



Hexham Train Support Facility Modification 2

Ancillary Depot and Wagon Storage

State Significant Infrastructure Modification Assessment (SSI
6090 MOD 2)

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Glossary

Abbreviation	Definition
ACM	Asbestos Containing Material
AEP	Annual Exceedance Probability
AHIMS	Aboriginal Heritage Information Management System
Approval	Infrastructure Approval
ARTC	Australian Rail Track Corporation
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soils Management Plan
BDAR	Biodiversity Development Assessment Report
CEMP	Construction Environmental Management Plan
CIV	Capital Investment Value
Council	Newcastle City Council
CSWMP	Construction Soil and Water Management Plan
Department	Department of Planning and Environment
PASS	Potential Acid Sulfate Soils
SEARs	Planning Secretary's Environmental Assessment Requirements
Secretary	Planning Secretary of the Department of Planning and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
SSI	State Significant Infrastructure
TfNSW	Transport for NSW

Executive Summary

On 10 October 2013, the Executive Director, Development Assessment Systems and Approvals approved the Hexham Train Support Facility (LTTSF) proposal under Part 5.1 of the Environmental Planning and Assessment (EP&A) Act (State Significant Infrastructure).

The Proponent (Aurizon Operations Limited) has constructed and operates the Hexham LTTSF at Maitland Road, Hexham in the Newcastle local government area. The Hexham LTTSF was built to accommodate the provisioning, servicing, and maintenance of freight trains.

Since the project was approved, there has been a significant increase in rail demand within the Hunter freight network and a prior modification (MOD 1). The increased demand has resulted in operational constraints for the Proponent's rail fleet. To achieve further efficiencies the Modification Proposal includes the development of a depot, warehouse and wagon storage are to support the ongoing operations of the Hexham LTTSF Project.

Assessment Process and Community Engagement

The Modification Report was publicly exhibited from 20 May 2022 to 3 June 2022 (15 days). Five (5) submissions were received from public authorities during the exhibition period. Two (2) submissions in the form of objections were received from members of the public.

As only two submissions in the nature of objections were received from members of the public or the local council, and a political disclosure statement has not been made, the Minister's determination functions are delegated to the Director, Freight Assessments.

Key Assessment Issues

Traffic

The Department has considered the likely traffic impacts to occur as a result of construction of the warehouse, depot and car park. It is anticipated that a total of 33 inbound and 6 outbound trips in the AM peak hour and 6 inbound and 33 outbound trips in the PM peak hour would occur and is therefore, less than the predicted operational traffic demand. The Proponent has committed to preparing and implementing a comprehensive construction traffic management plan (CTMP) and a construction methodology to inform the CTMP. The Department is satisfied that the CTMP would address any construction traffic impacts associated with construction vehicles and movements.

The Department notes that the modification would generate an additional 59 trips per day, with majority of trips being undertaken during the inbound AM peak periods and outbound PM peak periods. The Proponent's traffic impact assessment indicates that the key intersections being the New England Highway Ramp / Access Road and New England Highway / Anderson Drive would continue to operate at a Level of Service (LoS) A (good operation) during the AM and PM peak periods. The Department is satisfied that the proposed modification would not impact operational traffic and no additional mitigation or management measures are required.

Noise and Vibration

The proposed construction works would be undertaken during standard construction hours from Monday to Friday 7:00 am to 6:00 pm Saturday 8:00 am to 1:00 pm. The Proponent is not seeking approval for specific construction activities to be undertaken outside of standard hours. However, the need to undertake certain activities outside standard hours may arise during construction. For noise generated during construction, specific Noise Management Levels (NML's) have been developed inline with the Interim Construction Noise Guideline (ICNG), and appropriate mitigation measures identified. The Department considers the modelled construction noise to be negligible and can be managed with the proposed mitigation measures.

For noise generated during construction Project Trigger Noise Levels (PNTLs) have been developed in accordance with the Noise Policy for Industry. The predicted noise levels from the Hexham LTTSF Project including the Modification Proposal are predicted to exceed the PTNLs by 2 dBA at residence number 3 and 1 dBA at residence number 4. The Department considers predicted increase at the two residences is considered minor and negligible in impact.

The existing condition for the Proponent to prepare and implement an out-of-hours work protocol for the assessment, management and approval of works outside of standard construction hours remains. The Department is satisfied that the standard and out-of-hours construction periods would be managed appropriately.

Soil and Water Contamination

The Department's assessment has considered the soil and water impacts associated with the construction and operation of the Depot. This includes exposure of Acid Sulfate Soils (ASS) and potential acid forming (PAF) soils, potential presence of contaminated soils including semi-volatile hydrocarbons and asbestos containing material (ACM), erosion of saline soils and soil loss because of exposed soils, and changes to quality of stormwater discharge resulting from changes to the stormwater catchment.

The Department recognises that the Proponent has proposed that the existing Acid Sulfate Soils Management Plan and Site Management Plan (approved as part of the project's Site Audit Report) will be implemented to manage risks associated with exposure of ASS and contaminated soils. The Department is satisfied that the soil and water risks of the proposed works can be effectively managed by best practice mitigation measures, implementation of the management plans and through the existing conditions of approval.

Flooding

The modification would not result in any off-site flood impacts or changes in flood levels at the 1% AEP or lower at the depot, warehouse, or wagon stowage as a result of the proposed modification

The Department's assessment concludes modification would not alter the existing, and approved, flood regimes in the locality and that residual impacts could be effectively managed through the existing conditions. Further, the Department does not consider that the potential groundwater impacts of the proposed modification are greater than those assessed under the original SSI. While increases in the impervious catchment area reporting to Basin

02 will increase peak flows, the Proponent has demonstrated that the basin is designed to accommodate such flows.

The Department is supportive of the Proponent's commitments to update the Operational Surface and Groundwater Management Plan, and to continue groundwater and surface water monitoring and reporting.

