

DRAFT CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

NETBALL NSW NETBALL CENTRAL SYDNEY OLYMPIC PARK

JUNE 2012

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1.0 PROJECT DESCRIPTION

The aim of the Netball Central Project is to provide replacement facilities to house the Netball Centre of Excellence at Sydney Olympic Park. The project involves the construction of six International Standard indoor netball courts, amenities for players, officials and the public, café, physiotherapy and training areas, storage facilities and new administration offices for Netball NSW.

Staging and sequencing of the works will be based around the operations of the adjoining SOP Sports Centre, contamination removal and geotechnical remediation of the uncontrolled fill.

The key elements will include:

- Bulk excavation and geotechnical remediation including hazardous materials removal;
- Utility services redirections and connections;
- Alterations to Car Park P7 access;
- The subsequent Construction of:
 - o Five (5) indoor netball courts of international standard;
 - o One (1) show court with seating for some eight hundred (800) spectators;
 - o Amenities for players, officials and the public;
 - o Cafe facility;
 - o Medical facilities – first aid, physiotherapy, massage etc;
 - o Ancillary storage facilities and equipment areas;
 - o Office/administration areas.

2.0 PURPOSE OF REPORT

2.1 General

The purpose of this draft Construction Environmental Management Plan (CEMP) is to provide a strategy and methodology for the construction and site management of the Netball Central development at Sydney Olympic Park. It is tailored to ensure that all environmental aspects for the demolition and construction phase of the project are addressed. Waste Management procedures and safeguards are also addressed.

This draft CEMP has been developed generally within the framework of AS/NZS ISO 14001:1996 'Environmental management systems – Requirements' and the NSW Government Environmental Systems Guidelines.

The intention of the draft CEMP is to provide an outline of requirements of, and a response in respect of, specific building practices to be employed on the subject DA Site. Any Consent will require the builder to prepare a more detailed Construction Management Plan and Waste Management Plan for SOPA sign-off prior to issue of a Construction Certificate.

At this stage a builder has not been appointed for the construction of the development and hence the overall construction methodology, process and staging have not been thoroughly defined. The builder will be responsible for the preparation of the final CEMP, which will be lodged with SOPA and other relevant authorities for approval prior to the commencement of construction.

This CEMP is to be read in conjunction with the Acoustic Assessment (Rev 2.0 – Final) as prepared by Norman Disney & Young and Arup's Traffic Impact Assessment (Rep-01 Draft 2).

2.2 Key Issues

A more detailed list of environmental issues relating to the execution of the works will be identified prior to commencement of the project, building on the current document as a basis for the approach to be followed, and prepared by the builder as part of the more detailed Construction Management Plan anticipated to be required as a condition of approval. The identification process will be coordinated by the Project Manager via the risk management process and detailed in the Risk Assessment worksheet. The identified issues will be evaluated and prioritised, and suitable controls established to mitigate the issues.

The key environmental issues for this project and which are addressed in this plan are:

- Air Quality, Dust and Infection Control;
- Noise and Vibration Control;
- Storage and Handling of Hazardous Materials [including spills and emergencies];
- Waste Management and Minimisation;
- Stormwater Management.

All these issues will be addressed during the analysis of Aspects and Impacts associated with the environmental risk assessment prior to commencement of works on site. Project specific ECP's and Checklists will then be prepared. These will be listed in a document register.

There may also be other related matters to be addressed by the applicant prior to commencement of site works or issuance of Construction Certificate, dependent upon conditions of Project Approval.

2.3 Key Personnel

The key personnel associated with the project are as follows

- Principal: Netball NSW
- Stakeholders: Sydney Olympic Park Authority
- Project Manager: Crown Project Services
- Architect: Scott Carver
- Contractor: Tbc

2.4 User group and stakeholder procedures

Prior to construction works commencing, the onsite user groups or stakeholders are to be contacted to discuss any area specific procedures that need to be observed. This will also include procedures required to be followed in restricted access areas.

Where work is carried out adjacent to occupied or partially occupied premises, the Contractor will ensure that the work is carried out with a minimum of nuisance or annoyance to the occupants of the premises.

2.5 Approvals/Permits

Permit/Approval Type	Authority
Connection to Stormwater	SOPA
Connection to Other services	Other providers
Works in public road	SOPA as roads authority
S.73 Certificate	Sydney Water

3.0 OBJECTIVES & SCOPE

3.1 Objectives

The key environmental objectives of the project are to:

- Establish the specific procedures required for the project environmental management system;
- Ensure the provision of a consistent and uniform approach which ensures that the required standards of environmental protection are attained and maintained for the project works;
- Ensure that the Authority's and the client's standards, specifications and anticipated environmental protection measures are consistently and uniformly achieved and that verification is obtained that the required environmental protection standards have been achieved.

