

PART E - TECHNICAL SPECIFICATION

E1. DESCRIPTION OF THE WORKS

E1.1 SCOPE OF WORK

E1.1.1 Background

During the 1940 -45 period, a wooden structure complete with stave pipe was added to the Prospect Reservoir Scour System to provide an extra water intake in addition to the 2-off intakes located at the Outlet tower built in the 1880.

With the decommissioning of the Lower Canal in 1996 however, dewatering or scouring of the Reservoir has become the sole purpose of the Scour Outlet System and as such the inlet structure has become redundant.

E1.1.2 Purpose

As part of the overall Prospect Scour Upgrade it is necessary to remove the inlet structure to expose the actual inlet to enable scouring of the reservoir. Also it enables the possibility to install a blank flange on the inlet to create a primary isolation during the maintenance of the scour lines.

E1.1.3 Location

The work to be carried out is at Prospect Reservoir located off Reservoir Rd at Prospect, see Location Map (**Appendix A**).

Note: The actual Prospect Reservoir belongs to the SCA while the surrounding areas (roads, access, picnic areas) belong to the Sydney Water Corporation (SWC).

E1.1.4 Work to be carried out by Contractor

E1.1.4.1 Timber Inlet Structure, bends and bellmouths

E1.1.4.1.1 Removal and storage of:

- i. 1-off stave pipe including tie ropes and all debris.
- ii. 1-lot of planking only from the roof panel.

Note: It is essential that at least one roof beam is kept in place to ensure integrity of the remainder of the box (walls).

- iv. 1-off trash rack

Note: It is essential that at least one roof beam is kept in place to ensure integrity of the remainder of the box (walls).

Point of storage: Underwater near SCA office (opposite vintage pipe display area) complete with 3-off buoys to mark actual location, see Location Map (**Appendix A**).

E1.1.4.1.2 Removal, cleaning and storage of:

- a) 2-off bell mouths
- b) 2-off inlet bends

Point of storage: in SCA building, see Location Map (Appendix A).

Notes:

- During the removal of the inlet bends, it is essential that the flange and flange face on the inlet pipe are preserved; a blank flange needs to be bolted onto it at some later stage.
- The face of the flange is to be treated to prevent pitting.
- The bends and bellmouths are kept in one piece.
- The structure must be removed and stored intact as much as practical.
- Damage to the brick and sandstone walls must be prevented, any damage is to be made good at the cost of the contractor.

E1.1.4.2 Inspections, Reporting and Sampling

E1.1.4.2.1 Sampling:

- a) Core Samples (20mm dia) required as follows:
 - i. 1-off from each bend and bellmouth as recovered under E1.1.4.1.2.
 - ii. 3-off from each submerged pipes (one near entrance; one near point where pipe is buried and one in between (see **Appendix E**).
 - iii. Each core sample to be tagged with chainage details of location taken.

- b) Supply and installation of water tight plugs for the core holes drilled in the pipes only.

Notes:

- The material of the pipes, bend and bellmouths are cast iron and installed in the 1880's.
- Tenderer to submit proposal of method of drilling of the samples and the method plugging of the drilled holes.

E1.1.4.2.2 Inspection reports:

The Contractor shall provide Inspection reports complete with digital photographic and video record of the following:

- i. Inlet structure in detail before and after removals as per E1.1.4.1.2
- ii. Flange faces at entrance of the submerged pipes after removal of the bends.
- iii. Outlet tower high level intakes (north & south) See Appendix F
Note: cleaning required where necessary.

E1.1.4.3 Outlet Tower Inlets (optional)

Depending on the outcome of the report as per E1.1.4.2.2 (iii):

Sealing of the outlet tower wall where the two (north & south) side inlet pipes pass through. This will be treated as a variation to the contract.

E1.1.5 Work to be carried out by Others

The isolation of the scour pipelines to be carried out by the SCA.

No diving works can be undertaken until valves are closed (isolated).

E1.1.6 Access

Access to the site will be from Reservoir Rd at Prospect via the SWC private road at Prospect Reservoir, the gate at Reservoir Road will be open from 7.00AM to 4.30PM

Access to the reservoir precinct and boat ramp itself will be via two “boat ramp” gates located near the outlet tower.

Notes:

- The contractor to supply their own locks for the “boat ramp” gates and to make a key available to the SCA.
- The “boat ramp” gates are to be closed (and locked) when not in use to prevent access to the public.
- Access to the boat ramp has to be free at all times to ensure access by the SCA water samplers and emergency vehicles.
- The area near the access to the boat ramp is a public area and the contractor has to be aware of traffic and pedestrians.

E1.1.7 Shutdowns

Not applicable

E1.1.8 General

E1.1.8.1 References:

E1.1.8.1.1 Drawings:

Details of Wooden Inlet Structure: drawing 426/3 Appendix B

Note: Depth of top of inlet pipe: approximately 21m.

E1.1.8.1.2 Underwater Investigation Report and Video.

Report by The Diving Company dated Feb. '07 (Appendix C).

DVD by Commercial Diving Services (CDS) May '07: Appendix E

Video of inlet structure by The Diving Company Feb '07: Appendix E.

E1.1.8.2 Water Quality

Due to the substantial amount of silt on the bottom of the reservoir it is essential for the contractor to ensure this is not disturbed and effecting the water quality

E1.2 STANDARDS

All works shall comply with this Specification, all relevant Australian Standards and Codes of Practice Manuals.

E1.3 DESIGN

Not applicable.

E1.4 SPECIFICATION OF EQUIPMENT

Not applicable.

E1.5 MATERIALS

Not applicable.

E1.6 FABRICATION

Not applicable.

E1.7 PROTECTIVE COATING

Not applicable.

E1.8 INSTALLATION

E1.8.1 Hot Work

No Hot Work (grinding, welding, thermal or oxygen cutting or heating (Oxy-acetylene or LPG) or any other related heat or spark-producing operation of any kind shall be undertaken on site without the specific approval by the Superintendent.

Refer to attached Sydney Catchment Authority procedural document “Hot Work During the Bush Fire Period: SOP-BWD-ALL-006 which specifies the procedures and precautions to be taken prior, during and after Hot Work”.

E1.9 TESTING

Not applicable.

E1.10 ASSET INFORMATION REQUIREMENTS

E1.10.1 Reports

Where a report/s are to be provided as a specific deliverable as stated in *E1.1.4.2 Inspection reports*, the report will be subject to a review process by the Principal. Two (2) weeks are to be allowed for the Principal to review the report/s and return comments. The Contractor shall make allowances for the review process to be followed.

The Contractor shall provide two (2) hardcopies and one electronic copy of each report specified in *E1.1.4.2 Inspection reports*. Electronic files are to be provided on CD-ROM in Adobe PDF format, however the information contained on the disc must be in a format that will allow for:

- simple navigation through all sections of the report (by way of bookmarks)
- full text searching for words and phrases.

E1.11 TRAINING

Not applicable.

