HISTORY AND CURRENT CONDITIONS

OF

BIG BEND POWER PLANT

Rapid City, SD

History

The Big Bend hydro power plant was housed near Canal Street on the north side of Rapid Creek. It came into existence in part as a result of George B. Mansfield's observation that the water flow under the control of the Dakota-Placerville Gold Mining Company was being wasted and could be used to produce electric energy. New York owners of the mining company began a feasibility study to change the mining operation to one which would generate electricity. The feasibility study came into the hands of a group of Rapid City men and they created the Dakota Power Company in March 1907. They acquired water and property rights from the mining company and constructed a flume to transport water to Big Bend. Construction was started on 2,000 horsepower hydro plant.

The City of Rapid City granted Dakota Power Company a 20 year franchise to provide power to the city. This created a conflict as Rapid City Light & Gas Company had a franchise to provide power as well. Rapid City Light & Gas Company unsuccessfully petitioned the City for an exclusive franchise. In an effort to accelerate the delivery of power to the city, Dakota Power Company constructed a 400 kW steam plant near Halley Park. It came into operation in August 1910. In December of 1910, the property of Rapid City Light & Gas Company was acquired by Dakota Power Company - eliminating their principle competition. In 1912, the Big Bend hydro plant was completed and came into service.

Ownership of Dakota Power Company was acquired by a group of Chicago bankers in 1923. Later a Philadelphia firm purchased the power company and continued operation until 1928. The Dakota Power Company ownership changed through acquisition, ultimately becoming a part of today's Black Hills Power & Light and Black Hills Corporation.

The Big Bend Power Plant was equipped with three 500 kW turbo generators that served Rapid City. Freezing of the water in the flumes and water flow lines required the Big Bend plant to not be operational intermittantly in winter months. A transmission line connecting Rapid City to Deadwood allowed Dakota Power Company to acquire power from the Pluma Plant. This was particularly useful during peak periods and frozen periods.

The distribution system in the Rapid City area included a 2,300 volt line to the government Indian school. A one mile line to the South Dakota School of Mines and about one mile of extensions in Rapid City. As of August 1, 1912, 700 meters under 50 amp capacity and 8 meters over 50 amp capacity had been placed into service; 100 secondary transformers had been installed. Their total capacity was 800 kW.

The above history is a summary taken from "A Century of Light, an Illustrated History of Black Hills Power and Light Company", by R.E. "Dint" Furois.

Building Description

The building is 44' long in the north/south direction by 26'4" in the east/west. It has a 21'x9" service dock along the south side of the building. The roof slopes downward from north to south, approximately 4' along the 44' length. Steel I beams, which span the 26' width, carry a wood deck roof. The walls are a combination of structural clay tile and brick.

The building is outside the 100 year flood plain and within the greenway. Its proximity to the new development north of Rapid City and the Executive Golf Course suggests that it could be returned to come useful purpose.

Building Condition

The building is in fair to poor condition, but is certainly salvageable if there is foreseeable useful purpose. The fact that it is not more than a shell allows for more flexibility in selecting a new use and reduces the cost of rehabilitation.

The roof appears to have leaked for some time. The wall flashing and wall cap are almost entirely gone. As a result, the brick and mortar at the top of the wall are deteriorating and separating. These first two deficiencies will cause rapid further deterioration if not repaired.

The exterior walls are as follows:

The east wall has a large crack in the masonry, which runs from top to bottom in the approximate center of the wall. The wall appears to be leaning slightly inward at the top center. Previous openings have been in-filled with a variety of masonry materials. Some brick has been broken to allow access to the interior.

The south wall has some masonry deterioration at the bottom of the southeast corner, but is otherwise in generally good condition. The large opening has been in-filled with concrete block and a steel framed passage door.

The west wall is in generally good condition with two notable exceptions. The wall top has deteriorated as a result of the absence of metal cap flashing. At the southwest corner, and tree has grown to the point where it has begun to displace vertically the concrete foundation and the masonry. Previous openings have been in-filled with concrete block and/or brick.

The north wall is in generally good condition. Some repair has been done to the lower north east corner. The three original window openings have been in-filled with concrete block.

List of Significant Repair Items

These items are necessary to stabilize the building structure and halt further serious deterioration. Restoration could include significantly more work depending on the end use.

- Remove roofing and roof deck; replace roof deck and roofing, flashing and wall cap.
- Repair masonry at top of wall and parapets.
- Install gutter and downspout.
- Remove tree at the southwest corner. Underpin footing if necessary.
- Repair deteriorated masonry and mortar.
- Stabilize east wall and bring back into vertical plane.
- Repair large cracked area of east wall with either masonry, steel ties or both.

Photos of the building's current condition are included for review and clarification.