The objectives of this plan are to:

- Provide a framework of practices to be implemented for the Environmental Management System;
- Provide a platform for a consistent and uniform approach which assures that the required standards of environmental practice are achieved and maintained for the project works;
- Ensure that standards, specifications and contractual obligations for the environment are consistently and uniformly achieved.

3.2 Scope

The scope of matters addressed in this Management Plan covers the following:

- Site preparation;
- Water management and erosion control measures;
- Demolition;
- Excavation;
- Construction;
- On-site rehabilitation;
- Off-site works.

4.0 MANAGEMENT

4.1 Responsibilities & Authorities

The following outlines the management responsibilities and authorities for construction of the project:

4.1.1 Project Manager

The Project Manager is responsible for:

- Reviewing and authorising the Environmental Site Management Plan and other project plans;
- Assigning environmental responsibilities to all project personnel;
- Ensuring all project personnel are suitably trained, and possess the necessary skills, to undertake their designated environmental responsibilities;
- Continual monitoring of environmental performance to ensure compatibility and effectiveness;
- Communicating environmental performance to the Operations/Construction Manager;
- Providing sufficient resources to ensure the ESMP practices are implemented;
- Participating in the review of the project EMS and other environmental meetings and programs;
- Ensuring appropriate training is provided to all project personnel.

4.1.2 Contractor's Site Manager

The Contractor's Site Manager is responsible for:

- Ensuring environmental controls are established prior to the commencement of construction;
- Performing environmental inspections as requested by the Project Manager;
- Identifying and reporting environmental non-conformance and notifying the Project Manager;
- Ensuring and verifying that corrective action is taken when required for nonconforming work.

4.1.3 Contractor's Foreman/Supervisor

The Contractor's Foreman/Supervisor is responsible for:

- Ensuring procedures in the Environmental Site Management Plan are followed;
- Performing surveillance and monitoring of environmental controls to ensure that they are established and maintained to meet requirements;
- Ensuring that environmental protection requirements are communicated to all personnel and subcontractors under his/her control;
- Identifying environmental non-conformance and notifying the PER of the non-conformance;
- Carrying out the agreed rectification works after the identification of non-conformance;
- Completing environmental surveillance activities in the Site Diary as required.

4.2 Reporting

4.2.1 Monthly Reports

Monthly reports will be prepared by the Project Manager or nominee.

4.2.2 Daily Diaries and Weekly Report

Superintendents and foremen will maintain daily diaries of environmental issues in a standard project format. Contractor's Site Manager will detail environmental issues associated with site activities for the Project Manager. The PM will use these reports in the compilation of a monthly report.

4.3 Audit

The following audit procedures will be implemented:

- Planned and documented audits aimed at evaluating the conformance of the system, processes or products shall be carried out as detailed in the 'Auditing' procedure. Auditors shall be trained and be independent of the area audited;
- Results of audits shall be documented and brought to the attention of the personnel having responsibility for the area audited and reported to the relevant manager. For any deficiencies or non-compliances found, corrective action shall be initiated using the 'Non-conformance Report' or detailed as 'Observations' in the Audit Report. Results of audits will also be discussed at management meetings;
- During the construction period, some audits may be conducted on key subcontractors. The frequency of these audits shall be specified prior to works commencing. The results of the audits will be used as a basis to determine the amount of inspection, surveillance and further audit needed at the subcontractor's facility.

5.0 CONSTRUCTION

5.1 Construction Staging

Construction will be staged in order to ensure that:

- Safe access to the SOP Sports Centre is maintained throughout;
- Emergency egress from the Sports Centre is maintained at all times;
- Disruption to the day-to-day operations of the Sports Centre is minimised;
- Excessive diversion of pedestrian and vehicular traffic is avoided.

It is anticipated that the new Forecourt works will be undertaken at the earliest possible opportunity in order to facilitate the unimpeded access and egress required to the Sports Centre. In addition, the formation of the new access/egress arrangement to the P7 car park is also considered to be an early staging task.

The full details of the construction staging will be determined during consultation with the successful Contractor.

5.2 Construction Workers

Whilst the number of site operatives will fluctuate during the project period and will be dictated by the type of task being undertaken and proposed staging, the peak number of on-site personnel employed during construction will be around 120 workers.

5.3 Site Specific Requirements

The Netball Central project is located within the existing Sydney Olympic Park precinct adjoining the existing SOP Sports Centre with the main entrance off Olympic Boulevard.

Because the site is in close vicinity to and requires access through existing operational areas, detailed coordination and interface with the current operations of Sydney Olympic Park and the SOP Sports Centre will be required to ensure access is maintained and to ensure critically important continued uninterrupted operations of these facilities.