E1.12 Not Used

E1.13 DOCUMENTATION PROVIDED BY THE PRINCIPAL

The following documentation will be provided to the successful tenderer within five (5) working days of the letter of acceptance. Should these documents be required for the purposes of tendering, Tenderers may inspect the documents during the tendering period at the SCA's Head Office Reception Desk on Level 4, 2-6 Station Street (Penrith) by making arrangements with the Contract Officer (see the front page of this Invitation to Tender for contact details).

All information provided and details of the SCA assets shall be treated with strict confidentiality.

Technical Documentation

Document no	Title
SOP-BWD-ALL-006	Hot Work during the Bush Fire Period
0604	Water safety procedures
0605	Water craft usage

E1.14 ACCEPTANCE CRITERIA

The following criteria are to be satisfied before the Principal will consider work under this contract to be complete:

The storage of the items to be removed

Supply of the final photographic and video records on DVD

Supply of all final reports and documents on DVD

Core hole samples provided to SCA

E1.15 APPENDICES:

Appendix A: Location Map

Appendix B: Details of outlet structure: drawings 426/3

Appendix C: Underwater report by The Diving Co

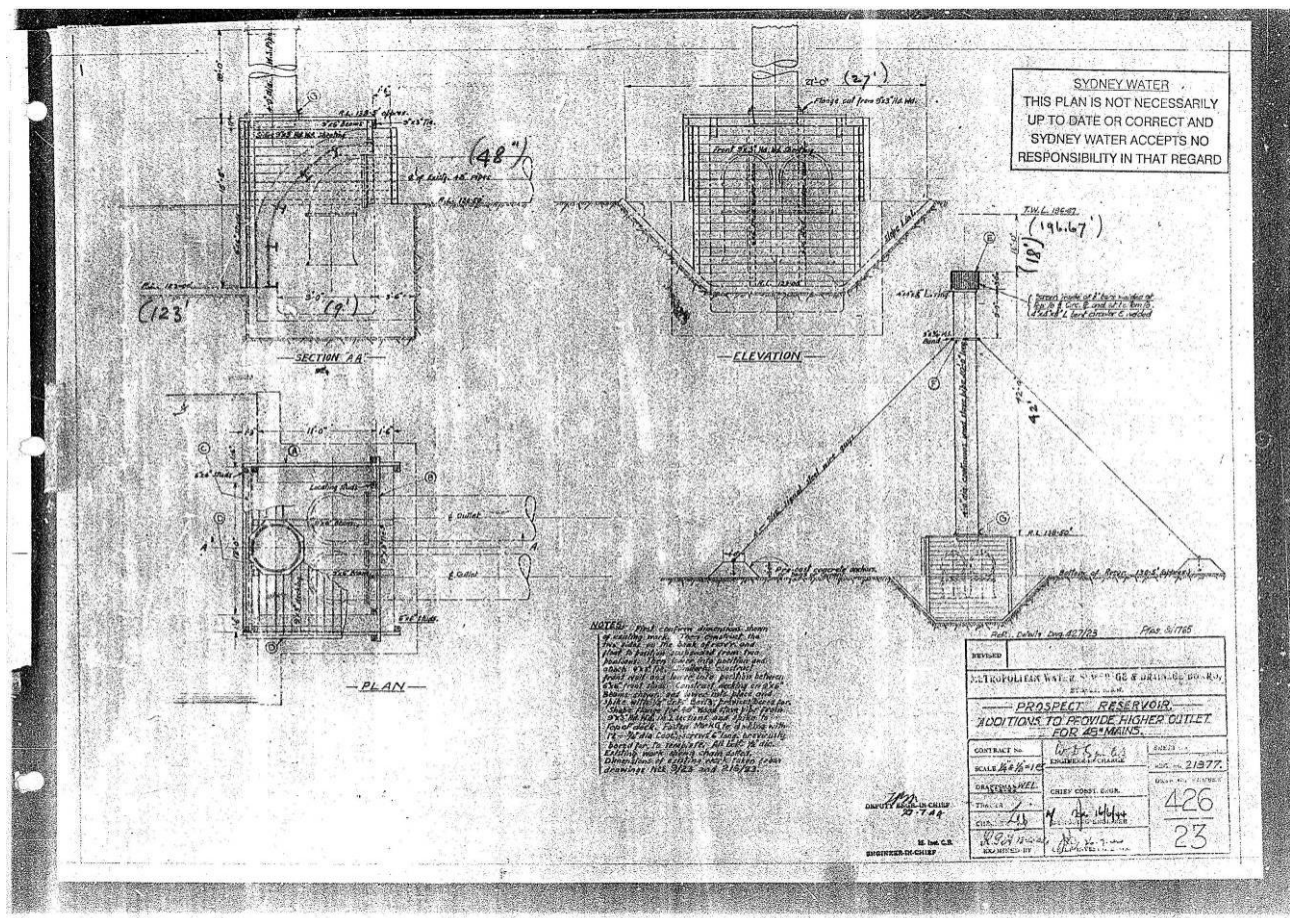
Appendix D: Layout Schematic

Appendix E: *Underwater DVD (Video) by CDS

*Video of inlet structure by The Diving Company

Appendix F: Schematic of Outlet Tower

APPENDIX B - INLET STRUCTURE



APPENDIX C – Underwater ReportD2008/
08271

THE DIVING Co(NSW) Pty Ltd.

PROSPECT RESERVOIR INTAKE STRUCTURE:**UNDERWATER INSPECTION: 21.02.07 :**

AN UNDERWATER VIDEO INSPECTION OF THE INTAKE PIPE AND INTAKE BOX INCLUDING THE INTERNAL TRASH RACK AND PIPEWORK WAS CARRIED OUT ON THE 21ST FEBRUARY 2007. THE FOLLOWING NOTES RELATED TO THE CONDITION AND CONSTRUCTION METHOD OF THE STRUCTURE PROVIDE ADDITIONAL INFORMATION IN CONJUNCTION WITH THE DVD AND DRAWINGS PROVIDED:

1. TIMBER INTAKE PIPE:

The timber intake pipe is constructed of 90mm x 40mm hardwood timbers running vertically with joints at various positions. The Iron hoops holding the barrel pipe have predominantly failed and have dropped down the pipe. The intake strainer is badly corroded and partially missing. The guide wires are missing, however the pipe remains in position and intact. It is still secured to the top of the timber box with bolts on a timber flange. Dimensions of the pipe are 1500mm diameter and 11.0m in height.

2. INTAKE BOX:

The intake box consists of a 3 sided brick and sandstone block wall where the pipe penetrations are with a timber box structure secured to these walls to produce a totally enclosed structure around the intake bellmouths. The back wall with the pipe penetrations is brick and sandstone as are the 2 buttress side walls which taper down in line with the trash rack. As per the original drawings the timbers are 9" x 3" boards with 6"x6" bearers. It appears that an access hole has been made in the front wall at some stage and there is some steel bracing externally which may be a more recent addition. There is a considerable amount of debris on top of the box and around the sides. External dimensions are as per original drawings.

3. TRASH RACK:

The trash rack is constructed from iron/steel I beams running horizontally set into the brickwork with vertical round bar (20mm) set at approx. 100mm centres. The top section has been removed at some stage to allow access to the intake pipework.

