

ARCHERFIELD AIRPORT INFORMATION FOR DEVELOPERS

The types of development or proposed activities in the list below could be an issue in relation to the continued safe and efficient operation of Archerfield Airport.

When considering developments or activities (within a 15 kilometre radius) in the vicinity of the airport, Archerfield Airport Corporation (AAC), as the airport operator, encourages you to review the list and accompanying information to determine whether your proposal is likely to have an adverse impact on airport operations and future airport development.

Please be aware that development applications are referred to AAC for comment as part of the approvals process.

Will your proposed development or activity involve:

- Erection/creation of tall buildings, structures or things
- Use of cranes
- Use of tall road vehicles
- Provision of leisure activities which utilise airspace
- Emission of high velocity gaseous effluxes/plumes
- An increase in the number of people living, working or congregating at the ends of the main runway
- The presence of hazardous materials at the ends of the main runway
- Use of bright lights
- Inclusion of reflective surfaces
- Exposure of people to undesirable levels of aircraft noise
- Creation of dust, smoke or other particulate matter
- Deposit/dumping of waste foodstuffs or creation of other bird attractions
- Placement of objects in very close proximity to the airport's security fence
- Conflict with the Approved Master Plan for future airport development

Could your development cause:

- Wind shear and/or wind turbulence
- Interference with air traffic controllers' line of sight

If you are uncertain about the likely impacts of your proposal, we would welcome an opportunity to discuss it with you if there are issues to be resolved.

1. INTRODUCTION

Archerfield Airport Corporation (AAC) is the operator of Archerfield Airport which it holds under lease from the Commonwealth government. As the lessee, it must ensure that the airport continues to operate safely and efficiently and that its future growth potential is not compromised by inappropriate development either on the airport itself or in its vicinity. AAC recognises the unique nature of the rare resource that the airport represents and is totally committed to maintaining its legal and contractual obligations.

Therefore AAC welcomes the opportunity to review development proposals in the vicinity of the airport and has made arrangements with the Brisbane City Council (BCC) Planning Department to have such proposals referred to it for comment as part of the approvals process.

There are a number of issues that AAC will check in reviewing proposals. These are listed on the front page of this document. In carrying out the check, AAC will need to be satisfied that the development proposal meets aviation regulatory requirements and does not conflict with proposed airport development.

While BCC is the approval authority for developments sought under the Brisbane City Plan, in some cases the Secretary of the Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government (Infrastructure) has an overriding authority to refuse an application.

2. OVERVIEW OF THE REGULATORY REQUIREMENTS APPLICABLE TO DEVELOPMENT IN THE VICINITY OF ARCHERFIELD AIRPORT

Please consider this section carefully since it identifies limitations on, and your obligations as well as those of BCC and AAC in relation to, development in the vicinity of the airport.

The major regulatory requirements are set out in the:

- *Airports Act 1996 (the Act) and the associated Airports (Protection of Airspace) Regulations (APAR)* administered by Infrastructure;
- *the Civil Aviation Safety Regulations Part 139 – Aerodromes (CASR 139) and associated Manual of Standards Part 139 - Aerodromes (MOS 139) and Civil Aviation Regulations (CAR) 94-96* administered by the Civil Aviation Safety Authority (CASA); and
- *the Queensland Integrated Planning Act 1997 (IPA) and State Planning Policy 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities (SPP 1/02)* administered by the Queensland Department of Infrastructure and Planning (DIP).

2.1 AIRPORTS ACT 1996 AND THE APAR

2.1.1 Airspace

Section 182 of the Act identifies types of development in the vicinity of leased federal airports such as Archerfield Airport that may be “controlled activities” in relation to the airports’ prescribed (protected) airspace.

Controlled activities may involve:

- constructing or altering a building or structure so it intrudes into prescribed airspace;
- activities that cause anything attached to, or in physical contact with the ground to intrude into prescribed airspace,
- operating a source of artificial light which may blind or confuse pilots;
- operating plant or a facility that reflects sunlight which may blind pilots;
- an activity that results in air turbulence, emission of smoke, dust or other particulate matter, or the emission of steam or gas.

Prescribed airspace is composed of the obstacle limitation surfaces (OLS) and PANS- OPS surfaces (APAR 6(1)). The OLS is a series of surfaces which define a volume of airspace which should be kept free from obstacles. This airspace is designed to protect aircraft landing, taking-off, approaching and circling the airport when pilots are flying visually.

