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ALLEZ UP ROCK CLIMBING GYM, CANADA

ALLEZ UP 攀岩运动中心, 加拿大

Design
Smith Vigeant architectes
Material Courtesy of
Smith Vigeant architectes
Edited by
谢莹

地点 Location
加拿大蒙特利尔圣帕特里克大街
1555, rue Saint-Patrick, Montréal (QC) Canada
建筑面积 Gross area
1 220 m²
造价 Cost
5 000 000 CAD
完成时间 Completed
2013
年能源使用量 Annual purchased energy use
无 NII
年碳足迹 Annual carbon footprint
无 NII
功能 Function
攀岩设施, 接待区, 衣物间
Rock climbing, reception, cloakroom
绿色认证 Certificate
无 NII

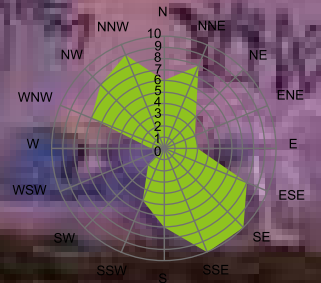
降水Precipitation/毫米mm



气温Temperatures/摄氏C°



风向Wind rose



作为当地历史遗存的重要部分，制糖厂筒仓老建筑改造后成为了ALLEZ UP攀岩运动中心攀岩体验中重要的一部分，新空间的设计按照室内攀岩墙的动态形状而定。作为逝去岁月的见证者，这一处工业雕塑重被赋予了新的生命

AS A SIGNIFICANT HISTORICAL HERITAGE OF MONTREAL'S PAST, THE PRESERVATION AND INTEGRATION OF THE EXISTING CONCRETE SILOS BECAME A KEY ELEMENT IN THE DESIGN CONCEPT OF ALLEZ-UP CLIMBING GYM. SMITH VIGEANT ARCHITECTS CONCEIVED THE NEW PROJECT BY CONTRASTING THE OLD AND THE NEW, THE SOLID AND THE FRAGMENTED, THE STATIC AND THE DYNAMIC



开篇及本页：Allez UP攀岩运动中心是加拿大首个将工业筒仓改造为体育建筑的项目。

Opening pages and this page: the transformation of the project into recreational use was the first intervention of its kind in Canada.

Allez UP攀岩运动中心坐落于加拿大蒙特利尔西南片区的拉欣运河河畔，是蒙特利尔市工业片区改造规划的一部分。这片区域曾经见证了城市工业的蓬勃发展，现在则留下一道由工业建筑构成的不同寻常的景观。其中，莱德帕斯制糖厂建于1952年4月的四座筒形仓库（筒仓）曾是这座老厂的仓储设施。在同一街区还建有曾经的Allez UP健身中心，2009年，筒仓周围的空置土地成为规划中的一部分，于是Allez UP健身中心取得在这片空地的扩建权。宏伟的筒仓为攀岩健身房的修建提供了巨大的潜力，也为攀岩者带来了全新的挑战。于是，废弃筒仓的再利用成为了发掘蒙特利尔工业历史遗迹潜力的机会。这是加拿大首个将工业筒仓改造为体育建筑的项目。

莱德帕斯制糖厂的筒仓是当地历史遗存的重要部分，整个片区的发展以保留历史建筑为前提。建筑师的首要目标是

通过设计重新对老旧筒仓进行利用与整合。改造前必须先制定严谨的改建规划，包括拆除现有的工厂构件，如糖料传送带系统和原有的机械系统，还需要加固现有的混凝土结构，以承受新增的地板、入口开窗和人员所产生的负荷。这些改建占到建筑预算的很大一部分比例。不仅如此，由于建筑的独特性，其防火等相应规范也异常严格，因此整个项目十分具有挑战性。

设计理念

由于场地限制，扩建时设计采用了长方形平面，以最大化建筑物与场地之间的联系，同时将建筑的内部结构最大限度地转为攀岩墙壁。

Smith Vigeant事务所的建筑师希望将具有历史意义的筒仓也打造为攀岩体验中重要的一部分，因此将二号筒仓作为

主要出入口。二号筒仓作为进入后的空间枢纽和接待区，可使游客一览该设施的工业历史，帮助其了解筒仓当初的功能，并展示出废旧工业建筑如何能够很好地融入现代城市生活。

新空间的设计按照室内攀岩墙的动态的形状而定。扩建部分的主立面被倾斜的玻璃幕墙划分成三部分。白天，大面积的玻璃幕墙使整个攀岩馆沐浴在自然光线之中。建筑立面倾斜的棱角与筒仓建筑的垂直、稳健的造型形成对比，而金属外饰面则彰显了周边设施的工业感。入夜时分，宽大的入口让建筑物的内部装饰和精彩纷呈的各种活动都一览无余。

