

- **THE FOLLOWING SLIDES ARE AN OVERVIEW OF MY MACHINE DESIGN IN SOLIDWORKS**

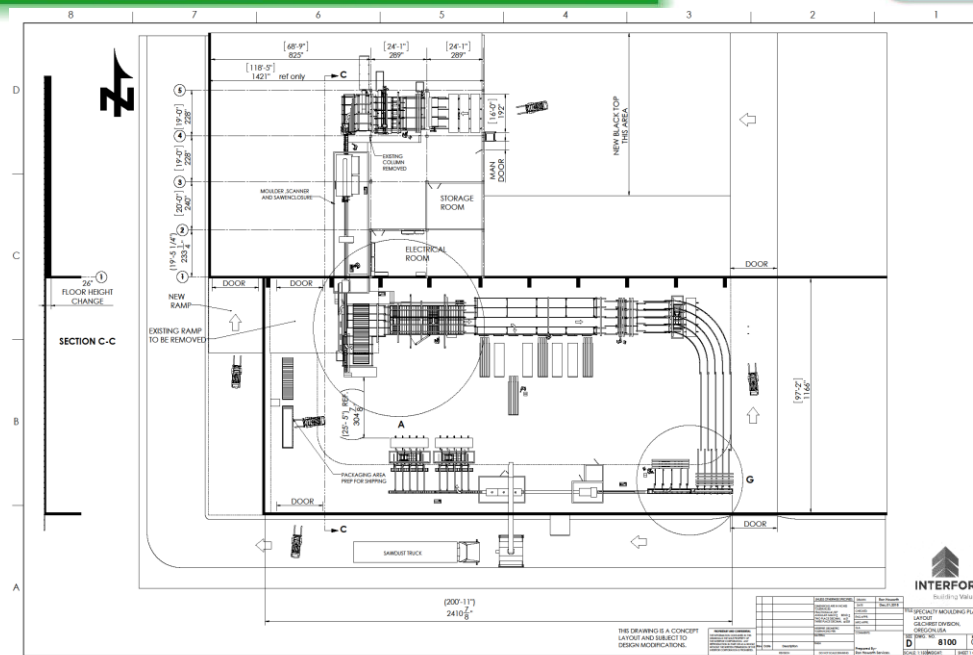
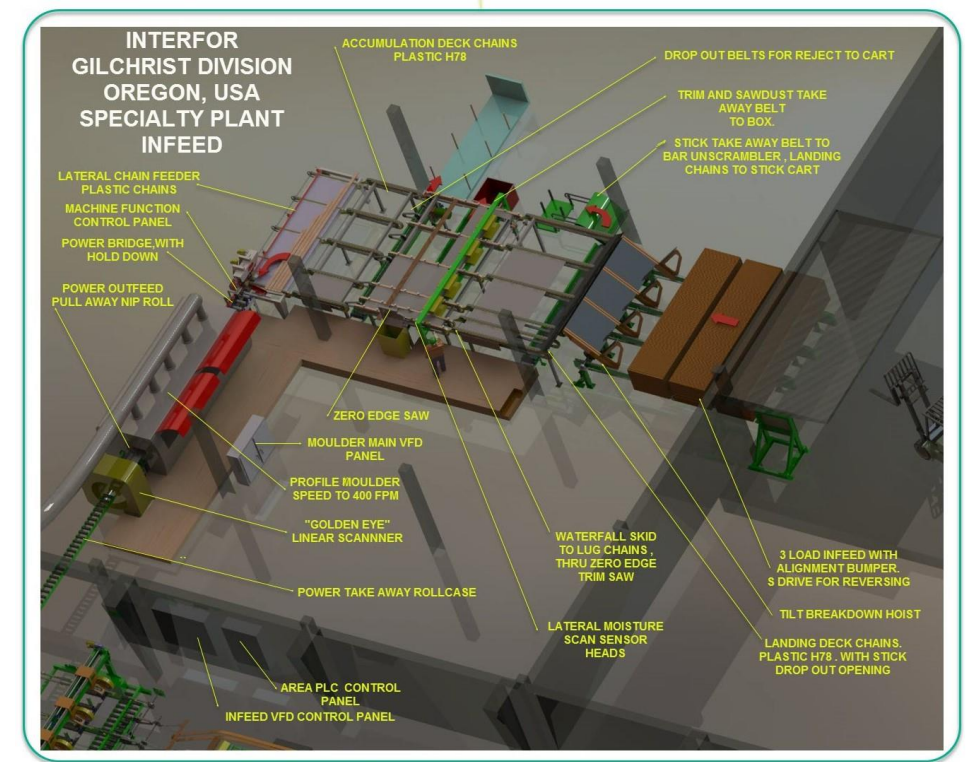
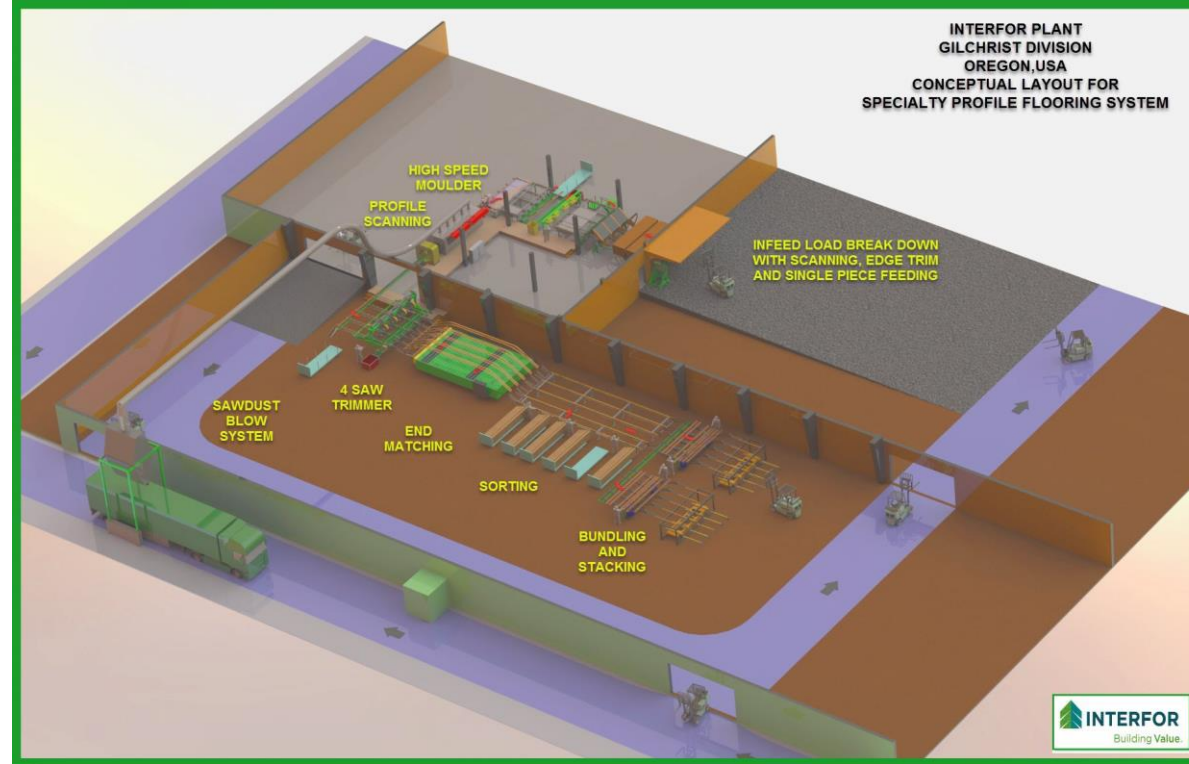


- **THEY ARE MACHINES DESIGNED AND MODELED BY:-**
- **RON HOWARTH**
- Many have been manufactured in my past business, others have been manufactured from my drawings in other shops.

- ★ MY CAREER STARTED IN 1967 WITH **DURAND MACHINE COMPANY**, NEW WESTMINSTER, BC
- ★ I HAVE REMAINED IN THE SAME INDUSTRY ALL MY CAREER, SPANNING NOW 52 YEARS.
- ★ I HAVE OWNED FOR 25 YEARS IN THIS PERIOD; IN PART OR AS THE ONLY OWNER, A FABRICATION AND MANUFACTURING SHOP.
- ★ I HAVE BEEN FORTUNATE TO HAVE GAINED A BROAD RANGE OF EXPERIENCES THAT HAVE ALLOWED ME TO EXPAND MY KNOWLEDGE IN MACHINE DESIGN.
- ★ WHAT YOU SEE IN MY PRESENTATION ARE **ALL** MACHINES I WAS INVOLVED WITH DESIGNING AND MANUFACTURING.



- ★ I STILL ENJOY THE MANY CHALLENGES MACHINE DESIGN BRINGS TO MY CAREER AND EXPERIENCES.



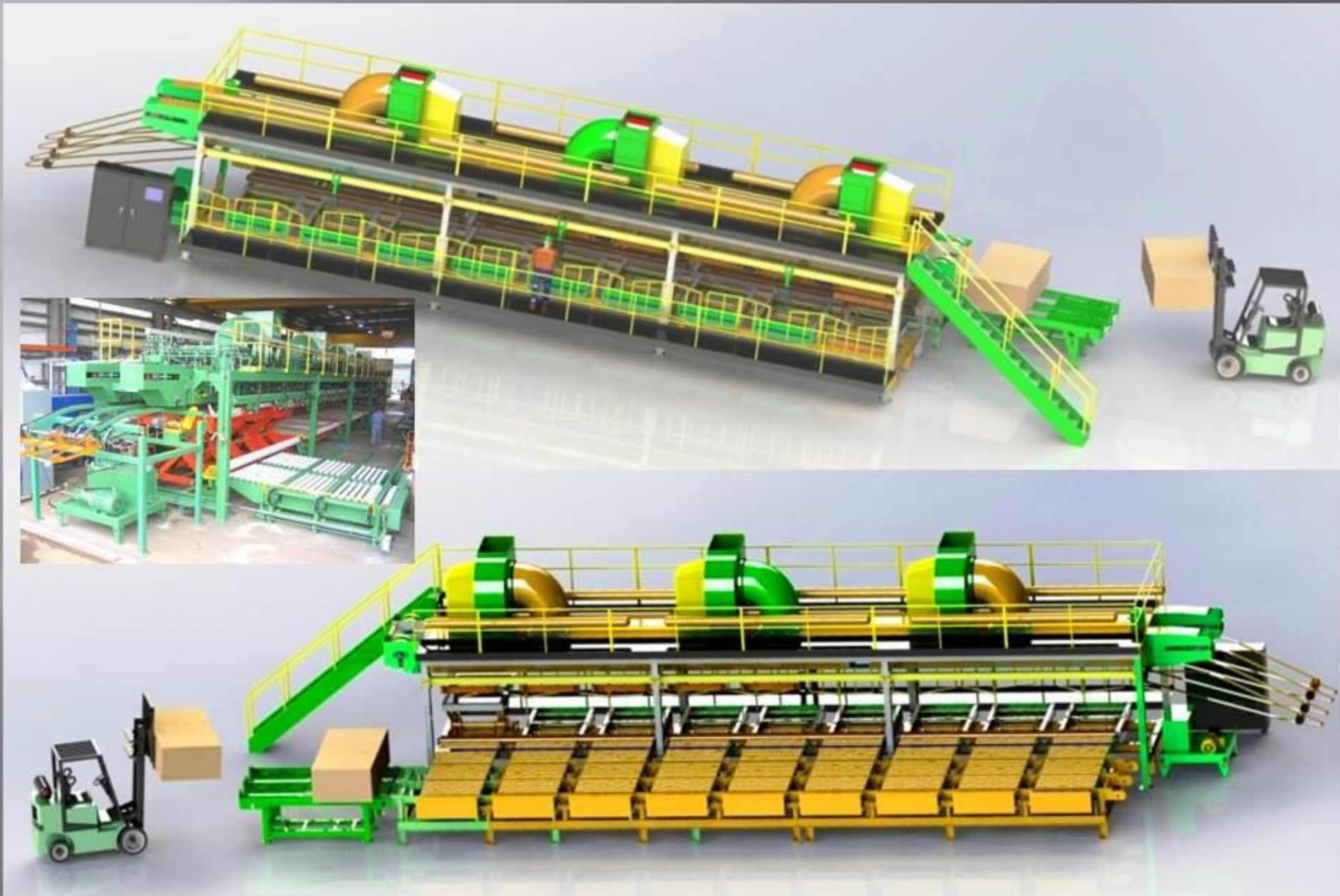
CONCEPTUAL LAYOUT FOR MATERIAL HANDLING - INFEEED TO MOULDER.
 TERIAL:- MAX 2" X 8" X 16 FOOT

PLANT CONCEPTUAL LAYOUT FOR INTERFOR.
PROFILE MOULDING,SAWING,GRADING, WRAPPING & BUNDLING.
PUT TOGETHER OVER SEVERAL PLANT VISITS
AND MEETINGS WITH INTERFOR STAFF.

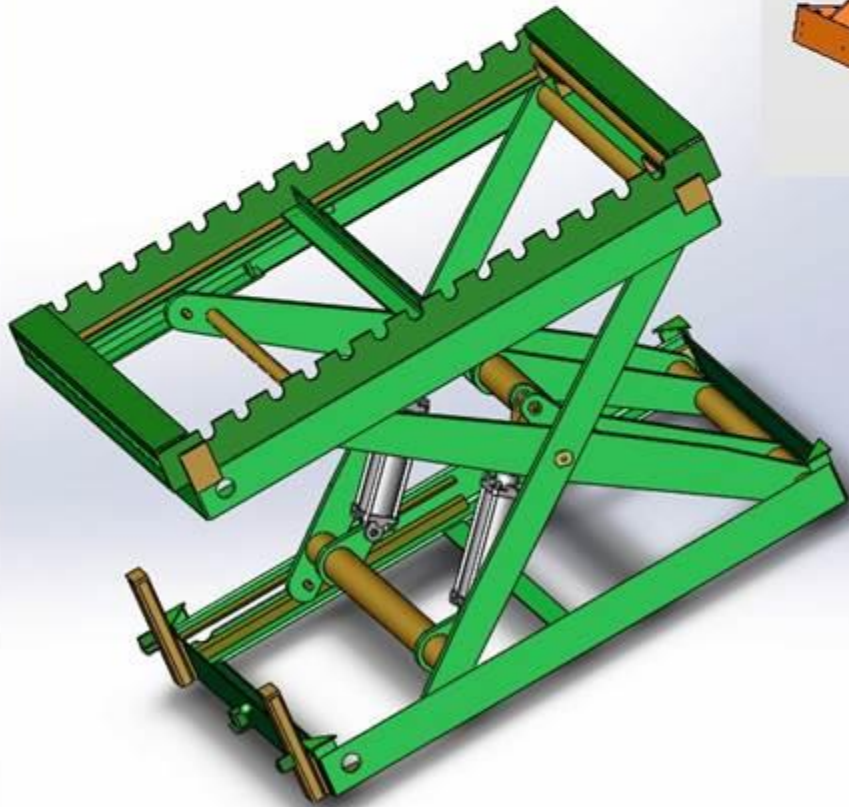
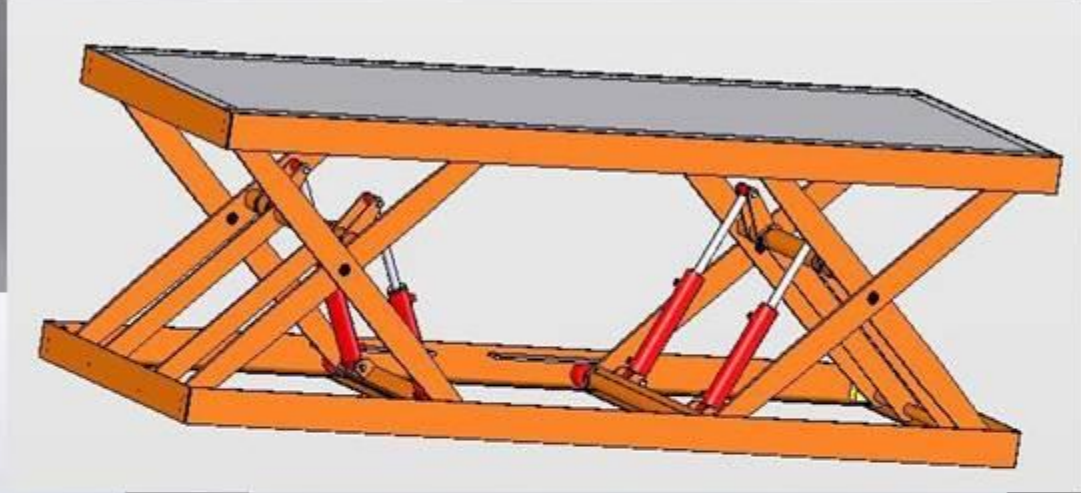
BY: RON HOWARTH



