The Challenge

- Can we (DTPW) intervene in poverty – how, when & what do we do practically that is within our mandate & resource base to bridge wealth & poverty?

- How do we contribute to growth and broaden economic participation?

- How do we need to organize ourselves to do this?
Problem

• Increase impact on poverty alleviation?
• Develop 2nd Economy through 1st Economy initiatives?
• Align service providers with developmental and empowerment approach?
Affirmative Procurement

- Unbundling of Koeberg into 4 contracts for empowerment access and opening for smaller/ black contractors
- Empowerment Impact Assessment was developed to set targets
- Targets are focused on local economic opportunities to benefit black communities
Unbundling Project

Unbundling of Koeberg into 4 contracts

- Interchange Construction R591m
  - Canal alignment (R17.5m)
- Table Bay Boulevard R133m
- Street Lighting R25m
- Landscaping R15.5m
Empowerment Targets

- **HDI Targets set in Tender Contract:**
  - Local Sub-Contractors: 20%
  - Local Women Sub-Contractors: 10%
  - Local labour - from targeted areas: 10%

- **Procurement**
  - Raw Materials from Suppliers on Levels 1 to 4.
  - All other procurement: suppliers, manufacturers, service providers from HDI Suppliers (50%).
Empowerment Deliverables

- Job Creation
- Skills Training
- Enterprise Development
- Community Empowerment
- Maximum financial benefits to the Communities
Monitoring and Evaluation

- Contractor must report monthly on empowerment targets, job creation and skills development
- A unit will be set up to monitor the contract by the departmental empowerment unit
- The EPWP monitoring framework will be used
Koeberg Interchange Tender

- 3 offers were received
- Lowest offer, accepted R591m
- Difference between three offers about 7%
- Lowest Offer only 5% above Estimate
- Successful company: Paardeneiland JV
  - Group 5 and Power Construction
Context of the Upgrading

Describe Scope of Works

Fast-track Nature of Project

Clustering of major projects

SWC 2010 Components
CONTEXT OF THE UPGRADING

- Some historical photographs
  - Circa 1945
  - Circa 1951

- Multi-Modal Transport Plan
  - 2010 & beyond
Koeberg Road/ Salt River (circa 1945)
Koeberg Road/ N1/ Salt River (circa 1951)
DESCRIPTION OF N1 CORRIDOR / KOEBERG INTERCHANGE IMPROVEMENTS

- Integrated Multimodal Transport Plan for N1 Corridor

- Koeberg Interchange & Environs Improvements in 3 Phases
  - Phase 1: This contract
  - Phase 2: BRT Busway
  - Phase 3: Completion of other road infrastructure improvements
N1 CORRIDOR
BRT BUSWAY
New Directional Ramps & Auxiliary Lanes (Berkley Rd to Sable Rd)

Koeberg Interchange Upgrade Phase 1 (2010)

New lane (Marine Drive to Sable Road)
Koeberg Interchange Upgrade Phase 1 (2010)
DESCRIPTION OF SCOPE OF WORKS

- **Structures**
  - Viaducts A & B
  - Widening of M5 Viaduct
  - Widening of various minor structures

- **Roads**
  - Additional lanes on N1 & M5 carriageways
  - Rehabilitation: Table Bay Boulevard (2km section)
  - Rehabilitation: ramps within Koeberg Interchange

- **Ancillary Works**
  - Salt River Canal Realignment
  - Services Relocation
  - Traffic Accommodation
  - Street Lighting
  - Landscaping
DIRECTIONAL RAMPS A AND B

- Column spacing
- Precast U beams
- Transnet/SARCC Approval
- In-situ box sections over railway, M5 & N1
- Interchange aesthetics
Koeberg Interchange Upgrade Phase 1 (2010)

Viaduct Widening
375m, 7.4m wide
Prestressed T beams 7.3m to 21.3m long

Ramp A
640m long
10.7m wide

Ramp B
690m long
10.7m wide

Precast prestressed U-beams:
27 spans mostly 35m long - 70t per beam

Cast in-situ Box Girders:
2 Single-span sections over Railway tracks - 63m long
2 Three-span continuous sections 137m long each, central span 65m

