

# appendices

Community Development Committee



Community Development Committee  
3 September 2018

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### **8.3 Commemorative Recognition Application – Arms Memorial Sculptures**

## Appendix 1

### Proposed Maintenance for ARMS' Monument.

The monument pieces are carved from pieces of solid granite. The large carving has the arms and legs close to the body in order to minimize the possibility of damage being done to these extremities.

To minimize ongoing costs concerning maintenance it has been recommended that we have the granite coated for extra protection against the elements and to provide protection should the monument be subjected to graffiti. We have checked with several firms that specialize in this type of work. It would seem that the best quality coating would be Dulux Surfaceshield HDH. This is a non-sacrificial coating. A non-sacrificial coat means that if the item has to be cleaned with chemicals then the coat will remain undamaged. This is a better option than a sacrificial coat that would need to be renewed if chemical cleaning ever becomes necessary.

This coat is guaranteed to last for five years under normal conditions. I understand, however, from consulting with companies that specialize in this work, that there is only a low chance that the coat would ever need to be replaced; therefore one non-sacrificial coat should be sufficient. This would be applied as soon as the monument is placed and our funding will cover the cost of this coat. We are told this is the best product available at this time and does withstand several chemical cleans in the rare event this become necessary.

The monument may need a light pressure clean every two or three years to remove bird droppings, however once the coating has been applied there is every chance that bird droppings will come off naturally through rainfall and no pressure clean will be required. We are unsure if the Council's Parks and Garden staff undertake light pressure washing as part of the duties but we anticipate that it would not take more than an hour for a light wash which is all that would be needed should a wash become necessary.

Should the monument be subjected to repeated chemical cleans in relation to graffiti and there is a need to re-coat then the cost of the coating, at today's rates will be \$700 plus inflation. Should a chemical clean become necessary then the cost of that would be approximately \$400 at today's rates.

The advice received from the specialists in this field informs us that once the monument pieces are coated they will be well-protected against normal wear and tear. We would be happy to provide any further particulars should any council member have any queries with respect to maintenance.

LYNNE DEVINE

ARMS Incorporated  
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Hamilton Hill WA 6963  
WA 6012

Attention Lynne De Vine

Dear Lynne

**P18107-RPT-001\_0 – Engineer’s report three statues, McCallum Park**

Hartley structural have assessed the stability of three statues to be installed at McCallum Park.

Each statue was assessed for :

- Overturning due to wind / earthquake loading
- Overturning due to people climbing on the statues
- Bearing due to worst overturning result
- Sliding from wind / earthquake loading

