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Westport Program Update

GOVERNMENT OF WESTERN AUSTRALIA | WESTPORT

Taking a closer look at some of the science, thinking and technical processes behind one of Western Australia's largest ever infrastructure projects.

Managing Director's Message

This month, the Prime Minister announced Federal funding of $33.5 million to support the definition stage of road and rail links to Westport as the *"linchpin for future trade growth in Western Australia."*

This was followed by the 2024-25 State Budget announcement of a further $70.2 million for Westport to progress project definition activities for marine, civil and road works.

Westport's Business Case remains on track for submission in mid-2024 and will advise Government on the optimal timing for transitioning container trade from Fremantle to Kwinana. While there are differing views about timing from different stakeholders, there has been universal agreement that at some point the container port will need to move.

While our Business Case will outline the rationale and approach for delivering the full Westport Program including marine and landside infrastructure, nested projects like upgrading Anketell Road and widening Kwinana Freeway are needed much sooner to allow construction, ensure continuous service to the growing industrial strip, and alleviate major congestion for thousands of commuters every day.

The Premier, Prime Minister, Member for Tangney, Deputy Premier and Minister for Infrastructure gathered at Kings Park to announce Federal funding for Westport.

Thanks to this funding, these critical road projects are now being progressed to the definition stage. This next stage will focus on definition design, environmental and heritage approvals, establishing social and sustainability initiatives, resolving risks, opportunities, and uncertainties, and preparing final works package scopes for procurement. The first of these key works packages has been released for early tender advice by Main Roads WA on TendersWA.

Planning for one of the biggest infrastructure programs in Western Australia's history can feel like a slow burn but having secured Federal and State funding for critical *no regrets* aspects of Westport is a positive step for Western Australia's economic infrastructure.

Patrick Seares
Managing Director, Westport

Westport's Industry Briefing

Thank you to everyone who attended Westport's online Consulting, Engineering and Construction Industry Briefing on 14 May.

We welcomed over 150 companies and more than 200 people who tuned in to hear Managing Director, Patrick Seares discuss the upcoming Business Case submission which will conclude Stage 3 of Westport, and his expectations for Stage 4 Westport, subject to a decision to proceed by the State Government.

Patrick provided a high-level overview of the next stage, including indicative timings, work packages, and key Environmental, Social and Governance (ESG) initiatives.

"It's really important to understand that there is still a decision from government to go forward. What we're trying to do is hypothesise about what might happen afterwards so we can all be on the same page." - **Patrick Seares**, Managing Director, Westport

To hear more, the briefing recording is now available here.

Expectations for the design and delivery stage

Subject to State Government approval, Westport Stage 4 will be *project definition and delivery*. We are refining the details of what Stage 4 could look like, with further decisions on scope, timing, and procurement yet to be made. The normal stages of major infrastructure development are described in the Strategic Asset Management Framework (SAMF).

An outline of how the project delivery would be undertaken will form part of the business case.

Essentially, Stage 4 will see Westport progress the reference designs for the preferred option (outlined in the business case) through detailed design and onto delivery. Stage 4 is expected to continue until at least the late 2030s as announced by the Deputy Premier in late 2023, however, this timing will be confirmed in the business case process and by the subsequent investment decision.

Key features of Westport Stage 4:

- Definition design of marine and port components (i.e., shipping channels, breakwater and the port terminal) and landside components (i.e., road, rail and intermodal terminals).
- Environmental and social initiatives, transition planning, and policy and regulatory changes.
- Projects will be divided into work packages, delivered by different Government agencies and partners, including the Office of Major Transport Infrastructure Delivery (OMTID), as well as the private sector.
- Work packages will involve collaboration and coordination with other stakeholders, such as Defence, Water Corporation, and industry in Kwinana.
- Westport will adopt a program management approach to the procurement and delivery of all components of the supply chain, with the goal of achieving optimal system performance and smoothing the development pipeline.
- The initial target is to use 'Design and Construct' contract models as much as possible, noting that as risks, complexity and opportunities for innovation are explored, collaborative models such as alliances may be used for some projects in the program.
- Innovation, digitisation, net zero and resource efficiency strategies will be key for Westport to achieve future-focused and sustainable outcomes in Stage 4 and beyond.

Westport will remain a highly collaborative program in Stage 4, working closely with a range of Government agencies, operators and related industries to manage interfaces and transitions.

The following Stage 5 will be a transition and closure phase, where the supply chain will be moved from Fremantle to Kwinana and the program will be handed over to long-term asset owners.

Next steps

Westport is working to finalise the Business Case, continue the environmental impact assessment process, progress social and sustainability initiatives, and secure additional project support for Stage 4 work packages.

With the Business Case submission approaching, Westport has limited availability to meet and discuss future procurement opportunities. When appropriate, we will approach the market with further information and seek early tender advice for key work packages.

Any future tender opportunities with Westport will be advertised on Tenders WA. Westport also has a Procurement Register if you are interested in working with us.

Westport's proposed breakwater

Westport's preferred concept design includes a straight parallel breakwater, extending off the Kwinana Shelf. During the design selection process, hydrodynamic modelling showed that alignment parallel to the port quay line and to James Point minimised disruption of water circulation in Cockburn Sound.

Although the Westport Stage 2 draft options did not include a breakwater, the Stage 2 Report concluded that *"…further modelling and assessment (is) required to determine whether a breakwater is required"* (Westport Future Port Recommendations Stage 2 Report, May 2020, p.25).