Possible Future Uses

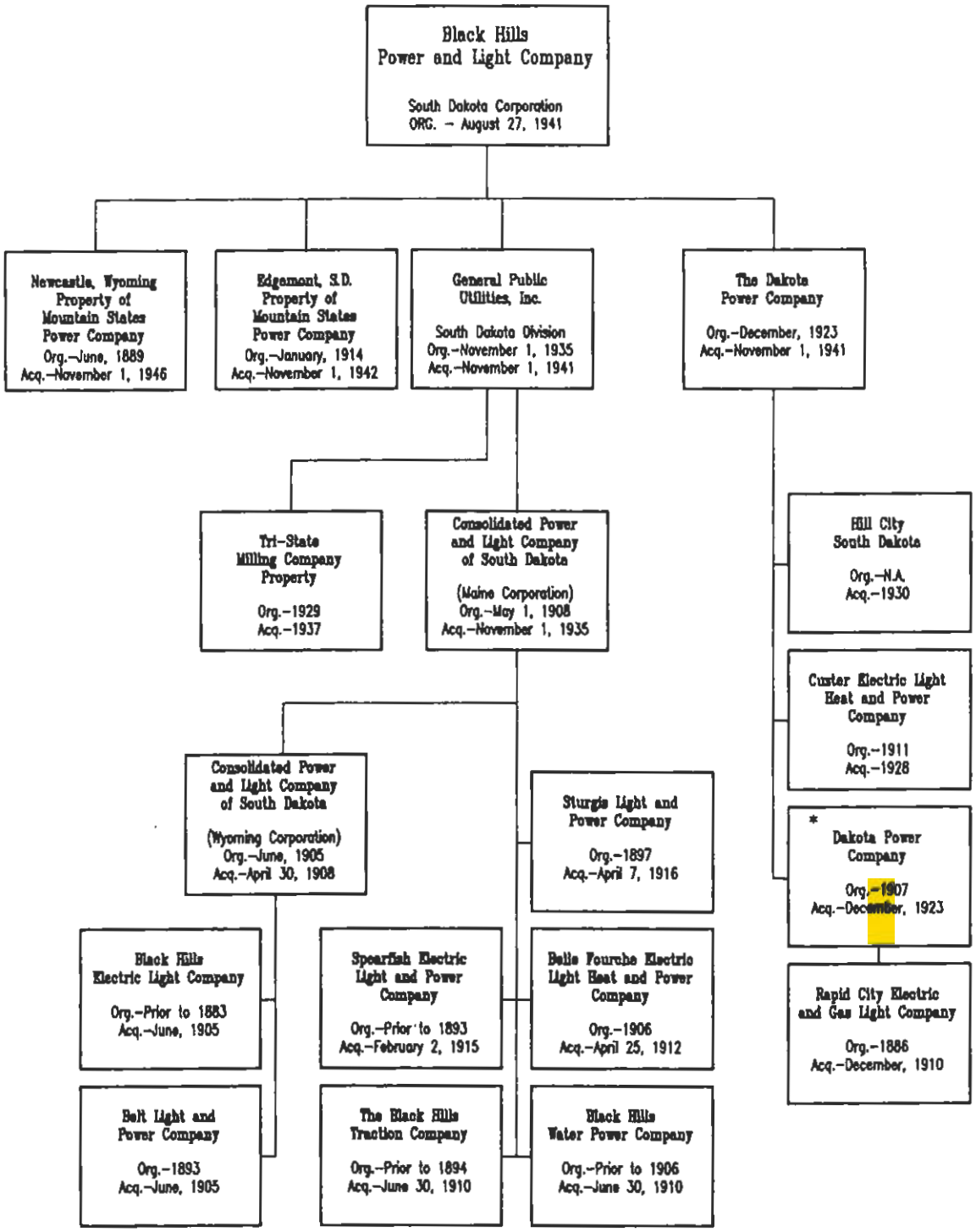
At this time it appears that no department of the City has expressed an interest for use of the building.

If stabilized, it may serve as a storage building. If more money and effort is expended, it may have a future use as a park pavilion and an electric power development history exhibit.

At a minimum for safety and liability purposes, the building should be secured from access by fencing. The subsequent decision then would be to choose between stabilization or demolition.

