

Washburn-Crosby Milling Complex,  
East Engine House  
South First Street between  
Portland and Eighth avenues  
Minneapolis  
Hennepin County  
Minnesota

HABS No. MN-69-D

HABS  
MINN,  
27-MINAP,  
20-D-

## PHOTOGRAPHS

## WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey  
National Park Service  
Rocky Mountain Regional Office  
Department of the Interior  
P.O. Box 25287  
Denver, Colorado 80225

HABS,  
MINN,  
27-MINAP,  
20-D-

HISTORIC AMERICAN BUILDINGS SURVEY

WASHBURN-CROSBY MILLING COMPLEX,  
EAST ENGINE HOUSE

HABS No. MN-690

Location: South First Street between Portland and Eighth  
Avenues, Minneapolis, Hennepin County, Minnesota

USGS Minneapolis South Quadrangle, Universal  
Transverse Mercator Coordinates: Zone 15;  
479740:4980480; 479860:4980420; 479820:4980360;  
479700:4980400

Present Owner: Riverside Industries, Inc.  
P.O. Box 1125  
Minneapolis, Minnesota 55440

Present Occupant: None.

Present Use: Vacant.

Significance: The Engine House is one building of the Washburn-  
Crosby Milling Complex, one of the last surviving  
milling complexes on the Mississippi River, which  
gave rise to Minneapolis' title of "Flour Milling  
Capital of the World" in the late 19th and early  
20th century. It was constructed to house a  
Schichau Engine. The Schichau Engine was pur-  
chased from the Chicago World's Fair and brought  
to Minneapolis, Minnesota to provide power for  
the east milling unit in the "A" Mill.

PART I. HISTORICAL INFORMATION See HABS No. MN-69 for general information.

A. Physical History:

1. Date of erection: City of Minneapolis, Building Permit #A4064 was taken out May 19, 1894.
2. Architect: Unknown.
3. Original and subsequent owner: The East Engine House was originally built for, and owned by the Washburn-Crosby Company, which later became General Mills, Inc.
4. Builder, contractor, suppliers: Unknown.
5. Original plans and construction: Unknown.
6. Alterations and additions: The first alteration known was an addition according to City of Minneapolis Building Permit #A8161 dated June 13, 1903 and issued to the Washburn-Crosby Company. Many alterations were made to the East Engine House over the years. The following alterations are documented by City of Minneapolis Building Permits:

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8/22/01 Permit #A7316 by Washburn-Crosby Co. - Brick Boiler Room to be completed by December 10th at \$25,000 est. Cost. 29' x 36' x 24' high.

6/13/03 Permit #A8161 by Washburn-Crosby Co. - Brick addition to boiler room, setting, foundations, etc. to be completed by November 1st at \$12,000 est. cost by day labor. 22' x 45' x 22' high.

3/30/04 Permit #A8503 by Washburn-Crosby Co. - Concrete roof on boiler house of Washburn "A" Mill to be completed June 1st at \$1,200 est. cost. 45' x 50'.

9/15/06 Permit #A9553 by Washburn-Crosby Co. - Alterations to old engine house to be completed by December 1st by day labor.

Permit #A33709 by August Cedarstrand Alterations to convert existing engine room to boiler room to be completed August 31st.

B. Historical Context:

The Schichau engine was one of a few vertical screw engines built. It was not only powerful but the design was unique. The engine ran the mill for 144 consecutive hours each week. If the engine was down the entire mill complex went down and could not operate.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: The East Engine House was built in 1894 in conjunction with the East Boiler House. It was separated from the "A" Mill. Its design and siting resulted in a building that was meant to stand on its own architectural merit. The brick and stone detailing and masonry motifs on the original fabric still attest to its stylish vernacular expression.
2. Condition of fabric: Many alterations to the original building have changed the character of the building. Most notable is the addition, equal to the size of the original engine room, that now connects the building directly to the "A" Mill. This was completed in 1902 (City of Minneapolis Building Permit #A7316).

