TABLE OF CONTENTS

SECTION 2 - DEVELOPMENT FOOTPRINT

Criteria	Response
1. The layout and design of facilities must consider options to minimise the footprint of the development and consider the location of activities and facilities based on the type of access required (i.e. water or landside access).	The proposed development has been designed to minimise the development footprint as much as practical, while ensuring that sufficient access, separation and landscaping is integrated into the design.
2. Operators developing infrastructure on common user berths must implement loading/unloading facilities which allow for minimal impacts on the operation of the wharf for other users.	The proposed pipeline is intended to generally maintain the existing pipeline route, as it relates to the pipelines currently located on the wharf. As such, the impacts associated with loading and unloading on the wharf are intended to be minimal.
3. Pipeline(s), conveyor systems and services (power, water, fire fighting, etc) must be safe and designed to minimise impacts on other port operators.	The proposed pipeline and services for the facility will be designed and implemented in accordance with the relevant Australian standards.
4. The layout and design of facilities should maximise productivity rates of port infrastructure (pumping rates, discharging / loading rates).	The layout and design of the proposed facility is done so to maximise the productivity of the port infrastructure.
5. A minimum 40m setback from the wharf edge to any permanent structure is required at common user berths, and greater where a turning circle for B-double trucks on the wharf is required. All vehicles are required to leave a site in a forward direction.	The proposed development is located over 40m from the wharf edge. The proposed pipeline is not subject to this criteria.

SECTION 3 – VISUAL AMENITY AND BUILT FORM

Criteria	Response
1. Buildings are to be oriented towards the primary street frontage. The office component of a building is to address the street so as to provide an attractive frontage, easily identifiable building entry and the potential for surveillance of the street.	The orientation of the facility is intended to maximise views from the proposed buildings to the storage facility and harbour. With respect to the office component, while not orientated towards the frontage, it is still considered that the overall design is attached through the use of high-quality landscaping and façade finishes. The entry to the building will still be identifiable through the use of design features and signage throughout the site. For people accessing the site, the entry point to the office building will be clear due to the proximity of the parking spaces to the building, being the expected transport method to the site. With respect to the passive surveillance associated with the premises, the site is intended to be unmanned for majority of the time, and therefore the orientation of the building to the street would pose minimal passive surveillance. In its stead, the elements that will be predominantly occupied are associated with the unloading gantries, for which have clear sightlines to the road frontage of the site, therefore supporting surveillance from drivers undertaking loading and unloading on the site.
Built Form	
2. The built form should be designed to minimise the perception of bulk and scale and add visual interest to the development.	The proposed development has been designed to minimise the appearance of bulk and scale associated with the development where possible, notably: • The development support glazing and screening on the facades of the office space; • Landscaping is utilised along the frontage of the development and as a green wall on the front façade of the shed; • Roof overhangs around the perimeter of the building; • The buildings generally comprise a low rise built form;
3. Façade treatments and building heights should be varied to reduce the bulk and scale of the development and to add visual interest (Figure 1).	The proposed office building and workshop incorporates articulated features in the façade treatment of the premises in the form of roof overhangs, windows and varying roof heights.
4. Expressive and distinctive roof forms are encouraged. Roof forms which express the industrial maritime character of the Port should be used (Figure 2).	The proposed development supports the integration of multiple roof types within the site, of which is considered to reflect the maritime character of the locality.
5. The use of external structural framing systems or changes in colour and building materials are encouraged on long elevations to create visual interest and reduce the scale of the building form (Figure 3).	Varying colour and materials are utilised through the elevations of the office building, to reduce the appearance of bulk.
6. Port buildings, silos and covered loading areas are to be integrated into a consistent design solution, which includes the use of a complementary palette of colours and materials, to promote the type, location and function of the tenancy (Figure 4).	The proposed development supports a generally complementary colour palette and material type, that is consistent with the operation of the site.
7. Ancillary structures (e.g. loading areas, conveyors, hoppers) that are detached or connected to the tenant's main building should be highlighted through the innovative use of colour, structure, screening and material (Figure 5).	the proposed development has utilised a generally consistent colour palette throughout the development, of which is still considered to support a high quality design outcome, that will be highly attractive to the surrounding locality.