## Statue dimensions & weight

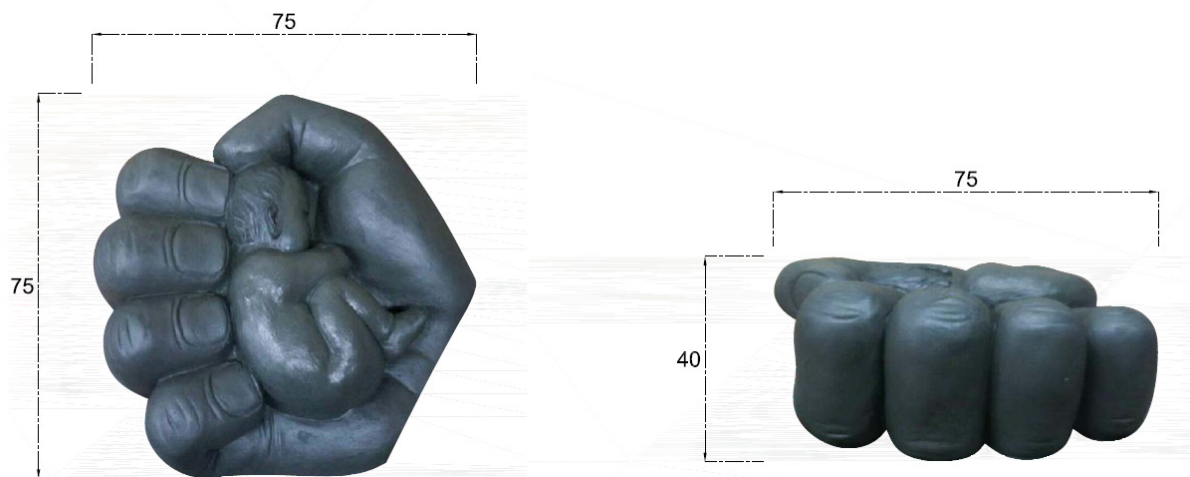
### Mother statue



Gross weight 2200kg

Figure 1 - Dimensions & weight of mother statue

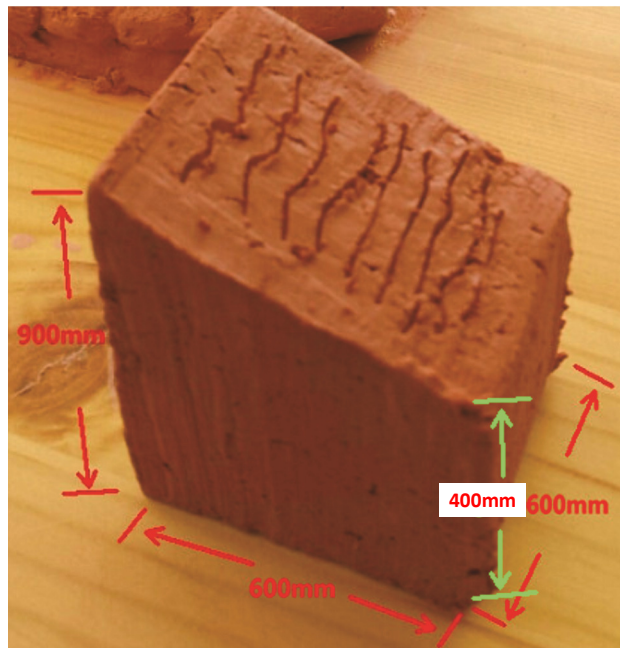
Child / hand statue



Gross weight 400kg

Figure 2 - Dimensions & weight of Child / hand statue

Desk statue



Gross weight 700kg

Figure 3 - Dimensions & weight of desk statue

## Assessment criteria

The following design criteria was used for the assessment

- Statues are importance level 3, being located in a public park.
- The following wind loading design criteria was used
  - 1 : 1000 year storm event
  - Terrain category 2 .
- The following earthquake loading design criteria was used
  - 1 : 1000 year earthquake
  - The greater result from earthquake design category I & II.
- The allowable bearing capacity is 75kPa – soft clay / sand.
- A person loading of two 150 kg people hanging 0.5m off the top edge of the statue.

## Results

If the factor of safety (FoS) exceeds 1.00 then the action is deemed to have passed the assessment criteria.

Action	Stabilising	Destabilising	FoS
Overturing due to wind / earthquake	8.8 kNm	4.4 kNm	1.99
Overturing due to two people	8.8 kNm	2.7 kNm	3.26
Bearing	75 kN	49 kN	1.52
Sliding	6.6 kN	6.3 kN	1.05

**Table 1 - Assessment results for mother statue**

Action	Stabilising	Destabilising	FoS
Overturing due to wind / earthquake	1.2 kNm	0.1 kNm	8.77
Bearing	75 kN	8 kN	9.96
Sliding	0.9 kN	0.7 kN	1.40

People loading not considered because the height is less than half the plan dimensions

**Table 2 - Assessment results for the hand / child statue**

Action	Stabilising	Destabilising	FoS
Overturing due to wind / earthquake	2.1 kNm	0.8 kNm	2.69
Overturing due to two people	2.1 kNm	2.4 kNm	0.88
Bearing	75 kN	86 kN	0.87
Sliding	2.1 kN	1.7 kN	1.21

**Table 3 - Assessment results for desk statue**

## Findings

The assessment of the statues indicates that the mother statue and the child / hand statue pass the assessment criteria. However the desk statue would be unstable under people loading.

