

BAUGHMAN COMPANY, P.A.

S U R V E Y O R S

316/262-7271 • 330 LAURA • WICHITA, KANSAS 67211

CONFIRMATION  
MEMO

PROJECT I-135 Turnpike Business Park

DATE 3-5-80

JOB NO. \_\_\_\_\_

COPIES TO:

TO Yash Desai

Curtis Newby  
Mike Lindebak

FROM William L. Kerber

REFERENCE \_\_\_\_\_

Attached is the lot grading plan  
for the above referenced project.

Plat submitted to planning : 3-7-80

To be heard by Subdivision Committee 3-21-80

PETITION - SANITARY SEWER LATERAL

RECEIVED  
OFFICE OF CITY CLERK

MAR 6 1981

DG \_\_\_\_\_  DR \_\_\_\_\_  
 Agenda \_\_\_\_\_  JE \_\_\_\_\_  
 File \_\_\_\_\_

to the Board of Commissioners  
Wichita, Kansas

Dear Commissioners:

1. We, the undersigned owners of record as below designated, of lots, parcels, and tracts of real property lying within the area described generally as follows:

Lots 1 through 4 inclusive, Block 1

Lots 1 through 16 inclusive, Block 2

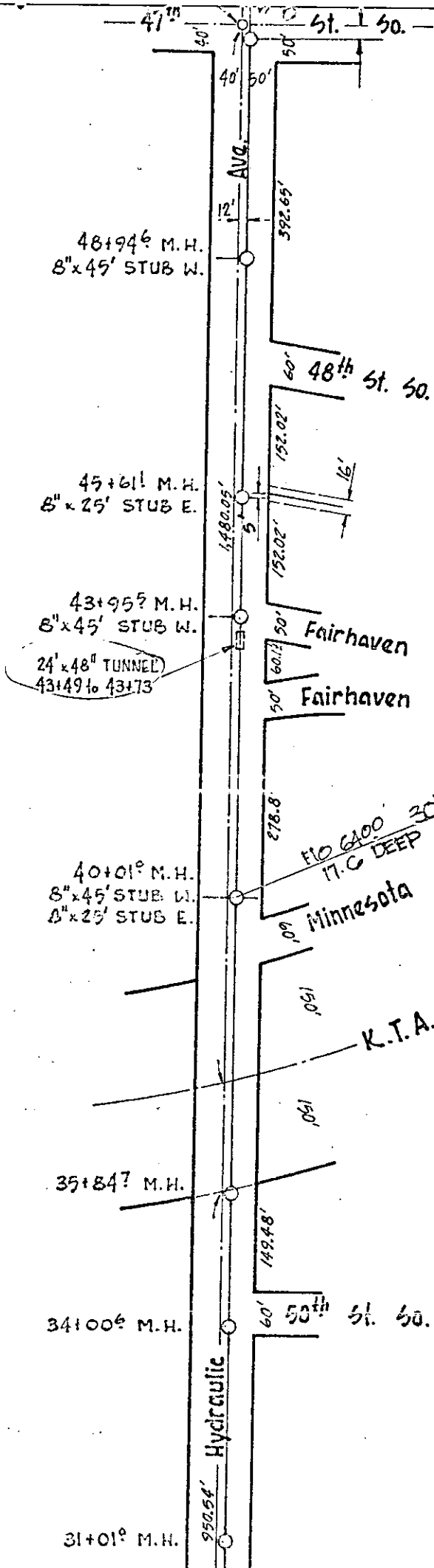
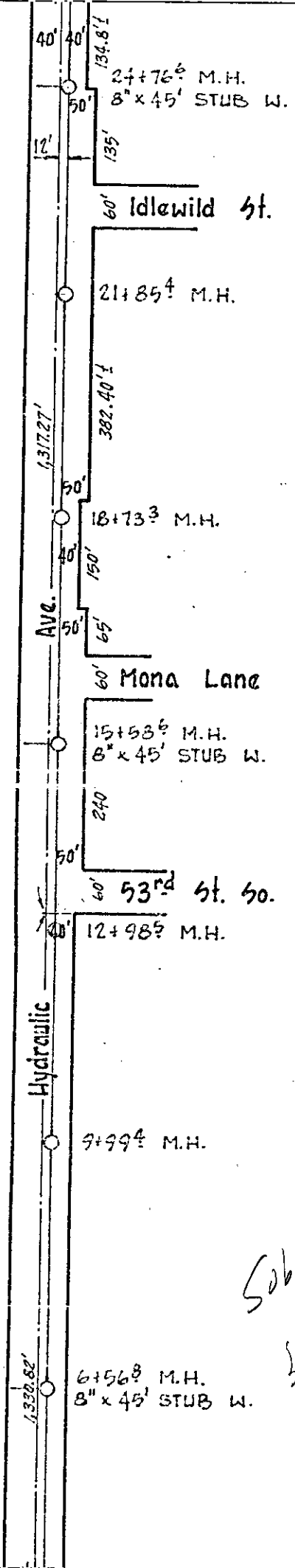
I-135 Turnpike Business Park

An unplatted tract of land in the Northeast Quarter of Section 21, Township 28 South, Range 1 East more fully described as the East 404.25 feet lying north of a line beginning 861 feet south of the Northeast Corner of said Quarter to a point 641 feet south of the Northwest Corner of the Northeast Quarter of said Quarter, except the North 660 feet and except street right-of-way.