8. Varying materials and colours should be used throughout the Port (see Specific Criteria 3.2.2).	The design of the proposed development has had regard to the colour palette indicated in figure 6.
9. Air-conditioning units, telecommunications equipment or mechanical plant are to be concealed within screened enclosures or positioned behind the roofline to minimise their visibility from main port road frontages.	All mechanical plant areas associated with the office space will be designed to screened from the frontage of the site. Mechanical equipment associated with the operation of the pipeline and bulk liquid storage, as contained within the ancillary shade structures, aren't to have direct shade structures integrated into the design, as it is required for this mechanical equipment to have unobstructed ventilation to ensure safe operation. We note that the height of this equipment will be generally low form, comprising heights of approximately 1.5m above ground level, of which is considered to be sufficiently screened through utilisation of frontage landscaping and/or is sufficiently separated from the frontage to minimise potential visibility.
10. Windows in new buildings are to be sited, where possible, in locations which provide overlooking opportunities to adjacent roads, walkways and open space areas (i.e. passive surveillance opportunities).	Windows associated with the office building are located to maximise overlooking potential within the site. Given that the site would be operated as a largely unmanned facility, the potential passive surveillance associated with the office space would be minimal.
11. Garbage bins and waste recycling areas shall be accommodated on site, appropriately screened and accessible to the users of the building and service vehicles.	The proposed development supports a garbage bin enclosure within the site, within proximity to the internal car parking area, of which is clearly accessible by building users and service vehicles, as demonstrated by the nitrogen tanker turn path.
Materials, Finishes and Colours	
12. A variety of material and colours are to be used to minimise the perception of the building mass and scale. An indicative palette of colours for building structures is shown at Figure 6.	A variety of materials and colours are utilised in the design of the development. Indicated colour palette associated with the design is provided as part of the drawing package.
13. A complementary colour palette should be used for port buildings, structures and silos. Recessive colours should be used for the majority of building elevations, while highlight colours should be used to emphasise structural and other articulated elements.	The proposed development is considered to integrate a complementary colour palette generally in accordance with figure 6, utilising predominantly recessive colours throughout within the elevation design, and with highlight councils used within screening elements of the office building. The loading/unloading gantries/other ancillary structures are to utilise predominately recessive colours, although the colour choice is still considered to clearly delineate between the primary façades and structural elements.
14. The selection of materials should reinforce the industrial maritime character of the buildings, create visual interest and be appropriate for the proposed use. Preferred materials include timber, brick, steel, concrete, corrugated metal, lightweight cladding and other contemporary materials.	The choice of material and colours throughout the development has been done to generate a visually interesting design and having regard to the oceanside nature of the proposed development.
15. External structural systems, sun shading devices and patterned screens are to be a different colour and/or material to the primary elevation material (Figure 7).	The proposed shading and other external structural devices associated with the proposed office building are to incorporate an alternative colour and/or material to that of the primary building elevation. The proposed workshop does not comprise of any external shading or structural devices.
16. The visibility of conveyors, pipelines, hoppers, rail mounted gantries and silos is to be reinforced through the use of highlight colours and/or pattern designs and innovative	Due to the location of the pipeline being located along the foreshore as it runs to the wharf, the implementation of distinctive colour and/or structural elements are considered

structural design. The colour selected is to be submitted as part of the application for development.	unnecessary due to the minimal visibility of the pipeline. Further, the utilisation of distinctive colour on the pipeline is not recommended as not draw significant attention to a pipeline carry goods that are considered to be dangerous.
17. Materials and colours for buildings and roofs are to minimise reflectivity. All glazing is to have a reflectivity coefficient of less than 20%.	The proposal will integrate materials of a low reflectivity rating.
18. All tanks are to be painted white or light grey. Industrial maritime artwork features are encouraged on tank elevations visible from port common user roads and public viewing locations (Figure 8).	The proposed bulk liquid storage tanks will be painted white.

SECTION 4 – SUSTAINABLE DEVELOPMENT

Criteria	Response
1. All development should incorporate as many of the suggested measures contained in NSW Ports' Green Port Checklist as practicable. As a minimum, all development proposals are to be accompanied by a completed Green Port Checklist.	Please refer completed green ports checklist. The proposed development has sought to implement as many items under the Green Ports Checklist as possible. Some of the identified items are requested to be conditioned as part of the development works of the proposed development.
2. All buildings are to achieve a minimum 4 Star Green Star rating from the Green Building Council of Australia (or the equivalent) for the latest applicable version. This applies to buildings where Green Star rating tools are applicable.	The proposed office building will be designed to achieve a minimum 4 star green star rating.
3. Buildings (including sheds and workshops) are to be designed and constructed to maximise the use of natural ventilation and natural lighting, and to minimise energy consumption associated with heating, cooling and lighting (Figure 9).	The design of the proposed office incorporates high levels of glazing and an open design, as to maximise natural lighting and ventilation throughout the building. With respect to the proposed workshop, due to the potential activities occurring with the space, and the high risk potential risk associated with the operations on the premises, having the space sealed as much as possible to prevent potential hazard within the site.
4. Mechanical ventilation must be installed in cargo sheds which contain operational diesel plant and equipment.	Mechanical ventilation systems will be implemented on-site where required.
5. Development is to collect sufficient rainwater for reuse on site, such as for use in container wash down facilities and the like, toilet flushing and irrigation of landscaping.	Stormwater generated from roofed areas within the site will be captured and repurposed for irrigation purposes on the subject site.
6. Low maintenance and robust materials are to be used.	The proposed development is to utilise aluminium, steel and cement as the primary building materials on the site, as to reduce maintenance improve the robustness of buildings and structures on the site.
7. All developments are to assess the type and quantity of waste to be generated from the development. Identify and assess options to minimise waste generation and facilitate reuse / recycling.	In accordance with Waste Management Code of the Wollongong DCP, the weekly waste generation for the proposed development is expected to be approximately 261.8L. Accordingly, it is determined that the premises will be appropriately catered for by 4 x 240L wheely bins within the proposed waste enclosure.
8. All sites are to provide a dedicated storage area for the separation, collection and recycling of waste with adequate access for waste collection.	A dedicated was storage area will be provided on the site in proximity to the workshop. Given the limited operation requirements in association with the office and workshop, waste and recycling are considered to be sufficiently catered by wheely bins, for which can be transferred to Foreshore Road for collection.
9. A climate change risk assessment is to be provided as part of an application for all new developments. The assessment is to consider design aspects relating to sea level rise and extreme weather events including flooding, high wind, high temperatures and storm surges.	As outlined in the provided stormwater management plan, the proposed development has been designed to achieve a level of flood immunity during a 1% AEP flood event. Consideration has also been made to the Probable Maximum Flood (PMF) likely to occur on the subject site.
10. All development is to incorporate measures to minimise greenhouse gas emissions.	As per the provided air quality report, the proposed development is to incorporate measures to mitigate emissions released associated with the bulk liquid storage of the site. In addition to above, while deliveries to the site are largely handled by road tankers, the transfer of ethanol to the wharf will be done via a pipeline, reducing reliance of vehicles.

