

2022

# Inspection of Automatic Sprinkler System

**ASIB**



## Inspection of Automatic Sprinkler System

Feltex Automotive East London Industrial  
Development Zone

Complete

### Client/Site Name

Feltex Automotive East London Industrial Development Zone

### Billing Address

Feltex Automotive (Building AE1, 4 and 6)  
1 Lower Chester Road  
Sunnyridge  
East London

### Attention:

Scharl du Plessis

### Document No

0191

### Prepared by

Keith van Onselen

### Conducted on

11.11.2022 11:46 SAST

### Site Location

Feltex Automotive (Building  
AE1, 4 and 6)  
1 Lower Chester Road  
Sunnyridge  
East London

## Disclaimer

We have pleasure in attaching our inspector's report.

Whilst every care is taken in the preparation of the report which describes the conditions as found, such report is not a guarantee carrying responsibility for results and neither this Company nor any of its employees or agents shall be liable for any loss or damage of whatsoever nature and howsoever caused, (whether by actual or alleged negligence or otherwise), in any way arising out of the acts or omissions of the Company and/or its employees or agents aforesaid.

The report is based upon the visual inspection of the external condition of the equipment where accessible without having to provide scaffolding, ladders, staging, lighting and not requiring the removal or displacement of any temporary or permanent structure, fitting or fixture.

If there are any points arising on which you require clarification, kindly communicate with the undersigned.

Assuring you of our best attention at all times.

## Confidentiality

In order to maintain the integrity and credibility of the inspection processes and to protect the parties involved, it is understood that the inspectors will not divulge to unauthorized persons any information obtained during this inspection unless legally obligated to do so.

Yours faithfully,

THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED

A handwritten signature in black ink, appearing to read 'Nico van Loggerenberg', written in a cursive style.

Nico van Loggerenberg  
Managing Director

## 1. Report Summary

### THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED



REGISTRATION NUMBER: 1970/010833/07

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INDEPENDENT  
THIRD PARTY  
INSPECTION AND  
ADVISORY  
SERVICE SINCE  
1970

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#### Code

C - Full Protection, Clearance  
Certificate not Issued

Clearance certificate withheld due to the following:

Water Supplies - See Report



Storage - See Report



Sprinkler System - Excessive Fault



#### Standard

10th Edition

11th Edition

#### ASIB Contract No

0191

#### Client Order No

871487  
871400  
871401  
871402

Was the sprinkler system design in order

No

Refer to Sprinkler System Design - Section 4.

The block plan for AE1 must be updated to show all the relevant design requirements

Was the water supplies in order

No

Refer to Water Supplies - Section 5.

Was the pump room in order

No

Refer to Pump Room - Section 6.

**Was the installation control valves in order**

No

Refer to Installation Control Valves - Section 7.

---

**Was the storage in order**

No

- Refer to Occupancy & Storage Guidance - Section 3.
  - Refer to Storage - Section 8.
-

## 2. Hand Fire Appliances

### Hose Reels - 30 metres



#### Number:

39

Hand Fire Appliances - One unit per 100 m<sup>2</sup> of floor area.

### Other



#### Specify

Various hand held extinguishers

#### Number:

58

#### Hand fire appliances date of the last service:

02/2022

#### Are the hand fire appliances due for their service.

No



Photo 1

Clear access to the hand fire appliances must be maintained at all times.

### 3. Occupancy & Storage Guidance

Percentage Hazard.

**% Ordinary Hazard**

**10**  
From 0 to 100

**% High Hazard**

**90**  
From 0 to 100

Stack height signs not less than 500 mm by 500 mm in size must be prominently displayed at the maximum level of the allowable storage height in all storage and process risk areas.

## Occupancy / Process Risk

### Occupancy/Risk

#### Occupancy/Risk 1

► **Ordinary Hazard / High Hazard**

Ordinary Hazard

► **Select Occupancy / Process Risk**

Life Safety

#### Specify Occupancy

Offices

#### Specify Occupancy / Process

Offices

**Category**

CAT I

**Design Density (mm/min)**

5 mm/min

#### Occupancy/Risk 2

► **Ordinary Hazard / High Hazard**

High Hazard

► **Select Occupancy / Process Risk**

Process Risk

#### Specify Process

Manufacturing Automotive Components Mixed Categories

**Category**

CAT II

**Design Density (mm/min)**

10,0 mm/min

#### Occupancy/Risk 3

► Ordinary Hazard / High Hazard	High Hazard
► Select Occupancy / Process Risk	Storage Risk

Where goods of differing categories are stored within the same area, it is the stack height limitations of the goods with the highest category that will apply.

#### ► Product Stored

Automotive Components Mixed Categories

Category	CAT III
	CAT IV

Storage

#### Method

##### Method 1

Storage Method	Free Standing / Block Storage
Design Density (mm)	7,5 mm/min
Roof Height (m)	11,66 m and 12,3 m

##### Storage Height (m)

Cat 3 7,5 mm 2,9 m  
Cat 4 7,5 mm 1,6 m

##### Method 2

Storage Method	Beam Pallet Racking
Design Density (mm)	7,5 mm/min
Roof Height (m)	11,66 m and 12,3 m

##### Storage Height (m)

Cat 3 7,5 mm 2,2 m  
Cat 4 7,5 mm 1,6 m

#### Occupancy/Risk 4

► Ordinary Hazard / High Hazard	High Hazard
► Select Occupancy / Process Risk	Storage Risk

Where goods of differing categories are stored within the same area, it is the stack height

limitations of the goods with the highest category that will apply.

► **Product Stored**

Automotive Components Mixed Categories

<b>Category</b>	CAT III
	CAT IV
Storage	
<b>Method</b>	
<b>Method 1</b>	
<b>Storage Method</b>	Free Standing / Block Storage
<b>Design Density (mm)</b>	10,0 mm/min
<b>Roof Height (m)</b>	11,66 m and 12,3 m
<b>Storage Height (m)</b>	
Cat 3 10,0 mm	3,5 m
Cat 4 10,0 mm	2,0 m
<b>Method 2</b>	
<b>Storage Method</b>	Beam Pallet Racking
<b>Design Density (mm)</b>	10,0 mm/min
<b>Roof Height (m)</b>	11,66 m and 12,3 m
<b>Storage Height (m)</b>	
Cat 3 10,0 mm	2,6 m
Cat 4 10,0 mm	2,0 m

## 4. Sprinkler System Design

### Building

#### Building 1

##### Building Name

Feltex Automotive East London Industrial Development Zone

##### Date of First Inspection

September 2010

##### Original Installer

Fire Sprinkler Installations

##### Extension By

Unknown

##### Building Area m<sup>2</sup>

23000

##### Height of Building in meters

11,66 m and 12,3 m

Sprinkler Detail

##### Area

##### Area 1

##### ► Area & Type of Sprinklers

Roof Sprinklers

Ceiling Sprinklers

In - Rack Sprinklers

Shelf Sprinklers

Mezzanine Sprinklers

Canopy Sprinklers

##### Number of Sprinklers

Approximately 3400

## Calculations

Hydraulic Calculations

### Area of Operation

#### Area of Operation 1

##### ► Area of Operation

Pump Duty

### Flows & Pressures

7500 l/min @ 950 kPa as taken from block plan

This flow requirement must be verified as correct and stamped on the plate provided on the pumps.

#### Area of Operation 2

##### ► Area of Operation

Roof Most Remote Area of Operation

AE6 V2

### Flows & Pressures

3050 l/min @ 381 kPa

#### Area of Operation 3

##### ► Area of Operation

Roof Most Favourable Area of Operation

A6 V2

### Flows & Pressures

Not shown

#### Area of Operation 4

##### ► Area of Operation

Rack Most Remote Area of Operation

AE6 V3

### Flows & Pressures

700 l/min @ 314 kPa

#### Area of Operation 5

##### ► Area of Operation

Rack Most Favourable Area of Operation

AE6 V3

## Flows & Pressures

710 l/min @ 297 kPa

### Area of Operation 6

#### ► Area of Operation

Roof & Rack Most Remote Area of Operation

AE6

## Flows & Pressures

3821 l/min @ 381 kPa

### Area of Operation 7

#### ► Area of Operation

Roof & Rack Most Favourable Area of Operation

AE6

## Flows & Pressures

3854 l/min @ 381 kPa

### Area of Operation 8

#### ► Area of Operation

Roof Most Remote Area of Operation

AE4 V2

## Flows & Pressures

3050 l/min @ 380 kPa

### Area of Operation 9

#### ► Area of Operation

Roof Most Favourable Area of Operation

## Flows & Pressures

Not shown

### Area of Operation 10

#### ► Area of Operation

Rack Most Remote Area of Operation

AE4 V3

## Flows & Pressures

1064 l/min @ 380 kPa

### Area of Operation 11

► **Area of Operation**

Rack Most Favourable Area of Operation

AE4 V3

**Flows & Pressures**

1064 l/min @ 314 kPa

**Area of Operation 12**

► **Area of Operation**

Roof & Rack Most Remote Area of Operation

AE4

**Flows & Pressures**

4117 l/min @ 380 kPa

**Area of Operation 13**

► **Area of Operation**

Roof & Rack Most Favourable Area of Operation

AE4

**Flows & Pressures**

4220 l/min @ 380 kPa

**Additional Sprinkler System Designs Required**

Yes

The flow and pressure requirements for the valves at AE1 must be indicated on the block plan.

All of the flow and pressure requirements indicated on the block plans for the various buildings must be verified as correct by your installer

The following documentation is required and must be submitted to the ASIB

As the majority of the required documentation for the sprinkler system has yet to be submitted, we are unable to comment on the accuracy of the design.

## 5. Water Supplies

### ► Water Stored on Site.

Yes



Photo 2



Photo 3

Add Water Storage Tanks

## Storage Tanks

### Storage Tanks 1

#### Water Storage Tanks (Specify)

Pumped Water Supply - Suction Tanks

#### 5.1 Inspection Hatches Accessible

Yes

#### 5.2 Tank Infill

No Measuring Device Installed

A direct reading flow measuring device must be installed to measure the infill to the tank.

The water supply testing assembly must be installed downstream from the isolating valve in order to periodically test the flows of the town main.

Municipal water supplies are continuously reducing and it must be established that the tank can be refilled as required within a 36 hour period.

