

## University of New England

### THE HAROLD AND BIBBY ALFOND CENTER FOR HEALTH SCIENCES

#### Extension of Time Request “EOT”

#### Delay Analysis Report (Time Impact Analysis)



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## 1. Executive Summary

This report demonstrates Ledgewood Construction's entitlement to an extension of time per Table (1) below which summarizes the impact on the contractual project completion milestone. The project was impacted by multiple delay events as detailed in Table (2) below that are beyond Ledgewood Construction's control and could not be anticipated prior to bidding. The delay events affected the critical path of the project and caused delays to construction work.

For purposes of this analysis, we define a delay as the number of days of critical path delay from the contractual completion date to the actual completion of the project. This Delay Analysis was performed using a Prospective Time Impact Analysis (TIA) using the baseline schedule.

The schedule before the occurrence of delay events had an expected finish date on May 31, 2024. After adding the delay events and tying them into the schedule, the milestone for substantial completion shifted to August 1, 2024, which is a total of 62-day variance from the schedule before adding any delay events; accordingly, Ledgewood Construction is requesting **62 additional calendar days** based on the impact of the delay events on the project's critical path.

Table (1) Impact of Delay Events on Project Finish Date

	Time Window	Schedule Finish Date
1	Baseline Schedule Before Occurrence of Delay Events	May/31/2024
2	Baseline Schedule After Occurrence of Delay Events	Aug/1/2024
	<b>Variance</b>	<b>62</b>

Table (2) Delay Fragments

	<b>Delay Event</b>	<b>Start</b>	<b>Finish</b>	<b>Impacted Activities</b>
<b>1</b>	<b>Permit Delays</b>	<b>Apr/24/2022</b>	<b>Mar/22/2023</b>	
1.1	Site Preparation and Site Improvement Permit Delay	Apr/24/2022	Nov/04/2022	Mobilization
1.2	Site Utilities Authorization Permit Delay	Apr/24/2022	Dec/09/2022	Trench Excavation for all site Utilities
1.3	Foundation Permit Delay	Apr/24/2022	Feb/24/2023	Excavation for Building Substructure
1.4	Full building Permit Delay	Apr/24/2022	Mar/22/2023	Erect Columns/Beams A-D
<b>2</b>	<b>Supplemental Instruction #24 (Revised Permit Set)</b>	<b>Apr/24/2022</b>	<b>Feb/12/2022</b>	<ul style="list-style-type: none"> <li>• LMG Framing (All Floors)</li> <li>• In-wall MEPS Rough ins (All Floors)</li> <li>• Drywall tops (All Floors)</li> <li>• Drywall HTS (All Floors)</li> <li>• Prime and 1st Coat Paint (All Floors)</li> <li>• Final Painting (Fourth, Third, Ground)</li> </ul>

## 2. Background and Introduction

This project is the University of New England, The Harold and Bibby Alfond Center for Health Sciences. It's located in Portland, Maine.

### 2.1. Project Scope of Work

The Scope of Work consists of Substructure, Superstructure, Exterior, and Interior works for 4 floors.

### 2.2. Chronology of Events

The Contract was Awarded on April 24, 2022, and the project completion date was expected to finish on May 31, 2024. However, due to the delay in receiving permits (expected date to receive permits was October 31, 2022) and due the Supplemental Instructions #24 that impacted the scope of the project and caused in the increase of the duration of several interior finishing activities, those delays had an impact on the projects longest path and the substantial completion of the project.

## 3. Delay Events

### 3.1. Delay event 01 – Permit Delays

There were several permit delays including, Site Preparation and Site Improvement Permit, Site Utilities Authorization Permit, Foundation Permit and Full building Permit. However, the permit that impacted the longest path of the project was the Foundation permit. The Foundation permit alone pushed the substantial completion of the project by **56 days**.

### 3.2. Delay event 02 – Supplemental Instruction #24 (Revised Permit Set) Delays

Due to the design changes and the addition of scope, this caused that there were several interior finishing activities, in all floors, that were impacted including LMG Framing, In-wall MEPS Rough ins, Drywall tops, Drywall HTS, Prime and 1st Coat Paint and Final Painting activities, and had to be extended in duration. The extension in duration of those activities alone pushed the project substantial completion by an additional **6 days**.