An unplatted tract of land in the Northeast Quarter Section 21, Township 28 South, Range 1 East more fully described as the West 255 feet of the east 659.25 feet of a tract beginning at the Northeast Corner of said Quarter, thence west to Northwest Corner of the Northeast Quarter of said Quarter, thence south 641 feet, thence southeast to point 861 feet south of beginning, thence north to beginning except north 660 feet and except street right-of-way.

An unplatted tract of land in the Northeast Quarter, Section 21, Township 28 South, Range 1 East more fully described as the west 327 feet of the east 986.25 feet of a tract beginning at the Northeast Corner of said Quarter thence west to Northwest Corner of the Northeast Quarter of said Quarter, thence south 641 feet, thence southeast to point 861 feet south of beginning, thence north to beginning, except street right-of-way.

47th Street South S.O.C. Addition



24'x48" TUNNEL  
43+49.6 to 43+73

Sab  
300

Hydraulic

Hydraulic

Fern

45

## I-135 Turnpike Business Park

1. There is a low pt on 47th ~~st~~ <sup>between Pattie & Lulu</sup>  
Require information on how large area from North & East that will drain into this plat
2. Laura and Lulu in this plat can not drain North to 47th st.
3. Lot 2, block 2 will drain across lot line to adjacent lots. (E. portion of 49th st.)
4. Proposed st grade for south portion of Lulu  $\text{slope} < .32\%$   
St grade information is incomplete
5. Grading as proposed will have runoff greater than the gutter capacity.

Conclusion Drainage concept is not acceptable.

SUBDIVISION REPORT

SUBDIVISION COMMITTEE  
METROPOLITAN AREA  
PLANNING COMMISSION

S/D NO. 80-19 Name I-135 Turnpike Business Park  
Date Application Rec'd. 3-7-80 Preliminary Approval \_\_\_\_\_  
Scheduled S/D Meeting 3-20-80

DESCRIPTION

General Location South side 47th St. South, in an area east of I-135

Owner Esther M. McMillin and Ruth E. Wall  
Surveyor/Engineer Baughman Company  
Address 330 Laura Phone 262-7271

- |   |   |
|---|---|
| 1. Gross Acreage of Plat <u>36.4</u>  | 7. Lineal Feet of New Streets:  |
| 2. Number of Lots:  | a. <u>70</u> R/W <u>2740</u> ft.  |
| Residential _____   | b. <u>35</u> R/W <u>1440</u> ft.  |
| Commercial _____  | c. _____ R/W _____ ft.  |
| Industrial <u>20</u>  | d. _____ R/W _____ ft.  |
| Other _____   | e. _____ R/W _____ ft.  |
| Total Number of Lots <u>20</u>  | TOTAL _____ ft.   |
| 3. Minimum Lot Frontage <u>100</u> ft.                                      | 8. Sidewalk adjacent to all streets? <u>yes</u> <input checked="" type="checkbox"/> <u>no</u> |
| 4. Minimum Lot Area <u>30,000</u> square ft.                                |   |
| 5. Existing Zoning <u>AA and LC</u>   |   |
| 6. Proposed Zoning <u>E</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) _____ (Yes-No)            |   |
| 12. City of Wichita <u>X</u> : Three-Mile Area _____                        |   |

STAFF COMMENTS:

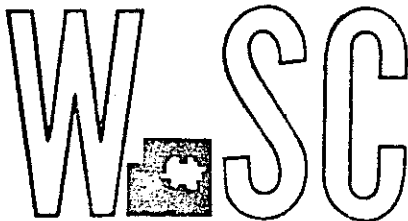
Note: An application for light industrial zoning has been filed for this property.

- A. The applicant shall guarantee the extension of sanitary sewer to serve all lots being platted.
- B. The applicant shall guarantee the extension of City water to serve all lots being platted.
- C. The City Engineer's representative shall be prepared to comment on the applicant's drainage concept. Prior to or at the time of submission of a final plat, a final drainage plan shall be submitted.
- D. The applicant shall guarantee to industrial standards, the paving of Laura, 49th Street South west of Lulu, Lulu and Lulu Court.
- E. Any relocation or encasing of the Cities Service pipeline necessitated by the construction of streets or utilities within this plat will not be at the City's expense. The applicant shall provide to the Planning Department a letter from the pipeline company or a copy of the easement agreement which addresses the width of the easement, the building setback from the pipeline and the construction of streets and/or utilities over portions of the easement.
- F. Prior to the final plat being forwarded to the governing body for approval, the structures located within right-of-way being dedicated for Lulu and Laura shall be removed.
- G. If industrial zoning is approved for this property, a 35-foot front yard building setback shall be shown on each lot. Corner lots may have a 20 foot setback from one of the streets.

(Over)

- H. If industrial zoning is approved for this property, it is recommended that no sidewalks be required (except on 47th Street) since industrial uses usually do not generate pedestrian traffic.
- I. 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.
- J. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

WICHITA - SEDGWICK COUNTY



METROPOLITAN AREA PLANNING  
DEPARTMENT

CITY HALL - TENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202  
(316) 268-4561

March 20, 1980

Baughman Company  
330 Laura  
Wichita, Ks. 67211

Re: S/D 80-19 - Preliminary plat of I-135 Turnpike Business  
Park

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, March 20, 1980, 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 shall guarantee the extension of sanitary sewer to serve all lots being platted.
- B. The applicant shall guarantee the extension of City water to serve all lots being platted.
- C. Prior to or at the time of submission of a final plat, a final drainage plan shall be submitted. If drainage is to be carried to the turnpike and interstate rights-of-way, then letters from KTA and KDOT accepting the drainage waters will be required.
- D. The applicant shall guarantee to industrial standards, the paving of Laura, 49th Street South west of Lulu, Lulu and Lulu Court.
- E. Any relocation or encasing of the Cities Service pipeline necessitated by the construction of streets or utilities within the plat will not be at the City's expense. The applicant shall provide to the Planning Department a letter from the pipeline company or a copy of the easement agreement which addresses the width of the easement, the building setback from the pipeline and the construction of streets and/or utilities over portions of the easement.

