0:0:0.0 --> 0:0:32.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Problem 10. So I see a lot of familiar faces in the audience today. So I'm looking for a lot of participation and hopefully we can go through the examples from your projects and whatnot and go on today, we're gonna be taking periodic breaks during the during the presentation. So don't think you're gonna be sitting here for four hours. I'm just listening to me Yammer on. We'll, we'll take breaks. We're gonna have some. It's gonna be an interactive presentation. So like I said, I'll be seeking audience participation and a little clue. The faster you provide that participation.

0:0:32.640 --> 0:0:34.390  
Rothamer, Steve - DOT (DTSD Consultant)  
The sooner the presentation gets over.

0:0:35.430 --> 0:0:43.360  
Rothamer, Steve - DOT (DTSD Consultant)  
And we're going to have some interactive exercises during the presentation as well. So we're looking for some presentation on that today.

0:0:44.500 --> 0:1:2.790  
Rothamer, Steve - DOT (DTSD Consultant)  
Objectives will or agenda today is we're first. We'll talk about the objectives, briefly, talk about what is CPM scheduling advantages and lessons learned in CPM and and talk about the goals of why we use CPM scheduling and that sort of information.

0:1:4.430 --> 0:1:28.40  
Rothamer, Steve - DOT (DTSD Consultant)  
In the schedule review preparation, we're gonna get into some basic CPM scheduling terminology and basics. For those of you that may not have experience with CPM schedule, we're gonna talk about some of the basic things. For those of you that have been through this for years, it might be things you've heard before, but we'll we'll go through it quickly.

0:1:28.960 --> 0:1:51.90  
Rothamer, Steve - DOT (DTSD Consultant)  
And then once we get in past the the basics, then we're gonna get into some examples. What is the baseline schedule? What do we look for when we're reviewing the schedule and and how do we do that process? And then we'll talk about monthly updates, delays in claims. And finally at the end questions and answers.

0:1:54.210 --> 0:2:14.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Our objectives today where we're looking for to learn the CPM, schedule information, understand the elements of what makes a good CPM schedule, review baseline and update schedules, identify CPM risks and and understand the ideas, what we can do to mitigate those risks.

0:2:15.440 --> 0:2:16.470  
Rothamer, Steve - DOT (DTSD Consultant)  
As we go along.

0:2:20.30 --> 0:2:20.450  
Rothamer, Steve - DOT (DTSD Consultant)  
You.

0:2:26.170 --> 0:2:36.290  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, So what is CPM scheduling? For those of you on different projects just to show of hands real quick on how many people are on a project that requires a CPM schedule?

0:2:37.510 --> 0:2:53.900  
Rothamer, Steve - DOT (DTSD Consultant)  
So quite a few of you, about half to have the audience here. So basically, CPM schedules are a tool that breaks the project down into a timeline, different activities and different relationships and provides the constructions.

0:2:55.970 --> 0:2:59.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Contractors plan on how they intend to build the project.

0:3:1.100 --> 0:3:15.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Using that information, we can calculate the minimum time that's needed to complete a construction project alongside with the start and end dates of when things are are intended to occur, helps communicate the information to the project.

0:3:16.70 --> 0:3:19.220  
Rothamer, Steve - DOT (DTSD Consultant)  
In allows for clear and transparent management of a project.

0:3:25.850 --> 0:3:27.600  
Rothamer, Steve - DOT (DTSD Consultant)  
So how do we?

0:3:28.390 --> 0:3:32.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Kind of like your quick overview of how to process what CPM schedule is.

0:3:33.780 --> 0:3:50.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm like I mentioned, when we start out creating CPM schedules we wanna do is define calendars in in the process calendars are gonna tell us when the contractors plans on working the number of hours per day, the number of days per week, that type of information.

0:3:51.510 --> 0:4:16.300  
Rothamer, Steve - DOT (DTSD Consultant)  
Going to break things down into a work breakdown structure with the work breakdown structure does is help organize the information that's in the schedule and helps us the CPM schedule to be readable. And that's one of the important things we wanna monitor is if we can't, it's not an easy document to read then then it fewer people will actually use it identifies tasks and activities.

0:4:18.200 --> 0:4:18.850  
Rothamer, Steve - DOT (DTSD Consultant)  
Assign.

0:4:19.600 --> 0:4:24.880  
Rothamer, Steve - DOT (DTSD Consultant)  
Well, those tasks and activities when will be assigned durations in the sequence of activities.

0:4:26.240 --> 0:4:43.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Are are connected with relationships and the and once that information is put together, we can create a a number of different reports and later on in the presentation will go over this information a little bit more detail and we'll talk about all the different reports that get generated.

0:4:45.430 --> 0:4:46.440  
Rothamer, Steve - DOT (DTSD Consultant)  
On these projects.

0:4:48.730 --> 0:4:49.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:4:53.650 --> 0:5:14.220  
Rothamer, Steve - DOT (DTSD Consultant)  
One of the things I may continue to say is when we create the CPM schedule, we asked the contractors to create the CPM schedules is it's important to understand what the contractors plan is, but it's equally important to make sure that the contractor is following that plan as we go through some examples and I'll talk about some different things today that we need to.

0:5:15.560 --> 0:5:30.410  
Rothamer, Steve - DOT (DTSD Consultant)  
Plan the work you and then work the plan. If the contractor is not following the CPM schedule and we'll talk about this in later slides in areas, then it doesn't do us any good to go go through the exercise of through CPM schedule.

0:5:33.900 --> 0:5:34.380  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:5:35.140 --> 0:5:44.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Part of the importance of CPM schedule is to provide a standard method of documenting and computing communicating the project.

0:5:45.150 --> 0:6:5.520  
Rothamer, Steve - DOT (DTSD Consultant)  
It helps everybody understand this is the method we're using and then we understand what our expectations are, provides all project personnel with complete overview of the total project. We'll talk about it again later on that we meet need to make sure that all relevant scopes of work are included in that CPM schedule.

0:6:6.430 --> 0:6:14.640  
Rothamer, Steve - DOT (DTSD Consultant)  
And helps us out in infy what the critical activities are, where the contractor should be focusing their work in order to complete the project on time.

0:6:15.820 --> 0:6:26.270  
Rothamer, Steve - DOT (DTSD Consultant)  
Helps to compare the planned and actual status of the project as we move into the monthly update process, we look at the plan what are we plan to do versus what are they actually doing.

0:6:26.940 --> 0:6:37.10  
Rothamer, Steve - DOT (DTSD Consultant)  
The month of January, obviously a little bit less scope, scope works going on, but some of our projects are still working in January. So what are they plan on working now?

0:6:38.980 --> 0:6:42.990  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm also provides established methods of reviewing and analyzing schedules.

0:6:43.980 --> 0:7:2.780  
Rothamer, Steve - DOT (DTSD Consultant)  
Those of you that have been working with us for a long time, no. Then it will be moved from one project to another. We try to use the same process in the CPM schedule review. You'll see the same types of reports. You'll see the same types of schedules and it helps you understand what to expect.

0:7:9.780 --> 0:7:22.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Part of the process that we use, we use a software called Oracle Primavera P6. This presentation's not involved with how to use that software and whatnot. The idea here is to.

0:7:24.100 --> 0:7:27.860  
Rothamer, Steve - DOT (DTSD Consultant)  
Use a standard system. Oracle P6 is.

0:7:28.560 --> 0:7:33.140  
Rothamer, Steve - DOT (DTSD Consultant)  
Pretty much the standard for the construction industry, but there are other applications out there.

0:7:34.220 --> 0:7:42.680  
Rothamer, Steve - DOT (DTSD Consultant)  
Such as Microsoft project that do similar things, but here the department we require the projects that have CPM schedules to use Oracle P6.

0:7:43.840 --> 0:8:0.470  
Rothamer, Steve - DOT (DTSD Consultant)  
Along with that, we want to make sure that they're submitting the electronic file which comes in and XR file extension along with printouts, and we need the reason why we asked for both the electronic version and printouts from the contractor is so we can compare the two.

0:8:1.670 --> 0:8:15.40  
Rothamer, Steve - DOT (DTSD Consultant)  
There are a number of instances that I can remember where the electronic file doesn't match the printouts that the contractor submits, so therefore we don't know what it is that we're supposed to be reviewing. So we wanna make sure that everything matches.

0:8:19.990 --> 0:8:29.60  
Rothamer, Steve - DOT (DTSD Consultant)  
OK, project introductions. During this presentation, there is a lot of different projects examples that are gonna be shown here are some examples of the.

0:8:30.220 --> 0:8:34.640  
Rothamer, Steve - DOT (DTSD Consultant)  
Projects that I'm drawing my examples from.

0:8:35.590 --> 0:8:44.720  
Rothamer, Steve - DOT (DTSD Consultant)  
There's not to mean that one project is doing CPM scheduling better than another, or that one contractor does CPM scheduling different in as another?

0:8:45.440 --> 0:9:2.450  
Rothamer, Steve - DOT (DTSD Consultant)  
As you move from one project to another, even if it's the same contractor who's the prime, they'll notice that you'll have different experiences. Each project is unique. Each project will offer its own challenges in this. In this scheduling process. So it's important to understand.

0:9:4.370 --> 0:9:12.620  
Rothamer, Steve - DOT (DTSD Consultant)  
That that this is this is the process that we use, but anyway like these, these are the projects that we're gonna take examples from.

0:9:18.30 --> 0:9:23.300  
Rothamer, Steve - DOT (DTSD Consultant)  
All right. Moving on, the first section, we're gonna get into is advantages.

0:9:24.0 --> 0:9:26.920  
Rothamer, Steve - DOT (DTSD Consultant)  
In in lessons learned of CPM scheduled during this.

0:9:27.590 --> 0:9:29.370  
Rothamer, Steve - DOT (DTSD Consultant)  
This portion of the presentation.

0:9:36.510 --> 0:9:42.560  
Rothamer, Steve - DOT (DTSD Consultant)  
We'll talk about in a few of the advantages and and and the lessons learned as as we go into project.

0:9:48.140 --> 0:9:49.870  
Rothamer, Steve - DOT (DTSD Consultant)  
So excuse me.

0:9:50.670 --> 0:10:0.700  
Rothamer, Steve - DOT (DTSD Consultant)  
Some of the advantages of using CPM schedules encourages discipline of planning and scheduling a project and and control of the project.

0:10:1.970 --> 0:10:3.120  
Rothamer, Steve - DOT (DTSD Consultant)  
We just lost our screen.

0:10:4.540 --> 0:10:11.790  
Rothamer, Steve - DOT (DTSD Consultant)  
You gotta minimize the amount I touched the podium because I notice if I bump the podium too much the screen goes out.

0:10:13.270 --> 0:10:13.680  
Rothamer, Steve - DOT (DTSD Consultant)  
So.

0:10:15.400 --> 0:10:22.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Encourages more long range planning on projects, provides a standard method of documenting and communicating.

0:10:23.990 --> 0:10:25.130  
Rothamer, Steve - DOT (DTSD Consultant)  
And provides a project.

0:10:25.830 --> 0:10:29.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Percell, with the complete overview, identifies critical elements.

0:10:30.290 --> 0:10:32.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Helps compare the planned and the status.

0:10:34.870 --> 0:10:42.90  
Rothamer, Steve - DOT (DTSD Consultant)  
And provides established methods of reviewing and analyzing contractor claims. Each one of these things we'll talk about as we go along.

0:10:44.860 --> 0:10:53.890  
Rothamer, Steve - DOT (DTSD Consultant)  
Sometimes the schedule on projects are are seen as just a required paperwork or a check to be boxed so they can check it off on their monthly.

0:10:55.80 --> 0:11:5.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Schedule of values or payment process we wanna make sure that the contractor is using the schedule as it's intended and then the schedule is a valuable tool to the team as we go along.

0:11:7.190 --> 0:11:12.10  
Rothamer, Steve - DOT (DTSD Consultant)  
Anytime that the contractor is not using the schedule as the intended.

0:11:13.610 --> 0:11:18.680  
Rothamer, Steve - DOT (DTSD Consultant)  
Process it. It reduces the value of this the schedule in the schedules aren't taken seriously.

0:11:21.220 --> 0:11:21.570  
Rothamer, Steve - DOT (DTSD Consultant)  
You know.

0:11:22.750 --> 0:11:23.790  
Rothamer, Steve - DOT (DTSD Consultant)  
Lessons learned.

0:11:24.960 --> 0:11:45.190  
Rothamer, Steve - DOT (DTSD Consultant)  
For using CPM schedules some of the I guess the drawbacks if you will of using CPM schedule I'm critical path of CPM on large complex jobs can be unclear and sometimes it can be a little bit confusing when you have a large project with multiple phases, multiple years and multiple critical paths.

0:11:45.770 --> 0:11:50.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, some of the things that we do to reduce those.

0:11:53.0 --> 0:12:5.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Drawbacks of the CPM schedule as we create multitudes of different reports and we'll cover that later on the types of reports that were are created, so it helps mitigate some of the drawbacks and CPM schedule.

0:12:6.120 --> 0:12:8.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Relationships and dependencies are not clear.

0:12:9.770 --> 0:12:22.180  
Rothamer, Steve - DOT (DTSD Consultant)  
You look at a bar chart and sometimes you don't understand what's driving this activity out to what it is. Again, various reports that we do help reduce that information.

0:12:24.330 --> 0:12:48.560  
Rothamer, Steve - DOT (DTSD Consultant)  
The schedule becomes ineffective and difficult to manage if it's not well defined and stable. What that means is if the contractor is not taking this seriously, they've not included or clear scopes of work in their activities. They haven't broken the project down into clear areas of work and whatnot. It's hard to follow. Don't. Sometimes you don't understand where that information.

0:12:49.160 --> 0:12:52.170  
Rothamer, Steve - DOT (DTSD Consultant)  
He applies to for those activities.

0:12:54.180 --> 0:12:54.870  
Rothamer, Steve - DOT (DTSD Consultant)  
Excuse me.

0:12:56.410 --> 0:13:9.80  
Rothamer, Steve - DOT (DTSD Consultant)  
And also CPM schedules can't effectively. Sometimes it can be ineffective on sudden changes or or big changes on a project. If a project wants to change.

0:13:11.110 --> 0:13:22.440  
Rothamer, Steve - DOT (DTSD Consultant)  
To change direction or work or make some large sudden changes the CPM schedule to to change all the information that's in the CPM schedule can take some time to make those changes.

0:13:23.650 --> 0:13:32.250  
Rothamer, Steve - DOT (DTSD Consultant)  
And like I mentioned before, it loses worth if the if the project plan and changes and revisions are not documented. So if the contractor is not.

0:13:33.90 --> 0:13:41.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Paying attention or is not modifying the CPM schedule to follow the work in the field. The schedule will lose its focus.

0:13:49.340 --> 0:13:55.390  
Rothamer, Steve - DOT (DTSD Consultant)  
This slide kind of talks a little bit about the design process in the CPM schedule is used in design.

0:13:56.110 --> 0:13:56.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:13:57.850 --> 0:14:25.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Not only is CPM scheduled used on individual projects, but it can be used on large programs. As an example, for the 94 NS program, there was a CPM schedule for the design process. There was also CPM schedules on the zoo interchange, in design and whatnot. So you keep in mind that we're using CPM schedules on overall large programs along with individual projects.

0:14:28.750 --> 0:14:30.920  
Rothamer, Steve - DOT (DTSD Consultant)  
In design, it's used for.

0:14:31.910 --> 0:14:46.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Staging relationships and interdependencies and to confirm plan durations and that that sort of stuff. Anybody here in design can that's U CPM schedules in design maybe what are some of the advantages that you've seen?

0:14:51.990 --> 0:14:54.0  
Rothamer, Steve - DOT (DTSD Consultant)  
So like I said, like I mentioned.

0:14:55.160 --> 0:14:59.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Not only used an individual construction projects, but it's also used in design.

0:15:4.60 --> 0:15:6.10  
Rothamer, Steve - DOT (DTSD Consultant)  
We have the projects that we have designers.

0:15:6.80 --> 0:15:7.360  
Rothamer, Steve - DOT (DTSD Consultant)  
Maybe some?

0:15:8.780 --> 0:15:14.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Sequence of duration for the How it's gonna take to build the plants Java capital.

0:15:15.100 --> 0:15:15.640  
Rothamer, Steve - DOT (DTSD Consultant)  
Example.

0:15:17.430 --> 0:15:22.640  
Rothamer, Steve - DOT (DTSD Consultant)  
There I think they get a designer funding too, but we build two bridges in a single year with a lead bin.

0:15:23.660 --> 0:15:24.310  
Rothamer, Steve - DOT (DTSD Consultant)  
He broke.

0:15:24.640 --> 0:15:24.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Whatever.

0:15:25.70 --> 0:15:35.180  
Rothamer, Steve - DOT (DTSD Consultant)  
That's around and you're just looking back at past projects and some of the durations for her pile for you know.

0:15:36.0 --> 0:15:48.370  
Rothamer, Steve - DOT (DTSD Consultant)  
Or record circular button. You know that you could if you did. I think those are good examples like let us if you interface with design. I think we've got this library of information that we can rely on that should we do with that.

0:15:51.240 --> 0:15:51.790  
Rothamer, Steve - DOT (DTSD Consultant)  
Thank you.

0:15:53.520 --> 0:16:0.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm. And then the final slide in there are advantages. Section talks about when CPM schedules are required.

0:16:0.990 --> 0:16:8.370  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm not all projects have requirements for CPM schedules. Typically they're part of the mega major programs.

0:16:9.190 --> 0:16:17.100  
Rothamer, Steve - DOT (DTSD Consultant)  
And the information that's shown here on this slide came from the PMP of the 94 NS program.

0:16:17.810 --> 0:16:25.860  
Rothamer, Steve - DOT (DTSD Consultant)  
So in that program, CPM schedules were required for projects that were $10 million or more in construction costs.

0:16:27.930 --> 0:16:36.90  
Rothamer, Steve - DOT (DTSD Consultant)  
Scheduling workshops at the beginning of the project when things got started were required for projects that are 40 million or larger.

0:16:37.130 --> 0:16:42.840  
Rothamer, Steve - DOT (DTSD Consultant)  
And we can weekly production data was required for projects of 100 million or more.

0:16:43.670 --> 0:16:57.430  
Rothamer, Steve - DOT (DTSD Consultant)  
And rolling three-week look ahead is probably required on all projects. We use that all the time and it really it it's dependent on project complexity whether it's multi stage and multi year.

0:16:58.170 --> 0:17:1.240  
Rothamer, Steve - DOT (DTSD Consultant)  
In programs and sometimes individual regional projects.

0:17:2.350 --> 0:17:4.940  
Rothamer, Steve - DOT (DTSD Consultant)  
May require, Umm, CPM schedules as well.

0:17:9.300 --> 0:17:15.650  
Rothamer, Steve - DOT (DTSD Consultant)  
So moving along, we can get into the goals of CPM usage. Why do we do this information?

0:17:16.320 --> 0:17:32.970  
Rothamer, Steve - DOT (DTSD Consultant)  
We'll talk about why we require CPM schedules. Some of the elements to review what we'll briefly touch on that and what should be included in the process. And I believe it will also go through some of the process of creating what happens in the CPM schedules.

0:17:34.400 --> 0:17:43.150  
Rothamer, Steve - DOT (DTSD Consultant)  
So let's ask for some audience participation here. Why do you think that we require or the department requires a baseline CPM schedule?

0:17:47.900 --> 0:17:48.880  
Rothamer, Steve - DOT (DTSD Consultant)  
Anybody have any?

0:17:50.100 --> 0:17:50.750  
Rothamer, Steve - DOT (DTSD Consultant)  
Be back.

0:18:1.80 --> 0:18:10.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Records have to literally show their show their cards at the start of the job. We get an opportunity to kind of extract whole bunch of information just to make sure they can deliver the job. So it's.

0:18:11.480 --> 0:18:26.920  
Rothamer, Steve - DOT (DTSD Consultant)  
It's just tool that I'm sure we give to destination right in CPM creating the CPM schedule, especially on large projects. These mega majors can take a hundreds of work hours to actually create a a CPM schedule.

0:18:27.650 --> 0:18:47.70  
Rothamer, Steve - DOT (DTSD Consultant)  
And you have to interact with all the different subcontractors that the prime it might be using and whatnot. So it takes a lot of work effort to put these together. So I think that's why we get some of the pushback that we do from the different contractors is because of the amount of time and the amount of effort that it takes to create these schedules.

0:18:50.390 --> 0:18:50.860  
Rothamer, Steve - DOT (DTSD Consultant)  
But for.

0:18:53.30 --> 0:18:55.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm creating required penalty required.

0:18:56.310 --> 0:18:57.700  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm I'm not too sure on that.

0:18:58.540 --> 0:19:3.130  
Rothamer, Steve - DOT (DTSD Consultant)  
I thought that I'd have to do a little research on that. Can't remember if we required and the native project.

0:19:7.590 --> 0:19:11.150  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm not sure either you doing that. That's actually a federal requirement, I don't know.

0:19:11.940 --> 0:19:12.570  
Rothamer, Steve - DOT (DTSD Consultant)  
Just be curious.

0:19:13.690 --> 0:19:17.560  
Rothamer, Steve - DOT (DTSD Consultant)  
OK, where is the list of some of the reasons why?

0:19:23.250 --> 0:19:29.480  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, and and I know it's written into the MP's and whatnot on those mega majors programs and stuff like that, so.

0:19:30.180 --> 0:19:31.150  
Rothamer, Steve - DOT (DTSD Consultant)  
I don't know if that was.

0:19:32.160 --> 0:19:33.230  
Rothamer, Steve - DOT (DTSD Consultant)  
A federal thing or not?

0:19:34.560 --> 0:19:36.880  
Rothamer, Steve - DOT (DTSD Consultant)  
So some of the reasons why or or.

0:19:37.700 --> 0:19:48.730  
Rothamer, Steve - DOT (DTSD Consultant)  
Is to ensure contractors developed a proper plan does does whatever the contractor plans on doing. Is that gonna be able to accomplish the project in the amount of time that's given?

0:19:49.900 --> 0:19:58.490  
Rothamer, Steve - DOT (DTSD Consultant)  
We wanna make sure that the contractor is coordinating their work with others, especially on projects that have a number of utility conflicts or.

0:19:59.0 --> 0:20:9.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Uh projects that are near or adjacent to each other. They might have to coordinate various traffic closures and whatnot to ensure that each project goes smoothly.

0:20:9.870 --> 0:20:17.260  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to ensure that the contractors plan conforms of the contract requirements and we'll talk about some of those contract requirements and later slides.

0:20:19.320 --> 0:20:31.50  
Rothamer, Steve - DOT (DTSD Consultant)  
But it can be used to evaluate status of incentives and disincentives a lot. Some of these mega majors do have incentives and disincentives for the contractor completing on time helps us evaluate that.

0:20:32.290 --> 0:20:38.370  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm planning the work and equipment requirements for both the contractor and the department because.

0:20:39.140 --> 0:20:47.120  
Rothamer, Steve - DOT (DTSD Consultant)  
We have the the department has teams that need to manage these projects, know how much and when those teams are needed.

0:20:48.590 --> 0:20:58.360  
Rothamer, Steve - DOT (DTSD Consultant)  
And we want to concentrate, identify where to concentrate efforts and when things are gonna happen. You need to know when those big closures are and and that sort of stuff.

0:21:0.980 --> 0:21:6.300  
Rothamer, Steve - DOT (DTSD Consultant)  
Yes, is schedule on also required to show the production rate.

0:21:7.300 --> 0:21:23.560  
Rothamer, Steve - DOT (DTSD Consultant)  
On larger projects, yes, we ask that the contractor include production rates, including the number of crews. Sometimes the number of pieces of equipment like pile hammers and that sort of stuff that they plan on using. So we can ensure that they're.

0:21:24.550 --> 0:21:29.180  
Rothamer, Steve - DOT (DTSD Consultant)  
They have the the resources necessary to complete the project on time.

0:21:31.170 --> 0:21:34.260  
Rothamer, Steve - DOT (DTSD Consultant)  
Just like we talk about requirements for baseline schedules.

0:21:36.810 --> 0:21:40.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Why do you think that the department requires updated schedules?

0:21:47.330 --> 0:21:50.720  
Rothamer, Steve - DOT (DTSD Consultant)  
Because the contract tells us to, it's a check box to mark off.

0:21:53.660 --> 0:22:5.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Make the contractors doing what he's supposed to doing. Doing what the contractor planned or they we talked about before on plan the work and work the plan are are they actually doing what the, what the schedule says?

0:22:7.940 --> 0:22:20.130  
Rothamer, Steve - DOT (DTSD Consultant)  
And I'll go through some examples later on about schedules that we've seen even recently as 2022, where the CPM says one thing and the contractor is doing something completely different.

0:22:22.440 --> 0:22:25.630  
Rothamer, Steve - DOT (DTSD Consultant)  
So some of the examples that I've put down here.

0:22:26.420 --> 0:22:32.580  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we want to monitor the progress of the work. Are are they doing what what's needed in order to complete on time?

0:22:33.280 --> 0:22:36.800  
Rothamer, Steve - DOT (DTSD Consultant)  
Document that progress. When did things start and when did things finish?

0:22:38.70 --> 0:22:39.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Track progress payments.

0:22:40.490 --> 0:22:48.20  
Rothamer, Steve - DOT (DTSD Consultant)  
And that may be tied to the schedule, as anybody here worked on earned value projects. I don't know, it just doesn't state have any requirements for earned value.

0:22:48.930 --> 0:23:6.340  
Rothamer, Steve - DOT (DTSD Consultant)  
I've worked on some in the federal level, GSA and VA and and those types of projects often have earned value requirements and schedules. Thank the only one that we turn our Member see. But I think we had the low bid design build project, OK, which I think we did it include an earned value requirement in there.

0:23:7.200 --> 0:23:12.530  
Rothamer, Steve - DOT (DTSD Consultant)  
Because it was, you know, obviously set up with them, I think that's the only one I've been involved with, OK?

0:23:14.0 --> 0:23:19.30  
Rothamer, Steve - DOT (DTSD Consultant)  
Like you said, it's more common on. In my experience, it's more common on the federal level with federal projects.

0:23:21.540 --> 0:23:25.830  
Rothamer, Steve - DOT (DTSD Consultant)  
We're gonna identify the effects of others progress on work, I mean.

0:23:26.800 --> 0:23:44.0  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm sure we all have examples of where something didn't get done. A utility didn't get relocated, or or cities of water main or something was in the way. We wanna make sure that all that work that's needed to coordinate gets completed on time.

0:23:44.840 --> 0:23:48.930  
Rothamer, Steve - DOT (DTSD Consultant)  
You want to make informed decisions during the project of unanticipated events.

0:23:50.590 --> 0:23:54.190  
Rothamer, Steve - DOT (DTSD Consultant)  
Can you give me an example of what an unanticipated event during your project might be?

0:23:56.900 --> 0:23:59.240  
Rothamer, Steve - DOT (DTSD Consultant)  
That might impact your project schedule progress.

0:24:1.380 --> 0:24:14.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Utility conflicts, but that might be anticipated if you know about it in advance. Snow. Absolutely. It's snowing outside today, but we do have some adverse weather in the standard specifications where we can address that with.

0:24:15.790 --> 0:24:16.550  
Rothamer, Steve - DOT (DTSD Consultant)  
During.

0:24:17.320 --> 0:24:17.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:24:19.760 --> 0:24:29.550  
Rothamer, Steve - DOT (DTSD Consultant)  
During election years, sometimes there might be a VIP that comes to town and and shuts down the freeways while the entourage goes through and.

0:24:30.330 --> 0:24:44.680  
Rothamer, Steve - DOT (DTSD Consultant)  
And and does does their thing to promote whatever election that they're supporting is is rewind general shortages in this rewrite material shorts. I'm sure we're all familiar with the concrete issue in 2022.

0:24:45.560 --> 0:24:49.310  
Rothamer, Steve - DOT (DTSD Consultant)  
And those of us that had the nightmares back in 2014 remember that too.

0:24:50.510 --> 0:24:51.10  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:24:51.740 --> 0:25:2.130  
Rothamer, Steve - DOT (DTSD Consultant)  
What about if the Milwaukee Brewers go to the World Series? Do you think that'll potentially impact? Yeah, we don't have to worry about the Brewers going to the World Series anymore, OK?

