

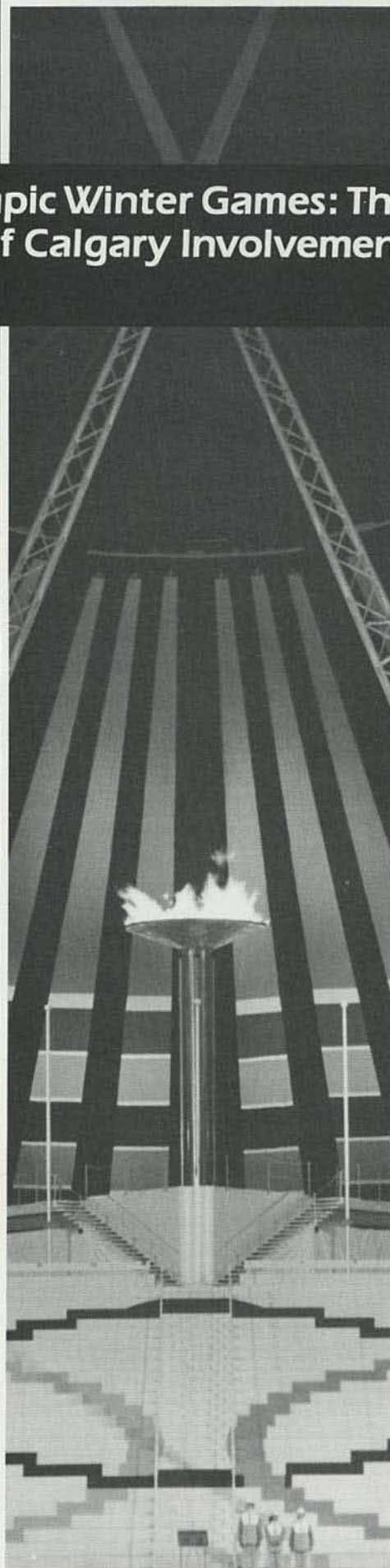
## The 1988 Olympic Winter Games: The University of Calgary Involvement

by William S. Mutch

In the fall of 1981 in Baden, West Germany, the city of Calgary was chosen as the site of the XV Winter Olympics. After three previously unsuccessful attempts to become host this event, Calgary became the first Canadian city to host the Winter Games. The entire community was excited about the prospect although the event was more than six years away.

The University of Calgary was chosen as the site of the Athletes' Village, the speed skating events, and the opening and closing ceremonies. This choice was no doubt influenced by the presence on the organizing committee of the University of Calgary's dean of physical education, Dr. Roger Jackson, who is also president of the Canadian Olympic Association and a member of the International Olympic Committee.

The additional facilities required for the Games, together with other planned additional buildings, would involve the university's physical plant department in its greatest-ever expansion of facilities. The total university capital expenditures over the period 1982 to 1987 were in the region