#### 5.3 Tank Information Plate Installed

Yes



Photo 4

Tank Detail

#### Name of Supplier

SBS Tanks

#### Name of Installer

SBS Tanks

#### ► 50% or 100% Sub-Divided

50% Sub-Divided

Three tanks installed

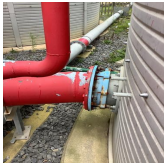




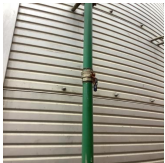
► Tank Type	Bladder
Dimensions Circular	
7,36 x 8,43 high	
Vortex Inhibitor	
Yes	
Dedicated or Combined Tank	Dedicated
5.4 Foundation Type	Separate
Flexible Coupling Installed on Suction Line	No
   <p>Photo 5      Photo 6      Photo 7</p>	
<p>To provide relief from the unequal settling when the pump and its suction supply are on separate foundations with rigid interconnecting pipework, there shall be at least one approved flexible coupling positioned downstream of the tank suction isolating stop valve on all pipes of 65 mm diameter and larger.</p>	
5.5 Infill Valves Accessible	Yes
5.6 Suction Isolating Valves Secured in the Open Position	No
  <p>Photo 8      Photo 9</p>	
5.7 Tank Suction Piping Correctly Supported	Yes
5.8 Infill Isolating Valves Secured in the Open Position.	No
 <p>Photo 10</p>	
5.9 Drain valves secured in the Closed Position.	No



Photo 11

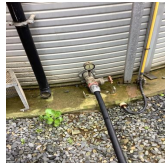


Photo 12

## 5.10 Flanges / Equipment Short Bolted

Yes



Photo 13

We recommend that the bolts for these flanges be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.

## 5.11 Loose / Missing Bolts, Nuts & Washers

No

Non - Compliance

### Item

#### Item 1

#### ► Description

Other

Where a balance tank is retrofitted in order to make up the minimum amount of stored water, the feed from the tank may not be directly connected into the primary tanks suction line but shall connect directly into the primary suction tanks or subdivisions.

The feed pipe from the balance tank leading into the primary tanks shall be sized one diameter larger than the suction line feeding the fire pumps.

The valves and flexible couplings shall be arranged so as to allow maintenance to be carried out without isolating the entire water supply.

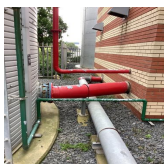


Photo 14

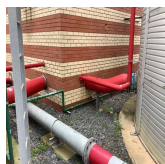


Photo 15

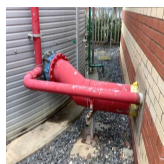


Photo 16

#### Item 2

#### ► Description

Other

- The minimum tank infill diameter must be 100mm, it is recommended that the infill be rectified by your installer.

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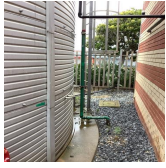


Photo 17



Photo 18

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## Recommendation

## 6. Pump Room

### Pump Installed on Site

Yes

Add Pump House

## Pump House

### Pump House 1

#### Pump House Location

ASP pump house next to Feltex

#### 6.1 Pump House Signage

##### 6.1.1 Pump House External Signage

Yes



Photo 19

##### 6.1.2 Electrical DB Labeled

Yes

##### 6.1.3 Jockey Control Panel Labeled

Yes

##### 6.1.4 Diesel / Electric Pump Control Panel Labeled

Yes

##### 6.1.5 Annunciator Panel Labeled

Yes

##### 6.1.6 Pump House Remote Test Labeled

Yes

##### 6.1.7 Auto Start Test Arrangement Instruction Chart Installed

No

##### 6.1.8 Block Plan Installed - Correct Details

No

It is recommended that a block plan be provided with the following indicated thereon:

Particulars of the water supplies.  
The occupancy of each building.  
The hazard class of the system.  
The extent of the protection.  
The calculated flow and pressure requirements (remote and favorable areas) of the system.  
A cross-section of the full height of the building or buildings indicating the height of the highest sprinkler with respect to a stated datum level.

12th Edition Requirement

The flows and pressures for the remote and favorable areas of operation recorded on the block plans must reflect the maximum pressure (Pmax) and the maximum flow (Qmax) respectively.

### 6.1.9 Diesel Engine Stop Lever Labeled

Yes

### 6.1.10 Isolating Valves Correctly Labeled

No



Photo 20



Photo 21

It is recommended all isolating valves be labeled "Normally Open" or "Normally Closed".

## 6.2 Pump House Equipment

### 6.2.1 Electric Light Installed

Yes

### 6.2.2 Natural Light Installed

Recommendation

Sufficient natural lighting is recommended, where the pump house is located above ground. Access doors are not acceptable for providing natural lighting.

### 6.2.3 Mechanical Ventilation Installed

Yes

### 6.2.4 Hour Meters Installed

Yes

None on the electric pump

### 6.2.5 Correct Pressure Gauges Installed

Yes

### 6.2.6 Correct Suction Pressure Gauge Installed.

Yes

### 6.2.7 Correct Gauge Cocks Installed

No

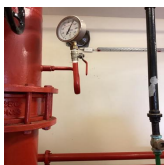


Photo 22



Photo 23

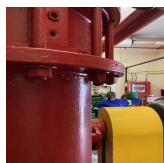
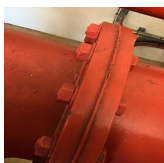
All pressure gauges fitted to a sprinkler system shall be fitted with an isolating gauge cock with bleed to be able to confirm gauge operation back to zero and enable each pressure gauge to be readily removed without interruption of the installation water supplies.

### 6.2.8 Specify Flow Measuring Device.

Direct Reading Flow Meter

### 6.2.9 Flanges / Equipment Short Bolted

Yes



We recommend that the bolts for these flanges be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.

#### 6.2.10 Loose / Missing Bolts, Nuts & Washers

No

#### 6.2.11 Electrical cables positioned 300mm above the finished floor level.

No



Photo 27

Current carrying parts, regardless of voltage, shall be at least 300 mm above finished floor level.

#### 6.2.12 Correct operating temperature sprinklers installed within the pump house.

Yes

### 6.3 Auto Start Test Arrangement

#### 6.3.1 Auto Start Correctly Piped and Supported

Yes

#### 6.3.2 Auto Start Diaphragm Valves Operational

Yes

6.3.3 Pressure Switch 1 - Jockey Pump (90% of Churn Pressure)

#### Cut-In Pressure (kPa)

860

#### Cut-Out Pressure (kPa)

1000

6.3.4 Pressure Switch

#### Switch

#### Switch 1

► Primary or Secondary Pump

Primary Pump

► Specify Diesel or Electric

Electric

Pressure Switch - Electric Motor

#### Cut-In Pressure (kPa)

750

## Switch 2

► Primary or Secondary Pump

Secondary Pump

► Specify Diesel or Electric

Diesel

Pressure Switch - Diesel Primary

## Cut-In Pressure (kPa)

570

Pressure Switch - Diesel Backup (Not  $\leq$  50 kPa Below Switch 1 - Not  $\geq$  20 Below Switch 1)

## Cut-In Pressure (kPa)

Not installed

## 6.4 Pumped Water Supply - Jockey Pump

### Hour Meter

4382:32

### 6.4.1 Jockey Pump Correctly Piped

No



Photo 28

The jockey pump supply connection has been taken from the bottom of the suction line. Sediment collecting at the bottom of the suction line may be drawn into the supply for the jockey pump. This may lead to the deterioration and therefore the life span of this pump. The supply connection for the jockey pump must be taken from either the side or top of the suction line.

### 6.4.2 Jockey Pump Test

Passed

The pump run light is fused

Add Pump


### Pump

#### Pump 1

► Pump Type

Electric

## 6.8 Pumped Water Supply - Electric Motor Driven Pump

► Primary or Secondary Pump	Primary Pump
6.8.1 ASIB Approval No	Yes
ASIB Approval Number Motor	
1817	
ASIB Approval Number Pump	
1817	
Flow Q (m <sup>3</sup> )	
Unknown. To be determined and stamped on plate provided	
	
Photo 29	
Head (m)	
Unknown. To be determined and stamped on plate provided	
Impeller Diameter (mm)	
545	
6.8.2 Electric Motor Make and Model	
CMG SGAA315SMLB-4	
6.8.3 ASIB Prime Mover Date Tag No	Yes
6.8.3.1 ASIB Prime Mover Overhaul Date Tag No	
0141528	
6.8.3.2 Last Service Date	
07/12/2021	
6.8.3.3 Next Service Date	
07/12/2022	
Service Overdue	No
6.8.4 Pump Make and Model	
KSB Omega 200-520A	

6.8.5 ASIB Pump Overhaul Date Tag No	Yes
6.8.5.1 ASIB Pump Overhaul Date Tag No	
0141448	
6.8.5.2 Last Overhaul Date	
07/12/2021	
6.8.5.3 Next Overhaul Date	
07/12/2022	
Service Overdue	No
6.8.6 Suction Pressure (kPa)	
35	
6.8.7 Base Grouted In	Yes
6.8.8 Base Painted	Yes
6.8.9 Delivery Piping Correctly Supported	No
 <p>Photo 30</p>	
6.8.10 Suction Piping Correctly Supported	No
 <p>Photo 31</p>	
<p>It is recommended that additional support be provided on the pump suction line as close to the pump casing as possible. This is to ensure that there is no strain on the pump casing. If strain is present, it results in axial loading which in turn places excessive wear on the pump resulting in eventual or premature failure. It has been found that some pump and suction alignments have placed excessive strain on the volute of the pump resulting in poor performance.</p>	
6.8.11 Eccentric Reducer Piped Correctly	Yes



#### 6.8.12 Cooling Line Correctly Aligned and Supported

No



Photo 32

The cooling line return pipe must be adequately supported.



#### 6.8.13 Sight Glass Clean

Yes

#### 6.8.14 Flexible Coupling Correctly Installed

No

Not installed

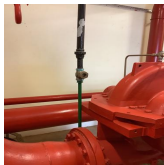


Photo 33

#### 6.8.15 Glands Condition

O.K.

#### 6.9 Electric Motor Driven Pump - Test

##### 6.9.1 Panel Lamp Test

O.K.

##### 6.9.2 Hour Meter Before Test.

Not installed

##### 6.9.3 Emergency Start - Button Depressed

Motor Started

##### 6.9.4 Test - Button Depressed

Motor Started

##### 6.9.5 Churn Pressure (kPa)

1220 kPa taken from system pressure gauge



Photo 34

**6.9.5.1 A churn pressure gauge must be positioned beneath the non-return valve on the pump delivery line. The pressure on this gauge will reflect zero when the pump set is not running.**



### 6.9.6 Flow Test Recorded

Approximately 7600 l/min @ 1100 kPa



Photo 35



Photo 36

### 6.9.7 Pump Flow Test

Failed

The flow duty requirements for this pump must be determined and stamped on plate provided

### 6.9.8 Hour Meter After Test

Not installed

The Electric motor driven pump must be tested for at least 10 minutes every week in accordance with the minimum requirements.