SECTION 5 – ACCESS, PARKING AND LOADING

Criteria	Response
1. Utilise sustainable transport options to move freight to and from the port (e.g. rail, higher productivity vehicles, pipelines, etc) to minimise truck movements and / or vehicle kilometres travelled on the road network.	Deliveries to site will generally be handled by a 32m A-Double, being the largest vehicle capable of accessing the site. This will ensure that the quantities of ethanol delivered per trip is maximised. Between the site and the unloading facility at the end of berth 206, a pipeline is to be utilised, as to reduce the need for use of vehicles.
2. All development proposals are to assess both on and off-site traffic impacts and are to be accompanied by a Traffic Management Plan.	Please refer to Traffic Impact Assessment.
3. All vehicles must enter and exit the site in a forward direction.	The premises is designed to allow vehicles to enter and exit the site in a forward direction. Refer turn path analysis provided in the Traffic Impact Assessment for further detail.
4. All site vehicular access / egress points and paths are to be located and designed to avoid conflicts between pedestrians, light vehicles and truck movements.	The potential conflicts between the pedestrians, light vehicles and trucks is considered to be inherently minor as a result of the proposed works on the grounds that: • The entry points to the site are provided with sufficient separation between the entry gates and the front boundary of the site as to allow the expected vehicles to stand wholly within the confines of the allotment prior to gaining access to the site; • The proposed development is considered to be an inherently low traffic generating use, as supported by the provided traffic report; • Foreshore road is considered to be a low speed environment, allowing motorists to have sufficient leeway to account for vehicle movements throughout the site; • Majority of heavy vehicles are only to access the premises via the eastern most crossover and exiting via the central crossover. Therefore, light vehicles accessing the site will have clear sight lines for heavy vehicles unloading/exiting the site; • The nitrogen tanker, which requires access via the central crossover, is an infrequent trip type; On the basis of all of the above, the proposed development is considered to result in minimal conflict between pedestrians, light vehicles and truck movements.
5. Port facilities are to provide separate access points to an adjoining roadway for light vehicles and trucks.	The proposed development provides the same access point for both heavy and light vehicles. As is outlined by the Traffic Impact Assessment, given the low volume of traffic movements of the site, the potential impacts associated with this are determined to be minimal.
6. Designated pedestrian paths should be clearly delineated as separate walkways from the site's internal vehicular roads and parking areas, by means of a perceivable change in material and / or colour.	Any required internal pedestrian pathways will be clearly delineated within the premises.
7. All proposed internal roads, pavement areas, driveways and crossovers, and car parking areas must be appropriately designed and constructed for the expected intensity of use.	The proposed vehicle configuration will be in accordance with the expected intensity of the use. This is confirmed within the provided traffic impact assessment.

8. All employee and visitor parking are to be accommodated within the leased area. Car parking areas (i.e., parking bays and loading areas) are to: - be designed in accordance with Australian Standard AS 1428:1-4 Design for Access and Mobility, Australian Standard AS 2890.1 Car Parking Facilities and Australian Standard AS 2890.2 Commercial Vehicle Facilities; - provide a minimum rate of one (1) parking space per staff member and contractor plus 10% (calculation to be based on the maximum number of staff members and / or contractors on site at any one time); - provide for at least two (2) visitor parking spaces however for those sites with less than 10 staff members and contractors provide at least one (1) visitor parking space; - provide for at least one (1) mobility impaired parking space, to be located adjacent to building entries and clearly delineated; - be paved with concrete or bituminous surfacing designed and drained to the approved stormwater drainage system; and - incorporate landscaping to reduce surface water runoff, provide visual screening and shade for parked vehicles (Figure 10).	The proposed carparking area is designed in accordance with the mentioned Australian Standards and be appropriately sealed and drained in accordance with the stormwater management plan. As is confirmed by the provided traffic impact assessment, the proposed development is to support 2 permanent staff members on-site at any one time. Accordingly, the proposed development requires the minimum of 3 staff parks and 1 visitor space. As indicated, a total of 8 parking spaces are provided. As recommended by the traffic report, 1 PWD space is to be provided in proximity to the office building, to enable ease of access to the building. Additionally, the land surrounding the proposed parking area is to support landscaping as to reduce water runoff and provide screening. Planting selections are to be consistent with the species for fire prone areas, given the proximity of the parking spaces to the bulk liquid storage.
9. For sites with less than 20 car spaces, screen planting to the perimeter of the car park is to be provided. For sites with more than 20 car spaces, additional tree bays (1.2 x 3m minimum) are to be incorporated at a rate of one (1) bay for every 10 spaces, except where bays abut rear or side walls of buildings (Figure 11). The suggested planting palette is set out at Appendix A.	Screen planting is to be provided around the perimeter of the car parking area.
10. The site layout is to ensure that all vehicles being loaded and / or unloaded (or awaiting loading and / or unloading) are able to stand entirely within the leased area to avoid queuing of vehicles outside of leased areas.	Service Vehicles are capable of standing within the confines of the subject site during loading and unloading procedures.
11. As a minimum, truck entry (security gates and check point facility) to a site must be set back 30m from the lease boundary so as to enable at least one (1) B-double truck to queue entirely within the site (Figure 12). Light vehicle entry which includes a gate or a security entry point to a site must be set back as a minimum 6m from the lease boundary.	The proposed truck entry gate (Eastern most crossover) is setback 22-35m from the lease area boundary. This is not determined to be significant, as it is demonstrated on the vehicle turn path plans that the site is capable of queuing an A-Double within the site. With respect to the central crossover, the only service vehicle requiring access to the site via this crossover is to be the nitrogen tanker, for which the driver will call ahead so that the operators will be able to open the gate in anticipation of the delivery, removing the need for queuing at this crossover.
12. Bicycle parking spaces must be provided. Bicycle parking facilities should be located in highly visible, illuminated areas and securely anchored to the site surface to prevent removal and shall be of sufficient strength to resist vandalism and theft.	Bicycle racks are located in an open air location adjacent to the proposed car parking area as to enable visibility from the site office. As required on-site light fixtures within proximity to parking area to enable low light visibility. All established bike racks will be sufficiently anchored to the site surface.

