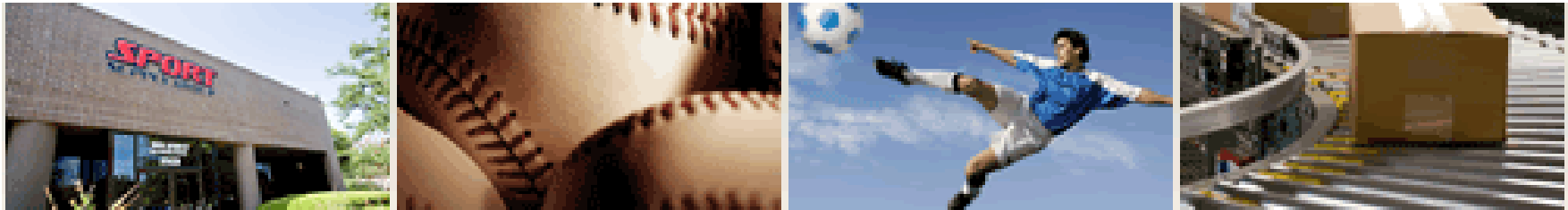

Sport Supply Group – Getting the Most out of Existing Warehouse Space



January 2011



Who is Sport Supply Group (SSG)?

1. SSG is the nation's largest manufacturer, marketer and distributor of sporting goods products directly to the institutional and team sports marketplace.
2. Servicing a \$5 Billion industry, SSG acts as "Direct-like-Dell" one stop shop for branded equipment and team apparel from Nike, Rawlings, Wilson, Under Armour and more to an audience of over 200,000 customers and prospects.
3. SSG is also a manufacturer of many products like bleachers, backstops and soccer goals and offers a full suite of proprietary, factory-direct brands such as MacGregor, Voit, Alumagoal, Champion Barbell and Port a Pit track and field.

SSG Case Study Overview

1. SSG approached TranSystems to develop a new distribution center layout for an existing Dallas, TX facility.
2. TranSystems developed alternative and layout plans for two primary new facility candidates identified by Transwestern (real estate company).
3. Unfortunately, the new facility negotiations resulted in a painful decision to stay in the current facilities also located in Dallas, TX (Farmer's Branch).
4. The project focus quickly switched to **GETTING THE MOST** out of their current Farmer's Branch facilities.

Farmer's Branch Facilities



- ▶ **Two DC's across the street from each other:**
 - ▶ **DL Facility - 95,600 sq ft, 20' clear**
 - ❑ *Manufacturing operations*
 - ❑ *Fulfillment of belchers, weight benches, and other large/bulky sporting good products*
 - ❑ *The unique nature of this facility prevented any major retrofits or improvements*
 - ▶ **BM Facility - 87,000 sq ft, 28'-8" clear**
 - ❑ *Distribution of consumer type sporting goods*
 - ❑ **Retrofitting this facility was the FOCUS of study**

- ▶ **BM Facility - 87,000 square feet, 28'-8" clear height**
 - ▶ **8,000 SKUs and ~8,000 pick slots**
 - ▶ **VNA storage with single-deep rack – 6,625 pallets**
 - ▶ **D-line – 3 level pick module – 5,056 pick slots**
 - Shelving, carton and pallet flow rack
 - ▶ **J-line – 1 level pick aisle – 2,377 pick slots**
 - Carton flow rack
 - ▶ **A-line – 5-level pallet flow rack – 142 pick slots**
 - ▶ **A&B-line – non-conveyable – 618 pick slots**
 - ▶ **Packing on floor, blocking shipping dock**
 - ▶ **Packers 20' from end of rack aisles/Turret Trucks**

Shipping Stations
Constrained by Space
and Manual Handling

Shipping

Packing Stations,
Blocking Access to
Shipping Dock (LTL)

Pallet Flow

Storage

Receiving

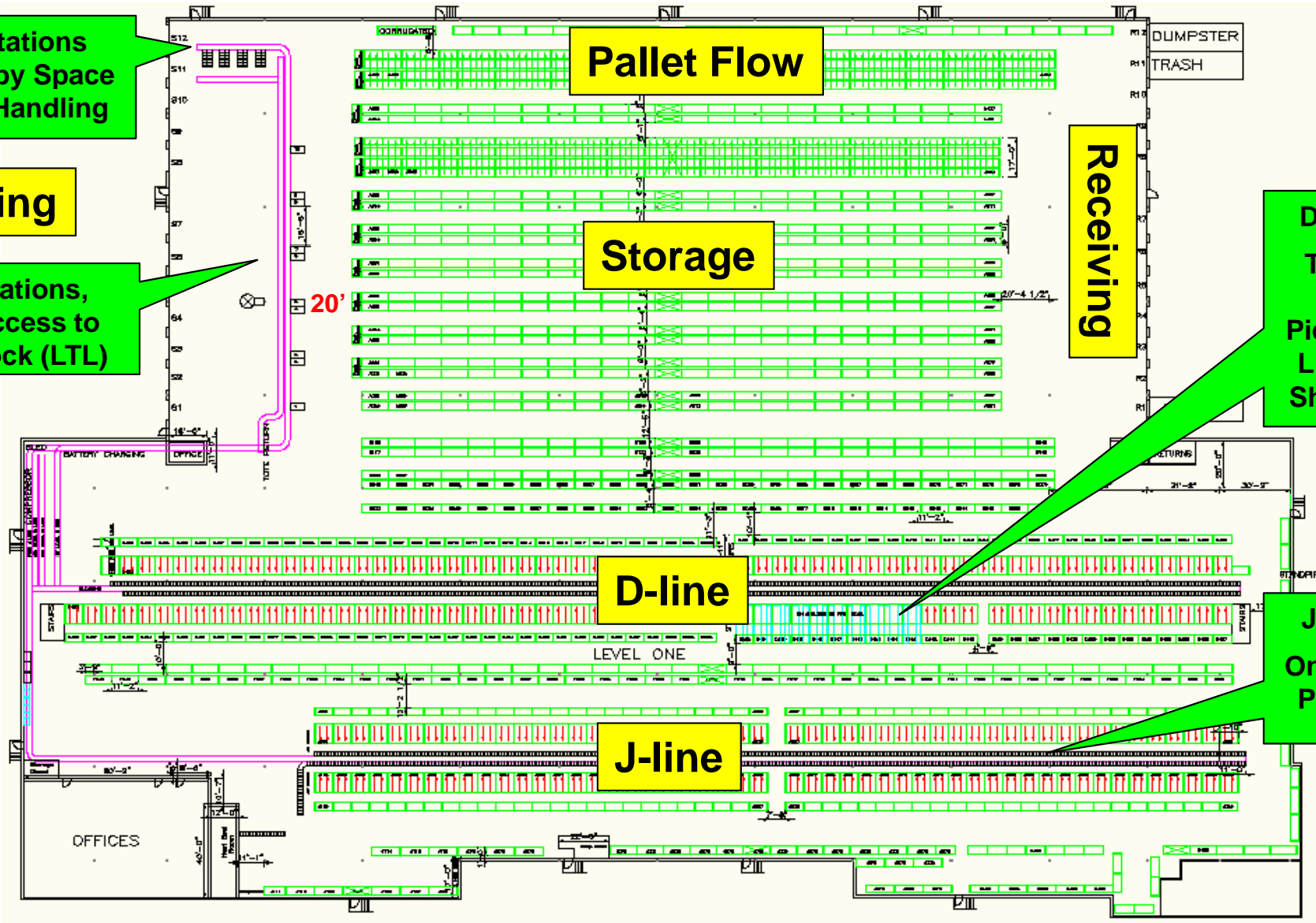
**D-Line:
Three-level
Picking –
Limited
Shelving**

