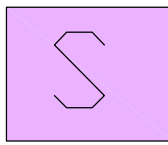
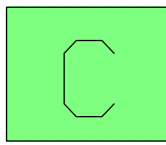


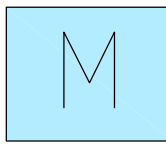
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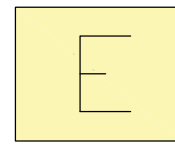
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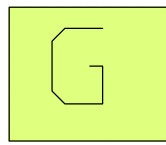
CIVIL



MECHANICAL & FIRE



ELECTRICAL



GENERAL

**C.1 External Roads, Hardstand and Stormwater**  
External hardstands will consist of 200mm thick, Unreinforced 30MPa/38mm concrete on two layers of imported G5 type material. Jointing of concrete surfaces will be designed by the Engineer and will consist of sealed saw cut joints and sealed construction joints. Construction joints will be fitted with 115 x 115 x 6mm galvanised steel plates. Saw cut joints to be min 6mm width with an effective cut of 1/3 the depth of the hard stand surface, cut in a two-cut process. Construction joints to be min 6mm effective width fitted with a backing strip and sealant. Joint sealant to be specified and approved by the ELIDZ, joint sealant to be silicone free.  
Saw cut panels to have maximum dimensions of 4.5m x 4.5m.  
Expansion joints against building edges or structures.  
Finishes of hardstand areas will be to a mechanical float 'Pan Finish' texture. Curing of hardstand surface will be via an approved curing compound acceptable to the design Engineer.

Hardstands will be cast to falls away from buildings to drainage collectors such as kerb inlets along roads edge with underground concrete storm water pipes class 100D, sized to take a 1 in 5-year flood event. Heavier rain will result in surface water drainage across the site to site entrances and onto external roads. Were collection of storm water cannot be achieved along the road/hardstand edge, drop inlet structures with heavy duty grill covers are to be positioned at the required design intervals and trapezoidal shaping of hardstands designed to achieve drainage to falls not exceeding 1:20 to the drop inlets must be constructed. Where there is evidence of sub-surface ground water on site, A sub soil drainage system must be designed by the engineer.

Office and visitor parking area – will consist of 200mm thick Unreinforced 30MPa/38mm concrete as per the hardstand specification.

Traffic manoeuvring models are to be verified and reported on to the ELIDZ, and to the requirements of the tenant.

**C.2 Kerbing and Access Ramps**  
Hardstand edges finished with 180mm high precast Fig.3 type barrier kerbs set on 15MPa concrete haunching. Space from building to back of kerb is finished with bond paved sidewalks of varying widths with lawns or planted areas in between. Pavers will consist of 80mm interlocking pavers colour to architect's specification on a 2 x 150mm G5 type base.

Access Ramps with vehicle traffic will consist of 200mm thick, Unreinforced 30MPa/38mm concrete on two layers of imported G5 type material. The access ramps to have a 1:13 slope between hardstand and finished floor level with 10mm weather step.

Access ramps for pedestrian use only will consist of 100mm thick, unreinforced 25MPa/19mm concrete on a 150mm subbase layer of G7 type material with a 150mm base layer of G5 type material. Concrete panels via saw cuts at 2.5m max.

**C.3 Access to Sewage and Water Reticulation.**  
Municipal services are provided along the road reserve. The site is serviced with a sewer and water connection point.

The underground sewers servicing the building must be provided to accommodate all the internal plumbing outlets. The minimum diameter and class are 110mm uPVC Class 34 solid wall pipe.

Water supply mains provide 20 kl per day per hectare of erf area with a max head of 90m and a min of 25m. Separate metered connections to each building must be provided. A separate external fire main must be provided to supply the fire hydrants for the building.

**A.7 Roof Sheetting and Insulation**  
Hulets Aluminium GRS Zip-Tek, 0.9mm thick with embossed PVDF finish on exterior and standard backing coat to underside fixed to galvanised cold rolled purlins with isolation tape between purlin and roof sheet. Owens Corning SA 50mm Factorylite insulation laid over purlins in single lengths and supported on galvanised straining wires at 300mm centres.

