



Ms Belinda Pignone
Environment Planning and Compliance Coordinator
Hanson Construction Materials Pty Ltd
Level 18, 2-12 Macquarie Street
Parramatta NSW 2150

26 August 2021

Reference: 0418291_RtS_WL

Dear Belinda

Subject: Sancrox Quarry Expansion: Response to Submissions – Water Licencing

1. INTRODUCTION

Hanson Construction Materials Pty Ltd (Hanson) engaged Environmental Resources Management Australia Pty Ltd (ERM) to provide responses to comments received from the NSW Department of Planning, Industry and Environment – Water (DPIE – Water) and the Natural Resources Access Regulator (NRAR) pertaining to the Sancrox Quarry Expansion (the Project).

1.1 Background

The comments from DPIE – Water and NRAR were provided at the Response to Submissions (RtS) stage following review of the Environmental Impact Statement (EIS) for the Project. The EIS estimated a peak operational demand for the Project at 131.1 mega-litres (ML) per year, with maximum groundwater seepage into the pit void estimated at 22 ML per year.

DPIE – Water and the NRAR have requested additional information relating to the ability of the Project to obtain suitable surface water and groundwater entitlements to cover the estimated water take over the life of the Project.

1.2 Objective

The objectives of this engagement is to:

- review water licencing requirements applicable to the Project; and
- review and advise on the availability of current water allocations locally available based on publicly available government databases.

1.3 Scope of work

In order to meet the objectives of this engagement, ERM has completed the following scope of work:

- review water licencing requirements and the availability of water allocations from publically available WaterNSW data and related legislation;
- review existing water licencing arrangements and allocations; and
- document the findings of the review in this letter.

2. DATA REVIEW

2.1 Proposed water needs and uses

The EIS estimated that the total water demand for the project was approximately 131.1 ML per year. A breakdown of the water demand of the project is presented below in Table 2-1. Potable water required for the project, such as for drinking or hand washing purposes, will be sourced from council supply mains and is not included in Table 2-1.

Table 2-1 Approximate Total Water Demand

Activity	Approximate Volume of Water Required (ML/year)
Road dust suppression	45.9
Concrete manufacture	3.3
Concrete agitator washout	0.9
Crushing and screening dust suppression	75
Product moisture	4.5
Asphalt production	1.5
Total	131.1

2.2 Water supply

With the exception of a third order watercourse in the far northern portion of the Project area, that will not be affected by the Project, all other watercourses directly impacted by the Project are first or second order watercourses. Based on catchment yields in dry years (10-percentile) it is estimated that current operational footprints could provide 79 ML of water. This estimate is based solely on possible catchment yield with no restriction from available storage sizes during a low rainfall (10%ile year).

With the implementation of the first stage of the Project, the additional catchment of disturbed area has the potential to generate 120.11 ML during a low rainfall (10%ile year). These volumes, in addition to the estimated groundwater seepage at 22 ML per year will result in sufficient water supply to meet the demands of the Project, even in a dry (10%ile) year. A water balance of the Project has been provided in Section 7.4 of the Hydrology Impact Assessment, as part of the EIS.

2.3 Required water licencing arrangements

The principle NSW planning legislation is the Environmental Planning and Assessment Act 1979 (EP&A Act) and the accompanying Environmental Planning and Assessment Regulation 2000 (EP&A Regulation).

The Water Management Act 2000 (the WMA) provides for a comprehensive singular piece of legislation to effectively manage and regulate access, and use of, the State's water resources. The key regulation made under the WMA is the Water Management (General) Regulation 2018 (the regulation). The regulation specifies important procedural and technical matters related to the administration of the Act, and also specifies exemptions from licence and approval requirements under the Act.

The NSW Aquifer Interference Policy (NSW DPI, 2012) describes the assessment process for protecting and managing potential impacts of aquifer interference activities on the water resources of NSW.