B. Description of Exterior:

1. Overall dimensions: The original East Engine House was approximately 51 x 34 feet. The Boiler House was 40 x 43 feet and adjacent to north side of it. The East Engine House was 24 feet high with one story storage room on the east side. The Boiler House was 30 feet high but the floor elevation was several feet below the East Engine Room floor elevation.
2. Foundations: The foundations were of 2 foot thick stone construction. Included was a pulley room 18 x 28 feet, with a wheel that transferred the power to the "A" Mill. This was connected by a 2 inch manilla rope drive that was housed in a 6 foot x 40 foot long tunnel. On the south of the storage bin was a coal bin 15 x 24 feet. Above the coal bin ran the railroad track supplying the East Engine House with coal.
3. Walls: The walls were of red brick approximately 1 foot thick with stone used for detailing. The west and south walls of the engine room appear to have been similar, with three windows across the facade. The south wall still contains one of these original window openings. The slight jog in the south walls occurs where the storage room existed. It is original to the 1894 construction. The east wall of the storage room contains the original windows, although the cornice is missing. The three windows have stone sills and brick arches. The north side was originally a shared wall with a double door. The location of this door opening in the existing building is unknown at this time.
4. Structural system, framing: The building has load bearing brick walls. The engine room and boiler room have a clear span of 30 feet and were probably spanned by iron trusses.
5. Porches, stoops, balconies, bulkheads: Five steps led to the double doors of the engine room. They were as wide as the doors and appear to have had a railing on the side away from the Boiler House, which they abutted.
6. Chimneys: The smoke stack to the north west of the Engine House was built for the Boiler House in 1894. It is located 20 feet to the west of the Boiler House and approximately 5 feet from the "A" Mill. It was 6 feet in diameter, 140 feet high and of steel construction. It was destroyed above the roof height of the low buildings which surround it sometime after 1948. Its remains can be seen south of the Wheel House.

7. Openings:

- a. Doorways and doors: No doors from the 1894 construction remain. A large rectangular opening spanned by a metal lintel plate was added to the south wall. This apparently replaced the two east windows of the original three. The lintel supports the brick infill above with ordinary running bond (There is no attempt to appear as a brick lintel.) and the opening is boarded up. Another large opening is found on the eastern portion of the later addition to the Engine House, a few feet from the "A" Mill. It is spanned by a round brick arch which is framed with a corbelled brick reveal around it. The opening is now bricked in. The top of the wall is not visible from beneath the train shed but appears to continue its ornamentation above the shed. Similar brick work is seen above the roof of the low building to the north of it.

8. Roof:

- a. Slope, coverings: The storage room was reroofed at some time with a new concrete slab and metal flashing. It can be seen protruding approximately 6 inches from the east face of the storage room directly above the window arches. The execution of its construction was unsympathetic to the brick facade.
- b. Cornice, eaves: The cornice cannot be seen on the south. The north side is most likely of the later addition.

C. Description of Interior:

1. Floor plans: According to the plans, the Schichau engine occupied the entire first floor. Subsequently the area has been divided into two floor levels. The engine footings are still in existence in the basement of the engine house.
2. Power Equipment: The Schichau Engine was built by Fredrick Schichau of Elbing, Prussia for marine use. It was designed as a vertical, triple expansion, 3 cylinder engine, with an output of 1200 H.P. It operated at 180 P.S.I. steam pressure and 110 R.P.M. with a 27.62 inch stroke. The three cylinders were 22.85 inches, 37.4 inches and 57.06 inches in diameter. In 1890 it was installed in the German Exhibit at the Chicago World's Fair. At the close of the fair it was purchased by Washburn-Crosby for \$20,000.00 for use in their mill complex. It was installed by Washburn-Crosby's Chief Engineer, August H. Brockman in the newly built East Engine House and began operating in 1894.

The Schichau Engine was chosen because 2 of the boilers could do the work while the other was shut down for maintenance and repairs. This was necessary because the engine had to work 144 consecutive hours each week, without shutdown.

The East Engine House was 30 x 34 feet and located 30 feet east of the "A" Mill. The boilers for the Schichau Engine were Heine Water Tube boilers of 333 H.P. each and located in a room 40 x 43 adjacent to the East Engine Room. The boilers had Butnam brick arched furnaces. In addition there was a store room 21 x 33 feet, a drive pulley room 18 x 28 feet, and rope drive enclosure 6 x 40 feet. A coal vault 15 x 24 feet was located under the railroad tracks to reduce the handling of the fuel. An iron smoke stack 6 feet in diameter and 140 feet high was located 20 feet outside of the boiler room.

In 1956 the engine was removed from the East Engine House and sold to Hans Hinrichs of St. Louis, Missouri. It is currently stored on the grounds of the National Museum of Transport, St. Louis, Missouri. In 1961, while on business in St. Louis, Missouri, Bob Vogel and Jack White of the Smithsonian saw the Schichau Engine and commented on it as being worthwhile to preserve as an example of a vertical steam engine.

