

UNIVERSITY OF MANITOBA
ARCHITECTURAL & ENGINEERING SERVICES (AES)



CAPITAL PROJECTS AND EXPANSION

A document on the development of the University of Manitoba's Fort Garry Campus, Bannatyne Campus and Glenlea Research Station.

1877-2018







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ABSTRACT

A document on the development of the University of Manitoba's Fort Garry Campus, Bannatyne Campus and Glenlea Research Station demonstrating the major capital projects and expansion.

The document shows the campus development history and campus development 'boom'. A series of chronological maps highlight that more than 50% of campus development occurred between 1956 and 1972. The document demonstrates the campus development today and the increasing need for renewal in addition to current capital projects and expansion.

INTRODUCTION

01



HISTORY

THE EARLY DAYS

As suggested by the Royal Commission on Education in 1924 “the story of higher education in Manitoba is the story of the provincial university.” The provincial university was established as The University of Manitoba in 1877 to examine and confer degrees for three church operated colleges – St. Boniface College (Roman Catholic Church), St. John’s College (Anglican Church), and Manitoba College (Presbyterian Church). Later in the 19th century, two more colleges were received into affiliation viz. The Manitoba Medical College in 1883, and Wesley College (Methodist Church) in 1888.

Since the instruction was given by affiliated colleges on their own premises, the University did not require any facilities initially. However, in 1890, it furnished rented rooms in the McIntyre Block on Main Street for the purpose of conducting examinations.

In 1892, the University’s Charter was amended to permit the University to teach in order to prevent a wasteful duplication of effort in the colleges. Through a co-operative arrangement among the colleges, the University began teaching Science in the McIntyre Block facilities in the same year. In 1898, however, a disastrous fire gutted the McIntyre Block destroying all University equipment and records. The science classes were temporarily re-housed in the Davis Block on Market and King Street.

CAMPUS DEVELOPMENT

02



HISTORY

THE UNIVERSITY AND THE AGRICULTURAL COLLEGE

The physical needs of the University grew rapidly within ten years of occupying the first building, as Arts and Engineering courses were added to the curriculum. Although additional facilities and a larger site were desirable, no aid was available from the provincial government which, in the meantime, has become heavily committed to the establishment of the Manitoba Agricultural College in 1903. In 1906, several buildings were erected for the Manitoba Agricultural College on a 100 acres site along the south bank of the Assiniboine River in Tuxedo (later the site of the Fort Osborne Barracks).

In 1907, the Manitoba Agricultural College was affiliated with the University, but this relationship was strained. In the same year an organization named the Tuxedo Park Company offered the University 150 acres just beyond the Agricultural College. This offer was considered and finally accepted in 1910 with the view to establishing a larger site.

While the University decided to move to this new site in Tuxedo, the Manitoba Agricultural College came to the conclusion that it needed more land. Rather than extend its holdings in Tuxedo, a new site was secured in St. Vital where the provincial government had purchased 600 acres in a bend of the Red River known as River Side Park (the present Fort Garry campus).

CAMPUS DEVELOPMENT

02

In 1911, clearing of the property began and new buildings were completed in 1912-1913 to house the Agricultural College. The new four million dollar facilities were considered to be magnificent with the red-brick and stone fire-proof buildings being grouped around a spacious quadrangle. With these new facilities nearing completion, the Agricultural College served its affiliation with the University in 1912. Although the University had now been committed to the development of the Tuxedo site, the provincial government wanted in the next year, 1913, to reunite it with the Agricultural College and deeded to it 113 acres on the point of the St. Vital site (Fort Garry).

Another plan for the University development at Fort Garry was suggested but no further commitments were made. The province was heavily indebted for the Agricultural College and with the outbreak of World War 1 in 1914 had not been able to continue with the construction of a Home Economics building.

This situation resulted in the University occupying space in the Old Law Courts Building and the Deaf and Dumb Institute on Sherbrook Street and Portage Avenue in addition to the building on the Broadway site. In 1917, two years after a change of government, the University became a provincial institution. It was no longer to be governed by a council appointed by the affiliated Colleges, but by a Board of Governors appointed by and responsible to the provincial government.

HISTORY

THE UNIVERSITY AND THE AGRICULTURAL COLLEGE

In 1919, the Board of Governors chose Tuxedo as the permanent site, as the current provincial government, in contrast to its predecessor, did not favour amalgamation with the Agricultural College even though affiliation had been re-established in 1916. As part of a new agreement with the Tuxedo developers, which called for specified development within seven years, the province constructed a new building for the Deaf and Dumb Institute on the Tuxedo property. At this stage, the province was burdened with debt for the new legislature building, and could not provide any further capital. Thus temporary emergency buildings were erected on the Broadway site to accommodate the flood of veterans of World War 1.

In 1923, a new government appointed a Royal Commission headed by Dr. Murray, President of the University of Saskatchewan, to investigate higher education in Manitoba.

The Commission recommended amalgamation of the two educational bodies, and for economic reasons, their unification on the Fort Garry site. In March 1924, by an Act of the Manitoba Legislature, the administration of the Manitoba Agricultural College was transferred to the Board of Governors of the University of Manitoba and the college became the Faculty of Agriculture and Home Economics of the University.

CAMPUS DEVELOPMENT

02

The site question was held up because the Tuxedo developers were suing the University and the province for failure to meet their commitment. The space problem became critical and in 1929, the university students demonstrated their anger in a march to the legislature. Finally, the province decided on the Fort Garry site as the permanent home, even though University officials favoured a downtown location. Settlement was made out of court with the Tuxedo developers.

THE UNIVERSITY AND THE MEDICAL COLLEGE

The Manitoba Medical College from its beginning in 1883 was affiliated with the University. First lectures in anatomy by faculty members, who received no remuneration for their services, were held in a cottage on Isabel Street. The first medical building was erected in 1884 at the corner of Kate Street and McDermot Avenue, and was financed with funds raised by the faculty members. Ten years later, the two-storey structure was expanded with the addition of the third floor.

In 1904, the Medical College acquired a parcel of land immediately west of the General Hospital extending from Emily Street to the east, Bannatyne Avenue to the north, and McDermot Avenue to the south (this way the beginning of the permanent site for the faculties of Medicine and Dentistry). On this new site, in 1905, the first section of a new project was erected and in January 1906 the Medical College moved to this location. In 1911, a second section to the south of the original building was added. Two years later a coach house was built.

Following the session of 1918-1919, the Manitoba Medical College ceased to exist as a separate institution for it made a gift of all of its assets to The University of Manitoba. In March 1921, it officially became the Faculty of Medicine of the University. In the same year, a new building known as Unit A was erected and in 1922, a new wing Unit B was added. These projects were financed largely by grants from the Rockefeller Foundation.

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Administration Building



Taché Hall



Buller Building



Tier Building

HISTORY

EARLY STAGES OF THE FORT GARRY CAMPUS

A committee of the legislature made recommendation in 1929 that new buildings for the University should be erected at the Fort Garry site for senior years and that junior years should continue to use the Broadway site. Construction of the Arts (Tier) building at the Fort Garry site started in 1930, but the lack of funds delayed the start of the Science (Buller) building until 1931, when the Federal Government contributed to it as an unemployment relief project. Both buildings were occupied by the senior years of the Arts and Science in the fall of 1932, marking the beginning of a consolidation of the University buildings.

The depression, however, inhibited any further construction, even though the senior years of Architecture had moved to the site along with Arts and Science, followed by Engineering in 1933. During the same decade, the University leased land at the south-east corner of the campus to the Federal Department of Agriculture and at the west end of the campus to the Province of Manitoba. The Federal Government established a Rust Research Station, while the provincial government established a Fox Farm and Laboratory.

CAMPUS DEVELOPMENT

02

THE EFFECT OF THE SECOND WORLD WAR

When the second World War broke out in 1939, not only did the University students and staff participate in the armed forces or support services but also the University facilities were put into use as a training centre. The Residence building was taken over in October, 1940 for a navigation school, and in 1942, by agreement, the army constructed a number of buildings on the south side of campus. Several temporary huts and a concrete rifle range were built along with the rebuilding of an old roller skating rink as a Drill Hall acquired from the old River Park area in Winnipeg. To provide a cafeteria for students while the Residence was out of bounds, the University built Hut 'J' (later to become the first building for the Faculty of Education) with federal assistance.

The Residence was released to the University in August, 1945 and the University acquired the temporary buildings for a settlement of \$10,000. The temporary buildings were refitted for classes and laboratories during the 1945-1946 term since the war veterans returning to university created another space crisis. More space was provided also when the old Stock Judging Pavilion was converted into the Agricultural Engineering building upon completion of a new pavilion in 1945. Accommodation for veterans was partially relieved by the construction of temporary housing clustered around central utility buildings.

Built by Central Mortgage and Housing Corporation and the Veterans' Department, three of these "veterans' villages" were located south of the Drill Hall, while a fourth one was built on the north part of campus. In 1947, a one-storey extension was added to the south wing of the Engineering building, while a major addition for the north side was planned and built by 1949.

In the same year, new horse and cattle barns were erected and the old barns were remodeled and converted into academic buildings for Plant Science, Soil Science, and the Provincial Veterinary Laboratory. Also in 1947, numerous alterations were made on the medical property to accommodate enlarged classes.

In 1948, in anticipation of buildings a Students' Union Building, the University acquired a double hangar from the War Assets Corporation. While the policy of the provincial government in regard to University building projects was to handle the financial and the recording of construction costs within the provincial records, the Students' Union Building was to be an exception. It was recorded in the accounts of the University and financed from public and graduate gifts, a provincial grant, and an interest free loan from the province repayable by the students through a special fee assessment of \$3.00 per student. The project was under construction early in 1950.

HISTORY

THE 1950 FLOOD

In the spring of 1950, the Winnipeg area experienced a severe flooding of the Red River. The Fort Garry Campus was covered with flood water. While damage to the permanent buildings required a restoration of the basement areas only, the veterans' villages were essentially destroyed and the floors of the unfinished Students' Union Building including the gymnasium had to be rebuilt. The construction of a library building proposed for that year was delayed. In the fall, however, the junior years finally moved to the campus from the Broadway site. The new Library building got underway in 1951 and was ready on the occasion of the seventy-fifth anniversary of the University in 1952. Also in 1952, the Drill Hall was converted to a skating rink.

NEW ROLE IN CAPITAL DEVELOPMENT

As of 1955, the University assumed all responsibility for the initiation and construction of capital projects. Rather than handle the detail of the construction requirements, the province chose to provide capital grants to the University, the disposition of which was to be recorded in the University accounts. The construction of a new two-storey wing started on the Medical site behind the Pathology building and was completed in 1956 (the first academic building recorded in the accounts of the University under the new provincial policy). Later, on this site dentistry building was constructed for the new Faculty of Dentistry in 1958-1959.

CAMPUS DEVELOPMENT

02

At Fort Garry, the Agricultural Research building was undertaken in conjunction with the 50th anniversary celebrations of formal agriculture education. When this building was completed in 1957, the Fetherstonhaugh High Voltage Laboratory was nearing completion for the 50th anniversary of Engineering instruction at the University. This was followed by the construction of a new Architecture building which was opened in 1959.

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1950 Flood- Fort Garry Campus



1950 Flood- Tier Building



1950 Flood- Quad



1950 Flood- Administration Building

‘BOOM’

THE EXPANSION OF THE 1960’S

The beginning of a new decade marked the acceleration of the annual increase in enrollment for all faculties. To accommodate the resulting need for more facilities to handle the increasing population, the University embarked on a major building programme.

A very successful Capital Funds Campaign produced 12 million dollars (on individual and corporate donations of 4 million dollars matched \$2 for \$1 by the province) and provided much of the financing for the programme. Academic buildings were added for all faculties as well as new residence and athletic facilities.

CAMPUS DEVELOPMENT

03

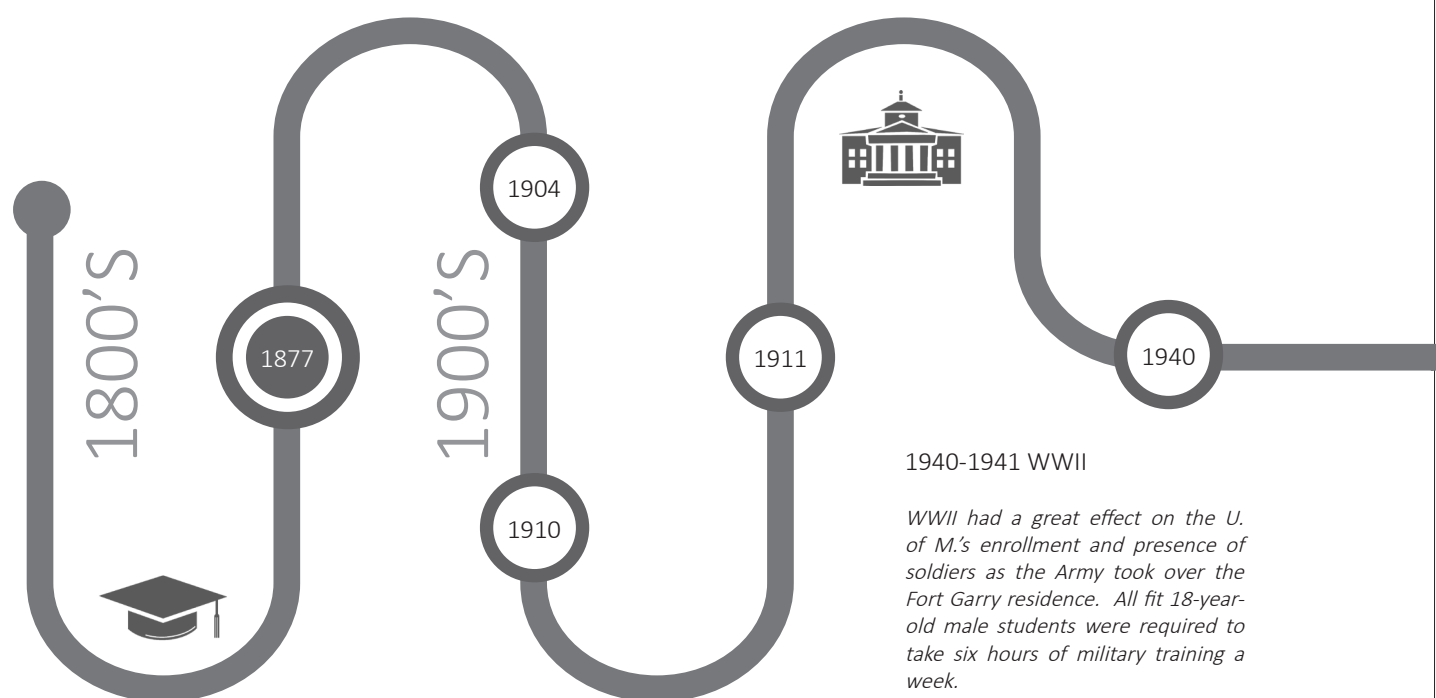


1904 BANNATYNE CAMPUS

The Medical College acquired a parcel of land and new site was secured west of the General Hospital extending from Emily Street to the east, Bannatyne Avenue to the north, and McDermot Avenue to the south now known as Bannatyne Campus.

1911 FORT GARRY CAMPUS

Major campus development began and new buildings were constructed to house the Agricultural College including the Administration Building in 1912.



1940-1941 WWII

WWII had a great effect on the U. of M.'s enrollment and presence of soldiers as the Army took over the Fort Garry residence. All fit 18-year-old male students were required to take six hours of military training a week.

1877 UNIVERSITY OF MANITOBA

On February 28, 1877 a bill passed to establish a Provincial University. The University of Manitoba (U. of M.) was formed by the federation of the three existing colleges - St. Boniface College, St. John's College and the Manitoba College.

1910 FORT GARRY CAMPUS

The provincial government purchased 600 acres of land to meet the needs of the Agricultural College. A new site was secured in St. Vital along the Red River now known as the Fort Garry Campus.


















1960'S BOOM

In 1960, there was a significant annual increase in enrollment for all faculties and the U. of M. embarked on a major campus development programme.



As the U. of M. campuses continue to invest in new development to meet the needs of enrollment, there is an additional need to invest in the existing buildings built between 1956 and 1972 that are reaching the end of their building life cycle.

LEGEND

	Existing Building		Existing Boundary
	New Building		New Boundary
	Building Under Construction		Fence
	Parking Lot (1900-1969)		River
	Landscape		Tree
	Road		Berm/Ditch
	Walkway		
	Railroad (1900-1966)		
	Street Track (1900-1966)		
	Parking Lot (1970-2018)		
	Property Line		



BANNATYNE CAMPUS

FORT GARRY CAMPUS

GLENLEA RESEARCH STATION

FORT GARRY CAMPUS

04

1910-1949

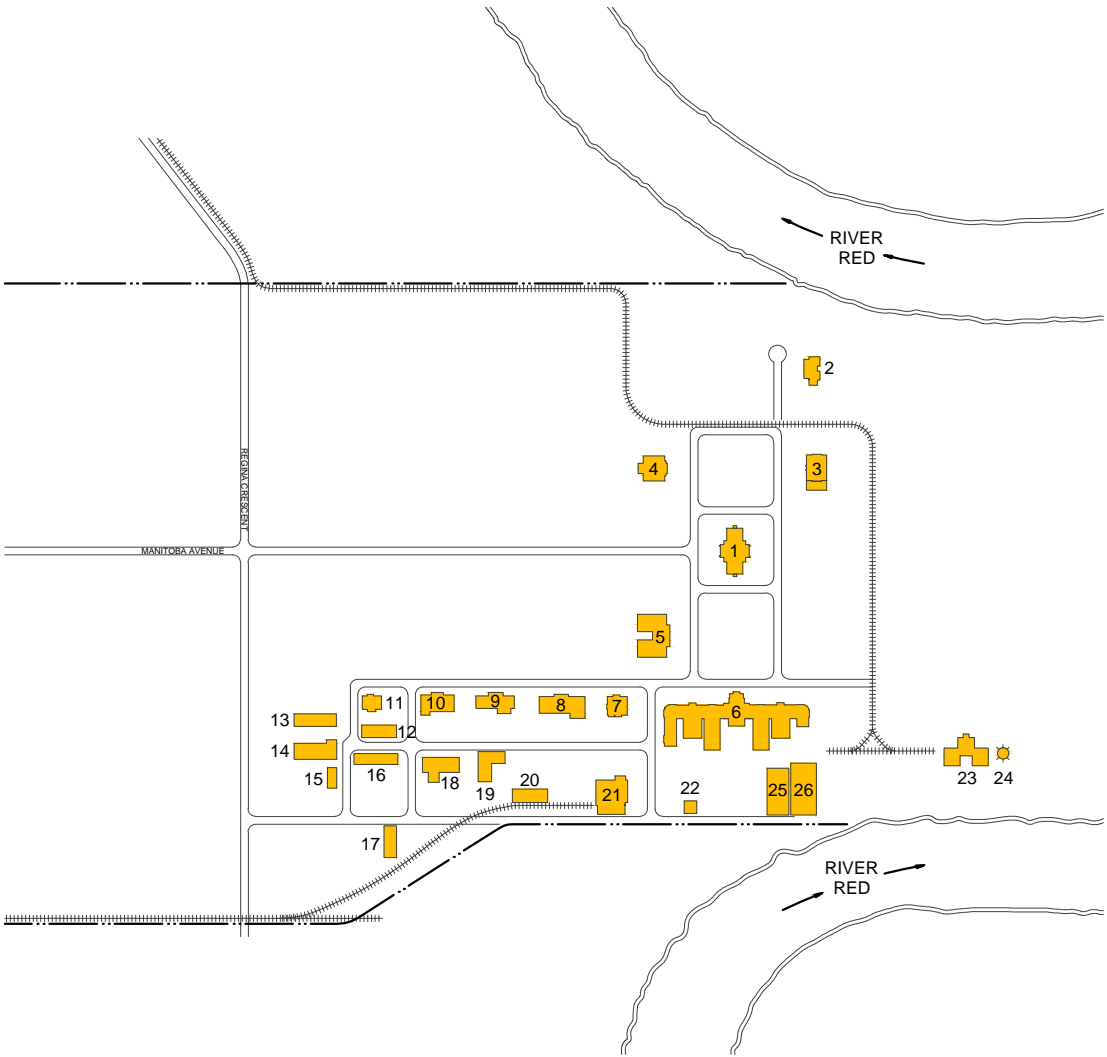


PROJECT DIRECTORY

- 1 Administration
- 2 President's House
- 3 Horticulture (Home Economics)
- 4 Chemistry / Physics (Geology)
- 5 Engineering
- 6 Dormitory
- 7 Dairy (Dairy Science)
- 8 Stock Judging Pavilion (Agricultural Engineering)
- 9 Horse Barn (Agriculture- East Wing)
- 10 Beef Cattle Barn (Agriculture- West Wing)
- 11 Poultry (Old Animal Science)
- 12 Brooding House
- 13 Poultry House No. 1
- 14 Poultry House No. 2
- 15 Fattening House
- 16 Poultry House No. 3
- 17 Swine Barn
- 18 Sheep Barn
- 19 Dairy Barn
- 20 Implement Shed
- 21 Power House
- 22 Foreman's Cottage
- 23 Pump Station
- 24 Water Tower
- 25 Curling Rink
- 26 Skating Rink