**S.1 Roof Structure**  
The roof structure consists of a welded and bolted girder truss spanning 24000mm with horizontal tie and 5° slope top chord with HDG finish. Trusses are at 6000mm centres. Alternate trusses are supported internally on plate girder running the length of the building supported on stanchions at 12000mm centres. Services load is 40 kg/m2 with 20 kg/m2 reserved for standard mechanical and electrical services and 20 kg/m2 available for tenant services.

**G.1 Effluent Disposal**  
Tenant is responsible for industrial effluent disposal and applications for Trade Effluent Permit.

**G.2 Access Control**  
The ELIDZ operates an integrated access control system to monitor and control the entrance and egress of all staff and vehicles to and from each zone of the IDZ. The ELIDZ will provide tenants with the opportunity to subscribe to the central access control system subject to payment of a defined subscriber fee.

**G.3 Logistic Facility**  
The Automotive Suppliers Park has access to a logistic facility subject to tenants making their own contractual arrangements with the service provider of the logistic facility.

**G.4 Landscaping**  
ELIDZ will provide site landscaping.

**A.9 Side Cladding**  
Hulets Aluminium GRS BR7 profile, 0.8mm thick with embossed PVDF finish on exterior and standard backing coat on inside from eaves to finished floor level fixed to galvanised steel girt rails to all external walls. No side wall insulation is provided. Translucent sheeting to be Modex opal polycarbonate sheeting with profile to match side cladding

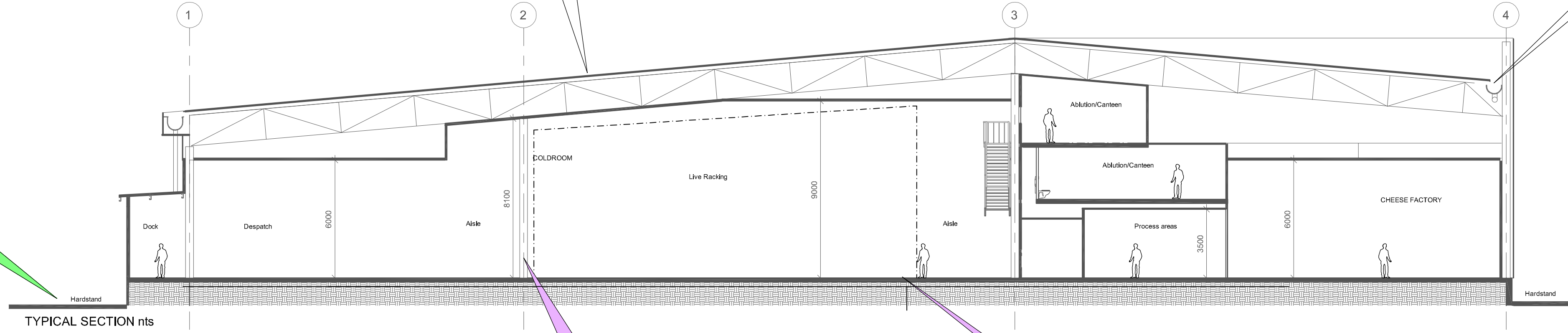
**A.8 Gutters and Downpipes**  
**Internal gutter:**  
GRP half-round gutters with integral fibreglass drop-outs at 12m c/c's with 'Geberit Pluvia' rainwater head at base of each drop-out. Each head to be serviced by 2 no. 'Geberit Pluvia' continuous HDPE welded pipes, suspended to approved Geberit detail from gutter support structure. Gutter support would be as per engineers specification  
Rainwater heads and downpipes are located internal to the building on east and west extremities of the gables.

