

APPENDIX D STANDARD SPECIFICATION FOR SPRINKLER INSTALLATION

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DETAILED SPECIFICATION

3.1 GENERAL

3.1.1 DETAILED TECHNICAL SPECIFICATION

This part of the specification takes precedence over the Standard Specification in respect of any discrepancies in the description of equipment materials.

3.1.2 REFERENCE REPORTS

The following reports form part of this specification and must be read in conjunction with it:

1. ASIB Inspection East London Industrial Development Zone Feltex AE1; AE4 & AE6
2. ASIB Inspection East London Industrial Development Zone Draeger
3. ASIB Inspection East London Industrial Development Zone Automold
4. UNC4761 East London Industrial Development Zone Sundale Dairy
5. UNC6901 East London Industrial Development Zone C2 Yanfeng Automotive Interiors
6. UNC8473 East London Industrial Development Zone AW4 Molan Pino
7. UNC8474 East London Industrial Development Zone AW6 MC Syncro
8. UNC8475 East London Industrial Development Zone AW8 & AW9
9. UNC8476 East London Industrial Development Zone BW1 & BW2
10. UNC8477 East London Industrial Development Zone BW3 Linde & Wiemann
11. UNC8478 East London Industrial Development Zone CW1 International Automotive Components
12. UNC8479 East London Industrial Development Zone CE1 Linde & Wiemann
13. UNC8480 East London Industrial Development Zone BE5 & BE6 DSV
14. UNC8481 East London Industrial Development Zone BE4 Linde & Wiemann
15. UNC8482 East London Industrial Development Zone BE2
16. UNC8483 East London Industrial Development Zone Frotek
17. UNC8567 East London Industrial Development Zone ASP Tugger Route
18. UNC8801 East London Industrial Development Zone D-Fence
19. UNC8802 East London Industrial Development Zone EW1 TI Automotive
20. UNC8803 East London Industrial Development Zone FE1 Hop Refab

3.1.3 CONTRACT PROGRAM

As the successful tenderer will become a direct contractor to the East London IDZ, and the contract program duration is six (6x) months.

3.1.4 MAINTENANCE AND GUARANTEE

Note that in terms of the contract conditions all new plant and equipment is to be guaranteed for a period of twelve (12) calendar months from the date of hand-over of the installation.

Note further that tenderers are to include in their tender price for monthly service and maintenance visits during the guarantee period. Maintenance is to be done in accordance with the schedules to be included in the maintenance and operating manuals.

Copies of service reports shall be submitted to the Engineer on a monthly basis failing which the cost of the services may be deducted from retention monies held.

3.2 SITE DESCRIPTION, SCOPE OF CONTRACT, ETC

3.2.1 SITE DESCRIPTION

East London Industrial Development Zone, Existing factory & warehouse facilities situated in East London.

The facilities are operational. The successful tenderer will need to liaise and program closely with

EL IDZ and their respective tenants to:

- gain access to facilities,
- have areas cleared of storage / machinery, where required, to gain access to sprinkler installations,
- to coordinate the shutdown of sprinkler systems for purposes or undertaking remedial works, this includes but is not limited to:
 - notification and program of shut down period, date and times, with EL IDZ, Tenants and their respective insurance providers,
 - logging of risk reduction plans while sprinklers are off line,
 - logging methodology of works integrated with the program of works,
 - coordination with on site / off site emergency services,

3.2.2 SITE CONDITIONS

Site conditions are as follows:

- (a) Sea level.
- (b) Electrical Supply 380-400 Volts, 3 phase, 50 Hz, 4 wire.
- (c) Ambient Air conditions Summer 31°C db / 21°C wb
Winter 10°C db / □□80% r.h

3.2.3 SCOPE OF CONTRACT

Summary of Works:

- a) Remedial works to sprinklers systems, as listed and detailed in the supplied ASIB reports, to 26 various factories and or warehouses.

The ASIB reports contain an extensive amount of information, this tender document only concerns / details EL IDZ is responsible for within the factories and or warehouses, these include, but are not limited to:

- ICV chambers:
 - Replacement of corroded pipes, valves gauges and other equipment,
 - New sprinkler valve installations,
 - Modifications and or supply of new manifolds,
 - New valve bypass arrangements,
 - New remote fire booster connections,
 - New sprinkler storage cabinets,
 - Spare sprinklers and corresponding tools,
 - Replacement of short threaded bolts,
 - Extension of drain and test pipes,
 - Replacement of gauges,
 - Correction of flow switch and alarm valve arrangements,
 - New and or modifications to flow measuring devices and apparatus,
- Internal & external sprinkler installations to factories and or warehouses only, except for the trunk main, which requires protection for one (1x) warehouse, including but not limited to:
 - Replacement of corroded pipes, fittings, sprinklers and other equipment,
 - Additional pipe supports to ranges, main supply feeds, rising mains etc.
 - Installation of shields to sprinklers below translucent sheeting,
 - Moving and or additional sprinklers to address affected distribution patterns etc.
 - Moving complete range and or ranges effected by interference,
- Block plan drawings of existing sprinkler installations within the various factories and or warehouses as measured, there are a number of block plans that are missing critical information and must be updated in order to correct ASIB findings,

Tenant Installation findings are not covered / to be priced in this tender document.

- b) This tender document endeavors to quantify the ASIB findings into a schedule of rates and prices, the Bills of Quantities are to be read in conjunction with the ASIB reports, per factory, and priced to correct the ASIB findings, for the outcomes of ASIB clearance certificate.
- c) Coordination with ASIB inspectors & EL IDZ appointed staff and consulting engineers, during the undertaking of remedial works and ASIB inspections.