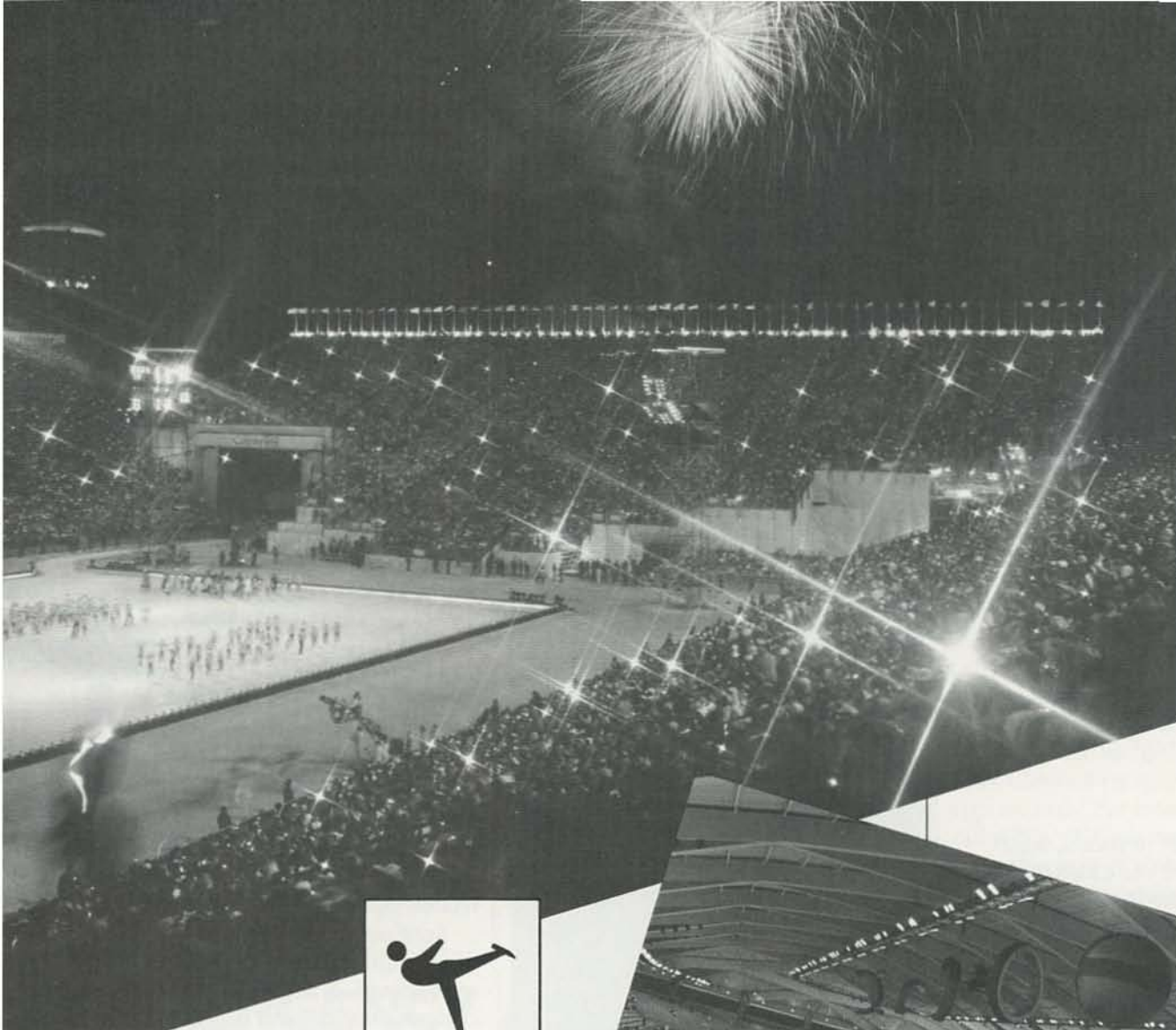
of \$300 million—about two-thirds of it for new buildings. More than \$100 million was earmarked for Olympic-related facilities.

Because of the vast building program required, the department was reorganized. A new department of campus development was created to be responsible for all new construction, planning, and design of additional facilities together with the renovation, alteration, and upgrading of existing facilities. Other physical plant activities were under a separate department of buildings and grounds. Both department directors reported to the same vice president and maintained an extremely close working relationship.

Long before the Calgary Olympic Development Association began to assemble its Olympic bid, the University of Calgary's administration had drawn up a shopping list of needed improvements and facilities. The list included a major expansion to the physical education building, an expansion to the student center, additional housing, and a winter sports complex. When Calgary won the right to host the 1988 Games, the possibility