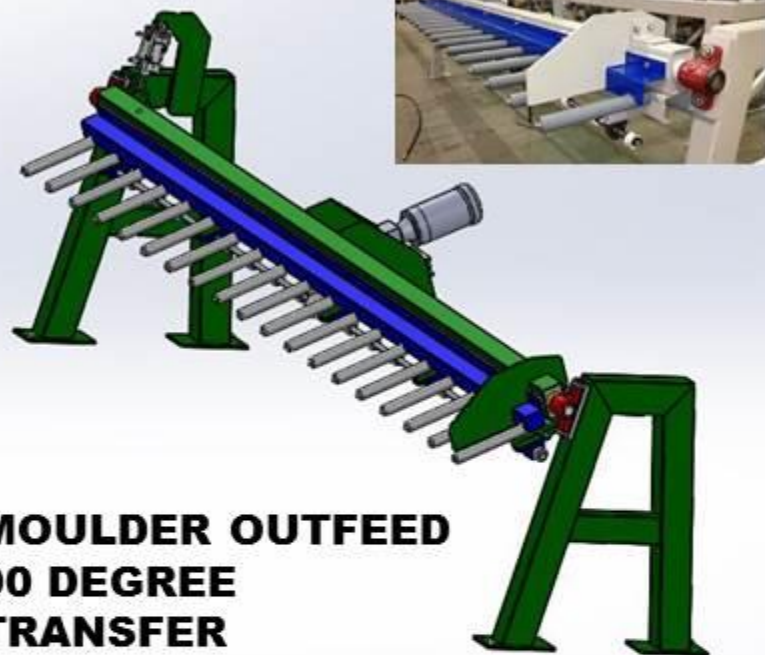
HIGH SPEED VENEER STACKER



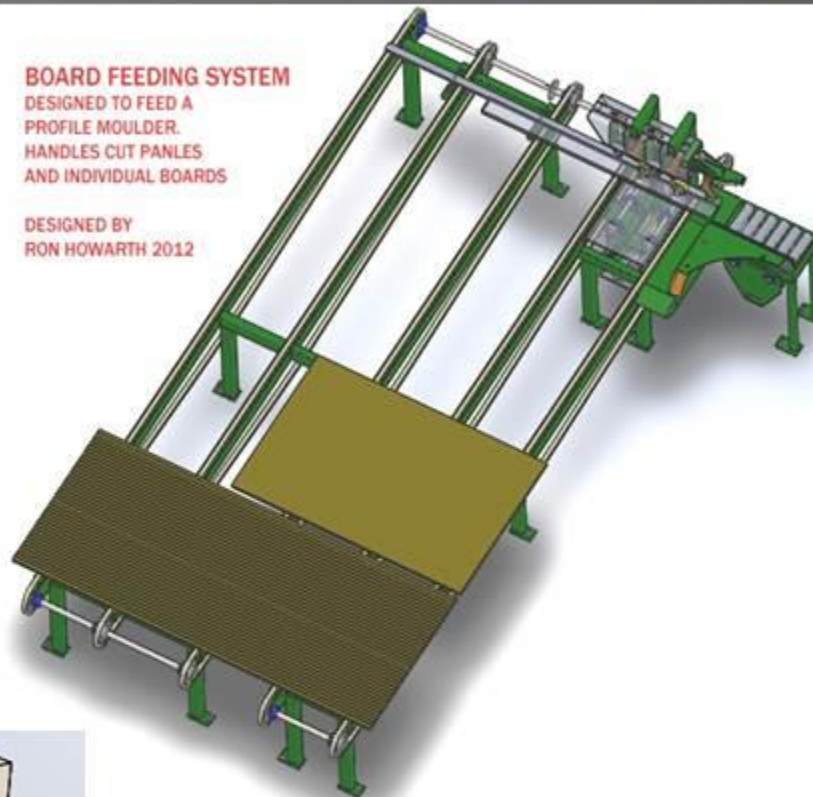
SCISSOR LIFTS



MOULDING & SAW HANDLING

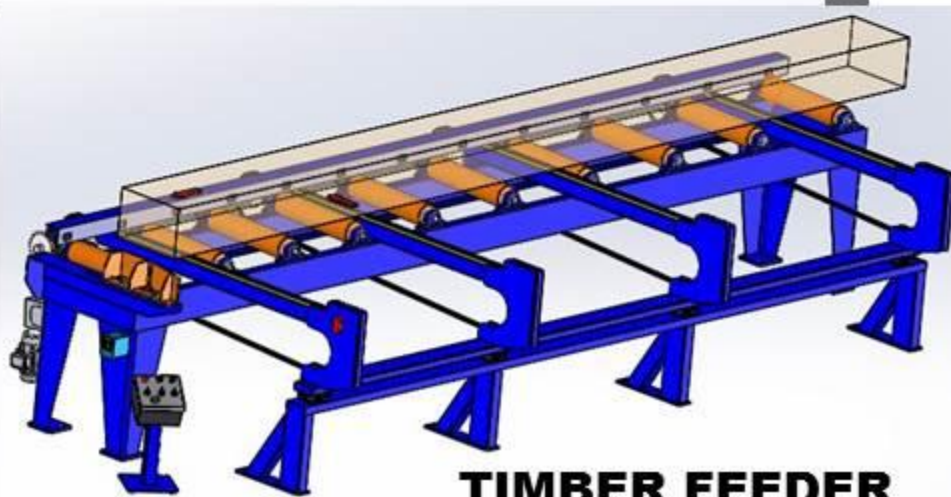


**MOULDER OUTFEED
90 DEGREE
TRANSFER**

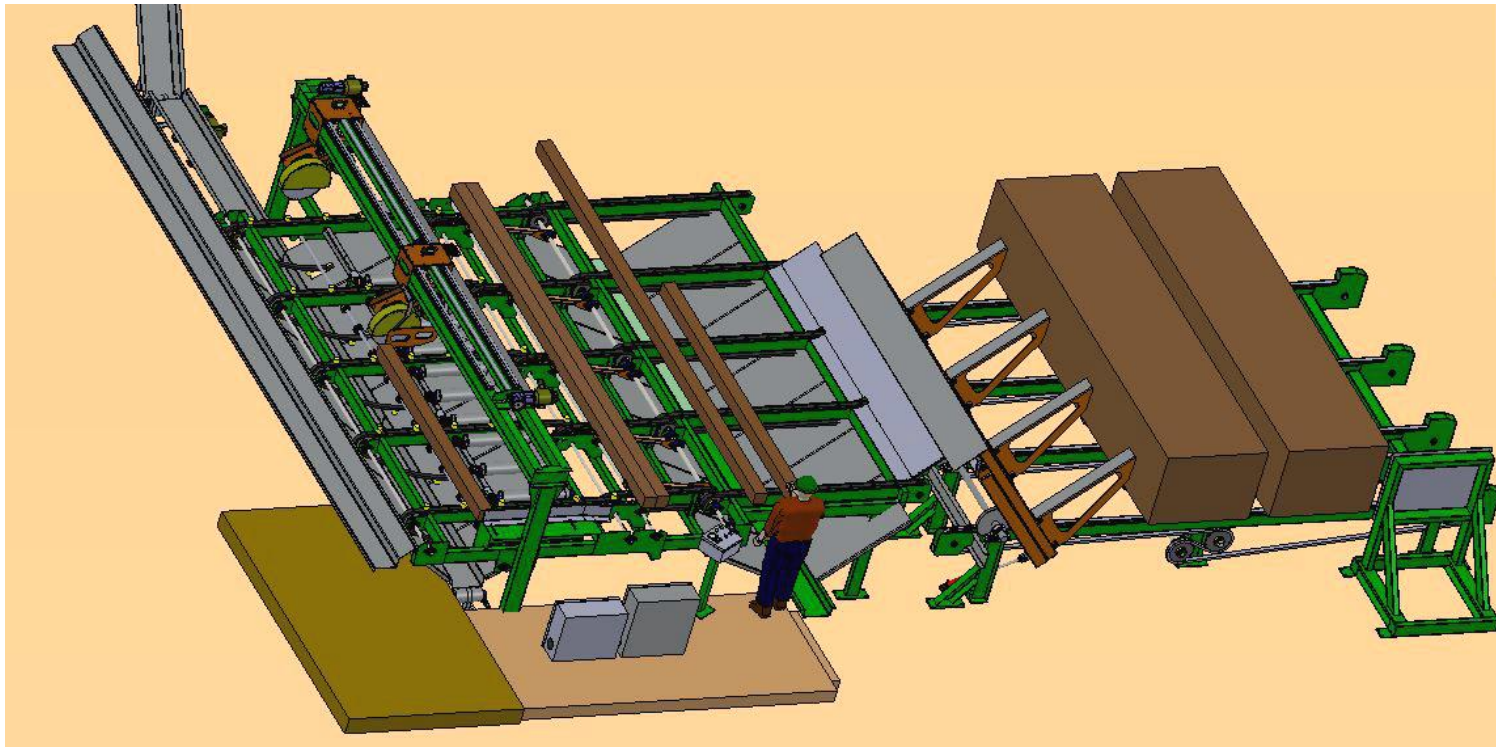


BOARD FEEDING SYSTEM
DESIGNED TO FEED A
PROFILE MOULDER.
HANDLES CUT PANELS
AND INDIVIDUAL BOARDS

DESIGNED BY
RON HOWARTH 2012



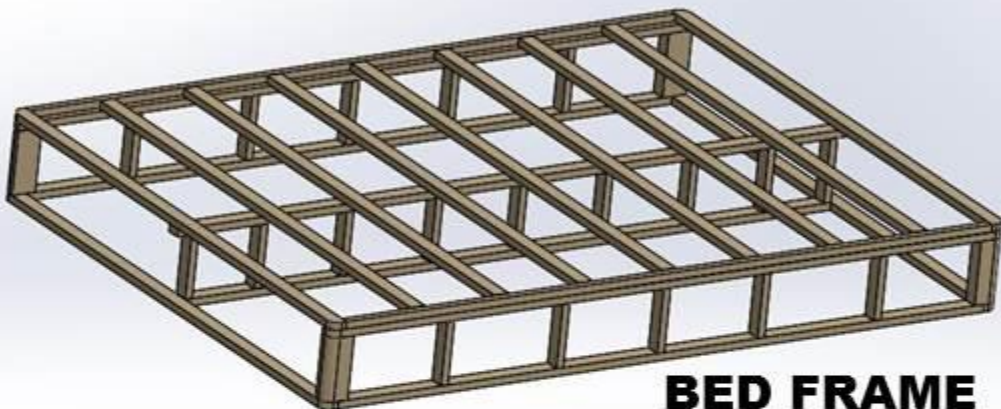
TIMBER FEEDER



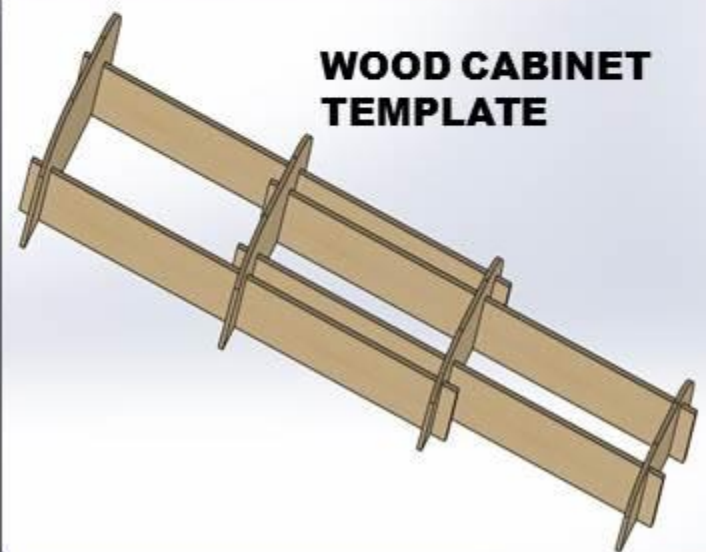
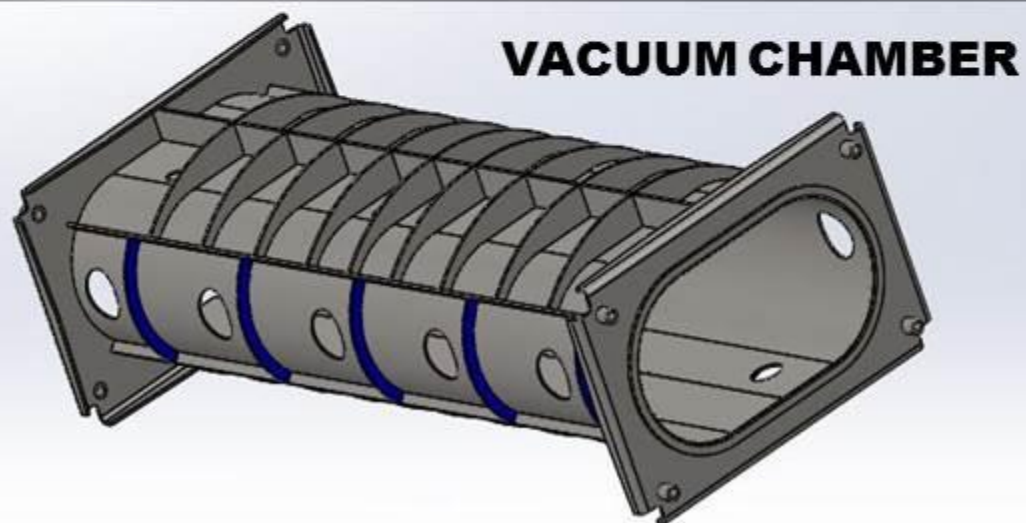
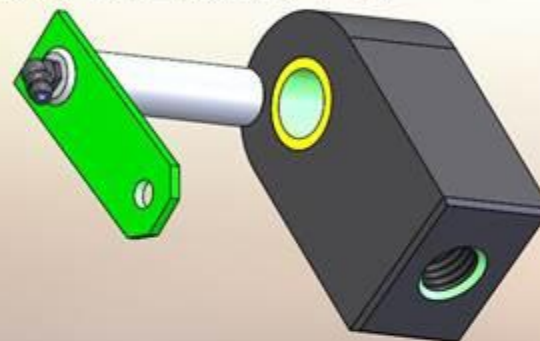
**RESAW LINE
DESIGNED FOR
GREENWOOD LUMBER
PENTICTON, BC**
The line included:- Load Infeed to a
Tilt Breakdown Hoist.
Landing Deck, Lug Loader and chains
to a drop trim saw arrangement,
outfeed to the resaw.



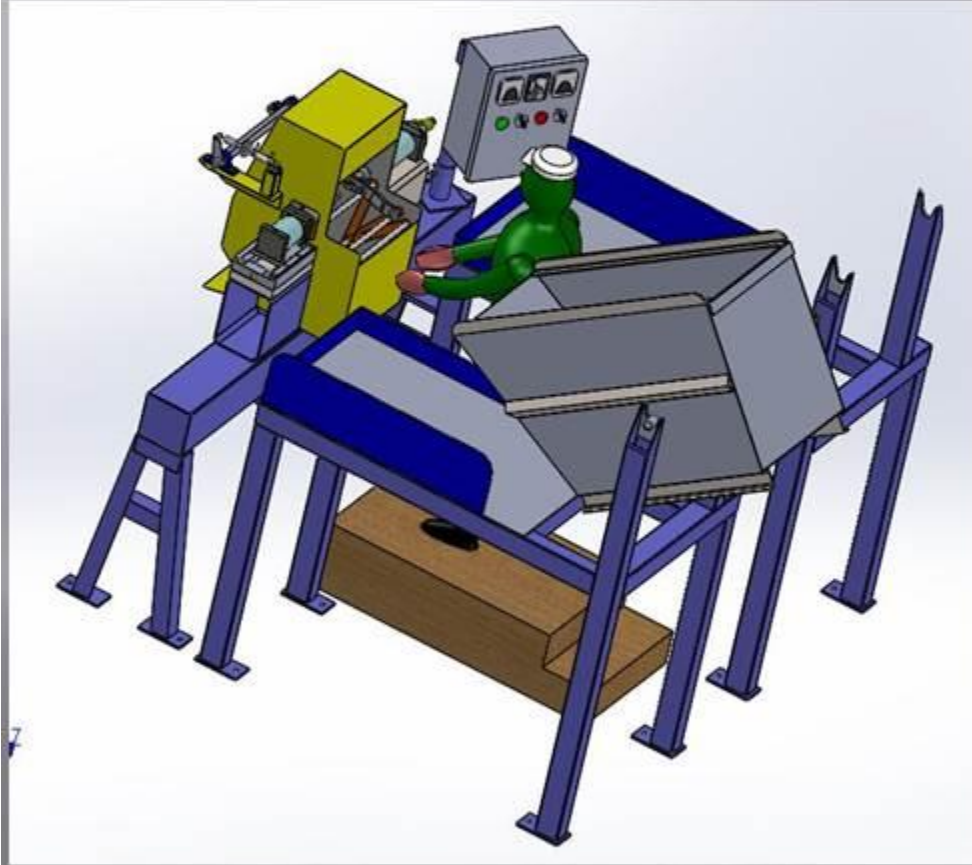
SMALL PARTS & FRAMES



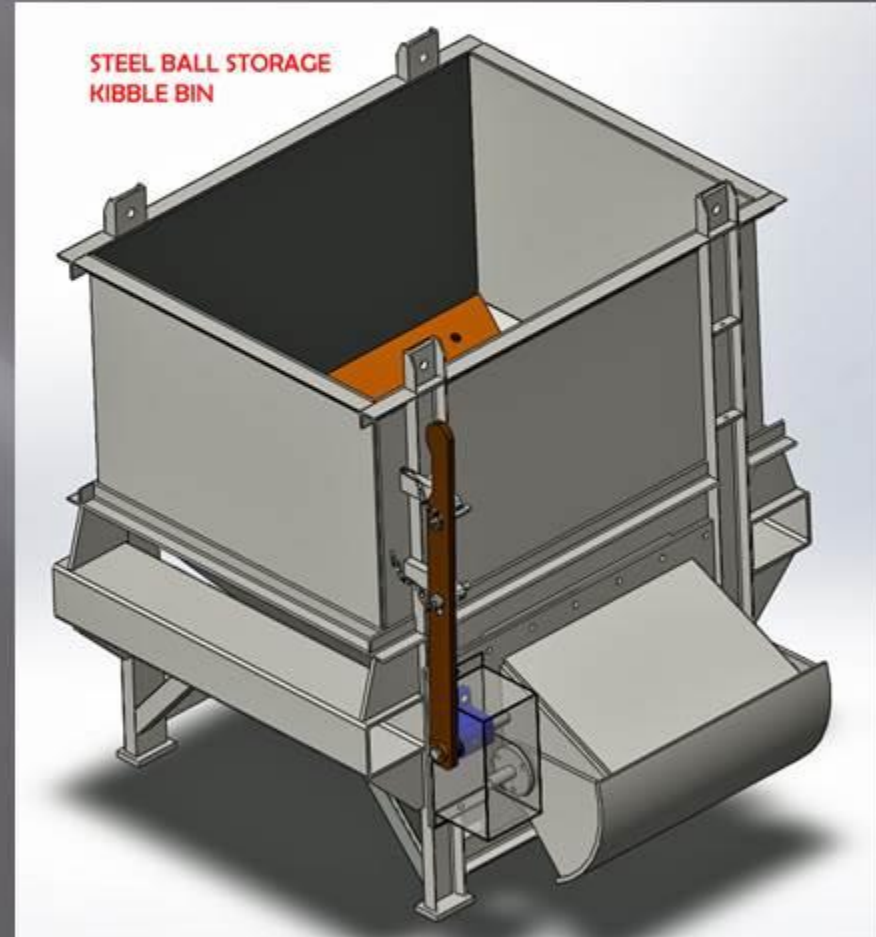
ROD EYE AND PIN



CUSTOM MACHINES & FIXTURES



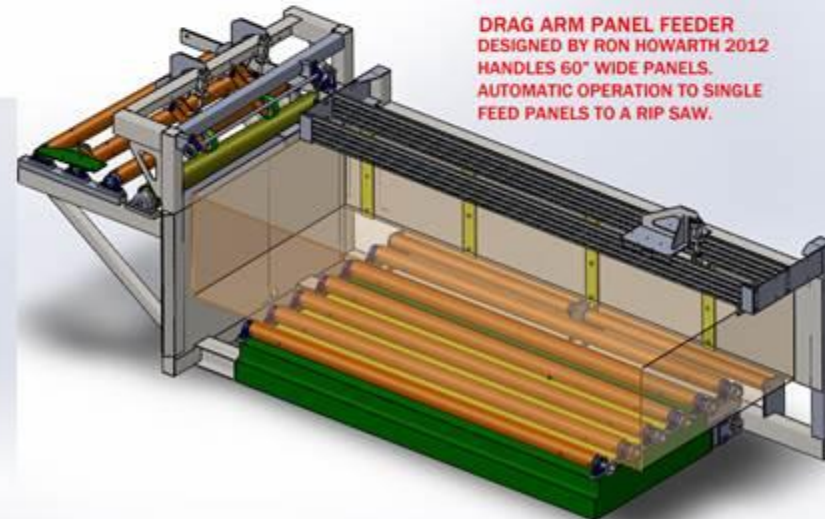
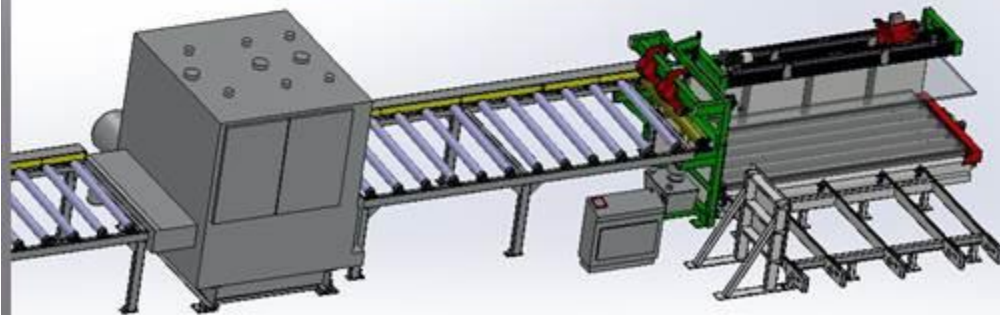
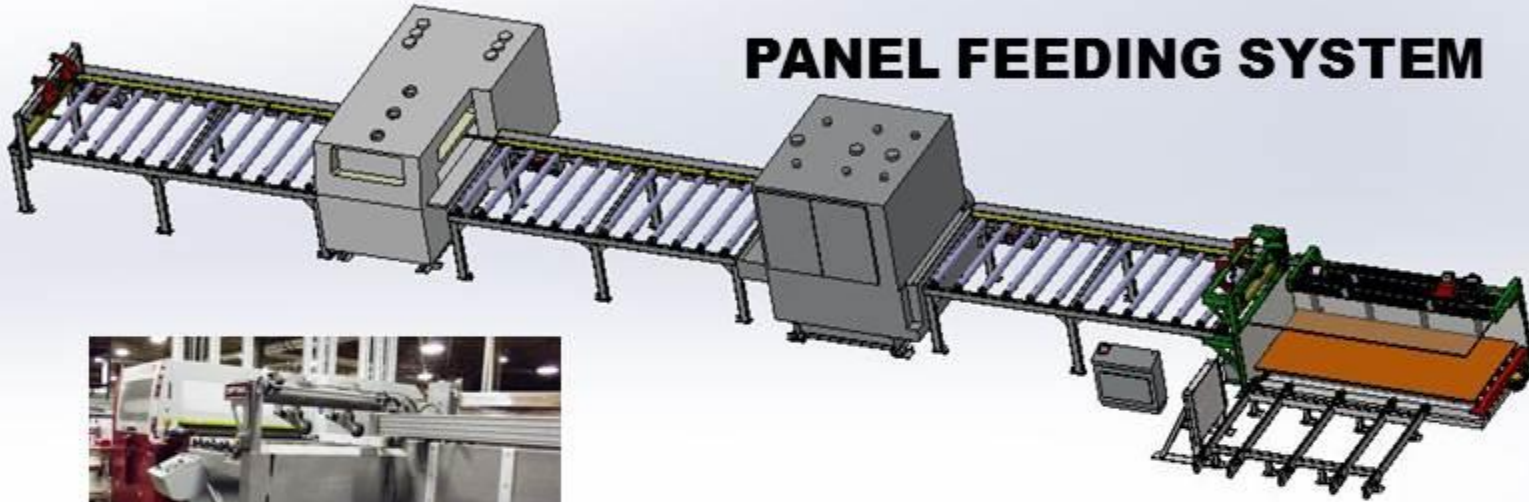
CHAIN WELDING MACHINE