1910-1914

04



SCALE: NTS

PROJECT DIRECTORY

- 27 Rust Laboratory (Federal Government)
- 28 Arts (Tier)
- 29 Science (Buller)

1915-1932

04



PROJECT DIRECTORY

- 30 Rust Granary (Federal Government)
- 31 Rust Garage (Federal Government)
- 32 Home Management House
- 33 Maintenance Shop
- 34 Fox Farm Laboratory (Provincial Government)
- 35 Fox Farm Hospital (Provincial Government)
- 36 Small Cottage
- 37 Garage
- 38 Small Cottage
- 39-45 Small Buildings in Farmyard
(Not Shown Exact Locations Unknown)

1933-1940

04



PROJECT DIRECTORY

- 46 Farm House
- 47 Granary (Not Shown Exact Location Unknown)
- 48 Forest Insect Laboratory (Federal Government)
- 49 Hut 'J' (Old Education)
- 50 Hut 'A' (Engineering)
- 51 Hut 'B' (Engineering)
- 52 Hut 'C' (Engineering)
- 53 Hut 'D' (Drill Hall) (Rink)
- 54 Hut 'E' (Pharmacy)
- 55 Hut 'F' (Architecture)
- 56 Hut 'G' (Chemistry)
- 57 Hut 'H' (Chemistry Laboratories)
- 58 Hut 'I' (Home Economics Tea Room and Faculty Club)
- 59 Hut 'K' (Architecture and Interior Design)
- 60 Hut 'L' (Physics Laboratories)
- 61 Hut 'M' (Electricians and Painters' Shop)
- 62 Hut 'N'
- 63 Hut 'O' (Rifle Range)
- 64 Hut 'P' (Plant Science Garage)
- 65 Stock Judging Pavilion
- 66 Gilmour House (Constable's Residence)
- 67 Gilmour Garage

1941-1945

04



SCALE: NTS

PROJECT DIRECTORY

- 68 Veterans' Village
- 69 Veterans' Village
- 70 Veterans' Village
- 71 Veterans' Village
- 72 Fur Farm Breeding Shed (Provincial Government)
- 73 Rust Garage (Federal Government)
- 74 Forest Insect Laboratory No. 2 (Federal Government)
- 75 Engineering- South Wing
- 76 Engineering- North Addition

1946-1949

04



FORT GARRY CAMPUS

1950-1999

04

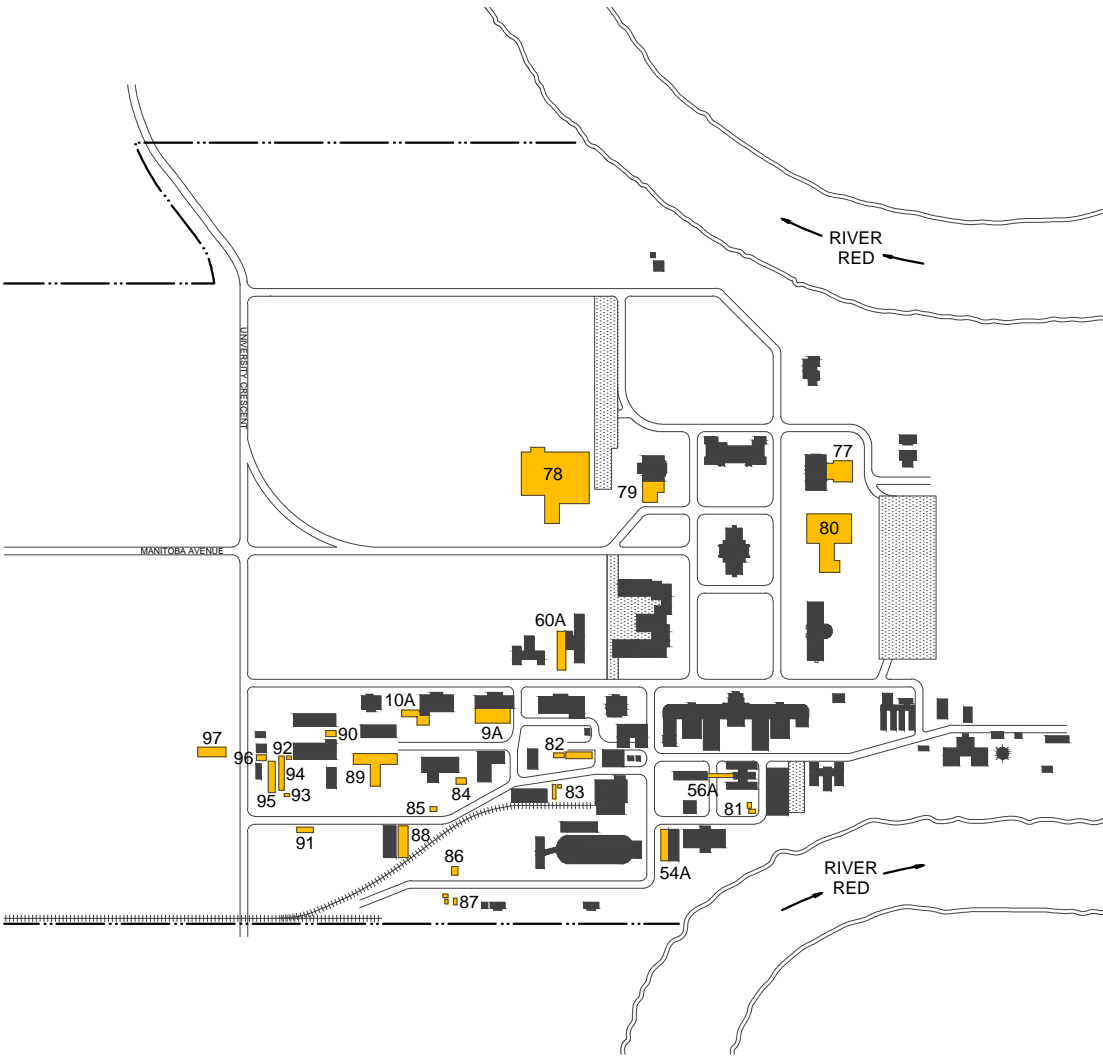


PROJECT DIRECTORY

- 9A Agriculture Addition- East Wing (Horse Barn)
- 10A Agriculture Addition- West Wing (Beef Cattle Barn)
- 54A Hut 'E' Addition
- 56A Hut 'G' Addition
- 60A Hut 'H' Addition
- 77 Home Economics Addition
- 78 U.M.S.U. Athletic Centre
- 79 Bookstore and Bus Depot
- 80 Library
- 81 Storage Sheds
- 82 Equipment Sheds
- 83 Gas Tank and Valve Housing
- 84 Storage Shed
- 85 Storage Shed
- 86 Farm Dwelling
- 87 Elevator
- 88 Swine Barn
- 89 Cattle and Horse Barn
- 90 Poultry Building
- 91 Hog Barn
- 92 Poultry Shed
- 93 Shed (Provincial Government)
- 94 Mink Pen (Provincial Government)
- 95 Mink Pen (Provincial Government)
- 96 Storage Building (Provincial Government)
- 97 Swine Barn (Federal Government)

1950-1952

04



PROJECT DIRECTORY

31	Rust Garage (Federal Government)
59A	Hut 'K' Addition
98	Forest Insect Laboratory No. 3 (Federal Government)
99	Seed Vault (Federal Government)
100	Storage Building (Federal Government)
101	Greenhouse (Federal Government)
102	Implement Shed (Agricultural Equipment)
103	Seed Storage Building
104	Poultry Shed
105	Poultry Buildings
106	Geological Core Storage Building
107	Farm Buildings
108	Storage Shed

1953-1955

04



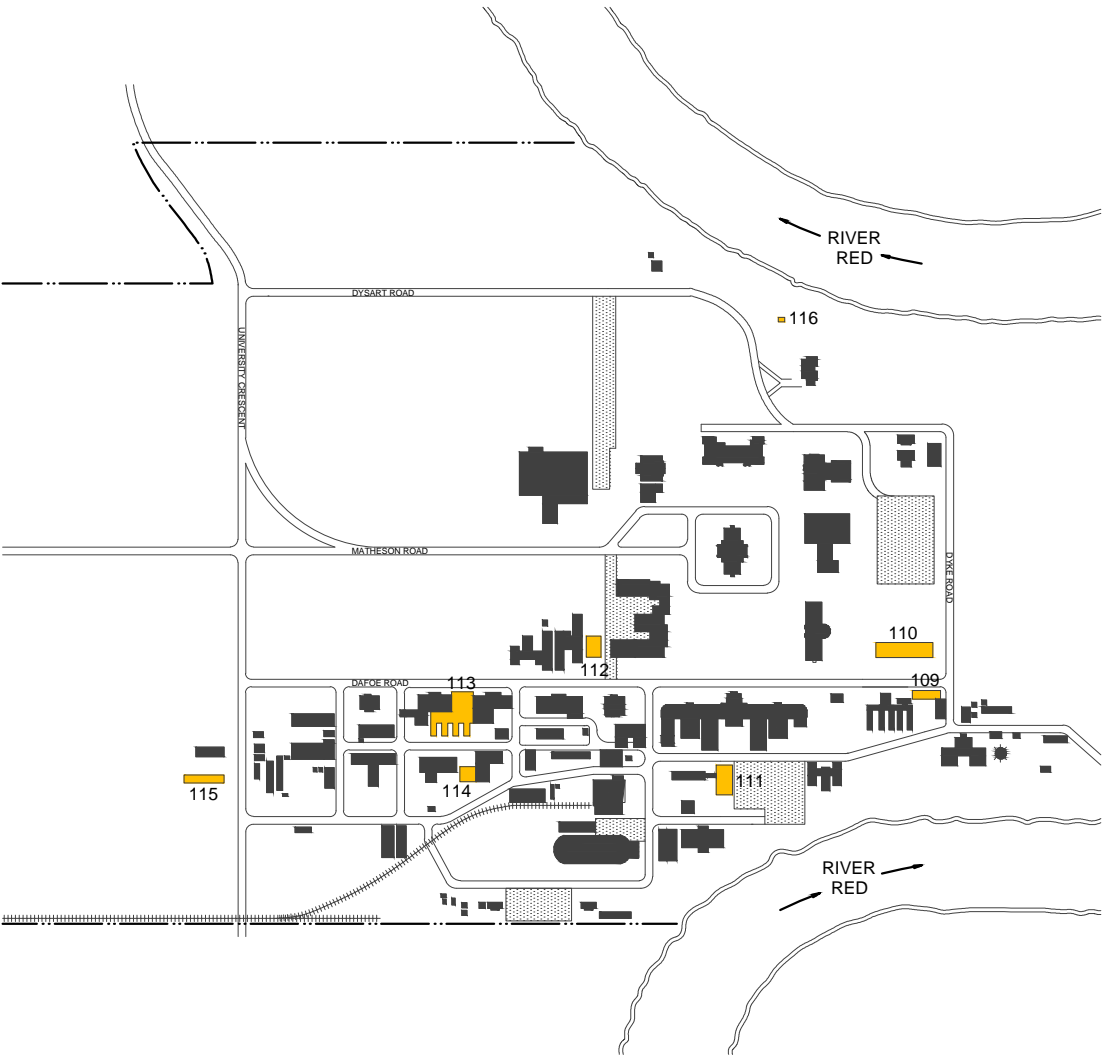
SCALE: NTS

PROJECT DIRECTORY

- 109 Service Building (Federal Government)
- 110 Agricultural Research Station (Federal Government)
- 111 Chemistry Laboratory
- 112 Fetherstonhaugh High Voltage Laboratory
- 113 Agricultural Research Building
- 114 Dairy Barn
- 115 Beef Barn
- 116 Pumping Station

1956-1958

04



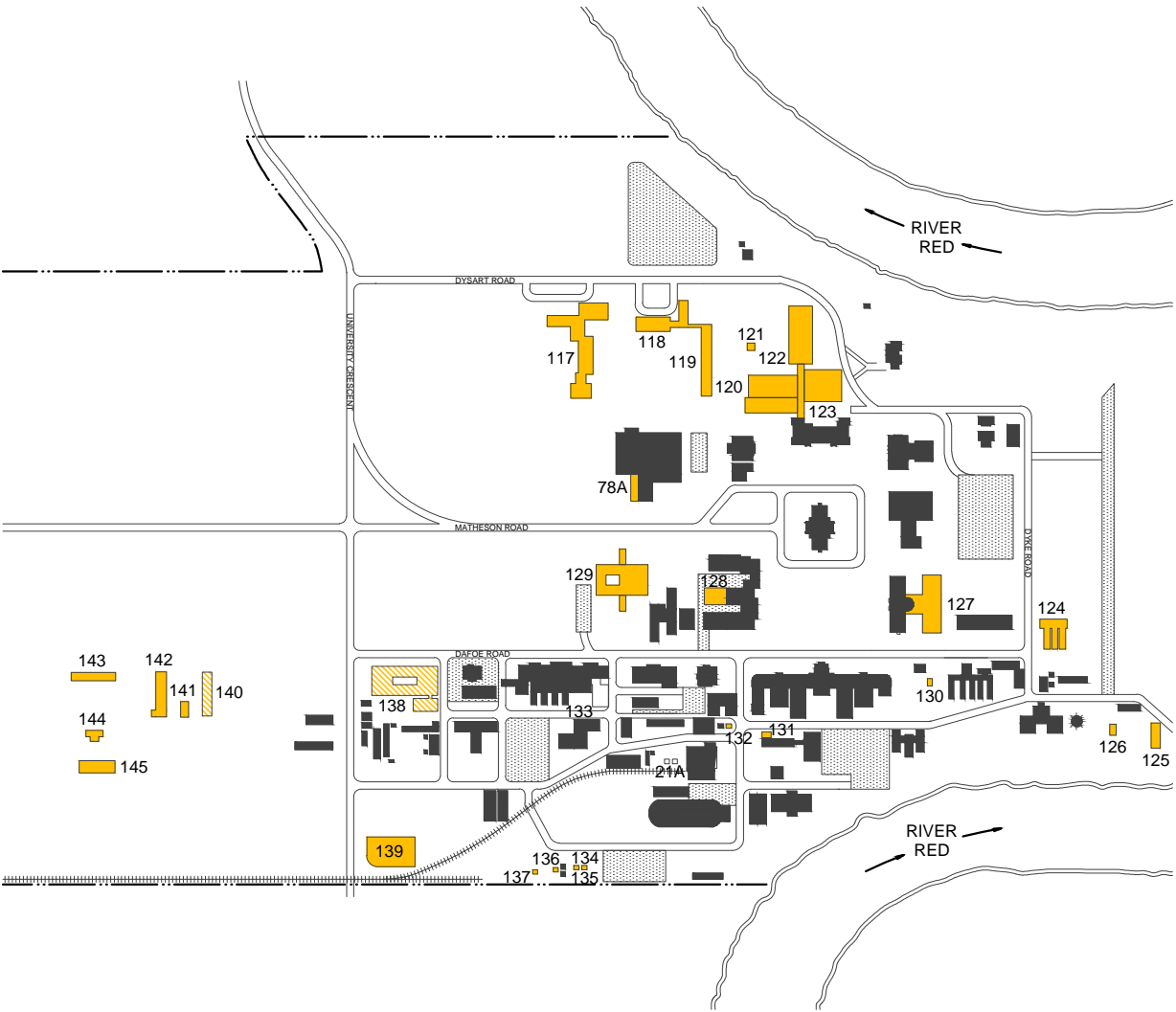
SCALE: NTS

PROJECT DIRECTORY

21A	Power House (Oil Tanks)	141	Poultry Equipment
78A	U.M.S.U. Addition	142	Poultry Environment
117	St. Paul's College	143	Sheep Barn
118	St. John's College	144	Feed Mill
119	St. John's College (Residence)	145	Animal Science Equipment Shed
120	Allen Physics		
121	Cyclotron		
122	Parker Chemistry		
123	Armes Lecture		
124	Greenhouses (Federal Government)		
125	Plant Science Equipment Building		
126	Apiary		
127	Isbister		
128	Engineering- 1st Floor and 2nd Floor		
129	Architecture (John A. Russell)		
130	Garage (Dean of Agriculture)		
131	Surplus Products Store		
132	Fire Hall		
133	Crop Research Building		
134	Farm Dwelling		
135	Farm Dwelling		
136	Farm Dwelling		
137	Farm Dwelling		
138	Animal Science		
139	Hydro Sub-Station (Manitoba Hydro)		
140	Poultry Confinement		

1959-1961

04



PROJECT DIRECTORY

- 111 Operation and Maintenance Shops and Stores
(Formerly Chemistry Laboratory)
- 115 Beef Barn Addition
- 121 Cyclotron
- 131 Surplus Products Store (New Location)
- 138 Animal Science
- 140 Poultry Confinement
- 146 Forestry Research Station (Federal Government)
- 147 Pharmacy
- 148 Education
- 149 Tennis Courts