室内空间攀爬面经过精心设计，和谐地融于筒仓建筑内部。室内动线和攀崖活动的布局最大限度地挖掘了攀爬和探险的空间。攀爬墙壁漆成白色，象征堆积如山的糖料，让

人们可以依稀回想起此地曾作为莱德帕斯储糖仓库的历史。与白色形成对比的是攀爬面上星星点点彩色的攀岩支点，这为设计别具一格的内部空间有平添了几分生动。筒仓建筑内部整体覆盖有两层雪松木板。这些木板原本用来保护存储糖料免于受潮，然而改造需要将其拆除。这项工作并非易事，因为没有人有这方面的经验。木板最终被艰难地拆除并重新用于制作家具和接待区上方的内墙饰面，重新与建筑物合为一体。筒仓上部剩余的木板目前保持不变，尚未利用，从二楼的攀岩墙上仍能看到这些木板一直延伸到高处，展现了建筑原有的面貌。

绿色的体育建筑

建筑师认为，要设计一项优秀的体育建筑，首先要理解和尊重这项体育运动及其目标用户，而建筑首要的考虑因素必须是自然采光、空气质量和材料的耐用性。绿色设计是一个重要方面。基于生物气候学原理，建筑的所有窗户均朝向西南方，以便在冬天时获得最佳日照效果。建筑内的机械系统将最大限度地发挥能效，节约能源。在如此宽广的空间内，安装地板辐射采暖系统对确保顾客的舒适感而言不可或缺。建筑师将筒仓固有的细长形状加以利用，通过“烟囱效应”，使建筑物实现自然通风。最后，为了防止大幅度热损失，更好地控制温度，筒仓的内面还额外增加了保温层。这些策略都有助于减少机械通风和冷却系统方面的能源消耗和投资额度。