D-line

LEVEL ONE

**J-Line:
One-level
Picking**

J-line



Storage Area – Use of VNA --- 58” Aisles



4-Deep x 5-High Pallet Flow Rack – Good for High Volume Storage, Fast Moving Pallet Replenishment, or Slow Moving Full Case Picks



BM – Initial Observations

D-Line – three-level pick module with a mix of carton & pallet flow rack and static shelving. Need more Pick locations, more pallet flow rack and static shelving.



D-Line – Piece picking into totes, small to large items and odd shaped goods. Some totes are fairly empty, while others are full. Need for small tote option.



D-Line Back Stock – Use to Stock Inventory Directly Behind the Forward Picking Locations. No lighting in Back Stock aisle.



D-Line Decking – Improve Durability, Stability and Safety



D-Line – Pallet Take-away Lanes for Full Case Lines



J-Line – Increase Pick Slots and Trash Handling



Packing – Packer manually grabs tote, full cases ride same line, empty totes pushed across conveyor, pack conveyor blocks ship dock and packers 20 feet from end of rack aisles...



Shipping – Not enough accumulation conveyor and staging space for orders



Shipping – Shipper must pick-up case to place onto Scale, and again to put case onto outbound line



BM Facility Retro-Fit

▶ **TranSystems Project Methodology**

- ❑ Data collection, evaluation and business profiling
- ❑ Alternative analysis and concept development
- ❑ Layout planning and configurations
- ❑ Concept development and approval
- ❑ RFP development, supplier evaluations and selections
- ❑ Vendor final designs and contracts
- ❑ Product manufacturing, lead time and deliver
- ❑ Product installation / management
- ❑ Testing
- ❑ Go-live

▶ **Project Schedule (September to early January)**

- ❑ Concept Design – 4 weeks (Aug/Sept)
- ❑ Supplier Selection – 3 weeks (Sept)
- ❑ Equipment Lead Time – 7-9 weeks (Oct/Nov)
- ❑ Equipment Installation – 5-7 weeks (Nov/Dec)
- ❑ Go-live – 2 weeks (Jan ?)