Conclusion and Recommendation

The Department has reviewed the Modification Report, public authority submissions, and the Response to Submissions and has assessed the key issues arising from the proposed changes to the approved project. These include traffic, noise and vibration, soil and water contamination, and flooding.

Overall, the potential environmental impacts associated with the modification would be acceptable with the implementation of mitigation measures. On balance, the proposed modification would provide several benefits to the wider rail freight network that outweigh the potential impacts. It is therefore recommended that the modification be approved subject to the recommended conditions.

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1 Introduction

This report provides an assessment of a request to modify the State significant infrastructure (SSI) approval for Hexham Train Support Facility (SSI-6090) (Hexham LTTSF).

The modification request seeks approval for construction and operation of a depot, warehouse, and wagon storage area.

The request was lodged on 8 April 2022 by Aurizon Operations Limited (the Proponent) pursuant to section 5.25 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.1 Background

The Proponent operates the Hexham LTTSF at Maitland Road, Hexham in the Newcastle local government area (LGA). The Hexham LTTSF was built for the provisioning, servicing, and maintenance of freight trains. It is connected to the Main Northern Railway at the northern and southern ends of the facility.



Figure 1 | Site footprint (Source: Modification Report)

The site is located to the west of the Hunter River at Hexham and is bounded by Maitland Road/ New England Highway in the east and the New England Highway in the north. The portion of the site which is subject to the proposed modification was historically used for rail activities and coal storage, preparation, loading and unloading.

Since the project was approved and constructed, Aurizon has operated three train crew depots in the Hunter Valley located in Newcastle/Mayfield, Antiene and Quirindi. Additional administrative and maintenance functions are carried out within the Hexham LTTSF Project Site. The functions of the Newcastle/Mayfield site and the Hexham LTTSF site are intrinsically linked resulting in

personnel and goods travelling to and from each site. The Proponent proposes to construct a premise permitting the co-locating of the operations within the Newcastle/Mayfield and Hexham LTTSF sites to provide staff wellbeing, environmental and economic benefits. Additionally, the Proponent also proposes to construct a wagon storage area on the Hexham LTTSF to allow for seamless movement of wagons on and off operational rail lines via mobile crane.

1.2 Approval History

In December 2007, QR National (now Aurizon) submitted a Major Project Application under Part 3A of the EP&A Act for the project. However, following the repeal of Part 3A on 1 October 2011, the then Minister for Planning and Infrastructure declared to the Hexham LTTSF proposal to be State Significant Infrastructure pursuant to Clause 5(2) of Schedule 6A of the EP&A Act.

On 10 October 2013, project approval was granted by the Executive Director, Development Assessment Systems and Approvals for the Hexham LTTSF under Part 5.1 of the EP&A Act (State Significant Infrastructure).

The project approval permits:

- new connections to the Great Northern Railway
- seven new train tracks parallel to the exiting mainline and a shunt track at the northern part of the facility comprising 10.5 kilometres of new railway track
- a provisional building, a combined maintenance and administrative centre and service vehicle garage
- a bulk fuel storage area
- vehicular intersection and new road from the Tarro Interchange and construction of sealed internal access roads
- civil earthworks and importation of fill material
- utility connections and the protection or diversion of existing utilities
- a wastewater treatment plant with on-site effluent irrigation.

1.3 Project Modifications

Table 1 | Summary of Modifications

Mod No.	Summary of Modifications	Approval Authority	Type	Approval Date
MOD 1	Installation of a turning angle	Minister	5.25	8 October 2019

Modification 1 approved the construction and operation of a new turning angle within the southern part of the Train Support Facility boundary. The turning angle involves approximately 1.5 km of new rail track and associated signal and turnout infrastructure.

2 Proposed Modification

The proposed modification seeks to undertake the following works:

- Site preparation and earthworks
- Construction of the following elements (see figure 2 below):
 - A warehouse for the storage of rail maintenance equipment.
 - A depot for office staff and train crew.
 - Ancillary staff and visitor car park connected to the private roadway (existing main access road).
- Rail wagon storage area located on the western portion of the western portion
- Ancillary infrastructure (hardstand, water management, landscaping, lighting etc)
- Utilities connections



Figure 2 | Proposed building footprint (Source: Modification Report)

2.1 Revised Project Scope

On August 17, 2022, the Proponent submitted to the Department an amendment to the modification. The proposed amendments relate to reducing the scale and complexity of buildings and structures, as well as associated infrastructure (such as the car park) see the revised site layout below in figure 3. The amendments would not result in any increase to the projects impacts already assessed. The main amendments are:

- The depot / office building will be reduced to 500m² with a simplified entry foyer. The height of the building will also be reduced to approximately 4m. Changes to the materials and finishes, although the building will still be finished with a combination of fibre-cement sheeting and Colorbond steel.
- The car parking area will be simplified, rationalised, and the total extent of hardstand reduced, whilst providing for 71 car parking spaces, including 3 accessible spaces, and 5 motorcycle parking spaces.
- No change to the wagon storage area or the size of rainwater tanks, or to the construction approach, or to site access of the operational activities, which remain as described in the original Modification two Report.

The footprint of proposed buildings and hardstand areas has reduced, and so the overall works area would also be reduced. The reduced works area will result in fewer potential impacts from construction in relation to soil and water management, flooding, and heritage.

The Department has no objection to the proposed amendments of the modification as they are minor and do not result in any increase to the projects impacts already assessed.



Figure 3 | Amended Modification depot, warehouse, and parking (Source: Modification Amendment Report)

3 Strategic Context

The Proponent's train operations have grown beyond earlier expectations due to increased demand in the network. This has resulted in the use of several maintenance and administrative premises which generate considerable movements of staff and goods between locations. The proposal would allow for the co-location of facilities reducing staff movements and increasing efficiency in operations.