CORPORATE AND ACQUISITION HISTORY OF BLACK HILLS POWER AND LIGHT COMPANY

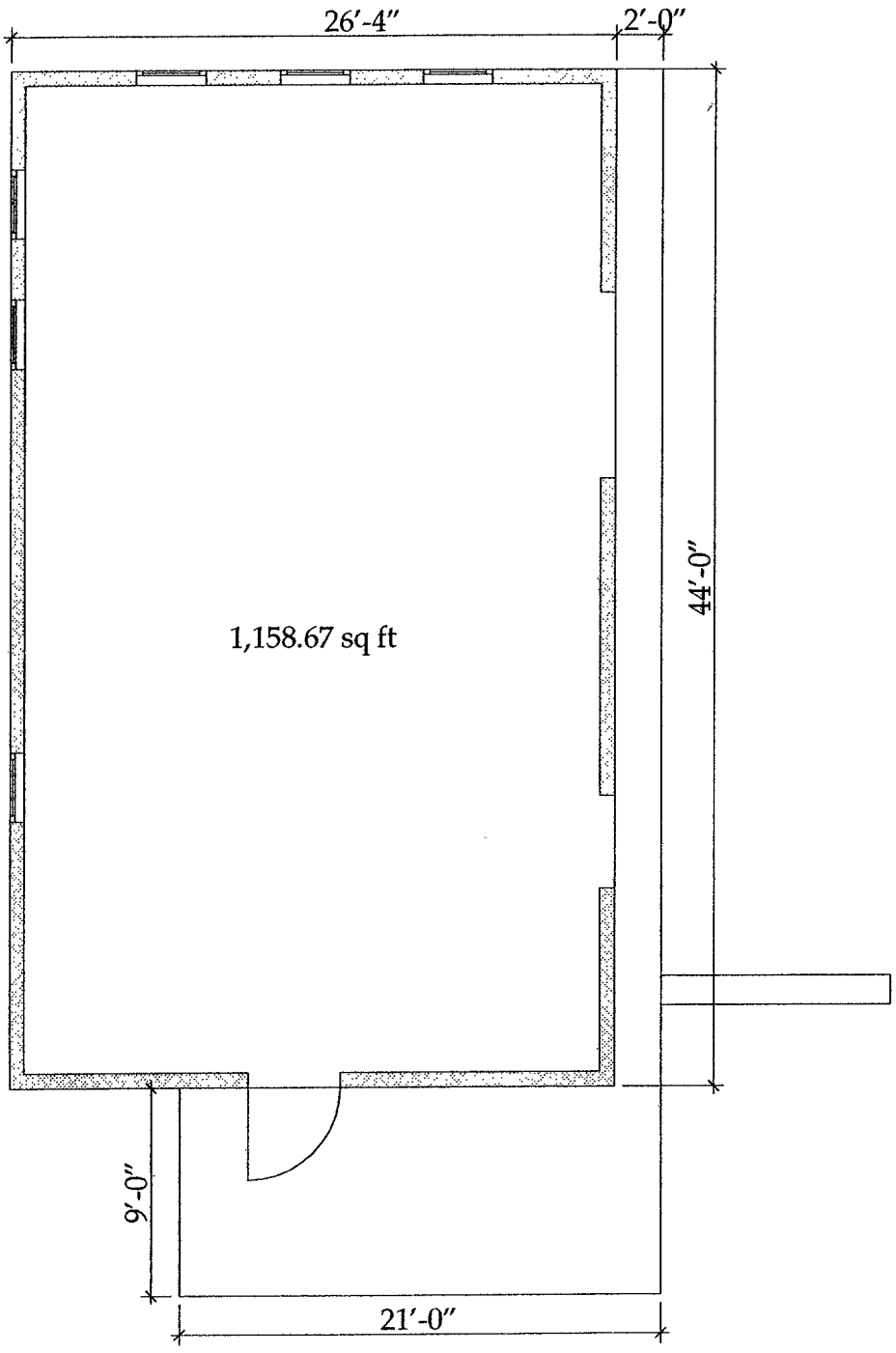
PW071106-16



* Dakota Power Company Constructed the Big Bend Power Plant

Org. = Date of Company Organization
Acq. = Date Property was Acquired by Successor Company
N.A. = Not Available

PW071106-16

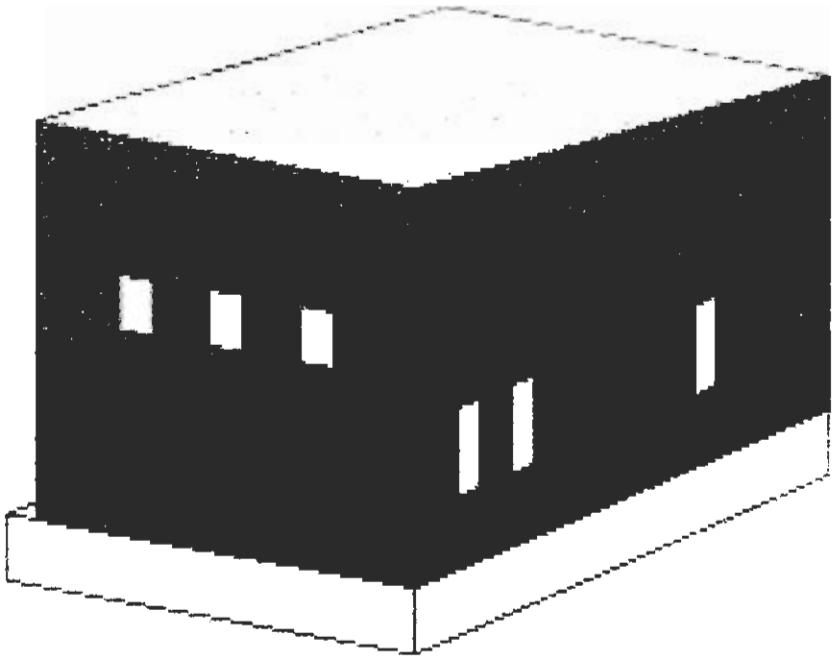


FLOOR PLAN
SCALE: 1/8"=1'-0"

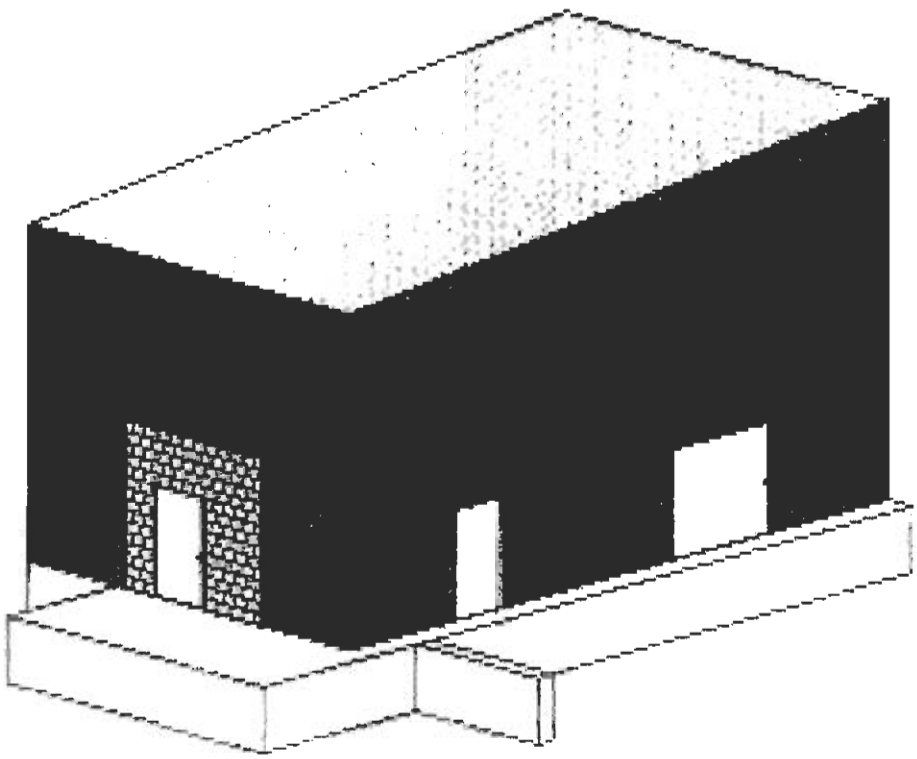
GEIGER ARCHITECTURE

BIG BEND POWER PLANT

DATE: 5-03-06
SHEET NO. 1



VIEW FROM NORTH WEST



VIEW FROM SOUTH EAST

Big Bend Power Plant was owned and operated by Dakota Power Company. (1912)

Workers laid the foundation before installing the flume.