Baughman Company

3-20-80

Page 2

- F. Prior to the final plat being forwarded to the governing body for approval, the structures located within right-of-way being dedicated for Lulu and Laura shall be removed.
- G. If industrial zoning is approved for this property, a 35-foot front yard building setback shall be shown on each lot. Corner lots may have a 20 foot setback from one of the streets.
- H. If industrial zoning is approved for this property, it is recommended that no sidewalks be required (except on 47th Street) since industrial uses usually do not generate pedestrian traffic.
- I. Utility easements as requested by K.G. and E. shall be shown on the final plat.
- J. 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.
- K. 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,

Louise Olivarez  
Senior Planner

LO:bh

cc: Esther M. McMillin and Ruth E. Wall, Route 3, Independence, Ks.67301  
Dean DeWitt 505 S.Broadway, Suite 200, 67202  
Dean Sellers, Acting City Engineer ✓

## SUBDIVISION REPORT

SUBDIVISION COMMITTEE  
METROPOLITAN AREA  
PLANNING COMMISSION

S/D NO. 80-19 Name I-135 Turnpike Business Park  
 Date Application Rec'd. 3-7-80 Preliminary Approval 3-20-80  
 Scheduled S/D Meeting 10-2-80

DESCRIPTION

General Location South side of 47th St. South in an area east of I-135

Owner I-135 Turnpike Business Park, Inc., Dean DeWitt, President.  
 Surveyor/Engineer Baughman Company  
 Address 330 Laura Phone 262-7271

- |   |   |
|---|---|
| 1. Gross Acreage of Plat <u>36.4</u>  | 7. Lineal Feet of New Streets:  |
| 2. Number of Lots:  | a. <u>70</u> R/W <u>2740</u> ft.  |
| Residential _____   | b. <u>35</u> R/W <u>1440</u> ft.  |
| Commercial _____  | c. _____ R/W _____ ft.  |
| Industrial <u>20</u>  | d. _____ R/W _____ ft.  |
| Other _____   | e. _____ R/W _____ ft.  |
| Total Number of Lots <u>20</u>  | TOTAL _____ ft.   |
| 3. Minimum Lot Frontage <u>91.13</u> ft.                                    | 8. Sidewalk adjacent to all streets? <u>yes</u> <input checked="" type="checkbox"/> <u>no</u> |
| 4. Minimum Lot Area <u>30,000 sq. ft.</u>                                   |   |
| 5. Existing Zoning <u>AA and LC</u>   |   |
| 6. Proposed Zoning <u>E</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) _____ (Yes-No)            |   |
| 12. City of Wichita <u>X</u> : Three-Mile Area _____                        |   |

STAFF COMMENTS:

- A. The applicant shall guarantee the extension of sanitary sewer to serve all lots being platted.
- B. The applicant shall guarantee the extension of City water to serve all lots being platted.
- C. City Engineering shall be prepared to comment on the applicant's final drainage plan. If drainage is to be carried to the turnpike and interstate rights-of-way, then letters from KTA and KDOT accepting the drainage waters will be required.
- D. The applicant shall guarantee to industrial standards the paving of Laura, 49th Street South, Lulu and Lulu Court.
- E. Any relocation or encasing of the Cities Service pipeline necessitated by the construction of streets or utilities within the plat will not be at the City's expense. The applicant shall provide to the Planning Department a letter from the pipeline company or a copy of the easement agreement which addresses the width of the easement, the building setback from the pipeline (or from the easement) and the construction of streets and/or utilities over portions of the pipeline easement.
- F. Prior to the plat being forwarded to the governing body for approval, the structures located within right-of-way being dedicated for Lulu and Laura shall be removed. A letter from the applicant or his surveyor stating that these structures have been removed shall be submitted to the Planning Department.
- G. The applicant shall guarantee the closure of the east driveway now existing on Lot 1, Block 1.
- H. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- I. Recording of the plat within 30 days after approval by the Board of City Commissioners.

AGREEMENT AND PARTIAL RELEASE

THIS AGREEMENT, made and entered into between \_\_\_\_\_

\_\_\_\_\_, hereinafter called "Owner", whether one or more, and Cities Service Gas Company, a Delaware corporation, hereinafter called "Company".

