


LSAA
LIGHTWEIGHT STRUCTURES ASSOCIATION OF AUSTRALIA

LSAA 2009 Conference
29th – 30th October 2009

Mildura Performance Venue
Concept to Grand Opening

James Marr




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Introduction

MPV


- Form finding
- Flood plain design
- Project budgeting
- Fabric selection
- **Detailing**
- **Tender Documentation**
- Construction



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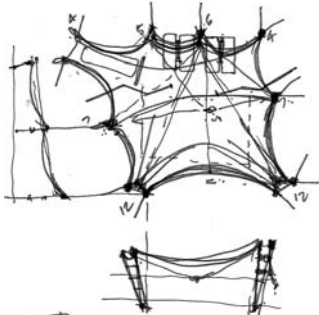
Form finding

“Our design intent for the venue was to provide assistance in the re-establishment of Mildura’s relationship with the river and to deliver a flexible performance venue which caters for a multiplicity of activities such as rock concerts, opera, moonlight cinema, school musicals and community events”
Jackson Architecture



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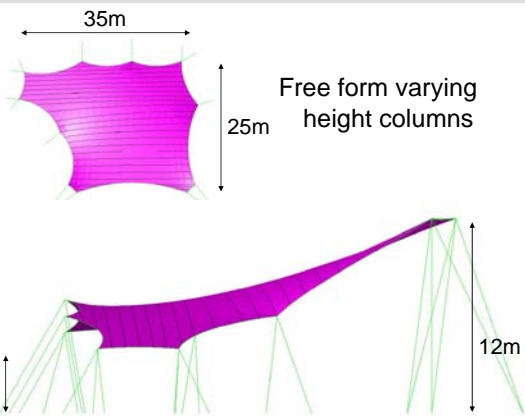
Form Finding



Daryl Jackson Hand Sketch

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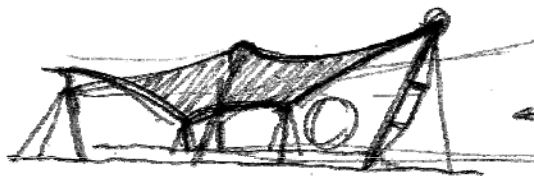
Form Finding



Free form varying height columns

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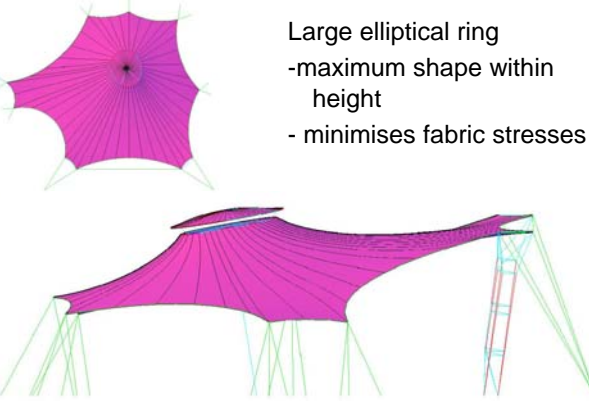
Form Finding



Architectural elevation - evaluating central supports (1, 2 and 4 were considered)

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Form Finding

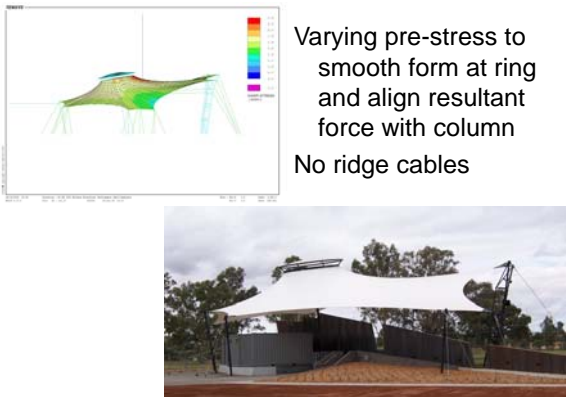


Large elliptical ring
 - maximum shape within height
 - minimises fabric stresses

