

Impacted Schedule Narrative
February/March 2007

INTRODUCTION

Impacted Schedule: **X33W**, data date 1/26/07

Impacted-and-Mitigated Schedule **X33X**, data date 1/26/07

Status Schedule (original before impacts): **S33W**, data date 1/26/07

Period Covered by impacted schedule: February/March, 2007

This impacted schedule, **X33W**, was created by impacting status schedule **S33W** (data date 1/26/07) with several fragnets that are listed below under the heading Impacts/Fragnets. It is intended to cover impacts that occurred in the months of February and March, 2007.

The impacted-and-mitigated schedule, **X33X**, was created by mitigating **X33W**. This schedule includes mitigation efforts by Acme Builders that recovers some lost time. A tabulation of the mitigations as they pertain to the schedule logic are found below under the heading of Mitigation.

Substantial Completion Dates:	Contract	Current
S33W (Un-impacted) SC-1000 Substantial Completion:	08/14/07	08/16/07 (-2 work days)
X33W (Impacted) SC-1000 Substantial Completion:	08/14/07	10/22/07 (-40 work days)
X33W (Impacted/Mitigated) SC-1000	08/14/07	10/10/07 (-32 work days)

Impact for Feb/Mar 2007: (40 less 2 = 38) -30 wrk days

IMPACTS/FRAGNETS

Fragnet-19: Roof Structure and Mech Pads Design:

Design issues arose at the roof deck structure that called into question the location of the mechanical pads. The issue was raised in a meeting with the architect on 2/14/07. RFI-535 was written on 2/20/07 as this is a public safety issue that Acme Builders is obligated, by law, to notify owner and desingers. Another related issue had arisen regarding routing of conduits to HVAC units on roof. RFI-488 was written on 2/12/07 to clarify routing, location, blockouts, etc, for electrical conduits to HVAC units at roof. These issues must be resolved prior deck is formed and poured since these items are embedded in the concrete.

Added Activities

Act. F019-010 RFI-488 Roof Equip Wire Routing

Act. F019-020 RFI-535 Roof Mounted Equip Platfrm

Act. F019-030 ASI-24 Mech Pads Dimensions

Act. F019-040 Distribute ASI & Mobilize Crews/Tools/Mtrls

Affected Activities**Act. TR-1380 Embeds, Form & Pour Deck - Roof Level**

This fragnet is modeled by adding the RFI and ASI activities on the dates they actually occurred. For some RFI's, only the start date is known and a 10 day duration is used. The ASI activity is linked FS to **Act. F019-040 Distribute ASI & Mobilize Crews/Tools/Mtrls** that is, in turn, linked FS to **Act. TR-1380 Embeds, Form & Pour Deck - Roof Level**. **Act. F019-010 RFI-488 Roof Equip Wire Routing** is linked FF with a 6 day lag to **Act. TR-1380 Embeds, Form & Pour Deck - Roof Level**.

This fragnet was at -15 days of float but was significantly mitigated down to **-8 days of float**.

Fragnet-20: Design Changes at East Elevation Cement Plaster:

After framing of the in-fills on east elevation, Lvl-2 through Lvl-4, owner gave direction to change ½" cement plaster to 7/8" cement plaster. Since exterior framing had been completed, details were required on how change was to be done: sheathing, furring, mechanical attachments, etc. Several details were discussed with no final resolution. RFI-540 was written on 2/27/07 regarding sheathing and furring.

Added Activities

Act. F020-020 RFI-277-3 East Elevation Detail
Act. F020-010 SB Ltr re Impact of RFI 277-3
Act. F020-030 RFI-277-4 East Elevation Detail
Act. F020-060 RFI-540 Ext Wall Framing East Elev

Affected Activities**Act. EE-1460 Exterior Sheathing (L1 thru 4)**

This fragnet is modeled by adding the RFI and Letters activities on the dates they actually occurred. For some RFI's only the actual start is known and a 10 day duration is used. The RFI's are linked FS to **Act. EE-1460 Exterior Sheathing (L1 thru 4)**.