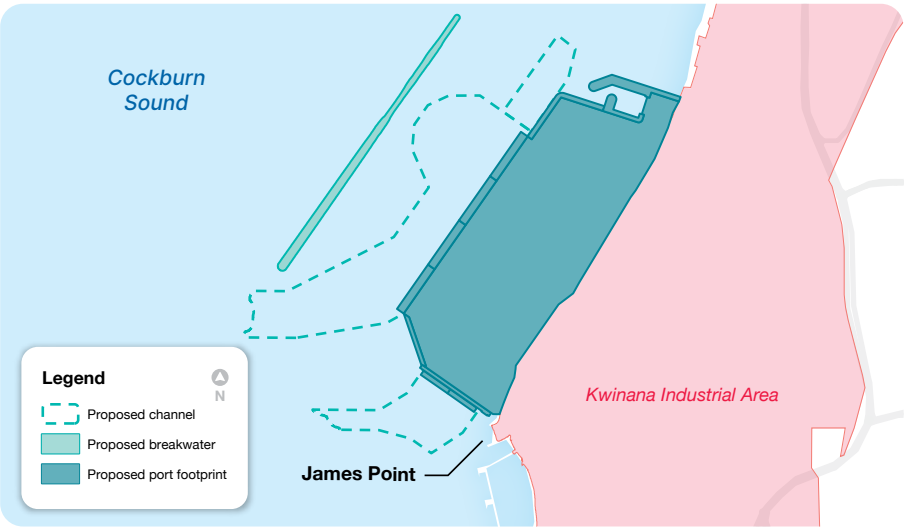
As terminal design options were investigated during Stage 3, wave modelling and vessel mooring analysis in Cockburn Sound identified a breakwater is needed to ensure ships and the berths are protected from wave energy and can efficiently operate 24/7.

Wave modelling and downtime analysis helped evaluate and enhance the breakwater design, as well as test and improve operability under a range of weather conditions.

Downtime is the proportion of time that vessels are unable to load/unload containers at the berths due to movement of the ship. Minimising downtime as much as possible is critical to efficient port operations.

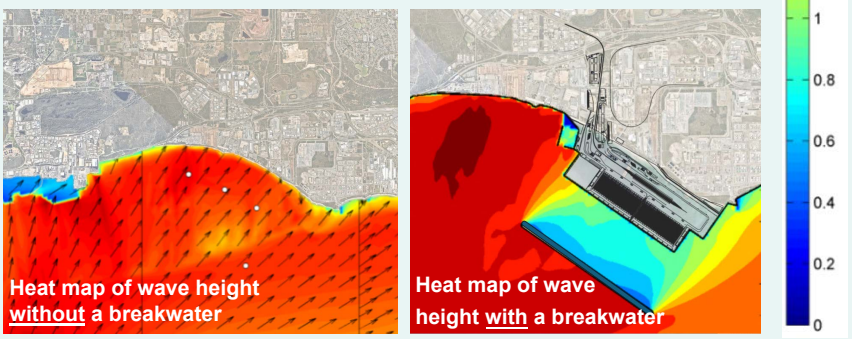
Modelling undertaken during Stage 3 has revealed the proposed breakwater reduces downtime and would provide berth availability during 95% of operations, and reduces the wave impact at what will be the new Kwinana Bulk Terminal location.

This modelling will be revisited and further tested to help refine the design as new infragravity (long period) wave data becomes available.



Container loading and unloading operations are sensitive to ship movements at berth. Wave energy can dislodge or shift containers and interfere with crane operations, potentially causing damage and presenting a safety risk.

A breakwater is a structure that is positioned near the coast and reduces the impact of swell, wind, waves and currents on ships when they are moored by creating a physical barrier between the waves and the ships at berth.



This modelling shows the influence of a breakwater on wave height during extreme weather events in Cockburn Sound.

Hydrodynamic modelling helped identify how the breakwater design might impact water circulation, which can influence the 'flushing' of water, and minimise impact on environmental values such as snapper spawning. An open breakwater design results in a minimal impact on hydrodynamics which is a win for Westport's *working with nature* approach.

The breakwater height was determined by the predicted maximum height of the waves in Cockburn Sound, while the slope of the sides provides stability for the structure and assists with the dispersion of wave energy.

The breakwater has been designed to be long enough to provide protection for the four initial port berth and absorb the impact of waves.

The breakwater dimensions, distance from the port (determined by the turning basin diameter), and specific materials to be used will be further refined in Westport Stage 4.

Opportunities to achieve positive environmental outcomes associated with port infrastructure, including the breakwater, will also be investigated further as the project progresses through definition design.

Concept of operations

Although the new port facilities are unlikely to be operational until at least the late 2030s, it is important to consider the technical requirements and operating concepts during the design stage.

In partnership with WSP, Westport has been designing and modelling concepts of operation for the container terminal including automated stacking cranes, automated straddle carriers and automated rubber tyred gantry cranes.

When evaluating the options, we have considered factors such spatial constraints, environmental performance, stakeholder feedback as well as operational efficiency, flexibility and cost assumptions for electric equipment.

The preferred concept of operations for the Business Case includes automated stacking cranes, as port operations modelling and reviews found this equipment to be the most cost effective and efficient solution for Westport's planning horizon.

Recognising that technology, innovations, and stevedore operations may change between now and the opening of the port, Westport's operational recommendations also provide consideration and flexibility for other concepts to be implemented in the future.

Automated stacking cranes provide a range of benefits as they:

- are a proven mode of operation in high performing container terminals;
- support high container stacking density which allows storage demand to be met in smaller footprints; and,
- are resilient and efficient, supporting operational solutions for different trade forecasts (e.g. on-dock empty container storage for 'high' trade volumes or on-dock warehousing for ‘low’ trade volumes).