**STEEL BALL STORAGE BIN.
USED IN MINING OPERATIONS**

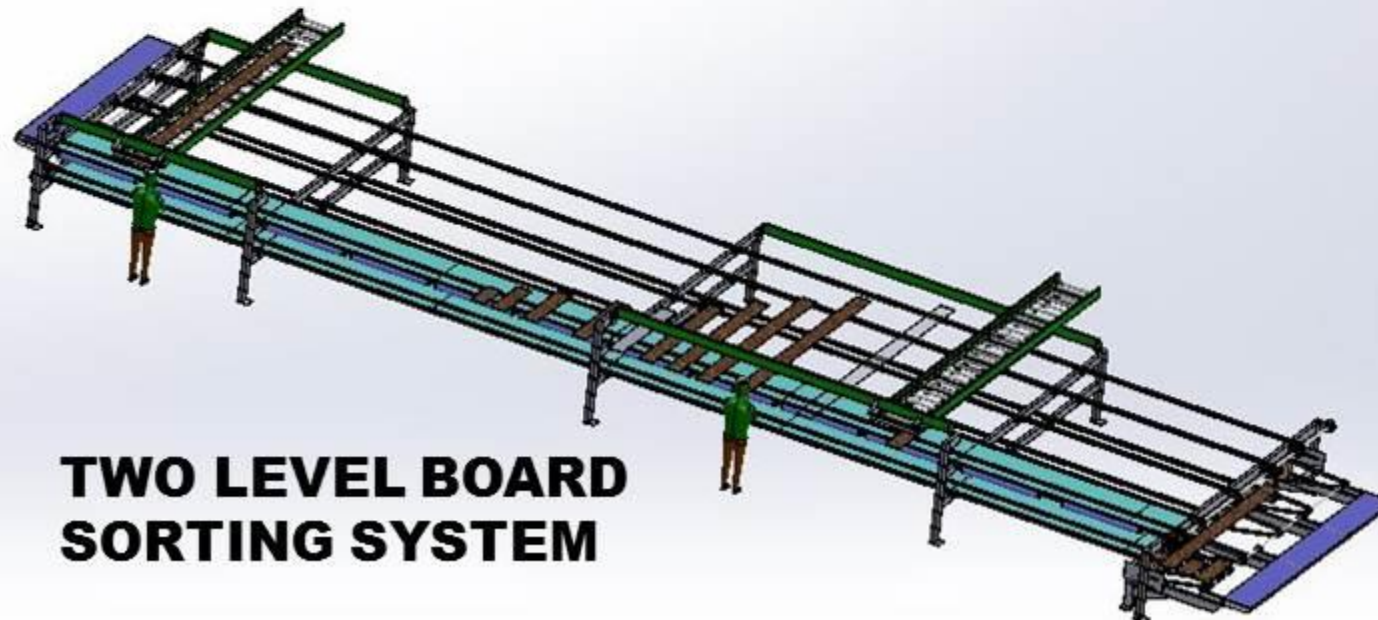
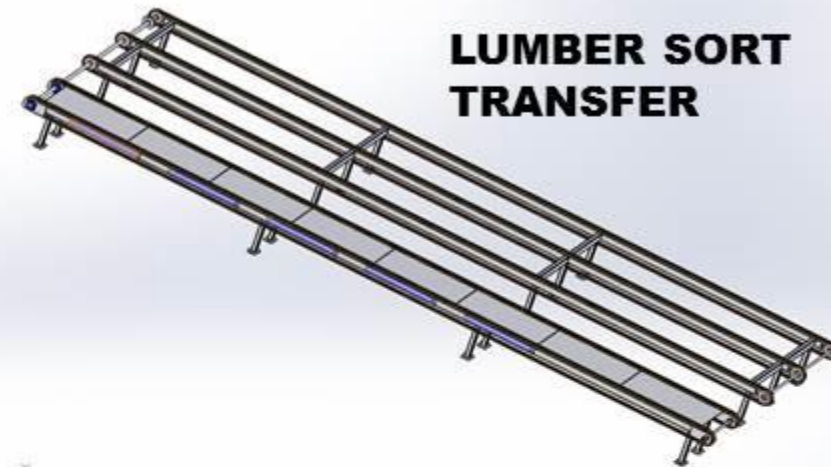
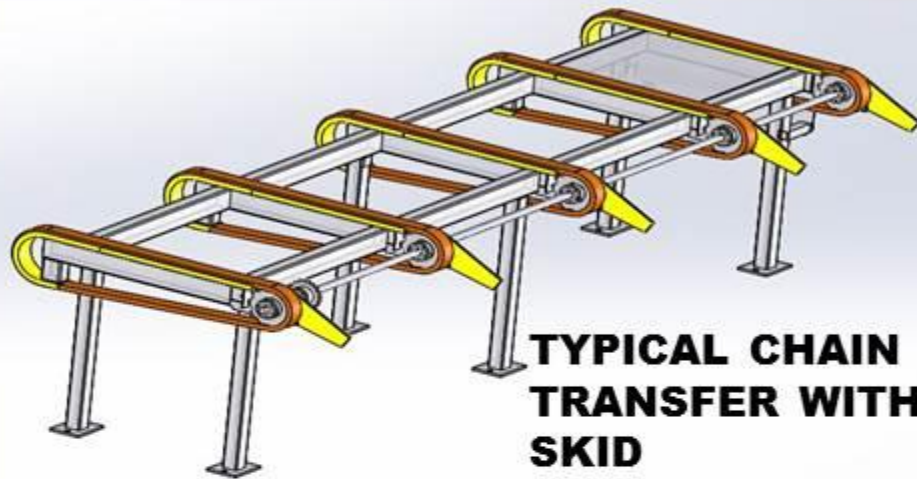
PANEL HANDLING

PANEL FEEDING SYSTEM



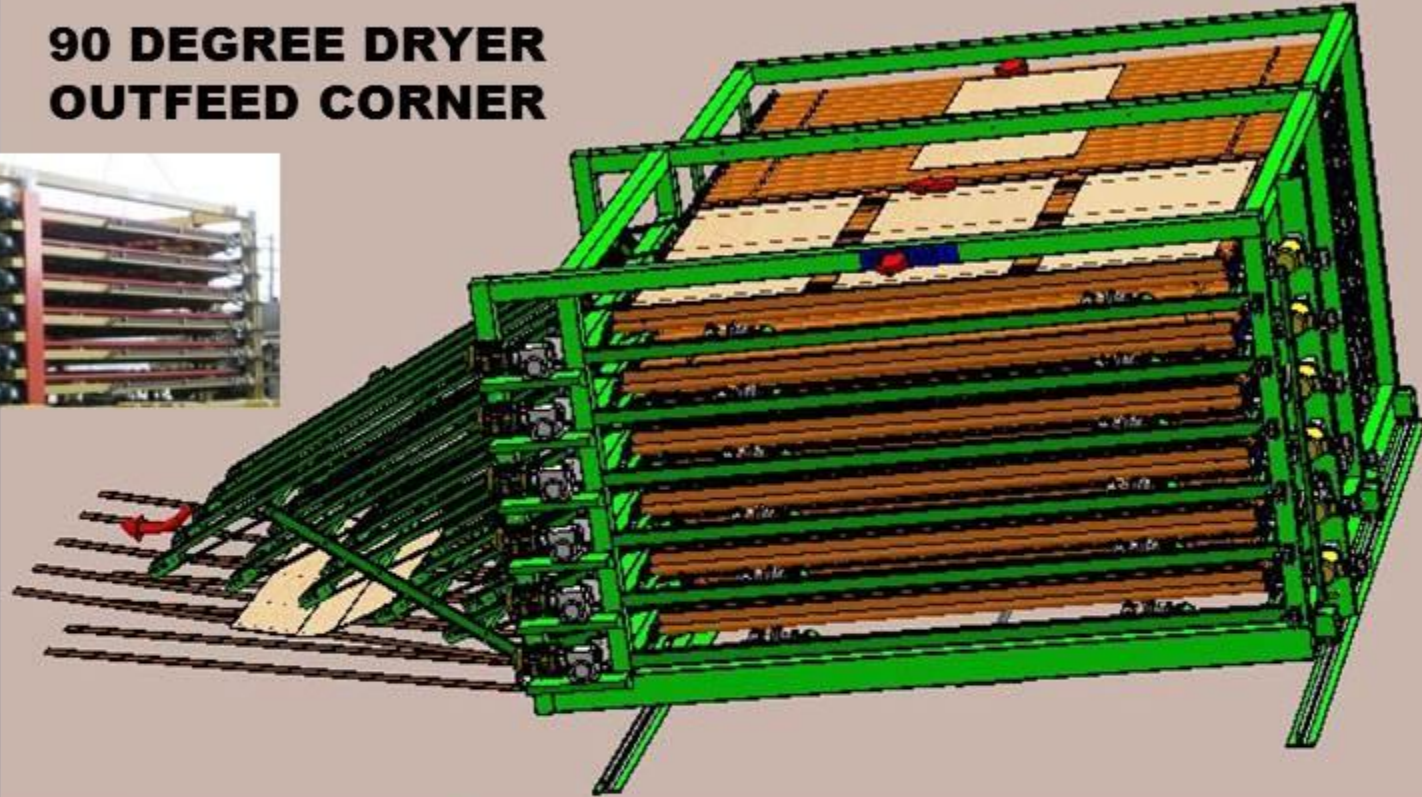
DRAG ARM PANEL FEEDER
DESIGNED BY RON HOWARTH 2012
HANDLES 60" WIDE PANELS.
AUTOMATIC OPERATION TO SINGLE
FEED PANELS TO A RIP SAW.

CHAIN TRANSFERS & SYSTEMS

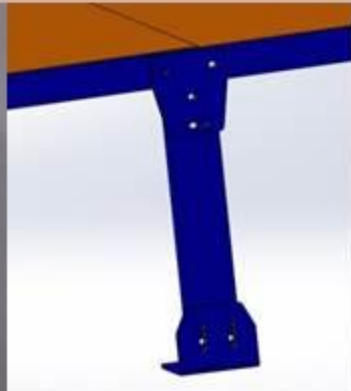


DRYER OUTFEED EQUIPMENT

90 DEGREE DRYER OUTFEED CORNER

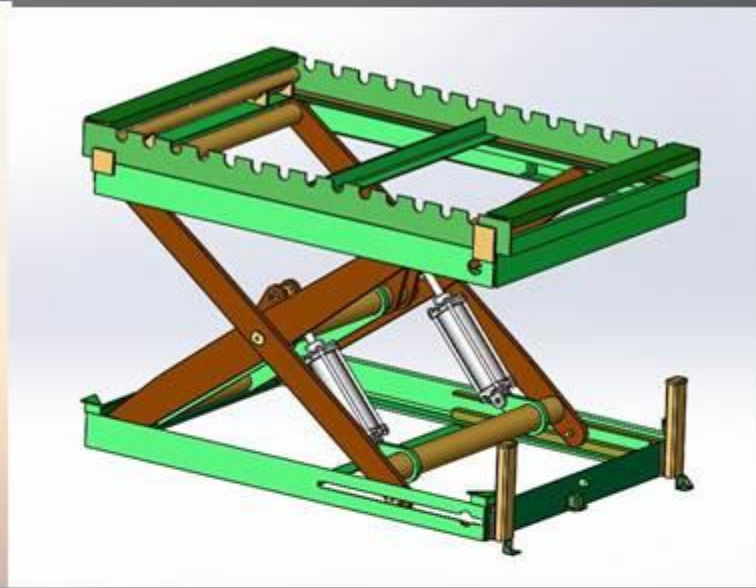
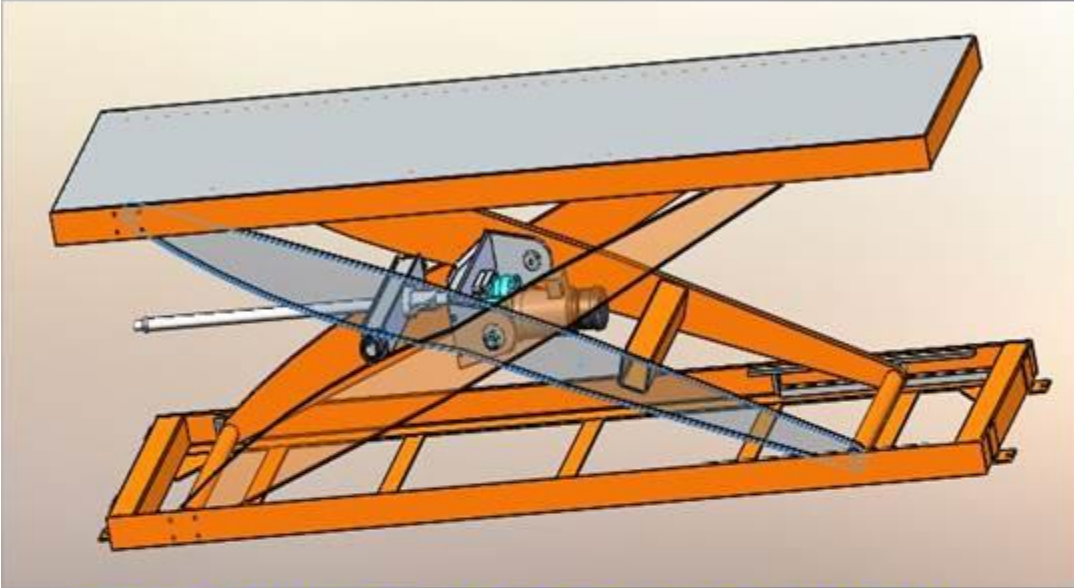