LANDSCAPING

Criteria	Response

1. A Landscape Plan, including a maintenance program, is to be prepared and submitted as part of an application for development and is to consider landscaping of areas including car parking areas, road frontages and site entry points. Appendix A outlines the suggested planning list for the Port. Species with pollen should be avoided, particularly near dry bulk facilities.	Landscape plan is provided as part of this application, outlining that landscaping is to be provided adjacent to the frontage of the site and around parking areas. A maintenance plan for the landscaping areas will be implemented prior to the commencement of the use on the subject site.
2. Establish a 5 metre landscaped buffer strip within the lease area, facing port access roads (excluding internal site access roads). The buffer strip is to have a flush timber edging with the security fencing located behind the landscaping.	5m landscape buffer is provided adjacent to the frontage of the subject site.
3. Develop a layered bedding pattern with a progression from smaller species at the front edge to larger species at the back (near the fence line, excluding trees).	The proposed landscaping within the 5m buffer adjacent to the frontage of the site will generally integrate a layered planting pattern within the 5m buffer along the frontage of the site.
4. Ensure a high level of security and passive surveillance is maintained, including: - No tree planting within 2.5 metres of the fence line; and - Under prune trees to minimum 2.5 metres above ground level and maintain adequate branch clearance from the security fencing.	The trees within the 5m front buffer are located to support a minimum separation distance of 2.5m from the fence line of the site, where measured from the Centrepoint of the trunk. All trees proposed and retained on the site will be pruned to a minimum height of 2.5m above ground level to ensure appropriate passive surveillance is achieved. It is noted that the one existing mature tree within 5m front buffer is to be removed for the purpose of this proposal, as a result of this tree being located within 2.5m of the front fence line of the site.
5. Landscaped areas are to be planted to achieve a minimum of 75% planting density once fully matured.	Proposed plantings will achieve a minimum 75% planting density upon maturity.
6. Suitable local native plant species are to be used within landscaped areas. The minimum plant container sizes are to be as follows: - Trees – 25 litres; - Accents – 5 litres; and - Groundcovers – 100mm.	All proposed plantings will comprise container sizes in accordance with this criteria.
7. All landscaping, in particular within car parks and along pedestrian paths, is to take into account the need to maintain passive surveillance.	Landscaping proposed adjacent to carparking areas will comprise largely of accent and groundcover planting, and trees will be pruned to a minimum height of 2.5m above ground level as to ensure sufficient passive surveillance is achieved.
8. Landscaping areas are to be watered regularly for a minimum of 12 months to ensure vegetation establishment, preferably with captured stormwater runoff / rainwater. Ongoing maintenance and management of landscaped areas is required to be undertaken including replacement of plant species if required.	Upon completion of the proposed works, all landscaping areas will be watered from a minimum of 12 months to ensure vegetation establishment, with ongoing maintenance of the landscaping for the life of the development.
Road Reserve Landscaped Areas	
9. Develop and maintain a consistent pattern of selected native planting including: - layered and banded ground stratum planting (up to 0.5 – 0.7m high), - accent planting with large perennials (up to 1.4m high), clustered and individual small to medium tree planting up to 8 – 12m in height, and	The proposed development supports a landscape design along the frontage that is to comprise of plantings in accordance with appendix A of the Port Kembla Development Code and will support a maximum cluster spacing of 15m between groups.

- clusters to have a maximum spacing of 15m between groups.	
10. Existing landscape areas that do not comply with the above controls are encouraged to be removed and replaced with landscaping that complies with the above controls.	Will comply where required
Potential Fire Risk Landscaped Areas / Non-Active Water Front Landscaped Areas / Service Corridor Areas	
11. Continue repetition of form, texture and colour to create a strong multi-layered, rhythmic pattern in the landscape as follows: - layered and banded ground stratum planting (0.4 – 0.7m high), and - introduce highlights within the landscape buffer strip using grouped accent planting with large perennials (up to 1.4m high).	Proposed landscaping areas are located outside of the identified on-site hazard areas and therefore not considered to constitute fire risk landscaping.
12. Use local native or indigenous plant species suited to site-specific environmental conditions with a low fire risk (i.e. low combustion or fire retardant properties).	Proposed landscaping areas are located outside of the identified on-site hazard areas and therefore not considered to constitute fire risk landscaping.
13. Existing landscape areas that do not comply with the above controls are encouraged to be removed and replaced with landscaping that complies with the above controls.	Proposed landscaping areas are located outside of the identified on-site hazard areas and therefore not considered to constitute fire risk landscaping.