WITNESSETH: That,

WHEREAS, on September 14, 1943, B. S. McMillin and A. O. McMillin, his wife, executed in favor of Cities Service Gas Company, as Grantee, a pipeline easement recorded in Book Misc. 165 sp Page 416 in the Register of Deeds Office of Sedgwick County, Kansas, covering the following described land, to-wit:

All that part of the NE $\frac{1}{4}$  of Sec. 21, Twp. 28-S, R1E. of the 6th P.M., Sedgwick County, Kansas, described as follows: Commencing at the N.W. Corner of said NE $\frac{1}{4}$ ; thence, easterly, along the north line of said NE $\frac{1}{4}$ , bearing S. 89° 26' E., 616.80' to the point of beg.; thence S 0° 35' W., 30'; thence S 66° 37' W., 246.2'; thence S 41° 51' W., 433.4'; thence S 12° 05' E., 226.4'; thence S. 18° 26' E., 400' to the Kansas Turnpike right of way; thence S 26° 12' E., 261.74'; thence S 48° 43' 30" E., 530.18'; thence N 81° 56' 15" E., 522.13' to the east line of the west  $\frac{1}{4}$  of said NE $\frac{1}{4}$ ; thence northerly, along said east line, bearing N 0° 24' 15" E., 1555.88' to the N.E. Corner of the west  $\frac{1}{4}$  of said NE $\frac{1}{4}$ ; thence westerly, along the north line of said NE $\frac{1}{4}$ , 700.43' to the point of beginning.

WHEREAS, subject to said pipeline easement, Owner owns and is in possession of said Owner's Tract.

WHEREAS, a 20-inch high-pressure natural gas pipeline, herein called "Pipeline", has heretofore been laid on and across Owner's Tract as shown on plat attached and made a part hereof in accordance with the aforesaid easement and said Pipeline is now in active operation; and,

WHEREAS, Owner has requested Company to limit its right of way to a defined strip across said Owner's Tract; and,

WHEREAS, Company is willing to limit its right of way to a defined strip across Owner's Tract, and to release the balance of said Owner's Tract from the terms and provisions of said easement under conditions hereinafter provided and mutually agreed upon by Company and Owner.

NOW, THEREFORE, in consideration of the covenants herein contained and the mutual benefits to be derived therefrom, Company does hereby release, surrender and terminate all of the right, title, and interest in and to said Owner's Tract, which it acquired by the easement first hereinabove described, SAVE AND

RETURN TO  
CITIES SERVICE GAS CO.  
S. P. DEPT.

STATE OF KANSAS  
REGISTER OF DEEDS  
FILED FOR RECORD AT  
S. P. DEPT.  
MAR 28 1960  
4 63379  
BETTE F. MCCART  
REGISTER OF DEEDS

EXCEPT right of way strip across said land which is definitely described as follows:

FILE 413 PAGE 542


A strip of land 66 feet in width extending the full length of the pipeline across Owner's Tract, the centerline of said 66 foot strip to be the centerline of the pipeline, herein called "Retained Strip";

and, save and except the right of ingress and egress across Owners' Tract adjacent to said strip for the purposes of exercising any and all of the rights which Company has under the easement first hereinabove described, all of which rights are specifically reserved with regard to said strip.

Notwithstanding the provisions of the above paragraphs providing for a Retained Strip, Owner, his successors and assigns, agree that the building line on said Owner's Tract for permanent installation shall not be less than 50 feet from the center of the pipeline.

Owner, his heirs, successors and assigns, shall have the right to use and enjoy the surface of the right of way strip herein reserved; provided such use and enjoyment shall not interfere with the use of said strip by Company, its successors and assigns, for the purposes set out in the original easement, first hereinabove described; and, provided further that Owner, his heirs, successors and assigns, shall not erect or construct, nor permit the erection or construction of any building, engineer works, or other structures, on, over, or across said strip. It is mutually agreed, however, that this no-building restriction shall not prohibit the building of fences, provided such fences include a gate with a minimum width of eight feet, necessary streets, alleyways, driveways, sewer lines and water lines, across but not along said strip provided Company, its successors and assigns, for any damage caused to any such facilities constructed across the strip in exercising the rights granted in the original easement, and provided further that, if in the judgement of Company, the construction of such permitted facilities across said strip requires that the Pipeline or Pipelines be altered, lowered, encased or otherwise protected, the entire cost of such protective measures, limited to the width of the permitted facilities plus any reasonable additional distance needed to so protect the Pipeline or Pipelines, shall be borne fully by Owner, his heirs, successors and assigns.


Signed and delivered this 14th day of March, 1960.