No time is added for additional work created by the final design since the delays at the east elevation can easily be mitigated by working in other areas away from the east side of the building on the follow-on work or by working to the west. Further, the most critical floor (the 4th floor) will be mostly dried in as soon as the first layer of sheathing is installed.

This fragnet was at -16 days of float but was mitigated to **-11 days of float**.

Fragnet-21: Design Issues With Lvl-1 Mezzanine:

There have been many issues regarding the structure at the Lvl-1 mezzanine. Many RFI's have been written regarding the mezzanine steel with many only recently answered. RFI-425, for example, was ongoing in several revision from 12/14/06 to 1/9/07 with several follow-up issues. RFI-536 written on 2/20/07 and RFI-537 written on 2/20/07 are both still outstanding.

Added Activities

Act. F022-040 RFI-425-1 Mezz Brace Frame Conn
Act. F022-040 RFI-425-1 Mezz Brace Frame Conn
Act. F022-070 RFI-536 Mtl Deck Supports at
Act. F022-080 RFI-537 Deck Supprt Mezz Level

Affected Activities

Act. TG-1070Set & Weld Decking Mezzanine, L01

This fragnet is modeled by adding the RFI and Letter activities on the dates they actually occurred. For some RFI's only the actual start is known, and a 10 day duration is used. These RFI activities are then linked to **Act. TG-1070 Set & Weld Decking Mezzanine, L01** with FS relationships. No time is added for distribution and review of RFI's as each RFI is at a specific location and some work may be able to start.

This fragnet is at **-18 days of float** with no possible mitigation.

Fragnet-22 Dryer Ducts Design 4th Floor

Owner-directed changes to dryer duct fans has impeded progress of MEP rough in on 4th Floor. This is affecting the 4th longest path and the progress there, due to this design issue and that of the above mentioned electrical outlets, has stopped work on this 4th longest path.

Added Activities

Act. F022-010 Mtg Min: SB Advise of Booster Fan Correc Notice
Act. F022-120 Mtg Min: SB Advise of Booster Fan Correc Notice
Act. F022-030 RFI-521 Wire Detail Booster Fans
Act. F022-130 Mtg Min: SB Advise of Booster Fan Impacts
Act. F022-060 RFI-528 5" Dryer Duct
Act. F022-140 Mtg Min: SB Advise of Booster Fan Impacts
Act. F022-020 RFI-529 4th Flr Booster Fans
Act. F022-090 RFI-530 Dryer Duct Cleanout
Act. F022-110 SB Ltr Correction Notice Impacts
Act. F022-100 RFI-539 Dryer Vents
Act. F022-150 Distribute RFI's & Mobilize Crews/Tools/Mtrls
Act. F022-160 Demo (E) & Install New Duct & Fans

Affected Activities

Act. T4-1540 Rough MEP Inspections (Walls), L04

This fragnet was modeled by adding the Meeting Minutes, RFI, and Letter activities on the dates they actually occurred. For some RFI's only the actual start is known and a 10 duration is used. These RFI activities are then linked FS to **Act. F022-150 Distribute RFI's & Mobilize Crews/Tools/Mtrls** that is, in turn, linked FS to **Act. F022-160 Demo (E) & Install New Duct & Fans**. This activity is then linked FS to **Act. T4-1540 Rough MEP Inspections (Walls), L04**.

This is fragnet at **-8 days of float** with no possible mitigation.

Fragnet-23 Number of Electrical Outlets in Units

City inspection on 2/6/07 resulted in a correction notice requiring addition outlets in nearly all units on all floors. Since wall rough-in inspections failed, we cannot close walls on any floors. This affects our 4th longest path.

