

Arch 464
ECS
Spring 2022

Name _____

Quiz #1

Theatrical Light and Magic?



For this quiz you get to give lighting advice to the theatre group.

The much-loved 1979 New Wolsey Theatre in Ipswich, designed by Roderick Ham, has been surrounded by an urban area in gradual decline for many years. The theatre is located within the western part of a 1960s inner ring road and sits on top of a largely hidden underground spiral car park of the same era.

The Theatre Square was once part of a wider site of civic importance with the now-demolished police station and Magistrates Courts plus main council offices just to the south—therefore the site's strategic location makes it a key gateway to the city centre.

The timber-framed, gold-roofed pavilion (NW2) will house the theatre's growing community engagement and creative learning programme. It has been designed to encourage collaborative working and provide a tech hub for developing digital skills in the arts sector, and will incorporate fully accessible Changing Places toilets.

Robust materials and bold finishes were chosen as a nod to theatreland itself. A black rubber skin wraps the building and a cantilevering gold canopy—the 'theatre curtain'—floats on top.

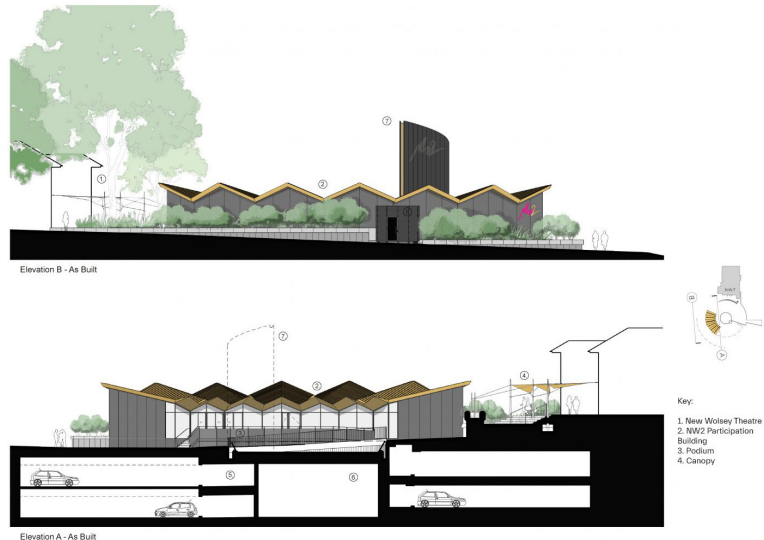
Context. The theatre is located just west of central Ipswich at 52° NL. It has a humid climate dominated by cloudy days throughout the year. Summers are mild/humid and winters are cool/humid.

READ THE ENTIRE QUIZ BEFORE YOU BEGIN!

Architect's view

Adaptive reuse was a recurring design theme within the project in addition to more typical sustainable technologies. Accordingly, the form and repetition of the bays of the new building coincide with the structural bays of the car park beneath, negating the need for complex structural adaptations to the original subterranean building, with the new buildings' weight spread over the original surface of the car park. A highly insulated, panelled timber superstructure made assembly fast and efficient.

The steel projecting canopy to the front of the building was also designed for maximum material efficiency with engineer Price & Myers using the circular geometry to design-out anything other than the 5mm folded steel plate to support the cantilever. The building also straddles the original concrete planters and former subterranean lavatories, the latter now refurbished as an IT suite tucked at the rear of the building. Inclusivity was key, with designs benefiting from the advice of a specialist accessibility consultant at the outset, who helped in the planning and arrangement of the Changing Places toilet with assistive technologies, the café kitchen and all access routes in and out of the building.



Arts and culture come alive in the outdoors with the newly created Theatre Square, which reappropriates as a performance stage the long-defunct bowl that was formerly the water feature on top of the car park, now encircled by playful 'gold eyelashes' of sprayed metal. Additional external lighting was mounted to a retained granite air vent from the underground car park, to complete the functioning performance area.