SECTION 6 – SECURITY

Criteria	Response
1. All leased areas are to be appropriately fenced for security purposes	The lease area will be appropriately fenced.
2. The maximum fence height permitted is 3.5m	Th proposed fencing will not comprise a height of greater than 3.5m
3. All fencing including posts, rails and gates are to be either chain wire or palisade and are required to be black in colour (i.e., black PVC, powder coated or the like) (Figure 15).	All proposed fencing will comprise of chain wire or palisade and will be black in colour.
4. All access points to leased areas are to be secured with durable gates, and checkpoint facilities, where appropriate. Gates are to comprise either chain wire fencing set within a framed rim (with optional 3-strand barbed wire on top), or palisade gates (with optional spikes or barbed wire on top) (Figure 15).	Durable gates are proposed to all access points of the site.

SECTION 7 – SIGNAGE

Criteria	Response
1. All directional signage outside or on the lease area fence (Figure 16) excluding the relevant road authority's street signage: - is to be located in a prominent position and clearly visible; - is not to be located above a roadway; - is to be of a size and location so as to not obscure vehicle sightlines; - is to be positioned where it does not obstruct walkways and pathways; - is to consist of similar colours to that of the NSW Ports colour scheme comprising dark blue, orange, red, white, black and grey, or is to be consistent with colours of typical safety / warning signage (i.e., to comply with applicable Australian Standards); - may incorporate the lessee logo where it is located for directional purposes at the entrance to a leased area. The colours of the logo are to be lessee corporate colours, and - for car parking areas, loading and delivery areas and the like, is to be located close to the main access of a site.	Two direction signs are proposed in association with the development adjacent to the central and western crossovers. The signs are to comprise of NSW Ports Blade Signs and a colour palette that is consistent with the NSW Ports Colour Scheme. The two signs are intended to provide direction for truck drivers accessing the premises.
2. All signage installed in the Port is to be consistent with government authority requirements and Australian Standards.	All signage will be established in accordance with the relevant Australian standards.
3. No advertising signs is to be erected within the port estate upon the buildings, structures or tanks other than business identification signage.	Only business identification and site information signage forms part of this application.
4. Business identification signage: - is to be located outside the lease area fence and located on NSW Ports' standard Blade Sign; - should not obscure vehicle sightlines or control signs; - is permitted on one elevation of the primary building, except where a site has two main road frontages or where there are multiple occupants within a building; - may comprise text, illustrations, and/or both, to ensure clear identification of the sign and its intent; - is not to be illuminated or comprise any form of flashing signage; - is not to occupy more than 10% of any facade or elevation of a building; and - is to identify visitor entrance points to lease areas.	A single business identification sign is proposed on the building facades of the proposed development, being the signage shown on the loading gantry of the subject site. The proposed sign is to be 2m x 8.4m, for a total area of 16.8m^2. The sign is to be static and non-illuminated, only illustrating the applicants name and Logo, being 'Manildra Group', as to assist in visitor ability to identify the site.
5. Business identification signage on the side of tanks is limited to one sign per leased area or site (in the case of multiple lease areas being operated as a single site). The sign should be subordinate to the elevation of the tank (Figure 17).	The proposed tanks are to have two signs implemented. While this is excess to what is prescribed by this criteria, it is determined that what is proposed is generally low form in the context of the proposed development on the following grounds: • The tank signage is orientated away from frontage of the site, only considered to be visible from the outer harbour area and properties to the north-west of the site; • The signage is considered to be consistent with the design of the subject site and the greater port area;

	On the basis of all of the above, the proposed tank signage is considered to generally reflect the signage objective applied under the Port Kembla Development Code.

SECTION 8 – LIGHTING

Criteria	Response
1. Lighting levels are to be provided in a manner just sufficient to meet operational requirements and to the relevant Australian Standards.	Lighting will be designed in accordance with the relevant Australian standards.
2. Appropriate lighting should be provided at key locations such as pedestrian paths, driveways, parking areas and building entries, so as to identify and provide safe access routes for both employees and visitors.	Lighting will be provided at the key locations within the subject site.
3. Lighting is to be positioned so as to not cause distraction to vehicle drivers on internal or external roads, the occupants of adjoining sites or the users of the waterways.	Proposed lighting will incorporate downlights as to minimise off-site impacts.
4. Developments should be constructed and operated to prevent any impacts or interference on navigation aids or leads.	All lighting integrated on-site will utilise white lighting and not comprise any flashing, as to not be construed as a navigational aid.
5. Light spill outside the site boundary and sky lighting is to be avoided through the adoption of measures such as: - Focussing lights downwards; - Installing cut-offs or shields on lights; - Minimising the light mast height; and - Using low mounting height poles to light non terminal operational areas, including access / egress routes.	All lighting will be installed in accordance with this criteria.