The Department is satisfied that the proposed modification is consistent with the NSW strategic planning policy framework. The policies and plans which apply to the overall project also apply to the proposed modified works, as follows:

- The proposal is consistent with a key aim of the Hunter Regional Action Plan to unlock the regions productive potential by increase the efficiency of freight train movements.
- The NSW Freight and Ports Strategy highlights the need for expansion of current port infrastructure such as the Kooragang Island coal loading berths to grow the NSW economy. The proposal would continue to tackle the inefficiencies and capacity constraints in the current freight network by removing inefficient train movements on the railway line serving the port.
- the Hunter Regional Plan 2036 includes a direction for the protection of economic functions of employment land and identifies opportunities to grow the “significant employment precincts at the Port of Newcastle, Newcastle Airport, Tomago, Hexham, Rutherford, Singleton, Morisset and Taree”

4 Statutory Context

4.1 Scope of modifications

In accordance with section 5.25 of the EP&A Act, a proponent may request the Minister to modify the approval for State significant infrastructure. The Minister's approval for a modification is not required if the infrastructure as modified will be consistent with the existing approval. Variations in the total number of biodiversity offset credits required is not considered consistent with the existing approval.

Consequently, modification of the Minister's approval under Section 5.25 of the EP&A Act is required.

4.2 Delegated authority

The Minister will be the approval authority under section 5.25 of the EP&A Act unless the Minister has delegated his determination functions to the Department.

4.3 Ministers delegate as determining authority

Under the Instrument of Delegation dated 26 April 2021, the functions and powers of the Minister for Planning and Public Spaces under section 5.25 of the EP&A Act to determine a modification of the Minister's approval may be delegated whereby:

- the relevant local council has not made an objection under the mandatory requirements for community participation
- a political disclosure statement has not been made
- there are less than 15 public submissions in the nature of objections.

The proposed modification meets the terms of this delegation. As such, the Director, Freight Assessments, has the delegated authority to determine the modification request.

5 Engagement

5.1 Department's Engagement

Under Section 5.28(1)(g) of the EP&A Act, the Planning Secretary is required to make requests for modification of approvals determined by the Minister publicly available. The Department determined to publicly exhibit the modification request. The public exhibition period commenced on 20 May 2022 to 3 June 2022 (15 days). The Modification Report was made publicly available on the Department's website and was electronically available at NSW Service Centres and Nature Conservation Council of NSW. The Modification Report was exhibited at the following locations:

- **City of Newcastle Council:** 282 King Street, Newcastle
- **Beresfield Library:** 34 Lawson Avenue, Beresfield and
- **Mayfield Library:** 104 Hanbury Street, Mayfield.

The modification request was referred to the following government agencies for comment:

- City of Newcastle Council
- Environment Protection Authority
- Environment, Energy and Science Group of the Department of Planning and Environment (former NSW Office of Environment and Heritage)
- Department of Planning and Environment Water
- Hunter Local Land Services
- Transport for NSW
- Australian Rail Track Corporation.

The Amendment to Modification was not exhibited as it did not increase the environmental impacts of the proposal as permitted under Division 5, subdivision 57 of the *Environmental Planning and Assessment Regulation 2021*.

5.2 Summary of Submissions

Key Issues Raised in Submissions – Local Council and Community

Two (2) public objections to the project were received. The objections raised concerns regarding flooding, traffic, and noise impacts.

The **City of Newcastle** did not raise any objection in relation to the proposed modification, however requested further information in relation to the ability of the currently installed stormwater system to meet water quality and quantity objectives. Council requested that the proponent address the issue of illegal right turns at Anderson Drive generated by the development. Council also noted that the project is in bushfire prone land and that the project should be developed with a Bushfire Protection Assessment in mind.

Key Issues Raised by State Government Agencies

During the exhibition period, a total of five (5) submissions were received from public authorities. A summary of these submissions is provided below:

DPE Water had no major concerns with the project but did note that the area is within a declared floodplain as gazetted under the *Hunter Valley Flood Mitigation Act 1956* (Area 6 declared 25 May 1966) and the proposed works will require the issue of a section 256(1)(b) consent under this Act.

Transport for New South Wales did not object to the proposed modification, however, did recommend that the Proponent perform further traffic modelling as the original model had not correctly portrayed the current road layout for the access roads and New England Highway off-ramp.

Environment Protection Authority (EPA) raised no concerns in relation to the proposed modification. EPA also advised that licencing by EPA is not required and that the council is the appropriate regulatory authority for any environmental pollution relation matters.

Australian Rail Track Corporation (ARTC) considers that the project will have minimal to no hydraulic or access impact to the freight network. However, ARTC have requested that the Proponent consult with ARTC prior to the commencement of construction.

5.3 Response to Submissions

Following completion of the public exhibition period, the Department directed the Proponent to prepare a response to submissions report. The Proponent's Response to Submissions Report (RtS) was made publicly available on the Department's website on 25 July 2022.

The Department notes that there are no changes to the project resulting from the issues raised in submissions. The Response to Submissions report adequately addressed agency advice.

6 Assessment

The Department has reviewed the Proponent's Modification Report and supporting information and assessed the potential impacts of the proposed modification as set out below. The Department supports the modification request.

6.1 Traffic

Issue

The proposal would introduce new construction traffic to the site

A maximum workforce of 46 laborers and 4 supervisors (50 persons) would be required on site during daylight and standard working hours with no construction proposed on Saturdays and Sundays. It is anticipated that all construction materials will arrive to site from Newcastle Region and therefore will approach to the site via various routes subject to construction traffic management plans to be negotiated with the contractor.

Engineering materials would be delivered using 20m long truck & dog trailer combinations with a nominal capacity of 32 tonnes and the delivery of machinery such as bulldozers, excavators, graders, compactors, scrapers, water carts, loaders would only be delivered once at the commencement of the project and taken away once at the completion of the project. Based on the expected construction cycle, a total of 33 inbound and 6 outbound trips in the AM peak hour and 6 inbound and 33 outbound trips in the PM peak hour are expected.

