



Guide to applying for a flood work approval

Information to help apply for a flood work approval

September 2026

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Acknowledgement of Country



The NSW Department of Climate Change, Energy, the Environment and Water and WaterNSW acknowledge the traditional custodians of the land and pays respect to Elders past, present and future.

We recognise Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to place and their rich contribution to society.

Artist and designer Nikita Ridgeway from Aboriginal Design Agency – Boss Lady Creative Designs, created the People and Community symbol.

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Who will assess your application?

WaterNSW and the Water Group in the NSW Department of Climate Change, Energy, the Environment and Water are responsible for assessing and determining flood work approval applications. The agency that manages an application depends on the type of customer.

The Water Group

The Water Group manages flood work approval applications for:

- holders of, or applicants for, an Aboriginal cultural licence, Aboriginal community development licence, or Aboriginal cultural subcategory licence
- local water utilities including councils
- NSW Government, Australian Government, and government agencies and authorities
- major utilities, water supply authorities, and irrigation corporations
- licensed network operators under the *Water Industry Competition Act 2006 (NSW)*
- holders of, or applicants for, an approval under the:
 - *Mining Act 1992 (NSW)*
 - *Offshore Minerals Act 1999 (NSW)*
 - *Petroleum (Onshore) Act 1991 (NSW)*
 - *Petroleum (Offshore) Act 1982*
- Proponents of State Significant Development or State Significant Infrastructure projects.

If you are one of these customers, please read the [information and guides](#) to apply for a flood work approval through the Water Group.

For enquiries, please contact the Water Group using the details in section 23.

WaterNSW

WaterNSW manages flood work approval applications for all other customers, including private landholders.

To apply, read the information and guide on the [WaterNSW flood work approvals webpage](#).

For enquiries, contact WaterNSW using the details in Section 10.

Not sure who to apply through?

Use the [Water Assist tool](#) to find out which agency will assess your flood work approval application.

This simple, step-by-step tool takes only a few minutes to complete. It asks a series of short questions and then guides you to:

- the agency you need to contact
- the licence or approval you may need
- relevant application forms and supporting information.

For future reference, download or print the results page when you finish using the tool.

Flood works

Introduction

Floodplains play an important role in managing surface water and groundwater. Flood waters generally carry nutrient-rich sediments that help maintain fertile soils and support ecosystems. They also help recharge water systems, including groundwater. However, flood water can also damage people, property, infrastructure and livestock.

Under the *Water Management Act 2000* (WMA), works that may affect the flow or distribution of flood water are regulated.

The purpose of this guide is to help rural landholders determine whether they need a flood work approval for a proposed activity. It also provides links to free resources to help landholders understand the application process.

This guideline provides general information only. For advice or information specific to your property, contact the Water Group or WaterNSW using the details provided in section 23.

1. What is a flood work?

The definition of a flood work in the [dictionary of the WMA](#) is complex.

A flood work is a structure that is constructed in, or in the vicinity of, a river, estuary or lake, or within a floodplain, and is likely to affect how water moves through the landscape.

A structure may be a flood work, regardless of its intended purpose, if it's size and configuration is likely to influence:

- the flow of water to or from a river, estuary or lake
- the distribution or flow of floodwater during a flood.

Examples of flood works include:

- barrages
- causeways
- cuttings
- embankments.

A flood work also includes any associated infrastructure, such as:

- pipes
- valves
- metering equipment
- other related equipment.

Flood work definition table

Table 1: Flood work definition table

Governing principle: to be a flood work, the work must tick A or B AND C or D columns			
1 of Column A or Column B Must be situated :		1 of Column C or Column D Must be of such size or configuration that, regardless of the purpose of its construction or use, it is likely to influence:	
In or in the vicinity of a river, estuary, or lake	Within a floodplain	The flow of water to or from a river, estuary, or lake	The distribution or flow of floodwater in times of flood
Column A	Column B	Column C	Column D

There are 4 key concepts in the flood work definition:

- in the vicinity of
- floodplain
- floodwater in times of flood
- is likely to have an effect.

Definitions of the four key concepts

In the vicinity of

The phrase 'in the vicinity of' relates to a 'river, estuary or lake'. The terms 'river', 'estuary' and 'lake' are defined in the dictionary of the WMA.

These definitions are broad and may include temporary or permanent water bodies, whether natural or modified.

When determining whether a structure is in the vicinity of a river, estuary or lake, consideration is given to:

- the dictionary
- industry practice
- the objectives of the WMA
- the intention of the relevant provision in the WMA.

The Macquarie Dictionary defines 'vicinity' as:

- the region near or around a place
- in the neighbourhood of
- the state or fact of being near in place; proximity; propinquity.

Phrase: 'In the vicinity of' or 'approximately'.

Example: 'The price is in the vicinity of \$1,000.'

The purpose of an approval under the WMA is to manage activities in a way that ensures the objectives and principles of the WMA can be met. For a flood work to impact the flow of water to or from a river, estuary, or lake, or on the distribution or flow of flood water, it must be situated on land with some physical link to that river, estuary or lake.

In broad terms, 'vicinity' means land that immediately connects with a river, estuary, or lake. Because all landscapes are different, it is not possible to define 'vicinity' by a specific distance.

Whether a work is 'in the vicinity' of a river, estuary or lake cannot be determined in isolation. It requires consideration of the proposed work, the receiving environment and how water may flow between the two. Factors that should be considered include:

- the proposed work, including its type, length, height, footprint, potential impact, etc.
- the receiving environment and landscape, including the type and size of the river, topography, land slope, soil characteristics, the location of highest riverbank, etc.)
- site-specific flood conditions, including historic flooding, anecdotal evidence from the applicant, rainfall patterns, likely floodways between the work and the river, etc.
- other relevant factors that may impact the movement of water.

Generally, larger works or works located near larger rivers, estuaries or lakes are likely to have a larger area of influence and therefore a broader vicinity. Conversely, smaller works or works associated with smaller water bodies are likely to have a more limited vicinity.

In addition to the above, 'in the vicinity':

- can extend more broadly than the 40 m distance prescribed in relation to controlled activities
- is broader than 'adjoining' or 'adjacent'.

Floodplain

A key factor in assessing many flood works is whether the flood work is located on a floodplain. The WMA defines a floodplain as an area declared as a floodplain under [Schedule 2](#) of the Water Management (General) Regulation 2025 (WMR).

Floodwater

The definition of a flood work also relies on the terms 'floodwater' and 'flood'.

Floodwater is water that:

- has overflowed from a river, lake or other body of water to submerge land, or
- water that has accumulated due to, for instance, intense rainfall (including ponded water from localised rain).