Issues to be addressed include:

- Environmental – noise and high dust levels particularly during hazardous material removal;
- Managing pedestrian and traffic flow to the SOP Sports Centre;
- Enforcing speed limits around the site;
- Maintaining safe access to the SOP Sports Centre;
- Maintaining emergency egress from the SOP Sports Centre;
- Training subcontractors and suppliers about access, routes and rules;
- Educating Contractor staff and subcontractors on the SOP requirements;
- Providing uninterrupted access to adjacent buildings and facilities through the works;
- Collaborating and communicating with key stakeholders on current and future programming which may affect them;
- Coordinating with user groups and facility management contractors.

5.4 Site Establishment

It is proposed to establish the Contractor's main site office and facilities on the area as shown on Drawing No PA002 A - ensuring a clean, orderly layout to maintain the decorum of the site area.

5.4.1 Accommodation

The proposed location for the main site accommodation is within the existing SOP Sports Centre car park (P7) or alternatively within Site 13 (subject to further negotiation). It will consist of a compound incorporating a number of demountable structures strategically positioned to achieve maximum efficiency and comfort.

The accommodation required to facilitate the workforce will generally comprise:

- 12m x 12m site office;
- 4 x 12m x 3m lunch shed (staged supply 50% initially then 50% at peak);
- 4 x 6m x 3m change sheds (staged supply 50% initially then 50% at peak);
- 12m x 3m toilet block;
- First aid shed;
- Meeting room.

5.4.2 Perimeter Fencing

The Contractor will provide temporary Site security fencing together with entry gates and removal of same on Completion or when directed by the Project Manager.

Once Site access is provided:

- The Contractor shall secure the Site for the purposes of constructing the Works and provide all resources necessary to maintain the Site Management Plan which addresses all issues related to Site management;
- Temporary security fencing will be erected around the perimeter of the site accommodation and plant / equipment hardstand areas as needed;
- Where appropriate, weed mat and shade cloth will be installed on the fencing, to further control transmission of dust and construction debris;
- Appropriate entry gate signage shall be displayed identifying the requirements for entry onto the site;
- Where appropriate, separate protective bunting / barrier fencing may be used for minor excavation areas off the major work sites.

5.4.3 Site Security

Site Security will meet the following criteria:

- The major construction area and accommodation compound will be secured with perimeter fencing and locked outside working hours;
- Minor works areas will have either temporary fencing or the appropriate level of barricading;
- All site accommodation sheds and containers will be locked outside of working hours;
- There will be only one entrance into the construction area and all persons must enter via here with only specialist equipment and delivery trucks permitted to use an alternative entry;
- The Contractor's employees, subcontractors, suppliers and any other persons connected with the activities and the Works are prohibited from bringing any of the following to the site:
 - o Animals (including pets).
 - o Drugs that are prohibited by law including marijuana.
 - o Alcohol.

5.5 Demolition and Hazmat removal

5.5.1 Methodology

Any potentially injurious materials are to be identified prior to demolition commencing. The means of construction and structural support of all elements to be demolished are to be identified before works commence, in order to inform the demolition process.

The methods and means of demolition are to be controlled in accordance with Australian Standard AS2601-2001. Safety of neighbouring properties and the public is paramount, and measures must be put in place to ensure safety is maintained at all times. Similarly, demolition techniques must be appropriate to the task, and worker safety must be ensured.

Selected methods must be appropriate to the task and the circumstances, and selected machinery must be tested on-site for potential vibration effects at the rail line north of Sarah Durack Avenue; noise is to be kept as low as possible; the effect of vibration and concussion on the railway cutting and on nearby buildings and their occupants is to be minimised and work is only to be carried out during approved working hours. No burning off is permitted.

5.5.2 Stockpiling

All demolition work is to be stockpiled into appropriate stockpiles, depending upon its destination for recycling or for disposal in accordance with ESD principles and realistic opportunity. Dust control measures are to be put in place, and no refuse or waste shall be allowed to enter public sewers, drains, watercourse, or public roads or walkways. In the event that were to occur, action to clean up that refuse or waste is to be taken immediately.

5.6 Excavation

5.6.1 Methodology

Particular care will need to be exercised during excavation and site works to ensure that the risk of nuisance is kept to a minimum. Areas of potential nuisance include noise, vibration, dust, erosion and siltation. The site works must be designed to ensure that appropriate control measures are in place every evening to safeguard against the possibility of off-site impacts caused by any storm event during the night. The site manager or his nominee is to have sole responsibility and authority for ensuring that all such measures are in place at all times.

The methods of excavation will be generally established by the contractor in conjunction with the geotechnical engineer, and will be dependent upon a combination of the site conditions and the amount of excavation required.

5.7 Construction Process

5.7.1 Methodology

The Construction methodology will generally be established by the selected Contractor. General site operations would be expected to be mostly contained on-site with crane location to be as agreed with SOPA's site representative. All construction operations will need to comply with WorkCover requirements.

