

ASSESSMENT REPORT

Section 75W Modification Southern Highlands Regional Shooting Complex (MP 06_0232 MOD 5)

1. INTRODUCTION

This report assesses a modification request by the NSW Office of Sport (the Proponent) to reduce noise propagation, modify noise monitoring requirements and improve lead management and site remediation practices at the Southern Highlands Regional Shooting Complex at Hill Top. The request has been lodged pursuant to section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

2. BACKGROUND

The Proponent operates a shooting complex at 430 Wattle Ridge Road, Hill Top in the Wingecarribee local government area (see **Figure 1**). The complex is located on the southern side of Wattle Ridge Road, approximately five kilometres (km) north-west of the settlement of Hill Top.

The complex currently operates an 800 metre (m) multi-purpose shooting range which has been in operation since 1987. This range offers a number of firing positions from 20 m to 800 m for a variety of shooting disciplines and activities. The range currently only operates on weekends, however, the existing approval allows the range to operate up to four days per week (including weekends).

The complex was established to provide a home-base for recreational and target shooters in the Illawarra and Southern Highlands area and to consolidate several shooting clubs into one location.

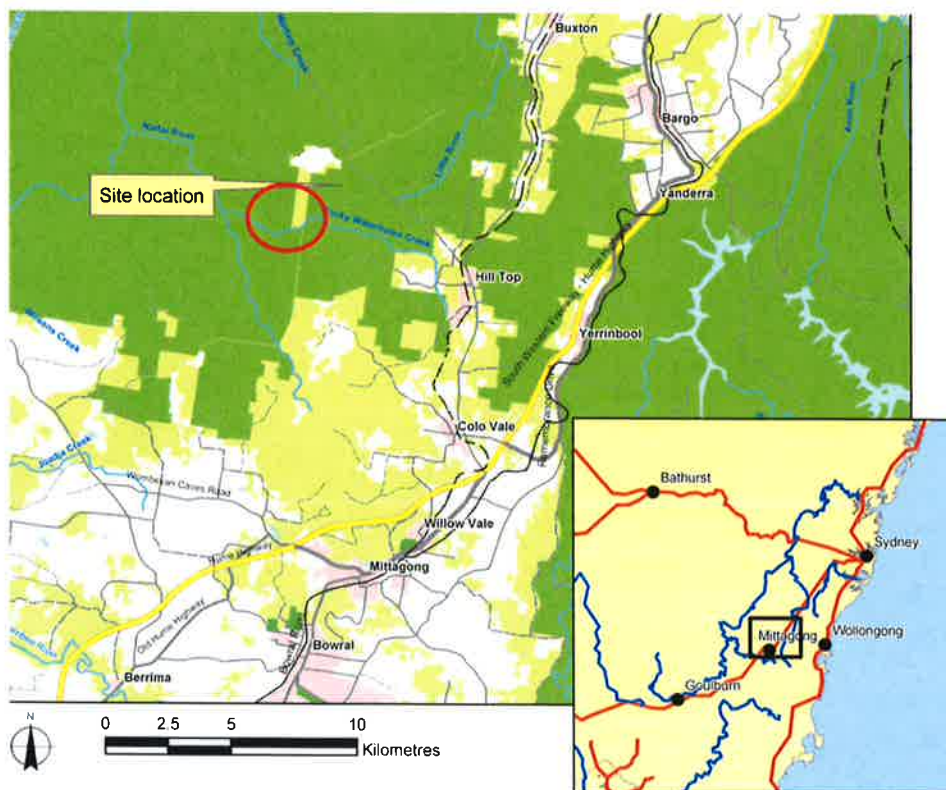


Figure 1: Site Location

The Bargo State Conservation Area surrounds the northern, eastern and southern boundaries of the site. The Nattai National Park adjoins the western boundary, which forms part of the greater Blue Mountains World Heritage Area. The Wattle Ridge pastoral property adjoins the north-western corner of the site, and a cleared TransGrid electricity easement runs along the eastern boundary. Residential dwellings in Hill Top are located approximately three km east and south-east of the existing range (**Figure 2**). The closest residential receiver is located at the Wattle Ridge pastoral property, approximately one km to the north-west of the site.

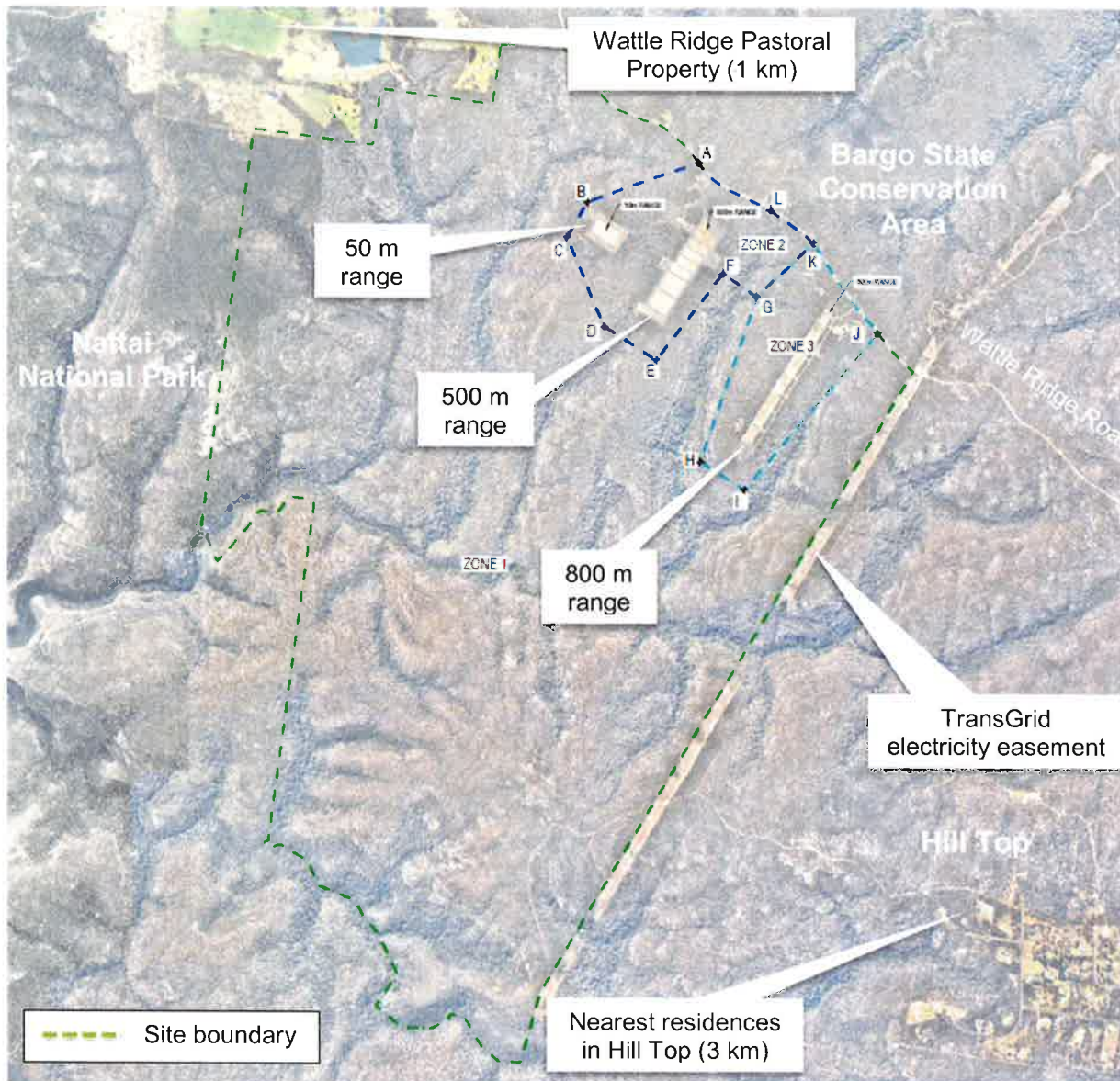


Figure 2: Site Context

The 1,036 hectare (ha) site is zoned SP1 – Special Activities (136 ha) and E2 – Environmental Conservation (900 ha) under *State Environmental Planning Policy (State Significant Precincts) 2005*. Access to the site is via an unsealed section of Wattle Ridge Road, which is a local Council-owned road. The site is located within the Sydney Drinking Water Catchment as defined by *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011* (the Sydney Drinking Water SEPP). Rocky Waterholes Creek runs across the site, south of the proposed facilities. This creek drains to the Nattai River into Lake Burragarang, which feeds into Warragamba dam.