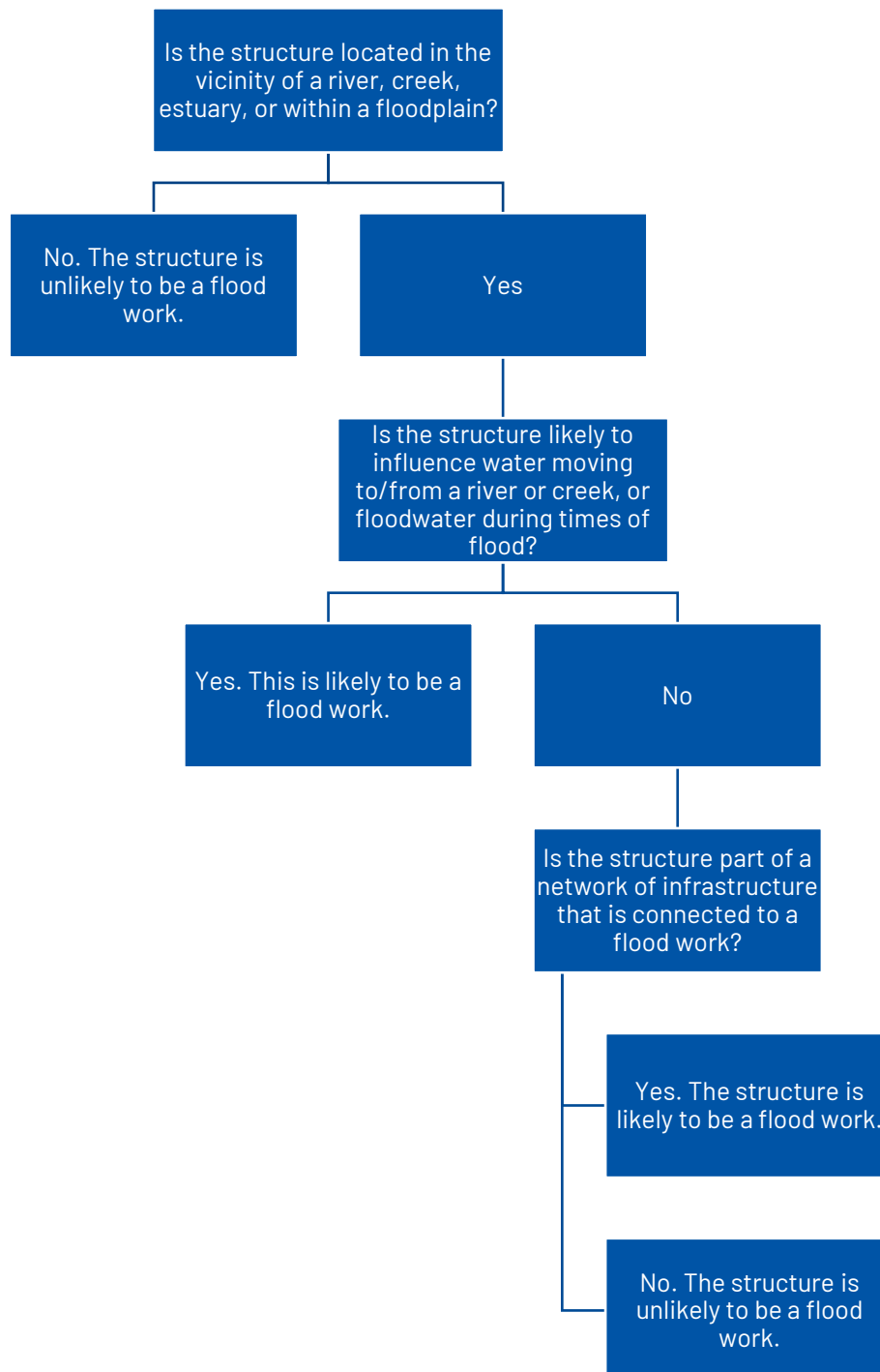
Likely to have an effect on

- When deciding whether an earthwork is a flood work, the purpose of the work is not relevant. Instead, consider whether the completed work is likely to affect:
 - the flow of water to or from a river, estuary or lake, or
 - the distribution or flow of floodwater in times of flood.

Decision tree

Use the following questions to determine whether an earthwork is likely to meet the definition of a flood work.

Figure 1: Decision tree to determine a flood work



Dual works

A 'dual work' is a work that meets the definition of both a water supply work and a flood work.

- If a dual work is approved under a **water supply work approval**, you do not need a separate flood work approval.
- If a dual work is approved under a **flood work approval**, you do not need a separate water supply work, unless the work also authorises the take of water.

This approach avoids the need for multiple approvals for the same work, while ensuring any authorised water take remains properly regulated.

Table 2 shows how these requirements apply in different scenarios.

Table 2: Examples of dual works

Scenario 1	Scenario 2	Scenario 3
Landholder holds a current water supply work approval. This approval authorises the work/s on the current Statement of Approval. The work/s also have an effect as flood work/s.	Landholder either does or does not hold an existing water supply work approval. However, there are additional works on the property that are considered to be flood works because their dominant effect is on floodwater.	Landholder has no existing approvals. The work/s are both a water supply work (take of water) and have an effect as flood work/s.
Action		
No further action is required from the landholder	A flood work application is required for the additional work/s. These work/s will be assessed in accordance with the relevant FMP and the mandatory conditions applied.	Confirmation to be provided as part of completing Action 11 in the Floodplain Strikeforce Interagency Action Plan.

2. Floodplain management plans

Floodplain management plans (FMPs) provide the legal framework for coordinating the development of flood works on a whole-of-valley basis. They set the rules for what type of flood work can be constructed and where throughout a declared floodplain.

FMPs are currently in place for 5 valleys in northern NSW: the Gwydir, Namoi (Upper and Lower), Barwon-Darling, Macquarie and Border Rivers, and for 3 valleys in southern NSW: the NSW Murray, Billabong Creek and Murrumbidgee.

Work is underway to transition the remaining FMPs developed under the *Water Act 1912*, which have now expired, across the Lachlan Valley.

Any application for a flood work approval within an area governed by an FMP will be assessed against the rules of the relevant plan.

FMPs developed under the WMA include management zones. These are areas of the floodplain where specific rules apply, including:

- the types of flood works that may be constructed
- height and area limits
- construction requirements
- assessment criteria.

A typical FMP includes the following management zones:

- management zone A
- management zone B
- management zone C
- management zone CU
- management zone SP (also known as management zone D in the northern valley FMPs).

Landholders can use the [SEED portal](#) to identify which WMA floodplain management plan and management zone apply to their property.

3. Rule summary sheets

Rule summary sheets are developed by the Water Group.

These documents provide a summary of the rules and assessment criteria used to assess flood work approval applications under each FMP.

Rule summary sheets are intended as a guide only. Applications must be assessed and determined in accordance with the requirements of the relevant FMP and associated legislation.

Rules vary between FMPs and management zones. For example:

- the type of flood works that can be approved are generally limited in management zones A and SP/D
- specific requirements apply to flood works permitted in management zones A and SP/D, including requirements during construction and maintenance of the work
- unique rules apply to existing flood works in management zones A, B and SP/D
- advertising requirements apply to certain flood works in management zone B.

4. Outside of a declared floodplain

If your property is located outside a declared floodplain, no FMP applies.

In these circumstances, your application will be assessed using the [Technical guidelines for flood work applications in areas without a floodplain management plan](#). These guidelines are used to determine whether a proposed flood work is likely to have an acceptable impact on flood flow connectivity and neighbouring landholders or other affected parties.

5. Examples of flood works

The below list is not exhaustive and other types of works can also be a flood work.

5.1 Above ground channel



An above ground channel is used to convey water. The spoil is used to create an embankment on one or both sides of the channel which can often double as a levee and/or access road to the pump site/property.

5.2 Levee banks



A levee is a man-made embankment or structure, often built to protect urban communities, homesteads and agricultural land from flooding by containing or diverting floodwaters from rivers and creeks.

5.3 Below-ground channels



A below-ground channel conveys water and sits level with the surrounding natural surface. In some management zones, there are requirements, specific requirements apply to the spoil generated during the construction and maintenance of the supply channel.

5.4 Above-ground storages



An above-ground storage is a storage with the spoil used to create a surrounding embankment.

Above-ground storages are often referred to as 'turkey's nest' or 'earthen tank' storages.

5.5 Access roads



The FMP sets out the requirements for constructing access roads, including what is permitted. Access roads often require causeways or culverts to maintain flood flows. There are two types of access roads: standard and primary.

6. What is a flood work approval?

A flood work approval authorises the holder to construct, maintain and use a specified flood work at a specified location. Flood work approvals are granted for a period of 10 years.

Each approval details the:

- type of flood work authorised
- location of the authorised flood work
- relevant FMP
- conditions that apply to the construction, maintenance and use of the flood work.

All flood work approvals are issued in accordance with an authorised plan.

A flood work approval does not authorise the approval holder/s to take, harvest or capture water. These activities require separate approvals, including a water supply work approval and an appropriate water access licence.

7. Common terminology

Ecological enhancement work

An ecological enhancement work is a flood work designed to improve flood connectivity to an identified flood-dependent ecological asset on a floodplain. The work must enhance the ecological value of that asset and be part of a government-led project.

Applicants must satisfy comprehensive assessment criteria to demonstrate that the work minimises impacts on other floodplain users, Aboriginal cultural values, heritage sites and the environment.

Aboriginal cultural value enhancement work

An Aboriginal cultural value enhancement work is a flood work that improves flood connectivity to a flood-dependent place of Aboriginal cultural significance, such as a significant lagoon.

These works are permitted in some management zones and must demonstrate improved flood connectivity to an Aboriginal cultural value listed on one of the following databases:

- NSW Aboriginal Heritage Information Management System (AHIMS)
- NSW State Heritage Register
- Commonwealth Heritage Register
- any other source deemed relevant by the Minister.

Applicants must satisfy comprehensive assessment criteria to demonstrate that the work minimises impacts on other floodplain users, Aboriginal cultural values, heritage sites and the environment.

Heritage site enhancement work

A heritage site enhancement work is a flood work that improves flood connectivity to a flood-dependent place with heritage significance, such as a river red gum with a heritage flood marker.