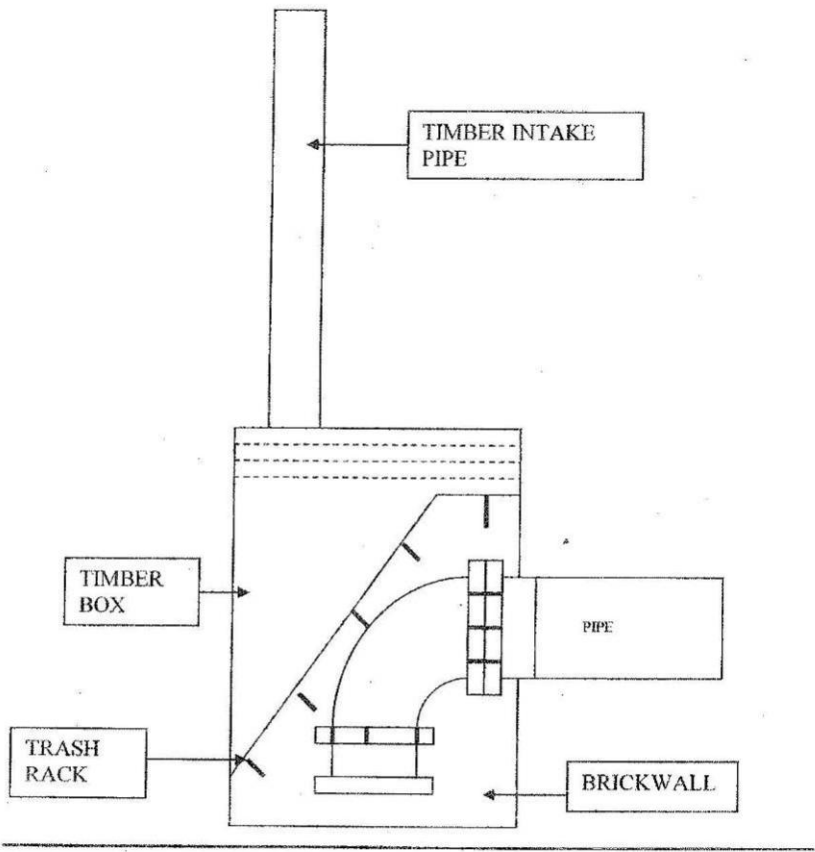
4. PIPEWORK:

The pipework is cast iron approx 650mm diameter. There is a bell joint 500mm from the outside of the penetrating wall with a flanged joint 500mm inside the box. Bolted to this is a downward facing elbow with a short pup piece bellmouth bolted to the bottom. All the pipework is intact and apart from extensive external growth appears in good condition once cleaned, with minimal corrosion visually apparent. The flange bolts appear to be in fair condition and once accessed would be removable.

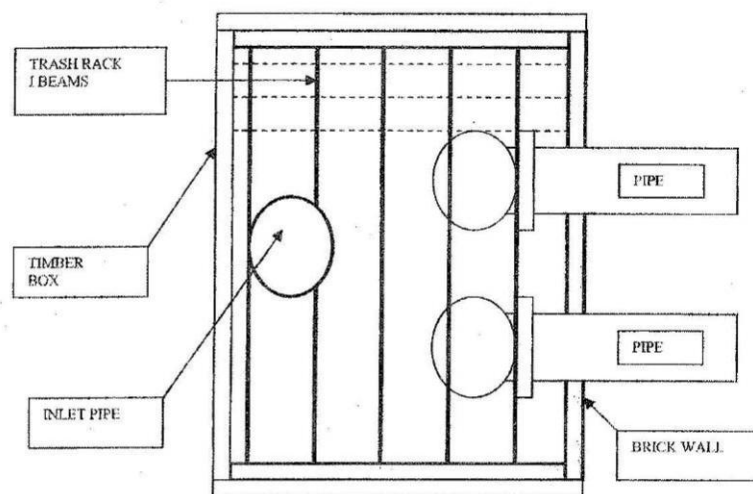
5. GENERAL:

The top of the intake pipe is in 5m DFW, the top of the box 16m DFW and the base of the box 20m DFW. It could not be ascertained how the additional timber box structure is fixed to the original 3 sided brick/sandstone support wall for the pipework although it was established that it is fixed to the outside of the brick wall. If access to the pipework flanges is required removal of part of the timber structure and trash rack is possible once the 1m intake pipe has been removed.

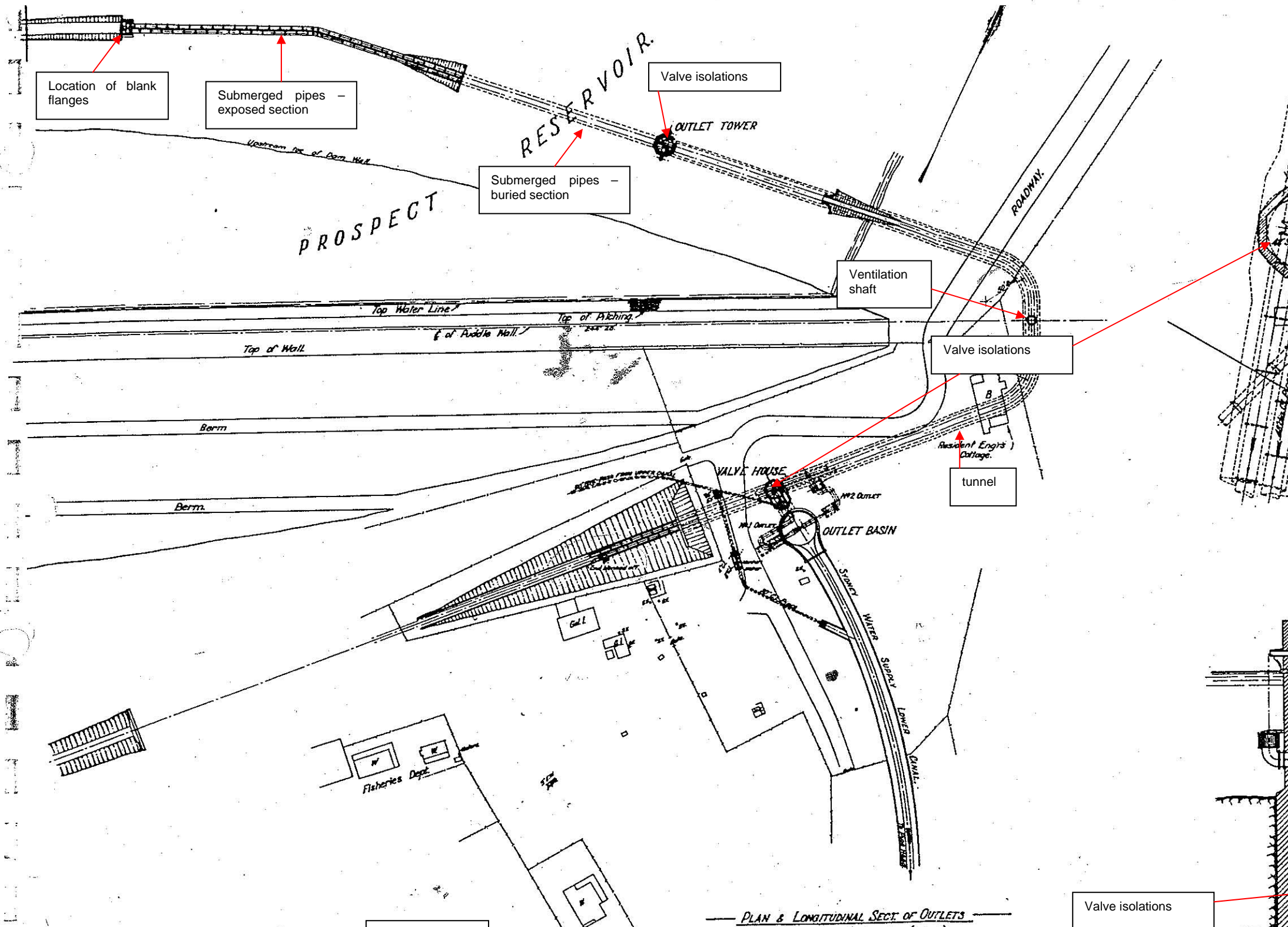
INTAKE STRUCTURE: PROSPECT RESERVOIR:



