

# CHAPTER 3



## WASTE

### 1.0 Why

Studies have shown that about 70% of the activities performed in the construction industry are non-value add or waste. Learning to see waste would dramatically affect this ratio.

Waste is anything that does not add value.

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Waste is all around, and learning to see waste makes that clear.

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### 2.0 When

The process to see waste should begin immediately and by any member of the team. Waste is all around, and learning to see waste makes this clear.

## 3.0 How

Observations

Ohno Circles

1st Run Studies/Videos

Value Stream Maps

Spaghetti Diagrams

Constant Measurement

## 4.0 What

There are seven common wastes. These come from the manufacturing world but can be applied to any process. They specifically come from the Toyota Production System (TPS). The Japanese term is *Muda*.

There are several acronyms to remember what these wastes are but one of the more common one is TIMWOOD. (T)ransportation (I)ventory (M)otion (W)aiting (O)ver Processing (O)ver Production (D)efects.

### Transportation

Unnecessary movement by people, equipment or material from process to process. This can include administrative work as well as physical activities.

### Inventory

Product (raw materials, work-in-process or finished goods) quantities that go beyond supporting the immediate need.

### Motion

Unnecessary movement of people or movement that does not add value.

### Waiting

Time when work-in-process is waiting for the next step in production.



Look for and assess opportunities to increase value through waste reduction and elimination.

## Over Processing

More processing than is needed to produce what the customer requires. Perhaps the hardest to detect and eliminate.

## Over Production

Making something before it is truly needed. This is a particularly serious form of waste because it leads to other forms of waste.

## Defects

Production that is scrap or requires rework. There are many more forms of waste beyond the seven listed. Continue to look for and assess opportunities to increase value through waste reduction and elimination. Some other common wastes that have been identified are listed next.

## Underutilized Talent

Many people consider this one the eighth waste. It is essentially underutilizing the talents or resources that are available.

## Over Burdening

The Japanese word is *Muri*. This is excessive demand on a system that causes the system to produce beyond its reasonable capacity. Pushing a machine or person beyond natural limits. Over burdening people results in safety and quality problems. Over burdening equipment causes breakdowns and defects.

# Unevenness

The Japanese word is *Mura*—fluctuation in demand that causes the workflow to be uneven.

# Waste is Disrespect

Waste is disrespectful to people. Any of the wastes described interfere with the environment that an individual works in. Waste consumes resources and skill.



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