WGP also assisted the theatre with the refurbishment of its existing theatre lobby and waiting area. This included the enhancement of the theatre curtilage with the design and installation of an additional balcony terrace overlooking the Theatre Square and new tensile canopy. The latter has proven valuable on many levels: Theatre activities were hard-hit by the pandemic and the ability to shelter people watching external performances added to the Covid-secure usability that the new Theatre Square afforded.

—Phil Waind, director, WGP Architects

Client's view

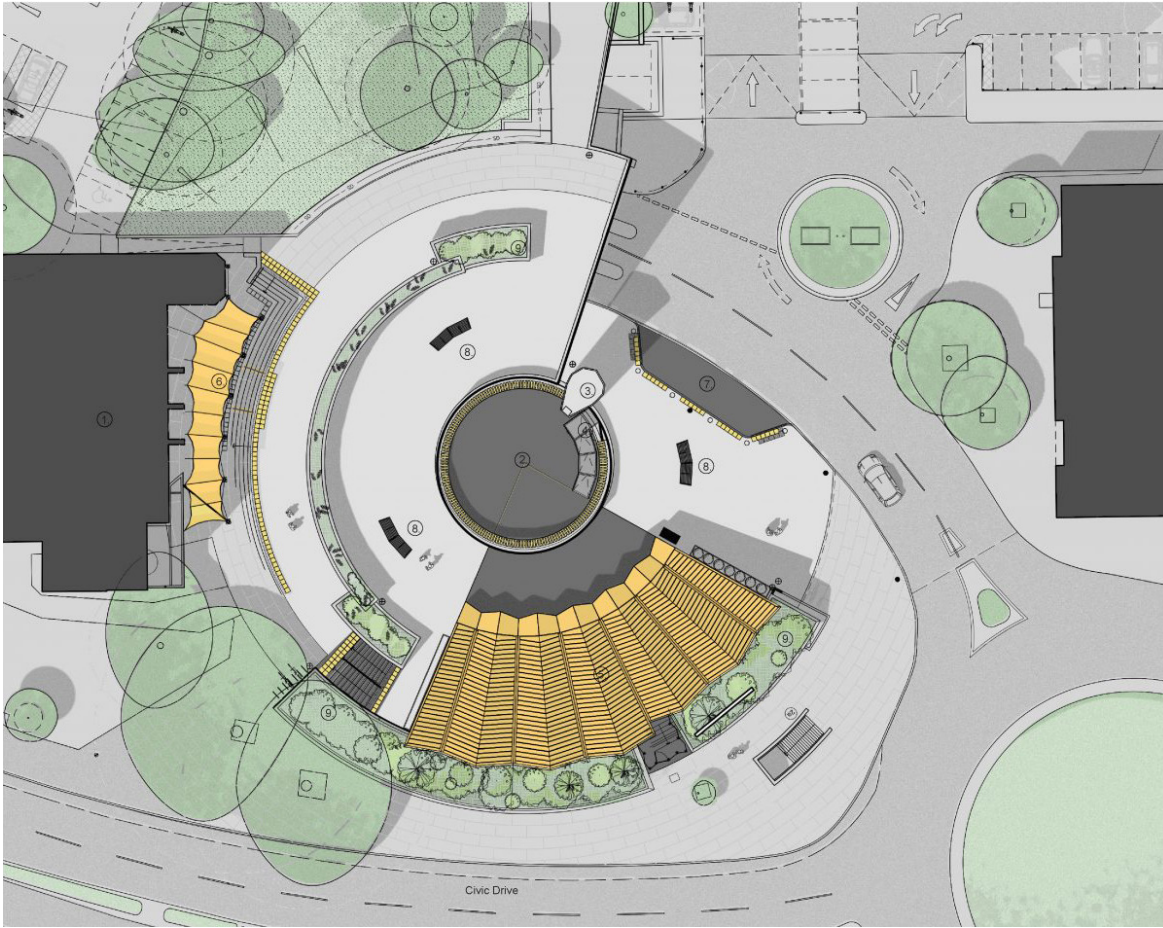
Having NW2 as a dedicated community space on site has been life-changing for our work with the community. Now, our community work is no longer being tucked away in spaces around the town but right in the heart of our campus in a brand new fit-for-purpose space. The transformation of Theatre Square not only lifts the profile of the theatre but also opens up extraordinary opportunities and potential for us to diversify our programming, including outdoor performances. This is especially fortunate with the ever-changing landscape of theatre as it provides us with a much larger degree of flexibility.

