

C.N.R. BRIDGES AND STRUCTURES BUILDING
(Formerly N.P. & M.R. Engine House)
C.N.R. EAST YARDS

HISTORICAL BUILDINGS COMMITTEE

SHEILA GROVER

15 JUNE 1985

C.N.R. BRIDGES AND STRUCTURES BUILDING
(Formerly N.P. & M.R. Engine House)
C.N.R. EAST YARDS

Railroads were the most contentious issue in Canadian politics during the 1870 - 1900 period. Railway scandals not only brought down several governments across the country, railway issues polarized the political scene between ambitious provincial legislatures and successive federal governments bounded by financial commitments and deals. The sheer expanse of this country required railway projects to be gigantic in scale, as well as extremely costly, involving public financial support and government-backed guarantees.

The first rail connection in Manitoba was established in 1878 with the Pembina Branch running north from the border up the east bank of the Red River to St. Boniface. The CPR main line came through in 1881, linking the young city of Winnipeg with eastern Canada and sparking a commercial boom of unprecedented vigor. Following this initial euphoria, westerners quickly realized that the single CPR line could be viewed as little more than a start, as thousands of acres of arable land still had no real access to markets without the required network of branch lines. While in no financial position to contemplate the immediate construction of branch lines, the CPR was protected by a monopoly that prohibited the chartering of competitive railways. This monopoly became a major bone of contention between the Manitoba and the national government. Why, argued Premier John Norquay, should the federal government prohibit Manitoba companies from building their own branch lines? A couple of trial railway charters were disallowed, but Norquay, reflecting the mood of his province, pressed the issue. Under the guise of a public work, the province backed a small line in 1886, thus evading the need for a federal charter.¹ Once again, the legislation was disallowed, and furthermore, Sir John A. MacDonald personally squelched Norquay's attempts to raise capital on the British bond markets.² Norquay's government went down to defeat, but

the issue rose again with the new government of Thomas Greenway.

Greenway convinced an American rail line, the Northern Pacific Railway, to extend its track north from Pembina along the west bank of the Red River to Winnipeg, under the name of the Northern Pacific and Manitoba Railway. Concurrently, pressure mounting on the Canadian government rendered the CPR's monopoly increasingly impractical. The charter for the new Manitoba line passed unchallenged, facilitating rapid construction of the lines and service structures in the fall of 1888. Passenger service between St. Paul, Minnesota and Winnipeg was initiated on the 20 October 1888. For \$2.65, a passenger could ride from Winnipeg to the international border, and thence by Northern Pacific (the American parent company) to Duluth and St. Paul or points west such as Yellowstone Park, California, Seattle or even British Columbia.³

The new N.P. & M.R. rushed to complete temporary facilities late in 1888, with more substantial and permanent structures erected the following year. A passenger station, offices and freight shed were constructed along Water Avenue east of Main Street. This corresponds to the northern tip of a crescent-shaped parcel of land, purchased from the Hudson's Bay Company, that followed the banks of the Red River down to its junction. From here, the line continued south across the iron rail bridge. Because it was a flood plain, the yards had to be filled and leveled before permanent construction could take place.

The subject of this report, the N.P. & M.R. engine house, was also built in 1889, as a car and engine repair shop. To this basic rectangular structure was added a blacksmith shop across the east elevation and a ten-stall roundhouse and turntable extending from the north end. With the various passenger stations along the line, elevators and flat warehouses, and a start on the Manitoba Hotel at the corner of Water and Main Streets, the N.P. & M.R. spent \$400,000 between 1888 and 1892 in construction.⁴

Although firm proof does not exist, it is likely that the engine repair house was designed by John Woodman, the Superin-

Department of Construction of the Northern Pacific and Manitoba Railway in 1888 - 89. Woodman, who designed the freight shed along Water Street in 1888 (now demolished), later transferred over to the CPR where he became the Chief Engineer of the Western Division. Establishing his own practice in "architectural engineering", John Woodman subsequently worked in partnerships with other local architects on such projects as the Paris Building in 1915.

The contractor on this engine shop was the Winnipeg firm of Rourke and Cass.⁵ Blueprints on file at the CNR's Engineering Department describe the roundhouse section, which has been demolished, as a "standard second class Northern Pacific roundhouse".⁶ While this implies that other roundhouses were constructed to this plan in the United States, it is safe to state that this was the only structure of its kind built in Manitoba by either the parent company or by the N.P. & M.R.

All repairs and maintenance of the N.P. & M.P. stock were undertaken in this shop and roundhouse, although some emergency repairs could be made at other points along the line.⁷ A full inventory exists of all the tools, equipment and materials used in shops in 1901. It is a fascinating tally of chisels, anvils, drills, laths, stencils, tongs, augers, jacks and wedges used to shape, cast, forge, mend and weld. Also itemized in 1901, the rolling stock of the Northern Pacific and Manitoba Railway consisted of nine locomotives, one business car, three baggage cars, five second class coaches, three first class coaches, six cabooses, 10 stock cars, 121 boxcars, 160 flatcars, and one excavator.⁸ Certainly a compact railroad, the N.P. & M.R. ran north along the west bank of the Red River from Emerson to Winnipeg to Portage La Prairie and 145 miles west from Morris to Brandon and on to Souris.⁹

The roundhouse, which no longer exists, was a semi-circular building constructed of white brick with a sloping shed roof, of ten stalls radiating from the turntable in the nucleus. An engine or car would pass through the engine house rails, or enter

through the spur track to the east of the building and proceed onto the turntable to be pivoted into the appropriate stall. Each stall would have a specialized function for repairs. The roundhouse fell into disrepair relatively early so that by 1918, only the three northernmost stalls remained in use and the turntable was gone. By 1936, the entire roundhouse portion had been demolished ¹¹ to be replaced by CN's more modern facilities in the Fort Rouge yards and later at Symington Yards.