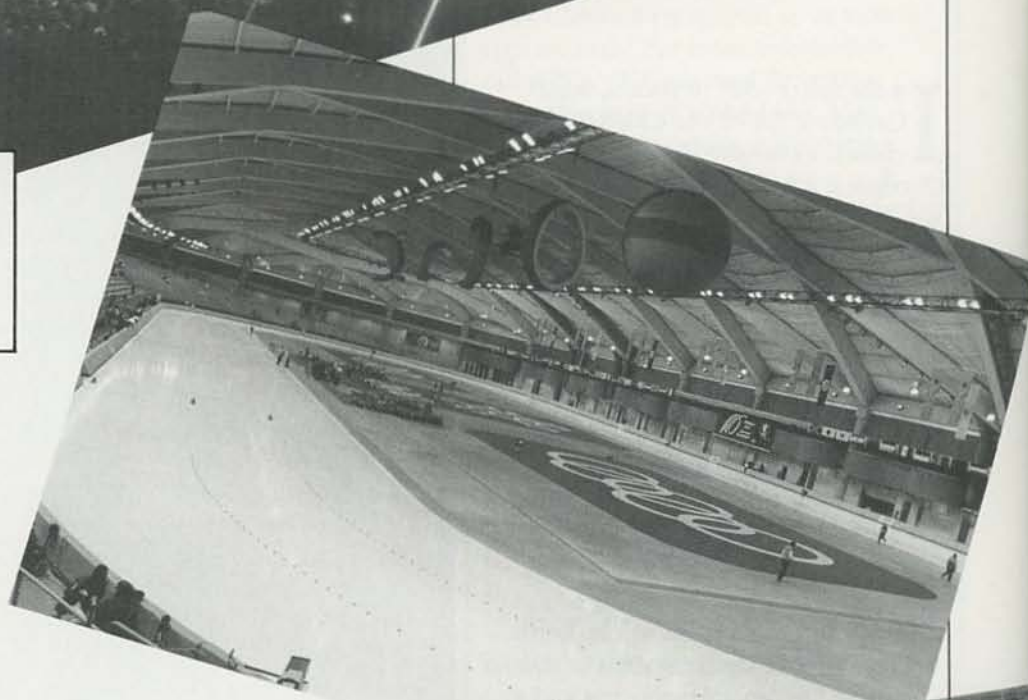
*Bill Mutch is APPA's treasurer and is the financial officer, buildings and grounds and campus development at the University of Calgary.*

*The main Olympic flame which burned during the games and a simulated teepee which was raised during the opening and closing ceremonies at the University McMahon stadium.*



Closing ceremonies. Temporary seats under the fireworks held 15,000 people. Note the flags of the fifty-seven participating nations.

Inside the Olympic oval just prior to an event.



Underneath the main section of temporary seating showing the complexity, and a good portion of the 125 miles of steel scaffolding used.



arose to complete all of the projects, which we did.

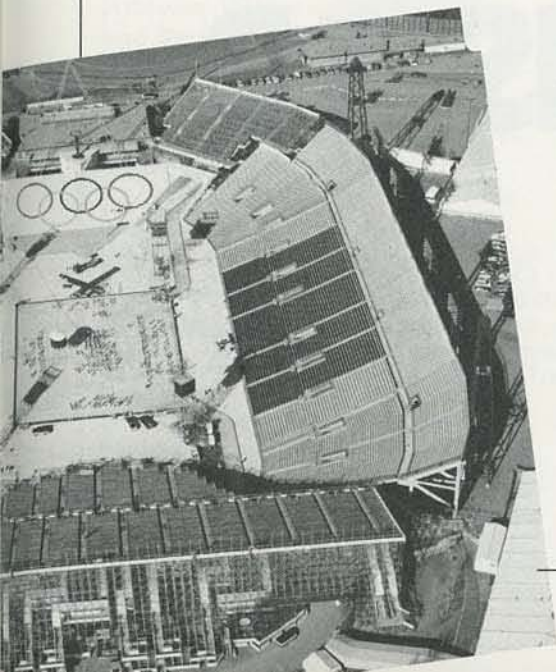
The university, in the six years preceding the Games, was the most active construction site in Calgary with nine major projects completed. Five of these projects were Olympic-related and were as follows:

	Approximate Cost (Cdn \$)	Gross Building Area Added
Olympic Oval	\$40 million	26,176 m <sup>2</sup>
Physical Education Expansion	\$28 million	22,500 m <sup>2</sup>
Olympus and Glacier Halls	\$12 million	14,650 m <sup>2</sup>
McMahon Stadium Expansion/Improvements	\$17 million	4,476 m <sup>2</sup>
Athletes' Village and Related Projects	\$11 million	

All of these projects were completed within time and budget deadlines. Funds for these various projects were provided by the federal government, the provincial government, OCO '88, and the university.