—Sarah Holmes, chief executive, New Wolsey Theatre



North facade of the NW2 pavilion.

WGP Architects has completed this gold-roofed pavilion (NW2) for the New Wolsey Theatre.



- Key:
- 1. New Wolsey Theatre
 - 2. Performance space
 - 3. Car Park Vent
 - 4. Access Ramp
 - 5. NW2 Participation Building

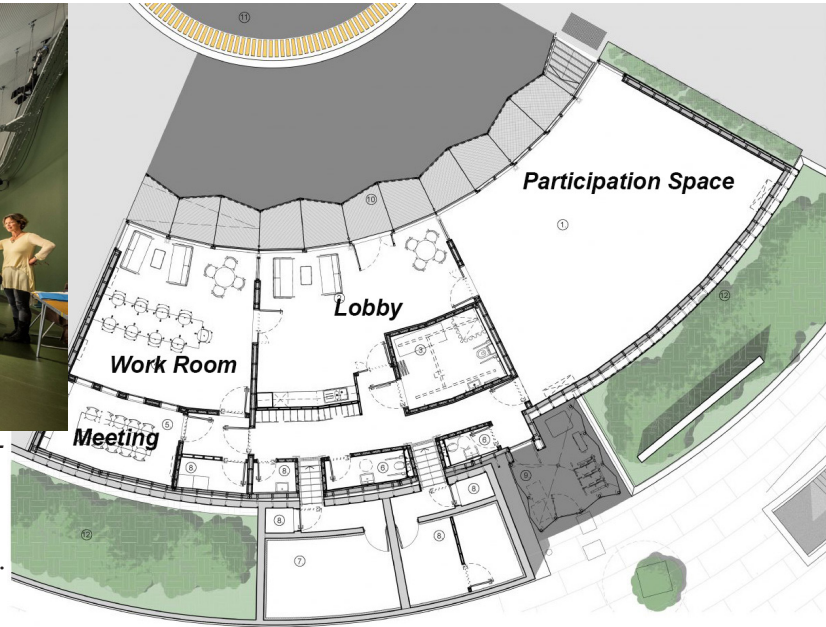


6 pts. 1. **Cite** three age old adages/rules-of-thumb for daylighting that are either followed or ignored in the design of the NW2 participation space. Fully **explain and illustrate** why you believe that the apertures and surfaces are effective or ineffective in providing a visually comfortable room.



View in the participation space looking east.

NW2 floor plan north is up.