0:25:5.120 --> 0:25:7.10  
Rothamer, Steve - DOT (DTSD Consultant)  
So that there could be a different.

0:25:7.940 --> 0:25:15.480  
Rothamer, Steve - DOT (DTSD Consultant)  
Reasons unexpected reasons why our projects are impacted. So we want updating schedules, helps us identify those types of things.

0:25:16.410 --> 0:25:21.900  
Rothamer, Steve - DOT (DTSD Consultant)  
And as was mentioned earlier, helps us identify risks and and claim mitigation.

0:25:22.910 --> 0:25:39.680  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm monitoring what's going on in the schedule for month to month. We we can see those unanticipated events or utility conflicts and adverse weather that we experience and we can see how that's gonna impact and we could potentially mitigate those risks down the line. They want them to.

0:25:41.320 --> 0:25:44.650  
Rothamer, Steve - DOT (DTSD Consultant)  
They're very quick to put once we pause in our class.

0:25:46.200 --> 0:25:52.100  
Rothamer, Steve - DOT (DTSD Consultant)  
You'll also have theirs like. I don't know. I'm not mention contractors, but screwing up little chats and casting of 1.

0:25:54.100 --> 0:26:21.960  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm gonna coordinate a third party Choo Choo train company to comments and stuff like that. Super Key to get that in there because like I said, ours will be in the right away like the the first thing you'll see is delayed, but when they have their own delays, it's nice to also have that scheduled. So both parties are absolutely. So it's a very good point that it's not always the department that's on the hook for these unanticipated events. Sometimes they're just uneventful. Unanticipated events can be.

0:26:22.210 --> 0:26:24.890  
Rothamer, Steve - DOT (DTSD Consultant)  
The result of something that's going on with the contractor.

0:26:26.990 --> 0:26:33.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, so the next slide, we're gonna talk a little bit briefly about the elements to reviewed in a CPM schedule.

0:26:34.840 --> 0:26:35.310  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:26:36.770 --> 0:26:41.930  
Rothamer, Steve - DOT (DTSD Consultant)  
We want and then we'll cover this more when we get into the baseline and the update sections of the presentation.

0:26:42.590 --> 0:26:48.590  
Rothamer, Steve - DOT (DTSD Consultant)  
So when we're reviewing the CPM schedules, we're gonna confirm that the schedule is reasonable and obtainable.

0:26:49.280 --> 0:26:51.450  
Rothamer, Steve - DOT (DTSD Consultant)  
And this is what where you're gonna use your.

0:26:52.710 --> 0:27:7.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Best experience and years of knowledge to see the constructibility of the project and we'll see some examples later on where contractors trying to defy the laws of physics and and do some things that aren't aren't physically possible.

0:27:9.730 --> 0:27:29.120  
Rothamer, Steve - DOT (DTSD Consultant)  
We wanna understand the contractors means and methods to understand what their plan sequences and whatnot are, establish a good baseline for monitoring and we'll talk about it again in the baseline portion. But the baseline is very important to establish a good schedule. So as we're updating as the.

0:27:30.390 --> 0:27:34.860  
Rothamer, Steve - DOT (DTSD Consultant)  
Sequences go on in the project we have something that's useful to look back upon.

0:27:35.980 --> 0:27:39.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Want to verify the logic and sequencing of activities.

0:27:40.680 --> 0:27:44.880  
Rothamer, Steve - DOT (DTSD Consultant)  
Identify any claims or potential claims positioning in the schedule.

0:27:45.650 --> 0:27:56.940  
Rothamer, Steve - DOT (DTSD Consultant)  
That's important and we've used terms such as float sequestration and stuff like that on different projects and we want to make sure stuff like that is not going on. We'll see some examples of that later on.

0:27:57.630 --> 0:28:12.780  
Rothamer, Steve - DOT (DTSD Consultant)  
Identify risks in document concerns. It's important to note in when we're in our interaction back and forth with the contractors to communicate back and forth, and I know I've gone back with various projects. A lot is eventually you're just.

0:28:13.910 --> 0:28:22.810  
Rothamer, Steve - DOT (DTSD Consultant)  
Parroting back and forth, that seems like a month after month. You're saying the same thing back and forth, but it's important to make sure that the department's position and concerns are noted.

0:28:27.720 --> 0:28:57.490  
Rothamer, Steve - DOT (DTSD Consultant)  
So what needs to be scheduled or what do we need to put in a schedule? Hopefully what we're gonna learn from this project and what you've already experienced on your projects is everything should be in the CPM schedule because it's important to include that information. Adding it later on or adding a scope of work that should have been in a baseline schedule. Just gonna create a lot of complications. It's gonna cloud potential delay issues and whatnot.

0:28:57.730 --> 0:29:2.420  
Rothamer, Steve - DOT (DTSD Consultant)  
So as we go through the baseline process and whatnot, we want to make sure.

0:29:3.390 --> 0:29:4.90  
Rothamer, Steve - DOT (DTSD Consultant)  
That were.

0:29:5.210 --> 0:29:6.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Including make sure all scopes of work.

0:29:7.600 --> 0:29:8.340  
Rothamer, Steve - DOT (DTSD Consultant)  
Are included.

0:29:15.90 --> 0:29:15.360  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright.

0:29:17.230 --> 0:29:39.280  
Rothamer, Steve - DOT (DTSD Consultant)  
Moving on schedule review preparation. Again, this section is gonna be a little bit basic for those of you that have CPM's knowledge and whatnot, probably hear the same things, but it's an introduction for those of us that may not have them that experience this section of the presentation, we're gonna talk about the various components of the CPM schedule.

0:29:40.0 --> 0:29:40.570  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:29:42.30 --> 0:29:50.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Also covered is where we're going to find some of that scheduled CPM requirement information. What what do the contract documents say the CPM should include?

0:29:53.330 --> 0:30:0.0  
Rothamer, Steve - DOT (DTSD Consultant)  
It's not intended to be a an exhaustive study of CPM scheduling. Again, we're not gonna go through any.

0:30:1.130 --> 0:30:6.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Exercises and calculating schedules and stuff like that. It's just a basic introduction.

0:30:7.380 --> 0:30:27.80  
Rothamer, Steve - DOT (DTSD Consultant)  
It's important to understand the components of the CPM schedule and how they are constructed. So when we're reviewing that schedule, we understand why things happen and we understand the different kinds of relationships that could be in a schedule. It helps us understand why the dates might be shown that in the schedule, what they're showing.

0:30:28.540 --> 0:30:35.490  
Rothamer, Steve - DOT (DTSD Consultant)  
In helps us, I guess sometimes troubleshoot the CPM schedule and understand what's going on behind the scenes.

0:30:37.80 --> 0:30:37.480  
Rothamer, Steve - DOT (DTSD Consultant)  
In.

0:30:39.140 --> 0:30:39.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Excuse me.

0:30:46.540 --> 0:30:50.530  
Rothamer, Steve - DOT (DTSD Consultant)  
So some of the basic terms in the CPM schedule an activity.

0:30:51.880 --> 0:30:54.370  
Rothamer, Steve - DOT (DTSD Consultant)  
And activity is just a a breakdown of the work.

0:30:55.210 --> 0:31:13.210  
Rothamer, Steve - DOT (DTSD Consultant)  
It's it's a basic unit of work, best the limit that activity to a single contractor or a a single scope of work. If you have activities that include the work of multiple contractors a lot of times you'll get the finger pointing back and forth and well.

0:31:14.110 --> 0:31:28.840  
Rothamer, Steve - DOT (DTSD Consultant)  
I can't do something until this contractor does something or whatnot, so when when schedules are being created, activity should include. Like I mentioned a a single scope of work and one trader, one contractor associated with that.

0:31:30.380 --> 0:31:32.430  
Rothamer, Steve - DOT (DTSD Consultant)  
Anybody tell me what a critical path might be?

0:31:44.340 --> 0:31:51.90  
Rothamer, Steve - DOT (DTSD Consultant)  
The critical path the sequence of dependent activities that determine the minimum time needed to complete the project.

0:31:51.790 --> 0:31:54.680  
Rothamer, Steve - DOT (DTSD Consultant)  
So it's important to note that it's the minimal amount of time.

0:31:55.670 --> 0:32:7.740  
Rothamer, Steve - DOT (DTSD Consultant)  
That it's gonna need it to complete the project or an intermediate milestone. A lot of our projects have intermediate milestones that are completed before the project completion.

0:32:8.570 --> 0:32:16.800  
Rothamer, Steve - DOT (DTSD Consultant)  
So we'll have critical paths and we'll see later on we'll have reports that that show those critical paths to all those milestones.

0:32:18.320 --> 0:32:21.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm total fought a lot of times when we talk about schedule.

0:32:22.590 --> 0:32:24.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm we we just.

0:32:24.930 --> 0:32:26.780  
Rothamer, Steve - DOT (DTSD Consultant)  
Use a general term of float.

0:32:27.880 --> 0:32:32.720  
Rothamer, Steve - DOT (DTSD Consultant)  
In the CPM, schedule flow is basically broken down into total float then free float.

0:32:33.450 --> 0:32:39.310  
Rothamer, Steve - DOT (DTSD Consultant)  
So total float is the amount of time that a project can be delayed or postponed.

0:32:39.990 --> 0:32:53.270  
Rothamer, Steve - DOT (DTSD Consultant)  
Intel or excuse me, the not not the project, but the total flow is the amount of time that an activity can be delayed or postponed until it delays an intermediate or final completion date.

0:32:54.860 --> 0:33:4.880  
Rothamer, Steve - DOT (DTSD Consultant)  
The differs from free float is free, float is the amount of time that an activity can be postponed until it delays any other activity in the schedule.

0:33:5.940 --> 0:33:9.620  
Rothamer, Steve - DOT (DTSD Consultant)  
And what we're going to see later on, we'll talk about some examples of how free float.

0:33:10.360 --> 0:33:13.360  
Rothamer, Steve - DOT (DTSD Consultant)  
Can be massed or sequestered?

0:33:14.480 --> 0:33:26.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Using constraints and whatnot and we we discourage that with our contractors and make sure that the the float is available in the schedule for use for everybody.

0:33:30.220 --> 0:33:33.300  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm. And work breakdown structure? WBS.

0:33:34.170 --> 0:34:3.560  
Rothamer, Steve - DOT (DTSD Consultant)  
Hierarchical organization of all tasks in the schedule. It's important to know that in the WBS that it's static, it generally by that I mean that's not something that I can change in the schedule. What the WBS the contractor creates is is what we're gonna get. So when we're reviewing schedules, we've also want to look at the WBS the way the schedule is grouped, the way the activities are grouped, the way they're organized.

0:34:4.120 --> 0:34:10.860  
Rothamer, Steve - DOT (DTSD Consultant)  
And if there are any desire to change that to make it more readable, or organize the schedule better, we want to include those comments.

0:34:11.570 --> 0:34:14.880  
Rothamer, Steve - DOT (DTSD Consultant)  
In in our review of the different schedule.

0:34:17.180 --> 0:34:23.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, the initial work plan on a project is typically the 1st 60 or 90 days of a project.

0:34:24.890 --> 0:34:43.40  
Rothamer, Steve - DOT (DTSD Consultant)  
And that's the intention of the initial work plan is to understand the contractor's plan early on while they're developing the baseline schedule. So we'll use the initial work plan while the contractor is finishing up the the baseline schedule. And we're in the process of reviewing and accepting that baseline schedule.

0:34:43.790 --> 0:35:5.720  
Rothamer, Steve - DOT (DTSD Consultant)  
And then once the baseline schedule is accepted, we'll switch over to that and use that baseline schedule going forward. And after the baseline schedule is accepted, we move on to monthly updates and that's where the CPM schedule is updated with actual dates and finished dates. Actual start and actual finish date each month.

0:35:9.550 --> 0:35:40.260  
Rothamer, Steve - DOT (DTSD Consultant)  
Some other basic activity properties. Each activity is gonna include a unique task ID or an activity ID in the schedule. This is important to understand that that idea is unique to each individual activity, and it can be used to search the the documents that are created in the schedule. I've heard a lot of times some feedback that I create a lot of reports and you don't have the time to go through these reports or the schedule is 50 pages long.

0:35:40.540 --> 0:35:54.880  
Rothamer, Steve - DOT (DTSD Consultant)  
And you can't find anything in the schedule because of that. Each one of the reports that are created are searchable and it's really easy to search by the activity ID if you know it to be able to find your information in a schedule quickly.

0:35:56.700 --> 0:36:6.950  
Rothamer, Steve - DOT (DTSD Consultant)  
On the activity name or description is tells us what the scope of work on activity. I typically ask that the activity name includes 3 pieces of information.

0:36:7.680 --> 0:36:12.850  
Rothamer, Steve - DOT (DTSD Consultant)  
I want to know who's doing the work, what are they doing and where are they doing it?

0:36:13.920 --> 0:36:20.350  
Rothamer, Steve - DOT (DTSD Consultant)  
That include. That way I can read the activity I name and I understand everything I need to know about that activity.

0:36:21.400 --> 0:36:36.580  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm with with the schedule that we get, the contractors are sometimes reluctant to do that and I'll I'll get who's doing the work you can understand who, just by the scope of the word paving or bridge. Like if it's in abutment or something. You understand who's doing the work.

0:36:38.560 --> 0:36:46.470  
Rothamer, Steve - DOT (DTSD Consultant)  
You'll understand. What are they doing? Paving or concrete or bridge girders or something like that? But sometimes you won't know where it is.

0:36:47.520 --> 0:36:52.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Because they don't. That's the piece of information that I often see missing from activity ID.

0:36:53.250 --> 0:37:2.920  
Rothamer, Steve - DOT (DTSD Consultant)  
And what we'll do is we'll find that where information by how the contractor, the information and contractor includes in the WBS the group heading.

0:37:3.860 --> 0:37:10.750  
Rothamer, Steve - DOT (DTSD Consultant)  
So sometimes that where information is found in the WBS rather than in the activity name.

0:37:12.660 --> 0:37:15.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Original and remaining durations.

0:37:16.690 --> 0:37:25.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Original duration is the amount of time the estimated amount of time that the contractor provides in their baseline schedule, but how long that scope will work.

0:37:25.730 --> 0:37:27.620  
Rothamer, Steve - DOT (DTSD Consultant)  
That's included in the activities gonna take.

0:37:28.360 --> 0:37:31.100  
Rothamer, Steve - DOT (DTSD Consultant)  
And we hear it all the time. Is that duration long enough?

0:37:32.420 --> 0:37:50.60  
Rothamer, Steve - DOT (DTSD Consultant)  
It to do the amount of work that the contractor plans to do, and sometimes you might look at it and say that duration is too long because it doesn't take that many days in order to do the amount of work that's included in the activity. So we're gonna review the original durations of schedules.

0:37:52.0 --> 0:38:3.930  
Rothamer, Steve - DOT (DTSD Consultant)  
And then once the project gets rolling and we start getting into the update process and activities, getting an actual start date but have not yet finished, they'll have a remaining duration. That's the amount of time.

0:38:4.600 --> 0:38:5.990  
Rothamer, Steve - DOT (DTSD Consultant)  
That the activity.

0:38:7.120 --> 0:38:9.990  
Rothamer, Steve - DOT (DTSD Consultant)  
That remains on the activity before it's completed.

0:38:12.320 --> 0:38:13.970  
Rothamer, Steve - DOT (DTSD Consultant)  
On larger projects that.

0:38:15.260 --> 0:38:46.650  
Rothamer, Steve - DOT (DTSD Consultant)  
On these mega major projects, in very large one of the requirements that we have in the schedule is that the contractor provides activity codes in the now the activity codes are something that I'll see that's in the software. But you you as the user won't see in the different reports, but what those activity codes do is it allows me or somebody else who's using the software to be able to sort and filter and create the reports that we do. So we can create a report that shows just bridge activities or just shows.

0:38:47.10 --> 0:38:49.140  
Rothamer, Steve - DOT (DTSD Consultant)  
Retaining wall activities, that sort of stuff.

0:38:50.820 --> 0:38:57.120  
Rothamer, Steve - DOT (DTSD Consultant)  
And then finally, the next thing I have on here is calendars. Calendars are very important.

0:38:58.320 --> 0:39:6.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Understand what the contractors plan is. Again, the calendar is going to define the amount of time that the contractor plans to work on the activities every day.

0:39:7.610 --> 0:39:11.810  
Rothamer, Steve - DOT (DTSD Consultant)  
It's going to define the number of days per week that they plan to work on.

0:39:12.490 --> 0:39:28.860  
Rothamer, Steve - DOT (DTSD Consultant)  
And it's important to understand that information when we're creating the schedules, gonna reviewing the schedules. So when the contract provides us information in a narrative or they're talking in a meeting that says and they say, well, we plan on working 10 hours a day.

0:39:30.220 --> 0:39:58.90  
Rothamer, Steve - DOT (DTSD Consultant)  
Six days a week, doesn't the CPM schedule show them working 10 hours a day, six days a week? If it doesn't, then, then again, the CPM schedule doesn't match. What what they're doing in the field. We wanna make sure they've seen that on projects we've had in the past there. There's been that disconnect and there's been issues with how the CPM is calculating start and finish dates, completion dates and what what the contractors plan is.

0:39:59.10 --> 0:40:2.100  
Rothamer, Steve - DOT (DTSD Consultant)  
So it's important to understand those calendars as we go along.

0:40:2.180 --> 0:40:17.840  
Rothamer, Steve - DOT (DTSD Consultant)  
Security codes. Do we define what what those activity codes are and how we want it broken down? Or do we leave that up to them? We defined a basic level of activity codes in a template schedule that's provided, and I believe we'll talk about template here in a minute.

0:40:19.270 --> 0:40:22.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Those are those the activity codes are defined in a template.

0:40:23.710 --> 0:40:45.620  
Rothamer, Steve - DOT (DTSD Consultant)  
The the basic codes that we are expecting them to provide, but they are free to add other activity codes if they so choose. Some of the contractors will just use what's in the template and other contractors will use codes that are are useful to them and and some of those codes are also useful to us. So we can use the codes that they develop too to help create reports and whatnot.

0:40:52.940 --> 0:41:3.440  
Rothamer, Steve - DOT (DTSD Consultant)  
So as we gone through this, we talked about activities and durations and we develop all that stuff. We put it all in the calendars and the next thing we need to do is we need to link those activities with relationships.

0:41:4.920 --> 0:41:9.650  
Rothamer, Steve - DOT (DTSD Consultant)  
So in the CPM schedule, we have 4 basic types of relationships.

0:41:10.520 --> 0:41:21.710  
Rothamer, Steve - DOT (DTSD Consultant)  
That are used to link these activities together. So the first type and the most common type of relationship used in CPM schedule is a finished to start relationship.

0:41:22.500 --> 0:41:27.570  
Rothamer, Steve - DOT (DTSD Consultant)  
What a vision start relationship says is that the first activity activity aim must finish.

0:41:28.210 --> 0:41:31.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Before activity B, the successor can start.

0:41:32.430 --> 0:41:38.560  
Rothamer, Steve - DOT (DTSD Consultant)  
Kind of makes sense that that the work should be finished before the subsequent work and start.

0:41:39.260 --> 0:41:45.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Two other more common type of relationships that are used are start to start relationships.

0:41:46.750 --> 0:41:48.780  
Rothamer, Steve - DOT (DTSD Consultant)  
And finish to finish relationships.

0:41:50.930 --> 0:41:52.620  
Rothamer, Steve - DOT (DTSD Consultant)  
Those relationships allow.

0:41:53.70 --> 0:42:4.850  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm. Activities to overlap? Because sometimes we'll have a situation where activity A can start and then X number of days later activity Beacon start.

0:42:7.610 --> 0:42:24.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Oftentimes when we're using a start to start relationship, we wanna combine that with the finish to finish relationship, to show that overlapping relationship. So activity, the finished the finished means that activity a must finish before activity B can finish.

0:42:25.170 --> 0:42:36.220  
Rothamer, Steve - DOT (DTSD Consultant)  
So when we're overlapping activities, a lot of times we were gonna use those two in conjunction start to start and finish to finish because we might have a situation where you can't finish.

0:42:37.330 --> 0:42:39.880  
Rothamer, Steve - DOT (DTSD Consultant)  
And the successor until the predecessor is done.

0:42:42.100 --> 0:42:51.870  
Rothamer, Steve - DOT (DTSD Consultant)  
The 4th type of relationship, and quite frankly it's very rare to see this type of relationship. I've only used it once that I can remember in my career.

0:42:53.810 --> 0:43:1.230  
Rothamer, Steve - DOT (DTSD Consultant)  
And some of the contract documents in our projects do not allow contractors to use a start to finish relationship.

0:43:2.410 --> 0:43:7.30  
Rothamer, Steve - DOT (DTSD Consultant)  
So start to finish. Relationship says that activity a must start.

0:43:7.840 --> 0:43:9.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Before activity B can finish.

0:43:10.920 --> 0:43:21.270  
Rothamer, Steve - DOT (DTSD Consultant)  
And to me it it seems counterintuitive and unusual. Like I mentioned, I've only used the relationship once that I can remember in the contract documents on.

0:43:21.990 --> 0:43:26.210  
Rothamer, Steve - DOT (DTSD Consultant)  
And most of the major projects ban that relationship from being used.

0:43:28.900 --> 0:43:58.840  
Rothamer, Steve - DOT (DTSD Consultant)  
And finally, the last thing we're gonna talk about in relationships is relationship lag. Like I mentioned before, when we're overlapping activities, we're using start to start. We're using a finished to finish well in Credle will include a lag in that period of time. Some activity as this can start and then five days later, five days being the leg and five days later activity be can start. Same thing on a finish to finish relationship legs are often used.

0:44:0.970 --> 0:44:17.340  
Rothamer, Steve - DOT (DTSD Consultant)  
Two things about lag is when we have a finished to start relationship, we do not wanna use any lag on those types of relationships. So if I have a lag period on a finished to start relationship that's creates a gap in the schedule where nothing is shown.

0:44:17.980 --> 0:44:28.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Nothings happening during that period and when I look at the piece of paper and you and when you're looking at the reports, you're not gonna be able to see why that lag relationship exists.

0:44:29.240 --> 0:44:36.940  
Rothamer, Steve - DOT (DTSD Consultant)  
So what we tell the contractors to do when when they use the lag on a finished start relationship is to create a new activity.

0:44:37.730 --> 0:45:6.40  
Rothamer, Steve - DOT (DTSD Consultant)  
That that defines what that lag period is needed for. So if they have a finish and then five days later the next thing can start well put an activity that defines why those five days are needed. Maybe it's concrete hearing, maybe it's a mobilization of the contractor, could be a host of things. But by creating that activity instead of using the relationship lag the viewer of the report who's reading it can can understand why that five days exists in that example.

0:45:7.360 --> 0:45:17.320  
Rothamer, Steve - DOT (DTSD Consultant)  
And then finally, the second thing I want to talk about relationship lags is negative. Legs are never to be used in a CPM schedule. I know the software lets you do it.

0:45:18.0 --> 0:45:20.940  
Rothamer, Steve - DOT (DTSD Consultant)  
And a lot of the contractors like to use negative legs.

0:45:21.590 --> 0:45:27.580  
Rothamer, Steve - DOT (DTSD Consultant)  
But again, contract documents on most of the mega major projects forbid.

0:45:28.520 --> 0:45:38.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Contractors from using a negative lag and quite frankly so do I. So I tell the contractors don't even entertain the idea of using a negative lag on a relationship.

0:45:41.270 --> 0:45:43.180  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions about that?

0:45:47.920 --> 0:45:58.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Yes, in in the CPM schedule, all activities should have a relationship. The only exception being the first activity which should be your project start milestone.

0:45:59.450 --> 0:46:4.570  
Rothamer, Steve - DOT (DTSD Consultant)  
And the last activity in the schedule which should be your project finish milestone?

0:46:5.180 --> 0:46:9.370  
Rothamer, Steve - DOT (DTSD Consultant)  
But all other activities should have predecessors and successors.

0:46:10.180 --> 0:46:27.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Making sure that we use the proper predecessors and successors means that we can minimize the use of constraints, which we'll talk about later on, because the use of constraint date constraints in the schedule can can do all kinds of goofy things and and cause your CPM schedule to do.

0:46:28.250 --> 0:46:32.600  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, things against the logic or override the logic with schedule?

0:46:38.480 --> 0:46:38.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright.

0:46:40.220 --> 0:46:41.980  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, training that kind of.

0:46:46.380 --> 0:46:47.440  
Rothamer, Steve - DOT (DTSD Consultant)  
I explain a little bit.

0:46:49.70 --> 0:46:50.960  
Rothamer, Steve - DOT (DTSD Consultant)  
And one thing I noticed too is.

0:46:52.840 --> 0:46:54.30  
Rothamer, Steve - DOT (DTSD Consultant)  
My screen going out again.

0:46:55.240 --> 0:46:55.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:46:56.540 --> 0:47:6.110  
Rothamer, Steve - DOT (DTSD Consultant)  
When having the basic understanding of the nuts and bolts and CPM schedule I think helps you understand when you're reading the reports that are presented so.

0:47:6.800 --> 0:47:10.790  
Rothamer, Steve - DOT (DTSD Consultant)  
That's what I'm one of the reasons why we're going through that through that in this presentation as well.

0:47:12.260 --> 0:47:12.730  
Rothamer, Steve - DOT (DTSD Consultant)  
To me.

0:47:13.580 --> 0:47:30.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm. Continuing on with some of the basic information and the CPM schedule. So once we've got all the activities created, the durations, the logic put together, then what we're gonna do is we're gonna do is calculate the schedule. So modern day technology can take these schedules and.

0:47:31.200 --> 0:47:43.60  
Rothamer, Steve - DOT (DTSD Consultant)  
30 seconds later, tell us when these 5000 activities are going to start and finish, which is nice. So when it does, the calculation of the schedule, it's gonna create the first set of dates that are called early dates.

0:47:43.840 --> 0:47:49.600  
Rothamer, Steve - DOT (DTSD Consultant)  
The early dates in the CPM schedule are the earliest than an activity can start.

0:47:50.560 --> 0:48:0.800  
Rothamer, Steve - DOT (DTSD Consultant)  
In finish, based on the durations and logics that we put into the CPM schedule. So again, it's important to understand that the the durations and the.

0:48:31.990 --> 0:48:33.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Now the question is.

0:48:34.450 --> 0:48:35.320  
Rothamer, Steve - DOT (DTSD Consultant)  
For for the group.

0:48:36.50 --> 0:48:40.180  
Rothamer, Steve - DOT (DTSD Consultant)  
Is it possible for the late dates to be earlier than early dates?

0:48:50.60 --> 0:48:51.370  
Rothamer, Steve - DOT (DTSD Consultant)  
31 venture a guess.

0:48:58.530 --> 0:49:7.450  
Rothamer, Steve - DOT (DTSD Consultant)  
The answer is yes, that it is possible for your late dates on the schedule to be earlier than your early dates. I see you a little bit of confused looks on people's faces.

0:49:8.240 --> 0:49:12.90  
Rothamer, Steve - DOT (DTSD Consultant)  
If that happens, what's gonna happen in your schedule is means you've got negative floats.

0:49:12.790 --> 0:49:17.20  
Rothamer, Steve - DOT (DTSD Consultant)  
Means your schedule is taking longer than it originally planned so.

0:49:18.100 --> 0:49:19.850  
Rothamer, Steve - DOT (DTSD Consultant)  
We're going to have to do something to.

0:49:21.180 --> 0:49:24.560  
Rothamer, Steve - DOT (DTSD Consultant)  
Revise the schedule to eliminate the negative float or.

0:49:25.260 --> 0:49:56.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Or or think of some some other ways to minimize or or eliminate the negative float in the schedule. So what negative float is is means that our project is finishing later than what our contract dates are specified, so it could be an interim date or it could be a final project completion date. If the schedule is pushing beyond those contract dates, it's gonna create negative float and in my example my my light dates will be earlier than my early dates, which seems kind of.

0:49:56.650 --> 0:49:57.640  
Rothamer, Steve - DOT (DTSD Consultant)  
Counter intuitive.

0:49:58.610 --> 0:50:3.490  
Rothamer, Steve - DOT (DTSD Consultant)  
So we talked about total float and free float, what those were earlier and the.