## Conclusions and recommendations

It is recommended that a concrete footing be prepared for the desk statue as detailed in Figure 4. The recommended construction sequence would be to pour the footing base first. The following day, resin fix four dowel bars to the underside of the statue and place the statue on four 100 x 100 x 100 concrete blocks. Pour the footing pedestal with letter box formwork. Break off the letter boxes while the concrete is green. The footing and pedestal are to have grade 20 / 20 / 20 concrete with 50 cover to the reinforcement.

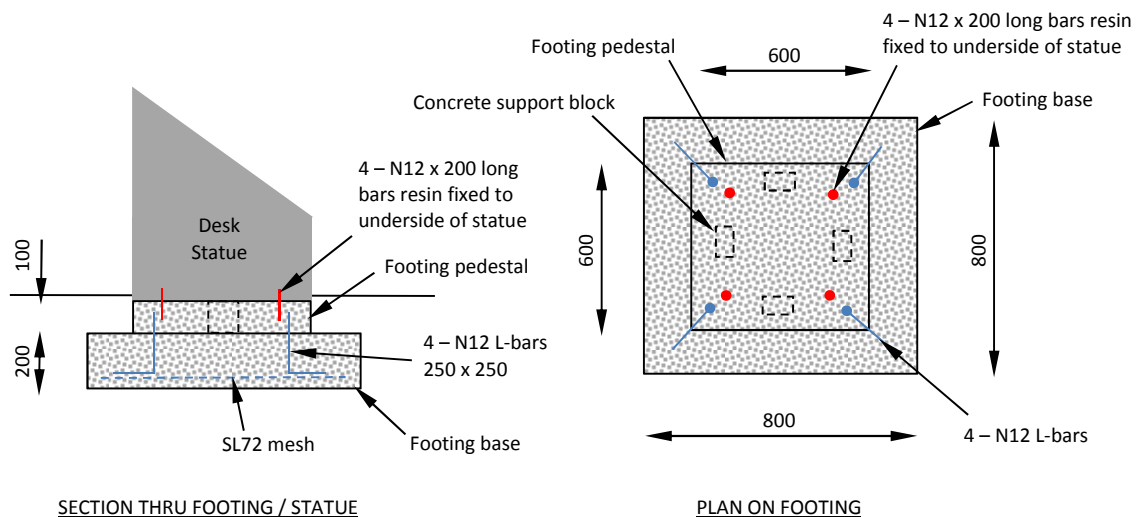


Figure 4 - Typical statue footing detail

For the mother statue it is recommended that 150mm of the ground that matched the statue foot print be removed and replaced with inert gravel which is compacted to at least 95% M.M.D.D.

It might be appropriate to construct a concrete footing for the child / hand statue to make it heavier and more difficult to steal. Alternatively the subgrade can be prepared as described for the mother statue.

If you have any queries please do not hesitate to contact me.

Yours faithfully

Rick Hartley  
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## GEN4 COMMEMORATIVE RECOGNITION

### POLICY:

#### Objective

To honour individuals, organisation or events that have made a significant contribution to the Town or the development of Western Australia. This policy aligns directly to the Strategic Community Plan strategic outcomes:

- Social 3 – An empowered community with a sense of pride, safety and belonging.
- Social 4 – A place where all people have an awareness and appreciation of arts, culture, education and heritage.

#### Policy Statement

Council is committed to honouring individuals, organisations or events that have made a significant contribution to the Town or the development of Western Australia.

### PROCEDURE:

None

<b>RESPONSIBLE OFFICER</b>	Local History Coordinator
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<b>RELATED POLICES:</b>	None
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<b>DELEGATION:</b>	Yes- Delegation No. 9.3 Sub-delegation
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<b>AUTHORITY</b>	Council Meeting 29 November 2005
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<b>REVIEW:</b>	August 2006 July 2013 August 2015 17 November 2017
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