

Sustainable Solutions International Pty Ltd (SSI) has built a dynamic multidisciplinary team consisting of engineering professionals experienced in process, chemical, mechanical, environmental, electrical and civil disciplines.

Detailed design and Engineering follows a process which entails conceptual design, interaction with customers and end users such as maintainers and operational staff and intricate final detail and the interface with existing or future plants. Our engineering team follow a framework for delivering detailed design based on triple bottom line guidelines for Environmental, Socio and Economic criteria.

Our extensive design and construction experience has been demonstrated in a number of industries including:

- Water and water reuse
- Wastewater Treatment and water reuse
- Solid waste
- Renewable Energy
- Oil & Gas
- Biopharmaceuticals
- Mining & Mineral Processing

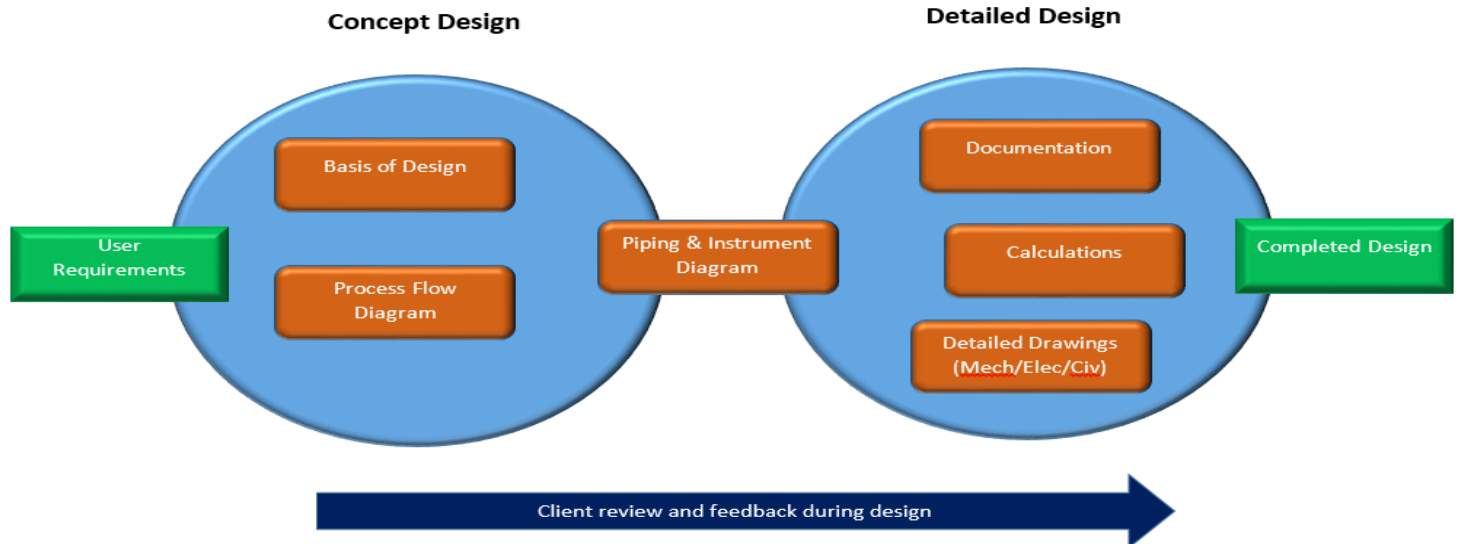
DESIGN STAGES

There are two main stages for detailed design including the concept design and detailed design.

Detailed design ensures that the overall design solution satisfies the projects objective. Often the breadth of scope is so vast that no single engineer, operator, scientist or manager has the knowledge to provide the overall detailed design and engineering solution. SSI's process engineering leadership is an integral component of the gathering the client's user requirements or the "Voice of the Customer" and developing the concept design. Feasibility studies and a whole of life cycle approach may either proceed or follow concept design based on the progress of the concept design.

After concept approval, the project or process is progressed through to detailed design where the interface between equipment, instrumentation, pipework, site structures and general layouts are developed to best fit the application. Accurate drawings and documentation are essential to communicate information to the project team, manufacturer's, operational or maintenance personnel. Information that is derived from detailed design is fed back into the Piping and Instrumentation Diagram(s) (P&IDs) as the design develops.

There are several types of design methodologies that SSI can provide depending on the customer requirements including Six Sigma, Lean Manufacturing and Design Excellence.