Work has commenced on construction of a new 500 m multi-purpose range and a new 50 m multi-purpose range to the west of the existing 800 m range under a project approval granted by the then Minister for Planning in 2010 (MP 06_0232, as modified), under the provisions of the former Part 3A of the EP&A Act.

The Proponent is now seeking physical modifications to the partially constructed 500 m and 50 m ranges to reduce noise propagation, improve lead management and improve site remediation design and maintenance methods to align more closely with international industry best practice. Modifications are also proposed to the environmental noise monitoring requirements and firearm noise limits to ensure consistency with the Environment Protection Authority's (EPA) recently released guideline *Target Shooting Ranges: Application Note for Assessing Noise Compliance (2015)*.

3. APPROVAL HISTORY

The existing rifle range, consisting of an 800 m range, small clubhouse, amenities buildings and unsealed access roads, was approved by Wingecarribee Shire Council (Council) on 26 September 1986 (Development Consent 6100-4-407/86).

On 1 March 2010, project approval was granted by the then Minister for Planning for the construction and operation of a regional shooting complex (MP 06_0232) under the provisions of the former Part 3A of the EP&A Act. The approval permits the following works to be constructed in two stages, as follows:

Stage 1:

- retention of the existing 800 m rifle range, clubhouse, amenities block and access roads;
- an additional 500 m rifle range (500 m x 100 m);
- a new 50 m pistol range (50 m x 140 m); and
- new supporting facilities and infrastructure, including toilet facilities, access roads, diesel generator, solar panels, water supply tanks and septic system, sealed parking areas and detention basins for water quality control and fire-fighting purposes.

Stage 2:

- new clubhouse;
- a new 200 m combined range for pistol and rifle shooting (200 m x 85 m);
- a new shotgun range; and
- a new indoor range.

As noted above, works have commenced on the new 50 m and 500 m ranges, including the new supporting facilities and infrastructure. Construction is currently on hold pending the determination of this modification request.

Since the project approval was granted in 2010, the approval has been modified three times. The modifications approved the re-location of the new 500 m and 200 m ranges approximately 100 m further north towards Wattle Ridge Road (away from Rocky Waterholes Creek), resolved minor administrative errors and approved the addition of two new sign-in booths. The most recent request to modify, which included modified conditions relating to firearm noise limits and noise monitoring and deletion of a requirement for acoustic shelters (MP 06_0232 MOD 4) was refused by the independent Planning Assessment Commission (the Commission) on 7 May 2012 (see **Section 3.1** below for further details). The current approved site layout is shown in **Figure 3**, below.

Up until October 2016, a voluntary Range Management Committee was responsible for the operational management of the complex with Council as the Appropriate Regulatory Authority (ARA) for the complex. As the NSW Office of Sport assumed operational management responsibility for the complex in October 2016, the Environment Protection Authority (EPA) is now the ARA for the facility. The complex does not, however, require an Environment Protection Licence under the *Protection of the Environment Operations Act 1997* (POEO Act).

3.1 Refusal of MP 06_0232 MOD 4

MOD 4 to the project approval (MP 06_0232 MOD 4) sought to increase the approved noise limits to bring the 800 m range into compliance with the conditions of approval, modify requirements for the measurement and assessment of noise impacts and noise compliance testing and to delete the requirement for an acoustic shelter at the 800 m range. Despite the Department's recommendation to approve the modification, the Commission determined the proposed changes would most likely result in an unquantified increase in noise impacts at residential premises and the increase had not been adequately assessed. The Commission also considered the Proponent had not undertaken a thorough assessment of mitigation options to bring the 800 m range into compliance. The deletion of the acoustic shelter was considered premature in the absence of a comprehensive assessment of mitigation options for the 800 m range. As such, the Commission refused the modification request.

Following the Commission's refusal of the modification in 2012, the Proponent sought development consent from Council to undertake noise mitigation measures at the existing 800 m range to bring the range into compliance

with the existing conditions of approval. Development consent was granted by Council in 2013 for the construction of acoustic attenuation structures at the 800 m range. These works were completed in May 2014.

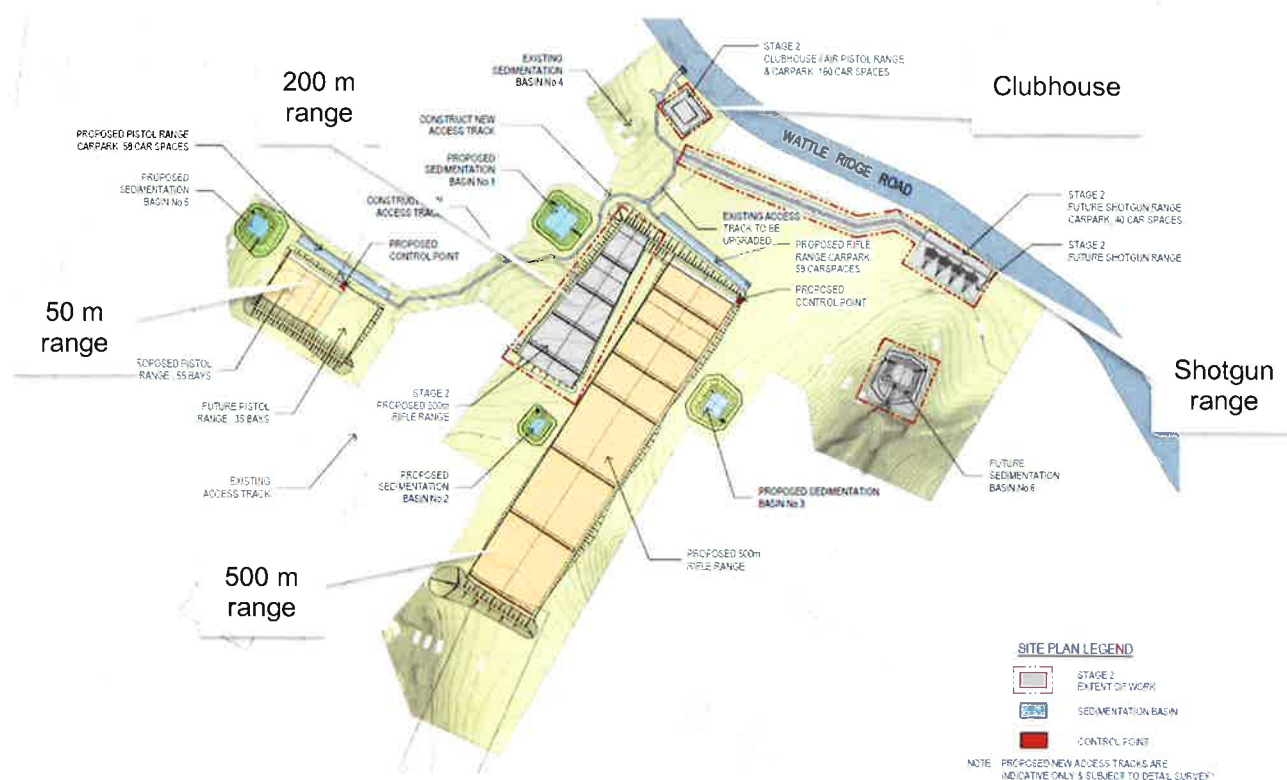


Figure 3: Approved site layout

3.2 EPA Application Note for Assessing Noise Compliance

Following the refusal of MOD 4, the EPA acknowledged the need for a government policy for the assessment of noise compliance at shooting ranges. In 2015, the EPA subsequently released a policy document entitled, *Target Shooting Ranges: Application Note for Assessing Noise Compliance* (EPA, 2015) (the Application Note). The Application Note makes the assessment of compliance with noise limits for shooting ranges more transparent and consistent and improves certainty for the community, regulators and range operators. It does not introduce new policy or change noise limits for existing or future ranges, rather it consolidates, explains and clarifies the EPA's current guidance, including Chapter 164 – Noise Control Guideline Target Shooting Ranges' of the *Environmental Noise Control Manual* (ENCM) (EPA, 1985) and a supporting internal EPA technical memo prepared in 1993.

Table A1 of the Application Note sets out the recommended maximum number of days and nights of range usage corresponding to a shooting noise level measured at the worst affected location. The table gives guidance to range operators as to the firearm noise limit for both existing ranges and future (proposed) range usage (see Figure 4). In general terms, the lower the shooting noise level at the closest residences, the more days and nights the shooting range can operate. The Proponent considers the Application Note now provides an impetus and basis for the lodgement of the current modification request.

Table A1: Recommended number of days and nights of range usage corresponding to shooting noise level.

