

# WEYERHAEUSER I-LINE WEB-SAW PROPOSAL

Project Design 2: EET 4960

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## OLD DESIGNS

### 1. Add feeder wheels

The feeder wheels would take in the wood earlier and force it back into place, preventing the wood from backtracking

### 2. Add guidance wheels

These wheels would replace the bars, and their weight would apply pressure to the wood, hopefully bending bowed wood back to desired linearity

## ABSTRACT

The problem to be studied is to determine a way to decrease or eliminate downtime with Weyerhaeuser's web saw. The root of much of their downtime is due to periodic malfunctions caused by bowed wood running through it. Included are potential solutions to the problem.

## OBJECTIVE

The objective is to help Weyerhaeuser determine the best solution to eliminate their downtime occurring in their web saw. The web saw's job is to cut the wood into three different sizes that will be used in the serrator.

## RATIONALE

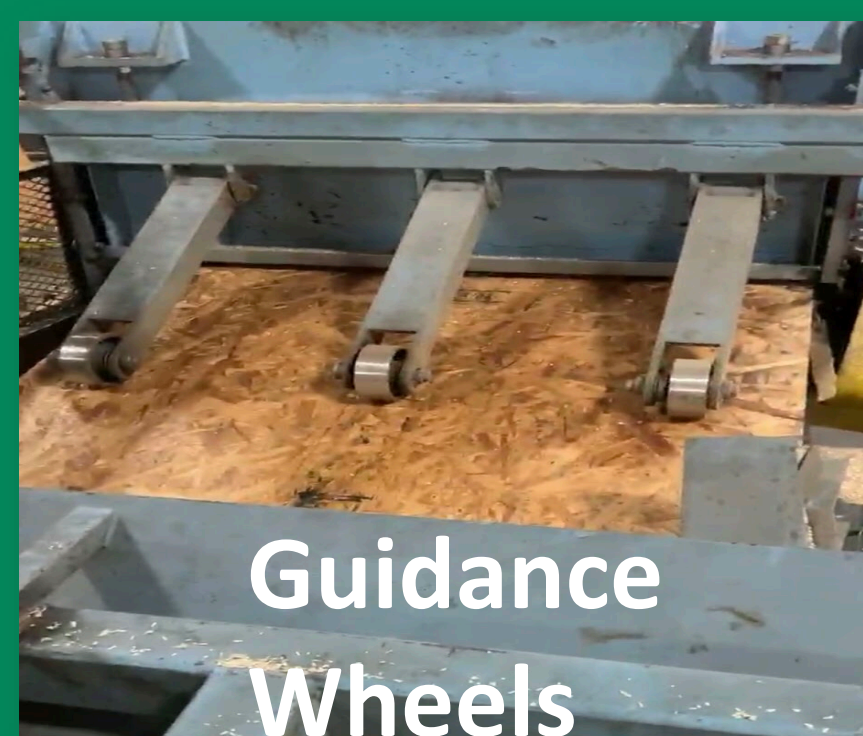
The problem begins because the wood does not always reach the blue roller and will sometimes shoot back into the saw causing problems that will have to be fixed manually. This could be solved by ensuring the wood makes it to the rollers, which can be done in different ways.

Old Design 1



Blue Feeder Wheels

Old Design 2



Guidance Wheels

Current Setup



Guidance Bars

New Design 1



New Design 2

## NEW DESIGNS

1. A single additional feeder wheel attached to the tray at the front of the stacking zone. The wheel should catch the wood and pin it to the tray, thus keeping it in place. As the wheel is attached to the tray, it would move when the tray is lifted for maintenance access.

2. Guidance wheels added to the mouth of the web saw to apply downward pressure to the wood to bend bowed wood back into shape. As the wheel's arm is hinged, the arm could be lifted for maintenance access.

## THEORY

By using two of the seven mudas of lean manufacturing, motion and defects, the plan is to eliminate as much waste as possible at the web saw, both wasted wood and time. Getting rid of any unnecessary motions is important in the overall process.

## METHODS AND PROCEDURES

The old options involved adding blue feeder wheels to aid the ones at the stacking zone by catching the cut wood sooner and replacing the guidance bars with wheels that would weigh down bowed wood to bend it back into shape. These options were scrapped for different reasons.

The feeder wheels idea was scrapped in favor of a singular new wheel which could be attached the tray at the stacking zone. This option was deemed more favorable than two feeder wheels due to costs. The guidance wheels idea was altered because the bars they would have replaced could not be feasibly removed. Instead, it was suggested that the wheels could merely be added to aid the bars and not replace them.

## CONCLUSION

These implementations are expected to significantly lessen the downtime caused by observed web saw errors. These ideas would be validated by a decrease of downtime created by increased process control tailored to the transfer of wood from saw to stacking zone.