

# 默森研究所

## Mawson Institute

**地点** Mawson Lakes Campus, University of South Australia

**客户** University of South Australia

**建筑设计** Guida Moseley Brown Architects

**合作设计** Russell & Yelland Architects

**建筑师** Harold Guida (GMB), John Held (R&Y)

**摄影师** John Gollings

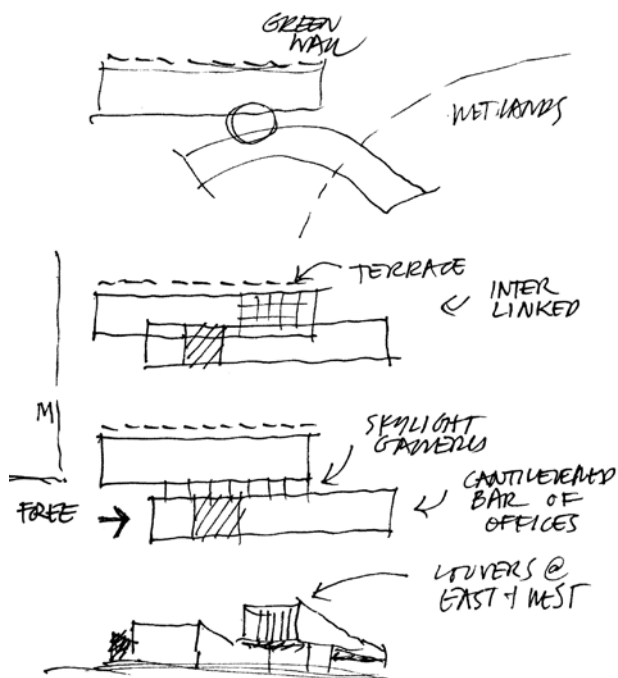
**编译** 朱晓琳





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THESE PROVIDE SOME KIND OF CONTINUOUS "FLEXIBLE" OFFICE SPACE

南澳大学默森湖校区的东部区域以具有工业特征的建筑、空旷的土地以及一些露天的工业性质的研究场所而著称。建筑组群与主要街道和人行通道的关系较为疏离，它们共同组织起校园的主体部分，并与西面的新型城镇中心形成综合性的城市环境，这同时也是校园总体规划的意图所在。

然而在东部的边缘地带，南澳大学的总体景观规划将其定位为一处重要的湿地景观，并计划进一步将这一独特的水体景观延伸至整个校园的网络之中，巧妙地暗示出肌理、建筑和自然景观之间可能的特殊关系。该项计划还引发了将学生、工作人员和游客纳入到湿地景观中的想法，因此这两个提案对于总体规划而言还是非常好的。而这些景观意向也成为默森研究所最初设想的依据。

默森研究所的设计理念是为变化极快的技术研究以及相关课题、管理和非正式用户互动提供空间，并与校园的湿地走廊形成一体化的场所。研究所的设计和建筑所处的位置使得湿地景观在无形中得到了延伸，同时也令湿地更加贴近校园社区生活。东西向的平面布局考虑了被动式的太阳能设计，并且加强了建筑与校园总体网络系统的联系。色彩的合理运用使建筑的入口变得非常鲜明和开放，一个联合会议室则被用于举办学校研究活动。

建筑基于两条附近的平行线形成东西走向的两翼，一翼容纳具有高度组织化和灵活性的实验室，一翼容纳办公和附属用房。实验室、办公室和开放式办公室共用一个入口，通过设置互相联系的空间来促进不同研究小组之间的非正式交流。一体化的空间设计使屋内撒满阳光。



设计将实验室与模块化的替换单元线性排列，以实现长期的灵活性使用，装载和服务区域则置于研究室模块和启动实验室之间。一个私人租用的实验室通过接待门厅进入，并与其他实验室空间和活动区域隔离开来。在建筑一翼的最东端是一个计算机辅助可视化实验室，在建筑内部有独立的通道，并在北侧的服务区拥有一个巨大的门，以便大型设备的运输。

办公室所在的一翼被设计成看似单层的外型，将超过两层的空间叠合在一起，上部楼层容纳了行政办公室和工作人员的会议室，人们可以俯瞰湿地景观和远处的风景。从一层通过舒适的楼梯走上二层，身处由透明玻璃围合而成的办公室，感到二层的空间也成为一层空间的有机组成部分。

