82.69	138
4	24.0	1.0275	4.11	82.80	144
4	26.0	1.1	4.4	83.09	156
4	26.5	1.125	4.5	83.19	159
4	29.0	1.2	4.8	83.49	174
4	32.0	1.3	5.2	83.89	192
4	34.0	1.4	5.5 5.6	84.29	204
4	36.0	1.5	6.0	84.69	216
4	38.5	1.6	6.4	85.09	231
4	42.0	1.75	7.0	85.69	252
4	46.0	2.0	8.0	86.69	276
4	50.0	2.2	8.8	87.49	300
4	55.0	2.5	10.0	88.69	330
4	14.0	0.7025	2.81	81.5	56.0

El. 81.5

Highway Data
DA = 125 ac
HW = 3.2'
Q = 87 cfs.
US ℄ = ~~1268.65~~ 78.69

8'x3' box is at 78.3'

1/19/77

Area of Washington Square Addition only: 33.6 acres.

Time of Concentration, $T_{c_1} = \left(\frac{11.9 L^3}{H}\right)^{0.385} = \left(\frac{11.9 \times 0.404^3}{7.31}\right)^{0.385} = 0.423 \text{ hr} = 25.4 \text{ min}$

where $L = 2135.0' = 0.404$ miles, $H_1 = 86.0 - 78.69 = 7.31$ ft.

$H_2 = 86.0 - 74.35 = 11.65$ ft.

$T_{c_2} = \left(\frac{11.9 L^3}{H}\right)^{0.385} = \left(\frac{11.9 \times 0.404^3}{11.65}\right)^{0.385} = 0.4130 \text{ hr.} = 24.78 \text{ min}$

$\therefore I_{21} = 2.5$ in/hr. $\quad I_{1001} = 5.5$ in/hr.

$I_{22} = 2.6$ in/hr. $\quad I_{1002} = 5.65$ in/hr.

For $T_c = 70$ min, $I_{100} = 3.3$ in/hr. $\therefore Q_{100}$ for 25 ac. $= 0.5 \times 25 \times 3.3 = 41.25$

$\therefore Q_{21} = 0.5 \times 33.6 \times 2.5 = 42$ cfs.

$Q_{22} = 0.5 \times 33.6 \times 2.6 = 43.68$ cfs

$Q_{1001} = 0.5 \times \underset{(25.0)}{33.6} \times \underset{(70.6 \text{ cfs.})}{5.5} = 92.4$ cfs.

$Q_{1002} = 0.5 \times 33.6 \times 5.65 = 94.92$ cfs.

Note: 33.6 acres includes eastern boundary upto Washington Ave and the Highway R/W area, contributing to runoff.

Total flow through the 8×3 box with HW = 3.2' is 128.0 cfs.

Total flow that will have to be carried by the box is: 102 + 95 = 223 cfs.

The 8×3 box for HW depth of 3.2' can flow only 128 cfs. Therefore, the 48" pipe will be required.

With the pad elevation of 86.0 ft. and the Headwater depth of 6.0 ft., the 8'×3' box can pass only 240 cfs. at which time water surface elevation around the 8×3' box in the area would be 84.3 ft. which is only 1.7 ft. below the minimum pad elevation of 86.0 ft

Capacity required is at least 204 + 95 = 294 cfs. or better 311.0 cfs.

Actually cannot allow HW depth greater than 4.5 ft. assuming highway deck is 1.5 ft. thick, so highway will not be under water.

Hence Capacity of 8'×3' box = 192 cfs. at W.S. El. 82.80

1/17/77

Capacity of 6 X 4 box for Water surface El. 82.80 = 144.0 cfs.

And Capacity of 6x4 box for HW depth = 4.5' is 159 cfs.

∴ The 8x3 box should be able to safely pass at least 144 + 95 = 239 cfs. or if like to remain on the conservative side about 159 + 95 = 254 cfs. Since the 8'x3' box can handle only 192 cfs. the additional capacity of 47.0 cfs. should be provided, rather 62.0 cfs to remain conservative.

48" pipe.
U.S.ft = 74.35
D.S ft = 74.20

Capacity of 48" pipe @ 0.1% grade = 50 cfs.
Hence, the 48" pipe is barely adequate.
Prefer a 54" pipe. which has a capacity of 70 cfs at 0.1 % grade.

If only 25.0 acres of developed areas of Washington Square are included. Additional flow = 71.0 cfs. and for the three cases considered:

Case 1: HW depth 3.2 ft.
Capacity required = 102 + 71 = 173.0 cfs.
Capacity available in the 8x3 box = 128 cfs., hence need the 48" pipe (48" pipe is the min. diameter that can be satisfactorily jacked or tunnelled).