An analysis of the legislation and water licencing requirements for the Project is detailed in Table 2-2

Table 2-2 NSW water management provisions and implications for the Project

Provision	Project Implication
Aquifer Interference Policy – Section 2 A water licence is required under the Water Management Act 2000 (unless an exemption applies or water is being taken under a basic landholder right) where any act by a person carrying out an aquifer interference activity causes: ■ the removal of water from a water source; or ■ the movement of water from one part of an aquifer to another part of an aquifer; or ■ the movement of water from one water source to another water source, such as: – from an aquifer to an adjacent aquifer; or – from an aquifer to a river/lake; or – from a river/lake to an aquifer.	A water access licence is required under the NSW Aquifer Interference Policy for the estimated groundwater seepage of 22 ML per year. The groundwater licence would require approval prior to gaining an allocation from the Hastings River Coastal Floodplain Alluvial Groundwater Source under the Water Sharing Plan - Hastings Unregulated and Alluvial Water Sources 2019 (the Water Sharing Plan).
Water Management Act 2000 – Section 53 In relation to harvestable rights, Section 53 of the WMA states: 1. <i>An owner or occupier of a landholding within a harvestable rights area is entitled, without the need for any access licence, water supply work approval or water use approval:</i> a. <i>to construct and use a dam for the purpose of capturing and storing rainwater run-off, and</i> b. <i>to use water that has been captured and stored by a dam so constructed, in accordance with the harvestable rights order by which the area is constituted.</i>	Landholders in NSW can build dams on minor watercourses (first or second order watercourses which do not permanently flow) that capture 10 per cent of the average regional rainfall run-off on land in the Central and Eastern Divisions. Based on the location and size of the quarry site, the Maximum Harvestable Right Dam Capacity (MHRDC) for the Project 19.5 ML. The volume of the two existing Water Holding Dams plus a small farm dam owned by Hanson totals 14.5 ML, which is below the MHRDC. The implementation of the quarry void as an additional water holding body will provide additional buffer to the water management system, providing an additional storage for circulation of captured water throughout the site to prevent unnecessary discharge of water to the surrounding environment and support available supply. Dams that qualify as “excluded works” and are not included in harvestable right calculations, under Schedule 1, Section 3, of the WMA, include those “<i>solely for the capture, containment and recirculation of drainage and/or effluent, consistent with best management practice..... to prevent the contamination of a water source, that are located on a minor stream</i>”. The harvestable right is not intended to be contrary to initiatives to prevent pollution of water sources. The Project water holding dams and pit void meet this definition of excluded works and are exempt from harvestable rights calculations.

Provision	Project Implication
Water Management Act 2000	Surface water access entitlements above the harvestable rights entitlements will require authorisation via a water access licence (WAL). The surface water allocation would need to be sought from the Water Sharing Plan. The WAL application, amendment or increase in allocation will be subject to review by NRAR (as a State Significant Development - SSD).
Environmental Planning and Assessment Act 1979 – Section 4.41 Section 4.41 (1)(g) of the EP&A Act states that authorisations are not required should the project be granted SSD approval, including: ■ <i>a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the Water Management Act 2000.</i>	The Project does not require water supply works or use approvals due to SSD designation, and this include water storages as “works”. The requirement for a water access licence for groundwater seepage remains.

2.4 Existing water licencing arrangements

ERM understands that Hanson currently hold a Water Access Licence (WAL42524) and Water Approval (30WA322549), which allows for the use of 6 ML per year from the Coastal Hastings Water Source under the Water Sharing Plan (refer to Attachment A).

The volume of the two existing water holding dams plus a small farm dam owned by Hanson totals 14.5 ML, which is below the MHRDC (19.5 ML) and is the key ongoing source of water supply. ERM understands that additional external supply, excluding potable water for site amenities, has not been required to meet operational water demands.

The existing WAL and harvestable rights will provide for at least 20.5 ML per year under existing licencing arrangements, which is sufficient to cover the the 10.2 ML water demand for quarry processing per year (refer to Table 2-2).

The EIS demonstrated that the project has the capacity to supply the required water demand through on-site sources during low rainfall scenarios. With the implementation of the first stage of the Project, the additional catchment of disturbed area has the potential to capture 120.11 ML during a low rainfall (10%ile year). At the final stage of the project the area has the potential to capture 243.57 ML of surface run-off under the same low rainfall scenario.

2.5 Water licence gaps

The Project will need to apply for a zero share water access licence for groundwater from the Water Sharing Plan due to the estimated seepage of 22 ML per year in to the quarry void under full operations. Hanson will then need to seek the 22 ML allocation from the Water Sharing Plan for inclusion under the groundwater licence.

