



# Standardised Building Design for Zone Substations

Presented by : Ashneel Prasad



## What Has Been Our Past Practise?

Pre-standardised building design approach

- Project Driven builds
- Short term solutions (“what we did last time”)
- Inconsistent planning for O&M requirements
- Insufficient planned Engineering involvement
- Lack of customer feedback before build

## Builds Pre – 90s'

McNab (1940s')



## Post 90s' but Pre Standardised Buildings

Sylvia Park (2006)



Te Atatu (2005)





## Post 90s' but Pre Standardised Buildings



Oratia (2007)



Red Beach (2007)



## Post 90s' but Pre Standardised Buildings



Gulf Harbour  
(2008)



## Approach Sustainable ?

According to the Asset Management Plan, Vector was planning to construct 7 new or replacement of existing substation building between 2008 and 2010

**A continuation of past approach would be unsustainable for a successful delivery of the upcoming programme of works**



## Thinking Outside the Box

Deliver a design that was :

















- Sustainable for successful rapid project delivery
- More adaptable to the built environment
- Quick Build
- Cost Effective
- Took into account the entire lifecycle of the buildings
- Appropriately engineered with flexibility to update

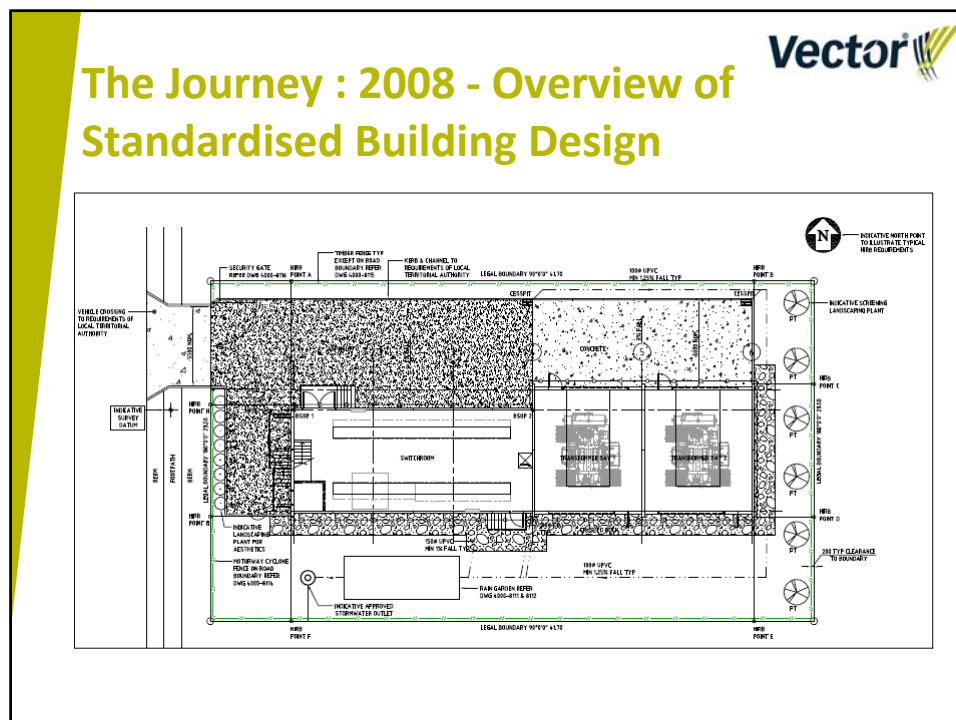
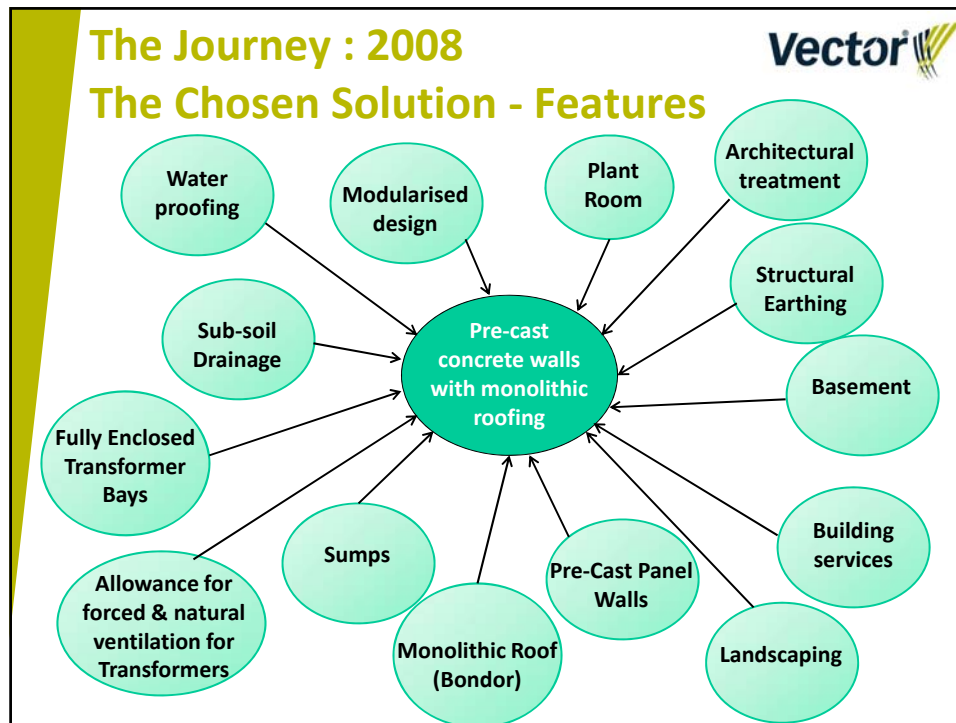
## Stakeholder Engagement