The larger portion of the engine repair house, the building remaining, is also a brick structure set on a concrete base. It is one storey in height, the rectangular section measuring 241 feet long by 100 feet wide, with a blacksmith shop of 71 feet by 57.6 feet jutting offcentre on the east side. Four sets of tracks (now only three) corresponded to the four sets of large wooden doors on either end. Below the tracks inside were pits for repairs beneath the cars and engines, while cranes lifted materials overhead. According to plan drawings made in 1902, the southern half of the building was the car repair section, with the northern half closest to the roundhouse for engine repairs. In this age of steam, power for the locomotives was a particular consideration. If an engine could still move under its own steam and was in for boiler maintenance, for example, it would sit in one of the roundhouse stalls for a couple of days to cool down. Likewise, a large boiler in the machine shop of the side would be used to refire the cold boilers of the repaired engine to restore it to service. Smoke jacks, large wooden and metal ventilators projecting from the roof, took off the exhaust from these smoke-belching engines.

Originally, the roof of the engine house was peaked, supported on two rows of columns inside and a cross-brace wood truss system. Peak ventilators were supplemented by side ventilators which had to extend past the roof peak to clear the exhaust. This original roofline was replaced in 1936 (probably after a fire) with the present flattened gambrel roof, ¹² still supported by wooden trusses. The two lines of bracketed columns carried the rafters to a working height of about 15 feet across the 100-foot span.

Long paired windows along both sides of the brick structure have segmented voussoir heads and sills of either concrete or stone. A small amount of brickwork in the form of corbelling and wall detailing into bays constitute the extent of deliberate ornamentation. The interior is rather dark, even with the south doors open for additional light, with electric lights suspended from the ceiling.

In 1902, when the building was then 13 years old, the plans showed only one pit in the centre of the engine repair shop and 14 pits in the roundhouse. At this point there were also seven skylights in the roof over the engine house.¹³ The boiler and engine room were enclosed in the blacksmith shop. By 1936, when major alterations were made, the blacksmith shop was refitted as the machine shop and boiler room, the roundhouse was gone, and there were eight operating pits on the four rail lines in the engine house. A brick wall divided the engine room floor in two. In 1946, a lunch room, locker rooms, showers and toilets were added onto the original building, all on the east side. A portion of the machine shop was also renovated for lockers and storage. These were the last structural changes to the building, but some of the doors have been bricked over, the pits have been filled and of course the two ends of the building had to be built up on the sides when the peaked roof was removed in 1936.

The Northern Pacific and Manitoba Railway operated its lines in southern Manitoba in competition with the CPR for several years. With the offices, repair shops, passenger station and luxury hotel all operating, the future looked reasonably bright. Unfortunately, the parent line, the Northern Pacific Railway, went into receivership in the United States while its Canadian subsidiary also fell on hard times. In a fearsome conflagration in February 1899, the great chateau-style Manitoba Hotel burned to the ground,¹⁴ extinguishing the railway's diminishing opportunities to rally its flagging fortunes. The Northern Pacific and Manitoba Railway had been negotiating with the Manitoba government for heavy subsidies or direct purchase when a new rail line, the Canadian Northern,

entered the picture. With the political savoir-fair and aggressive drive of William MacKenzie and Donald Mann, the new railroad was enjoying rising success as a popular competitor to the CPR. After several years of bargaining, an agreement was reached in 1901 between the two railways and the Manitoba government. The Canadian Northern would take ownership of all the lines and rolling stock of the troubled Northern Pacific and Manitoba Railway in exchange for a bond guarantee on further rail expansion by MacKenzie and Mann.¹⁵ With the former N.P. & M.P. lines then extended east to the given terminals in Port Arthur, the Canadian Northern was able to turn the old operating deficits into a profit, while further supplementing their network with the purchase or construction of other branch lines.

The entire stock, equipment, property and buildings of the Northern Pacific and Manitoba Railway became the property of the Canadian Northern Railway in 1901. As a part of this deal, the provincial government was able to force unilateral reductions on freight rates,¹⁶ enhancing the stature of the Canadian Northern as viable competition to the powerful CPR.