#### OLYMPIC OVAL

Although this facility was constructed primarily for speed skating events, the Olympic Oval is a multi-functional field house. In winter it includes a 400-meter speed skating track with hockey or figure skating on two Olympic-size ice surfaces. In summer it includes artificial turf and facilities for football, soccer, lacrosse, field hockey, tennis, and track and field events. Electrical conduits cast into the floors allow on-the-spot measurement of athletes' vital signals with direct transmission to the university sports medicine computer terminals.



The support spaces on either side of the Oval contain locker rooms, classrooms, judges' and officials' spaces, Zamboni rooms, turf storage, ice-making equipment, and mechanical rooms. It has a long-span roof structure with an interesting system of segmental precast concrete arches.

The Olympic Oval is one of the finest speed skating facilities in the world. Speed skaters from around the world broke all nine Olympic records and eight of ten world records there.

APPA members attending the Rocky Mountain Regional Conference in September this year will have the opportunity to tour this magnificent facility as well as talk to the engineers who designed its unique features.

Funding for this facility came from the Canadian government.

#### PHYSICAL EDUCATION EXPANSION

This building, linked to the Olympic Oval and the original physical education building, was described by one writer as "a glistening jewel" and by another as "comparable to a Mercedes Benz." Locally it has been labeled "Rog Mahal" or "the house that Jack(son) built" in deference to the involvement of Dr. Roger Jackson, the dean of the physical education faculty.

Special features of this three-story addition include:

- human performance research laboratories considered to be the most advanced sports science facilities in North America, perhaps in the world;
- a sports medicine clinic with twelve examining rooms, an X-ray facility, physiotherapy facilities, and



taping, casting, and rehabilitation areas;

- a fitness center with a six-lane, 200-meter, high-performance running track;
- six gymnasiums including one for basketball and volleyball with retractable seating that can accommodate up to 4,000 spectators;
- seventeen international squash and racquetball courts;
- an outdoor pursuits area with an indoor climbing wall sixteen meters long, five meters wide, and twelve meters high.

This building, which was funded by the provincial government (Advanced Education), was part of the Athletes' Village during the Olympics and will continue to be used as a training center for Canadian and other athletes from around the world.

#### OLYMPUS AND GLACIER HALLS

These two three-story apartment-style residence buildings formed part of the Athletes' Village and were funded by the provincial government (Olympic Secretariat). Because the source of funding was not the normal mortgage-type funding, and because of the added rentable space, attractive rents will be available to all students whose rents normally go into the mortgage pool for all residences.

#### McMAHON STADIUM

The site of the opening and closing ceremonies, temporary and permanent changes were made to this facility to accommodate the Olympic ceremonies as well as future use. Among the changes were:

- replacement of the artificial turf;
- installation of a press box elevator;
- construction of the Olympic Volunteer Center;
- upgrading of the sound system;
- addition of permanent seating;
- improvement of the signage;
- erecting and dismantling of temporary seating;

The funding of these changes (at approximately \$17 million) was shared almost equally by the provincial government (Olympic Secretariat) and OCO '88, the Games organizing

committee. Two of the changes in the stadium deserve some further elaboration.

#### Olympic Volunteer Center

This is a two-story facility with the lower level containing office and meeting room space and an upper level with kitchen, dining room, and lounge-type space. It was built as an administration and training center for the Games' 10,000 volunteers. It has recently been turned over to the university and will house some university department administrative offices. It will also be used for special events, small conferences, and meetings. The professional football club will also use it during home games as a socializing area for the Red and White Club, a supporters group.

#### Temporary Seating

This was a fascinating project although it did not carry as large a price tag as some of the others described.