  
Paul McCall, President

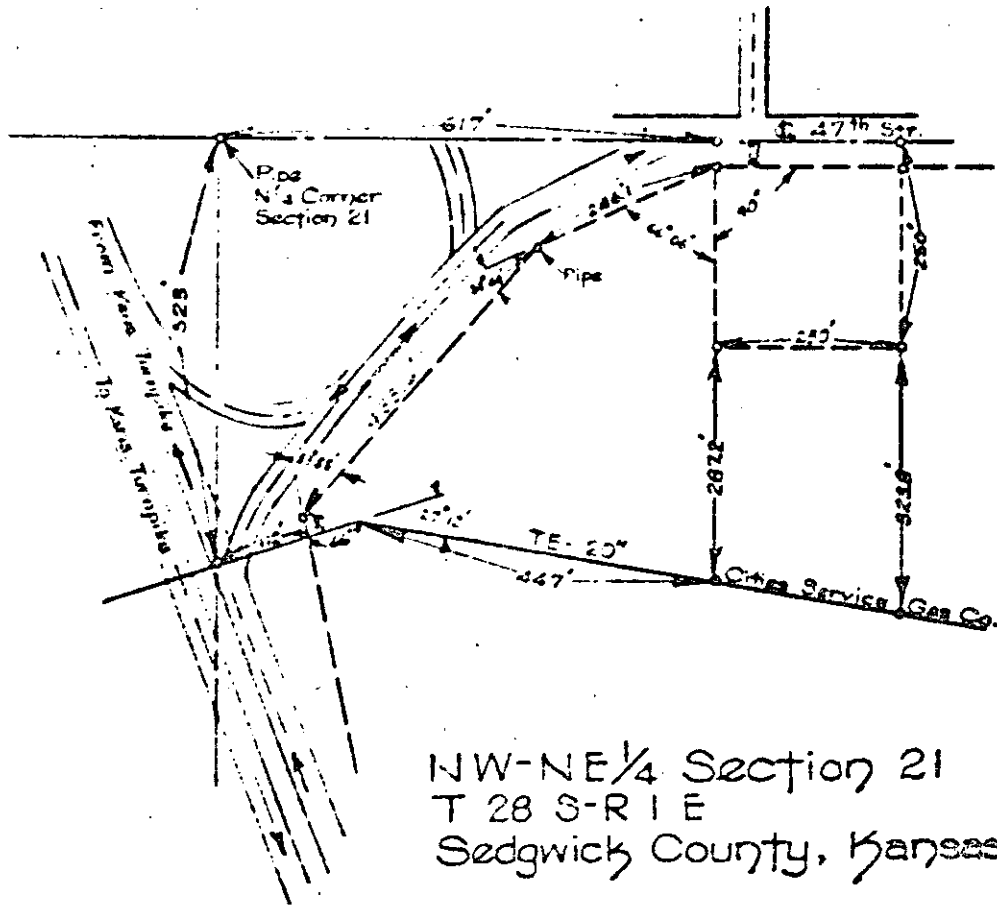
CITIES SERVICE GAS COMPANY

ATTEST:

By:   
Jim R. Miller, Vice President

  
A. Gilbert, Asst. Secretary

RETURN TO  
CITIES SERVICE GAS CO.  
LAND AND LEASE DEPT.  
P. O. BOX 26120  
OKLAHOMA CITY, OKLA. 73128



NW-NE 1/4 Section 21  
 T 28 S-R 1 E  
 Sedgwick County, Kansas

RETURN TO  
 CITIES SERVICE GAS CO.  
 LAND AND LEASE DEPT.  
 P. O. BOX 27123  
 OKLAHOMA CITY, OKLA. 73103

Pipeline Map # 12

CITIES SERVICE GAS COMPANY

TITLE Ties for Cities Service Gas Co. Wichita 20 Pipeline  
 "TE" in NW-NE 1/4 Section 21, T 28 S-R 1 E  
 Sedgwick County, Kansas

FILE NO. 80-SG-2

COMPILED BY

CHECKED BY

APPROVED BY

WICHITA - SEDGWICK COUNTY



METROPOLITAN AREA PLANNING  
COMMISSION

CITY HALL - TENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202  
(316) 268-4561

October 6, 1980

Baughman Company  
330 Laura  
Wichita, Ks. 67211

Re: S/D 80-19 - Final plat of I-135 Turnpike Business Park  
Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, October 2, 1980, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved subject to:

- A. The applicant shall guarantee the extension of sanitary sewer to serve all lots being platted.
- B. The applicant shall guarantee the extension of City water to serve all lots being platted.
- C. The applicant's final drainage plan will depend upon whether adequate improvements are made in the Riverside Drainage Canal. This will require the initiation of a major project by the City Commission. This plat will not be released for recording until this drainage project is initiated or until an alternate method of drainage is approved.
- D. The applicant shall guarantee to industrial standards the paving of Laura, 49th Street South, Lulu and Lulu Court.
- E. Any relocation or encasing of the Cities Service pipeline necessitated by the construction of streets or utilities within the plat will not be at the City's expense. The applicant shall provide to the Planning Department a letter from the pipeline company or a copy of the easement agreement which addresses the width of the easement, the building setback from the pipeline (or from the easement) and the construction of streets and/or utilities over portions of the pipeline easement.
- F. Prior to the plat being forwarded to the governing body for approval, the structures located within right-of-way being dedicated for Lulu and Laura shall be removed. A letter from the applicant or his surveyor stating that these structures have been removed shall be submitted to the Planning Department.

- G. The applicant shall guarantee the closure of the east driveway now existing on Lot 1, Block 1.
- H. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- I. The applicant shall meet with K.G. & E. to determine the location of some additional guy and anchor easements.
- 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 had 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 certificate is required if petitions are submitted.

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

The matter will be forwarded to the Planning Commission for its consideration on Thursday, October 9, 1980, at 1:30 p.m. If you have any questions concerning this matter, please call.

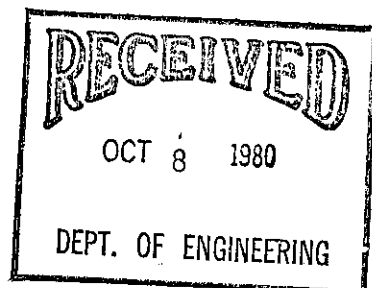
Sincerely,



Louise Olivarez  
Senior Planner

LO:bh

cc: Dean DeWitt, Suite 200, 505 S. Broadway 67202  
X R. W. Bruggeman, Director, Engineering



# THE CITY OF WICHITA



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

April 21, 1981

Mr. N. Brent Wooten, P. E.  
Baughman Company, P. A.  
330 Laura  
Wichita, Kansas 67211


Dear Mr. Wooten:

We have received a request from Mr. Dean DeWitt, President, DeWitt Development, requesting that your firm be selected to do the consulting engineering services for the I-135 Turnpike Business Park. The Department of Engineering also recommended that your firm be selected to perform these engineering services.