1962

04



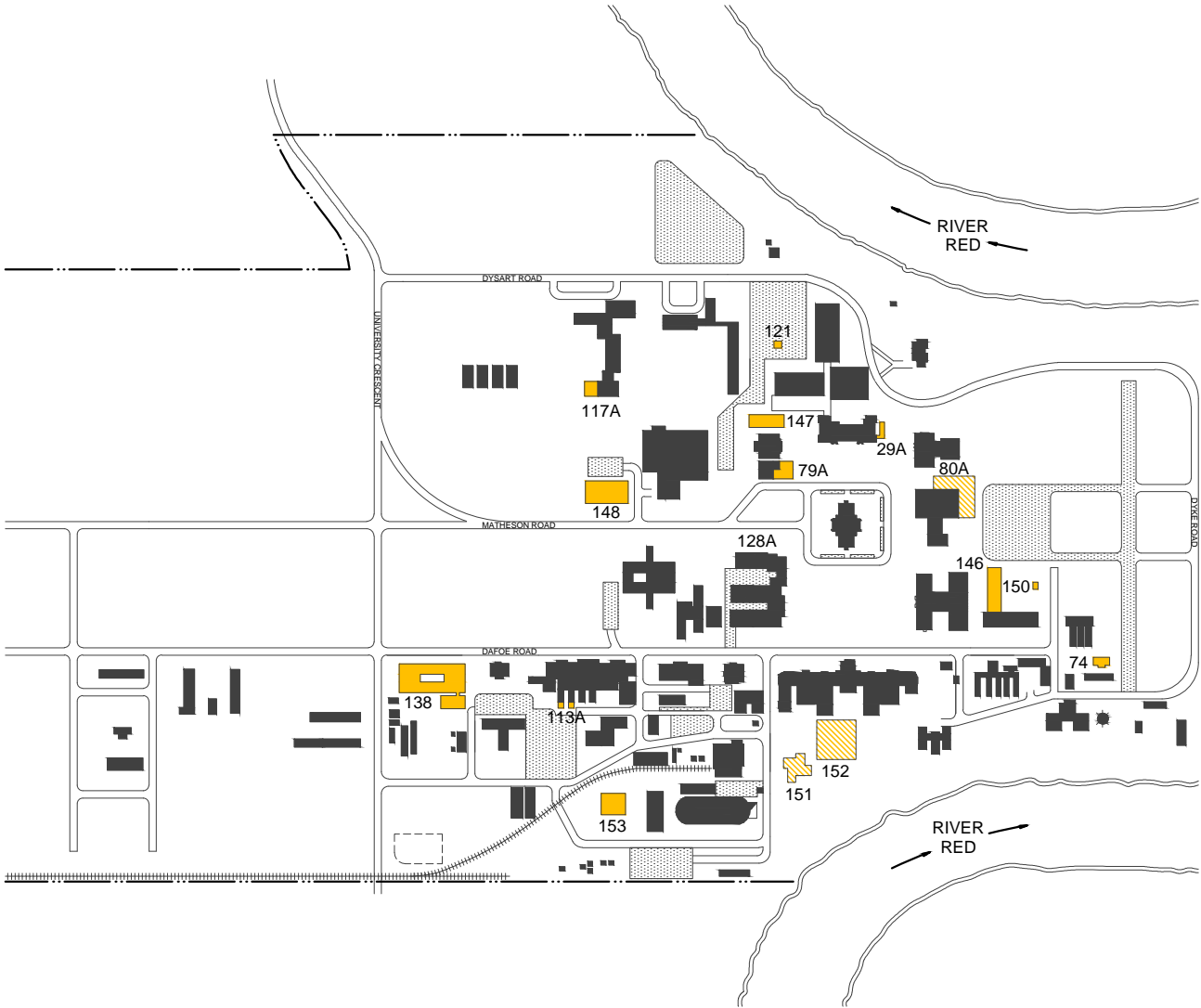
SCALE: NTS

PROJECT DIRECTORY

- 29A Buller (Animal House Addition)
- 74 Forest Insect Laboratory No. 2 (New Location)
- 79A Bookstore Addition
- 80A Library Addition
- 113A Plant Science Greenhouse (Addition)
- 117A St. Paul's College (Addition)
- 121 Cyclotron
- 128A Engineering Building (Addition)
(2 Floors to Centre Wing)
- 138 Animal Science
- 146 Forestry Research Station (Federal Government)
- 147 Pharmacy
- 148 Education
- 150 Volatile Storage (Federal Government)
- 151 Mary Speechly Hall
- 152 Pembina Hall
- 153 Operation and Maintenance Stores

1963

04



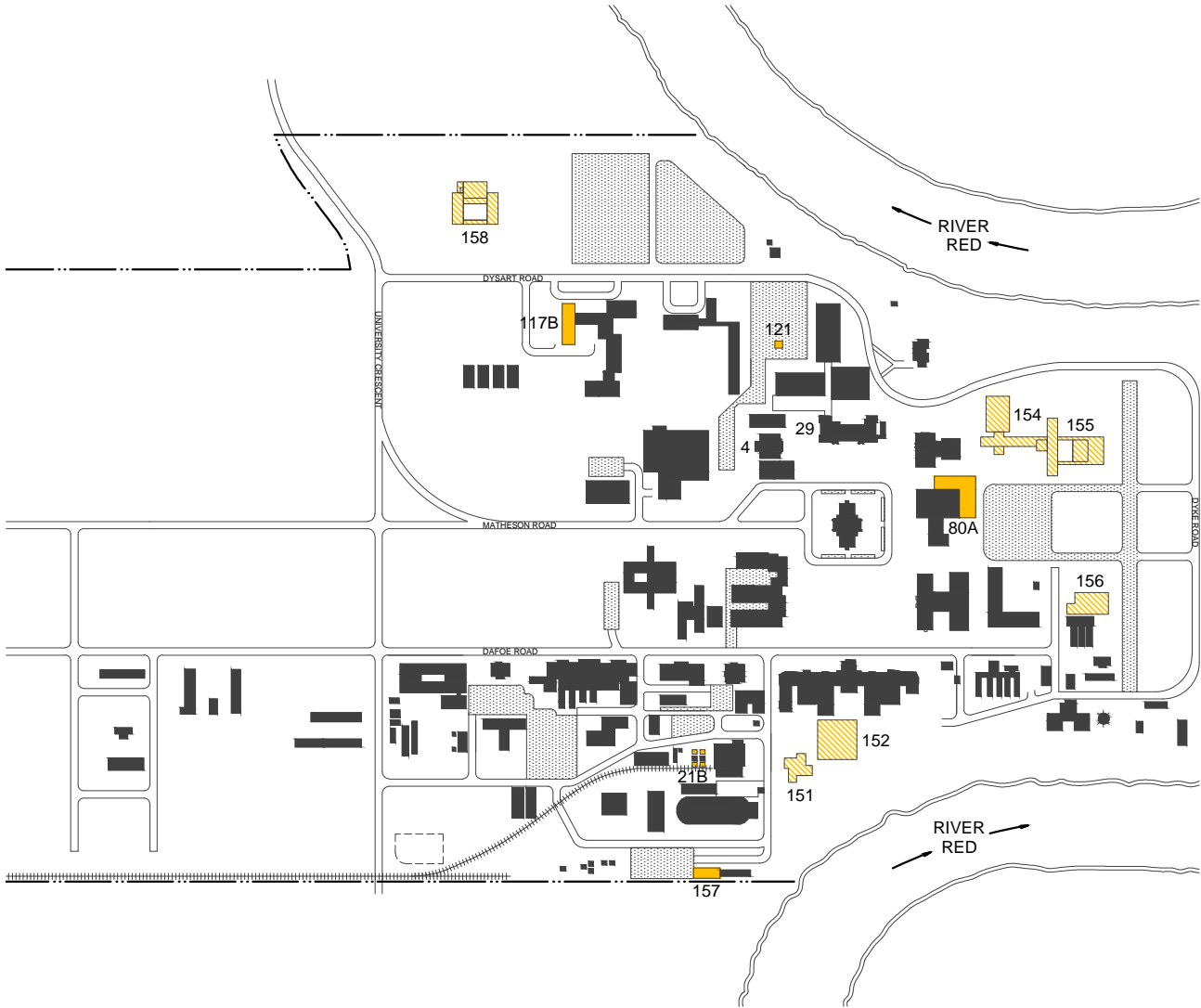
 SCALE: NTS

PROJECT DIRECTORY

4	Geology Building (Alterations and Renovations)
21B	Power House (Oil Tanks)
29	Buller Building (Alterations and Renovations)
80A	Library Addition
117B	St. Paul's College (Addition)
121	Cyclotron
151	Mary Speechly Hall
152	Pembina Hall
154	University College
155	University College Residence
156	Cereal Breeding Chamber (Federal Government)
157	Geological Core Storage Building (Extension)
158	St. Andrew's College

1964

04

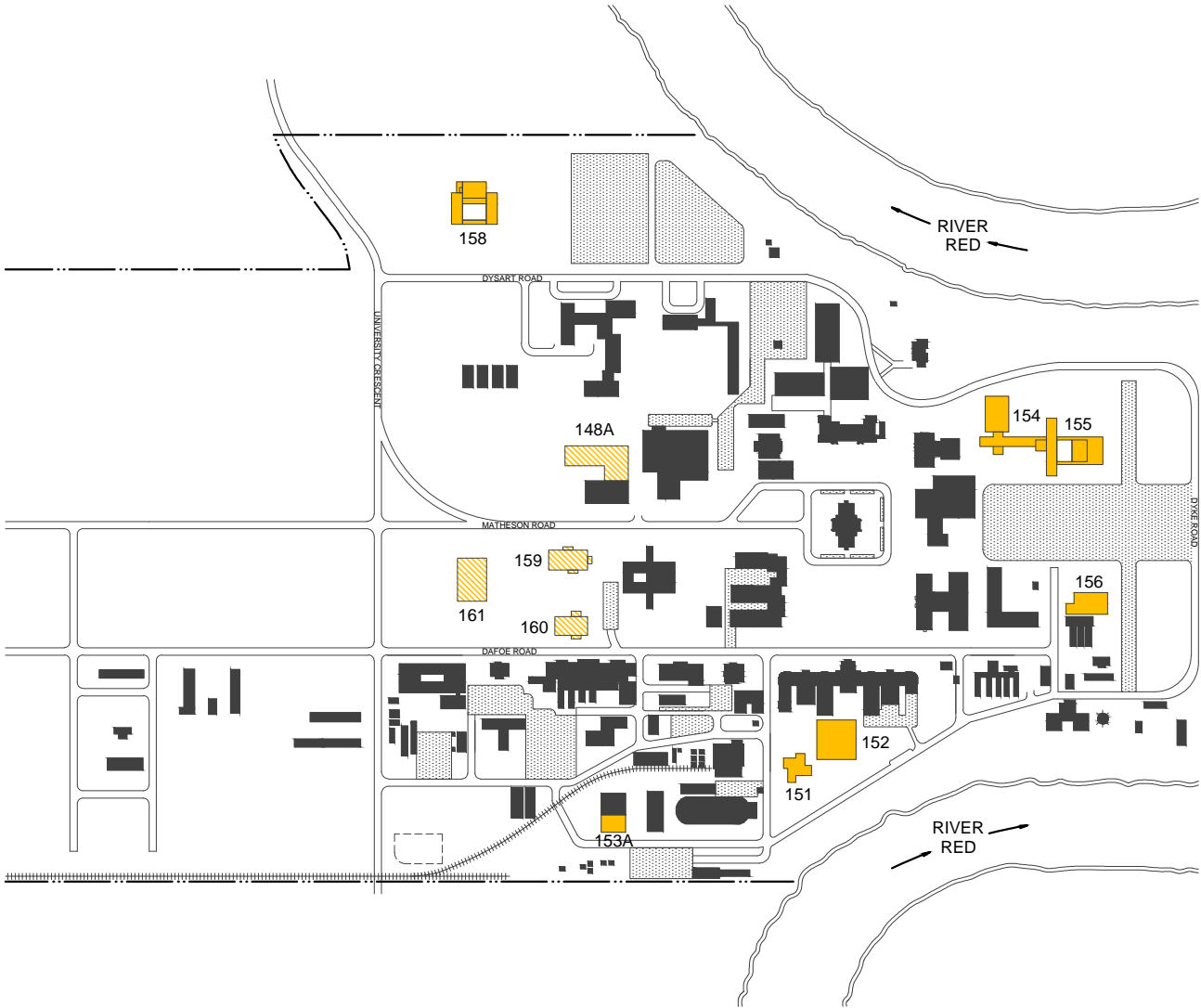


PROJECT DIRECTORY

148A	Education (First Addition)
151	Mary Speechly Hall
152	Pembina Hall
153A	Operation and Maintenance Stores (Addition)
154	University College
155	University College Residence
156	Cereal Breeding Chamber (Federal Government)
158	St. Andrew's College
159	School of Art
160	School of Music
161	Swimming Pool

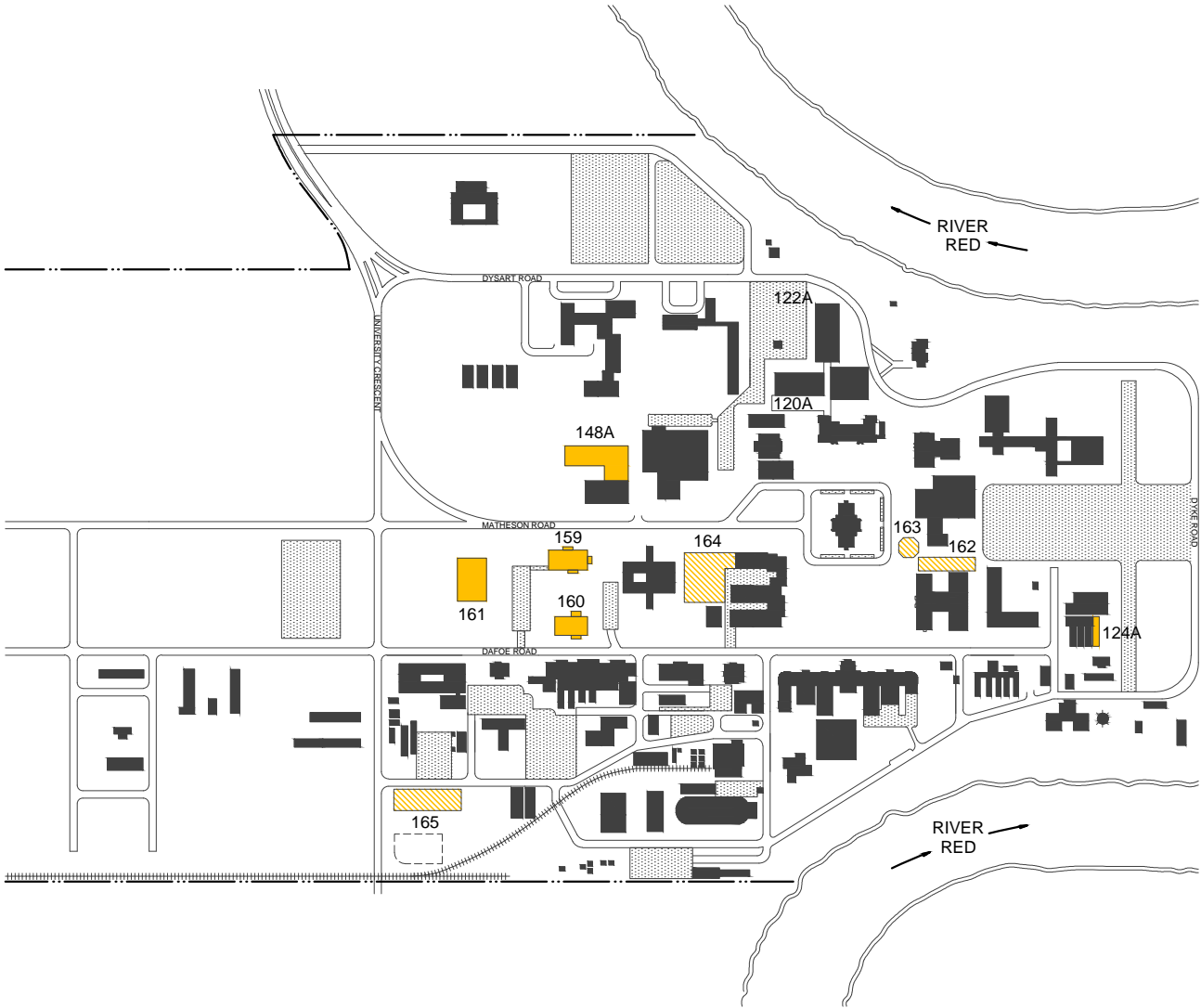
1965

04



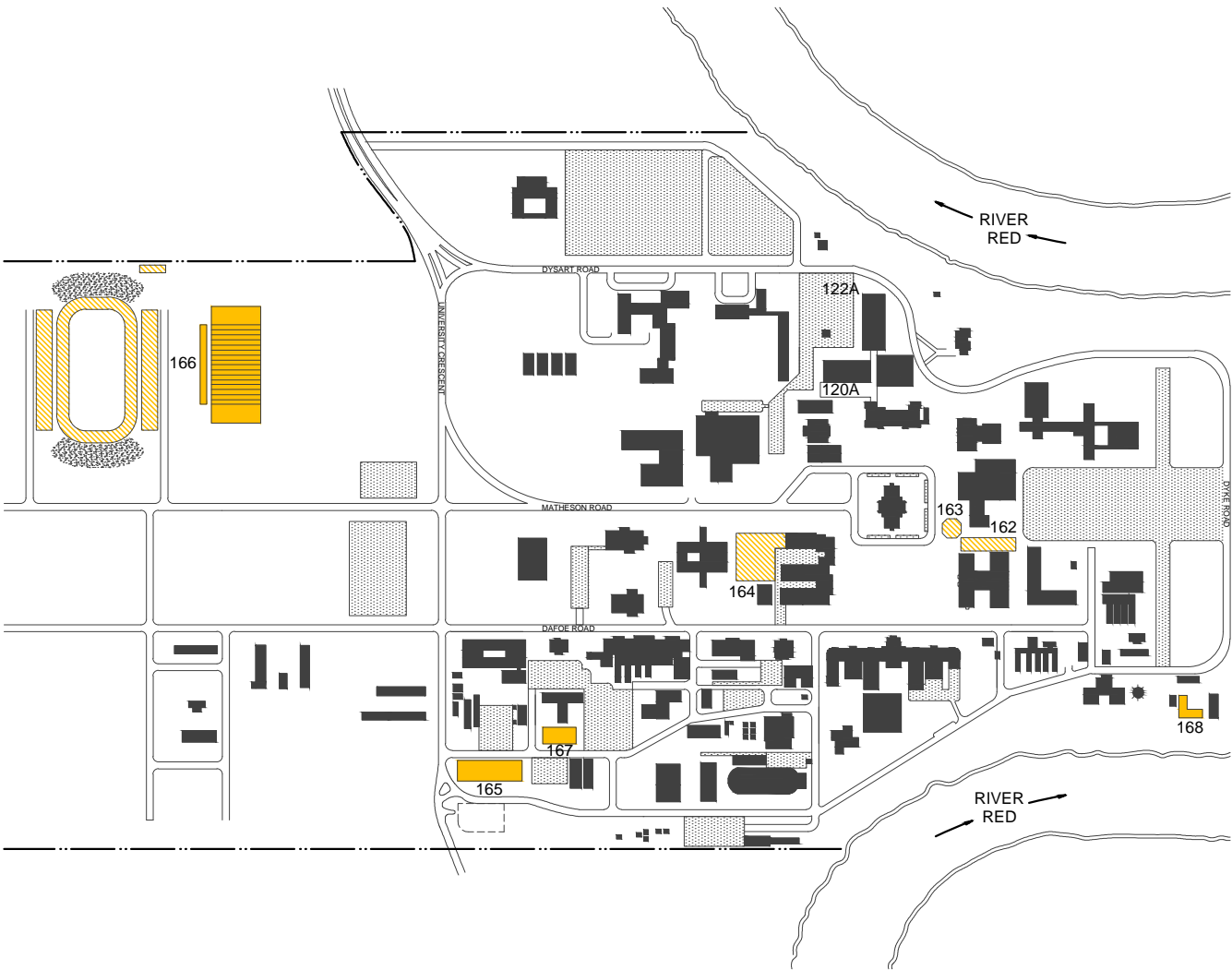
PROJECT DIRECTORY

120A	Allen Physics (4th Floor Addition)
122A	Parker Chemistry (4th Floor Addition)
124A	Greenhouse (Federal Government)
148A	Education (First Addition)
159	School of Art
160	School of Music
161	Swimming Pool
162	Fletcher Argue
163	Fletcher Argue Theatres
164	New Engineering
165	Food Science



PROJECT DIRECTORY

120A	Allen Physics (4th Floor Addition)
122A	Parker Chemistry (4th Floor Addition)
162	Fletcher Argue
163	Fletcher Argue Theatres
164	New Engineering
165	Food Science
166	University Stadium
167	Soil Science Equipment Shed
168	Plant Science Equipment Shed



PROJECT DIRECTORY

- 65 Stock Judging Pavilion (Alterations)
- 120A Allen Physics (4th Floor Addition)
- 122A Parker Chemistry (4th Floor Addition)
- 162 Fletcher Argue
- 163 Fletcher Argue Theatres
- 164 New Engineering
- 165A Food Science (Addition of New Wing and Second Floor)
- 166 University Stadium
- 169 Zoology- Psychology (Duff Roblin)
- 170 Bookstore (Temporary)
- 171 Bus Stop (Temporary)