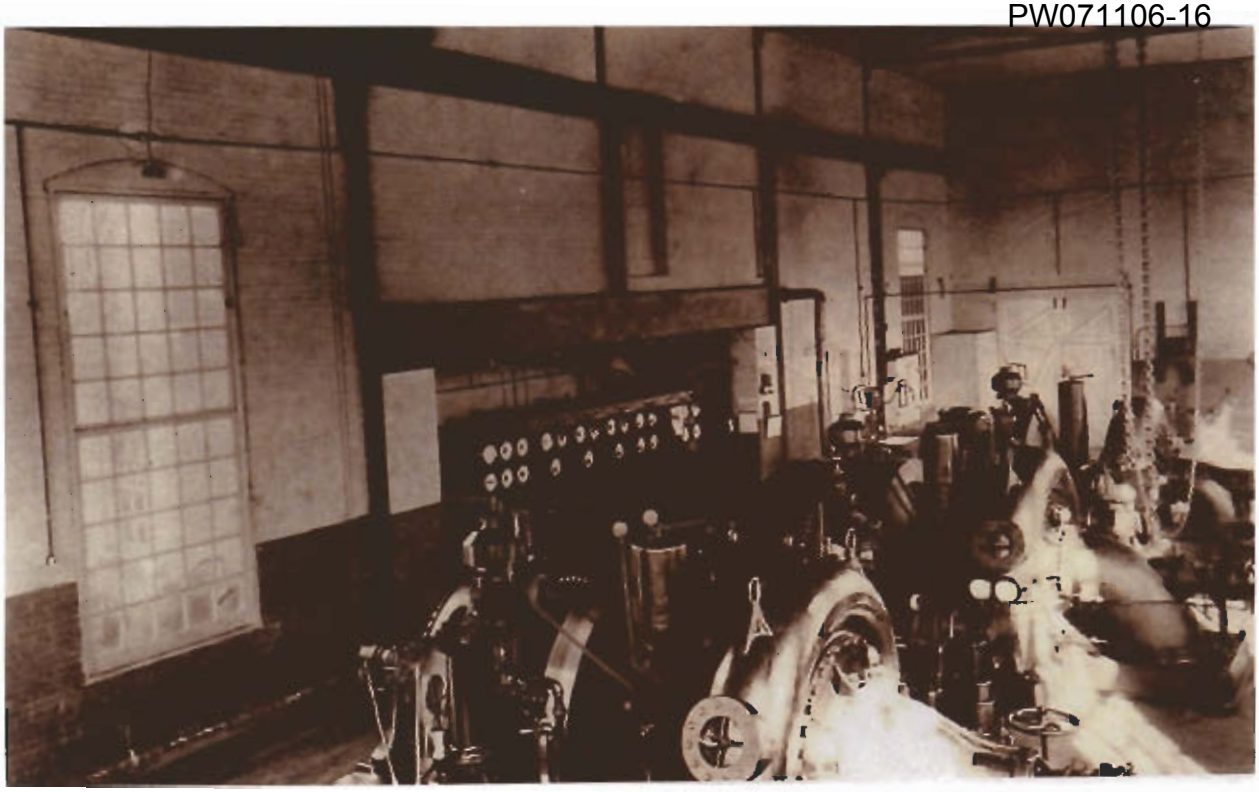
Flume on hillside.

The flume that fed water to the Big Bend Power Plant was built by hand using hundreds of laborers.

Repairing leaks in the flume was an ongoing job.

A common problem with the flume was leaks and damage because of weather or weak construction.

On very cold days the Big Bend Power Plant would shut down because of the frost build-up in the flume.



Inside view of power plant.