ADJUSTABLE
LEGS

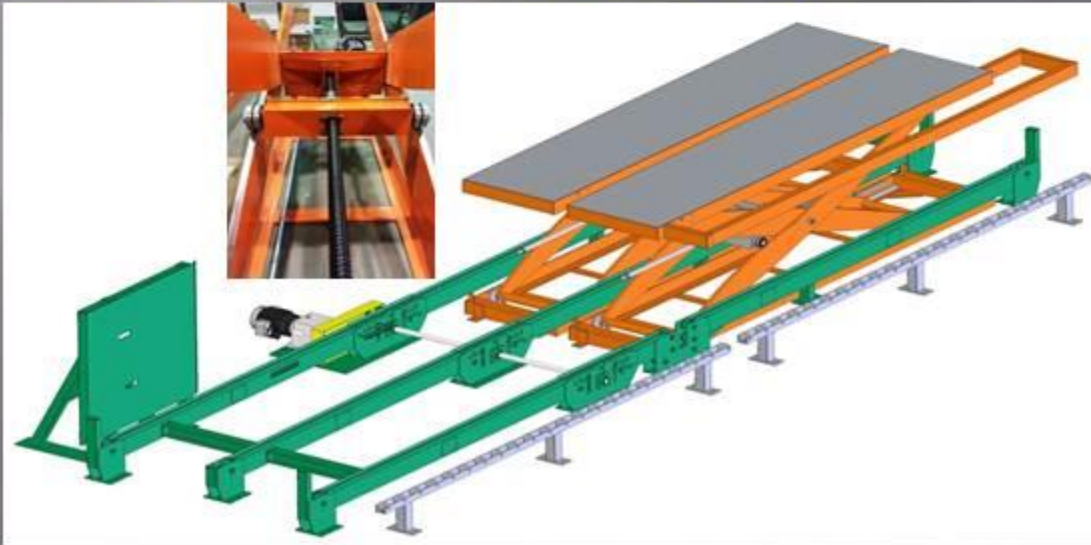


DRYER OUTFEED
MULTI BELT

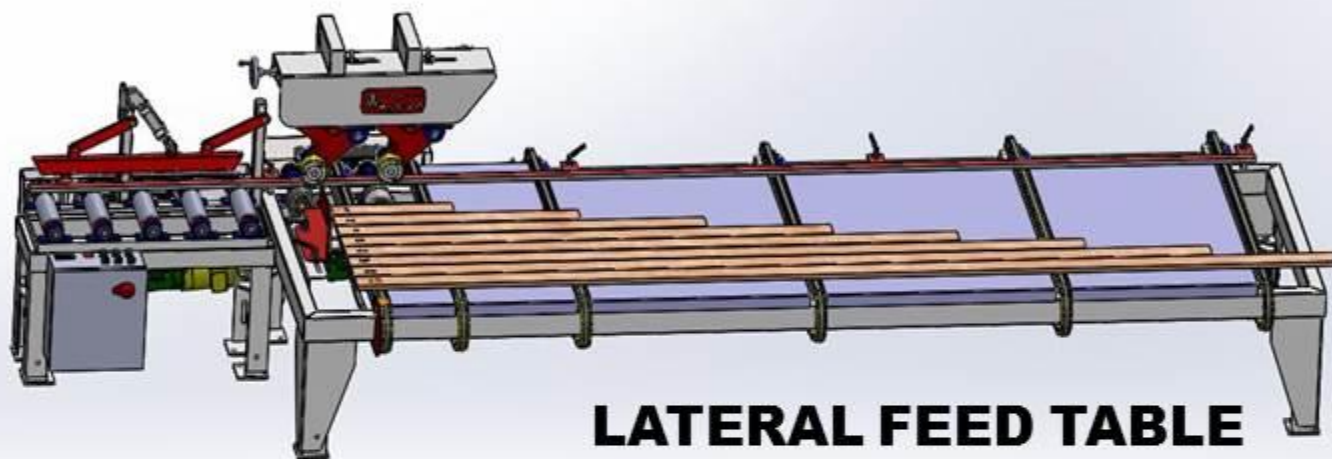
CUSTOM SCISSOR LIFTS



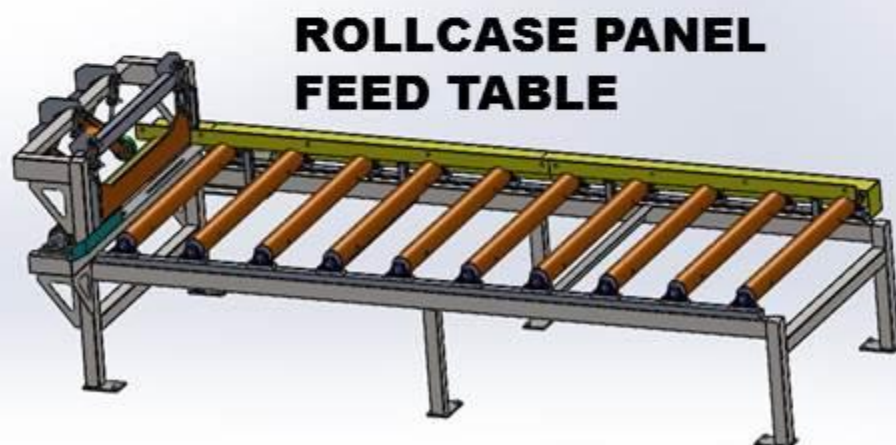
ELECTRIC SCISSOR LIFT



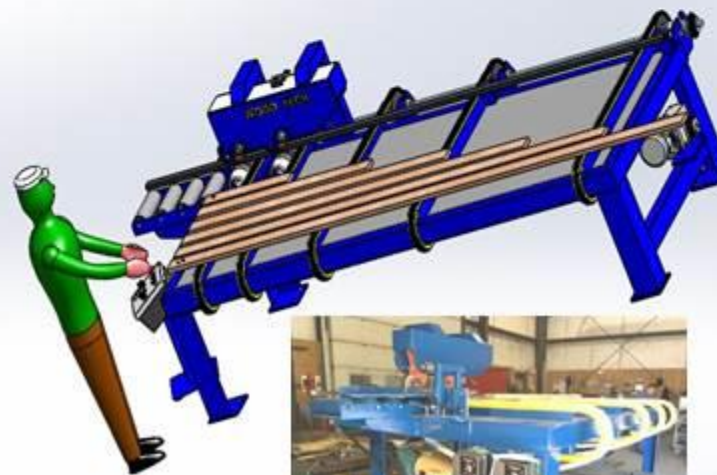
MOULDER FEED TABLES



LATERAL FEED TABLE

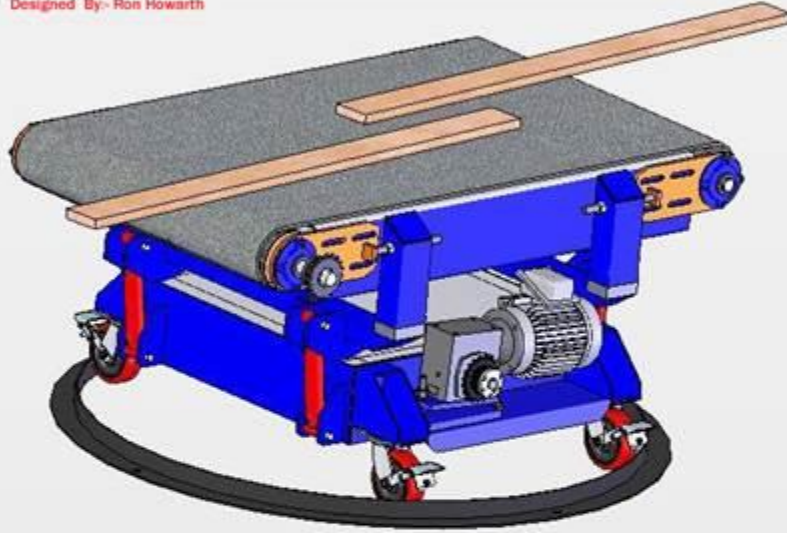


**ROLLCASE PANEL
FEED TABLE**



CUSTOM CONVEYORS

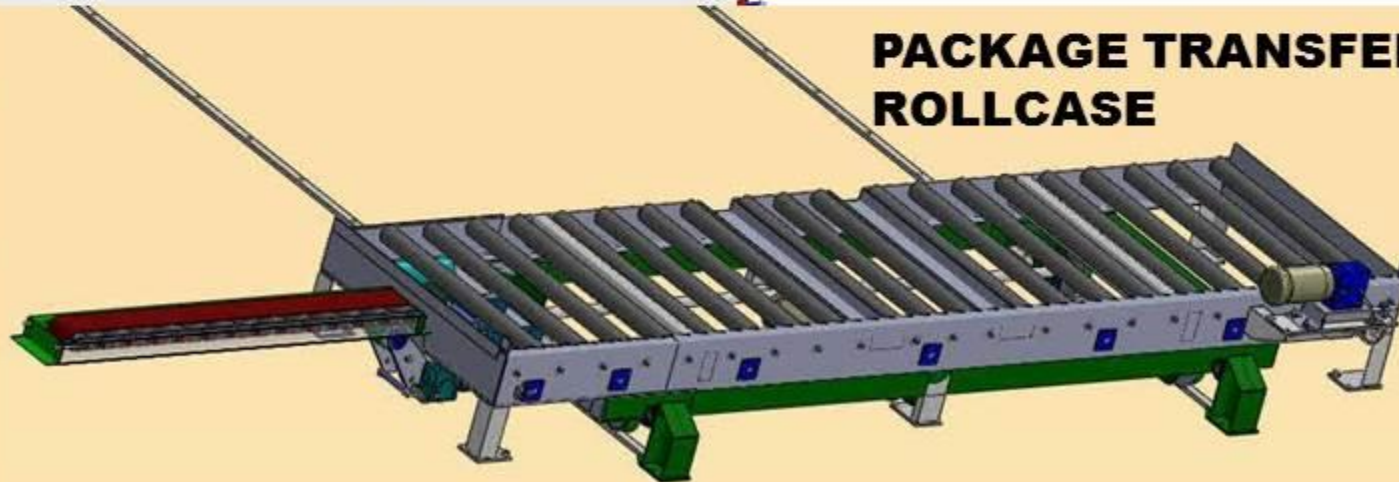
Planer Outfeed Slow Down Belt
Designed By: Ron Howarth



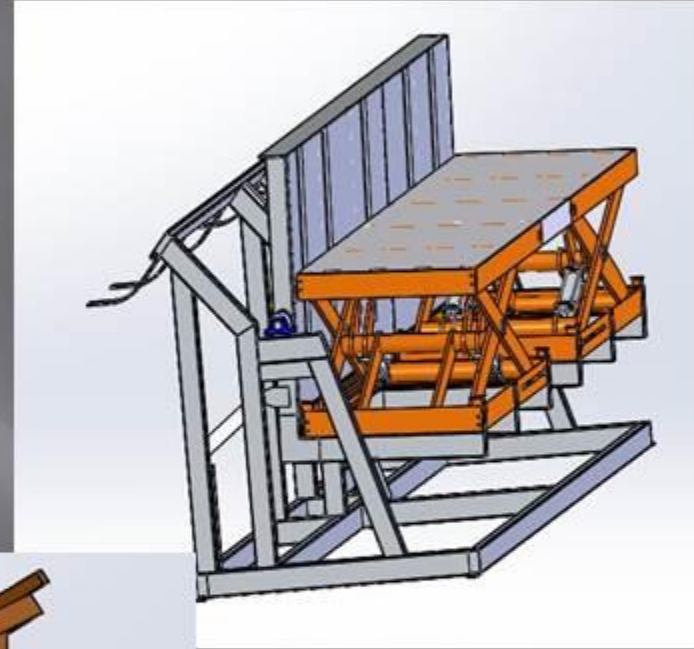
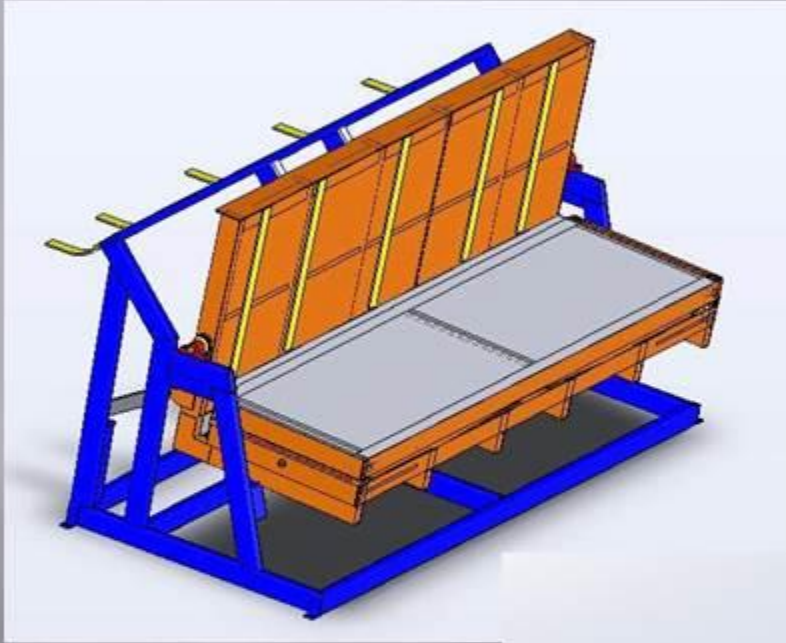
**WASTE
SORTING
CONVEYOR**



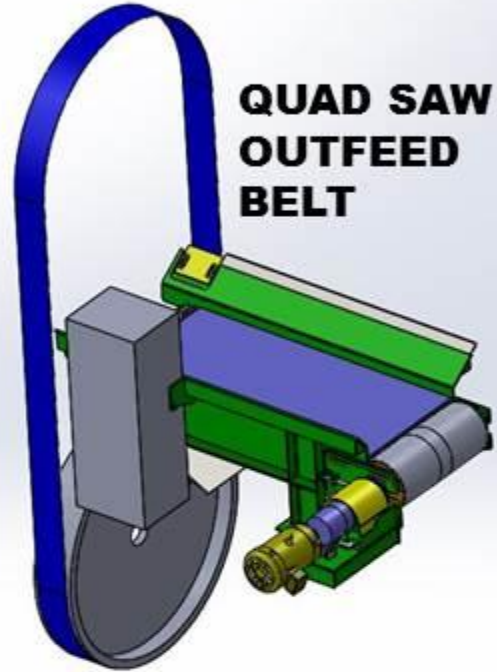
**PACKAGE TRANSFER
ROLLCASE**



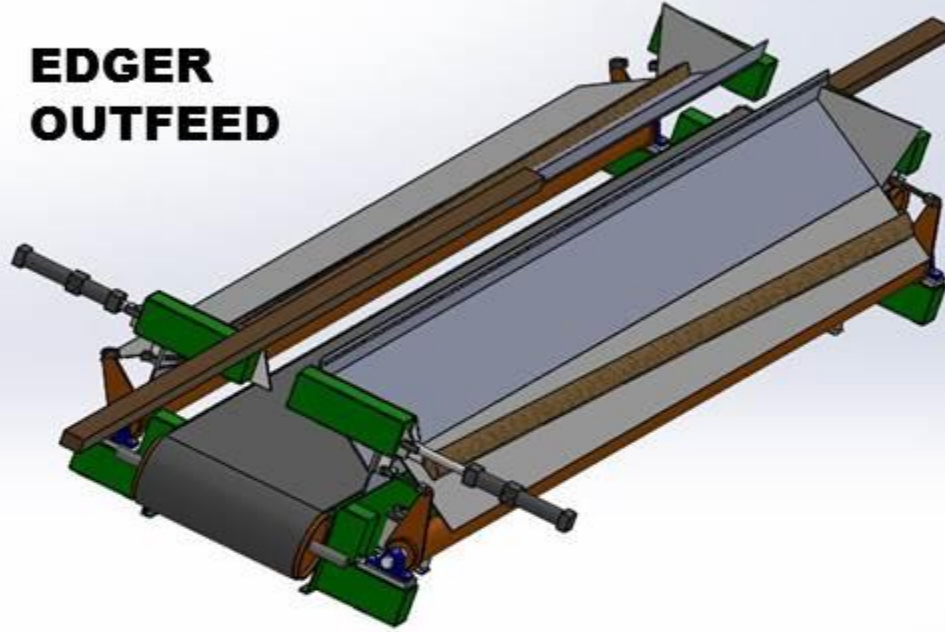
LUMBER BREAKDOWN HOISTS



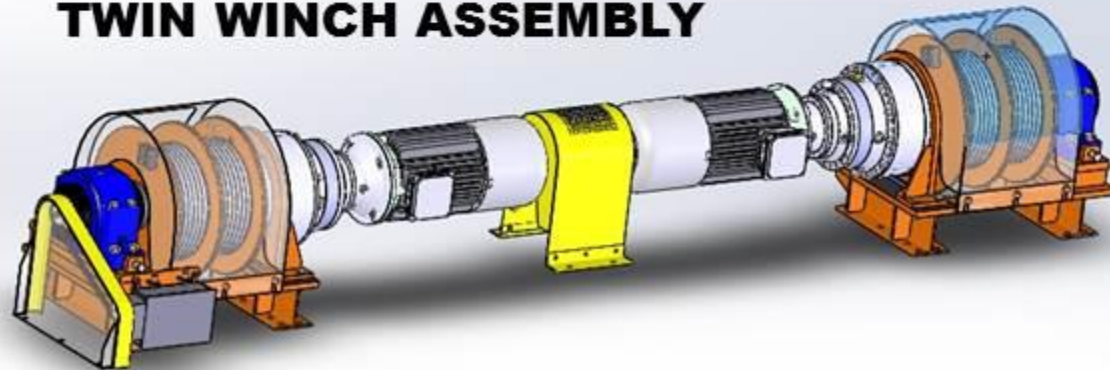
CUSTOM EQUIPMENT



**EDGER
OUTFEED**

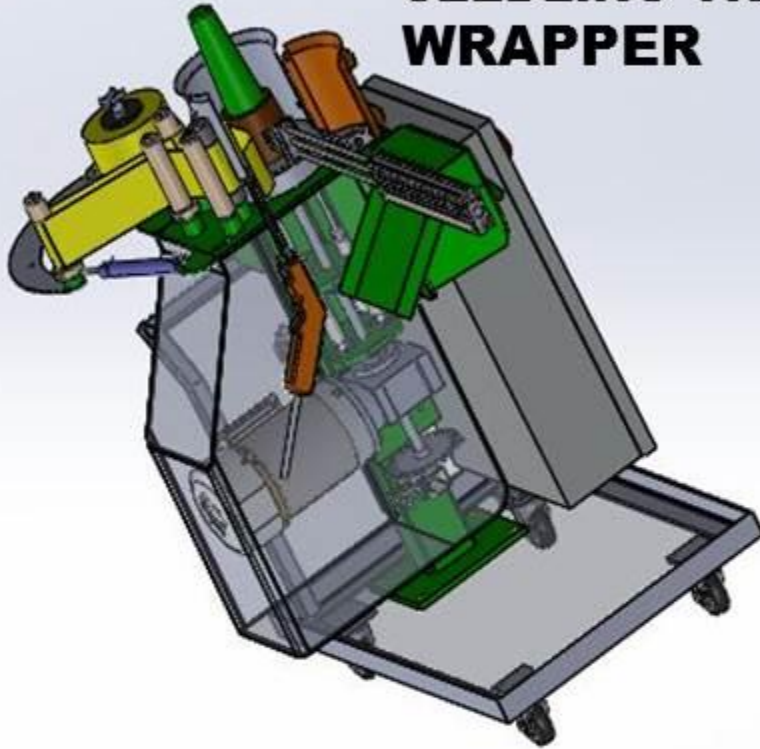


TWIN WINCH ASSEMBLY

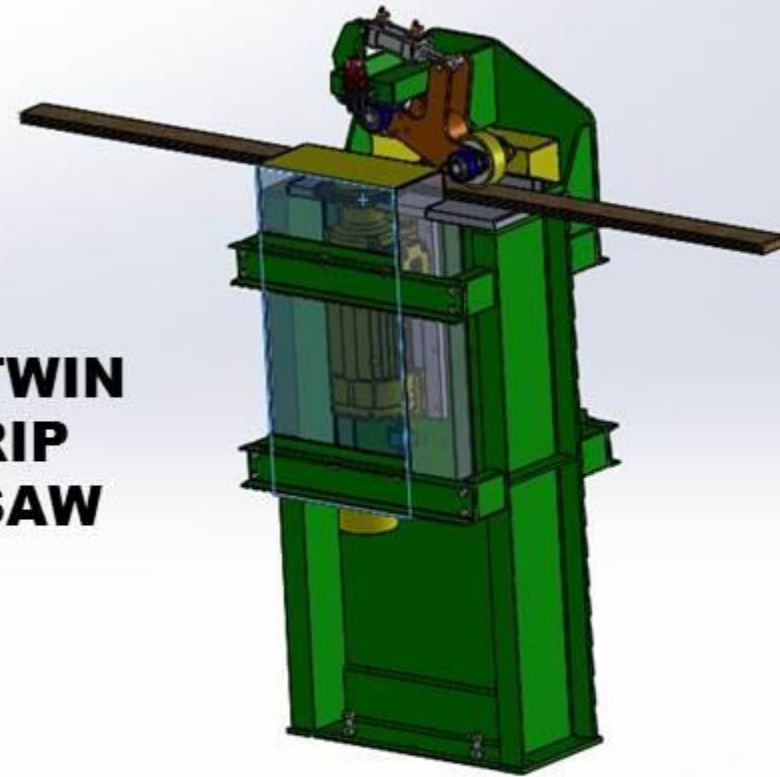


CUSTOM MACHINE DESIGN

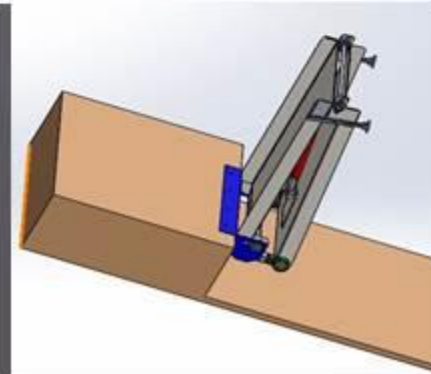
SEEDLING TREE WRAPPER



**TWIN
RIP
SAW**



FOLDING RAMP

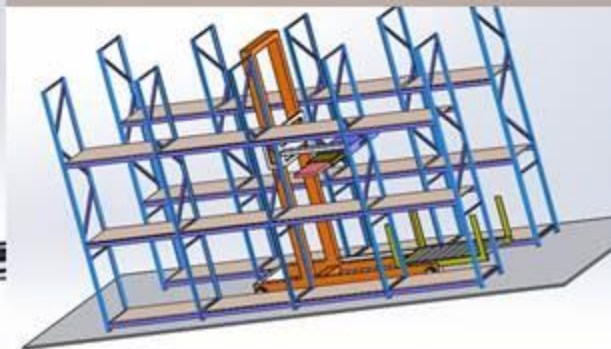
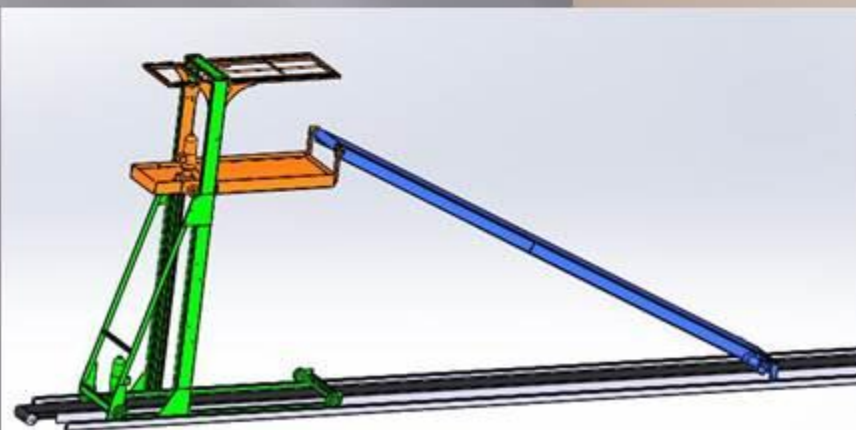