The Staff Screening and Selection Committee at their meeting of April 20, 1981 approved your firm for providing engineering services for the design of pavement, storm sewers and sanitary sewers in the I-135 Turnpike Business Park.

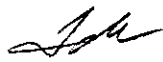
Please prepare a draft agreement for these projects and work with Mr. Mike Lindebak, Program Development Engineer, in preparing a final engineering agreement for submission to the City Commission.

Yours truly,

  
R. W. Bruggeman, P. E.  
Director of Engineering

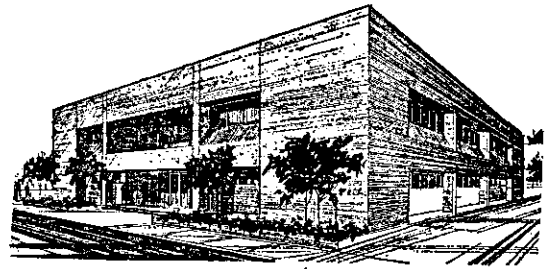
RWB:gr

cc: Dean DeWitt, President, DeWitt Development  
Mike Lindebak, Program Development Engineer



# DEWITT DEVELOPMENT

505 SOUTH BROADWAY SUITE 200 WICHITA, KANSAS 67202  
(316) 262-3365



COMMERCIAL . INDUSTRIAL

April 16, 1981

Mr. R. W. Bruggeman  
Director Engineering - City Hall  
455 N. Main  
Wichita, Ks. 67201

Dear Mr. Bruggeman:

I am the owner and developer of the I-135 Turnpike Business Park located southeast of I-135 and 47th St. South in Wichita. The platting work has been completed and we have a recorded final plat.

In order to proceed on schedule with development of the Business Park, I would like to request that the same consulting engineer which handled the platting work be used to do the engineering design work for the storm sewer, sanitary sewer, and the pavement plans.

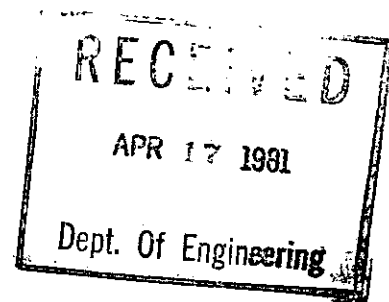
Thank you in advance for your consideration in this matter.

Very truly yours,

A handwritten signature in cursive script that reads "Dean DeWitt".

Dean DeWitt  
President

tj



THE CITY OF WICHITA

OFFICE OF Department of Engineering

DATE June 12, 1981

TO Don Gisick, City Clerk

FROM Mike Lindebak, Program Development Engineer

SUBJECT Consulting Contracts

Attached are four (4) copies each of three agreements between the City and Baughman Company, P.A. for engineering services in connection with the construction of a storm sewer, Detention Reservoir, sanitary sewer, and streets to serve the I-135 Turnpike Business Park Addition.

Payment provisions are as follows:

Engineering services in connection with the construction of Storm Water Sewer No. 229 - 5.4% of Contractor's bid.

Engineering services in connection with the construction of Lateral 61, Main 1, Southwest Interceptor Sewer - \$8,830.00.

Engineering services in connection with the construction of Flood-water Detention Reservoir No. 13 - 6% of Contractor's bid.

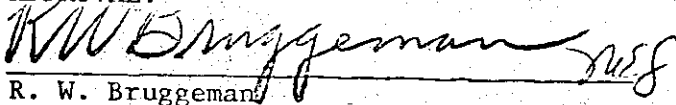
Engineering services in connection with the paving of Laura and 49th Street South from the west line of Lulu to the south line of 47th Street South and Lulu from the north line of 49th Street South to the south line of 47th Street South, and Lulu Court from the east line of Lulu to and including cul-de-sac - \$27,360.00.

Baughman Company, P.A. was selected by the City's Consultant Screening Committee based upon their prior work in the area, their capability, and their availability to do the work.

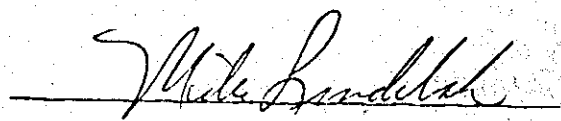
The contracts have been approved as to form by the Law Department. Please place these contracts on the Clerk's agenda for Tuesday, June 16, 1981. The recommended action is that the contracts be approved and that the Mayor be authorized to sign.

Thank you for your assistance. If there are any further questions, please don't hesitate to contact this office.

APPROVAL:



R. W. Bruggeman  
Director of Engineering/City Engineer



Mike Lindebak  
Program Development Engineer

ML:AK:ck

**DRAINAGE REPORT**  
**I-135 TURNPIKE BUSINESS PARK**

**A. GENERAL**

The I-135 Turnpike Business Park is located in an area southeast of the intersection of 47th Street and I-135 in the southeast portion of Wichita. This area is shown on Figure 1.

Drainage of the area is presently to the south and southwest to the Big Slough. Natural flow is interrupted by the Turnpike and I-135 embankments and is now channeled to several pipes through the fill.

The proposed drainage improvements will use two methods for handling runoff from the Business Park. The northeast portion of the Park will drain through a 48 inch pipe under I-135 to the Big Slough. The remainder of the Park will drain under the Turnpike to a detention basin south of the Turnpike. The basin will consist of an existing sandpit that will be enlarged to handle the storage requirements. In addition to the Business Park, three other areas will make use of the detention basin. These areas are discussed in the next section.