The Project footprint has been estimated to capture sufficient surface water from first or second order catchment areas. However, an increase in the allocation for the existing surface water WAL is required to lawfully capture this water and meet the water demand required under full operation of the Project.

In addition to the 22 ML of groundwater that will need to be sought to account for seepage, Hanson will also need to seek an additional allocation of up to 90 ML to account for the total water demand estimated for the Project, and this may be sought from groundwater or surface water under the Water Sharing Plan. These allocations will be required on top of the existing 6 ML available under WAL42524 and the harvestable rights.

Surface water and groundwater shares relevant to the Project are managed under the Water Sharing Plan. The Water Sharing Plan allows for 1020 groundwater shares (Hastings River Coastal Floodplain Alluvial Groundwater Source) and 375 surface water shares (Coastal Hastings Water Source) that are relevant to the Project location. These shares are expressed as 1 ML per share.

In 2021-2022, shares relevant to the Project are fully allocated and the Project would need to seek a trade from the water market in order to obtain sufficient shares to lawfully meet the estimated water demand. Any trades will then need to be registered as a dealing with Water NSW to be realised against the relevant licences. Review of groundwater and surface water usage under the water plan for the years 2019-20 and 2020-21 indicated that the total allocations are not being utilised.

If approved as SSD, the Project will not require separate water supply works and water use approvals.

Yours sincerely,



Gavin Powell
Senior Consultant



Murray Curtis
Partner in Charge

**ATTACHMENT A WATER ACCESS LICENCE AND SUPPLY WORKS
APPROVAL**

Information about a water licence or approval

Use this tool to search for information about water licences and approvals issued under the *Water Act 1912* or *Water Management Act 2000*.

Select the type of licence or approval and enter the licence or approval number:

- **Water access licence (WAL):** a WAL number starts with the letters 'WAL' followed by several numbers; a WAL also has a reference number that starts with a two digit number, followed by 'AL' and then several numbers.
- **1912 water licence:** a water licence number starts with a two digit number, followed by a two letter code and then several numbers. Note: a PT reference number cannot be entered.
- **Approval:** an approval number starts with a two digit number, followed by a two letter code (WA, UA, CA or FW) and then several numbers.

Search for information about either a:

☒ **Water access licence (WAL) issued under the *Water Management Act 2000***

Water Access Licence (WAL) Number

WAL

42524

A WAL number starts with the letters 'WAL' followed by several numbers

Can't find your WAL number? Do you have a reference number? A reference number starts with a two digit number, followed by 'AL' and then several numbers. Use the following tool to find your WAL by entering your reference number. [Enter the reference number to find the WAL number.](#)

Notes:

The search results will list the conditions imposed on the water access licence. Any approved water supply work/s nominated on the water access licence are identified by the approval number/s for the work/s.

The information about a water access licence provided in the search results is a summary and may not always be up to date. If you require full and up to date details about a particular water access licence (including current holders, share and extraction component details, encumbrances and notations) you should search the [Water Access Licence Register](#) administered by NSW Land Registry Services.

- ☐ [Water Act 1912 Licences and Authorities](#)
- ☐ [Approval issued under the *Water Management Act 2000*](#)