Asset & Maintenance Management	Design Construction Management & Commissioning	Efficiency Audits & Cleaner Production	Environmental Compliance & Licensing	Master Planning	Plant Assessment & Optimisation	Sustainable Resource Management	Risk Assessments (HACCP & HAZOP)
--------------------------------	--	--	--------------------------------------	-----------------	---------------------------------	---------------------------------	----------------------------------



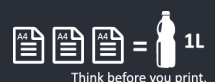
For more information please contact:
Sustainable Solutions International Pty Ltd

07 3255 0000

office@ssi-bne.com

sustainablesolutionsinternational.com

Water.Energy.Waste.



RISK ASSESSMENTS, HAZANS AND HAZOPS

Safety and environmental risks are built into the design by detailed risk assessments, HAZANS and Hazard and Operability (HAZOP) studies.

DOCUMENTATION AND CALCULATIONS

Key design calculations and information which outline the design decisions are produced in several documents including the following:

- Technical Datasheets
- Basis of Design
- Functional Descriptions
- Installation and Operational Qualifications
- Process Operation and Control Philosophy

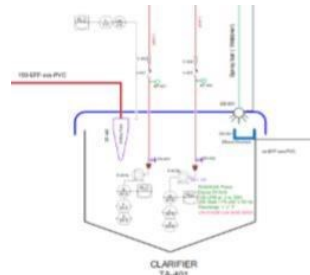
DETAILED DESIGN DRAWINGS

Autocad design

SSI can produce the fundamental process drawings and detailed process, mechanical, electrical and structural drawings for simple or complex work. Examples of these drawings are shown below:

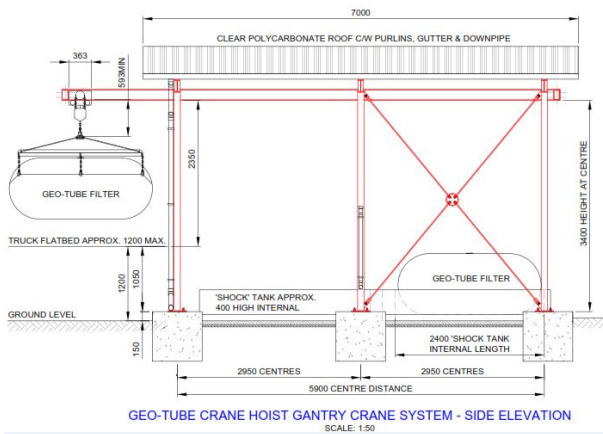
Process Drawings

- Process Flow Diagrams (PFDs)
- Piping & Instrumentation Diagrams (P&IDs)



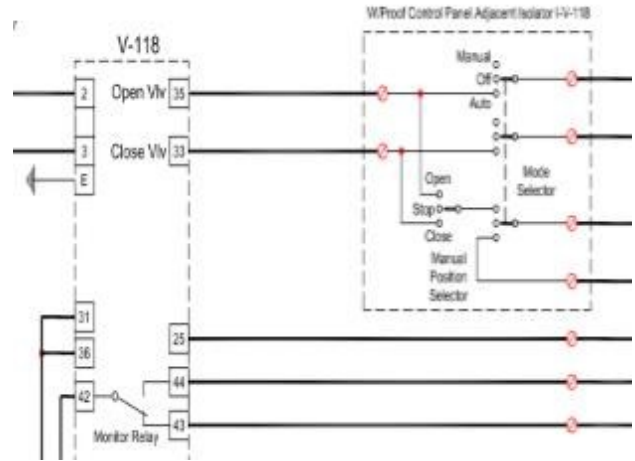
Mechanic Drawings

- General Arrangement drawings (GAs)
- Site layouts



Electrical Drawings

- Single Line Diagrams



SSI KEY PROJECTS

Emirates Wolgan Valley Resort and Spa WWTP, NSW

SSI designed a wastewater treatment recycling plant using innovative packed bed reactor technology that produced recycled water with 80% less energy consumption compared to conventional activated sludge processes. The recycled water scheme at Emirates was the first Private Recycled Water Scheme approved by NSW Health under the new recycled water guidelines.

Eco village Currumbin, QLD

SSI designed a treatment plant using a new passive treatment technology which was more inline with the ideals and objectives of the Ecovillage, having significantly lower energy inputs while still delivering Class A+ recycled water quality for reuse in irrigation, laundry and toilets.



Asset & Maintenance Management	Design Construction Management & Commissioning	Efficiency Audits & Cleaner Production	Environmental Compliance & Licensing	Master Planning	Plant Assessment & Optimisation	Sustainable Resource Management	Risk Assessments (HACCP & HAZOP)
--------------------------------	--	--	--------------------------------------	-----------------	---------------------------------	---------------------------------	----------------------------------



For more information please contact:
Sustainable Solutions International Pty Ltd

07 3255 0000

office@ssi-bne.com

sustainablesolutionsinternational.com

Water. Energy. Waste.