WAREHOUSE PRODUCT PICK CAR

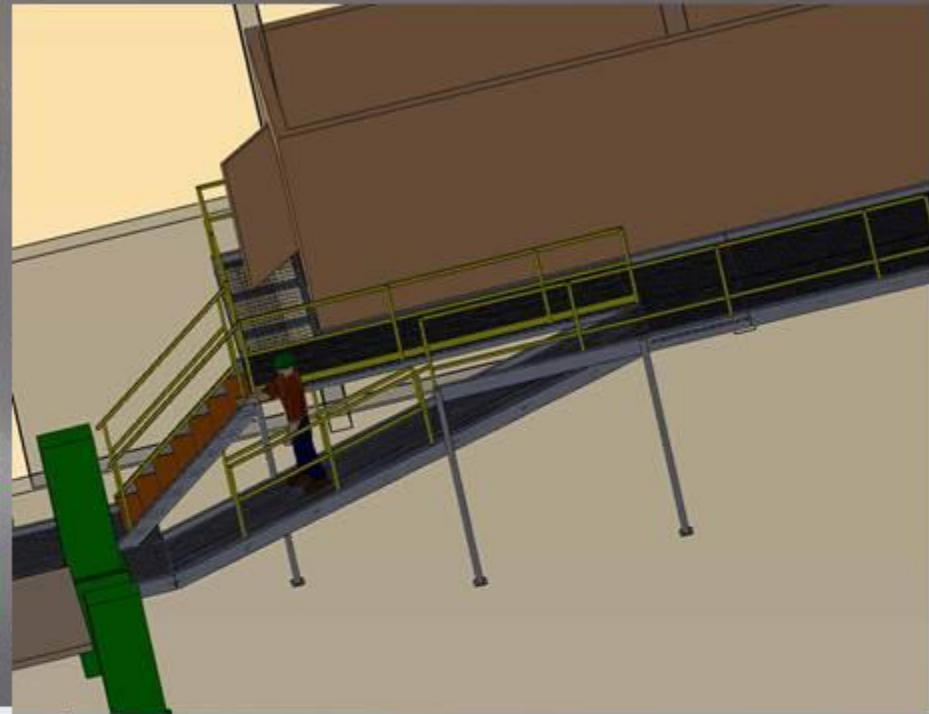
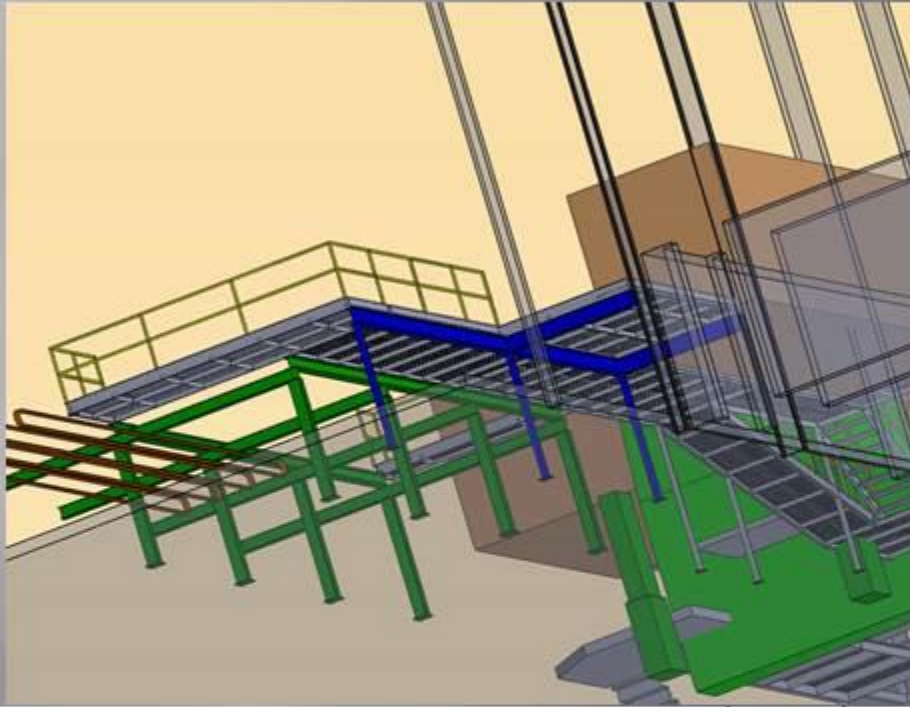


WAREHOUSE PRODUCT PICK CAR

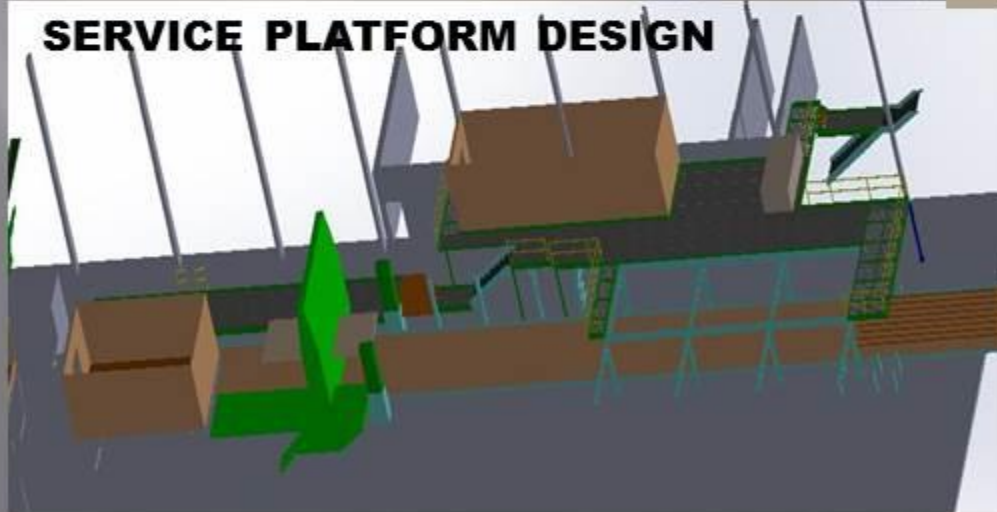
DESIGNED BY RON HOWARTH 2013
COMPLETELY DONE IN SOLIDWORKS
USED TO LIFT AN OPERATOR UP AND Laterally
BETWEEN ROWS OF STOCK SHELVING.
THE CAR IS ELECTRIC DRIVEN, VARIABLE SPEED THRU
JOY STICK CONTROL.
20 FOOT VERTICAL TRAVEL.
THE PRODUCT IS PLACED ON A 16" WIDE BOOM
CONVEYOR, WHICH PIVOTS AS THE PLATFORM LIFTS
AND LOWERS TO THE VARIOUS SHELF LOCATIONS.



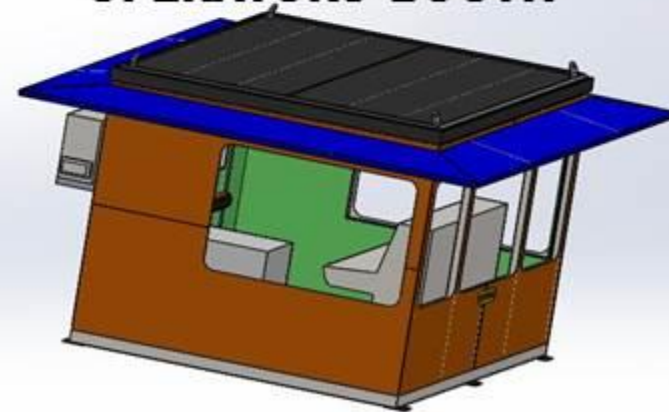
SERVICE PLATFORM DESIGN



SERVICE PLATFORM DESIGN

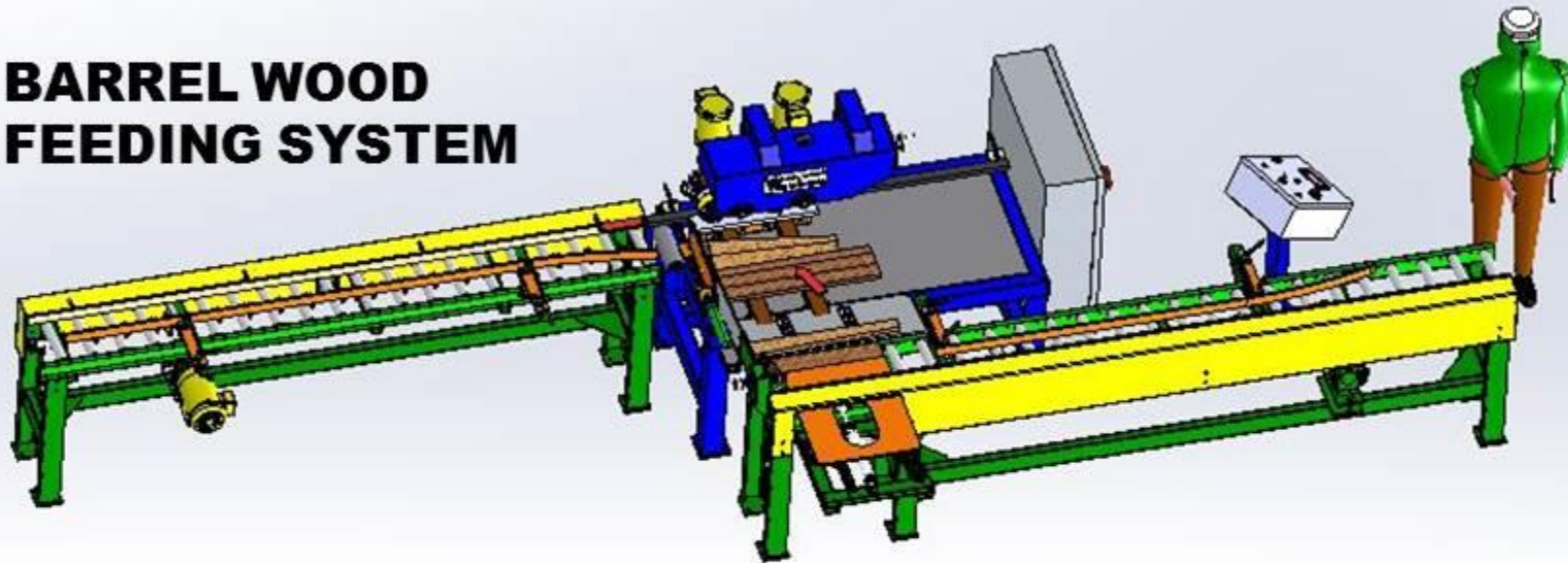


OPERATORS BOOTH

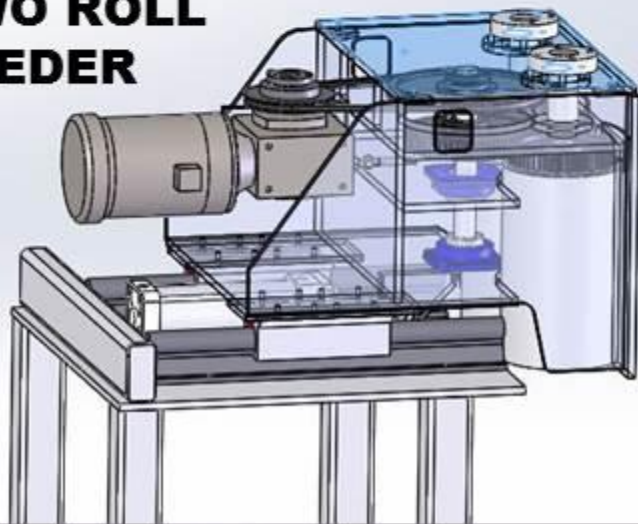


CUSTOM EQUIPMENT DESIGN

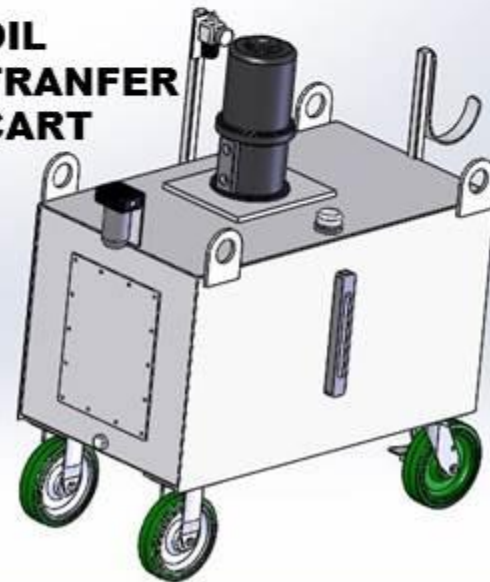
**BARREL WOOD
FEEDING SYSTEM**



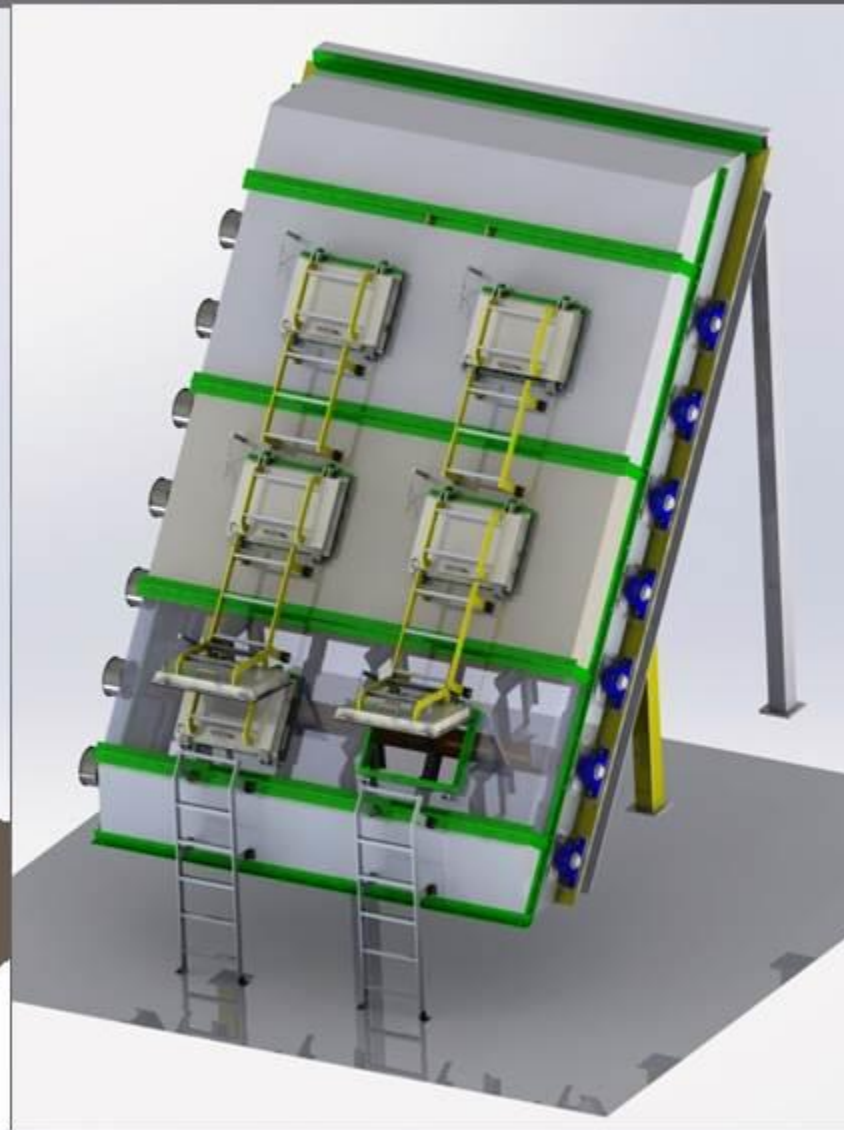
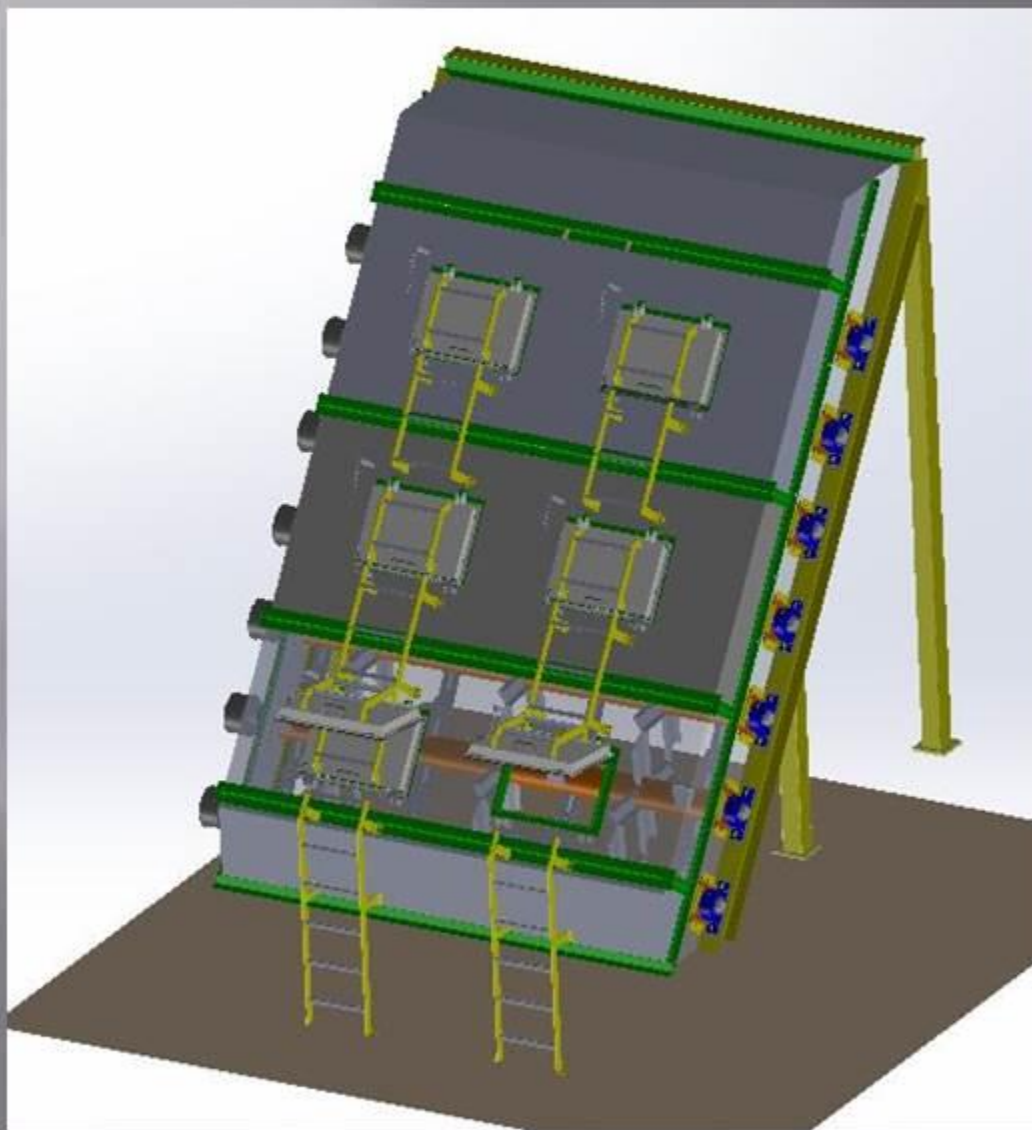
**TWO ROLL
FEEDER**