Total deck area: 14 231 m²
3m x 2m pier
support beam

3m x 2m pier
precast u-beams
Proposal 1
Circular pier

Pier options
25 September 2007
sv A-8
Proposal 2
Hexagonal pier

Proposal 2 - Plan on Support Beam

Pier options
25 September 2007
sv A-8
Proposal 3
Rounded rectangular pier

Pier options
25 September 2007
sv A-8
Existing Conditions
Phase 2

sv canal
OTHER STRUCTURAL ELEMENTS

- M5 Viaduct Widening
- Table Bay Boulevard- Railway Bridge Widening
- Table Bay Boulevard- Canal Bridge Widening
- Table Bay Boulevard – New Pedestrian Bridge
- New Services Pedestrian Bridge (Salt River)
- N1/M5 Jack Span Retaining Wall
EXISTING M5 VIADUCT
PARAPETS AND MEDIAN BARRIER

• Precast & Profile
Bridge widening

10,4m wide span

Piles/spread footings

Reconstruct portion of deck
Agreement to realignment (CCT/Intersite)

Environmental Authorisation (DWAF / DEADP)

Critical path construction activity

Alt canal walls: gabions selected
ROADWORKS

- **New Roadworks**
  - Additional lanes on N1/M5 carriageway
    - N1 outbound lane (4 500m)
    - N1 inbound lane (2 800m)
    - M5 both carriageways (360m)

- **Rehabilitation**
  - Rehabilitation / Reconstruction of Table Bay Boulevard
    - Both carriageways (2 000m)
  - Rehabilitation of Ramp in Koeberg Interchange
    - Selected sections of ramps
    - Approaches to directional ramps (520m)
    - New ramp 1 (300m)
    - Modified ramp 6 (200m)
ACCOMMODATION OF TRAFFIC

- N1 & M5 / Koeberg Interchange operate at close to capacity 05h30 – 19h30 all weekdays. Weekend not much better!

- Accommodation of traffic major constraint

- No lane reductions during peak/busy traffic periods

- Ramp closures for beam placing only at night and on Sundays

- Local deviations for construction
**2010 “Fast Track” Project Implementation Programme**

**Koeberg Interchange Phase 1**

<table>
<thead>
<tr>
<th>Tasks</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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<tbody>
<tr>
<td>Preliminary Design Process</td>
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<td>Environmental Basic Assessment</td>
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<td>Tender &amp; Contract Award</td>
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<td>Detailed Design Process</td>
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<td>Construction Period</td>
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**Soccer World Cup**
DESIGN TEAM

- Lead Consultant: HHO Africa
- Directional Ramps: HHO Africa
- M5 Viaduct Widening Canal Realignment: Asch/Bergstan
- Roadworks: HHO Africa
- Streetlighting: Goba
- Signs & Overhead Gantries: Jeffares & Green

Specialist Consultants

- Bridge Architects: GAPP Architects
- Landscaping Architects: OvP & Associates
- Environmental Consultants: De Villiers & Brownlie
CONSTRUCTION TEAM

Main Contractor

- Group 5 and Power Construction

Sub-Contractors

- Piling : Frankipile
- Pre-stressing : Freyssinet
- Canal Diversion : Darson Civils
- Services / civil works : Darius Civils
- Signage : Otto Signs
- Variety other sub-contractors : bridge joints, reinforcement, accommodation of traffic, pipe laying, kerbing, fencing, transport, training etc
<table>
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<tr>
<th>Project</th>
<th>Value</th>
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<tbody>
<tr>
<td>Koeberg Interchange</td>
<td>R471,3m</td>
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<tr>
<td>Table Bay Boulevard Reconstruction</td>
<td>R104,4m</td>
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<td>Street-lighting</td>
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<td>:</td>
<td>R22,0m</td>
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<td>Landscaping</td>
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<td>:</td>
<td>R13,0m</td>
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<td>Pioneer Services Relocation Contract</td>
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<tr>
<td>:</td>
<td>R2,5m</td>
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</tbody>
</table>
V2 M5 heading North from Muizenberg

Ramp B to N1 Paarl

to N1 Cape Town & M5 Milnerton

M5 heading North from Muizenberg
M5 heading East from Milnerton
V3 M5 heading East from Milnerton
MAJOR BENEFITS FOR UPGRADING

- Directional ramps linking N1 & M5 (Removal of conflicting weave movements)
- Additional N1 outbound lane (Additional road capacity (outbound only) through Koeberg Interchange)
- Certain safety improvements (Ramp M5 to N1)
DEPARTMENT OF TRANSPORT & PUBLIC WORKS

C880 : KOEBERG INTERCHANGE UPGRADE (PHASE 1)

THANK YOU