0:50:4.210 --> 0:50:16.760  
Rothamer, Steve - DOT (DTSD Consultant)  
What happens again behind the scenes in the software? Software goes through calculates the early dates, then it calculates the late dates and the total flow is the comparison of those early dates to the late dates.

0:50:17.440 --> 0:50:25.770  
Rothamer, Steve - DOT (DTSD Consultant)  
So when I have a positive float, my late dates are gonna be after my early dates. If schedule has negative float.

0:50:26.590 --> 0:50:27.990  
Rothamer, Steve - DOT (DTSD Consultant)  
By late, dates will be earlier.

0:50:29.860 --> 0:50:35.90  
Rothamer, Steve - DOT (DTSD Consultant)  
And as I mentioned before, constraints can really mess that up and we'll see some examples.

0:50:35.880 --> 0:50:43.390  
Rothamer, Steve - DOT (DTSD Consultant)  
In some later slides about how constraints are used, and we'll see some examples on how you can identify.

0:50:44.40 --> 0:50:46.730  
Rothamer, Steve - DOT (DTSD Consultant)  
When when constraints are being used in the CPM schedule?

0:50:51.120 --> 0:50:51.500  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:50:52.190 --> 0:51:2.760  
Rothamer, Steve - DOT (DTSD Consultant)  
Like I mentioned before, there are plans and specifications and contract documents go through in detail on what's it, what to be included in the CPM schedule.

0:51:3.580 --> 0:51:11.90  
Rothamer, Steve - DOT (DTSD Consultant)  
So standard Specification 108.4 tells us what what's to be included in CPM schedule.

0:51:12.430 --> 0:51:14.340  
Rothamer, Steve - DOT (DTSD Consultant)  
So let me see if I got to set up right.

0:51:15.630 --> 0:51:18.820  
Rothamer, Steve - DOT (DTSD Consultant)  
So this is an example of print out of 108.4.

0:51:21.430 --> 0:51:25.450  
Rothamer, Steve - DOT (DTSD Consultant)  
Goes through some sections of it. What's included an initial work plan.

0:51:27.390 --> 0:51:33.360  
Rothamer, Steve - DOT (DTSD Consultant)  
The initial progress CPM schedule now I'll use in my presentation. I'll use the word baseline.

0:51:34.380 --> 0:51:47.800  
Rothamer, Steve - DOT (DTSD Consultant)  
Schedule. Just keep in mind in the standard specifications and maybe in your contract documents might use the term initial CPM schedule. So when I say baseline, it means the same thing that's being discussed here as an initial.

0:51:49.130 --> 0:51:50.120  
Rothamer, Steve - DOT (DTSD Consultant)  
CPM schedule.

0:51:52.60 --> 0:51:57.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Scrolling down further through the standard specifications, it goes through and tells us what's up.

0:51:58.20 --> 0:52:2.490  
Rothamer, Steve - DOT (DTSD Consultant)  
To be included in the monthly of CPM progress schedules.

0:52:3.380 --> 0:52:12.70  
Rothamer, Steve - DOT (DTSD Consultant)  
And further down includes the engineers right to request changes and we'll cover some of this stuff in some later slides, give a little bit more details.

0:52:12.900 --> 0:52:18.810  
Rothamer, Steve - DOT (DTSD Consultant)  
From the standard specification, also includes documentation required for time extensions.

0:52:19.790 --> 0:52:20.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:52:22.330 --> 0:52:40.320  
Rothamer, Steve - DOT (DTSD Consultant)  
CPM progress measurement and there's some requirements for payment on what what the contractor can get paid for and when he can get paid, that sort of stuff that's linked to the CPM schedule being submitted and whether or not it's been accepted.

0:52:45.280 --> 0:52:45.890  
Rothamer, Steve - DOT (DTSD Consultant)  
Here.

0:52:49.100 --> 0:52:51.440  
Rothamer, Steve - DOT (DTSD Consultant)  
So like I mentioned on some of the bigger projects.

0:52:52.80 --> 0:52:53.330  
Rothamer, Steve - DOT (DTSD Consultant)  
The the.

0:52:54.520 --> 0:53:25.190  
Rothamer, Steve - DOT (DTSD Consultant)  
These special provisions will override or replace what's included in the standard specifications or depending on your project you've reviewed your contract documents in. In the example that I'm showing up here, a couple of examples, the Highway 50 project Article 127 Replaces Standard specification on the zoo interchange N leg Article 172 of the special provisions replaces 108.4, so we look at the special provisions.

0:53:25.600 --> 0:53:28.120  
Rothamer, Steve - DOT (DTSD Consultant)  
For what's required in CPM schedule?

0:53:29.730 --> 0:53:31.500  
Rothamer, Steve - DOT (DTSD Consultant)  
Also included in some of the.

0:53:32.280 --> 0:53:36.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Important schedule information that we're going to find in the special provisions.

0:53:37.370 --> 0:53:41.910  
Rothamer, Steve - DOT (DTSD Consultant)  
That's where we're going to find intermediate and final completion date requirements for your project.

0:53:43.60 --> 0:53:55.470  
Rothamer, Steve - DOT (DTSD Consultant)  
The special provisions might also include limited duration closures. How long can I close a road for how long is something allowed to be closed before it has to be opened back up? That sort of information.

0:53:56.330 --> 0:54:2.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, you'll find various staging requirements or suggested staging requirements for projects.

0:54:3.250 --> 0:54:6.330  
Rothamer, Steve - DOT (DTSD Consultant)  
And we're also finding some holiday work restrictions.

0:54:6.970 --> 0:54:14.150  
Rothamer, Steve - DOT (DTSD Consultant)  
Can anybody think of something else important schedule information that might be included in the special provisions?

0:54:17.680 --> 0:54:34.650  
Rothamer, Steve - DOT (DTSD Consultant)  
And that's what I came up with when I was thinking about. But yeah, there might be other information in there. You might find a dates when the contractor can begin work. Sometimes there are special revisions will say don't begin work earlier than maybe April 1st unless approved by the engineer.

0:54:35.340 --> 0:54:47.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Those types of things. So as we read this special provisions and other contract documents, we're going to use that information as we're reviewing the schedule to make sure that the schedule meets those expectations.

0:54:50.250 --> 0:55:0.350  
Rothamer, Steve - DOT (DTSD Consultant)  
So in this example on this slide I have, I'm just kind of bullet pointed out the standard specifications of the Highway 50 project.

0:55:3.350 --> 0:55:4.720  
Rothamer, Steve - DOT (DTSD Consultant)  
If this works for me.

0:55:6.720 --> 0:55:32.230  
Rothamer, Steve - DOT (DTSD Consultant)  
So when I've I've shown here. So again because of this particular section, we can see at the top line there it replaces 108.4. So when we're reviewing the schedule, we move from the standard specifications to the special provisions and we go through this one of the Nice things about this special provision is it includes some basic definitions and terms that we've talked about earlier.

0:55:32.870 --> 0:55:44.160  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, it includes some information on a project schedule on scheduling responsibilities, sometimes in the present for visions will require that the contractor.

0:55:46.400 --> 0:55:58.470  
Rothamer, Steve - DOT (DTSD Consultant)  
The employees of CPM expert or a scheduling expert that has X number of years of experience on how to use this P6 and the scheduling software we want to make sure.

0:55:59.130 --> 0:56:1.30  
Rothamer, Steve - DOT (DTSD Consultant)  
Let the contractor knows what they're doing.

0:56:2.530 --> 0:56:8.560  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, so again it goes through all kinds of different things. We can find requirements for them to meeting schedules.

0:56:10.590 --> 0:56:17.160  
Rothamer, Steve - DOT (DTSD Consultant)  
Up up here, it talks about in these paragraphs, talks about what's to be included in your schedule, how to set up their calendars.

0:56:18.300 --> 0:56:24.800  
Rothamer, Steve - DOT (DTSD Consultant)  
Different kinds of relationships and whatnot that they can use goes through, tells us about CPM updates.

0:56:26.80 --> 0:56:30.930  
Rothamer, Steve - DOT (DTSD Consultant)  
This kind of paragraph on this practice just out of out of place that you further down in, in, in the.

0:56:32.50 --> 0:56:39.50  
Rothamer, Steve - DOT (DTSD Consultant)  
Who in the text but go through the what's required for the initial work plan? What's required for the baseline?

0:56:41.10 --> 0:56:51.940  
Rothamer, Steve - DOT (DTSD Consultant)  
CPM schedule here's a requirement talks about the three-week look ahead. This project requires production information from the contractor to include that information as they're submitting.

0:56:54.110 --> 0:57:6.70  
Rothamer, Steve - DOT (DTSD Consultant)  
It talks about progress and review meetings and we'll talk about this in a minute. I'm some of the things that are required, CPM progress, schedule talks about revisions when when can the engineer request revisions?

0:57:7.270 --> 0:57:9.420  
Rothamer, Steve - DOT (DTSD Consultant)  
When the contractor produces revisions.

0:57:11.850 --> 0:57:25.630  
Rothamer, Steve - DOT (DTSD Consultant)  
This special division talks about the documentation required for time extension requests, and you'll notice that a lot of these sections, and then finally it talks about the payment requirements, how much they're going to get paid.

0:57:26.500 --> 0:57:27.530  
Rothamer, Steve - DOT (DTSD Consultant)  
Or.

0:57:28.700 --> 0:57:44.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Submitting schedules and and then and when the schedule get accepted, that sort of stuff. You notice one thing that the standard specifications are typically more detailed have additional requirements over and above what's included in the standard specifications.

0:57:46.240 --> 0:57:52.520  
Rothamer, Steve - DOT (DTSD Consultant)  
So when we're reviewing schedules, we gotta make sure that we're reading the right documents to understand what's required.

0:57:53.590 --> 0:57:57.480  
Rothamer, Steve - DOT (DTSD Consultant)  
I think the other important thing here too, Steven, I think maybe you're going to talk about it is that?

0:57:58.220 --> 0:57:58.970  
Rothamer, Steve - DOT (DTSD Consultant)  
We have.

0:57:59.930 --> 0:58:1.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Provisions in here that will retain.

0:58:3.460 --> 0:58:9.230  
Rothamer, Steve - DOT (DTSD Consultant)  
You know, 10% of the estimates until we accept the baseline and accept monthly updates.

0:58:10.120 --> 0:58:15.390  
Rothamer, Steve - DOT (DTSD Consultant)  
Kind of a carrot and a stick. Yeah, thing. And we'll talk about that briefly in the next slides as well.

0:58:16.920 --> 0:58:17.340  
Rothamer, Steve - DOT (DTSD Consultant)  
In.

0:58:21.290 --> 0:58:35.960  
Rothamer, Steve - DOT (DTSD Consultant)  
So this slide, we're going to talk about kind of the process that we go through when we're going through the initial work plan. When is the initial work plan due, what is the process? How much time do we have to review it?

0:58:36.710 --> 0:58:40.710  
Rothamer, Steve - DOT (DTSD Consultant)  
When when the contractor, what happens when the contractors required revisions?

0:58:41.620 --> 0:58:48.610  
Rothamer, Steve - DOT (DTSD Consultant)  
So this this slide in the subsequent slides, the information is coming from the standard specifications.

0:58:49.290 --> 0:58:52.510  
Rothamer, Steve - DOT (DTSD Consultant)  
So it's important to understand that your project.

0:58:53.130 --> 0:59:2.940  
Rothamer, Steve - DOT (DTSD Consultant)  
May have additional requirements, or the requirements may differ. If you have a special provisions that replaces the standard specification.

0:59:3.840 --> 0:59:4.650  
Rothamer, Steve - DOT (DTSD Consultant)  
So in the.

0:59:14.550 --> 0:59:17.550  
Rothamer, Steve - DOT (DTSD Consultant)  
So hopefully the contractor will submit that to the department.

0:59:18.900 --> 0:59:19.460  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

0:59:20.960 --> 0:59:27.710  
Rothamer, Steve - DOT (DTSD Consultant)  
What the initial work plan is required to show us is the 1st 60 calendar days of work.

0:59:28.380 --> 0:59:33.90  
Rothamer, Steve - DOT (DTSD Consultant)  
For that plan, so we want to see detailed information during the first 60 days.

0:59:33.730 --> 0:59:39.430  
Rothamer, Steve - DOT (DTSD Consultant)  
So that we have something to work off of while the contractor is developing the baseline CPM schedule.

0:59:40.540 --> 1:0:7.390  
Rothamer, Steve - DOT (DTSD Consultant)  
After the departments review received, the additional work plan from the contractor, the department has five calendar days, No 5 business days. Excuse me to review that CPM schedule and after those five business days, we'll send out a a view review to the contractor and then potentially schedule a meeting with the contractor to discuss the comments in it, ask for any revisions and whatnot.

1:0:8.120 --> 1:0:14.310  
Rothamer, Steve - DOT (DTSD Consultant)  
So the engineer will accept or request additional revisions after that 55 day Business Day review.

1:0:15.120 --> 1:0:16.890  
Rothamer, Steve - DOT (DTSD Consultant)  
And then we're going to use that.

1:0:17.550 --> 1:0:30.280  
Rothamer, Steve - DOT (DTSD Consultant)  
Initial work plan to maintain and submit biweekly updated information from the contractor. So once the initial work plan is accepted, the contractor is expected to update that initial work plan.

1:0:31.400 --> 1:0:37.310  
Rothamer, Steve - DOT (DTSD Consultant)  
And continue to submit updates on a biweekly basis can tell such time that the baseline schedule is accepted.

1:0:39.290 --> 1:0:44.370  
Rothamer, Steve - DOT (DTSD Consultant)  
And then, like I said, we're going to use that to monitor and until the baseline is accepted.

1:0:47.840 --> 1:0:56.350  
Rothamer, Steve - DOT (DTSD Consultant)  
So once we do have a initial work plan and then we're working off of that, the contractor is gonna develop their baseline schedule.

1:0:57.600 --> 1:1:1.990  
Rothamer, Steve - DOT (DTSD Consultant)  
And again, this is the standard specification requirements. Your project may differ.

1:1:3.480 --> 1:1:8.610  
Rothamer, Steve - DOT (DTSD Consultant)  
The baseline schedule is due within 30 calendar days of after notice to proceed.

1:1:10.170 --> 1:1:10.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm this?

1:1:11.870 --> 1:1:18.470  
Rothamer, Steve - DOT (DTSD Consultant)  
The engineer will schedule a review meeting with the contractor within 10 business days after the initial submittal.

1:1:19.550 --> 1:1:27.580  
Rothamer, Steve - DOT (DTSD Consultant)  
So the department has 10 business days to review that baseline schedule, develop their comments and send it back to the contractor, and then meet with them.

1:1:29.210 --> 1:1:36.410  
Rothamer, Steve - DOT (DTSD Consultant)  
Review comments are due back to the country of five business days after the meeting that is scheduled on the initial baseline schedule.

1:1:37.640 --> 1:1:41.710  
Rothamer, Steve - DOT (DTSD Consultant)  
And then the contractor has 10 business days to revise and resubmit as needed.

1:1:42.430 --> 1:1:54.180  
Rothamer, Steve - DOT (DTSD Consultant)  
During that process, you may go through two or three or more different iterations of the baseline schedule while the contractor revises it based on the on the department's comments and suggestions.

1:1:55.380 --> 1:2:5.390  
Rothamer, Steve - DOT (DTSD Consultant)  
In Jason T what you were talking to before, the department will only make progress payments on the value of materials until the baseline schedule is submitted.

1:2:6.450 --> 1:2:13.960  
Rothamer, Steve - DOT (DTSD Consultant)  
And then after the is submitted, the department will retain 10% of each estimate until the baseline is accepted.

1:2:15.540 --> 1:2:18.350  
Rothamer, Steve - DOT (DTSD Consultant)  
So it kind of gives the incentive to the contractor to.

1:2:19.590 --> 1:2:21.500  
Rothamer, Steve - DOT (DTSD Consultant)  
Work on the baseline and get it submitted.

1:2:25.340 --> 1:2:33.780  
Rothamer, Steve - DOT (DTSD Consultant)  
There, what's the baseline schedule is been submitted and accepted by the department. Then we move into the monthly update process.

1:2:34.860 --> 1:3:3.110  
Rothamer, Steve - DOT (DTSD Consultant)  
Now the monthly update is typically not defined when it's due in the contract documents. That's something that your project will coordinate with the contractor, whether you want the contractor to submit their monthly update on the first Monday of the month, the first day of the month, the third week of the month, whatever works out for your project team in the contractor you wanna coordinate when it's to be submitted, but you then you wanna follow that submittal process each month.

1:3:4.220 --> 1:3:7.70  
Rothamer, Steve - DOT (DTSD Consultant)  
There are. I've seen some projects where the contractor just.

1:3:8.120 --> 1:3:12.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Submits it whenever and it it creates gaps in the schedule and we wanna.

1:3:14.470 --> 1:3:17.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Encourage the contractor you're always submitted at the same time every month.

1:3:19.350 --> 1:3:29.480  
Rothamer, Steve - DOT (DTSD Consultant)  
So after the contractors submitted their monthly update, the department will review that update and has five business days to review and respond to the contractor.

1:3:31.470 --> 1:3:43.580  
Rothamer, Steve - DOT (DTSD Consultant)  
With with the reply and then schedule a meeting afterwards that as needed to talk about the review with the contractor and discuss any of the comments or requested revisions.

1:3:44.760 --> 1:3:54.290  
Rothamer, Steve - DOT (DTSD Consultant)  
And then if the schedule is sent back, revise and resubmit, the contractor has 10 business days to resubmit that schedule with any.

1:3:55.170 --> 1:3:58.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Including any revisions and comments by the.

1:4:0.560 --> 1:4:1.480  
Rothamer, Steve - DOT (DTSD Consultant)  
By the engineer.

1:4:6.890 --> 1:4:7.280  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright.

1:4:8.270 --> 1:4:17.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Schedule revisions like we've mentioned before, when can the contractor include revisions? Oftentimes you'll see the contractor include revisions in each month.

1:4:18.830 --> 1:4:26.690  
Rothamer, Steve - DOT (DTSD Consultant)  
It's important to note what those revisions are, but there are times when the engineer or the department can request revisions.

1:4:27.880 --> 1:4:38.540  
Rothamer, Steve - DOT (DTSD Consultant)  
In the standard specifications says that the engineer can request revisions if the interim or final completion dates are 14 calendar days late.

1:4:39.900 --> 1:4:53.10  
Rothamer, Steve - DOT (DTSD Consultant)  
So if your project is 2 weeks or more later, then the contract completion dates, the engineer could request revisions to recover time and what steps the contractor is gonna take to recover that.

1:4:53.830 --> 1:4:54.600  
Rothamer, Steve - DOT (DTSD Consultant)  
Lost time?

1:4:55.820 --> 1:5:0.570  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we can request revisions of the progress in the field differs significantly.

1:5:1.610 --> 1:5:2.820  
Rothamer, Steve - DOT (DTSD Consultant)  
From the schedule and I.

1:5:3.630 --> 1:5:22.290  
Rothamer, Steve - DOT (DTSD Consultant)  
I I see this quite a bit on reviews when when reviewing schedules and we'll talk about it when we get to the update schedule process, how you can identify, obviously your field observation, you're you're working with them every day and and you look at the schedule, if it doesn't match then the CPM schedule is not doing you much good.

1:5:26.920 --> 1:5:28.950  
Rothamer, Steve - DOT (DTSD Consultant)  
And the last thing I have here is.

1:5:29.690 --> 1:5:43.100  
Rothamer, Steve - DOT (DTSD Consultant)  
We could request revisions when it change. Order requires additional or deletions or revisions from the project, and I'm sure all of you are very familiar with the various change orders that you have on your projects and how things change.

1:5:44.90 --> 1:5:45.220  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm from day-to-day.

1:5:46.360 --> 1:5:53.110  
Rothamer, Steve - DOT (DTSD Consultant)  
So when request when revisions are requested, we want to submit those revisions within 10 business days.

1:5:53.890 --> 1:5:57.570  
Rothamer, Steve - DOT (DTSD Consultant)  
And like we talked before, the department has five days.

1:5:58.370 --> 1:6:9.900  
Rothamer, Steve - DOT (DTSD Consultant)  
To review those revisions and get comments back to the contractor to discuss any additional revisions that might be included requested for the schedule.

1:6:11.980 --> 1:6:17.860  
Rothamer, Steve - DOT (DTSD Consultant)  
And you continue to adjust resubmit and adjust as needed until addresses all our concerns.

1:6:21.340 --> 1:6:43.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Finally, in this segment of the presentation, we'll talk about weather. Anticipated weather is very important and you know I've worked in both vertical and horizontal work in vertical. You can enclose your building with you're always concerned about when you're you're you're gonna be weather tight so you can do work, but obviously we're building roads and bridges.

1:6:44.820 --> 1:6:57.80  
Rothamer, Steve - DOT (DTSD Consultant)  
It's very rare that you're gonna enclose your project so you can work indoors all the time. So the standard specification includes whether anticipated weather so.

1:6:57.720 --> 1:6:58.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:7:0.300 --> 1:7:1.70  
Rothamer, Steve - DOT (DTSD Consultant)  
In the.

1:7:2.120 --> 1:7:10.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Stereo specification each month includes a X number of anticipated weather days. So 108.10 dot 2.2.

1:7:11.780 --> 1:7:20.730  
Rothamer, Steve - DOT (DTSD Consultant)  
So Jane, note here that January, February, and March, the second-half of November and December are all anticipated weather days.

1:7:21.890 --> 1:7:30.790  
Rothamer, Steve - DOT (DTSD Consultant)  
So the contractor, the the department will not entertain any request for additional time extension due to adverse weather because.

1:7:31.710 --> 1:7:34.780  
Rothamer, Steve - DOT (DTSD Consultant)  
Those those days are all adverse weather days, but.

1:7:35.940 --> 1:7:44.170  
Rothamer, Steve - DOT (DTSD Consultant)  
In in the middle of there, from April through the first two weeks of November, there are certain number of anticipated adverse weather days.

1:7:44.930 --> 1:7:52.160  
Rothamer, Steve - DOT (DTSD Consultant)  
And we'll talk about in a minute how how those are tracked and and how we can use that information on.

1:7:52.980 --> 1:7:54.840  
Rothamer, Steve - DOT (DTSD Consultant)  
Reviewing schedules and whatnot.

1:7:57.140 --> 1:7:57.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:8:1.670 --> 1:8:3.650  
Rothamer, Steve - DOT (DTSD Consultant)  
From the next thing, the weather.

1:8:4.820 --> 1:8:12.380  
Rothamer, Steve - DOT (DTSD Consultant)  
It's also a comment I hear a lot of times is how the contractor incorporates whether into calendars.

1:8:13.560 --> 1:8:21.160  
Rothamer, Steve - DOT (DTSD Consultant)  
So one of the things I have here is a print out of the calendar and I don't know if you can see it. Yeah, you can see it from where you're at.

1:8:22.50 --> 1:8:35.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, the the blue days, like The Saturdays and Sundays, you can see our weekends, which are typically known work days. But when a contractor will include whether in their calendar by marking the adverse weather days is nonwork days during that month.

1:8:35.870 --> 1:8:48.160  
Rothamer, Steve - DOT (DTSD Consultant)  
So on the previous slide that we saw that October had five anticipated adverse weather days, you can see October here includes 5 days in the middle of the week. There are generally random days.

1:8:48.820 --> 1:8:56.850  
Rothamer, Steve - DOT (DTSD Consultant)  
Marked as known work things, and that's how the contractor will model those anticipated adverse weather days into the schedule.

1:8:57.510 --> 1:9:5.700  
Rothamer, Steve - DOT (DTSD Consultant)  
My modeling it inside the calendar. It eliminates the need of the contractor to change durations if there.

1:9:6.680 --> 1:9:16.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Your activity moves from the summer when you have more good weather, it's that activity moves into the window. You'll have bad weather, so.

1:9:17.370 --> 1:9:30.730  
Rothamer, Steve - DOT (DTSD Consultant)  
Those five days are incorporated. You can see in October they've incorporated two days in the first two weeks of November. So the 3rd and the 10th or are non working days. So there would be the adverse weather days.

1:9:31.430 --> 1:9:32.650  
Rothamer, Steve - DOT (DTSD Consultant)  
You can also see.

1:9:33.960 --> 1:9:48.630  
Rothamer, Steve - DOT (DTSD Consultant)  
That they're working, they plan to work on this calendar and part of November and also parts of December, January, February and March, they have some working days, but they also included a bunch of adverse weather days.

1:9:49.730 --> 1:9:53.800  
Rothamer, Steve - DOT (DTSD Consultant)  
So this calendar is intended to be used during those months as well.

1:9:54.900 --> 1:9:55.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Let me Scroll down.

1:9:56.830 --> 1:10:27.660  
Rothamer, Steve - DOT (DTSD Consultant)  
In here, when we get into spring while the April from the previous slide has five adverse weather days in May has four adverse weather days, then you may have also noticed that the anticipated or the holiday work restrictions are also incorporated in these counties. So this type of report is generally printed out for each one of the projects. It's not a monthly thing that I create because it takes a lot of time to print those reports, calendar reports, but are generally available.

1:10:28.200 --> 1:10:34.570  
Rothamer, Steve - DOT (DTSD Consultant)  
So so you can see which days are considered non work days on each one of the calendars.

1:10:45.640 --> 1:10:47.630  
Rothamer, Steve - DOT (DTSD Consultant)  
I I I I understand.

1:10:47.710 --> 1:11:2.290  
Rothamer, Steve - DOT (DTSD Consultant)  
And the question, but I don't want are, are you I guess are you asking that the the dates after November 16th should not be considered adverse if our contract date is after that?

1:11:10.640 --> 1:11:16.20  
Rothamer, Steve - DOT (DTSD Consultant)  
Well, if if they did do that, say say we have a contract completion date of December 10th.

1:11:17.270 --> 1:11:26.230  
Rothamer, Steve - DOT (DTSD Consultant)  
If they marked all the dates after November 16th as non work days then their schedule just kick out to the following spring.

1:11:27.120 --> 1:11:41.890  
Rothamer, Steve - DOT (DTSD Consultant)  
So the contractor has to show those as work days in their schedule if they have a contract completion date after November 16th. Otherwise they would have to create a schedule that shows them finishing a honor before November 15th.

1:11:52.560 --> 1:11:53.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Any other questions about?

1:11:54.470 --> 1:11:56.350  
Rothamer, Steve - DOT (DTSD Consultant)  
How? How the contractor might model?

1:11:58.300 --> 1:12:0.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, so moving on.

1:12:2.170 --> 1:12:3.400  
Rothamer, Steve - DOT (DTSD Consultant)  
Some projects.

1:12:5.110 --> 1:12:6.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Gonna move my mouse.

1:12:9.290 --> 1:12:25.120  
Rothamer, Steve - DOT (DTSD Consultant)  
We've seen this in the past that they might. The department might be going away from this thing you see in the middle of the screen. There some projects might have adverse weather eliminated from the contract. You can see that first line that says the department will not grant enter.

1:12:27.480 --> 1:12:35.340  
Rothamer, Steve - DOT (DTSD Consultant)  
Great time extensions for adverse weather in accordance with that standard specification, we've seen that on some of the projects in the past.

1:12:36.610 --> 1:12:48.470  
Rothamer, Steve - DOT (DTSD Consultant)  
Some of the projects that are moving away from that, I don't know, departments completely moving away from that or not just be aware on your project whether it might be excluded as an acceptable time extension request.

1:12:50.360 --> 1:12:54.670  
Rothamer, Steve - DOT (DTSD Consultant)  
And finally, the last thing I wanted to show on whether was.

1:12:56.70 --> 1:12:59.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Some the way projects are kind of moving toward it now.

1:13:0.300 --> 1:13:20.350  
Rothamer, Steve - DOT (DTSD Consultant)  
And we'll replace part of that whether adverse weather spec and tell you what the contractor has to provide in, whether so in this particular case on the contractor needs to track the weather along with the project team, track the adverse weather that's occurring on the project and how it impacts.

1:13:21.700 --> 1:13:26.470  
Rothamer, Steve - DOT (DTSD Consultant)  
The the critical path activities on the schedule so you can see in these paragraphs.

1:13:27.690 --> 1:13:28.200  
Rothamer, Steve - DOT (DTSD Consultant)  
That.