Some objects may be permitted to infringe these surfaces provided they are assessed by CASA not to be hazardous to aircraft operations and, as a condition of approval, CASA may require such objects to have obstacle marking and/or hazard lighting installed.

The PANS-OPS surfaces are designed to protect the airspace required by pilots carrying out instrument approach and departure procedures at the airport. In this situation the pilot is not “visual” and is relying on cockpit instruments to carry out the manoeuvre. Since a pilot cannot be expected to see even conspicuously marked or lit obstacles in these circumstances, they cannot be permitted to infringe these surfaces.

Basic information relating to current OLS/PANS-OPS surfaces is available on the Archerfield Airport web site. You should contact the Archerfield Airport Technical Officer should you require more detailed advice or guidance.

Controlled activities require approval. In the case of an unapproved building or structure the Minister for Infrastructure is empowered to apply to the Federal Court to have it demolished or removed. (section 187 of the Act).

An application for approval of a controlled activity is provided in the first instance to AAC either by the proponent or by BCC when it receives your application. Non-compliance by

either the proponent or BCC constitutes an offence under the regulations and substantial fines apply (APAR 7 and 8).

AAC then gives notice of the application to CASA, Airservices Australia (the organisation responsible for designing the instrument approach and departure procedures and for providing air traffic control services at Archerfield Airport) and BCC, as it may not yet have been advised by the proponent. AAC refers the application to the Secretary of Infrastructure who, in determining the application, takes account of information provided by these organisations as well as AAC (APAR 13). The decision may be reviewed on application to the Administrative Appeals Tribunal (APAR 17).

An overview of these airspace protection requirements can also be accessed on-line at

http://www.infrastructure.gov.au/aviation/airport/planning/airspace_protection_overview.aspx

2.1.2 Future Airport Development

The Act, Division 3 requires AAC to develop a Master Plan which sets out its development objectives, its assessment of future aviation requirements and development of the airport site. The planned development is approved by the Minister for Infrastructure.

2.1.3 Aircraft Noise

The Act also requires AAC to prepare an Australian Noise Exposure Forecast (ANEF) (section 71(2)(d)) as part of its master planning process. The objective is to prevent incompatible development occurring in the vicinity of the airport which might ultimately impact on the development and/or affect its viability.

Basic information relating to the Archerfield Airport ANEF is included as Figure 13 of the Archerfield Airport Master Plan 2005-2025 which is available on the Archerfield Airport web site. You should contact the Archerfield Airport Technical Officer should you require more detailed advice or guidance.

2.2 CASR 139.E OBSTACLES AND HAZARDS, MOS 139 CHAPTER 7, CAR 94-96

In MOS 139, subparagraph 7.1.1.2 CASA defines an obstacle as being “any object that penetrates the obstacle limitation surfaces (OLS), a series of surfaces that set the height limits of objects, around an aerodrome”.

AAC is required to notify CASA of any development or proposed construction near the airport that is likely to create an obstacle (CASR 139.360(3)). If CASA determines it will be a hazardous object because of its location, height or lack of marking or lighting, CASA will require the proponent of the development to ensure it is marked and/or lit (CASR 139.370) to make it conspicuous (CAR 95).

MOS 139, subparagraph 7.1.6.4 requires that “temporary obstacles and transient (mobile) obstacles, such as road vehicles, rail carriages or ships, in close proximity to the aerodrome and which penetrate the OLS for a short duration, must be referred to CASA to determine whether they will be a hazard to aircraft operations”. The referral can be made by AAC or the proponent of the development or activity which creates the temporary or transient obstacle.

CASR 139.360(3) requires AAC to notify CASA of any development involving a gaseous efflux with a velocity exceeding 4.3 metres per second which infringes the OLS.

CAR 94 empowers CASA to require potentially dangerous lights in the vicinity of the airport to be screened or removed. These are lights that could affect pilots by causing glare, confusion or interference with a clear view of airport lights.

CAR 96 empowers CASA to prohibit the dumping of rubbish/waste which may attract birds to the vicinity of the airport. CASA advisory material suggests such activities within a 13km radius of an airport should be strictly controlled.