Case 2: HW depth = 6.0 ft at 8x3' box.
Capacity required = 204 + 71 = 271 cfs. or 216 + 71 = 287 cfs
Capacity available = 240 cfs.
Hence the 48" dia pipe under the highway will be required

Case 3 For Headwater depth = 4.5' at 8'x3' box

Capacity required = 144+71 = 215cfs or 159+71 = 230c

Capacity available = 192.0 cfs.

Hence the 48" pipe will be required to carry the additional 23 cfs or 38 cfs. of flow.

2/24/77

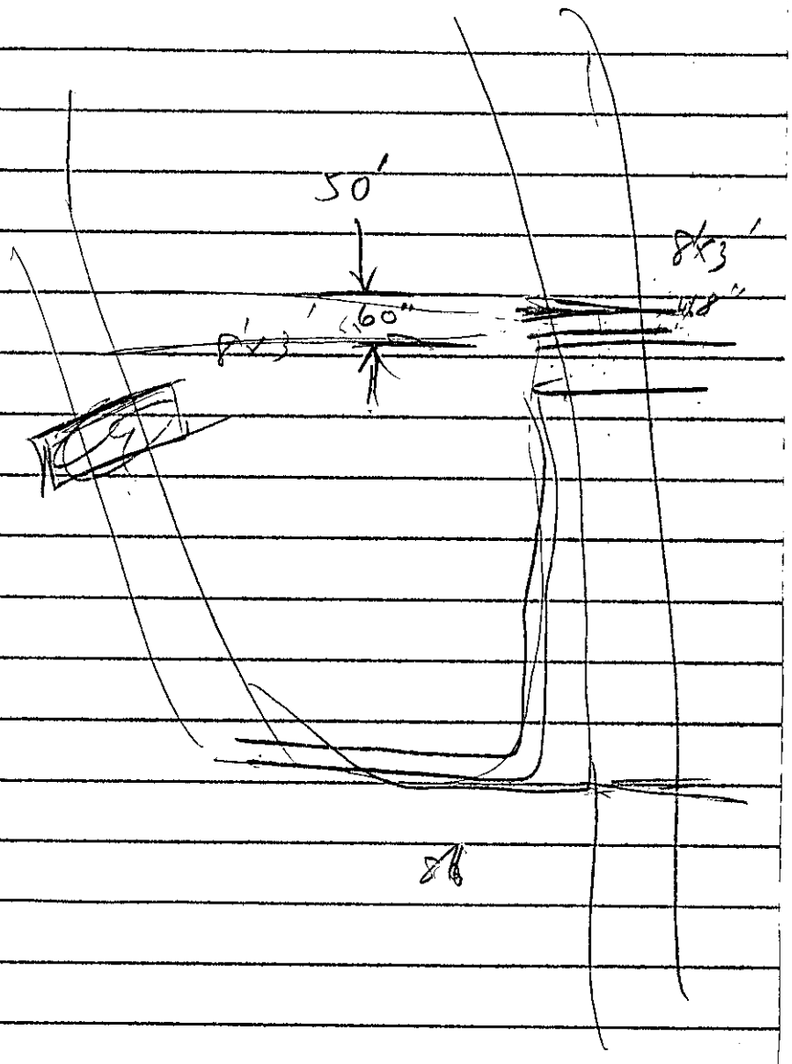
Slough Channel

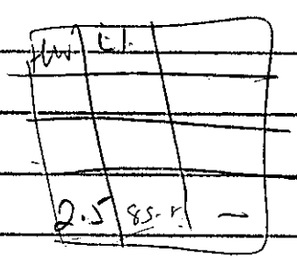
Sta. 190+50 NL 47th St.

A_t = 70.61 DWS = 82.89 Q_{100} = 4000 cfs

Slope = 0.06% b = 40' 4:1

Top of channel - 85.89





2.8

Washington Square Addition

2/28/77

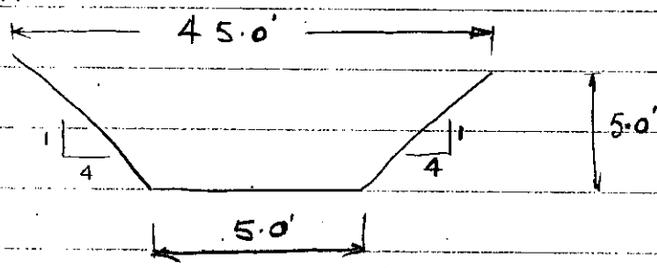
Cost of 60" pipe, jacked + that under Brookings By-Pass Addition = #72,000 (see Brookings By-Pass Addition File)

Cost of 48" storm sewer in the benefit district
= 145,176.8 ≈ #146,000

Area of the benefit district = ?