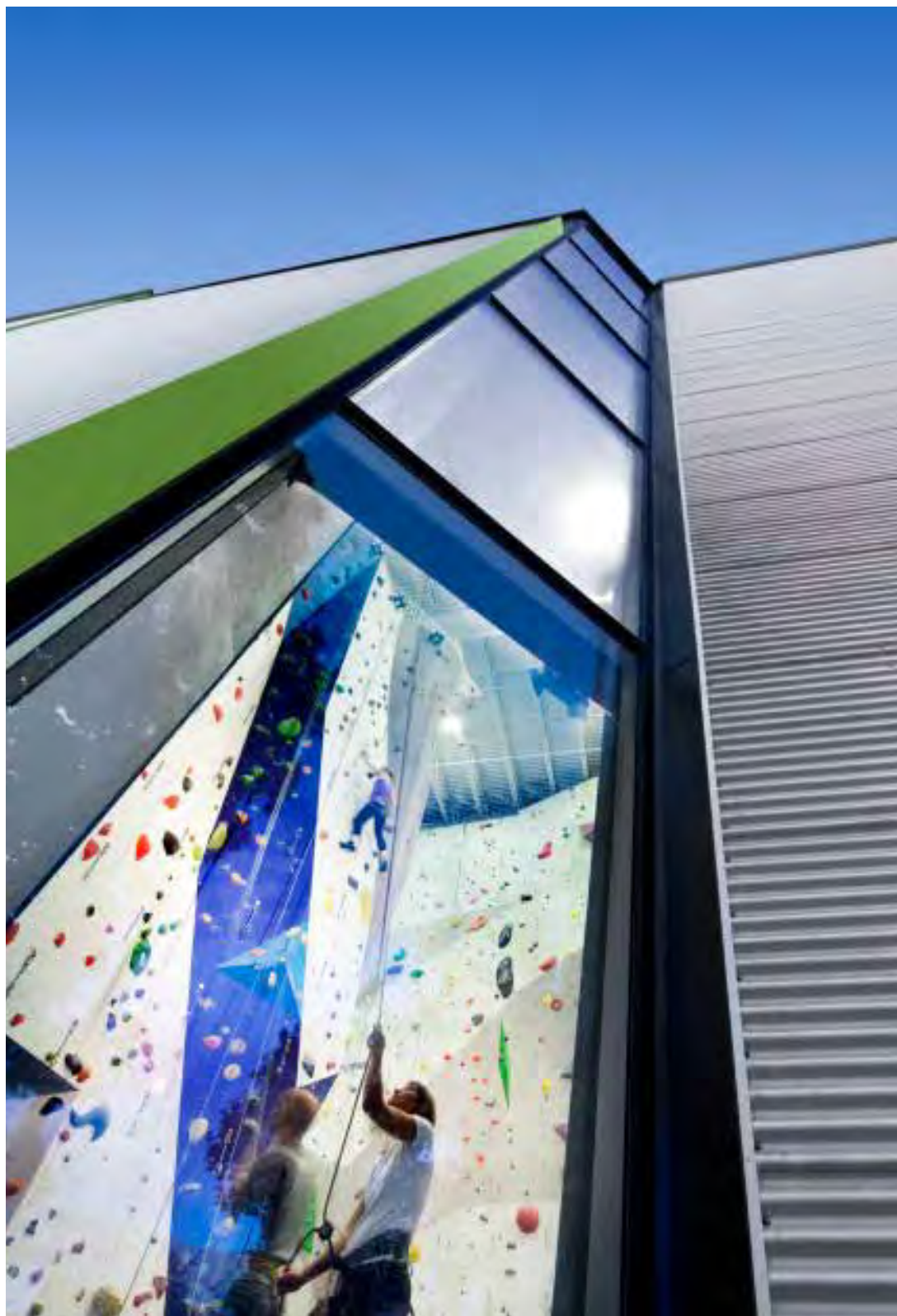
项目将筒仓转变为一处独一无二的室内攀岩设施，为拉欣运河的娱乐和旅游景点平添了更多吸引力。作为逝去岁月的见证者，这一处处工业雕塑重被赋予了新的生命，同时为攀岩健身中心增添了新的意义。

现在Allez UP攀岩运动中心每天会迎来400多名顾客，全年都将举办各类攀岩比赛。随着健身中心的发展，Smith Vigeant事务所的建筑师现在正与Allez UP展开二期扩建工作——未来地攀岩中心甚至连建筑的外表面都有可能建为岩壁！

本页：扩建部分的设计按照室内攀岩墙的动态的形状而定。扩建部分的主立面被倾斜的玻璃幕墙划分成三部分。白天，大面积的玻璃幕墙使整个攀岩馆沉浸在自然光线之中。

This page: the new building

extension was shaped by the dynamic movements of the interior climbing walls. The main facade of the building extension reads as three solid elements sliced by inclined openings.



