

**When should I use this Planning Checklist?**

The *Dam Checklist* should be used when you are seeking planning approval for the construction of a dam or similar depression.

**Does the City of Swan have any policies relating to Dams?**

Please refer to Local Planning Policy '*Dams (POL-C-089)*' available on the City's website.

**What is a Dam?**

The City's *Dams (POL-C-089)* policy defines a 'dam' as a man-made structure and/or excavation for the purpose of water storage. The policy also provides the following other definitions that relate to 'dams'.

*On-Stream Dam* – is a dam located across a watercourse.

*Off-Stream Dam* – is a dam not located across a watercourse but into which water is fed from a watercourse.

*Catchment Dam* – is a dam not located across a watercourse which receives rainfall runoff and/or groundwater seepage only.

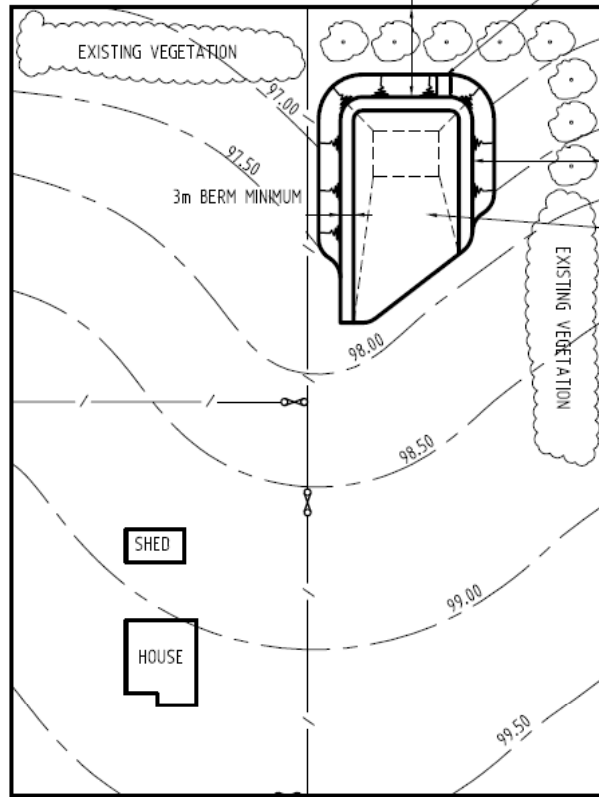
Property Address of land subject to this Planning Application: \_\_\_\_\_

Prior to submitting your application, please ensure that you have included all of the following information to assist with the timely lodgment of the application.

|  | Applicant Use Only       | Council Use Only         |
|--|--------------------------|--------------------------|
| 1. City of Swan Planning Application Form; OR MRS Form 1 where the application is to be determined by the Western Australian Planning Commission   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Current copy of the property's Certificate of Title   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Three (3) copies of a Site Feature Survey of the subject property's current natural features  | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Three (3) copies of a Site Plan drawn to an appropriate scale illustrating the proposed dam and including setbacks, new levels of the subject property and the volume/capacity of the Dam   | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Three (3) copies of a Cross Section of the proposed dam drawn indicating length, width and depth to an appropriate scale  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. A written statement indicating the type of dam and the whether the dam is located across a watercourse. The statement will also need to include whether native vegetation is being removed to accommodate the proposal and whether the Dam is likely to overflow causing flooding and/or erosion. For Dams located across watercourses the depths of the bypass mechanism and engineers calculation of outflow rates is required. | <input type="checkbox"/> | <input type="checkbox"/> |

SETBACK TO BE IN ACCORDANCE WITH TABLE 8B, TPS 9

SPILLWAY WITH STONE PITCHING (IF REQUIRED)



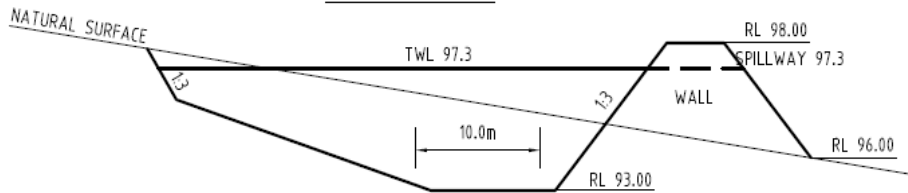
SETBACK TO BE IN ACCORDANCE WITH TABLE 8B, TPS 9

PROPOSED NEW DAM

**DETAILS TO BE SHOWN**

- SHOULD BE TO SCALE
- CROSS-SECTION THROUGH DAM INCLUDING THE WALL
- DAM POSITION AND OVERALL DIMENSIONS
- PROPERTY BOUNDARIES AND ANY FENCES
- VEGETATION EXISTING AND PROPOSED
- CONTOURS OR LEVELS
- BUILDINGS
- WATER COURSES AND OTHER DAMS
- ROADS