This engine house, roundhouse and blacksmith or machine shop remained in full service for the Canadian Northern. With the completion of Union Station at the foot of Broadway on Main Street in 1911, the former N.P. & M.R. station and offices were vacated. Additional land was purchased for the expansion of the east yards for the construction of a second roundhouse, sidings, freight sheds, cartage warehouses and stables.¹⁷

Railway expansion in these pre-war years reflected a buoyant prairie economy. When conditions changed in the post-war period, the Canadian Northern found itself over-extended. The federal government amalgamated it and two other faltering eastern lines to form the Canadian National Railway in 1923.¹⁸ Once again, all stock and property transferred over to the CNR. Gradually, rail facilities in Winnipeg were updated and expanded, generally to the new suburban yards. It was during this period that the 1889 roundhouse was destroyed, and the engine house refitted for diesel

technology. Although it was still definitely in use as a repair shop during its last major renovation in 1956, the building has since become the Bridges and Structures shop, as well as the storage and maintenance shop for the Prairie Dog Special summer railway.

This brick engine repair shop has survived in the face of many significant changes. Since its construction almost a century ago, this building has witnessed the shifting fortunes of three important railway lines, changes in railway technology, and the growth of Winnipeg into a major transportation centre.

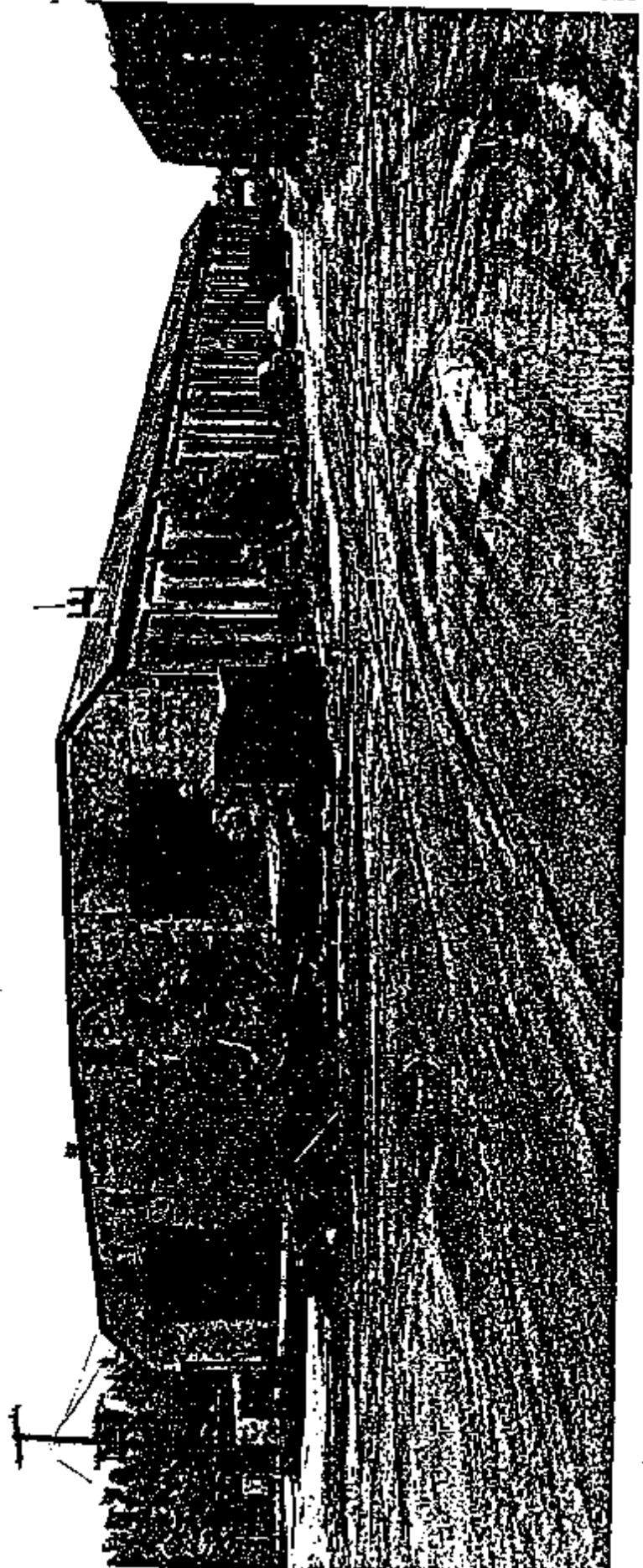
FOOTNOTES

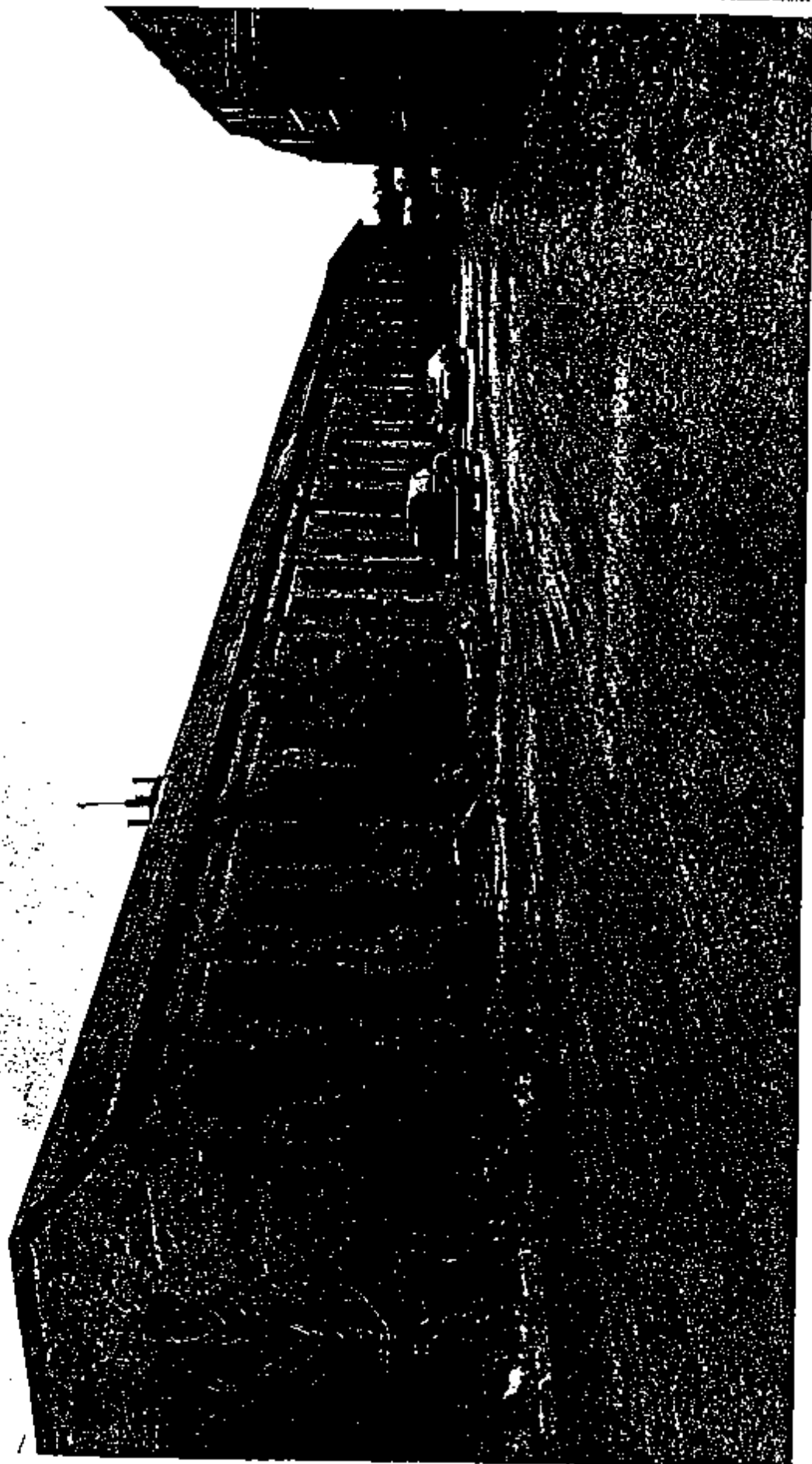
