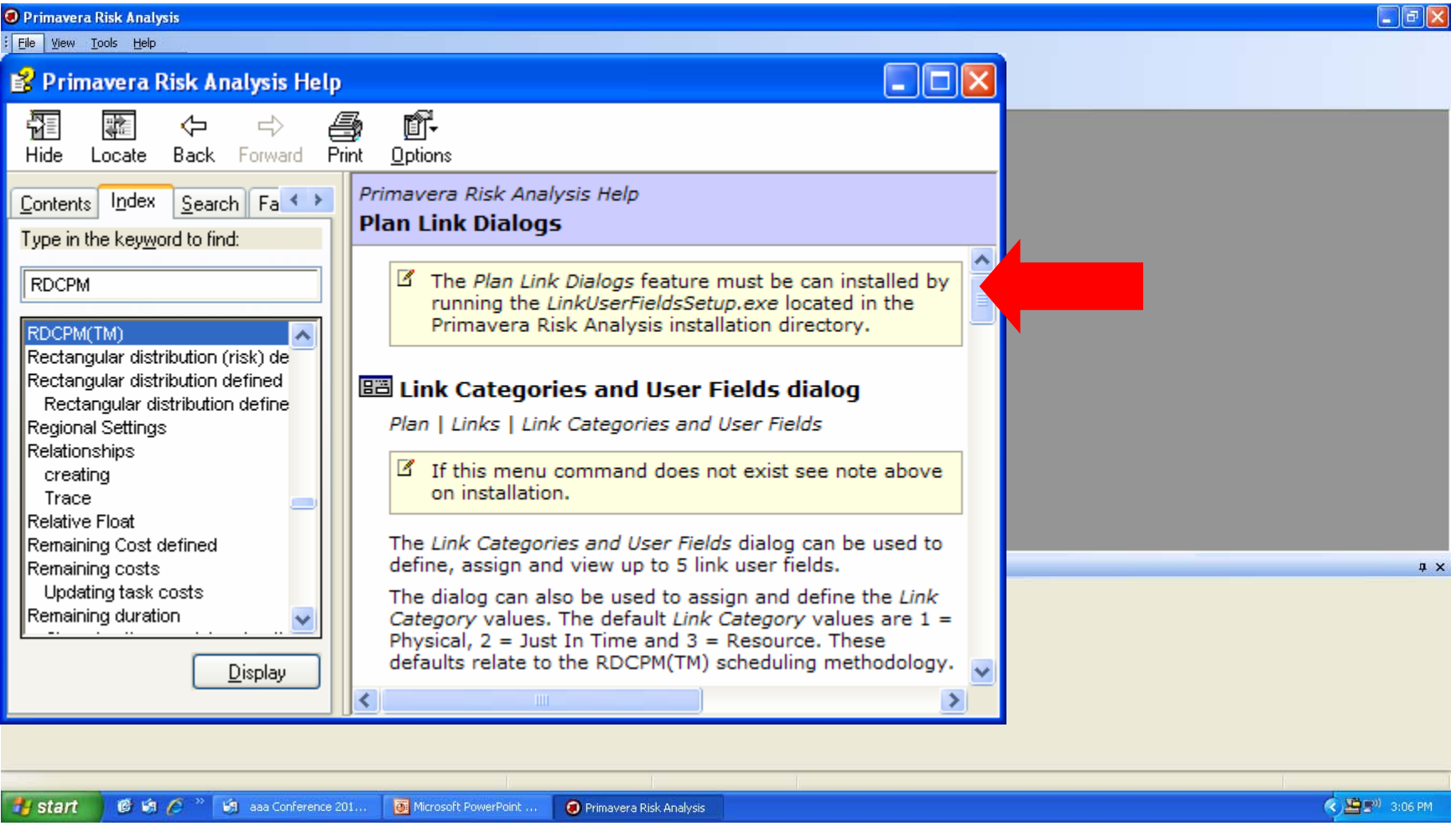
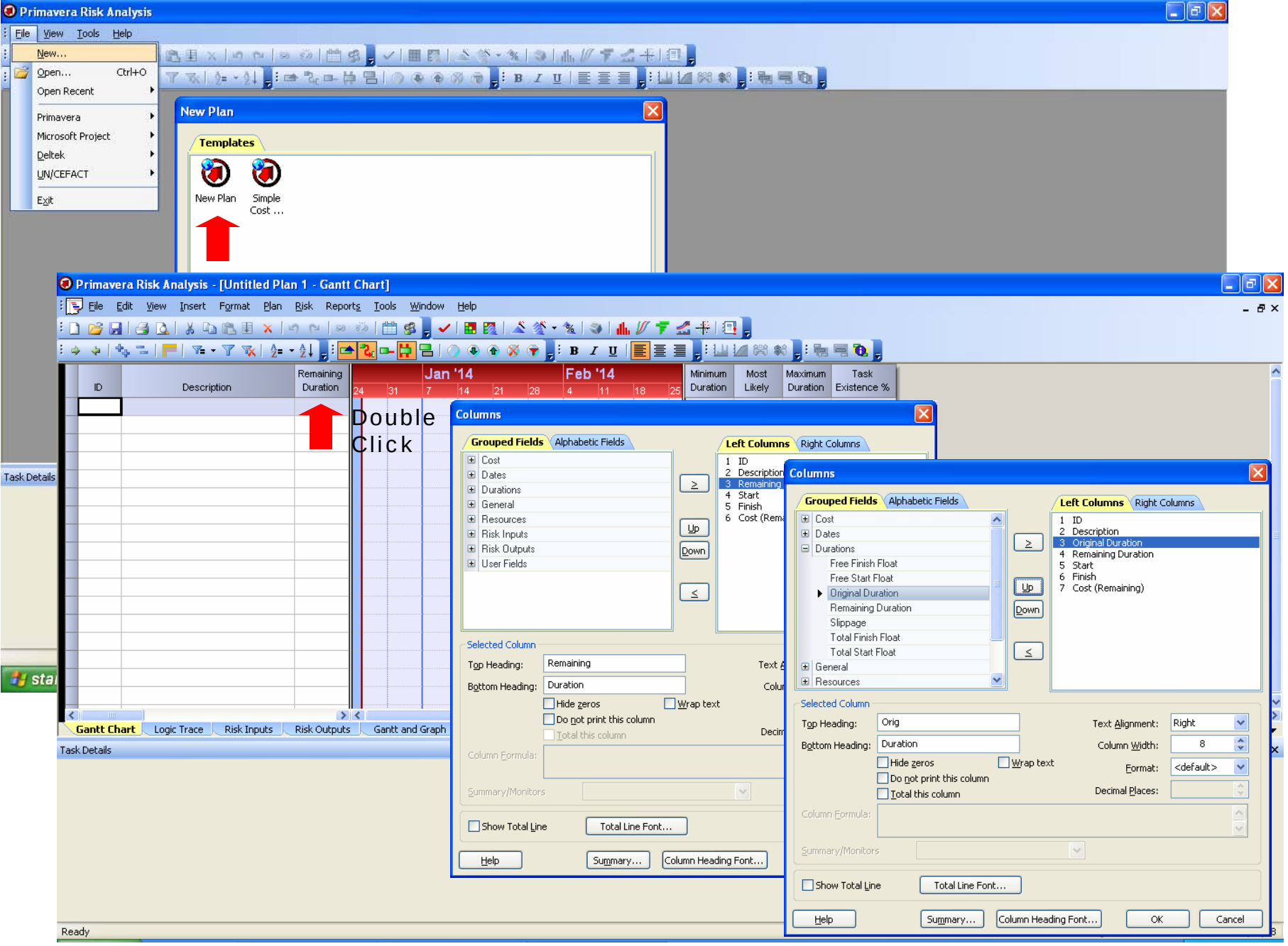
Oracle Primavera Risk Analysis