▶ **Project Team ---- TranSystems & SSG selected:**

❑ Conveyor Design – TGW via Malin Systems

❑ Racking Design – UNARCO via Efficient Storage

❑ Lighting Design – SES



❑ Fire Protection – ELITE

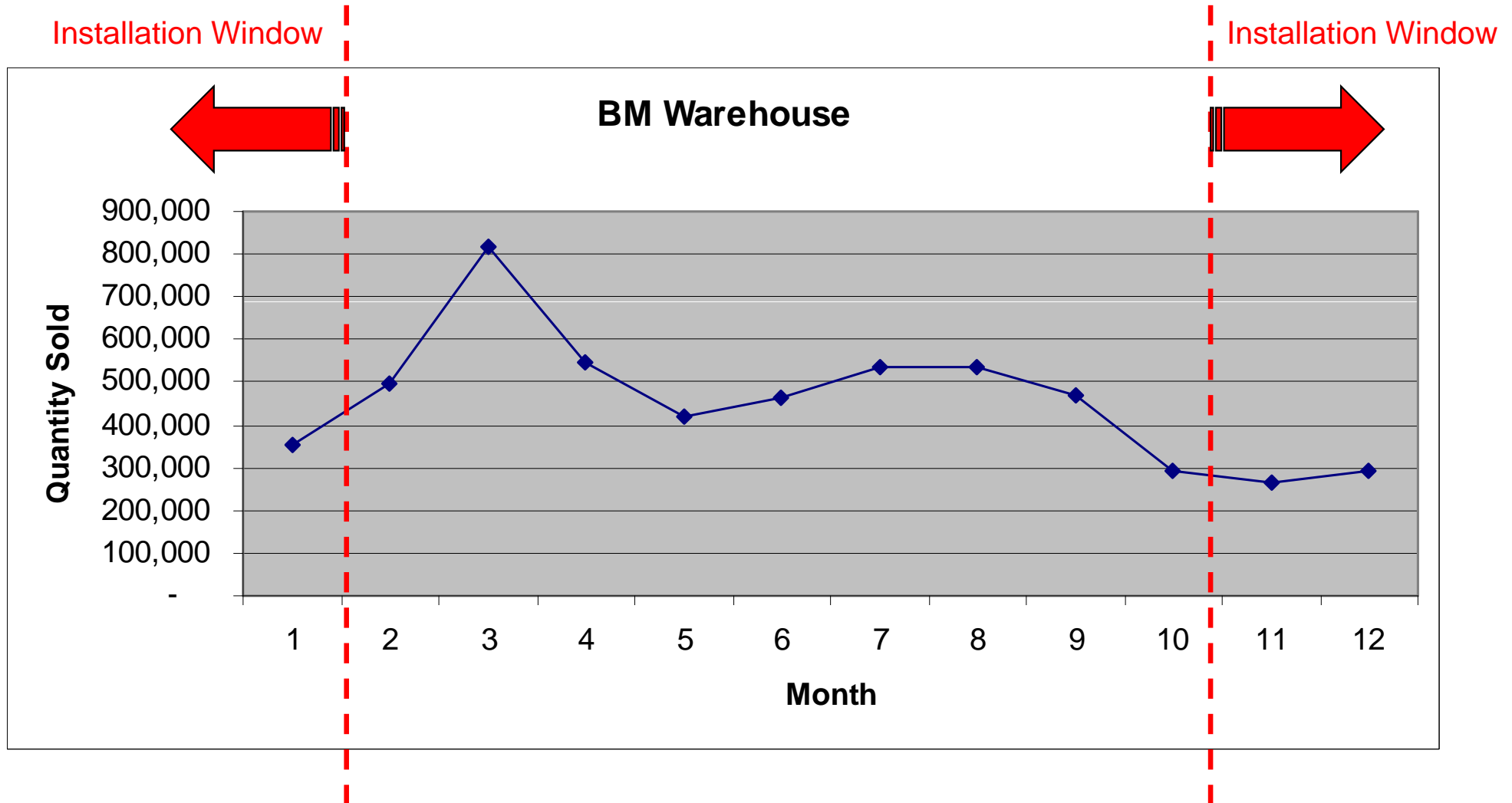


❑ Dunnage – FP



BM Facility Retrofit Plans

- ▶ **Installation must be completed before Feb/Mar 2011**





BM Facility Retrofit Plans

BM Warehouse

Total Sales Doc: 318,017

Total Deliveries: 692,136

Total Lines: 1,296,659

▶ Lines per Delivery: 1.87

▶ Deliveries per Order: 2.18

▶ Lines per Order: 4.08

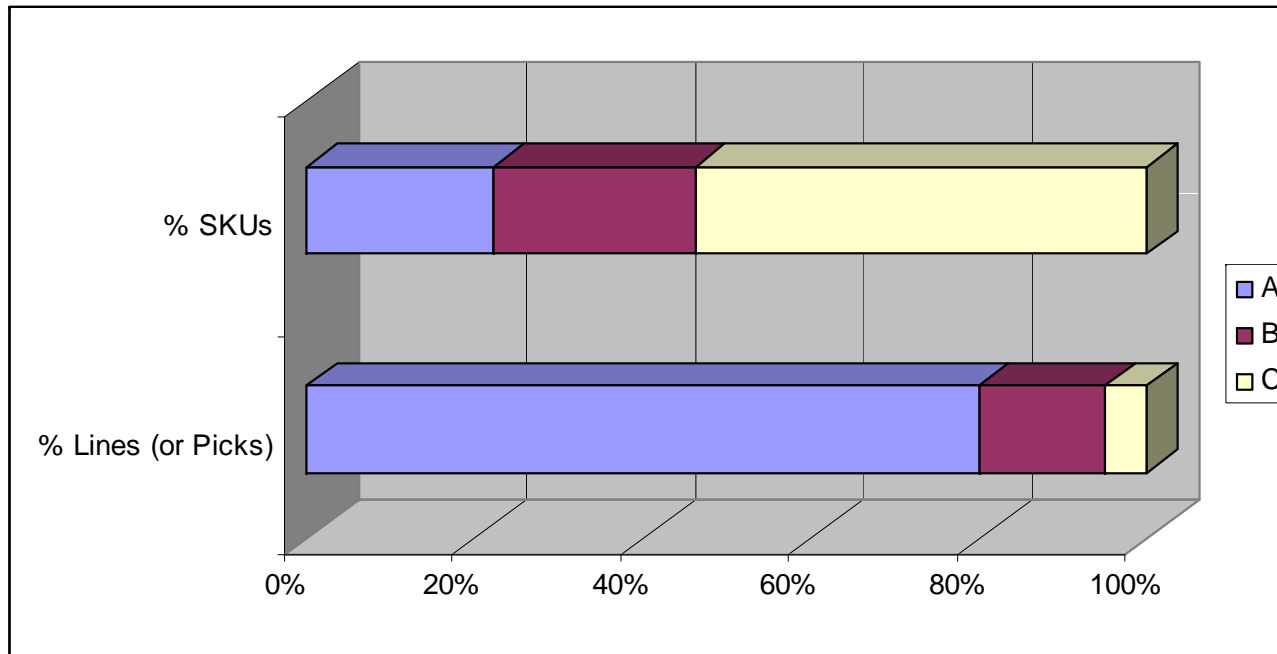
Category	Orders	% Total Orders	Deliveries	Lines	Qty Delivered	% Total Qty Delivered	Avg. Deliveries per Order	Avg. Lines per Order
>100 Deliveries	99	0%	18,617	20,597	244,202	4%	188.05	208.05
Between 50 and 100	392	0%	25,572	32,214	259,838	5%	65.23	82.18
Between 20 and 49	1,984	1%	56,222	84,810	542,968	10%	28.34	42.75
Between 10 and 19	5,778	2%	74,806	136,035	780,622	14%	12.95	23.54
Between 5 and 9	17,377	5%	109,812	232,967	1,092,596	20%	6.32	13.41
Between 2 and 4	74,767	24%	189,487	409,842	1,510,001	27%	2.53	5.48
1 Deliveries per Order	217,620	68%	217,620	380,194	1,112,719	20%	1.00	1.75
Totals:	318,017	100%	692,136	1,296,659	5,542,946	100%	2.18	4.08



BM Facility Retrofit Plans

BM Warehouse (and SKUs in Both Warehouses)

CLASS	% Lines (or Picks)	% SKUs	Number of SKUs
A	top 80%	22%	1,845
B	next 15%	24%	1,982
C	bottom 5%	54%	4,448
Totals:		100%	8,275