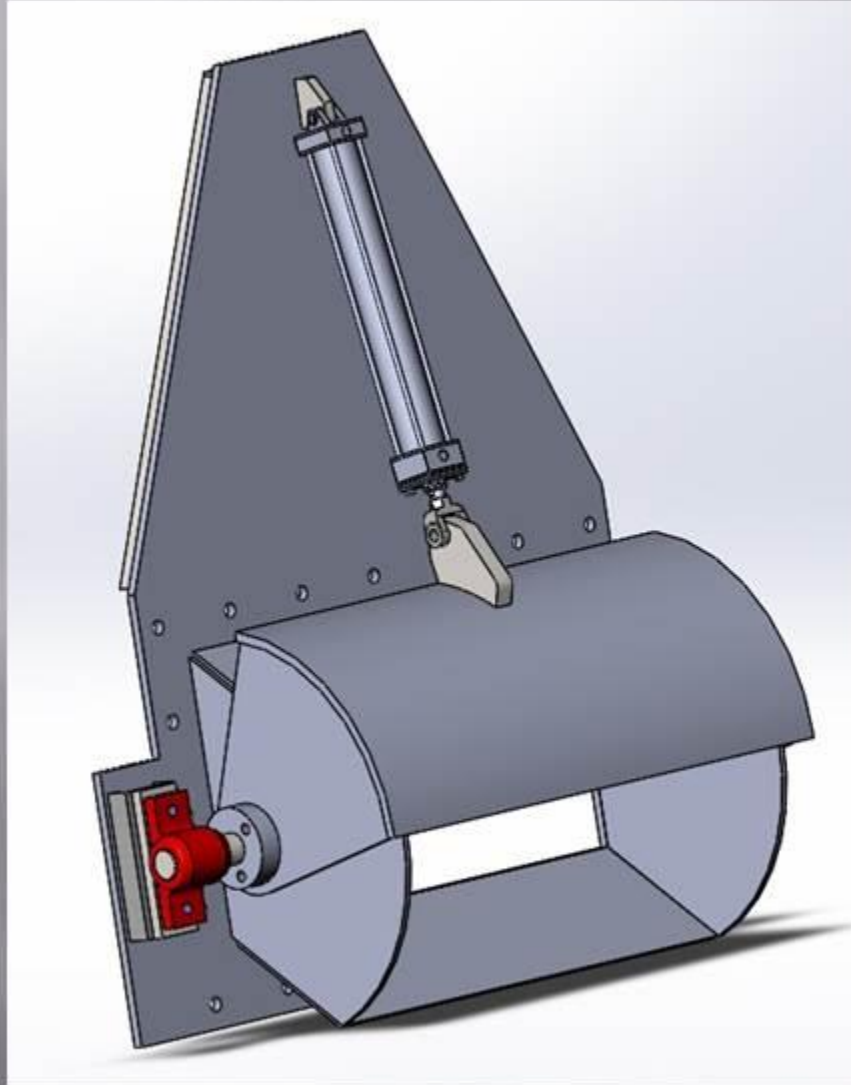
**OIL
TRANSFER
CART**



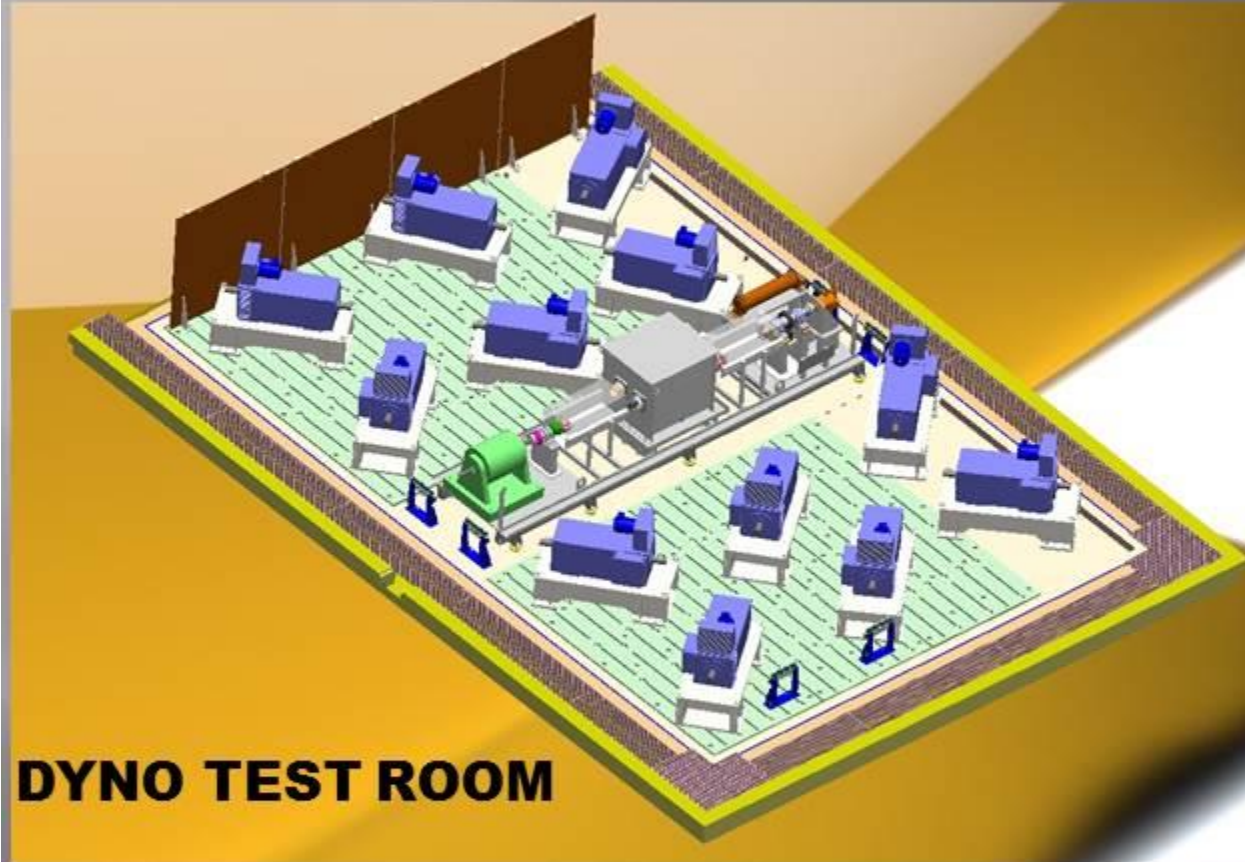
MULTI LEVEL FLAKER HOOD



MINING EQUIPMENT HANDLING

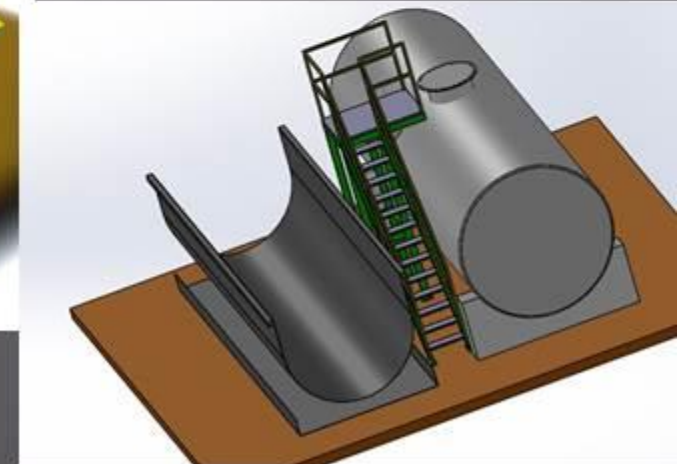
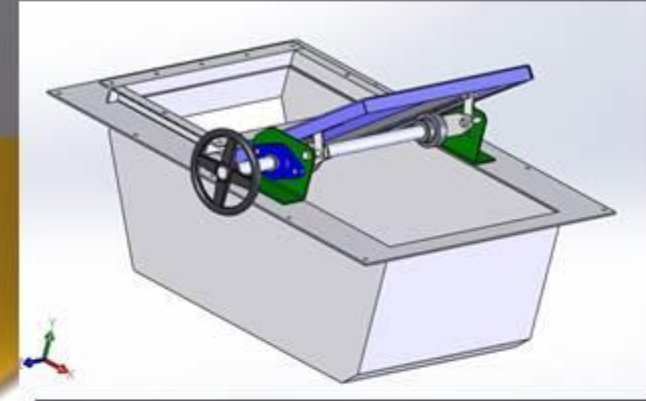


PLANT LAYOUT & TANKS



DYNO TEST ROOM

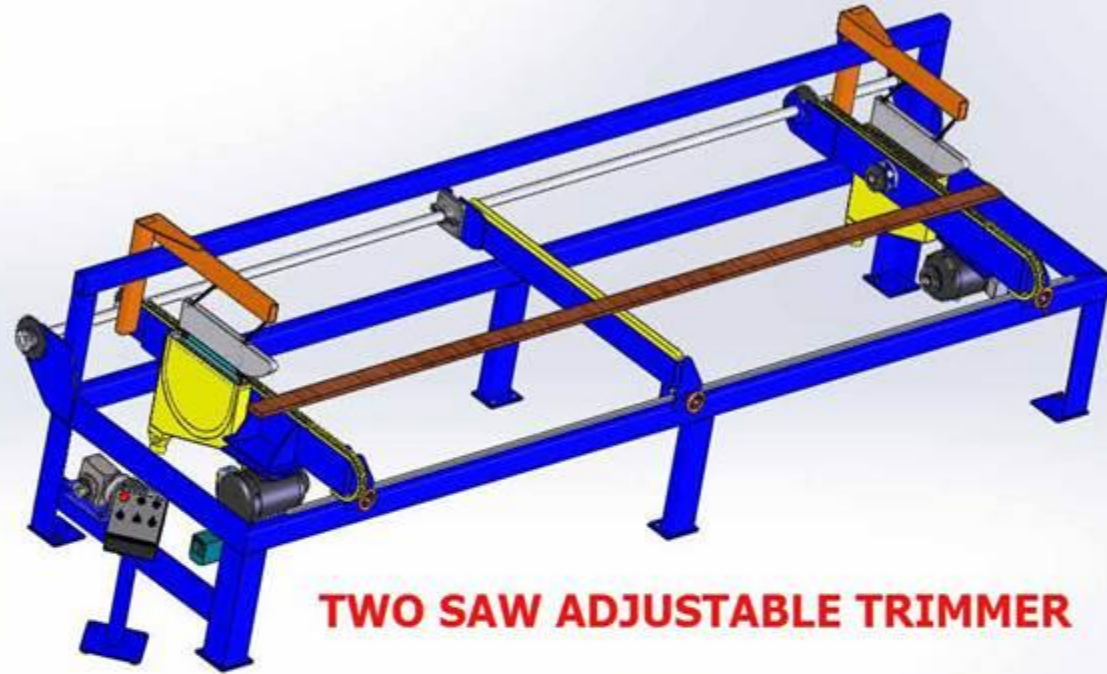
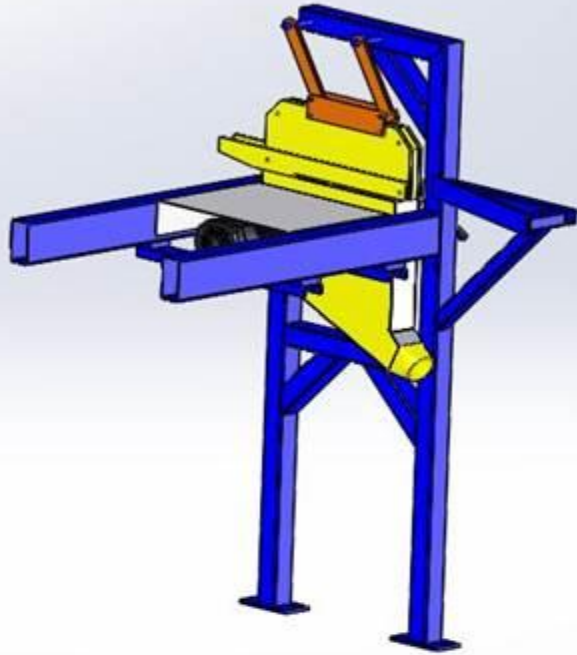
DESIGNED FOR KINETICS DRIVES – LANGLEY, BC



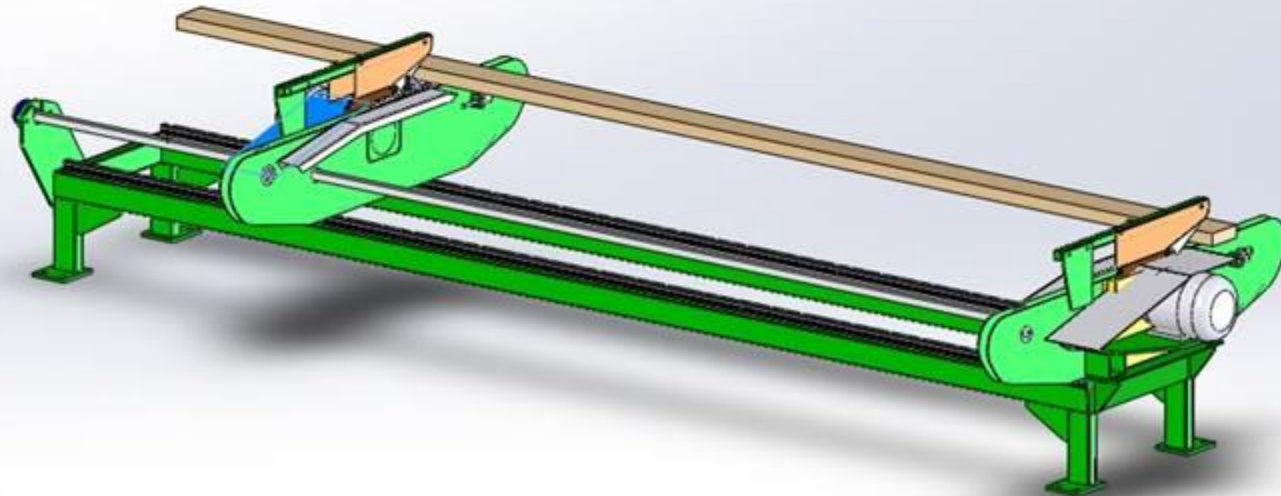


AXHURST MACHINERY INC.
LMC
LEADERMAC USA
THE WOUNDER OF WOUNDERS
Leading Manufacturer of 4-side emulsifiers

TRIM SAWS

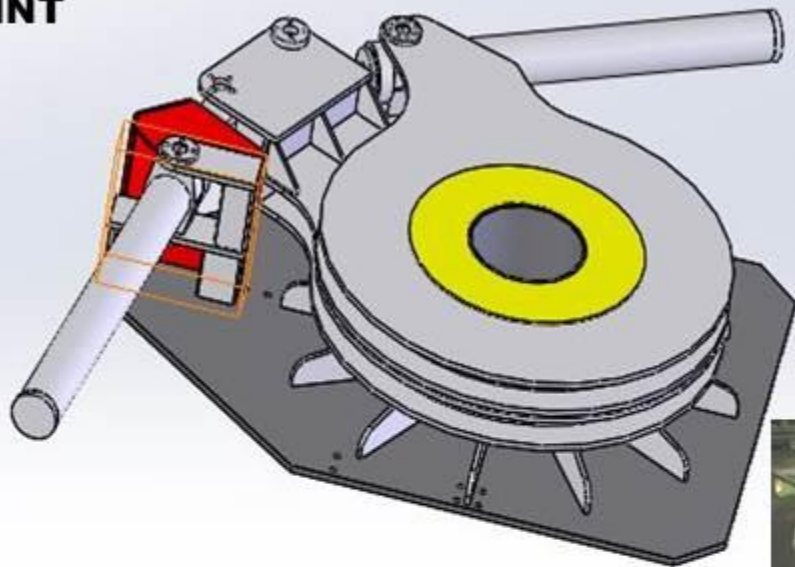


TWO SAW ADJUSTABLE TRIMMER

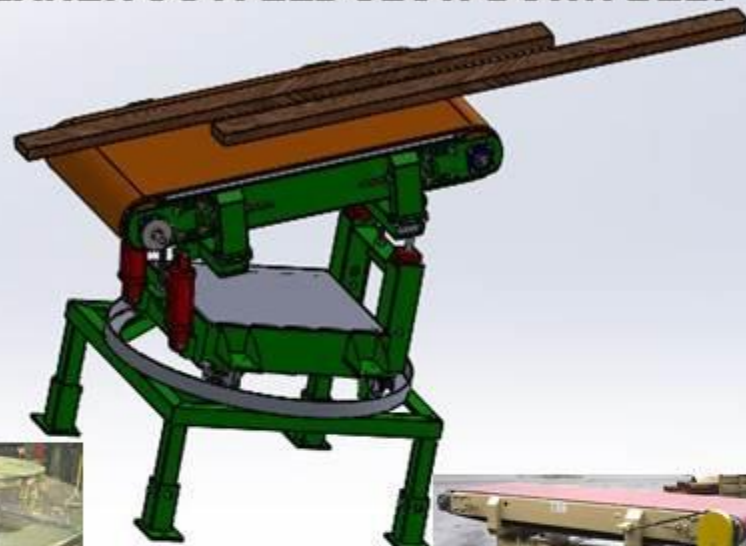


CUSTOM DESIGN

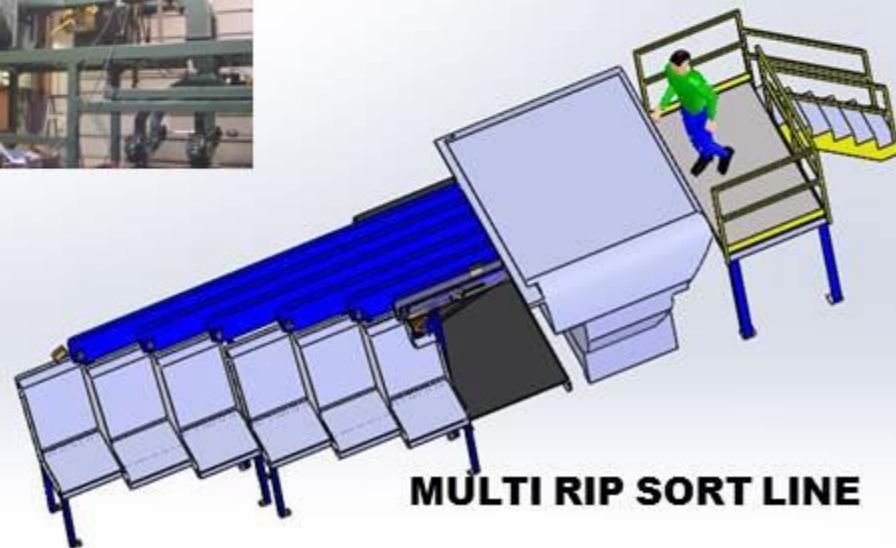
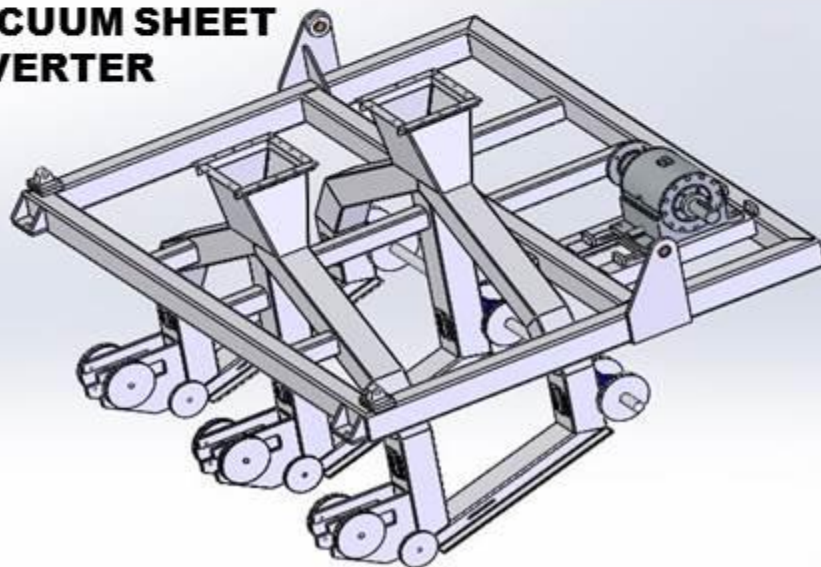
DOCK LOADING CONVEYOR KNUCKLE SWIVEL JOINT



