

Windsor Bridge replacement project

Bridge removal

How will the Bridge be removed?

The bridge will be dismantled and removed carefully and safely in three stages. The removal method was chosen to minimise the impact to the river and the surrounding environment.

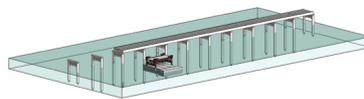
The first stage in the process is to remove the bridge deck. This will be done in sections, starting on the southern end of the bridge until the full length of the bridge deck has been removed.

When we have finished removing the bridge deck, we will then remove the bridge piers.

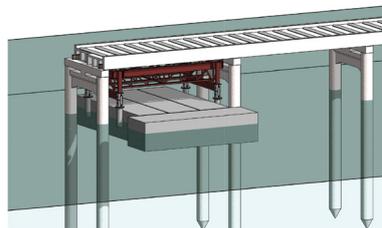
This method will ensure that the bridge abutment on the northern side, and the first bridge span including the pier, on the southern side of the river are retained. Work will then start to transform the two structures into viewing platforms offering views across the river.

Bridge removal stages

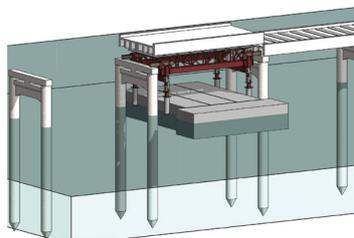
Stage 1 bridge deck removal



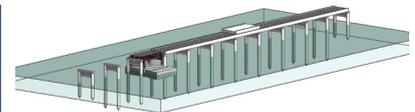
Step 1: A barge mounted jack is positioned under a section of the bridge.



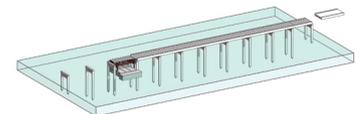
Step 2: The frame is jacked up and support beams are extended into place.



Step 3: The jack lifts the section until it is clear of the bridge.

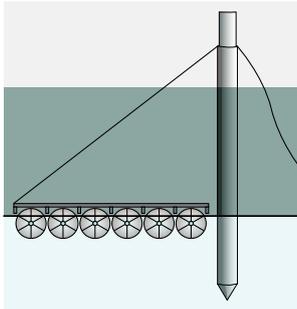


Step 4: The deck segment is pulled and rolled on airbags positioned along the existing bridge.

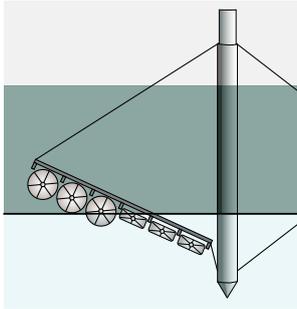


Step 5: The jack is lowered onto the barge. The process is repeated for the length of the bridge.

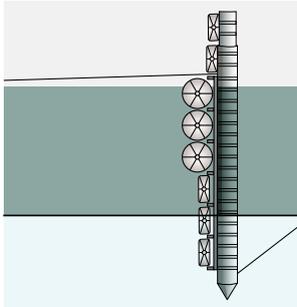
Stage 2: Bridge pier removal



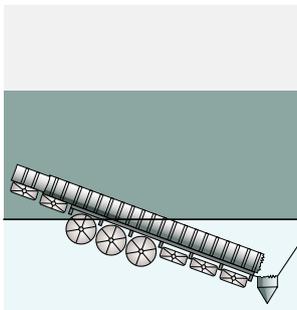
Step 1: Float support raft into position and connect to the pier.



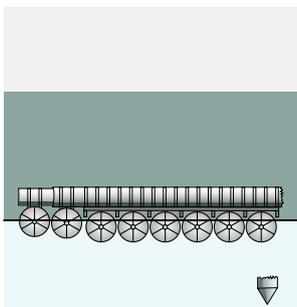
Step 2: Deflate lower air bags and raise raft to vertical position against pier.



Step 3: Attach additional airbags to the top of the pier.



Step 4: Detach and pull the pier on to the floating support raft.



Step 5: Inflate the remaining airbags and float to the river edge.

Step 6: The pier will be cut into smaller pieces and lifted from the river.

Stage 3: Final northern span removal

As the final bridge span on the northern side extends over the river embankment, not the river, this span will be removed using traditional excavation methods.

When will bridge removal start?

Preparation for removal of the bridge has started including setting up some of the specialist equipment. Early work, including removing the handrails is starting in late August. Major removal work will start in early September.

How long will it take?

Once the major removal work starts, we expect it will take about three months to complete.

Which parts of the bridge will be removed, and what will remain?

The entire first span on the southern side, including the first pier, will be retained. The first span on the northern side will be retained, but not the pier. The rest of the bridge will be removed.

How will the abutments be protected during removal?

The bridge removal method chosen allows for the careful and safe removal of the bridge in sections, ensuring the abutments are retained. When the bridge removal is completed, the abutments and the southern span will be refurbished to create the two viewing platforms on either side of the river.

Access

Will access to the new bridge be impacted by bridge removal?

Access to the new bridge will not be impacted by the bridge removal work for road users or pedestrians and cyclists using the shared path.

Will pedestrian access change during bridge removal?

Pedestrian access will remain open on the new bridge during the removal of the old bridge. There may be some changes to the temporary pedestrian pathway in Thompson Square depending on the stage of work. Signs will be in place directing pedestrians.

Will boat access in the river be impacted?