## 4. Conclusion

The delays described in this EOT request were disruptive to the project's critical path. The main delays that had the largest impact on overall completion were: the delay in Foundation Permit and the delays caused by Supplemental Instructions #24. Ledgewood Construction believes that it is entitled to excusable and compensable additional time for the delays as they were beyond Ledgewood Construction's control and could not be anticipated prior to bidding.

The EOT Report demonstrates that Ledgewood Construction Company is entitled to excusable and compensable delay days from May 31, 2024 to August 1, 2024 which represents a duration of **62 consecutive calendar days** (56 days due to Foundation Permit Delay + 6 days due to Supplemental Instructions #24).

Appendix (A): Baseline Schedule – Before Occurrence of Delay Events – Detailed Schedule





UNE HBACHS  
Detailed Schedule Before Occurrence of Delays Layout



The legend consists of seven items arranged horizontally:

- Remaining Level of Effort (Green bar)
- Actual Level of Effort (Dark Blue bar)
- Actual Work (Blue bar)
- Remaining Work (Light Green bar)
- Critical Remaining Work (Red bar)
- Milestone (Diamond marker)
- Summary (Downward-pointing triangle marker)





UNE HBACHS  
Detailed Schedule Before Occurrence of Delays Layout



The legend consists of four entries:

- Remaining Level of Effort: Indicated by a green bar.
- Actual Level of Effort: Indicated by a dark blue bar.
- Actual Work: Indicated by a blue bar.
- Remaining Work: Indicated by a light green bar.
- Critical Remaining Work: Indicated by a red bar.
- Milestone: Indicated by a black diamond symbol.



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## Detailed Schedule Before Occurrence of Delays Layout



#### Remaining Level of Effort

 Remaining Work

Summary

#### Actual Level of Effort

Critical Remaining Work

## g Work

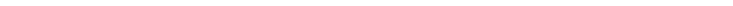
 Actual Work

◆ Mileston



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Legend:

- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- Summary

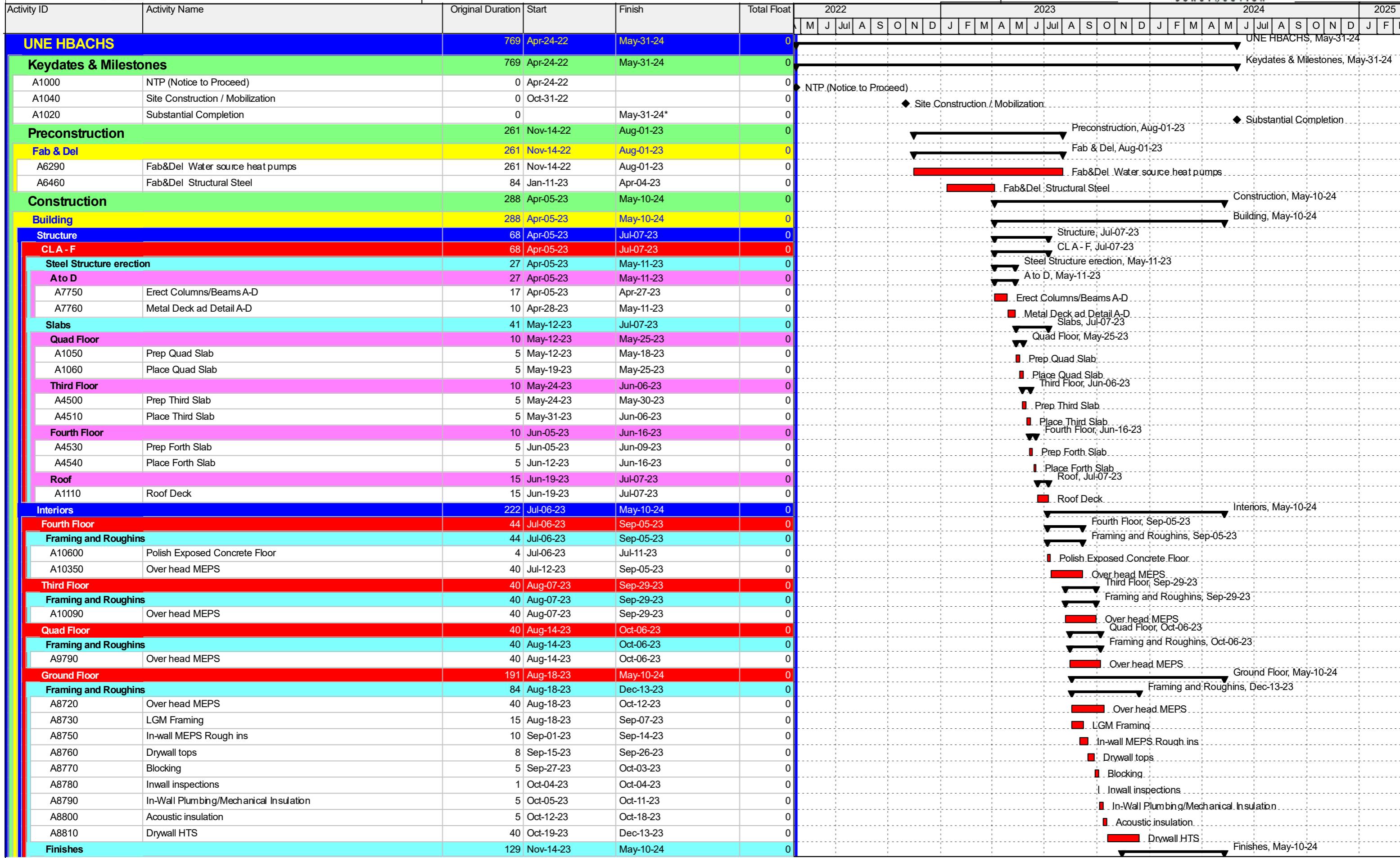




Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022						2023						2024						2025			
						M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F
A10180	Drywall HTS	40	Oct-06-23	Nov-30-23	7																						
A10190	Frame Soffits/Ceilings	10	Dec-01-23	Dec-14-23	7																						
<b>Finishes</b>		<b>129</b>	<b>Nov-03-23</b>	<b>May-01-24</b>	<b>7</b>																						
A10200	Prime and 1st Coat Paint	32	Nov-03-23	Dec-18-23	12																						
A10210	ACT Grid and cuts	25	Dec-15-23	Jan-18-24	7																						
A10220	Ceiling MEPS Rough-in/Drop-in	13	Jan-19-24	Feb-06-24	7																						
A10230	Above Ceilings inspection	1	Feb-07-24	Feb-07-24	7																						
A10240	Flooring	20	Feb-08-24	Mar-06-24	17																						
A10290	Flood Ceilings	20	Feb-08-24	Mar-06-24	7																						
A10250	Final Painting	10	Mar-07-24	Mar-20-24	7																						
A10260	Carpet Tile	8	Mar-21-24	Apr-01-24	12																						
A10300	Install Doors	5	Mar-21-24	Mar-27-24	7																						
A10320	Millwork	25	Mar-21-24	Apr-24-24	7																						
A10310	Install Window treatment	20	Mar-28-24	Apr-24-24	7																						
A10270	Wall base	2	Apr-02-24	Apr-03-24	12																						
A10280	Specalties/Fixtures	15	Apr-04-24	Apr-24-24	12																						
A10330	Final Polish Concrete Floor	5	Apr-25-24	May-01-24	7																						
<b>Quad Floor</b>		<b>212</b>	<b>Jul-18-23</b>	<b>May-08-24</b>	<b>2</b>																						
<b>Framing and Roughins</b>		<b>113</b>	<b>Jul-18-23</b>	<b>Dec-21-23</b>	<b>2</b>																						
A10060	Polish Exposed Concrete Floor	4	Jul-18-23	Jul-21-23	15																						
A9790	Over head MEPS	40	Aug-14-23	Oct-06-23	0																						
A9800	LGM Framing	15	Aug-14-23	Sep-01-23	2																						
A9810	Door Frames	5	Aug-28-23	Sep-01-23	49																						
A9820	In-wall MEPS Rough ins	10	Aug-28-23	Sep-08-23	2																						
A9830	Drywall tops	8	Sep-11-23	Sep-20-23	2																						
A9840	Blocking	5	Sep-21-23	Sep-27-23	2																						
A9850	Inwall inspections	1	Sep-28-23	Sep-28-23	2																						
A9860	In-Wall Plumbing/Mechanical Insulation	5	Sep-29-23	Oct-05-23	2																						
A9870	Acoustic insulation	5	Oct-06-23	Oct-12-23	2																						
A9880	Drywall HTS	40	Oct-13-23	Dec-07-23	2																						
A9890	Frame Soffits/Ceilings	10	Dec-08-23	Dec-21-23	2																						
<b>Finishes</b>		<b>131</b>	<b>Nov-08-23</b>	<b>May-08-24</b>	<b>2</b>																						
A9900	Prime and 1st Coat Paint	32	Nov-08-23	Dec-21-23	2																						
A9910	ACT Grid and cuts	25	Dec-22-23	Jan-25-24	2																						
A9920	Ceiling MEPS Rough-in/Drop-in	13	Jan-26-24	Feb-13-24	2																						
A9930	Above Ceilings inspection	1	Feb-14-24	Feb-14-24	2																						
A9940	Flooring	20	Feb-15-24	Mar-13-24	12																						
A9990	Flood Ceilings	20	Feb-15-24	Mar-13-24	2																						
A9950	Final Painting	10	Mar-14-24	Mar-27-24	2																						
A9960	Carpet Tile	8	Mar-28-24	Apr-08-24	7																						
A10000	Install Doors	5	Mar-28-24	Apr-03-24	2																						
A10040	Millwork	25	Mar-28-24	May-01-24	2																						
A10010	Install Window treatment	20	Apr-04-24	May-01-24	2																						
A9970	Wall base	2	Apr-09-24	Apr-10-24	7																						
A9980	Specalties/Fixtures	15	Apr-11-24	May-01-24	7																						