VIEW FROM EAST

VIEW FROM SOUTHEAST

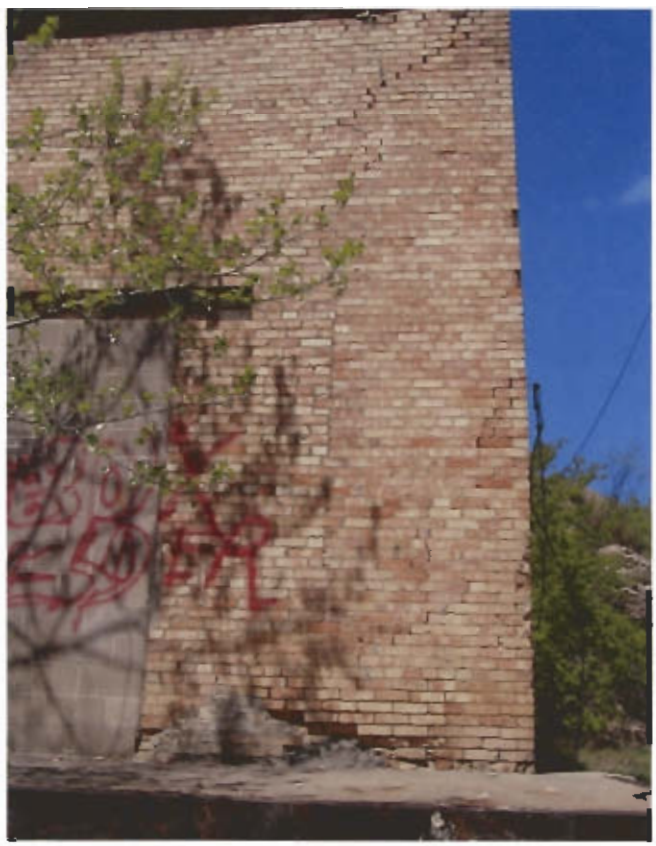
VIEW FROM WEST

VIEW FROM NORTHEAST

VIEW FROM NORTH

DETAIL EAST WALL

EAST WALL WITH CRACK

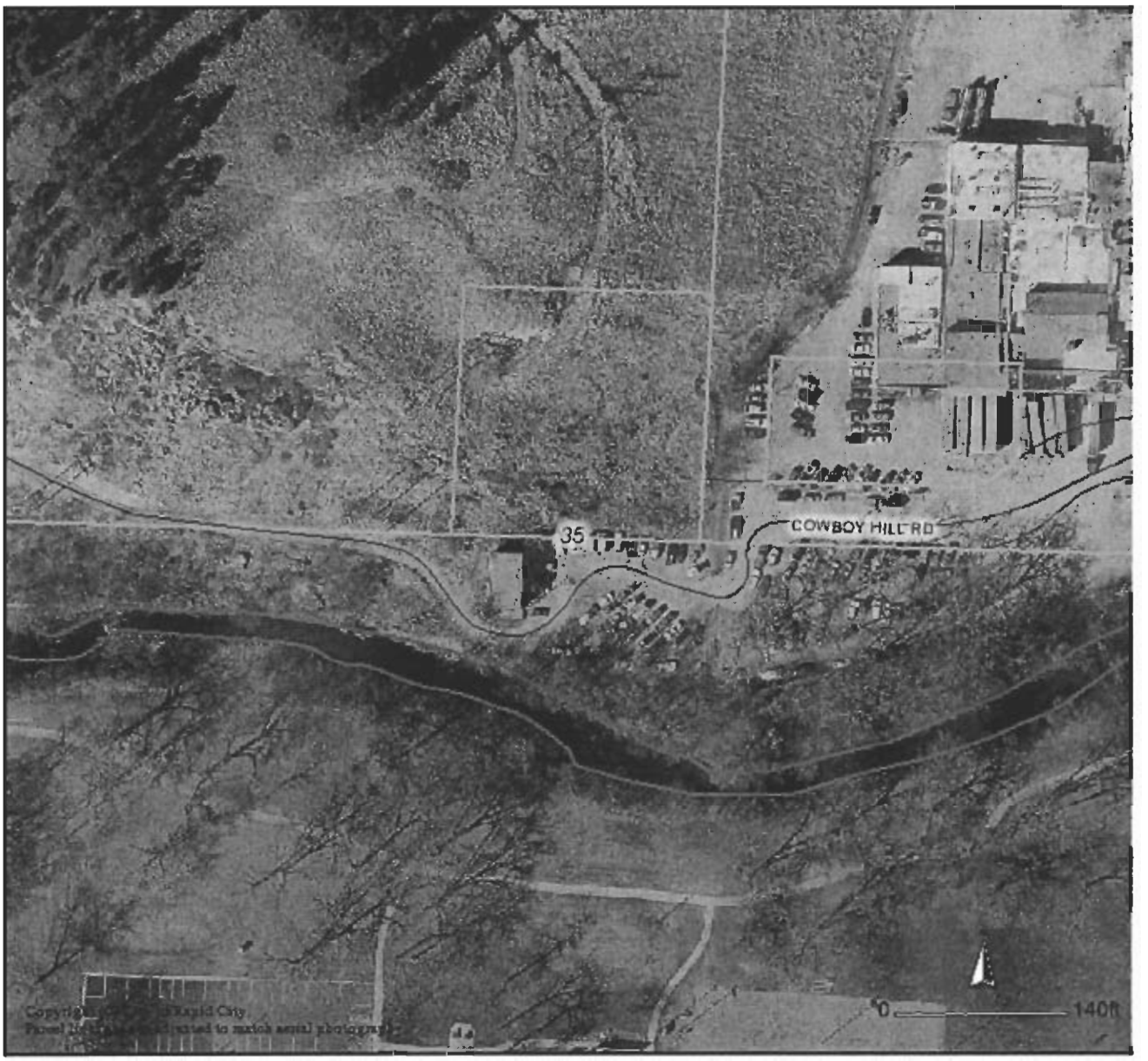


SOUTHEAST CORNER

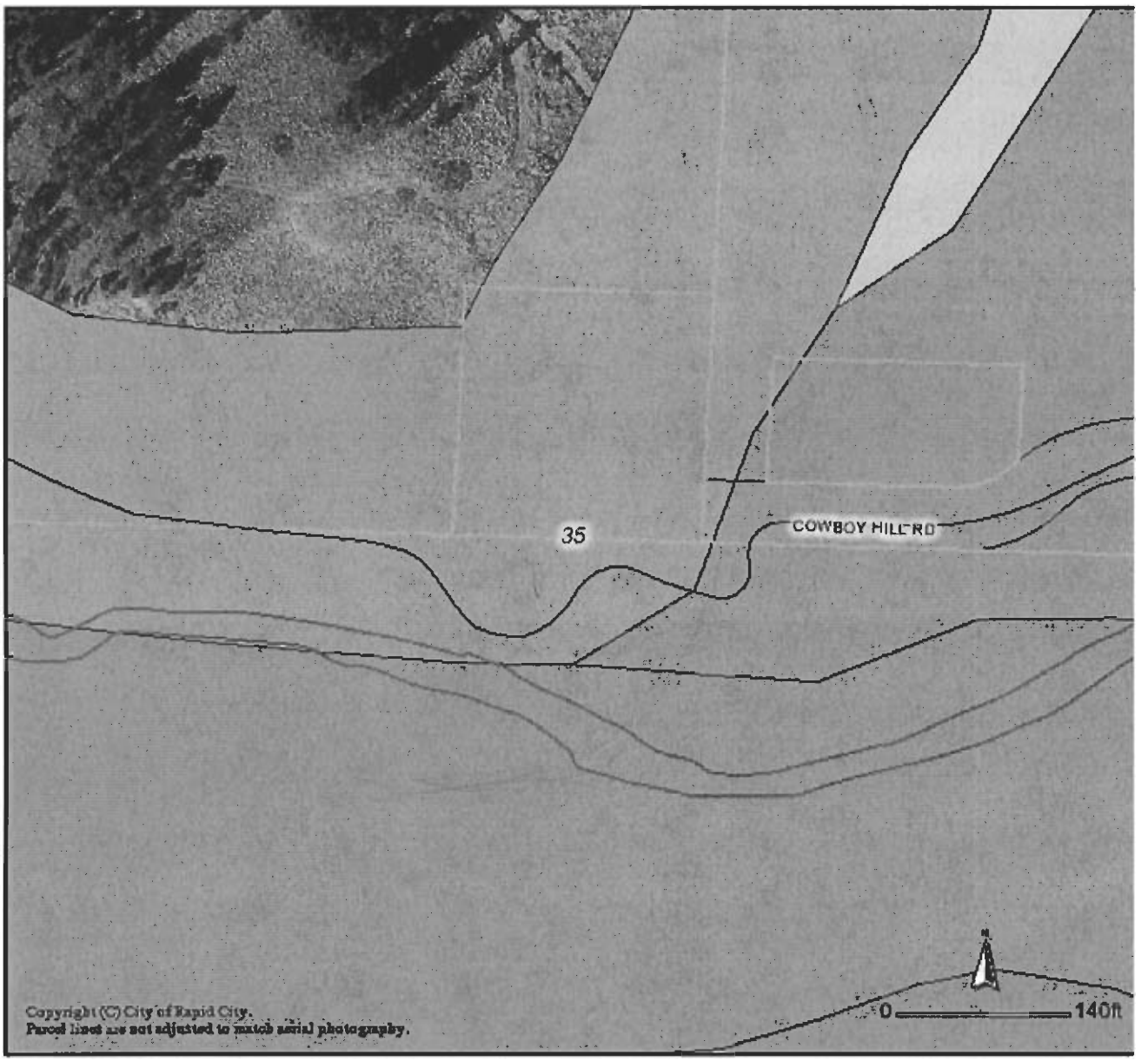
TREE AT SOUTHWEST CORNER

TOP OF WALL WEST SIDE

Rapid City Geographic Information System



Rapid City Geographic Information System



PW071106-16

Identify Results

Print Close Reformat

Active Layer: **[Parcel Boundary]**

LAYER: Parcel Boundary (found features:1)

Feature : 1

Feature Attribute Table:

PIN10	2035351001
MULTIPIN	
PIN7	39530.0
PROPERTY ADDRESS	1520 W OMAHA ST
LEGAL	TRACT 17 LESS LOT H1 (ALSO IN 2N-7E SEC34) RAPID CITY GREENWAY TRACT
BLOCK	
TOWNSHIP	2.0
TWP DIR	N
RANGE	7.0
RNG DIR	E
SECTION	35.0
ACRES	59.01
OWNER	CITY OF RAPID CITY
OWNER2	
OWNERS ADDRESS	
OWNER, CITY	N/A
OWNER, STATE	
ZIP	
ZIP2	
GRANTOR, LAST	
GRANTOR, FIRST	
OTHER GRANTORS	
DISTRICT	4D RC
VFD	RC
MONTH	
DAY	
YEAR	
BOOK	
PAGE	0.0
DEED TYPE	
LAND VALUE	0.0
N/A STRUCTURES	0.0
AG STRUCTURES	0.0
TOTAL VALUE	0.0

Data Source: Permit Info (match records: 1)

Match record No. :1

BPID	39530.0
BPYR	1999.0
SOURCE	CI
CODE	BP
NUMB	492.0
LASTNAME	KEITH JO
MIDNAME	

