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“Brittlestar Station” EV Charging Station

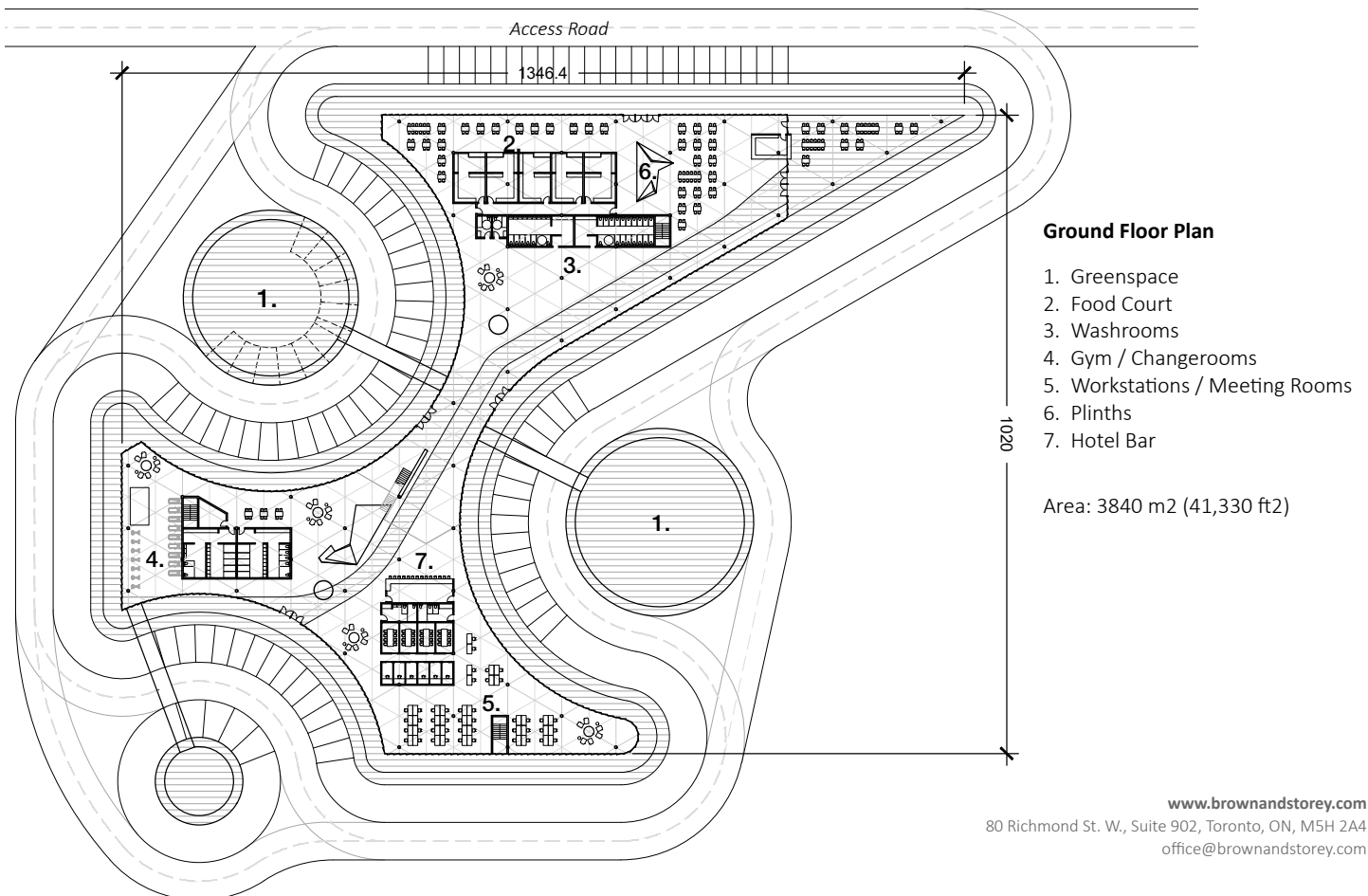
Brown + Storey Architects Research and Development 2022