	Residential level (linear peak hold, decibels)										
	80	85	70	75	80	85	90	95	100	105	over 105
Maximum usage days (nights) per week											
Existing range daytime use	7	7	7	7	7	7	5	4	3	2	1
Existing range night-time use	3	3	2	2	2	1	–	–	–	–	–
Future range daytime use	7	5	5	4	3	2	1	–	–	–	–
Future range night-time use	3	2	1	–	–	–	–	–	–	–	–

Figure 4: Table A1 from the Application Note

4. PROPOSED MODIFICATION

The Proponent has lodged a modification request under section 75W of the EP&A Act to modify the project approval for the shooting complex. The modification is described in full in the Proponent's section 75W modification report included in **Appendix B** and is illustrated in **Figure 5** and **Figure 6**. The modification request seeks approval for the following changes to the existing project approval:

- physical changes to the design of the 500 m and 50 m shooting ranges and subsequent modifications to the approved plans;
- amendments to conditions of approval regarding the use of the existing 800 m range, hours of use, firearm noise limits, special events, independent auditing and reporting, the Operational and Environmental Management Plan and soil, water and contamination management;
- a revised *Soil and Water Management Plan* and *Water Cycle Management Plan*; and
- a revised Statement of Commitments.

The proposed modifications are described in more detail in **Section 4.1** to **Section 4.6** below.

4.1 Modifications to the 500 m and 50 m ranges

A suite of modifications are proposed to the 500 m and 50 m ranges as follows:

- a revised approach to lead management, site remediation and maintenance methods to align with best practice methods as set out in the United States Environmental Protection Agency's *Best Practices for Lead at Outdoor Shooting Ranges*;
- physical modifications to lower firearm noise propagation at the 500 m range, including:
 - a reduction in height of the firing line at the 500 m range by 2.84 m;
 - provision of a new noise shelter over the firing lines; and
 - provision of a noise mound along the eastern edge of the range up to 3.6 m in height;
- physical modifications to lower firearm noise propagation at the 50 m range, including:
 - a colorbond steel roof over the approved structure of the firing line; and
 - reshaping of the existing earth stockpile along the eastern edge of the range up to 4.15 m in height;
- ancillary modifications to the 500 m range, including:
 - relocation of the control room, the Ecomax wastewater treatment system and septic tank;
 - attachment of solar panels to the acoustic shelter roof;
 - a new workshop, solar room and spectator area;
 - an additional 16 car parking spaces;
 - reducing the grade of the range to a more gentle slope; and
 - increasing the angle of the stop butt¹ to a steeper slope (see **Figure 5**);
- ancillary modifications to the 50 m range, including:
 - relocation of the control room and septic tank;
 - attachment of solar panels to the acoustic shelter roof;
 - a new Ecomax wastewater treatment system, spectator area, fire hydrant and concrete pad;
 - re-grading of the car park;
 - reducing the grade of the range to a more gentle slope; and
 - increasing the angle of the stop butt to a steeper slope (see **Figure 6**).

The proposed physical changes do not result in any additional vegetation clearing and do not extend beyond the approved development footprint.

4.2 Range Usage

The Proponent seeks to operate the complex for the recommended number of days and nights of range usage for a 'future range' as set out in Table A1 of the Application Note, rather than having a prescribed limit on the days of usage. This includes the potential for use of the range in the evening (between 5 pm and 10 pm), subject to reducing noise levels at the worst affected residential receivers to correspond with the respective noise level specified in the table (expressed as a 'linear peak hold' level).

4.3 Noise Testing

The Proponent proposes to delete the requirement for quarterly noise testing in the first twelve months of operation and on the first three occasions of use for both the existing 800 m range and the new ranges, on the basis it is not considered practical or necessary. The Proponent considers conducting the tests is unreasonable given the complexity of the testing requirements and inconvenience to residents who need to provide access to their properties on multiple occasions. The Proponent proposes to undertake noise compliance testing within six

¹ A stop butt is a bullet containment system consisting of an earthen berm usually 5 – 7 m high located directly behind the targets

4.4 Special Events

4.5 Firearm Noise Limits

4.6 Statement of Commitments

Regrade range floor

New noise shelter

New control point

Additional car parking

New noise mound up to 3.6 m high

New spectator area

NEW

EXISTING

GENERATOR ROOM

[illegible]

NSW Government
Department of Planning and Environment

5. STATUTORY CONTEXT

5.1 Approval Authority

The Minister for Planning is the approval authority for the request. Under the Minister's delegation of 16 February 2015, the Executive Director, Key Sites and Industry Assessments, may determine the request under delegation as:

- the relevant local council has not made an objection; and
- a political disclosure statement has not been made; and
- there are less than 25 public submissions in the nature of objections.

5.2 Section 75W

In accordance with Clause 12 of Schedule 6A of the EP&A Act, section 75W of the EP&A Act as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A, continues to apply to transitional Part 3A projects.

The Department notes:

- the primary function and purpose of the approved project would not change as a result of the proposed modification;
- the modification is of a scale that warrants the use of section 75W of the EP&A Act; and
- any potential environmental impacts would be appropriately managed through the existing or modified conditions of approval.

Therefore, the Department is satisfied the proposed modification is within the scope of section 75W of the EP&A Act and does not constitute a new development application. Accordingly, the Department considers the request should be assessed and determined under section 75W of the EP&A Act rather than requiring a new development application to be lodged.

6. CONSULTATION

6.1 Consultation

Under section 75W of the EP&A Act, the Department is not required to notify or exhibit the modification request. However, due to the complex nature of the proposal and the potential for public interest in the proposal, the Department exhibited the request from 2 December 2016 to 31 January 2017:

- on the Department's website;
- at the Department's information centre; and
- at Wingecarribee Shire Council offices.

The modification request was advertised in the *Bowral Highlands Post* and *Bowral Southern Highland News*. Adjoining landowners and previous objectors to the original project application were notified of the modification request and invited to make a submission. The modification request was also referred to Council, EPA, Office of Environment and Heritage (OEH), Roads and Maritime Services (RMS), Transgrid, Department of Primary Industries (DPI) and WaterNSW.

6.2 Submissions

During the exhibition period, a total of 59 submissions were received, including six from public authorities, three from special interest groups and 50 from the public. Of the submissions received from the public and special interest groups, 13 objected, one provided comment and 39 were in support of the modification. Concerns raised in the public submissions included:

- use of an arithmetic average to monitor firearm noise, rather than an absolute limit;
- future compliance concerns if compliance monitoring is based on an arithmetic average;
- validity of noise testing submitted to support the modification;
- changes to operational days and hours;
- deficiencies in the documentation to sufficiently describe the modification;
- traffic impacts; and
- conflict of interest with the Department determining an Office of Sport modification.

Reasons given in support of the modification included:

- positive economic impacts for the region;
- the expanded facility caters for a range of shooting activities;
- a positive initiative for the sport and the shooting community;
- educational benefits for children and others regarding the safe handling of firearms; and

- provides a location for law abiding shooters to practice in a controlled environment without adverse impacts on residential areas.

Council did not object to the modification request but indicated it did not support night time use of the range given the potential for adverse noise impacts on nearby residential properties. Council expressed concerns regarding the ability of the local road network to safely convey the proposed traffic volumes associated with special events and recommended Wattle Ridge Road be widened to allow for two-way traffic and to address stormwater management issues. Further information regarding the expected attendance during special events was requested.

The **EPA** supports the proposed noise limit change to an arithmetic average of LZpeak 75 dB and acknowledged feasible and reasonable noise mitigation measures have already been constructed at the complex. However, inconsistencies were noted regarding proposed amendments to compliance monitoring requirements. The EPA opposed the proposed modification to enable the Proponent to vary the hours of usage through a management plan to be developed after a determination is made on the modification, however, did not oppose the increase in number of special events. The EPA requested the Proponent be required to maintain and advertise a complaint hotline and recommended the approval include a condition requiring community access to information. Specific technical recommendations were also made on the revised *Water Cycle Management Plan* and *Soil and Water Management Plan*, which form part of the Operational Environmental Management Plan for the complex.

The **DPI** did not object to the proposed modifications but requested the Proponent identify the source of water and any licensing requirements under the *Water Management Act 2000* for the 10,000 litre water tanks on the site. DPI also noted the proposed modifications will likely result in reduced risk of surface water contamination at the site.

The **OEH** did not object to the modification request but stated it did not support the proposed modification to the Statement of Commitments (SoC) to delete the timing for the transfer of 323 ha of offset lands to the Dharawal National Park. OEH noted it had advised the Proponent this outcome was unacceptable as it would result in an open-ended commitment permitting the development to commence with no ability to enforce a timeframe for the transfer of offset lands.

The **RMS** did not object to the modification request, noting the complex is accessed off a local road and is unlikely to impact on the classified road network.