2.3 IPA AND SPP 1/02

Under the IPA, where an IPA planning scheme is in force, SPP 1/02 must be taken into account when assessing development applications. This applies to applications made under the Brisbane City Plan.

The SPP 1/02 applies to the following areas in the vicinity of Archerfield Airport (subsection 2.3):

- beneath or in the vicinity of the airport’s operational airspace (defined by the OLS and PANS-OPS surfaces);
- areas defined by the 20 ANEF contour; and
- public safety areas, initially 350m wide centred on the main runway centreline tapering to 250m 1000m beyond the ends of that runway.

The SPP 1/02 applies to development (subsection 2.4) that:

- involves actions or activities described in Annex 2 that could adversely affect the safety and efficient use of operational airspace - permanent or temporary physical obstructions, high velocity gaseous plumes, transient intrusions, bird attractions, lighting, generation and emission of particulate matter - a very similar listing to the list of controlled activities above;
- has the potential to increase the number of people living, working, congregating or attending education establishments, hospitals or public buildings within areas defined by the 20 ANEF contour;
- has the potential to increase the number of people or the manufacture/use/storage of hazardous materials within public safety areas.

In effect the SPP 1/02 directs BCC, the local planning authority for Archerfield Airport, to implement the airspace protection and aircraft noise requirements of the Airports Act and to take account of public safety area requirements in its consideration of development applications in the vicinity of the airport.

3 AAC'S ASSESSMENT OF REFERRED APPLICATIONS FOR DEVELOPMENT IN THE VICINITY OF ARCHERFIELD AIRPORT

3.1 PROPOSED BUILDINGS, STRUCTURES OR OTHER THINGS – HEIGHT LIMITATIONS

AAC is required to protect the airspace around the airport to ensure the safety, efficiency and regularity of its operations now and in the future (Airports Act 1996, Section 181). This means keeping the airspace as free as possible from intrusion by obstacles, whether permanent or temporary/transient, which could pose a hazard to aircraft using the airport.

AAC will consider the height and location of your proposed development or activity to determine whether it will intrude into the protected airspace, ie whether it is a controlled activity. If it is, AAC will set in motion the approvals process described in Section 2.1.1 above, and in doing so will fulfil its obligations to notify CASA of the proposal for that organisation to assess it.

If the controlled activity penetrates a PANS-OPS surface AAC will tell you that the application cannot be approved (APAR 9).

In its own submission to Infrastructure in relation to the application AAC will determine if it will impact adversely on proposed airport development.

BCC must take SPP 1/02 into account when assessing this type of development application.

Please understand the importance of making us aware of your development proposal. The safety of our users and those who will occupy your building(s) or those who will benefit from your structure or proposed activities depend on this.

3.2 USE OF CRANES IN THE VICINITY OF ARCHERFIELD AIRPORT

Please familiarise yourself first with section 3.1 which deals with height limitations regarding buildings, structures and other things.

Crane operations of a short-term nature are catered for under APAR 10(3). If the crane infringes a PANS-OPS surface the Secretary of Infrastructure may approve it provided AAC supports the approval (APAR14(5)).

Please understand that any use of a crane may be a “controlled activity” and need approval even if your proposed building, structure or activity does not.

Information for crane operations near leased federal airports can be accessed on-line at <http://www.infrastructure.gov.au/aviation/airport/planning/InformationForCraneOperators.aspx>

3.3 PRESENCE OF TALL ROAD VEHICLES OR LEISURE ACTIVITIES IN THE VICINITY OF ARCHERFIELD AIRPORT

Please familiarise yourself first with section 3.1 which deals with height limitations.

Tall vehicles passing under the approach and take-off areas could infringe the airport's prescribed airspace and constitute a controlled activity. If this is likely, AAC will set in motion the approvals process described in Section 2.1.1 above, and in doing so will fulfil its obligations to notify CASA of the proposal for that organisation's assessment of the activity.

The MOS subparagraph 7.1.6.4 requires that transient obstacles such as this which are in close proximity to the airport and penetrate the OLS for short periods must be referred to CASA. CASA will determine whether they are or will be a hazard to aircraft operations.

Similar activities such as golf or flying model aeroplanes could also create transient obstacles if located under the approach and take-off areas. Ballooning, use of blimps or aerial advertising could create similar transient obstacles.