### 6.10 Electric Motor Driven Pump Alarms

#### 6.10.1 Siren Alarm

Sounded

#### 6.10.2 Flashing Light

Operated

### Pump 2

#### ► Pump Type

Diesel

### 6.5 Pumped Water Supply - Diesel Engine Driven Pump

#### ► Primary or Secondary Pump

Secondary Pump

#### 6.5.1 ASIB Approval No

Yes

#### ASIB Pump Set Approval Number

1818

### 6.5.2 Diesel Tank Level

1/2



Photo 37

### 6.5.3 Diesel Tank Bunded

Yes

#### 6.5.4 Spare Fuel Kept on Site

No

This tank must be kept full at all times and sufficient fuel for an additional six hours running time, (on full load) must be kept within on site.

#### 6.5.5 ASIB Prime Mover Date Tag No

Yes

##### 6.5.5.1 ASIB Prime Mover Overhaul Date Tag No

0141529

##### 6.5.5.2 Last Service Date

97/12/2021

##### 6.5.5.3 Next Service Date

97/12/2022

#### Service Overdue

No

#### 6.5.6 Pump Make and Model

KSB ETA 150-400

#### 6.5.7 ASIB Pump Overhaul Date Tag No

Yes

##### 6.5.7.1 ASIB Pump Overhaul Date Tag No

0141449

##### 6.5.7.2 Last Overhaul Date

97/12/2021

##### 6.5.7.3 Next Overhaul Date

97/12/2022

#### Service Overdue

No

#### 6.5.8 Flow

To be determined and stamped on plate provided



Photo 38

#### 6.5.9 Diesel Engine Make and Model

**6.5.10 Head / Pressure**

To be determined and stamped on plate provided

**6.5.11 Impeller Diameter (mm)**

404

**6.5.12 Suction Pressure (kPa)**

20

**6.5.13 Base Grouted In**

Yes

**6.5.14 Base Plate Grouting Painted**

Yes

**6.5.15 Delivery Piping Correctly Supported**

No

**6.5.16 Suction Piping Correctly Supported**

Yes

**6.5.17 Eccentric Reducer Piped Correctly**

Yes

**6.5.18 Correct Fuel Lines**

Yes

**6.5.19 Oil Level**

O.K.

**6.5.20 Batteries Installed on Stillage**

Yes

**6.5.21 Batteries Locked**

Yes

**6.5.22 Water Level (Heat Exchanger)**

O.K.

**6.5.23 Exhaust Correctly Supported**

No

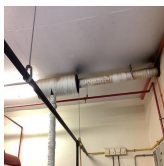


Photo 39

**6.5.24 Exhaust Alignment**

Horizontal

**6.5.25 Exhaust Lagged**

Yes

**6.5.26 Sprinkler Protection  $\geq$  800mm From Exhaust**

No



Photo 40

<b>6.5.27 Cooling Line Correctly Aligned and Supported</b>	Yes
<b>6.5.28 Sight Glass Clean</b>	Yes
<b>6.5.29 Flexible Coupling Correctly Installed</b>	Yes
<b>6.5.30 Glands Condition</b>	O.K.

## 6.6 Diesel Engine Driven Pump - Test

<b>6.6.1 Panel Lamp Test</b>	Requires Attention
------------------------------	--------------------

### 6.6.2 Hour Meter Before Test

29:30

<b>6.6.3 Test - Button Depressed</b>	Engine Started
<b>6.6.4 Battery 1 - Button Depressed</b>	Engine Started
<b>6.6.5 Battery 2 - Button Depressed</b>	Engine Started
<b>6.6.6 Battery 1 &amp; 2 - Button Depressed</b>	Engine Started

### 6.6.7 RPM Recorded

2300

### 6.6.8 Churn Pressure (kPa)

1200

### 6.6.9 Flow Test Recorded

Approximately 8400 l/min @ 1000 kPa



Photo 41



Photo 42



Photo 43



Photo 44

<b>6.6.10 Pump Flow Test</b>	Failed
------------------------------	--------

The flow duty requirements for this pump must be determined and stamped on plate provided

### 6.6.11 Hour Meter After Test

29:40

The diesel engine driven pump must be tested for at least 30 minutes every week in accordance with the minimum requirements.

### 6.7 Diesel Engine Driven Pump - Alarms

6.7.1 Siren Alarm	Sounded
6.7.2 Flashing Light	Operated
6.7.3 Abortive Start Test Successful	Passed
6.7.4 Abortive Start - Number of Cranks	6 From 0 to 9
6.7.5 Abortive Start - Intermittent Siren	Sounded
6.7.6 Abortive Start - Flashing Light	Operated

### 6.11 Pump House Alarms

6.11.1 Power Failure - Electrical Isolator - Alarm Bell	Failed - See Report
6.11.2 Power Failure - Electrical Isolator - Flashing Light	Failed - See Report
6.11.3 Pump House Protection - Terminal Test Valve Opened	Operated

Panel light did not illuminate

Non - Compliance Items.

#### • Item

#### • Item 1

##### ► Description

The suction line inclines slightly towards the pump.

Electric pump only



Photo 45

#### • Item 2

##### ► Description

It was noted that the plinth foundation is incorrectly sized



Photo 46

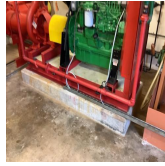


Photo 47

### • Item 3

#### ► Description

Other

The cooling water pipe work must be routed independently back to the water supply tanks, this must be addressed by your installer.

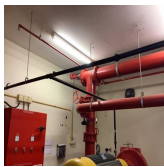


Photo 48

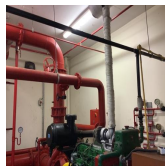


Photo 49

### • Item 4

#### ► Description

Other

Corrosion is evident on the sprinkler pipe work and must be addressed by your installer.

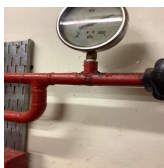


Photo 50



Photo 51



Photo 52



Photo 53

### • Item 5

#### ► Description

Other

The flow test arrangement is not installed as per the manufacturers standard

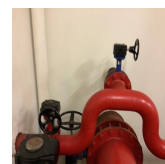
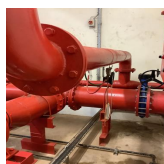


Photo 54

Photo 55

Photo 56

Photo 57

Photo 58

---

## Recommendations

## 7. Installation Control Valve(s)

### 7.1 Sprinkler control valves accessible

Yes

## Valve Cabinet

### Valve Cabinet 1

#### Location:

AE6



Photo 59

### Number of Alarm Valves Installed

1 x 200mm, 1 x 100mm

### 7.2 Sprinkler Valve Location Plate Installed

Yes

### 7.3 Fire Brigade Booster Pressure Limitation Plate

Yes

### 7.4 Block Plan Installed

Yes

#### 7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies

Yes

#### 7.4.2 Are the correct installation details recorded on the block plan

Yes



Photo 60

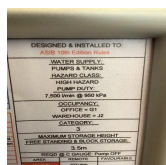


Photo 61

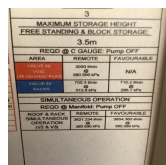


Photo 62

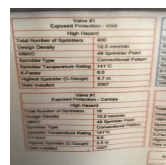


Photo 63

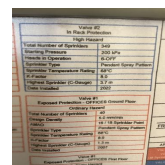


Photo 64

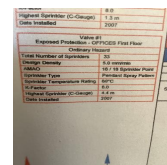


Photo 65

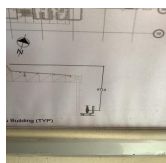


Photo 66

### 7.5 Sprinkler Valve Instruction Chart

Yes

### 7.6 Is a sprinkler spares box present

Yes

<b>7.6.1 Was the spares box contents accessible</b>	Yes
<b>7.6.2 Are the spares quantities correct</b>	No

The correct quantity of spare sprinklers and compatible sprinkler spanner of the types used must be kept within the spares box at all times.

<b>7.7 By Pass Arrangement Installed</b>	No
--	----

It is recommended a valve bypass assembly be provided at each installation control valve. This allows the alarm valve to be overhauled without isolating the system and prevents wastage of water.

<b>7.8 Fire Brigade Booster Connections Installed Correctly and Accessible</b>	No
--	----

Installations must be fitted with fire brigade booster connections which will enable the fire brigade to pump water into the installation using their own equipment.

**It is recommended that the fire brigade pressure booster inlets must be repositioned so that they are located external to the installation control valve cabinet and easily accessible.**



<b>7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet</b>	Yes
--	-----

**Sprinkler protection is required within the valve cabinet**



<b>7.10 Flow Switch Installed Correctly</b>	No
---	----

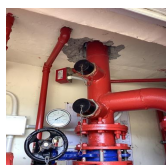
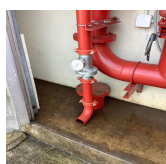


Photo 67

The flow switch must be fitted downstream from the alarm valve with a 25mm test pipe installed at least 2 pipe diameters downstream of the flow switch.

<b>7.11 Manifold Correctly Supported</b>	Yes
<b>7.12 Riser Mains Correctly Supported</b>	Yes
<b>7.13 Riser Mains Externally Located</b>	No
<b>7.14 Flow Measuring Device Installed.</b>	Yes

The flow test arrangement requires additional support



**Flow Test Results****Fail**

The flow apparatus must be sized to suit the flow requirements on the block plan



Photo 69



Photo 70

**Recorded Flow and Pressure**

+ 3000 l/min @ 1060 kPa

**7.15 Correct Pressure Gauges Installed**

Yes

**7.16 Correct Gauge Cocks Installed**

Yes

**7.17 Flanges Short Bolted**

Yes



Photo 71



Photo 72

The bolts for these flanges must be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.

**7.18 Loose / Missing Bolts, Nuts & Washers**

No

**7.19 False Alarm Prevention Pump Installed**

N/A

**7.20 Drain & Test Pipes Installed Correctly**

No

**The drain and test pipes discharge within the valve cabinet. This must be revised so they discharge externally to the valve cabinet.**



Photo 73

7.21 Weekly tests of the installation control valves alarm bell must be carried out with the alarms sounding for at least thirty seconds.

All water pressure gauge readings must be checked and recorded.

The testing and records should be carried out by a member of staff delegated to do this.