Added Activities

Act. F023-010 Mtg Min: Correction Notice for Num of Outlets
Act. F023-020 Mtg Min: SB Advise of Impact of Outlet (#2)
Act. F023-040 RFI-519 4th Flr City of LA Corrections
Act. F023-030 Mtg Min: SB Advise of Impact of Outlet (#3)
Act. F023-060 Distribute RFI-519 & Mobilize Crews/Tools/Mtrl
Act. F023-070 Added Work Extra Elec Outlets

Affected Activities

Act. T4-1505 Elect Wall RI, L04

This fragnet was modeled by adding the Meeting Minutes and RFI activities on the dates they actually occurred. For the RFI's only the actual start is known and a 10 duration is used. This RFI activity was then linked FS to **Act. F023-060 Distribute RFI-519 & Mobilize Crews/Tools/Mtrl** and then, in turn, linked FS to **Act. F023-070 Added Work Extra Elec Outlets**. This activity is then linked FS to **Act. T4-1505 Elect Wall RI, L04**. This FS link effectively adds the 6 day duration of **Act. F023-070** to **Act. F023-070**.

This is fragnet at **-10 days of float** with no possible mitigation.

Fragnet-24 Added Electrical and Cable TV

Three change directives added additional outlets for power, telephone, and cable TV. In several areas, especially on the 4th floor, drywall needed to be removed to rough in the boxes and conduits and then be

patched back. The gyp board in other areas or floors was on hold until the added electrical rough in was completed.

Added Activities

- Act. F024-010 CCD#12 Vanity Light Fixtures**
- Act. F024-020 CCD#15 Add Outlets 4th Floor**
- Act. F024-030 CCD#16 Counter Finish & Bathtubs**
- Act. F024-040 Distribute, Plan, & Prep**
- Act. F024-050 Added Work (open walls, new boxes & conduits)**
- Act. F024-060 Patch Gyp at Opened Walls**

Affected Activities

- Act. T4-1570 Close Walls & Ceilings Lvl-04**
- Act. T1-1555 Elec at G-Wall & Bath Ceil, L01**
- Act. T1-1555 Elec at G-Wall & Bath Ceil, L02**
- Act. T1-1555 Elec at G-Wall & Bath Ceil, L03**
- Act. T1-1555 Elec at G-Wall & Bath Ceil, L04**

This fragnet was modeled by adding the CCD's on the dates they occurred and by adding an activity to distribute the CCD's and prepare for the new work. An activity for the extra work was created and linked FS into "Elec at G-Wall & Bath Ceil" activities so that it effectively increased these durations. An activity was added to "Patch Gyp at Opened Walls" and tied FS into **Act. T4-1570 Close Walls & Ceilings, Lvl-04** to effectively add to its duration.

This is fragnet at **-10 days of float** with no possible mitigation.

Fragnet-25 Changes to Exterior Framing

There were several design discrepancies discovered at the exterior slab edge and exterior framing on the 5th and 6th floors and at the roof. These were published in Field Observations Reports on 3/16/07 and 4/11/07. These Field Observations were followed up by CCD#22 that resolved these discrepancies by making additions and changes to the exterior framing. This added work, changes, and the timing of the CCD created impacts to the exterior framing on the 5th, 6th, and roof levels.

- Act. F025-010 Field Observation Report 3/16/07**
- Act. F025-020 Field Observation Report 4/11/07**
- Act. F025-040 CCD#22 Unit 514 Tube Wndw Suprt**
- Act. F025-030 Added Work to Exterior Framing**

Affected Activities

- Act. EE-1320 Frame Exterior Walls (L5 thru Roof)**
- Act. EN-1320 Frame Exterior Walls (L5 thru Roof)**
- Act. ES-1320 Frame Exterior Walls (L5 thru Roof)**

Act. EW-1720 Frame Exterior Walls (L5 thru Roof)

This fragnet was modeled by adding the Field Observations Reports and CCD when they occurred and adding an activity for the added work created by the CCD. The added work was linked FS into the exterior framing activities, Frame Exterior Walls (L5 thru Roof) so that it effectively added duration to these framing activities.