Temporary obstacles such as stockpiles, container stacks or the like which may vary in height over time are subject to the same requirement.

CASA and/or the Secretary of Infrastructure may require the proponent to provide an aeronautical assessment of the impact of the proposed development or activity.

BCC must take SPP 1/02 into account when assessing this type of development application.

3.4 EMISSION OF GASEOUS EFFLUXES/PLUMES IN THE VICINITY OF ARCHERFIELD AIRPORT

Please familiarise yourself first with section 3.1 which deals with height limitations.

Section 182 of the Act and APAR 6A establish that an emission with a velocity exceeding 4.3m per second is a controlled activity if it penetrates prescribed airspace.

This means that development application must be made to AAC. Prior to referring the application to Infrastructure for approval (see 2.1.1 above) AAC seeks input from Airservices Australia, BCC and CASA. In the case of the latter, this satisfies AAC's obligations in relation to CASR 139.360(3) which requires AAC to notify CASA of any

development which involves a gaseous efflux having a velocity exceeding 4.3 metres per second infringing the OLS.

CASA will require the development proponent to provide an aeronautical assessment of the efflux in accordance with the Guidelines for Conducting Plume Assessments contained in Advisory Circular 139.05(0). CASA will determine whether or not it will be a hazard to aircraft operations because of the velocity or location of the efflux.

BCC must take SPP 1/02 into account when assessing this type of development application.

Please be aware that the air turbulence generated by high velocity plumes creates a significant hazard to aircraft operating in their vicinity, particularly for small training aircraft such as those operating out of Archerfield Airport.

3.5 INCREASE IN THE NUMBER OF PEOPLE LIVING, WORKING OR CONGREGATING AT THE ENDS OF THE MAIN RUNWAY

The Public Safety Areas defined in SPP 1/02 have been based on the statistical probability of an aircraft crash occurring at the end of a runway.

SPP 1/02 requires BCC to consider whether a proposed development will result in an increase in the number of people in the public safety areas designated for runway 10L/28R at Archerfield Airport when assessing applications. The sorts of development in question include such things as residential development, educational facilities, hospitals, nursing homes, shopping centres and sports stadiums.

If AAC becomes aware of a proposed development that has the potential to increase the number of people in the public safety areas, AAC will ensure it is brought to the attention of BCC.

3.6 THE PRESENCE OF HAZARDOUS MATERIALS AT THE ENDS OF THE MAIN RUNWAY

The Public Safety Areas defined in SPP 1/02 have been based on the statistical probability of an aircraft crash occurring at the end of a runway and in this instance the fires, explosions or release of lethal gas that could occur if an aircraft crashed into a facility containing hazardous materials.

SPP 1/02 requires BCC to consider whether a proposed development will result in the manufacture, use or storage of hazardous materials in the public safety areas designated for runway 10L/28R at Archerfield Airport when assessing applications. Of particular concern are developments where the presence of hazardous materials may not be apparent, for example storage in sealed shipping containers.

If AAC becomes aware of a proposed development that has the potential to locate hazardous materials in the public safety areas, AAC will ensure it is brought to the attention of BCC.

3.7 USE OF BRIGHT LIGHTS

The issue of bright lights is of particular concern when an aircraft is approaching to land at night or in conditions of low visibility. At this time the pilot's workload is greatest and lights which blind/dazzle or confuse by creating a pattern that could be mistaken for runway lighting could cause the pilot to crash or land on something other than the runway.

The sorts of development in question include such things as floodlighting, street lighting, drag strips, laser lights, strobe lights and search lights.

Section 182 of the Airports Act establishes that operating a source of artificial light which may blind or confuse pilots within the limits of prescribe airspace is a controlled activity.

AAC will consider the location and nature of your proposed development or activity to determine whether it is likely to include lighting that has the potential to blind pilots or cause confusion, i.e. whether it is a controlled activity. If it is, AAC will set in motion the approvals process described in Section 2.1.1 above. CASA assessment of your proposal will take account of CAR 94 which deals with dangerous lights.

BCC must take SPP 1/02 into account when assessing this type of development application.

3.8 INCLUSION OF REFLECTIVE SURFACES

Surfaces, including sheets of water, which reflect light and dazzle, are of particular concern when an aircraft is approaching to land. At this time the pilot's workload is greatest and the distraction/loss of vision could cause the pilot to misjudge the approach and crash. Similarly if such surfaces are located where they can dazzle air traffic controllers, controllers may fail to see and control aircraft on the ground or in the air with potentially fatal consequences.