SECTION 9 – HERITAGE AND ENVIRONMENTALLY SENSITIVE LOCATIONS

Criteria	Response
1. Any development proposal which has the potential to impact on a heritage item (refer to Appendix B) or a heritage item's significance, is to be accompanied by a heritage impact statement.	Please refer provided heritage impact statement prepared with regard to the proposed development.
2. Development in the vicinity of a heritage item is to be designed to respect and complement the heritage item	As is outlined within the Heritage Impact Statement, the proposed development is not identified to impact upon the nearby heritage items.
3. All developments are to consider potential impacts on flora and fauna including known habitat areas (refer to Appendix B) and identify management measures to minimise impacts and disturbance.	The drainage corridor traversing through the site is identified as being a potentially environmentally sensitive area for Green Golden Bell Frog Habitat. The development is not expected to impact on the sensitivity of the corridor, noting that recent surveys indicate the corridor as being fully sealed and comprising limited, if any, existing vegetation within the corridor. Additionally, the stormwater management plan indicates that all generated stormwater is to be treated in accordance with the WSUD principles prior to discharging to the culvert.

SECTION 10 – SAFETY, RISK AND HAZARD MANAGEMENT

Criteria	Response
1. All new development is required to undergo a risk assessment of the construction and operational phases of the development including consideration of impacts on current and / or known future adjoining activities and occupiers. Specifically for hazard facilities, the risk assessment is to demonstrate: - that all foreseeable hazards that may arise from a development, that have a potential to harm the health and safety of any person, the environment, or impact the safety of buildings, equipment, plant and facilities have been clearly identified; - that potential for propagation of hazardous incidents to the neighbouring facilities is identified and is, in accordance with the "So Far As Is Reasonably Practicable" (SFARP) principle; - that the risks associated with the identified hazards at the development have been appropriately analysed and assessed; - that the assessed risks comply with the relevant risk criteria published by the regulatory authorities; - that all identified risks will be controlled and minimised by protection and mitigation; - the Risk Assessment for the proposed development is to include the quantitative analysis of incident impacts relating to consequence severity and risk and include risk contours. The impacts are not to exceed acceptable published risk criteria; and - the industrial premises risk contour for the development (including existing site development) must remain within the lease boundary. - The risk assessment is to be submitted as part of the application for development.	Please refer provided Preliminary Hazard Analysis and HAZOP Report which assesses the potential hazards identified for the subject site.
2. A site Safety and Emergency Management Plan is to be prepared which takes into consideration any existing Port precinct plan(s) and adjoining land uses.	The provided PHA and HAZOP report are considered to appropriately assesses the safety of the proposed development. As required, the operator of the premises will have emergency management plans put in place prior to the commencement of the use.
3. For any structure (permanent or temporary) located within common user areas a safety in design assessment is required to be undertaken which considers matters such as, but not limited to, the location of structures along the wharf, clearance heights of loading and unloading equipment, traffic management, signage, worker and pedestrian safety.	The proposed pipeline, as it relates to the wharf, is to generally confine to the existing pipeline route currently utilised on the wharf. Therefore, the design is not expected to result in any further impacts to the safety of the wharf.
4. Areas where petroleum, petroleum products, petro-chemicals and other liquid chemicals are handled or stored are required to be bunded in accordance with the relevant standards.	The proposed bulk liquid storage area is to incorporate a bund for the management of any potential spills associated with the storage of ethanol.
5. The area within all bunded enclosures is to be impervious so as to prevent the percolation of any spilled materials through the paving into the underlying soil. The surface of the paving in bunded areas shall be graded so as to permit the flow of surface water to the drainage system via a treatment system. This surface shall be maintained to prevent ponding. The	The surface for the bunded area will be constructed of impervious material and will be graded to flow towards drainage grates for treatment.

development is to include bund management systems and procedures which prevent overflows and leaks from the bund.	Refer provided stormwater management plan for the proposed development for details on the management of spills within the bund area.
Bulk Liquid Storage Facilities	
6. Separation distances within and between bulk liquid storage hazardous facilities (i.e. separation distances between facilities on the subject site or adjoining sites) is to be provided in accordance with the relevant Australian Standard(s) or the criteria listed in this section of the Code, whichever is the greater.	Separation distances between the storage areas and the surrounding land uses will be in accordance with the relevant standards.
7. A perimeter roadway is to be provided around all bulk liquid storage areas within the lease area. A bulk liquid storage area consists of bulk liquid tanks contained within a bunded area. Figure 18 shows the minimum acceptable roadway layout around a bulk liquids storage area. The perimeter roadway is to be provided with the following: - 6m clear road width; - Corners designed to accommodate the turning of emergency vehicles / trucks; - Connected to the main roadway at the front of the site, either directly or by an internal site road no less than 6m wide; and - Unobstructed access along the full length of the road.	A minimum 6m unobstructed internal roadway is provided along the perimeter of the storage area which connects back to the main roadway. The design of the perimeter road will allow vehicles to support unobstructed access and supports manoeuvrability for emergency vehicles.
8. Where a bulk liquid storage facility operates a road tanker filling area within the lease area, the road tanker filling area shall be located wholly off any access road that passes the filling area to allow for safe vehicle access within the site. Figure 19 provides an example of a bulk liquids tanker filling area located adjacent to an access road. The filling area shall be located so that no part of a truck in the filling bay extends into the access road.	The proposed truck unloading areas has been designed to be separated from the access road as much as possible and is considered to support safe vehicle manoeuvrability throughout the site, noting that the loading/unloading area will be the only expected vehicles within this area.
Pipelines	

9. All pipelines proposed within the Port Kembla Port precinct are to be located in the following manner:
- Exposed above ground level or in an open culvert lined with impermeable material so as to prevent the percolation of any spilled materials through the paving into the underlying ground. The paving and any jointing materials to be used shall be resistant both to heat and the corrosive effects of the range of the products to be transported in the pipeline;
- Fenced / barricaded for above ground pipelines;
- Underground pipelines are to be avoided unless absolutely necessary;
- Where underground pipelines are used they are to be installed with a leak detection system (e.g. differential flow device, inventory measurement, etc);
- Underground pipelines are to be suitably protected against corrosion, considering (but not limited to) the following:
  ○ expected lifetime of the pipeline;
  ○ soil conditions;
  ○ potential acid sulfate soils; and
	Pipelines are to be located either above ground or within an open culvert with lids, lined within impermeable material to prevent percolation of spill.
	Above grounded pipelines will be appropriately fenced and barricaded to prevent pedestrian and vehicle impacts.

