Introduction to Lean Construction
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How to Start Practicing Lean Tools in Project Sites-1 - CPS_ LPS

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Hello everyone, greetings of the day. This is Akash, a senior engineer at Larsen and Toubro constructions. And I will be taking you through the collaborative planning system which is a Lean Construction tool. I am urrently coordinating implementation of collaborative planning system across four sites in eastern Indian region.

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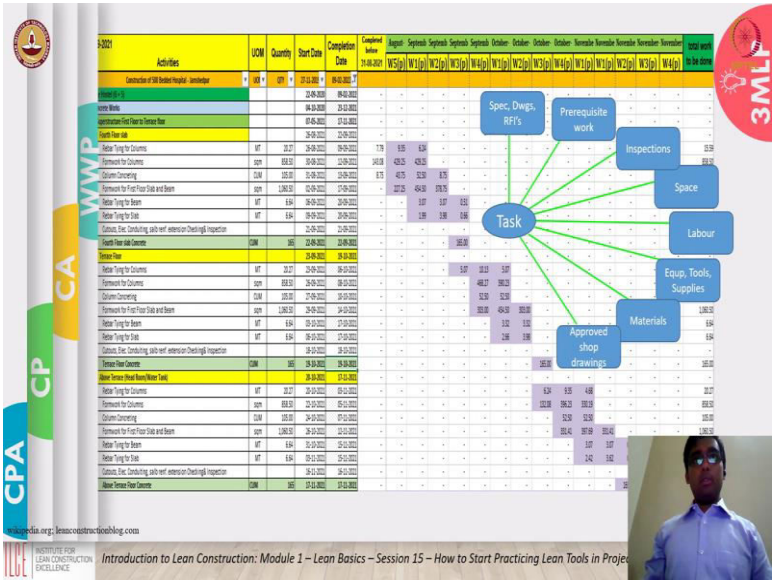

Now that we know the type of risk that exists in our system, let us now focus on how to practice Lean tool in real life scenario. Collaborative planning consists of an overall schedule

with milestones. To achieve the milestone everyone from foreman to the managers are involved in planning. So, it is called collaborative planning and everything is planned ahead. So, it is also known as pull planning. The collaborative planning system is a team based activity in which everyone is responsible to achieve a milestone by reducing process constraint.

The collaborative planning can be achieved by practicing the following steps. First one, three month look ahead plan. This is a tool to control the workflow in the look ahead schedule and helps eliminate wastage due to transportation and inventory. This indicates kind of work to be done in future, the sequence is a key in construction and you cannot start building the frame until the footings are set.

This illustration shows most of the items that must be known prior to beginning any construction activity. If any of the information that the task requires is not known, it is a constraint that would give the task from the beginning as planned, this should be recorded on a constraint log with the name of responsible person for resolving it. If the commit to resolve the issue prior to the start of activity, then the team is likely to begin and finish the activity on time. This helps eliminate waste due to waiting and overproduction.

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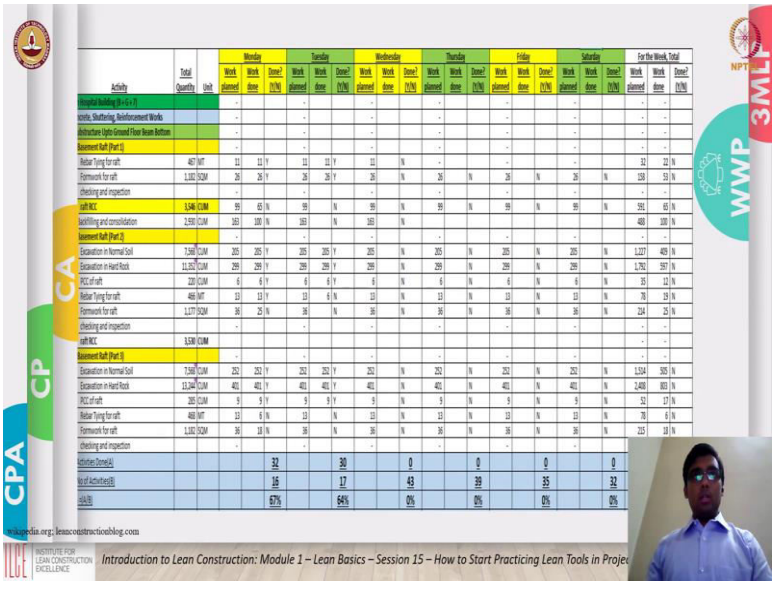