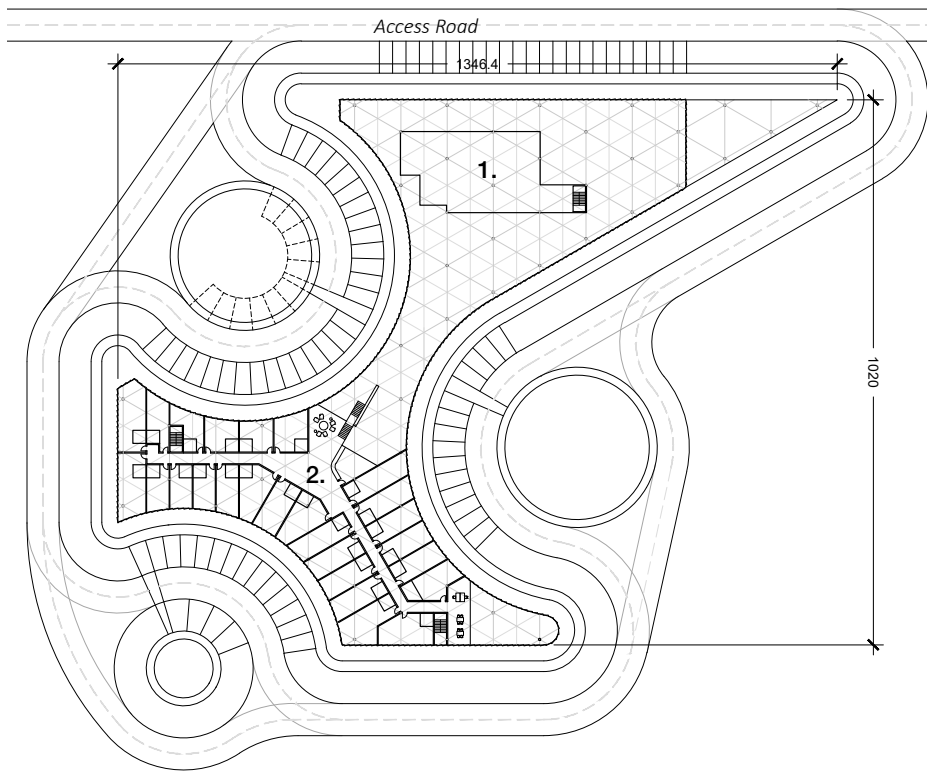
Our new charging station prototype is an attempt to rethink what a charging station could be for the modern traveler— a place not only to stop by, but also a place for significant rest, enjoyment, and hotel accommodation. The spatial configuration of our building concept introduces a new architectural and landscape response that challenges the traditional gas station experience. This new architecture is more performative, inviting the visitor to be meaningfully engaged with the environment.

Brittlestar Station is a unique, manifold spatial prototype. It consists of three different building wings that are defined by semicircular

roundabouts. These roundabouts can be used for vehicle parking and charging, green space, or a combination of uses. The station features a unique façade with a continuous metal diffracted grating and glazing and a covered walkway around the perimeter. The interior offers open space that choreographs movement between various scaled rooms.

The interplay between the three roundabouts and the charging facility challenges the simple “object container” space relationship— the roundabouts are entangled with the interstitial interior space, challenging the boundary between “inside” and “outside.”





Second Floor Plan

1. Mechanical Penthouse
2. Hotel (25 rooms)

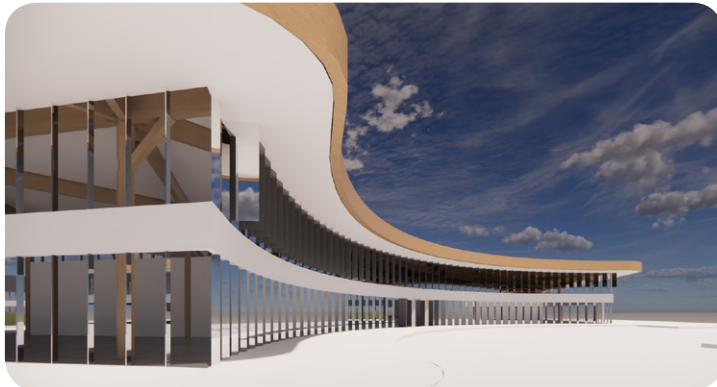
Area: 2250 m² (24,220 ft²)



Source: Wikimedia Commons

“The brittlestar is a visualizing system that is constantly changing its geometry and its topology—autonomizing and re-generating its optics in an ongoing reworking of its bodily boundaries.”

— Karen Barad
Meeting the Universe Halfway



Exterior View

Exterior Elevations: Modular Frieze Façade and Covered Walkway

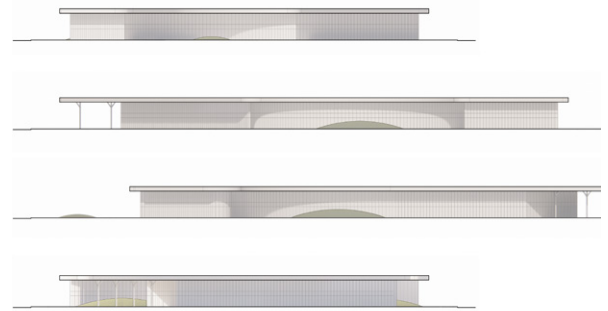
The exterior is composed of layered screens made of a light-diffracting metal grating. In combination with transparent modular glass, this wall offers visibility between the interior and exterior environments. Reflections and diffractions of light can camouflage the building by reflecting the outside landscape.