This fragnet, by far the most critical, was at -40 days of float but was mitigated to **-32 days of float**.

MITIGATION

The mitigations to the logic in X33X are of two types. The first type is a change in logic that reflects a change in the work that may save time but may be at added cost or at added risk of cost. An example is that we changed the schedule to show that we would begin one-siding gyp board on the 5th and 6th levels prior to the roofing and prior to waterproofing the exterior walls but there is added risk to Acme Builders that this drywall will be damaged by rain since the building will not yet be dried-in.

A second type of mitigation occurs where work was scheduled very conservatively because it was not critical path work but with new changes to the schedule this work becomes critical and it can be scheduled more tightly with little or no impact. An example is that the garage doors on the ground floor were scheduled to occur after concrete flatwork when it is most convenient but, to save time, they can be installed prior to flatwork with only moderate impact to efficiency.

The complete list of changes are as follows:

These relationships have been deleted by the mitigation.

Pred ID	Description	Succ ID	Description	Link	Lag
ST-1080	Arch Conc. Flatwork				
	EN-1510	Set Aluminum roll up doors - Ground Floor		FS	0
EE-1570	Erect Metal Stairs				
	ST-1080	Arch Conc. Flatwork		FS	0
EE-1330	Waterproofing @ Exterior Walls (L5 thru Roof)				
	T5-1520	1-Side Walls, L05		FS	0
EN-1330	Waterproofing @ Exterior Walls (L5 thru Roof)				
	T5-1520	1-Side Walls, L05		FS	0
ES-1330	Waterproofing @ Exterior Walls (L5 thru Roof)				
	T5-1520	1-Side Walls, L05		FS	0
EW-1730	Waterproofing @ Exterior Walls (L5 thru Roof)				
	T5-1520	1-Side Walls, L05		FS	0
TR-1400	Install Roofing				
	T5-1520	1-Side Walls, L05		FS	0
EE-1330	Waterproofing @ Exterior Walls (L5 thru Roof)				
	T6-1620	1-Side Walls, L06		FS	0

EN-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1620	1-Side Walls, L06	FS	0
ES-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1620	1-Side Walls, L06	FS	0
EW-1730	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1620	1-Side Walls, L06	FS	0
TR-1400	Install Roofing		
T6-1620	1-Side Walls, L06	FS	0

These relationships have been added by the mitigation.

Pred ID	Description		
Succ ID	Description	Link	Lag
EN-1460	Patch/Repair Elevation		
EN-1510	Set Aluminum roll up doors - Ground Floor	FS	0
EE-1570	Erect Metal Stairs		
ST-1080	Arch Conc. Flatwork	FF	5
EE-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T5-1660	Insulation, L05	FS	0
EN-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T5-1660	Insulation, L05	FS	0
ES-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T5-1660	Insulation, L05	FS	0
EW-1730	Waterproofing @ Exterior Walls (L5 thru Roof)		
T5-1660	Insulation, L05	FS	0
TR-1400	Install Roofing		
T5-1660	Insulation, L05	FS	0
EN-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1760	Insulation, L06	SS	0
EN-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1760	Insulation, L06	FS	0
ES-1330	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1760	Insulation, L06	FS	0
EW-1730	Waterproofing @ Exterior Walls (L5 thru Roof)		
T6-1760	Insulation, L06	FS	0
TR-1400	Install Roofing		
T6-1760	Insulation, L06	FS	0

SUMMARY

There are seven new fragnets addressed in these impacted and impacted-mitigated schedules. The impacts were significantly reduced by mitigating the schedule and mitigating work in the field. The most critical is Fragnet-25 Changes to Exterior Framing at -32 work days of float. Since the float of the un-



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impacted schedule for this period is -2 work days, and since the float for the impacted-mitigated schedule is -32 work days, the net impact is -30 work days.

Please contact us if you have any questions or concerns.

Sincerely,

Neal C. Wickham
Points West Consulting

Cc: Project Executive
Project Manager
Superintendent