5.7.2 Safeguards

The safety of the neighbours and the public is paramount, and is not to be compromised in any way by development works. Appropriate hoarding is to be agreed with SOPA for that purpose and the

Contractor is to ensure full compliance with WorkCover requirements, Project Approval conditions, and industry best practice in all areas of OH&S measures.

5.8 Hours of Work

Construction works will be undertaken between the hours as defined in the approved Development Application.

It is assumed for the purposes of this report that the permitted working hours will be:

- Monday to Friday 7.00 am to 7.00 pm
- Saturdays 7.00 am to 5.00 pm
- Sundays and Public Holidays No Works

6.0 SITE ACCESS

6.1 Generally

Site Access controls will incorporate the following measures:

- Prior to entry, all project personnel will complete and obtain a security pass which will be carried with them on site at all times. This pass will activate the main personnel gate into the site. The Contractor will manage our site workforce and ensure they abide by all rules and strictly control the movement on the site to avoid inconvenience to existing user groups;
- Construction traffic is to be coordinated so as to minimize any potential access delays for Sports Centre staff, loading dock and patron access;
- Site Inductions are mandatory for all persons working on the site and will be in accordance with the Contractor's Construction Project OHS Plan;
- Visitors wishing to enter the work site must first report to the main project office where an escort will be arranged. They must comply with all safety and site requirements and log their entry to site via the visitors log book;
- The Contractor shall assume responsibility for project personnel who have gained access to the Site and ensure that project personnel only access the approved areas. All Site staff shall undertake a site induction and the Contractor shall ensure that all construction zones are adequately signed and fenced to prevent access of unauthorised personnel;
- All deliveries to site, including concrete deliveries, will be co-ordinated to minimise disruption to activities underway or planned throughout the SOP Precinct and the Sports Centre.

6.2 Traffic Management

Construction Traffic Management is to be implemented in accordance with the Traffic Impact Assessment (Rep-01 Draft 2) as prepared by Arup.

The preparation of the detailed construction Traffic Management Plan (TMP), signage detail, control of pedestrians and control and management of construction vehicles in the vicinity of the site, generally dealt with as a consent condition requirement, will ultimately be the responsibility of the appointed builder. It is not foreseen that there is to be any major disruptions to existing traffic conditions over the duration of the project. In general terms, the following will form the basis of the detailed TMP:

- All construction traffic will be directed via signs on the major SOP traffic routes to the site and will be restricted to these routes only;
- In all circumstances the TMP implemented will take into consideration specific activities and dates that may be identified by the Project Manager during the life of the project;
- The Contractor is responsible for obtaining any necessary approvals for the transport of any earthworks and building materials;
- The Contractor shall manage access to and from the site by all project personnel and users around and through worksites by way of preparation and implementation of traffic and pedestrian management plans for the safe and efficient operation of the site including all signage and directional markings;
- The Contractor shall provide for continuous safe operation of normal pedestrian and vehicular traffic along all roads, pedestrian paths and vehicular access to the site or intersected by the site;
- The Contractor shall not unnecessarily obstruct any side road, branch track, drain or watercourse and shall not break down any fences or gates without prior notification to the Project Manager, but when such obstructions or breakages cannot be avoided, shall remove such obstruction or repair such breakage as soon as possible.

6.3 Mobile Equipment Attending Site

During the construction process, the following mobile equipment may be employed:

- Bulldozers, backhoes and excavators;
- Articulated and fixed trucks;
- Mobile cranes;
- Concrete delivery trucks and pumps;
- Concrete pumps;
- Piling Rigs;
- Vibro-compaction rollers;
- Man and material hoists;
- Scissor and boom lifts.

6.4 SOP Traffic and Function Procedures

All SOP related procedures in relation to traffic / functions will be observed and followed and will be included in the Contractor's site induction process. All construction traffic will be coordinated to comply with these procedures.

6.5 Vehicle Identification and Control

Vehicles will be controlled in accordance with the following:

- Vehicles will be restricted to specific and agreed routes throughout the SOP precinct;
- Vehicle access onto area of site will be restricted so as to minimise dust transmission and only granted upon prior approval from the Contractor;
- Directional signage will be placed along the nominated route to the site;
- Vehicle movement will be restricted to this route only;
- Tracked vehicles must not travel on pavement areas unless they are equipped with rubber pads on their tracks;
- At the end of each day's work, all plant and equipment will be moved clear of all vehicle movement areas as required;
- Heavy Plant and equipment restrictions: Restrictions shall apply for oversize plant and equipment and general road access to tracked and heavy equipment around site, with approvals required before commencement of any works.

6.6 Loading and Unloading of Materials

A Vehicular Access and Delivery Zone is proposed adjacent to the Boulevard in the area as highlighted on Drawing No PA002 A. The safe management of this area will be fully detailed within the Contractor's Construction Project OHS and Construction Traffic Management Plans.