AAC will consider the location and nature of your proposed development or activity to determine whether it is likely to include reflective surfaces which have the potential to dazzle, ie whether it is a controlled activity. If it is, AAC will set in motion the approvals process described in Section 2.1.1 above.

BCC must take SPP 1/02 into account when assessing this type of development application.

3.9 EXPOSURE OF PEOPLE TO UNDESIRABLE LEVELS OF AIRCRAFT NOISE

The Australian Noise Exposure Forecast (ANEF) system is the recognised land use planning tool used by State and local planning authorities to control development in the vicinity of airports that would expose people to undesirable levels of aircraft noise. Compatible/acceptable land uses are identified in Australian Standard AS 2021–2000 Acoustics—Aircraft noise intrusion—Building siting and construction in Table 2.1 which is reproduced below.

BUILDING TYPE	ANEF ZONE		
	ACCEPTABLE	CONDITIONAL	UNACCEPTABLE
House, home unit, flat, caravan park	< 20 ANEF (Note 1)	20–25 ANEF (Note 2)	> 25 ANEF
Hotel, motel, hostel	< 25 ANEF (Note 1)	25–30 ANEF (Note 2)	> 30 ANEF
School, university	< 20 ANEF (Note 1)	20–25 ANEF (Note 2)	> 25 ANEF
Hospital, nursing home	< 20 ANEF (Note 1)	20–25 ANEF	> 25 ANEF
Public building	< 20 ANEF (Note 1)	20–30 ANEF	> 30 ANEF
Commercial building	< 25 ANEF	25–30 ANEF	> 35 ANEF
Light industrial	< 30 ANEF	30–40 ANEF	> 40 ANEF
Other industrial	Acceptable in all ANEF zones		

Source: Australian Standard 2021-2000, Table 2.1

Notes

1 The actual location of the 20 ANEF contour is difficult to define accurately, mainly because of variation in aircraft flight paths. Because of this, the procedure of Clause 2.3.2 of the Standard may be followed for building sites outside but near to the 20 ANEF contour.

2 Within 20 ANEF and 25 ANEF, some people may find that the land is not compatible with residential or educational use. Land use authorities may consider that the incorporation of noise control features in the construction of residences is appropriate.

3 There will be cases where a building of a particular type will contain spaces used or activities, which would generally be found in a different type of building (e.g. an office in an industrial building). In these cases Table 2.1 (of the Standard) should be used to determine site acceptability, but internal design noise levels within the specific spaces should be determined by Table 3.3 (of the Standard).

4 This Standard does not recommend development in unacceptable areas. However, where the relevant planning authority determines that any development may be necessary within existing built up areas designated as unacceptable, it is recommended that such development should achieve the required ANR determined according to Clause 3.2 (of the Standard). For residences, schools etc. the effect of aircraft noise on outdoor areas associated with the buildings should be considered.

5 In no case should any new developments take place in green field sites deemed unacceptable because such development may impact on airport operations.

AAC has prepared an ANEF as required by the Act (section 71(2) (d)) as part of its master planning process. The objective is to prevent incompatible development occurring in the vicinity of the airport which might ultimately impact on future airport development and/or affect its viability.

SPP 1/02 requires BCC to consider whether a proposed development has the potential to increase the number of people living, working, congregating or attending education establishments, hospitals or public buildings within areas defined by the Archerfield Airport 20 ANEF contour when assessing applications.

If AAC becomes aware of a proposed development that has the potential to expose people to aircraft noise nuisance, AAC will ensure it is brought to the attention of BCC and will object to the proposal.

3.10 CREATION OF DUST, SMOKE OR OTHER PARTICULATE MATTER

Proposed industries or activities that create smoke, dust or other particulate matter have the potential to create a hazard to aircraft by reducing visibility for visual flight operations. These constitute the majority of operations conducted from Archerfield Airport.

AAC will consider the location and nature of your proposed development or activity to determine whether it is likely to create smoke, dust or other particulate matter, i.e. whether it is a controlled activity. If it is, AAC will set in motion the approvals process described in Section 2.1.1 above.

BCC must take SPP 1/02 into account when assessing this type of development application.