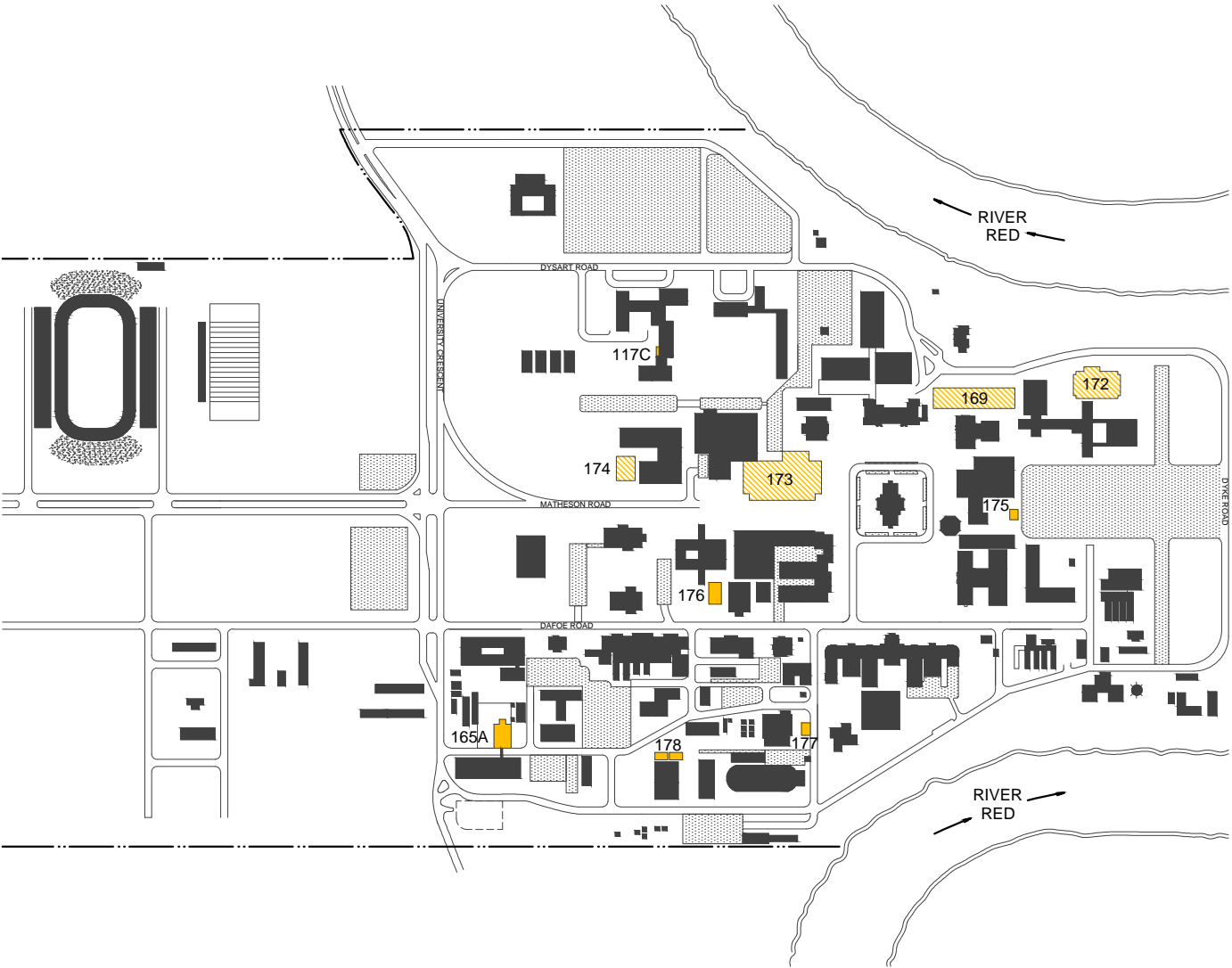
1968

04



PROJECT DIRECTORY

117C	St. Paul's College (Addition)
165A	Food Science (Addition of New Wing and Second Floor)
169	Zoology- Psychology (Duff Roblin)
172	Law (Robson Hall)
173	University Centre
174	Education (Second Addition)
175	Trailers
176	Trailers
177	Trailers
178	Trailers

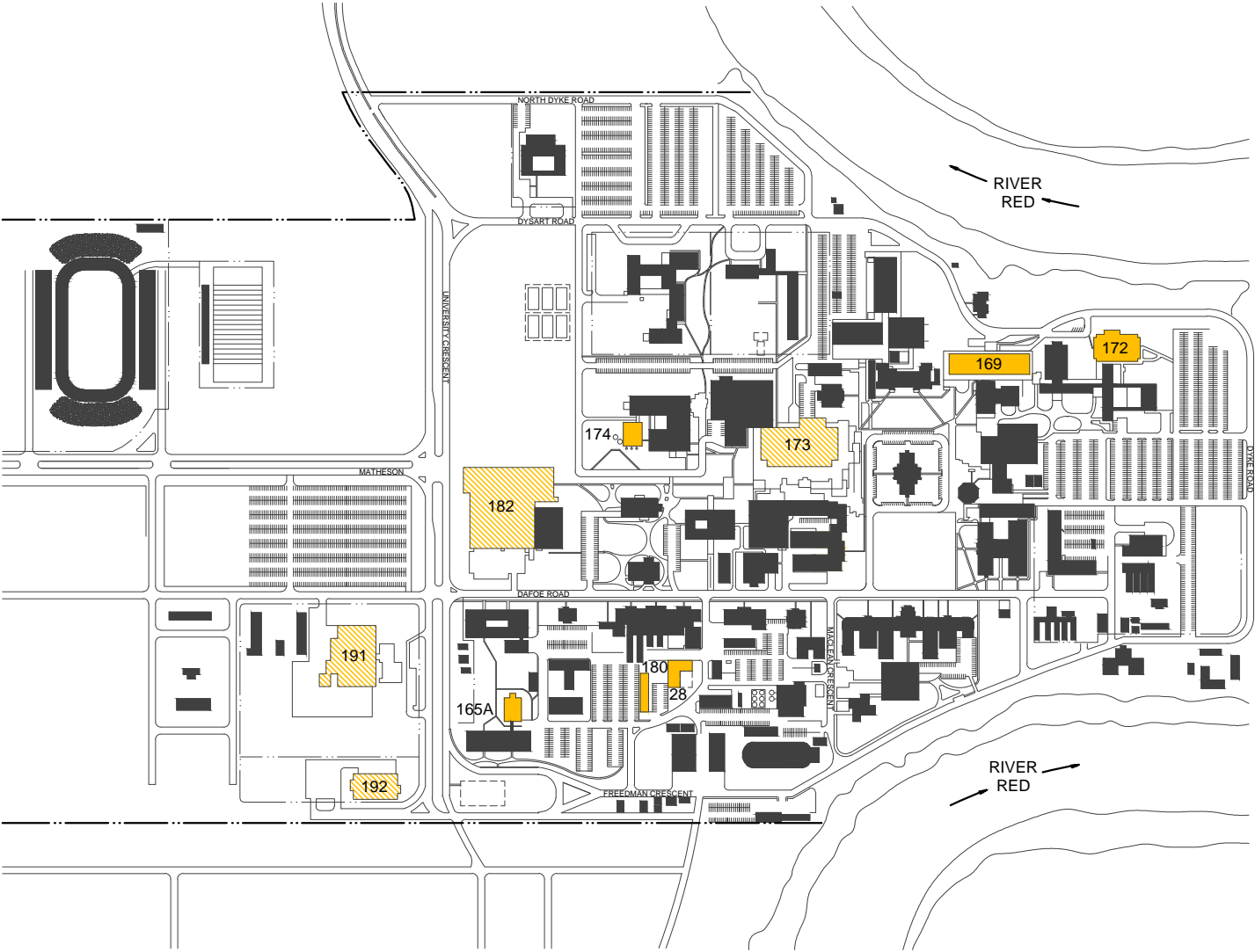


PROJECT DIRECTORY

28	Dairy Barn
165A	Food Science (Addition of New Wing and Second Floor)
169	Zoology- Psychology (Duff Roblin)
172	Law (Robson Hall)
173	University Centre
174	Education (Second Addition)
176A	Trailers (Not Shown- Exact Location Unknown)
179	Botany Greenhouse (Not Shown- Exact Location Unknown)
180	Agricultural Economics Annex
181	Volatile Stores (Federal Government) (Not Shown- Exact Location Unknown)
182	Athletic Centre
183	Trailers (Not Shown- Exact Location Unknown)
184	Trailers (Not Shown- Exact Location Unknown)

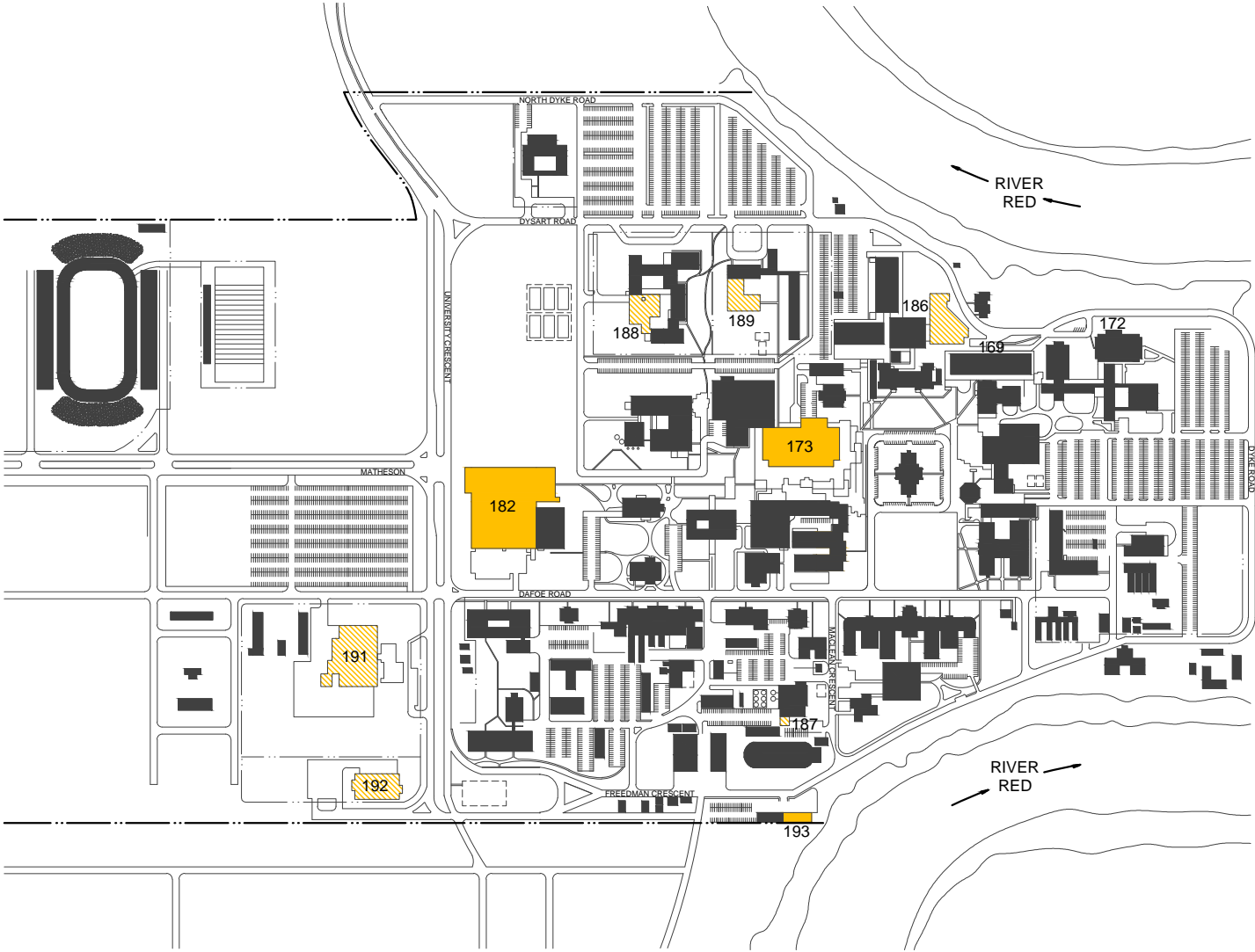
1970

04



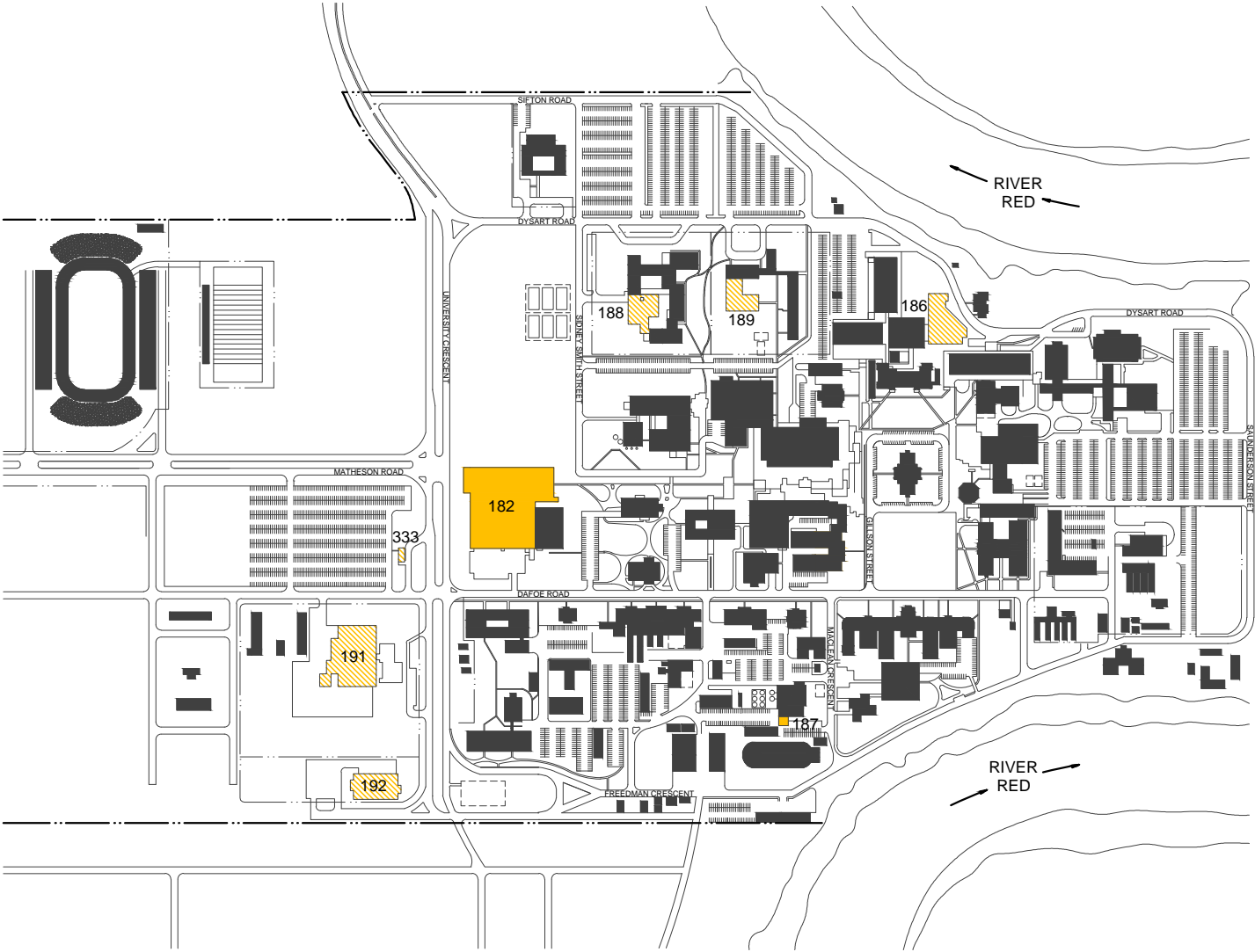
PROJECT DIRECTORY

169	Zoology- Psychology (Duff Roblin)
172	Law (Robson Hall)
173	University Centre
182	Athletic Centre
186	North East Multi-Purpose Building
187	Central Cooling Plant
188	St. Paul's Addition
189	St. John's Addition
191	Federal Government Fresh Water Institute
192	Manitoba Department of Agriculture Research Station
193	MDM Core Storage



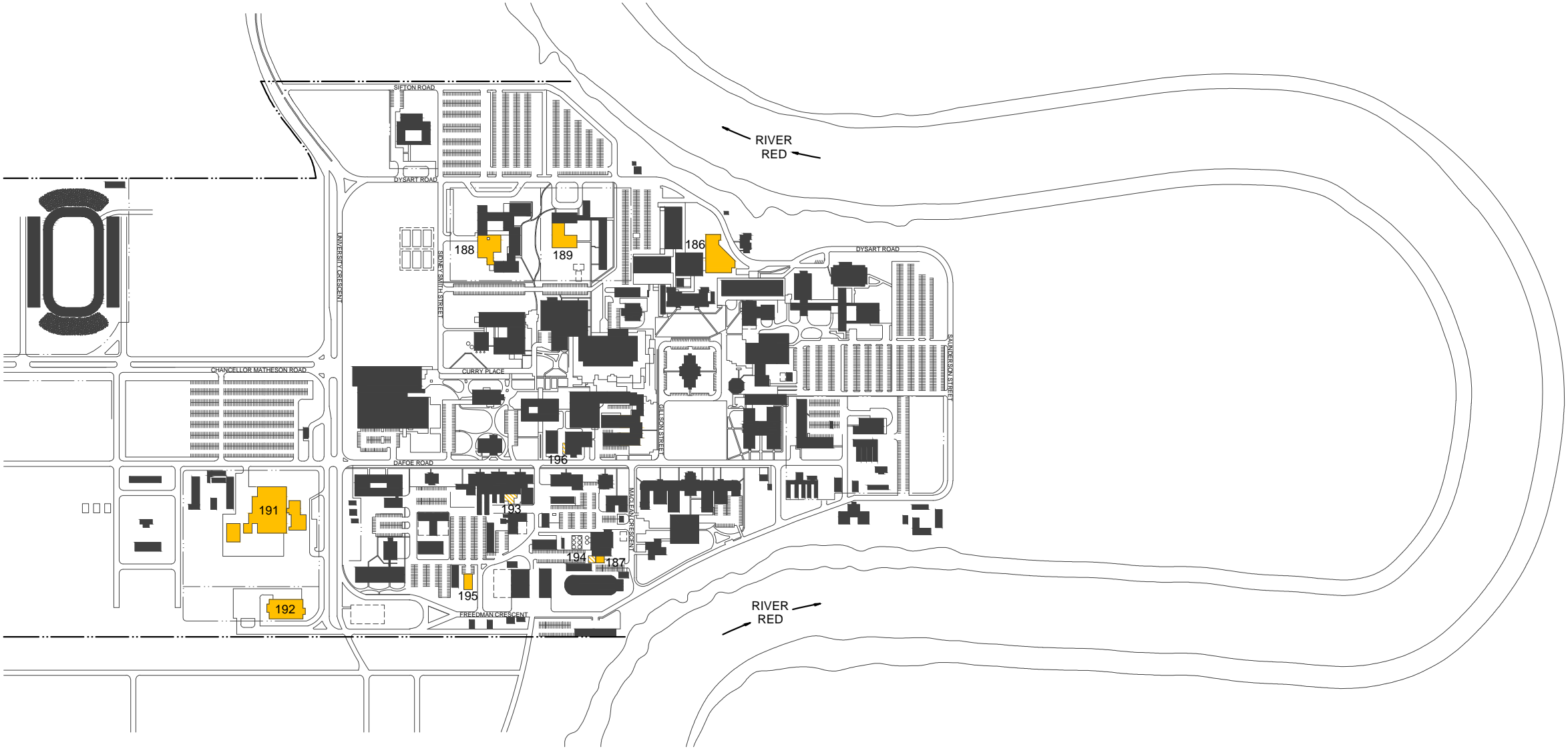
PROJECT DIRECTORY

182	Athletic Centre
186	North East Multi-Purpose Building
187	Central Cooling Plant
188	St. Paul's Addition
189	St. John's Addition
191	Federal Government Fresh Water Institute
192	Manitoba Department of Agriculture Research Station
333	Information Centre



PROJECT DIRECTORY

186	North East Multi-Purpose Building
187	Central Cooling Plant
188	St. Paul's Addition
189	St. John's Addition
191	Federal Government Fresh Water Institute
192	Manitoba Department of Agricultural Research Station
194	Power House Addition
195	Rh Fractionation Laboratory
196	Services Building Addition
197	Plant Science Greenhouse