The loading and unloading of construction material from trucks, associated with the overall construction activity, will be carried out on-site whenever possible. Construction material will be stored on-site or immediately adjoining the site within designated work zones/material handling areas. Due to site restrictions, construction vehicles will be required to park in surrounding streets, requiring temporary relaxation of on-street parking restrictions.

6.7 Pedestrian Movements

Pedestrian movement along the Boulevard frontage of the site will be intermittently interrupted during the construction period. However, given the limited pedestrian traffic in the vicinity, it is envisaged that these temporary closures are likely to cause minimal inconvenience.

7.0 ENVIRONMENTAL CONTROLS

A more detailed list of environmental issues relating to the execution of the works will be identified prior to commencement of the project, building on the current document as a basis for the approach to be followed, and prepared by the Contractor as part of their more detailed CEMP.

7.1 Erosion Control Measures

The issue of erosion and sedimentation control will be dealt with in more detail in a report to be drawn up prior to site works in accordance with anticipated standard condition required by Project Approval.

The sediment controls for the site would be as referenced in the following documents: "Landcom Managing Urban Stormwater - Soils and Construction Volume 14th Edition March 2004" and must comply with the "Protection of the Environment Operations Act 1997".

After an examination of soil types verifying Coffey Geotechnical's core sampling results, and consideration of the programming and staging of works, site grades and excavation methods, a selection of the following site erosion controls will be implemented within the property boundaries during demolition, excavation and construction:

- Diversion drains to divert run-off around potentially exposed areas and control site discharges including sub-soil drainage to comply with necessary standards;
- Sediment filters to retain solids coarser than .02mm;
- Straw bales wrapped in geo-textile woven fabric as a construction imbedded and fixed in the ground, designed to withstand the erosive forces from a design event and monitored and maintained by staff in accordance with a regular cleaning program;
- Filter rolls at kerb-side inlets to include either crushed blue metal or coarse sand filtration and appropriately maintained by a regular cleaning program;
- Retention of run-off in sediment traps would be ascertained for each area run-off calculation depending upon the work methods and staging. Transport to and from site would be by covered loads, and a shaker pad would be required to remove excess spillage collected on vehicles as required by SOPA for this development type;
- Sandbags to be placed along catch drains to slow flow, reduce scour and capture some coarse sediment from run-off in appropriate locations;
- Temporary stockpiles are to be set aside in protected areas of reduced grade;
- Any vegetation and organic debris (limited here) will be collected and stockpiled behind swaled areas or protected by constructed screenings of open weave mesh and star pickets. They may be mulched on-site prior to transport off-site;
- Removal by spade and broom of any sediment dropped on roadways;
- Water wetting of dust areas during dry weather;
- Staged stripping of the site and staged vegetation removal as required.

A staged erosion plan will be formulated after detail design, staging and construction proposals have been completed and detailed geotechnical results further analysed.

7.2 Rubbish, Dust and Debris

Control measures will be in accordance with the Contractor's site specific environmental plan. Below describes some of the risk and control assessments for this project:

- The Contractor shall provide access for household type garbage skip removal once a week or as deemed required for collection;
- Building type rubbish and recyclables will be removed on an as needed basis;

- Dust: Minimise exposed areas and wet down as necessary;
- Site Drainage: Erect and maintain filter mediums as required;
- Hazardous Materials: Manage HAZMAT as per Contractor plan;
- Waste bins: Generally ensure minimum waste levels, foodstuffs in covered bins;
- Numerous large 12m³ industrial bins will be strategically located at each of the construction sites for their project duration for all construction waste and recyclable separation and emptied when required;
- Wheelie type bins with lids will be placed around the sites for general use and are to be emptied into the industrial bin. General and food wastes will be placed in a 5m³ bin with lids and emptied when required;
- Long term arrangements will be made with the Waste Management contractor who will advise contacts, lead times etc. for the bins to be collected and emptied.

7.2.1 Cleaning of Construction Routes

The Contractor will ensure that the nominated construction routes are cleaned regularly at weekly intervals or as required to the satisfaction of the Project Manager.

7.2.2 Cleaning of Vehicles

- The Contractor shall ensure that no motor vehicles leave the Site laden with any material unless it is loaded in a manner that will prevent the discharge or dropping of any of the material;
- The Contractor shall ensure that the wheels, tracks and body of all constructional plant leaving the Site are free of mud, seeds, vegetable matter or concrete slurry and that the subcontractors or suppliers shall use the cleaning facilities on Site provided by the Contractor to remove such material from their vehicle before leaving the Site.