These works are permitted in some management zones and must demonstrate improved flood connectivity to a heritage site listed on one of the following databases:

- NSW AHIMS
- NSW State Heritage Register
- Commonwealth Heritage Register
- any other source deemed relevant by the Minister.

Applicants must satisfy comprehensive assessment criteria to demonstrate that the work minimises impacts on other floodplain users, Aboriginal cultural values, heritage sites and the environment.

Infrastructure protection work

An infrastructure protection is a flood work, such as a levee, constructed to protect farm infrastructure during flood events. Examples include homesteads, machinery sheds and silos.

High-value infrastructure

High-value infrastructure includes structures that are important to farm operations or community safety, such as:

- homesteads
- public sealed roads
- town levees
- infrastructure protection works
- sheds
- silos
- pump sites
- stock yards.

High-value infrastructure does not include farm levees (except infrastructure protection works), irrigation development and fences.

Flood connectivity

Flood connectivity refers to the unimpeded passage of floodwater through the floodplain. It is important for in-stream aquatic processes and biota and the conservation of natural riverine systems.

Existing development conditions

Existing development conditions describe the level of development that existed when the relevant FMP commenced. This excludes works on the landholding that were not authorised or exempt under the WMA.

8. Exemptions: when a flood work approval is not required

In certain circumstances, you can construct, modify or use a flood work without obtaining a flood work approval.

Certain public authorities (Schedule 4, Part 5, Clause 40 and 41, WM Regulation)

NSW Trains, Sydney Trains and the Residual Transport Corporation do not need a flood work approval when constructing or using a flood work for the purposes of a public road.

Local councils (Determining Authority) (Schedule 4, Part 5, Clause 42, WMR)

A local council does not need a flood work approval if the flood work is constructed or used in accordance with a development authorisation granted under the *Environmental Planning and Assessment Act 1979* (consent under part 4 or an approval under part 5) and the work is:

- located in an area covered by council plan or study, or
- not located in a floodway or management zone A, D or SP under a FMP.

A person (Schedule 4, Part 5, Clause 43, WMR)

You do not need a flood work approval if:

- you own or occupy a landholding with a total area of no more than 0.2 hectares
- the flood work is constructed or used in accordance with a development authorisation issued by a council, and
- the work:
 - is located in an area covered by a council plan or study, or
 - is not located in a floodway or management zone A, D or SP under an FMP

Ring embankments (Schedule 4, Part 5, Clause 44, WMR)

You do not need a flood work approval for a ring embankment if:

- the work consists of one or more embankments around a dwelling, shed or storage silo
- the enclosed area doesn't exceed 2 hectares or 10% of the land area, whichever is smaller, and
- the work is not located within a floodway or management zone A, D or SP under an FMP.

Certain earthworks (Schedule 4, Part 5, Clause 45, WMR)

You do not need a flood work approval for constructing or using a flood work if:

- the work consists of earthwork (for example, farm tracks or check banks) that are less than 150 mm above (but not below) the natural surface of the ground where it is constructed or situated, and
- the work is not located within a floodway or management zone A, D or SP under an FMP.

State emergency directions (Schedule 4, Part 5, Clause 46, WMR)

You do not need a flood work approval to construct, use or modify a flood work when following a direction under the *State Emergency and Rescue Management Act 1989* or the *State Emergency Service Act 1989* during a flood emergency.

The exemption applies for 3 months, or for a longer period approved in writing by the Minister. After that time, you must:

- remove the work
- return the work to its original condition, or
- apply for a flood work approval.

9. When does a flood work application require advertising?

A flood work application must be advertised when:

- the relevant FMP requires advertising under section 92(7A) of the WMA, or
- the proposed flood work is located on a floodplain that is not covered by an in-force FMP, as required under section 49(1)(d) of the WMR.

10. The application process

Before applying, identify the agency responsible for assessing and determining your flood work approval application.

Pre-application meeting

Applicants are encouraged to book a pre-application meeting with the relevant agency before submitting an application.

Water Group

- Phone: [1300 081 047](tel:1300081047)
- Online: [Water Assist enquiry form](#)

WaterNSW

- Phone: [1300 662 077](tel:1300662077)
- Online: [Request for flood work pre-application meeting](#)

Before the meeting, the applicant and/or their consultant should provide the relevant agency with a detailed plan of works (see section 11). The plan should show all proposed flood works to be included in the application.

During the pre-application meeting, the assessing agency will:

- discuss the details of the proposed application and provide general advice about the assessment process
- identify the requirements of the applicable FMP, and
- where no FMP exists, explain the requirements within the [Technical guidelines for flood work applications in areas without a floodplain management plan](#).

Pre-application meetings can be held in-person or online.

For meetings with WaterNSW, applicants should complete the [Request for flood work pre-application meeting](#) form before the meeting and email it to waterregulation@waterNSW.com.au

Flood studies

Following the pre-application meeting, the assessing agency will determine if a flood study (hydraulic modelling report) is required to support the flood work application.

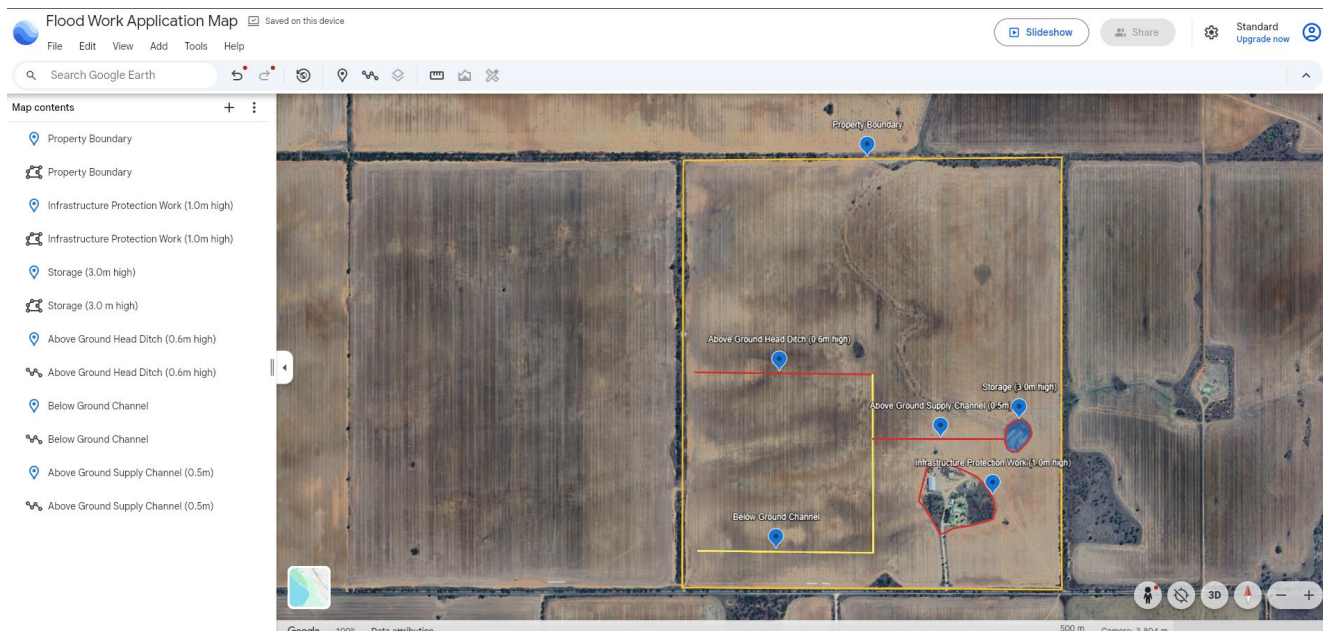
If a flood study is required, the agency will provide relevant inflow data to assist with the modelling. In these instances, applicants may need to engage a certified hydraulic modeller to complete the flood study before submitting their flood work approval application.

11. Map to support pre-application meeting and application

To get the most value from your pre-application meeting, provide the information listed below at least 7 days before the meeting. If this information is not provided in advance, the meeting may need to be rescheduled.

