1 GENERAL

1.1 CROSS REFERENCES
General
Conform to the Preliminaries.
Conform to the Environmental Management section of the Invitation to Tender document.
Related worksections
Conform to associated worksections as follows: > Insitu Concrete, Reinforcement, Earthworks.

1.2 STANDARD
General
Design and performance: To AS 2159.
Materials and installation: To AS 2159.

2 QUALITY

2.1 INSPECTION
Witness points
General: Give sufficient notice so that inspection may be made of the following:
- Setting out.
- Piles and piling material after delivery to site and before installation.
- Installation of piling.
- Pile heads after preparation.
- Pile load tests.
Concrete piles: Give sufficient notice so that inspection may be made of the following:
- Reinforcement cages after assembly and before installation;
- Excavated shafts, casings and sockets before placing reinforcement.
- Excavated shafts, casings and sockets before concreting.
- Concreting of piles.

2.2 LOAD TESTS
Bored piles
Provide integrity testing to 10% of the total number of bored piles.
Test
Integrity test bored piers using a test method acceptable to the geotechnical engineer.
Test data
Record the results of the pile load tests and submit regularly to the engineer/geotechnical engineer for approval.
Failure
If a test pile fails to meet the load test requirements, give notice.

2.3 SUBMISSIONS
Subcontractors
Submit name and contact details for proposed subcontractor specialising in foundation engineering.
Tests
Load tests: Submit 2 copies of load test report.
Execution
General: Submit details of proposed piling methods, equipment and sequence.
Jetting and pre-boring: If jetting or pre-boring methods are proposed in conjunction with pile driving, submit details of the proposed equipment and methods.
Concrete piles: If it is intended that high alumina and early strength cements are to be used, submit proposals.

Records
General: Submit 2 copies of records of data.
Preservative treated timber piles: Submit treatment records.

3 MATERIALS AND COMPONENTS

3.1 CONCRETE PILES

Construction
Construct the piles as specified on the drawings. The depths and pile lengths nominated on the drawings are indicative only and may need to be varied, depending on the specific ground conditions encountered for each pile. Incorporate any design changes required, due to varying ground conditions.

Alternative Design
Alternative design(s) for the pile system shall be submitted for approval.

Minimum cement content
Refer to insitu concrete work section.

High alumina and high early strength cements
Do not provide.

Reinforcement
Clearance: Provide spacers on the reinforcement cage to maintain the correct cover. During installation of reinforcement in uncased holes keep the reinforcement cage clear of the sides of the hole.

Source: All bars shall have a minimum content of recycled steel exceeding 95 per cent.

Minimum cover (mm): 75mm

4 EXECUTION

4.1 ADJOINING PROPERTY

Damage
If damage is caused to adjoining property, stop piling operations and give notice.

4.2 SETTING OUT

Requirement
Peg the position of each pile and establish a grid of recovery pegs to enable the setting out to be checked.

4.3 INSTALLATION

Inspection
Provide facilities necessary for inspection of piling including safe access, lighting and ventilation.

Concrete piles
Loose material: Do not allow loose material to fall down pile holes before or during concreting.
Liner: Pack well into position.

Pile capacity schedule
Refer to scope documents

Tolerances
Maximum permissible deviations:
- Cut off level: > + 200 mm – 0 mm
- Pile position at cut off level: > + 100 mm
- Straightness: > + 20

4.4 PREPARING PILE HEADS

Requirement
Prepare pile heads for incorporation into the structure.

Defective material
If the pile at or below cut off level, is damaged by driving, or is otherwise unsound, give notice.

Concrete piles
Roughen the surface at cut-off level. Clean and straighten the projecting reinforcement.
4.5 OVERDRIVEN PILES
Not applicable.

4.6 RECORDS OF DATA
Ground level
Record the level of the surrounding ground at the time when the pile is installed.

5 COMPLETION

5.1 COMPLETION
Warranties
General: Submit a warranty to correct faults and make good damage which is caused by the pile installation or subsequent movement to that part of the superstructure supported on the piling, or to adjacent property, or to both.

Warranty period: 25 years