- End Customer (neighbours)
- Vector asset investment technical specialists
- Network operations
- Maintenance contractors
- Building and Installation contractors
- Local council

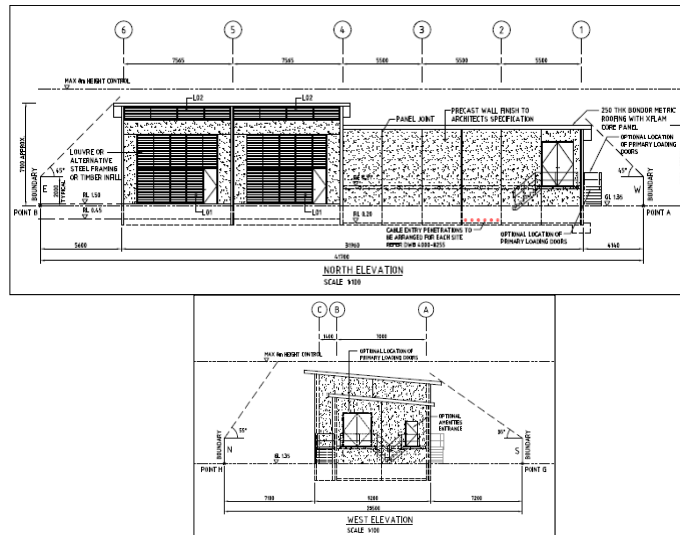


## The Journey : 2008 Option Analysis

Possible Solutions	Assessment Criteria			
	Quicker Execution	Incorporate safety by Design	Flexibility to fit in Built Environment	Improved lifecycle for O&M
Timber Frame Building with metal clad roofing				
Pre-cast concrete walls and roof				
Masonry concrete with metal clad roofing				
Pre-cast concrete walls with monolithic roofing				



## The Journey : 2008 - Overview of Standardised Building Design



## The Journey : 2009 – First Construction



Clendon



Greenhithe



Otara





## The Journey : 2010 – Next Update



Hillsborough



St Johns



Ranui



## The Journey : 2010 – Next update

Atkinson - Before



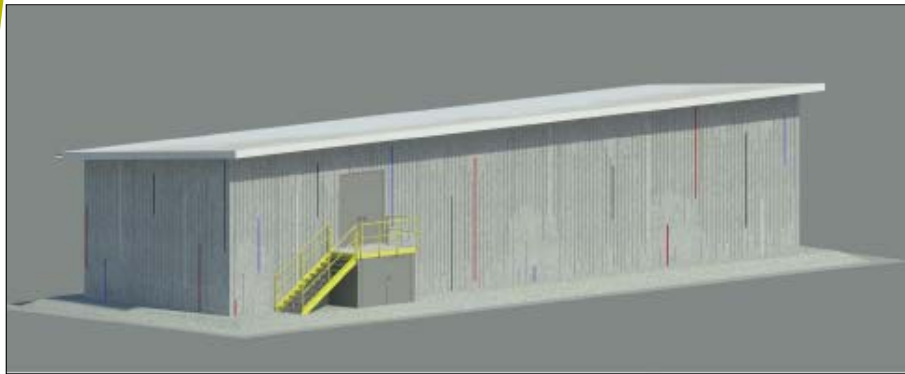
Atkinson - After







## The Journey : 2011 – Current Addition



## Did We Achieve Success?

Success Factor	Success?
Sustainable for successful rapid project delivery	✓
More adaptable in the built environment	✓
Quick Build	✓
Cost Effective	✓
Delivers against the entire lifecycle of the buildings	✓
Systematic design approach	✓



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