Allez UP攀岩运动中心，加拿大 Allez UP Rock Climbing Gym, Canada

业主 Client

La Famille Richer - de la Plante

建筑师 Architects

Smith Vigeant architectes

主持建筑师 Leading architect

Daniel Smith, architecte associé, OAA, pa LEED®

设计团队 Design team

Daniel Smith, Karine Renaud, Anik Malderis, Étienne

Penault, Cindy Neveu, Mélanie Quesnel, Stéphan Vigeant

工程师 Engineers

NCK Inc, Martin Roy and associates

景观建筑师 Landscape architects

Groupe Rousseau Lefebvre

承包商 General contractor

eSpace Construction Inc

灯光设计 Lighting design

Smith Vigeant architectes with Martin Roy and associates

家具设计 Furniture design

Wood-skin by mammafotogramma

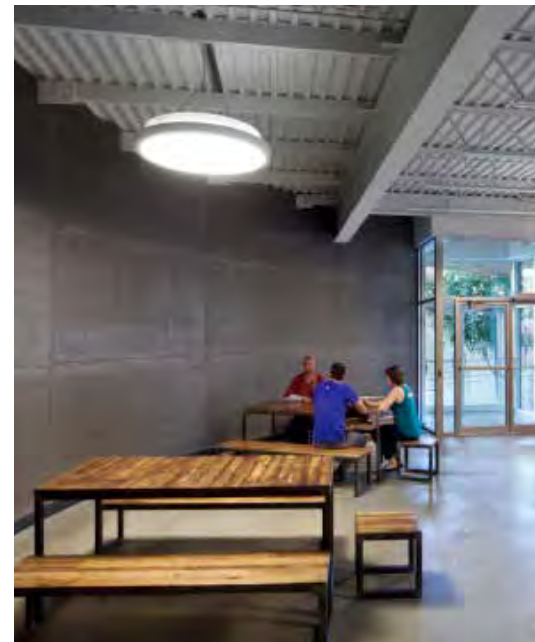
摄影师 Photography

Stéphane Brugger









Situated on the Lachine Canal in Montreal's Southwest borough, rock climbing gym Allez UP's newest facilities are part of an important urban and social renewal project. The industrial era that once thrived in this sector had left an unusual landscape, inhabited by industrial buildings and structures. Among them were four silos erected in 1952 for Redpath Sugar refinery and served as storage for the old factory. Located in the same neighbourhood was Allez UP's previous gym and in 2009, when the vacant land around the silos became adequate for expansion, the client jumped at the opportunity. The grandeur of the silos offered amazing potential for the rock climbing gym and a next level challenge for its climbers. The repurposing of the abandoned silos was a unique way to exploit the enormous potential of the historic ruins from Montreal's industrial past. Their transformation into recreational use was the first intervention of its kind in Canada.

Design concept

Undeniably an inherent part of Montreal's heritage, the reuse and integration of the existing silos was the main objective for the design team. In order to convert these grand structures, an important rehabilitation plan had to be put in place. The existing factory components had to be disassembled and removed, such as the sugar conveyor belt system and the original mechanical systems. As well, the existing concrete structure had to be strengthened to accommodate new floors, openings, and occupant loads. A large percentage of the budget was allocated to these rehabilitations making budget constraints a major issue for the design team. Additionally, because of the uniqueness of the project, building code regulations were very restrictive and challenging.

Due to the sites restrictions, a rectangular form for the building extension was an obvious decision. This configuration optimized the relationship between

building and site, while simultaneously providing the maximum amount of climbing wall within the structure.

It was important to incorporate the silos into part of the experience, which is why silo #2 became the main access and distribution of the complex. Acting as a hub and reception area, silo #2 provides visitors with a glimpse of its industrial history, informing them of its previous function as well as showcasing how it contributes to the recreational activities offer to the city.

The inside of the silos were originally covered with two layers of cedar wood planks running full height. These planks originally protected the stored sugar from humidity, however in order to convert the silos, ex: add floors, insulate and reveal the interior concrete, some of them had to be removed. This was no easy task as no one had previous experience in doing it. Finally the planks were removed and, as initiated by the client, were further incorporated within the building, being reused into furniture and as the interior wall finish above the welcome desk. The remaining wood planks in the upper, currently unused, section of the silos were left untouched and can still be seen from the second floor bouldering wall disappearing into the height.

The new building extension was shaped by the dynamic movements of the interior climbing walls. The main facade of the building extension reads as three solid elements sliced by inclined openings. The windows run full height and saturate the interior space with natural light throughout the day. The angularity of the facade provided an interesting dialogue with the verticality and solidity of the silos, while the metallic exterior finish nicely compliments the industrial character of the neighbourhood. At night, the large openings reveal the interiors and all its exciting activities taking place.

The configuration of the climbing surfaces were meticulously designed and integrated within the confines of the new building extension. Users' circulation on both the floors and walls needed to be coordinated in order to insure safety and to maximize the climbers' space to climb and explore. The climbing walls were painted white to symbolize mountains of sugar and to remind visitors of its previous function as



对页及本页：室内空间攀爬面经过精心设计，和谐地融于筒仓建筑内部。室内动线和攀岩活动的布局最大限度挖掘攀爬和探险的空间。攀爬墙壁漆成白色，象征堆积如山的糖料，让人们可以依稀回想起此地曾作为莱德帕斯糖仓库的历史。

Opposite page and this page: the configuration of the climbing surfaces were meticulously designed and integrated within the confines of the new building extension. The climbing walls were painted white to symbolize mountains of sugar and to remind visitors of its previous function as the Redpath Sugar Silos.



the Redpath Sugar Silos. Contrasting against the white, the multi-coloured climbing-holds that are sprinkled across the walls, add an extra punch to the unique interior space.

