



**water affairs**  
 Department:  
 Water Affairs  
 REPUBLIC OF SOUTH AFRICA

**SUPPLEMENTARY WATER USE INFORMATION**  
**STORING WATER**  
**DAM AND BASIN TECHNICAL DATA**

**SPECIAL NOTE**

In the following two cases:

- A proposed dam which has not yet been classified, or
- An existing dam which will be enlarged by increasing the gross storage capacity, dam classification *must* take place before the licence application.

In these cases, complete *only* parts 1, 2, 3, and 4 of this form, and complete form DW793 (*Dam Classification*).

**1. GENERAL**

1.1 Name of the dam:

1.2 If the water is to be stored in a watercourse, then enter the name of the watercourse:

1.3 For off-channel storage, enter the name of the watercourse to which the water would naturally drain:

1.4 For **clean water** dams, give the purpose of the dam:

(mark applicable purpose with X – mark more than one for multi-purpose dams):

Domestic supply

Fisheries

Industrial use

Irrigation

Stock watering

Other (specify below)

Describe "other"

1.5 For **wastewater** dams, give the purpose of the dam:

(mark applicable purpose with X – mark more than one for multi-purpose dams):

Pollution control

Wastewater disposal

Industrial residue

Oxidation or evaporation

Mine residue

Other (specify below)

Describe "other"

1.6 Person in control of the dam

a) Surname and initials

b) Contact telephone number

Area/cell code

Number

Extension

1.7 Person responsible for day-to-day operation of the dam

a) Surname and initials

b) Contact telephone number

Area/cell code

Number

Extension

**2. COMPLETION DATE AND LOCATION OF DAM**

2.1 Date of completion or proposed completion of the dam:

2.2 Nearest city or town

2.3 Distance from nearest city or town:  km

2.4 Direction to dam from nearest city or town:

2.5 Number of 1:50 000 scale topographic map (or 1:10 000 orthophoto):   ()  
 (attach a copy of the relevant portion of this map, with the position of the dam clearly marked)

2.6 Geographic position of centre of dam wall:  
 ° ', " or  ° ', " or  ° ', " Cape datum Clarke   
 ° ', " or  ° ', " or  ° ', " WGS-84 datum

**3. CLASSIFICATION INFORMATION**

3.1 Has the dam been classified? Yes  No  (if no, please complete form DW793 - Dam Classification)  
 If the dam has been classified, then complete the following:

Date of classification of the dam

Category classification (mark one with X)

Size class (mark one with X) Small  Medium  Large

Hazard potential rating (mark one with X) Low  Significant  High

**4. DAM STRUCTURE AND DAM BASIN**

4.1 Type of dam (mark applicable type with X – mark more than one for composite dams):

Earthfill  Rockfill  Gravity   
 Buttress  Arch  Multi-arch   
 Earth reservoir  Industrial residue deposit \*  Reinforced concrete reservoir   
 Mine residue deposit \*  \* These structures include tailings

Other (specify)

4.2 Size of dam Maximum wall height \*\*  metres  
 \*\* "wall height" is the vertical difference between the lowest downstream ground elevation on the dam wall and the non-overflow crest level or the general top level of the dam wall

Gross storage capacity  thousand cubic metres  
 Water surface area at full supply level  hectares

**5. DIMENSIONS OF DAM AND DESCRIPTION OF MATERIALS**

5.1 Crest length of wall \*\*\*     metres

\*\*\* The length of the crest includes the length of the spillway, where applicable.

5.2 Crest width of wall (minimum)    metres

5.3 Base width of wall (maximum)    metres

5.4 Upstream slope, e.g. 1.0 V : 3.0 H  1.0 V :    H

5.5 Downstream slope, e.g. 1.0 V : 2.25 H  1.0 V :    H

5.6 Type of upstream slope protection (e.g. rock, stone, etc.)

5.7 Type of downstream slope protection (e.g. grass, gravel, etc.)

General description of the construction materials for use in the different zones of the wall:

Zone	Description
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

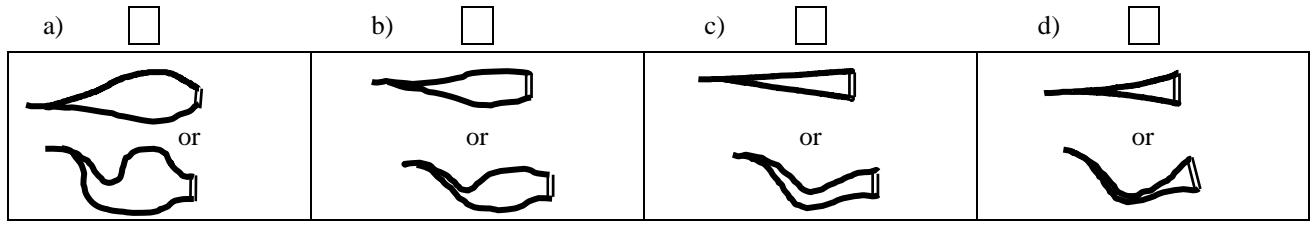
**6. DAM BASIN CHARACTERISTICS**

6.1 Water depth at full supply level    metres

6.2 For off-stream storage, select the dam basin shape:

Triangular σ  Rectangular v  Circular λ  Branched Y   
 Other (specify):

6.3 For in-stream storage, select the shape below that is most similar to the dam basin:  
 (in these diagrams, flow is from left to right and the || symbol shows the position of the dam wall)



6.4 Dam basin dimensions:

a) Length (or diameter if round)     metres (for in-stream storage, measure along the centre-line)

b) Width (leave blank if round)    metres (for in-stream storage, measure at the widest point)

**7. FLOOD HYDROLOGY**

7.1 Catchment area  . <sup>†</sup> square kilometres  
<sup>†</sup> for catchment areas less than 20 km<sup>2</sup>, enter the area to the nearest 0.1 km<sup>2</sup>

7.2 Recurrence interval of design flood  years

7.3 Design flood  cubic metres / second

7.4 Regional maximum flood (RMF)  cubic metres / second

7.5 Probable maximum flood (PMF)  cubic metres / second

**8. SPILLWAY**

8.1 Main spillway details

a) Type of spillway (mark applicable type with X – mark more than one if necessary):

Free fall (straight drop) <input type="checkbox"/>	Ogee (overflow) <input type="checkbox"/>	Chute (lined) <input type="checkbox"/>
Stepped <input type="checkbox"/>	Open channel <input type="checkbox"/>	Side channel <input type="checkbox"/>
Conduit <input type="checkbox"/>	By-wash <input type="checkbox"/>	Shaft <input type="checkbox"/>
Culvert <input type="checkbox"/>	Labyrinth <input type="checkbox"/>	Chute (baffled, etc.) <input type="checkbox"/>
Morning glory <input type="checkbox"/>	Siphon <input type="checkbox"/>	Cascade <input type="checkbox"/>
Drop inlet <input type="checkbox"/>	Other ( describe) <input type="checkbox"/>	<input type="text"/>

b) Total freeboard (difference between non-overspill crest level and full supply level)  metres

c) Dry freeboard (difference between non-overspill crest level and design flood level)  metres

d) Width of spillway channel at full supply level  metres

e) Width of spillway channel at non-overspill crest level  metres

f) Effective crest length of spillway  metres

g) Discharge capacity of spillway with “zero” freeboard  m<sup>3</sup>/sec

h) Length of spillway channel  metres

j) Slope of spillway channel as a ratio of height to distance (e.g. 1.0V : 40.0 H)  V :  H

k) Non-overspill crest level  metres

l) Spillway crest level (full supply level)  metres

m) Riverbed or lowest ground level immediately downstream of dam wall  metres

n) Description of spillway gates, if any

o) Type of energy dissipator, if any

8.2 Auxiliary or second spillway (if any): details

a) Location of auxiliary spillway

b) Auxiliary spillway nature or type

c) Auxiliary spillway crest level  metres

d) Effective crest length of auxiliary spillway  metres

8.3 Does the dam structure incorporate a fish ladder or fish way? Yes  No



**11. GEOLOGY**

11.1 The general nature of the materials forming the foundation of the dam:

a)Left bank

[Empty text box for left bank description]

b)River bed

[Empty text box for river bed description]

c)Right bank

[Empty text box for right bank description]

d)Spillway

[Empty text box for spillway description]

**12. GENERAL**

12.1 Additional information with respect to spillway, outlet works, seepage control measures, geology, or any geotechnical aspects

[Multiple empty text boxes for general information]

**FOR OFFICIAL USE ONLY**

File number

[Grid for file number]

Water use licence or registration number

[Grid for water use licence or registration number]

Water Management Area

[Text box for water management area]

Received by:

Surname

[Grid for surname]

Initials

[Grid for initials]

Rank

[Grid for rank]

Signature

[Text box for signature]

Captured by:

Initials

[Grid for captured by initials]

[Large empty box for date stamp of receiving office]

*Date stamp of receiving office*