SCALE 1"=200'
FEBRUARY 2, 1973
APRIL 26, 1973

NOTES:
(R) Denotes "Recorded in previous plat or description."
(C) Denotes "Calculated."
——— Denotes "Right-of-Way dedicated to public."

SHEET 7 OF 9

SHEET 7 OF 9 OF THE PLAT OF RAPID CITY GREENWAY TRACTS, INCLUDING: -

TRACTS 14, 14A, 15, 16 & 17 OF RAPID CITY GREENWAY TRACTS
(formerly a portion of Lot C of Lot 1; Lot 3 and a portion of Lot 2 of Lot B of Lot 1 all in SE¼ of Section 34; Lots A1 & A2 of Lot A, Lot B & Lot C in SW¼ of SW¼ of Section 35; Block 1, Block 2, Block 3, Block 4, Block 5, Block 6, Block 8, Block 9, Block 10, Block 11, Block 12, Block 13, Block 14, Block 15, Block 16, and Block 17 all in Gateway Addition; Lots 3 thru 11 of Block 2, Block 3 and Block 4 of Lampert's Addition No. 2; Block 2 of North Riverside Addition; an unplatted portion of S¼ of SW¼ of Section 35; an unplatted portion of SE¼ of Section 35; vacated portions of West St. Louis, West Rapid, Reitt, Cross, Canal and Oshkosh Streets; and vacated alley R.O.W.'s)
ALL LOCATED IN SE¼ OF SE¼ OF SECTION 34 AND IN S¼ OF SW¼ AND IN W½ OF SE¼ OF SECTION 35, T2N, R7E,
BHM, RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA

#4148 / 5-14-74

FRANCIS - MAJOR - GELLHAUS, INC.