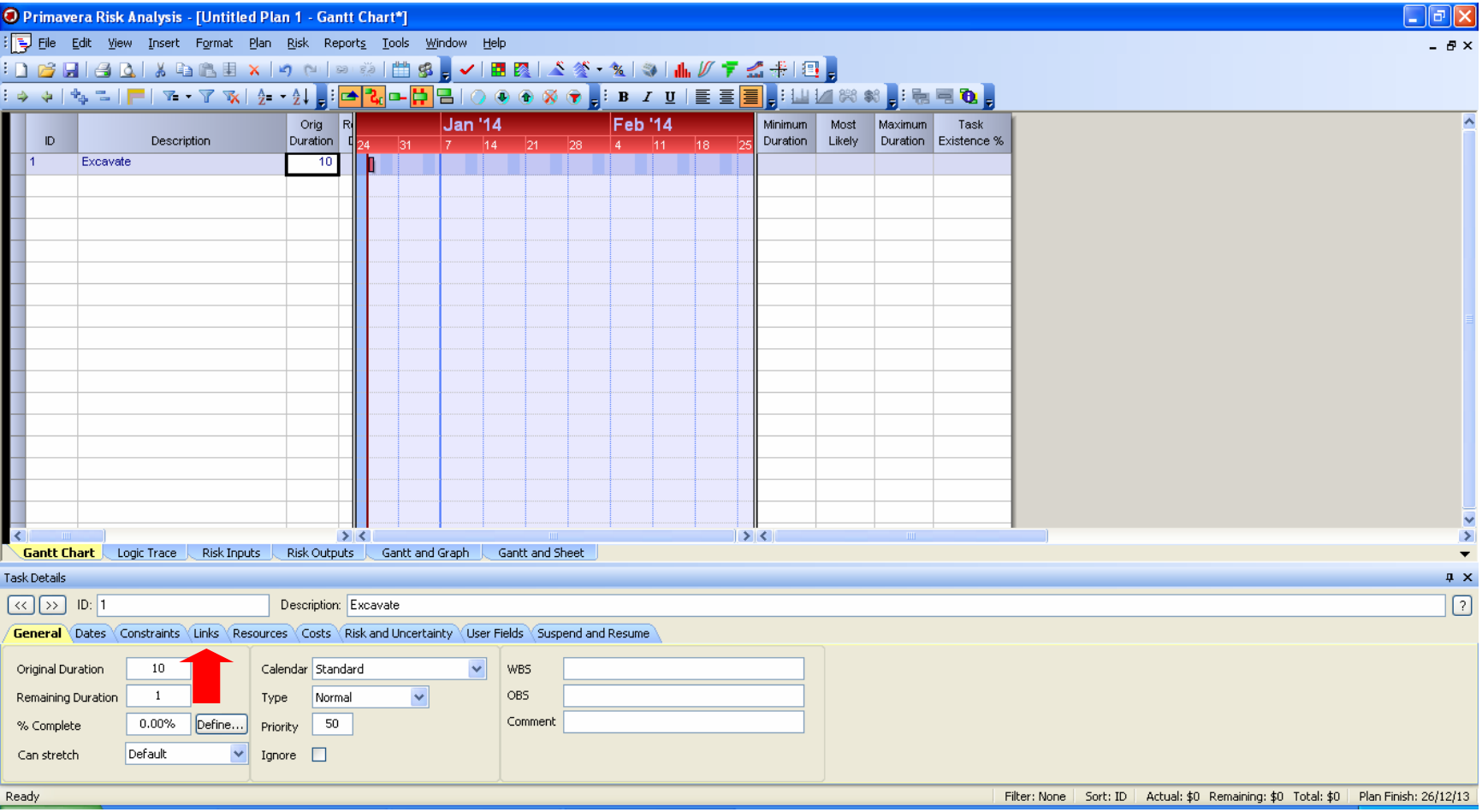
formerly Pertmaster

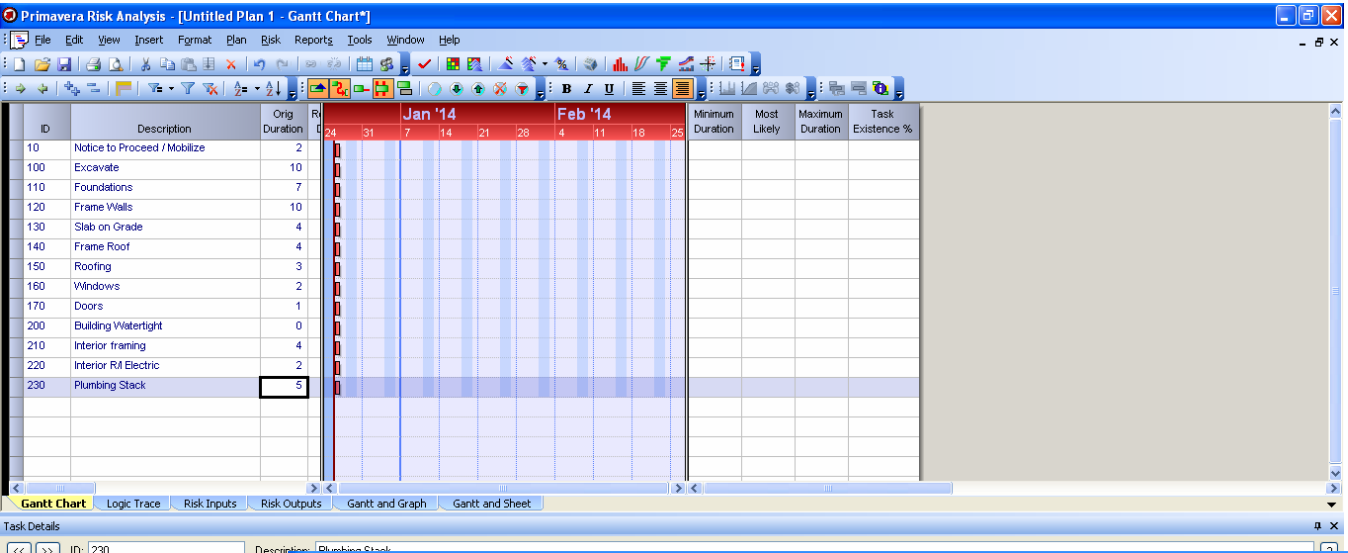
FlashScreen for PRA

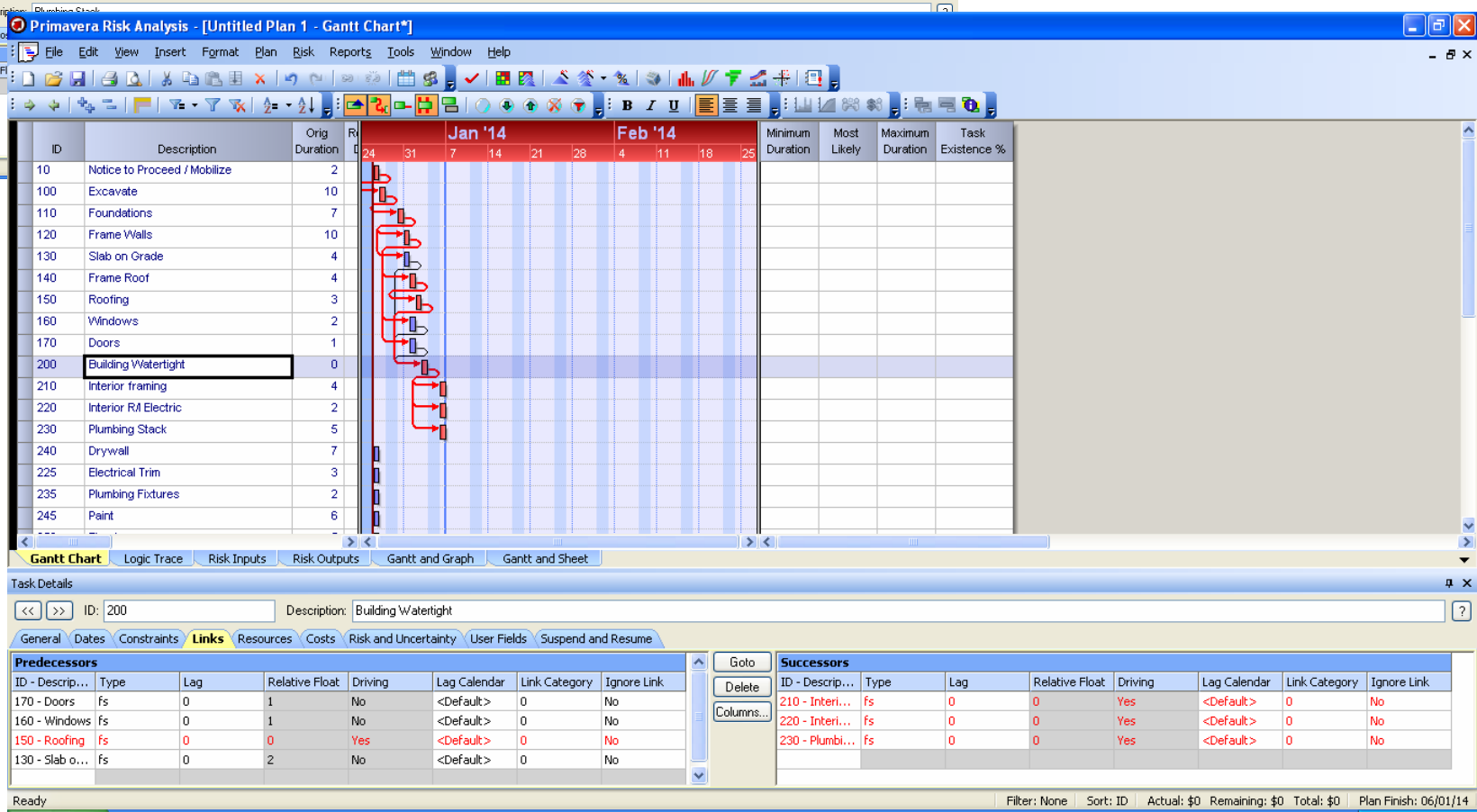
Loading RDCPM® to v 8.6

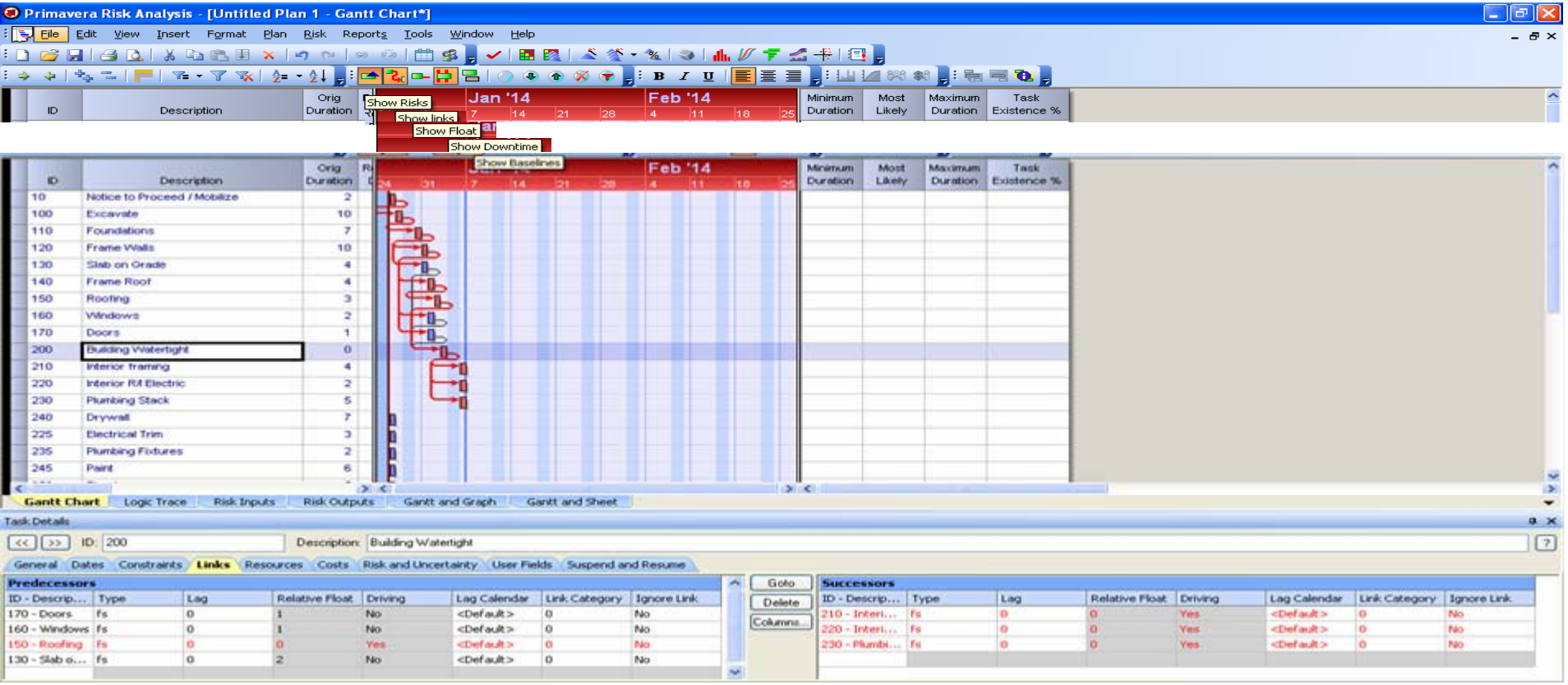


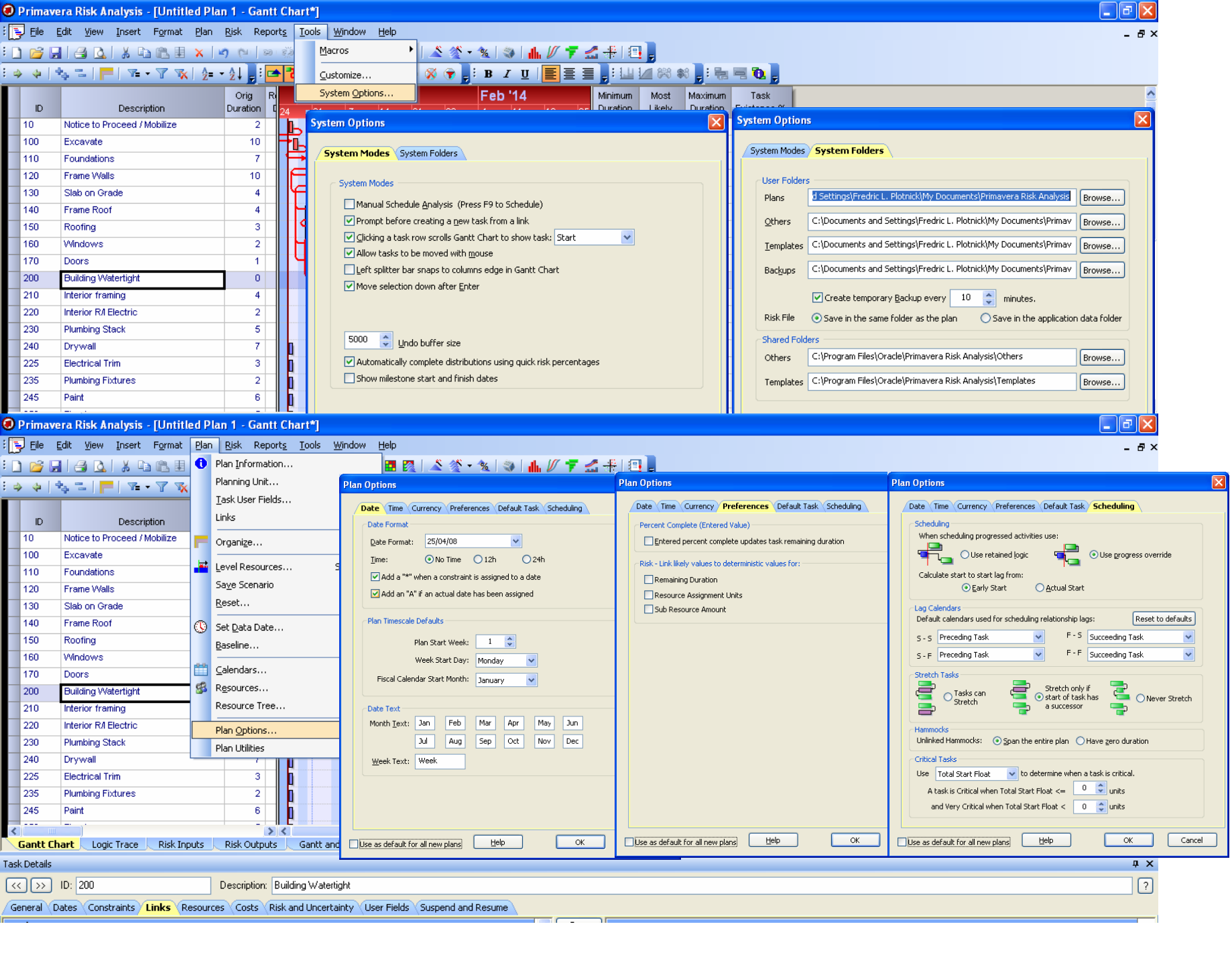

Primavera Risk Analysis
File View Tools Help
New...
Open... Ctrl+O
Open Recent
Primavera
Microsoft Project
Deltek
UN/CEFACT
Exit
New Plan
Templates
New Plan
Simple Cost ...
Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart]
File Edit View Insert Format Plan Risk Reports Tools Window Help
ID
Description
Remaining Duration
Jan '14
Feb '14
Minimum Duration
Most Likely
Maximum Duration
Task Existence %
Double Click
Task Details
Gantt Chart
Logic Trace
Risk Inputs
Risk Outputs
Gantt and Graph
Columns
Grouped Fields
Alphabetic Fields
Left Columns
Right Columns
Cost
Dates
Durations
General
Resources
Risk Inputs
Risk Outputs
User Fields
1 ID
2 Description
3 Remaining
4 Start
5 Finish
6 Cost (Rema
Up
Down
Selected Column
Top Heading:
Remaining
Bottom Heading:
Duration
Hide zeros
Wrap text
Do not print this column
Total this column
Column Formula:
Summary/Monitors
Show Total Line
Total Line Font...
Help
Summary...
Column Heading Font...
Free Finish Float
Free Start Float
Original Duration
Remaining Duration
Slippage
Total Finish Float
Total Start Float
1 ID
2 Description
3 Original Duration
4 Remaining Duration
5 Start
6 Finish
7 Cost (Remaining)
Orig
Text Alignment:
Right
Column Width:
8
Format:
<default>
Decimal Places:
OK
Cancel
Ready

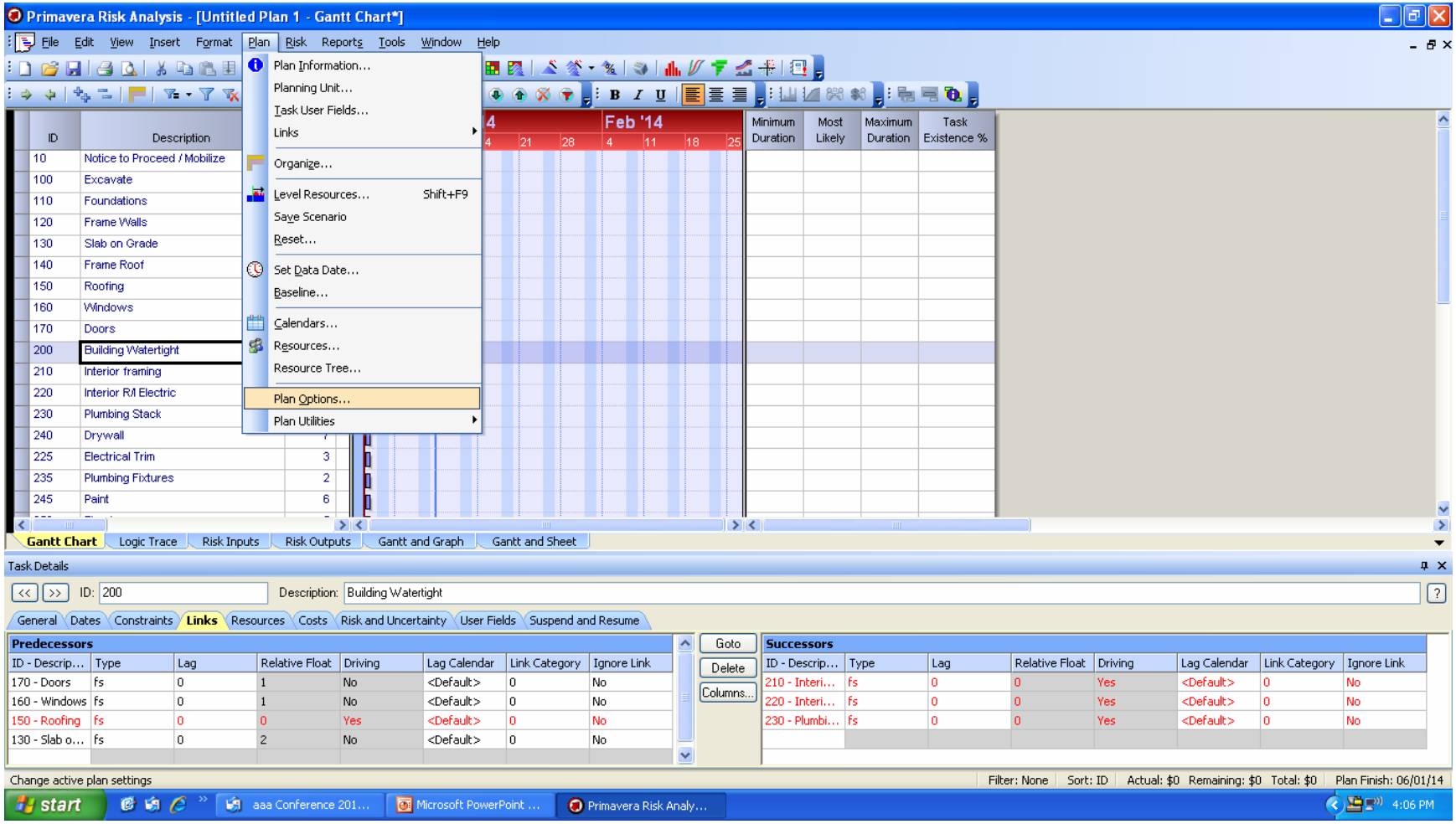

Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
ID
Description
Orig Duration
Jan '14
Feb '14
24 31 7 14 21 28 4 11 18 25
Minimum Duration
Most Likely
Maximum Duration
Task Existence %
1
Excavate
10
Gantt Chart
Logic Trace
Risk Inputs
Risk Outputs
Gantt and Graph
Gantt and Sheet
Task Details
ID: 1
Description: Excavate
General
Dates
Constraints
Links
Resources
Costs
Risk and Uncertainty
User Fields
Suspend and Resume
Original Duration 10
Remaining Duration 1
% Complete 0.00%
Define...
Can stretch Default
Calendar Standard
Type Normal
Priority 50
Ignore
WBS
OBS
Comment
Ready
Filter: None
Sort: ID
Actual: $0
Remaining: $0
Total: $0
Plan Finish: 26/12/13