▶ **D-line Retrofit – 27% increase in pick facings**

- ❑ Fix decking and uprights
- ❑ Add security cage
- ❑ Switch ½ side from carton flow to shelving

▶ **J-line Retrofit – 110% increase in pick facings**

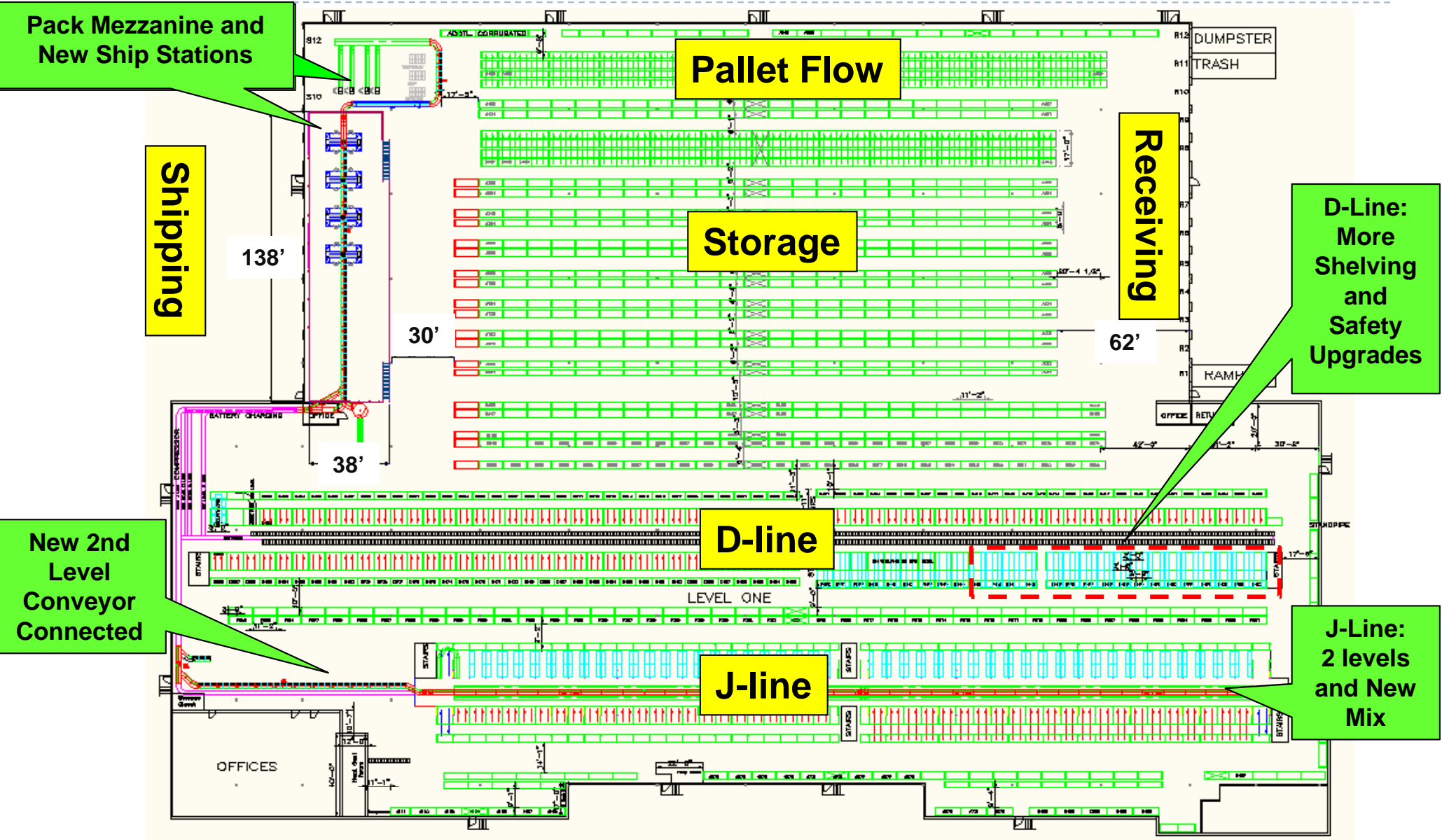
- ❑ Convert from single-level to three-level pick module
- ❑ Build first and second levels immediately, with third level in near future
- ❑ First level – shelving on one side, and carton flow rack on the other
- ❑ Second level – carton flow rack on one side, and pallet flow rack on the other
- ❑ Use existing first level conveyor
- ❑ Add second level powered center take-away and static flankers
- ❑ Provided manual chute from 2nd to 1st level for totes requiring picks on 1st level
- ❑ Connect second level to the existing exiting conveyor routed to outbound
- ❑ Replenishment of pick modules will take place from back stock racks connected to the modules and supporting the mezzanine platforms.

- ▶ **Pack & Ship Retrofit ~30% throughput increase**
 - ❑ Add free standing pack mezzanine
 - ❑ Relocate pack stations onto mezzanine (**safer from truck traffic**)
 - ❑ Open access to shipping docks for LTL
 - ❑ Reconfigure pack stations with 3-tier **auto-divert conveyor**:
 - ✓ Top level – incoming totes from modules (**no cases!**)
 - ✓ Middle level – case divert/flow-through and packers cases
 - ✓ Bottom level – empty tote returned to first floor
 - ❑ **Reconfigure shipping stations**
 - ❑ Increased accumulation conveyor - **more room!**
 - ❑ Slide cases onto scale and across to outbound – **Don't have to pick-up cases!**

➤ **Project Resulted in 52% increase in pick locations**

Available Facings	Future	Today	% Increase
D Line Slots (On Line)	6,437	4,490	43%
D Line Slots (Off Line)	-	566	n/a
D Line Facings (Total)	6,437	5,056	27%
J Line Slots (On Line)	4,990	1,384	261%
J Line Slots (Off Line)	-	993	n/a
J Line Facings (Total)	4,990	2,377	110%
A Line Pallet Flow (Off Line)	142	142	0%
A Rack Picking Floor (Off Line)	258	-	n/a
Case Pick Pallet Facings (Total)	400	142	182%
B Line Non-Conveyable	546	448	22%
A Rack Picking Floor	110	170	-35%
Non-Conv Facings (Total)	656	618	6%
OVERALL TOTALS:	12,482	8,193	52%