See Plat Book 20 Page 58 for Plat correcting boundary line on Tract 17.

STUDY NOTE 6/2006

THE SEVERAL PROPERTIES WHICH MAKE-UP TRACT 17 WERE DEEDED TO THE CITY FROM BLACK HILLS POWER & LIGHT COMPANY 21 AUGUST 1975 UNDER THE SIGNATURE OF ROBERT ASHEIM, PRESIDENT OF THE COMPANY

88/4496

Hoskins-Western-Sonderegger, Inc. 342-4105

Correction Plat of a portion of Rapid City Greenway Tracts, including: Tract 17 of Rapid City Greenway Tracts (formerly a portion of Lot C of Lot 1; Lot 3 and a portion of Lot 2 of Lot B of Lot 1 all in SE¼ of SE¼ of Section 34; Lots A1 and A2 of Lot A, Lot C and a portion of Lot B in SW¼ of SW¼ of Section 35; Block 1, Block 2, Block 3, Block 6, Block 9, Block 10, Block 12, Block 13, Block 14, Block 16 and Block 17 all in Gateway Addition; Block 2 of North Riverside Addition; an unplatted portion of S½ of SW¼ of Section 35; an unplatted portion of SW¼ of SE¼ of Section 35; an unplatted portion of E½ of NW¼ of SE¼ of Section 35; vacated portions of West St. Louis, Reitt, Cross, Canal and Oshkosh Streets; and vacated alley R.O.W.'s), all located in SE¼ of SE¼ of Section 34 and in S½ of SW¼ and in W½ of SE¼ of Section 35, T2N, R7E, BHM, Rapid City, Pennington County, South Dakota.

NOTE: An unplatted portion of the W½ of ~~NW¼ of SE¼ of~~ Section 35, T2N, R7E, BHM was inadvertnetly included in the previous plat of Tract 17 of Rapid City Greenway Tracts as recorded in Plat Book 17, Page 122 at the office of the Pennington County Register of Deeds. This plat is intended to correct this error (see crosshatched area) and the resulting area and title changes which are underlined.

(c) Denotes calculated.

CERTIFICATE OF OWNERSHIP
State of South Dakota
County of Pennington S.S.

I, Mayor of the City of Rapid City, a South Dakota municipality, do hereby certify that the said City of Rapid City is the owner of the tracts of land shown and described hereon, that I did authorize and do hereby approve the within plat of said land for and on behalf of the City of Rapid City.

Tract 17 of Rapid City Greenway Tracts as shown hereon is hereby dedicated to public park use.

In witness whereof, I have hereunto set my hand and seal.

OWNER: CITY OF RAPID CITY

By: Arthur P. LaCroix
Mayor

ATTEST: Kent Bruggeman
City Finance Officer

On the 8th day of March, 1985, before me, a Notary Public, personally appeared Arthur P. LaCroix and Kent Bruggeman, known to me to be the Mayor and Finance Officer of the City of Rapid City and the persons described in the foregoing instrument, and acknowledged to me that they signed the same.

NOTARY PUBLIC Mary P. Karlson
My commission expires 10-26-92

CERTIFICATE OF DIRECTOR OF EQUALIZATION

I, Director of Equalization of Pennington County, do hereby certify that I have on record in my office a copy of the within described plat.

Dated this 3 day of April, 1985.

Richard Kauk CAA by dc
Director of Equalization of Pennington County

APPROVED Richard Kauk CAA by dc
Director of Equalization of Pennington County

Date March 8, 1985

STATEMENT OF SURVEYOR
State of South Dakota
County of Pennington S.S.

I, James P. Heald, Registered Land Surveyor No. 2199 of the State of South Dakota, do hereby state that being so authorized, I caused the within correction plat of the land shown and described hereon to be made under my responsible direction and supervision using the official records of Pennington County and that to the best of my knowledge and belief the within plat is a representation of the property and of the desired boundaries and of the associated information as required by government, commission or agency rules and regulations. I further certify that no land survey was performed for the preparation of the within plat. All area amounts shown on the within plat are to be considered as having the words "more or less" following.

In witness whereof, I have hereunto set my hand and seal.

REGISTERED LAND SURVEYOR James P. Heald
James P. Heald

On the 7 day of March, 1985, before me, a Notary Public, personally appeared James P. Heald, known to me to be the person described in the foregoing instrument and acknowledged to me that he signed the same.

NOTARY PUBLIC Rodney H. Meek
My commission expires Nov. 30, 1990

RESOLUTION BY GOVERNING BOARD
State of South Dakota
County of Pennington S.S.

I, Finance Officer of the City of Rapid City, do hereby certify that at an official meeting held on April 1, 1985, the Common Council by resolution did approve the plat as shown hereon.

Asst. Cheryl A. Schmidt
Finance Officer of the City of Rapid City

CERTIFICATE OF COUNTY TREASURER

I, Treasurer of Pennington County, do hereby certify that all taxes which are liens upon the within described lands are fully paid according to the records of my office.