WaterNSW did not object to the modification request and provided comment on the proposed changes to the conditions of approval and Statement of Commitments as they relate to soil, water and contamination management.

The Department also raised concerns regarding the proposed change to the days and hours of usage, the potential for additional traffic because of additional usage and an increase in the number of special events, the proposed changes to environmental auditing and reporting requirements and amendments to the timing for the transfer of biodiversity offset lands to OEH.

6.3 Response to Submissions

The Proponent provided a Response to Submissions (RTS) on the issues raised during the exhibition of the modification (see **Appendix F**). The key amendments to the modification include the following:

- remove reference to Table A1 of the Application Note regarding operational hours and maintain the approved hours;
- modify wording to Conditions A6, A7 and A11 to allow the Department to modify the operational hours, subject to the recommendations of an independent environmental audit;
- maintain the limit of three special events per year and modify the wording of Condition A10 to provide clarity around what constitutes a special event;
- amend noise monitoring requirements to retain the requirement for monitoring on the first three occasions of use, and delete the requirement for quarterly monitoring in the first 12 months; and
- a revised Conservation Zone Boundaries Plan.

The RTS was made publicly available on the Department's website and was provided to key authorities to consider whether it adequately addressed the issues raised. A summary of the authorities' responses is provided below.

- **Council** advised it would not make a formal submission on the RTS, however, would provide comment on the draft modified conditions of approval.
- **EPA** raised concerns regarding the proposed modification to allow the Department to vary operational hours, subject to the recommendations of an independent auditor. The EPA recommended any change to

the operating hours should be supported by monitoring data and formalised through a modification request to ensure appropriate community engagement. Queries were also raised regarding the proposed definition of a 'special event'. Recommended conditions were provided to address the approval of special events, the requirements for noise monitoring and complaints management.

- **OEH** agreed with the Proponent's revised Conservation Zone Boundaries Plan and supports the inclusion of this plan under the table of approved plans in the project approval. OEH requested a revised SoC to reflect the agreed timing for the transfer of biodiversity offset lands to the Dharawal State Conservation Area.
- **DPI** noted its queries regarding licensing requirements and the on-site water tanks had been adequately addressed.
- **WaterNSW** requested the conditions be modified to require the Water Cycle Management Plan and Operational Environmental Management Plan to incorporate WaterNSW's requirements and be finalised in consultation with WaterNSW.
- **RMS** raised no further comments.

The Department has considered the issues raised in submissions, the RTS and the supplementary concerns raised, in its assessment of the modification.

7. ASSESSMENT

The Department has assessed the merits of the proposed modification. During this assessment, the Department has considered the:

- Environmental Assessment (EA) and assessment report for the original application;
- existing conditions of approval (as modified);
- the EA supporting the proposed modification (**Appendix B**);
- submissions from State government authorities and Council (**Appendix C**);
- the Proponent's response to issues raised in submissions;
- relevant environmental planning instruments, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the EP&A Act.

The Department considers the key assessment issues are:

- firearm noise limits;
- noise monitoring; and
- operational usage (including days and hours of operation and special events).

Other issues include traffic, biodiversity offsets, soil, water and contamination management, complaints management and access to information. The Department's assessment of other issues is provided in **Table 3**.

7.1 Firearm Noise Limits

The proposed modification to the firearm noise limit from an absolute maximum level to an arithmetic average has the potential to result in increased noise impacts at nearby residential sensitive receivers. To support the request to modify the firearm noise limit to an arithmetic average, the Proponent refers to the EPA's Application Note, *Target Shooting Ranges: Application Note for Assessing Noise Compliance* (EPA, 2015) (the Application Note), which explicitly sets out a method for assessing noise compliance based on an arithmetic average.

Explanation of Firearm Noise

There are different methods for measuring different types of noise. 'Linear peak hold' is the noise unit used to measure short, sharp noises such as from firearms, which create a sound pressure wave. The maximum overpressure of the sound wave (the linear peak hold pressure level) is commonly used to measure the absolute pressure. Therefore, 'linear peak hold' indicates the absolute maximum noise level measured for each shot. The 'linear peak level' is susceptible to being increased by wind or noise other than the shot. As bullets from firearms usually travel at speeds greater than sound, the impact on the ear is like a shock wave vibration. This effect on the human ear is different to other environmental noises such as traffic or construction noise, which are measured on the "A" weighted scale (reported as dB(A)). These different types of noise are not easily comparable. For example, an L(max) level of traffic noise measured at 75 dB(A) is not the same noise level as firearm noise measured at 75 dB(L) peak hold. In addition, unlike the type of noise measured on the "A" weighted scale, the noise level produced by firearms does not necessarily increase if several shots are fired at once.

Whereas peak hold measurements were previously defined as a 'linear peak hold', as in the existing conditions of approval, instrumentation today refers to the "Z" weighted level, which is a standardised version of linear. The

EPA's Application Note refers to the firearm noise level to be recorded as the Z-weighted peak hold level, written as 'LZpeak'. Therefore, the proposed modified firearm noise limit is expressed as 'LZpeak 75dB' in this report.

Modification Request

As part of the modification request to modify the firearm noise limit from an absolute maximum of 75 dB linear peak hold (75 dB(L) peak hold) to LZpeak 75 dB, the Proponent submitted actual noise testing results from both the 500 m range and 800 m range. As required by the Application Note, monitoring was undertaken at the worst affected residential receivers on Rocky Waterholes Road and Starlight Place to the south-east and at Wattle Ridge Farm to the north-west. Monitoring locations are shown in **Figure 7**.

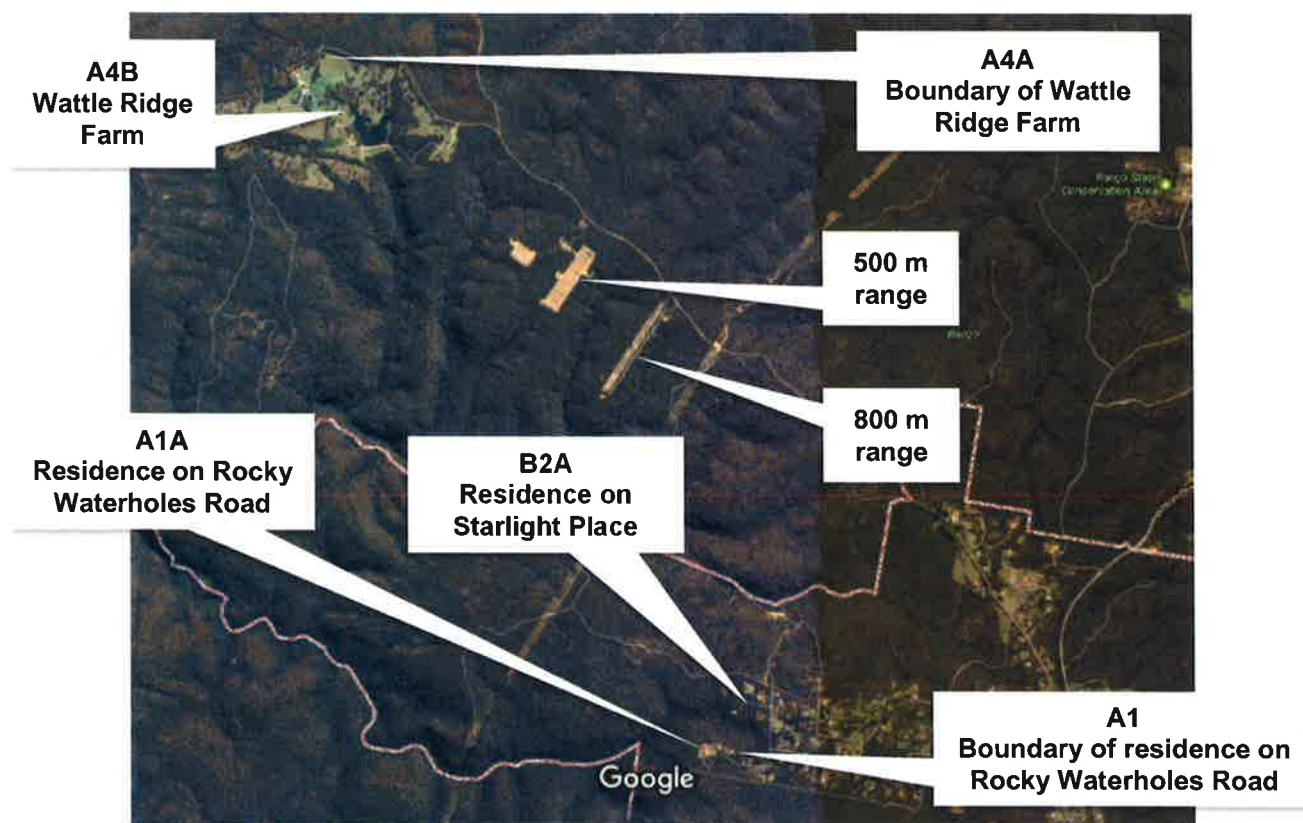


Figure 7: Noise Monitoring Locations

Results for the 800 m range were taken from the most recent annual noise compliance testing report for the 800 m range undertaken in late 2015 in accordance with the requirements of the project approval and the Application Note. Compliance testing was undertaken during normal operations shooting rifles from the 800 m firing position, which was deemed to be the most critical (noisy) firing position on the range through previous monitoring and analysis. The testing assessed the effectiveness of the new noise mitigation measures approved by Council in 2014, including acoustic attenuation structures at the 100 m and 400 m firing points and an acoustic attenuation shelter over the existing 800 m firing point mound. Results of the Proponent's noise testing were presented as an absolute measurement, as required by the existing conditions of approval, and as an arithmetic average calculated in accordance with the Application Note. The results are presented in **Table 1** below.

