

4 Scope of Works Technical Criteria

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# General

## Contract Documents

The Contract Documents are comprised of seven parts, in order of precedence:

* + 1. General Conditions of the Contract
		2. Scope of Works Technical Criteria
		3. Drawings
		4. Specifications
		5. Tender Documents
		6. The Contractors Tender

Any discrepancy, error or omission in the specification or Job Drawings shall be raised with the Principal for clarification.

The Specification comprises the following Technical Specification including this document.

## This Document

This document defines the Scope of Works, Limits of Contract and the technical requirements for the Design and Construction for the Relocation of Molong Hockey Field.

## Overview

The Council is seeking Tenders from appropriately qualified and experienced FIH preferred suppliers/ Sporting field constructors for the Design and Construction of the proposed Relocation of Molong Hockey Field.

All plant, equipment, labour and materials required for the construction will be supplied by the successful Tenderer as part of the Contract. The work shall be completed as a minimum to Australian Standards the National Construction Code, International Hockey Federation (FIH) standards and Cabonne Council standards and provide long-term functionality. The construction work associated with this project shall be completed on time, within budget and without incidents.

# Scope

## General

This Section defines the Scope of Works contained within the Contract.

## Site of Works

The site is located within the existing Molong Showground precinct, 184 Euchareena Road, Molong NSW, within the Cabonne Council Local Government area.

The tenderer should make themselves familiar with the site including locations of existing services, surrounding infrastructure and assets.

The building and site works are to be designed and constructed in accordance with the drawings and documentation provided within the tender.

## Setting out

The contractor is responsible for setting out the works in accordance with the approved design drawings. Any discrepancies are to be reported immediately to Cabonne Council

## Public Utilities & Services

Where overhead public utility lines, surface drainage works and/or underground pipes, conduits, or cables exist in the vicinity of the works, the Contractor shall take care to identify and protect such services from damage. The Contractor should physically locate all services on site prior to commencing construction. The Contractor will be responsible for any damage occurring to such services and shall notify the Council Representative within 24hrs if damage occurs.

## Water for Construction

The Contractor will be responsible for the supply of water required for construction activities.

## Traffic Management

The Contractor shall provide for continuous operation of normal traffic and vehicular access to the showground, including access to the golf course and disc golf facilities.

Whilst the works is to be undertaken away from a public road, the Contractor shall be held entirely responsible for the safety of all pedestrian and vehicular traffic and shall provide all necessary watchmen, lights, barriers, notices and signs in accordance with the latest version of TfNSW - Traffic Control at Work Sites Technical Manual. Traffic management is to be implemented and maintained at all times to the satisfaction of Council. Signs shall conform to the Manual of Uniform Traffic Control Devices. Traffic Guidance Schemes utilising PTCDs/PTSSs may be considered at the discretion of the Principal.

The Contractor shall not unnecessarily in its operations obstruct any access road, branch track, drain or watercourse and shall not break down any fences or gates without prior notification to Council.

## Earthworks and Construction Definitions

|  |  |
| --- | --- |
| Pavement | The pavement comprises of the wearing course, base layer and subbase layer. |
| Design Finish Surface Level | The level of the top of the wearing course as identified on the “For Construction” Drawings. |
| Wearing Surface | The surface of upper layer of the pavement (bitumen seal or AC). |
| Base Layer | Base layer is the main load carrying course within the pavement. The material quality of this course is identified on the “For Construction” Drawings. |
| Subbase Layer | Subbase layer is a load carrying course beneath the Base Layer. The material quality of this course is identified in on the “For Construction” Drawings. |
| Subgrade | The subgrade is the portion of the formation on which the pavement is to be constructed. |
| Natural surface | Natural surface comprises the surface of the existing or in-situ material before any stripping, clearing, earthworks, preparation of existing pavements or other Works have been commenced. |
| Unsuitable material | Ground unsuitable for the purposes of the works, including fill liable to subsidence, ground containing cavities, faults of fissures, ground contaminated by harmful substances and ground which is or becomes soft, wet or unstable. |
| Structural Fill Material | Structural fill material comprises soils, natural gravel or decomposed or broken rock which are free from peat’s and other organic matter, and free from cobbles and boulders (that is, all passing a 75mm sieve), and which meet all the requirements of material for structural fill specified in this Specification. Compacted structural fill material should achieve the required CBR for the design subgrade. |