Note: majority of works will be carried out at heights up to 12 m in elevation, the successful tenderer must take this into account at all times when considering pricing items within the BOQ, most notably OHS Files, the documentation and methodologies within, as well as the programming and executing of works within factories and or warehouses.

3.2.4 PROGRAM

The sprinkler installation contractor will be a direct contractor to the East London IDZ and will be required to draw up a program for completion, based on:

- (a) All 26 factories primary and alternative dates for access to carry out remedial works,
- (b) The anticipated contract completion date to be advised.
- (c) A copy of the program must be submitted to the Engineer prior to commencement of work.

It will be the sprinkler installation Contractor's responsibility to coordinate his activities with those of the EL IDZ and the 26 Factories and or Warehouses, in order to ensure the program progresses to completion of the contract as a whole.

3.2.5 SUPERVISION AND SITE ORGANISATION

The Contractor shall, whilst the contract works are in progress employ at least one good and competent Supervisor careful and skilled in all aspects of the trade and callings required by the contract. This Supervisor shall be on site whenever work associated with the contract is being carried out and shall at all other times be available to attend queries by the Engineer.

The Supervisor shall be the Contractor's authorised representative on site and must be available to attend progress meetings when called upon to do so by the Engineer.

The Supervisor shall be appointed to the contract as soon as possible after the awarding of the contract. The Supervisor shall from the time of his appointment onwards attend all meetings relevant to the contract called by the Engineer whether or not these take place prior to work actually starting on site.

The Supervisor shall not be transferred from his position unless on the express instructions of the Engineer.

The Contractor shall at all times have on site copies of all pertinent drawings as well as a copy of the specification. The Contractor shall institute the necessary procedures to ensure the drawings on site are the latest issue and that all superseded drawings are removed from site.

Tenderers shall at the time of tender name both the Contract Manager and responsible Director.

3.2.6 GUARANTEE PERIOD

All new plant and equipment shall be guaranteed for a period of twelve (12) months from the date of hand-over of the plant to the Client.

3.2.7 INSURANCE

Tenderers must include in their tender prices for insurance of the works as per the main contract.

3.2.8 SITE MEETINGS

Allowance shall be made in tender prices for attendance at two (2) site meetings per month.

3.3 DETAILED TECHNICAL REQUIREMENTS

3.3.1 Outline Requirements

Compliance with the remedial works detailed within supplied ASIB reports and the requirements of the various ASIB Rules relating to those findings.

Works shall be carried out by ASIB approved, qualified and experienced installers for all works executed as part of the works.

3.3.2 Piping, Valves and Fittings

Reference must be made to clauses within the Standard Specification.

All piping above ground shall be steel piping to ASTM A106 schedule 40 or SANS 62 (heavy quality). Underground piping shall be class 16 HDPE to SANS 0533-2. Allowance shall be made for the appropriate adaptors at joints between steel and HDPE piping.

Piping shall be suspended from the structure of the building by means of hangers designed and sized to suit the weight of piping (filled with water) to be used. Note that pipe hangers clamped to the structure are preferred. Note further that should structural elements need to be drilled for purposes of affixing hangers or if it is necessary to weld hangers to the structure this may only be done with the express written permission and requirements of the structural engineer. Such requirements, etc shall be established prior work being put in hand.

Pipe joints and hanger spacing's shall be as specified in clause 22 of the Standard Specification.

The sprinkler control valve stations shall incorporate:

- Monitored Nibco valves,
- Flow switches,
- Fire department booster connection with twin inlet,
- Water driven gongs,
- Drain and test facilities,

All in accordance with the requirements of SANS 10287 & ASIB Rules, pertaining to a particular installation.

3.3.3 Water Storage Tank

Not applicable.

3.3.4 Sprinkler Booster Pumps

Not applicable.

3.3.5 Electrical Work

Not applicable.

3.3.6 Alarms

Connection of Flow switches to smoke detection input / output units, not applicable.

2.3.7 Occupational Health and Safety Act

The sprinkler installation must comply fully with the relevant SANS specifications and all the requirements of the Occupational Health and Safety Act. All tests, certificates, and registration requirements imposed by the Act and the relevant SANS specifications must be allowed for and supplied in terms of this contract.

2.3.8 Guarantee Period

The installation shall be guaranteed for a period of twelve (12) calendar months from the date of practical completion of the installation and hand-over to the client.

During this period the sprinkler installation contractor will be responsible for the servicing and maintenance of the installation.

2.3.9 Servicing and Maintenance

After expiry of the 12-month guarantee period it is recommended that the contractor enter into a maintenance contract with the client and to this end it is preferred that tenderers have competent in-house service and repair personnel in the Eastern Cape (East London or Port Elizabeth) .

2.3.10 Builder's Work

A detailed drawing accurately showing all builder's work required in connection with the sprinkler installation must be done and submitted to the Engineer within two (2) weeks of the contract being awarded to him. This drawing must additionally indicate all structural loads imposed by the sprinkler piping and equipment on the building.

2.3.11 Operating and Maintenance Manuals

Three copies of the operating and maintenance manuals including as-built drawings and all plant details are required. A draft copy of the manual shall be submitted for approval prior to the final documents being completed. The final documents shall be handed to the Engineer at the time of practical completion.

It is a requirement of this contract that designated members of the staff of the owner be instructed in basic maintenance requirements, e.g. how to re-set the equipment after a power failure, etc.

2.3.12 Commissioning and Testing

In commissioning the installation, all operating parameters shall be recorded. These include motor currents drawn, safety device checks and settings, load test results, etc. The commissioning data shall be presented in tabular form or on drawings and be included in the O&M manuals.