Courtyard Gardens: Restorative Landscapes

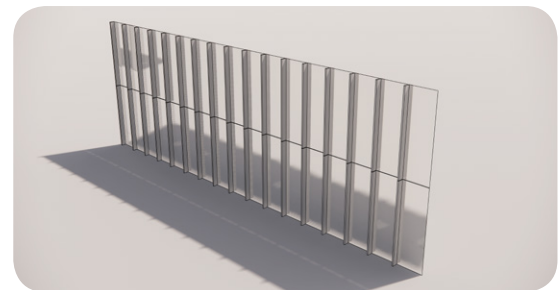
The three roundabouts can be used for vehicle charging stations as well as recreational uses, such as small parks, gardens, and shaded areas that can potentially be combined with the parking configuration. These green courtyards, in addition to being environmental modifiers, provide the added benefit of a nearby garden or park resource that is restive and restorative, providing relief from the highway infrastructure.

Prototype Composition and Alternative Configurations

The composition and organization of the prototype can both expand and contract to meet different specifications. In the matrix organization of the charging station, the positions of the roundabouts and service elements can be adjusted. The interstitial space between the roundabouts can also vary and produce different floor plates for each application of the prototype—the charging station is designed to be capable of widening, stretching, or contracting in size.



Elevations



Wall Panels

The Space Between

The station interior is an intensive and collective space, divided by a series of distinct, orthogonal rooms. The infrastructure and amenities of the charging station are compact and modular, positioned at the extremities of the charging station, leaving the central space open to the outdoors, public washrooms, restaurants, and retail and physical fitness opportunities. A frieze-like screen exists to show news, sports, or local tourist information.

The Hotel

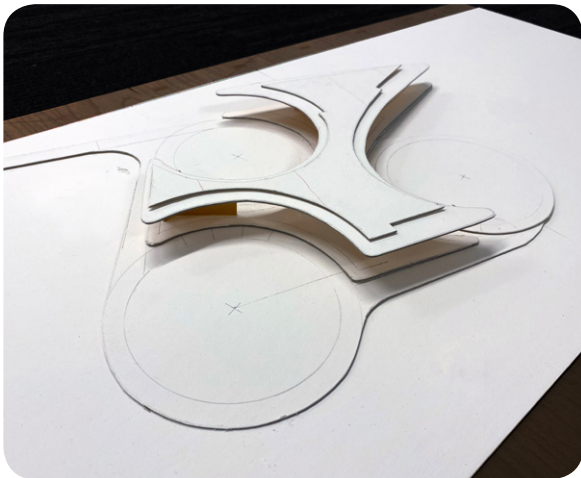
Adding to the experience of the electric charging station amenities and services, Brittlestar Hotel answers the question of where to stay. By selecting two wings of the Brittlestar building configuration, a service of hotel rooms is organized along a common hallway, with all rooms having external views. The hotel is accessed from the ground floor reception and public lobby by a linear staircase. The hotel offers the travelers the opportunity to stay and enjoy the services and facilities in a well-designed and functional addition to the Brittlestar’s accommodations.



Innovative Retail Opportunities: Nike store with treadmill



Innovative Retail Opportunities: KitKat Chocolaterie with open kitchen



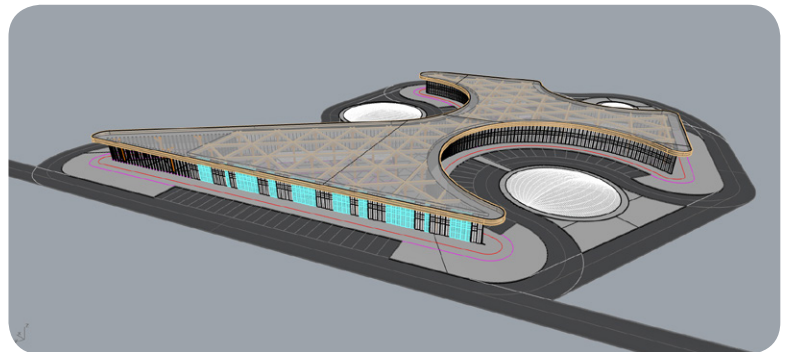
Model of Brittlestar Station



Interior View

The Electrical Charging Station as Environmental Modifier

The electrical charging station is both building and environment simultaneously. The three parking courtyards can respond to various degrees of stay— they can be categorized for short or longer-term use. Furthermore, one of the three courtyards could act autonomously as a park, while the other courtyards focus more on parking and charging spaces. As a connected network, both pedestrian and vehicular around the courtyards involve the charging station’s total perimeter in an active spatial relationship between inside and outside. Operationally the park-parking flexibility is an action-based potential that the building configuration enables.



Aerial Exterior View