**7.22 Trunk Main Pressure (kPa)**

1080

**7.23 Installation Pressure (kPa)**

1100

**7.24 ASIB Overhaul Date Tag No**

Yes

**Last Overhaul Date**

2022

**Next Overhaul Date**

2025

**7.25 Alarm Motor & Gong Test**

Passed

**7.26 Are All Valves in the Correct Positions**

Yes

**7.27 Are All Valves Secured**

Yes

**Valve Cabinet 2****Location:**

AE4



Photo 74

**Number of Alarm Valves Installed**

1 x 100mm, 1 x 150mm

**7.2 Sprinkler Valve Location Plate Installed**

Yes

**7.3 Fire Brigade Booster Pressure Limitation Plate**

Yes

**7.4 Block Plan Installed**

Yes

**7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies**

Yes

**7.4.2 Are the correct installation details recorded on the block plan**

Yes



Photo 75

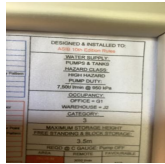


Photo 76

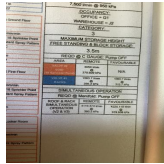


Photo 77

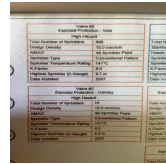


Photo 78

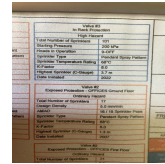


Photo 79

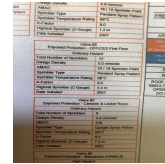


Photo 80

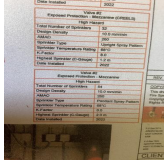


Photo 81

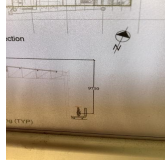


Photo 82

## 7.5 Sprinkler Valve Instruction Chart

Yes

## 7.6 Is a sprinkler spares box present

Yes

### 7.6.1 Was the spares box contents accessible

Yes

### 7.6.2 Are the spares quantities correct

No

The correct quantity of spare sprinklers and compatible sprinkler spanner of the types used must be kept within the spares box at all times.

## 7.7 By Pass Arrangement Installed

No

It is recommended a valve bypass assembly be provided at each installation control valve. This allows the alarm valve to be overhauled without isolating the system and prevents wastage of water.

## 7.8 Fire Brigade Booster Connections Installed Correctly and Accessible

No

Installations must be fitted with fire brigade booster connections which will enable the fire brigade to pump water into the installation using their own equipment.

**It is recommended that the fire brigade pressure booster inlets must be repositioned so that they are located external to the installation control valve cabinet and easily accessible.**



## 7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet

Yes

## Sprinkler protection is required within the valve cabinet



## 7.10 Flow Switch Installed Correctly

No



Photo 83

The flow switch must be fitted downstream from the alarm valve with a 25mm test pipe installed at least 2 pipe diameters downstream of the flow switch.

<b>7.11 Manifold Correctly Supported</b>	Yes
<b>7.12 Riser Mains Correctly Supported</b>	Yes
<b>7.13 Riser Mains Externally Located</b>	No
<b>7.14 Flow Measuring Device Installed.</b>	Yes
<b>Flow Test Results</b>	Fail

The flow apparatus must be sized to suit the flow requirements on the block plan



Photo 84

<b>Recorded Flow and Pressure</b>	+3500 l/min @ 1100 kPa
<b>7.15 Correct Pressure Gauges Installed</b>	Yes
<b>7.16 Correct Gauge Cocks Installed</b>	Yes
<b>7.17 Flanges Short Bolted</b>	No
<b>7.18 Loose / Missing Bolts, Nuts &amp; Washers</b>	No
<b>7.19 False Alarm Prevention Pump Installed</b>	N/A
<b>7.20 Drain &amp; Test Pipes Installed Correctly</b>	No

**The drain and test pipes discharge within the valve cabinet. This must be revised so they discharge externally to the valve cabinet.**



7.21 Weekly tests of the installation control valves alarm bell must be carried out with the alarms sounding for at least thirty seconds.

All water pressure gauge readings must be checked and recorded.

The testing and records should be carried out by a member of staff delegated to do this.

## 7.22 Trunk Main Pressure (kPa)

1qtp

## 7.23 Installation Pressure (kPa)

1100

**7.24 ASIB Overhaul Date Tag No**

Yes

**Last Overhaul Date**

2022

**Next Overhaul Date**

2025

**7.25 Alarm Motor & Gong Test**

Passed

**7.26 Are All Valves in the Correct Positions**

Yes

**7.27 Are All Valves Secured**

Yes

### Valve Cabinet 3

**Location:**

AE1

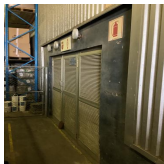


Photo 85



Photo 86



Photo 87

**Number of Alarm Valves Installed**

1 x 100mm, 2 x 150mm

**7.2 Sprinkler Valve Location Plate Installed**

No

A valve location plate must be affixed on an external wall, as near to the main stop valve as possible.

**7.3 Fire Brigade Booster Pressure Limitation Plate**

No

The fire brigade booster pressure limitation plate must be affixed to an external wall as close to the inlets as possible.

**7.4 Block Plan Installed**

Yes

**7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies**

No

The block plan must be labelled in accordance with the areas fed by the sprinkler control valve assemblies

**7.4.2 Are the correct installation details recorded on the block plan**

No



Photo 88

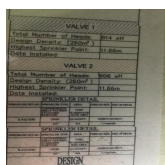


Photo 89



Photo 90

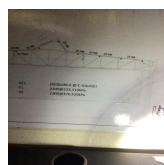


Photo 91



Photo 92

A block plan must be provided with the following indicated thereon:

Particulars of the water supplies.

The occupancy of each building.

The hazard class of the system.

The extent of the protection.

The calculated flow and pressure requirement of the system.

A cross-section of the full height of the building or buildings indicating the height of the highest sprinkler with respect to a stated datum level.

The flows and pressures for the remote and favorable areas of operation recorded on the block plans must reflect the maximum pressure (Pmax) and the maximum flow (Qmax) respectively.

#### 7.5 Sprinkler Valve Instruction Chart

Yes

#### 7.6 Is a sprinkler spares box present

No

A sprinkler spares box containing the correct amount of spare sprinklers and the sprinkler spanner must be affixed to a wall as close to the control valve assembly as possible.

#### 7.7 By Pass Arrangement Installed

No

It is recommended a valve bypass assembly be provided at each installation control valve. This allows the alarm valve to be overhauled without isolating the system and prevents wastage of water.

#### 7.8 Fire Brigade Booster Connections Installed Correctly and Accessible

No

Installations must be fitted with fire brigade booster connections which will enable the fire brigade to pump water into the installation using their own equipment.

#### 7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet

Yes

#### Sprinkler protection is required within the valve cabinet



#### 7.10 Flow Switch Installed Correctly

No

The flow switch must be fitted downstream from the alarm valve with a 25mm test pipe installed at least 2 pipe diameters downstream of the flow switch.

#### 7.11 Manifold Correctly Supported

Yes

#### 7.12 Riser Mains Correctly Supported

No

The riser main must be properly supported in accordance with the rules.

#### 7.13 Riser Mains Externally Located

No

**7.14 Flow Measuring Device Installed.**

No

A direct reading flow test arrangement must be installed at the control valve assembly. Differing flow meters in respect of hazard or calibration may not be installed in parallel, i.e., it is not permissible to mix sizes of flow test assemblies.

**7.15 Correct Pressure Gauges Installed**

Yes

**7.16 Correct Gauge Cocks Installed**

No



Photo 93

All pressure gauges fitted to a sprinkler system shall be fitted with an isolating gauge cock with bleed to be able to confirm gauge operation back to zero and enable each pressure gauge to be readily removed without interruption of the installation water supplies.

**7.17 Flanges Short Bolted**

Yes



Photo 94



Photo 95



Photo 96

The bolts for these flanges must be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.

**7.18 Loose / Missing Bolts, Nuts & Washers**

No

**7.19 False Alarm Prevention Pump Installed**

N/A

**7.20 Drain & Test Pipes Installed Correctly**

No

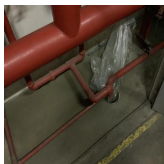


Photo 97

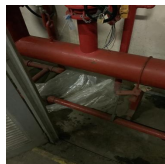


Photo 98

7.21 Weekly tests of the installation control valves alarm bell must be carried out with the alarms sounding for at least thirty seconds.

All water pressure gauge readings must be checked and recorded.

The testing and records should be carried out by a member of staff delegated to do this.

**7.22 Trunk Main Pressure (kPa)**

1100

---

**7.23 Installation Pressure (kPa)**

1120

---

**7.24 ASIB Overhaul Date Tag No**

Yes

**Last Overhaul Date**

2021

**Next Overhaul Date**

2024

---

**7.25 Alarm Motor & Gong Test**

Passed

---

**7.26 Are All Valves in the Correct Positions**

Yes

---

**7.27 Are All Valves Secured**

Yes

---

Non Compliance - Items

Recommendation Items

## 8. Storage

### High Hazard



In all High Hazard areas a clear space of not less than 1,0 metre must be maintained between top of stored goods and sprinkler deflector.

### Free Standing Block Storage and aisle widths are not being maintained.



Photo 99



Photo 100



Photo 101

No block of storage shall exceed 150 m<sup>2</sup> of floor area and shall be surrounded by aisle widths of not less than 2,4 m.

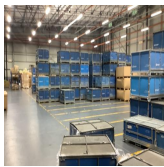


Photo 102



Photo 103

### Are the required clearances being maintained.

No

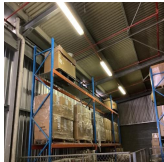


Photo 104

### Are the storage heights exceeded.

Yes

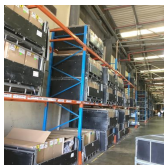


Photo 105



Photo 106

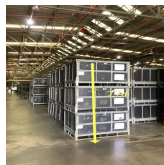


Photo 107

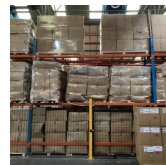


Photo 108



Photo 109

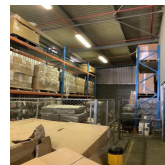


Photo 110

The storage heights must be maintained in accordance with the maximum allowable stack heights as detailed in this report. Should this not be possible, intermediate level protection is deemed to be mandatory.

### Are Excessive Height Conditions Applicable

No

### The clearance between the top of storage and the sprinkler deflector is not being maintained.



A minimum clearance of 150 mm (10th Edition) and 100 mm (11th Edition) must be maintained between the top of storage and the sprinkler deflector.

**Location:**

Trim rack storage

---



Photo 111



Photo 112



Photo 113



Photo 114

---

**Storage is taking place within the Aisles.**



Storage must not take place within the aisles as this will increase the fire area. A fire will spread in an uncontrolled manner.