1. W. W. Morton. Manitoba: A History University of Toronto Press (Toronto, Buffalo and London), 1967, p. 221.
2. Rodger Guinn. The Red-Assiniboine Junction: A Land Use and Structural History 1770-1980, Manuscript Report 355 Parks Canada, 1980, p. 133.
3. "Local and Passenger Tariff" Northern Pacific and Manitoba Railway Company P.A.M. MGII A13, Children travelled for half price but corpses in coffins were carried in the baggage department at full fare.
4. "The Railway Systems" The Western World, July, 1892, p. 158.
5. Guinn, op. cit., p. 140.
6. Rodger Guinn. "Four Structures in the CNR East Yards, Winnipeg" paper for the Historic Sites and Monuments Board of Canada, c. 1979, p. 191.
7. There exists an inventory of all the property of the N.P. & M.R., taken in 1901. This document itemizes in detail every tool and piece of furniture and equipment in every station, office and repair shop along the line. See P.A.M. Manitoba Railway Commissioner RG13 A2 file 7.
8. Loc. cit.
9. Western World, op. cit., p. 158.
10. Fire Insurance Plans of the City of Winnipeg., 1918 - 19, Map 125.
11. Guinn. "Four Structures", op. cit., p. 191.
12. From the plans of repairs to the engine house undertaken in 1936. CNR Engineering Department. Copies of these plans are now on file at Historic Projects, Department of Environmental Planning, City of Winnipeg.
13. Ibid., 1902 plans.
14. "The Hotel Manitoba Completely Destroyed", Manitoba Free Press., 8 February 1899, p. 1.
15. T. D. Regehr. The Canadian Northern Railway., Macmillan of Canada (Toronto), 1976, p. 92.
16. Ibid., p. 92 & 96.
17. Guinn. The Red-Assiniboine Junction, op. cit., p. 154-159.
18. Ruben Bellan. Winnipeg First Century: An Economic History, Queenston House Publishing (Winnipeg) 1978, p. 148-9.