New Warehouse Layout ~ 185,000 sq ft

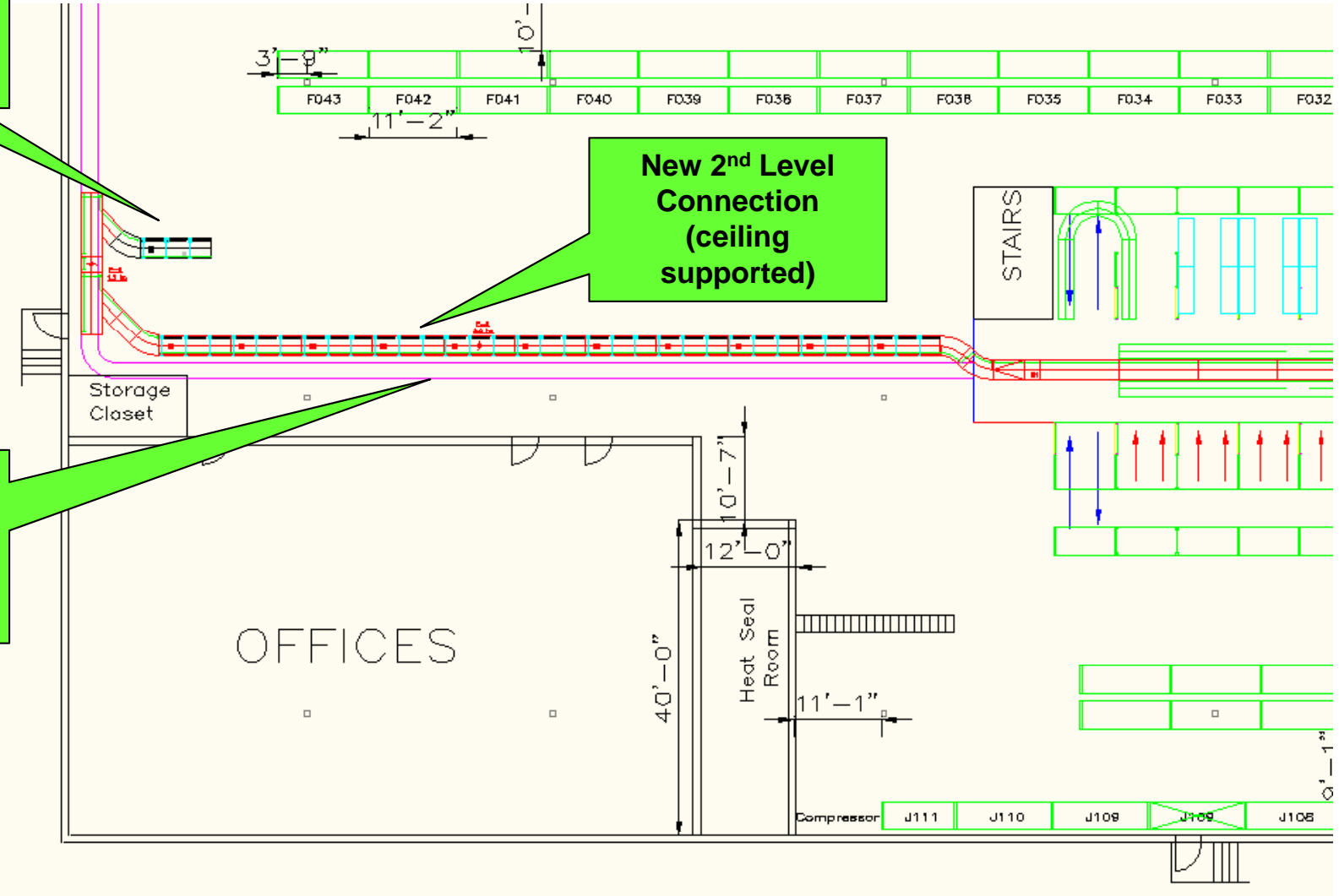


Top View of Line Existing 2nd Level of J-Line

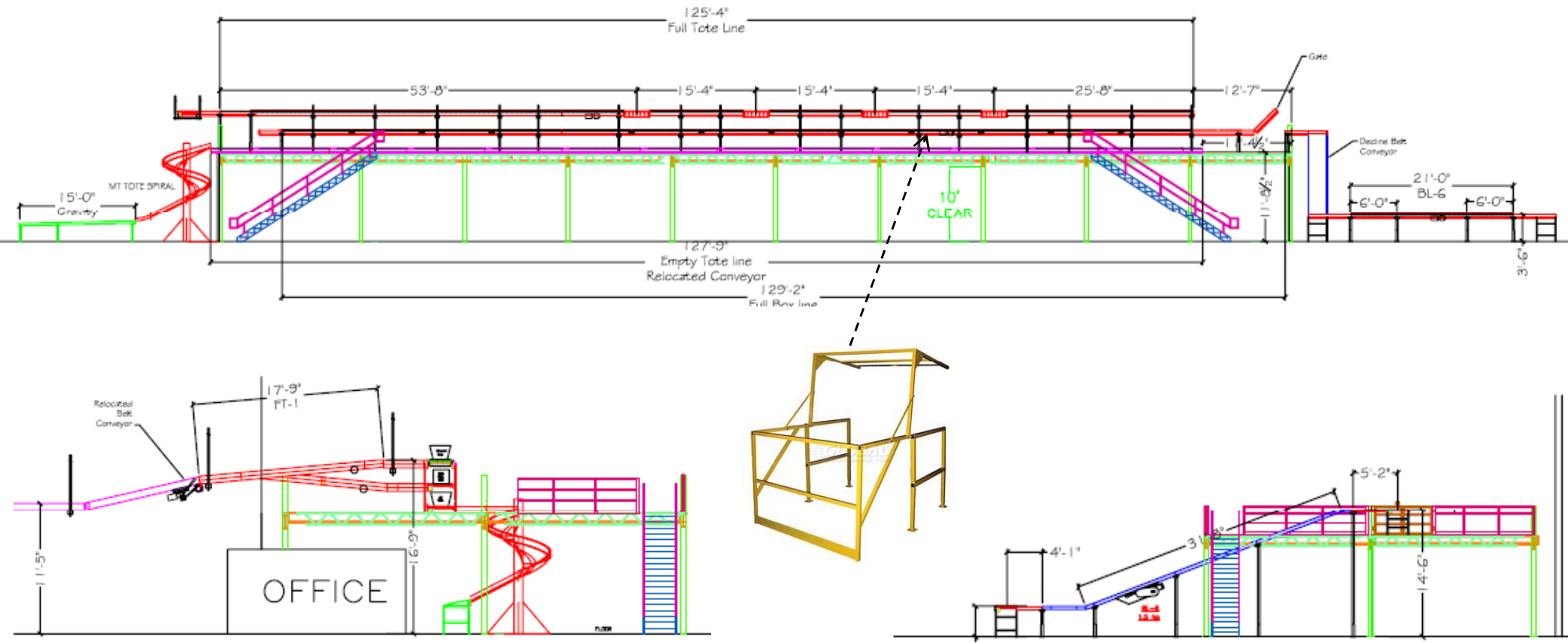
Future 3rd Level Connection