McMahon Stadium, the scene of the opening and closing ceremonies, has permanent seating for 37,000. Initial-

ly we planned to add 13,000 temporary seats to increase the capacity to 50,000. The demand for tickets for the opening and closing ceremonies was so great that the contractor, Anthes Equipment Ltd., suggested that the number of temporary seats could be increased to accommodate 60,000. Therefore, temporary seating to accommodate 23,000 had to be erected prior to the Games and dismantled after the Games. This was accomplished using a unique Canadian-developed scaffolding technique known as Anthes Sure Lock Modular Grandstand. The concept was pioneered at the Alberta Summer Games at Fort MacMurray in 1984 and developed at various large sporting events throughout North America. The contractor's previous experience enabled the work to be carried out within extremely tight time limits.

Other complications were that the temporary grandstands had to be built above existing buildings and large tunnels had to be left to allow access to the field by athletes and

other processions. Both these problems were overcome by using a modular truss system and "bridging" the buildings and openings with the stands built above. The large grandstand rose to 100 feet and required heavy duty shoring.

When completed, the temporary grandstand practically duplicated the permanent seating in design and included aisles, exits, internal walkways, stairways, and cross platforms for lateral access, all designed to meet building and fire codes. A special platform, raised a meter above the last row of seats, formed a walkway where the flags of the fifty-seven participating nations provided a dramatic backdrop to the ceremonies. Television cameras were also stationed on this platform. This was believed to be



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the largest temporary grandstand ever built; the company installed fifty pre-assembled 72-foot-long tresses, over 150,000 pieces of galvanized steel tube, screw jacks, ledgers, and connectors accumulating to 125 miles of steel scaffolding. It took nine rail cars and more than thirty truck loads to deliver the materials to the stadium. The project started with a crew of fifteen and expanded to fifty.

The temporary seating was just part of the transformation of the university's McMahon Stadium. The entire artificial turf was covered with a blanket of white sand in case there was no snow for the ceremonies, which there wasn't. An ice rink was installed in the center of the field with its own mini ice plant. A platform was erected to house the Olympic torch which had its own elevating mechanism to raise it above the platform after it was lit during the opening ceremonies; it was lowered when it was extinguished during the closing ceremonies. A spectacular backdrop to the Olympic flame was also constructed. All of the temporary installations have now been removed and the artificial turf appears to have survived the ordeal.

Relandscaping some of the areas damaged by construction of the temporary grandstand is now being done, and the stadium should be back in operation for the upcoming football season.

#### Athletes' Village and Related Projects

A total of \$11 million was budgeted for these, with \$7.5 million provided by OCO '88 and \$3.5 million from various university sources.

A new university entrance road loop was constructed in addition to other minor road modifications. Also, a flag display welcoming area, security fencing, surveillance equipment, and special lighting were constructed.

The main dining center, the hub of food services for the campus, also served that function for the Athletes' Village. This building was the scene of upgrading activity to meet the need to feed up to 2,000 athletes. In this build-



*The finished temporary seating.*



*Temporary seating showing the special trusses used to span the buildings and to build tunnels to provide access for parading athletes and floats.*



*Close up of the versatile "Anthes Surelock" rosette connector.*





ing, new loading dock/shipping and receiving facilities were built. The kitchen was enlarged, reequipped, and generally upgraded. The main dining areas were given a complete overhaul, new beverage serving counters were built, and the sound system was improved. New multi-purpose common rooms, a convenience store, video arcade, and dry cleaning area were created for the use of the athletes. The university was required to provide only a fraction of the funds needed for the improvements in this area.

Two buildings of our residential complex are more than twenty-five years old and, although they have been well maintained, were in need of some upgrading. These buildings had the windows replaced, insulation enhanced, and were finished by recladding the entire exterior. New furnishings and lockers were purchased. Spot redecoration and furniture repair was done. Offices, storage rooms, and newly equipped laundry facilities were also built.

The original physical education building was the scene of the biggest transformation, much of it temporary. At the time of this writing a great deal of the temporary changes have been restored to their original function.

Three gymnasiums, a dance studio, a classroom, lounge space, and a couple of offices underwent a metamorphosis, emerging as the main entrance to the Athletes' Village, a security clearance area, a waiting lounge for drivers, an information and accreditation zone, and an ABC interview studio. A further development of these same gymnasiums became a shopping mall containing a souvenir/book/snack store, a bank, an American Express office, a photo studio, a telephone/telex center, City of Calgary and Province Alberta information centers, arts and crafts store, and a hair salon.