Table 1: 800 metre Range Noise Compliance Testing

Location	Absolute Maximum (existing criteria)	Arithmetic Average (proposed criteria)	No. of Shots Measured
	Criteria = 75 dB(L) peak hold	Criteria = LZpeak 75 dB	
A1 (Rocky Waterholes Road)	70	65	77
B2A ¹ (Starlight Place)	73	61	102
A4B (Wattle Ridge Farm)	69	65	42

1. Results for monitoring location B2A are based on actual field measurements (rather than post-processing as required by the Application Note) due to a fault with the sound level meter.

In addition, the Proponent also submitted results of 'indicative' acoustic testing for the 500 m range designed to mimic and test the effectiveness of the proposed design changes and acoustic measures to be constructed at the 500 m range, including a lowered firing position. Testing was undertaken using factory ammunition (recognised as the noisiest type of ammunition) with the known noisiest firearms. The results are presented in **Table 2** below.

Table 2: 500 metre Range Indicative Acoustic Testing

Location	Temporary Acoustic Shelter		Revised Firing Height	
	Absolute Maximum (existing criteria)	Arithmetic Average (proposed criteria)	Absolute Maximum (existing criteria)	Arithmetic Average (proposed criteria)
	Criteria = 75 dB(L) peak hold	Criteria = LZ peak 75 dB	Criteria = 75 dB(L) peak hold	Criteria = LZpeak 75 dB
A1 (Rocky Waterholes Road)	71	66	71	64
B2A¹ (Starlight Place)	66	59	-	-
A4A (Wattle Ridge Farm northern boundary)	68	61	-	-

1. Results for monitoring location B2A are based on actual field measurements (rather than post-processing as required by the Application Note) due to a fault with the sound level meter.

Testing at both ranges was considered to represent the worst-case scenario with respect to noise impacts.

The results of the noise compliance testing undertaken for the 800 m range (refer **Table 1**) show the absolute maximum noise level measured in the field did not exceed the existing or proposed firearm noise limit of 75 dB(L) peak hold as an absolute maximum or an arithmetic average, respectively. The maximum arithmetic average noise level was recorded at monitoring location A1, at the end of Rocky Waterholes Road, at LZpeak 65 dB.

The results for the 500 m range testing (refer to **Table 2**) using a temporary acoustic shelter over the firing position at ground level and with the proposed lowered firing position indicate the noise level of shots to be less than 75 dB as both an arithmetic peak level and an absolute peak level. The maximum arithmetic average was calculated to be LZpeak 66 dB at the most affected location on Rocky Waterholes Road (monitoring location A1A).

The Proponent considers the results of the acoustic testing demonstrate that the additional acoustic measures constructed at the 800 m range and the proposed acoustic modifications at the 500 m range, will bring the shooting complex into compliance with the existing and proposed conditions of approval. The Proponent's assessment concludes absolute maximum noise limits are inappropriate for the highly varied noise impacts associated with shooting ranges and therefore the existing absolute maximum firearm noise limit is not consistent with industry best practice. The firearm noise limit should therefore be modified to refer to a limit based on an arithmetic average calculated in accordance with the methodology described in the Application Note.

The EPA is supportive of the proposed change to the firearm noise limit to LZpeak 75 dB, calculated as an arithmetic average, as it is consistent with the Application Note, and agrees it is industry best practice for measuring noise compliance at a shooting range. The EPA also considers feasible and reasonable noise mitigation measures have been installed at the 800 m range. Specific noise monitoring locations have been recommended to ensure consistency across noise compliance monitoring activities undertaken over time. Based on the results of noise testing undertaken to date, the EPA has recommended the firearm noise limit should apply at the worst affected locations, being the residence at the western end of Rocky Waterholes Road, Hill Top, and the northern boundary of Wattle Ridge Farm, off Nattai Road, Hill Top. These locations have been included in the modified conditions of approval.

Council did not provide any comment on this aspect of the current modification.

Objectors raised concern regarding the use of an arithmetic average for the firearm noise limit as it may allow an absolute maximum noise level greater than 75 dB(L) peak hold at nearby residential sensitive receivers and is considered to represent a significant degradation of the existing conditions. Submitters noted the Commission's determination on MOD 4 to the project approval, in which the Commission considered averaging was not suitable for enforcement purposes as there was no agreed approach or government policy on how noise monitoring should be conducted or the results analysed and interpreted.

Submitters also raised concerns regarding the validity of the noise testing results used to inform the modification (outlined in **Table 2**, above) as it was undertaken without any request to conduct monitoring within residential property boundaries and was not overseen by an independent weapons expert.

As part of the RTS, the Proponent clarified the acoustic test for the 500 m range was not a compliance test, rather was intended to provide indicative results for the purposes of the modification, using various barriers and enclosures at different firing points and for the proposed lowered firing position at the 500 m range. The results demonstrate a firearm noise limit of LZpeak 75 dB expressed as an arithmetic average is likely to be achievable with the absolute maximum noise level predicted to be less than 75 dB(L) peak hold at the most affected location, therefore achieving compliance with the existing criteria in any case. The Proponent concludes the use of an arithmetic average is consistent with the Application Note which represents industry best practice for assessing noise impacts from shooting ranges.

Department's Consideration

The Commission's refusal report for MOD 4 included an acknowledgement that any advancement in methodology for measuring noise from shooting ranges would reduce complexity and would validate the submission of future applications. It is therefore accepted the release of the Application Note validates the submission of the current modification request and provides a policy for noise compliance testing which can be applied consistently to other shooting facilities. The Application Note now provides clear policy guidance on how to determine an appropriate limit for the complex based on the number of days and nights of operation and how to measure and analyse noise impacts. It maintains an arithmetic average of the noise levels from multiple shots should be used to determine the measured noise level at a shooting range. The Department is satisfied the Application Note provides clear technical advice on how to determine compliance in a consistent manner.

The noise limit in the current approval is expressed as an absolute maximum noise level. It is not considered best practice to set firearm noise limits based on the absolute maximum of any single shot as the noise of a gunshot is measured as a 'linear peak level' (LZpeak), which is susceptible to being increased by wind or noise other than the shot, and therefore an absolute maximum peak level is not a reliable measure of firearm noise. The measured level of a single gunshot can never be less than the actual LZpeak, but it can be higher if the measurement is influenced by wind or noise other than from the shot. Averaging the levels of a sufficient number of shots therefore reduces the potential for a compliant shooting range to be incorrectly found non-compliant.

The Department therefore agrees it is not appropriate for an absolute maximum noise limit to be applied to the complex as this is not based on current industry best practice. Condition A9 should be modified to refer to a firearm noise limit expressed as an arithmetic average, with compliance testing to be undertaken in accordance with the Application Note. The recommended modified conditions incorporate these requirements.

The Department is satisfied the acoustic testing undertaken for the 500 m and 800 m ranges represent the worst-case (noisiest gun at noisiest position) scenarios and have been undertaken in accordance with the Application Note. The Proponent's assessment provides realistic data to understand potential impacts at the closest residences and as compared to the proposed new criteria. Compliance testing for the 800 m range demonstrates the range is now in compliance with the existing firearm noise limit and will remain below the proposed limit of 75 dB peak hold, expressed as an arithmetic average. The predicted 'indicative' testing results for the 500 m range, also indicate compliance with the existing and proposed firearm noise limit for this range. The Proponent has demonstrated the shooting complex, as modified, is likely to comply with an absolute maximum limit of 75 dB(L) peak hold and an arithmetic average of LZpeak 75 dB, as proposed, without unacceptable noise impacts at nearby residential sensitive receivers.