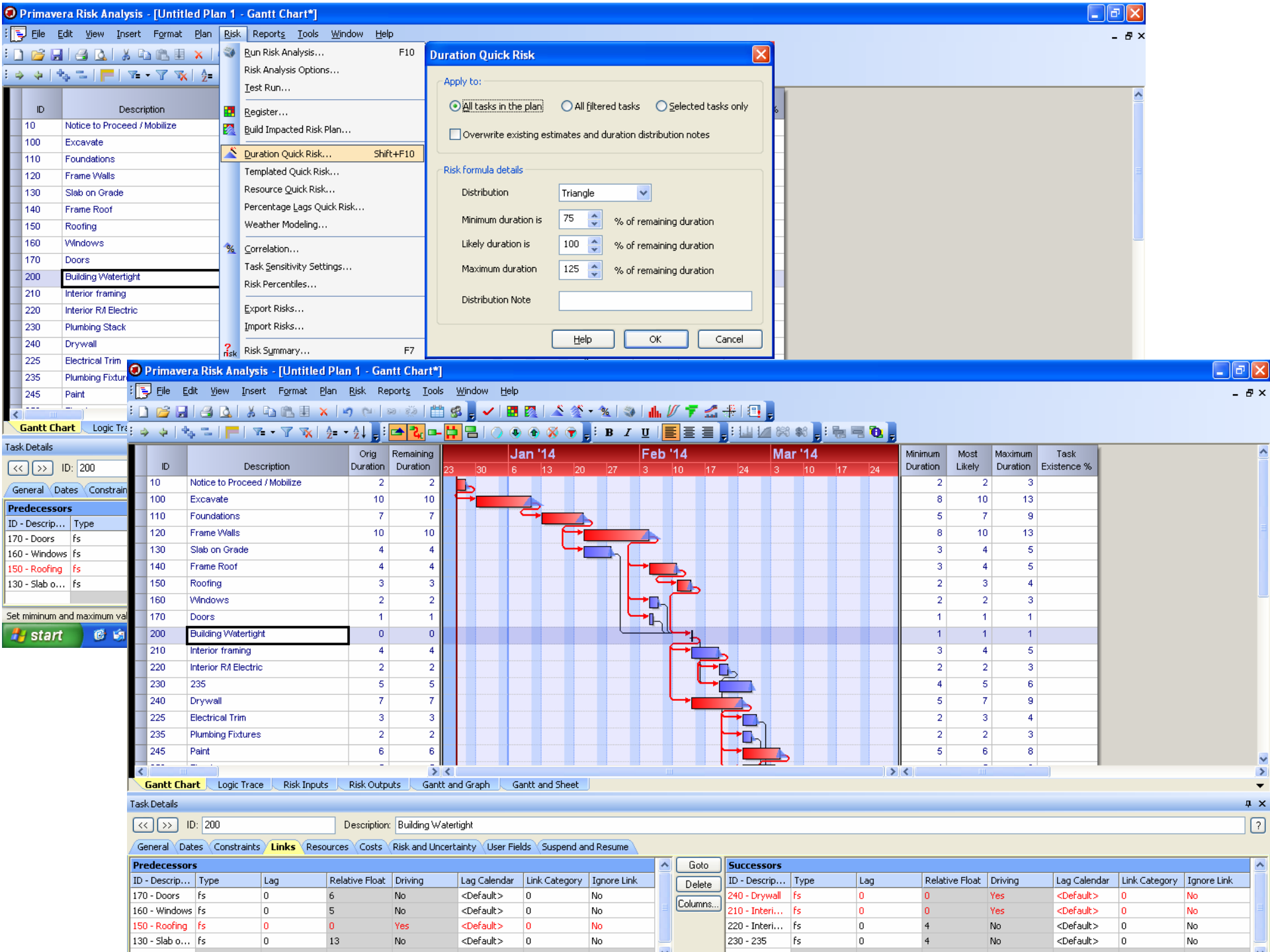

Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
ID Description Orig Duration
10 Notice to Proceed / Mobilize 2
100 Excavate 10
110 Foundations 7
120 Frame Walls 10
130 Slab on Grade 4
140 Frame Roof 4
150 Roofing 3
160 Windows 2
170 Doors 1
200 Building Watertight 0
210 Interior framing 4
220 Interior R/I Electric 2
230 Plumbing Stack 5
Jan '14
Feb '14
Minimum Duration
Most Likely
Maximum Duration
Task Existence %
Gantt Chart
Logic Trace
Risk Inputs
Risk Outputs
Gantt and Graph
Gantt and Sheet
Task Details
ID: 230
Description: Plumbing Stack
General
Dates
Constraints
Links
Resources
Predecessors
ID - Descrip...
Type
Relative Fl
Ready


Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
ID Description Orig Duration
10 Notice to Proceed / Mobilize 2
100 Excavate 10
110 Foundations 7
120 Frame Walls 10
130 Slab on Grade 4
140 Frame Roof 4
150 Roofing 3
160 Windows 2
170 Doors 1
200 Building Watertight 0
210 Interior framing 4
220 Interior R/I Electric 2
230 Plumbing Stack 5
240 Drywall 7
225 Electrical Trim 3
235 Plumbing Fixtures 2
245 Paint 6
Jan '14
Feb '14
Minimum Duration
Most Likely
Maximum Duration
Task Existence %
Gantt Chart
Logic Trace
Risk Inputs
Risk Outputs
Gantt and Graph
Gantt and Sheet
Task Details
ID: 200
Description: Building Watertight
General
Dates
Constraints
Links
Resources
Costs
Risk and Uncertainty
User Fields
Suspend and Resume
Predecessors
ID - Descrip...
Type
Lag
Relative Float
Driving
Lag Calendar
Link Category
Ignore Link
170 - Doors fs 0 1 No <Default> 0 No
160 - Windows fs 0 1 No <Default> 0 No
150 - Roofing fs 0 0 Yes <Default> 0 No
130 - Slab o... fs 0 2 No <Default> 0 No
Goto
Delete
Columns...
Successors
ID - Descrip...
Type
Lag
Relative Float
Driving
Lag Calendar
Link Category
Ignore Link
210 - Interi... fs 0 0 Yes <Default> 0 No
220 - Interi... fs 0 0 Yes <Default> 0 No
230 - Plumbi... fs 0 0 Yes <Default> 0 No
Ready
Filter: None
Sort: ID
Actual: $0
Remaining: $0
Total: $0
Plan Finish: 06/01/14


Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
Show Risks
Show links
Show Float
Show Downtime
Show Baselines
Jan '14
Feb '14
ID Description Orig Duration Minimum Duration Most Likely Maximum Duration Task Existence %
10 Notice to Proceed / Mobilize 2
100 Excavate 10
110 Foundations 7
120 Frame Walls 10
130 Slab on Grade 4
140 Frame Roof 4
150 Roofing 3
160 Windows 2
170 Doors 1
200 Building Watertight 0
210 Interior framing 4
220 Interior R/I Electric 2
230 Plumbing Stack 5
240 Drywall 7
225 Electrical Trim 3
235 Plumbing Fixtures 2
245 Paint 6
Gantt Chart
Logic Trace
Risk Inputs
Risk Outputs
Gantt and Graph
Gantt and Sheet
Task Details
ID: 200
Description: Building Watertight
General Dates Constraints Links Resources Costs Risk and Uncertainty User Fields Suspend and Resume
Predecessors
ID - Descrip... Type Lag Relative Float Driving Lag Calendar Link Category Ignore Link
170 - Doors fs 0 1 No <Default> 0 No
160 - Windows fs 0 1 No <Default> 0 No
150 - Roofing fs 0 0 Yes <Default> 0 No
130 - Slab o... fs 0 2 No <Default> 0 No
Goto
Delete
Columns...
Successors
ID - Descrip... Type Lag Relative Float Driving Lag Calendar Link Category Ignore Link
210 - Interi... fs 0 0 Yes <Default> 0 No
220 - Interi... fs 0 0 Yes <Default> 0 No
230 - Plumbi... fs 0 0 Yes <Default> 0 No


Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
Macros
Customize...
System Options...
Feb '14
ID Description Orig Duration
10 Notice to Proceed / Mobilize 2
100 Excavate 10
110 Foundations 7
120 Frame Walls 10
130 Slab on Grade 4
140 Frame Roof 4
150 Roofing 3
160 Windows 2
170 Doors 1
200 Building Watertight 0
210 Interior framing 4
220 Interior R/I Electric 2
230 Plumbing Stack 5
240 Drywall 7
225 Electrical Trim 3
235 Plumbing Fixtures 2
245 Paint 6
System Options
System Modes System Folders
System Modes
Manual Schedule Analysis (Press F9 to Schedule)
Prompt before creating a new task from a link
Clicking a task row scrolls Gantt Chart to show task: Start
Allow tasks to be moved with mouse
Left splitter bar snaps to columns edge in Gantt Chart
Move selection down after Enter
5000 Undo buffer size
Automatically complete distributions using quick risk percentages
Show milestone start and finish dates
System Options
System Modes System Folders
User Folders
Plans C:\Documents and Settings\Fredric L. Plotnick\My Documents\Primavera Risk Analysis
Others C:\Documents and Settings\Fredric L. Plotnick\My Documents\Primav
Templates C:\Documents and Settings\Fredric L. Plotnick\My Documents\Primav
Backups C:\Documents and Settings\Fredric L. Plotnick\My Documents\Primav
Browse...
Create temporary Backup every 10 minutes.
Risk File Save in the same folder as the plan Save in the application data folder
Shared Folders
Others C:\Program Files\Oracle\Primavera Risk Analysis\Others
Templates C:\Program Files\Oracle\Primavera Risk Analysis\Templates
Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
Plan Information...
Planning Unit...
Task User Fields...
Links
Organize...
Level Resources...
Save Scenario
Reset...
Set Data Date...
Baseline...
Calendars...
Resources...
Resource Tree...
Plan Options...
Plan Utilities
Plan Options
Date Time Currency Preferences Default Task Scheduling
Date Format
Date Format: 25/04/08
Time: No Time 12h 24h
Add a "*" when a constraint is assigned to a date
Add an "A" if an actual date has been assigned
Plan Timescale Defaults
Plan Start Week: 1
Week Start Day: Monday
Fiscal Calendar Start Month: January
Date Text
Month Text: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Week Text: Week
Use as default for all new plans
Help
OK
Plan Options
Date Time Currency Preferences Default Task Scheduling
Percent Complete (Entered Value)
Entered percent complete updates task remaining duration
Risk - Link likely values to deterministic values for:
Remaining Duration
Resource Assignment Units
Sub Resource Amount
Use as default for all new plans
Help
OK
Plan Options
Date Time Currency Preferences Default Task Scheduling
Scheduling
When scheduling progressed activities use:
Use retained logic
Use progress override
Calculate start to start lag from:
Early Start
Actual Start
Lag Calendars
Default calendars used for scheduling relationship lags:
Reset to defaults
S - S Preceding Task
F - S Succeeding Task
S - F Preceding Task
F - F Succeeding Task
Stretch Tasks
Tasks can Stretch
Stretch only if start of task has a successor
Never Stretch
Hammocks
Unlinked Hammocks: Span the entire plan Have zero duration
Critical Tasks
Use Total Start Float to determine when a task is critical.
A task is Critical when Total Start Float <= 0 units
and Very Critical when Total Start Float < 0 units
Use as default for all new plans
Help
OK
Cancel
Gantt Chart Logic Trace Risk Inputs Risk Outputs
Task Details
ID: 200
Description: Building Watertight
General Dates Constraints Links Resources Costs Risk and Uncertainty User Fields Suspend and Resume


Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
Plan Information...
Planning Unit...
Task User Fields...
Links
Organize...
Level Resources... Shift+F9
Save Scenario
Reset...
Set Data Date...
Baseline...
Calendars...
Resources...
Resource Tree...
Plan Options...
Plan Utilities
ID Description
10 Notice to Proceed / Mobilize
100 Excavate
110 Foundations
120 Frame Walls
130 Slab on Grade
140 Frame Roof
150 Roofing
160 Windows
170 Doors
200 Building Watertight
210 Interior framing
220 Interior R/I Electric
230 Plumbing Stack
240 Drywall
225 Electrical Trim 3
235 Plumbing Fixtures 2
245 Paint 6
Feb '14
Minimum Duration
Most Likely
Maximum Duration
Task Existence %
Gantt Chart
Logic Trace
Risk Inputs
Risk Outputs
Gantt and Graph
Gantt and Sheet
Task Details
ID: 200
Description: Building Watertight
General Dates Constraints Links Resources Costs Risk and Uncertainty User Fields Suspend and Resume
Predecessors
ID - Descrip... Type Lag Relative Float Driving Lag Calendar Link Category Ignore Link
170 - Doors fs 0 1 No <Default> 0 No
160 - Windows fs 0 1 No <Default> 0 No
150 - Roofing fs 0 0 Yes <Default> 0 No
130 - Slab o... fs 0 2 No <Default> 0 No
Goto
Delete
Columns...
Successors
ID - Descrip... Type Lag Relative Float Driving Lag Calendar Link Category Ignore Link
210 - Interi... fs 0 0 Yes <Default> 0 No
220 - Interi... fs 0 0 Yes <Default> 0 No
230 - Plumbi... fs 0 0 Yes <Default> 0 No
Change active plan settings
Filter: None Sort: ID Actual: $0 Remaining: $0 Total: $0 Plan Finish: 06/01/14
start
aaa Conference 201...
Microsoft PowerPoint ...
Primavera Risk Analy...
4:06 PM



ID	Description	Orig Duration	Remaining Duration	Minimum Duration	Most Likely	Maximum Duration	Task Existence %
10	Notice to Proceed / Mobilize	2	2	2	2	3	
100	Excavate	10	10	8	10	13	
110	Foundations	7	7	5	7	9	
120	Frame Walls	10	10	8	10	13	
130	Slab on Grade	4	4	3	4	5	
140	Frame Roof	4	4	3	4	5	
150	Roofing	3	3	2	3	4	
160	Windows	2	2	2	2	3	
170	Doors	1	1	1	1	1	
200	Building Watertight	0	0	1	1	1	
210	Interior framing	4	4	3	4	5	
220	Interior R/I Electric	2	2	2	2	3	
230	235	5	5	4	5	6	
240	Drywall	7	7	5	7	9	
225	Electrical Trim	3	3	2	3	4	
235	Plumbing Fixtures	2	2	2	2	3	
245	Paint	6	6	5	6	8	

Predecessors

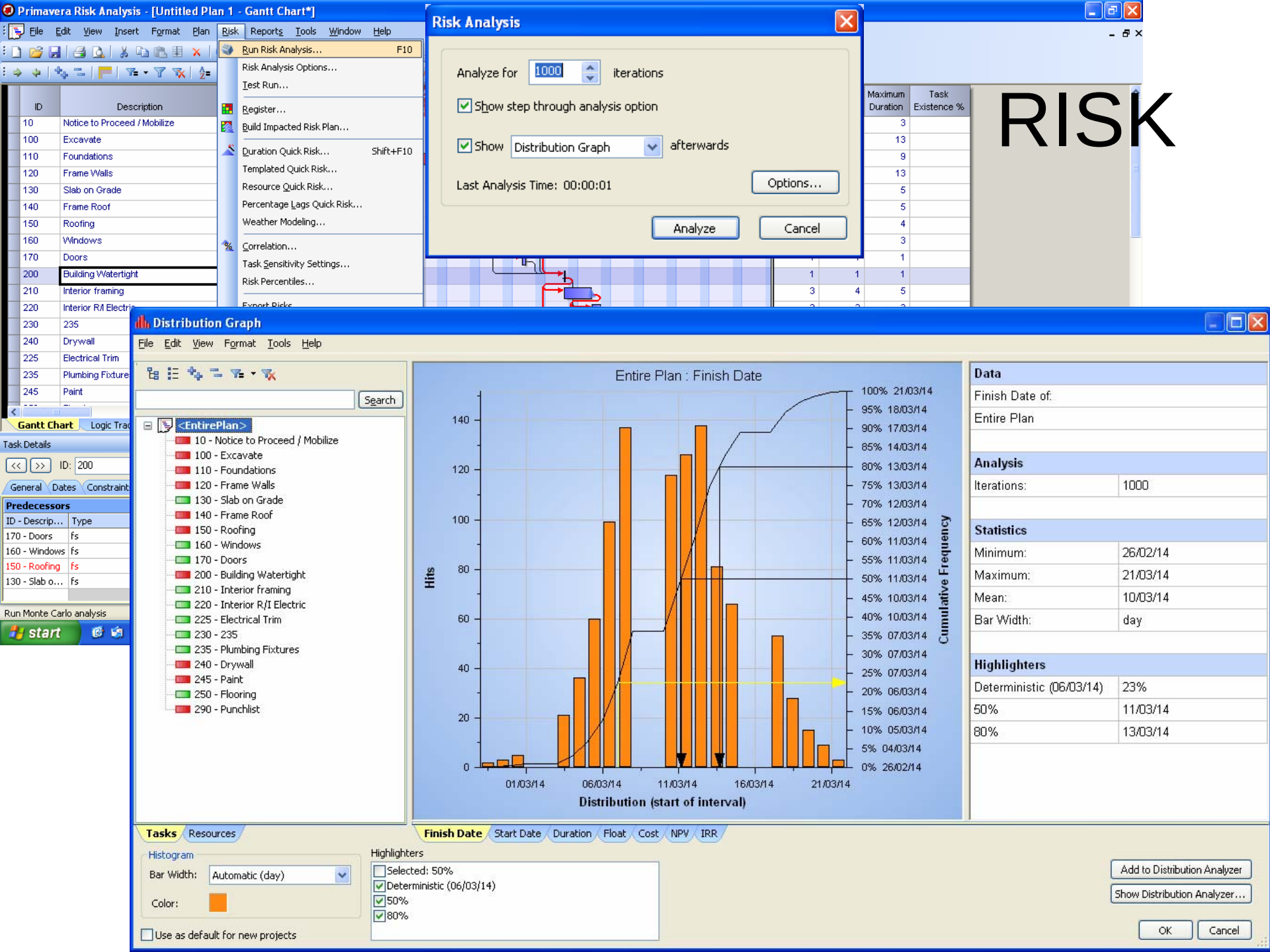
ID - Descrip...	Type	Lag	Relative Float	Driving	Lag Calendar	Link Category	Ignore Link
170 - Doors	fs	0	6	No	<Default>	0	No
160 - Windows	fs	0	5	No	<Default>	0	No
150 - Roofing	fs	0	0	Yes	<Default>	0	No
130 - Slab o...	fs	0	13	No	<Default>	0	No