A detailed plan of the proposed work/s that includes:

- A topographic map, aerial photo or a farm plan (A3 or A4 size) that clearly identifies:
 - the property location, including a north arrow
 - cadastral identifiers (Lot/DP number/s)
 - property boundaries
 - the location of all work/s relevant to the application.
- A detailed plan of the proposed work/s showing the dimensions, including height, for the full length of the work/s. An example plan of works is displayed below:-



12. Mapping to support an application

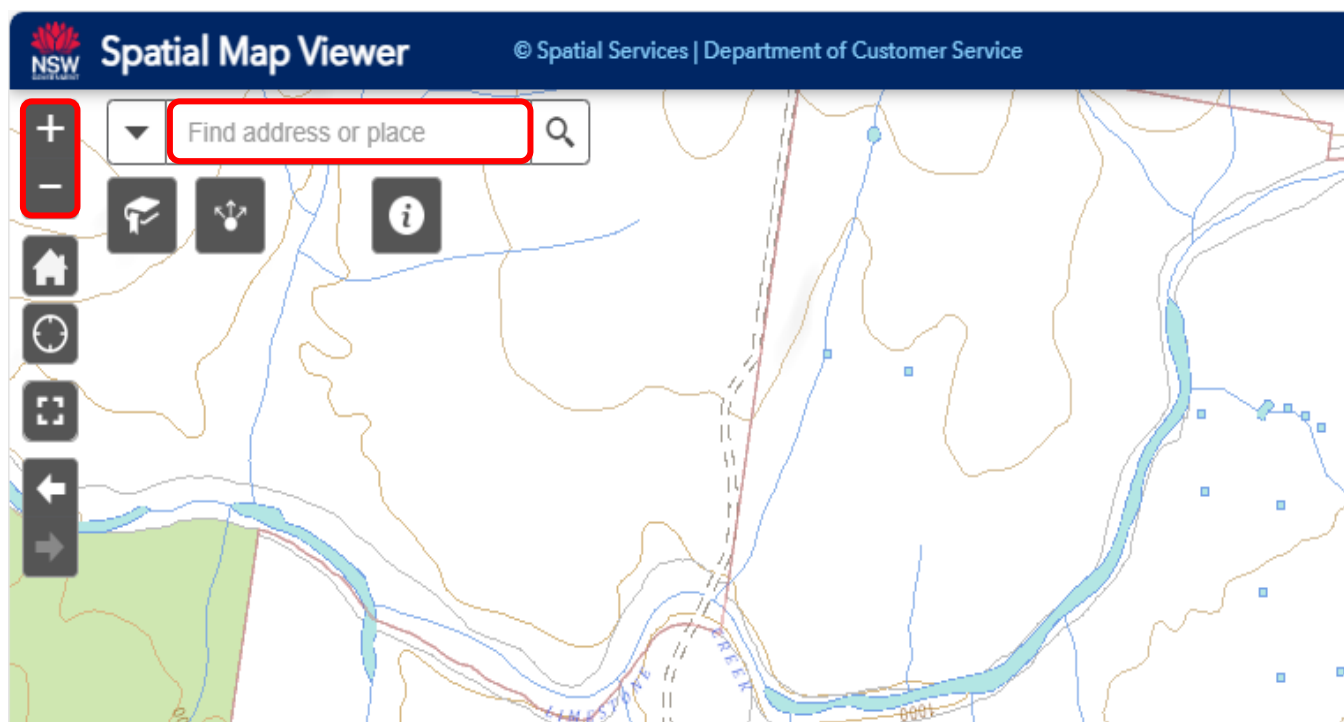
Topographic and aerial maps

Free topographic and aerial maps are available through the NSW Governments [Spatial Map Viewer](#).

Step 1: Find your property

Enter your property address in the search box at the top left of the screen and select your address when it appears. Alternatively, use the zoom controls in the top left corner of the screen to locate your property manually.

Figure 2: Spatial map viewer – how to find your property



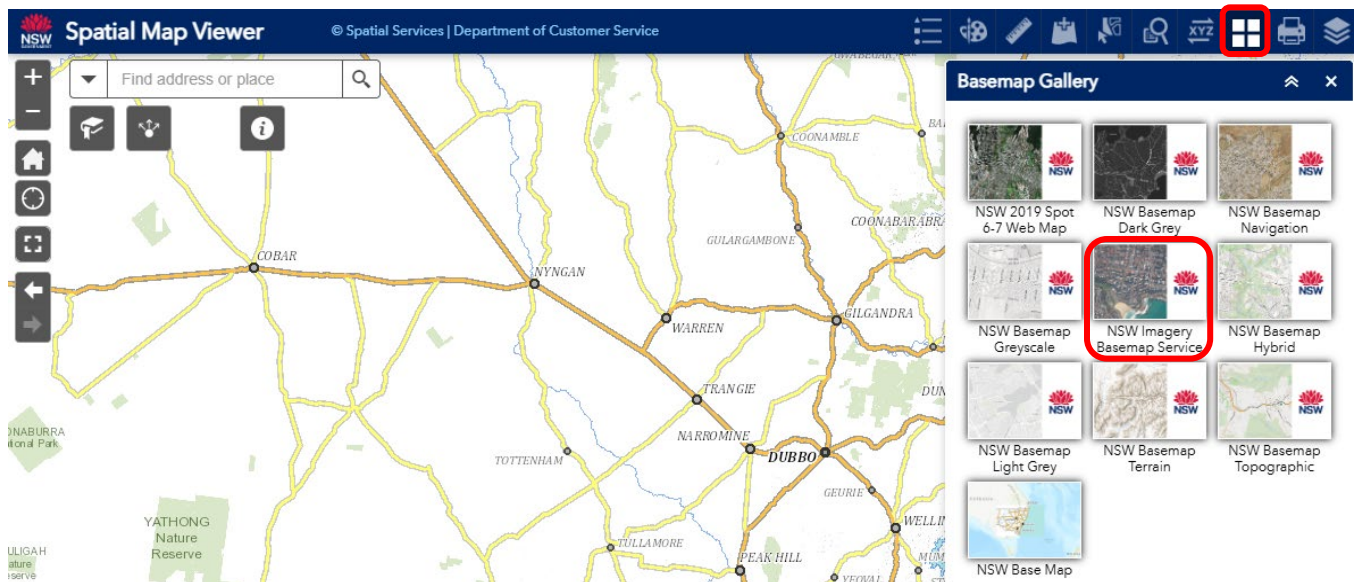
Step 2: Set the extent

Zoom in or out to adjust the extent of the map and all features that you need to include are visible on the map.

Step 3: Add aerial view

Click the 'Basemap gallery' symbol in the top right corner of the screen and then select 'NSW Imagery Basemap Service'.

Figure 3: Spatial map viewer – how to add aerial view



Step 4: Save your map

Save your map by clicking the printer icon in the top right corner of the screen. Enter a map title, select the output format (JPEG, TIFF, etc.) and then click 'Print'.

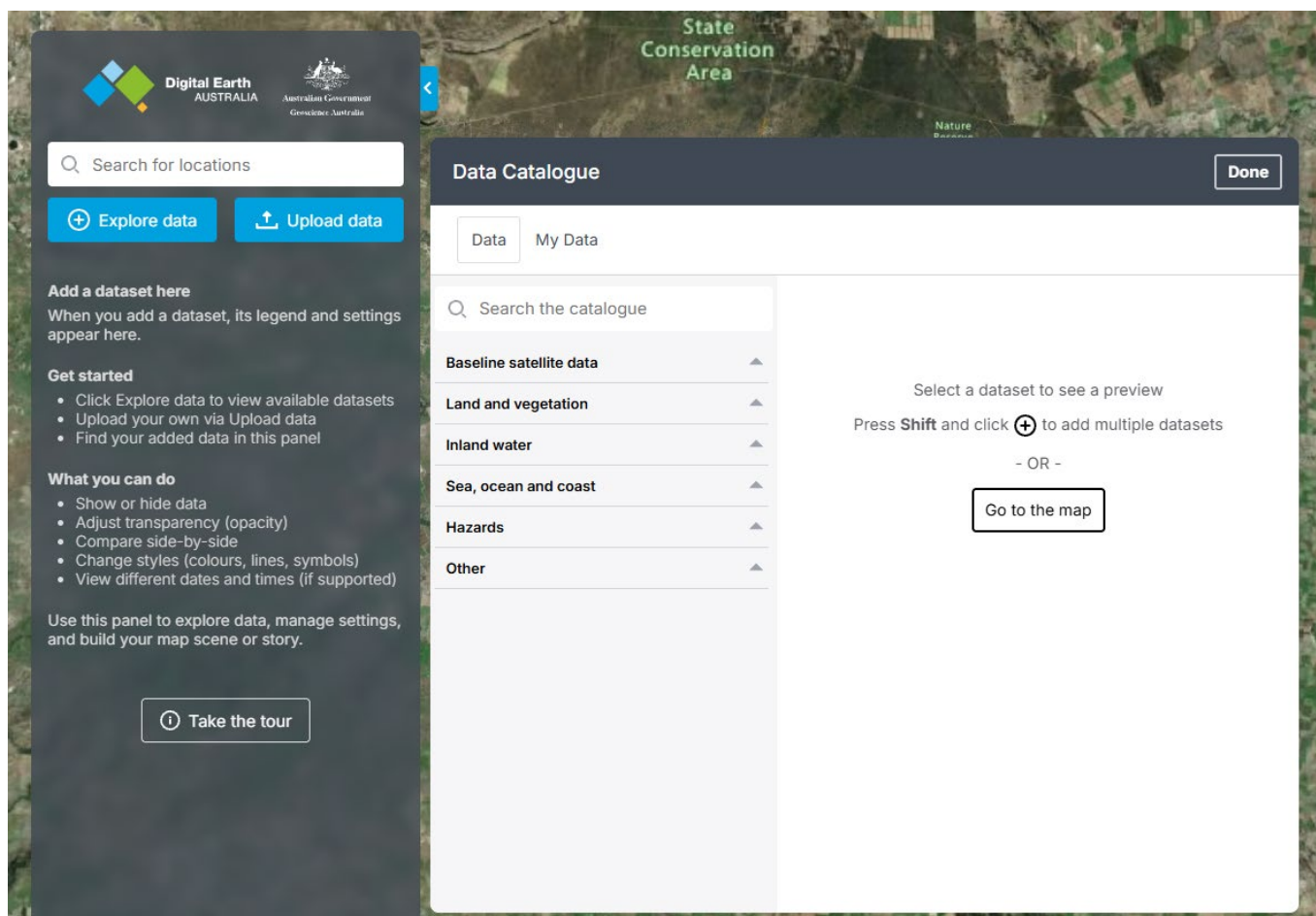
The map will appear within in the print window. You can then save the map to your computer by right clicking on the map and clicking 'Save as'. You can annotate this file to add in property boundaries (if needed) using image editing software. Alternatively, print the map and bring a hard copy to your pre-application meeting.