**Location:**

Trim shelves

---

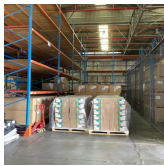


Photo 115



Photo 116

---

**Shelves exceed 1,0 metre in width.**



The shelves must be reduced to a maximum width of 1,0 metre or intermediate sprinkler protection will be mandatory at each shelf tier level.

**Location:**

Quarantine store  
Trim workshop

---



Photo 117



Photo 118

## 9. Sprinkler System

Sprinkler System

### Area

#### Area 1

Specified Area.

Other

#### Specify Area

AE6

System Issue

#### Issue

##### Issue 1

Finding

Exposure Hazards

**Storage too close to building.**



Drencher heads required which are purpose made sprinklers designed to spray water over a surface to provide protection against fire exposure. It is not acceptable to use standard sprinkler heads with the fusible elements removed for the purpose of providing wall or face wetting. The drencher system must extend along the walls of the protected building to a distance of 15.0 metres beyond each end of the stored goods. The feed for the drenchers must be taken from the underside of the valves and not from the downstream side of the installation. The stop valve controlling the drencher installation shall be located near to the sprinkler control valves, but must be at least 10,0 metres from the goods stored or from the area where they are expected to operate.

#### Location of Finding.

Generator and transformer



Photo 174

##### Issue 2

Finding

Pipe Support

**The sprinkler pipe work must be correctly supported.**



#### Location of Finding.

## Droppers for shelves



Photo 175



Photo 176

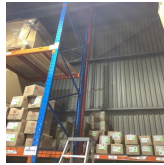


Photo 177

### Issue 3

#### Finding

Pipe Support

**Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.**



#### Location of Finding.

Riser from valve chamber

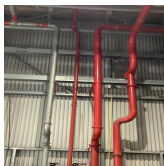


Photo 178

### Issue 4

#### Finding

Other

**Surfaces exceeding 1,0 metre in width.**



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

**The general obstruction is classed as 1,000 mm therefore sprinkler protection is required beneath any such obstruction which includes, but is not limited to;**



**Walkways, solid or open grid, and Work tables.**

#### Location of Finding.

Work tables in tonneau must be protected or the storage beneath must be removed



Photo 179



Photo 180

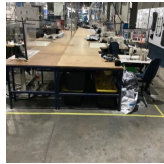


Photo 181

## Issue 5

### Finding

Intermediate Sprinkler Protection

**Incorrect spacing employed.**



### Location of Finding.

Left over shelves must be protected at every level



Photo 182



Photo 183

## Issue 6

### Finding

Pipe Support

**The sprinkler pipe work must be correctly supported.**



### Location of Finding.

Push through racks

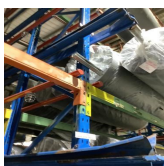


Photo 184

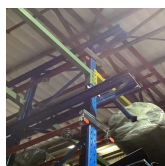


Photo 185

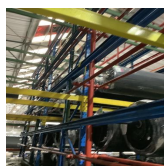


Photo 186

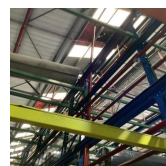


Photo 187

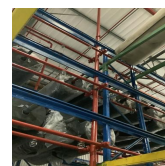


Photo 188

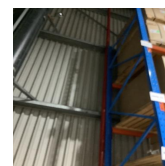


Photo 189

## Area 2

### Specified Area.

Other

### Specify Area

AE1

System Issue

## Issue

### Issue 1

#### Finding

Partial Protection /  
Communicating Areas

**Portion of premises sprinkler protected with communicating sections that are not.**



Partial protection can lead to a fire originating in the protected area radiating heat into the unprotected portion of the premises and starting secondary fires. The heat from these fires radiates or spreads back into the protected area causing excessive sprinkler operation.

Conversely, a fire originating in the unprotected portion will radiate heat or spread into the protected portion rapidly causing unnecessary sprinkler operation and overwhelming the sprinkler system installed.

#### Location of Finding.

All areas which have not been re-connected to the sprinkler system viz. offices, external canopies

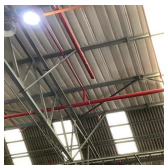


Photo 135

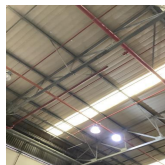


Photo 136

### Issue 2

#### Finding

Pipe Support

**Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.**



#### Location of Finding.

Dropper to offices in workshop

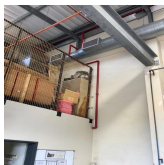


Photo 137

### Issue 3

#### Finding

Sprinkler Heads

## Distribution pattern of sprinklers affected.



### Location of Finding.

Duct in workshop



Photo 138

## Issue 4

### Finding

Sprinkler Heads

**Sprinklers installed beneath open cell surfaces / translucent sheeting.**



All sprinklers located beneath open celled floors or stairwells and translucent sheeting must have approved water shields fitted above the sprinklers.

### Location of Finding.

Various at roof

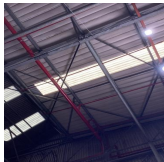


Photo 139

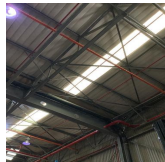


Photo 140

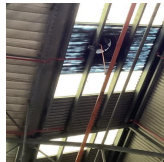


Photo 141

## Issue 5

### Finding

Pipe Support

**Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.**



### Location of Finding.

Risers valves



Photo 142

## Issue 6

### Finding

Pipe Support

**Terminal range pipe hangers are exceeding the maximum distance of 750 mm from the end of the range pipe.**



### Location of Finding.

Quarantine store



Photo 143

## Issue 7

### Finding

Pipe Support

**Terminal range pipe hangers are exceeding the maximum distance of 750 mm from the end of the range pipe.**



### Location of Finding.

Durban stock roof

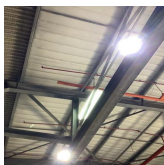


Photo 144

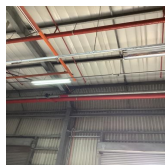


Photo 145

## Issue 8

### Finding

Other

**Extraction Canopies.**



Extraction canopies where these are designed to extract grease laden vapours or heat through a

ventilation system must be fully sprinkler protected, inclusive of exhaust ducts and exhaust plenum chambers, using 141° Celsius operating temperature spray pattern type nozzles unless alternative protection is installed.

### Location of Finding.

Cel 1



Photo 146

### Issue 9

#### Finding

Other

#### Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

### Location of Finding.

Carry open device

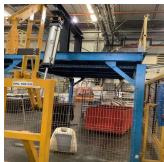


Photo 147

### Issue 10

#### Finding

Other

#### Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

### Location of Finding.

Stairs to service room



Photo 148

## Issue 11

### Finding

Partial Protection /  
Communicating Areas

### Location of Finding.

Service room

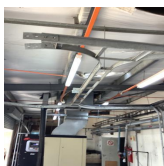


Photo 149

## Issue 12

### Finding

Roof Insulation

### Roof Insulation - Unknown Fire Rating



The potential for combustible material existing above the line of sprinklers creates an unacceptable risk with regard to the possibility that a fire can propagate and spread and subsequently overwhelm the sprinkler system below. The insulation material must be investigated and identified in order to ensure the level of sprinkler compliance the occupancy can achieve is not compromised.

### Roof insulation adrift.



Roof insulation that has come adrift may obstruct the distribution pattern of the sprinklers below and/or add additional weight to the sprinkler pipework, increasing the risk of breakages of hangers or the sprinkler pipework itself. The roof insulation must be re-fixed to its original position.

### Location of finding.

Service room. This must be  
rectified before Sprinklers are  
installed

## Issue 13

### Finding

Partial Protection /  
Communicating Areas

### Portion of premises sprinkler protected with communicating sections that are not.



Partial protection can lead to a fire originating in the protected area radiating heat into the unprotected portion of the premises and starting secondary fires. The heat from these fires

radiates or spreads back into the protected area causing excessive sprinkler operation.

Conversely, a fire originating in the unprotected portion will radiate heat or spread into the protected portion rapidly causing unnecessary sprinkler operation and overwhelming the sprinkler system installed.

#### Location of Finding.

Generator and electrical transformer rooms. Not required per asib but recommend a fire control system be fitted



Photo 150



Photo 151

#### Issue 14

##### Finding

Other

#### Ceiling Panels.



All missing and broken ceiling panels must be replaced. In a fire situation the heat from a fire could bypass the sprinkler heads through the ceiling apertures into the void and delay their operation or trigger other sprinklers in the void where there is no fire.

#### Location of Finding.

External canopy



Photo 152

#### Issue 15

##### Finding

Pipe Support

**Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.**



#### Location of Finding.

Dropper to service room

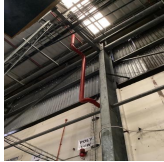


Photo 153

## Issue 16

### Finding

Partial Protection /  
Communicating Areas

**Portion of premises sprinkler protected with communicating sections that are not.**



Partial protection can lead to a fire originating in the protected area radiating heat into the unprotected portion of the premises and starting secondary fires. The heat from these fires radiates or spreads back into the protected area causing excessive sprinkler operation.

Conversely, a fire originating in the unprotected portion will radiate heat or spread into the protected portion rapidly causing unnecessary sprinkler operation and overwhelming the sprinkler system installed.

### Location of Finding.

Trimming



Photo 154

## Issue 17

### Finding

Pipe Support

**Terminal range pipe hangers are exceeding the maximum distance of 750 mm from the end of the range pipe.**



### Location of Finding.

South side roof ranges

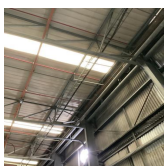


Photo 155

## Issue 18

## Finding

Other

### Extraction Canopies.



Extraction canopies where these are designed to extract grease laden vapours or heat through a ventilation system must be fully sprinkler protected, inclusive of exhaust ducts and exhaust plenum chambers, using 141° Celsius operating temperature spray pattern type nozzles unless alternative protection is installed.