Successors

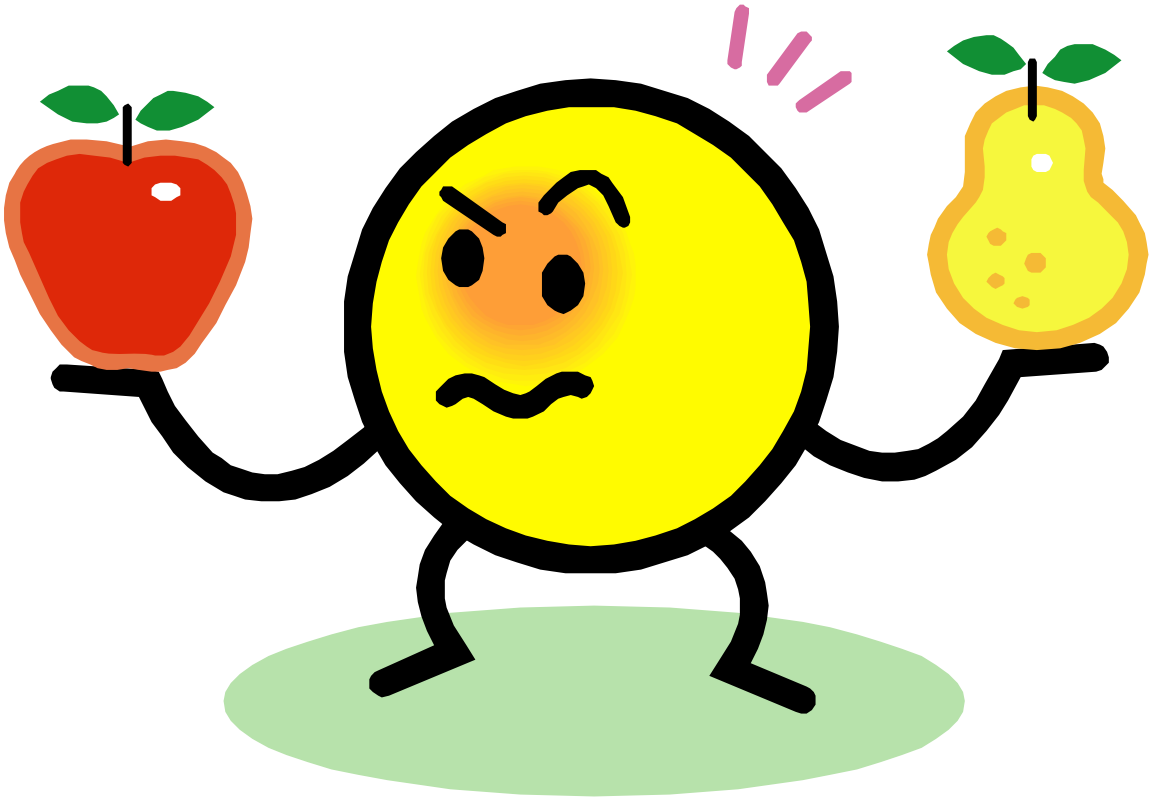
ID - Descrip...	Type	Lag	Relative Float	Driving	Lag Calendar	Link Category	Ignore Link
240 - Drywall	fs	0	0	Yes	<Default>	0	No
210 - Interi...	fs	0	0	Yes	<Default>	0	No
220 - Interi...	fs	0	4	No	<Default>	0	No
230 - 235	fs	0	4	No	<Default>	0	No

Compare PRA, P3, P6, Open Plan

- Project, Program, Enterprise
- Phoenix, Spider, ASTA, Synchro, MicroPlanner, Project


Primavera Risk Analysis - [Untitled Plan 1 - Gantt Chart*]
File Edit View Insert Format Plan Risk Reports Tools Window Help
Run Risk Analysis... F10
Risk Analysis Options...
Test Run...
Register...
Build Impacted Risk Plan...
Duration Quick Risk... Shift+F10
Templated Quick Risk...
Resource Quick Risk...
Percentage Lags Quick Risk...
Weather Modeling...
Correlation...
Task Sensitivity Settings...
Risk Percentiles...
ID
Description
Maximum Duration
Task Existence %
10 Notice to Proceed / Mobilize
100 Excavate
110 Foundations
120 Frame Walls
130 Slab on Grade
140 Frame Roof
150 Roofing
160 Windows
170 Doors
200 Building Watertight
210 Interior framing
220 Interior R/I Electric
230 235
240 Drywall
225 Electrical Trim
235 Plumbing Fixture
245 Paint
Risk Analysis
Analyze for 1000 iterations
Show step through analysis option
Show Distribution Graph afterwards
Last Analysis Time: 00:00:01
Options...
Analyze
Cancel
RISK
Gantt Chart
Logic Trac
Task Details
ID: 200
General Dates Constraints
Predecessors
ID - Descrip... Type
170 - Doors fs
160 - Windows fs
150 - Roofing fs
130 - Slab o... fs
Run Monte Carlo analysis
start
Distribution Graph
File Edit View Format Tools Help
Search
<EntirePlan>
10 - Notice to Proceed / Mobilize
100 - Excavate
110 - Foundations
120 - Frame Walls
130 - Slab on Grade
140 - Frame Roof
150 - Roofing
160 - Windows
170 - Doors
200 - Building Watertight
210 - Interior framing
220 - Interior R/I Electric
225 - Electrical Trim
230 - 235
235 - Plumbing Fixtures
240 - Drywall
245 - Paint
250 - Flooring
290 - Punchlist
Entire Plan : Finish Date
Hits
Cumulative Frequency
Distribution (start of interval)
01/03/14
06/03/14
11/03/14
16/03/14
21/03/14
Data
Finish Date of:
Entire Plan
Analysis
Iterations: 1000
Statistics
Minimum: 26/02/14
Maximum: 21/03/14
Mean: 10/03/14
Bar Width: day
Highlighters
Deterministic (06/03/14) 23%
50% 11/03/14
80% 13/03/14
Tasks Resources
Finish Date Start Date Duration Float Cost NPV IRR
Histogram
Bar Width: Automatic (day)
Color:
Use as default for new projects
Highlighters
Selected: 50%
Deterministic (06/03/14)
50%
80%
Add to Distribution Analyzer
Show Distribution Analyzer...
OK
Cancel

Compare PRA and Acumen Risk™



RDCPM

AACE International's 52nd Annual Meeting and ICEC's 6th World Congress
on Cost Engineering, Project Management, and Quantity Surveying

RDM

Update on the

Relationship Diagramming Method

Variant of the Critical Path Method of Planning & Scheduling Analysis

and

The Road Ahead for **RDCPM™**

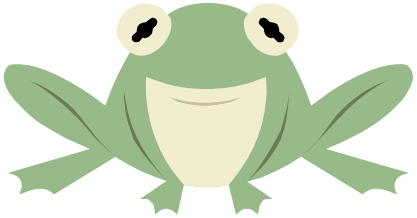
Fredric L. Plotnick, Ph.D., Esq., P.E.

Engineering & Property Management Consultants, Inc.

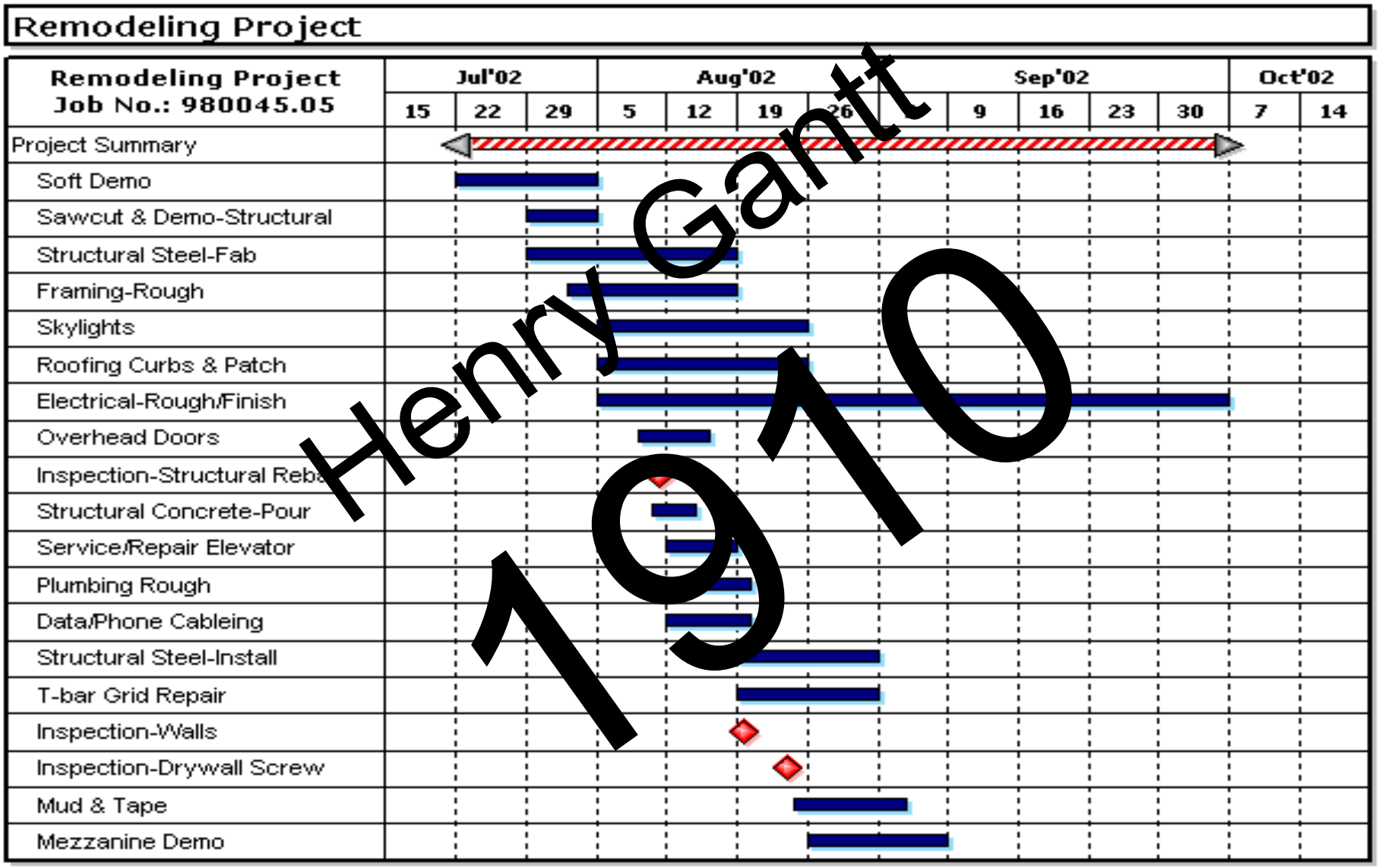
Benson Manor #117 – 101 Washington Lane – Jenkintown, PA 19046

www.fplotnick.com fplotnick@fplotnick.com 215-885-3733

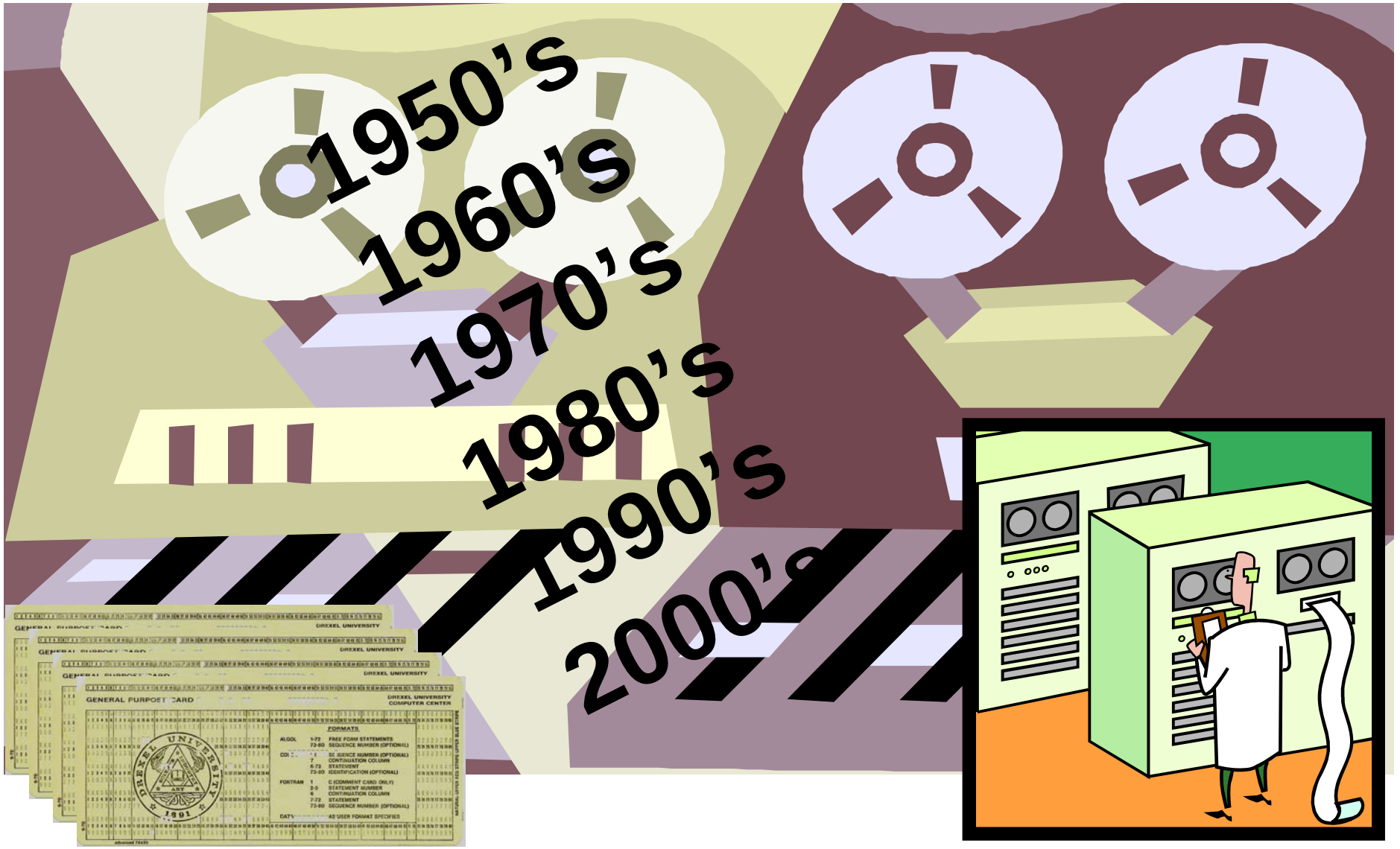
Origin of the Problem



Evolution of CPM



Evolution of CPM

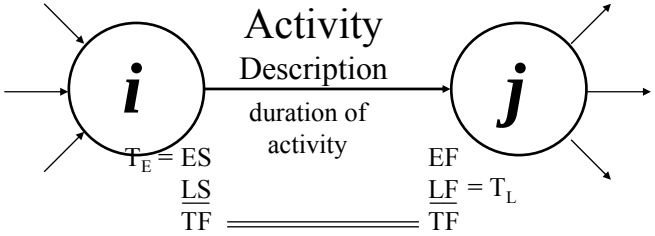


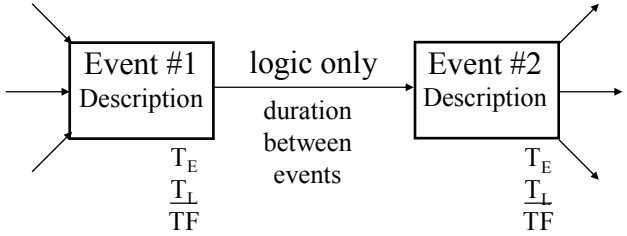
Evolution of CPM

K.I.S.S.