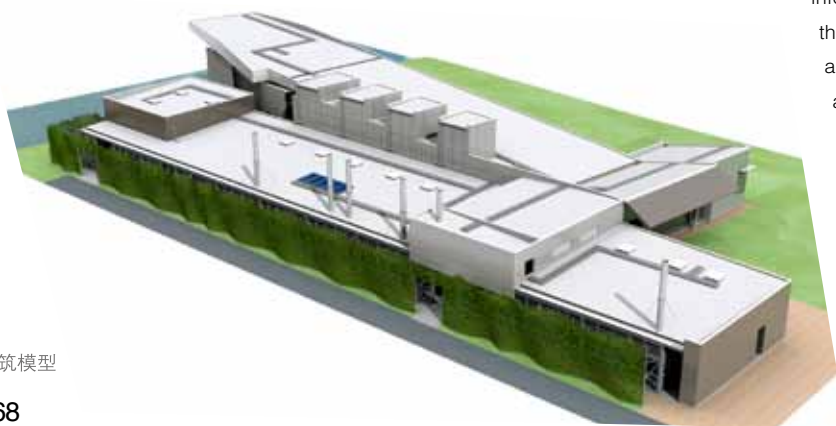
高度组织化的实验室所在的一翼允许灵活性的使用，外部的走廊则实现了连续性的内部空间和方便的服务。“绿墙”上种植了藤本植物以实现适宜的温度和减少灰尘的积累，也形成更为广阔的景观。建筑的钢结构外包预制金属板。

东西向的布局为建筑提供了被动式设计的可能，建筑材料和

The eastern precinct of the University of South Australia Mawson Lakes campus has been generally noted for industrial-like buildings, vacant land, and certain open-air industrial-character research. The building groupings are only loosely related to the major street and pedestrian pathway grid that organizes the majority of the campus that to the west interweaves with the emerging town centre to make an integrated urban environment, as is the intentions of the campus master plan.

At this eastern perimeter, however, the University Landscape Master Plan identified the perimeter wetland landscape as a significant amenity and the plan further proposed the extension of this unique water-based landscape westward into the campus grid, subtly suggesting the possibilities of special relationships between the grid, architecture, and this more natural character landscape. The plan also initiated the idea of making the wetland accessible to students, staff, and visitors, and showed that it could be done incrementally over time – both seemingly good attributes of a master plan. It was to these landscape intention that the earliest ideas for the Mawson Institute were formed.

The design concept for the Mawson Institute was to provide a building for highly variable critical research and associated study, management, and informal interaction by the users, which is integrated with the wetland-corridor-edge of the campus. The design and location of the building has extended the wetland and made it accessible to the campus community. The liner east – west plan is fundamentally based for passive solar design and places the building entrance in relation to the campus grid. The design and selected colours make the entrance highly visible and inviting and an associate meeting room allows usage by a wide sector of the University with out disruption of the research activities.



建筑模型



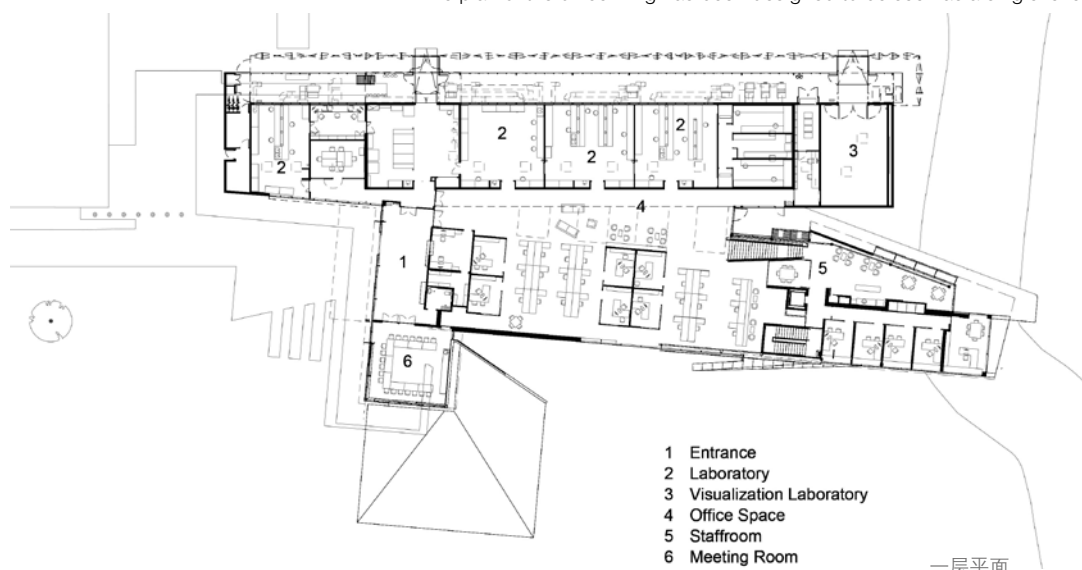
系统均考虑实现高性能的可持续性设计，设计中采用了双层Low - e玻璃、遮阳百叶、冷梁空调系统、可控的采光天窗、T5高效灯具和照明控制系统以及感应器等多种元素。在条件允许的情况下，尽量采用了可再生、环保、低挥发性的有机化合物材料，承包商制订了一个环境管理和建筑物废物利用的管理计划。建筑所在的场地同时为一体化的综合性设计和校园基础设计的高效利用提供了场地。大学的热电厂为整个大学提供天然气，通过校园的主管道供应给人们可饮用水和循环水系统，并提供一个全面的光纤数据网络以及先进的楼宇管理系统。该楼宇管理系统已经扩展到建筑机械和照明系统的范畴，包括用户对能源和水的消耗的反馈控制。