More development created an administration area for all of the Olympic committees and the Village mayor. A food concession for volun-

teers working in the Village and a chapel staffed by ministers of several religious faiths were among the changes made. A video viewing room with sixteen screens for telecasting live all of the Olympic events was created. Attached to the Physical Education Building, from which its utilities were supplied, was a dental trailer with six chairs. Our campus development group performed miracles in this building and are now in the process of restoring it to its original state. Only two offices and the food concession will be retained as they were in the Athletes' Village.

This was an exciting, vibrant place to be. One of the more colorful spaces was the administration area which, as each nation arrived and was welcomed by the Village mayor, flag was placed high on the gymnasium wall until all fifty-seven flags flew there.

APPA member Ian Duncan, the director of campus development, stated, "I've had great satisfaction from seeing the buildings built on time and within budget. We were working towards a tremendous event, and there were deadlines which simply couldn't be missed. The success we've had in completing the Olympic projects is the result of many people working very hard. We've had an excellent relationship with the Board of Governors, and all of the design and contracting firms have been very competent. The grounds department performed miracles last summer creating new landscaping as well."

#### BUILDING COMMISSIONING

While much of the activity discussed in the earlier pages involved the staff of campus development, there was a need for involvement of the maintenance department which was, after all, going to operate and maintain the newly constructed buildings.

With the vast building program being carried out there was a need to augment temporarily the engineering in-house staff. We decided to pursue



the relatively new concept of building commissioning. A general call for proposals was made to which fourteen firms responded and from which a mechanical engineering company was selected. The responsibilities of the commissioning engineer was to oversee the electrical and mechanical engineers and contractors.

The commissioning engineer was required to review the drawings and specifications, attend job site meetings, inspect the work, and check the air and water balance reports. He was also to review the maintenance and operating manuals and conduct seminars with the maintenance department staff. His reports were regarded as further assurance that the university was receiving adequate value for its investment. This process started with the Olympic Oval and was subsequently extended to include all of the major projects.

#### BUILDINGS AND GROUNDS

The department of buildings and grounds at the University of Calgary has the responsibility and authority for the provision, operation, and maintenance of the university's physical environment and associated services.

Specifically, buildings and grounds administers the operations of facilities management, caretaking (custodial), utilities, central heating and cooling plant, communications, security, motor pool, maintenance, grounds, and safety office.

Planning for the Olympics at the executive level began more than two years before the date of the Games. The director was heavily involved in planning the new facilities, the commissioning of those facilities, and ultimately their operation and maintenance. All building and grounds departments were involved in one way or another. Meetings with OCO '88 representatives, the Calgary Police Service, and university personnel were held as required for many months prior to the establishment of regular information exchange meet-

(cont. on p. 48)



**Olympics** (cont. from p. 46)

ings and final planning meetings during the month of January 1988.

The Athletes' Village encompassed the seven residential complexes, the

dining center, physical education, and physical education expansion. Those, together with the Olympic Oval and a few temporary trailers were the Olympic buildings and as such received special attention. They were all buildings which normally received services from buildings and grounds, but there was a greater urgency during the Games because of the high profile that the Athletes' Village and the Olympic Oval received.

As Gordon Morrison, another APPA member and director of buildings and grounds, said, "From the buildings and grounds perspective, the Village operation was an unqualified success. The university's stature was much enhanced. All those who worked so diligently can take pride in the great accomplishment."

The individual departments were involved in varying levels of activity. Following are a few of the highlights:

### Facilities Management

This department provides the university with services in furniture acquisitions, storage, repairs, and the moving of furniture and equipment throughout the campus. The facilities management group was assigned the task of carrying out a "shipping and receiving" function for the Village. The hours of operation meant that they had to operate two shifts instead of the normal one and they incurred a good deal of overtime.