ADM

PERT

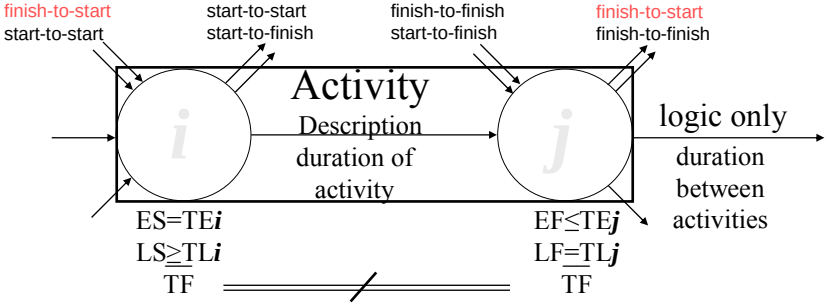


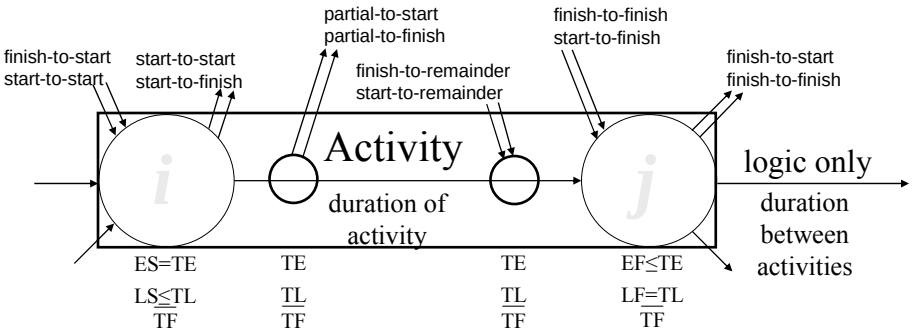


PDM

PDM

"… but what we meant to say …"





passage versus progress

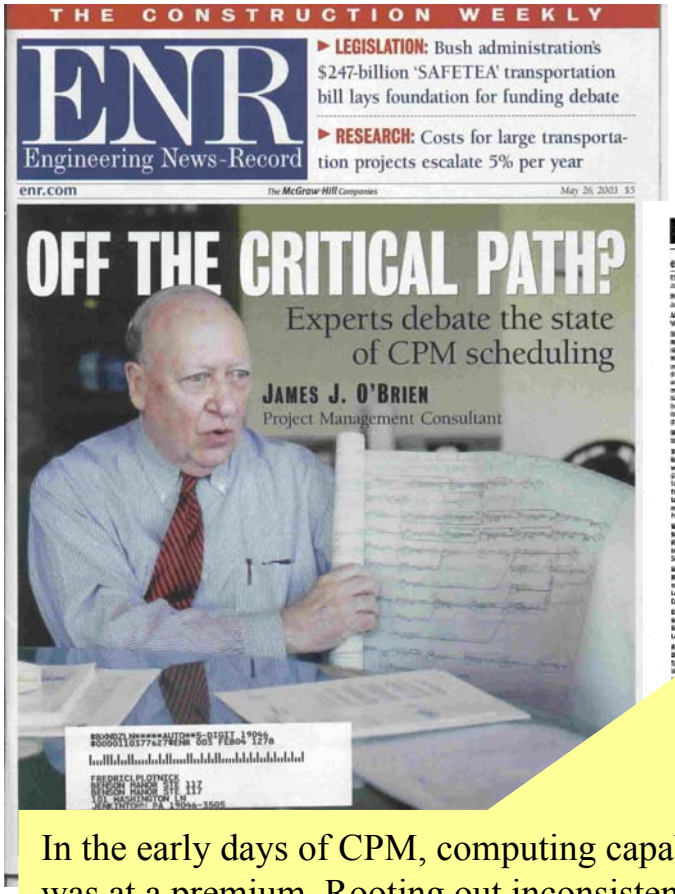
What can we do?

- Maths of 50s watered down to 50s computers
- PCs provide tools (but not skills) to the masses
- More powerful PCs benefit glitz – not maths
- GUI and WYSIWYG i/o favors bar charting
- Wizards further reduce need for skills
- Where is the logic?

COVER STORY PROJECT MANAGEMENT

Critics Can't Find the Logic in Many of Today's CPM Schedules

Users want software with flexibility, but is it true CPM?



THE CONSTRUCTION WEEKLY

ENR Engineering News-Record

► **LEGISLATION:** Bush administration's $247-billion 'SAFETEA' transportation bill lays foundation for funding debate

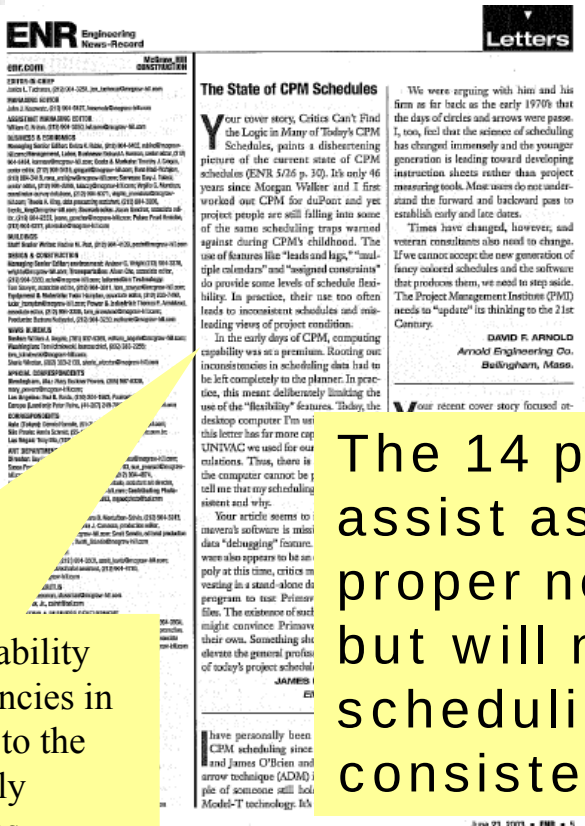
► **RESEARCH:** Costs for large transportation projects escalate 5% per year

enr.com — The McGraw-Hill Companies — May 26, 2003 $5

OFF THE CRITICAL PATH?

Experts debate the state of CPM scheduling

JAMES J. O'BRIEN
Project Management Consultant



ENR Engineering News-Record

Letters

The State of CPM Schedules

Your cover story, Critics Can't Find the Logic in Many of Today's CPM Schedules, paints a disheartening picture of the current state of CPM schedules (ENR 5/26 p. 30). It's only 46 years since Morgan Walker and I first worked out CPM for duPont and yet project people are still falling into some of the same scheduling traps warned against during CPM's childhood. The use of features like "leads and lags," "multiple calendars" and "assigned constraints" do provide some levels of schedule flexibility. In practice, their use too often leads to inconsistent schedules and misleading views of project condition.

In the early days of CPM, computing capability was at a premium. Rooting out inconsistencies in scheduling data had to be left completely to the planner. In practice, this meant deliberately limiting the use of the "flexibility" features. Today, the desktop computer I'm using to compose this letter has far more capability than the UNIVAC we used for our first CPM calculations. Thus, there is no reason why the computer cannot be programmed to tell me that my scheduling input is inconsistent and why.

Your article seems to

We were arguing with him and his firm as far back as the early 1970's that the days of circles and arrows were passe. I, too, feel that the science of scheduling has changed immensely and the younger generation is leading toward developing instruction sheets rather than project measuring tools. Most users do not understand the forward and backward pass to establish early and late dates.

Times have changed, however, and veteran consultants also need to change. If we cannot accept the new generation of fancy colored schedules and the software that produces them, we need to step aside. The Project Management Institute (PMI) needs to "update" its thinking to the 21st Century.

DAVID F. ARNOLD
Arnold Engineering Co.
Bellingham, Mass.

Your recent cover story focused on

I have personally been

CPM scheduling since

and James O'Brien and

arrow technique (ADM)

ple of someone still hol

Model-T technology. It's

June 23, 2003 ▪ ENR ▪ 5

Letters

regarded as a "college" course of study, | True schedulers and planners need | Correction

report on the complaints of four people, pining for the good old days, who didn't actually want to debate their position.

I too wish that schedules were not abused and that schedulers were better trained. I've met many "experts" who couldn't schedule themselves out of a paper sack. Usually, it's only after a schedule has become unusable that the manipulation begins. Blaming the software is short-sighted. Comparing scheduling to gun manufacturing is hyperbole. And altering the software to make it idiot-proof will make it less responsive to project needs.

As a professional journal, ENR should not stop at provoking its readers about a topic and should explore the topic, providing equal representation to both sides of an issue and suggesting a path forward.

VERA LOVEJOY
Fluor Corp.
Aliso Viejo, Calif.

of scheduling are being ignored. There is a distinct lack of quality in the preparation of most CPM schedules out there today. Too many alleged schedulers do not rely on the capability of the software, they tailor and fit the schedule to meet their idea of the schedule. Most schedules are a waste of the assets required to put them together. Primavera's P3, and its lower-cost counterpart SureTrack, are powerful tools that enable competent schedulers and project management professionals the ability to plan and perform on a project. I do lament the passing of the ADM and believe it is superior to the Precedence Diagram Method. Will I do an Arrow Diagram by hand? Am I going to boycott PDM? "No" to both counts! I am going to make the best use of my assets and knowledge.

DON L. SHORT
Tempest Co.
Omaha, Neb.

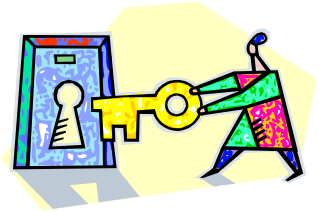
6 ▪ ENR ▪ June 23, 2003

In the early days of CPM, computing capability was at a premium. Rooting out inconsistencies in scheduling data had to be left completely to the planner. In practice, this meant deliberately limiting the use of the "flexibility" features. Today, the desktop computer I'm using to compose this letter has far more capability than the UNIVAC we used for our first CPM calculations. Thus, there is no reason why the computer cannot be programmed to tell me that my scheduling input is inconsistent and why.

The 14 point metric may assist assurance of a proper network logic, but will not review the scheduling input for consistency or intelligence

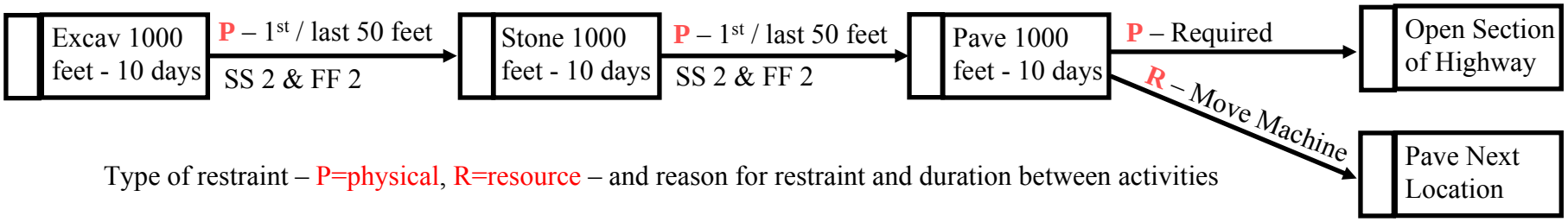
Relationship Diagramming Method

- **Five** classes of new coding:
- The **Event** Code
- The **Duration** Code
- The **Reason Why** Code
- The Expanded **Lead Lag** Code
- The **Relationship** Code



Reason/Why Codes

- Record the **reason why** the restraint exists
  - physical – how important – description
  - resource – crew/craft/equipment/forms/materials/etc.



Check for:

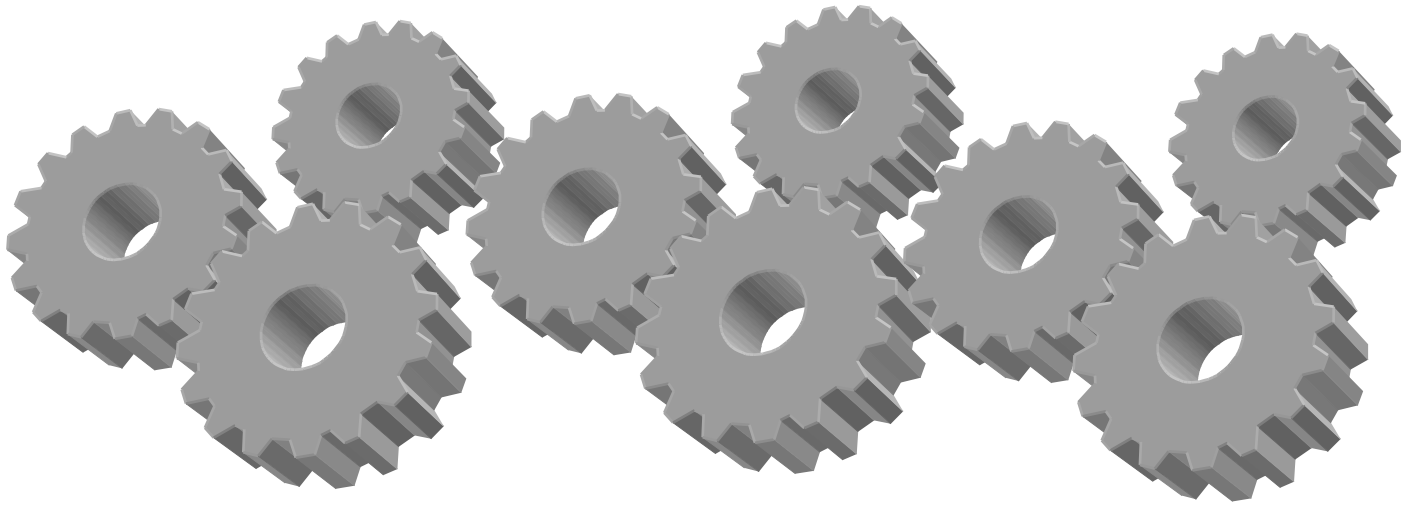
- physical open ends
- duplicative resource logic

What if:

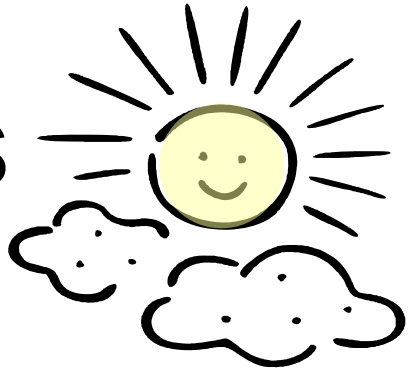
- add crews/equip/forms…?
- add falsework/relax code?