The Department's assessment concludes the proposed modification to the firearm noise limit from an absolute maximum peak hold level to a level calculated as an arithmetic average is appropriate and consistent with industry best practice. The modification has the support of the EPA, which is now the ARA for the complex. The predicted noise impacts from the complex are considered to represent worst case predictions and actual impacts are likely to be less once the proposed physical modifications to the 500 m range are complete. Noise compliance testing of the 800 m range, undertaken in accordance with the Application Note, demonstrates the complex is operating in compliance with the existing and proposed modified firearm noise limit. Existing and proposed requirements for noise compliance monitoring in the first year of use and annual independent auditing will verify the performance of the facility once the new ranges become operational.

7.2 Noise Monitoring

The proposed reduction in the frequency of attended noise monitoring of the existing 800 m range and the new 50 m and 500 m ranges may result in unacceptable noise impacts and undetected non-compliances with the conditions of approval.

The existing approval requires compliance noise monitoring of the 800 m range and the new ranges to be undertaken on the first three occasions of use, quarterly thereafter (aligned with each season) in the first 12-months and then on an annual basis. The Proponent proposes to reduce the noise monitoring requirement to only once within the first 6 months of the 800 m range being used four days a week and the new ranges commencing operations, on the basis that firearm noise testing is logistically complicated, highly affected by weather and requires access to private property. The Proponent advises numerous days of testing may be required to obtain valid data and require prior arrangement of access to private residential properties. Conducting these tests on the first three occasions of use and thereafter on a quarterly basis in the first 12 months is considered onerous, unreasonable and inconvenient to residents. The Proponent considers there are sufficient safeguards in the approval to protect residential amenity, such as the 12-month audit and a complaints hotline, and concludes the required noise tests are not practical or necessary.

The EPA advised any change in hours or days of use would need to be supported by seasonal monitoring data to demonstrate compliance with the firearm noise limit can be achieved. Therefore, an appropriate level of compliance monitoring is required.

A number of public submissions raised concern regarding the proposed reduction in noise monitoring. The community sees quarterly testing in the first 12 months as an important requirement to ensure the Proponent is complying with the noise limits applicable to the complex. The testing is also considered critical if the data is to be used as a basis for providing a recommendation for future operating hours for the complex.

As part of the RTS, the Proponent sought to retain the requirement for monitoring on the first three occasions of use and annually thereafter, but maintained its position the requirement for quarterly noise monitoring is not practical or necessary.

Department's Consideration

The Department and EPA's noise experts acknowledge the logistics of noise testing can be complicated and resource intensive. However, to ensure sufficient monitoring data is collected to confirm the complex is compliant with the firearm noise limit, a more intense monitoring program is required in the first 12 months of operation of the 800 m range for four days a week and the commencement of use of the new 50 m and 500 m ranges.

The Department and EPA do not support the Proponent's request to delete the requirement for quarterly noise testing, however, it is recognised some flexibility may be needed in the monitoring requirements as firearm noise monitoring is dependent on suitable weather, particularly wind speeds. Recommended modified conditions of approval therefore require noise compliance monitoring to be undertaken at least four times in the first year of use of the 800 m range for four days a week and the first year of use of the new ranges. Monitoring must be spread throughout the year, preferably aligned with each season.

The first round of monitoring must be undertaken on the first occasion of use, or as soon as practicable thereafter if weather conditions prevent monitoring at that time. Should weather or other interferences prevent monitoring from being undertaken, the Department recommends the Proponent be required to maintain suitable records and provide evidence to justify why monitoring could not be carried out (for example, high wind speeds, raised background noise). The Department has included these recommendations in the modified conditions of approval. The Proponent has agreed to this revised approach to the monitoring requirements.

The Department considers a more frequent noise testing program is a critical requirement in the first 12 months of use of the ranges as this will verify whether the complex is complying with the firearm noise limit. This is important having regard to the number of possible operational combinations of firearm calibre, ammunition and firing locations. Collecting monitoring data in each season is also considered appropriate to inform an independent auditor whether the hours and days of operation are suitable for the complex. If the Proponent considers it can meet a lower noise limit and that the complex should be allowed to operate more often, four sets of monitoring data is considered the minimum to support such a modification request.

The Department's assessment concludes quarterly noise testing in the first 12 months of use of the 800 m range for four days a week and in the first 12 months of use of the new 50 m and 500 m ranges is necessary to verify the complex can comply with the firearm noise limit across all seasons. This monitoring regime also responds to

concerns raised by the EPA and the public regarding the need for sufficient data to support any future request to modify the operating hours or days of use of the complex.

7.3 Operational Usage

7.3.1 Days and Hours of Operation

The proposed modification to enable the Department to vary the hours of operation subject to the recommendations of an independent audit, has the potential to result in additional noise and traffic impacts.

As described in the RTS, the Proponent has responded to concerns raised in submissions regarding the proposed use of the range for additional days and nights, and now seeks to retain the hours of operation for the existing and new ranges as approved. However, an alternate modification is now proposed as part of this request that would allow the Department to vary the hours of operation subject to the recommendations of an independent environmental audit, rather than through a formal modification process. The audit is an existing requirement under Condition A11 – *Independent Auditing and Reporting* which requires an independent audit to be undertaken 12 months after operation of the new ranges. The existing condition requires the auditor to review the shooting complex's compliance with the conditions of approval and make a recommendation as to the appropriate operating hours for the continued operation of the complex. The Proponent proposes to add additional wording to Condition A11 to enable the Department to vary the permitted operational hours specified in the approval (Conditions A6 and A7).

Modified wording has been proposed to Condition A6 – *Use of the existing 800 m range*, A7 – *Hours of Use – Outdoor Ranges* and A11 – *Independent Auditing and Reporting*, to reflect the proposed changes.

The Proponent considers the proposed modification is consistent with the intent of the original approval and is appropriate as the audit will be undertaken by independent experts that will have 12 months of operational data and testing to rely upon.

The EPA raised concern the proposed approach does not give certainty to the community or users about the days the complex will operate in the future and does not allow the community to be involved in the process to potentially increase the hours of use. The EPA recommended any modification to vary the hours of use should be achieved through a modification to the project approval supported by appropriate monitoring data.

Department's Consideration

The purpose of an environmental audit (as defined by the EP&A Act) is to provide information to the Proponent and the Secretary on compliance with the project approval and on the project's environmental management or impact. The intent of the existing condition is, therefore, for a person (or persons) independent of the approved project to review the compliance and performance of the complex against the project approval. Based on the outcomes of that review, a series of recommendations must be made, including, in this case, what the auditor considers to be appropriate operating hours for the continued operation of the complex. The inclusion of recommended actions and the identification of opportunities for improved environmental management and performance is standard best practice for an environmental audit. This may include recommendations for conditions to be modified. The audit does not take the place of a detailed assessment of environmental impacts and formal request under the EP&A Act to modify the conditions of approval.

It is not appropriate for the hours of the complex to be modified by the Department without further consultation with the community and a detailed assessment of environmental impacts, such as noise and traffic. Any change to the hours of operation must be requested by the Proponent and submitted as a modification to the project approval and subject to an appropriate level of community consultation and engagement.

The Department's assessment concludes the independent audit required by Condition A11 is a critical requirement to assess whether the Proponent is operating the facility in accordance with the conditions of the project approval and to provide an independent recommendation for future operating hours. As such, the Department does not agree this condition was intended to allow the hours of operation to be varied by the Department without an appropriate regulatory assessment of environmental impacts and an appropriate level of stakeholder and community consultation. Therefore, the proposed modifications to Conditions A6, A7 and A11 are not supported. Notwithstanding, the recommendations of the audit may be used by the Proponent as a basis to lodge a request to modify the hours of use, supported by an assessment of all potential environmental impacts and appropriate monitoring data.

7.3.2 Special Events

The proposed increase of special events from three to 12 events per year, has the potential to cause additional noise and traffic impacts.

The existing special events condition (Condition A10) defines all regional, state and national competitions held at the complex as 'special events'. As there are numerous clubs that use the complex, the Proponent originally sought additional special events to cater for the range of events for each club.

The Department, Council and public submissions raised concern regarding the proposed increase in the number of special events, as this may result in additional traffic and/or noise impacts. In accordance with existing requirements of Condition A10, special events can occur on a public holiday and, subject to the Secretary's approval of a special event management plan, the Secretary may agree to vary other conditions of the approval, such as the approved hours of operation and/or the noise limits, on a case by case basis.