PROSPECT RESERVOIR: INTAKE STRUCTURE
PLAN VIEW:



APPENDIX D – LAYOUT SCHEMATIC



APPENDIX E – DVD

*Underwater DVD by CDS

*Video of inlet structure by The Diving Company

APPENDIX F

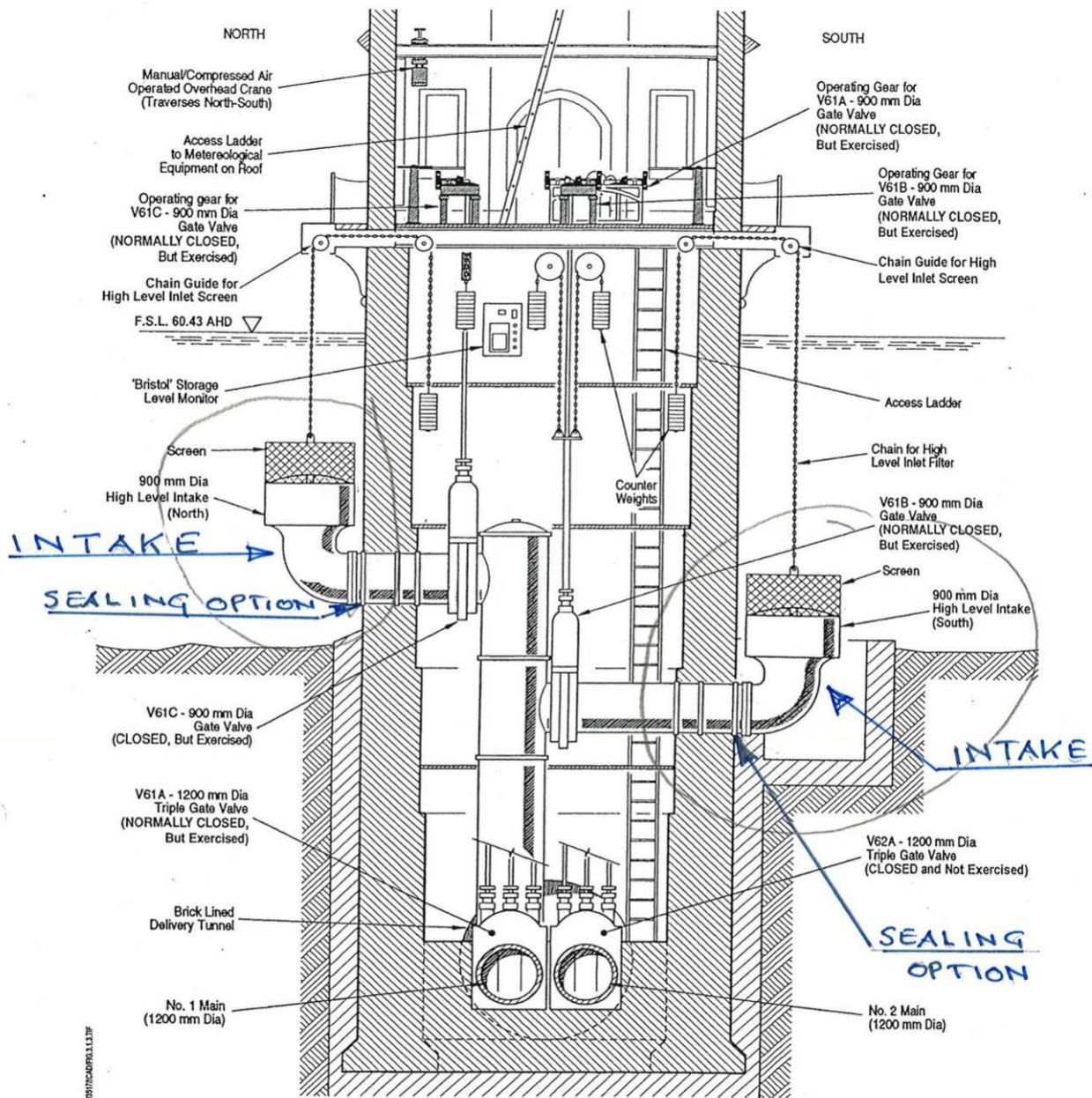


Figure 3.2-3 Side Elevation - Outlet Tower (Looking Downstream)

E2. OHS & R

E2.1 General Requirements

- (a) The occupational health, safety and rehabilitation requirements contained in this specification:
 - (i) may be in addition to, but are not in substitution for, any other requirements of any legislation or regulations or of any condition in the General Conditions of Contract or the Special Conditions of Contract; and
 - (ii) shall not be taken to limit the powers of the SCA or the liabilities and responsibilities of the Contractor under the Contract.
- (b) The Contractor shall, at all times, exercise any other necessary and reasonable precautions appropriate to the nature of the Work and the conditions under which the Contract is to be performed for the safety of all persons on the Site, or in the vicinity.

E2.2 Additional Safety Requirements

- (a) Notwithstanding the general requirements of clause E2.1(a), it shall be a requirement of the Contract that all supervisors, employees and visitors wear Safety Helmets, as defined in AS 1801, and safety footwear, as defined in AS 2210, whilst on the Site.
- (b) Blasting explosives shall not be taken onto the Site without the written approval of the SCA.
- (c) The Contractor shall comply with occupational health and safety legislation and regulations, AS 2865:1995 and SCA Group Procedures/Instructions relating to work in confined spaces.
- (d) In addition, the Contractor shall comply with the SCA Group Procedures/Instructions as set out in clause F5. In circumstances where these are in conflict, the more stringent requirements shall apply. The Contractor shall comply with the SCA's directions regarding these matters.
- (e) It shall be the Contractor's responsibility to provide equipment, training, personnel and documentation necessary to satisfy the above requirements. The Contractor shall comply with these requirements and shall provide relevant documentation as preconditions for issue and continuation of a Permit to Work at the Site.