### Location of Finding.

Heater platten



Photo 156

## Issue 19

## Finding

Other

### Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

### Location of Finding.

Heating platten platform

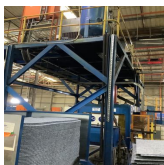


Photo 157

## Issue 20

## Finding

Intermediate Sprinkler Protection

### Incorrect spacing employed.



### Location of Finding.

Trim shelves. Protection required on every level



Photo 158

### Issue 21

#### Finding

Pipe Support

**The sprinkler pipe work must be correctly supported.**



#### Location of Finding.

Droppers to some shelves

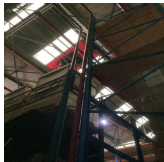


Photo 159

### Issue 22

#### Finding

Intermediate Sprinkler Protection

**Sprinkler guards damaged or missing.**



#### Location of Finding.

Various

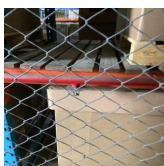


Photo 160

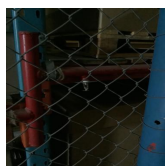


Photo 161

### Issue 23

#### Finding

Sprinkler Heads

**Sprinkler heads must be correctly aligned.**



#### Location of Finding.

Last shelf at roller door



Photo 162

## Issue 24

### Finding

Pipe Support

**Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.**



### Location of Finding.

Dropper to ablutions  
Dropper to receiving offices

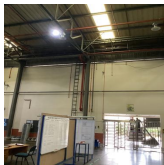


Photo 163



Photo 164

## Issue 25

### Finding

Pipe Support

**The sprinkler pipe work must be correctly supported.**



### Location of Finding.

Receiving canopy. No support on the distribution mains



Photo 165



Photo 166

## Issue 26

### Finding

Exposure Hazards

**Adjacent building within 10,0 metres / 15,0 of the sprinkler**



**protected building.**

Any detached building in the Ordinary Hazard or Extra Light Hazard class, any part of which is within 10,0 m of a protected building, must itself be sprinkler protected.

Any detached building in the Extra High Hazard class, any part of which is within 15,0 m of a protected building, must itself be sprinkler protected.

Where there are practical difficulties in providing such protection as, for example, when the detached building is in separate ownership or where the detached building is lofty and open-sided, (e.g. timber storage sheds), and the value of standard sprinkler protection is doubtful, it will be required that the sprinkler protection in the protected building be extended to provide external sprinkler protection over window and door openings and over any combustible sections of the wall opposing the exposure hazard.

It should be noted that it is the hazard classification of the UNPROTECTED building which determines the required separation and NOT the hazard classification of the protected building.

**Location of Finding.**

Waste area and chemical store. This area must be protected



Photo 167

**Issue 27**

Finding	Partial Protection / Communicating Areas
<p><b>Sprinklers must be installed under all canopies where goods are offloaded, stored or handled and which communicate with the sprinkler protected building. The design density of discharge for the protection of a canopy shall not be less than that within the main facility.</b></p> <p><b>Canopies which are of incombustible construction and do not extend more than 2,3 metres from the wall of the building need not be fully protected provided that cut-off sprinklers are fitted under the canopy over each of the openings into the sprinkler protected building.</b></p> <p><b>Where such openings do not exceed 2,5 metres in width, one sprinkler positioned centrally over each opening will suffice. Where openings exceed 2,5 metres in width, the sprinklers over the openings must be spaced not more than 2,5 metres apart and not more than 1,25 metres from the sides of the opening.</b></p>	<div><input checked="" type="checkbox"/></div>

**Location of Finding.**

Canopy on far corner.



Photo 168

## Issue 28

### Finding

Pipe Support

**Terminal range pipe hangers are exceeding the maximum distance of 750 mm from the end of the range pipe.**



**Belt-to-belt hangers utilized.**



Belt-to-belt hangers must be removed and the pipe work correctly supported.

### Location of Finding.

Canopy at despatch



Photo 169



Photo 170

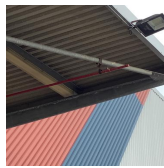


Photo 171

## Issue 29

### Finding

Other

**Surfaces exceeding 1,0 metre in width.**



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

### Location of Finding.

Office stairs

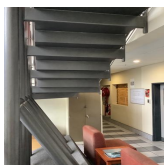


Photo 172

## Issue 30

## Finding

Intermediate Sprinkler Protection

Staggered spacing not employed.



## Location of Finding.

Last rack. Bonded store



Photo 173

## Area 3

Specified Area.

Other

## Specify Area

AE4

System Issue

## Issue

### Issue 1

Finding

Other

Specify Other.



Corrosion is evident on the sprinkler pipe work and must be addressed by your installer.

## Location of Finding.

Some canopy fittings



Photo 119

## Issue 2

## Finding

Sprinkler Heads

**Sprinklers installed beneath open cell surfaces / translucent sheeting.**



All sprinklers located beneath open celled floors or stairwells and translucent sheeting must have approved water shields fitted above the sprinklers.

### Location of Finding.

Various at roof

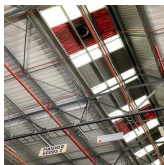


Photo 120

## Issue 3

### Finding

Pipe Support

**The sprinkler pipe work must be correctly supported.**



### Location of Finding.

Droppers to shelves



Photo 121



Photo 122



Photo 123

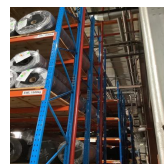


Photo 124

## Issue 4

### Finding

Other

**Surfaces exceeding 1,0 metre in width.**



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

**The general obstruction is classed as 1,000 mm therefore sprinkler protection is required beneath any such obstruction which includes, but is not limited to;**



**Walkways, solid or open grid, and Work tables.**

## Location of Finding.

Decommissioned heavy layer machine



Photo 125



Photo 126

## Issue 5

### Finding

Partial Protection /  
Communicating Areas

**Portion of premises sprinkler protected with communicating sections that are not.**



Partial protection can lead to a fire originating in the protected area radiating heat into the unprotected portion of the premises and starting secondary fires. The heat from these fires radiates or spreads back into the protected area causing excessive sprinkler operation.

Conversely, a fire originating in the unprotected portion will radiate heat or spread into the protected portion rapidly causing unnecessary sprinkler operation and overwhelming the sprinkler system installed.

## Location of Finding.

Stenter oven

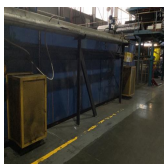


Photo 127

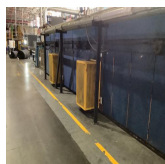


Photo 128

## Issue 6

### Finding

Intermediate Sprinkler Protection

**The range pipe must be lowered so that the sprinkler deflectors protrude a minimum distance of 25 mm beneath the horizontal beam of the rack and/or shelf.**



**Sprinkler guards damaged or missing.**



## Location of Finding.

carpet rack at roller door



Photo 129

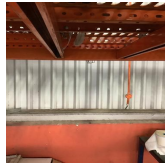


Photo 130

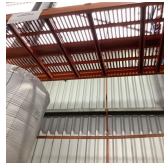


Photo 131

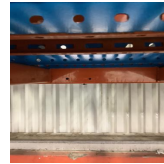


Photo 132

## Issue 7

### Finding

### Exposure Hazards

#### Adjacent building within 10,0 metres / 15,0 of the sprinkler protected building.



Any detached building in the Ordinary Hazard or Extra Light Hazard class, any part of which is within 10,0 m of a protected building, must itself be sprinkler protected.

Any detached building in the Extra High Hazard class, any part of which is within 15,0 m of a protected building, must itself be sprinkler protected.

Where there are practical difficulties in providing such protection as, for example, when the detached building is in separate ownership or where the detached building is lofty and open-sided, (e.g. timber storage sheds), and the value of standard sprinkler protection is doubtful, it will be required that the sprinkler protection in the protected building be extended to provide external sprinkler protection over window and door openings and over any combustible sections of the wall opposing the exposure hazard.

It should be noted that it is the hazard classification of the UNPROTECTED building which determines the required separation and NOT the hazard classification of the protected building.

#### Location of Finding.

Maintenance workshop and containers



Photo 133

## Issue 8

### Finding

### Partial Protection / Communicating Areas

#### Portion of premises sprinkler protected with communicating sections that are not.



Partial protection can lead to a fire originating in the protected area radiating heat into the unprotected portion of the premises and starting secondary fires. The heat from these fires radiates or spreads back into the protected area causing excessive sprinkler operation.

Conversely, a fire originating in the unprotected portion will radiate heat or spread into the protected portion rapidly causing unnecessary sprinkler operation and overwhelming the sprinkler system installed.

**Location of Finding.**

Server room

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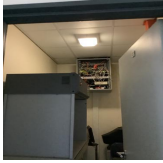


Photo 134

---

## 10. Proof of Inspection

Proof of inspection.

For and on behalf of client:



Scharl du Plessis  
24.11.2022 17:47 SAST

---

Proof of inspection.

ASIB Inspector:



Keith van Onselen  
24.11.2022 17:47 SAST

---

### WARNING

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The primary function of the ASIB is to protect the interests of the end user and as a result, we constantly update the list of registered suppliers and installing companies.

These companies have proven that they are capable of installing, extending and servicing fire sprinkler systems to the correct standards.

We have had occasion to remove companies for valid reasons which are not confidential and include, but are not limited to, poor workmanship, design, fabrication, incorrect advice, lack of skilled staff, fraudulent quotations and financial instability.

It is important to note that if a company is not listed with the ASIB and carries out work on a sprinkler system we will not be in a position to issue a Clearance Certificate for the premises which, in turn, may place you at risk.

In selecting your service provider, it is important to appreciate that the ASIB is not seeking to infer that a non-listed service provider is necessarily not capable of offering the required service to an appropriate standard. What the ASIB is saying, is that the ASIB is not in a position to give you the assurance that a non-listed provider concerned has demonstrated that it complies with the ASIB standards. In addition, because the ASIB is unable to fully inspect an installation (which by its nature has many inaccessible components), you will appreciate that the ASIB is also unfortunately not in a position to issue a Clearance Certificate in relation to an installation done by a non-listed company.

We advise you to check the listing status of the service provider you choose especially if there is any uncertainty.

You can access our website at <http://www.asib.co.za> which is current or phone our offices at 011 642 1703 for verification.