Total area west of Washington Ave. = 6.71 ac.
Total area east Washington, S. of 45th St. = 22.30 ac.
∴ Total area of benefit district = 29.01 ac.
Say 29.0 acres.

Assume a ditch section around Washington Square Addition



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Total area of benefit district = 29.01 ac
Say 29.0 acres

LDH
3/17

1.

2.22
1.86

Washington Square	Addn	4.66	203,005
Cedarvale Acres	Blk 1		140,423
"	Blk 2		102,186
"	Blk 3		159,017
Cedarvale Acres	Blk 4		159,130
Ives Addn	Blk 1		31,956
Ives Addn	Blk 2		55,974
Ives 2nd Addn	Blk 1		162,422
Ives 2nd Addn	Blk 2		162,686

1,176,799 □'

$$\frac{1176799 \text{ □'}}{43,560} = 27.0156 \text{ A.}$$

Average lot size = 133.5 x 148.5 = 0.455 ac.

∴ Cost per acre = $5404.3 /ac.

Cost per lot = $2460.0 /ac.

3584.80
3579

THE CITY OF WICHITA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY HALL — SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501

September 6, 1977

Dear Citizen:

This letter serves as notification to the property which may be included in abbenefit district liable for the assessment for construction of a storm water sewer. If you lease or rent this property, please forward this notice to the landowner.

This project will serve an area generally located between Interstate 235 and Lulu from 45th Street South to 47th Street South.

The initiation of this project will be considered by the Governing Body of the City of Wichita on September 13, 1977, in the Commission Room of City Hall located at 455 North Main Street.

Preliminary estimates place the cost of completing the project at $205,000.00. Based on this estimate, assessments to individual properties in the benefit district are expected to be $7,600.00 per acre.

The Special Assessment Assistance Program approved for CDA funding provides for payment of special assessments for owners who meet the income guidelines of this program. Detailed information regarding this program may be obtained from the City Clerk's Office, phone 268-4526.

If you desire, you may express your opinion on this matter by writing the Board of City Commissioners, c/o the Mayor's Office, 1st Floor, City Hall, 455 North Main Street, Wichita, Kansas 67202. You also are welcome to speak or be represented by a spokesman at the Commission Meeting at which this matter will be considered. Petitions of protest and other documents related to the project also may be presented or forwarded to the Board of City Commissioners for review at the meeting.

Should you require additional information about the project or any of the procedures outlined above, please direct your inquiries to the City of Wichita, Public Works Engineering Division, 7th Floor, City Hall, 455 North Main Street, Wichita, Kansas 67202 or you may telephone 268-4669.

The Citizen Participation Organization Area Council may consider this item at its next meeting. For time,place of CPO Meetings call 268-4516.

Very truly yours,

R. W. Linn
City Engineer

/dla

Preliminary Cost Estimate -1-

SWS (Washington Square Add. & Property East of Washington Ave.

YDD 9/6/77

	Quantity	Item	Unit Cost	Amount		
1	300 LF	48" R.C.P.	56 00	168 0000	✓	
2	270 LF	42" R.C.P.	50 00	135 0000	✓	
3	50 LF	36" R.C.P.	44 00	22 0000	✓	
4	450 LF	30" R.C.P.	36 00	162 0000	✓	
5	480 LF	24" R.C.P.	30 00	144 0000	✓	
6	600 LF	18" R.C.P.	24 00	144 0000	✓	
7	900 LF	15" R.C.P.	20 00	180 0000	✓	
8	50 Ea	Curb Inlets	700 00	350 0000	✓	
9	4 Ea	Reinforced Concrete Manholes	2600 00	104 0000	✓	
10	4 Ea	Type B Manholes	1500 00	60 0000	✓	
11	2.5 Ac	Prairie Hay Mulch	500 00	12 5000	✓	
12	160 lb	Grass Seed	2 00	3 2000	✓	
13	1200 lb	Fertilizer	0 50	6 0000	✓	
14	8000 CY	Common Excavation	2 50	200 0000	✓	
15						
16						
17		Sub-total			169 0700 00	✓
18		Engr. Insp. + Contingencies (20%)			33 8140 00	✓
19						✓
20		Total				202 8840 00
21						
22						
23						
24		Hence use $ 205,000				
25						
26		Acreage Served = 27.0				
27						
28		Hence $\frac{205,000}{27}$ = $7593.0/acre				
29						
30		= $3455/Avg size lot = 0.455 ac.				
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						