PLANER OUTFEED SLOW DOWN BELT

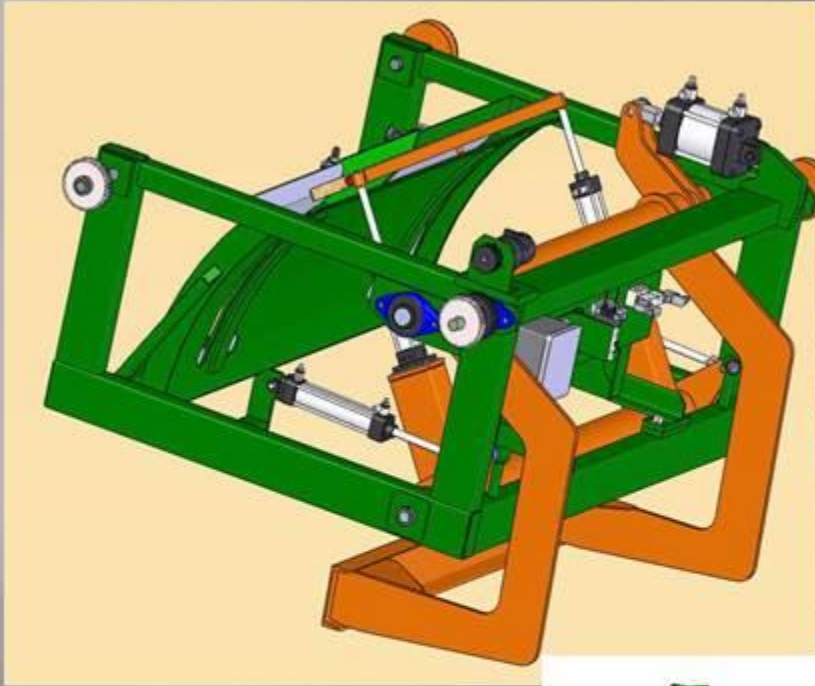


VACUUM SHEET DIVERter

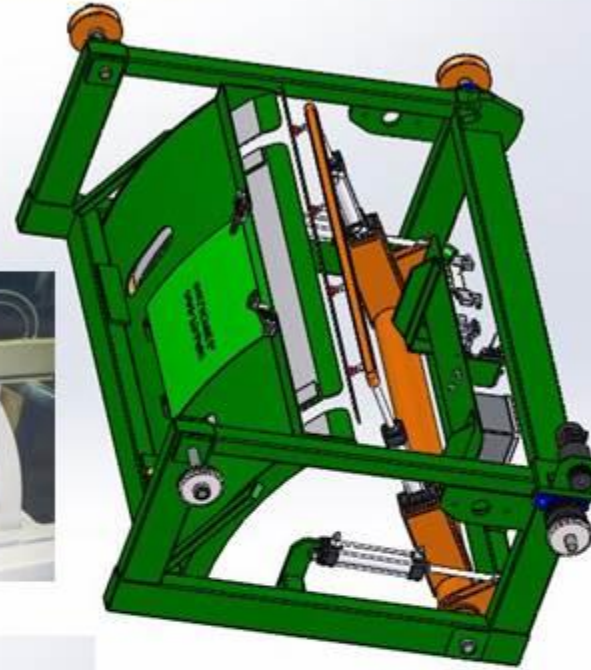


MULTI RIP SORT LINE

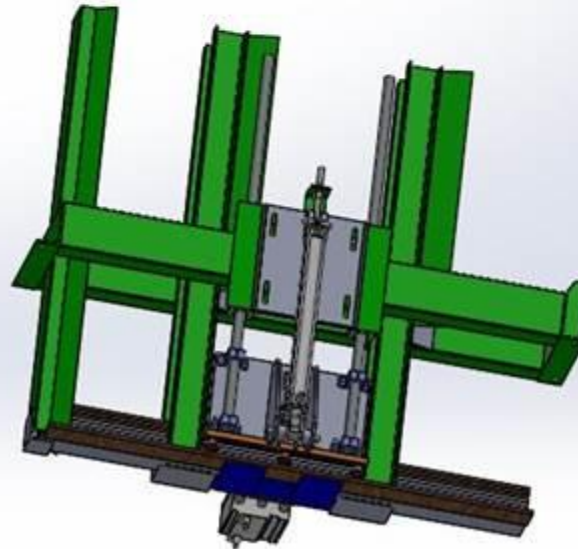
VACUUM LUMBER STICK PLACER



**STICK PLACER
WITH END
SQAURING**



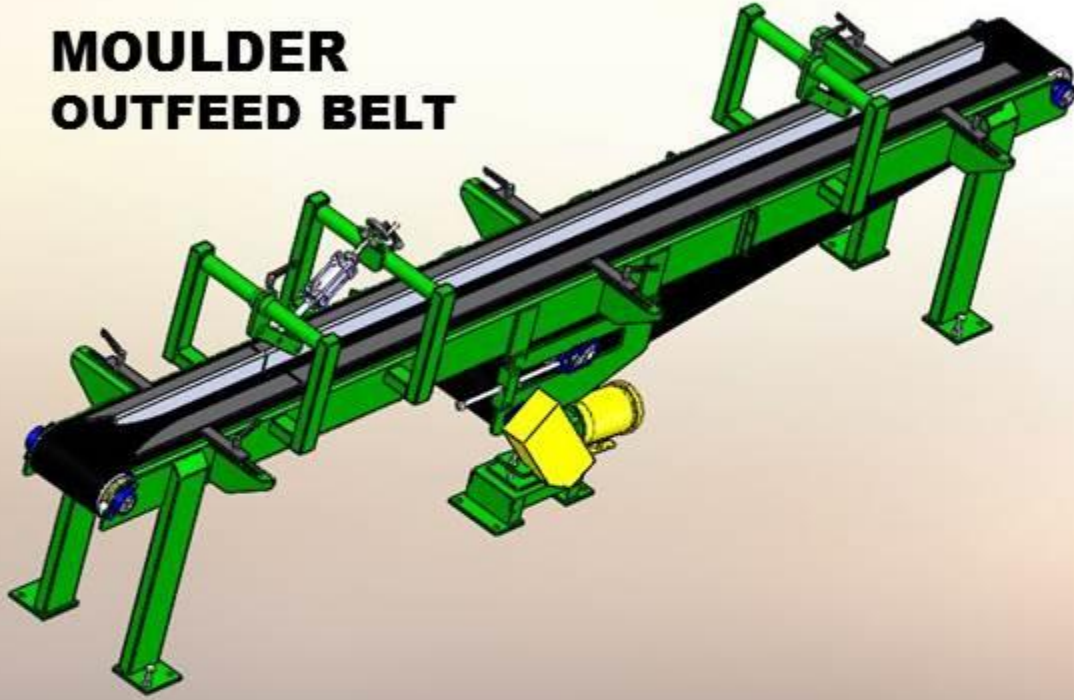
**TRAVELLING
STICK PLACER**



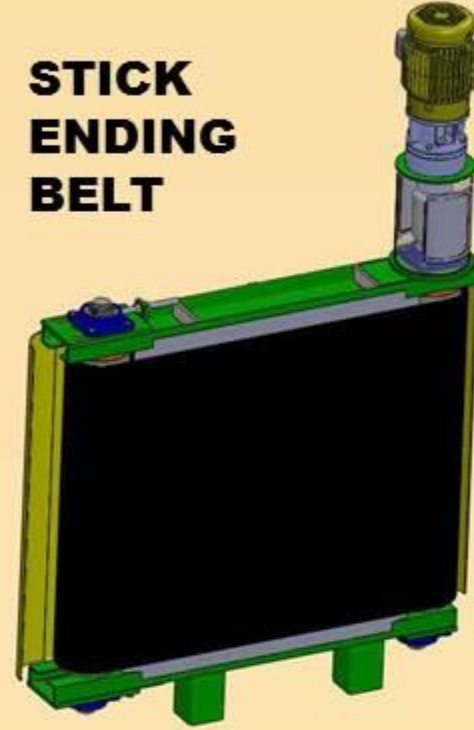
**VACUUM CUP
STICK PLACER
DESIGN**

CUSTOM DESIGN

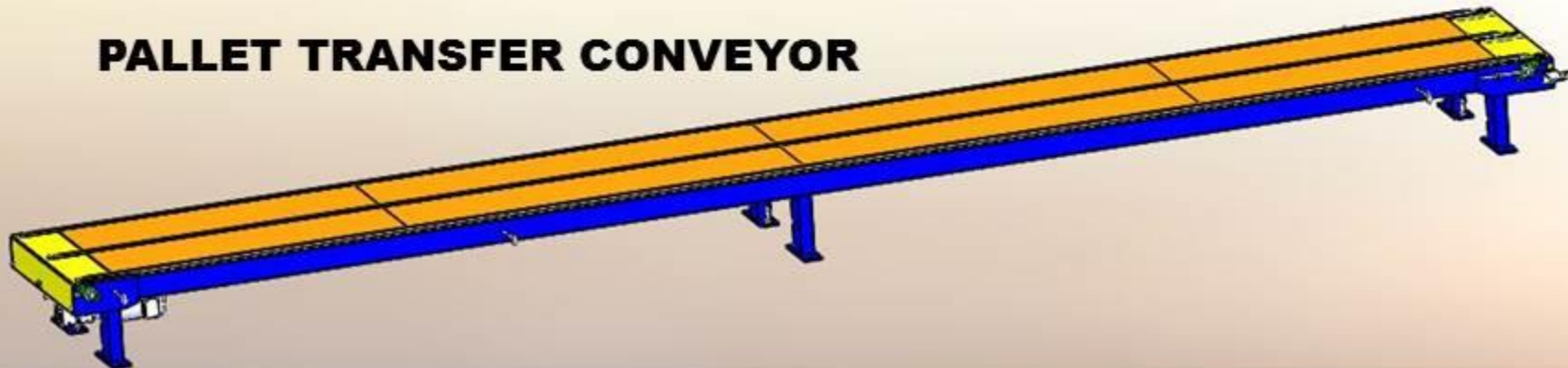
**MOULDER
OUTFEED BELT**



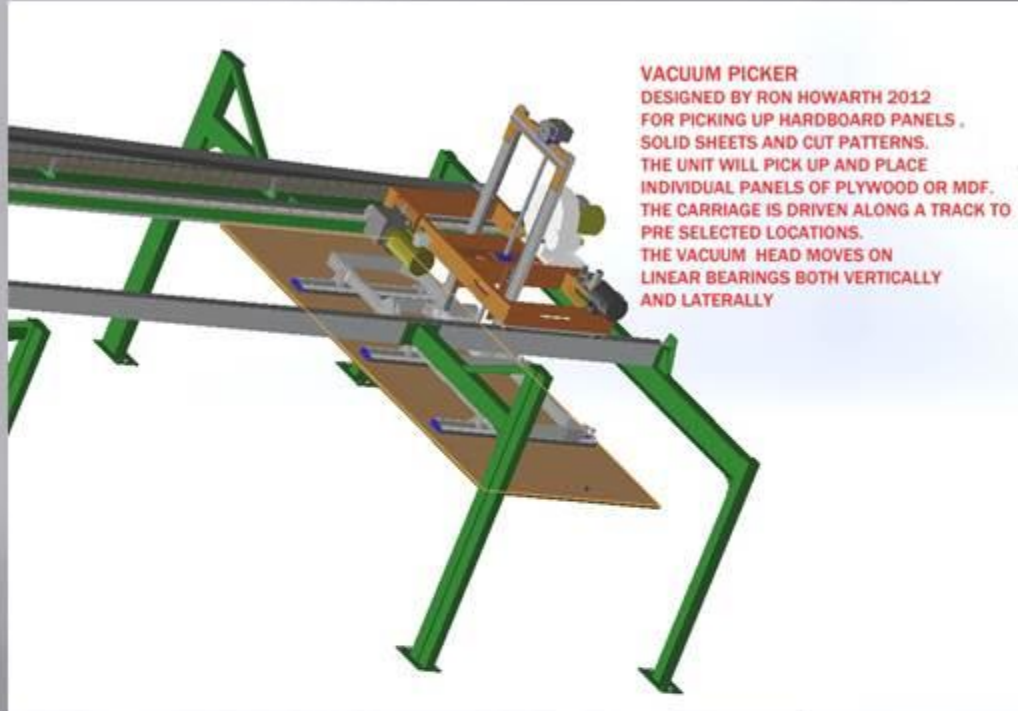
**STICK
ENDING
BELT**



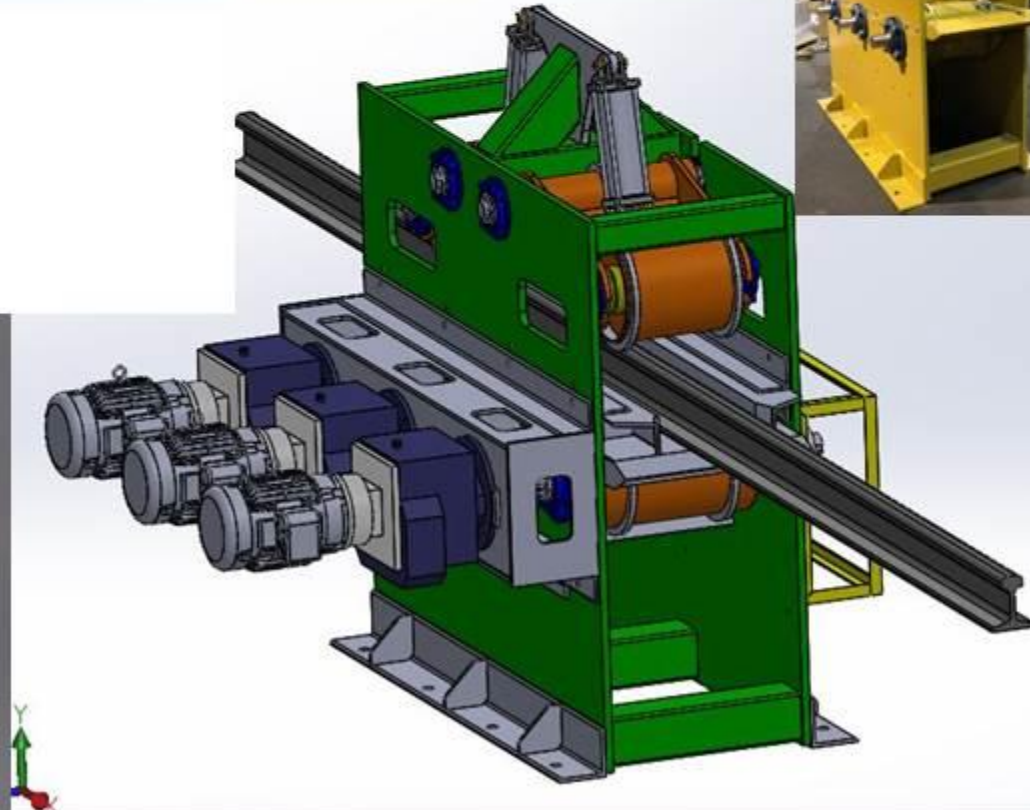
PALLET TRANSFER CONVEYOR

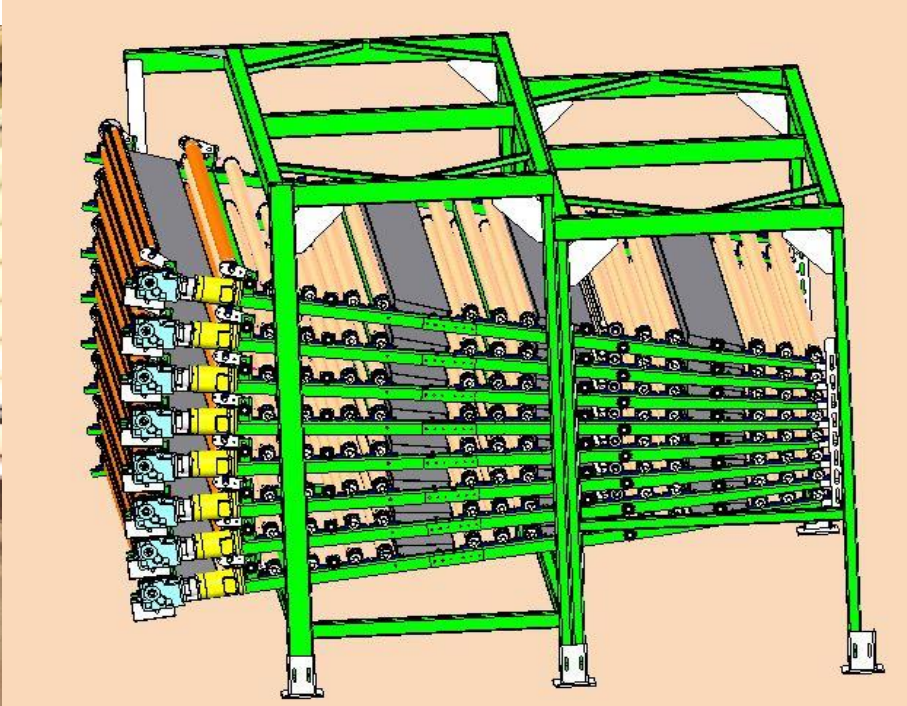


CUSTOM DESIGN



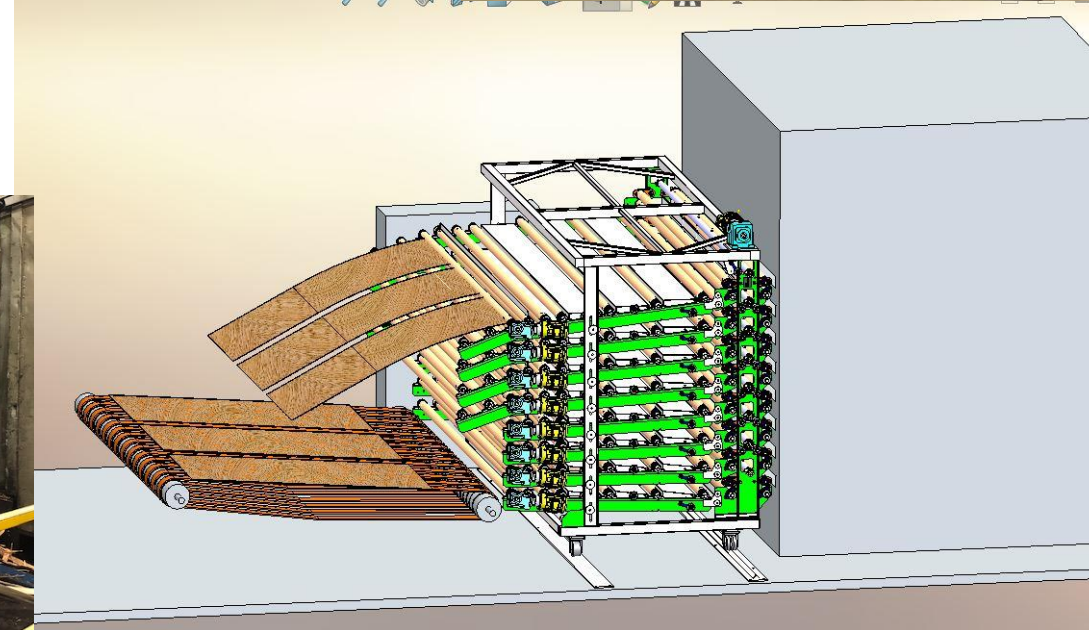
STEEL RAIL PULLER
*USED FOR
WELDING SKY TRAIN RAILS
TOGETHER.*



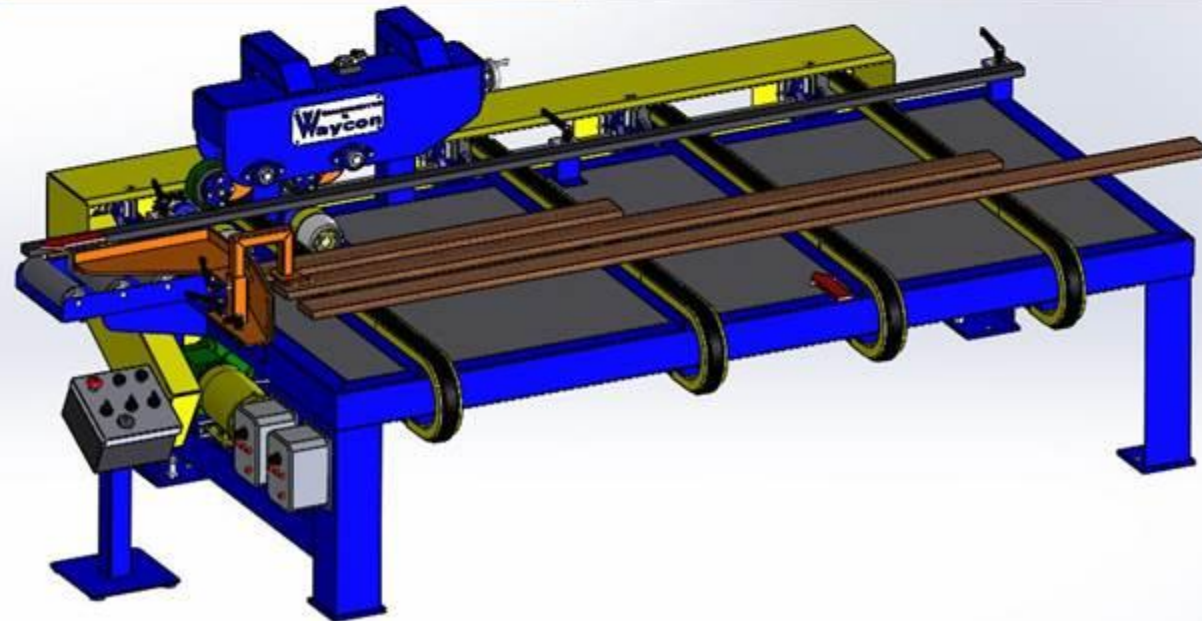
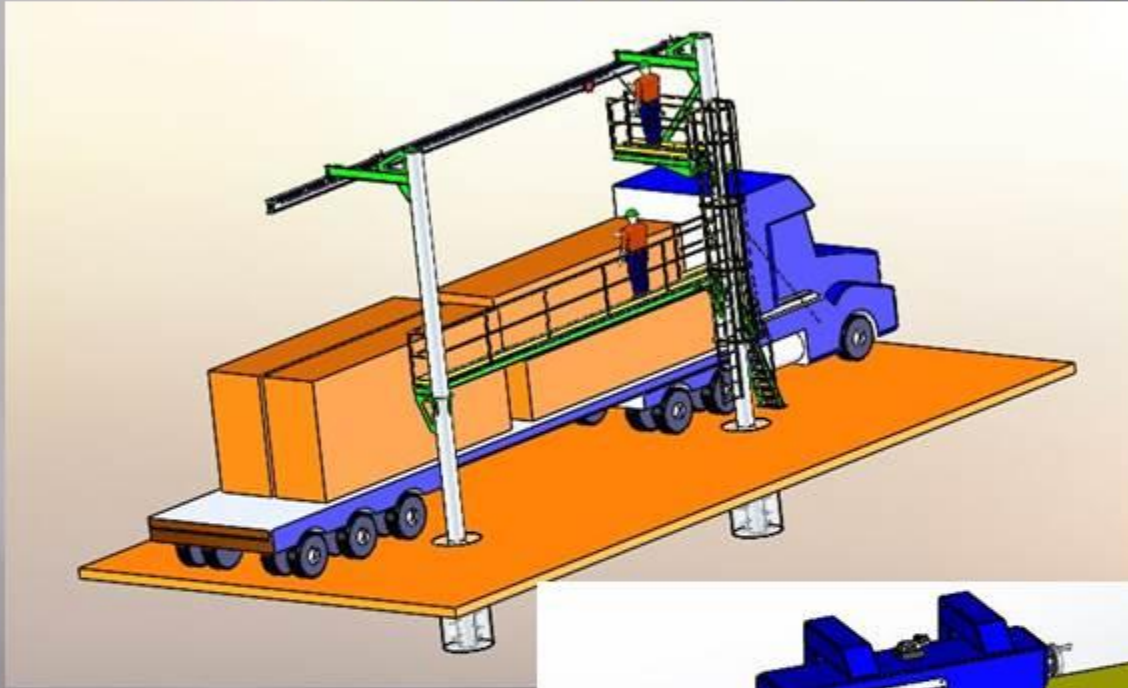


SHOWS MY SOLIDWORKS DESIGNS & THE FINAL MANUFACTURED EQUIPMENT

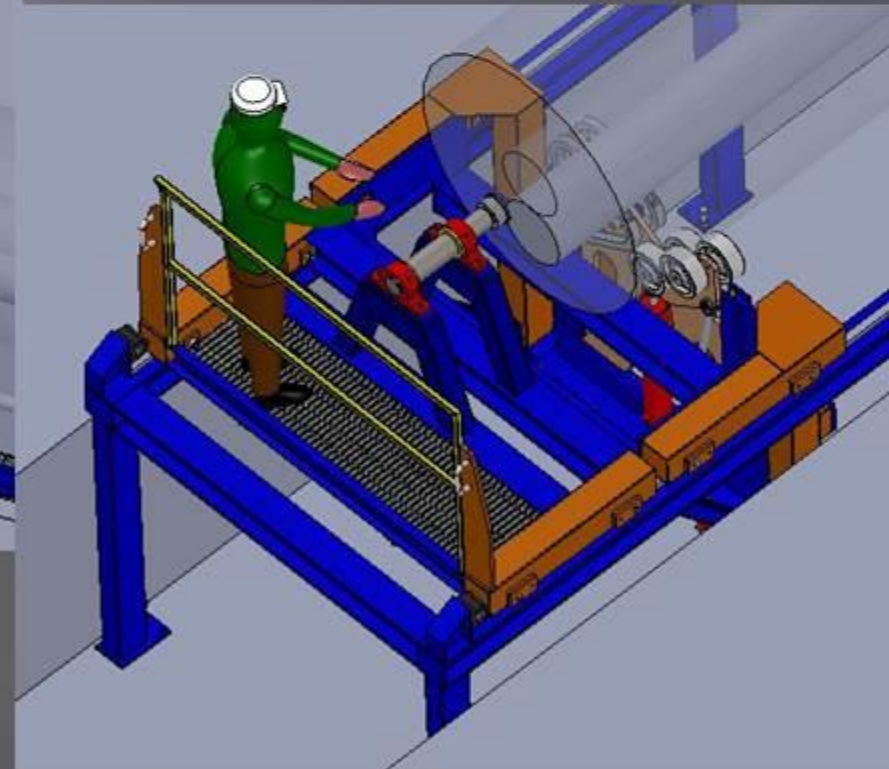
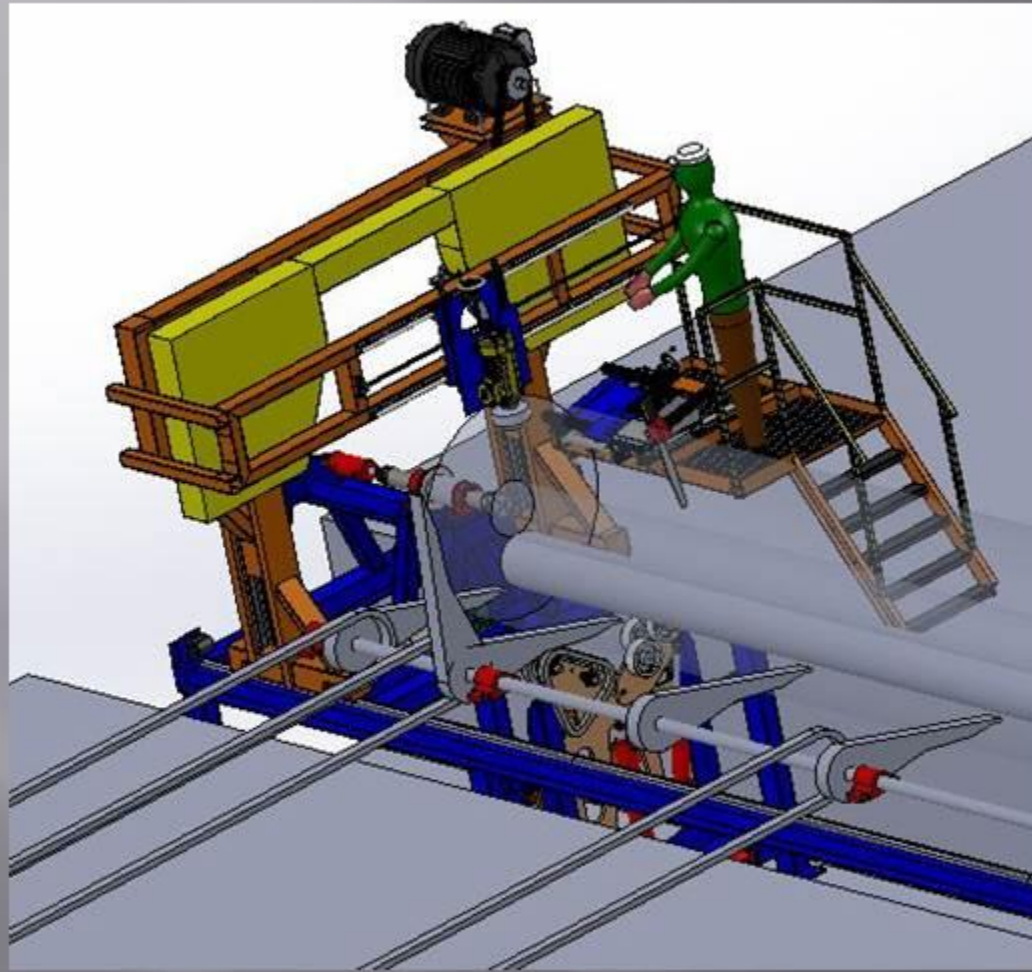