|  |  |
| --- | --- |
| Contaminated Material | Material classified as Restricted, Hazardous or Special Waste in accordance with EPA Waste Classification Guidelines. |
| Drainage structures  | Devices to control stormwater flowing into and through a stormwater drainage system including pipe and box culverts, inlet and outlet structures, junction boxes, gully pits, drop structures, headwalls, wingwalls, energy dissipators, and ancillary hardware such as grates, frames and step irons, as well as subsurface drainage pipes at pits, headwalls and wingwalls.  |
| Geocomposite membrane  | A membrane comprising a plastic permeable core enclosed in a geotextile.  |
| Open drain  | An open channel constructed to intercept and redirect surface runoff water including catch drains, diversion drains, batter drains, inlet and outlet drains, and diversion banks associated with stormwater drainage systems.  |
| Inadequate Foundation Material  | Material beneath or adjacent to the proposed drainage structure(s), which the principal deems to be of insufficient strength to support the structure and loads on the structure, or material whose characteristics the Principal deems would adversely affect the performance or construction of the drainage structure. |
| Select Fill | Fill material of specified quality placed against or adjacent to structures. This material is different from Selected Material. |

## The Design and Construction of Molong Hockey Field

The following works apply to the Contract:

Design

The Contractor is to be responsible to:

* + 1. Engage suitably qualified consultants or experts who maintain memberships of appropriate professional associations to undertake the detailed design including, but may not be limited to:
		2. Field Layout and dimensions
		3. Field gradient design in accordance with FIH National standard (Category 3 national and local competitions) Sand dressed synthetic turf.
		4. Civil works including subbase, base and flexible pavement
		5. Drainage
		6. Electrical services (excluding field lighting)
		7. Field fencing
		8. Footpaths, slab on ground, kerb and gutter, and
		9. Sand filled, synthetic surface and associated shock attenuation layer in accordance with Hockey Turf and Field Standards for FIH standard Category 3 fields and competition.
		10. Prepare and execute all design and documentation works in accordance with the Australian engineering and construction industry, FIH Hockey Turf and field Standards Part 1 and 2, and relevant legislative requirements for detailed designs to Cabonne Council for review.
		11. Coordinate the design consultants to complete the required drawings, plans, details, specifications and programs necessary to fully document and complete the works in accordance with the contract and the principals project requirements.
		12. Submit all design documents to the Council for review a sufficient time to allow the Council to make comment and for the contractor to resubmit updated or revised documents.
		13. Note that the minimum required field size for the new field is to be in accordance with the FIH Turf and Field Standards, part 2, section 4 – Construction criteria for category 3, sand dressed synthetic surface. I.E as a minimum, a 3m runoff at the ends and 2m runoff on the sides, in accordance with the below extract from the FIH standards.



* + 1. Field gradients are to comply with FIH Turf and Field Standards part 2, section 4.2 – Field profile and gradients. The construction and performance requirements for category 3. The maximum gradient in any direction shall not exceed 1.0%
		2. Ensure that the fields drainage design is designed in accordance with FIH Turf and Field Standards, part 2, section 4.4 – Drainage.

Site Establishment

The Contractor is to be responsible to:

* + 1. Site establishment includes the provision of temporary amenities, lunchroom and site office, security fencing, temporary site entrance(s), tree protection and temporary erosion and sediment controls.
		2. Locate and confirm the depths of all services within the site and make all reasonable attempts to preserve the services.
		3. Provide all survey, geotechnical, engineering, plant, equipment, labour, traffic controls, notifications, and materials required for the construction works until practical completion.
		4. Coordinate and shut off any live services and connections prior to demolition.
		5. Set up and maintain traffic control for the duration of the works.
		6. Demolish and dispose of all existing buildings and structures as identified on the provided concept plan and notations. The buildings to be demolished are annotated as “existing shed/bar” along with the adjacent slab and 2 water tanks.
		7. Undertake all site survey and set-out.

Stripping of Ground Surface

The Contractor shall strip to a depth of at least 100mm in all areas on which it is proposed to undertake earthworks. Stripping shall be cleaned out so that all grass roots, reeds and their roots, organic soil and humus are removed and shall be performed before any other earthworks are commenced on any area.