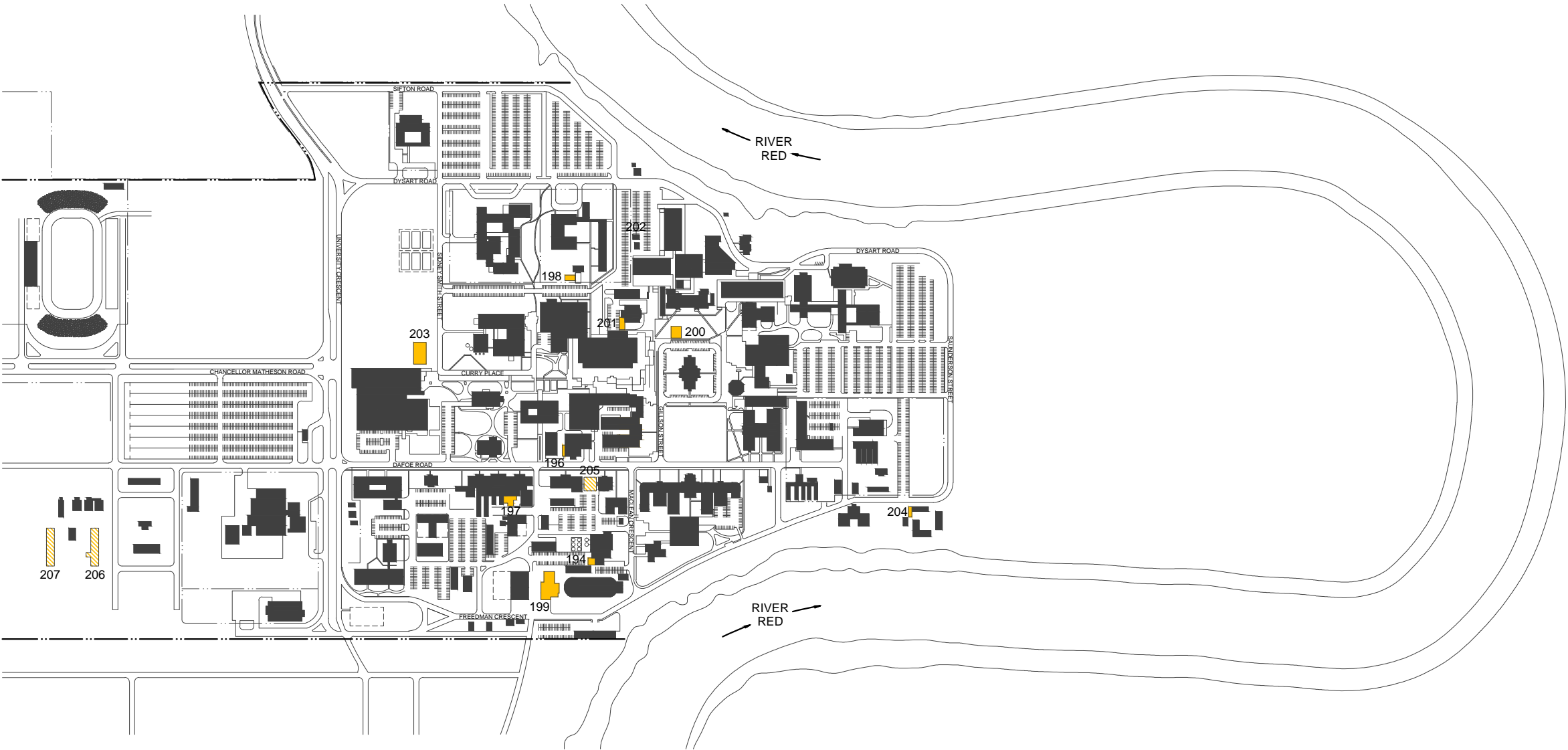


PROJECT DIRECTORY

194	Power House Addition
196	Services Building Addition
197	Plant Science Greenhouse
198	Day Care Centre Addition (Trailers)
199	Operations and Maintenance Building (Reconstructed After Fire Loss)
200	Earth Sciences (Trailers)
201	Earth Sciences- Prefab. Annex
202	Ion Source Hall
203	Administrative Studies (Study Space Annex)
204	Plant Science (Trailer)
205	Agricultural Engineering Annex
206	Poultry Cage Laying Building
207	Poultry Brooding and Growing Building

1977

04



PROJECT DIRECTORY

- 205 Agricultural Engineering Annex
- 206 Poultry Cage Laying Building
- 207 Poultry Brooding and Growing Building
- 208 Addition to Dafoe Library
- 209 Bioassay Laboratory
(Freshwater Institute Government of Canada)

1979

04

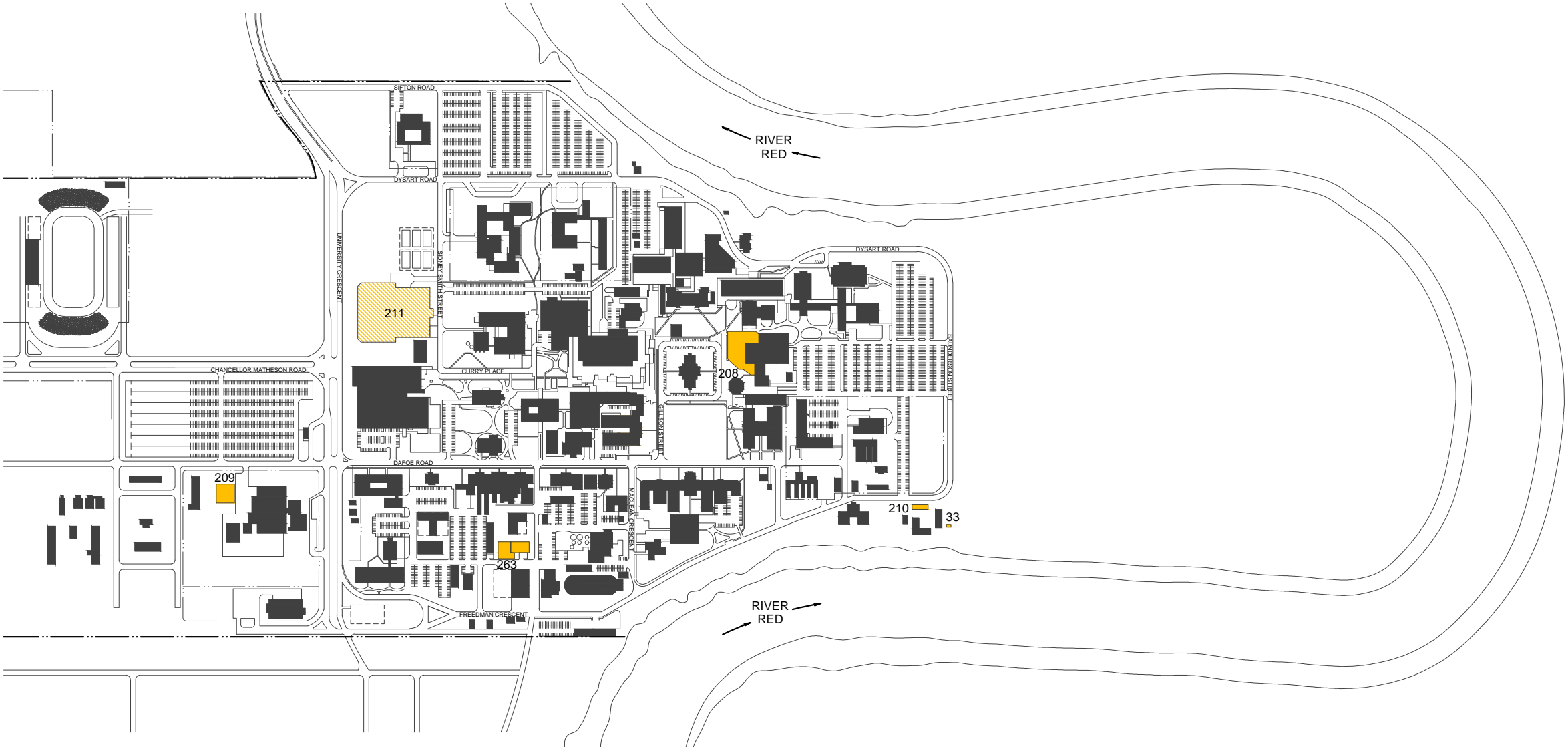


PROJECT DIRECTORY

- 208 Addition to Dafoe Library
- 209 Bioassay Laboratory
(Fresh Water Institute Government of Canada)
- 210 Plant Science (New Field Station)
- 211 Winter Sports Complex
- 263 Ceramics / Sculpture Building
- 33 Plant Science Pesticide & Fertilizer Storage
- 370 Storage Trailer (Carpentry Shop)
(Not Shown Exact Location Unknown)

1980-1984

04



PROJECT DIRECTORY

156	Wallace Building
38	Plant Science Vegetable Storage
117	Drake Centre
316.1	Max Bell Centre Link
156.8	Tunnel- Wallace (Not Shown)
893	Tunnel- Tier (Not Shown)

1985-1989

04



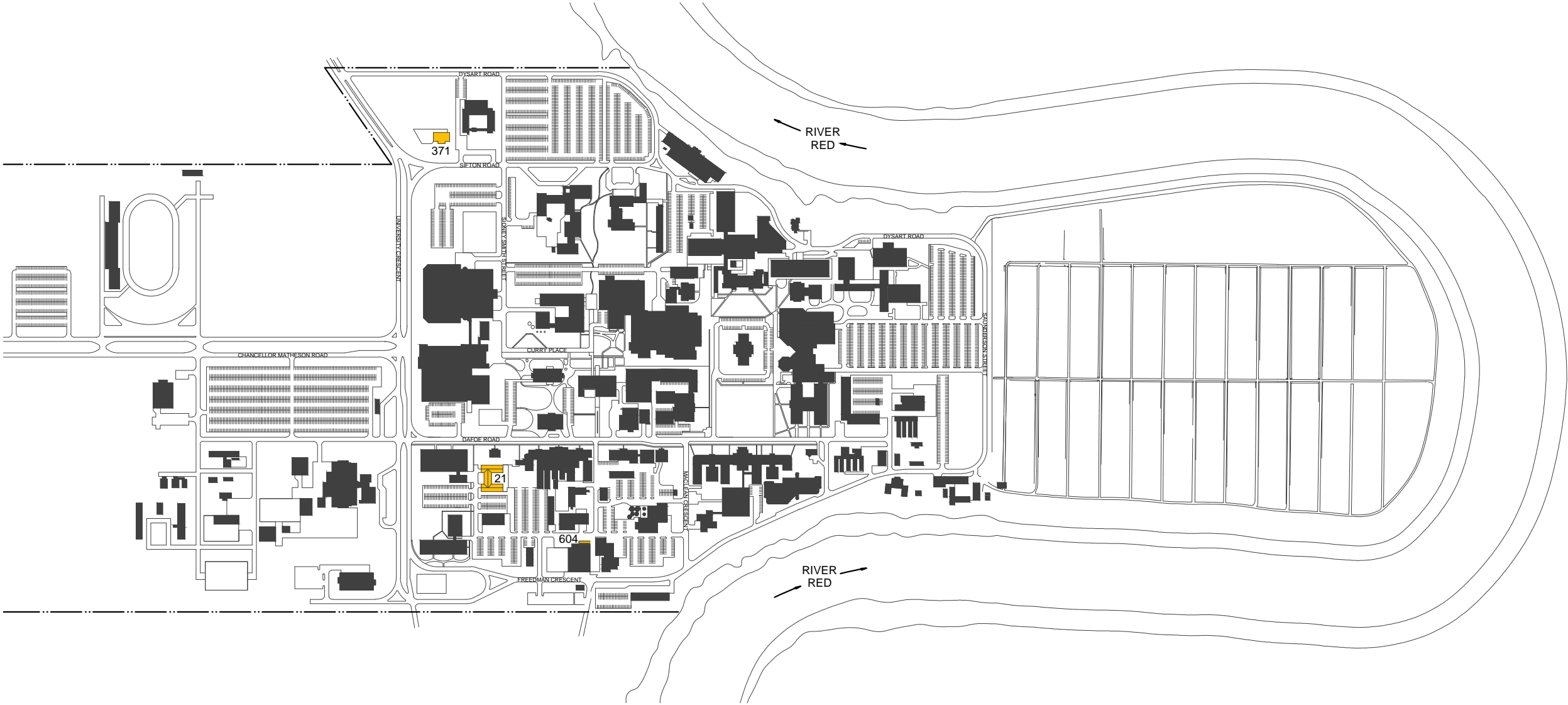
SCALE: NTS

PROJECT DIRECTORY

- 371 Campus Day Care Centre
- 21 T.K. Cheung Centre
- 604 Physical Plant Trailer A
(Not Shown Exact Location Unknown)
- 899 Tunnel- Administration to Taché (Not Shown)
- 895 Tunnel- Powerhouse to Taché (Not Shown)
- 896 Tunnel- Taché to U.C. (Not Shown)
- 897 Tunnel- U.C. to Taché (Not Shown)
- 898 Tunnel- U.C. to Allen (Not Shown)

1990-1994

04

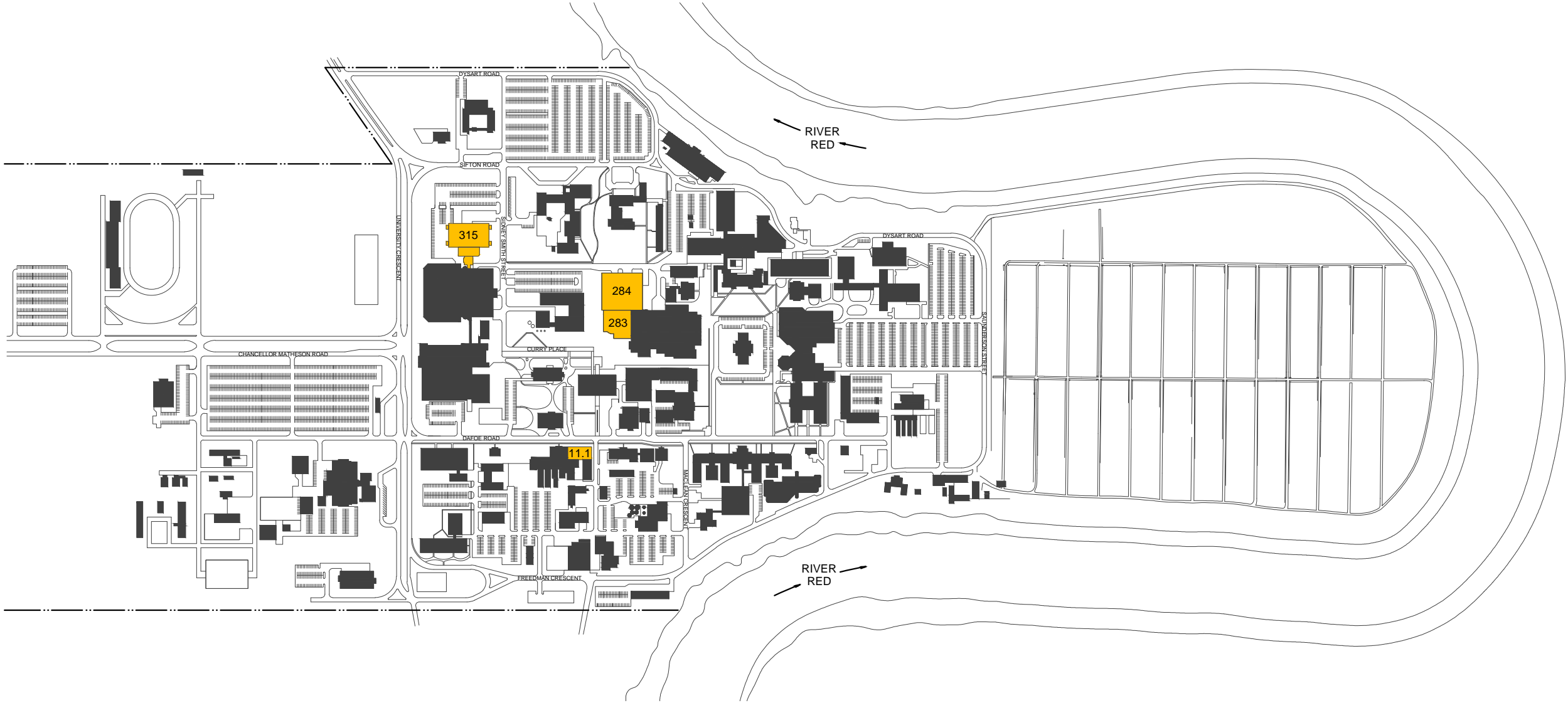


PROJECT DIRECTORY

- 11.1 Agriculture Building – East Block
- 315 Investors Group Athletic Centre
- 283 Helen Glass Centre for Nursing
- 284 Fort Garry Campus Parkade

1995-1999

04



FORT GARRY CAMPUS

04

2000-2018

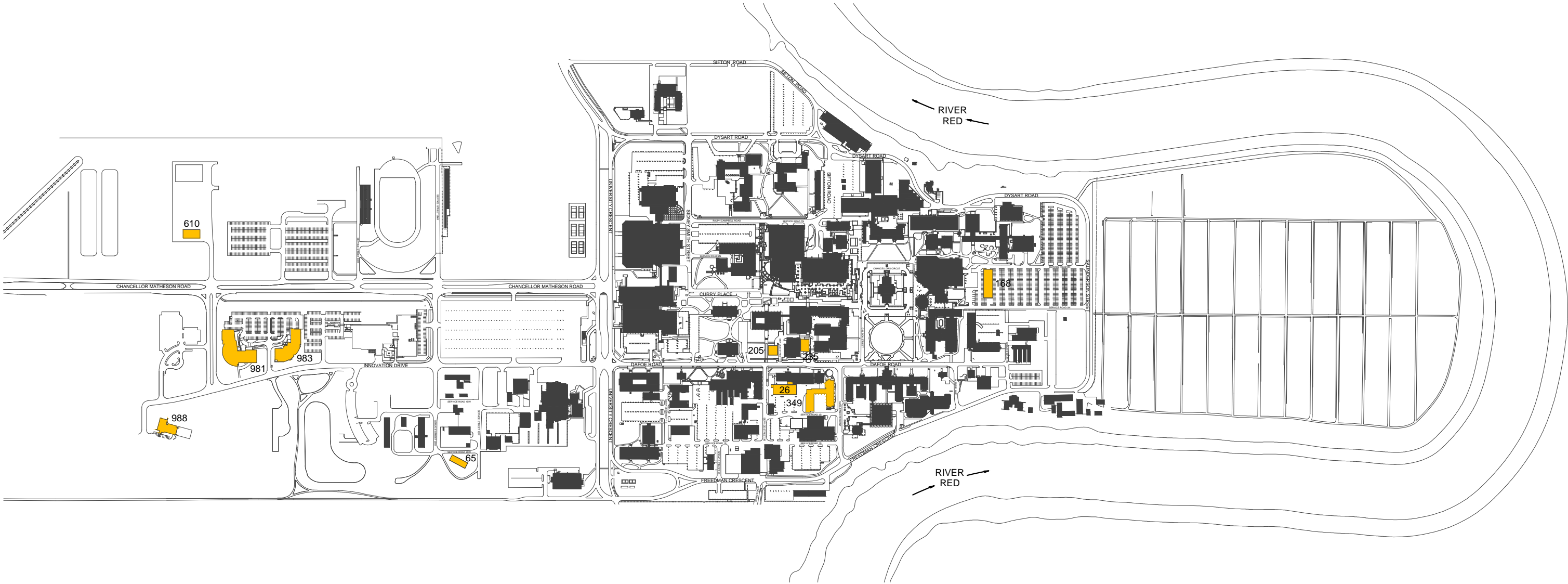


PROJECT DIRECTORY

168	B Lot Trailers
26	CWB Grain Research Laboratory
205	C.A.S.T. Building
610	Physical Plant Compound Storage
981	135 Innovation Drive
983	137 Innovation Drive
235	McQuade Structures Lab
65	Straw Bale Building
988	100-78 Innovation Drive (TransGrid Solutions)
349	Arthur V Mauro Student Residence
894	Tunnel- Powerhouse to Arthur Mauro "SC" (Not Shown)
20	Crop Technology Centre