7.2.3 Dust Suppression

The Contractor shall provide appropriate, effective and sufficient dust suppression measures and systems including:

- o Water truck spray of civil works
- o Covered stock piled material
- o Spray of stabilization agent where required

7.3 Noise Management and Dangerous and Hazardous Materials

Construction noise and vibration control is to be in accordance with the project Acoustic Assessment (Rev 2.0 – Final) as prepared by Norman Disney & Young. This document describes the methodology for controlling noise during general Construction and Vibratory activities.

Noise and the use of dangerous / hazardous materials will be managed in accordance with the Contractor's Project Environment Plan (PEP) and Construction Project OHS Plan (CPOHSP).

- Specifically, noise abatement measures will be deployed in relevant areas to mitigate discomfort and disruption to base operations and personnel;
- The Contractor will restrict noise and vibration generated during the progress of the Works so that it will not be unnecessarily offensive to persons on or adjacent to the Site;
- Machinery must be located in suitable positions and enclosed with appropriate insulating screens, as required.

7.4 Salvage and Waste

The Contractor shall minimise waste and sort all waste (including from clearing, demolition, off-cuts, etc.) into appropriate categories for recycling or disposal.

- The Contractor shall ensure that all recyclables are placed into appropriate recycling processes and uses (e.g. scrap metal, mulch, road base) and that wastes are safely disposed of;
- A minimum of 70% demolition and construction waste by mass, excluding contaminated and hazardous waste and soil should be diverted from general landfill via either reuse or recycling. Provide certification of the percentage (by weight) of waste that is reused or recycled;
- Neither the Contractor nor any subcontractor shall discharge or dump any deleterious materials into the drainage system, onto any roads or at any locations that have not been reviewed and not rejected by the Project Manager.

7.5 Diverting Water

Stormwater run-off is to be directed around or through the site in a non-erosive manner, using sandbags as appropriate. As works progress, clean water from external catchments will be diverted around any disturbed areas of the site via catch drains. Run-off velocities and volumes would be controlled to prevent scour by the following methods:

- The Contractor shall do all work necessary to divert any water interfering with the progress of the Works, keep the excavations free from water while the Works are in progress, and prevent any loss or damage to the Works by water due to floods or other causes;
- The Contractor shall provide, where necessary, sand traps on the discharge line of any pump to prevent the deposit of material in channels and stormwater drains to a standard that is not rejected by the Contract Administrator;
- Where water is diverted from the Site it shall be confined to existing drainage paths;
- All existing road drains, spoon drains and run off areas shall be protected to prevent any suspended solids stormwater runoff from entering the existing road stormwater system.

7.6 Trees

7.6.1 General

In accordance with The Arborist's Report the proposed development will impact on a number of trees currently on or adjacent to the site. The draft plan contained in Appendix B of this report highlights the affected trees and these are further summarised in the following table:

Total Trees	124
Trees to be retained in existing location	28
Trees to be removed	68
Trees to be relocated	28

Note - All works to trees are to be carefully supervised by the Arborist whose services will be retained throughout the project.

7.6.2 Tree Protection

All existing trees earmarked for retention (on perimeter verges) are to be properly protected against damage prior to any site works commencing.

Critical root zones are to be identified by the project Arborist, and each area staked and fenced off under Arborist supervision. Any tree limbs obstructing vehicle movement or intruding into building envelope space are only to be removed with the Arborist's approval and under Arborist supervision. Fenced root zones are not to be used for the storage of material, and vehicles are not to pass through those zones.

The protection of trees will be carried out in accordance with SOPA ***Guidelines for the Protection of Trees on Construction Sites (October 2004)***.

7.6.3 Tree Removal and Relocation

Existing trees earmarked for removal or transplantation will be removed in such a way that other trees are not damaged either above or below ground.

A potential nursery site for the temporary storage of the trees to be relocated has been identified by SOPA adjacent to Car Park P7 as shown on the plan in Appendix B.

8.0 OH&S

8.1 Emergency and Safety Procedures

- All emergency and safety procedures will be in accordance with the Contractor's Construction Project OHS Plan which will incorporate the specific requirements of the SOP Precinct;
- All emergency and safety procedures will be included within the site induction undertaken by all personnel required to attend the site;
- All people working on or visiting the site shall be required to wear the appropriate PPE.