1:13:29.290 --> 1:13:35.480  
Rothamer, Steve - DOT (DTSD Consultant)  
It's requires that the contractor to submit on the at which activity was impacted by.

1:13:37.0 --> 1:13:40.940  
Rothamer, Steve - DOT (DTSD Consultant)  
The adverse weather and whether or not that activity was on the critical path.

1:14:0.330 --> 1:14:6.200  
Rothamer, Steve - DOT (DTSD Consultant)  
And it has to be validated through and accepted CPM update schedule.

1:14:7.170 --> 1:14:14.10  
Rothamer, Steve - DOT (DTSD Consultant)  
So again, it's another incentive for the contractor to make sure they're providing some good CPM schedules.

1:14:15.260 --> 1:14:16.110  
Rothamer, Steve - DOT (DTSD Consultant)  
To the department.

1:14:18.190 --> 1:14:18.920  
Rothamer, Steve - DOT (DTSD Consultant)  
Moses appear.

1:14:20.180 --> 1:14:20.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:14:22.770 --> 1:14:23.220  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

1:14:27.590 --> 1:14:28.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions about whether?

1:14:32.450 --> 1:14:39.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, the next section is the baseline schedule. Review won't do that. After we take a short break.

1:14:39.870 --> 1:14:45.160  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm not before we take a short break, cause anybody have any questions about what we discussed so far.

1:14:47.520 --> 1:14:49.480  
Rothamer, Steve - DOT (DTSD Consultant)  
BY25K.

1:14:58.530 --> 1:15:0.630  
Rothamer, Steve - DOT (DTSD Consultant)  
Yes, on on slide 25.

1:15:1.510 --> 1:15:1.980  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:15:2.860 --> 1:15:22.490  
Rothamer, Steve - DOT (DTSD Consultant)  
I was. I was trying to show that typically, typically in the reports that we produce, I I don't print out a report that shows early dates. And like, yeah, I I will typically on the reports that get produced, I'm just showing start and finish dates. So those start and finish dates in the reports that you see are the early dates of the schedule.

1:15:23.210 --> 1:15:28.460  
Rothamer, Steve - DOT (DTSD Consultant)  
But I was just trying to, I guess, throw out a brain teaser for you that what would happen.

1:15:29.240 --> 1:15:32.520  
Rothamer, Steve - DOT (DTSD Consultant)  
It you know, is it possible that you're late dates are earlier than your?

1:15:33.180 --> 1:15:35.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Early dates and yes it is possible.

1:15:38.290 --> 1:15:42.380  
Rothamer, Steve - DOT (DTSD Consultant)  
No, it creates negative because what you're saying is you're late date.

1:15:43.700 --> 1:15:45.990  
Rothamer, Steve - DOT (DTSD Consultant)  
You the latest you're activity can finish.

1:15:46.800 --> 1:15:50.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Is earlier than the earliest.

1:15:51.560 --> 1:15:52.970  
Rothamer, Steve - DOT (DTSD Consultant)  
Your activity can finish.

1:15:54.320 --> 1:16:3.130  
Rothamer, Steve - DOT (DTSD Consultant)  
So a little if that answers your question. Yeah. So is that sometimes like the contractor accidentally like puts that in there like they put a relationship that's.

1:16:3.800 --> 1:16:7.430  
Rothamer, Steve - DOT (DTSD Consultant)  
Have valid and then you can catch it. Or do they do it on purpose?

1:16:8.40 --> 1:16:26.80  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, they can be an accidental relationship where where something gets put in there, it'll push something out beyond the contract completion date, but hopefully the contractor will notice that themselves. Yeah, and and draw that back in. Sometimes the contractors will not. I mean, just as early as.

1:16:27.40 --> 1:16:40.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Or is is latest as 2022. I've seen schedules come in where the contractor is not paying attention to the completion dates. Things get pushed out for reasons that should be obvious if you review the.

1:16:41.220 --> 1:16:49.630  
Rothamer, Steve - DOT (DTSD Consultant)  
The critical paths to those intermediate or final completion dates, and if the example I'm talking about is where a.

1:16:51.270 --> 1:16:52.480  
Rothamer, Steve - DOT (DTSD Consultant)  
Submittal activity.

1:16:53.140 --> 1:16:56.830  
Rothamer, Steve - DOT (DTSD Consultant)  
That for for a wall that has already been constructed and completed.

1:16:57.630 --> 1:17:3.310  
Rothamer, Steve - DOT (DTSD Consultant)  
But the submittal activity to fabricate and deliver the the wall panels wasn't done yet.

1:17:4.90 --> 1:17:11.220  
Rothamer, Steve - DOT (DTSD Consultant)  
So through obvious sequence progress and what not the schedule, that's the middle of was pushing the contract dates out.

1:17:12.150 --> 1:17:14.700  
Rothamer, Steve - DOT (DTSD Consultant)  
For like I said, the wall had already been constructed.

1:17:15.810 --> 1:17:22.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Something that the scheduler should have noticed before they submitted, but they did it more related to progress, right? What you're saying?

1:17:25.260 --> 1:17:46.850  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, making sure that your progress and we'll talk about this in the update of schedule review segment of making sure that the contractors providing accurate as built information when the activities actually start and when they actually finished and not overlooking the submittal activities and some of the administrative activities that might be in.

1:17:47.610 --> 1:17:49.60  
Rothamer, Steve - DOT (DTSD Consultant)  
In the top of the schedule.

1:17:52.240 --> 1:18:1.300  
Rothamer, Steve - DOT (DTSD Consultant)  
See you. It's talking about whether you know the month of October, you at 5 weather days. Let's say you had an amazing October and no other days.

1:18:2.10 --> 1:18:3.280  
Rothamer, Steve - DOT (DTSD Consultant)  
Who owns that flow?

1:18:3.940 --> 1:18:5.810  
Rothamer, Steve - DOT (DTSD Consultant)  
We'll talk about that in the future slide.

1:18:7.150 --> 1:18:7.630  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:18:9.640 --> 1:18:11.120  
Rothamer, Steve - DOT (DTSD Consultant)  
Anybody want to provide a?

1:18:11.970 --> 1:18:36.80  
Rothamer, Steve - DOT (DTSD Consultant)  
The guestimate on who owns that for what, what we should see because of the contractor, had five anticipated adverse weather days in October and those were marked as non working days. And if they actually worked on the on the schedule during those five days because you had beautiful weather all October, then we should see a five day improvement. We should see additional float in the schedule.

1:18:37.150 --> 1:18:44.500  
Rothamer, Steve - DOT (DTSD Consultant)  
Now, whether the contract tractor updates it that way or not, but who actually owns the float? We'll talk about in the next session.

1:18:46.240 --> 1:18:46.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Yes.

1:18:47.470 --> 1:18:54.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Question for the group, but with all the environmental restriction we're seeing now between very that the butterfly is kind of back here.

1:18:56.190 --> 1:19:1.20  
Rothamer, Steve - DOT (DTSD Consultant)  
Probably about that, because it really going back probably let private time setting but.

1:19:2.410 --> 1:19:2.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Bad.

1:19:5.460 --> 1:19:28.610  
Rothamer, Steve - DOT (DTSD Consultant)  
And those are the types of things, and we'll talk about a little bit about that in the baseline review. So those are the types of things we want to see in the schedule as well. If you have a work restriction for for working inside a waterway or you have work restrictions because you can't do your clearing and grubbing because of birds or bees or or something else, we wanna see that time. For your information, make sure that's been incorporated in the schedule as well.

1:19:35.360 --> 1:19:45.960  
Rothamer, Steve - DOT (DTSD Consultant)  
And say, Steve, the answer the question I asked the bearing of all haven't had before. So scheduling and if project has federal funds.

1:19:46.720 --> 1:19:55.440  
Rothamer, Steve - DOT (DTSD Consultant)  
They require PMP which is the project management plan and what's in the project management plan. You do have to stay close, you're going to.

1:19:57.460 --> 1:19:58.390  
Rothamer, Steve - DOT (DTSD Consultant)  
Schedule.

1:19:59.180 --> 1:20:16.130  
Rothamer, Steve - DOT (DTSD Consultant)  
And give that back to FHWASOFHWA does not require a certain type of scheduling, but you do have to say how you do it and within the state of Wisconsin, it's a best practice to use pieces. That's what they show you, is what I was that I got, OK.

1:20:18.240 --> 1:20:20.200  
Rothamer, Steve - DOT (DTSD Consultant)  
The other questions before we take a short break.

1:20:22.600 --> 1:20:29.410  
Rothamer, Steve - DOT (DTSD Consultant)  
All right, so it's about 9:30 right now. Why don't we take a 10 minute break? Hopefully everybody's back here at 20 minutes till.

1:36:29.480 --> 1:36:39.310  
Rothamer, Steve - DOT (DTSD Consultant)  
And we're 4 minutes beyond that. So we we thinking longer on on our break activity. So how are we going to recover that time?

1:36:40.420 --> 1:36:44.710  
Rothamer, Steve - DOT (DTSD Consultant)  
You would pay the instructor acceleration cost just didn't know.

1:36:45.250 --> 1:36:46.240  
Rothamer, Steve - DOT (DTSD Consultant)  
The translator.

1:36:47.60 --> 1:36:52.210  
Rothamer, Steve - DOT (DTSD Consultant)  
We're going to give the time extension and everybody's gonna have to give up some of their lunch time for the presentation.

1:36:53.460 --> 1:36:57.610  
Rothamer, Steve - DOT (DTSD Consultant)  
One is to catch up. There you go. We, we cans and holidays and night work and.

1:36:59.620 --> 1:37:0.830  
Rothamer, Steve - DOT (DTSD Consultant)  
There will be consequences.

1:37:3.20 --> 1:37:31.300  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, I'm just one follow up to earlier. Adrian asked me a question during break about again the weather, how it's modeled in the schedule and how you'll negotiate that with the contractor is when they do have actual weather days and that's not something that gets put into not something that gets put into the software, but you'll track that on the side. So on a monthly basis, the team should be sitting down with the contractor.

1:37:31.600 --> 1:37:46.650  
Rothamer, Steve - DOT (DTSD Consultant)  
Discussing the number of adverse weather days during the month versus actual days versus planned days and coming to a conclusion on whether or not any of those adverse weather days are gonna applied to your intermediate or function dates. Standard review.

1:37:47.90 --> 1:37:59.150  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah. Yeah, I think so. You could do have to. Yes, you can do half days. So if whether it might impact you in the morning and everybody comes to work in the afternoon, you might just count that as 1/2 day.

1:37:59.910 --> 1:38:3.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Or the opposite, everybody's there and it starts raining after lunch.

1:38:6.780 --> 1:38:13.160  
Rothamer, Steve - DOT (DTSD Consultant)  
So the next segment we're going to go through is the baseline schedule review. What are we going to review, how do we review it, that sort of stuff.

1:38:14.370 --> 1:38:21.620  
Rothamer, Steve - DOT (DTSD Consultant)  
We're going to address the use of float in the schedule kind of answer the question that was asked earlier in the previous segment.

1:38:22.510 --> 1:38:24.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we'll talk about oops.

1:38:25.400 --> 1:38:26.370  
Rothamer, Steve - DOT (DTSD Consultant)  
Talk about the.

1:38:28.110 --> 1:38:32.580  
Rothamer, Steve - DOT (DTSD Consultant)  
Properties of a good schedule versus schedule with various shortcomings in it.

1:38:33.310 --> 1:38:45.800  
Rothamer, Steve - DOT (DTSD Consultant)  
And we'll go through some baseline examples and we'll do a short exercise. Just FYI, there are some handoffs of reports, some bar charts and stuff. I have six of them. So two of them are in each row.

1:38:46.520 --> 1:38:54.890  
Rothamer, Steve - DOT (DTSD Consultant)  
At the end of this segment, we're going to ask you to gather together in groups in the review this the schedule bar charts that were passed out.

1:39:5.420 --> 1:39:5.810  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

1:39:6.710 --> 1:39:9.680  
Rothamer, Steve - DOT (DTSD Consultant)  
So what the reviewers review in a baseline schedule?

1:39:20.220 --> 1:39:20.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:39:22.80 --> 1:39:25.530  
Rothamer, Steve - DOT (DTSD Consultant)  
When when the scheduling the question was asked before the.

1:39:26.260 --> 1:39:31.540  
Rothamer, Steve - DOT (DTSD Consultant)  
That how does the activity codes get presented? What we'll do is.

1:39:32.910 --> 1:39:36.880  
Rothamer, Steve - DOT (DTSD Consultant)  
Part of the documentation that's provided to the contractor is a schedule template.

1:39:37.960 --> 1:39:38.470  
Rothamer, Steve - DOT (DTSD Consultant)  
And.

1:39:39.180 --> 1:40:5.950  
Rothamer, Steve - DOT (DTSD Consultant)  
We'll see here is this is like an example for print out of this schedule template. It's just basic information. It contains some of the basic calendar requirements. It contains the activity codes that were asking for and whatnot in the schedule. It doesn't include activity specific activities and stuff like that. It's for something that the contractor can build off of and kind of give an understanding what of our what our expectations are before they get started.

1:40:9.80 --> 1:40:16.190  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to make sure that the organization is easy to read and understand what the WBS is is telling us.

1:40:17.170 --> 1:40:21.220  
Rothamer, Steve - DOT (DTSD Consultant)  
We're going to look for activities for all work.

1:40:31.380 --> 1:40:42.740  
Rothamer, Steve - DOT (DTSD Consultant)  
So I don't know if those, especially those in the back, can see the little little text, but I'm showing an example and scheduled. It has a lot of procurement activities in it as things were scheduled.

1:40:44.580 --> 1:40:49.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Review you want to make sure that the durations of the review activities and whatnot are appropriate.

1:40:52.760 --> 1:40:54.810  
Rothamer, Steve - DOT (DTSD Consultant)  
You want to make sure you that your schedule.

1:40:55.890 --> 1:40:58.510  
Rothamer, Steve - DOT (DTSD Consultant)  
Includes utilities and work by third parties.

1:40:59.300 --> 1:40:59.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Oops.

1:41:1.70 --> 1:41:2.380  
Rothamer, Steve - DOT (DTSD Consultant)  
I did it, moved to that page.

1:41:4.40 --> 1:41:8.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Remember to click back on these, so here I'm sharing any particular schedule that had.

1:41:9.150 --> 1:41:13.490  
Rothamer, Steve - DOT (DTSD Consultant)  
A lot of utility interaction on it and.

1:41:29.860 --> 1:41:32.180  
Rothamer, Steve - DOT (DTSD Consultant)  
Those utilities that they're not completed on time.

1:41:44.720 --> 1:41:56.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Because it shows all kinds of different things. Again, even the people who stole it might be too small to read. But this includes activities. We've got utilities in it. It's got the.

1:41:56.900 --> 1:41:58.800  
Rothamer, Steve - DOT (DTSD Consultant)  
Activities for different projects.

1:41:59.860 --> 1:42:21.170  
Rothamer, Steve - DOT (DTSD Consultant)  
And we're jacent to it and it's got activities for City of Milwaukee work and stuff like that. So this was a good example to show schedules that include work by others and all the different parties that might be associated with your project and you want to include those, especially if there's a potential for your project to be impacted by that work.

1:42:24.590 --> 1:42:28.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm you wanna reviewing the baseline schedule? I wanna make sure you're using a.

1:42:36.110 --> 1:42:55.470  
Rothamer, Steve - DOT (DTSD Consultant)  
Ohh again, you're not gonna be able to read this because you're too far away and zooming in, but the the three things that I'm certainly here isn't they're bridge construction. Isn't the project example I told you before that defies the laws of physics because the activity here percent murders is scheduled for September 20th, September 25.

1:42:56.180 --> 1:43:3.560  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, the. The Sigurd here is September 26th, October 1st but.

1:43:4.720 --> 1:43:11.530  
Rothamer, Steve - DOT (DTSD Consultant)  
The activity down here for decking and rebar is September 11th of September 24th.

1:43:12.650 --> 1:43:13.220  
Rothamer, Steve - DOT (DTSD Consultant)  
So.

1:43:20.600 --> 1:43:23.790  
Rothamer, Steve - DOT (DTSD Consultant)  
So if if you're contractors can can do that.

1:43:25.10 --> 1:43:48.700  
Rothamer, Steve - DOT (DTSD Consultant)  
You you might want to figure out how they how they do that so so those are the types of things and these are the things that you won't won't be necessarily shown on you. You've gotta look at the dates of the schedule and use your construction experience and constructability review to see if the schedule and the project can be built in the sequence in which they're showing it in the schedule.

1:43:51.970 --> 1:43:53.380  
Rothamer, Steve - DOT (DTSD Consultant)  
There's my house. Here it is.

1:43:57.760 --> 1:43:58.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright.

1:44:0.280 --> 1:44:5.20  
Rothamer, Steve - DOT (DTSD Consultant)  
So moving on other things, to ensure that in the baseline schedule.

1:44:6.330 --> 1:44:12.40  
Rothamer, Steve - DOT (DTSD Consultant)  
First thing we want to ensure that unnecessary inappropriate constraints have not been used in your schedule.

1:44:13.430 --> 1:44:13.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Again.

1:44:14.690 --> 1:44:15.940  
Rothamer, Steve - DOT (DTSD Consultant)  
3 point some things out.

1:44:17.60 --> 1:44:38.860  
Rothamer, Steve - DOT (DTSD Consultant)  
And this particular each project is some of the standard reports that I print out includes a report that shows all the constraints that are in a CPM schedule. We've got the basic contract constraints were intermediate milestones here and what we also have a lot of activities that have what's called as late as possible or otherwise 0 free float.

1:44:39.520 --> 1:44:48.310  
Rothamer, Steve - DOT (DTSD Consultant)  
Constraints. This is where contractor might push activities out into the schedule until the latest possible moment. They justify it by saying.

1:44:49.630 --> 1:45:10.550  
Rothamer, Steve - DOT (DTSD Consultant)  
We we wanna make sure that just in time kind of work occurs, that sort of stuff. And it's also a method that they used to suppress float and we'll talk about it in the future. Slide about that quote. So you want to make sure that your contracts not using excessive amount of constraints in the constraints are not overriding the central logic.

1:45:11.410 --> 1:45:21.150  
Rothamer, Steve - DOT (DTSD Consultant)  
When you're reviewing the reports, the way you can always tell you looking at all activities or something like that and activity has a constraint. If it has a little asterisk next to the date.

1:45:23.160 --> 1:45:35.370  
Rothamer, Steve - DOT (DTSD Consultant)  
In the report, so you know that there's a if you're looking at it all activity report or something else, then you can know you can come back to the report for activity. You would constraints to see what kind of constraints is assigned to that activity.

1:45:41.820 --> 1:45:42.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:45:47.200 --> 1:46:1.390  
Rothamer, Steve - DOT (DTSD Consultant)  
That you guys requested and the team request revised schedule. They sign. We requested that the zero free float or the as late as possible constraints be removed from all construction task activities.

1:46:2.440 --> 1:46:15.670  
Rothamer, Steve - DOT (DTSD Consultant)  
We allowed it to stay in for their own submittal and fabrication type of activities that they use back at their shop to fabricate or or do other things that occur off the construction site.

1:46:16.700 --> 1:46:21.630  
Rothamer, Steve - DOT (DTSD Consultant)  
But for the task activities, we ask that those are zero free float constraints be removed.

1:46:25.200 --> 1:46:25.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:46:32.360 --> 1:46:46.160  
Rothamer, Steve - DOT (DTSD Consultant)  
Do your interim and final completion dates are being messed, your phasing, weather restrictions, lane closures? If you have weekend closures, if you have other full, full full freeway closures, those types of things.

1:46:47.310 --> 1:46:52.800  
Rothamer, Steve - DOT (DTSD Consultant)  
That will shut down for a weekend or a long period of time. We want to make sure all that stuff is included in your schedule.

1:46:53.950 --> 1:46:58.320  
Rothamer, Steve - DOT (DTSD Consultant)  
But to make sure adequate time is included for the department to do their work.

1:46:59.0 --> 1:47:7.420  
Rothamer, Steve - DOT (DTSD Consultant)  
You see this little often in some middle reviews. Contractor will allow five whole days for the for the department to review submittals.

1:47:8.310 --> 1:47:17.720  
Rothamer, Steve - DOT (DTSD Consultant)  
Contract documents typically specify that the contract that that the contractor include 21 days. I believe it is 21 calendar days.

1:47:18.570 --> 1:47:21.90  
Rothamer, Steve - DOT (DTSD Consultant)  
And remember, right for submittal reviews.

1:47:23.910 --> 1:47:28.900  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to make sure that the level of details appropriate for the size and scope of the work of a project.

1:47:30.410 --> 1:47:32.150  
Rothamer, Steve - DOT (DTSD Consultant)  
See what example I've got here.

1:47:33.120 --> 1:47:34.310  
Rothamer, Steve - DOT (DTSD Consultant)  
Gonna move my mouse over.

1:47:37.190 --> 1:47:39.180  
Rothamer, Steve - DOT (DTSD Consultant)  
So in in this example at the top.

1:47:44.120 --> 1:47:46.770  
Rothamer, Steve - DOT (DTSD Consultant)  
I've seen that sometimes or or build the ramp.

1:47:47.550 --> 1:48:1.870  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we want to make sure that activities are broken down in the appropriate detail. So in this example, the first the top line is not as good as the bottom, where the drainage is broken down into individual activities by area.

1:48:9.130 --> 1:48:10.980  
Rothamer, Steve - DOT (DTSD Consultant)  
Then in the first example.

1:48:12.100 --> 1:48:14.730  
Rothamer, Steve - DOT (DTSD Consultant)  
Well, that's the example. What I mean by the appropriate.

1:48:15.820 --> 1:48:18.470  
Rothamer, Steve - DOT (DTSD Consultant)  
Logic and level of details included in your schedule.

1:48:22.830 --> 1:48:52.660  
Rothamer, Steve - DOT (DTSD Consultant)  
And we want to make sure that your schedule includes whatever equipment and workforce requirements we talked about before about the contractor should tell us what their production rates are. You kind of cruise and what not that are using a lot of times we can determine from the schedule you might not see it in the paper, but you can see some of the crew requirements in the CPM schedule. So I mean you see an example like you see it here where you this is one week.

1:48:52.730 --> 1:49:11.310  
Rothamer, Steve - DOT (DTSD Consultant)  
Just walked out. When you have cuts in front of city working in this example is a storm sewer occurring when you have four different activities occurring in four different areas at the same time. You would anticipate that the contractors should have or different crews out there working in those activities in order to finish in time.

1:49:12.160 --> 1:49:30.850  
Rothamer, Steve - DOT (DTSD Consultant)  
Now the schedule might have additional float that they could push things back on, but you wanna make sure that the contractors, including the necessary crew resource ties and their schedule too, if they're intended only have two storm sewer crews on the project, you would only expect to activities to be overlapping.

1:49:31.790 --> 1:49:50.320  
Rothamer, Steve - DOT (DTSD Consultant)  
So those are the types of things that you can see in the reports. As far as the crew resources and equipment, the requirements that are needed on a job or that are playing on a job. So this would be a comment back to the contractor if they said we've only got 2 storms over crews you our comment is.

1:49:50.970 --> 1:49:55.130  
Rothamer, Steve - DOT (DTSD Consultant)  
On week whatever it is, we're seeing a requirement for four.

1:50:3.270 --> 1:50:21.50  
Rothamer, Steve - DOT (DTSD Consultant)  
All right, moving on to the baseline schedule, we wanna look for interferences that might not be obvious, such as staging or lapping safety concerns. Does anybody have any other examples of of interferences that might not be obvious that you need to look for in a schedule?

1:50:25.340 --> 1:50:33.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Think about ramp closures. A lot of times the contract will specify that two adjacent ramps cannot be shut down at the same time.

1:50:33.920 --> 1:50:38.870  
Rothamer, Steve - DOT (DTSD Consultant)  
So you want to look for those types of things in your schedule. There might be other requirements.

1:50:39.660 --> 1:50:46.980  
Rothamer, Steve - DOT (DTSD Consultant)  
We we talked about in the previous segment at the end there about various work restrictions in waterways.

1:50:48.170 --> 1:50:58.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Make sure that we're not working in the waterways in the months that are disallowed, or clearing and grubbing or are a bridge demo when the birds are around that sort of stuff.

1:51:0.530 --> 1:51:10.120  
Rothamer, Steve - DOT (DTSD Consultant)  
You want to look at the critical path in their baseline schedules to make sure it makes sense. A lot of people I've talked to will tell me that they have.

1:51:11.160 --> 1:51:14.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Preconceived idea what the critical path on the project is going to be?

1:51:15.250 --> 1:51:25.220  
Rothamer, Steve - DOT (DTSD Consultant)  
And if you read the schedule in the critical path, doesn't go through the bridge like you would expect it to, or it it includes some far off area that could wait until.

1:51:26.820 --> 1:51:31.840  
Rothamer, Steve - DOT (DTSD Consultant)  
The end of the project to be built and you wanna make sure that what you're seeing on the critical path?

1:51:33.40 --> 1:51:34.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Actually makes sense.

1:51:35.0 --> 1:51:41.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Also, along with the critical path, you want to make sure that the near critical path, things that are not.

1:51:43.530 --> 1:51:51.140  
Rothamer, Steve - DOT (DTSD Consultant)  
As critical as the most critical but near critic will go critical if if the project experiences some impacts.

1:51:52.240 --> 1:52:1.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Make sure that that makes sense and again, look for the areas and not talk to people. That said, well, I don't understand why this area has a negative float because it.

1:52:2.250 --> 1:52:7.860  
Rothamer, Steve - DOT (DTSD Consultant)  
Doesn't need to be done until the end of this phase or it doesn't need to be done until the the next phase. That sort of stuff.

1:52:10.340 --> 1:52:16.230  
Rothamer, Steve - DOT (DTSD Consultant)  
And we want to make sure that the plan workflow makes sense as part of the staging and the sequencing that we see in the documents.

1:52:16.860 --> 1:52:34.270  
Rothamer, Steve - DOT (DTSD Consultant)  
That the sequence of work that you see in the schedule actually matches that staging or sequence, or it makes sense. We talked about before we showed an example where the contractor planned them miraculously build the bridge deck before the girders were in place.

1:52:35.510 --> 1:52:36.910  
Rothamer, Steve - DOT (DTSD Consultant)  
We'll look for those types of things.

1:52:38.280 --> 1:52:48.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, look for the calendars. Like I mentioned before, you're not gonna see the information in the calendars because it's in the computer, but I'll I print out reports so you can see that information.

1:52:50.40 --> 1:52:51.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Let's see what did I have for?

1:52:55.780 --> 1:52:56.450  
Rothamer, Steve - DOT (DTSD Consultant)  
So the.

1:52:57.660 --> 1:53:3.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Pet peeve of mine, I already have that that attachment open instead of open it up in Adobe. It's opening it up in Bluebeam.

1:53:8.300 --> 1:53:14.620  
Rothamer, Steve - DOT (DTSD Consultant)  
You want to make sure, like we talked about before, that your schedule includes the holiday work restrictions.

1:53:15.490 --> 1:53:16.680  
Rothamer, Steve - DOT (DTSD Consultant)  
In anything else?

1:53:18.200 --> 1:53:18.830  
Rothamer, Steve - DOT (DTSD Consultant)  
My mouse.

1:53:20.830 --> 1:53:21.330  
Rothamer, Steve - DOT (DTSD Consultant)  
It is.

1:53:35.620 --> 1:53:36.130  
Rothamer, Steve - DOT (DTSD Consultant)  
Ohm.

1:53:37.560 --> 1:53:49.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Scroll down to my example holiday work restrictions. So this particular project has a number of different holiday work restrictions that when the project is not allowed to work on and the different areas.

1:53:51.190 --> 1:54:3.400  
Rothamer, Steve - DOT (DTSD Consultant)  
Along with holiday work restrictions, you might have special event work restrictions. I've seen things you can't close the roads during Brewer games or during Packer games. One of there some other events that might have restrictions.

1:54:5.380 --> 1:54:7.170  
Rothamer, Steve - DOT (DTSD Consultant)  
And some are fast, good.

1:54:7.940 --> 1:54:17.310  
Rothamer, Steve - DOT (DTSD Consultant)  
They fair those types of things. I think I recall even on some projects there was a concert that Miller Park or what's it called now, American family.