2000-2004

04



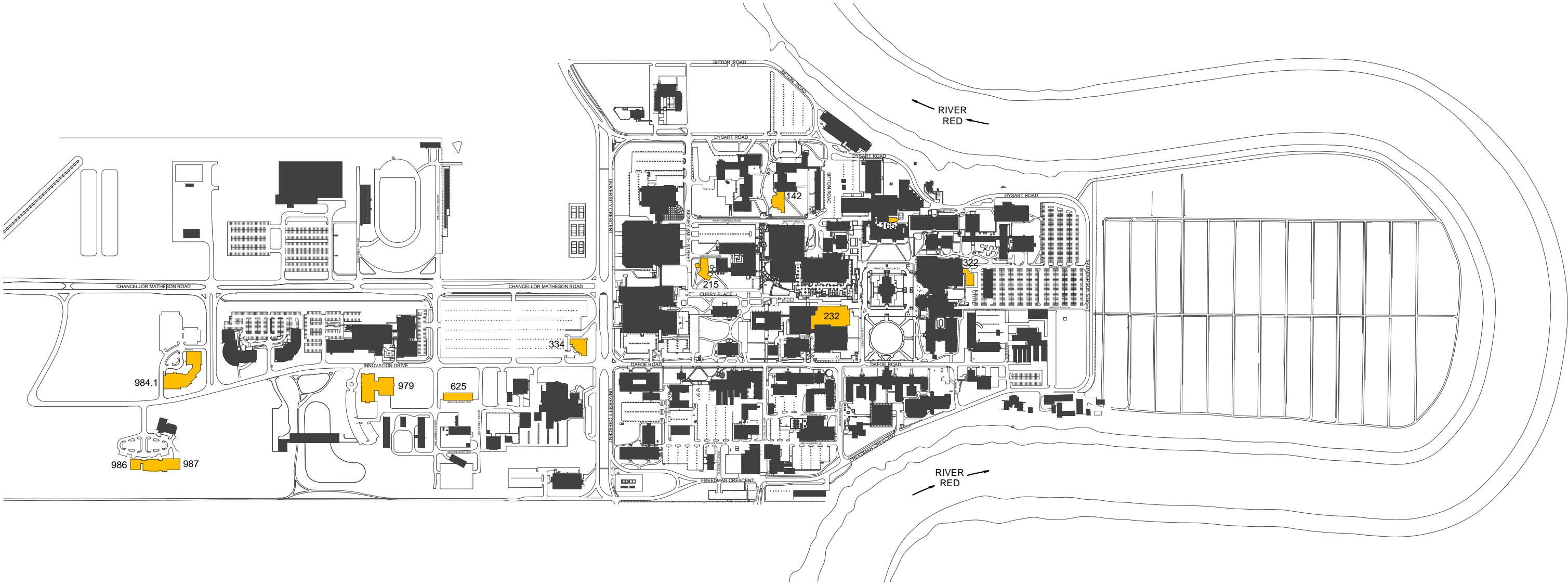
SCALE: NTS

PROJECT DIRECTORY

987	200-78 Innovation Drive (ITC)
986	300-78 Innovation Drive (DMT)
984.1	500-900 One Research Road (Multi-Tenant)
232	EITC-E2
625	Environmental Safety Building
979	Richardson Centre
215	Migizii Agamik (Previous Aboriginal House)
322	Elizabeth Dafoe Library Storage Annex
142	St. John's Robert B. Schultz Theatre
334	Welcome Centre
165	High Performance Computer Facility

2005-2009

04



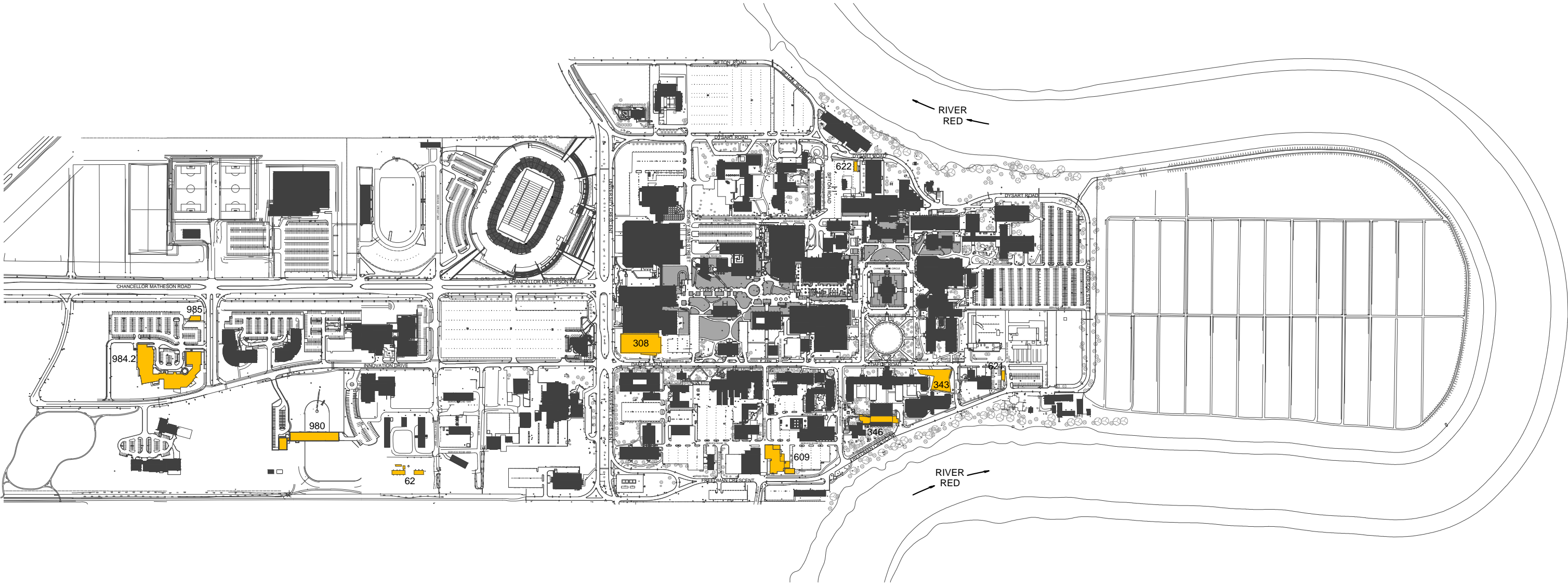
SCALE: NTS

PROJECT DIRECTORY

980	150 Innovation Drive
984.2	500-900 One Research Road (Canola Breeder)
985	Event Centre
621	Generator Building – East
622	Generator Building – North
62	Sea-Ice Building
346	Pembina Hall Residence
343	Art Lab
609	Physical Plant Addition (Renovation)
308	Active Living Centre

2010-2014

04



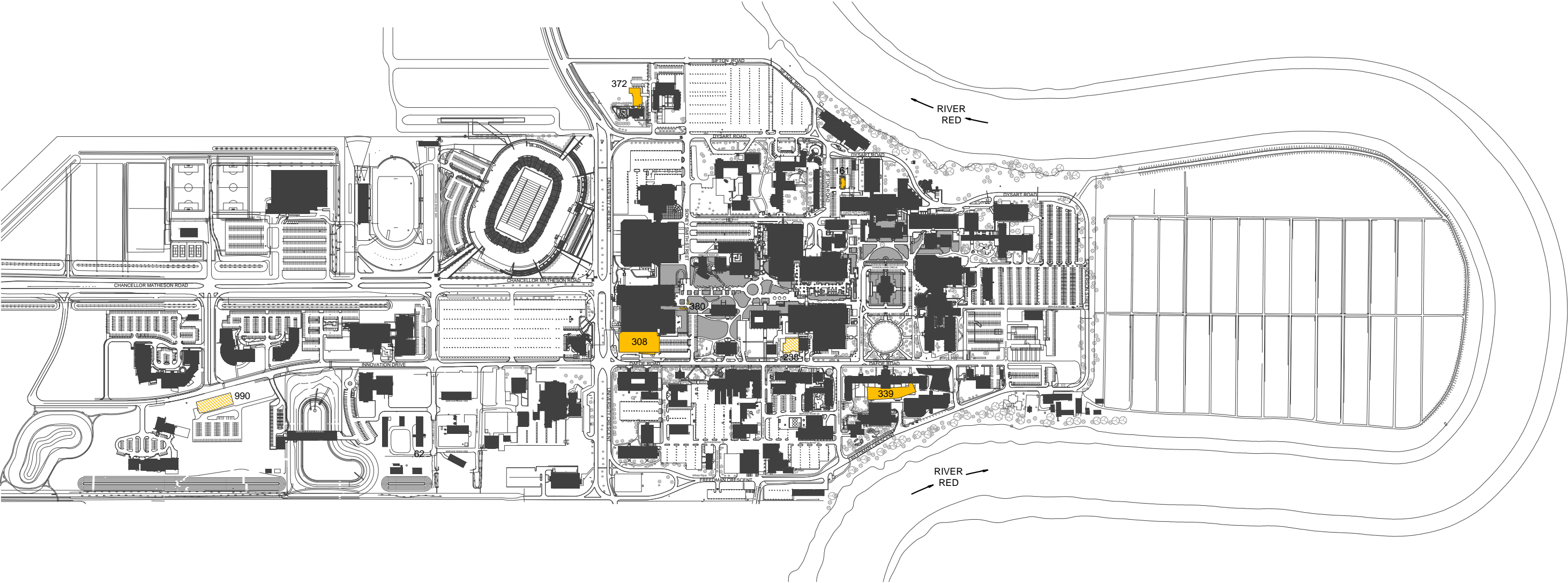
SCALE: NTS

PROJECT DIRECTORY

161	MIM
308	Active Living Centre
339	Tache Hall Addition (Renovation)
380	Bike Kiosk
62	Sea-Ice Building/Quonset Hut
372	Campus Day Care Centre (Addition)
238	Stanley Pauley Engineering Building

2015-2018

04



SCALE: NTS

The Fort Garry Campus' building names and numbers have changed with the development of the campus. The following directory (pages 91-93) and campus map (page 94) represent the Fort Garry Campus' building names and numbers as they are known today.

DIRECTORY

610	Physical Plant Storage Bldg. #1	205	C.A.S.T. Building
610	Outdoor Tennis Courts	12	Agricultural & Civil Engineering
803	Outdoor Soccer Fields	235	Mcquade Structures Lab
319	Winnipeg Soccer Complex	237	Stanley Pauley Centre
317	University Stadium	27	Dairy Science
318	Physical Education Fieldhouse	349	Mauro Student Residence (Arthur V. Mauro)
320	Investors Group Field Storage Trailer	341	Tache Arts Complex
111	Fletcher Argue Building	115	Tier Building
321	Elizabeth Dafoe Library	343	Artlab (Art Studio Building)
81	Human Ecology	113	Isbister Building
157	Buller Building	20	Crop Technology Centre
159	Fitzgerald Building	621	East Generator Building
303	University Centre	076	Storage Building
331	Administration Building	371	Campus Day Care Centre
232	Eitc E2	147	St. Andrew's College- U.M.F.A.
233	Eitc E3		
261	Architecture 2		
211	Education Building		
201	Russell Building (John A.)		
283	Helen Glass Centre		
15	Animal Science/Entomology		
311	Joyce Fromson Pool		
14	Agriculture Lecture Block		
380	Bike Kiosk		
271	65 Dafoe Road- Catl		
11	Agriculture Building		

2018

04

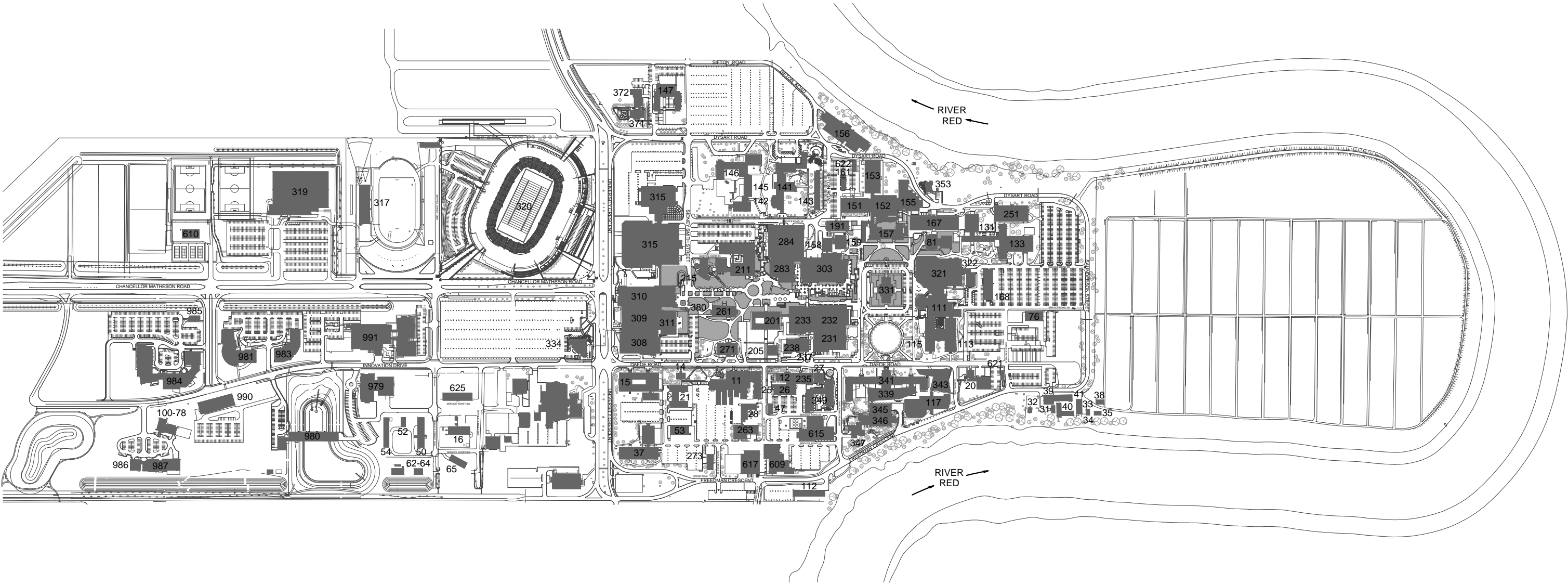
145	St. Paul's College	981	300-78 Innovation Drive (Cic Centre)
146	Sinnott Building	983	135 Innovation Drive
141	St. John's College	980	137 Innovation Drive
156	Wallace Building	991	150 Innovation Drive
622	North Generator Building	979	Cangene Corporation
153	Parker Building	345	Richardson Centre
603	Flood Pump House	346	Pembina Hall
353	Chancellor's Hall	615	Pembina Hall Student Residence
155	Machray Hall	347	Central Energy Plant
165	High Performance Computer Centre	142	Mary Speechly Hall
167	Duff Roblin Building	985	Robert B. Schultz Lecture Theatre
131	University College Lecture	984	Events Centre
133	University College Residence	984	Dmt
251	Robson Hall	984	Basf
37	Ellis Building	984	Coffee Shop
617	Stores Building	053	Monsanto
609	Physical Plant M.D.M. Core Storage	263	Soil Science Equipment Shed
117	Drake Centre	605	Ceramics/Sculpture
031	Honey House	065	Physical Plant Trailer 'B'
32	Overwintering Building	062-064	Straw Bale Building- Alternative Village
39	Plant Science Field Station	050	Sea-Ice Research Site (Serf)
040	Plant Science Seed Processing	052	Poultry Cage-Laying
041	Plant Science Garages	054	Poultry Service Building
038	Plant Science Vegetable Storage Building	322	Poultry Brooding
034	Canola Processing & Storage	168	Library Storage Annex
033	Pesticide & Fertilizer Storage	321	Trailer- Parking Lot B
231	Eitc E1	021	Psychological Services Centre
988	100-78 Innovation Drive (Montris Medical)	625	T.K. Cheung Animal Research Centre
987	200-78 Innovation Drive (Itc Centre)	016	Environmental Safety Building
986	300-78 Innovation Drive (Cic Centre)	273	Animal Science Equip. Shed

DIRECTORY (CONTINUED)

273	Music Annex One
25	Agriculture Building- Plant Science
26	Cwb Grain Research Laboratory
28	Dairy Barn Art Studio
047	Research Annex
315	Investors Group Athletic Centre
316	Max Bell Centre
215	Migizii Agamik (Bald Eagle Lodge)
143	St. John's College Residence
161	Manitoba Institute Of Materials
151	Allen Building
152	Armes Lecture Building
154	Energy Research Laboratory
171	Botany Greenhouse
191	Biological Sciences Building
310	Extended Education
309	Frank Kennedy Centre
334	Welcome Centre
308	Active Living Centre

2018

04



SCALE: NTS

BANNATYNE CAMPUS

1904-2018

04



PROJECT DIRECTORY

451	Medical Services
461	Pathology Building
97	Basic Science Building
459	Medical Rehabilitation (Not Shown Exact Location Unknown)
401.1	Dentistry Building 1
457	Chown Building
401.2	Dentistry Building 2
103	Immunology Building
456	Basic Medical Sciences
401.3	Dentistry Building 3

