

# Value engineered solutions safeguard Architectural vision

OSBORNE

With 160,000 passengers passing through the road, rail and ferry link at 'The Hard' gateway to Portsmouth every week and numbers set to increase, constructing a state of the art hub was strategically important to keep people moving.

*"It is vital that we allow areas and companies to achieve their potential, and ensuring that key infrastructure is in place to allow development is a key ingredient to making that happen".*

Portsmouth City Council

PROJECT	Portsmouth Transport Hub
CUSTOMER	Portsmouth City Council
LOCATION	The Hard, Portsmouth
CONTRACT	NEC3 Option C - Target Cost
VALUE	£9.25 m

# Issue

A tight budget and funding milestones threatened the scheme vision. It was essential that efficiencies were identified that retained the buildings visual integrity and quality whilst providing the people of Portsmouth value for money.

With planning and outline design already in place, reducing the cost whilst still meeting the funding deadlines was a significant challenge.

# Solution

The programme was critical so the customer, designer and contractor quickly established a collaborative working environment to identify and assess proposals. Mechanisms were agreed to efficiently identify, review and dismiss or incorporate changes into the design.

To aid openness and transparency, Portsmouth City Council had selected the collaborative NEC form of contract for the build phase with an incentivised cost pain/gain share arrangement. Their approach supported the development of innovative solutions through shared

outcomes.

The initial focus was on de-risking the programme to meet the funding milestones whilst value engineering the design to reduce cost on the 'high ticket' items.

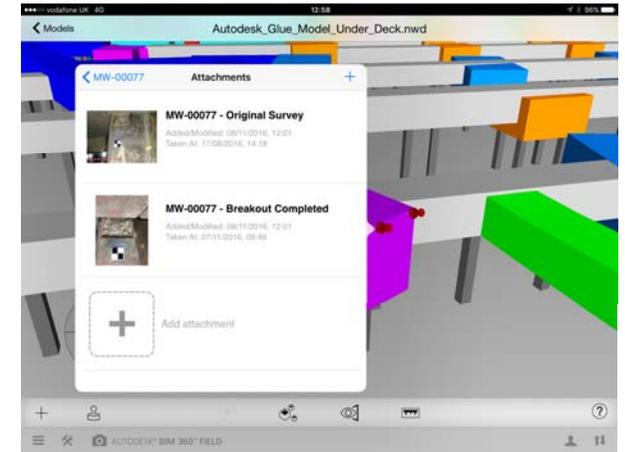
With the steel and glazing tied intrinsically to the architectural design there was little scope for cost reduction. So the team focussed on the existing foundation repairs and protection, M&E, the concourse and most importantly phasing to protect the programme.

## 1 – Design Efficiency Savings

### *The Foundations*

The existing hub was founded on a 40 year old concrete deck supported on reinforced concrete piles over the harbour. The Customer had selected a sustainable approach by re-using the foundations but this required localised assessment and repair to meet the required 60 year design life.

A rigorous survey and review process supported by the use of BIM Field software allowed targeted repairs. With the designer in Manchester, the software allowed simple electronic data sharing to aid quick decision making which was critical when working in a tidal environment. It also enabled a high level of control on spend to protect budget.



### *The Interchange Building*

The undercroft ventilation proposal required the building to be raised which resulted in a significant quantity of lightweight polystyrene to elevate the concourse to tie in with the building. By removing the ventilation and installing heat sensors linked to the doors the concourse could be lowered whilst still providing adequate ventilation. The result was significant savings both in terms of cost and installation time.

### *Drainage*

The lowering of the concourse reduced the height available to achieve drainage falls and attenuation. An innovative solution, developed with supplier 'ACO', incorporated attenuation and filtration crates into shallow drainage channels. The solution kept the drainage above the deck and eliminated the

need for a separate storage tank and seawall crossing saving £80,000.

## 2 – Programme Efficiency Savings

Incorporating the changes identified during the value engineering exercise was putting the completion date at risk. A review of the methodology challenged the programme logic. If Phase 2 and 3 of the programme could be overlapped then the end date would be achievable. The customer, Portsmouth City Council, worked with the transport operators to overcome the logistical constraints and agree the relocation of the bus and taxi rank.

The result was a saving of 12 weeks which delivered the early summer 2017 completion date required by our Customer.

## Outcome

The programme and efficiency savings identified through collaboration between Customer, Designer and Contractor safeguarded the architectural vision to provide an iconic structure to kick start regeneration of The Hard. A soft transition into operation meant the doors quietly opened to the public on time.

*I just wanted to thank you for your work to date on The Hard project. The building opened today to a very positive reception by a range of visitors.*

Stephen Bailey - Director of City Development and Culture Portsmouth City Council