New 2nd Level Connection (ceiling supported)

Current 1st Level Connection (floor supported)



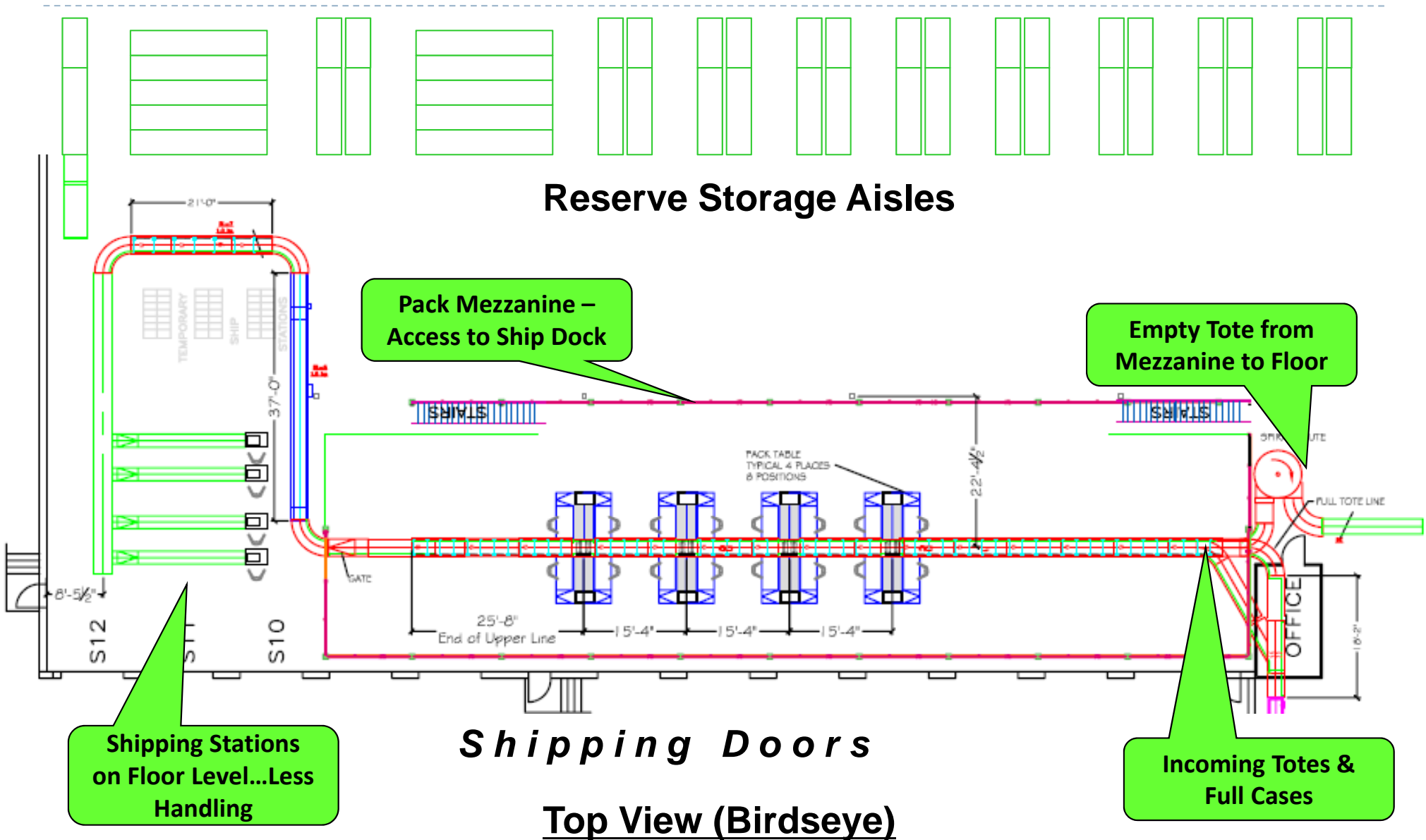
Side View from End of Reserve Storage Aisles