**Email:**

---

**Email: 1**

---

**Recipient**

ScharIDP@feltex.co.za

---

## Appendix



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Photo 22

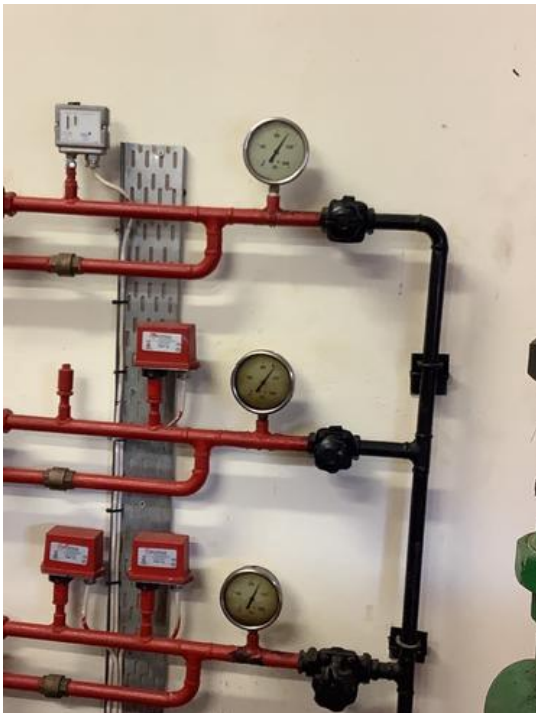


Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31



Photo 32



Photo 33



Photo 34



Photo 35

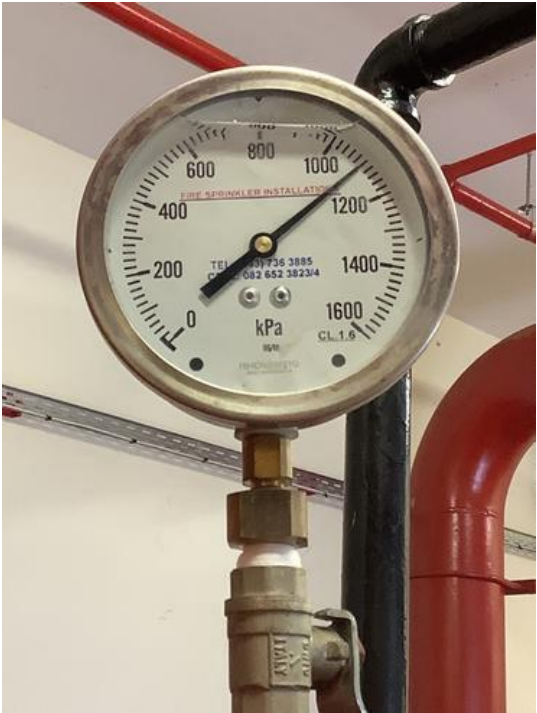


Photo 36



Photo 37



Photo 38



Photo 39



Photo 40



Photo 41



Photo 42



Photo 43



Photo 44



Photo 45



Photo 46



Photo 47



Photo 48



Photo 49



Photo 50



Photo 51



Photo 52



Photo 53



Photo 54



Photo 55



Photo 56



Photo 57



Photo 58



Photo 59



Photo 60

DESIGNED & INSTALLED TO:  
ASIB 10th Edition Rules

WATER SUPPLY:  
PUMPS & TANKS  
HAZARD CLASS:  
HIGH HAZARD  
PUMP DUTY:  
7,500 l/min @ 950 kPa

OCCUPANCY:  
OFFICE = G1  
WAREHOUSE = J2

CATEGORY:  
3

MAXIMUM STORAGE HEIGHT  
FREE STANDING & BLOCK STORAGE:  
3.5m

REQD @ C GAUGE: Pump OFF

AREA	REMOTE	FAVOURABLE
VALVE #2 VOID (48 Sprinkler Point)	3050 l/min @ 380.590 kPa	N/A
VALVE #3 RACKS	700.3 l/min @ 313.8 kPa	710.2 l/min @ 296.7 kPa

SIMULTANEOUS OPERATION  
REQD @ Manifold: Pump OFF

ROOF & RACK SIMULTANEOUS OPERATION (V2 & V3)	REMOTE	FAVOURABLE
	3821.234 l/min @ 380.590 kPa	3854.360 l/min @ 380.590 kPa

Photo 61

3

MAXIMUM STORAGE HEIGHT  
FREE STANDING & BLOCK STORAGE:  
3.5m

REQD @ C GAUGE: Pump OFF

AREA	REMOTE	FAVOURABLE
VALVE #2 VOID (48 Sprinkler Point)	3050 l/min @ 380.590 kPa	N/A
VALVE #3 RACKS	700.3 l/min @ 313.8 kPa	710.2 l/min @ 296.7 kPa

SIMULTANEOUS OPERATION  
REQD @ Manifold: Pump OFF

ROOF & RACK SIMULTANEOUS OPERATION (V2 & V3)	REMOTE	FAVOURABLE
	3821.234 l/min @ 380.590 kPa	3854.360 l/min @ 380.590 kPa

Photo 62

Valve #1  
Exposed Protection - Void  
High Hazard

Total Number of Sprinklers	400
Design Density	10.0 mm/min
AMAO	48 Sprinkler Point
Sprinkler Type	Conventional Pattern
Sprinkler Temperature Rating	141°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	9.7 m
Date Installed	2007

Valve #1  
Exposed Protection - Canopy  
High Hazard

Total Number of Sprinklers	16
Design Density	10.0 mm/min
AMAO	48 Sprinkler Point
Sprinkler Type	Conventional Pattern
Sprinkler Temperature Rating	141°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	5.0 m
Date Installed	2007

Photo 63

Valve #2  
In Rack Protection  
High Hazard

Total Number of Sprinklers	349
Starting Pressure	200 kPa
Heads in Operation	6-OFF
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	3.7 m
Date Installed	2022

Valve #1  
Exposed Protection - OFFICES Ground Floor  
Ordinary Hazard

Total Number of Sprinklers	40
Design Density	5.0 mm/min
AMAO	16 / 18 Sprinkler Point
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	1.3 m
Date Installed	2007

Valve #1  
Exposed Protection - OFFICES First Floor  
Ordinary Hazard

Total Number of Sprinklers	40
Design Density	5.0 mm/min
AMAO	16 / 18 Sprinkler Point
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	1.3 m
Date Installed	2007

Photo 64

Highest Sprinkler (C-Gauge)	8.0
Date Installed	1.3 m
	2007
Valve #1	
Exposed Protection - OFFICES First Floor	
Ordinary Hazard	
Total Number of Sprinklers	33
Design Density	5.0 mm/min
AMAO	16 / 18 Sprinkler Point
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	6.0
Highest Sprinkler (C-Gauge)	4.4 m
Date Installed	2007

Photo 65

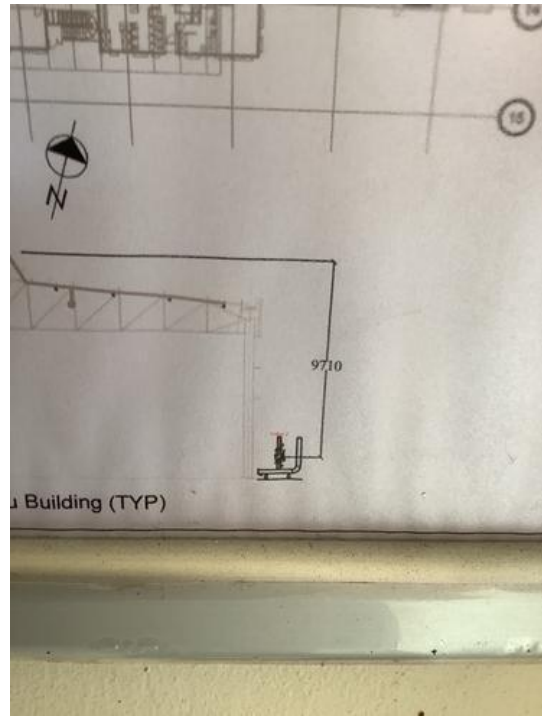


Photo 66



Photo 67



Photo 68



Photo 69



Photo 70



Photo 71



Photo 72



Photo 73



Photo 74



Photo 75



Photo 76

7,500 l/min @ 950 kPa									
<u>OCCUPANCY:</u> OFFICE = G1 WAREHOUSE = J2									
<u>CATEGORY:</u> 3									
<u>MAXIMUM STORAGE HEIGHT</u> <u>FREE STANDING &amp; BLOCK STORAGE:</u> 3.5m									
REQD @ C GAUGE: Pump OFF									
<table border="1"><thead><tr><th>AREA</th><th>REMOTE</th><th>FAVOURABLE</th></tr></thead><tbody><tr><td>VALVE #2 VOID (18 Sprinkler Point)</td><td>3050 l/min ⊕ 379.609 kPa</td><td>N/A</td></tr><tr><td>VALVE #3 RACKS</td><td>1063.7 l/min ⊕ 380.3 kPa</td><td>1063.7 l/min ⊕ 313.7 kPa</td></tr></tbody></table>	AREA	REMOTE	FAVOURABLE	VALVE #2 VOID (18 Sprinkler Point)	3050 l/min ⊕ 379.609 kPa	N/A	VALVE #3 RACKS	1063.7 l/min ⊕ 380.3 kPa	1063.7 l/min ⊕ 313.7 kPa
AREA	REMOTE	FAVOURABLE							
VALVE #2 VOID (18 Sprinkler Point)	3050 l/min ⊕ 379.609 kPa	N/A							
VALVE #3 RACKS	1063.7 l/min ⊕ 380.3 kPa	1063.7 l/min ⊕ 313.7 kPa							
<u>SIMULTANEOUS OPERATION</u> REQD @ Manifold: Pump OFF									
<table border="1"><thead><tr><th>ROOF &amp; RACK SIMULTANEOUS OPERATION (V2 &amp; V3)</th><th>REMOTE</th><th>FAVOURABLE</th></tr></thead><tbody><tr><td></td><td>4116.474 l/min ⊕ 380.3 kPa</td><td>4220.110 l/min ⊕ 379.609 kPa</td></tr></tbody></table>	ROOF & RACK SIMULTANEOUS OPERATION (V2 & V3)	REMOTE	FAVOURABLE		4116.474 l/min ⊕ 380.3 kPa	4220.110 l/min ⊕ 379.609 kPa			
ROOF & RACK SIMULTANEOUS OPERATION (V2 & V3)	REMOTE	FAVOURABLE							
	4116.474 l/min ⊕ 380.3 kPa	4220.110 l/min ⊕ 379.609 kPa							

Photo 77

<b>Valve #2</b> <b>Exposed Protection - Void</b> <b>High Hazard</b>	
Total Number of Sprinklers	606
Design Density	10.0 mm/min
AMAO	48 Sprinkler Point
Sprinkler Type	Conventional Pattern
Sprinkler Temperature Rating	141°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	9.7 m
Date Installed	2007

<b>Valve #2</b> <b>Exposed Protection - Canopy</b> <b>High Hazard</b>	
Total Number of Sprinklers	18
Design Density	10.0 mm/min
AMAO	48 Sprinkler Point
Sprinkler Type	Conventional Pattern
Sprinkler Temperature Rating	141°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	5.0 m
Date Installed	2007

Photo 78

<b>Valve #3</b> <b>In Rack Protection</b> <b>High Hazard</b>	
Total Number of Sprinklers	101
Starting Pressure	200 kPa
Heads in Operation	9-OFF
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	3.7 m
Date Installed	2022