**B. DRAINAGE AREAS.**

The four drainage areas contributing to the detention basin are as follows:

1. Pinewood Estates II (This includes the detention basin)	23.05 Acres
2. I-135 Business Park	16.6 Acres
3. Area to east of Business Park (Lulu-Victoria, 47th - Turnpike)	20.2 Acres
4. Turnpike R/W	<u>7.6 Acres</u>
	67.45 Acres

The remaining 15.7 acres of the Business Park flows to the west through a 48 inch line under I-135.

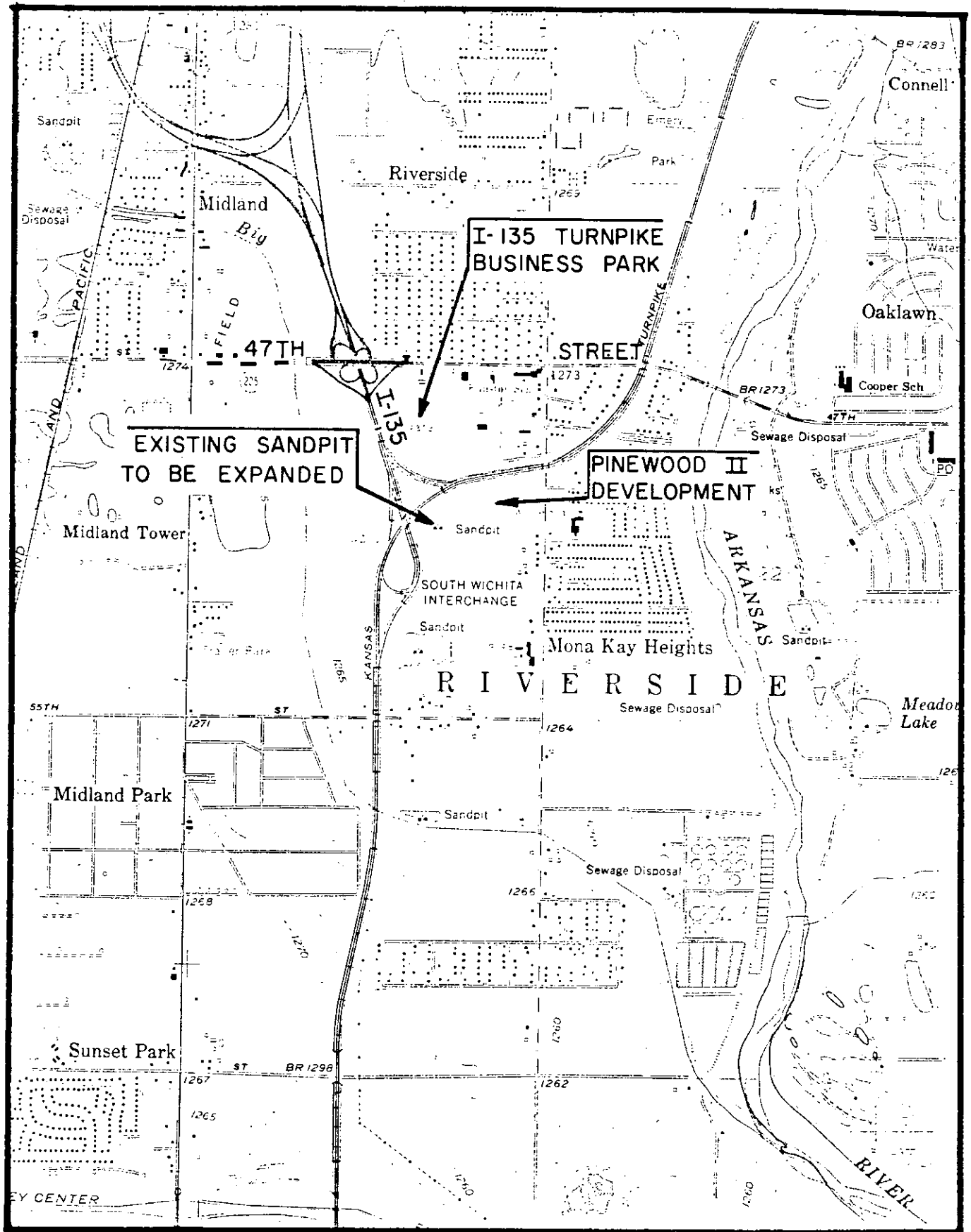


FIG. No. 1

**C. HYDROLOGY**

The detention basin will be designed to handle the runoff from a 100 year - 6 hr. storm with a total rainfall of 5.82 inches. It is assumed that 0.8 inches will be lost to infiltration and surface storage in areas other than the detention basin which is estimated to be 7 acres.