Satellite and historical maps (Landsat)

Some FMPs include rules that depend on when a flood work was constructed. In these situations, the applicant may need to confirm the approximate construction date of the existing flood work.

Landsat images can help with this process. Images from the mid-1980s onwards are available free of charge through [Digital Earth Australia](#).

Figure 4: Digital Earth Australia example



Step 1: Find your property

Use the search function in the top left corner to locate your property by address or navigate to location manually.

Step 2: Add the data

1. Click 'Explore data' on the top left corner. This will open the data catalogue window.
2. Open 'Baseline satellite data'.
3. Select the plus (+) symbol next to 'DEA Surface Reflectance (Landsat and Sentinel-2)'.
4. Click 'Add to the map' in the data preview to display the Landsat imagery layer.

Step 3: Filter the data

The data should now be visible on the left side of the screen. Click 'Filter by location' to limit the images to your location.

Click within your area of interest to enable the filter.

Step 4: View historical imagery

Open the 'Time' filter on the left side of the screen. Select a date. Blue lines indicate that data is available at that date.

Alternatively, use the toggle at the bottom of the screen to show images at your required date.

Step 5: Print or share the image

Once your image has loaded, click 'Share/Print' on the top right corner of the screen. Choose to share a link, download the map as a PNG file or open a print view.

SEED Portal

The NSW Government's [SEED portal](#) provides free access to environmental and spatial data.

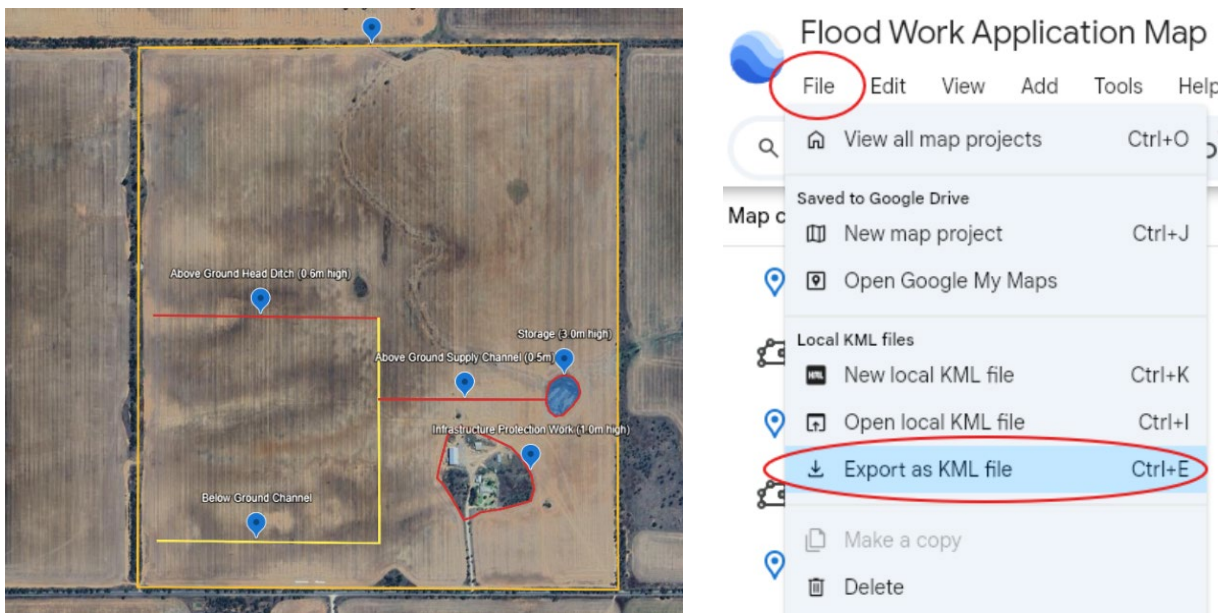
The portal contains a range of FMP mapping layers, including:

- FMP boundaries
- management zones
- ecological assets.

You can use the SEED portal to identify the FMP and management zone that applies to your property and to access additional information relevant to your application.

Google Earth Web

You can use [Google Earth Web](#) to generate a map of the works seeking approval. It allows you to create a map similar to the screenshot below and export a KML file for submission to WaterNSW or the Water Group.



13. Application assessment criteria

Flood work approval applications are subject to 2 types of assessment criteria:

1. standard assessment criteria, and
2. hydraulic assessment criteria.

Hydraulic assessment criteria generally require hydraulic modelling (also known as a flood study), to demonstrate that hydraulic assessment criteria have been met.

What are the standard assessment criteria?

The information in Table 3 is a summary only. See the relevant FMP and technical guidelines for the applicable criteria.

Table 3: Standard assessment criteria

Theme	Criteria
Impacts to ecological assets, Aboriginal cultural values or heritage sites	Maintain adequate flood connectivity under a range of flood scenarios, including the large and small design flood, to flood-dependent ecological assets, flood-dependent Aboriginal cultural values, flood-dependent heritage sites and to facilitate fish passage. Maintain adequate flow connectivity to floodplain ecosystems (in areas outside of the floodway network). Not disturb the ground surface or cause erosion to an Aboriginal cultural value or heritage site during construction or modification of the flood work.
Drainage impacts	Maintain adequate drainage in areas on the property, including neighbouring properties, that may be affected by the flood work.
Cumulative Impacts	Consider the cumulative impact of the flood work and other existing flood works on the property to neighbouring properties, other properties the flood work may affect, and the floodplain environment. For applications that are required to be assessed against the hydraulic assessment criteria, this criterion will not apply. Instead, the hydraulic assessment criteria include redistribution of flood flow criteria that address cumulative impacts.

What are the hydraulic assessment criteria?

The information in Table 4 is a summary only. See the relevant FMP and technical guidelines for the applicable criteria.