Dated this 11 day of March, 1985. (tax exempt property)

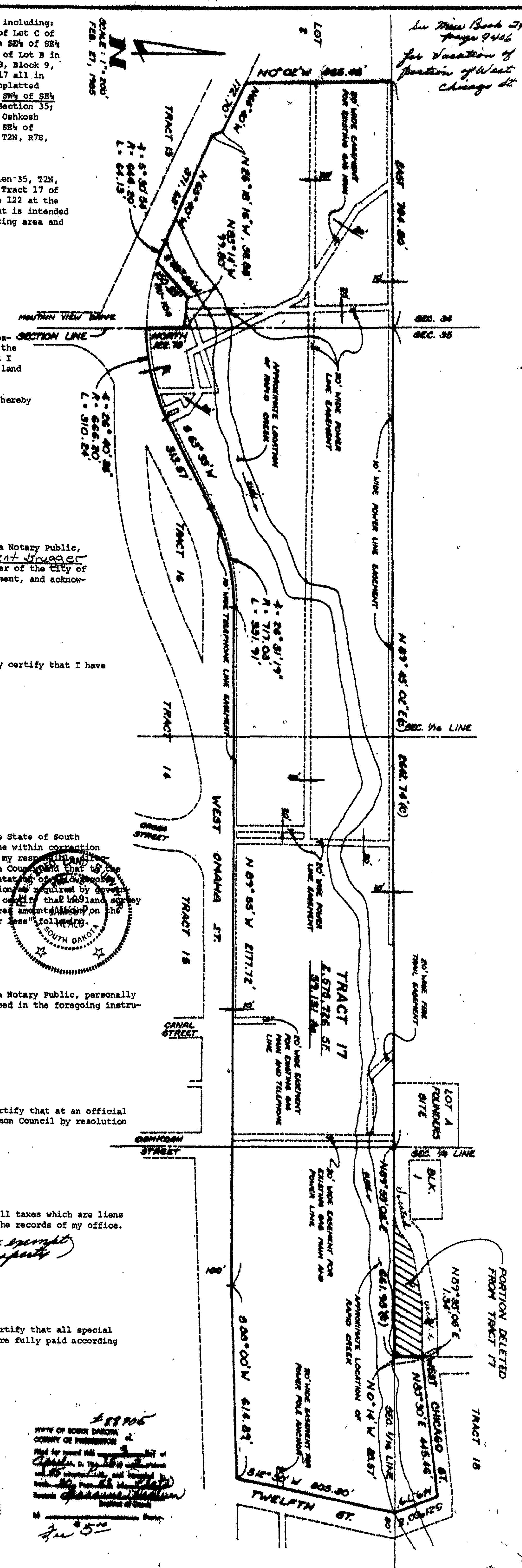
Dorothy E. Ottman, Deputy
Treasurer of Pennington County

CERTIFICATE OF FINANCE OFFICER

I, Finance Officer of the City of Rapid City, do hereby certify that all special assessments which are liens upon the within described lands are fully paid according to the records of my office.

Dated this 1st day of March, 1985.

Kent Bruggeman
Finance Officer of the City of Rapid City



$88906

STATE OF SOUTH DAKOTA
COUNTY OF PENNINGTON
Filed for record this ___ day of ___ A.D. 19___ at ___ o'clock ___M., and recorded in Book ___ Page ___ of Plats Records
Register of Deeds
Deputy

Fee $5.00

REGISTER OF DEEDS SEAL PENNINGTON COUNTY SOUTH DAKOTA

PW071106-16

GEIGER
ARCHITECTURE

ARCHITECTURE
DESIGN/BUILD
RESTORATION
PLANNING &
DEVELOPMENT

BIG BEND POWER PLANT

Cost Estimate for Stabilization & Window and Door Replacement

June 22, 2006

A.	Remove existing roofing, replace with 60 mil single ply including flashing, wall caps	$ 6,600
B.	Remove tree and stump at southwest corner	$ 1,500
C.	Underpin footing at southwest corner	$ 6,000
D.	East Elevation	
1.	Major vertical crack repair	$ 5,000
2.	Rebuild base wall at northeast corner - 14 sf +/-	$ 400
3.	Two door openings 6'8"X8'0", - demo masonry in-fill $280 each - new wood doors, frame and hardware $3,800 each	$ 8,160
4.	Tuckpoint 145 sf masonry @ $16.50/sf	$ 2,356
E.	South Elevation	
1.	Tuckpoint - 10X12 area (upper east) $1,950 - 8X12 area (lower east) $ 260 - 8X20 area (west, full height) $ 2,600	$ 4,800
2.	1 Door opening 9'-4" X10'-0", - demo masonry $400 - new wood door, frame and hardware $4,300	$ 4,700

613 MAIN # 201 RAPID CITY SD 57701 605.348.6062 FAX 605.341.4728

Big Bend Power Plant
Page Two
Cost Estimate

F. West Elevation

1.	Rebuild top of wall, full length	$ 4,400
2.	Tuckpoint lower north corner	$ 1,500
3.	Replace 3 windows - Demo masonry in-fill (3 X $110) - New wood windows (3 X $470)	$ 1,740

North Elevation

1.	Tuckpoint 4X10 area lower west	$ 650
2.	Replace 3 windows - Demo masonry in-fill (3 X $90) - New wood windows (3 X $330)	$ 1,260

	Sub Total	$49,066
Contractor O.H. 10%		4,906
	Sub Total	$53,972
Contractor Profit 12%		6,477
	Sub Total	$60,449
Excise Tax @ 2.0408%		1,234
	Sub Total	$61,683
15% Contingency		9,252
	Total	$70,935

Approximately $65.80/SF