1:54:18.310 --> 1:54:40.560  
Rothamer, Steve - DOT (DTSD Consultant)  
Are there was a concert something like that caused some work restrictions? We have audience. It makes teams. What's that audience? CRC next. So. Well, there's all kinds of events that occur in the local area. You need to be aware of when you're reviewing these schedules to make sure the schedule is occurring because you obviously you don't want your your weekend foreclosure when when a big event is occurring.

1:54:46.860 --> 1:55:2.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, the last bullet point on this slide I think is kind of important when we're looking at baseline schedules, you wanna make sure your schedule doesn't include inflated durations of constraints or legs that lengthen the schedule. I've seen some schedules especially after a.

1:55:4.30 --> 1:55:4.480  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

1:55:5.470 --> 1:55:6.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Contractors experienced.

1:55:9.70 --> 1:55:29.980  
Rothamer, Steve - DOT (DTSD Consultant)  
Project that overran the dates the year before the next year. I'll see schedules that have no floating. I've actually seen that the schedule for a project where everything had zero flowed, so I haven't see that doesn't make sense. So you wanna look for inflated durations? Constraints that override the logic or legs that we talked about before?

1:55:30.750 --> 1:55:34.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Another thing that we were I was discussing on a meeting.

1:55:35.850 --> 1:55:49.30  
Rothamer, Steve - DOT (DTSD Consultant)  
Recently is you wanna make sure the durations are realistic as as an example, one of the projects that is working on they showed about 58 storm sewer structures being built in 12 days.

1:55:49.850 --> 1:55:50.370  
Rothamer, Steve - DOT (DTSD Consultant)  
And.

1:55:52.10 --> 1:55:59.780  
Rothamer, Steve - DOT (DTSD Consultant)  
The project teams looked back at the baseline comments we talked about in the baseline and these durations were discussed during the baseline project.

1:56:0.530 --> 1:56:1.900  
Rothamer, Steve - DOT (DTSD Consultant)  
During the baseline process.

1:56:2.940 --> 1:56:12.170  
Rothamer, Steve - DOT (DTSD Consultant)  
And the contractor apparently replied by saying, yeah, I will have multiple crews and we'll have multiple resources in order to build those 58 structures in 12 days.

1:56:12.990 --> 1:56:23.20  
Rothamer, Steve - DOT (DTSD Consultant)  
But that's something you need to be aware of. Then when we get to the update process, is and all of a sudden you'll see those durations go longer. And again, we'll talk about some of that stuff during the update.

1:56:30.370 --> 1:56:44.690  
Rothamer, Steve - DOT (DTSD Consultant)  
I briefly touched the narrative, but we can talk about that when I get to that slide. I don't have it in the baseline review. It's in the update portion, but it's important to also like Kurt pointed out, to understand what's in the narrative.

1:56:45.510 --> 1:56:56.530  
Rothamer, Steve - DOT (DTSD Consultant)  
What the the standard specifications and the special provisions all specify what's supposed to be included in the narrative that the contractor provides.

1:56:58.690 --> 1:57:4.100  
Rothamer, Steve - DOT (DTSD Consultant)  
It's generally a rare occurrence when the contractor provides everything in the narrative that should be there.

1:57:4.930 --> 1:57:13.100  
Rothamer, Steve - DOT (DTSD Consultant)  
But we we always look for that information. So you wanna make sure what they're saying in the narrative, what they're saying in the meetings.

1:57:14.420 --> 1:57:15.750  
Rothamer, Steve - DOT (DTSD Consultant)  
Is actually what's occurring?

1:57:16.720 --> 1:57:18.430  
Rothamer, Steve - DOT (DTSD Consultant)  
In the CPM schedule as well?

1:57:31.280 --> 1:57:35.870  
Rothamer, Steve - DOT (DTSD Consultant)  
Saying comments like some of this finding missing that one of you to find a missing, that another gonna find it.

1:57:37.70 --> 1:57:44.980  
Rothamer, Steve - DOT (DTSD Consultant)  
TL related to the same thing, that's missing something like else have we got like a library of that stuff or can we actually get those put those together.

1:57:47.650 --> 1:57:52.130  
Rothamer, Steve - DOT (DTSD Consultant)  
All that information exists. Is there a library that's easily accessible now?

1:57:54.260 --> 1:57:59.210  
Rothamer, Steve - DOT (DTSD Consultant)  
You would have to know where where it exists and how to get to it. That sort of stuff, but I think it.

1:58:0.310 --> 1:58:16.790  
Rothamer, Steve - DOT (DTSD Consultant)  
It kind of goes to your experience as you go through the process of reviewing the baseline one year and like you like you said before, you do it so many times over and over again you you learn the things that that you looked for in the past. It helps you find the things that the find in, in the future projects.

1:58:21.380 --> 1:58:23.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Here goes to the question that was answered earlier.

1:58:25.70 --> 1:58:26.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Who owns the float on a project?

1:58:31.250 --> 1:58:39.580  
Rothamer, Steve - DOT (DTSD Consultant)  
First come first, mine. It's all mine. The country country's mine. That's. That's why the contractors suppressing the flow because they want all the flow for themselves.

1:58:48.420 --> 1:58:48.790  
Rothamer, Steve - DOT (DTSD Consultant)  
Correct.

1:58:50.160 --> 1:59:0.530  
Rothamer, Steve - DOT (DTSD Consultant)  
Contractually, it's shared the standard specifications 108.4 dot 4.3 paragraph three says that float is defined as the time between.

1:59:2.490 --> 1:59:8.260  
Rothamer, Steve - DOT (DTSD Consultant)  
In the second sentence, is the contractor in the Department of the Flow is shared commodity first come first serve.

1:59:10.310 --> 1:59:18.60  
Rothamer, Steve - DOT (DTSD Consultant)  
So it's a thing to keep in mind that when we're looking at the critical path and like I mentioned before, we're reviewing baseline schedules.

1:59:36.20 --> 1:59:41.10  
Rothamer, Steve - DOT (DTSD Consultant)  
And I've had conversations with projects in the past where I've identified.

1:59:41.770 --> 1:59:48.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Areas where I think that the schedule doesn't include as much fluid as it needs and and I've warned the.

1:59:48.740 --> 1:59:55.100  
Rothamer, Steve - DOT (DTSD Consultant)  
Project team beforehand that the schedule doesn't have as much floating it as I think it should have.

2:0:1.40 --> 2:0:3.10  
Rothamer, Steve - DOT (DTSD Consultant)  
And everything is critical or near critical.

2:0:7.80 --> 2:0:19.510  
Rothamer, Steve - DOT (DTSD Consultant)  
Any impact on the project then could potentially cause your intermediate or final completion dates to go beyond the police date. You're gonna be spending the entire project duration arguing about time extensions.

2:0:46.460 --> 2:1:10.850  
Rothamer, Steve - DOT (DTSD Consultant)  
Sometimes, yes. I mean, they're very hesitant to do. Yes, they this and everything has zero flow, right? And they're saying it means and methods that sort of thing. So it's an, it's an ongoing conversation with those projects. And like I said, I try to make sure that conversation is held in the baseline submittal process and the project team is aware of that. The schedule doesn't include as much fluid as I think should be there that's that sort of stuff.

2:1:14.130 --> 2:1:14.800  
Rothamer, Steve - DOT (DTSD Consultant)  
Absolutely.

2:1:26.590 --> 2:1:30.380  
Rothamer, Steve - DOT (DTSD Consultant)  
58 storms are structures that they plan to do in 12 days took.

2:1:31.130 --> 2:1:32.700  
Rothamer, Steve - DOT (DTSD Consultant)  
Or months, right. So.

2:1:34.90 --> 2:1:36.320  
Rothamer, Steve - DOT (DTSD Consultant)  
And what we'll get to some more examples later on.

2:1:38.200 --> 2:1:43.960  
Rothamer, Steve - DOT (DTSD Consultant)  
So once we've put together all that information, we looked all all that stuff, some of the properties of a good schedule.

2:2:2.780 --> 2:2:10.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Holiday restrictions and all the other restrictions and stuff like that. Any full closures that you have planned, weekend closures, that sort of stuff?

2:2:11.720 --> 2:2:34.90  
Rothamer, Steve - DOT (DTSD Consultant)  
We were just talking about that your durations reflect a realistic estimate can can you move 10,000 cubic yards of soil in a day or something like that? So it's important to you to be familiar with this. The work on the field and kind of understand some of the quantities associated with with what's going on. So you can really evaluate those durations to see if they're realistic.

2:2:35.770 --> 2:2:43.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Make sure that the work sequences are achievable. In our example before is it physically possible to build a bridge deck before the girders are set?

2:3:16.440 --> 2:3:22.510  
Rothamer, Steve - DOT (DTSD Consultant)  
Want to make sure that the schedule represents the current plan? What's what's included in the content?

2:3:33.670 --> 2:3:43.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Reasonable and accurate, yeah. However long it takes to make a bridge, girders and and whatnot. Else gonna make sure that that time is allotted in your baseline schedule.

2:3:51.600 --> 2:3:54.80  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm again some more properties of a good schedule.

2:5:46.910 --> 2:5:48.980  
Rothamer, Steve - DOT (DTSD Consultant)  
Some common CPM shortcomings.

2:6:22.900 --> 2:6:23.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

2:6:26.210 --> 2:6:32.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Improper use of leads and lags. Again, that's something else. Using my tools that I have available.

2:7:8.550 --> 2:7:15.520  
Rothamer, Steve - DOT (DTSD Consultant)  
A little bit better example is you just using relationship finish to start without a leg relationship.

2:7:16.200 --> 2:7:20.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Or like I mentioned before, you can go in and put in the activity in.

2:7:22.630 --> 2:7:27.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Shows why that relationship was required. So in this particular case, it's the mobilized stealer.

2:7:43.950 --> 2:7:49.260  
Rothamer, Steve - DOT (DTSD Consultant)  
So the next slide covers an example of a project that had.

2:7:55.560 --> 2:7:57.290  
Rothamer, Steve - DOT (DTSD Consultant)  
This the baseline schedule.

2:7:58.380 --> 2:8:3.290  
Rothamer, Steve - DOT (DTSD Consultant)  
Was not consistent in their staging with the contract documents.

2:8:5.350 --> 2:8:13.290  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, in in this particular case, the design shown in the specifications or excuse me the special provisions?

2:8:25.90 --> 2:8:30.820  
Rothamer, Steve - DOT (DTSD Consultant)  
Special provisions ordered that work occurring in 2018 in the fall.

2:8:35.940 --> 2:8:39.500  
Rothamer, Steve - DOT (DTSD Consultant)  
The way the contractor planned it and in their baseline schedule.

2:8:41.260 --> 2:8:47.910  
Rothamer, Steve - DOT (DTSD Consultant)  
You know, if you can see that cause it's small, but they included the stage 2B activities in the spring of 2019.

2:9:5.600 --> 2:9:6.90  
Rothamer, Steve - DOT (DTSD Consultant)  
Ohm.

2:9:7.750 --> 2:9:10.450  
Rothamer, Steve - DOT (DTSD Consultant)  
So what actually happened on the project was.

2:9:11.590 --> 2:9:13.770  
Rothamer, Steve - DOT (DTSD Consultant)  
The work was constructed.

2:9:14.670 --> 2:9:15.200  
Rothamer, Steve - DOT (DTSD Consultant)  
And.

2:9:15.800 --> 2:9:31.40  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, it wasn't sealed with a with a base over the top of it, and it's subsequent it was constructed and it passed, but it wasn't sealed. Subsequent rain came in in saturated the area and a lot of that had to be dugout.

2:9:32.350 --> 2:9:38.290  
Rothamer, Steve - DOT (DTSD Consultant)  
And and reconstructed because of of the of the rain that occurred.

2:9:39.250 --> 2:9:51.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Due to precipitation, ultimately what this did is it called caused several weeks of discussion between the department and the contractor on how to resolve the issue and followed by construct.

2:9:51.400 --> 2:9:51.750  
Rothamer, Steve - DOT (DTSD Consultant)  
Some.

2:9:53.730 --> 2:10:1.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Reconstruction of the areas that we're we're we're no longer passing and it cause subsequent delays in.

2:10:2.360 --> 2:10:7.880  
Rothamer, Steve - DOT (DTSD Consultant)  
Keep future stages stages to see D&E on on on the project.

2:10:30.840 --> 2:10:32.840  
Rothamer, Steve - DOT (DTSD Consultant)  
That's an example of what can occur.

2:10:42.850 --> 2:10:44.200  
Rothamer, Steve - DOT (DTSD Consultant)  
So here's kind of like a.

2:10:45.320 --> 2:10:46.120  
Rothamer, Steve - DOT (DTSD Consultant)  
Question.

2:10:47.20 --> 2:10:49.300  
Rothamer, Steve - DOT (DTSD Consultant)  
Some some theoretical questions.

2:10:50.470 --> 2:10:54.60  
Rothamer, Steve - DOT (DTSD Consultant)  
For us, so you've reviewed the baselines CPM schedule.

2:10:55.680 --> 2:10:59.480  
Rothamer, Steve - DOT (DTSD Consultant)  
Can the contractor submit a schedule that shows an early finish?

2:11:15.420 --> 2:11:19.480  
Rothamer, Steve - DOT (DTSD Consultant)  
If they're showing an early finish, then they're schedule will have float in it, right?

2:11:20.300 --> 2:11:26.730  
Rothamer, Steve - DOT (DTSD Consultant)  
So it it reduces some schedule risk to the contractor that the department might say, well, I've got.

2:11:27.430 --> 2:11:30.120  
Rothamer, Steve - DOT (DTSD Consultant)  
All this float in the schedule, but let's.

2:11:31.40 --> 2:11:34.210  
Rothamer, Steve - DOT (DTSD Consultant)  
But could could introduce some changes or or something else into that.

2:11:37.600 --> 2:11:46.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Excuse me. I'm the second one. When you're reviewing the schedule, can you reject the schedule because it shows an early finish?

2:11:54.830 --> 2:11:55.860  
Rothamer, Steve - DOT (DTSD Consultant)  
Right, yeah.

2:11:59.760 --> 2:12:1.130  
Rothamer, Steve - DOT (DTSD Consultant)  
We're never going to see one.

2:12:3.840 --> 2:12:22.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Like I said, I've seen some in the past that the baseline schedules were accepted where an intermediate date finished early and it introduced float into the schedule, and because there's some issues or impacts that occurred prior to that intermediate data and push the dates out and.

2:12:23.150 --> 2:12:43.60  
Rothamer, Steve - DOT (DTSD Consultant)  
It didn't push it beyond that contract completion date, so therefore the contractor wasn't due any time extensions or any money. So yes, we we can reject it like Sean mentioned, if if the schedule doesn't meet the requirements or there's something else goofy going on with it, but we can also accept it.

2:12:46.260 --> 2:12:51.110  
Rothamer, Steve - DOT (DTSD Consultant)  
Next question is, can a reviewer accept the schedule that shows a late finish?

2:12:52.450 --> 2:12:54.660  
Rothamer, Steve - DOT (DTSD Consultant)  
This is the baseline schedule, remember.

2:12:55.470 --> 2:12:56.260  
Rothamer, Steve - DOT (DTSD Consultant)  
We're we're.

2:12:57.180 --> 2:12:58.740  
Rothamer, Steve - DOT (DTSD Consultant)  
Talking about the original plan.

2:13:0.980 --> 2:13:17.10  
Rothamer, Steve - DOT (DTSD Consultant)  
No, we should never be accepting the schedule that shows a late finish in a baseline schedule because one of the purposes of the baseline schedule is to demonstrate the contractors plan in ability to build the project within the constraints provided in the documents.

2:13:19.450 --> 2:13:25.190  
Rothamer, Steve - DOT (DTSD Consultant)  
The next question is does accepting a schedule modify the terms and conditions of the contract documents?

2:13:26.540 --> 2:13:35.930  
Rothamer, Steve - DOT (DTSD Consultant)  
No, it does not. Standard specifications wanna wait that four actually specifies or or calls out that the schedule is not a contract document.

2:13:38.850 --> 2:13:40.360  
Rothamer, Steve - DOT (DTSD Consultant)  
And the last question we got here is.

2:13:41.430 --> 2:13:48.150  
Rothamer, Steve - DOT (DTSD Consultant)  
Can the department request a CPM schedule if they're requirements for one is not included in the contract documents?

2:13:53.790 --> 2:14:0.460  
Rothamer, Steve - DOT (DTSD Consultant)  
Yes, we can request the CPM schedule when there's not required. We might get some pushback on it. We might have to.

2:14:1.370 --> 2:14:7.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Have a a contract modification for that. We've had some cases where projects.

2:14:8.650 --> 2:14:9.30  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

2:14:10.960 --> 2:14:14.230  
Rothamer, Steve - DOT (DTSD Consultant)  
The department is requesting a CPM schedule after the fact.

2:14:15.400 --> 2:14:22.750  
Rothamer, Steve - DOT (DTSD Consultant)  
And required a contract modification and paying the contractor some additional monies for that feedback.

2:14:23.970 --> 2:14:24.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Thank you.

2:14:26.610 --> 2:14:27.40  
Rothamer, Steve - DOT (DTSD Consultant)  
OK.

2:14:28.260 --> 2:14:28.650  
Rothamer, Steve - DOT (DTSD Consultant)  
So.

2:14:29.900 --> 2:14:35.590  
Rothamer, Steve - DOT (DTSD Consultant)  
Identify early in the process the contract that some utility clearly identify.

2:14:36.250 --> 2:14:40.200  
Rothamer, Steve - DOT (DTSD Consultant)  
That you already know that would be happening in that case, what should we do?

2:14:41.690 --> 2:14:42.340  
Rothamer, Steve - DOT (DTSD Consultant)  
Is scheduled.

2:14:43.360 --> 2:15:8.260  
Rothamer, Steve - DOT (DTSD Consultant)  
Don't quite understand the question. If you at the unifying what that you took it delays or some kind of delays that we identified with the project start. So in that case the base schedule, what will typically do is we ask the contractor to provide a baseline schedule in accordance with the contract documents. So the contract documents will say that utility X is planned to be done by a certain day.

2:15:9.220 --> 2:15:34.680  
Rothamer, Steve - DOT (DTSD Consultant)  
So what? We'll ask them to do is provide a baseline that shows the utility being done by that day and the contractor completing it on time. And then after the baseline is accepted, if we know that that utility is going to be late for whatever reason, then we'll address or entertain a time extension due to that utility delay in the update process that don't tell me AT&T is not going to be able to bring it.

2:15:36.540 --> 2:15:37.60  
Rothamer, Steve - DOT (DTSD Consultant)  
The band.

2:15:37.220 --> 2:15:38.190  
Rothamer, Steve - DOT (DTSD Consultant)  
And then this year.

2:15:39.190 --> 2:15:41.860  
Rothamer, Steve - DOT (DTSD Consultant)  
Otherwise, they're going to compress the risk around AT&T.

2:15:44.680 --> 2:15:45.190  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright.

2:15:47.900 --> 2:15:57.570  
Rothamer, Steve - DOT (DTSD Consultant)  
And the next slide, So what happens is we go through this baseline process, we gather all our comments and we create a document for the baseline review.

2:15:59.430 --> 2:16:27.830  
Rothamer, Steve - DOT (DTSD Consultant)  
It looks something like this. It was an example of a baseline schedule, a review, the different sections that are being incorporated in it. The top line is gonna be a summary of the contract completion date, the next Section 1 includes intermediate dates, whether or not the these intermediate dates are only found in special provisions. The next section of limited duration closures in this particular case there was a closure on that particular project for 60 days.

2:16:30.160 --> 2:16:32.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Section 2 is just some.

2:16:33.200 --> 2:16:39.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Addresses some appendix reports. We generally include the longest path and critical path as appendix on these reports.

2:16:40.450 --> 2:16:52.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Section 3 or technical issues. Those are the things that I see in the schedule. Some of the tools that I use that I notify the contractor. There's technical problems and in this particular case, finished start lags.

2:16:53.820 --> 2:17:19.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, activities with out successors like we mentioned before, all activities should have predecessors. All activities should have successors and another thing that I look for is make sure that all activities have appropriate start and finish relationships. So again, that's something that I'll look through in the schedule in my baseline review. I'll go through all the technical things and that those are the things that I'll write up in this section.

2:17:20.750 --> 2:17:24.410  
Rothamer, Steve - DOT (DTSD Consultant)  
You mean Section 4 is the team comments and these are the comments that come from you.

2:17:25.210 --> 2:17:36.40  
Rothamer, Steve - DOT (DTSD Consultant)  
And what we'll do is we'll generally you'll send me these comments before we have an internal meeting and we'll talk about these comments and this particular.

2:17:37.760 --> 2:17:41.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Review that I've got includes a lot of team comments that you can see here.

2:17:43.90 --> 2:17:47.380  
Rothamer, Steve - DOT (DTSD Consultant)  
Goes through a variety of different things, from structures to redway and and whatnot. So.

2:17:48.100 --> 2:17:50.390  
Rothamer, Steve - DOT (DTSD Consultant)  
And this team had lots of comments on.

2:17:52.120 --> 2:18:2.900  
Rothamer, Steve - DOT (DTSD Consultant)  
That, and then finally, what we get to is the Section 5 is the conclusions and recommendations where we're asking the contractor to either revise and resubmit.

2:18:4.20 --> 2:18:14.370  
Rothamer, Steve - DOT (DTSD Consultant)  
Or note that the schedule is accepted as noted, or ask him whatever changes need to be done. Also notice in the bottom paragraph here we're telling the contractor that.

2:18:15.60 --> 2:18:17.70  
Rothamer, Steve - DOT (DTSD Consultant)  
They need to maintain the initial work plan.

2:18:18.510 --> 2:18:22.510  
Rothamer, Steve - DOT (DTSD Consultant)  
While the there during the process that the baseline schedule is being reviewed.

2:18:25.280 --> 2:18:25.670  
Rothamer, Steve - DOT (DTSD Consultant)  
All right.

2:18:27.770 --> 2:18:32.160  
Rothamer, Steve - DOT (DTSD Consultant)  
One of the things I didn't point out, and I was gonna do at the beginning, but I didn't.

2:18:32.890 --> 2:18:39.360  
Rothamer, Steve - DOT (DTSD Consultant)  
Is I wanted to talk about all the different reports that what will you find? Cause a lot of times you'll see OK.

2:18:40.650 --> 2:19:0.880  
Rothamer, Steve - DOT (DTSD Consultant)  
Basically, schedules been submitted, but what's there for me to review along with the documents that are submitted by the contractor, which should include a print out what happens during the processes? What I'll do is I'll take that schedule, import it into Wisdom's database, and create a whole slew of reports in.

2:19:1.560 --> 2:19:27.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Out on the box drives that we use now to share data and projects. You'll find this schedule folder and in those schedule folders you'll see different folders sorted by date and the date on there that I use. When I create these folders is the date that the CPM schedule is submitted, so you'd be generally looking for the latest one, but in the emails that I say I'll, I'll also reference the folders where you could find all this stuff in it.

2:19:31.470 --> 2:20:0.650  
Rothamer, Steve - DOT (DTSD Consultant)  
A directory that includes the list of different reports in. So I'm not gonna go through all these, but I just wanted to show you that there's a wide variety of different reports that get printed out for projects. Then depending on the size of the projects, smaller projects might have fewer reports. Larger projects will have more reports, but some of the things that are included in these report directories are 30 and 19 day. Look ahead schedules, reports that include all activities.

2:20:1.730 --> 2:20:31.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Of the report said it will include all activities showing what the calendar is assigned. A lot of these schedules will have multiple calendars five day calendar, six day calendar, seven day calendar and I'll be able to see from those reports which calendar each activities assigned to this, which is the larger project I've got reports for bridge activities, barrier wall activities, so different scopes of work. So your project team might be broken apart into different groups. You can find reports if you just want to look at.

2:20:31.660 --> 2:20:32.550  
Rothamer, Steve - DOT (DTSD Consultant)  
This or.

2:20:33.650 --> 2:20:34.660  
Rothamer, Steve - DOT (DTSD Consultant)  
It wouldn't happens.

2:20:35.620 --> 2:21:3.880  
Rothamer, Steve - DOT (DTSD Consultant)  
And what not so you can see there's a wide variety of also in there. You'll see reports of critical path, the longest path and then also in this particular case this section right here it says FP or sometimes they'll be labeled as flow path reports those are the critical paths to the intermediate milestones. So if your project has one or more intermediate brownstone before the final completion date, you'll also see these reports that define what the critical path is to those.

2:21:5.890 --> 2:21:7.260  
Rothamer, Steve - DOT (DTSD Consultant)  
Intermediate milestones are.

2:21:8.60 --> 2:21:15.570  
Rothamer, Steve - DOT (DTSD Consultant)  
So there's a lot of information, a lot of reports for you to review. And like I mentioned before, those are all searchable by the.

2:21:17.550 --> 2:21:38.130  
Rothamer, Steve - DOT (DTSD Consultant)  
The activity ID and whatnot, and feel free if you don't see something that you want on your project that like there's a special report that you want, say your project doesn't include report for the bridge activities or it doesn't include a report for storm sewer, just ask for those types of reports and those reports can be created for you.

2:21:43.410 --> 2:21:51.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Looks like I was able to recover the time and in in our schedule from from our our delay. So we were back on schedule now.

2:21:52.930 --> 2:22:0.40  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, right. So before this, we handed out some. There's there's the packet of Bartlett reports.

2:22:1.160 --> 2:22:17.530  
Rothamer, Steve - DOT (DTSD Consultant)  
Like like that one here. So this is the baseline of sample baseline schedule has the variety reports. It's not all activities on longest path to full path reports where I like you to do. I've got six of those packets out get together in groups of.

2:22:19.600 --> 2:22:25.50  
Rothamer, Steve - DOT (DTSD Consultant)  
Your groups of people, so you're going to create your own project team and what I would like you to do is review those.

2:22:26.350 --> 2:22:44.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Schedules and see if you can come up for some comments that we talked about, you know, look at durations, look at sequences and constructability and that sort of stuff. So some background on these projects, the project is a multi year multi stage reconstruction of the freeway interchange ramps and bridges.

2:22:45.710 --> 2:23:8.110  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, interim completion and file completion date stage 2A is open, the ribs on July 14th. Stage 2B open stage three on November 15. Stage four is in 2024 four and there's a utility conflict that is scheduled to be relocated by May 1st.

2:23:8.970 --> 2:23:9.890  
Rothamer, Steve - DOT (DTSD Consultant)  
2023.

2:23:31.960 --> 2:23:32.840  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions?

2:23:36.110 --> 2:23:36.460  
Rothamer, Steve - DOT (DTSD Consultant)  
It wasn't.

2:23:37.720 --> 2:23:43.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Sorry again, you know, just finding cheaper is going around earlier, so make sure everything is finding out.

2:23:44.140 --> 2:23:44.950  
Rothamer, Steve - DOT (DTSD Consultant)  
OK so.

2:23:45.390 --> 2:23:45.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Sorry.

2:24:1.350 --> 2:24:3.540  
Rothamer, Steve - DOT (DTSD Consultant)  
I yeah.

2:24:4.10 --> 2:24:4.350  
Rothamer, Steve - DOT (DTSD Consultant)  
OK.

2:32:52.280 --> 2:32:56.980  
Rothamer, Steve - DOT (DTSD Consultant)  
We just can dance. So five day review period, we typically you have in the 10 minutes.

2:32:58.60 --> 2:32:58.390  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

2:32:58.520 --> 2:32:58.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

2:33:1.430 --> 2:33:3.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Do all the time so.

2:33:3.920 --> 2:33:6.650  
Rothamer, Steve - DOT (DTSD Consultant)  
So let's be best for us, our seats said.

2:33:7.700 --> 2:33:12.50  
Rothamer, Steve - DOT (DTSD Consultant)  
Give me anybody provide some examples of visiting parents that they saw in the schedule.

2:33:14.580 --> 2:33:14.970  
Rothamer, Steve - DOT (DTSD Consultant)  
So.

2:33:15.950 --> 2:33:16.540  
Rothamer, Steve - DOT (DTSD Consultant)  
Sleeping.

2:33:18.900 --> 2:33:20.440  
Rothamer, Steve - DOT (DTSD Consultant)  
You know there's the refund.

2:33:22.580 --> 2:33:23.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Thank stage.

