

## Warehouse Design and Layout

### Layout

Three crucial areas:

- Receiving (inwards goods) dock,
- Shipping (outwards goods) dock,
- Storage areas.

### Considerations

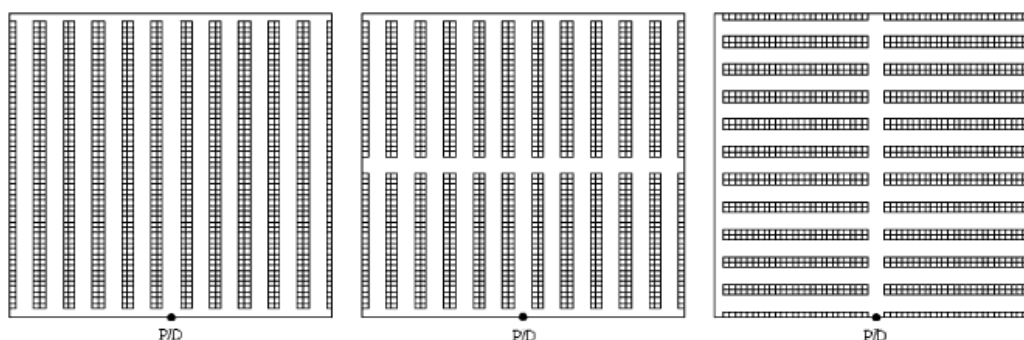
The initial feasibility study has provided a checklist of operational issues that must be considered when designing the new facility:

- Building support columns configured for optimal aisle layout,
- Adequate doors to handle volume,
- Offices and break area locations,
- Obstacles that impede the smooth flow of traffic,
- Adequate lighting throughout the facility,
- Minimal travel distances from receiving docks to storage areas and shipping docks,
- Sprinkler requirements, which include high-pressure pumps, reservoirs, in-rack sprinklers, high-density systems,
- Aerosol and/or explosion-proof rooms,
- Adequate foundation drainage,
- Knock-out expansion walls,

- Roof design that minimises maintenance,
- Building insulation,
- Heat rotation systems,
- Heavy-duty landing wheel pads,
- Computer station hook-up locations,
- Radio frequency installation issues,
- Empty pallet storage areas,
- Waste disposal dumpster staging locations,
- Security issues, which include a parking area that is not contiguous with the building,
- Considerations that will accommodate future plans for expansion, automation and/or a change in product offerings.

### Warehouse Design

The feasibility study has identified three layout styles identified as suitable for John Readings:



Management recognises that order picking, that is, picking specific product items from their

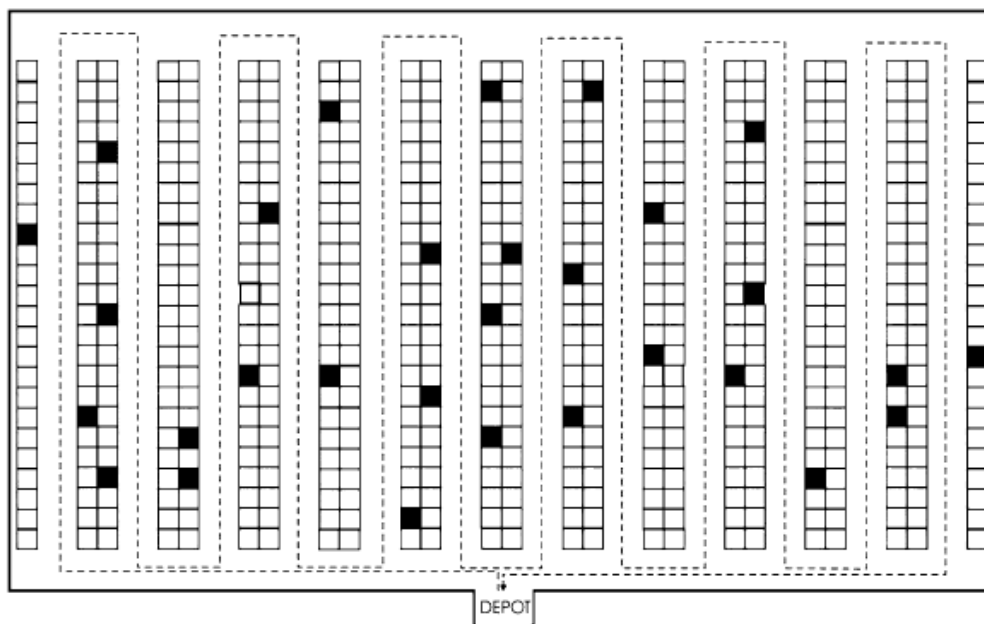
storage locations according to a customer order, is often the most costly and labour intensive operating cost experienced in a warehouse.

The current operating environment is also putting great pressure on reducing cost and improving delivery times.

Three particular activities are being focused on:

- Travel time between items,
- Time in picking an item, and
- Time consumed in associated activities.

The following diagram shows the current (S shape) picking route used in the John Readings warehouse design.



## Transportation

The company has engaged four different companies to provide transportation of goods from the warehouse/distribution centre to the customer and/or retail outlet.

- Outsourced to CEVA Logistics for road transport: two-year contract – KPI = 48 hour door to door delivery,
- Outsourced to FARSTAD Shipping for sea transport: two-year contract – KPI = four-week door to door delivery,
- Outsourced to UTi Logistics for air transport: two-year contract – KPI = two-week door to door delivery,
- Australia post for online retail customers: ongoing contract – KPI = 48 hour door to door delivery.

A copy of the draft agreement can be downloaded with these documents.