E2.3 Serious Accident and Dangerous Occurrence Reports

- (a) The Contractor shall immediately notify WorkCover and the SCA of any serious accident or dangerous occurrence. The Contractor shall then formally notify WorkCover in accordance with the Occupational Health and Safety Regulation 2001, using the prescribed form, and immediately supply an additional copy to the SCA.

- (b) If requested, the Contractor shall supply a written report to the SCA in the form directed and shall co-operate in any subsequent incident investigation and/or debrief conducted by the SCA.
- (c) The Contractor shall promptly submit reports of all accidents involving loss of time or incidents with serious accident potential such as equipment failures, slides, cave-ins, etc., giving such information as may be required by the SCA.

E2.4 Safety Co-ordination Committee

- (a) In the absence of an Occupational Health, Safety and Rehabilitation (OHS&R) Workplace Committee, the SCA may direct that a Safety Co-ordination Committee be established.
- (b) The Committee shall be chaired by the SCA or SCA's nominee and shall comprise representatives of the SCA, the Contractor, subcontractors and employees on the Site or such one or other of those as the SCA may direct. If more than one Contractor is working on a particular Site, all such Contractors may be represented.
- (c) At the direction of the SCA, recommendations made by the Committee shall be put into effect by the Contractor. If such direction involves a variation to the Works, then Part C - General Conditions of Contract shall prescribe the method of valuing the variation.

E2.5 Hazard Identification and Risk Assessment Meeting.

Following award of the Contract, the Contractor shall attend and participate in, a 'Hazard Identification and Risk Assessment Meeting', which shall be chaired by the SCA. Attendance by other stakeholders shall be as determined by the SCA. The purpose of the meeting shall be to ensure that significant OHS&R hazards and risks associated with the Contract Work have been identified.

E2.6 Preparation, Review and Sign-Off of Project Safety Plan

- (a) Following the Hazard Identification and Risk Assessment Meeting, the Contractor shall prepare a 'Project Safety Plan', which shall include appropriate controls to minimise the OHS&R hazards & risks identified in the accepted Hazard Risk Identification in clause F2 and at the Hazard Identification and Risk Assessment Meeting.
- (b) The Project Safety Plan shall detail the OHS&R systems and procedures which will apply during the term of the Contract, including all relevant aspects of the Work and in regard to sub-contractors. The Project Safety Plan shall incorporate the Contract requirements listed under 'Project Safety Plan – Specifics' in the relevant sub-clause below.
- (c) The Contractor shall submit the Project Safety Plan for review and formal sign-off by the SCA prior to the 'Kick-off Meeting' and grant of Site possession.
- (d) All work activities identified in the Hazard Identification and Risk Assessment Meeting as carrying a high or moderate safety risk shall be addressed in

Safe Work Method Statements. These shall be included in the Project Safety Plan. Where conditions of the job Site on the day must be known to determine the specific work method to be used, Safe Work Method Statements may be of a generic nature. In such cases a site-specific Safe Work Method Statement shall be developed at the Site prior to commencement of the relevant Work.

- (e) Where the Project Safety Plan does not meet SCA's Contract requirements the SCA shall notify the Contractor who shall make appropriate modifications to the Project Safety Plan. The Contractor shall not commence on-site work until the SCA has acknowledged in writing to the Contractor, that the Project Safety Plan is acceptable to the SCA.

E2.7 Kick-off Meeting, Contractor Induction and Site Possession

- (a) The Contractor shall attend and participate in a 'Kick-Off Meeting' and Contractor induction. These shall be conducted by the SCA and attended by other stakeholders nominated by the SCA. The purpose of the meeting shall be to ensure that all OHS&R controls required to be deployed prior to Site possession are in place and that Contract responsibilities are understood by the key personnel. Key OHS&R issues associated with the Site, the Work and the Project Safety Plan shall be reviewed.
- (b) At the satisfactory conclusion of the Kick-Off Meeting and Contractor induction the SCA shall grant the Contractor possession of the Site or sufficient of the Site to enable the Contractor to commence work.

E2.8 Types of OHS&R Induction

- (a) It is a legislative requirement that employees receive adequate induction and training to ensure tasks are undertaken in a manner that minimises the risk to their health and safety. SCA OHS&R induction must be completed for all contractors, subcontractors and their employees before they commence Work. There are three levels of OHS&R induction:

General Induction	<p>Conducted initially by SCA for the Contractor and the Contractor's key personnel.</p> <p>Additionally conducted by the Contractor for other Contractor employees and subcontractors.</p>
Site Specific Induction	<p>Conducted initially by SCA for the Contractor and the Contractor's key personnel for all SCA Sites.</p> <p>For manned operating Sites: always conducted by SCA for Contractor employees and subcontractors.</p> <p>For non-operating Sites and unmanned Sites: conducted by the Contractor for the Contractor's employees and subcontractors.</p>
Project Specific Inductions	Conducted by the Contractor.

E2.9 Guidelines for OHS&R Induction

- (a) The following guidelines provide an outline of the content of induction courses to be delivered to persons working on SCA contracts, and the responsibilities for delivery of different induction components. They also outline the requirements for issue of SCA Contractor Induction Cards.
- (b) The Contractor shall ensure that all Personnel, subcontractors and employees involved in the Work under the Contract are properly inducted before their commencement of Work on Site. Specific responsibilities for delivery of inductions are outlined below. These responsibilities shall be specified in the Contractor's Project Safety Plan.
- (c) General Induction Process
 - (i) All Contractors, subcontractors and their employees shall be given a General Induction.
 - (ii) The SCA shall provide the initial General Induction to the Contractor and to the Contractor's nominated contract representatives at the Kick-Off Meeting. A General Induction Card shall be issued by the SCA to recipients of this induction (refer SCA Contractor Induction Card System below).
 - (iii) The Contractor shall be responsible for incorporating the General Induction content into the Contractor's subsequent induction processes for the Contractor's Personnel. Only holders of an official SCA General Induction Card will be permitted to provide subsequent general inductions.
 - (iv) A general induction package shall include:
 - SCA's OHS&R policy;
 - an overview of SCA OHS&R requirements for contractors (including responsibilities of SCA and responsibilities of the Contractor); and
 - SCA contractor safety rules.
 - (v) The General Induction will provide the Contractor with practical safety induction to SCA. It is the first part of a three part induction process that the Contractor and each of the Contractor's employees and subcontractors must complete before commencing Work on SCA Sites. In addition to this General Induction, the Contractor shall ensure that each of the Contractor's employees and subcontractors (and their employees) shall receive a Site-Specific Induction and a Project-Specific Induction.
- (d) SCA Site-Specific Induction
 - (i) The Contractor and its Personnel shall be given a Site-specific induction before they commence Work on Site.
 - (ii) For the Contractor and the Contractor's nominated Contract representatives the Site-Specific Induction shall be conducted by the

SCA Site owner at the Kick-Off Meeting. The Contractor shall be responsible for incorporating this induction content into the Contractor's subsequent induction processes for contractor employees and subcontractors, except at manned SCA operating Sites.