Table 4: Hydraulic assessment criteria

Theme	Criteria
Redistribution of flood flow	Expressed as a maximum % redistribution of peak flood flow on neighbouring properties that may be affected by the flood work (compared to peak flood flow under existing development conditions for a range of flood scenarios including the large design flood).
Change in flood levels	Expressed as a maximum (X) cm increase in flood levels on neighbouring properties that may be affected by the flood work (compared to flood

	levels under pre-development and existing development conditions for a range of flood scenarios including the large design flood). Not increase flood levels that would result in impacts to high value infrastructure (compared to flood levels under pre-development and existing development conditions for a range of flood scenarios including the large design flood).
Change in flood flow velocity	Expressed as a maximum % increase in flood flow velocity on the property and neighbouring properties that may be affected by the flood work (compared to flood flow velocity under pre-development and existing development conditions for a range of flood scenarios including the large design flood) unless: • increases greater than (X) % are isolated on the property and • average impact across the property is less than (X) %, and • increases are not greater than (X)% at the property boundary. Not increase flood flow velocity that would result in more than minimal soil erosion on the property and neighbouring properties that may be affected by the flood work, taking into account the ground cover on those properties.
Redistribution of flood flow (cumulative impact)	Expressed as a maximum % redistribution of peak flood flow at any of the peak discharge locations shown on the peak flow distribution map in the FMP (compared to redistribution under existing development conditions). Maximum (X)% redistribution of peak flood flow at any location and under any other flood scenario considered relevant.

14. Flood study

What is a flood study?

As part of a flood work approval application, you may be asked to submit a flood study. to the study demonstrates that the flood work/s meet the hydraulic assessment criteria specified in the relevant FMP. Where no FMP exists, the study must demonstrate compliance with the [Technical guidelines for flood work applications in areas without a floodplain management plan](#).

For Water Group customers, a flood study is always required. It can be provided as an appendix to the Review of environmental factors (REF) with the flood work approval application.

A flood study is prepared by a hydraulic modeller or floodplain engineer and addresses:

- the potential impact of flood works on other landholders
- existing and future risks to life and property associated with the proposed flood work
- existing and natural flooding regimes in the area, including the frequency, duration, nature and extent of flooding

Flood studies are required to outline 3 scenarios:

- **pre-development** – refers to the natural flooding regimes with all man-made infrastructure removed
- **existing approved development** – refers to existing approved infrastructure on the property only
- **proposed** – refers to approved works plus proposed works, including unapproved works that are intended to remain.

The relevant FMP outlines how these scenarios are applied against each assessment criterion.

Flood study requirements by management zone

- **Management zone A & D/SP:** A flood study is generally not required where the proposal meets the standard assessment criteria (see section 13), except for enhancement flood works (see section 7). A qualitative assessment of floodplain connectivity should still be undertaken.
- **Management zone B:** A flood study is generally required, unless the works are very minor in scale (for example, minimal footprint or <0.4 m in height) or they qualify for the transitional rule set included in southern inland FMPs.
- **Management zone C:** A flood study is generally not required, unless the works are likely to impact high-value infrastructure, are located near other limited-height works, or may create or reinstate a flow path.
- **Management zone CU:** A flood study is generally not required, unless the works are likely to impact high-value infrastructure, are located near other limited-height works, or may create or reinstate a flow path.

Important Note

This guidance is indicative only and intended to support the preliminary assessment of flood modelling requirements based on the typical risk and scale of works within each management zone. It does not replace the need for site-specific assessment by WaterNSW and/or the Water Group.

Where uncertainty exists, or where multiple works are proposed across different zones (particularly where management zone B is involved), flood modelling may be required to demonstrate that the works will not result in adverse impacts.

A flood study template is available in both [Word](#) and [PDF](#) formats.

Who can prepare a flood study

Preparing a flood study requires specialist expertise and advanced hydraulic modelling software. You will need to engage a suitably qualified consultant with experience in hydraulic modelling or floodplain engineering and access to the necessary software licences.

Why do I need a consultant?

Qualified consultants have the specialised skills, tools and experience needed to prepare a flood study for flood work approval applications.

Appropriate licences

Qualified consultants hold licences for hydraulic modelling software, such as TUFLOW, to analyse flood hydraulics and assess flood behaviour accurately.

Technical expertise

Consultants have specialist knowledge of hydraulic modelling and floodplain management, and flood work approval requirements.

Regulatory compliance

Consultants ensure the flood study meets the technical and reporting standards required by WaterNSW and the Water Group.

Risk assessment

Consultants carry out detailed risk assessments, and identify flood hazards, vulnerabilities, and potential impacts on infrastructure, communities, and the environment.

Customisation

Consultants can tailor flood assessments to the specific requirements and objectives outlined by WaterNSW and the Water Group, ensuring the study aligns with the needs of your property and proposed flood works.

Efficiency

Consultants streamline the process and can help to reduce assessment delays, the likelihood of resubmissions, and the risk of non-compliance.

Engaging a qualified consultant is essential to ensure your flood study is accurate, compliant, and appropriately tailored to your property and proposed flood works.

How do I find a consultant?

You can find a consultant by:

- searching online using terms such as “flood study consultant”, “flood study consultant near me”, “floodplain engineer” or “hydraulic modelling consultant”.
- speak with neighbouring landholders who may have already completed a flood study and can share recommendations or insights
- contact local agricultural or environmental consultants who may be able to recommend suitable specialists.

Once you have engaged a consultant, they can use the WaterNSW **flood study template** to ensure all required information is included to support the assessment of your application.

Managing the cost of a flood study

Flood studies can be costly, so it is recommended to obtain quotes from several providers before engaging a consultant.

While flood work approval applications must be submitted for individual landholdings, applicants may choose to undertake joint modelling. Where joint modelling is used:

- the modelling needs to address impacts at an individual property level
- each application will be assessed independently and on its own merits.

What does WaterNSW or the Water Group review in a flood study?

- Review the nature and description of flooding, including pre-development, present and proposed flood flow paths and flood flow distribution.
- Flood flow distribution calculations – review if the report contains sufficient hydrologic and/or hydraulic calculations to show:
 - design flood used
 - increase in flood levels
 - natural distribution of flows
 - the methods used to calculate the flow distribution
 - redistribution of flows
 - whether the flow distribution will be adversely affected
 - drainage
 - impacts on the floodplain, adjoining properties, high value infrastructure and roads
 - whether downstream areas will be denied beneficial flooding
 - cumulative effects in combination with what is in the landscape.
- Flooding effects and neighbourhood consultation:
 - review if the report provides sufficient information on the effect of the flood works, including velocities and water levels.
- Location of flow breakouts and critical flow paths.
- Provide an opinion on the significance of the flood works and whether they are likely to result in greater than minimal harm.

Flood modelling requirements – small and large design flood

A design flood is a flood of known magnitude that can be modelled and used for planning or engineering purposes. They are usually based on recorded historical events that are preferably within the living memory of a community.

A large design flood is a large magnitude flood event that generally has a 5% or less probability of occurring in any given year (AEP).

A small design flood is a smaller magnitude flood event that has at least a 10% probability of occurring in any given year (AEP).

There may be some slight variances in the AEP associated with a large or small design flood depending on the nature of the flood event that the design flood is based on.

The FMP will specify the modelling requirements for both small and large design flood events. The 'plan dictionary' outlines the designated years for these flood events to be modelled.

In some circumstances, it may not be feasible to model a specific flood event as stipulated in the FMP. For example, in the case of a small design flood, floodwaters may not reach the site of the proposed works, making it impossible to assess potential impacts. Where this occurs, the responsible agency may recommend an alternative flood event that is more suitable for assessment purposes.

15. Application costs

The application fee covers the cost of assessing your proposal and contributes to a detailed, multi-stage regulatory assessment, which typically covers:

- ensuring the application meets legislative requirements under the WMA and any relevant FMP.
- technical assessment of flood impacts, including review of engineering designs, flood behavior implications and hydraulic modelling
- environmental assessment
- consultation and coordination, including the costs of a site inspection
- specialist advice and data provision, such as inflow data to support hydraulic modelling
- determination of approval and conditions

For information about current fees and charges, visit the relevant agency website:

- [Water Group applications](#)
- [WaterNSW Applications](#)

16. What happens after the responsible agency receives a flood work application?

Once an application is received, the responsible agency will:

- check all relevant details have been provided – incomplete applications will be returned to the applicant/s
- advertise the application if required by the WMR
- complete all assessments required
- contact the applicant to arrange an on-site inspection
- determine the application in accordance with the regulatory framework and governing rules in force at the time the application is determined. The rules or regulations that applied when the works were originally constructed, or when the application was lodged, are not considered in the assessment process.

If a flood study has been provided as part of the application, this will be reviewed as part of the assessment process.