The proposal requires additional internal access arrangements and car parking

An existing two-way intersection with a left-turn slip lane at the Tarro Interchange / Anderson Drive currently services vehicular access to the wider facility. The proposed crew depot and warehouse maintenance facility would require additional internal access arrangements within the wider facility, in order to service the light and heavy vehicle activity to and from the proposed depot, wagon storage area and warehouse. The proposal includes three separate internal access arrangements for light and heavy vehicles, which are required to reduce conflicting traffic impacts between vehicles entering and exiting the facility. The proposed site access for crew depot and warehouse developments include:

- entry/exit for light vehicles (up to 5.2m long B99 design vehicle) at the northern end of the proposed facility
- entry only for all heavy vehicles (up to 20m long articulated vehicles - AVs) at the southern end of the proposed facility
- exit only for heavy vehicles and entry/exit for light vehicles between the northern and southern access driveway crossovers (middle access).

The Proponent has assessed the minimum car parking requirements in accordance with section 7.03 (Traffic, Parking and Access) of the Newcastle Development Control Plan (DCP). Based on the controls, four car parking spaces are required for the warehouse (support services building) and 51 spaces are required for the crew depot. The proposal would provide 68 car parking spaces, which exceeds the minimum DCP controls requirements. Council's DCP controls require one motorbike parking space must be provided for every 20 car parking spaces in developments undertaking industrial activities. A total of 68 parking spaces are proposed and therefore four motorbike parking spaces must be provided. The proposal indicates that a total of five motorbike parking spaces are proposed under a shelter in the car parking area. Parking spaces for persons with a disability (PWD) are

required as per the categories by the Building Code of Australia (BCA) based on the building classification. The proposed industrial developments are categorised as Class 5 and Class 7b building by the BCA, which requires one (1) PWD space for every 100 car parking spaces. The proposal would provide three accessible parking spaces.

The operation of the proposal would introduce new traffic along the local road network

The Proponent has assessed the existing traffic demands, speed environment and vehicle composition for the road network surrounding the site to determine the impacts from additional movements to and from the proposed facilities. Based on the anticipated office staff and additional train crew visiting the proposed facility, the following additional trips are expected to be generated:

- approximately 51 inbound and 8 outbound trips from/ to the wider network in the AM peak hour
- approximately 51 outbound and 8 inbound trips to/ from the wider network in the PM peak hour.

An operational assessment has been undertaken for New England Highway / Access Road (I1) and New England Highway Off Ramp / Anderson Drive (I2) against the existing environment, future with and without development scenarios considered for 10-year design with the opening year being 2022. The operation of these intersections during the weekday AM and PM peak hour periods has been assessed for all scenarios. The predicted performance levels for the New England Highway / Access Road and New England Highway Off Ramp / Anderson Drive based on the assessment scenarios are presented in Table 2 and Table 3, respectively.

Table 2 Access Road Traffic Performance

Scenario	Thursday AM Peak			Thursday PM Peak		
	Max DOS (%)	Critical Movement Delay (s)	95th %ile Queue (m)	Max DOS (%)	Critical Movement Delay (s)	95th %ile Queue (m)
2021 Background (Existing Conditions)	0.097	7.5 – LOS A	0.2	0.165	9.1 – LOS A	0.2
2022 Background without Development	0.098	7.6 – LOS A	0.2	0.169	9.2 – LOS A	0.2
2022 Background with Development	0.099	7.9 – LOS A	0.4	0.169	9.5 – LOS A	1.9
2032 Background without Development	0.118	8.1 – LOS A	0.2	0.201	10.3 – LOS A	0.3
2032 Background with Development	0.119	8.5 – LOS A	0.4	0.201	10.8 – LOS A	2.1

Table 3 New England Highway / Access Road Traffic Performance

Scenario	Thursday AM Peak			Thursday PM Peak		
	Max DOS (%)	Critical Movement Delay (s)	95th %ile Queue (m)	Max DOS (%)	Critical Movement Delay (s)	95th %ile Queue (m)
2021 Background (Existing Conditions)	0.098	9.6 – LOS A	1.2	0.168	11.3 – LOS A	3.2
2022 Background without Development	0.101	9.6 – LOS A	1.2	0.171	11.4 – LOS A	3.1
2022 Background with Development	0.102	9.8 – LOS A	1.8	0.182	11.6 – LOS A	3.2
2032 Background without Development	0.120	10.2 – LOS A	1.5	0.205	12.7 – LOS A	4.0
2032 Background with Development	0.122	10.4 – LOS A	2.2	0.216	13.0 – LOS A	4.1

Submissions

Community and interest groups

Concerns have been raised regarding cumulative traffic impacts from the proposal and the future M1 to Raymond Terrace extension. Community members are concerned that the proposal would increase traffic in the local area and cause congestion at the Tarro Interchange, which would increase environmental impacts such as noise, air pollution and visual disturbance.

Council

In its submission, **Council** provided an overview of illegal right-turn movements detected in surveys and raised concern that an increase in traffic as a result of the proposal would increase illegal right-turn movements. Council is concerned that return trips to Newcastle would detour approximately 2km westbound on New England Highway to make a U-turn at a designated bay just northwest of John Renshaw Drive.

Agency Advice

Transport for NSW (TfNSW) requested that the traffic impact assessment be revised as the identified vehicle movements are inconsistent with the current road layout, particularly at the New England Highway off-ramp and access road and proposed swept turning paths for 20m AVs. TfNSW also advised that further consultation is required on anticipated construction timing and likely impacts to the M1 to Raymond Terrace project.

Consideration

Construction and operational traffic to the site is minimal and would be negligible in impact

The Department has considered the likely traffic impacts to occur as a result of construction of the warehouse, depot and car park. It is anticipated that a total of 33 inbound and 6 outbound trips in the AM peak hour and 6 inbound and 33 outbound trips in the PM peak hour would occur and is therefore, less than the predicted operational traffic demand. The Proponent has committed to preparing and implementing a comprehensive construction traffic management plan (CTMP) and a construction methodology to inform the CTMP. The Department is satisfied that the CTMP would address any construction traffic impacts associated with construction vehicles and movements.