The architects believe that designing an excellent sports facility requires first and foremost an understanding and respect for the sport and its intended users. Providing an excellent indoor quality of space is necessary in practicing a sport. Major considerations must be placed on natural lighting, air quality and durability of materials. The success of these elements is what ensures the satisfaction of the users and the longevity of the building.

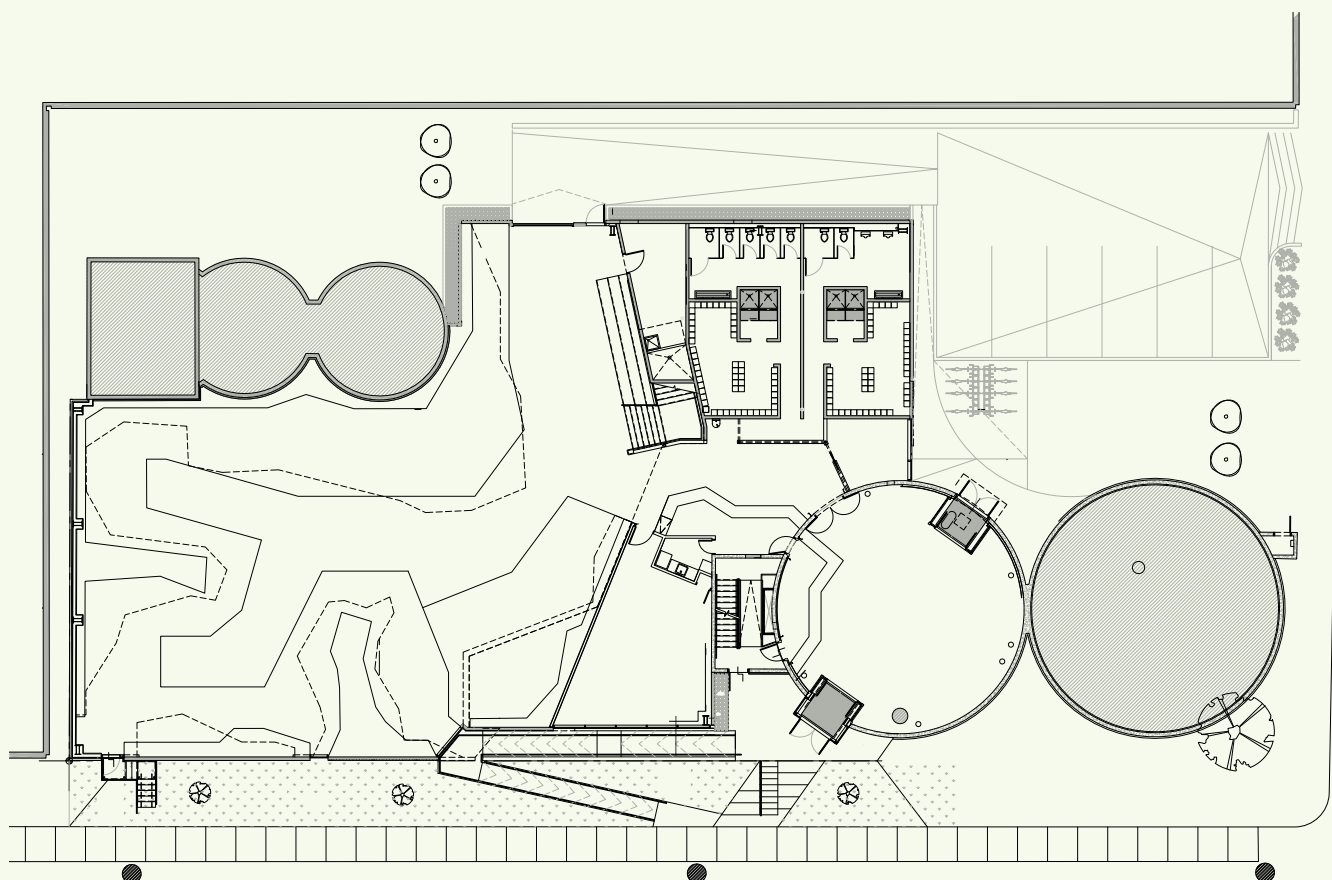
Sustainable design

Sustainable development was an important aspect of the design. Respecting bioclimatic principles, all the openings were oriented south-west to optimize solar heat gain during the winter. The mechanical systems were developed to maximize their efficiency and ensure energy savings. A radiant floor heating system was necessary in ensuring the comfort of occupants within such a vast space. The inherent elongated shape of the silos were taken advantage of and acted as a chimney to create natural ventilation for the building. Finally, to prevent significant heat loss and to better control temperature fluctuations, an extra layer of insulation was added to the interior side of the silos. These principles helped to reduce the energy and financial investments associated with the mechanical, ventilation, and cooling systems.