<b>Valve #2</b> <b>Exposed Protection - OFFICES Ground Floor</b> <b>Ordinary Hazard</b>	
Total Number of Sprinklers	17
Design Density	5.0 mm/min
AMAO	16 / 18 Sprinkler Point
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	1.3 m
Date Installed	2007

<b>Valve #2</b> <b>Exposed Protection - OFFICES First Floor</b> <b>Ordinary Hazard</b>	
Total Number of Sprinklers	31

Photo 79

Design Density	5.0 mm/min
AMAO	16 / 18 Sprinkler Point
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	1.3 m
Date Installed	2007

<b>Valve #2</b> <b>Exposed Protection - OFFICES First Floor</b> <b>Ordinary Hazard</b>	
Total Number of Sprinklers	31
Design Density	5.0 mm/min
AMAO	16 / 18 Sprinkler Point
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	4.4 m
Date Installed	2007

<b>Valve #2</b> <b>Exposed Protection - Canteen &amp; Locker Room</b> <b>Ordinary Hazard</b>	
Total Number of Sprinklers	9
Design Density	4.4 mm/min
AMAO	216
Sprinkler Type	Upright Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	7.3 m
Date Installed	2022

<b>Valve #2</b> <b>Exposed Protection - Mezzanine (CREELS)</b> <b>High Hazard</b>	
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Photo 80

Date Installed	2022
Valve #2 Exposed Protection - Mezzanine (CREELS)	
High Hazard	
Total Number of Sprinklers	32
Design Density	10.0 mm/min
AMAO	260
Sprinkler Type	Upright Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	1.2 m
Date Installed	2022

Valve #2 Exposed Protection - Mezzanine	
High Hazard	
Total Number of Sprinklers	54
Design Density	10.0 mm/min
AMAO	260
Sprinkler Type	Pendant Spray Pattern
Sprinkler Temperature Rating	68°C
K-Factor	8.0
Highest Sprinkler (C-Gauge)	2.0 m
Date Installed	2022

Photo 81

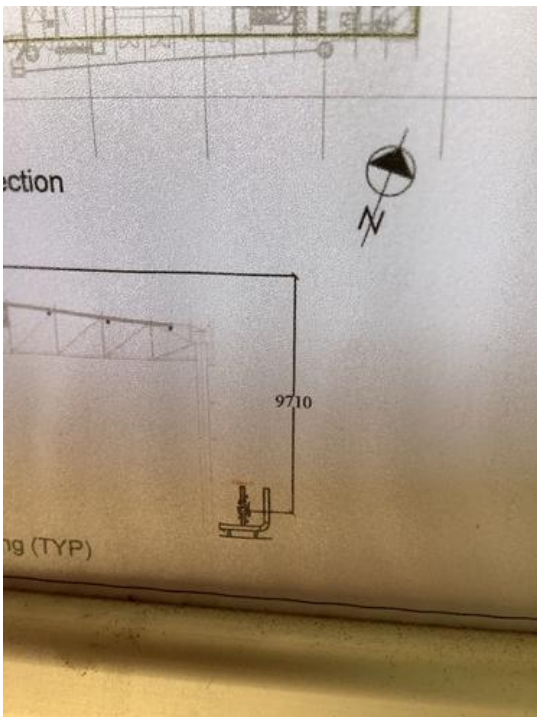


Photo 82



Photo 83



Photo 84



Photo 85



Photo 86



Photo 87

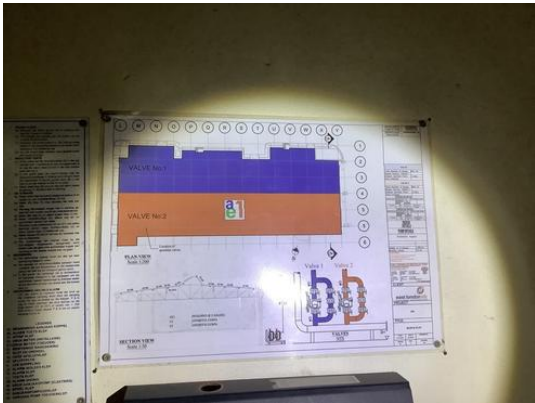


Photo 88





Photo 93



Photo 94



Photo 95



Photo 96



Photo 97



Photo 98



Photo 99



Photo 100



Photo 101



Photo 102



Photo 103



Photo 104



Photo 105



Photo 106



Photo 107



Photo 108



Photo 109



Photo 110



Photo 111

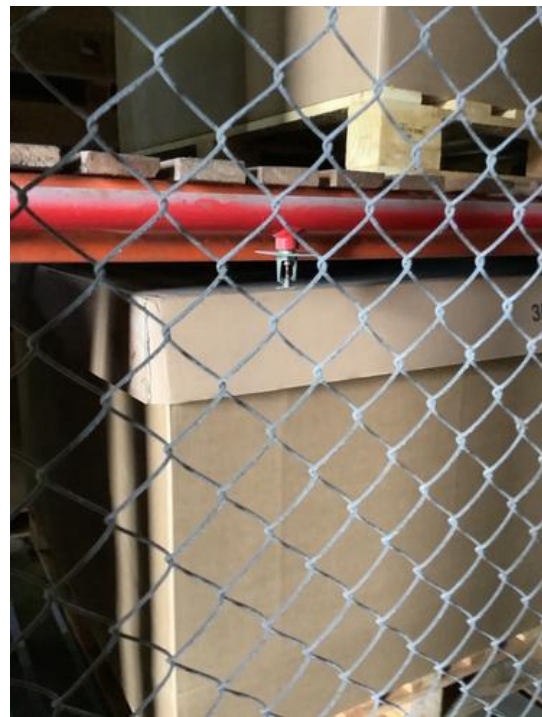


Photo 112



Photo 113



Photo 114



Photo 115



Photo 116



Photo 117



Photo 118



Photo 119



Photo 120



Photo 121



Photo 122



Photo 123



Photo 124



Photo 125



Photo 126



Photo 127



Photo 128



Photo 129



Photo 130



Photo 131



Photo 132



Photo 133

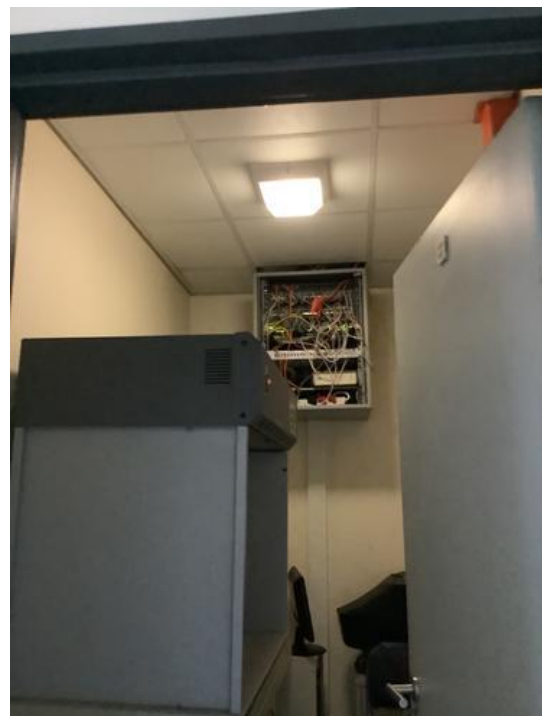


Photo 134



Photo 135



Photo 136



Photo 137

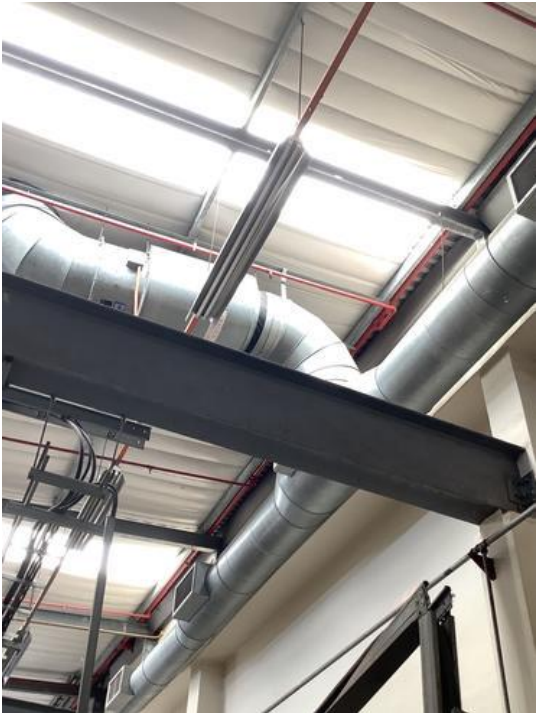


Photo 138



Photo 139



Photo 140



Photo 141



Photo 142



Photo 143



Photo 144



Photo 145



Photo 146



Photo 147



Photo 148



Photo 149



Photo 150



Photo 151



Photo 152



Photo 153



Photo 154



Photo 155



Photo 156



Photo 157



Photo 158



Photo 159



Photo 160



Photo 161



Photo 162



Photo 163



Photo 164



Photo 165



Photo 166



Photo 167



Photo 168



Photo 169



Photo 170



Photo 171



Photo 172



Photo 173



Photo 174



Photo 175



Photo 176



Photo 177

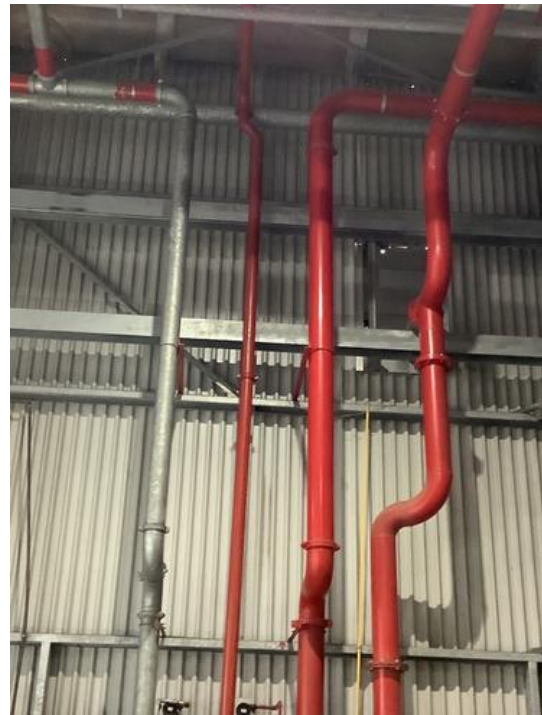


Photo 178



Photo 179



Photo 180



Photo 181



Photo 182



Photo 183



Photo 184



Photo 185



Photo 186



Photo 187



Photo 188



Photo 189