Their daily activities included:

1. Set up OCO-related areas on the campus and received supplies and equipment.
2. Received and delivered goods needing security clearance. This required the coordination of security volunteers assigned to the area and special police services.
3. Provided an initial inspection/direction service to drivers making deliveries through the main security entrance to the Village.
4. Provided assistance for the move in and move out of the athletic teams in the residence area.
5. Provided pickup/delivery of all Canada Post items from the Village.
6. Received and delivered statistical data and tapes from the various venues to the National Olympic Committee Center for review by the teams.
7. Received and arranged courier pick up of OCO-related materials sites and offices.
8. Handled the transfer of Royal Bank pickup and deliveries after hours.
9. Received and shipped equipment and supplies for materials management.
10. Assisted the entertainment committee in the setup and take-down of

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athlete related concerts in the Jack Simpson Gym.

11. Provided continuity of the regular shipping services.

12. Maintained paperwork to track deliveries.

13. Assisted in finding lost or misdirected luggage and equipment.

Delays in students moving out of the residence halls left insufficient time to prepare residences for the move-in of the athletes. The Village began full operation two weeks before originally scheduled. Emergency plans involving large crews of movers had to be enacted. A similar shortness of time accompanied the move-out process. Both move-in and move-out problems increased costs considerably.

As manager Garry Hall says, "Facilities management took a flexible position in dealing with our duties and the challenges as they arose. This greatly expanded the job. Close bonds were forged with OCO '88 and other university staff. There was an absence of negativism and staff all enjoyed this once-in-a-lifetime opportunity to develop new friendships and relationships with people from other parts of the world."

#### Caretaking (Custodial)

The caretaking department provides cleaning, sanitization, and waste removal services to all university facilities. Elevated levels of service were provided for the period during which the teams of athletes occupied the Village.

Preparation began in the fall of 1987 with the creation of two supplemental crews to deal with unique Olympic requirement. Requirements for supplies and equipment were assessed by mid-December 1987. The equipment underwent thorough preventive maintenance. Equipment and supplies were stored in the area prior to the tight security procedures in order to avoid delays.

Supervisors' shifts were deliberately overlapped to assure good communication from one shift to the next. Staff were assigned six hours of specified duties and one-and-a-half hours were fairly flexible to deal with unusual occurrences. Few problems

*The entrance to the Olympic oval (speed skating) showing a mini Olympic flame and one of the several works of art on campus, a metal sculpture entitled "Spire". Note the brown grass and the absence of snow.*



were encountered. Waste removal proved to be a matter of considerable concern as quantities were much greater than expected. The residences and dining center generated four times as much as normal, while the Olympic Oval and physical education complexes generated twice as normal. Fortunately, our waste removal contractors were prepared to deal with the increased volume.

#### Central Heating and Cooling Plant

The development of the campus with the additional buildings necessitated an upgrading of the building management system's central processing unit. An upgrading of the water intake at the Bow River pumping station was undertaken in October 1987 to improve the reliability of the river as a source of condensing water. Water softeners and mixed bed demineralizers were installed in the central plant to provide demineralized water, and booster pumps were installed in the chilled water distribution system.

Two transformers were replaced in the plant. These transformers were placed on pads outside as a means of ensuring the continuance of power in

the operation of the plant. Switchgear was upgraded. Electrical equipment that feeds power to the physical education complexes was upgraded and a larger emergency generator was obtained. All of these things were done in order to ensure operational efficiency and reliability.

#### Communications

This department was heavily involved in the planning, provisioning, operation, maintenance, and repair of telecommunications facilities for the Games. Several members of the staff first became involved two years prior to the Games when OCO '88 made its first appeal for technical planning expertise. Subsequently, nine of the twelve staff became volunteers. Staff played dual roles as volunteers and as employees. This was an excellent arrangement and posed no difficulties.

The department acted as on-site consultants for OCO '88, supervising and testing the work performed by outside contractors. During the Games several staff provided administrative and technical support related to telephone additions, moves, changes, trouble calls, and repairs. The university obtained some of the



cable that was installed either for a share of the cost or for no cost.

The manager of the communications department, APPA member Mal Reader, states, "The biggest benefit was the experience itself. All who helped plan, implement, operate, and manage the telecommunications facilities for the 1988 Olympic Winter Games gained enormously. No technical or managerial courses, seminars, or conferences could ever duplicate the experience."