**External gutter:**  
GRP half-round gutters with integral fibreglass drop-outs with standard UPVC downpipes

#### G.5 Exclusions

The following services, unless otherwise stated or agreed, are not provided by the landlord:

- Standby diesel generators.
- UPS and computer equipment.
- Internal computer network cabling.
- Purpose made computer access flooring.
- Internal PABX, data and telephone networks, cabling.
- Power factor correction equipment.
- Electricity reticulation from the internal site electricity network to tenant's plant components.
- Special foundations for tenant's equipment.
- Internal division walls within factory.
- Catering and kitchen equipment.
- Lockers.
- Compressed air supply and equipment.
- Gas suppression.
- Bulk storage tanks.
- Compressor rooms.
- Forklift refuelling enclosures.
- AC and ventilation plant including plant rooms to process areas.
- Water supply, effluent control and other under floor wet services to process areas.
- Specific fire protection other than general industrial fire protection.
- Steam generation.
- Furniture, fixtures and fittings.
- Building, operational and tenant signage.
- Logistics equipment.
- Protection of building and equipment from process or logistics equipment. Special security systems and access control.
- Specialised lifting equipment and crawler beams.



TYPICAL SECTION nts

**A.1 Ceilings**  
• **Canteen and Ablutions - (Non Process areas)**  
'Non-process' rooms on the Ground floor and upper floor ablutions and canteens to be finished with 600 x 600mm suspended vinyl clad gypsum ceiling tiles laid in exposed aluminium T-grid suspended from roof structure/ slab

• **Coldroom and Cheese Factory**  
All 'process/clean' areas to have suspended insulated ceiling panels, with sealed joints  
Portion of the Cheese Factory ceiling to be trafficable on upper surface. Catwalk to be installed by tenant

**A.2 Walls**  
• **Canteen and Ablutions - (Non Process areas)**  
Canteen, change room and Ablution spaces are located on the first and second floor; in-between the coldroom and cheese factory double volume spaces :  
1. 100mm Insulated wall panels between the Process and Non-Process areas.  
2. Non-process Dry areas to be seamless painted 90mm dry wall partition with aluminium top track , with 200 high skirting. Plascon "Wall n All" in light tint colour.  
3. Non-Process Wet areas to 90mm Moisture Resistant Silicone impregnated dry wall partitioning to be sealed with Tai Superflex flexible waterproof membrane capable of accommodating normal structural movement in the background and suitable for waterproofing internal wet areas. Continuous membrane from underside of floor finish up the wall and flush with the ceiling . Walls to be tiled up to ceiling level and bonded with appropriate adhesive and movement joints.  
4. Showers to be lined with 21mm Marine plywood sealed in waterproofing as described above and tiled as ditto

• **Coldroom and Cheese Factory:**  
Cold store, Product dry store and all Process areas to be Insulated Wall panels . Thickness of wall between 50mm to 100mm, depending on the internal thermal requirements of the Room.  
Insulated panel from floor to ceiling with finishes, flashing and trims to be Chromadek. No aluminium. Bump rails and Bolards to be provided at Forklift circulation areas and at dock levellers .

**S.2 Structure - Internal Stanchions**  
Girder columns: 203x203x60kg/m, UC steel sections at 12000mm centres with HDG finish on grid 2. Girder columns: 254x254x7kg/m, UC steel sections at 12000mm centres with HDG finish on grid 3. Note: Vertical bracing from floor to underside of truss will be required in one 12m girder bay on grid line 2&3. Vertical K bracing is used on internal grids under the plate girder.

**A.3 Floors:**  
• **Canteen and Ablutions - (Non Process areas)**  
Structure: 2 overlapping layers of marine plywood screw fixed together on 50 x 150 SAP joists @ 405c/c supported on steel structure to Eng Detail.  
Finishes : Porcelain tiles and Heavy duty Vinyl sheet (2mm Marley Supaflex vinyl sheet).  
• **Cold Room and Cheese Factory**  
Polyurethane finish on floor sloped to drains & channels

**A.4 Doors**  
Internal doors to be standard flush panel 2032 x 813mm solid core doors with concealed edges finished with primer and two coats "velvagio" or similar. Change rooms and toilets to be undercut as required.  
External doors to be hardwood 2032 x 813mm FLBB doors with flush panel internally in hardwood frame set in steel sub frame  
All doors in process/clean areas to be insulated standard/coldroom doors faced both sides with Chromadek and with perimeter trim.