Find out if a *Water Act 1912* licence has been converted

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Search Results

Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)	IDEC (Daily flow shares)
Unregulated River	Current	Coastal Hastings Water Source	Continuing	Coastal Hastings Non Tidal Pool Management Zone	6.00	N/A
Extraction Times or Rates						
Subject to conditions water may be taken at any time or rate						
Nominated Work Approval(s)						
30WA322549						
- Conditions						
Plan Conditions						
Water sharing plan		Hastings Unregulated and Alluvial Water Sources 2019				
Take of water						
MW6594- 00002	Water must not be taken from an in-river pool when the volume of water in that pool is less than the full capacity of the pool.					
MW6644- 00001	If a water supply work nominated on this access licence: A. is capable of being used to take water from the upriver alluvial sediments, and B. is located 40 m or less from the top of the high bank of a river, then: water must not be taken when there is no visible flow in the river immediately adjacent to the water supply work from which the water is taken.					
MW6627- 00001	From 1 July 2019 until 30 June 2022, the total volume of water taken under this access licence in these three (3) water years must not exceed a volume equal to: A. 50 % of the water allocations accrued to the water allocation account for this access licence from available water determinations in the first water year (1 July 2019 until 30 June 2020), plus B. the sum of water allocations accrued to the water allocation account for this access licence from available water determinations in the second and third water years, plus C. the net amount of any water allocations assigned to or from the water allocation account under a water allocation assignment in those 3 water years, plus D. any water re-credited to the water allocation account for this access licence in those 3 water years.					
MW6629- 00001	The maximum water allocation that can be carried over from one water year to the next water year in the water allocation account for this access licence is equal to: A. 100 % of the access licence share component for access licences with share components expressed as ML/year, or B. 1 ML/unit share of the access licence share component for access licences with share components expressed as a number of unit shares.					
MW6594- 00001	Water must not be taken from an off-river pool when the volume of water in that pool is less than the full capacity of the pool.					
MW6626- 00001	Water must only be taken if there is visible flow in the water source at the location where water is taken. This restriction does not apply if water is taken from:					

- A. upriver alluvial sediments, or
- B. an in-river pool, off-river pool, runoff harvesting dam or in-river dam pool.

MW6628-00001

From 1 July 2020, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either:

A. the sum of:

- i. water allocations accrued to the water allocation account from available water determinations in those 3 consecutive water years, plus
- ii. the water allocations carried over in the water allocation account for this access licence from the water year prior to those 3 consecutive water years, plus
- iii. the net amount of any water allocations assigned to or from the water allocation account for this access licence under a water allocation assignment in those 3 consecutive water years, plus
- iv. any water allocations re-credited to the water allocation account in those 3 consecutive water years,

or

B. the sum of:

- i. the share component of this access licence at the beginning of the first year in those 3 consecutive water years, plus
- ii. the share component of this access licence at the beginning of the second year in those 3 consecutive water years, plus
- iii. the share component of this access licence at the beginning of the third year in those 3 consecutive water years, plus
- iv. the net amount of any water allocations assigned to or from the water allocation account for this access licence under a water allocation assignment in those 3 consecutive water years, plus
- v. any water allocations re-credited to the water allocation account for this access licence in those 3 consecutive water years.

Monitoring and recording

MW6615-00001

The volume of water taken from 1 July 2019 until 30 June 2022 must be recorded in a logbook at the end of 30 June 2022. The maximum volume of water permitted to be taken in those water years must also be recorded in a logbook. The first water year is from 1 July 2019 until 30 June 2020.

This requirement does not apply if water is taken through a water supply work with:

- A. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water supply (AS4747), and
- B. an operational data logger.

MW6614-00001

The following information must be recorded in a logbook for each period of time that water is taken:

- A. the date, volume of water taken on that date, the start and end time when water was taken,
- B. the access licence number under which the water is taken,
- C. the volume of water taken for domestic consumption and/or stock watering, and
- D. the purposes for which water is taken.

This requirement does not apply if water is taken through a water supply work with:

- E. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water supply (AS4747), and
- F. an operational data logger.

MW6612-00001

A logbook used to record water take information must be retained for five (5) years from the last date recorded in the logbook.

MW6616-00001

The volume of water taken in any three (3) consecutive water years from 1 July 2020 must be recorded in a logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in a logbook.

This requirement does not apply if water is taken through a water supply work with:

- A. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water supply (AS4747), and
- B. an operational data logger.

Reporting

MW6037-
00002

Once the water access licence holder becomes aware of a breach of any condition on this water access licence, the water access licence holder must notify the Minister as soon as practicable. The Minister must be notified by:
A. email: nrar.enquiries@nrar.nsw.gov.au, or
B. telephone: 1800 633 362. Any notification by telephone must also be confirmed in writing within seven (7) days of the telephone call.

Other Conditions

NIL

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- **Approval:** an approval number starts with a two digit number, followed by a two letter code (WA, UA, CA or FW) and then several numbers.