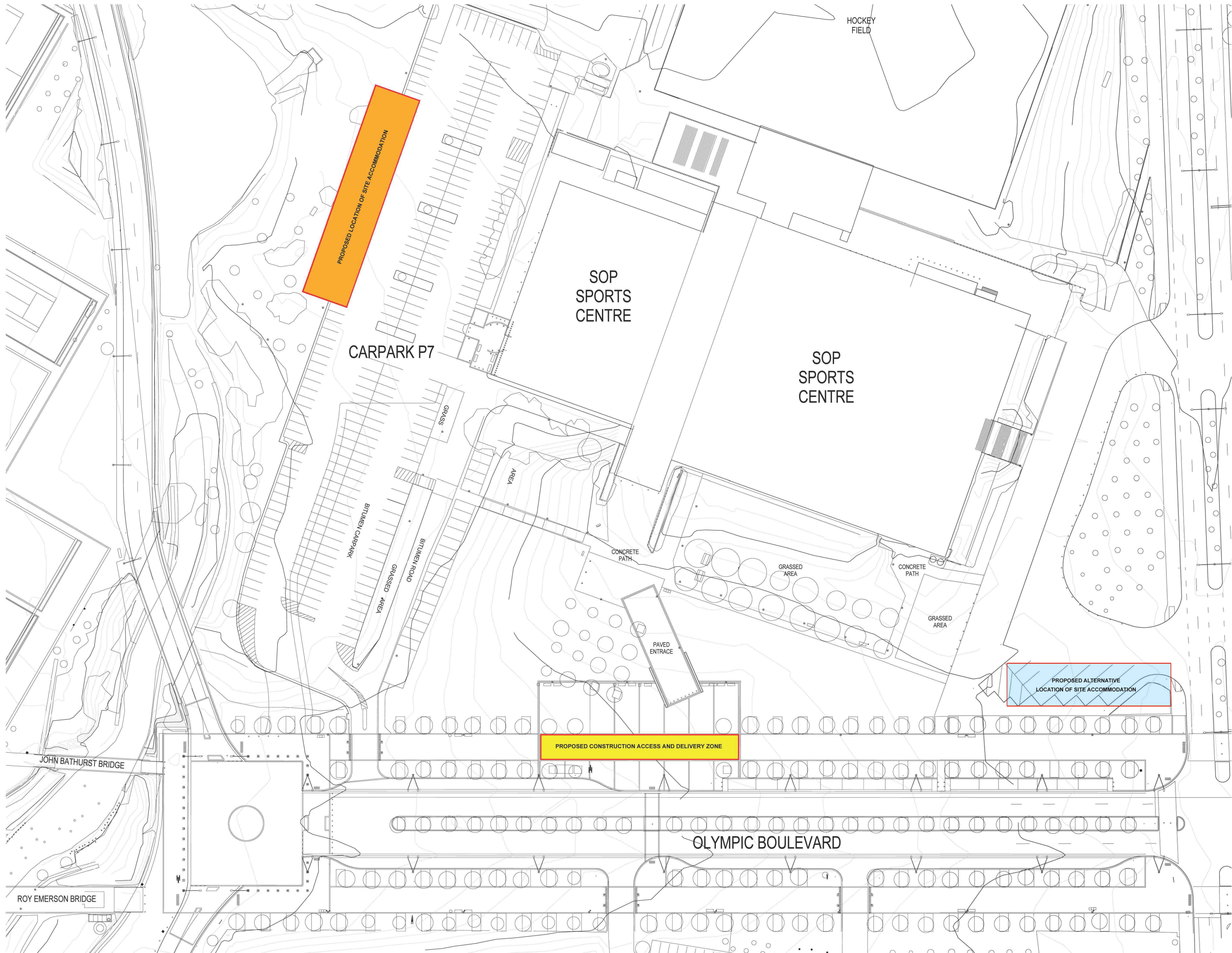
8.2 SOP Approvals, Construction Activity Notice and Permits

- All necessary SOP approvals and permits are to be sought, coordinated and approved prior to works proceeding. These include but are not limited to:
 - o excavation permits
 - o services disruption
 - o environmental approvals
- SOP Facilities Management is to be contacted prior to works commencing in areas that interface with the Netball Central works to discuss the works scope and log any permits and approvals that may be required throughout the construction period;
- The continuity of fire services and other emergency or security services must not be disturbed without written approval from the Project Manager;
- Where works may affect the continuity of existing services or may cause inconvenience, the works must be carried out at a time to cause the least inconvenience to SOP operations;
- For all power outages the following process will be implemented;
 - o For interruptions less than 2 hours duration, provide a minimum of one weeks' notice to the Project Manager.
 - o For interruptions longer than 2 hours duration, provide a minimum of two weeks' notice to the Project Manager.
 - o Power outages must be scheduled to occur outside adjoining facilities function hours.

8.3 Dig Permits

Digging permits will be required for works outside the construction site.