Stripping material classified as topsoil shall be used in those areas of the Works where topsoil is required.

Removal of Trees

The Contractor is responsible for engaging a suitably qualified subcontractor to responsibly remove 2 trees identified on the plan. The Principal will provide a letter of due diligence containing assessments of these trees from our preferred ecologist prior to the tree works being undertaken. These trees must be marked by the Contractor and approved for removal by the Principal prior to removal.

Civil Earthworks

The Contractor is to be responsible to:

1. Undertake bulk earthworks, removal of existing spoil, importing and spreading of engineered fill, compaction in layers (including compaction testing), levelling, grading to falls in accordance with contractors submitted field gradient design, civil design, specifications and FIH requirements.
2. The sub-base (+15/-5mm) and sub-grade (+15/-5mm) layers are to be shaped in accordance with the Contractor’s design and compacted to 100% SMDD or 98% MMDD.
3. If any areas of the site substantially differ from the Geotechnical report provided by the Principal, the contractor is to notify the Principal.
4. Excavation and install the stormwater drainage system including pits, pipes, grated drains, subsoil drainage and the like in accordance with the contractors submitted design, considering control and removal of ground water within and surrounding the new field position.

Compaction Testing

The Contractor is to be responsible to:

1. Ensure that the compaction performance of earthworks, subgrade and all backfill requirements are carried out in accordance to the required specification, and must be completed by a NATA Accredited Laboratory. The proposed Geotechnical Engineer must be submitted to the Principal for Approval.

Provision of Electrical Services

1. Supply and install electrical supply conduits and cables to the ground managers shelter and dugouts for future power and lighting controls. Provide required upgraded circuit breakers and RCD protection as required by the Australian Standards.

Construction of Sand Dressed, Synthetic Hockey Field

The Contractor is to be responsible to:

1. Construct fiber reinforced kerb and gutter, kerb only (if applicable with the approved Contractor’s design) lintels, footpath areas, dug out slabs and other concrete as designed in accordance with the Contractor’s approved design.
2. Supply and installation of the Asphaltic Concrete (AC) layer in accordance with the contractor’s final design and in strict adherence to the FIH tolerances for a Category 3 hockey field (including prime seal as per approved design if required).
3. Supply and installation of the shock attenuation layer in accordance with FIH Turf and Field Standards, part 2 Construction and Performance Requirements standard, section 4.5 – Shockpad Installation.
4. Supply and installation of the sand-dressed, short pile synthetic turf surface, (12-22mm pile height). The selected hockey turf is to comply with clause 4.1 – 4.7 of the FIH Hockey and Turf Field standards Part 1, Performance and Quality Requirements standard.
5. Supply and place sand infill in accordance with FIH Turf and Field Standards, Part 1, Performance and Quality Requirements standard, section 4.6.2 – Sand infill’s.
6. Including line marking for games and cross field training. Line marking should be in accordance with FIH Hockey and Turf Field Standards Part 2 Construction and Performance Requirements standard, clause 4.8 – Field Markings
7. Supply and install field fencing to the field perimeter at minimum 1.0m high above concrete path height for sides, min 4.5m high for the width of the shooting circle at the ends of the field and minimum 3.0m high for the ends outside of the shooting circle. Fences are to be fabricated from galvanised C section post and rail and galvanised mesh with maximum aperture of 45mm. The northern end of the field may be reduced based on the Contractors design due to the field placement and surrounding environment. Fencing should be in accordance with FIH Hockey and Turf Field Standards Part 2 Construction and Performance Requirements standard, clause 5 – Perimeter Fencing.
8. Note: Supply and installation of team dug out shelters, field managers shelter and spectator seating will be supplied and installed by others and are excluded from this tender.
9. Restoration of external areas: the contractor is to restore all grassed areas outside the works where damaged during the works. Restoration of grass will include levelling, addition of topsoil and supply and install of Kikuyu grass seed.