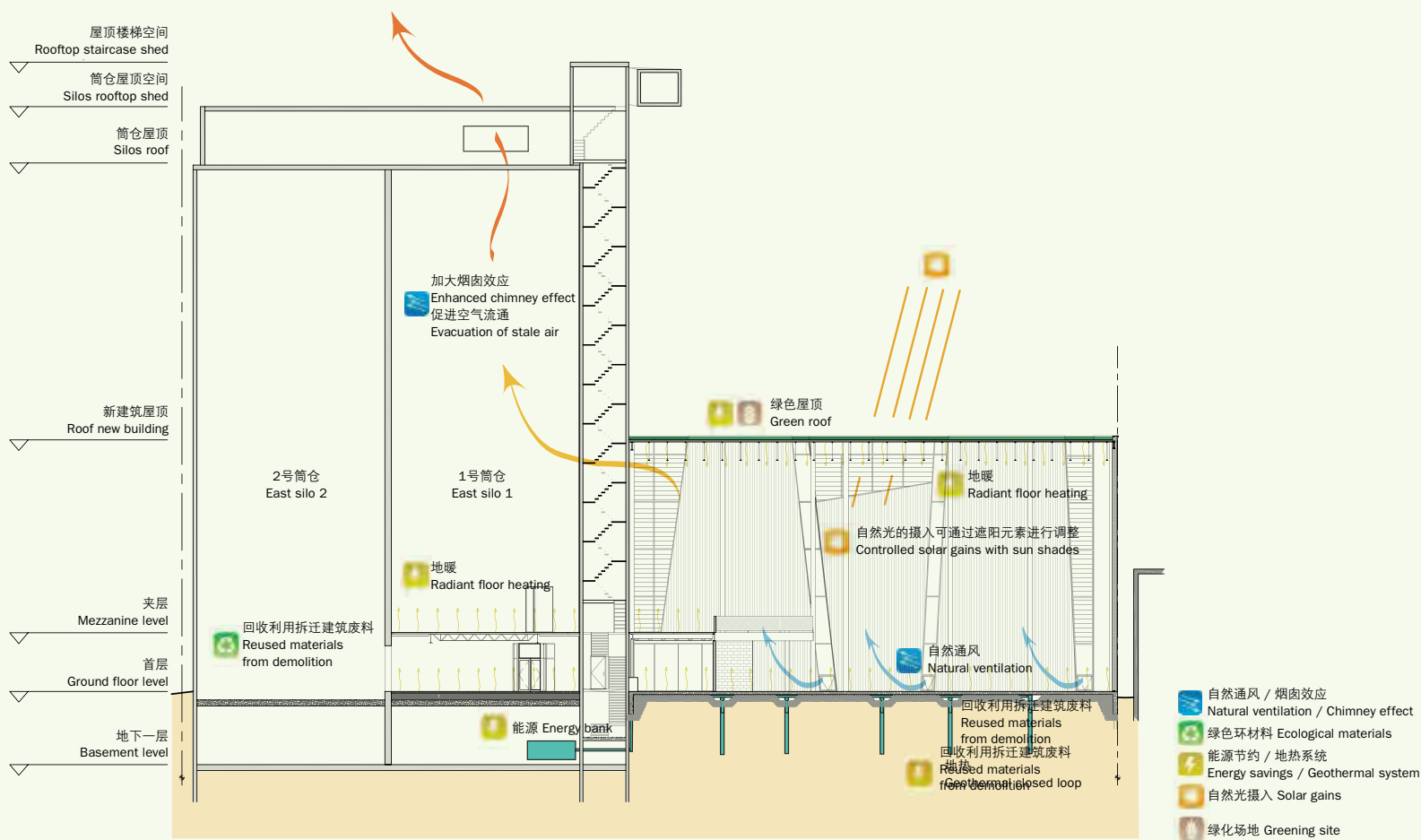
The silos' conversion into a one-of-a-kind indoor rock-climbing facility has significantly added to the recreational and touristic attractions on the Lachine Canal. Witnesses of a bygone era, these industrial sculptures have been given new life, while adding a cultural dimension to the rock climbing gym and reminds users of its past.