Reason/Why Codes

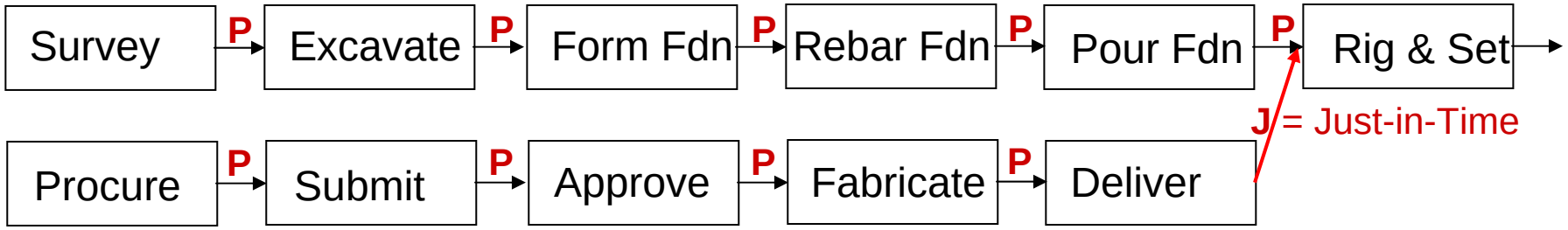
- Special **reason why** codes
- resource – leveling
  - must suppress (ignore) “R” reason coded restraints for same resource
  - L coded restraints are deleted each time the leveling routine is run



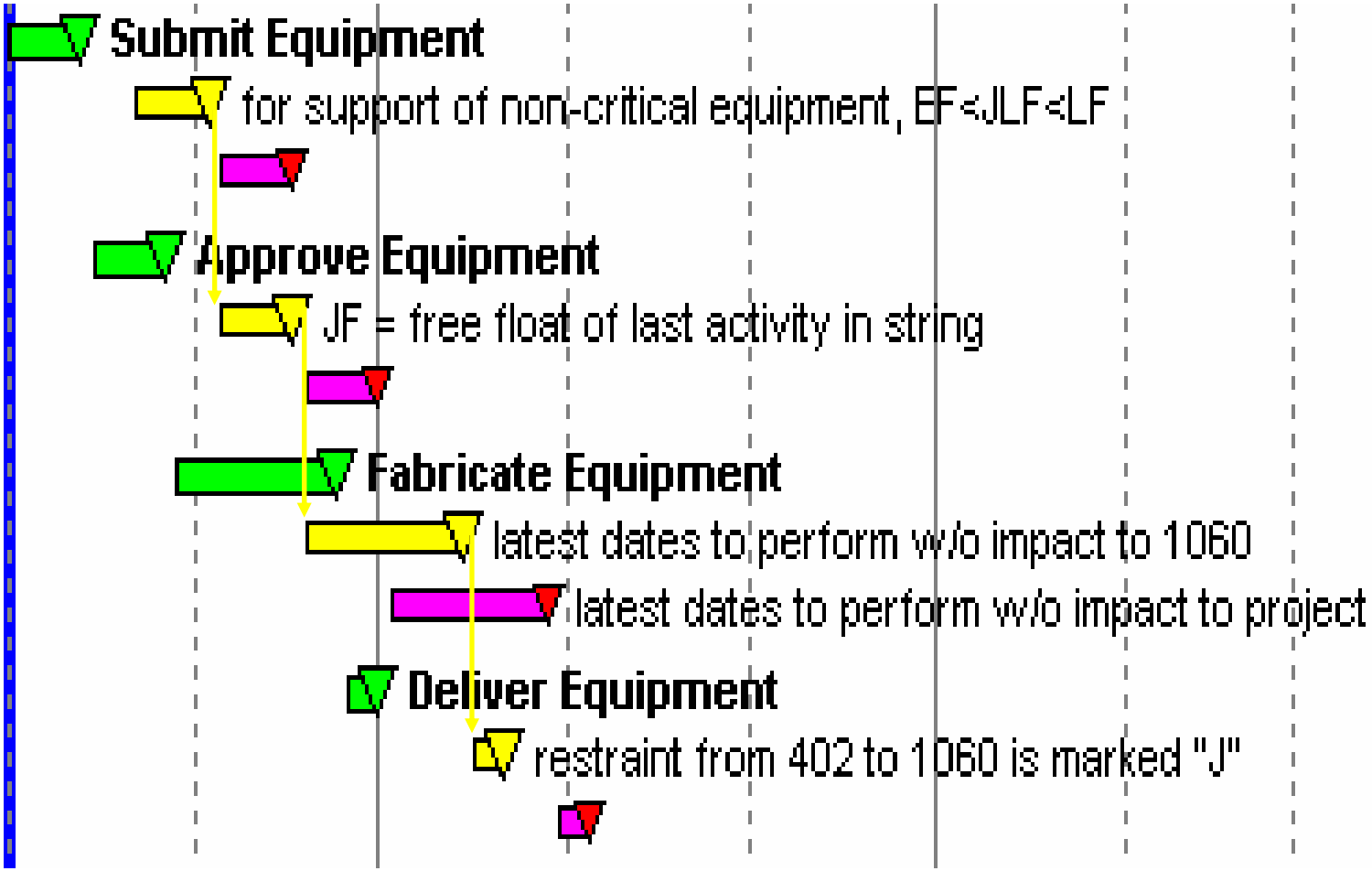
Reason/Why Codes



- Special **reason why** codes
- physical – just-in-time or subordinate support
  - calculate latest dates to not delay early start of successor to restraint



Just-in-Time Date & Float Attribute

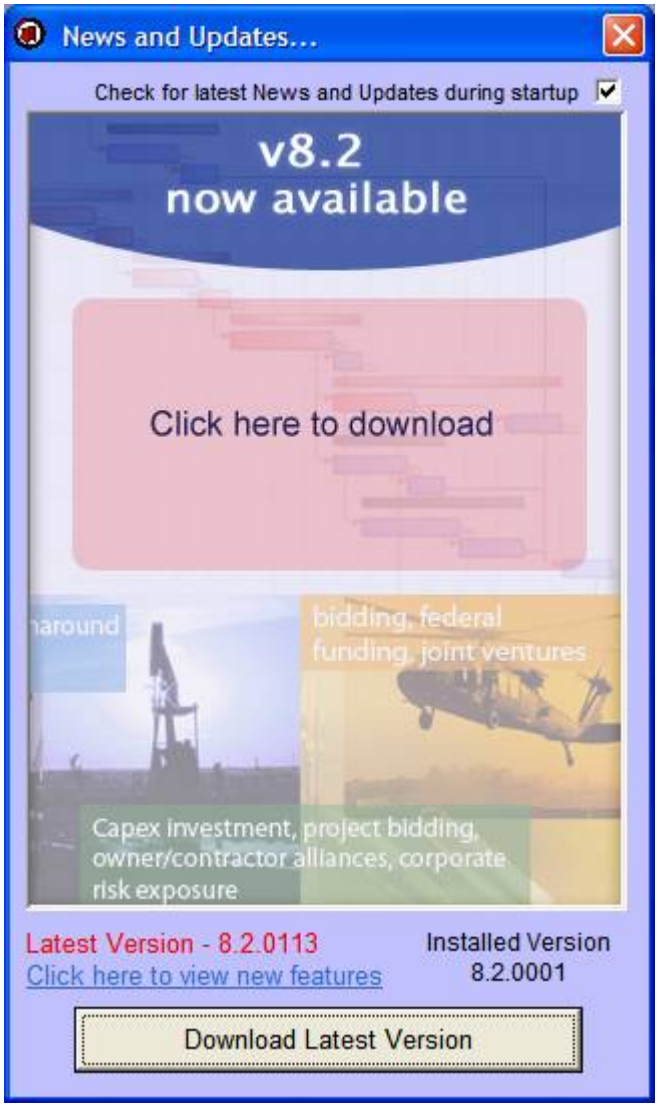


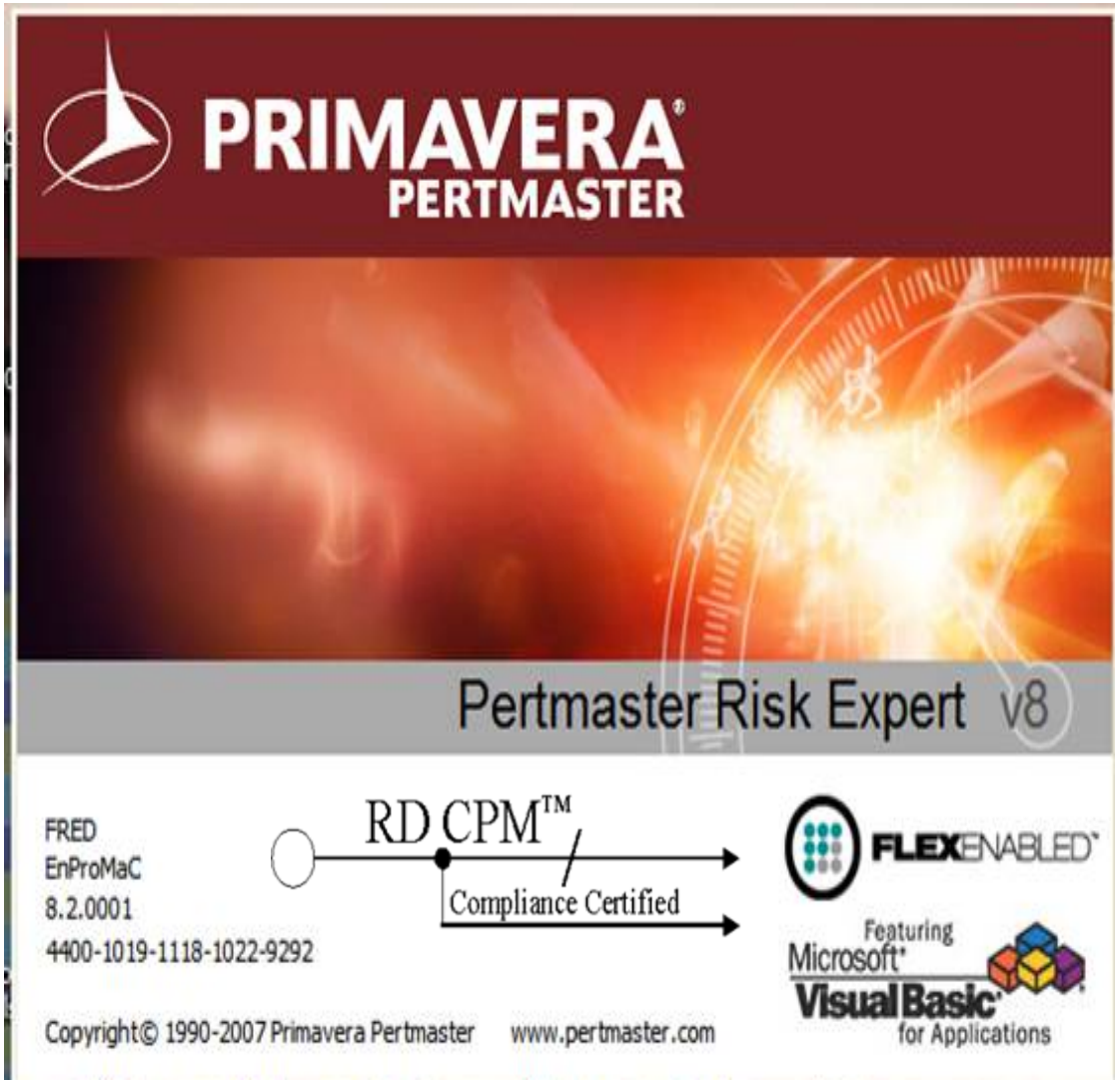
Legend – Top Line (Green) is Early Dates, Middle Line (Yellow) is Junior Dates, Bottom Line (Purple) is Late Dates

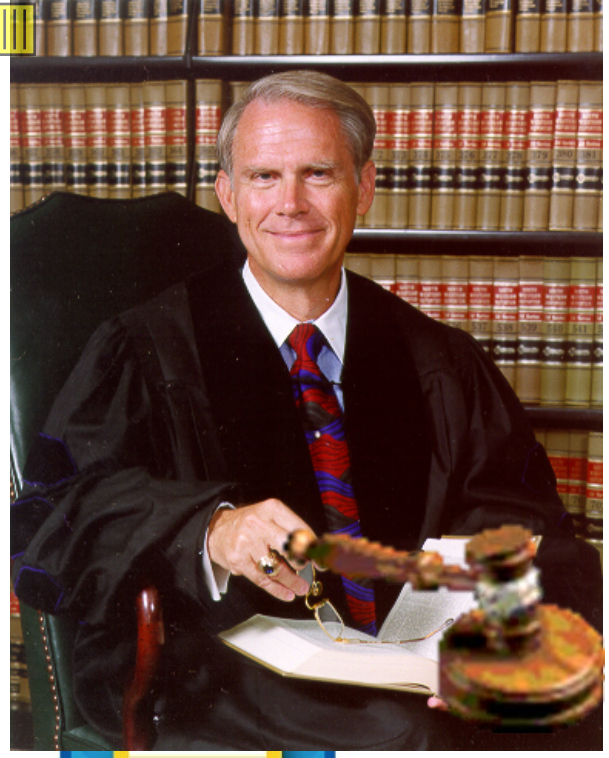
Relationship Codes

- Restraint v Relationship Codes
- resource codes – user defined activity codes
- Calculation “on the fly?”
- conduit – cable – connections – energize
- rig pump – pipe to pump – run wire to pump
- Highlight the Handoff
- mechanical to electrical subcontractor
- crew movement between job area locations
- is there a handoff or demob/remob duration?

RDM is now in Primavera's Pertmaster v8.2

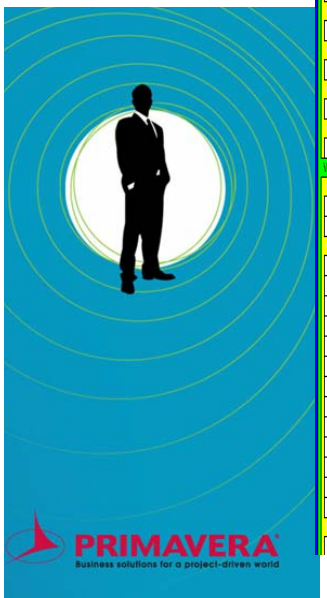






Hailey Burton Cartwright Construction Company v. Macaw Casino Company

Activity ID	Activity Description	Orig Dur	BOD	MOD	RESP	LOC1	LOC2	Early Start	Early Finish
Macau Casinos Inc									
Site									
Site									
10	SiteG0 Notice to Proceed	0	0	0	O	S	G0	30MAY05	
Cartwright Construction Inc									
Site									
Site									
1000	SiteG0 Mobilize	10	10	10	C	S	G0	30MAY05	10JUN05
9990	SiteG0 Residential Building Punchlist	10	10	10	C	S	G0	19JUN06	30JUN06
Garage Street									
1100	SiteGS Clear & Rough Grade at Elev 0+00	10	10	13	C	S	GS	13JUN05	24JUN05
1105	SiteGS Survey & Layout at Elev 0+00	10	10	13	C	S	GS	27JUN05	08JUL05
1220	SiteGS Form/Pour Slab Street Level	6	6	8	C	S	GS	21OCT05	28OCT05
1225	SiteGS Form/Pour Stair Towers GS-CL	10	10	13	C	S	GS	31OCT05	11NOV05
Garage Level 2									
1215	SiteG2 Form/Pour Slab	6	6	8	C	S	G2	13OCT05	20OCT05
Garage Level 3									
1210	SiteG3 Form/Pour Slab	6	6	8	C	S	G3	05OCT05	12OCT05
Garage Level 4									
1205	SiteG4 Form/Pour Slab	6	6	8	C	S	G4	27SEP05	04OCT05
Garage Level 5									
1200	SiteG5 Form/Pour Slab	6	6	8	C	S	G5	19SEP05	26SEP05
West Tower									
Garage Street									
1110	WestGS Form/Pour Footers	10	10	13	C	W	GS	11JUL05	22JUL05
1115	WestGS Erect, Bolt, Plumb Steel to Elev 77	20	20	26	C	W	GS	25JUL05	19AUG05
Casino & Lobby Level									
1120	WestCL Form/Pour Slab @ Casino Level	10	10	13	C	W	CL	22AUG05	02SEP05
1125	WestCL Erect, Bolt, Plumb Steel to Elev 227	20	20	26	C	W	CL	05SEP05	30SEP05
10100	WestCL Layout Floor	1	1	2	C	W	CL	20APR06	20APR06
10105	WestCL Studs & Drywall/1	2	2	3	C	W	CL	22MAY06	23MAY06
10110	WestCL R/I Plumbing	2	2	3	C	W	CL	22MAY06	23MAY06
10115	WestCL HVAC Ductwork	2	2	3	C	W	CL	22MAY06	23MAY06
10120	WestCL R/I Electric	2	2	3	C	W	CL	24MAY06	25MAY06
10125	WestCL Plumbing Test	1	1	2	C	W	CL	24MAY06	24MAY06
10130	WestCL Drywall/2 & Finishes	2	2	3	C	W	CL	26MAY06	29MAY06
10135	WestCL Electric Fixtures	2	2	3	C	W	CL	30MAY06	31MAY06
10140	WestCL Plumbing Fixtures	2	2	3	C	W	CL	30MAY06	31MAY06
10145	WestCL HVAC Fixtures	1	1	2	C	W	CL	30MAY06	30MAY06
10150	WestCL Paint & Carpeting	2	2	3	C	W	CL	01JUN06	02JUN06
Residential Level 02									
1335	West02 Form/Pour Slab	4	4	5	C	W	02	24NOV05	29NOV05



Pertmaster Risk Expert - [C:\... \RDM Pertmaster\CMAP.plan - Gantt Chart*]