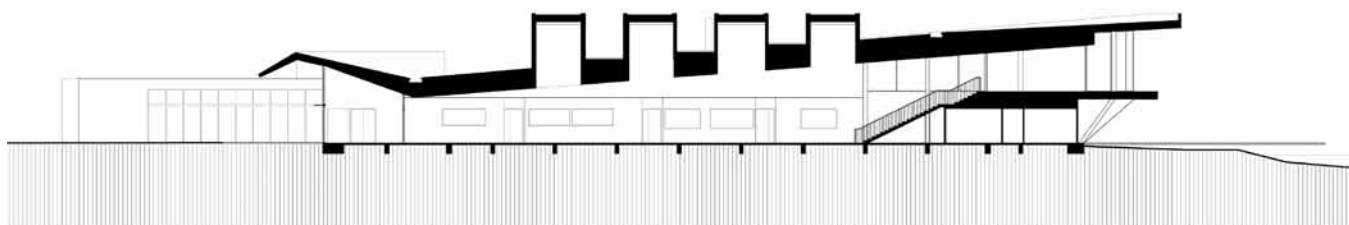
此外，整个大学的运作、管理和维护制度已经建立，旨在最大限度地发挥建筑的长效运行效果。

The building is based upon two near parallel linear wings on that east - west orientation that provide for highly organized and flexible laboratory accommodation in one and for offices and support spaces in the other. The laboratories, offices, and open office spaces share direct visibility and access, and the widened interlinking space has been designed to promote informal interaction between the disparate research groups. This integrative space is light-filled from large roof monitors.

The wet laboratories are planned as a liner arrangement with modular replaceable partitions for long term flexibility, with a loading and service area positioned between the research modules and the entrepreneurial start-up laboratory. This privately rented laboratory is located so as to be able to be accessed from the reception lobby and separately from the other laboratory spaces and activities. At the most eastern end of the wing is a computer aided visualization laboratory which is accessed separately from within the building and has a large door from the northern service side to allow for the delivery of large objects, such as automobiles.

The plan of the office wing has been designed to be seen as a single level





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which "folds" over two storeys and which provides administrative offices and staff meeting rooms at the upper level overlooking the wetland and distant views, yet is directly understood as part of the lower floor and it's uses and activity..

The efficient modular plan of the laboratory wing allows for flexible usage and the northside quasi – external "peristial" services corridor allows for uninterrupted internal space as well as easily accessed services. This service spine is roofed, secured and enclosed by a "green wall" – a secure chain link structure that is planted with vines to provide temperature modification and to mitigate dust build-up, and indigenous plant species have been selected for the broader landscape.

The steel structure is enclosed in pre-finished metal panels.

Beginning with the east – west orientation providing basic passive design opportunities, the material and systems selections have been selected to provide a high performance sustainable design and employed such elements as double glazed low-e glazing, louvered sunscreens, a chilled beams airconditioning system, sun-controlled skylights, high efficient luminaries incorporating T5 lamps and lighting controls, and occupancy sensors. Renewable, recycled, and low VOC emission materials were used where possible, and the contractor developed an Environmental Management Plan and a Waste Management Plan for construction. The siting of the building has also allowed for the integrated design and efficient use of campus infrastructure.

The University central thermal plant provides the central gas supply,

potable water via the campus main tunnel, a recycled water system, a comprehensive fibre and data network, and a sophisticated Building Management System. This Building Management System has been extended to the new building to control mechanical and lighting systems including feedback on energy waste and water targets to users.

Additionally a University building operation, management, and maintenance regime has been established to maximize the long term performance of building systems. **AT**