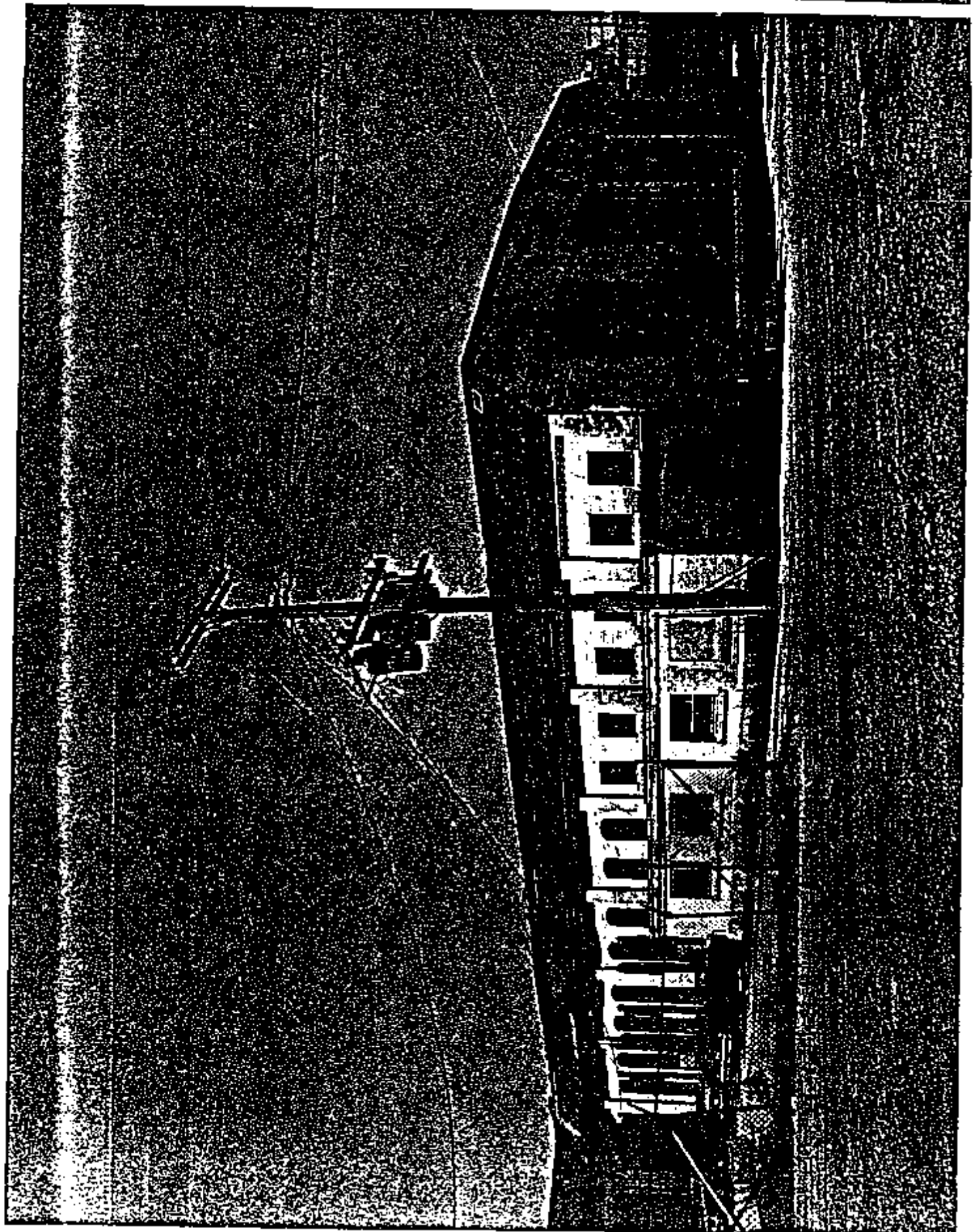
APPENDIX A

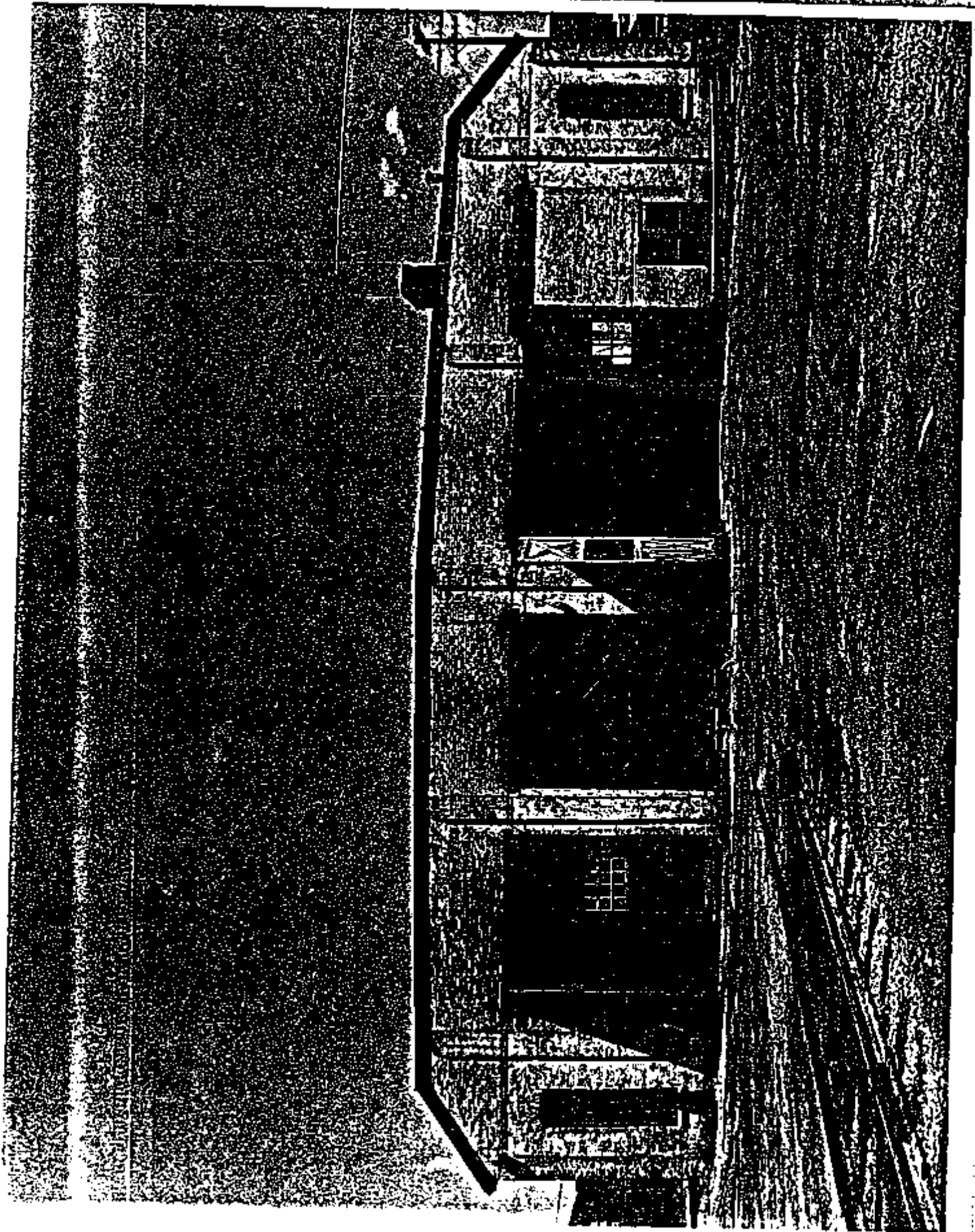
Photographs 1 to 6 were kindly supplied by Dennis Appler of Smith-Carter Architects. Photographs 9 to 12 were supplied by the Provincial Archives of Manitoba Photograph Collection.

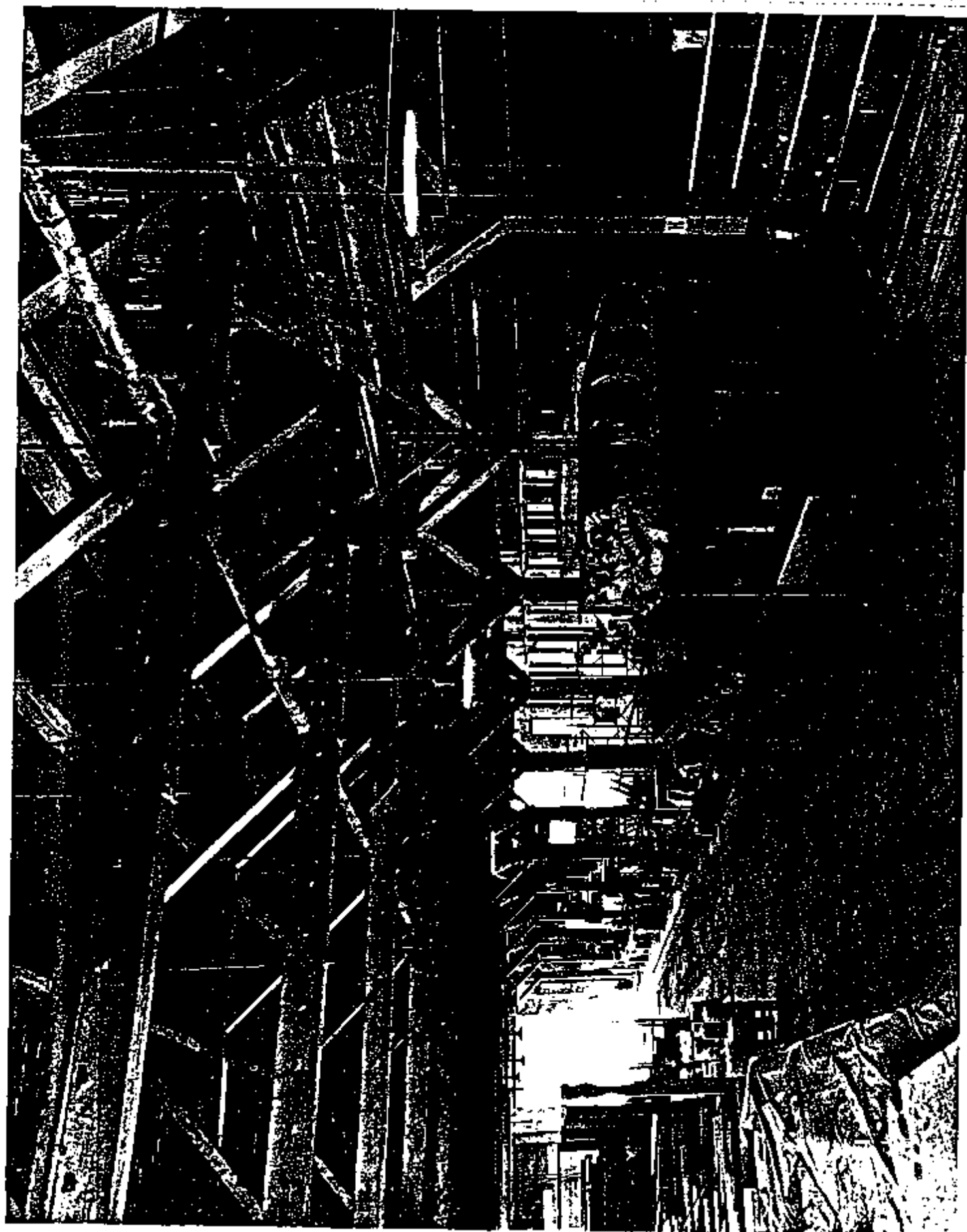
1. The Bridges and Structures building (formerly the Engine Repair House) is the CNR East Yards, Northwest corner. It was at this north end that the roundhouse was originally attached. Summer 1985.
2. The west elevation. New brick infill from changing the roof from a gable in 1936 can be seen below the top corner of the roof.
3. The north-east corner with the former blacksmith shop extending on the left.
4. The south end showing three of the original four door sets. Originally, tracks ran into all four bays.
5. Looking toward the south doors in the interior.
6. Interior detailing of the roof truss.
7. A plan of the Northern Pacific and Manitoba Railway Yards from 1895. The Engine Repair Shop and Roundhouse are to the left of centre. At this time, Broadway actually did extend east to the river, although the cross streets did not extend as shown here. From the Hudson's Bay Archives, P.A.M. A.72/9 fo.63. Reproduced with permission.
8. A reduction of the 1902 plans of the engine shop and roundhouse.
9. A drawing of the CPR Winnipeg roundhouse and engine shop in working capacity in c.1890. The design of the structures is very similar to the N.P. & M.R. (later CNR) facilities.
10. A shot of the Canadian Northern yards in c.1914. The engine repair shop is shown by the arrow. On the left is the roundhouse and on the right is a temporary southern extension.
11. The East Yards during the 1950 flood.
12. The East Yards in 1956. The Bridges and Structures Building is just below St. Boniface Hospital here.