2:33:23.330 --> 2:33:25.900  
Rothamer, Steve - DOT (DTSD Consultant)  
And you have your emails and heritage comments.

2:33:27.180 --> 2:33:38.100  
Rothamer, Steve - DOT (DTSD Consultant)  
Instruct states across. All right. So OK. Break that up then we gotta we gotta comment up here in the front about constructing crossovers in stage 1A and 1B.

2:33:50.600 --> 2:34:1.380  
Rothamer, Steve - DOT (DTSD Consultant)  
It's like the narrative would tell you the right, and that's one thing we're not provided. Here are some narrative and some means and methods of the contractor, but we gotta comment there. Anybody else have anything else that they saw?

2:34:3.500 --> 2:34:5.560  
Rothamer, Steve - DOT (DTSD Consultant)  
The final completion dates late OK.

2:34:11.190 --> 2:34:18.760  
Rothamer, Steve - DOT (DTSD Consultant)  
And some of the things that were noted on here, let me know as anybody we we noticed the negative float in 2024.

2:34:20.930 --> 2:34:23.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Schedule LAX work by others. Everybody see that?

2:34:30.250 --> 2:34:34.880  
Rothamer, Steve - DOT (DTSD Consultant)  
We had short durations for shop, join, approval and fabrication activities.

2:34:35.820 --> 2:34:39.250  
Rothamer, Steve - DOT (DTSD Consultant)  
Now I understand there's a lot of pains, a lot of information to look at in 10 minutes.

2:34:49.300 --> 2:34:51.440  
Rothamer, Steve - DOT (DTSD Consultant)  
So we noticed that one.

2:35:4.580 --> 2:35:15.650  
Rothamer, Steve - DOT (DTSD Consultant)  
Two week gap between the end of Stage 2A and the beginning of stage 2B. So you got two week gap in your schedule with nothings happening. I guess contractor is going on vacation or some.

2:35:30.480 --> 2:35:35.340  
Rothamer, Steve - DOT (DTSD Consultant)  
Bridge deck poor was only 70 bridge deck here was only seven days in duration.

2:35:55.770 --> 2:36:9.530  
Rothamer, Steve - DOT (DTSD Consultant)  
In stage 2B, completion is scheduled 12 calendar days prior to the interim completion date. So we can see an example where the contractor scheduled scheduled earlier creates float risk for the contractor in that particular case.

2:36:11.180 --> 2:36:16.660  
Rothamer, Steve - DOT (DTSD Consultant)  
And the longest path report. And everybody noticed this longest path report was driven by a date constraint.

2:36:17.400 --> 2:36:49.250  
Rothamer, Steve - DOT (DTSD Consultant)  
And doesn't link to the activities in 2023, so that's one of the things I try to stress with contractors when they're submitting schedules that span multiple construction seasons is that we want to see that the critical path, the longest path goes from the start of the project all the way to the end of the project and they're not using date constraints to force things to happen on certain dates. Then there's some tips and tricks, technical things that can be done with the software to allow that to happen without the contractor have to go in and adjust things all the time.

2:36:49.680 --> 2:36:56.120  
Rothamer, Steve - DOT (DTSD Consultant)  
That some of the things that I share with the contractors as they go along, anybody find anything else or any other comments?

2:37:5.270 --> 2:37:7.20  
Lopez, Adrian - DOT  
Steve, can you hear me? This is Adrian.

2:37:7.290 --> 2:37:7.700  
Rothamer, Steve - DOT (DTSD Consultant)  
After.

2:37:9.860 --> 2:37:10.990  
Rothamer, Steve - DOT (DTSD Consultant)  
See where it's right.

2:37:11.940 --> 2:37:15.760  
Rothamer, Steve - DOT (DTSD Consultant)  
With that, you wanted to have, they need to tell you that that service.

2:37:18.830 --> 2:37:19.270  
Rothamer, Steve - DOT (DTSD Consultant)  
Good.

2:37:21.590 --> 2:37:36.760  
Rothamer, Steve - DOT (DTSD Consultant)  
So you can see there's a lot of things to review. There's a lot of documents and obviously when I showed you that directory up on the screen that included, I don't know, it's 40 post to 50 different reports. There's a lot of information to look at.

2:37:37.490 --> 2:37:48.500  
Rothamer, Steve - DOT (DTSD Consultant)  
Like we talked about before, we typically have a five day review period that we can look through that stuff after the five days. We have an internal meeting before we finalize the review comments.

2:37:50.240 --> 2:37:50.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Good.

2:37:52.470 --> 2:37:54.840  
Rothamer, Steve - DOT (DTSD Consultant)  
So the next section is going.

2:38:3.320 --> 2:38:10.50  
Rothamer, Steve - DOT (DTSD Consultant)  
That we just went through like you need to get your whole team together and like you only got one chance to go to the right. Absolutely.

2:38:11.30 --> 2:38:14.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, dismiss the value of getting into every detail.

2:38:15.20 --> 2:38:15.410  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

2:38:18.660 --> 2:38:47.910  
Rothamer, Steve - DOT (DTSD Consultant)  
And like I kind of mentioned before and we'll talk a little bit about during update process, if you start with the bad baseline schedule, your updates are gonna be bad and it's gonna be harder during if issues or impacts come up during the project to work out the claims in other things that might come up on the project. So Kurt is absolutely right. It's important to spend the time on the baseline schedule to make sure that you have an accurate, useful tool to be able to plan and manage the work.

2:38:49.460 --> 2:39:3.310  
Rothamer, Steve - DOT (DTSD Consultant)  
So now that we've got that tool to play in and manage the work during the update process, we're gonna use that tool. Hopefully the contractor is going to use that tool to be able to go through that process to use the tool to.

2:39:5.630 --> 2:39:20.610  
Rothamer, Steve - DOT (DTSD Consultant)  
So during this section, we're going to review the an update schedule we're going to address different components of an update schedule. Some things you'll see in the baseline are similar, some things in an update are different. So we're going to talk about some of those differences.

2:39:21.510 --> 2:39:24.250  
Rothamer, Steve - DOT (DTSD Consultant)  
We're going to compare, darn it, don't move the mouse.

2:39:26.70 --> 2:39:54.30  
Rothamer, Steve - DOT (DTSD Consultant)  
Compare the current update to the baseline to the previous update, and that's something that we see different, and those are different reports that created during the update process is on creative report that compares the current update to the baseline schedule, and I'll create another report that create that compares the current update to the previous update so you can see what's changed since last month or what's changed since the baseline schedule was accepted.

2:39:55.910 --> 2:40:12.130  
Rothamer, Steve - DOT (DTSD Consultant)  
Finally, we're gonna talk about some what if scenarios that we run on different schedules, so the department can kind of answer questions. Well, what if we revise some staging? What if we allow the contractor to work on an area before the stage switch, that sort of stuff?

2:40:13.230 --> 2:40:23.360  
Rothamer, Steve - DOT (DTSD Consultant)  
And it finally, we'll go through some update examples in. We'll have a another brief exercise at the end to see if you can come up with some comments about an updated schedule.

2:40:26.770 --> 2:40:35.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Right. Like I recently mentioned, a lot of the things that we're reviewing and update schedule are the same as what we reviewed to the baseline schedule.

2:40:35.860 --> 2:40:50.100  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm. The submittal date is not defined in the contract documents. Like I said, you'll work that out as a team with the contractor. When is the contractor gonna submit it? And then you'll work on your sequence of reviewing the schedule based on that.

2:40:52.30 --> 2:40:56.820  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to establish that routine and make sure that the contractor follows that routine all the time.

2:40:57.580 --> 2:41:12.180  
Rothamer, Steve - DOT (DTSD Consultant)  
And another thing I'll talk about when we get to another slide is the data date to the schedule. You wanna make sure that the contractor submits their schedule as close to the data date as possible. The drawback is if they submit it.

2:41:13.420 --> 2:41:31.500  
Rothamer, Steve - DOT (DTSD Consultant)  
After the data date or significant period of time after the data date, your schedule is already old and the data in it may have already been affected by progress or lack of progress that occurred during in the field between the gap of the data date and when the schedule was actually submitted.

2:41:34.300 --> 2:41:39.990  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm talking about data date. What is the data date? Can anybody give me a quick definition?

2:41:40.790 --> 2:41:42.40  
Rothamer, Steve - DOT (DTSD Consultant)  
What a data date is.

2:41:46.740 --> 2:42:16.750  
Rothamer, Steve - DOT (DTSD Consultant)  
Now the date is the period of time in which all progress in the schedule should be updated too. So and the reports that you see, you'll see a blue line that goes up and down the report that shows you that in this particular example, all progress should be through June, and you also find that all the reports that are created by me and and the people that work with me on the data, they will always be included at the bottom left corner in the report. So in this particular report.

2:42:16.820 --> 2:42:20.270  
Rothamer, Steve - DOT (DTSD Consultant)  
From July of 22, the data date is July 1st.

2:42:20.880 --> 2:42:21.560  
Rothamer, Steve - DOT (DTSD Consultant)  
So.

2:42:22.550 --> 2:42:28.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Typically that means that this progress includes all progress up to June 30th.

2:42:29.190 --> 2:42:57.230  
Rothamer, Steve - DOT (DTSD Consultant)  
In that the data date is typically in the future. So when you're reviewing the schedules, you need to be aware of that data date they put yourself on that date when you're reviewing that schedule, because if you're 2 weeks later, you're a month later, things have may have happened on the project that aren't shown in these reports, so you need to be aware of what that data date is and conscious of it when you're providing your content comments.

2:43:0.40 --> 2:43:0.550  
Rothamer, Steve - DOT (DTSD Consultant)  
You wanna?

2:43:2.50 --> 2:43:6.680  
Rothamer, Steve - DOT (DTSD Consultant)  
You also want to make sure that activities have been assigned in appropriate, accurate start and finish dates.

2:43:8.700 --> 2:43:10.720  
Rothamer, Steve - DOT (DTSD Consultant)  
Go back to my slide presentation. Here we go.

2:43:11.340 --> 2:43:12.580  
Rothamer, Steve - DOT (DTSD Consultant)  
So the second bullet point.

2:43:13.240 --> 2:43:14.80  
Rothamer, Steve - DOT (DTSD Consultant)  
Actual start.

2:43:14.830 --> 2:43:16.350  
Rothamer, Steve - DOT (DTSD Consultant)  
In actual finish dates.

2:43:17.330 --> 2:43:34.660  
Rothamer, Steve - DOT (DTSD Consultant)  
So in the reports that get printed out again kind of small, you can't read it, but you'll know an activity date is an actual date and there's appointment, so they'll have the letter A next to the end of that date. So this column here is the start date as an 8X3X actually started on June 20th.

2:43:35.430 --> 2:43:43.260  
Rothamer, Steve - DOT (DTSD Consultant)  
The date next to here is the finished date does not have the letter A, so that's a plan of finish date in the future.

2:43:44.210 --> 2:43:54.280  
Rothamer, Steve - DOT (DTSD Consultant)  
So when these reports we have the original intervening duration that we talked about before, so keep in mind you can always identify activities with actual dates because it has the letter A next to it.

2:43:55.40 --> 2:43:56.320  
Rothamer, Steve - DOT (DTSD Consultant)  
In the in the reports.

2:44:1.50 --> 2:44:11.20  
Rothamer, Steve - DOT (DTSD Consultant)  
You also want to review various updated, deleted and changed work. That's might be reported in the schedule. So one of the reports that.

2:44:11.910 --> 2:44:41.600  
Rothamer, Steve - DOT (DTSD Consultant)  
I started producing over the last couple of years being is this type of report. It includes the schedule changes so this is the report. You can go see if they what's changed since the last update was submitted. So in this particular case, we see there's a number of activities that have been added and then you just review from your project knowledge. Maybe this was a change order. Maybe these were comments in the last review to add activities for something else. But we can see that here's a list of activities that have been added.

2:44:56.500 --> 2:45:3.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Typically what it means when activities are getting shorter is the contractors trying to fit his schedule within the contract dates of the schedule.

2:45:4.650 --> 2:45:13.680  
Rothamer, Steve - DOT (DTSD Consultant)  
If they're getting longer, they might have identified other reasons why they plan on things to take in longer, so we can identify those types of changes in the schedule there.

2:45:15.270 --> 2:45:30.710  
Rothamer, Steve - DOT (DTSD Consultant)  
Wanna be aware of the calendar assignments? So in this particular case some activities change the calendar one from a six day calendar to what they've called a demo in the calendar. So it has different work days in the two different calendars, so are aware of that.

2:45:31.710 --> 2:45:34.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, change descriptions. If you activities change descriptions.

2:45:35.650 --> 2:46:6.180  
Rothamer, Steve - DOT (DTSD Consultant)  
One of the things we want to make sure that they're not doing when they change the description is we want to make sure they don't change the scope of work. We don't wanna take it from a bridge activity to a roadway activity, but just by changing the scope of work that might have been changing the station range or in this this case, I think they're taking out some spaces and stuff like that. The reason why we don't want to change the scope of work is because we're we were comparing the schedules to the baseline and we're comparing it to the previous update based on the activity ID. So the scope of work has changed for that activity.

2:46:6.260 --> 2:46:9.680  
Rothamer, Steve - DOT (DTSD Consultant)  
ID then those comparisons are no longer valid.

2:46:19.410 --> 2:46:30.710  
Rothamer, Steve - DOT (DTSD Consultant)  
So when we have something like that occur, that means it calls into question the accuracy of the previous schedule because they're changing something that should have been input into the previous update.

2:46:31.480 --> 2:46:32.970  
Rothamer, Steve - DOT (DTSD Consultant)  
So you need to be aware of that.

2:46:34.230 --> 2:46:34.700  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

2:46:36.30 --> 2:46:54.790  
Rothamer, Steve - DOT (DTSD Consultant)  
You were some actual modified finish dates again or review one of the things that we're gonna review in the update is are they actual dates in the schedule accurate. So we might have comments that say activity X actually finished two days earlier or finished the week later that sort of stuff.

2:46:56.90 --> 2:47:15.740  
Rothamer, Steve - DOT (DTSD Consultant)  
Activities with zero active activities with 0% complete. So something has started, but it's taking longer than planned or they haven't entered any progress into that. Again, this reports good for identifying trends and then identifying where work is not being completed, that sort of stuff.

2:47:16.850 --> 2:47:25.30  
Rothamer, Steve - DOT (DTSD Consultant)  
And we wanna look at this type of stuff to see where things that are on the critical path that may have should have happened. But didn't that sort of stuff.

2:47:25.670 --> 2:47:36.300  
Rothamer, Steve - DOT (DTSD Consultant)  
So the next section we got some activities with no progress in this period activity was started in the previous period, but the contractor didn't work on it over the last update period.

2:47:37.180 --> 2:47:52.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, activity with diminishing progress. That's always interesting. So this generally occurs when the contractor enters a longer remaining duration than what they had in the previous update. So identifies activities that are taking longer than actually planned.

2:47:54.500 --> 2:48:12.570  
Rothamer, Steve - DOT (DTSD Consultant)  
And next section our activity started scheduled to start this period but did not. So in all the days that we see in the schedule, if something is scheduled to start and has a low total float value, you want to make sure that it's actually starting and finishing. So it doesn't go critical.

2:48:13.660 --> 2:48:17.490  
Rothamer, Steve - DOT (DTSD Consultant)  
If if something is scheduled to start, it has zero float and it doesn't start.

2:48:18.280 --> 2:48:30.460  
Rothamer, Steve - DOT (DTSD Consultant)  
Then you have -. 40 in your next schedule update. This is a good section of the report that again, to identify trends on your schedule where is the contractor working, what are they not working on that kind of stuff?

2:48:31.650 --> 2:48:43.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, the next section activity scheduled to finish this period, but did not. These would be activities that were started in the previous period scheduled to finish and recurrent period, but did not finish.

2:48:44.210 --> 2:48:46.610  
Rothamer, Steve - DOT (DTSD Consultant)  
And again, if the activity has negative or.

2:48:46.780 --> 2:48:48.610  
Rothamer, Steve - DOT (DTSD Consultant)  
You know flow.

2:48:49.590 --> 2:48:55.590  
Rothamer, Steve - DOT (DTSD Consultant)  
Is the contractor continues to not work on that activity, then it will go negative in the next update.

2:48:57.700 --> 2:48:59.130  
Rothamer, Steve - DOT (DTSD Consultant)  
And identify trends.

2:49:0.60 --> 2:49:2.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Activities that finished later than expected.

2:49:3.0 --> 2:49:6.460  
Rothamer, Steve - DOT (DTSD Consultant)  
Milestone variances. How are milestones shifting back and forth?

2:49:7.350 --> 2:49:9.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm. And also relationship is.

2:49:10.890 --> 2:49:31.50  
Rothamer, Steve - DOT (DTSD Consultant)  
Rarely see a schedule update that doesn't include some changes by the contractor. Typically what will happen is the contractor will update the schedule and the dates are later than what's planned, or it might go into negative and the contractors changing relationships and and modifying some things in order to draw back.

2:49:31.820 --> 2:49:34.760  
Rothamer, Steve - DOT (DTSD Consultant)  
That work into the amount of time, but what does that doing to us?

2:49:35.840 --> 2:49:44.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Right. If if we're constantly reducing durations, they were changing relationships in order to do this work by the contract completion date.

2:49:45.360 --> 2:50:1.230  
Rothamer, Steve - DOT (DTSD Consultant)  
What we're doing is we're we're compressing more and more work into less and less time because you always think of the, the the entity as a bulldozer that's pushing all the work into the future, right? And if if all the work is pushing in the future, our completion dates aren't changing.

2:50:1.990 --> 2:50:5.660  
Rothamer, Steve - DOT (DTSD Consultant)  
So we've got more and more work that has to be done in less and less time.

2:50:7.970 --> 2:50:22.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Again, more added relationships in this particular update had a lot of added relationships. One of the things I'll highlight in these reports added relationships new activity to notice I've bold the star LP star means that that activity that relationship is on the longest path.

2:50:23.680 --> 2:50:25.190  
Rothamer, Steve - DOT (DTSD Consultant)  
So that's a critical activity.

2:50:26.140 --> 2:50:27.260  
Rothamer, Steve - DOT (DTSD Consultant)  
You see a lot of those.

2:50:29.280 --> 2:50:31.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Are those in this report and and?

2:50:32.910 --> 2:50:33.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Scroll down.

2:50:36.190 --> 2:50:37.920  
Rothamer, Steve - DOT (DTSD Consultant)  
Some modified relationships.

2:50:39.400 --> 2:50:50.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Modified lags, so all this information is available to you. You don't necessarily see it in the reports. The bar charts that you get, but this report is available in those directories for you to find this information.

2:50:51.820 --> 2:50:56.790  
Rothamer, Steve - DOT (DTSD Consultant)  
We include changes based on constraints, expected finish dates, that sort of stuff.

2:50:57.470 --> 2:51:29.140  
Rothamer, Steve - DOT (DTSD Consultant)  
And the reason why I picked this particular report is because this contract owners report is including notes, the CPM software Premier P6 allows you to enter notes and comments about activities, what's going on under the project, what might be occurring on that activity. You need to consider these notes in the same way that you consider comments that are in the narrative or whatnot going on. If the if the contractors making statements about delays or claims.

2:51:29.540 --> 2:51:43.770  
Rothamer, Steve - DOT (DTSD Consultant)  
In these notes, we need to be aware of it. We need to address it in our review tunnels. So in this particular case I've noted in this report, all the added activity notes that came with this particular update.

2:51:45.390 --> 2:52:3.610  
Rothamer, Steve - DOT (DTSD Consultant)  
So you can see there's a lot of things that go on, a lot of changes that get made to the CPM stand up that you might not be aware of just by looking at the bar chart again, using various tools available to us, I'm able to create these reports so you can see that by reviewing those reports.

2:52:6.380 --> 2:52:25.990  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions about that? Now that's just one example. Your your project or other projects might have other changes that you didn't see in that particular report, so or it your project might not have those types of changes and you won't seem so that report is customized for each particular them schedule update.

2:52:48.200 --> 2:52:54.570  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we want to look for revised logic, float variances and all that kind of stuff that we saw in that report that we just talked about.

2:52:56.720 --> 2:52:59.220  
Rothamer, Steve - DOT (DTSD Consultant)  
And finally, you want to look whoops, you wanna do that?

2:53:0.470 --> 2:53:4.570  
Rothamer, Steve - DOT (DTSD Consultant)  
Wanted to click on that. We want to look for activities that take longer than planned though.

2:53:5.210 --> 2:53:17.140  
Rothamer, Steve - DOT (DTSD Consultant)  
I should have zoomed in or pick the different report, but what I wanna point out in this report, and I'm sure you've all seen this in before the very top item is saw cutting and common X.

2:53:17.950 --> 2:53:19.600  
Rothamer, Steve - DOT (DTSD Consultant)  
Three days original variation.

2:53:20.620 --> 2:53:26.890  
Rothamer, Steve - DOT (DTSD Consultant)  
Three days of remaining duration, it's activity started at the end of May. Now we're in September.

2:53:28.330 --> 2:53:30.260  
Rothamer, Steve - DOT (DTSD Consultant)  
And and the activity still going on.

2:53:31.280 --> 2:53:51.810  
Rothamer, Steve - DOT (DTSD Consultant)  
So we wanted indication that contractor might not be working in the manner that's shown on the project or things are taking longer than planned. The relationships are are messed up, but that's the way to identify things that are are not occurring on the project as planned. You'll see the duration of three days that so far as taking us four months plus.

2:53:52.650 --> 2:53:56.850  
Rothamer, Steve - DOT (DTSD Consultant)  
You're gonna be kind of question that. See what's going on in those types of activities.

2:53:59.360 --> 2:54:1.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, three days here, 3 days there. What's the matter, right.

2:54:6.170 --> 2:54:6.520  
Rothamer, Steve - DOT (DTSD Consultant)  
But.

2:54:9.350 --> 2:54:17.460  
Rothamer, Steve - DOT (DTSD Consultant)  
Continue on reviewing monthly updates. We wanna review progress reported in the schedule doesn't match the progress that actually occurred in the field.

2:54:18.230 --> 2:54:20.210  
Rothamer, Steve - DOT (DTSD Consultant)  
You see this often is.

2:54:21.50 --> 2:54:27.550  
Rothamer, Steve - DOT (DTSD Consultant)  
And we're looking at the actual dates. We want to make sure the actual dates that are being reported are accurately reflected in the schedule.

2:54:28.750 --> 2:54:42.180  
Rothamer, Steve - DOT (DTSD Consultant)  
Again, at some future point, this schedule might be pulled out of a drawer someplace for a claim review or something like that. So we wanna make sure that the information that in it is accurate. So if you see something that's inaccurate, wanna provide comments about that?

2:54:43.730 --> 2:54:56.570  
Rothamer, Steve - DOT (DTSD Consultant)  
The next one I mentioned before, we got the various reports that show us the comparison to the baseline schedule and the comparison to the update schedule. So you can see how activities are shifting over a period of time.

2:54:57.460 --> 2:54:57.910  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

2:55:3.900 --> 2:55:5.640  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm skipped by that for now.

2:55:8.30 --> 2:55:11.860  
Rothamer, Steve - DOT (DTSD Consultant)  
You wanna identify the critical path of interim and final completion dates?

2:55:12.760 --> 2:55:14.590  
Rothamer, Steve - DOT (DTSD Consultant)  
Has changed from the previous update.

2:55:20.470 --> 2:55:47.340  
Rothamer, Steve - DOT (DTSD Consultant)  
So in this report I'm showing a quote Path report and like I mentioned before, when you see the term quote path, that means it's the critical path to an interim completion date and it looks something like this and what you want to make sure is that it's accurate and and it reflects the changes from the previous month. I've seen it at an example on different projects as recently as 2022 on multiple projects where.

2:55:48.930 --> 2:55:52.200  
Rothamer, Steve - DOT (DTSD Consultant)  
The critical path is in the area of the project in July.

2:55:53.420 --> 2:56:7.310  
Rothamer, Steve - DOT (DTSD Consultant)  
Get the August update and the critical path is still in area A and there's no progress on that particular series of activities. So how can you have a schedule that shows your critical path is in area but the contractor is not working in the area?

2:56:8.540 --> 2:56:10.390  
Rothamer, Steve - DOT (DTSD Consultant)  
It wasn't types of things you want to look at.

2:56:11.900 --> 2:56:13.560  
Rothamer, Steve - DOT (DTSD Consultant)  
When we're doing the schedule updates.

2:56:16.970 --> 2:56:17.810  
Rothamer, Steve - DOT (DTSD Consultant)  
Is my house.

2:56:19.870 --> 2:56:29.20  
Rothamer, Steve - DOT (DTSD Consultant)  
And for final completion dates, what we're gonna have is summary report looks the same, but in this particular case it'll be termed longest path report.

2:56:30.0 --> 2:56:46.630  
Rothamer, Steve - DOT (DTSD Consultant)  
They'll look looked very similar to what we've seen before. You wanna look at those critical path reports, make sure they make sense, make sure we're working on those longest path, because the schedule is telling us this is the work that has to be done in order for the project to complete on time.

2:56:51.170 --> 2:57:3.700  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, the next bullet point we got is a review. Production is compared to the planned rates we talked about it earlier, gave an example of the activity that had 58 storm sewer structures in 12 days.

2:57:5.70 --> 2:57:9.590  
Rothamer, Steve - DOT (DTSD Consultant)  
Is that actually occurring? Are they going to be able to achieve?

2:57:35.400 --> 2:57:37.670  
Rothamer, Steve - DOT (DTSD Consultant)  
The next thing is out of sequence progress.

2:57:39.90 --> 2:58:9.660  
Rothamer, Steve - DOT (DTSD Consultant)  
We wanna make sure that we're seeing a minimizing the amount of Odyssey Quence progress on schedule of out of sequence progress is like we talked before, we have relationships. We said activity A must finish on the finish, the start through the A must finish before activity beat can begin. But one of the ways we can identify out of sequence progress and schedules is you can see the gaps. And this example example activity here, you've got the current progress up to the date. Then we see a large gap.

2:58:9.730 --> 2:58:19.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Before you remaining duration gets started. When you see examples of that, you know that there's sequences in the schedule that are not being followed in the field.

2:58:20.610 --> 2:58:33.520  
Rothamer, Steve - DOT (DTSD Consultant)  
So there's a lot of out of sequence progress in your schedule. It's a a red flag to identify that contractor might not be building and work in the field in the same way that it's modeled in the scheduling.

2:58:34.610 --> 2:58:37.460  
Rothamer, Steve - DOT (DTSD Consultant)  
It's something that no in in the schedule.

2:58:38.710 --> 2:58:40.300  
Rothamer, Steve - DOT (DTSD Consultant)  
In in our scheduled comments.

2:58:43.760 --> 2:59:9.370  
Rothamer, Steve - DOT (DTSD Consultant)  
And the final bullet point on this page talks about comparing your CPM to the three-week look ahead during the schedule review meetings. I'll often hear comments like well, there are three-week look ahead says that the work on Structure X is supposed to start next week, but the CPM schedule doesn't show until next month or something like that. So we wanna make sure that the CPM schedule in the three-week look ahead are.

2:59:25.820 --> 2:59:28.980  
Rothamer, Steve - DOT (DTSD Consultant)  
And then here's a slide about reading the narrative report.

2:59:29.860 --> 2:59:32.430  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we wanna make sure that your narrative.

2:59:33.860 --> 2:59:40.260  
Rothamer, Steve - DOT (DTSD Consultant)  
The information that's included in the narrative matches what's included in the specifications or special provisions.

2:59:42.280 --> 2:59:56.690  
Rothamer, Steve - DOT (DTSD Consultant)  
That the information is accurate. If they're making any claims of delays or impacts in the narrative, we wanna make sure that those are reflected in the schedule and and whether or not we need to reply as a comment.

2:59:57.800 --> 3:0:0.810  
Rothamer, Steve - DOT (DTSD Consultant)  
In the in the schedule review to those as well.

3:0:1.980 --> 3:0:6.510  
Rothamer, Steve - DOT (DTSD Consultant)  
In and you wanna make sure that the narrative lists all relevant to events and stuff like that.

3:0:7.630 --> 3:0:9.680  
Rothamer, Steve - DOT (DTSD Consultant)  
So I have an example of a narrative.