The Department notes that the modification would generate an additional 59 trips per day, with majority of trips being undertaken during the inbound AM peak periods and outbound PM peak periods. The Proponent's traffic impact assessment indicates that the key intersections being the New England Highway Ramp / Access Road and New England Highway / Anderson Drive would continue to operate at a Level of Service (LoS) A (good operation) during the AM and PM peak periods. The Department is satisfied that the proposed modification would not impact operational traffic and no additional mitigation or management measures are required.

The re-assignment of traffic would reduce illegal turn movements as a result of the modification

The Proponent has considered the concerns raised by TfNSW regarding existing and forecast illegal turn movements to access the site from Anderson Drive / Access Road and Anderson Drive New / England Highway Offramp at Tarro Interchange. In its response to submissions report, the Proponent has committed to re-assign existing illegal right turn movements to the road network. The proposed re-assignment include those movement which currently turn right from the eastbound off ramp at the Tarro interchange to instead turn left from New England Highway on to Quarter Sessions Road, then right on to Anderson Drive before turning left into the site access road. It is also proposed that the movement which currently turning right from the site access road would instead turn left and perform a u-turn at the u-turn facility on the New England Highway (located opposite Carr Place), before turning left on to Quarter Sessions Road. These re-assignments and proposed changes are based on the trip distributions assumptions adopted for the proposed modification, based on postcode data for the existing Aurizon workforce.

The Department is satisfied that the updated traffic movements provided in the response to submissions report have addressed the concerns raised and with the redirection of these illegal turns, not result in an increased level of service at the identified intersections.

6.2 Noise and Vibration

Issue

Construction activities would primarily be undertaken during standard daytime hours

Construction activities are likely to involve conventional construction equipment such as earth moving equipment, concreting equipment, piling plant, demolition equipment and cranes. The proposed construction works would be undertaken during standard construction hours from Monday to Friday 7:00 am to 6:00 pm Saturday 8:00 am to 1:00 pm. The Proponent is not seeking approval for specific construction activities to be undertaken outside of standard hours. However, there may be the need to undertake certain activities outside standard hours such as oversize deliveries. Should this be required, an outside standard construction hours protocol is proposed as allowed by condition E19.

Potential noise and vibration impacts during construction and operation have been assessed

The Proponent has assessed construction noise and vibration impacts against the Interim Construction Noise Guidelines (ICNG), which sets out ways to assess and manage the impacts of construction noise on residences and other sensitive land uses. The EIS noise impact assessment levels have been used to determine the criteria for the proposed modification. The NSW Noise Policy for Industry (NPfI) provides guidance for the assessment of sleep disturbance. It describes the rating background noise level (RBL) policy which differentiates between noise impacts during the day, evening and night. The criteria for sleep disturbance have also been developed in accordance with the ICNG, which provides an approach for determining Noise Management Levels (NMLs). Specific NMLs are required to be established for noise affected receivers to determine where there may be some community reaction to noise.

Project Trigger Noise Levels (PNTLs) have been developed in accordance with the Noise Policy for Industry and have considered seven nearby sensitive residences, a place of worship, an educational premises and the Hexham Swamp Nature Reserve during day, evening and night. Sound power levels of significant plant and equipment proposed to be used during operation and the potential sleep disturbance from their use has been assessed. The predicted noise levels from the Hexham LTTSF Project including the Modification Proposal are predicted to exceed the PTNLs by 2 dBA at residence number 3 and 1 dBA at residence number 4.

Submissions

Community and interest groups

Submissions from the community raised concerns regarding potential for impact of noise from construction vehicles (and construction activities in general) on the neighbouring property.

Consideration

An out-of-hours works protocol would permit some activities to be undertaken outside standard hours

The proposed earthworks, pouring concrete and structure works, building envelope and carpark works would be below the highly noise affected noise management level of 75dBA defined in the Interim Construction Noise Guidelines. The Department requested further clarification on whether any construction activities would be undertaken outside standard hours. In its response to submissions report, the Proponent clarified that there is the potential for works to be undertaken outside of standard construction hours. The Proponent has indicated that assessment would be undertaken, and approval to undertake work outside of normal construction hours would be sought from the relevant authorities, which would be undertaken in consultation with relevant authorities. Out-of-hours works were approved in the Hexham Long Term Train Support Facility approved project (the Project) subject to condition E19 requiring an outside standard construction hours protocol to be prepared. The existing condition for the Proponent to prepare and implement an out-of-hours work protocol for the assessment, management, and approval of works outside of standard construction hours remains. The Department is satisfied that the standard and out-of-hours construction periods would be managed appropriately.

Noise impacts during operation would be below the relevant criteria

The predicted operational noise level from the proposed modification and the cumulative noise levels of the existing Hexham LTTSF and operation of the modification proposal indicate that the noise levels are generally below the project trigger noise levels. However, the Department notes that the predicted noise levels from the Hexham LTTSF Project including the Modification

Proposals are predicted to exceed the PTNLs by 2 dBA at residence number 3 and 1 dBA at residence number 4. The Department notes that project noise trigger level is the level used to assess noise impacts and drive the process of assessing all feasible and reasonable control measures and that the predicted exceedance of the PTNLs is driven by existing Hexham LTTSF Project operations. As such, the Department considers predicted increase at the two residences is considered minor and negligible in impact.

6.3 Soil and Water Contamination

The Department has considered the potential soil and water quality impacts relating to the proposed modification. The Department notes that the Proponent proposes to update the Construction Soil and Water Quality Management Plan to include the modifications additions. In addition, the existing Acid Sulfate Soils Management Plan and Site Management Plan will be implemented to manage risks associated with exposure of ASS and contaminated soils. The Department is satisfied that the soil and water risks of the proposed works can be effectively managed by best practice mitigation measures, implementation of the management plans and through the existing conditions of approval.