1904-1989

04



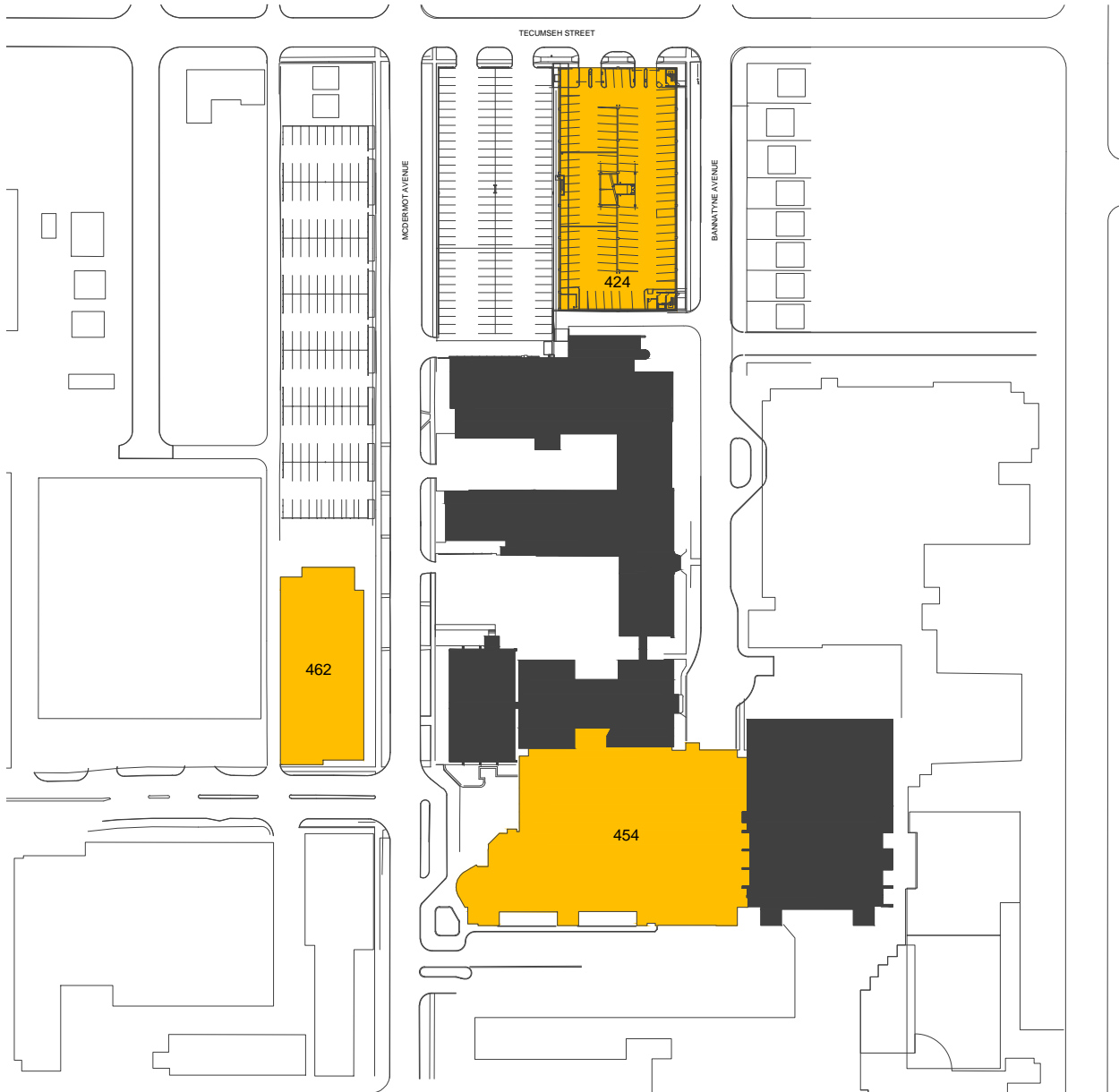
SCALE: NTS

PROJECT DIRECTORY

454 Brodie Centre
424 Bannatyne Campus Parkade
462 Apotex Centre

2010-2018

04



—○ SCALE: NTS

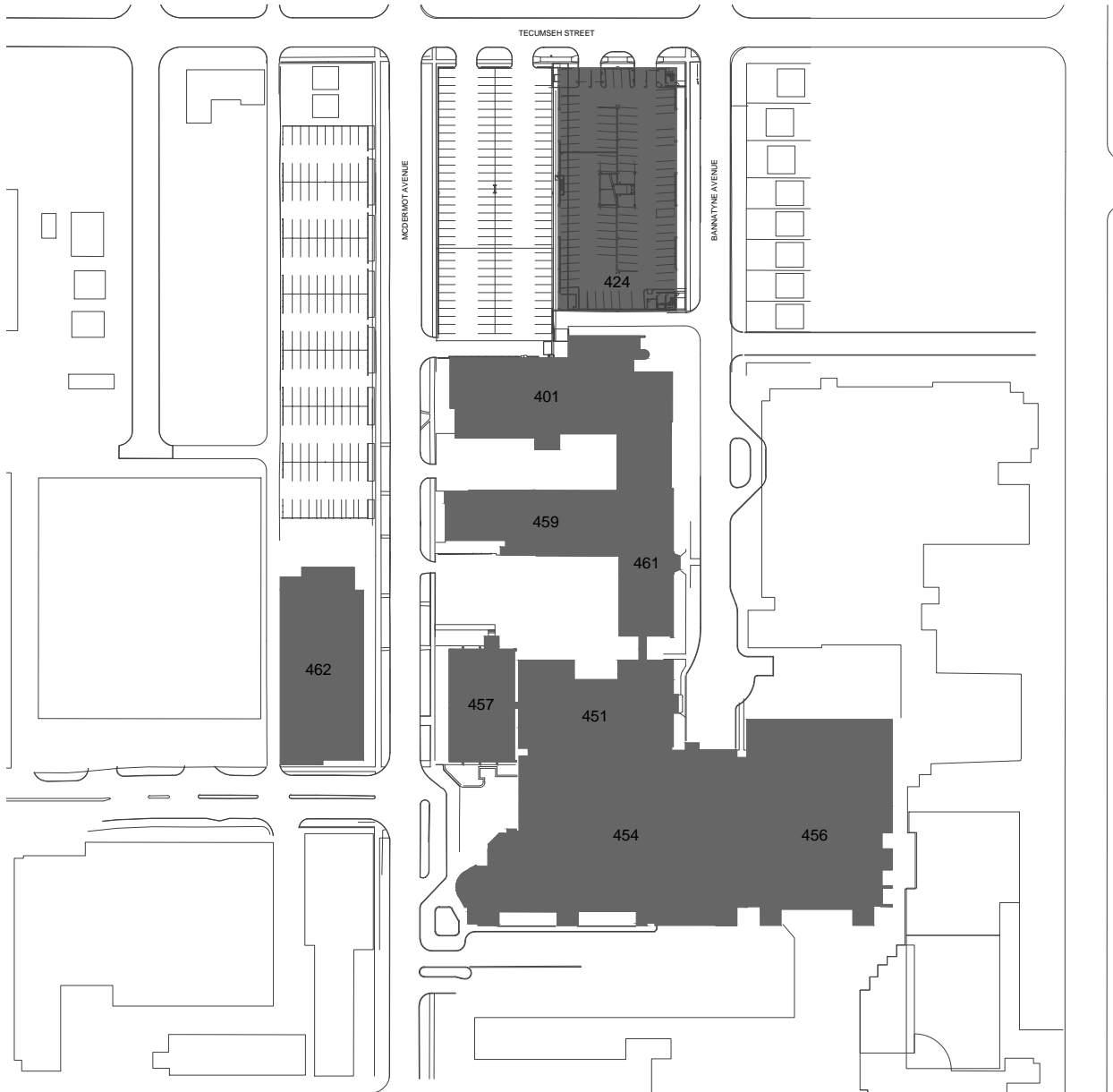
The Bannatyne Campus' building names and numbers have changed with the development of the campus. The following directory and campus map represent the Bannatyne Campus' building names and numbers as they are known today.

DIRECTORY

- 401 Dentistry Building
- 424 Bannatyne Campus Parkade
- 451 Medical Services
- 454 Brodie Centre
- 456 Basic Medical Sciences
- 457 Chown Building
- 459 Medical Rehabilitation
- 461 Pathology Building
- 462 Apotex Centre

2018

04



—○— SCALE: NTS

GLENLEA RESEARCH STATION

The Glenlea Research Station is located on Highway 75, approximately 20 km south of the University of Manitoba Fort Garry campus. Glenlea was officially opened in June 1966 by then-premier Duff Roblin. The area consists of nine river lots which, when purchased in 1962, had comprised three separate farms. The station is operated by the Faculty of Agricultural and Food Sciences with financial support from Manitoba Agriculture and the University of Manitoba.

There are approximately 500 hectares of land partitioned into three main areas by Highway 75 and the railway line. East of Highway 75 are the livestock facilities, dairy pastures and plot areas for Plant Science, Soil Science and Entomology. West of Highway 75 is an area of approximately 400 hectares which is divided into 14 fields, including plot lands for the Long Term Manure & Crop Management Field Laboratory, the Trace Gas Manitoba (TGAS MAN) Greenhouse Gas Field Emission Site and the Glenlea Long Term Crop Rotation Study.

The Red River forms the eastern boundary of the research station. The building area site adjacent to the river is protected by a dike, now approximately two meters higher than the 1997 flood levels.

The main livestock barns utilized by the Department of Animal Science are located on the station and include a 60-cow dairy unit, a swine unit comprised of a 130-sow farrow-to-finish swine barn, and a beef feedlot. Also located on the station are a feed processing facility, an office building, machine shop, equipment and grain storage facilities, and housing for some of the on-site emergency response staff. An off-site research barn is located on the west side of Highway 75. Bioproducts processing and manure composting facilities funded by Western Economic Diversification industry enable investigations of methods to effectively use livestock manure.

1965-2018

04

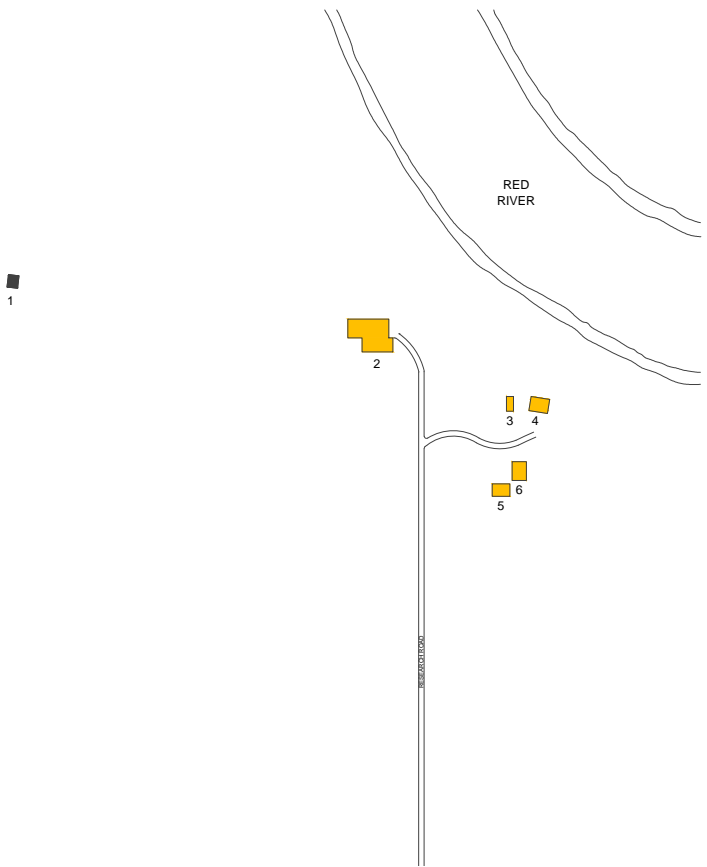


PROJECT DIRECTORY

- 1 Storage Shed (Existing)
- 2 Administration Building
- 3 Sewage Treatment Plant
- 4 Residence 'A'
- 5 Residence 'B'
- 6 Residence 'C'

1965

04



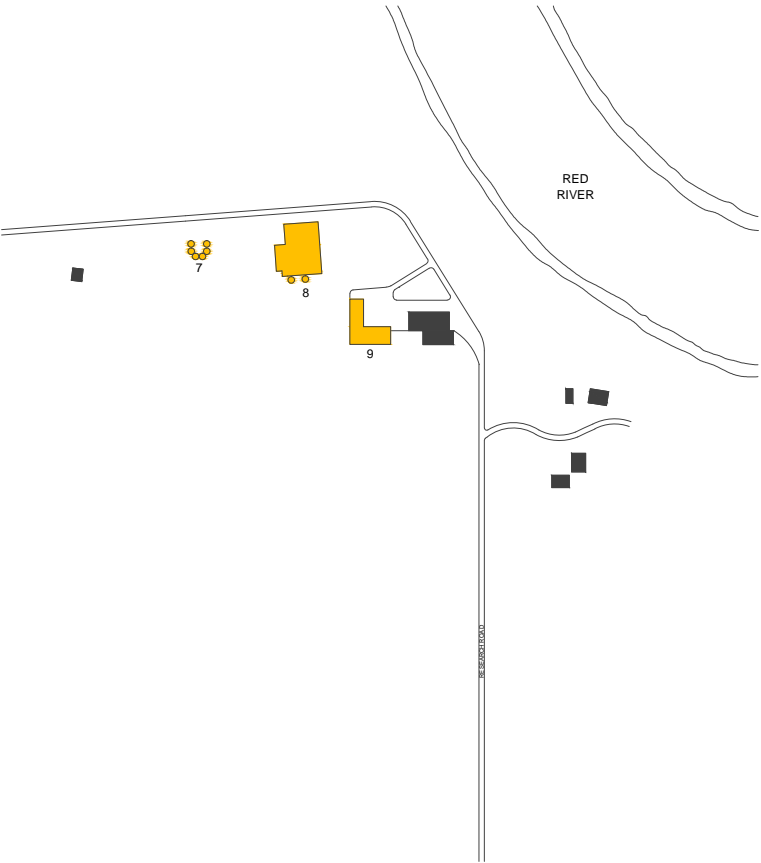
SCALE: NTS

PROJECT DIRECTORY

- 7 Granaries
- 8 Dairy Barn
- 9 Implement Shed

1966

04



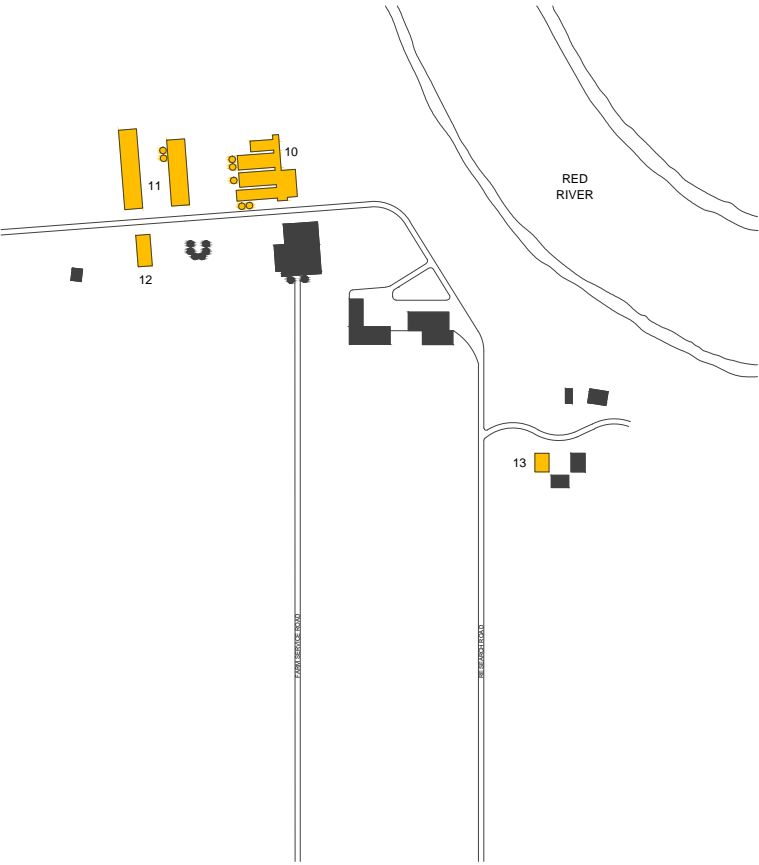
SCALE: NTS

PROJECT DIRECTORY

- 10 Swine Barn
- 11 Beef Barns
- 12 Hay Shed
- 13 Residence 'D'

1967

04



SCALE: NTS

PROJECT DIRECTORY

7A Additional Granaries

1968

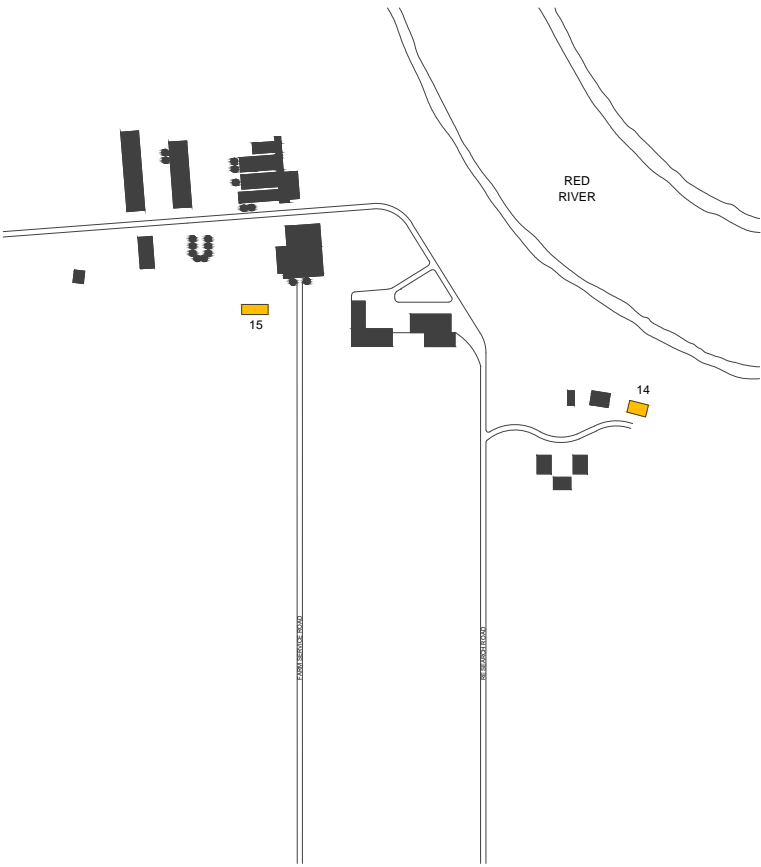
04

PROJECT DIRECTORY

- 14 Residence 'E'
- 15 Manure Shed

1969

04



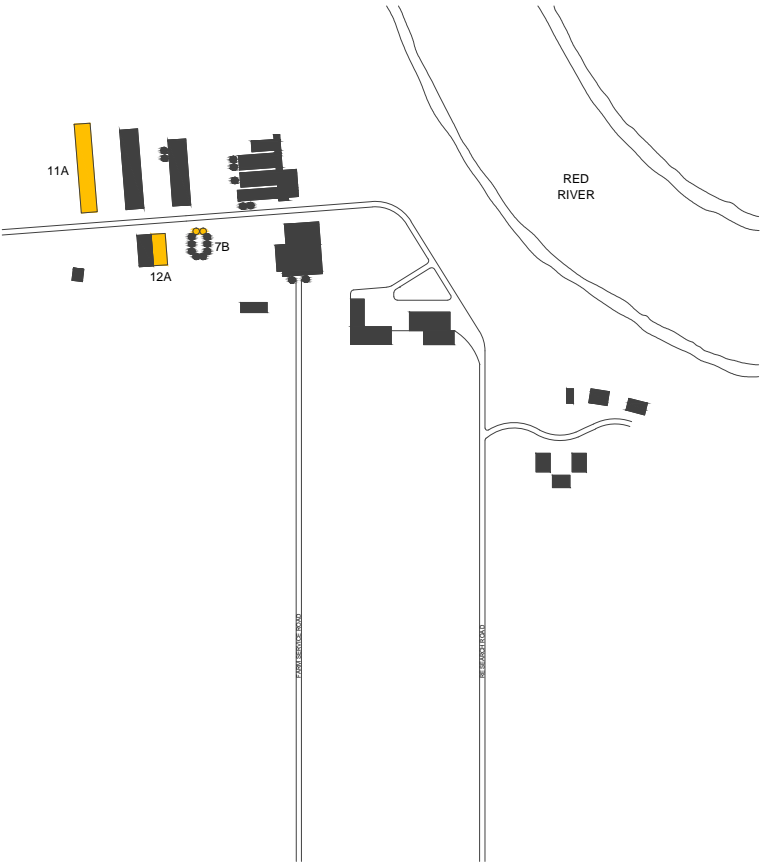
SCALE: NTS

PROJECT DIRECTORY

7B Additional Granaries
11A Beef Barn Addition (from campus)
12A Addition to Hay Shed