○ water table level. - Details of the leak detection system and corrosion protection are to be provided in the risk assessment documentation.	
10. All above ground bolted flanged joints, associated with the pipeline outside the main storage bund area, are to be provided with the following: - A bunded pit to retain any product leaks; - Protection to prevent leaks from flanges and joints spraying beyond the confines of the pit; and - Leak detection within the pit and an alarm system to notify of potential flange/joint leaks. It is noted that the pit may require a cover to prevent the ingress of rain water causing false leak detection alarms.	Overall, the proposed pipeline is to be fully welded where possible, to minimise the potential for leaks. However, the proposed pipeline is to support flanged joints within the following area, with the following spill protection elements: • Truck loading/unloading area - provided with bunded area drained to 30 kL spill tank. Only used under supervision and isolated when not in use; • On-site pig launcher/receiver and pump area - provided with a bunded area drained to a 30 kL spill tank, a roof over the area and leak detector and alarm for Ethanol leak; • Shoreline valves – the valves is for isolation in emergencies on the wharf. These will be contained in a bunded area with 150mm high kerbs and a sump point with valve; • Pig trap/launcher within the wharf area - area will be bunded using a 150mm kerb all around and this will have a drain valve which will be open when the pipeline and pig traps are not in use; and • Ship connection - all piping on the wharf will only contain product when shipping is required and under operator supervision. During these times the wharf area will have a drain plug fitted. With respect to leak detection for the shoreline valves, wharf area pig trap and ship connection, it should be noted that these elements will only contain ethanol during shipping operation, for which the flanged joints will be under surveillance and checked for leaks prior to operation pumping. Outside of shipping operations, the pipeline will have all residual ethanol removed and have the pipeline filled with nitrogen at pressure. The nitrogen pressure with be continually monitored to ensure that there are no leaks.

SECTION 11 – WATER QUALITY AND STORMWATER

Criteria	Response
1. Design and construct the site to ensure stormwater runoff is managed appropriately and in accordance with the aims and principles of water sensitive urban design.	Refer attached Site Based stormwater management Plan confirming that the proposed stormwater management system is managed appropriately with the aims for the water sensitive urban design principals.
2. The one in 20 year storm event (i.e. 5% Annual Exceedance Probability (AEP) for duration which corresponds to the time of concentration of the catchment) is to be accommodated within a piped stormwater system. Where the site does not drain directly to an adjacent waterway, the one in 100 year storm event is to be retained on site.	Refer attached Site Based stormwater management Plan confirming that the proposed stormwater system will be accommodated within the piped stormwater system.
3. The design and layout of leased / licensed areas, including the siting of buildings and the positioning of bunded areas and other infrastructure, is to take into consideration the need to provide unobstructed stormwater overland flow paths during a Probable Maximum Flood (PMF) event.	Refer attached Site Based stormwater management Plan confirming that the development will support unobstructed overland flow.
4. A water quality assessment is to be undertaken to assess the nature and degree of water quality impacts from the development on receiving environments. The assessment is to include: - characterisation of potential pollutants; - evaluation of options to avoid discharge of polluted waters (e.g. capture, treat and re-use); and - details of any proposed discharge points and the likely volume, quality and frequency of discharge.	Refer attached Site based Stormwater Management Plan, containing a water quality assessment for the proposed development.
5. Stormwater from impervious and unsealed operational areas, including bunded areas, is to be captured and treated to prevent pollutants from entering Port Kembla's waterways. Pollutants to be removed must include but are not limited to sediments, litter, rubbish, oils, greases and other chemicals used/stored onsite.	Stormwater captured from within bunded/sealed areas are to be treated and discharged in accordance with WSUD principals.
6. Stormwater leaving the site is not to create erosion at the point of discharge.	Stormwater discharge is to comprise a relatively low flow rate, as to minimise erosion impacts associated with the development.
7. Measures to contain spills and prevent them from discharging through the stormwater system are to be identified and spill response procedures documented. Staff are to be trained in the spill response procedures. Incident Plans are required to be prepared for all facilities.	Refer attached Site based Stormwater Management Plan.
8. The development is to be designed to ensure that water does not pond on site to prevent biosecurity issues.	As part of the development works, the proposed development will be appropriately graded to ensure that stormwater flows toward dedicated drainage pits.