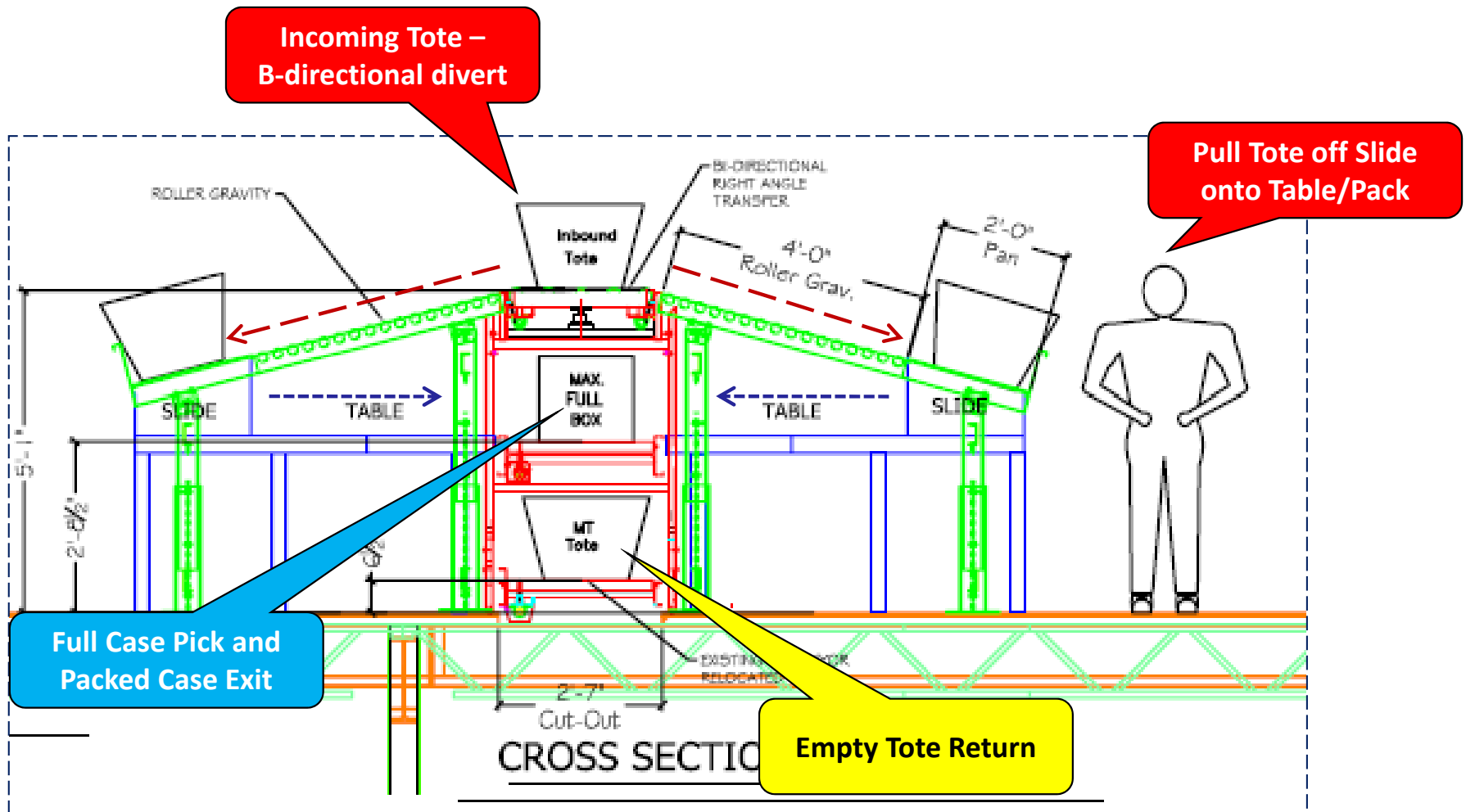
End View from Left Side

End View from Right Side

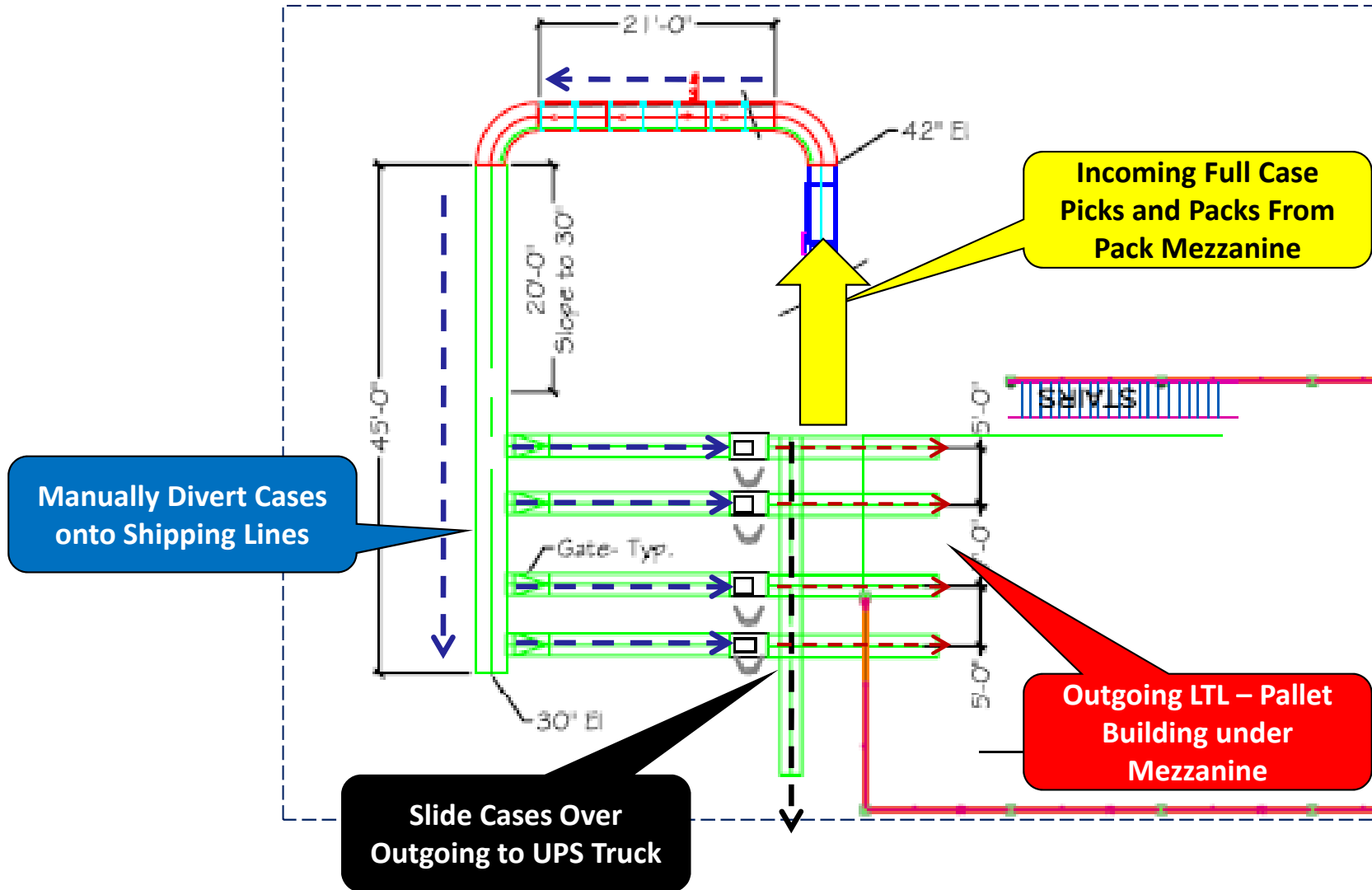
Pack Mezzanine ~ 5,200 sq ft



Pack Stations ~ 10 to 18 workstations



Ship Stations ~ 4 workstations



BM Transformation



Pack Mezzanine



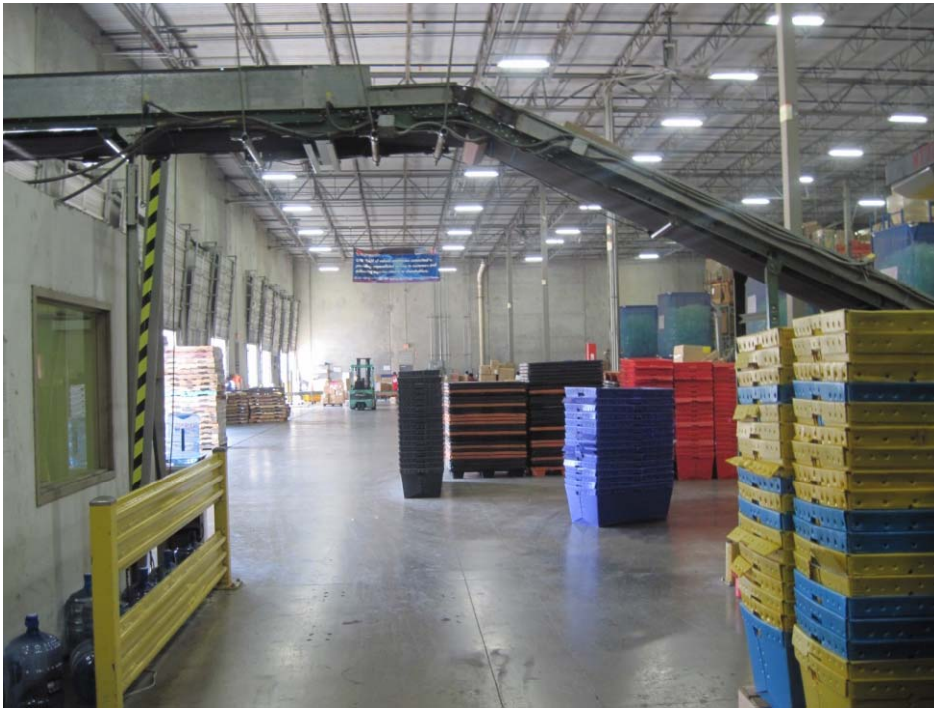
✓ *Open Floor*



✓ *Mezzanine*
✓ *Railing*

✓ *Stairs*

Pack Mezzanine



✓ **BEFORE**

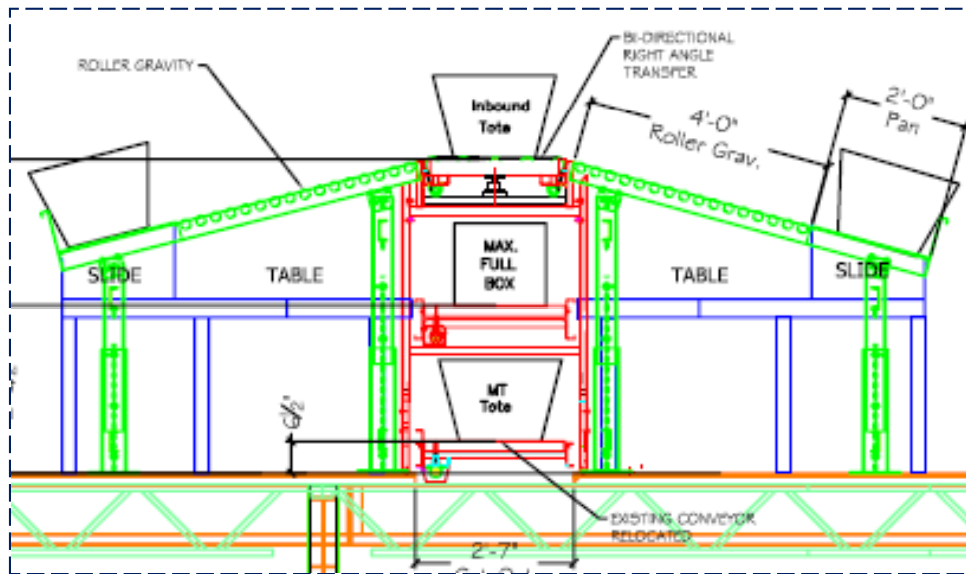


✓ **AFTER**

Pack Mezzanine



Pack Mezzanine



✓ **CONCEPT to REALITY >>>**

J - Line



- ✓ **Remove Product**
- ✓ **Remove Old**
- ✓ **Install New**



- ✓ **Deck 2nd Level**
- ✓ **Deck 3rd Level**
- ✓ **Install 2nd Level
Coneyor**



- ✓ **Back Stock**
- ✓ **Electrical Panel**



BM Transitioning to Retrofit

J - Line



- ✓ **Carton Flow**
- ✓ **Lighting**
- ✓ **Fire Protection**



- ✓ **Stock Aisle**
- ✓ **2nd Level Deck**
- ✓ **Lighting**



- ✓ **2nd Level Exit**
- ✓ **Merge Connect**



BM Transitioning to Retrofit



BEFORE

- ✓ ***D-line Stock Aisle***
- ✓ ***No Light-Replen Aisle***



AFTER

- ✓ ***J-line Stock Aisle***
- ✓ ***Lighted Replen. Aisle***



Q&A

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