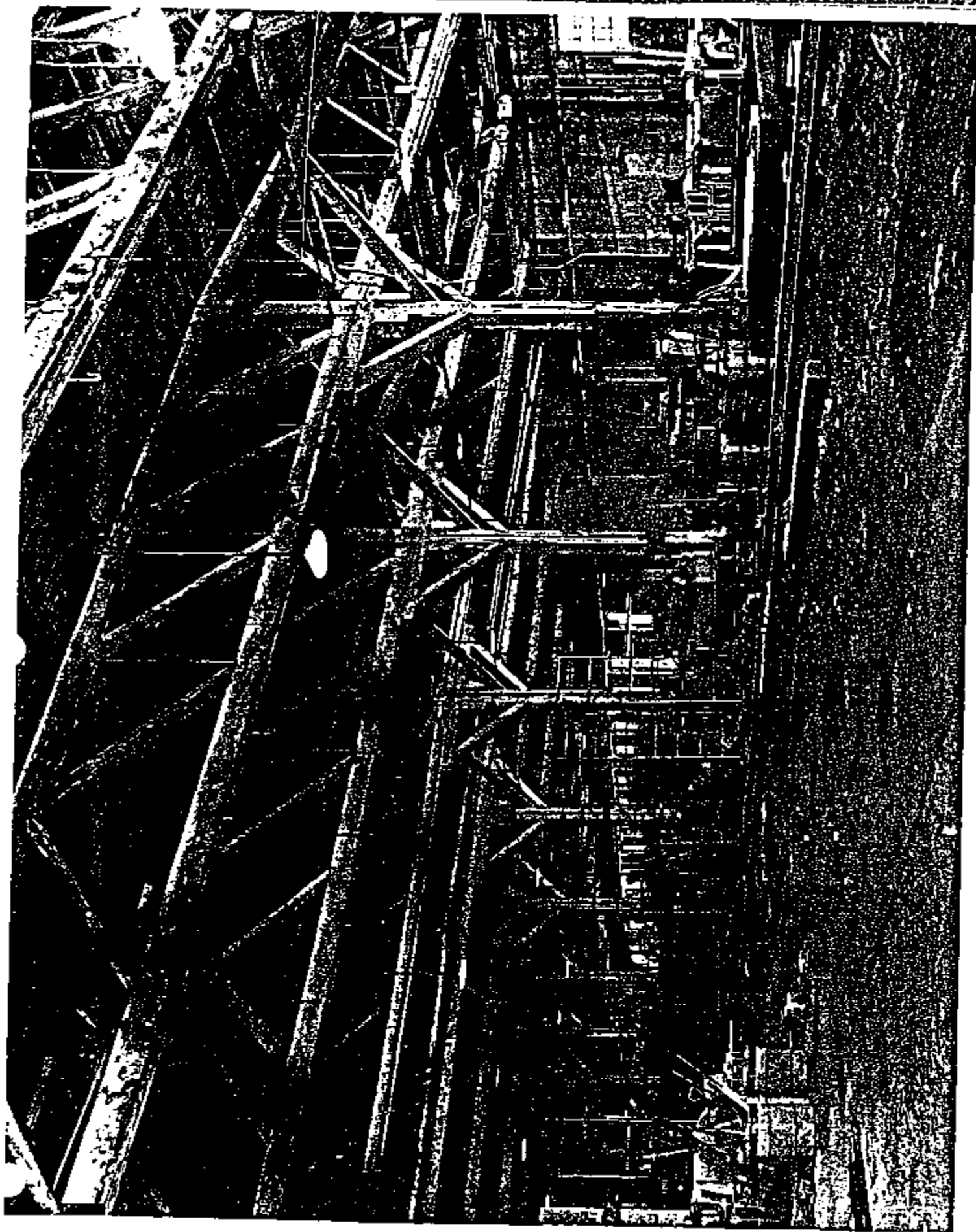


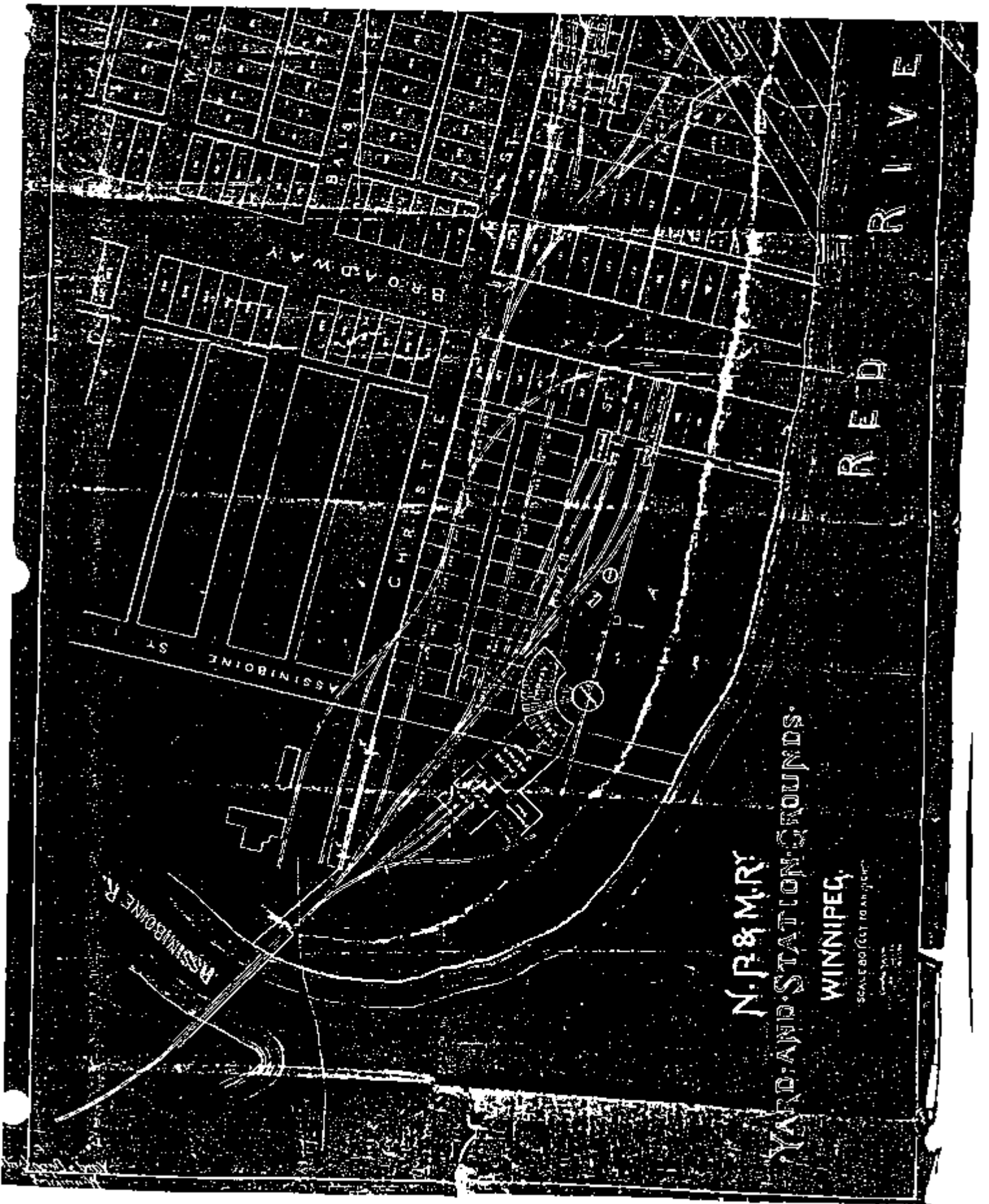












N. P. & M. R.
YARD AND STATION GROUNDS.
WINNIPEG.
SCALE 80 FEET TO AN INCH

RED RIVER

CANADIAN NORTHERN RAILWAY
 PLAN of SHOPS & ROUND HOUSE
 of WINNIPEG
 Scale 1/8" = 10' 0" length