17. Landholding and application framework

Single landholding

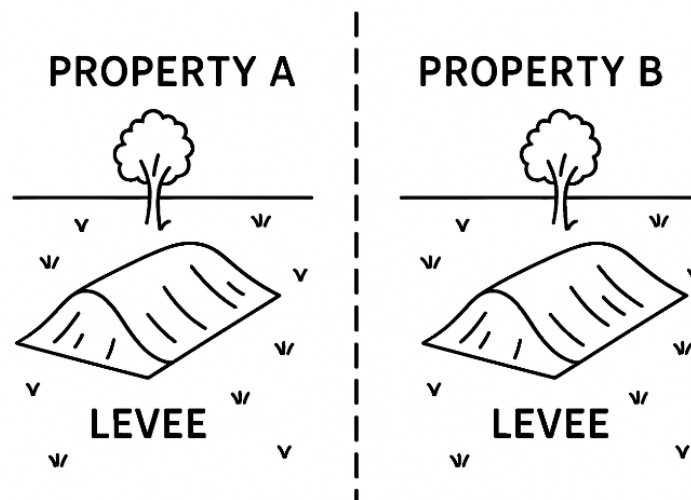
The flood work/s is located wholly within a single landholding.



Individual application should be lodged by landholder/s of Property A. The application will be assessed at a property scale, and on its individual merit.

Flood works on adjacent land parcels

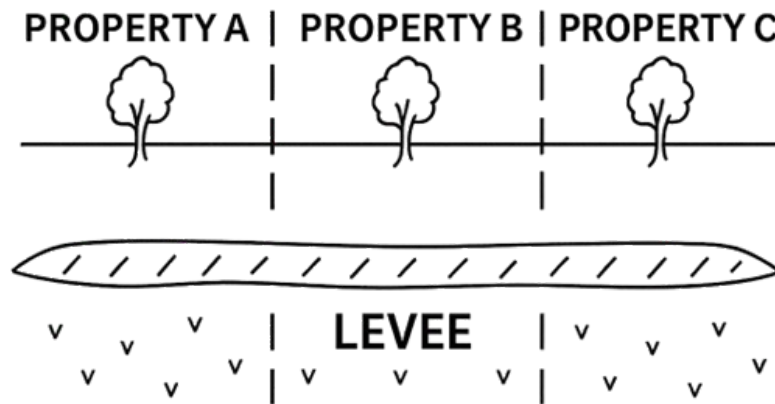
In this scenario, flood works are located on both Property A and Property B, each owned by different landholders, with no flood works extending across property boundaries.



Individual applications should be lodged by landholder/s of Property A and Property B. Each application will be assessed at a property scale and on its individual merit.

Flood works/s across multiple landholdings

In this scenario, a flood work extends across all landholdings, traversing Property A, Property B, and Property C.



In this scenario, two options are available:

Option 1: Any one of the landholders – Property A, Property B or Property C – obtains a legal easement for the flood work/s extending across all property boundaries and once the easement is registered on title, submits an application in their own right.

Option 2: A Joint Scheme as per section 101 of the WMA. In a Joint Scheme, the landholders of different parcels of land make a single application and hold a single water management work approval for a work located on, or passing through those parcels.

An application under a Joint Scheme will not be accepted (section 92 of the WMA) unless accompanied by a Joint Scheme Agreement, which is a legally binding agreement, with each party fully informed of, and acknowledging, their respective rights and obligations.

A Joint Scheme Agreement must address, but not be limited to, the following:

- granting access to the work/s
- operation, management and ongoing maintenance of the work/s
- apportionment of water supplied by the work/s
- apportionment of construction and ongoing maintenance costs
- apportionment of any additional prescribed or agreed costs
- allocation of benefits received (if any) to each party
- identification and allocation of risks to each party (if any)
- agreed liability of each party for known or unforeseen consequences arising from the work/s
- conditions and process for exclusion of land from the scheme
- mechanisms for parties to exit the scheme
- arrangements applying when land ownership changes
- provisions for dissolution of the scheme and the treatment of works post-dissolution
- any other conditions agreed between the parties.

The agreement must be executed by all relevant parties and prepared in accordance with the applicable legal and regulatory requirements ie. if a company, signed in accordance with the *Corporations Act 2001* (Cth).

If approval is granted, each approval holder (including a successive landholder who is automatically an approval holder) has a duty to comply with the conditions of the approval (section 106(1) and 106(2) of the WMA).

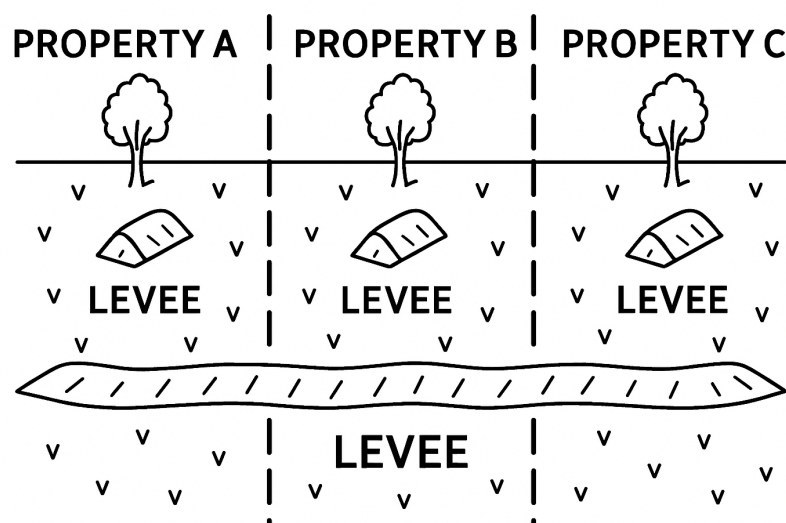
An approval co-holder may commence legal proceedings against another co-holder if they fail to comply with the conditions of the approval (section 106(2) of the WMA).

The assessment of an application lodged as a Joint Scheme will be undertaken at both a property scale and a combined property scale.

Flood works/s across multiple landholdings in addition to work/s on individual landholdings

In this scenario, there are separate flood works on Properties A, B and C, in addition to a single flood work that extends across all individual landholdings.

Any distinct flood works on individual landholdings must be addressed through separate applications. In this scenario, individual applications should be submitted by the landholder/s of Property A, Property B, and Property C for the respective flood works located on each landholding.



In addition, for the flood work that extends across all landholdings, two options are available:

Option 1: Any one of the landholders – Property A, Property B or Property C – obtains a legal easement for the flood work/s extending across all property boundaries and once the easement is registered on title, submits an application in their own right and obtains a legal easement for the water supply work/s.

Option 2: A Joint Scheme as per section 101 of the WMA. In a Joint Scheme, the landholders of different parcels of land make a single application and hold a single water management work approval for a work located on, or passing through those parcels.

An application under a Joint Scheme will not be accepted (section 92 of the WMA) unless accompanied by a Joint Scheme Agreement, which is a legally binding agreement, with each party fully informed of, and acknowledging, their respective rights and obligations.

A Joint Scheme Agreement must address the following matters:

- granting access to the work
- operation, management and ongoing maintenance of the work/s
- apportionment of water supplied by the work
- apportionment of construction and ongoing maintenance costs
- apportionment of any additional prescribed or agreed costs
- allocation of benefits received (if any) to each party
- identification and allocation of risks to each party (if any)
- agreed liability of each party for known or unforeseen consequences arising from the work
- conditions and process for exclusion of land from the scheme
- mechanisms for parties to exit the scheme
- arrangements applying when land ownership changes
- provisions for dissolution of the scheme and the treatment of works post-dissolution
- any other conditions agreed between the parties.

Importantly, the flood works specified in the application must overlie the landholdings held by all members of the Joint Scheme.

The agreement must be executed by all relevant parties and prepared in accordance with the applicable legal and regulatory requirements ie. if a company, signed in accordance with the *Corporations Act 2001 (Cth)*.

If approval is granted, each approval holder (including a successive landholder who is automatically an approval holder) has a duty to comply with the conditions of the approval (section 106(1) and 106(2) of the WMA).

An approval co-holder may commence legal proceedings against another co-holder if they fail to comply with the conditions of the approval (section 106(2) of the WMA).

The assessment of an application/s lodged for the distinct flood works will be undertaken at a property scale. The assessment of an application lodged as a Joint Scheme will be undertaken at both a property scale and a combined property scale.

18. What happens after a flood work approval is granted?

After an application has been approved, the approval holder can construct and use a flood work at the location specified in the approval.

Flood work approvals are granted for a period of 10 years and may include conditions that must be complied with during construction, operation and maintenance of the flood work.

Failure to comply with conditions a flood work approval is an offence under the WMA. Responsibility for compliance applies to any person undertaking activities associated with the flood work, including the approval holder, landowners, tenants, contractors and property managers.