D. Site:

1. General setting and orientation: The Engine House is adjacent to the east side of the "A" Mill. It stood 40 feet south of First Street behind the East Boiler House that accompanies it. The floor of the Engine House was on grade with the south side of the building. The land sloped to the north towards the river. From First Street 5 steps led to the level of the engine room. The major approach to the building was the double doors on the western corner of the north elevation. The Boiler House was on the lower level accessed off First Street. An addition of approximately 30 x 34 feet was added to the west of the Engine House between 1898 and 1902 (See City of Minneapolis Building Permit #A1901). This addition connected the Engine House to the "A" Mill. A small pump house, 10 feet away from the Boiler House, stood between the "A" Mill and the Boiler House. This Pump House was approximately 30 feet wide x 18 feet long and faced First Street. Behind it stood the smoke stack which was independent from the other structures.

PART III. SOURCES OF INFORMATION

- A. Original Architectural Drawings: The following plans are available at General Mills, Inc., Corporate Engineering, James Ford Bell Technical Center, Minneapolis, Minnesota.

Dwg. No.	Description	Date
23713-1	Changes in Humboldt Pit-Water Power	7-1-18
23891-1	Water Power Light Wheel Drive Layout	4-19-20
23891-2	Water Power Wheel House Present Install.	4-20-20
23891-3	Water Power Wheel House 1500 KW Gen. Pro.	8-7-20
23940-1	Lighting Plant Plan & Section of Pump House	3-3-21
23940-1	(back side) Worksheet	
23940-1	Preliminary Lighting Plant Plan & Section ...	3-3-21
113940-2	Lighting Plant A Mill Pump House Prop.	4-21-21
113940-3	Lighting Plant A Mill Pump House Prop.	4-22-21
112940-4	Lighting Plant A Mill Pump House Prop.	4-22-21
113-946	Wheel Pit A Mill Pump House	4-16-21

- B. Early Views: The early panoramic view do not show the East Engine House. Three 1945 photographs from the General Mills Archives, Minneapolis, Minnesota show the smoke stack for the East Engine House.

- C. Interviews:

Mr. Don Noel, Millright  
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Mr. Bill Praus, Estimator, Coordinator  
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Mr. Walt Langley  
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D. Bibliography:

1. Primary and unpublished sources:

Department of Inspections  
City of Minneapolis  
Building Permit Files 1884-1973

Archives  
General Mills, Inc.  
9200 Wayzata Boulevard  
Golden Valley, Minnesota 55426

Corporate Engineering  
James Ford Bell Technical Center  
General Mills, Inc.  
9000 Plymouth Avenue  
Golden Valley, Minnesota 55424

Ben Miller  
Riverside Industries, Inc.  
P.O. Box 1125  
Minneapolis, Minnesota 55440

Draft nomination, National Register of Historic Landmarks,  
Washburn-Crosby A Mill Complex.

2. Secondary and published sources:

A GUIDE TO THE INDUSTRIAL ARCHEOLOGY OF THE TWIN CITIES, The  
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Historical Society, 1983.

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1873.

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RASCHER INSURANCE MAPS OF MINNEAPOLIS, Chicago, Map Publishing  
Company, 1890, 1892.

SAINT ANTHONY FALLS REDISCOVERED. James Berman, ed.,  
Minneapolis: Riverfront Development Coordination Board, City of  
Minneapolis, 1980.

SANBORN INSURANCE MAPS OF MINNEAPOLIS, New York: Sanborn  
Insurance Company, 1885, 1904, 1912, 1949.

Prepared by:  
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Jill Fuerstneau and  
Ben Metzdorff  
University of Minnesota  
March 1986

#### PART IV. PROJECT INFORMATION

This project was prepared as a class project for Architecture 5142, Historic Building Research and Documentation, a class offered in the School of Architecture and Landscape Architecture at the University of Minnesota, Minneapolis, Minnesota. The class project was prepared under the direction of Professor Foster W. Dunwiddie in cooperation with the State Historic Preservation Office of the Minnesota Historical Society, Saint Paul, Minnesota. Historical data was compiled by Lorene Lehmann, Jill Fuerstneau, and Ben Metzdorff, University of Minnesota, March 1986.