FHBRO Number 96-103
Dominion Astrophysical Observatory
5071 West Saanich Road
Victoria, British Columbia

Constructed in 1915-17, the Dominion Astrophysical Observatory (DAO) was built to house a state-of-the-art 72-inch telescope. The building was designed by the Chief Architect's Branch of the Department of Public Works, with considerable input from Dr. John Stanley Plaskett (1865-1941), a brilliant astronomer and the DAO's first director. McAlpine-Robertson Construction, a local construction company, built the main structure while Warner and Swasey Co. of Cleveland, Ohio, an experienced firm which had also built the dome of the Dominion Observatory in Ottawa, designed and installed the dome. The 72-inch telescope was designed and, for the most part, assembled by Plaskett who had the components manufactured by the St. Gobain Glassworks in Belgium. Although the building has remained essentially unchanged, technological upgrades of the observatory equipment have occurred regularly. The building retains its original use as an observatory. The National Research Council (NRC) is the custodian department. See FHBRO Building Report 96-103.

Reasons For Designation

The Dominion Astrophysical Observatory has been designated Classified primarily for its historical significance but also for its architectural and environmental qualities. It is one of Canada's oldest and most important observatories. For a short while, the 72-inch telescope was the largest in the world.

The establishment of the DAO by the federal government in the second decade of the century permitted Canada to take its place as a world leader in astrophysics. Funded by the federal government to establish the study of astrophysics, its construction was an outgrowth of the early research begun at the Dominion Observatory in Ottawa (1902-04). It represents the government's early vital provision for astrophysical research in Canada. Here, Plaskett recorded his first stellar spectrum on the 72-inch telescope on May 6, 1918. For two decades, Plaskett and his colleagues studied the motions of young luminous stars in the Milky Way, and were able to provide the first accurate description of the size and nature of the Milky Way Galaxy. These original major studies in stellar and galactic astronomy established the Canadian astronomers at the DAO as world leaders.

The building’s design was determined primarily by functional requirements. The domed cylinder form is characteristic of optical observatories. The Moderne Classical style applied to the building represents evolving modernist tendencies in design and construction.

The success of the DAO was largely due to the superior environmental conditions

present at the site. For telescopes to perform to their full technological potential, an unobstructed view of the sky and minimal air turbulence above the telescope are required to ensure that the clearest possible image is received. Located on top of Little Saanich Mountain, a hill slightly over 700 feet above sea level, the DAO and its campus have dominated the landscape for 80 years.

A well-known local landmark in and around Victoria, the DAO remains the centerpiece of the observatory campus. Because of its world-class scientific work, which has made it the centre of Canadian astronomical research, it is also well known to both the national and international scientific community.

Character Defining Elements

The heritage character of the Dominion Astrophysical Observatory resides in its simple massing and design, and in its functional properties. It remains the centrepiece of the hilltop observatory campus both in size and importance.

The massing is typical of observatories, consisting of a two-storey cylinder with a domed roof. A projecting entrance portico denotes the main axis of the rotunda form. This simple typical massing is an important feature of the observatory.

The building is designed in the Moderne Classical style. Classicism is evident in the tripartite division of the elevation into the foundation plinth, piano nobile and the domed roof. Other stylistic features include the use of symmetry, pure geometrical volumes, and references to classical design motifs such as the applied colonnade and entablature. The classically-inspired main entrance portico consists of double doors, a round-arched transom, and flanking columns supporting a small pediment roof. Modern influences are present in the flattened, attenuated treatment of the pilasters and entablature. Any repairs or upgrades should respect the simplicity of the Moderne Classical design and maintain the established architectural vocabulary.

The DAO building is representative of the early development of modern construction techniques incorporating utility and speed of assembly. Steel framing is combined with poured reinforced concrete construction. The exterior walls are constructed of light, structural steel framing clad inside and out with a metal cladding product known as "Toncan metal". Foundations requiring 800 tons of reinforced concrete and two massive, concrete piers rising up through the building support the weight of the telescope. The structure is an important feature of the building and telescope.

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The finish materials and detailing contribute to the heritage character of the building. At the exterior, the "Toncan metal" panels imitate stone masonry construction including the appearance of ashlar and profiled string courses. Multi-paned windows complete with operable shutters are regularly placed four per bay, every other bay. Filling the bay above the entrance portico is the coat-of-arms, an important decorative feature. The classical detailing of the entrance portico, including the doors and transom, has been modified. Consideration might be given to reinstating the original design complete with the latticed glazing, to enhance the heritage character of the building. The interior utilizes both metal panels as well some simple wood panelling detailed with classical motifs. It would be appropriate to maintain all original finishes at both the interior and exterior, and to carefully match any missing pieces to the original prototypes. Any new work should utilize the original palette of materials and respect the utilitarian nature of the original design.

The interior layout consists of three circular floor plates with structural piers and stairs rising up to the third level. The first floor which is the entrance level now houses a public display and washrooms. Storage and service areas for the staff are located on the second floor mezzanine. The third floor within the dome is the observation level housing the telescope and other scientific equipment. Heritage character would be protected by maintaining the existing plan layout.

Situated on a circular, bermed earthen platform, the DAO's formal axial composition is reinforced by a sweeping stone stair leading up to the entrance portico. By maintaining these traditional site relationships, the heritage character of the observatory can be protected.

For further guidance, please refer to the *FHBRO Code of Practice*.

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