It is important that all persons involved in the construction, operation or management of a flood work understand the conditions of the approval and their obligations under the WMA.

Maintenance requirements

Most flood work approvals include mandatory conditions requiring the ongoing maintenance of the approved flood work.

The approval holder must ensure the flood work is maintained in accordance with the approval conditions. Failure to do so may constitute an offence under the WMA.

19. Can a flood work approval application be refused?

Yes, the responsible agency can refuse an application if the application does not satisfy the standard and/or hydraulic assessment criteria or legislative requirements.

Grounds of refusal of certain applications under the WMA

Section 97 of the WMA provides that a water management work approval must not be granted unless the Minister is satisfied that adequate arrangements are in force to ensure that no more than minimal harm will be done to any water source, or its dependent ecosystems, as a consequence of the construction or use of the proposed water management work.

Where the proposed flood work is located on land not owned by the applicant, the approval cannot be granted unless the Minister is satisfied:

- (a) that the applicant is likely to become the owner of the land within a reasonable time, or
- (b) that the land is subject to an easement that authorises the construction and use of such a work for the benefit of the applicant's land, or
- (c) that the applicant is otherwise entitled (whether under this or any other Act or under an agreement applying to the land) to construct and use such a work.

Appeals

Under section 368 of the WMA, the applicant/s may appeal the decision to refuse the application to the Land and Environment Court. An appeal must be lodged within 28 days of the date the decision was made.

20. Can a flood work approval be extended?

Yes. A flood work approval lasts for 10 years. Before a flood work approval expires, the approval holder may apply to extend the approval for another 10-year period.

The responsible agency will contact the approval holder/s before the approval expires to give them an opportunity to apply for an extension.

21. Aboriginal cultural areas

FMPs include rules requiring flood works to maintain the natural flow of floodwater to flood-dependent Aboriginal cultural areas and to avoid disturbing Aboriginal cultural places during construction.

WaterNSW or the Water Group assess each flood work approval application against these rules to ensure Aboriginal cultural areas are properly protected, including during construction.

This section outlines how to identify any Aboriginal cultural areas on your property that may need to be considered during the assessment of a flood work approval, and what steps to take if you locate Aboriginal cultural heritage.

Note: The Water Group customers are required to provide an REF with a flood work approval application as the works are generally considered to be substantial.

Locating Aboriginal cultural areas

Before submitting your flood work approval application, you should carry out an online search using the AHIMS to identify whether any Aboriginal cultural areas are located on or near your property. AHIMS contains more than 120,000 records relating to Aboriginal Places, objects, and other culturally significant sites.

Conducting an AHIMS search is part of meeting your due diligence obligations. For more information, refer to the [Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales](#).

The following information provides guidance on how to complete an AHIMS search.

Step 1: Register or log in

Go to the [AHIMS webpage](#) and register as a first-time user or log in with your credentials.

Step 2: Perform a basic search

To perform a basic search, you can use your lot and DP, coordinates, street address or the map viewer. There is no cost to perform a basic search.

Before entering your search location, set a buffer around your location of interest to ensure it covers the entire area where the flood work/s is located or will be constructed. AHIMS automatically runs the search once the address is selected.

Step 3: Interpret the basic search results

A basic search will indicate the number of recorded Aboriginal sites or places within the selected area and buffer but will not provide detailed information about each site. If you would like more information on an identified site or place, you will need to perform an extensive search (see Step 4).

Figure 5 shows an example of an AHIMS search with no sites or places identified.

Figure 5: Example AHIMS search results with no recorded sites

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

Figure 6 shows an example of an AHIMS search with one site identified.

Figure 6: Example AHIMS search with recorded sites

1	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

Step 4: Perform an extensive search

An extensive search provides more detailed information about any recorded Aboriginal cultural sites or places. The search process is similar to a basic search but incurs a fee.

Results from an extensive search will be provided within 10 working days and include site features, location details and site name.

What to do if Aboriginal cultural heritage is found on your property

Discovering and reporting Aboriginal cultural heritage helps ensure that these important places and objects are protected from harm. Landholders also have a legal obligation to safeguard this heritage. In most cases, the presence of Aboriginal sites on private land does not affect property ownership or prevent existing land uses from continuing.

The following steps should be taken if you believe you have found an Aboriginal cultural heritage site or object.

Step 1: Stop work Immediately

Do not disturb the site or remove any artefacts, objects or soil. Avoid driving machinery or allowing livestock over the area.

Step 2: Record the find

Take clear photographs of the site or object and note location details such as GPS coordinates and the position in the landscape (for example, near water, trees, etc.). Write a brief description of what you found.

Step 3: Report the find

Contact your Local Aboriginal Land Council or Local Land Services. You can also report to the NSW Environment Line (131 555). Provide the information recorded during step 2.

Step 4: Legal obligations

Under the *National Parks and Wildlife Act 1974*, it is an offence to harm or desecrate Aboriginal objects or places. Do not attempt to move, sell or alter the site. Penalties apply for non-compliance.

Step 5: Site assessment

Authorities may:

- visit the site to confirm the find
- check the AHIMS database for previous records
- secure the site if needed to prevent erosion or damage.

Step 6: Formal recording

If confirmed significant, the site will be recorded in AHIMS. You may request a copy of the AHIMS report for your records.

Step 7: Future land use

In most cases, the presence of Aboriginal sites on private property does not affect ownership or prevent existing land use from continuing.

Before any development or changes in land use, you should conduct due diligence by performing a search of AHIMS and following the [Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales](#).

If you find a cultural site or items on your property, support is available from your Local Aboriginal Land Council or Local Land Services to help protect them.

22. Ecological assets

FMPs include rules that require flood works to maintain the natural flow of floodwater to identified ecological assets. WaterNSW or the Water Group will assess each flood work approval application against these rules to ensure these ecological assets are properly protected.

This section outlines how to identify any ecological assets on your property that may need to be considered as part of a flood work approval application.

Each FMP includes a map of identified ecological assets, which can be viewed on the SEED portal. To identify ecological assets on your property, follow the steps below.

Note: Water Group customers are required to provide an REF with their flood work approval application as the works are generally considered to be substantial.

Step 1: Visit the SEED Portal

Open the [SEED portal](#).

Step 2: Access the SEED map

Click on 'Access the SEED map' in the top-right corner of the page.

Step 3: Add the ecological asset layer

1. Select 'Add layer' on the left side of the page
2. Expand 'Water'
3. Select 'Floodplain Management Plans'
4. Click the relevant ecological asset map for your floodplain management plan

Step 4: Find your property

In the search bar at the top of the page, enter your address or lot and DP. Alternatively, you can use the map controls to find your property.

Step 5: Identify the relevant vegetation type

Click the 'Legend' tab located on the left side of the screen under 'How to use the SEED Map'. The legend explains what vegetation type each colour on the map represents.

Step 6: Print or save your map

To save or print a copy of the map, click 'Save Map' located on the right side of the screen.

If you would like to print the legend with your map, open the 'Print Template' drop-down menu and select 'Template Layer Intersect Tool'.

23. More Information

Floodplain management plans

The Water Group is responsible for developing, replacing and amending FMPs. Current FMPs, rule summary sheets and background documents are available on the [Water Group's website](#).

NSW Public Register

The [NSW Public Water Register](#) provides public access to information about water licences, approvals, water trading, water dealings, environmental water and other matters related to water entitlements in NSW.

The register amalgamates information from several public registers maintained by WaterNSW as part of its statutory responsibility to record water entitlement and water market information.

No charges or fees apply to search for information on the NSW Public Water Register.

Search the NSW Public Water Register

Select from the options below to search for the information you want to know. Only one option can be selected and searched at a time.

I want information about:

- ☐ A particular water licence or approval (including conditions)
- ☐ A particular property (in relation to water licences or approvals)
- ☐ A particular water source (in relation to water access licences and approvals, including conditions, and water usage)
- ☐ A particular floodplain management plan or land declared to be a floodplain (in relation to flood work approvals)
- ☐ Water allocations (available water determinations)
- ☐ Approval applications and advertisements
- ☐ Environmental water
- ☐ Water trading statistics and processing times

Further information

- [Water Assist](#)
- [Flood work approvals – Water Group](#)
- [Application guide – Water Group](#)
- [Flood work approvals – WaterNSW](#)
- [Application guide – WaterNSW](#)
- Contact Water Enquiries: call 1300 081 047 or complete the [Water Assist enquiry form](#)
- Contact WaterNSW: call 1300 662 077 or email Customer.Helpdesk@waternsw.com.au