- (iii) At manned SCA operating Sites all inductions shall be conducted by the SCA Site owner. The Contractor shall be responsible for ensuring all the Contractor's employees and subcontractors have received this induction before they commence Work.
 - (iv) Where management of the Site is not under the control of SCA, the Site-Specific Induction will be delivered by the person who has management responsibility for the Site. This shall be the Contractor unless otherwise advised in writing by the SCA.
 - (v) Site-Specific Inductions shall as a minimum address the following:
 - Site-specific hazards.
 - Controls to be adhered to on Site.
 - Site safety rules.
 - Work permits.
 - Emergency evacuation and incident procedures.
 - Emergency contacts.
 - Hazard and incident reporting procedures.
 - Regulatory requirements and Codes of Practice relevant to Site hazards.
 - Safe access and amenities.
 - Other site-specific OHS&R issues.
- (e) Project-Specific SCA Induction.
- (i) The Contractor shall ensure that all employees and sub-contractors have received a Project Specific Induction prepared and provided by the Contractor. The Project Specific Induction shall be tailored by the Contractor to the specific project and work activity.
 - (ii) The Project-Specific Induction shall include:
 - Safe Work Method Statements;
 - the Project Safety Plan key contents; and
 - Codes of Practice.

E2.10 Induction Records and Monitoring

- (a) The Contractor shall keep records of all inductions given to the Contractor and its Personnel. Specific inductions received by each individual shall be recorded on each individual's project specific induction card (refer contractor induction card system below).
- (b) Contractor Induction Card System

- (i) There shall be two types of Contractor Induction Card:
 - (A) **General Induction Card** - This card shall have a validity period of two years. It shall indicate that the recipient has received a General Induction. A General Induction Card shall be issued by the SCA on completion of a General Induction.
 - (B) **Project Specific Induction Card** - This type of card shall be issued by the Contractor. It shall indicate that the Contractor's employee, sub-contractor or sub-contractor's employee named on the card has been inducted as specified on the card. It shall indicate the level of induction received including General Induction, Site Specific Induction and Project Specific Induction. A Project Induction Card shall be valid for the duration of the project only. The Contractor shall ensure that all persons working on Site shall carry a Project Specific Induction Card. A number of blank Project Specific Induction Cards shall be provided to the Contractor by the SCA at the Kick-Off Meeting.

E2.11 Project Safety Plan - Specifics

- (a) The Contractor shall prepare a Project Safety Plan in accordance with the requirements of the Contract.
- (b) The Contractor shall implement the Project Safety Plan and shall carry out frequent workplace inspections to ensure that OHS&R controls are in place, systems are implemented, OHS&R risks are identified and promptly addressed. The Contractor shall ensure that subcontractors follow the requirements of the Project Safety Plan.
- (c) The SCA may audit the Contractor's Project Safety Plan at any time to evaluate implementation, effectiveness and level of compliance with the Project Safety Plan. The SCA may report any non-conformance issues. The SCA shall appraise the Contractor's performance for the SCA's records.
- (d) The Project Safety Plan shall cover the eleven key elements contained in the current NSW Government OHS&R Management System Guidelines and shall incorporate the requirements of that publication's "Corporate OHS&R Management System".
- (e) The Project Safety Plan shall be reviewed at regular intervals throughout duration of the Contract to ensure that it is maintained in an up to date condition. The Project Safety Plan shall also form the basis by which the Contractor's management systems will be audited by SCA.
- (f) The Project Safety Plan and Safe Work Method Statements should utilise but not depend solely on the Hazard Risk Identification included in the Contract documents. The Project Safety Plan and Safe Work Method Statements should take into account the interface/s with ongoing SCA operations and with any other employees and contractors who may be undertaking other work simultaneously on the Site/s. Revisions to the documentation shall also be submitted.

- (g) Outlined below are the general requirements for and elements of the Project Safety Plan to be provided by the Contractor.

(i) Management Responsibility

The Contractor's Project Safety Plan shall state the name of the Contractor's management representative responsible for the following:

- Overall compliance on-Site to OHS&R requirements & legislation.
- Reviewing subcontractors' Project Safety Plans.
- Monitoring subcontractors' Project Safety Plans.
- Monitoring purchasing and materials delivery.
- Receiving, safely storing and using materials and hazardous substances.
- Communicating OHS&R information & Site Safety Rules.
- Providing OHS&R training and site induction.
- Maintaining accident and emergency procedures and first aid equipment.
- Conducting Site inspections.
- Identifying, assessing and controlling hazards.
- Workplace injury management and rehabilitation.
- Managing communication between OHS&R Workplace Committees.
- Ensuring appropriate interaction with SCA procedures and operating systems.

(ii) Subcontracting and Purchasing

Safe Work Method Statements or procedures for the project should be in place for the following.

- Selection of subcontractors.
- Monitoring of work undertaken by subcontractors.
- Purchasing and delivery of materials.
- Delivery of hazardous substances.
- Handling of materials and hazardous substances.
- Review of Subcontractors' Project Safety Plans.
- Subcontractors' compliance with their Project Safety Plans.

(iii) Process Control (includes Safe Work Method Statements)

- (A) Hazard identification and risk analysis will be completed and documented in the Project Safety Plan. All work activities identified in the Hazard Risk Identification and Hazard Identification and Risk Assessment Meeting as carrying a high or moderate safety risk shall be addressed in a Safe Work Method Statement.

- (B) A Safe Work Method Statement shall include the following elements:
- A description of the Work.
 - Identification of potential hazards associated with the Work.
 - The actual step by step sequence involved in doing the Work (may reference SOP).
 - The foreseeable hazards for each step listed.
 - The safety controls that will be in place to minimise these hazards.
 - All precautions to be taken to protect health and safety.
 - All health and safety instructions to be given to employees involved with the Work.
 - The names and qualifications of those who will supervise the Work.
 - The names and qualifications of those who will inspect and approve work areas, work methods, protective measures, plant equipment and power tools.
 - Description of what training is to be given to those doing the Work.
 - The names and qualifications of those responsible for training workers in the requirements of the Safe Work Method Statements;
 - Identification of health and safety related standards or codes applicable to the Work, and where these are kept.
 - Identification of the plant and equipment that will most likely be used on the project.
 - Details of inspection and maintenance checks that will or have been carried out on the equipment.
- (C) Some Contract Works may involve activities for which a proven work method or training requirement is required by standards or regulations. These proven work methods shall be included in the Project Safety Plan. These activities may include:
- emergency procedures;
 - electrical work;
 - tool and equipment inspections;
 - safety systems for isolated areas;
 - scaffolding;
 - working at heights;
 - 'hot work' procedures;
 - fire protection;
 - clothing and footwear;
 - power tools;
 - confined spaces;
 - excavations;
 - dust control;
 - dangerous goods, chemicals;
 - disposal; and

- traffic control.

(D) A pro-forma outline for a Safe Work Method Statement is included in clause F7.

(iv) Training

Procedures shall be clearly defined for the following activities:

- The training of management, supervisors and workers.
- OHS&R induction training.
- Task training and refresher training.
- Task training necessary to conform to OHS&R standards.
- Keeping appropriate records of OHS&R training.