SECTION 12 – AIR QUALITY

Criteria	Response
1. Site areas which are trafficked by light vehicles and trucks are, as a minimum, to be sealed to minimise dust generation. Dust suppression capability is to be provided for any unsealed operational areas on-site.	All trafficked areas associate with the development are to be sealed as to reduce dust generation.
2. Vehicles, plant and equipment are to be maintained and operated in good working condition and are to be turned off when not in use to minimise emissions to air.	Vehicles, plant and equipment will be properly maintained and turned off when not in use.
3. Information regarding the products to be stored and/or handled on the premises is to be provided as well as the proposed storage area for such products. Products handled on site which have an offensive odour or have the potential to generate dust are to be handled in a closed circuit or sealed system.	The Air Quality Report provides details of the products being stored on the site and the storage and emission mitigation measures required for the proposed development.
4. All developments are to assess the operational air quality impacts within the Port precinct and on sensitive receivers.	Please refer attached Air Quality Report.
5. All development is to incorporate measures to minimise emissions that adversely impact on local air quality.	Recommendations are provided in the Air Quality Report.
6. Bulk material handling equipment / bulk material storage is to incorporate: - Covered storage of all hazardous cargoes and, where practicable, cargoes that are likely to generate dust; - Dust suppression spray systems for any open stockpiles of potentially dusty materials; - Covered or enclosed conveyors with dust removal or suppression systems at transfer points; and - Ship loaders fitted with delivery chutes as appropriate to minimise dust.	Not Applicable
7. Building materials that may potentially contribute to poor internal air quality are to be avoided.	Building materials that comprise high VOC will be avoided where possible.
8. Air filters are to be installed in all ventilation systems to remove particulate matter and other pollutants.	Air scrubbers are proposed to be provided, as recommended within the Air Quality report.
9. Where fumigation of cargo is required, the air quality impacts and health risks of fumigant emissions must be assessed. Systems and procedures should be implemented to minimise fumigant emissions (e.g. capture and recovery) and protect human health and the environment.	Not Applicable

SECTION 13 – NOISE AND VIBRATION

Criteria	Response
1. For all new developments, proponents are to identify: - relevant noise and vibration criteria based on the relevant authority's guidelines; - all sources of noise and vibration; - noise and vibration emission levels; and - proposed mitigation measures.	Please refer attached Noise Impact Assessment.
2. All buildings, equipment and operational processes are to be selected or designed to minimise the emission of noise and vibration.	As per the Noise Impact Assessment, selected pumps will be required to comprise a maximise noise impact as follows: - Shipping Pump: two pumps, each 105dB(A). - Slop Pump: two pumps, each 90dB(A). - Truck Loading Pump: two pumps, each 100dB(A). To the extent that the above noise levels are exceeded, further attenuation measures will need to be implemented as to minimise impacts to sensitive receivers.
3. Noise reduction measures for mobile equipment, trucks, other vehicles and machinery are to be implemented, such as through insulation and 'engine off' policies. Audible movement alarms must not be used unless a safety risk assessment has been undertaken to confirm it is impracticable to avoid using audible movement alarms without compromising safety. Tonal audible movement alarms are not permitted in areas where they are likely to be audible at a sensitive receiver location.	Recommendations for noise minimisation measures have been provided in the provided Noise Impact Assessment.
4. Noisy plant and equipment should be located as far as possible from noise sensitive areas.	The recommendations made by the Noise Impact Assessment have assumed that the noise associated with the plant equipment will not cause significant impact to any sensitive receivers, to the extent that the selected pump equipment does not exceed the outlined Decibel ranges within the report.
5. The location of activities, plant and equipment should optimise attenuation effects through measures such as topography, natural and purpose built barriers.	As per the Noise Impact Assessment, the design of the proposed development is considered to be capable of sufficiently attenuate noise, without the need of barriers. To the extent that the selected pump equipment exceeds the outlined Decibel ranges indicated within the report, additional assessment will need to be undertaken and potentially require barriers to minimise impacts to identified sensitive receivers.

SECTION 14 – CONTAMINATION AND POTENTIAL ACID SULFATE SOILS (PASS)

Criteria	Response
1. For all development an assessment of potential for and likelihood of, soil and groundwater contamination is to be undertaken as part of the application for development. Where a contamination risk is identified, appropriate mitigation / remediation measures are to be identified and implemented. This is to be generally in accordance with the Environment Protection Authority guidelines made or approved under the Contaminated Land Management Act 1997.	Refer attached Preliminary Geotechnical and Contamination Investigation prepared by SMEC Australia Pty Ltd. In summary, it is outlined that there were identified contaminants found on the subject site that have potential to cause harm to human health. The following recommendations are made in this respect: • undertake additional investigations of the contamination levels of the site once the existing fill mound has been removed; • establish a remedial action plan for the remediation and management strategies posed to human health and ecological receptors on the site; • additional ground water monitoring; In response to the above, subsequent Groundwater Assessment and Management Plan and a Remedial Action Plan has been prepared for the proposed development.
2. For potentially contaminating dry bulk cargoes (e.g. mineral concentrates), the development is to demonstrate: - Land transport to/from the port will be in sealed containers; - All cargo is to be covered and stored to prevent dispersion of the cargo from the site; - Conveyor systems will be enclosed with suitably designed transfer points to prevent dust and spillage; and - Measures to contain spills and prevent them from contaminating soil and groundwater are to be identified and spill response procedures documented.	The proposal does not constitute dry bulk cargoes.
3. For all development an assessment of PASS present on site is to be undertaken as part of the application for development. Where PASS could be encountered, mitigation measures are to be undertaken.	As per Preliminary Geotechnical and Contamination Investigation prepared by SMEC Australia Pty Ltd, the subject site is identified to contain acid sulfate soils beneath the fill of the subject site. Accordingly, in response to the presence of Acid Sulfate Soils on the subject premises, an Acid Sulfate Soil Management Plan has additionally been prepared.