1970

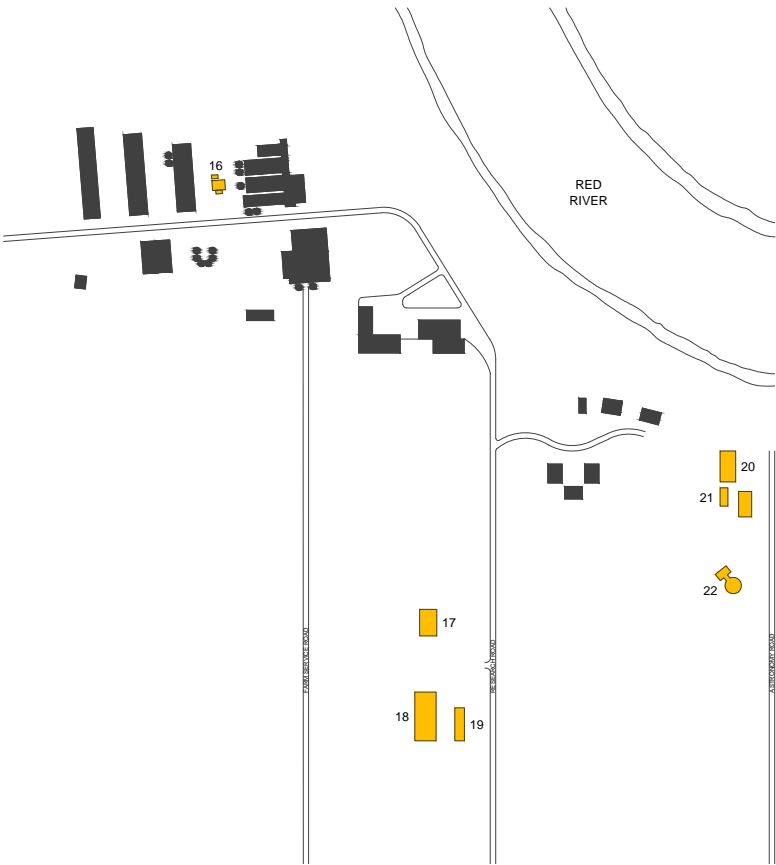
04



SCALE: NTS

PROJECT DIRECTORY

16	Methane Unit
17, 18, 19	Seed Cleaning Complex
20	Trailers, Astronomy
21, 22	Astronomy Units



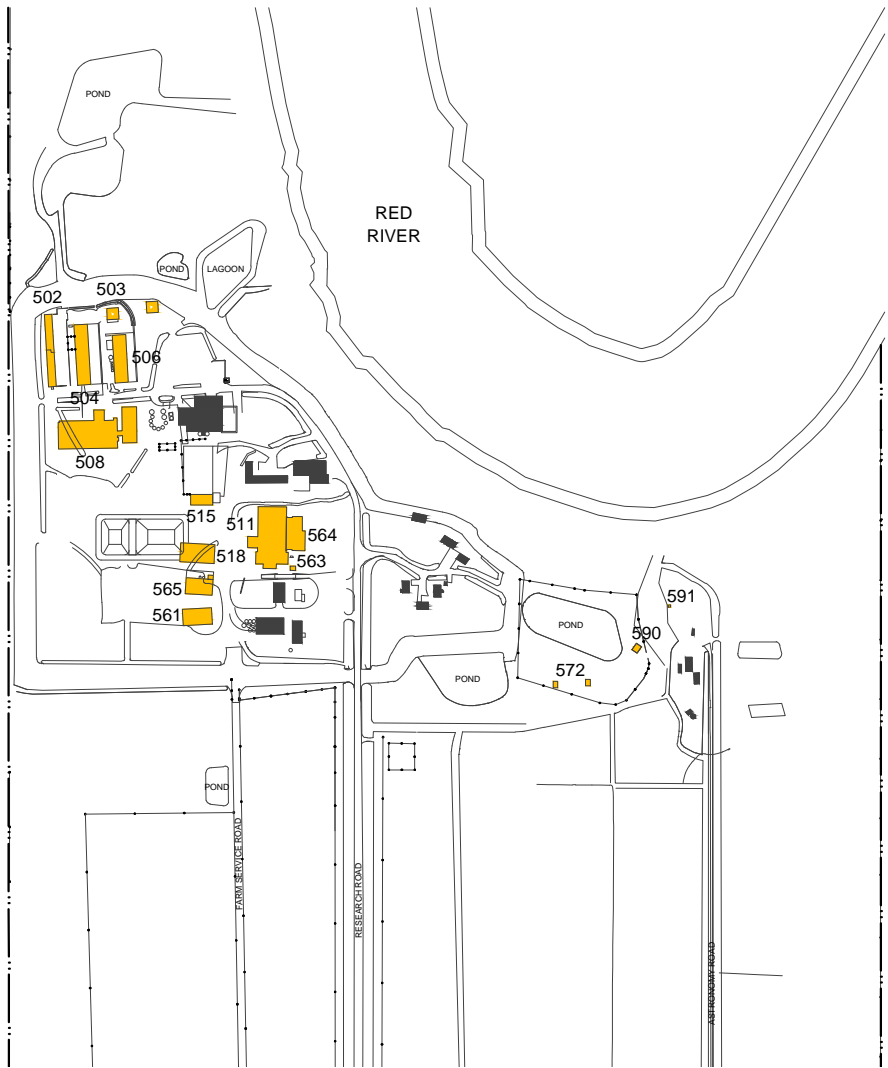
SCALE: NTS

PROJECT DIRECTORY

502	Beef Facility
503	Beef Barn A
504	Beef Barn B
506	Garage
508	Swine Barn- Alternative
511	Swine Barn- Conventional
515	Sewage Shed
518	Solid Manure Storage
543	Glenlea Garage Three
561	Hay Storage Structure
563	Mechanical Equipment Shed
564	Glenlea Farm Education Centre
565	Compost Research Facility
570	Wildlife Administration Building
571	Wildlife Clinic Building
580	Antibiotic Free Facility AIAO
590	Psychology Observation
591	Storage Shed

2010-2018

04



SCALE: NTS

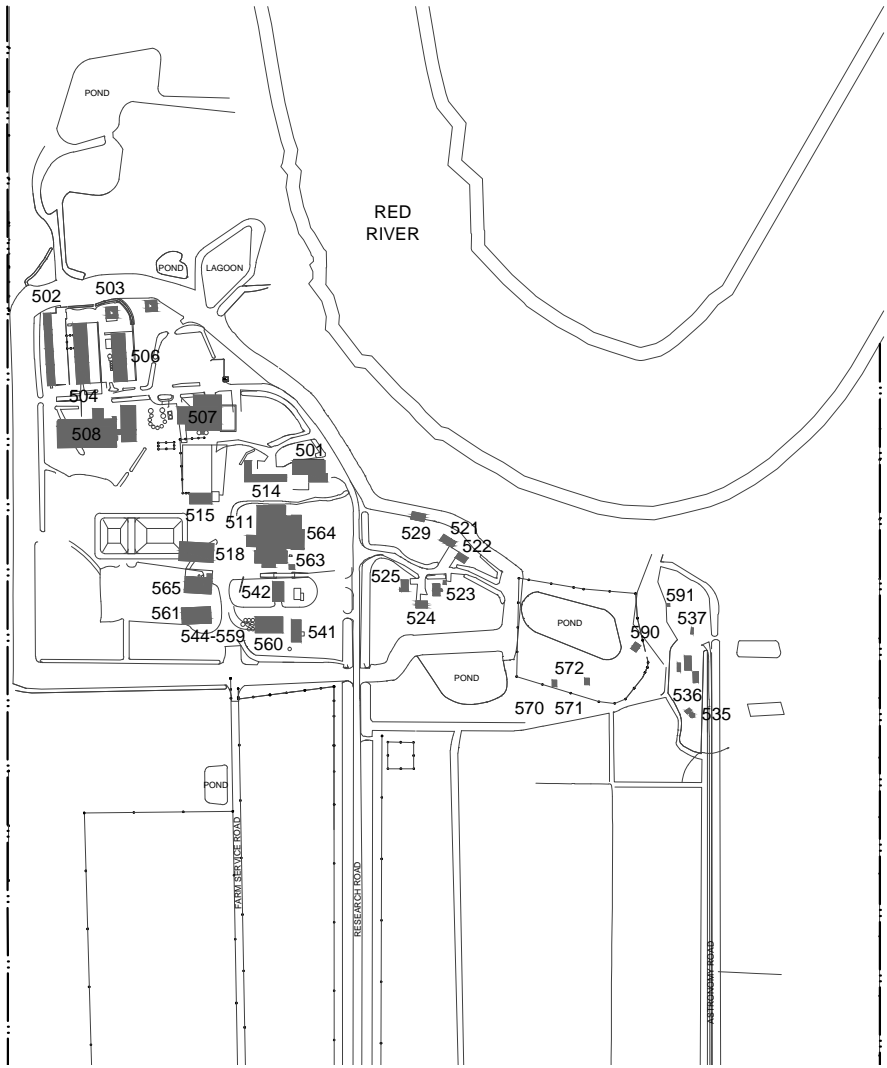
The Glenlea Research Station's building names and numbers have changed with the development of the campus. The following directory and campus map represent the Glenlea Research Station's building names and numbers as they are known today.

DIRECTORY

501	Administration Building and Workshop	561	Hay Storage Structure
502	Beef Facility	563	Mechanical Equipment Shed
503	Beef Barn A	564	Glenlea Farm Education Centre
504	Beef Barn B	565	Compost Research Facility
506	Garage	530	Astronomical Dome (Not Shown- Exact Location Unknown)
507	Dairy Barn and Feed Shed	536	Mobile Building Unit K
508	Swine Barn	537	Mobile Unit
510	Scale Shack	570	Wildlife Administration Building
511	Swine Barn	571	Wildlife Clinic Building
514	Machine Storage Shed	572	Wildlife Bird Enclosure
515	Sewage Shed	580	Antibiotic Free Facility AIAO (Not Shown- Exact Location Unknown)
518	Solid Manure Storage	590	Psychology Observation
521	Farm Residence #1	591	Storage Shed
522	Farm Residence #2		
523	Farm Residence #3		
524	Farm Residence #4		
525	Farm Residence #5		
529	Sewage Treatment Plant		
541	Glenlea Garage One		
542	Glenlea Garage Two		
543	Glenlea Garage Three (Not Shown- Exact Location Unknown)		
544-545	Hopper Granaries		
546-555	Granaries		
556-559	Hopper Granaries		
560	Feed Mill		

2018

04



SCALE: NTS

TODAY

CAPITAL PLANNING

FCI is used as a key performance indicator as part of a strategic assessment process. When assessing the relative condition of university facilities, the age profile of our campus indicates a wave of foreseeable increased maintenance costs. Major building components are typically known to reach the end of their useful life after 25 years, while high risk reliability issues become apparent after 50 years.

Asset record data indicates that more than 50% of university campus buildings constructed in the last century were built between 1956 and 1972. This large group of buildings was built during an era when construction quality was lower and building regulations were less stringent than they are today.

The lower quality construction causes a need for renewal earlier on in the building's life cycle and a majority of systems are now at or near the end of their service life. Decaying building systems include windows, roofs, interior finishes, plumbing, electrical, and heating / cooling / ventilation equipment.

While preventative maintenance has greatly extended the life of these systems, they are in need of extensive renewal to restore them up to an acceptable condition equivalent to the originally intended capacity or meet the requirements of current codes & regulations.

CAMPUS DEVELOPMENT

05



TODAY

FACILITY CONDITION REPORT

The University of Manitoba must balance a multitude of competing deferred maintenance priorities with limited resources. As the University continues to grow and develop, the need to make sustainable, well-timed infrastructure investments is essential to mitigate potential impacts to our facilities. Presently the portfolio has greater than 6,600,000SF of building assets and the average building age is 44 years old.

The University buildings have a Facilities Condition Index (FCI) value of 0.10 which is on the border line of Fair to Poor for a condition rating. This represents a FCI requirements value of \$270 Million over the Current Replacement Value (CRV) of \$2,750 Million.

Due to historical inputs, the University's civil infrastructure is not presently included in the database. Based on industry standard guidelines these components would account for an additional 20% increase to the listed requirements. Over the next two years, the University will be populating the civil infrastructure components into the FCI database. The University's FCI ranking is aligned with the average FCI ranking of other U15 institutions.

CAMPUS DEVELOPMENT

05

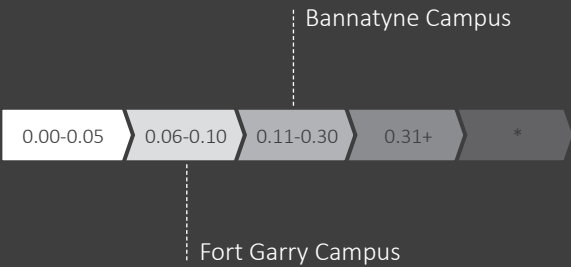
FACILITY CONDITION INDEX

The Facility Condition Index (FCI) is an industry-standard index that measures the relative condition of a facility by considering the costs of deferred maintenance and repairs as well as the value of the facility. FCI allows condition benchmarking between facilities of unequal size and composition, both within and among institutions. The University utilizes asset management software (VFA Facility) as a tool to manage facility requirements, establish FCI ratings, and informing the capital planning process.

Total FCI (for Multiple Assets) is calculated as the sum of the Deferred Maintenance costs of selected assets divided by the sum of their Current Replacement Value.

FCI = $\frac{\text{Deferred Maintenance Deficiencies (DMD)}}{\text{Current Replacement Value (CRV)}}$

Year	FCI
2018	0.10 (Fair Condition)
2012	0.11 (Poor Condition)
2009	0.13 (Poor Condition)
2006	0.14 (Poor Condition)



TODAY

FACILITY CONDITION INDEX

The FCI has improved in recent years as a result of investment in renewal and renovation projects reducing a number of facility requirements, as well as the increase of the CRV with the addition of new buildings (Art Lab, Tache, Active Living Centre) combined with the demolition of older deteriorating buildings (Old Basic Sciences, Music Annex).

As noted, the Facilities Condition Index currently tracks the condition of University buildings, thus the civil infrastructure to support the campus must be commented on separately.

Presently, there are active renewal plans in place, or are currently being developed for roadways, site lighting and water mains. As well, our recent electrical service and emergency power capacity issues have pushed these components to the forefront. Other major areas of focus in the near term will be riverbank stabilization, outfall assessment and upgrade needs, as well as future renewal and growth capacity of the central energy plant.

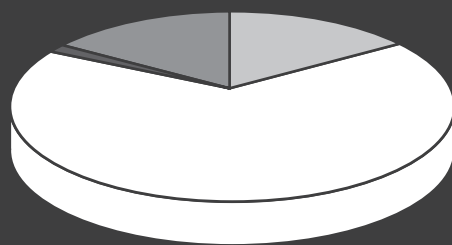
CAMPUS DEVELOPMENT

05

UNIVERSITY OF MANITOBA REQUIREMENTS

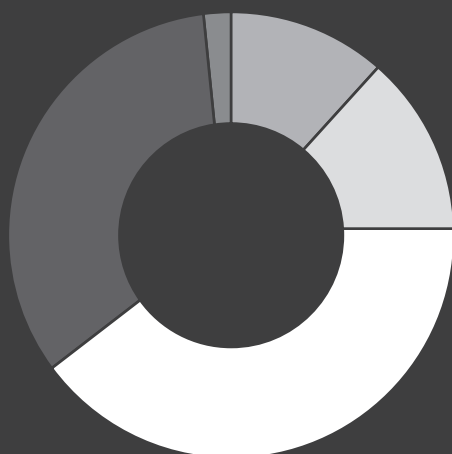
CAMPUS	SIZE (SQ.FT.)	CRV (\$)	FCI COST (\$)	FCI
Bannatyne Campus	1,078,301	\$489,795,221	\$52,301,995	0.11
Fort Garry Campus	5,323,925	\$2,052,706,667	\$200,538,262	0.10
Off-Campus	200,643	\$35,887,512	\$1,062,748	0.03
TOTAL	6,602,869	\$2,578,389,400	\$253,902,965	0.10

REPLACEMENT VALUE OF U. OF M. ASSETS



- \$36M- Currently Critical (1yr)
- \$490M- Bannatyne Campus
- \$774M- Infrastructure
- \$36M- Off Campus

FORT GARRY CAMPUS REQUIREMENTS



- \$36M- Currently Critical (1yr)
- \$40M- Potentially Critical (2yr)
- \$123M- Necessary (Not Critical Yet) (5yr)
- \$103- Recommended
- \$6.5- Does Not Meet Current Codes / Standards

TODAY

INFRASTRUCTURE IMPROVEMENTS

Several of the University's existing buildings and infrastructure are nearing the end of their life span. In many cases, structures have undergone numerous renovations and upgrades throughout their history. As a result of recent Building Condition Assessments, it is evident that basic repairs to extend the life of specific buildings would incur costs that are well beyond annual maintenance budgets.

In addition to the significant investment related to the infrastructure at the Fort Garry Campus, major challenges for the University in the coming 5 to 10 years will be the need to renew the mechanical and electrical systems of our 60's and 70's buildings (roughly 40% of our gross building area) with special emphasis on the extensive system wide renovations required for our laboratory buildings like Basic Medical Science, Parker, Allen, Ellice, and Animal Science.

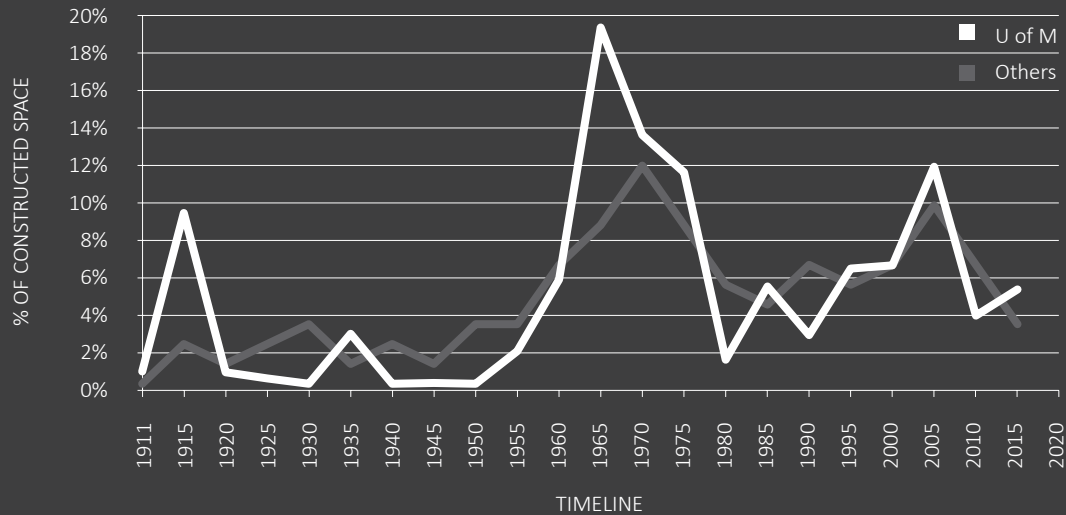
As noted in the chart below, approximately fifty-five percent of our campus buildings were constructed between 1956 and 1972 and therefore have major systems and components that are at, or nearing end of life. These significant requirements will start to dramatically increase our FCI value unless capital renewal is pro-actively planned for and funded.

CAMPUS DEVELOPMENT

05

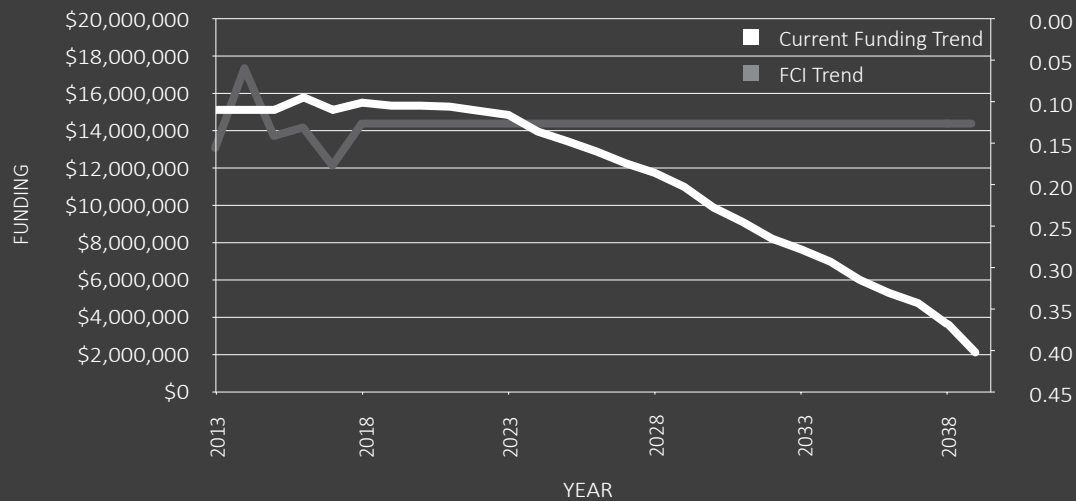
BUILDING AREA BY YEAR

55% of the buildings on campus were constructed between 1956 and 1972.



FUNDING TO MAINTAIN CURRENT FCI OF 0.1

The graph below indicates the funding requirements to maintain a FCI of .10 over a 20 year planning horizon.



REFERENCES & IMAGES

REFERENCES

The University of Manitoba. *The University of Manitoba Capital Projects: A File on Building Development and Capital Expenditure 1877-1982*, Part 1, 1971.

Architectural and Engineering Services. *L:\A&E\Buildings\802 Roadway\5 Archive*

Architectural and Engineering Services. *L:\A&E\Buildings\000 Campus Site Services*

IMAGES

The University of Manitoba. *The University of Manitoba Capital Projects: A File on Building Development and Capital Expenditure 1877-1982*, Part 1, 1971.

The University of Manitoba Archives and Special Collections. <https://libguides.lib.umanitoba.ca/archives>

Architectural and Engineering Services. *L:\A&E\Buildings\000 Archive Record\Building Inventory Binder\Photos*

Google Maps. <https://www.google.ca/maps>

APPENDIX

06



WARNING
MAXIMUM
LOADING