(v) Incident Management

The Project Safety Plan shall document who will:

- be available (both during and outside normal working hours) to prevent, prepare for, respond to and recover from incidents;
- ensure that the procedures for contacting the available person(s) are communicated and clearly displayed on Site; and
- ensure that everyone is made aware of accident and emergency procedures and first aid facilities are clearly identified.

(vi) Control of OHS&R Issues

(A) General

Procedures shall be clearly defined for the following activities:

- Incidents of non-compliance.
- Non-compliance of materials and substances.
- Elimination of unsafe work practices and areas.
- Disposal of non-conforming materials and substances.
- General site safety procedures.
- Injury management.
- Rehabilitation.

(B) Multiple Sites

The Project Safety Plan shall document how OHS&R issues will be managed where the project is conducted at multiple sites including:

- OHS&R roles and responsibilities;
- consideration of Site specific OHS&R issues and hazards;
- OHS&R inspection and review requirements; and
- induction requirements.

(C) Site Safety Rules

The Project Safety Plan shall always include Site Safety Rules. The Site Safety Rules shall apply to the particular Site and to the procedures used on the Site. Site Safety Rules should also be integrated with SCA operating procedures and Permit to Work Certificates.

(D) PPE

The Project Safety Plan shall identify how the Contractor will ensure that appropriate personal protective equipment (PPE) such as safety helmets and safety footwear is worn by all employees, agents and visitors.

(E) Access to the Site

The Project Safety Plan shall identify how the Contractor will make sure that there is only authorised entry to, movement on or exit of persons, vehicles and equipment.

(vii) Contractor OHS&R Performance Report

The Contractor shall supply to SCA on a monthly basis, or at such frequency as shall be accepted in the Contractor's Project Safety Plan, a completed copy of a Contractor OHS&R Performance Report. This should confirm that reasonable health and safety precautions have been taken. The report shall be as per the Contractor OHS&R Performance Report format in clause F8.

(viii) Corrective Action

Procedures shall be clearly defined for the following activities:

- Corrective action reporting.
- Responding to corrective actions.
- Maintenance of records.
- Incident investigation and reporting.

(ix) Handling, Storage, Packaging and Delivery

(A) Procedures should include, but not be limited to:

- methods of unloading/handling heavy equipment;
- damaged labels, ie. danger tags, chemical labels, etc;
- storage facilities;
- packaging and delivery, ie. products that do not provide adequate protection, etc;
- licensing for crane drivers;
- required approvals for equipment.

(B) Work procedures may need to be in place covering any of the following:

- materials handling;
- manual handling;
- the identification, transport, storage and use of hazardous substances;
- compliance with relevant regulations, standards and codes;

(x) Inspection and Testing

Inspection and testing procedures shall relate to the relevant Work being undertaken for the Contract. Inspection and testing procedures may include, but are not limited to, the following:

- Site monitoring.
- Safe Work methods.
- Adherence to safe working rules.
- Incoming materials, products and equipment.
- Access and egress.
- Protective measures.
- Electrical safety.
- Plant and equipment.

(xi) OHS&R Records

(A) Records shall be properly maintained, covering management of the following issues and business activities:

- Inspection and test reports.
- Internal audit reports.
- Accident and incident reports.
- OHS&R meeting minutes.
- Incident analysis.
- Safety equipment records.
- Material safety data sheets.
- Relevant (Site) training and Site inductions. (Names and signatures of persons who have been inducted to the Site, shall be submitted upon the request of SCA).
- Design reviews.
- Internal OHS&R review reports.

(B) The Contractor, upon the request of SCA, shall make records available.

(xii) Design

Where the Contract Work includes a design component, then responsibilities and procedures shall be defined for:

- persons undertaking design review;
- ensuring design complies with OHS&R legislation;
- reviewing designs to identify, assess and control OHS&R risks; and

- approving design changes.
- (xiii) Internal OHS&R Review

Where appropriate, procedures shall be defined for:

- conducting regular systematic reviews of OHS&R procedures;
- identifying and communicating to appropriate persons any deficiencies found; and
- ensuring that corrective actions are implemented and effective.

E2.12 Audit

The Contractor shall make available, on request, all relevant OHS&R records including those of subcontractors and suppliers, for the purpose of audit and surveillance. The Contractor shall provide all reasonable assistance during the audits including attendance by the Contractor.

E2.13 Failure To Comply

If at any time the Contractor has not carried out any part of its obligations under clause E2, then SCA shall not be required to make payments to the Contractor, notwithstanding any other clause of the Contract.

E3. ENVIRONMENTAL REQUIREMENTS

E3.1 Noise Specifications

Equipment supplied and installed may need to provide a quiet working environment for SCA operations personnel and others such as nearby residents. The Contractor shall comply with the Sydney Catchment Authority Corporate Instruction No. 831 - "Noise Control".

E3.2 Purchasing

- (a) The Contractor shall purchase and use recycled content products where appropriate.
- (b) The Contractor shall submit a progress report to the SCA every two months during the Contract Term and a summary report before Completion regarding the purchase of certain materials with details of the total and recycled content tonnages (the "Purchasing Reports").
- (c) The Purchasing Reports are to be in the format set out in clause F4.1 below.

E3.3 Waste Management

- (a) The Contractor shall recycle and divert from landfill surplus soil, rock and other excavated or demolition materials, wherever this is practical.

- (b) The Contractor shall separately collect and stream quantities of waste concrete, bricks, blocks, timber, metals, plasterboard, paper and packaging, glass and plastics and offer them for recycling where practical.
- (c) The Contractor shall monitor waste tonnage and record their method and location of disposal and whether or not that location was a place that could lawfully be used as a waste facility for the waste.
- (d) The Contractor shall submit to the SCA a progress report every two months and a summary report before Completion regarding the implementation of waste management measures, including the record of waste tonnage and their method and location of disposal (the “Waste Management Report”). All receipts issued by the waste facility need to be supplied to the SCA.
- (e) The Waste Management Reports are to be in the format set out in clause F4.2 below.
- (f) The SCA promotes the use of the recycled paper to protect the environment. The Contractor shall print all documents and reports required by the Authority **on a minimum 50% recycled content paper**. Where it is not practical for the Contractor to use recycled paper for printing of reports and documents, the Contractor shall obtain written approval from the SCA before printing reports or documents on non-recycled paper.

E3.4 Energy Management

- (a) All equipment used in the construction of and installed under this Contract should minimise energy use. Equipment should meet best practice in energy management by being the most efficient of its class, and by using the most appropriate energy source for the application (whether that be electricity, natural gas or LPG, a renewable energy source, or any other fuel). This is to ensure low ongoing costs for the operation of the installation.
- (b) Energy star for office equipment and energy ratings for (usually household) appliances can be used where appropriate.