Issue

The site was formerly used as a coal handling facility and contains some Acid Sulfate Soils (ASS) and potential acid forming soils (PAF)

The modification proposes excavation of approximately 1,170 m³ of soil, 950 m³ will be used as fill, leaving 210 m³ as excess. The site was formerly used as a coal handling facility and contains some Acid Sulfate Soils (ASS) and potential acid forming soils (PAF). Therefore, soil and water impacts are likely to be a potential impact of the modification. The Proponent undertook a desktop review of on-site bore sampling results from GHD's 2021 site investigations (Modification 2 Report – Appendix J Soil and Water Assessment) along with reviewing older soil assessments. The key soil impacts associated with the proposed modification relate to the construction phase of the project primarily due to earthwork activities.

The proposed modification is not likely to impact on soil during operation as there would be little soil disturbance.

The key soil and water quality impacts during the construction phase relate to:

- exposure of ASS and PAF soils
- potential presence of contaminated soils including semi-volatile hydrocarbons and asbestos containing material (ACM)
- erosion of saline soils and soil loss because of exposed soils
- changes to quality of stormwater discharge resulting from changes to the stormwater catchment.

The review identified ASS and PAF soils at the site. PAF soils have been identified within existing fill material. It is likely that PAF, and the underlying ASS, may be exposed to oxygen during excavation.

The existing project has an Acid Sulfate Soils Management Plan (ASSMP) that is appropriate for continued management and use

As part of the original SSI, an Acid Sulfate Soils Management Plan (ASSMP) was prepared to mitigate impacts associated with ASS soils. While soils were progressively neutralised with agricultural lime during construction of Hexham LTTSF, it is likely that further PAF or ASS will be exposed during construction of the proposed modification. The overall risk of contamination being encountered that would require remediation during works that disturb the ground surface or by future site users is considered low. Investigations at the site have also identified semi-volatile hydrocarbons present soil samples. While ACM has previously been identified within the broader Hexham LTTSF site, the Proponent's assessment indicates that the potential for ACM is low as it was not identified in the 2021 soil sample assessments. The Proponent prepared a Remediation Action Plan (RAP) as part of the original SSI to remediate areas of historical contamination. The site of the proposed modification was included within the remediation area and the Proponent has obtained a Site Audit Statement in accordance with Condition E33 of the approval. The approved Site Audit Statement is conditional upon the Proponent's ongoing compliance with the Site Management Plan (SMP) prepared to manage retained contaminated material and unexpected finds from further ground disturbance on the site, such as that

proposed for the current modification. The Proponent has indicated that the SMP will be implemented as part of the proposed modification if further remediation is required.

Localised areas of saline soils may occur across the site

The Proponent's assessment indicates that localised areas of saline soils may occur across the site. Exposure of saline sub-soils during construction will be managed through mitigation measures to minimise the mobilisation of saline soils, in accordance with the previously developed Construction Soil and Water Quality Management Plan. It is also noted that a diversion bund will be built along the western edge of the warehouse to divert waters from the adjacent swamp lands.

Condition E33 of the infrastructure approval requires the Proponent to prepare a Validation Report and Site Audit Report to confirm that the site has been remediated in accordance with Remediation Action Plan. Condition E31 requires that any unexpected, contaminated materials found during construction must be dealt with in accordance with the Remediation Action Plan and an updated Site Audit Report and Validation Report provided to the Department.

Submissions

Community and interest groups

The City of Newcastle's submission reminded the proponent to ensure that the sites water management systems would be able to manage the sites water quality and quantities adequately within management objects but did not provide specific comments regarding soil or water contamination.

Consideration

It is likely that further PAF or ASS will be exposed during construction of the proposed modification. As part of the original SSI, the Proponent prepared and implemented an ASSMP and CSWQMP and has committed to implementing these during construction. The Proponent has also committed to updating the CSWQMP to incorporate the additional works. The Department considers that these management plans and the existing conditions of approval will effectively manage potential impacts associated with acid sulfate soils and soil erosion during construction, subject to being updated to include the proposed modification.

The Site Audit Report confirmed that the site is considered appropriate for the commercial/industrial land use

The Department notes that previous site investigations have identified contaminated material at the site and that the site has had a long history of contamination. The Department notes that the Proponent has previously submitted a Validation Report (VR) and Site Audit Report (SAR) to validate the site as appropriate for the intended use, in accordance with condition E33 of the infrastructure approval. The SAR confirmed that the site is considered appropriate for the commercial/industrial land use, subject to the implementation of the approved Site Management Plan.

The existing Site Management Plan would adequately manage any unexpected contamination finds

The assessment report identified a low likelihood of contamination remediation would be required. the Department considers that the existing Site Management Plan would adequately manage any unexpected contamination finds.

Erosion of any saline soils during construction would be managed through appropriate erosion and sediment controls to minimise the mobilisation of saline soils. The Department considers that there is a low risk of increasing soil salinity as the modification would not result in removal of deep-rooted vegetation or increase groundwater inputs.

6.4 Hydrology

The Department accepts the Proponent's conclusion that although the proposed modification is in a floodplain it is not likely to significantly affect hydrology. Minor impacts would be localised, and effectively managed through existing management plans which will be updated where required.

Issue

The proposed modification has the potential to impact on floodwater behaviour in the Hunter River Catchment

The site is located within the Hunter River catchment and is part of the broader Hexham Swamp floodplain. The proposed modification has the potential to impact on hydrology due the construction of the depot warehouse and carpark. The key hydrology impacts relating to the proposed modification include:

- slightly stormwater higher peak flows from the outlet of Basin 02 into Hexham Swamp
- the potential to alter flooding impacts.

The proposed modification has the potential to impact on floodwater behaviour in the Hunter River Catchment, due to the construction of the depot warehouse and carpark which will alter waterflows.

The Modification Assessments Report's Appendix F flood impact mapping (level and velocity impacts) compares the proposed development against the current base case. The results from the inclusion of the proposed development at the site was no off-site flood impacts would result from the modification.

The proposed development remains flood free during events up to and including the 1% AEP event, resulting in no flood impacts for these events. For the 1% AEP event with climate change the northern entry of the carpark is inundated, as seen by the incursion of floodwater into the Site shown above in Figure 4 The depot, warehouse and wagon stowage area are flood free during this event.