Then comes the weekly work planning. Creating a reliable workflow depends on work being released based on downstream demand lean construction recognizes that it is best conducted to those that are performing the work which are often subcontractors, participate, communicate and collaborate, closely with each other to determine the schedule of task.

What should be done? What can be done? And what will be done are the key parameters discussed at the beginning of week and the constraints related to the work are noted down and then is reviewed daily. This helps eliminate waste due to defects and motion.

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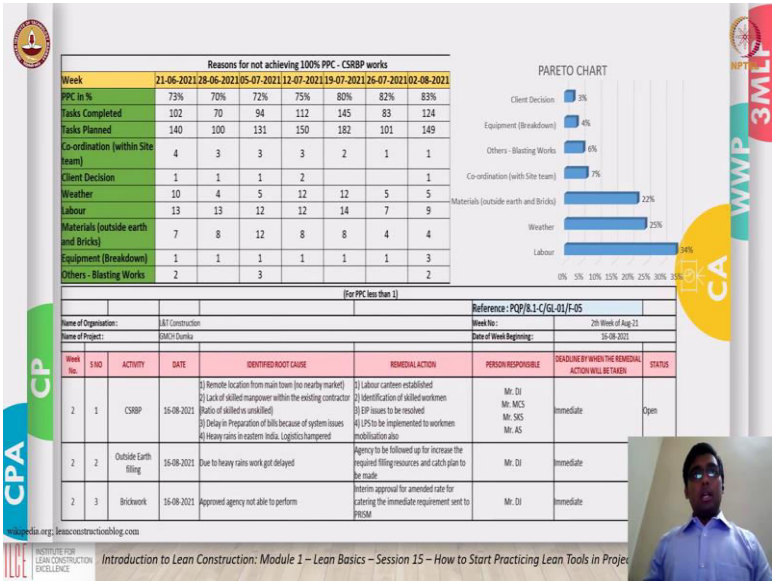

All the constraints that are noted down are sub categorized into different headers, then the Pareto Chart is prepared. The Pareto Chart principle states that for many outcomes roughly 80 percent of consequences come from 20 percent of the causes. other main causes for this principle 80-20 rule, the law of the vital few or the principle of factor facility. in individual cases, the distribution could just as well we say near to 90-10 or 70-30. This helps to eliminate waste due to over processing.

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In this step, the actual daily plan is explained to manpower while having toolbox talk by the site engineer and individual manpower responsibilities highlighted and mutually agreed. At the end of the day the work done is tallied with the commitments made and the reason for failure if any are collected from the manpower. If this issue persists for consecutive days, it is discussed in the daily review meetings and mitigation plans are worked out.

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Than the collaborative planning analysis. The data that are collected daily is documented in a specified format and the productivity for individual manpower is analysed, which can be further grouped into a gang. The overall productivity achieved by individual site engineer is further analysed and which further sums up to construction manager level as a result everyone is looked into this process.

Further the resource allocation is analysed and if any variation in resource allocation is observed the excess allocation is diverted to other areas where there is scarcity of resources. This helps in reducing the wastage that arises because of a unused scales. Then the plan percentage completion can be calculated by the number of activities completed divided by the total number of planned activities to achieve a higher PPC dedicated collaborative planning with lean to implementation are required. Thank you.