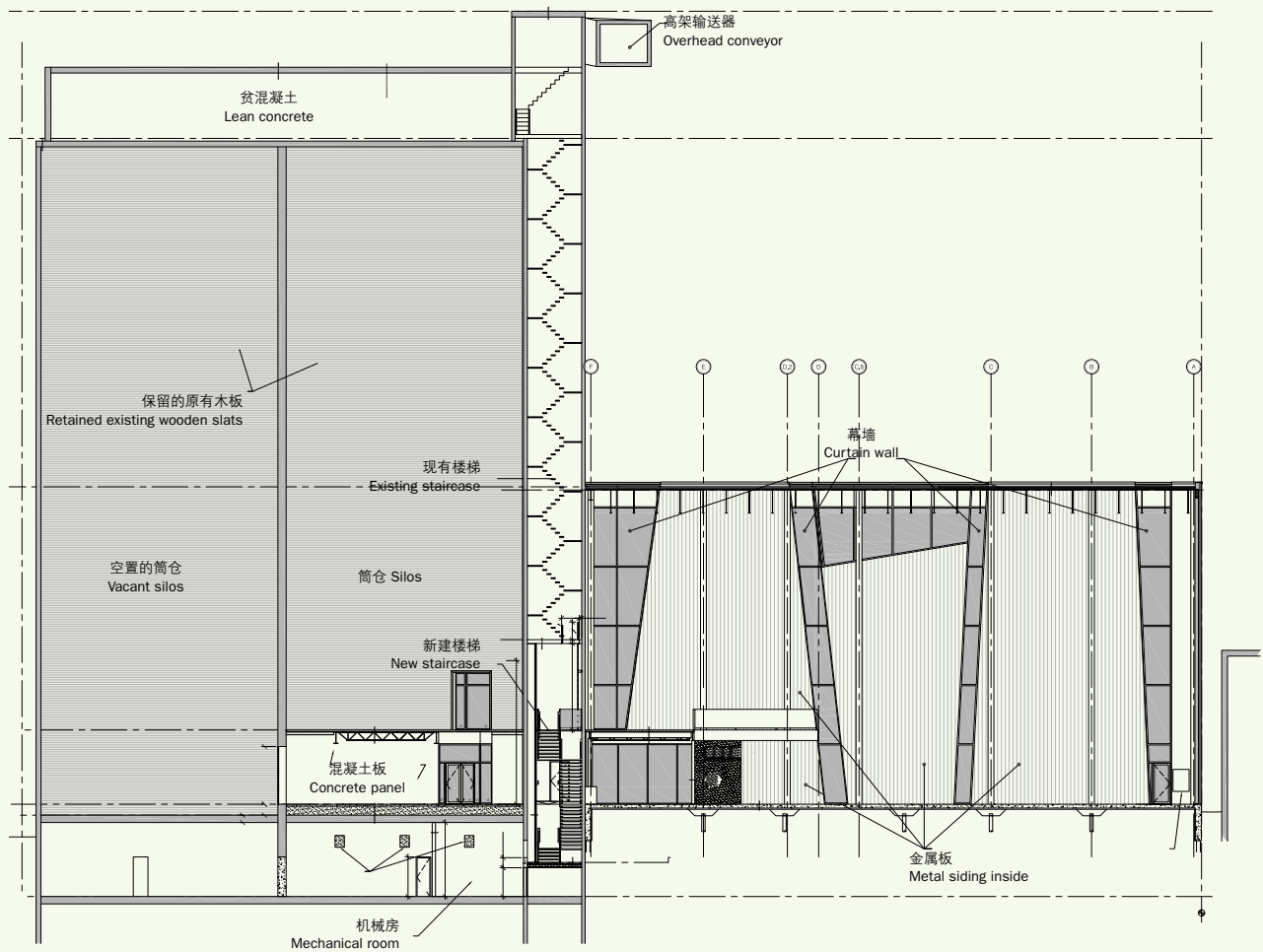
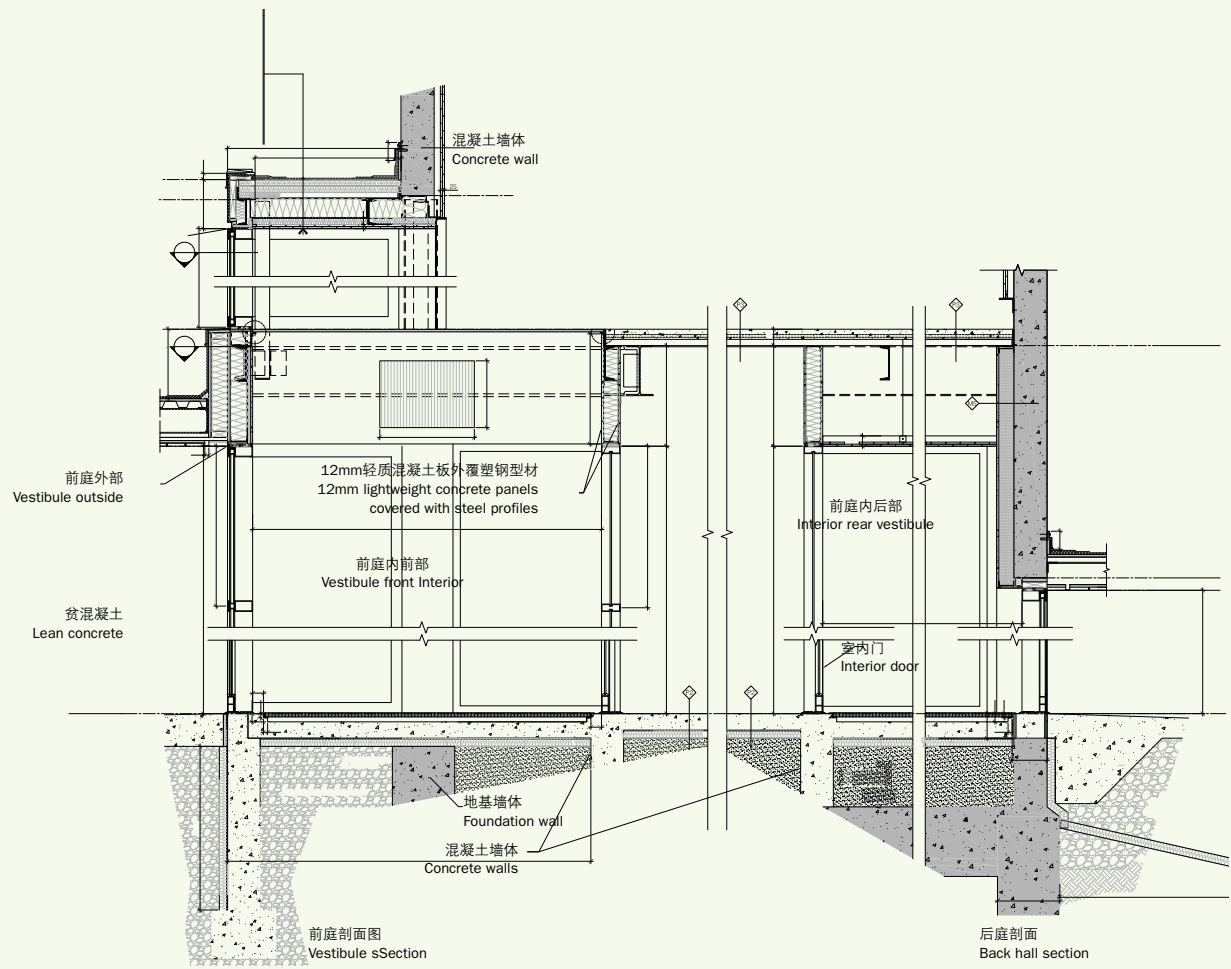
Allez UP welcomes more than 400 visitors each day and organizes different climbing tournaments throughout the year. As a result of its popularity and success, Smith Vigeant architects and Allez UP are now working on a second phase of expansion and are focusing on further integrating the surface of the silos for climbing, internally and even potentially on the exterior!





基地平面
Site plan





纵剖面
Longitudinal section