E3.5 Site Requirements

- (a) Unless directed otherwise by the SCA, the Contractor must ensure that:
 - (i) any door that is unlocked is locked when left;
 - (ii) all windows, external doors and gates are securely fastened and locked after all personnel employed on the Work leave the premises;
 - (iii) all keys given to the Contractor by the SCA are kept securely, are not copied and are returned to the SCA when asked.
 - (iv) If a key given to the Contractor by the SCA is lost, the Contractor shall immediately inform the SCA.
- (b) The SCA may supply electricity and water for the WUC however, the Contractor must ensure that the use of these services is not more than is reasonably necessary to carry out the WUC and that all electric lights, power

points and water taps are turned off immediately after use. The Contractor must ensure that its employees do not use telephones or other equipment on SCA's premises without the consent of the SCA.

E3.6 Complying with Environmental Laws

- (a) The Contractor must become aware of liabilities and responsibilities applying to the Contractor and/or SCA under environmental laws. The Contractor must also become aware of any requirements of SCA's Operating Licence Environment Plan and environmental policies relevant to this Contract. In particular the Contractor must become aware of and comply with the requirements of the NSW Protection of the Environment Operations Act, 1997.
- (b) The Contractor must ensure that the operation of equipment or other activities required under this Contract are carried out in a manner, which satisfies these laws, regulations and SCA's environmental requirements. If the Contractor fails to do so, the Contractor will be responsible for any resulting costs and/or penalties.

E3.7 Not Used

E3.8 Environment Management Plan

- (a) At least 7 calendar days before commencement of the Work, the Contractor shall provide to SCA a written explanation ("Environmental Management Plan") of how the Contractor will carry out the Work in a manner which will protect the environment. The Contractor's Environmental Management Plan shall demonstrate to the reasonable satisfaction of SCA that the Contractor has carried out an adequate risk assessment, developed and implemented appropriate controls to protect the environment. The "reasonable satisfaction of SCA's Representative" shall not be construed to mean that the Contractor's Environmental Management Plan is automatically adequate to protect the environment. The responsibility for such adequacy always remains with the Contractor.
- (b) The Contractor shall implement the Environmental Management Plan and shall take appropriate measures to ensure the Plan is kept relevant to the carrying out of the work under the Contract.

E3.9 Changing the Environment Management Plan

- (a) The Contractor may make changes to the Environment Management Plan at any time, however the Contractor must ensure that any changes are agreed in writing by SCA before they are implemented.
- (b) The Contractor is required to immediately change an existing Environment Management Plan if:
 - (i) there are changes in environmental laws, regulations or SCA's environmental policies/requirements during the course of the Contract;
 - (ii) the Environment Management Plan does not adequately reflect the environmental management requirements of this Contract;

- (iii) the procedures/plan do/does not reflect the Contractor's actual working practices;
- (iv) the Contractor alters or reschedules the work undertaken within the Contract.

E3.10 Non Conforming Work Practices

- (a) The Contractor is required to immediately stop any work practices that do not meet the requirements of the Environment Management Plan, and to rectify any non-conforming Works.
- (b) Work practices which could result in a violation of SCA's environmental responsibilities or requirements, are to be considered as non-conformances.
- (c) The Contractor must record all non-conformances detected and notify SCA as soon as possible. A written report must be submitted to SCA within one working day of detecting the non-conformance.

E3.11 Not Used

E3.12 Records

The Contractor is to ensure that all records related to the implementation of the Environment Management Procedures/Policies are stored and maintained in such a way that they are not subject to deterioration, damage or loss and can be easily retrieved for supply to SCA for up to 7 years from the date of Completion of the Contract.

E3.13 Not Used

E3.14 Subcontracting

The Contractor must specify the environmental management requirements of this Contract in all sub-contract agreements. Sub-contractors shall be required to comply with the environment management procedures/plan in accordance with the requirements of this Contract.

E4. NOT USED

E5. ADDITIONAL WORKS REQUIREMENTS

E5.1 Construction Program

- (a) The Construction Program shall include:
 - (i) the duration and sequence of, and the inter-relationships between, the planned events and activities which comprise WUC;
 - (ii) the sequence of activities for the Works;
 - (iii) any constraints outside the Contractor's control which affect the timing of activities and events;

- (iv) mobilisation to Site;
- (v) any further requirements stipulated by the Contract or required by the SCA.

E5.2 Not Used**E5.3 Not Used****E5.4 Working Hours**

Unless the Contract otherwise provides, the span of working hours shall be eight and a half hours per day worked between 7:00 a.m. and 4:30 p.m. and the working days shall be Monday to Friday inclusive, but exclusive of public holidays and exclusive of one day every four weeks, usually a Monday, which is a rostered day off.

E5.5 Customer Complaints

- (a) SCA has a Customer Complaint Resolution Policy to address complaints and enquiries from customers. The procedures for this policy are applicable to all personnel, including external Contractors engaged by SCA.
- (b) SCA will make available to the Contractor a number of Customer Assistance Cards upon request. The Contractor shall provide a Customer Assistance Card to any SCA customer, member of the public or affected party who complains to the Contractor or who enquires about any SCA activity or associated work under this Contract.
- (c) The Contractor shall advise SCA of the occurrence and nature of any such complaint or enquiry within one week of the occurrence.

E6. NOT USED

E7. INCIDENT MANAGEMENT

- (a) The Contractor shall manage all incidents in a manner, which conforms with the requirements of relevant legislation and minimises the adverse effects of the incidents.
- (b) The Contractor shall, before commencing any Work under the Contract, provide to SCA, and obtain its approval of, an Incident Management Plan, which shall deal with issues including:
 - (i) a clear statement of accountabilities;
 - (ii) identification and analysis of the risks;
 - (iii) prevention of incidents;
 - (iv) preparedness for incidents;
 - (v) declaration of incidents;
 - (vi) early notification of incidents;
 - (vii) response to and recovery from incidents;
 - (viii) current contact directories including the names and procedures for 24 hour contact with persons nominated by the Contractor to prevent, prepare for, respond to and recover from incidents. The Contractor shall advise SCA immediately of any changes in the names of persons so nominated.
- (c) The Contractor's Site Incident Manager shall notify each incident to SCA immediately it occurs and manage the incident, unless SCA's Incident Manager takes over the role of Site Incident Manager from the Contractor for that incident. In that event the Contractor shall continue to provide necessary support and assistance to SCA's Incident Manager in managing the Incident.
- (d) "Incidents" shall include, but are not limited to, those events causing or with the potential to cause a threat to or impact upon:
 - (i) the life, health and safety of any persons;
 - (ii) the environment;
 - (iii) public or private property;
 - (iv) interruption to availability and/or quality of services to SCA customers;
 - (v) SCA property or systems;
 - (vi) SCA businesses operations including infrastructure, staffing, major suppliers;
 - (vii) community infrastructure including electricity, gas, telephone, rail, road, footpaths;

- (viii) prosecution or fines by a regulatory authority;
 - (ix) requirements for urgent action under legislation;
 - (x) the reputation and/or public image of SCA; and
 - (xi) customer expectations (service quality, quantity, duration, damage, social inconvenience).
- (e) “Incidents” shall also include an anticipated imminent incident arising from a flood, fire and/or weather warning, terrorist threat, industrial action, potential electrical failure, etc.
- (f) The Contractor shall manage all incidents in a manner, which conforms with the requirements of relevant legislation, and SCA’s Incident Management Procedures to minimise the adverse effects of each incidents.