Search for information about either a:

- ☐ Water access licence (WAL) issued under the *Water Management Act 2000*
- ☐ *Water Act 1912* Licences and Authorities

☒ **Approval issued under the *Water Management Act 2000***

Approval Number

30 ▼

WA ▼

322549

Notes: The search results will list the conditions imposed on the approval and also list the number/s of any water access licence/s that nominate the water supply works associated with the approval.

This search tool does not include information about [controlled activity approvals](#). Information publicly available from a register of controlled activity approvals is available at our [local offices](#).

Find out if a *Water Act 1912* licence has been converted

- ☐ Water licence conversion status

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Search Results

Kind of Approval	Issue Date	Expiry Date	Approval Number	Status	Water Source
Water Supply Works	05-JUL-2019	26-JUN-2023	30WA322549	Current	Coastal Hastings Water Source

Work Type	Description	Diameter	Status	No of Works	Location (Lot/DP)
Diversion Works - Pumps	50mm Centrifugal Pump	NA	Active	1	Lot 353, DP 754434
Storages	Bywash Dam	NA	Active	1	Lot 353, DP 754434

Water Access Licences nominating these works

Reference Number**WAL Number**

30AL322548

42524

- Conditions**Plan Conditions****Water sharing plan****Hastings Unregulated and Alluvial Water Sources 2019****Take of water**

MW6786-00001

When directed by the Minister by notice in writing, the approval holder must have metering equipment installed that meets the following requirements:

- A. the metering equipment must accurately measure and record the flow of all water taken through the water supply work authorised by this approval,
- B. the metering equipment must comply with the Australian Standard AS 4747: 'Meters for non-urban supply', as may be updated from time to time,
- C. the metering equipment must be sited and installed at a place in the pipe, channel or conduit between the water source and the first discharge outlet. There must be no flow of water into or out of the pipe, channel or conduit between the water source and the metering equipment, and
- D. the metering equipment must be operated and maintained in a proper and efficient manner at all times.

Monitoring and recording

MW6611-00001

Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in a logbook before water is taken, unless the water is taken through a water supply work with:

- A. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water supply (AS4747), and
- B. an operational data logger.

MW6613-00001

A. Before water is taken through the water supply work authorised by this approval, the approval holder must confirm that cease to take conditions do not apply and water may be taken.

B. The confirmation that cease to take conditions do not apply and the method of confirmation (such as visual inspection or internet search) must be recorded in a logbook, unless the water is taken through a water supply work with:

- i. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water supply (AS4747), and
- ii. an operational data logger.

MW6610-00001

The following information must be recorded in a logbook for each period of time that water is taken:

- A. the date, volume of water taken on that date, the start and end time when water was taken, the pump capacity per unit of time,
- B. the access licence number under which the water is taken,
- C. the approval number under which the water is taken,
- D. the volume of water taken for domestic consumption and/or stock watering, and
- E. the purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting.

This requirement does not apply if water is taken through a water supply work with:

- F. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water supply (AS4747), and
- G. an operational data logger.

MW6612-00001

A logbook used to record water take information must be retained for five (5) years from the last date recorded in the logbook.

MW6608-00001

A. A logbook must be kept, unless the water is taken through a water supply work with:

- i. an operational meter that complies with Australian Standard 4747 - Meters for non-urban water

- supply (AS4747), and
 - ii. an operational data logger.
- B. The logbook must be produced for inspection when requested by the Minister.

Reporting

MW6037-00001

Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by:

- A. email: nrar.enquiries@nrar.nsw.gov.au, or
- B. telephone: 1800 633 362. Any notification by telephone must also be confirmed in writing within seven (7) days of the telephone call.

Other Conditions

Water management works

DK5699-00001 Water, after having been used, must be discharged into suitable ponds outside of the watercourse as approved by the relevant licensor.

DK6745-00001 The approval holder must ensure that during the construction, operation and maintenance of the approved works, any activity that results in soil or vegetation disturbance is performed so as to prevent soil erosion and the entry of sediments into any river, lake, waterbody, wetland or groundwater system.

DK0871-00001 The water supply work authorised by this approval must be constructed and maintained in a way that will:

- A. ensure the work's safe construction and operation, and
- B. prevent the possibility of damage being caused by the work, or resulting from the work, to any public or private interest.

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