Water vessel movements will be restricted during the removal of the old bridge. Passable channels will be available during the work, however they will vary depending on where the work is focussed at a particular time. There will be some short periods where boat access will be closed (1 day at a time) for the following activities:

- Removal of each deck span
- Removal of each bridge pier
- Relocating a high voltage power line upstream of the bridge.

Will the work impact the Hawkesbury Canoe Classic?

The event is scheduled for 24 October 2020. We will ensure there is a navigable channel open through both bridges for the event. The specific location of the channel will depend on the stage of the work at the time. We will liaise with the event organisers in the lead up to the event.

Environment

How will bridge removal impact the river?

The method being used to remove the bridge has been selected as it minimises the overall impact to the river by reducing the need to excavate the river bed. We are also able to avoid breaking down the concrete bridge deck over the water, further reducing the environmental impacts during removal.

What environmental controls will be in place during the bridge removal?

Some of the key environmental controls will be around water quality, noise management, fauna management and heritage procedures. There is more information on each of these below.

What controls will be in place for water quality management of the river?

Water quality in the river will be managed using controls including silt curtains and containment booms. These will be placed in locations relevant to the stage and location of the work. These controls will not be required for all stages of the work and may be taken out of the water at times to ensure safety for our workers and waterway users.

Water quality monitoring will be done throughout the work in accordance with the approved Water Quality Management Program (available on the website). Additional monitoring will be done during specific activities.

The method being used to remove the bridge means we have been able to significantly reduce any excavation of the river bed, which will minimise the overall disturbance. We are also able to avoid breaking down the concrete bridge deck over the water, further reducing the environmental impacts for this activity.

What is being done to manage noise during the work?

The noise generated from the bridge removal work will be similar to the noise experienced from our construction activities to date. All noise generating activities will be done in line with the Noise and Vibration Management Plan (available on the website).

What are we doing to manage dust during the work?

Dust suppression measures will be used where required. This includes moving concrete elements to land for breaking down, and not doing this activity over the water.

What is being done to protect any fauna on the bridge?

An ecologist has completed a pre-demolition survey, which found there are no bats living on the old bridge and is it not providing a habitat for micro-bats. An ecologist or fauna handler will be on site when required during the bridge removal program.

What heritage conservation measures and procedures be implemented during bridge removal?

The heritage team will be on site at specified times throughout the demolition program to photograph the bridge for archival recording.

Safety

What is being done to ensure the safety of workers and the community during bridge removal?

The project is committed to safe work practices including during the removal of the old bridge. We use safety approved methodologies and hold valid safety permits, and always follow industry best practice and legislative guidelines.

Contact us

For more information on the project please visit rms.nsw.gov.au/windsorbridge
Thank you for your patience during this work.

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Environmental documentation references

There are a lot of environmental documents on the website. Which sections are relevant to the removal of the bridge?

The potential impacts, from the demolition of the old Windsor Bridge, are outlined in Appendix A2 Environmental Aspects and Impacts Register within the Construction Environmental Management Plan (CEMP).

The Register outlines the mandatory and project specific controls which include the following:

- Develop a Soil and Water Management Sub-Plan (SWMP)
- Develop a Waste Management Sub-Plan (WMP)
- Methodology for demolition to include controls to prevent waste entering the river
- Develop a Noise and Vibration Management Sub-Plan (NVMP)
- Water quality monitoring required as per Soil and Water Sub-Plan (see Water Quality Management Program (WQMP))
- Develop an Environmental Work Method Statement (EWMS) specific to demolition works
- Install silt curtains or containment booms around the work area where required
- Catch barges to be used to prevent debris entering waterway where required

- Noise monitoring on complaint
- Provide notification of out of hours work
- Dilapidation survey where required
- Implementation of noise and vibration management plan

The sub-plans referred to above, capture the mandatory and project specific controls as well as the other environmental requirements identified in the various environmental documents including the EIS, and Conditions of Approval. The environmental management and mitigation measures associated with the demolition of the bridge are included within the relevant sub-plans.

The links to the management plans can be found on the project website.

- **CEMP Appendix A2 Environmental Aspects and Impacts**
<https://www.rms.nsw.gov.au/projects/01documents/windsor-bridge-replacement/windsor-bridge-construction-environmental-management-plan-may-2019.pdf>
- **SWMP Section 6: Environmental control measures**
<https://www.rms.nsw.gov.au/projects/01documents/windsor-bridge-replacement/windsor-appendix-b4-construction-soil-and-water-management-plan.pdf>

- **WMP Section 6: Environmental control measures**
<https://www.rms.nsw.gov.au/projects/01documents/windsor-bridge-replacement/windsor-bridge-appendix-b7-construction-waste-management-plan.pdf>
- **NVMP Section 6: Environmental aspects and impacts**
<https://www.rms.nsw.gov.au/projects/01documents/windsor-bridge-replacement/windsor-bridge-appendix-b3-noise-and-vibration-management-plan.pdf>
- **NVMP Section 7: Construction noise and vibration assessment**
<https://www.rms.nsw.gov.au/projects/01documents/windsor-bridge-replacement/windsor-bridge-appendix-b3-noise-and-vibration-management-plan.pdf>
- **WQMP Throughout. Demolition has been provided as a specific phase of work.** <https://www.rms.nsw.gov.au/projects/01documents/windsor-bridge-replacement/windsor-bridge-replacement-project-june-2020.pdf>