File Edit View Insert Format Plan Risk Reports Tools Window Help

ID	Description	Rem Duration	Start	Finish	Minimum Duration	Most Likely	Maximum Duration	Task Existence %
10	SiteG0 Notice to Proceed	0	30/May/05					
1000	SiteG0 Mobilize	10	30/May/05	10/Jun/05	8	10	13	
1100	SiteGS Clear & Rough Grade at Elev 0+00	13	13/Jun/05	29/Jun/05	8	10	13	
1105	SiteGS Survey & Layout at Elev 0+00	13	30/Jun/05	18/Jul/05	8	10	13	
1110	WestGS Form/Pour Footers	13	19/Jul/05	04/Aug/05	8	10	13	
1115	WestGS Erect, Bolt, Plumb Steel to Elev 77	26	05/Aug/05	09/Sep/05	17	20	26	
1120	WestCL Form/Pour Slab @ Casino Level	13	12/Sep/05	28/Sep/05	8	10	13	
1125	WestCL Erect, Bolt, Plumb Steel to Elev 227	26	29/Sep/05	03/Nov/05	17	20	26	
1130	West10 Form/Pour Slab @ Elev 227	13	04/Nov/05	22/Nov/05	8	10	13	
1135	West10 Erect, Bolt, Plumb Steel to Elev 417	26	23/Nov/05	28/Dec/05	17	20	26	
1140	WestRF Form/Pour Slab @ Elev 417	13	29/Dec/05	16/Jan/06	8	10	13	
1150	WestRF Roofing	13	17/Jan/06	02/Feb/06	8	10	13	
1200	SiteG5 Form/Pour Slab	8	18/Oct/05	27/Oct/05	5	6	8	
1205	SiteG4 Form/Pour Slab	8	28/Oct/05	08/Nov/05	5	6	8	
1210	SiteG3 Form/Pour Slab	8	09/Nov/05	18/Nov/05	5	6	8	
1215	SiteG2 Form/Pour Slab	8	21/Nov/05	30/Nov/05	5	6	8	
1220	SiteGS Form/Pour Slab Street Level	8	01/Dec/05	12/Dec/05	5	6	8	

30 May 05

what's new on the screen?
restraints have different colors
two late start/finish bars
reference to link category
reference to ignore link

Gantt Chart | Logic Trace | Uncertainty | Risk Outputs | Gantt and Graph | Gantt and Sheet | Import Check

Task Details

<< >> ID: 1140 Description: WestRF Form/Pour Slab @ Elev 417

General | Dates | Constraints | Links | Resources | Costs | Risk and Uncertainty | User Fields | Splits

Original Duration: 13
Rem Duration: 13
% Complete: 0% Define...
Can stretch: Default

Calendar: Cal1
Type: Normal
Priority: 50

WBS:
OBS:
Comment:

Ready

Finish : 01/Nov/06

Gantt Chart | Logic Trace | Uncertainty | Risk Outputs | Gantt and Graph | Gantt and Sheet | Import Check

Task Details

<< >> ID: 1140 Description: WestRF Form/Pour Slab @ Elev 417

General | Dates | Constraints | Links | Resources | Costs | Risk and Uncertainty | User Fields

Predecessors

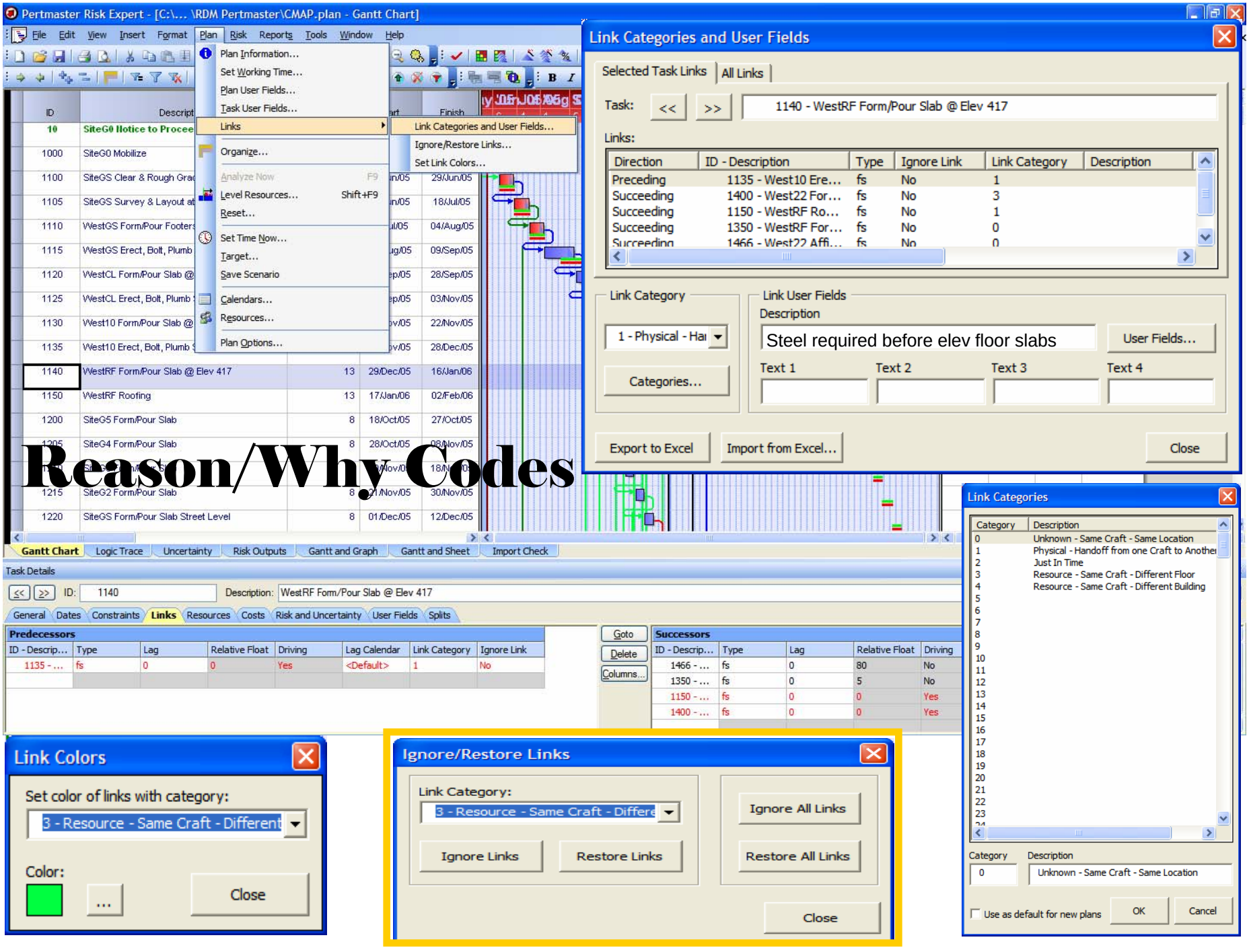
ID - Descrip...	Type	Lag	Relative Float	Driving	Lag Calendar	Link Category	Ignore Link
1135 - ...	fs	0	0	Yes	<Default>	1	No

Goto
Delete
Columns...

Successors

ID - Descrip...	Type	Lag	Relative Float	Driving	Lag Calendar	Link Category	Ignore Link
1466 - ...	fs	0	80	No	<Default>	0	No
1350 - ...	fs	0	5	No	<Default>	0	No
1150 - ...	fs	0	0	Yes	<Default>	1	No
1400 - ...	fs	0	0	Yes	<Default>	3	No

Ready | Filter: None | Sort: ID | Actual: $0 | Remaining: $0 | Total: $0 | Plan Finish : 01/Nov/06


Pertmaster Risk Expert - [C:\... \RDM Pertmaster\CMAP.plan - Gantt Chart]
File Edit View Insert Format Plan Risk Reports Tools Window Help
Plan Information...
Set Working Time...
Plan User Fields...
Task User Fields...
Links
Organize...
Analyze Now F9
Level Resources... Shift+F9
Reset...
Set Time Now...
Target...
Save Scenario
Calendars...
Resources...
Plan Options...
Link Categories and User Fields...
Ignore/Restore Links...
Set Link Colors...
Link Categories and User Fields
Selected Task Links
All Links
Task:
1140 - WestRF Form/Pour Slab @ Elev 417
Links:
Direction
ID - Description
Type
Ignore Link
Link Category
Description
Preceding 1135 - West10 Ere... fs No 1
Succeeding 1400 - West22 For... fs No 3
Succeeding 1150 - WestRF Ro... fs No 1
Succeeding 1350 - WestRF For... fs No 0
Link Category
1 - Physical - Ha
Categories...
Link User Fields
Description
Steel required before elev floor slabs
User Fields...
Text 1
Text 2
Text 3
Text 4
Export to Excel
Import from Excel...
Close
Reason/Why Codes
1140 WestRF Form/Pour Slab @ Elev 417 13 29/Dec/05 16/Jan/06
1150 WestRF Roofing 13 17/Jan/06 02/Feb/06
1200 SiteG5 Form/Pour Slab 8 18/Oct/05 27/Oct/05
1215 SiteG2 Form/Pour Slab 8 27/Nov/05 30/Nov/05
1220 SiteGS Form/Pour Slab Street Level 8 01/Dec/05 12/Dec/05
Gantt Chart
Logic Trace
Uncertainty
Risk Outputs
Gantt and Graph
Gantt and Sheet
Import Check
Task Details
ID: 1140
Description: WestRF Form/Pour Slab @ Elev 417
General Dates Constraints Links Resources Costs Risk and Uncertainty User Fields Splits
Predecessors
ID - Descrip... Type Lag Relative Float Driving Lag Calendar Link Category Ignore Link
1135 - ... fs 0 0 Yes <Default> 1 No
Goto
Delete
Columns...
Successors
ID - Descrip... Type Lag Relative Float Driving
1466 - ... fs 0 80 No
1350 - ... fs 0 5 No
1150 - ... fs 0 0 Yes
1400 - ... fs 0 0 Yes
Link Colors
Set color of links with category:
3 - Resource - Same Craft - Different
Color:
...
Close
Ignore/Restore Links
Link Category:
3 - Resource - Same Craft - Differe
Ignore Links
Restore Links
Ignore All Links
Restore All Links
Close
Link Categories
Category Description
0 Unknown - Same Craft - Same Location
1 Physical - Handoff from one Craft to Another
2 Just In Time
3 Resource - Same Craft - Different Floor
4 Resource - Same Craft - Different Building
Category
0
Description
Unknown - Same Craft - Same Location
Use as default for new plans
OK
Cancel

Relationship Codes

Pertmaster Risk Expert - [C:\... \RDM Pertmaster\CMAP.plan - Gantt Chart]

File Edit View Insert Format Plan Risk Reports Tools Window Help

ID	Description	Rem Duration	Start	Finish	Just In Time Finish	Late Finish	Minimum Duration	Most Likely	Maximum Duration	Task Existence %
10	SiteG0 Notice to Proceed	0	30/May/05		27/May/05					
1000	SiteG0 Mobilize	10	30/May/05	10/Jun/05	10/Jun/05	10/Jun/05	8	10	13	
1100	SiteGS Clear & Rough Grade at Elev 0+00	13	13/Jun/05	29/Jun/05	29/Jun/05	29/Jun/05	8	10	13	
1105	SiteGS Survey & Layout at Elev 0+00	13	30/Jun/05	18/Jul/05	18/Jul/05	18/Jul/05	8	10	13	
1110	WestGS Form/Pour Footers	13	19/Jul/05	04/Aug/05	04/Aug/05	04/Aug/05	8	10	13	
1115	WestGS Erect, Bolt, Plumb Steel to Elev 77	26	05/Aug/05	09/Sep/05	28/Sep/05	28/Sep/05	17	20	26	
1120	WestCL Form/Pour Slab @ Casino Level	13	12/Sep/05	28/Sep/05	17/Oct/05	17/Oct/05	8	10	13	
1125	WestCL Erect, Bolt, Plumb Steel to Elev 227	26	29/Sep/05	03/Nov/05	22/Nov/05	22/Nov/05	17	20	26	
1130	West10 Form/Pour Slab @ Elev 227	13	04/Nov/05	22/Nov/05	09/Dec/05	09/Dec/05	8	10	13	
1135	West10 Erect, Bolt, Plumb Steel to Elev 417	26	23/Nov/05	28/Dec/05	16/Jan/06	16/Jan/06	17	20	26	
1140	WestRF Form/Pour Slab @ Elev 417	13	29/Dec/05	16/Jan/06	02/Feb/06	02/Feb/06	8	10	13	
1150	WestRF Roofing	13	17/Jan/06	02/Feb/06	28/Jun/06	28/Jun/06	8	10	13	
1200	SiteG5 Form/Pour Slab	8	18/Oct/05	27/Oct/05	16/Aug/06	16/Aug/06	5	6	8	
1205	SiteG4 Form/Pour Slab	8	28/Oct/05	08/Nov/05	28/Aug/06	28/Aug/06	5	6	8	

Gantt Chart | Logic Trace | Uncertainty | Risk Outputs | Gantt and Graph | Gantt and Sheet

Task Details

<< >> ID: 1130 Description: West10 Form/Pour Slab @ Elev 227

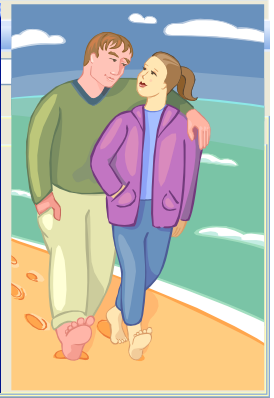
General | Dates | Constraints | Links | Resources | Costs | Risk and Uncertainty | User Fields | Splits

Dates | Durations | Costs | Numbers | Text | Codes | Notes

	Codes
RESP	C - Cartwright Construction Inc
SUBC	
CRSZ	10
CRTY	CP
SHT1	
SHT2	
LOC1	W - West Tower
LOC2	10
CRIT	

Link Categories

Category	Description
0	Unknown - Same Craft - Same Location
1	Physical - Handoff from one Craft to Another
2	Just In Time
3	Resource - Same Craft - Different Floor
4	Resource - Same Craft - Different Building
5	



Ready | Filter: None | Sort: ID | Actual: $0 | Remaining: $0 | Total: $0 | Plan Finish : 01/Nov/06

Relationship Codes

```
A           10 - SiteG0 Notice to Proceed
B           1000 - SiteG0 Mobilize
C           fs
D           No
LINKTYPE    0
LINKTITLE   10[fs]       1000
G
H
I
J
K
ACT                10
SUC              1000
ACRTY
SCRTY
ALOC1       S
SLOC1       S
ALOC2       G0
SLOC2       G0

EDIT          ‖<C:>‖TRIAL07P              ‖Rec: 1/1081
```

unknown craft – unknown reason/why

```
A           1130 - West10 Form/Pour Slab @ Elev 227
B           1300 - West09 Form/Pour Slab
C           fs
D           No
LINKTYPE    3
LINKTITLE   1130[fs]       1300
G
H
I
J
K
ACT              1130
SUC              1300
ACRTY       CP
SCRTY       CP
ALOC1       W
SLOC1       W
ALOC2       10
SLOC2       09

EDIT          ‖<C:>‖TRIAL07P              ‖Rec: 15/1081
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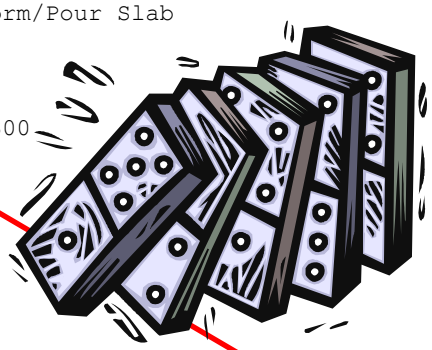

same crew – different floor

```
A           1115 - WestGS Erect, Bolt, Plumb Steel to Elev 77
B           1120 - WestCL Form/Pour Slab @ Casino Level
C           fs
D           No
LINKTYPE    1
LINKTITLE   1115[fs]       1120
G
H
I
J
K
ACT              1115
SUC              1120
ACRTY       IW
SCRTY       CP
ALOC1       W
SLOC1       W
ALOC2       GS
SLOC2       CL

EDIT          ‖<C:>‖TRIAL07P              ‖Rec: 7/1081
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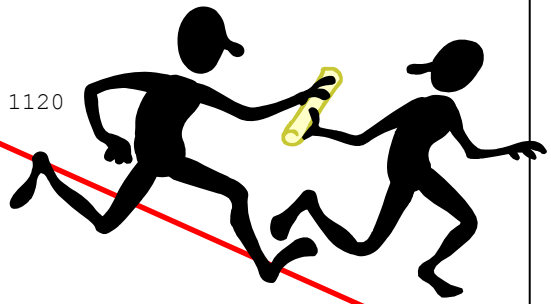

change craft – physical reason/why

```
A           1110 - WestGS Form/Pour Footers
B           2110 - EastGS Form/Pour Footers
C           fs
D           No
LINKTYPE    4
LINKTITLE   1110[fs]       2110
G
H
I
J
K
ACT              1110
SUC              2110
ACRTY       CP
SCRTY       CP
ALOC1       W
SLOC1       E
ALOC2       GS
SLOC2       GS

EDIT          ‖<C:>‖TRIAL07P              ‖Rec: 6/1081
```

same crew – different building

Who asked for RDM?