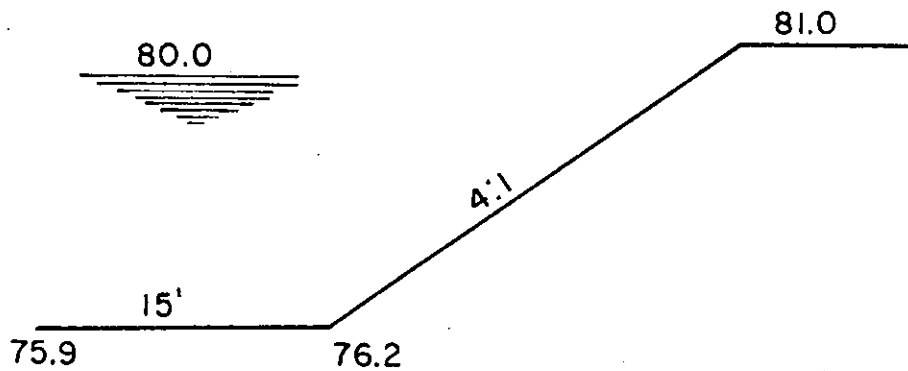
$$\text{Volumes } ( (60.45 \text{ Acres})(5.02 \text{ in.}) + (7 \text{ Acres})(5.82 \text{ in.}) ) / 12 \text{ in./ft.} = 28.68 \text{ Acre ft.}$$

**D. LAGOON OPERATION.**

Although the water surface of the existing sandpit is often lower, it was assumed that it would be at elevation 75.9 at the time of the 100 year storm. This elevation is the same as the flowline of the Big Slough just to the west of the site. It is felt that if the ground water rises above this elevation, it will be quickly pulled down by the Big Slough.

The maximum acceptable water surface in the detention pond was set at elevation 80. At this elevation water should just start to pond around the inlets in the Business Park. In addition, water will begin to flow down the south side of the Turnpike right-of-way. This water will pond in two large areas between the highway ramps and eventually flow to the Big Slough. It is estimated that as much as 4 acre feet of water could flow west into this area. This leaves a total of 24.68 Ac. ft. of water to store in the detention pond.

A typical section of the lagoon is shown below:



The total area required at elevation 81.0 will be just under seven acres.

After a 100 year storm event, the detention pond will drain down to about elevation 78.5 by a gravity drain to the highway ditch. This will leave approximately 16 acre feet of water. This will be removed by either seepage through the bottom of the pond or by means of a small pump station. The pump station will be a wet-well mounted duplex station with a 6-inch force main. Each pump will have a capacity of 300 gpm with one pump serving as a back-up system. This station would require about 12 days to empty the 16 remaining acre feet after a 100 year storm assuming no seepage took place.

#### E. HIGHWAY CROSSING.

The pipe under the Turnpike from the Business Park to the pond will be designed to carry the peak 100 year flow from the Business Park, the area to the east and one-half of the Turnpike right-of-way. This is a total of 40.6 acres. The peak flow was calculated as follows:

$$\begin{aligned}C &= 0.70 \\A &= 40.6 \text{ acres} \\T_c &= 33 \text{ minutes} \\I_{100} &= 5.0 \text{ in./hr.} \\Q_p &= CIA = 142 \text{ cfs}\end{aligned}$$

With 1 foot of head 2 - 48 inch pipes will be required to carry the flow. The alternate to this is a single 66 inch line.

The area to the west will drain through an existing 48 inch line. The peak flow to the pipe is calculated as follows:

$$\begin{aligned}C &= 0.70 \\A &= 15.6 \text{ acres} \\T_c &= 25 \text{ minutes} \\I_{100} &= 5.50 \text{ in./hr.} \\Q_p &= CIA = 60 \text{ cfs}\end{aligned}$$

The capacity of the line assuming outlet control and 1 foot of operating head is 71 cfs.

$$42.2 \text{ Ac. Light. Ind.} \times 3330 = 140,659 \text{ gpd}$$

$$114 \times 60 \times 3 = 20,520 \text{ ''}$$

$$114 \times 3 \times 7 = 2394 \text{ ''}$$

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$$163573 \quad 0.25 \text{ cfs}$$

$$Q_D = 0.25 \times 3 = 0.75 \text{ cfs}$$

I-135-TURNPIKE BUSINESS PARK

BLOCK 1

- lot 1  $25,594.92 + 3309.57 - 1.21 = 28,903.28$  S.F. = 0.66 Ac
- lot 2  $73,291.31 - 1630.96 = 71,660.35$  S.F. = 1.65 Ac
- lot 3  $79,804.07 - 1.83$  Ac
- lot 4  $92,276.53 - 5165.52 = 87,111.01 = 2.00$  Ac

BLOCK 2

- lot 1  $49,999.80 - 1.15$  Ac
- lot 2  $51,554.77 - 1506.42 = 50,048.35 = 2.30$  Ac
- lot 3  $84,276.02 - 877.96 + 809.55 = 84,207.61 = 1.93$  Ac
- lot 4  $81,358.41 - 1.87$  Ac
- lot 5  $54,379.69 + 1298.67 = 55,678.36 = 1.28$  Ac
- lot 6  $62,967.91 + 295.77 + 62.68 = 63,326.36 = 1.46$  Ac
- lot 7  $53,690.20 + 62.68 = 53,752.88 = 1.23$  Ac
- lot 8  $53,507.45 + 123.55 = 53,631.00 = 1.23$  Ac
- lot 9  $58,564.13 + 249.79 = 58,813.92 = 1.35$  Ac
- lot 10  $55,375.81 - 1.27$  Ac
- lot 11  $62,277.38 - 1.43$  Ac
- lot 12  $75,874.97 - 4063.98 = 71,810.99 = 1.65$  Ac
- lot 13  $57,636.89 - 780.97 = 56,855.92 = 1.31$  Ac
- lot 14  $65,704.77 - 2598.95 = 63,105.82 = 1.45$  Ac
- lot 15  $65,159.50 - 1.50$  Ac
- lot 16  $99,772.34 - 2.29$  Ac