APPENDIX A – PROPOSED SITE ACCOMMODATION AND ACCESS PLAN



Status:	PRELIMINARY		
Nominated Architect:	Bob Perry 3935		
File:			
Print Date:	8/05/2012 5:51:33 PM		
Rev.	Description	Date	
A	Preliminary - Issued For Discussion	08.05.2012	

APPENDIX B – DRAFT TREE ACTION PLAN

PRELIMINARY

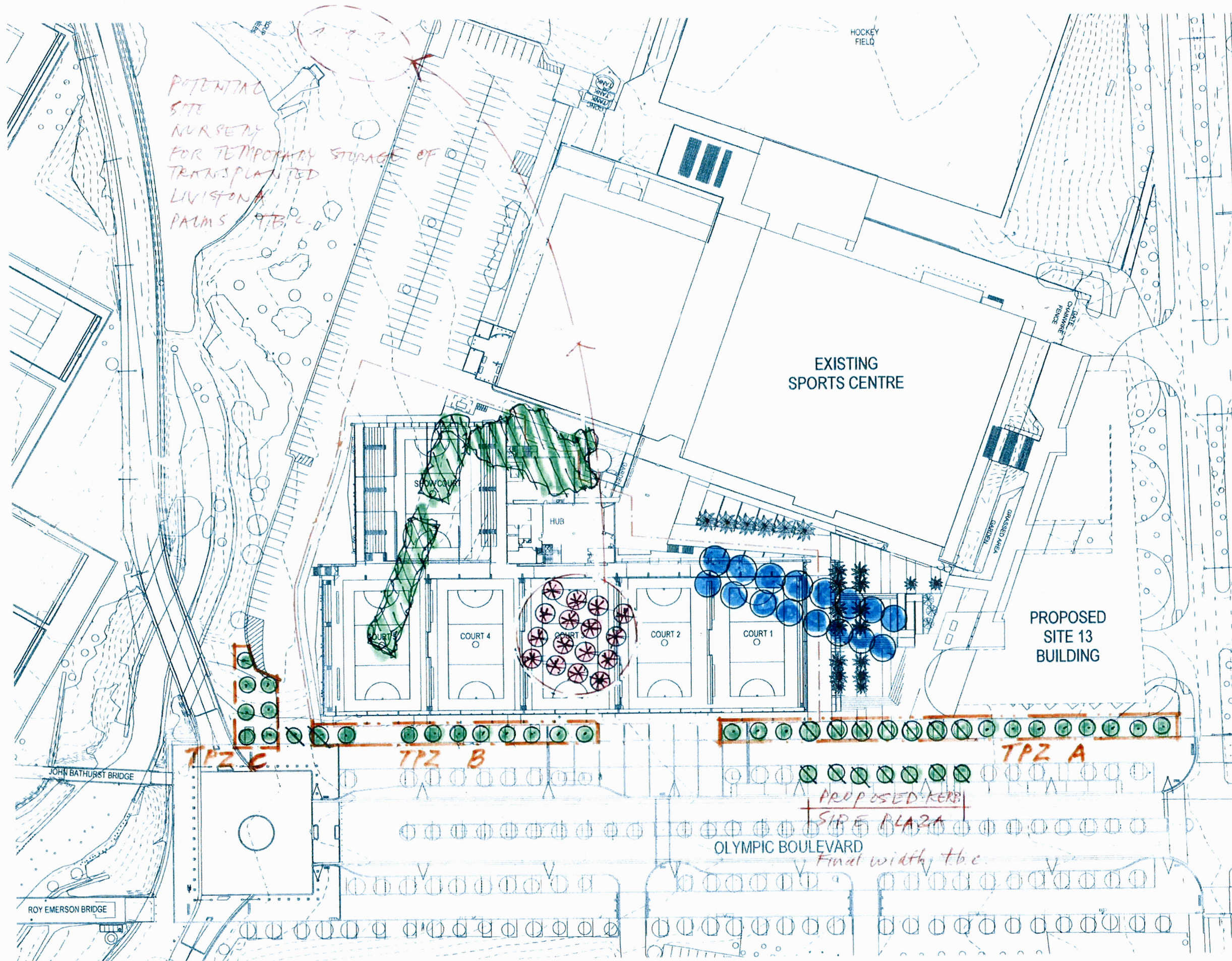
Status
Nominated Architect Bob Perry 3935
File
Print Date 8/05/2012 5:52:09 PM

Rev. A Preliminary - Issued For Discussion Date 08.05.2012

-  Hoop Pines for protection
-  Hoop Pines for transplanting
-  Livistona Palms for early works removal, storage and transplanting
-  Platanns to be removed
-  Casuarina sp. for removal

TPZ A
Boulevard Tree Protection Zone 1.8m high temporary fence controlled construction access only. Arborist to advise on root plate protection measures to prevent compaction.

EXISTING TREES FOR ARBORIST'S ASSESSMENT



Scott Carver

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SOPA 29.5.12.

Netball Central
Project
Client
Netball NSW



Funded by Communities NSW - Sport and Recreation
The views expressed herein do not necessarily reflect the views of Communities NSW - Sport and Recreation



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Project
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Discipline
Dwg. No.
AD PA003
Issue
A

Proposed Site Plan