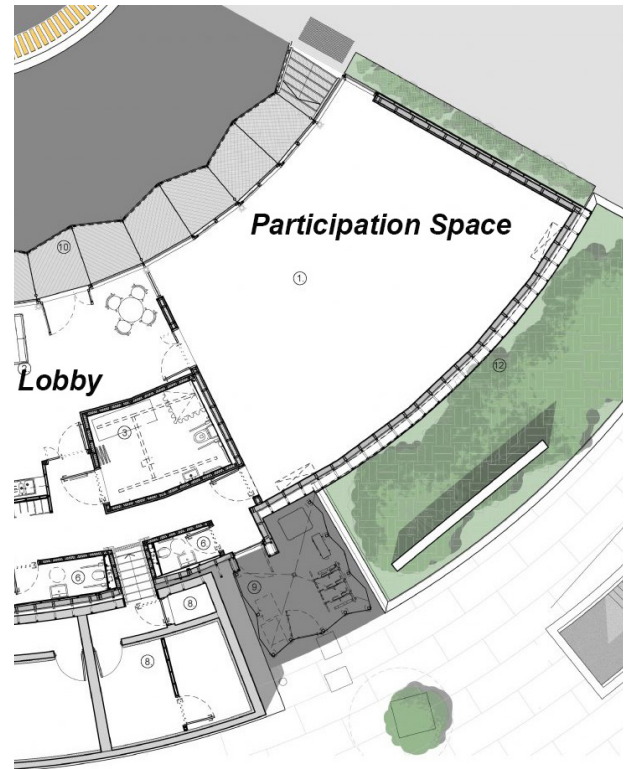
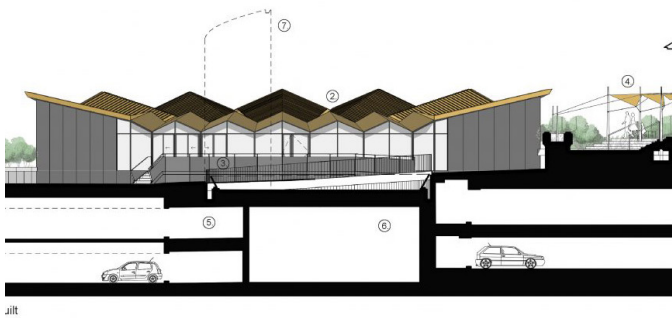
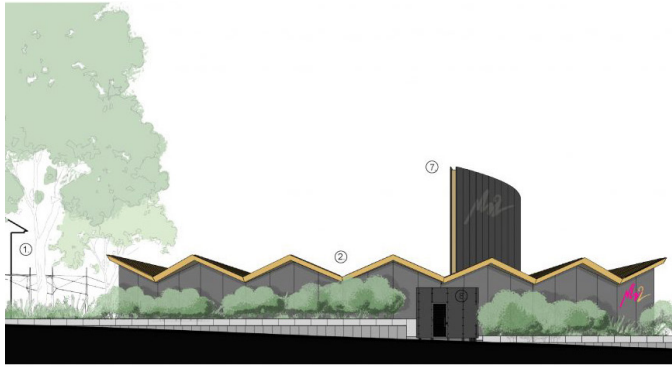


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6 pts. Using only sidelighting apertures, demonstrate a solution that improves the visual comfort of the participation space. **Critique** the existing condition. **Locate** your proposed apertures in plan and elevation and **sketch** a section through a typical aperture.



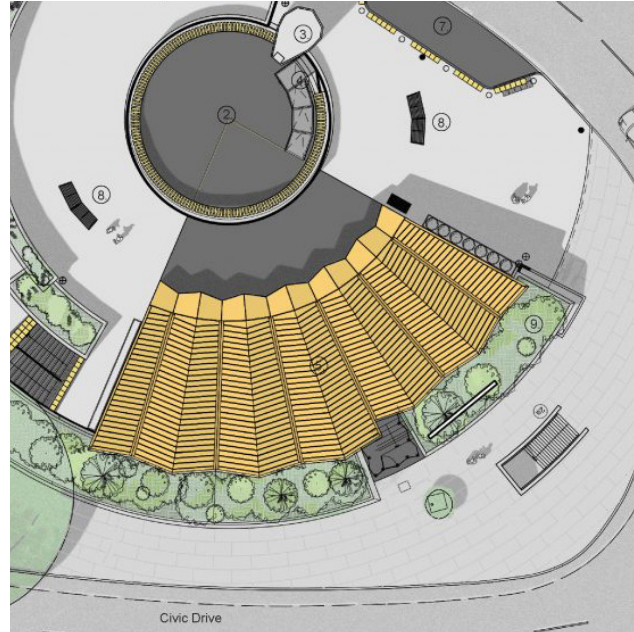
South Elevation (top) and North Elevation (bottom) Participation space in plan. North is up.

Critique

Locate

Sketch

6 pts. 3. **Design and place** a skylighting scheme that would improve the lighting throughout NW2. **Explain your intent and show** its effect and placement in the roof plan and **sketch** your design to illustrate how it works.



2 pts. 4. **Critique** the existing integration of the daylight and electric light systems. **Explain** how your proposals in questions 2 and 3 would improve systems integration.