To address the concerns raised in submissions, the Proponent now seeks to revert back to the approval of only three special events per year. However, rather than requesting additional special events, a clear definition of what constitutes a 'special event' is proposed. Under the definition specified in the original condition, some regular small shooting events which would operate within the approved hours and have no additional impacts would be considered 'special events'. Under the existing conditions, these would require the preparation of a detailed management plan for each event to be submitted for approval by the Department, and only three would be permitted annually. Given that 'special events' require separate approval of a special event management from the Secretary, the Proponent proposes that a 'special event' be defined as an event which may result in the variation of a relevant condition of the approval, such as an event outside the approved hours or an event on a public holiday.

The Proponent considers the amended definition will ensure the original intent of the condition is achieved by ensuring that minor events occurring within the approved hours and entirely in accordance with the conditions of approval are not captured as 'special events' requiring an extensive and unnecessary approval process.

Council raised concern regarding the potential for increased traffic and associated safety concerns associated with special events and recommended the Proponent be required to prepare a Traffic Management Plan for each special event to be submitted to Council's Local Traffic Committee for review and be endorsed by Council.

Department's Consideration

To cater for special events, the Application Note states the EPA may consider an extension of time on both nights in one weekend provided such events occur no more than two or three times per year. Therefore, the retention of a limit of three special events per year in Condition A10 is therefore consistent with the Application Note and is supported.

The Department and EPA support the Proponent's proposal to provide a clearer definition of what type of event constitutes a 'special event'. However, rather than having the definition embedded within the condition, the Department has recommended the definition for a 'special event' be included in the list of definitions at Schedule 1, Part B of the approval. A 'special event' has therefore been defined as *'an event that may result in the variation of Conditions A6, A7 or A8 of this approval, in so far as they relate to that event, with respect to the days or hours of use, or an event that occurs on a public holiday'*. Conditions A6, A7 and A8 relate to use of the existing 800 m range and hours of use of all the outdoor and indoor ranges, respectively. The EPA and the Proponent have agreed to the wording of the definition and its placement within the list of definitions.

Existing Condition A10 requires the Proponent to submit a special event management plan to the Department for approval 30 days prior to each special event. The Department does not consider this is sufficient time to allow for consultation with relevant government authorities and subsequent reviews of the plan if it is found to be inadequate after the first review. Therefore, to provide sufficient time for the review process for a special event management plan, the Department has recommended Condition A10 be modified to require the plan to be submitted 60 days prior to an event, rather than 30 days. The Proponent has accepted this modification.

The EPA raised concern regarding the use of a management plan for each special event to potentially vary other conditions of the approval, without any community consultation or engagement. The Department notes the existing condition already provides for such an approach to be taken for special events as it allows variations to other conditions of the approval subject to the approval of a special event management plan by the Department. However, having regard to the potential impacts these events may have and the sensitivity of the local community,

the Department considers it is appropriate for the Proponent to notify the community during preparation of the management plan and to provide sufficient justification for any variations to the conditions.

A modification has therefore been recommended to Condition A10 that requires additional matters be included in the special event management plan, including justification for any variation to the conditions of the approval, evidence of community consultation, details of how community concerns have been addressed and complaints management. The Department also recommends the Proponent be required to place the approved plan on the Proponent's website prior to the commencement of the event to which the plan relates.

To respond to concerns raised by Council, the Department has also recommended any Special Event Management Plan include a Traffic Management Plan prepared in consultation with Council.

To further ensure transparency regarding the shooting complex operations, the Department also recommends a new condition that requires the Proponent to notify the community of a special event by way of a local newspaper advertisement one week prior to each special event, including details of the days and hours of the event, where the special event management plan can be viewed and how a complaint may be made. Another new condition requires the Proponent (upon determination of this modification) to place on its website, the project approval (as modified), all approved strategies, plans and programs required under the conditions of this approval (including special event management plans), a comprehensive summary of the monitoring results, a complaints register updated on a monthly basis, any independent environmental audit of the complex and the Proponent's response to the recommendations in any audit. The Proponent has agreed to these new conditions.

The Department and EPA are satisfied the proposed modifications to the definition and additional requirements for special events at the complex will ensure the short-term impacts associated with these events will be appropriately managed and limited to only three events per year. Further, the requirement for additional consultation requirements will ensure the community has an opportunity to comment on a special event management plan prior to the plan being submitted to the Secretary for approval. The Proponent will also be required to provide details of how community concerns have been addressed.

The Department's assessment concludes the retention of only three special events each year to minimise additional noise and/or traffic impacts caused by these types of events is appropriate. A clear definition of a 'special event' provides clarity around what type of event would be classified as a special event. It also removes the need for a management plan approval process for minor regional, state or national events that occur within the requirements and controls already specified in the conditions of the project approval. Additional requirements to consult with the community during the preparation of a special event management plan, notify the community regarding special events and make key documents and data publicly available, will ensure the community is aware of upcoming special events and any proposed management and mitigation measures.

7.4 Other Issues

The Department's assessment of other issues is provided in **Table 3**.

Table 3: Assessment of Other Issues

Issue	Assessment	Recommendation
Traffic	- Construction and operation of the complex have the potential to increase the volume of traffic on local roads within the vicinity of the site. - Access to the complex is through the township of Hill Top along West Parade, a collector road, and then off Wattle Ridge Road, an unsealed local road. <u>Construction</u> - The construction period is expected to take 12 months, followed by a commissioning period of two to three months. During the construction period, traffic movements would predominantly be related to the arrival and departure of construction workers and the delivery of material and equipment via Wattle Ridge Road. - As there will be additional construction works such as deliveries for the reconstruction of the stop butts and the regrading of the range floors, the Department has recommended a new condition that requires the CEMP to be updated prior to the commencement of construction of any works associated with the modification. - The Proponent has committed to adhere to the requirements of the approved Construction Environmental Management Plan (CEMP) and other construction related conditions for works associated with the modification.	- Retain existing conditions regarding road safety improvements. - Require the Proponent to update the approved CEMP prior to the commencement of construction for works associated with the modification.

Issue	Assessment	Recommendation
	- The Department is satisfied construction traffic impacts will be minimal and can be adequately managed through an updated CEMP. <u>Operation</u> - The Proponent undertook a traffic impact assessment to determine the impact of the project using contemporary traffic data. - Predicted maximum total future traffic volumes, including the approved project, on Wattle Ridge Road and West Parade are 31 vph and 214 vph, respectively. Future volumes will therefore remain below the RMS's Environmental Goal criteria of 200 vph for a local road and 300 vph for a collector road. - The Proponent's assessment concludes the proposal will not introduce any new uses, nor is it proposed to enlarge or increase the usage of any of the approved ranges. Parking and access arrangements as approved are still considered appropriate. - The Proponent advises it has completed some of the road safety improvements required by the approval including warning signs at the railway crossing and line marking along West Street. The remaining works will be completed prior to the commencement of use of the new ranges. Negotiations are also in progress with Council for a maintenance agreement for the unsealed section of Wattle Ridge Road. - Council raised concern regarding the impact of additional traffic due to the increase in special events and recommended the Proponent be required to widen Wattle Ridge Road. - As the proposed modification (as amended by the RTS) no longer seeks to increase the intensity of use of the complex, the Department considers the risk of additional traffic impacts is low. - Traffic impacts due to operation of the complex were assessed as part of the original project application and were deemed to be acceptable subject to certain road improvements and a review of traffic conditions and safety near the site within 12 months from the commencement of the new ranges. - The Department is satisfied the Proponent's traffic assessment using contemporary traffic data has demonstrated traffic impacts as a result of operation of the complex remain minimal and do not require any additional road safety improvements beyond that already required by the existing conditions of approval. - The Department's assessment concludes the traffic generation associated with the modification is consistent with the project approval and additional traffic impacts are unlikely.	
Biodiversity Offsets	- The proposed modification to delete the timing for the transfer of biodiversity offset lands from the Statement of Commitments (SoC) may delay the completion of biodiversity offset requirements. - The approved SoC requires 323 ha of biodiversity offset lands currently leased by the Illawarra Shooting Association in the Wollondilly local government area, to be transferred to the Dharawal National Park on receipt of approval for the proposal. - The Proponent argued it cannot comply with the SoC as the identified land is subject to six undetermined Aboriginal Land Title claims which will take some time to resolve. - OEHL did not support the proposed modification to the SoC as the commitment would be unenforceable if there was no timing specified for the transfer of land. - The Department understands there are ongoing discussions between the OEHL and the Proponent regarding the transfer of biodiversity offset lands. The Department of Lands has also confirmed there are several Aboriginal land claims that cover parts of the agreed offset lands which are yet to be determined by the Minister for Lands. - The Department notes Condition A4 of the approval requires the offset lands to be transferred prior to the commencement of use of the new ranges, which is inconsistent with the SoC. However, the Department is satisfied the timing specified for the transfer of lands in Condition A4 prevails over the SoC and a modification to the SoC is not necessary. - The Proponent notes Condition A4 and agrees the transfer of lands may be achievable prior to commencement of the use of the new ranges.	Retain existing condition A4 to require the transfer of offset lands prior to the first commencement of use of the new ranges.