3.11 DEPOSIT/DUMPING OF WASTE FOODSTUFFS OR CREATION OF OTHER BIRD ATTRACTIONS

Birds on or near an airport pose a threat to safe aircraft operations. A collision between bird(s) and aircraft can result in significant damage to the aircraft and on occasions have fatal consequences. Strikes are more likely to happen when the aircraft is relatively low to the ground, usually close to an airport.

Activities likely to attract birds to the vicinity of Archerfield Airport should therefore be carefully considered – waste management facilities, food processing plants, fast food outlets, abattoirs, wet lands, water features, landscaping, or parklands.

Research by the International Civil Aviation Organisation, the findings of which are reflected in CASA advisory documents in relation to bird hazards, has identified that the majority of bird strikes occur within a 13 km radius of an airport. Therefore environmental management needs to be extended well outside the airport boundary and requires appropriate arrangements to be put in place with local government authorities.

SPP 1/02 requires BCC to consider whether a proposed development has the potential to attract birds to the vicinity of Archerfield Airport when assessing applications.

If AAC becomes aware of a proposed development that has the potential to attract birds to the vicinity of the airport, AAC will ensure it is brought to the attention of BCC. AAC will also advise CASA since CAR 96 empowers CASA to prohibit the dumping of rubbish/waste which may attract birds to the vicinity of the airport.

3.12 PLACEMENT OF OBJECTS IN VERY CLOSE PROXIMITY TO THE AIRPORT'S SECURITY FENCE

Archerfield Airport is a security controlled airport and is required by the Aviation Transport Security Act 2004 to develop a Transport Security Plan which identifies and assesses risks to aviation security. Development or activity very close to the airport perimeter fence, both on and off airport, needs to be assessed to determine if it will provide a means of unlawful access to the security controlled areas of the airport.

For example, to keep the perimeter fence clear and to stop someone scaling or jumping the fence, AAC will ensure proposals that require structures to be erected or vehicles, equipment or other things to be left within 3m on the landside and 2m on the airside of the perimeter fence are not approved.

3.13 CONFLICT WITH AAC'S PROPOSED FUTURE AIRPORT DEVELOPMENT

AAC's proposed development of the airport may involve extension or realignment of the runways. Therefore proposed development external to the airport needs to be evaluated in the light of this particularly in relation to:

- the location of new flight paths;
- new areas encompassed by prescribed airspace and likely to be subject to height restrictions; and
- alterations to the location of the 20 ANEF contour.

3.14 WIND SHEAR AND/OR WIND TURBULENCE

Structures, stockpiles or stacks located close to an airport's approach or departure paths have the potential to cause wind shear and/or wind turbulence because of their dimensions and location coupled with prevailing wind direction.

Stacks, whether of materials or storage containers, are a matter of considerable concern. Unlike a permanent structure where the wind effects, to a certain extent, can be anticipated and planned for, a stack, which over time alters its shape and height, creates a less predictable and therefore dangerous situation.

These wind effects would occur when an aircraft is relatively close to the ground and the pilot's workload is heavy. This creates a dangerous situation for even the most experienced pilot and it must be remembered that in the case of Archerfield Airport the majority of take-offs and landings are being carried out by student pilots.

AAC will consider the location and nature of your proposed development or activity to determine whether it is likely to create wind shear and/or wind turbulence ie whether it is a controlled activity. If it is, AAC will set in motion the approvals process described in Section 2.1.1 above.

The Secretary of Infrastructure may require the proponent of the development to undertake wind tunnel modelling so that its effects can be fully assessed.

3.15 INTERFERENCE WITH AIR TRAFFIC CONTROLLERS' LINE OF SIGHT

The control of aircraft from the control tower occurs primarily by visual observation of the disposition of air traffic on the airport and in the airspace in the immediate vicinity of the airport.

The ability of air traffic controllers to maintain a continuous watch is affected by the built environment. Therefore AAC must consider proposals in relation to on-airport development to ensure the controllers' line of sight is not impeded.

4. CONCLUSION

Please understand the importance of making us aware of your development proposal. So many aspects of a proposal have the potential to impact on the safety of aircraft operations at Archerfield Airport and the development of the airport itself.

With appropriate consultation, modifications can often be made to a proposal so that these potential adverse impacts can be eliminated or considered acceptable.