Preliminary Cost Estimate

SWS (West of Washington Square Addition

Yard 9/6/77

	Quantity		Item	Unit Cost	Amount		
1	700	Ft	60" Pipe	7500	5250000		
2	150	Ft.	60" Pipe (Jacked)	10000	1500000		
3	4000	Cu Yd	Channel Excavation	500	2000000		
4	1.5	Ac	Prairie Hay Mulch	50000	750000		
5	130	lb	Grass Seed	200	26000		
6	800	lb	Fertilizer	50	40000		
7							
8							
9						88910	
10			Eng., Adm + Contng. (3%)			266730	
11							
12			TOTAL				9157730
13							
14							
15							
16							
17			Hence Use		$92,000.00		
18							
19							
20							
21							
22							
23							
24			Note: Cost does not include R/W acquisition (if any)				
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

Preliminary Cost Estimate

Ditch North of Brookings - By Pass Addition — YOW 9/6/77

Quantity		Items	Unit Cost	Amount		
3500	CY	Channel Excavation	5 00	17500 00		
150	Ft.	60" Pipe (Jacked)	100 00	15000 00		
4000	CY	Channel Excavation	5 00	20000 00		
2.0	Ac	Prairie Hay Mulch	500 00	1000 00		
150	lb	Grass Seed	2 00	300 00		
1000	lb	Fertilizer	0.50	500 00		
		Sub-Total			54300 00	
		Add 20% Engr, Adm. & Cont.			10860 00	
						65160 00
		Total				

Hence Use $66,000

Note: Cost does not include R/W acquisition.

Preliminary Cost Estimate

Ditch around Brookings - By Pass Addition

YOD 9/6/77

	Quantity		Items	Unit Cost	Amount		
				1	2	3	4
1	5500	CY	Channel Excavation	5 00	2750000	✓	
2	150	Ft	60" Pipe (Jacked)	10000	1500000	✓	
3	4000	CY	Channel Excavation	5 00	2000000	✓	
4	2.5	Ac	Prairie Hay Mulch	500 00	125000	✓	
5	180	lb	Grass Seed	2 00	36000	✓	
6	1200	lb	Fertilizer	.50	60000	✓	
7							
8							
9			Subtotal			6471000	✓
10						1294200	✓
11			Add 20% for Engr., Adm. & Cont.				
12							
13							
14			Total				7765200
15							
16							
17							
18			Use				
19							
20			Hence Use		78,000.00		
21							
22							
23							
24			Note: Cost does not include R/W acquisition.				
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

DELIVERED TO FOLLOWING ADDRESSES	VACANT BUILDINGS	VACANT TRACTS
STORM WATER SEWER BETWEEN INTERSTATE 235 AND LULU FROM 45TH STREET SOUTH TO 47TH STREET SOUTH:		
LETTERS DELIVERED ON SEPTEMBER 6, 1977 AND SEPTEMBER 7, 1977:		
LULU - WEST SIDE ONLY		
4701		
4655		
4641		
4629		
4615		
4601		
PATTIE - EAST SIDE		
4714		
4700		
4656		
4640		
4628		
4618		
4600		
PATTIE - WEST SIDE		
4721		
4701		
4655		
4641		
4625		
4615		
4601		
LAURA - EAST SIDE		
4728		
4715		
4700		
4656		
4640		
4628		
4610		
4600		

DELIVERED TO FOLLOWING ADDRESSES	VACANT BUILDINGS	VACANT TRACTS
(CONT.) STORM WATER SEWER BETWEEN INTERSTATE 235 AND LULU FROM 45TH STREET SOUTH TO 47TH STREET SOUTH.		Letters to these property owners were mailed on Sept. 9, 197
LAURA - WEST SIDE		
.....	.....	...VACANT - No. 1
.....	.....	..VACANT - No. 2
4701 1120 46th Street South 4642 4631 4617 4601		No. 1 - Lot 3, Block 2, Cedar Vale Acres Cedar Chapel United Methodist Church 1140 East 47th Street South 67216
IDA - EAST SIDE		No. 2 - Lot 2, Block 2, Cedarvale Acres Cedar Chapel United Methodist Church 1140 East 47th Street South 67216
4730 4718 4700 4654 4647 4630 4618 4602		
IDA - WEST SIDE		
4751 4733 4719 4701 4655 4641 4631 4617 4601		
WASHINGTON - EAST SIDE ONLY		
.....	.....	...VACANT - No. 3 -
4730	.....	...VACANT - No. 4
4700 4654 4642 4630 4618 4600		No. 3 - Lot 5, Block 1, Cedarvale Acres Elmer L. White c/o Haysville Statet Bank Haysville, KS 67060
NE LETTER MAILED ON EPTEMBER 8, 1977 TO EDAR CHAPEL UNITED METHODIST Church 140 East 47th Street South 67216		No. 4 - Lot 7, Block 1, Cedarvale Acres James L. White c/o Haysville State Bank Haysville , KS 67060