Issue	Assessment	Recommendation
Soil, water and contamination management	• In response to OEH's concerns and for consistency, the Proponent has amended the SoC so the timing of the land transfer in the SoC is consistent with the requirements specified in Condition A4. • The Department is satisfied there is still sufficient time for the land claims to be resolved and for the transfer of offset lands to occur prior to the commencement of use of the new ranges, as specified in Condition A4. • However, it is recommended that the Proponent engage with the Department of Crown Lands and the Local Aboriginal Land Council to expedite resolution and determination of the land claims. • No additional or modified conditions have been recommended.	
	• The activity of shooting projectiles containing lead into the stop butts at each range has the potential to result in lead contaminated stormwater leaching into the adjoining tributaries of Rocky Waterholes Creek. • Rocky Waterholes Creek is located approximately 1.5km from the complex with thick bushland, steep terrain, gullies and escarpments between the complex and the creek. • Therefore, the proposed physical modifications to the 50 m and 500 m ranges coupled with the changes to the management of lead contamination on the site have the potential to result in off-site water quality impacts within the Sydney drinking water catchment. • The proposed changes to lead management are based on the US EPA's <i>Best management practices for lead at outdoor shooting ranges</i> (2005), and include diverting stormwater away from potentially contaminated areas, redesign of the stop butts to a steeper, more stable, design, the collection of bullets in stop butts and bullet traps, regular recovery of projectiles from fall zones and stop butts, construction of stop butts from clean fill devoid of rocks, the placement of crushed limestone at the base of the stop butt to reduce acidity, and the controlled drainage and treatment of stormwater. • These US EPA best practice measures have been incorporated into a revised Water Cycle Management Plan (WCMP) and Soil and Water Management Plan (SWMP), submitted with the modification. This included an assessment against the Neutral or Beneficial Effect (NorBE) principles, as required by the Sydney Drinking Water SEPP. The Proponent concludes the complex would have a neutral and beneficial effect on water quality. • Due to the steep terrain between the site and Rocky Waterholes Creek and the distance of the creek from the complex, the Proponent advises it is difficult to safely access the creek to undertake water quality sampling. The Proponent therefore proposes to modify the location of water quality sampling and instead take water and sediment samples from the outlets of the existing stormwater detention basins at the boundaries of the site. • The Proponent's assessment concludes the proposed physical modifications to the 50 m and 500 m ranges and the modified management plans include a range of works and activities to improve the environmental performance of the ranges and ensure the ranges are operating in accordance with best practice for the management of contamination on shooting ranges. • WaterNSW advised it was satisfied with the proposed modifications as they relate to soil, water and contamination management, subject to a 40 m separation distance between the proposed noise attenuation mound and any man made or natural drainage line and a revised WCMP being prepared to WaterNSW's satisfaction prior to works commencing. • DPI noted the proposed modifications were likely to result in a reduced risk of surface water contamination at the site. • The EPA supports the proposed modifications to improve land contamination management at the 50 m and 500 m ranges and recommended sampling be undertaken at the headwaters of the more accessible tributaries of Rocky Waterholes Creek near to the site. The EPA also raised several technical concerns regarding the draft SWMP and the WCMP. • The Proponent advised the technical matters raised by the EPA and WaterNSW are being incorporated into the revised management plans which will be submitted for the Secretary's approval in accordance with existing Condition D2 of the approval, as part of the final Operational Environmental Management Plan (OEMP).	• Retain existing conditions B3 and D2 which require the preparation of the SWMP, WCMP and OEMP, in consultation with the EPA, to the satisfaction of the Secretary. • Modify condition B3(g) to require water quality monitoring to be undertaken from the tributaries of Rocky Waterholes Creek.

Issue	Assessment	Recommendation
	- The Department considers the revised approach to soil and contamination management is acceptable and the revised management plans have been drafted in accordance with best practice guidance for lead management. The plans will be finalised in consultation with the EPA, DPI and WaterNSW. - The EPA and WaterNSW are satisfied their requests for amendments to the SWMP and WCMP can be incorporated into the final OEMP, which prior to commencement of use of the new ranges. - The Department recommends modifying Condition B3(g) to require sediment and water quality sampling from the tributaries of Rocky Waterholes Creek, as recommended by the EPA. - The Department is satisfied the proposed modifications to soil, water and contamination management are acceptable and will improve management practices on site. The Department's assessment concludes the risk of adverse water quality impacts is low and acceptable.	
Complaints management and access to information	- The existing project approval does not require the Proponent to provide contact details for community complaints or to maintain a complaints register. This makes it difficult for the community to notify the Proponent of potential concerns and for the Appropriate Regulatory Authority (ARA) to ensure the Proponent is responding to legitimate compliance concerns. - The EPA raised concern with the Proponent's recommendation in the modification for the community to direct complaints to the EPA's hotline, rather than establishing their own complaints line. The EPA requested the Proponent be required to maintain a phone number and email for the purposes of receiving and responding to any complaints, and to maintain a complaints register. - As part of the RTS, the Proponent has committed to establishing a community complaint / enquiry service on the Proponent's website. - The Department and EPA consider the requirement for a complaints procedure and complaints register should be formalised through the modified conditions of approval. The Department has therefore recommended two new conditions of approval to reflect this. - To further ensure transparency regarding complex operations, the Department has recommended a condition that requires the Proponent to make all statutory approvals, strategies, plans, programs, monitoring results and audits for the project publicly available on the Proponent's website. - The Department and EPA are satisfied the proposed modified conditions of approval will ensure the community has access to all relevant statutory, operational and compliance documentation, and the community has various avenues to make a complaint, if required. - The Department's assessment concludes the new recommended conditions of approval will ensure the Proponent is made accountable to record and action any complaints received, and will ensure the complex provides an appropriate avenue for complaints to be made.	- Recommend new conditions to require the Proponent to have a complaints procedure and maintain a complaints register. - Recommend a new condition to require the Proponent to make copies of all statutory approvals, strategies, plans, programs, monitoring results and audits for the project publicly available on the Proponent's website.

8. CONCLUSION

The Department has assessed the proposed modification in accordance with the relevant requirements of the EP&A Act. The Department is satisfied the proposed modification to the firearm noise limit from an absolute maximum to an arithmetic average is appropriate as it is based on an accepted government policy for assessing noise compliance at shooting ranges and is consistent with industry best practice. The use of an arithmetic average and the revised noise monitoring requirements provide a reliable means of consistently assessing noise compliance at the facility. The proposed modifications to the design of the shooting ranges and additional noise attenuation measures respond to the recommendations made by the Planning Assessment Commission in its consideration of MOD 4 to improve mitigation of noise impacts at the site. Finally, the proposed amendments to the management of lead contamination, stormwater management and site maintenance methods will improve the environmental performance of the complex and ensure protection of the Sydney drinking water catchment.

Additional requirements for community consultation on special event management plans, improved complaints management and public access to information will ensure the operation of the facility is carried out in a transparent manner with appropriate auditing and monitoring undertaken following the commencement of operation.

The Department considers the proposed modification is appropriate on the basis that:

- it aligns the complex with best practice for the management of lead management, site remediation and maintenance methods;
- firearm noise limits and noise compliance testing will be undertaken in accordance with the Application Note, which is considered industry best practice for the assessment of noise compliance at shooting ranges;
- the hours of operation will remain unchanged;
- physical modifications to the 50 m and 500 m ranges will lower firearm noise propagation;
- it will improve complaints management and community access to information; and
- no additional adverse impacts are anticipated.

The Department is satisfied that the modification should be approved, as outlined in **Section 7** of this report, subject to conditions.

9. RECOMMENDATION

It is recommended the Executive Director, Key Sites and Industry Assessments:

- **consider** the findings and recommendations of this report;
- **approve** the proposed modification under section 75W of the EP&A Act; and
- **sign** the attached Instrument of Modification (in **Appendix A**).

Sally Munk
Principal Planner, Industry Assessments

ENDORSED:



Joanna Bakopanos
Team Leader
Industry Assessments



Chris Ritchie
Director
Industry Assessments

17/7/17



Anthea Sargeant
Executive Director

31/7/17

APPENDIX A – INSTRUMENT OF MODIFICATION

APPENDIX B – ENVIRONMENTAL ASSESSMENT

APPENDIX C – SUBMISSIONS

APPENDIX D – CONSOLIDATED APPROVAL