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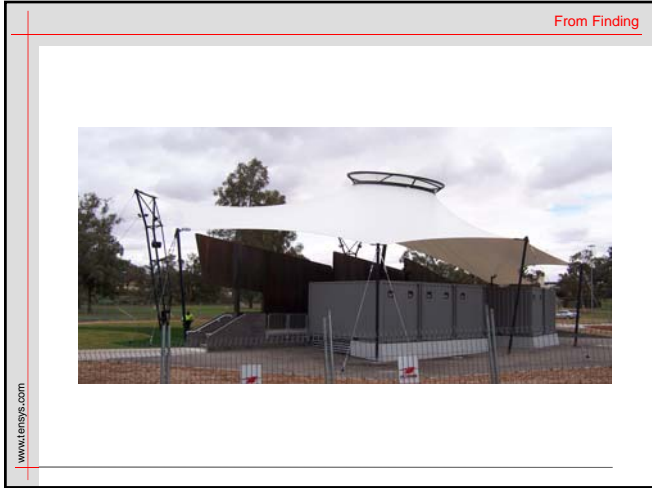
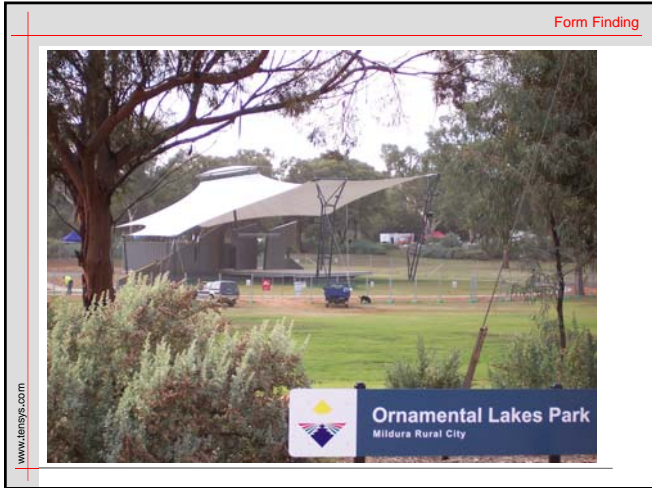
Form finding

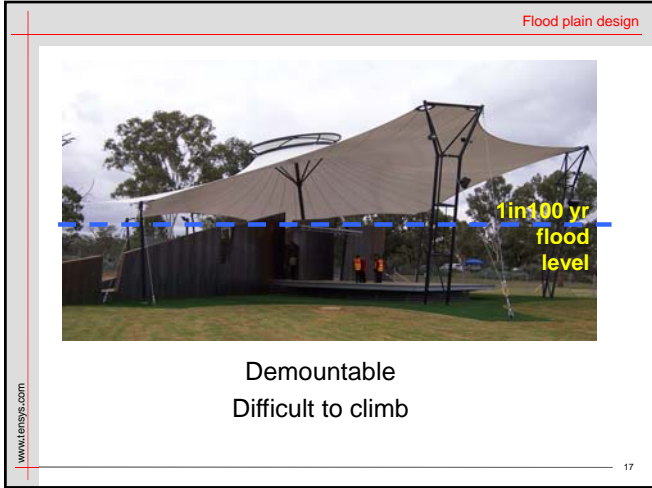
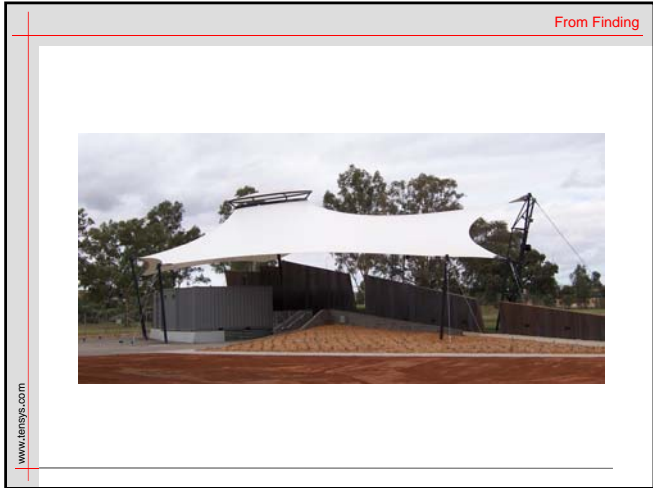


Varying pre-stress to smooth form at ring and align resultant force with column
 No ridge cables

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Detailing

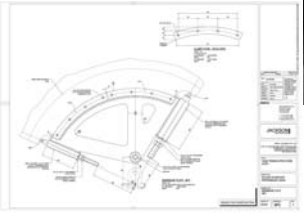
Construction Splices

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Detailing

Reduced weight membrane plate with erection holes

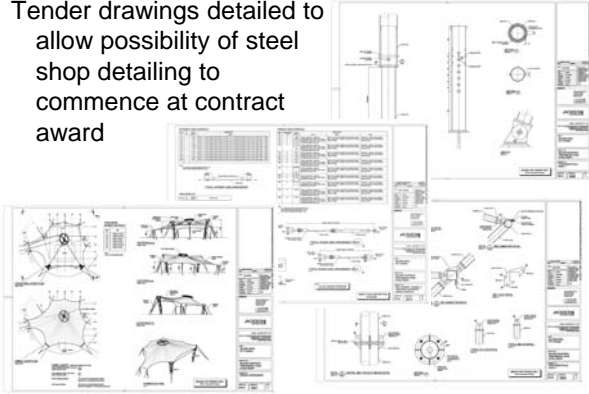



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Tender documentation

Tender drawings detailed to allow possibility of steel shop detailing to commence at contract award



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Construction



Minimising working at height

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Concluding comments

Aim; "deliver a flexible performance venue"

- Functional
- Interesting
- Cleanly detailed
- Constructable
- Economical



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