Testing and Commissioning

The Contractor is to be responsible to:

1. Arrange and undertake required inspections, testing and the like by a FIH accredited test institute to assess the performance of the completed field to achieve FIH Hockey and Turf Field Standards Part 2 Construction and Performance Requirements standard, clause 7 Field Certification. Compliance with this standard is a requirement prior to the contractor achieving Practical Completion for the project.
2. Once inspected and approved the field is to be placed on the list of certified fields on the FIH website.
3. Provision of Works as Executed (WAE)

**As the expert, the Respondent shall confirm that all items listed are included in their price and in their Tender.**

**The Respondent shall list and make allowance for all additional items over and above those listed within this document that are required for the successful completion of the project.**

Completion

The Contractor is to be responsible to:

1. Submission of Works-As-Executed Documentation including final survey of the field, kerb and gutter, fence lines, as installed electrical conduits and cables, as installed stormwater system.
2. 12 Month Defect Liability Period.
3. Compile and issue for review operation and maintenance manuals and warranties for all supplied and installed items of the works under contract.

## Geotechnical

All necessary preliminary Geotechnical investigations have been provided in the tender documents. The Contractor is responsible to review the geotechnical investigation documents and make allowance of identification, testing and replacement of any unsuitable subgrade material during the course of the road construction.

## Site Supervision

The Principal expects that the Contractor's nominated Supervisor will supervise the site at all times during project's scope of works. If for any reason the Contractor's nominated representative will not be onsite supervising the works - for any period of time- the Principal requires notification. The notification shall communicate the change of supervisory personnel and amongst other specifics shall identify the transfer of the Site Supervisor's roles and responsibilities to a competent, experienced alternate person/s.

## Site Personnel Monitoring

The Contractor shall record all personnel entering and exiting the site and be aware of who/m is onsite at all times. The Contractor shall implement and manage a register of personnel entering and leaving their site.

## After Hours Access to Site

If the site is to be accessed for any reason at times when the Contractor is not onsite; the Contractor will develop an approved procedure to manage access to the site in accordance with Legislative and project requirements and forward to the principle for review. The procedure shall be developed and reviewed prior to the site being accessed when the Contractor is not onsite.

## Deliveries

The Contractor shall consider the planning and management of the project material and equipment deliveries; in accordance with Legislated and project requirements; i.e. safe access/egress and working at heights associated with accessing transport vehicles/transport trailers. Where practical the Principal expects the Contractor will consult with their suppliers; with the intention of manage deliveries in accordance with Legislated and Project requirements.

## Amenities

The Contractor is to provide access to clean toilets and meal facilities, cool clean drinking water, and other requirements of the Safework NSW Code of Practice: Amenities for construction work must be provided for all persons.

## Electrical

All electrical work and electrical plant must comply with AS/NZS 3012:2010 Electrical Installations - Construction and demolition sites.

##  Site Security and Public Access

Security measures, including perimeter fencing, supplied and installed by the contractor, must be used to prevent unauthorised access to construction areas and ensure safe access and passage for all those adjacent to the site. Cabonne Council reserves the right to erect advertising or graphic on the temporary security fencing.

## Greenfield Environment

The site may contain existing services located within the footprint and adjacent to the proposed worksite. These services may include locations both aboveground and underground. Existing service/s location, identification and protection requirements are as follows. The Contractor is responsible for the following in relation to existing services:

1. Locating services within and adjacent to the worksite.
2. Perform a "Dial Before You Dig" service location search.
3. The location of concealed and buried services must be performed by way of Non-destructive service location methodologies. Prior to any location of services, the Contractor will provide a comprehensive procedure to the Principal for review. The procurer shall communicate the chosen methodologies for Non-destructive service location of services.
4. Protection of; both above and underground services from damage arising from delivery of the project works during the project.
5. Positive identification of underground services where ground disturbance is required to be undertaken by the Contractor or their subcontractors; within 2m of a known service location. Ground disturbance means disturbance of the ground where the ground will be disturbed, including penetration, beneath 200mm from the existing surface level. The existing surface level is the surface area of the worksite, prior to commencement of works. This includes penetration of the ground by star pickets etc.

The Contractor and their Subcontractors are to consider all services to be live until the services can be determined to be no longer live.

## Tolerances

All tolerances will be in accordance with FIH Hockey and Turf Field Standards Part 1 & Part 2

The Principal may deviate from these tolerances if they have compelling reasons to do so.