3:0:11.100 --> 3:0:15.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Again, in this particular case, I don't know. I forget which project this is, but.

3:0:15.630 --> 3:0:16.220  
Rothamer, Steve - DOT (DTSD Consultant)  
From.

3:0:17.860 --> 3:0:28.890  
Rothamer, Steve - DOT (DTSD Consultant)  
You can see that they've got some comments here about schedules behind X number of days. They're making some notes about it and making some general comments about what's going on so.

3:0:30.550 --> 3:1:0.580  
Rothamer, Steve - DOT (DTSD Consultant)  
Now again, it's rare that we get as a scheduled directive that includes all the information that's talked about in the standard specs or in the special provisions, but we want to make sure that we get as much information we can in there too, and eventually had some pushback from contractors from tell us that they they don't want to include what's required because one of the things that's required in a narrative for updates is there regarding to tell us all the schedule changes they made.

3:1:1.20 --> 3:1:31.270  
Rothamer, Steve - DOT (DTSD Consultant)  
Any duration changes, schedule logic changes and because of that report that you saw earlier, where have the ability using a third third party software tool like an extract a lot of that information on the CPM schedule, what have you gotten some pushback from the contractor to say, well, we don't have to give it to you because you can figure that out for yourselves. But the thing that we don't see in the thing we don't see in the schedule are the reasons why those changes were made. Why did you make those logic revisions? Why did you change those?

3:1:31.690 --> 3:1:32.100  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:1:32.820 --> 3:1:57.810  
Rothamer, Steve - DOT (DTSD Consultant)  
Durations and that sort of stuff. So we have it's important to review the schedule and narrative, make sure that as much information is provided in it that as we can and yes, we have provided in our review comments back to the contractor to include additional information we we list the paragraph that says this is what the standard spec says you must include. This is this is what we expect you to provide.

3:2:3.10 --> 3:2:4.740  
Rothamer, Steve - DOT (DTSD Consultant)  
Where's my mouse? There it is.

3:2:7.190 --> 3:2:22.420  
Rothamer, Steve - DOT (DTSD Consultant)  
All right. So a lot of times when we review the schedule, we'll see different problems with the schedule. So types of major problems that we might see in the schedule include unreasonable or unexplained logic changes. You know, why did they do something we we can't?

3:2:24.120 --> 3:2:35.790  
Rothamer, Steve - DOT (DTSD Consultant)  
Determine that from a lot of the information we have, we need to know that from the contractor might be inaccurate dates or percent completes. The critical path is incorrect. Like I mentioned before, where I've seen.

3:2:36.590 --> 3:2:55.200  
Rothamer, Steve - DOT (DTSD Consultant)  
The July update critical path is exact same as the August update critical path. Nothing changed in the schedule, no work was done. We just lost an entire month of progress. You know something's not happening there. The contractors schedule needs to be revised in order to accurately reflect what's going on.

3:2:56.620 --> 3:3:5.750  
Rothamer, Steve - DOT (DTSD Consultant)  
In an accurate representation of work in that sort of stuff. So typically, if we see major problems with the schedule, we're gonna ask for a revision, revise and resubmit on a schedule.

3:3:13.590 --> 3:3:37.910  
Rothamer, Steve - DOT (DTSD Consultant)  
So along with major problems, but you can also see sometimes we have minor problems with the schedule, such as inaccurate as build dates, disagreements over activities with large amounts of float. Again, the key term in that sentence is large amounts of float. We have disagreements on what's going on in the critical path. We might wanna escalate that to a major problem.

3:3:39.290 --> 3:3:48.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Minor logic problems are adjustments not described in the narrative. We wanna note those types of things. If the narrative isn't providing us the information that we expect to see.

3:3:50.290 --> 3:3:58.180  
Rothamer, Steve - DOT (DTSD Consultant)  
And we also want to look for a possible differences of opinion on progress that does not affect the critical path. So if, if.

3:4:19.150 --> 3:4:27.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, I'll be approached by the project team and I'll be asked well, what if we start something earlier? What if the contractor?

3:4:28.830 --> 3:4:50.830  
Rothamer, Steve - DOT (DTSD Consultant)  
That does something different. What we do is we'll revise, we'll take a copy of the schedule as as submitted, and we'll do those. What if scenarios to figure out for ourselves kind of answer the questions for ourselves, what what to expect if work was started earlier or or something was changed or something was modified in the schedule.

3:4:57.100 --> 3:5:19.870  
Rothamer, Steve - DOT (DTSD Consultant)  
So some examples of what if scenarios that we've done in the past for delay impacts because of of contractor didn't provide a fragment. We often see this often. We'll talk more about in the delaying claims segment, but contractors often don't submit dragnets in the manner in which is subscribed. So we kind of have to do some of that stuff ourselves.

3:5:20.640 --> 3:5:36.950  
Rothamer, Steve - DOT (DTSD Consultant)  
And we see potential schedule recovery from revised staging. We've done those kinds of what ifs, you've done what ifs for modifying the calendars, change these activities from a five day calendar to a six day calendar or change the work day from 8 days.

3:5:37.750 --> 3:5:46.390  
Rothamer, Steve - DOT (DTSD Consultant)  
Or excuse me 8 hours a day to 10 hours a day to see what kind of impacts those changes have on on the particular scopes of work.

3:5:50.730 --> 3:5:52.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions about what it for?

3:5:56.20 --> 3:5:56.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, we're gonna.

3:5:59.100 --> 3:6:11.290  
Rothamer, Steve - DOT (DTSD Consultant)  
So just a couple of examples go through about some project issues on projects. You know, changes all your projects are gonna have things occur under project that you don't expect or things that don't happen.

3:6:11.930 --> 3:6:13.390  
Rothamer, Steve - DOT (DTSD Consultant)  
It has planned that sort of stuff.

3:6:14.200 --> 3:6:25.610  
Rothamer, Steve - DOT (DTSD Consultant)  
So in this particular review example, delays elsewhere on the projects delayed traffic switch. So in this particular example, we had a box culvert.

3:6:27.450 --> 3:6:32.740  
Rothamer, Steve - DOT (DTSD Consultant)  
That got delayed and pushed back to October because the of the delays on the project.

3:6:33.650 --> 3:6:51.660  
Rothamer, Steve - DOT (DTSD Consultant)  
The new pavement was completed in put in place by the early October. However, the contractor didn't wanna switch traffic on to that new pavement because they it was a safety concern. I guess for them because they didn't want to have to work next to the live traffic on that.

3:6:52.450 --> 3:6:53.40  
Rothamer, Steve - DOT (DTSD Consultant)  
And then the.

3:6:54.870 --> 3:7:10.630  
Rothamer, Steve - DOT (DTSD Consultant)  
When the new pavement pavement was available, or once once they the work was done in the switched traffic over these side, then they were able to demo the other side of the box culvert. As I understand it, but that two week delay.

3:7:11.270 --> 3:7:22.180  
Rothamer, Steve - DOT (DTSD Consultant)  
Or two or three-week delay in the process of switching traffic over onto the new project on to that new pavement cause subsequent delays down the line.

3:7:23.440 --> 3:7:25.750  
Rothamer, Steve - DOT (DTSD Consultant)  
In project, in other areas of the schedule.

3:7:26.480 --> 3:7:32.30  
Rothamer, Steve - DOT (DTSD Consultant)  
So it's one of the things we gotta be aware of in our schedules is is if if we.

3:7:32.720 --> 3:7:36.620  
Rothamer, Steve - DOT (DTSD Consultant)  
Delay work in one area. How's it going to impact work in other areas?

3:7:40.450 --> 3:7:44.370  
Rothamer, Steve - DOT (DTSD Consultant)  
Another example that I had in this particular case is a retaining wall.

3:7:46.140 --> 3:7:48.670  
Rothamer, Steve - DOT (DTSD Consultant)  
On this particular, retaining to all the tieback.

3:7:49.970 --> 3:7:53.890  
Rothamer, Steve - DOT (DTSD Consultant)  
Tendons extended beyond the right of way acquired for that wall.

3:7:55.700 --> 3:7:57.820  
Rothamer, Steve - DOT (DTSD Consultant)  
The contractor was told the.

3:7:59.170 --> 3:8:13.850  
Rothamer, Steve - DOT (DTSD Consultant)  
The contractor was told to redesign the wall in order to make it fit, I guess, but the contractor eventually demonstrated to the department that there was no way to design in the available right of way. So in the process of.

3:8:15.180 --> 3:8:29.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Going through the process of redesign and coming up with alternates in whatnot, it resulted in a a impact of the project that caused work to be delayed into winter in the subsequent construction year.

3:8:29.800 --> 3:8:39.100  
Rothamer, Steve - DOT (DTSD Consultant)  
So again, we we see all kinds of things on projects where things get delayed or don't occur as planned, need to be aware of how it impacts the work.

3:8:39.780 --> 3:8:41.420  
Rothamer, Steve - DOT (DTSD Consultant)  
And later on in the project.

3:8:45.780 --> 3:8:46.170  
Rothamer, Steve - DOT (DTSD Consultant)  
You.

3:8:48.730 --> 3:8:52.620  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, just like we had some questions when we were talking about baseline schedules.

3:8:54.130 --> 3:8:57.680  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, we're gonna have similar questions here for update schedules.

3:8:58.420 --> 3:9:2.100  
Rothamer, Steve - DOT (DTSD Consultant)  
So if a schedule accurately reflects the progress in the field.

3:9:3.470 --> 3:9:6.720  
Rothamer, Steve - DOT (DTSD Consultant)  
But misses the milestone dates. Can we accept?

3:9:7.420 --> 3:9:9.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Should the department accept that schedule?

3:9:13.760 --> 3:9:14.510  
Rothamer, Steve - DOT (DTSD Consultant)  
Say it again.

3:9:15.820 --> 3:9:22.560  
Rothamer, Steve - DOT (DTSD Consultant)  
That depends on how late. Yeah, at some point, these jobs they're late and and and you realize there's no way they're gonna finish. Yes.

3:9:23.890 --> 3:9:32.690  
Rothamer, Steve - DOT (DTSD Consultant)  
So if if the schedule accurately reflects the progress in the field and and the remaining work is shown in the accurate reflects, what needs to be done and it's late?

3:9:34.130 --> 3:9:49.460  
Rothamer, Steve - DOT (DTSD Consultant)  
It's late and then yes, we can accept that schedule. We just need to be aware of. We may ask for a revision, cause remember earlier we talked about revisions that the department can request a revision if a schedule is 14 calendar days or more late.

3:9:51.170 --> 3:9:55.230  
Rothamer, Steve - DOT (DTSD Consultant)  
And the next bullet point, the schedule update has been forced to fit.

3:9:55.830 --> 3:10:0.250  
Rothamer, Steve - DOT (DTSD Consultant)  
But does not accurately reflect accurately represent progress in the field.

3:10:0.990 --> 3:10:5.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Are you gonna accept the schedule like that, even though it shows on time completion?

3:10:7.950 --> 3:10:11.20  
Rothamer, Steve - DOT (DTSD Consultant)  
Here a couple of notes. Anybody else have a different opinion?

3:10:12.760 --> 3:10:14.420  
Rothamer, Steve - DOT (DTSD Consultant)  
It's kind of unfair for the first one.

3:10:15.360 --> 3:10:48.110  
Rothamer, Steve - DOT (DTSD Consultant)  
More than fourteen data, we don't like that we say well, get it within 14 days, so then they're gonna do #3 quick crunch, right. And I mean, it's right. It's a balancing act that you're trying to play with the schedule. But you gotta remember the skin, the intent of the schedule is to be an accurate tool on your project. You wanna be able to use it to accurately reflect, plan and manage the work. So if we're forcing things that occur and we know in, in our heart of hearts and our previous construction experience, there's no way they're going to be able to do that amount of work. And that amount of time.

3:10:48.660 --> 3:10:50.620  
Rothamer, Steve - DOT (DTSD Consultant)  
Then we'd wanna ask for revisions.

3:10:51.460 --> 3:11:1.880  
Rothamer, Steve - DOT (DTSD Consultant)  
And or ask them. You're gonna have more crews, more resources, or or do something to be that allow you to be able to complete the project.

3:11:11.810 --> 3:11:12.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:11:14.630 --> 3:11:16.730  
Rothamer, Steve - DOT (DTSD Consultant)  
And all the crap that you know, right?

3:11:17.460 --> 3:11:20.260  
Rothamer, Steve - DOT (DTSD Consultant)  
Exactly. It's a very good point.

3:11:22.650 --> 3:11:31.910  
Rothamer, Steve - DOT (DTSD Consultant)  
And the next one, the schedule sequence, the sequence of work in the schedule shows the work being constructed from the North End of the project to the South end of the project.

3:11:32.950 --> 3:11:40.890  
Rothamer, Steve - DOT (DTSD Consultant)  
But the actual opposite is happening in the field the the contractor is started on the South end of the project and working towards the north.

3:11:41.750 --> 3:11:43.520  
Rothamer, Steve - DOT (DTSD Consultant)  
Are we gonna accept the schedule like that?

3:11:57.890 --> 3:11:58.140  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

3:11:59.170 --> 3:12:1.730  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah. And I I'd agree with that is if the schedule.

3:12:2.670 --> 3:12:28.350  
Rothamer, Steve - DOT (DTSD Consultant)  
Is is completely opposite of what's actually going on in the field. We don't wanna accept the schedule like that because we it loses all value as a tool cause our our longest path will probably show us working in the northern part of the project, but the contractors at the opposite end of the project and the next update like the example I talked about before, is your critical path is gonna get all messed up and it's not gonna make any sense at all.

3:12:31.920 --> 3:12:37.810  
Rothamer, Steve - DOT (DTSD Consultant)  
And then the last one is, does accepting the schedule modify terms and conditions of the contract documents?

3:12:39.310 --> 3:12:49.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Same as the baseline schedule, I see a lot of people shaking their heads back and forth, no staying home, but OK, it doesn't modify, but when they start sticking fragments in there.

3:12:50.0 --> 3:13:20.490  
Rothamer, Steve - DOT (DTSD Consultant)  
I think it's still go back on it, but it starts getting ugly with claims like they put a delay in there. We accepted it and then we come back and said, well, no, we don't really you know, I mean Yep, Yep. Modified. But you gotta start being really careful and that's what you gotta really look at their narrative and look what they've been sorted in there and try to catch those things. Right. So go back after. But it just it can make things Gray and problematic. And we'll talk about this in the next segment of the presentation when we talk about claims and delays about that our claims and delays must be based when they enter fragments on the last.

3:13:21.310 --> 3:13:40.270  
Rothamer, Steve - DOT (DTSD Consultant)  
Most recent accepted update, so if you accepted a schedule that wasn't realistic or you're accepted, something that had some goofy information in it, then when you put a fragment in it, it might compound the the goofiness or the unrealistic components of that pregnant and that update schedule.

3:13:45.10 --> 3:13:48.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Pregnant. Yeah, we'll cover that in the in the next segment.

3:13:49.880 --> 3:14:2.490  
Rothamer, Steve - DOT (DTSD Consultant)  
So just like in the update or excuse me, the baselines, we create a report, the same type of report looks looks the same as the same types of sections in it that we we talked about in the update report.

3:14:4.680 --> 3:14:6.710  
Rothamer, Steve - DOT (DTSD Consultant)  
So we got another review exercise.

3:14:7.520 --> 3:14:10.90  
Rothamer, Steve - DOT (DTSD Consultant)  
For interactive exercise, some updates.

3:14:10.810 --> 3:14:12.360  
Rothamer, Steve - DOT (DTSD Consultant)  
Ohio is out again.

3:14:13.500 --> 3:14:20.770  
Rothamer, Steve - DOT (DTSD Consultant)  
Two per table, even your groups, and we'll talk about this for 10 minutes. So 25. We'll meet again at.

3:14:21.530 --> 3:14:23.250  
Rothamer, Steve - DOT (DTSD Consultant)  
When we started talking about this at.

3:14:24.410 --> 3:14:32.740  
Rothamer, Steve - DOT (DTSD Consultant)  
In the past, password was down. Turning this so this is an update schedule. It's the same schedule as a baseline schedule we looked at.

3:14:33.830 --> 3:14:34.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:14:35.370 --> 3:14:37.300  
Rothamer, Steve - DOT (DTSD Consultant)  
It has the same interim completion date.

3:14:38.620 --> 3:14:55.120  
Rothamer, Steve - DOT (DTSD Consultant)  
The the bottom lines here are important to note. The standard update was submitted on Friday, September 1st and 4th with nine 4:56 PM and right before Labor Day. So they're going through schedule and then the schedule data date is August 1st.

3:14:56.610 --> 3:15:1.460  
Rothamer, Steve - DOT (DTSD Consultant)  
So let's spend about 10 minutes to figure out what the review and this.

3:15:3.190 --> 3:15:4.580  
Rothamer, Steve - DOT (DTSD Consultant)  
From up in some comments.

3:15:7.10 --> 3:15:10.320  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, what? We'll start talking about it at the bottom of the hour or so and.

3:15:11.30 --> 3:15:13.530  
Rothamer, Steve - DOT (DTSD Consultant)  
11:30 will start talking about her comments.

3:21:34.370 --> 3:21:34.770  
Rothamer, Steve - DOT (DTSD Consultant)  
That.

3:21:36.690 --> 3:21:37.140  
Rothamer, Steve - DOT (DTSD Consultant)  
Just.

3:21:37.670 --> 3:21:39.800  
Rothamer, Steve - DOT (DTSD Consultant)  
This, and I think that we have.

3:21:41.150 --> 3:21:41.530  
Rothamer, Steve - DOT (DTSD Consultant)  
Gives the.

3:21:41.820 --> 3:21:42.160  
Rothamer, Steve - DOT (DTSD Consultant)  
I think it's.

3:22:1.160 --> 3:22:11.650  
Rothamer, Steve - DOT (DTSD Consultant)  
All right. Our five days are up five day review period. The best for our updates general review. If somebody got any comments or things they notice and then update schedule.

3:22:12.750 --> 3:22:14.610  
Rothamer, Steve - DOT (DTSD Consultant)  
We should include his comments in the review.

3:22:17.210 --> 3:22:20.600  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah, alright, started.

3:22:22.960 --> 3:22:23.630  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm sorry.

3:22:26.960 --> 3:22:29.470  
Rothamer, Steve - DOT (DTSD Consultant)  
Anybody have any suggested comments for this review?

3:22:33.240 --> 3:22:33.650  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah.

3:22:34.400 --> 3:22:34.820  
Rothamer, Steve - DOT (DTSD Consultant)  
I don't know.

3:22:38.70 --> 3:22:44.260  
Rothamer, Steve - DOT (DTSD Consultant)  
Right. The first one I was looking for because the clue was on the slide that you saw before, was that the?

3:22:45.540 --> 3:22:47.150  
Rothamer, Steve - DOT (DTSD Consultant)  
The schedule was submitted.

3:22:47.880 --> 3:22:50.990  
Rothamer, Steve - DOT (DTSD Consultant)  
On September 1st, with the dead date of August 1st.

3:22:51.730 --> 3:22:55.10  
Rothamer, Steve - DOT (DTSD Consultant)  
So your schedule the data in your update is already a month old.

3:22:55.640 --> 3:23:0.770  
Rothamer, Steve - DOT (DTSD Consultant)  
So how, how? How much good is that gonna do you to plan for going forward because.

3:23:1.530 --> 3:23:6.930  
Rothamer, Steve - DOT (DTSD Consultant)  
Now that we're in September, the progress that you made or didn't make in the month of August.

3:23:7.640 --> 3:23:10.30  
Rothamer, Steve - DOT (DTSD Consultant)  
May impact you. What's scheduled for September?

3:23:10.630 --> 3:23:22.250  
Rothamer, Steve - DOT (DTSD Consultant)  
President things quite a step one because you don't know what you have done because I I I remember mentioned a little bit earlier. You want to make sure that the schedule is submitted as close to the data data as possible.

3:23:25.740 --> 3:23:27.130  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm anything else?

3:23:29.690 --> 3:23:41.270  
Rothamer, Steve - DOT (DTSD Consultant)  
See, there was some additional activities added for construction of the ramps because remember you mentioned before, baseline schedule had build ramps, now there's some additional detail for that.

3:23:42.510 --> 3:23:49.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Stage 28 completion date is 2 weeks after the contract completion date. Anybody see that schedule is behind schedule?

3:23:50.820 --> 3:23:52.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Good negative float in there.

3:23:53.370 --> 3:23:58.20  
Rothamer, Steve - DOT (DTSD Consultant)  
Stage two completion date is after the contract completion date, so they've got negative float.

3:24:3.140 --> 3:24:3.870  
Rothamer, Steve - DOT (DTSD Consultant)  
Say that again.

3:24:6.40 --> 3:24:6.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

3:24:7.640 --> 3:24:14.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Maybe they recovered in time, or maybe they're a little bit further behind schedule since because of the data it is that that old.

3:24:15.840 --> 3:24:18.710  
Rothamer, Steve - DOT (DTSD Consultant)  
The schedule may have been impacted. What did or did not occur in August?

3:24:20.250 --> 3:24:20.720  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:24:22.150 --> 3:24:28.910  
Rothamer, Steve - DOT (DTSD Consultant)  
The actual date for common excavation select Crush Base course significantly longer than the original durations.

3:24:29.570 --> 3:24:35.270  
Rothamer, Steve - DOT (DTSD Consultant)  
So you can see that that the see that the durations are stretched out by the length of the bars and the reports.

3:24:37.270 --> 3:24:39.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Stage 2A common X.

3:24:39.940 --> 3:24:45.810  
Rothamer, Steve - DOT (DTSD Consultant)  
Segment finishes after Storm sewer select crushing base course activities.

3:24:48.430 --> 3:24:50.740  
Rothamer, Steve - DOT (DTSD Consultant)  
He had. You're looking at goofy things like that.

3:24:51.740 --> 3:24:56.970  
Rothamer, Steve - DOT (DTSD Consultant)  
Why? Why would you comment X be finishing after your base course?

3:24:59.940 --> 3:25:2.0  
Rothamer, Steve - DOT (DTSD Consultant)  
MSE Wall panel started.

3:25:2.690 --> 3:25:13.0  
Rothamer, Steve - DOT (DTSD Consultant)  
But the remaining duration is longer than the original duration. So when you see things like that when you're remaining, duration gets longer than your original duration. The red flag that's there's something going on with that.

3:25:13.260 --> 3:25:22.690  
Rothamer, Steve - DOT (DTSD Consultant)  
Through activity, maybe there's not enough crew or resources assigned to it. Maybe there's an issue or something that occurred that impacts that scope of work.

3:25:23.410 --> 3:25:25.490  
Rothamer, Steve - DOT (DTSD Consultant)  
So you don't know what's going on with that?

3:25:27.470 --> 3:25:27.950  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:25:29.120 --> 3:25:48.850  
Rothamer, Steve - DOT (DTSD Consultant)  
South abutment activity as out of sequence progress. Remember I mentioned before when you see a gap in an activity between the data date and the remaining duration portion of the bar, that indicates that you have some out of sequence progress work in the field is not occurring in the same sequence that it is modeled in the CPM schedule.

3:25:50.580 --> 3:26:0.130  
Rothamer, Steve - DOT (DTSD Consultant)  
And the final thing on here I had was the bridge pier stems and camp activities have actual dates after the data date and I don't think I mentioned that.

3:26:0.810 --> 3:26:4.20  
Rothamer, Steve - DOT (DTSD Consultant)  
In in the review before. So it's a good time to bring that up.

3:26:4.670 --> 3:26:27.640  
Rothamer, Steve - DOT (DTSD Consultant)  
When when you have actual dates that are after the data date, goofy things can happen in the schedule. We'll see some examples of that in the delay impact portion of that, but we want to make sure that when they are updating the schedule that the actual dates are before the data date, so earlier than the data date. If those actual dates are afterwards.

3:26:28.60 --> 3:26:37.400  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm it, it messes with the logic and it messes with how this the software calculates the dates of successor activities and whatnot.

3:26:38.410 --> 3:26:45.310  
Rothamer, Steve - DOT (DTSD Consultant)  
So we want to make sure that the actual dates in the schedule are always honored before the data date. Why should say that?

3:26:46.510 --> 3:26:48.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Most of the time, it's before the day of the date.

3:26:49.20 --> 3:26:50.240  
Rothamer, Steve - DOT (DTSD Consultant)  
And not on the density.

3:26:52.710 --> 3:26:53.170  
Rothamer, Steve - DOT (DTSD Consultant)  
But.

3:26:53.640 --> 3:26:54.0  
Rothamer, Steve - DOT (DTSD Consultant)  
Like.

3:26:54.200 --> 3:26:54.430  
Rothamer, Steve - DOT (DTSD Consultant)  
OK.

3:26:56.340 --> 3:27:1.590  
Rothamer, Steve - DOT (DTSD Consultant)  
Find these changes right? But it's a question of risk and or how much would it impact? Yeah, they.

3:27:2.510 --> 3:27:7.610  
Rothamer, Steve - DOT (DTSD Consultant)  
I've seen this where you know when innovating with managing a schedule, when it's you know.

3:27:8.940 --> 3:27:19.520  
Rothamer, Steve - DOT (DTSD Consultant)  
To say it's a minor, right? Yeah. Some of this is nuanced. When you see things that affect the schedule that aren't accurate, like in the example where common X.

3:27:20.330 --> 3:27:24.390  
Rothamer, Steve - DOT (DTSD Consultant)  
What occurs after the baseline or base base course?

3:27:25.110 --> 3:27:27.670  
Rothamer, Steve - DOT (DTSD Consultant)  
Things that aren't updated correctly like that.

3:27:28.460 --> 3:27:36.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Our our nuance and you might well look for revisions when something is significantly wrong. That's why we talked about in the earlier slides that difference between major.

3:27:37.450 --> 3:27:40.0  
Rothamer, Steve - DOT (DTSD Consultant)  
Three major problems with the schedule and minor problems.

3:27:40.680 --> 3:27:43.270  
Rothamer, Steve - DOT (DTSD Consultant)  
If your schedule just has some dates.

3:27:44.840 --> 3:27:53.40  
Rothamer, Steve - DOT (DTSD Consultant)  
And the schedule says something was started on September 1st, but you're field observations say it wasn't started until September 3rd.

3:27:53.750 --> 3:27:56.580  
Rothamer, Steve - DOT (DTSD Consultant)  
If those minor types of things can be addressed in the.

3:27:57.570 --> 3:28:1.400  
Rothamer, Steve - DOT (DTSD Consultant)  
In the in the next update, rather than requiring a revision.

3:28:2.970 --> 3:28:3.450  
Rothamer, Steve - DOT (DTSD Consultant)  
Yes, Sir.

3:28:11.770 --> 3:28:18.790  
Rothamer, Steve - DOT (DTSD Consultant)  
I don't have anything written down the process that I kind of use is to I start with looking at float.

3:28:20.410 --> 3:28:24.430  
Rothamer, Steve - DOT (DTSD Consultant)  
Make it looking for negative float or any areas that aren't.

3:28:26.540 --> 3:28:28.400  
Rothamer, Steve - DOT (DTSD Consultant)  
Completed on time, that sort of stuff.

3:28:29.420 --> 3:28:42.50  
Rothamer, Steve - DOT (DTSD Consultant)  
One of the things I like to also the report that I showed you with the changes in the schedule, I spend a little time in that to see what changes were made and try to again, I'm looking for trends or I'm looking for.

3:28:43.630 --> 3:29:2.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Things that didn't occur that should have occurred, that sort of thing, that kind of will will will point me in the direction to look in the schedule that, OK, here's some activities that were added to the bridge. So what did they add? Go look at the other reports associated with the bridge, that sort of stuff.

3:29:3.830 --> 3:29:24.340  
Rothamer, Steve - DOT (DTSD Consultant)  
I'll also compare the current schedule. That's it's important to not only when you're looking at this month's update, but kind of in your mind associate it with the previous months update like in the example I talked about before when the the longest path or the critical path doesn't change from July to August.

3:29:25.740 --> 3:29:49.980  
Rothamer, Steve - DOT (DTSD Consultant)  
What I'll do is if I see a problem with the critical path the the schedule dates pushed out another 20 days. So during the month of progress we lost an entire month in in our dates. Why did that happen? So I'll look at the reports this month and then go back to the previous months reports and compare, look at what's changed in the reports versus one month to the next.