**A.5 Openings in Envelope - Roller Shutter and Sectional doors**  
Roller Shutter: galvanised and manually operated by chain slatted doors . Door openings will be formed and framed using steel channel sections. Sectional doors: with 38mm thick panel, with pre-painted skins, hot dipped galvanised steel with rigid polyurethane insulation core

**A.6 Openings in Envelope - Windows**  
Generally, no openings in the steel structure will be made for windows. Windows fixed onto side cladding rails. External Openable Windows to be aluminium Sheerline 36 . External Curtain wall to be Sheerline 90

**S.3 Concrete Surface Beds**  
Seamless floor: Concrete to be 35/19 MPa with washed sand, minimum 200mm thick, reinforced top and bottom and receive Micro Fibre at a rate of 600g - 900g/m<sup>3</sup>. Floor to be cast in max 30mx30m panels with armoured "terajoint" type joints.  
Finishes: Floor to be cast to falls. Finish with a Mechanical power pan floated finish followed by a mechanical grind to expose aggregate, in order to apply a seamless polyurethane antimicrobial epoxy self-leveling, HACCP certified Polyurethane 6-9mm screed as per the manufacturer's specification. (to be approved by client) Flat areas to have FM3 flatness and the same polyurethane finish.  
Damp proofing membrane 250 micron to be installed under surface beds. Saw-cut joints were required shall be done as soon as concrete is firm enough not to damage the edges, usually between 6 to 16 hours but not later than 48 hours. Joints to be repeated in finished surfaces spacing at 4m c/c.  
Maximum wall load on slab = 9.0 ton / m run.  
Maximum uniformly distributed load = 6.4 ton / m2  
Maximum racking post load = 12 ton at 2500mm intervals along aisles and 1000mm to 2500mm in opposite direction.  
Maximum axle load = 10 ton assuming a nominal forklift lifting capacity of 4.5 tons.

**S.4 Perimeter structure**  
Exposed steel columns along the sides. Iso panels to be located/ fixed onto the inside flange of the steel columns, flush.  
Sheeting along the front to extend down to floor level.

**S.5 Column Protection**  
Column protection will be provided to all centre row internal steel stanchions by means of 750 x 750mm steel lined, sand-cement filled barriers 1000mm high painted in diagonal black and yellow.

**C.3 Access to Sewage and Water Reticulation.**  
Municipal services are provided along the road reserve. The site is serviced with a sewer and water connection point.

The underground sewers servicing the building must be provided to accommodate all the internal plumbing outlets. The minimum diameter and class are 110mm uPVC Class 34 solid wall pipe.

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**S.6 Structure - Perimeter Stanchions**  
457x191x 67mm UB steel sections at 6000mm centres with HDG finish.

**S.7 Canopies**  
Cantilevered structural steel canopies will be provided above the full length of the dock levellers. Canopies will extend nominally 3600mm off grid line 1.

**S.8 Structure - Modular Design + Expansion**  
The structure is designed to fit a 6m perimeter bays and 12m structural internal grid.

**S.9 Staircases**  
All staircases to upper levels are galvanised structural steel.

## Cartoon section



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Client

ELIDZ

Project Name

SUNDALE DAIRY EXPANSION

Title

PROPOSED DESIGN LOADS, SERVICES & FINISHES

Discipline

ARCHITECTURE

Drawing Originator

Drawn Date

06.03.2020

OSMOND LANGE ARCHITECTS AND PLANNERS

Approved By

W . M

Checked By

X . D

Drawn By

X . D

Scale

1:200 @ A1

Project

ELIDZ

Discipline

ARC

Type

SK

Drawing No.

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Rev.

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Rev	Dm	Date	Description	Project team				Client				Discipline				Drawn Date			
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								SUNDALE DAIRY EXPANSION				OSMOND LANGE ARCHITECTS AND PLANNERS							
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