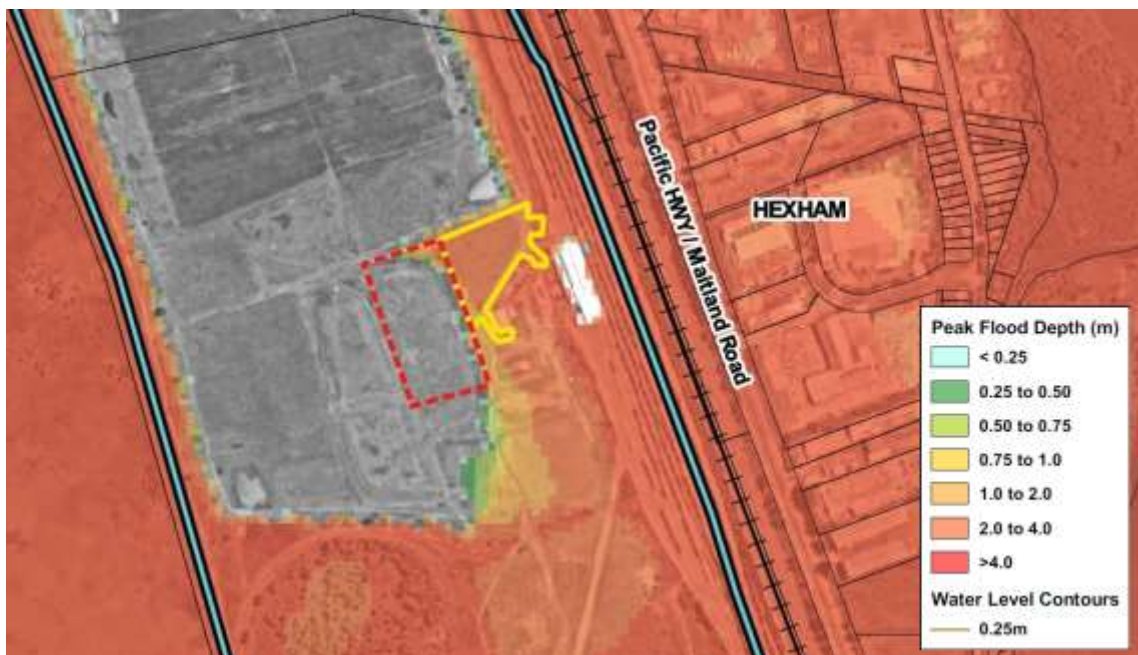


Figure 4 | Flood impacts at areas 1 and 2 during 1% AEP (Source: Modification Report)

Flooding

The Department notes that the assessment of the modification showed limited impacts on flood flow paths including in 1% AEP events.

Modelling indicates that the peak flow for the 1% AEP design flood remains within the hydraulic capacity of the existing Basin

The modelling showed the Modification Proposal is expected to result in slightly higher peak flows from the outlet of Basin 02 in Hexham Swamp compared to the baseline conditions, due to the increased impervious catchment proposed to report to Basin 02. The Modification Proposal caused an increase in peak flows up to 14.5% for the very frequent 3EY design frequency and 1.1% for the 1% AEP design frequency compared to the baseline. The results of the modelling indicate that the peak flow for the 1% AEP design flood remains within the hydraulic capacity of the existing Basin 02, and therefore the existing stormwater management system is expected to provide a similar level of treatment under proposed and existing conditions for the 1% AEP stormwater event. Overall, the impacts of the Modification Proposal on stormwater quantity are comparable to the impacts of the baseline condition and are considered minor.

Changes to floodwater behaviour are minimal and would not cause a significant change to the existing, and approved, flood regimes in the locality

The Department is satisfied that the changes to floodwater behaviour would not cause a significant change to the existing, and approved, flood regimes in the locality. The Department acknowledges that the existing infrastructure approval includes several conditions to minimise the flood risk of the approved project. These conditions include:

- limiting the flood impacts on adjacent lands to levels predicted in the flood assessment and provision for additional mitigation where predictions are exceeded
- comparison of actual flood characteristics at the 1%, 2%, 5% and 10% AEP levels as they occur, against those predicted by the flood assessment model
- preparation of a Flood Emergency Management Plan including procedures for managing flood risks during construction and operation, including flood recovery measures.

The Department is satisfied that the above conditions would limit the potential for adverse flood impacts associated with the proposed modification. Therefore, no additional conditions of approval are recommended.

The Assessment found the proposed works would generate similar outcomes to the flooding assessment undertaken for the Turning Angle modification (Modification 1) and would not result in any off-site flood impacts. It also found there were no changes in flood levels at the 1% AEP or lower at the depot and warehouse, and the wagon stowage area remains generally flood free across all events.

Submissions

Council

The City of Newcastle commented that the Newcastle Development Control Plan (NDCP) Stormwater and Water Efficiency for Development' Technical Manual (SWEDTM) requires that peak post-development stormwater discharge for a given site is not greater than pre-development (natural) conditions for all major storm events up to the 1% AEP. The Council requested that further modelling and conclusions be provided in the Response to Submissions. The Response to Submissions report confirmed the peak flow for the 1% AEP design flood remains within the hydraulic capacity of the existing Basin 02, and therefore the existing stormwater management system is expected to provide a similar level of treatment under the proposed and existing condition.