- **DRYER INFEED AND OUTFEED HANDLING.**
Designed for
 - WESTMILL INDUSTRIES
 - Aldergrove BC



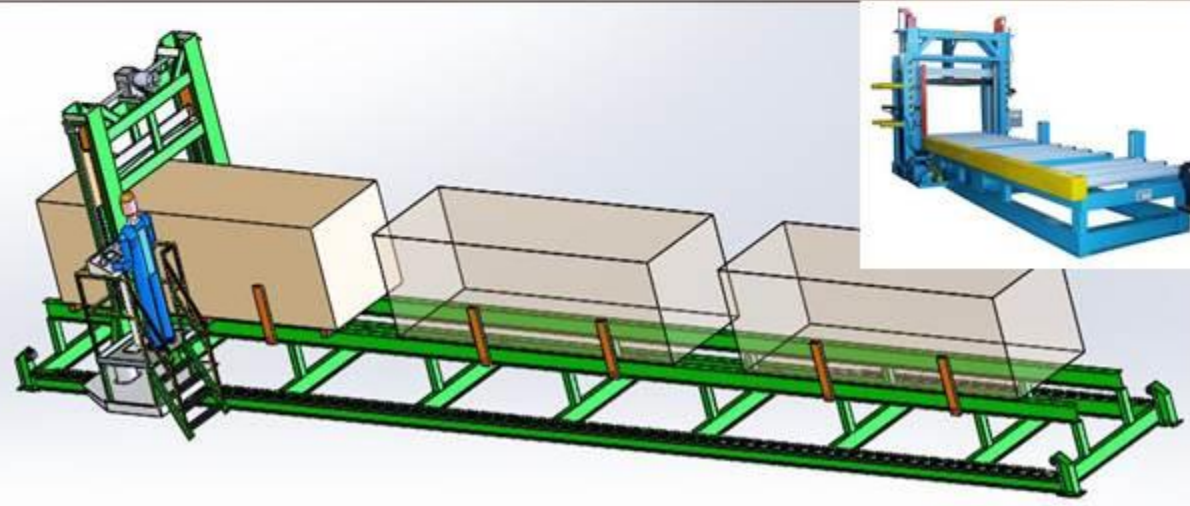
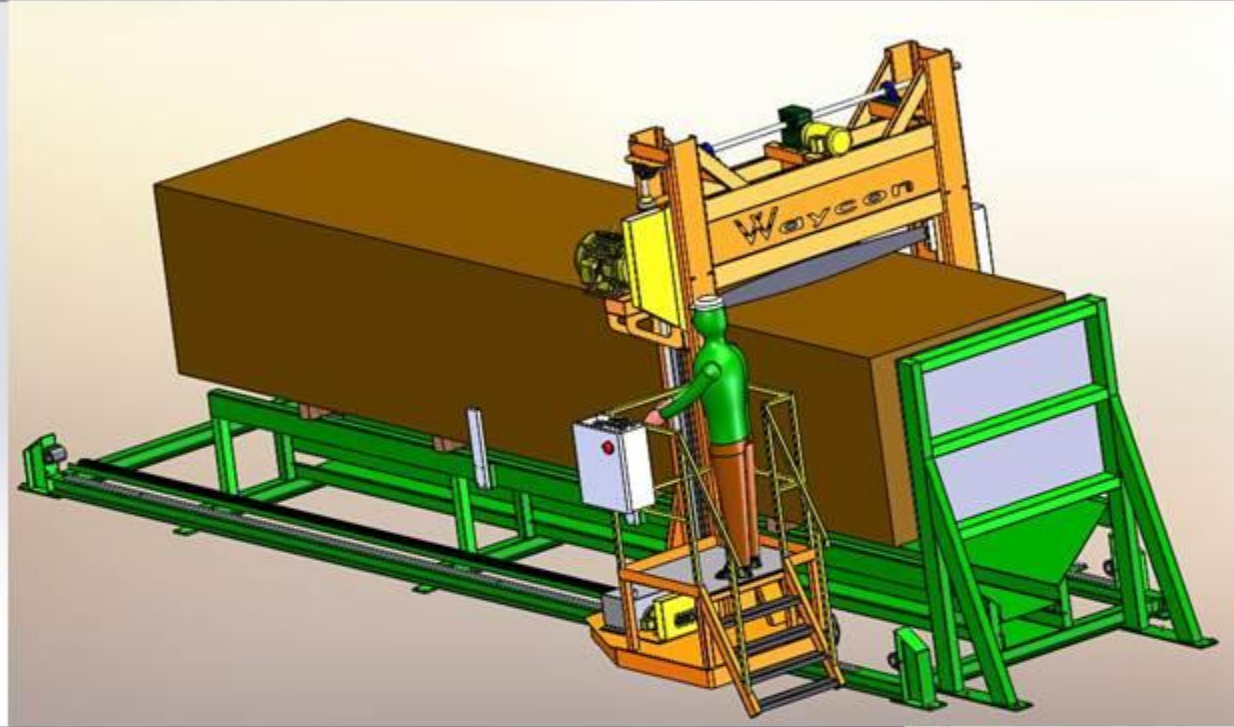
TRUCK TARPING STATION LATERAL MOULDER FEED TABLE

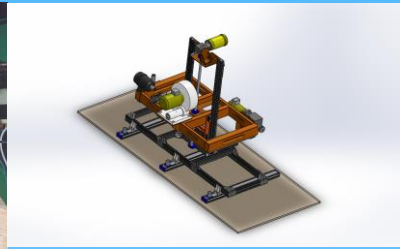


LOG HOME PROFILING MACHINE



PACKAGE CHAIN SAWS





DESIGNED BY :

RON HOWARTH SERVICES INCORPORATED
Ron Howarth

- . Machine Design
- . Hydraulics & Pneumatics
- . Project Management
- . Drafting & Detail Service

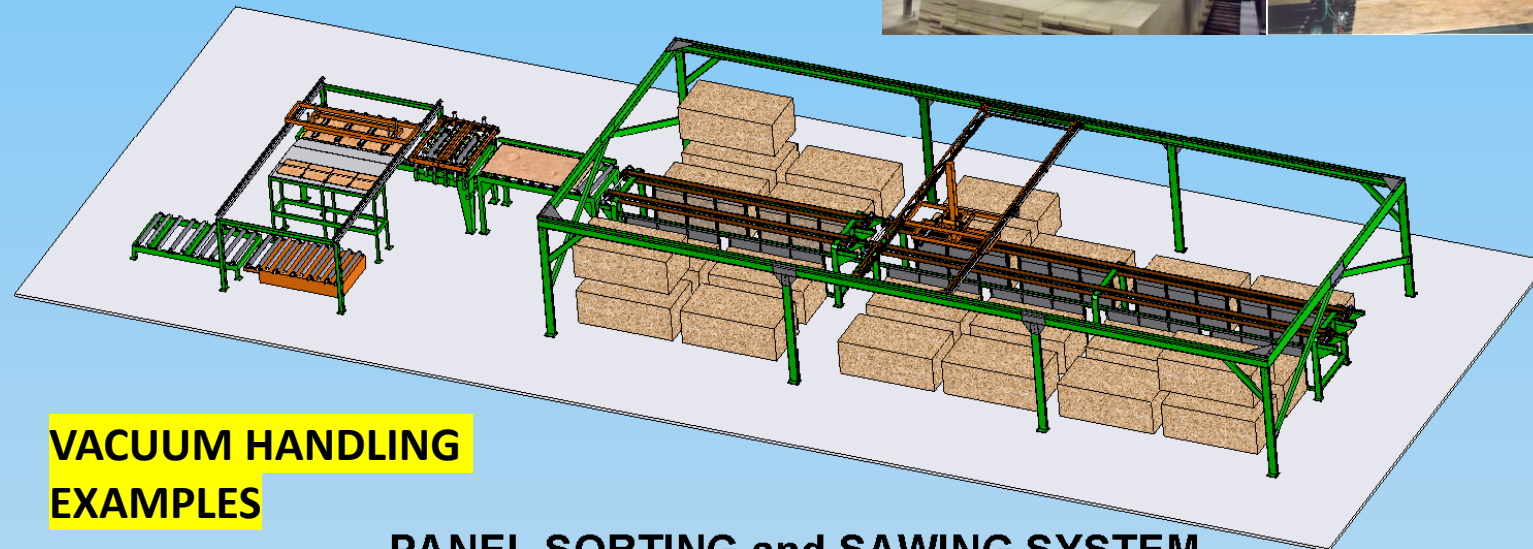
Unit 101
 16483 - 64th Avenue
 St. Andrews
 Surrey, BC, Canada V3S 6V7

Cell Phone: 604 - 317-3018
 E-mail: ronhowarth@shaw.ca



RAM-TECH Line

Package Chain Saw



**VACUUM HANDLING
 EXAMPLES**

PANEL SORTING and SAWING SYSTEM

**THIS VALVE
WAS
PATENTED**



**WIDE BELT RESAW
INFEED**



**LEAD SCREW ARRANGEMENT ON
ELECTRIC SCISSOR LIFT**



**12 BIN HIGH SPEED VENEER
STACKER**

**MANUFACTURED IN MY SHOP.
DESIGNED AND
MANUFACTURED UNDER MY
MANAGEMENT**



PACKAGE SAW

**HYDRAULIC SYSTEM; BOTH
DESIGN & MANUFACTURING**