THE CONSTRUCTION WEEKLY

ENR
Engineering News-Record

► **LEGISLATION:** Bush administration's $247-billion 'SAFETEA' transportation bill lays foundation for funding debate

► **RESEARCH:** Costs for large transportation projects escalate 5% per year

enr.com The McGraw-Hill Companies May 26, 2003 $5

OFF THE CRITICAL PATH?

Experts debate the state of CPM scheduling

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McGraw-Hill CONSTRUCTION

Critics Can't Find the Logic in Many of Today's CPM Schedules

Users want software with flexibility, but is it true CPM?

Four scheduling experts, all deeply experienced in the critical path method (CPM) that uses math to draw network diagrams of a project schedule, met recently in a restaurant just outside Philadelphia. The purpose was to discuss a new unit at the Project Management Institute, in Newtown Square, Pa. The College of Scheduling they have launched would promote "the fundamentals of project management" and encourage "a free exchange of ideas."

One of the reasons for starting the college is disconcerting. What is described as a CPM schedule these days sometimes isn't one at all, the four experts claim. If that claim is true, it says a lot about how personal computers have transformed scheduling and what could be in store as technology reshapes other phases of the construction process.

PHOTOS BY MICHAEL OCKMAN FOR ENR; GRAPHIC CREATED BY GUY LAWRENCE AND NANCY FOLLIARD FOR ENR

ALARMED Wickwire (left, above), Ockman and Plotnick see a scheduling crisis.

At the meeting, the four experts lamented the state of scheduling. They say they see widespread abuses of powerful software to produce badly flawed or deliberately deceptive schedules that look good but lack mathematical coherence or common sense about the way the industry works. The result is confusion, delayed projects and lawsuits.

How did this happen? PCs have popularized and democratized CPM schedule writing, which first took hold in construction in the early 1960s, but it has also put scheduling in the hands of many inexperienced and poorly trained practitioners. When they do the work, critics say the basic principals of CPM are sometimes neglected or watered down.

The four men, three of whom are directors of PMI's College of Scheduling, reserved some of their most pointed comments for Primavera Systems Inc., the Bala Cynwyd, Pa.-based company that is the dominant supplier of construction project management and scheduling software. The four men say Primavera puts features in its popular scheduling programs that provide flexibility but are open to abuse.

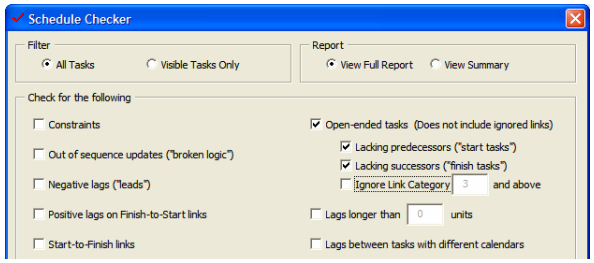
Primavera's headquarters is about 10 miles from where the meeting took place and its president, Richard K. Faris, is active in industry affairs and is a board member of the new College of Scheduling. Significantly, he had not been invited to the

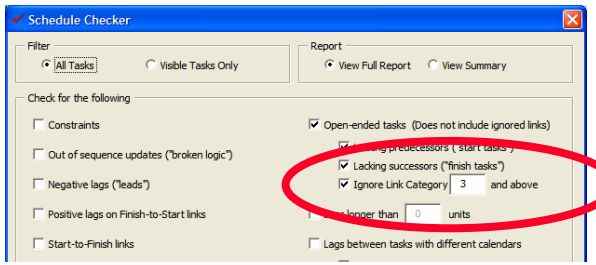
NEW WAY OVERSHADOWS OLD

Arrow Diagramming Method (ADM)

A once-popular but disappearing method of representing project activities with arrows, with a node shown as a circle, representing events at the ends of the arrows. The tail of the arrow is the beginning and the head represents the completion. While it is less flexible than PDM, it has the advantage of defining the logical relationships between activities entirely by the activity numbers.

Who asked for RDM? – You Did!!!





Pertmaster Project Analytics

Pertmaster Schedule Check Report

Plan Summary

Title			
File name	C:\edata\FREE-ENG\PM\gmicot\0 EMAY\RDM Pertmaster\CMAP.plan		
Plan finish date	11/1/2006 5:00:00 PM	Tasks with no progress	575
Plan remaining duration	521	In progress tasks	0
Normal tasks	576	Completed tasks	0
Summary tasks	0	Total tasks	575
Milestone tasks	1	Resource assignments	567
Hammock tasks	0	Budget cost	$0
Monitor tasks	0	Remaining cost	$0
Calendars	4	Actual cost	$0
Links	1099	Total cost	$0
Resources	12		

Report Summary

Task view	All tasks	
Constraints	Not checked	
Open-ended tasks (Does not include ignored links)	2	
Out of sequence updates ("broken logic")	Not checked	
Lags longer than 0 units	Not checked	
Negative lags ("leads")	Not checked	
Positive lags on Finish-to-Start links	Not checked	
Start-to-Finish links	Not checked	
Lags between tasks with different calendars	Not checked	
Links to / from summary tasks	Not checked	
Duration uncertainty distribution shape 2	Not checked	
Total number of items found	2	

2

Open-ended tasks (Does not include ignored links)

Options selected: Predecessors, Successors

For a schedule risk analysis to be meaningful, it is important that tasks' dates are set by logic (e.g. Finish-to-Start links) rather than constraints. This is so that the risk analysis will recognize the knock-on effect of delays. An open-ended task is one that does not have at least one predecessor and one successor – it indicates a possible lack of logic. Consider closing open-ended tasks:
• If a task has no predecessor, try to find some other tasks which could potentially delay it. Leave it as open-ended if it is the project start milestone.
• If a task has no successors, try to find some other tasks which it could potentially delay. Leave it as open-ended if it is a project finish or suspension milestone.

ID	Description	Type	Remaining Duration	Detail
10	SiteG0 Notice to Proceed	Start milestone	0	No predecessors
9990	SiteG0 Residential Building Punchlist	Normal	10	No successors

Pertmaster Project Analytics

Pertmaster Schedule Check Report

Plan Summary

Title			
File name	C:\edata\FREE-ENG\PM\gmicot\0EMAY\RDM Pertmaster\CMAP.plan		
Plan finish date	11/1/2006 5:00:00 PM	Tasks with no progress	575
Plan remaining duration	521	In progress tasks	0
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Milestone tasks	1	Resource assignments	567
Hammock tasks	0	Budget cost	$0
Monitor tasks	0	Remaining cost	$0
Calendars	4	Actual cost	$0
Links	1099	Total cost	$0
Resources	12		

Report Summary

Task view	All tasks	
Constraints	Not checked	
Open-ended tasks (Does not include ignored links)	59	
Out of sequence updates ("broken logic")	Not checked	
Lags longer than 0 units	Not checked	
Negative lags ("leads")	Not checked	
Positive lags on Finish-to-Start links	Not checked	
Start-to-Finish links	Not checked	
Lags between tasks with different calendars	Not checked	
Links to / from summary tasks	Not checked	
Duration uncertainty distribution shape 2	Not checked	
Total number of items found	59	

59

Open-ended tasks (Does not include ignored links)

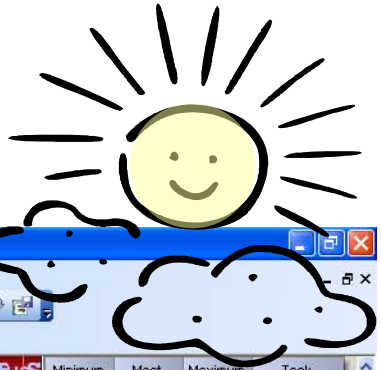
Options selected: Predecessors, Successors

For a schedule risk analysis to be meaningful, it is important that tasks' dates are set by logic (e.g. Finish-to-Start links) rather than constraints. This is so that the risk analysis will recognize the knock-on effect of delays. An open-ended task is one that does not have at least one predecessor and one successor – it indicates a possible lack of logic. Consider closing open-ended tasks:
• If a task has no predecessor, try to find some other tasks which could potentially delay it. Leave it as open-ended if it is the project start milestone.
• If a task has no successors, try to find some other tasks which it could potentially delay. Leave it as open-ended if it is a project finish milestone.

ID	Description	Type	Remaining Duration	Detail
10	SiteG0 Notice to Proceed	Start milestone	0	No predecessors
1000	SiteG0 Mobilize	Normal	10	Finish has no successors
1100	SiteG5 Clear & Rough Grade at Elev 0+00	Normal	12	Start has no predecessors
1105	SiteG5 Survey & Layout at Elev 0+00	Normal	12	Finish has no successors
1110	WestG5 Form/Pour Footers	Normal	12	Start has no predecessors
1200	SiteG5 Form/Pour Slab	Normal	8	Finish has no successors
1200	SiteG5 Form/Pour Slab	Normal	8	Start has no predecessors

1205	SiteG6 Form/Pour Slab	Normal	8	Finish has no successors
1205	SiteG6 Form/Pour Slab	Normal	8	Start has no predecessors
1210	SiteG5 Form/Pour Slab	Normal	8	Finish has no successors
1210	SiteG5 Form/Pour Slab	Normal	8	Start has no predecessors
1215	SiteG5 Form/Pour Slab	Normal	8	Finish has no successors
1215	SiteG5 Form/Pour Slab	Normal	8	Start has no predecessors
1220	SiteG5 Form/Pour Slab Street Level	Normal	8	Start has no predecessors
1300	West09 Form/Pour Slab	Normal	5	Start has no predecessors
1305	West08 Form/Pour Slab	Normal	5	Start has no predecessors
1310	West07 Form/Pour Slab	Normal	5	Start has no predecessors
1315	West06 Form/Pour Slab	Normal	5	Start has no predecessors
1320	West05 Form/Pour Slab	Normal	5	Start has no predecessors
1325	West04 Form/Pour Slab	Normal	5	Start has no predecessors
1330	West03 Form/Pour Slab	Normal	5	Start has no predecessors
1335	West02 Form/Pour Slab	Normal	5	Start has no predecessors
2602	East21 Form/Pour Slab	Normal	5	Start has no predecessors
1600	West22 Form/Pour Slab	Normal	5	Start has no predecessors
1605	West19 Form/Pour Slab	Normal	5	Start has no predecessors
1610	West18 Form/Pour Slab	Normal	5	Start has no predecessors
1615	West17 Form/Pour Slab	Normal	5	Start has no predecessors
1620	West16 Form/Pour Slab	Normal	5	Start has no predecessors
1625	West15 Form/Pour Slab	Normal	5	Start has no predecessors
1602	West21 Form/Pour Slab	Normal	5	Start has no predecessors
1630	West14 Form/Pour Slab	Normal	5	Start has no predecessors
1635	West13 Form/Pour Slab	Normal	5	Start has no predecessors
1640	West12 Form/Pour Slab	Normal	5	Start has no predecessors
1645	West11 Form/Pour Slab	Normal	5	Start has no predecessors
9990	SiteG0 Residential Building Punchlist	Normal	10	No successors
1250	WestRF Form/Pour Stair Tower Floors 11-RF	Normal	12	Finish has no successors
2110	EastG5 Form/Pour Footers	Normal	12	Start has no predecessors
1260	West10 Form/Pour Stair Tower Floors 1-10	Normal	12	Finish has no successors
2300	East09 Form/Pour Slab	Normal	5	Start has no predecessors
2305	East08 Form/Pour Slab	Normal	5	Start has no predecessors
2310	East07 Form/Pour Slab	Normal	5	Start has no predecessors
2315	East06 Form/Pour Slab	Normal	5	Start has no predecessors
2320	East05 Form/Pour Slab	Normal	5	Start has no predecessors
2325	East04 Form/Pour Slab	Normal	5	Start has no predecessors
2330	East03 Form/Pour Slab	Normal	5	Start has no predecessors
2335	East02 Form/Pour Slab	Normal	5	Start has no predecessors
1604	West20 Form/Pour Slab	Normal	5	Start has no predecessors
2260	East10 Form/Pour Stair Tower Floors 1-10	Normal	12	Finish has no successors
2600	East22 Form/Pour Slab	Normal	5	Start has no predecessors
2605	East19 Form/Pour Slab	Normal	5	Start has no predecessors
2610	East18 Form/Pour Slab	Normal	5	Start has no predecessors
2615	East17 Form/Pour Slab	Normal	5	Start has no predecessors
2620	East16 Form/Pour Slab	Normal	5	Start has no predecessors
2625	East15 Form/Pour Slab	Normal	5	Start has no predecessors
2630	East14 Form/Pour Slab	Normal	5	Start has no predecessors
2635	East13 Form/Pour Slab	Normal	5	Start has no predecessors
2640	East12 Form/Pour Slab	Normal	5	Start has no predecessors
2645	East11 Form/Pour Slab	Normal	5	Start has no predecessors
2604	East20 Form/Pour Slab	Normal	5	Start has no predecessors

Just-in-Time Date & Float Attribute



Pertmaster Risk Expert - [C:\... \RDM Pertmaster\CMAP.plan - Gantt Chart*]

File Edit View Insert Format Plan Risk Reports Tools Window Help

ID	Description	Rem Duration	Start	Finish	Just In Time Finish	Late Finish	Minimum Duration	Most Likely	Maximum Duration	Task Existence %
22150	East21 Paint & Carpeting	3	24/Jul/06	26/Jul/06	18/Oct/06	18/Oct/06	2	2	3	
22200	East22 Layout Floor	2	29/Jun/06	30/Jun/06	30/Jun/06	30/Jun/06	1	1	1	
22205	East22 Studs & Drywall/1	3	03/Jul/06	05/Jul/06	05/Jul/06	05/Jul/06	2	2	3	
22210	East22 R/I Plumbing	3	03/Jul/06	05/Jul/06	06/Jul/06	06/Jul/06	2	2	3	
22215	East22 HVAC Ductwork	3	03/Jul/06	05/Jul/06	10/Jul/06	10/Jul/06	2	2	3	
22220	East22 R/I Electric	3	06/Jul/06	10/Jul/06	05/Oct/06	05/Oct/06	2	2	3	
22225	East22 Plumbing Test	2	06/Jul/06	07/Jul/06	05/Oct/06	05/Oct/06	1	1	1	
22230	East22 Drywall/2 & Finishes	3	11/Jul/06	13/Jul/06	10/Oct/06	10/Oct/06	2	2	3	
22235	East22 Electric Fixtures	3	14/Jul/06	18/Jul/06	13/Oct/06	13/Oct/06	2	2	3	
22240	East22 Plumbing Fixtures	3	14/Jul/06	18/Jul/06	13/Oct/06	13/Oct/06	2	2	3	
22245	East22 HVAC Fixtures	2	14/Jul/06	17/Jul/06	13/Oct/06	13/Oct/06	1	1	1	
22250	East22 Paint & Carpeting	3	19/Jul/06	21/Jul/06	18/Oct/06	18/Oct/06	2	2	3	
101	Window Wall Frame - Submit	30	30/May/05	08/Jul/05	26/Aug/05	15/Sep/05				
201	Window Wall Frame - Approve	22	11/Jul/05	09/Aug/05	27/Sep/05	17/Oct/05				
301	Window Wall Frame - Frabricate	80	10/Aug/05	29/Nov/05	17/Jan/06	06/Feb/06				
401	Window Wall Frame - Deliver	10	30/Nov/05	13/Dec/05	31/Jan/06	20/Feb/06				

As Early as Possible
As Late as Possible
w/o delay to Project
As Late as Possible
w/o delay to Production

Gantt Chart | Logic Trace | Uncertainty | Risk Outputs | Gantt and Graph | Gantt and Sheet | Import Check

Task Details

ID: 401 Description: Window Wall Frame - Deliver

General | Dates | Constraints | Links | Resources | Costs | Risk and Uncertainty | User Fields | Splits

Predecessors

ID - Descrip...	Type	Lag	Relative Float	Driving	Lag Calendar	Link Category	Ignore Link
301 - Windo...	fs	0	0	Yes	<Default>	1	No

Goto | Delete | Columns...

Successors

ID - Descrip...	Type	Lag	Relative Float	Driving	Lag Calendar	Link Category	Ignore Link
2466 - E...	fs	0	117	No	<Default>	2	No
2464 - E...	fs	0	111	No	<Default>	2	No
2462 - E...	fs	0	105	No	<Default>	2	No
2364 - E...	fs	0	75	No	<Default>	2	No
2362 - E...	fs	0	67	No	<Default>	2	No

Just In Time LinkType

Ready | Filter: None | Sort: ID | Actual: $0 Remaining: $0 Total: $0 | Plan Finish : 01/Nov/06

Q&A

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