ROAD RESERVE  
**PROPERTY PLAN**



**DAM CROSS-SECTION**

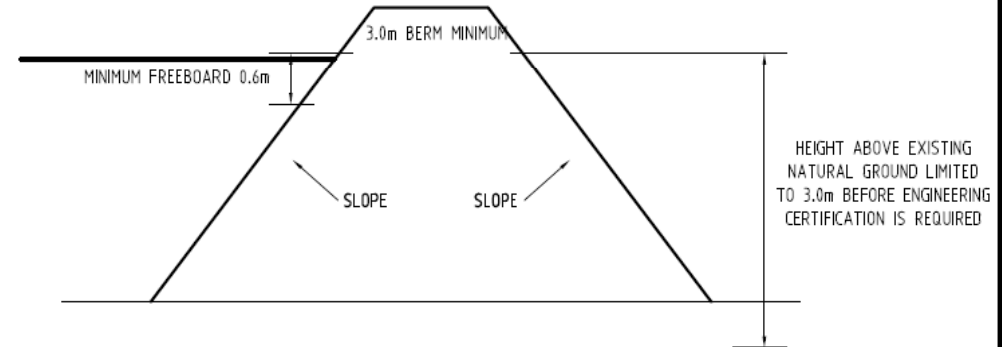
**IMPORTANT NOTE:**

THIS DRAWING IS PROVIDED AS A GUIDE TO THE APPLICANT ONLY. THE FINAL RESPONSIBILITY REGARDING THE DESIGN, CONSTRUCTION AND PERFORMANCE OF THE DAM REST WITH THE APPLICANT, THE APPLICANT'S CONSULTANTS AND DAM CONSTRUCTORS. THE CITY IS NOT LIABLE FOR THE DESIGN, CONSTRUCTION AND PERFORMANCE OF ANY DAM BASED ON THIS DRAWING. **THE APPLICANT SHALL OBTAIN A CERTIFICATE FROM A QUALIFIED ENGINEER STATING THAT THE COMPLETED DAM IS STRUCTURALLY STABLE AND CONSTRUCTED IN ACCORDANCE WITH THE SUBMITTED PLANS APPROVED BY COUNCIL.**

**MINIMUM ENGINEERING REQUIREMENTS FOR SMALL RURAL DAMS**

1. THE DIMENSIONS SHALL NOT BE LESS THAN SUGGESTED MINIMUM INDICATED BELOW FOR THE PARTICULAR SOIL TYPE.
2. APPROVAL OF THE DAM DOES NOT MEAN COUNCIL ACCEPTS THE STRUCTURAL STABILITY OF THE DAM. IT IS UP TO THE OWNER TO ENSURE THAT THE DAM IS CONSTRUCTED PROPERLY WITH ALL THE NECESSARY COMPACTION (95% OF MODIFIED MAXIMUM DRY DENSITY) AND ON SOUND FOUNDATION. ADVICE FROM EXPERIENCED DAM BUILDERS OR STRUCTURAL ENGINEERS SHALL BE OBTAINED.
3. PROVIDE AN OVERFLOW WEIR OR BYPASS AROUND THE DAM SO THAT DOWNSTREAM PROPERTIES CAN RECEIVE WATER IF THE DAM IS BUILT ON AN EXISTING CREEK.
4. THE DAM OUTLET LEVEL SHALL GENERALLY BE NOT LESS THAN 700mm FROM THE TOP OF THE DAM, WITH THE DEPTH OF OUTFLOW FOR A 100 YEAR STORM NOT GREATER THAN 300mm.
5. EROSION PROTECTION SHALL ALWAYS BE PROVIDED TO THE OVERFLOW WEIR, BYPASS OR PIPED OUTLET.
6. THE CAPACITY OF THE DAM SHALL NOT EXCEED 25% OF THE CATCHMENT YIELD BASED ON THE AVERAGE ANNUAL TOTAL WINTER RAINFALL OF 500mm. THIS APPLIES ESPECIALLY WHEN THE DAM IS CONSTRUCTED DIRECTLY OVER AN EXISTING CREEK. THE RUNOFF COEFFICIENT USED DEPENDS ON THE CATCHMENT'S VEGETATION COVER. THE VALUE VARIES FROM 0.1 FOR VERY THICK BUSH TO 0.9 FOR BARREN CLAYEY SOILS.
7. DAMS SHALL BE CONSTRUCTED AWAY FROM AN EXISTING CREEK WHEREVER POSSIBLE.

NOTE: A DEVELOPMENT APPLICATION AND APPROVAL IS REQUIRED FOR THE CONSTRUCTION OF ANY DAM



**SLOPE NOT STEEPER THAN:**

- 1 VERTICAL TO 2 HORIZONTAL FOR GRAVEL (26.57°)
- 1 VERTICAL TO 2.5 HORIZONTAL FOR GRAVELLY CLAY (21.50°)
- 1 VERTICAL TO 3 HORIZONTAL FOR CLAYEY SOILS (18.43°)

| AMDT | DATE   | DISCRIPTION                           |
|------|--------|---------------------------------------|
| A    | DEC 06 | NOTES ADDED                           |
| B    | APR 07 | SETBACK & OTHER NOTES AMENDED         |
| C    | DEC 08 | ADDED NOTATION UNDER "IMPORTANT NOTE" |

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| AUTHORISATION         |        | APPROVED            |            |
|-----------------------|--------|---------------------|------------|
| PROJECT MANAGER       | DATE   | DESIGN CO-ORDINATOR | DATE       |
| SCALE:                | N.T.S. | DESIGNED            | A.TOWNSEND |
| DATUM                 | A.H.D. | DRAWN               | A.TOWNSEND |
| ORIGINAL DRAWING SIZE | A3     | CHECKED             |            |
|                       |        | DATE DRN.           | JUNE 2002  |

**SMALL RURAL DAMS  
CONSTRUCTION DETAILS AND  
REQUIREMENTS**



**OPERATIONS**

|              |                  |               |          |
|--------------|------------------|---------------|----------|
| DRAWING No : | <b>STD 80-1s</b> | AMENDMENT No: | <b>C</b> |
|--------------|------------------|---------------|----------|