#### Maintenance

Planning for additional and special services, extra staff, and specialty contractors for normal and emergency situations was done several months in advance. An intensive preventive maintenance program was carried out prior to the occupancy of the Village by the athletes.

To provide immediate response to mechanical, electrical, electronic, and structural problems a 24-hour labor/trades force was established. Expand-

ed phone/two-way radio/pager facilities were installed. A special phone line was set up which enabled the Village manager to make service requests through one number, answered on a 24-hour basis. The appropriate tradesperson/supervisor within the Village was then contacted by radio and dispatched to the area involved.

We established a depot right in the Village and ensured that it was stocked in advance with supplies and equipment. Workers also worked extra shifts to cover periods not normally covered, such as evenings and weekends. Arrangements were made with contractors to be available on an as-needed basis to assist with emergencies. No major emergency arose.

#### Safety Office

This department established an emergency evacuation plan in the Athletes' Village. This plan was to minimize the possibility of personal injury or the exposure of occupants to

any hazards, and to minimize disruption in case of false fire alarms.

The plans were modifications of the existing university building emergency ward program. A position of warden coordinator was established. The Village was divided into three major areas: residential, dining center, and physical education complex. Each of the areas had a senior warden who was responsible for recruiting necessary block wardens for their areas.

Procedures were developed by the university safety office committee in consultation with the senior wardens. Operating manuals were written and sent to the city of Calgary Fire Department and the OCO '88 village disaster planning group, with whom a number of meetings were held.

Training sessions were held on the fire alarm control panels and the use of voice communication systems. Fire warden telephones were installed in various locations. Seventeen two-way radios and three pagers were acquired for use by the wardens. The radios

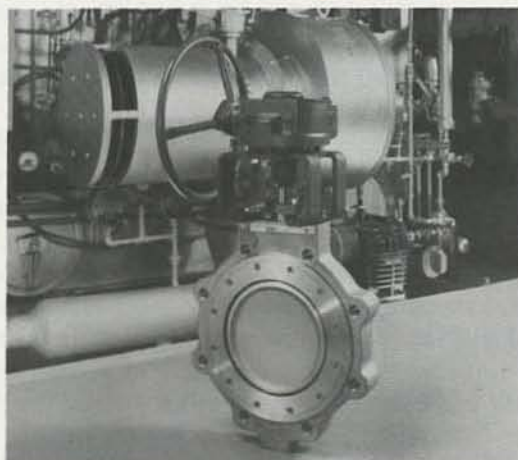
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operated on the normal university radio frequency and one other frequency established for the emergency warden system.

A base station was located in the OCO '88 security command center to monitor these frequencies and to establish radio contact with the warden coordinator on duty if necessary. Finally, daily routines were established to ensure 24-hour coverage and an office was located next to the OCO '88 security command center. Evacuation procedures were printed and posted in various locations throughout the Village.

No major incidents occurred during the operation of the Athletes' Village.

Perhaps the feelings of the buildings and grounds staff regarding their involvement in the Games can be summed up by the comments of the grounds department manager, Rocky Mountain region APPA member Walter Retzer, and his staff. "We welcomed the challenge and now that it's all over we can honestly say it was well worth the effort. Let's do it again sometime."

#### ADJUSTMENTS

How did we deal with staff and students who were either volunteers or who wished to attend the Games?

The university operated as usual, except within the Athletes' Village, but there were no classes during the two weeks of the Games. These two weeks were declared reading weeks (study periods). Classes commenced in the winter term a week early and extended for a week at the end of the term.

Staff who were permitted by their supervisors to be volunteers were paid for up to ten days of volunteer work. Those staff who were not volunteers were entitled to five days paid leave to allow them to attend the events which took place during their normal working hours. Staff, who because of the nature of their work could not be volunteers or take the leave to attend events, were allowed to defer leave until a later date.

It was exciting for the department, the university, and the city of Calgary to be involved in the 1988 Winter Olympic Games. ■

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