3:29:50.820 --> 3:29:57.710  
Rothamer, Steve - DOT (DTSD Consultant)  
So a lot of these reports like that schedule changes report that I mentioned can point you in different areas of the schedule to look at.

3:29:58.960 --> 3:30:1.790  
Rothamer, Steve - DOT (DTSD Consultant)  
And then on bigger projects, you might have teams.

3:30:2.990 --> 3:30:16.470  
Rothamer, Steve - DOT (DTSD Consultant)  
That are associated with structures and those the they'll just look at the structure reports or teams associated with roadway and they'll focus their efforts on the roadway reports that sort of stuff. Does that answer your question? Yeah.

3:30:27.910 --> 3:30:30.540  
Rothamer, Steve - DOT (DTSD Consultant)  
It it's common for the data date to be.

3:30:31.860 --> 3:30:38.70  
Rothamer, Steve - DOT (DTSD Consultant)  
A week or two out, which I don't like. I'd rather have the the data date to be.

3:30:40.20 --> 3:30:51.100  
Rothamer, Steve - DOT (DTSD Consultant)  
It's not stop, don't the podium. I'd rather have the data date be later, like update the schedule on Friday and have your day to date the following Monday. That sort of stuff.

3:30:51.720 --> 3:31:12.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Because the closer you can get your update submitted to that data date, the more useful that schedule update is gonna be to the project team, and it should be more useful to your team, the contractors team as well, because you're here, you're gonna hand out a report to all your subcontractors that say, here's our schedule, but the data is a month old. So.

3:31:19.810 --> 3:31:40.530  
Rothamer, Steve - DOT (DTSD Consultant)  
It's up to the team whether or not, unfortunately, because the review process takes time, it takes a week to do. Sometimes we'll send something back and say no, you need to revise this before we're going to look at it. Sometimes we'll look at it and say, you know, it depends on the severity of the problems. Maybe it could be updated in the next update.

3:31:42.90 --> 3:31:56.570  
Rothamer, Steve - DOT (DTSD Consultant)  
But that's the one thing that we do consider is before we we start to reprocess, if we notice something that's way out of whack, then we'll ask them to revise and resend it. We're not even going to look at start looking at this because it takes takes over a week time to do it.

3:32:13.70 --> 3:32:22.210  
Rothamer, Steve - DOT (DTSD Consultant)  
Right alarm bells should go ahead. Your critical path was was in this area and you didn't do any work in that critical path. And here we are approaching September and.

3:32:22.880 --> 3:32:26.170  
Rothamer, Steve - DOT (DTSD Consultant)  
You're not working in the area that the schedule says we should be working in, so.

3:32:29.250 --> 3:32:31.330  
Rothamer, Steve - DOT (DTSD Consultant)  
Any other questions about the update process?

3:32:33.470 --> 3:32:53.660  
Rothamer, Steve - DOT (DTSD Consultant)  
All right, moving on the claims and delays, this section, we're gonna talk about critical claims in in non critical issues when we get claims and we'll see how to identify some of those things. We're gonna go over what's required to submit a delay claim. And what we're gonna review in our delays.

3:32:54.830 --> 3:32:58.310  
Rothamer, Steve - DOT (DTSD Consultant)  
And finally, we're gonna finish with another quick exercise.

3:32:59.830 --> 3:33:0.520  
Rothamer, Steve - DOT (DTSD Consultant)  
At the end.

3:33:4.260 --> 3:33:12.50  
Rothamer, Steve - DOT (DTSD Consultant)  
So delays can be both critical or noncritical, so one of the ways we can identify critical claims.

3:33:13.120 --> 3:33:14.870  
Rothamer, Steve - DOT (DTSD Consultant)  
Is anybody have an idea?

3:33:16.580 --> 3:33:18.920  
Rothamer, Steve - DOT (DTSD Consultant)  
It's claims could all if you got -, 4.

3:33:19.710 --> 3:33:41.840  
Rothamer, Steve - DOT (DTSD Consultant)  
Right. You're, you're claim's gonna be critical. So here's an example of a planning on, you know, the primary, but we've got a a delay activity here with a bunch of subsequent work and we got minus 11 days of floating this particular report. So this is probably critical and the contractor may or may not be associated entitled to a time extension.

3:33:43.780 --> 3:33:57.990  
Rothamer, Steve - DOT (DTSD Consultant)  
So also when we're looking at reports, you gotta keep remembering that delays can affect intermediate milestones, but not the project completion date or a delay might affect the project completion date and not your intermediate.

3:33:59.60 --> 3:34:2.430  
Rothamer, Steve - DOT (DTSD Consultant)  
Intermediate milestones so you get to keep that in mind as well.

3:34:4.510 --> 3:34:12.930  
Rothamer, Steve - DOT (DTSD Consultant)  
So again, delays are non critical activities use float. We talked about this earlier, who owns the float.

3:34:15.560 --> 3:34:16.730  
Rothamer, Steve - DOT (DTSD Consultant)  
Whoever uses the curse.

3:34:17.660 --> 3:34:30.750  
Rothamer, Steve - DOT (DTSD Consultant)  
So the schedule there. Here's an example of a submittal for a schedule that shows a delay activity with associated logic. After we got positive float on this. So is the contractor during time extension.

3:34:31.480 --> 3:34:32.220  
Rothamer, Steve - DOT (DTSD Consultant)  
Who is night?

3:34:39.310 --> 3:34:46.420  
Rothamer, Steve - DOT (DTSD Consultant)  
Delays that are used for and do not affect the milestone or completion date or not two time extensions.

3:34:51.420 --> 3:34:58.140  
Rothamer, Steve - DOT (DTSD Consultant)  
So what are we ask you for the contractors to submit and again look at oops, I'm talking about something. I haven't changed my screen back.

3:34:59.350 --> 3:34:59.920  
Rothamer, Steve - DOT (DTSD Consultant)  
Here we go.

3:35:1.410 --> 3:35:10.960  
Rothamer, Steve - DOT (DTSD Consultant)  
Alright, So what do we look for when the contractor submits a time extension and refer back to your contract documents? It'll provide some more details.

3:35:11.720 --> 3:35:15.180  
Rothamer, Steve - DOT (DTSD Consultant)  
But basically, for a time extension associated with changes to the work.

3:35:15.890 --> 3:35:28.660  
Rothamer, Steve - DOT (DTSD Consultant)  
What we're going to ask for is a narrative discussing the changes and it's affected activities and a proposed fragnet. So what a fragnet is, it's a fragmentary network.

3:35:29.660 --> 3:35:46.710  
Rothamer, Steve - DOT (DTSD Consultant)  
So it's a small number of activities to be inserted into the CPM schedule that represent the change conditioner, the delay. So the idea is the insert your fragment your your delay activity and we're gonna see what impact that has on successor activities.

3:35:48.50 --> 3:35:53.240  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm for time extensions request associated with delays to work.

3:35:54.240 --> 3:35:59.970  
Rothamer, Steve - DOT (DTSD Consultant)  
What the documents say is narrative discussing the change and it's affected activities.

3:36:1.110 --> 3:36:1.700  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:36:5.570 --> 3:36:9.800  
Rothamer, Steve - DOT (DTSD Consultant)  
The the information that I'm showing on this slide comes from the standard specifications.

3:36:10.480 --> 3:36:18.460  
Rothamer, Steve - DOT (DTSD Consultant)  
Keep in mind that your special provisions may include additional requirements in an additional details that are being asked for.

3:36:24.140 --> 3:36:33.400  
Rothamer, Steve - DOT (DTSD Consultant)  
When we're reviewing the change, what are we looking for and when we have a change based on a change based time extension request?

3:36:34.230 --> 3:36:45.400  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to make sure that the dates are consistent with the project records that any information that's been added to the schedule or updated in the schedule is an accurate reflection of what what's happening.

3:36:46.410 --> 3:36:57.840  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to check the fragment that's it's been inserted that the relationships are reasonable and accurate, that they're not linking it or causing other issues in the schedule to be pushed out.

3:36:58.910 --> 3:37:4.290  
Rothamer, Steve - DOT (DTSD Consultant)  
You want to check that durations are what is known at the time of that particular delay.

3:37:6.530 --> 3:37:11.280  
Rothamer, Steve - DOT (DTSD Consultant)  
You want to ensure that the appropriate update was used. Again, you mentioned earlier that.

3:37:12.530 --> 3:37:29.580  
Rothamer, Steve - DOT (DTSD Consultant)  
Contract documents require that the latest accepted CPM update be used in your time extension request. So if you got a long string of revise and resubmit schedules are not gonna have an accepted schedule to use for your time extension request.

3:37:30.880 --> 3:37:38.150  
Rothamer, Steve - DOT (DTSD Consultant)  
Want to check for constraints or other activities that could cause work to appear incorrect in the schedule.

3:37:43.560 --> 3:38:5.890  
Rothamer, Steve - DOT (DTSD Consultant)  
In one of the things you also want to do is when we're reviewing time extensions and delay impacts the schedules, it's always best to review the delay as soon as possible and review the impacts when they occur so those fragments can be import input into the current CPM schedules that that exist on the project.

3:38:6.760 --> 3:38:14.370  
Rothamer, Steve - DOT (DTSD Consultant)  
When you get too far removed from the delay and you don't review it later or the fragments not submitted until months later.

3:38:15.860 --> 3:38:17.960  
Rothamer, Steve - DOT (DTSD Consultant)  
The progress that occurred on the job.

3:38:18.830 --> 3:38:38.540  
Rothamer, Steve - DOT (DTSD Consultant)  
The progress that didn't occur on the job and all that other things that are going on can really cloud the issue and you're really does and it can make it more difficult to analyze the delay in isolation versus what's also occurred on the job over the time when the delay occurred and when you're actually reviewing it.

3:38:41.570 --> 3:38:43.280  
Rothamer, Steve - DOT (DTSD Consultant)  
All right. Delays and claims.

3:38:44.960 --> 3:38:46.730  
Rothamer, Steve - DOT (DTSD Consultant)  
Things that we're gonna review.

3:38:47.800 --> 3:38:53.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Based on time extensions, again we wanna review delays when they happen rather than waiting.

3:38:54.20 --> 3:38:56.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Wanna check that the baseline updates?

3:38:58.160 --> 3:39:8.970  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm that you're using a current update that's accepted and you wanna check out the the narrative. Make sure the narrative explains what's going on with that delay claim.

3:39:10.240 --> 3:39:12.580  
Rothamer, Steve - DOT (DTSD Consultant)  
When I examine the appropriate update again.

3:39:13.540 --> 3:39:20.900  
Rothamer, Steve - DOT (DTSD Consultant)  
Is the delay on the critical path which showed an example earlier that something had positive float, so it wasn't out on the critical path.

3:39:21.890 --> 3:39:23.780  
Rothamer, Steve - DOT (DTSD Consultant)  
Review the narrative like I mentioned.

3:39:24.690 --> 3:39:28.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Check for alternate explanations for the delay, I'm sure.

3:39:29.980 --> 3:39:36.90  
Rothamer, Steve - DOT (DTSD Consultant)  
We all can think of it as a situation where some something occurs on the project and and it gets.

3:39:38.580 --> 3:39:50.450  
Rothamer, Steve - DOT (DTSD Consultant)  
I I guess pushed on to the department that the department did something wrong, but there's other underlying features that may have occurred that the contractor did or did not do that contributed to or was the reason for the delay.

3:39:52.140 --> 3:39:55.210  
Rothamer, Steve - DOT (DTSD Consultant)  
We want to check for alternate. I already said that one.

3:39:57.480 --> 3:40:3.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Make sure the responsibility delays well established a lot of times we can see some examples of concurrent delays.

3:40:4.280 --> 3:40:25.620  
Rothamer, Steve - DOT (DTSD Consultant)  
Two things might be occurring at the same time. There might be a change on the project that the department may be responsible for, but also there might be other issues that the contractors responsible for both of those issues might be contributing to the delay they need to evaluate those and check for make sure everything is accurately represented.

3:40:28.290 --> 3:40:28.830  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm.

3:40:30.290 --> 3:40:36.400  
Rothamer, Steve - DOT (DTSD Consultant)  
The here's a real life example, and I mean Sean can speak up if he wants to, but I'm using the zoo interchange.

3:40:38.480 --> 3:40:55.790  
Rothamer, Steve - DOT (DTSD Consultant)  
Flash, but welding is an example of a change on a project and how that was handled in this particular case there is a change condition on the project where the flashboot welding of the railroad ties or not ties, but the rails was changed from what? Thermite welding.

3:40:56.410 --> 3:41:10.510  
Rothamer, Steve - DOT (DTSD Consultant)  
I think that's the term to flashback when I mean two different ways. If you're not familiar with those two, Google it. There's some really neat YouTube videos that show you how that happens, but in the baseline schedule the contractor submitted.

3:41:11.250 --> 3:41:41.660  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm and I can't see it from where you're sitting at, but in the in the baseline schedule in this section for building the railroad on this shoe fly, which is the temporarily bridge, they had railway sub ballast and ballast of 10 days in duration and installed. The traffic was 15 days induration so they had a total of 25 days in the baseline schedule for that scope of work. So that's the information that the department is using.

3:41:41.820 --> 3:41:55.170  
Rothamer, Steve - DOT (DTSD Consultant)  
From the baseline schedule to evaluate the change condition, how much extra time is due to the flash \*\*\*\* welding is going on. So again we requested that the contractor submit a fragment.

3:41:56.930 --> 3:42:2.220  
Rothamer, Steve - DOT (DTSD Consultant)  
But in the process of submitting to fragment, the contractor also added a bunch of other activities.

3:42:2.980 --> 3:42:19.810  
Rothamer, Steve - DOT (DTSD Consultant)  
So I've highlighted in yellow bunch of rather than just having one activity for sub ballast. Now they've got activities for sub ballast and basement ballast and in a whole bunch of additional activities that were not included in the baseline schedule.

3:42:20.590 --> 3:42:24.460  
Rothamer, Steve - DOT (DTSD Consultant)  
But along with these additional activities are additional duration.

3:42:25.240 --> 3:42:41.360  
Rothamer, Steve - DOT (DTSD Consultant)  
So initial duration days, what does that do? It lengthens the amount of time that that work is gonna take to occur. So are we gonna allow them or give them time extensions for work that was included in the baseline for 10 days? But now we're saying it's going to take longer.

3:42:47.620 --> 3:42:51.190  
Rothamer, Steve - DOT (DTSD Consultant)  
Basically no, but again, like I mentioned, the sub ballast and the.

3:42:51.840 --> 3:43:10.440  
Rothamer, Steve - DOT (DTSD Consultant)  
Bells durations that were included in the contractors change added 29 working days to the schedule, which the department said no. We're not gonna accept those additional times because you're baseline schedule was the amount of time that you said it was gonna take was was 10 days in length.

3:43:12.140 --> 3:43:31.890  
Rothamer, Steve - DOT (DTSD Consultant)  
The cut we went back and forth with the contractor numerous times and they wouldn't provide the information we requesting. So what the department did is we use the what if scenarios that we talked about before where we made a copy of the schedule, made modifications based on our field observations and what was going on and.

3:43:32.750 --> 3:43:43.990  
Rothamer, Steve - DOT (DTSD Consultant)  
And created a schedule that showed what the department felt the appropriate time was was allowed to the contractor for this particular change. Now that it worked out to be like 21.

3:43:44.950 --> 3:43:46.470  
Rothamer, Steve - DOT (DTSD Consultant)  
There's something like that each on.

3:43:54.330 --> 3:43:54.810  
Rothamer, Steve - DOT (DTSD Consultant)  
OK.

3:43:57.50 --> 3:43:57.490  
Rothamer, Steve - DOT (DTSD Consultant)  
Being.

3:43:58.700 --> 3:43:59.140  
Rothamer, Steve - DOT (DTSD Consultant)  
Right.

3:44:1.130 --> 3:44:6.420  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm contractor, the subcontractor saying this is within. There was no doubt changes but what are those impacts?

3:44:7.350 --> 3:44:27.100  
Rothamer, Steve - DOT (DTSD Consultant)  
So we work through with them and and this effort this time we did this before the work even came back, we were still, you know, quite a bit before we even hit that day. It's so this was all theoretical, but then unique to this project, we had the same operations this year for, you know, flash model building out and permanent track.

3:44:28.40 --> 3:44:56.670  
Rothamer, Steve - DOT (DTSD Consultant)  
For that time extension, you know, we tracked everything, force promise, really complicated change or that I don't wanna waste everybody's time in to talk about. But we had records on, you know, what days the actual work was altered. What days there were impacts from the plan change. So that came out of the 21 calendar days. So you just use that for the 2022 times. Yeah. So they they did get more time in the previous year because we just said we know and there was another department for they happening at the same time so.

3:44:57.530 --> 3:45:1.210  
Rothamer, Steve - DOT (DTSD Consultant)  
It doesn't really matter how many days they got through this initial right? Something else.

3:45:2.430 --> 3:45:15.10  
Rothamer, Steve - DOT (DTSD Consultant)  
So you can see there's lots of things that go on in these schedules and these these claims and delays can get really complicated and more than what we can really talk about in our our quick presentation here.

3:45:15.850 --> 3:45:26.240  
Rothamer, Steve - DOT (DTSD Consultant)  
But I got one player will quick interactive exercise. We like to do yours on, some in some handouts. Getting to your group. So we'll do this real quick.

3:45:28.420 --> 3:45:38.10  
Rothamer, Steve - DOT (DTSD Consultant)  
And go through and the first ones we wanna basically return the you whether or not we're thinking. Contact your do a time extension or not.

3:45:47.390 --> 3:45:49.400  
Rothamer, Steve - DOT (DTSD Consultant)  
But yeah.

3:45:49.500 --> 3:45:49.720  
Rothamer, Steve - DOT (DTSD Consultant)  
It's.

3:45:54.30 --> 3:45:54.380  
Rothamer, Steve - DOT (DTSD Consultant)  
No.

3:45:55.340 --> 3:45:55.610  
Rothamer, Steve - DOT (DTSD Consultant)  
About.

3:45:59.550 --> 3:45:59.960  
Rothamer, Steve - DOT (DTSD Consultant)  
That's it.

3:46:0.160 --> 3:46:0.550  
Rothamer, Steve - DOT (DTSD Consultant)  
Goodbye.

3:50:30.780 --> 3:50:49.680  
Rothamer, Steve - DOT (DTSD Consultant)  
So the first scenario looks like this one. It's the one with the negative flowing in it. We could see that there's a utility zip code like your location building. We talked about that when we're reviewing the baseline schedule and we're seeing it in some other issues that utility relocation, deli is 5 days a day to smoke.

3:50:50.430 --> 3:50:54.660  
Rothamer, Steve - DOT (DTSD Consultant)  
And so these other activities have 8 days of day tomorrow.

3:50:55.500 --> 3:51:3.650  
Rothamer, Steve - DOT (DTSD Consultant)  
So what do you feel? How much time do you think contractor do you think the contractor is due time and how much time are is due?

3:51:8.660 --> 3:51:27.180  
Rothamer, Steve - DOT (DTSD Consultant)  
So I I'm hearing, yes, in the front of the room. Anybody else? So we better utility relocation that beyond the contractors control. Right. So and that pushed gives logic out and signed days late. So a quick assessment 5 directory should be maybe do five working days right.

3:51:28.140 --> 3:51:57.190  
Rothamer, Steve - DOT (DTSD Consultant)  
Well, there's some other contributing delays here. 8 Working 8 -, 8 on some of these others that pushes out due to contractor reasons. Maybe contractor, lack of progress and whatnot. So this what I would consider a typical type of concurrent delay. We've got an issue that was beyond the contractors control that they would be entitled to some time potentially entitled to some time for. And we also have some time that's.

3:51:58.90 --> 3:52:7.760  
Rothamer, Steve - DOT (DTSD Consultant)  
Associated with the contractor. So in those cases for concurrent delays are typically considered excusable but non compensable.

3:52:8.930 --> 3:52:33.590  
Rothamer, Steve - DOT (DTSD Consultant)  
So the contractor would get a five day five working days extension to the interim date, but wouldn't be paying the general conditions and other associated costs with that because the contractor has some contributing and delays that pushed the data out even further. So any liquidated damages or anything beyond those five days because he's 8 days behind the reason responsibility in the country.

3:52:35.100 --> 3:52:36.370  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions about that one?

3:52:43.760 --> 3:52:46.330  
Rothamer, Steve - DOT (DTSD Consultant)  
OK, the second scenario was this one.

3:52:47.440 --> 3:52:48.60  
Rothamer, Steve - DOT (DTSD Consultant)  
Ohm.

3:52:49.360 --> 3:52:50.640  
Rothamer, Steve - DOT (DTSD Consultant)  
You've got some issues.

3:52:51.680 --> 3:52:58.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Minus three days here, he's removing payment. There's no delay activities in this one associated with.

3:52:59.860 --> 3:53:12.130  
Rothamer, Steve - DOT (DTSD Consultant)  
Something unexpected occurred under project or an issue. The contract turned in input in delays or other impacts. So in this one three days late I would put 100% on the country.

3:53:15.560 --> 3:53:17.380  
Rothamer, Steve - DOT (DTSD Consultant)  
Any questions about the blaze?

3:53:18.140 --> 3:53:23.840  
Rothamer, Steve - DOT (DTSD Consultant)  
Claims I know we went through that really fast and delays in claims are projects can be very complex.

3:53:24.540 --> 3:53:25.720  
Rothamer, Steve - DOT (DTSD Consultant)  
And something we.

3:53:26.760 --> 3:53:31.370  
Rothamer, Steve - DOT (DTSD Consultant)  
But probably can have it its own 4 hour class in and of itself.

3:53:41.510 --> 3:53:45.760  
Rothamer, Steve - DOT (DTSD Consultant)  
OK. Any final slide for questions and answers?

3:53:46.680 --> 3:53:55.410  
Rothamer, Steve - DOT (DTSD Consultant)  
My contact information is up here on the slide. My cell phone number, my e-mail address. Not that down on your piece of paper. If you want it.

3:53:56.790 --> 3:54:13.660  
Rothamer, Steve - DOT (DTSD Consultant)  
I'm available anytime you have any questions or comments or want me to help out with new projects, CPM schedules and whatnot. And like I said, I'm associated primarily with the mega major projects, but also working on some regional projects that have CPM requirements as well.

3:54:14.690 --> 3:54:29.200  
Rothamer, Steve - DOT (DTSD Consultant)  
Another person that wasn't unable to attend with us today that I worked with, also with Guilmain main you might be familiar with, is just an otters. If you hear his name, he's also working with us in our program management team.

3:54:30.140 --> 3:54:32.0  
Rothamer, Steve - DOT (DTSD Consultant)  
The CPM scheduling and whatnot.

3:54:35.150 --> 3:54:37.20  
Rothamer, Steve - DOT (DTSD Consultant)  
One final piece of busy work.

3:54:39.60 --> 3:54:39.970  
Rothamer, Steve - DOT (DTSD Consultant)  
Is the.

3:54:44.600 --> 3:54:47.270  
Rothamer, Steve - DOT (DTSD Consultant)  
Quiz. Let me pull that up on my screen.

3:54:58.230 --> 3:54:59.620  
Rothamer, Steve - DOT (DTSD Consultant)  
We'll go over this together.

3:55:1.740 --> 3:55:6.930  
Rothamer, Steve - DOT (DTSD Consultant)  
And fill out the quiz and then hand it in before you leave. Make sure everybody signed the appropriate.

3:55:7.0 --> 3:55:7.220  
Rothamer, Steve - DOT (DTSD Consultant)  
Yeah.

3:55:8.260 --> 3:55:9.940  
Rothamer, Steve - DOT (DTSD Consultant)  
Sign in sheet so we can get credit.

3:55:10.600 --> 3:55:11.450  
Rothamer, Steve - DOT (DTSD Consultant)  
First question.

3:55:14.440 --> 3:55:17.250  
Rothamer, Steve - DOT (DTSD Consultant)  
What's the answer to the first one? CPM schedule is?

3:55:22.720 --> 3:55:26.840  
Rothamer, Steve - DOT (DTSD Consultant)  
Can I see an ENOD all the above?

3:55:27.940 --> 3:55:39.70  
Rothamer, Steve - DOT (DTSD Consultant)  
Timetable breaks the project down, calculates the minimum time needed. It's correct answer #1 ID number two advantage of utilizing CPM schedule includes.

3:55:54.340 --> 3:55:55.820  
Rothamer, Steve - DOT (DTSD Consultant)  
D is the correct answer.

3:55:56.680 --> 3:56:5.570  
Rothamer, Steve - DOT (DTSD Consultant)  
Uh CPM advantage includes UM identifies the most critical elements of the plan. The rest of them are are could be considered disadvantages.

3:56:7.90 --> 3:56:10.510  
Rothamer, Steve - DOT (DTSD Consultant)  
Umm, CPM schedules are typically required for all projects.

3:56:11.270 --> 3:56:12.630  
Rothamer, Steve - DOT (DTSD Consultant)  
That are greater than.

3:56:14.400 --> 3:56:16.60  
Rothamer, Steve - DOT (DTSD Consultant)  
See $10 million.

3:56:17.260 --> 3:56:21.390  
Rothamer, Steve - DOT (DTSD Consultant)  
#4 why does we start require baseline schedule?

3:56:27.60 --> 3:56:34.490  
Rothamer, Steve - DOT (DTSD Consultant)  
Yep, is correct. Ensure that the contractors develop a proper plan conforms the contract requirements.

3:56:36.80 --> 3:56:40.740  
Rothamer, Steve - DOT (DTSD Consultant)  
A blank relationship is unusual and is rarely used in CPM schedule.

3:56:43.690 --> 3:56:45.120  
Rothamer, Steve - DOT (DTSD Consultant)  
D start to finish.

3:56:46.530 --> 3:56:51.370  
Rothamer, Steve - DOT (DTSD Consultant)  
And in fact, like I mentioned before, sometimes they're my contract. It's not allowed.

3:56:52.350 --> 3:56:56.150  
Rothamer, Steve - DOT (DTSD Consultant)  
A baseline schedule should not include activities for which items.

3:56:59.350 --> 3:57:2.710  
Rothamer, Steve - DOT (DTSD Consultant)  
See delays and impacts. We're gonna put those into the update schedules.

3:57:3.620 --> 3:57:7.10  
Rothamer, Steve - DOT (DTSD Consultant)  
Property of a good CPM schedule include everything except.

3:57:11.800 --> 3:57:15.170  
Rothamer, Steve - DOT (DTSD Consultant)  
Correct, B is correct. Any adequate time for review?

3:57:16.390 --> 3:57:22.550  
Rothamer, Steve - DOT (DTSD Consultant)  
#8 review of an update schedule should include the following items, except.

3:57:23.950 --> 3:57:25.660  
Rothamer, Steve - DOT (DTSD Consultant)  
He is the word update.

3:57:26.360 --> 3:57:27.230  
Rothamer, Steve - DOT (DTSD Consultant)  
Uppercase letter.

3:57:29.260 --> 3:57:40.90  
Rothamer, Steve - DOT (DTSD Consultant)  
A is correct. I heard somebody say that one ensure that the data date has not been changed from the baseline. We always want to make sure the database updated it it's closest to the submittal date as possible.

3:57:40.920 --> 3:57:45.70  
Rothamer, Steve - DOT (DTSD Consultant)  
#9 it update schedule narrative should include.

3:57:49.270 --> 3:57:50.450  
Rothamer, Steve - DOT (DTSD Consultant)  
E All the above.

3:57:51.510 --> 3:57:54.530  
Rothamer, Steve - DOT (DTSD Consultant)  
And #10 delays to non critical activities.

3:58:11.900 --> 3:58:15.80  
Rothamer, Steve - DOT (DTSD Consultant)  
Before you go though, I think we're done.

3:58:18.240 --> 3:58:42.290  
Rothamer, Steve - DOT (DTSD Consultant)  
This housekeeping, I think everyone got signatures, so we'll process this in a couple days. And so with them that you'll get credit for the pH paper copies of the evaluation form, we're really looking for your feedback for this and whatnot. So please pick one of these before you leave. You can send these to me directly, just send it to my e-mail, I'll compile them and be with Steve and others to discuss that.

3:59:7.260 --> 3:59:7.610  
Rothamer, Steve - DOT (DTSD Consultant)  
Thank you.