6.5 Other Issues

Issue	Consideration
Biodiversity	<p>The Department is satisfied the modification is unlikely to result in a significant biodiversity impact.</p> <p>No significant biodiversity has been identified for the Site on the Biodiversity Values Map or the Native Vegetation Regulatory. A Biodiversity Development Assessment Report (BDAR) Waiver Request Assessment Report has been prepared in accordance with section 7.9(2) of the Biodiversity Conservation Act.</p> <p>The site is not located within any environmentally sensitive areas as listed within the Protected and Sensitive Lands SEARs at Appendix A and therefore further mitigation is not required.</p> <p>The Department also notes that a Biodiversity Development Assessment Report (BDAR) is not required for the modification as it is not expected to cause a significant biodiversity impact.</p> <p>The Department is satisfied that implementation of the existing approval's flora and fauna and soil and water management plans would sufficiently mitigate the risk of any direct or indirect ecological impacts and recommends that these plans are applied to the modification works.</p>
Aboriginal Heritage	<p>The Department does not anticipate that the proposal will impact on any Aboriginal objects or places of significance. The nearest Aboriginal sites, objects or places contained in the</p>

Aboriginal Heritage Information Management System (AHIMS) are approximately 1.7 kilometres to the north.

An Aboriginal Due Diligence Report has been completed by Jacobs and is provided at Appendix H.

No Aboriginal sites, objects or places were registered on the Aboriginal Heritage Information Management System (AHIMS) within the site.

The Department agrees with the Proponent's assessment that there is a low probability of any remnant Aboriginal objects or sites remaining in the project are due to this historic disturbance.

The Department is satisfied that the proposal is unlikely to cause significant impacts to any Aboriginal objects or places and recommends relevant unexpected finds provisions of the existing approval's heritage management plan are applied to the proposal.

Non-
Aboriginal
Heritage

The Department does not anticipate that the proposal will impact on any listed local or State heritage items. There are no sites of local, State or National non-Aboriginal heritage significance impacted by the proposal or within the project area.

The Proponent's archaeologist conducted a site visit in December 2021. No previously recorded heritage objects are located with the site, no heritage items, built heritage or areas of archaeological potential were identified during the site visit.

The Department agrees with the Proponent's proposed mitigation measures established under the previous MOD 1 that any unexpected non-Aboriginal heritage items found during excavation works must be managed in accordance with guidelines and standards prepared by OEH and has recommended relevant unexpected finds provisions of the existing approval's heritage management plan are applied to the proposal.

Onsite
Wastewater
System

The need to modify the existing effluent irrigation area at the site was raised in a submission from the City of Newcastle. Council noted that the assessment did not clearly outline how the effluent area will be modified. The proponents Response to submission clarified that the onsite water system will not require modification and will still be suitable.

The Department is satisfied that the proposed modification does not requiring modifying the onsite water system.

Bushfire

Council asked for further detail regarding the modifications Bush Fire impacts as it is within the Newcastle Bush Fire Prone Land Map (2018). The proponents Response to Submission

report clarified the Modification Proposal is to be fully compliant with fire-resisting construction requirements and satisfies the objectives of relevant Australian Standards, the Newcastle Council Development Control Plan Section 4.02 Bush Fire Protection, and the Planning for Bushfire Protection 2019 Technical Manual (NSW Rural Fire Service, 2019).

The Department is satisfied that the modification would not result in a changed bushfire hazard to the approved development.

Visual Impact	The modification is predicted to have only negligible to minor visual impacts. The visual environment for the subject site and surrounding area is characterised by open, flat rural land with transport infrastructure and light industry to the east.
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Although the site location is relatively close to the urban edge of Hexham, views of the site are typically not visible from major roads and most surrounding urban and rural areas. This is due to vegetation and the Great Northern Railway Corridor that screens the site from major viewpoints. Visibility from the local roads and streets close to the site is generally low due to the flat nature of the land and surrounding screening vegetation. However, from viewpoints along the limited number of roads and residential dwellings adjoining the site visibility is higher.

The Department considers that these negligible to minor visual impacts are acceptable.

The Department recommends that where possible vegetation that acts as visual screening is retained during construction and operation of the modification as required by the existing condition E1.

Conditions of approval	The proposed modification requires only minor modifications to the conditions of approval to list reference documents.
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The Department recommends that applicable environmental management plans and construction requirements are revised to include the new works proposed by the modification and are applied to the new works. The Department considers that the updates to the management plans would be minor and therefore within the scope of works that the Environmental Representative may approve.

Appendix G of this document provides a schedule of updates to the project's conditions and reasons for their modification or non-application to the modification.

7 Evaluation

The Department has reviewed the Modification Report and other supporting information and evaluated the merits of the modification. The Department considers the modification should be approved, subject to conditions. The key reasons are as follows.

- 1 The modification request complies with relevant statutory provisions and remains consistent with the EP&A Act (refer to Section 3), and;
- 2 The modification would not result in adverse impacts on the environment beyond those assessed in the project approval.

The Department concludes that the proposed modification is acceptable.

8 Recommendation

It is recommended that the Director, Freight Assessments and Management, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report
- **determines** that the application Hexham Train Support Facility (SSI-6090 MOD 2) falls within the scope of section 5.25 of the EP&A Act
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to approve the modification
- **modify** the approval SSI 6090
- **signs** the attached Notice of Modification (**Appendix C**).

A handwritten signature in black ink, appearing to read 'J Athas', is positioned above the printed name.

Jessica Athas

Team Leader

Freight Assessments

9 Determination

The recommendation is **Adopted** by:

A handwritten signature in black ink, appearing to read 'LSE', is positioned above the printed name of the signatory.

Lloyd Eley-Smith

Acting Director

Freight Assessments and Management

as delegate of the Minister for Planning

Appendices

Appendices should follow this general layout but may be modified to suit your specific assessment needs where necessary:

Appendix A – List of Documents

Aurizon Operations Limited, *State Significant Infrastructure 6090 - Modification: Statement of Environmental Affects Report*

Aurizon Operations Limited, State Significant Infrastructure 6090 - Modification: Response to Submissions

Appendix B – Modification Report

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>

Appendix C – Additional Information

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>

Appendix D – Submissions

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>

Appendix E – Submissions Report

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>

Appendix F – Consolidated Approval

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>

Appendix G – Notice of Modification

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>

Appendix H – Modification Amendment

<https://pp.planningportal.nsw.gov.au/major-projects/projects/hexham-train-facility-mod-2-depot-relocation-and-wagon-stowage>