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022							2023							2024							2025		
						M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	
A8740	Door Frames	5	Sep-01-23	Sep-07-23	47																								
A8750	In-wall MEPS Rough ins	10	Sep-01-23	Sep-14-23	0																								
A8760	Drywall tops	8	Sep-15-23	Sep-26-23	0																								
A8770	Blocking	5	Sep-27-23	Oct-03-23	0																								
A8780	Inwall inspections	1	Oct-04-23	Oct-04-23	0																								
A8790	In-Wall Plumbing/Mechanical Insulation	5	Oct-05-23	Oct-11-23	0																								
A8800	Acoustic insulation	5	Oct-12-23	Oct-18-23	0																								
A8810	Drywall HTS	40	Oct-19-23	Dec-13-23	0																								
A8820	Frame Soffits/Ceilings	10	Dec-07-23	Dec-20-23	3																								
A9640	Boiler/electrical/data room equipment delivery	5	Dec-21-23	Dec-27-23	67																								
A9650	Boiler room fit up	30	Dec-28-23	Feb-07-24	67																								
<b>Finishes</b>		129	Nov-14-23	May-10-24	0																								
A8830	Prime and 1st Coat Paint	30	Nov-14-23	Dec-25-23	0																								
A8840	ACT Grid and cuts	25	Dec-26-23	Jan-29-24	0																								
A8850	Ceiling MEPS Rough-in/Drop-in	13	Jan-30-24	Feb-15-24	0																								
A8860	Above Ceilings inspection	1	Feb-16-24	Feb-16-24	0																								
A8870	Flooring	20	Feb-19-24	Mar-15-24	0																								
A8920	Flood Ceilings	20	Feb-19-24	Mar-15-24	0																								
A8880	Final Painting	10	Mar-18-24	Mar-29-24	0																								
A8890	Carpet Tile	8	Apr-01-24	Apr-10-24	2																								
A8930	Install Doors	5	Apr-01-24	Apr-05-24	0																								
A9660	Millwork	25	Apr-01-24	May-03-24	0																								
A8940	Install Window treatment	20	Apr-08-24	May-03-24	0																								
A8900	Wall base	2	Apr-11-24	Apr-12-24	2																								
A8910	Specialties/Fixtures	15	Apr-11-24	May-01-24	2																								
A10080	Final Polish Concrete Floor	5	May-06-24	May-10-24	0																								
<b>Close Out</b>		15	May-13-24	May-31-24	0																								
A1030	Punch List	10	May-13-24	May-24-24	0																								
A1070	Testing & Commissioning	10	May-13-24	May-24-24	0																								
A7730	City Occupancy Inspection	5	May-27-24	May-31-24	0																								

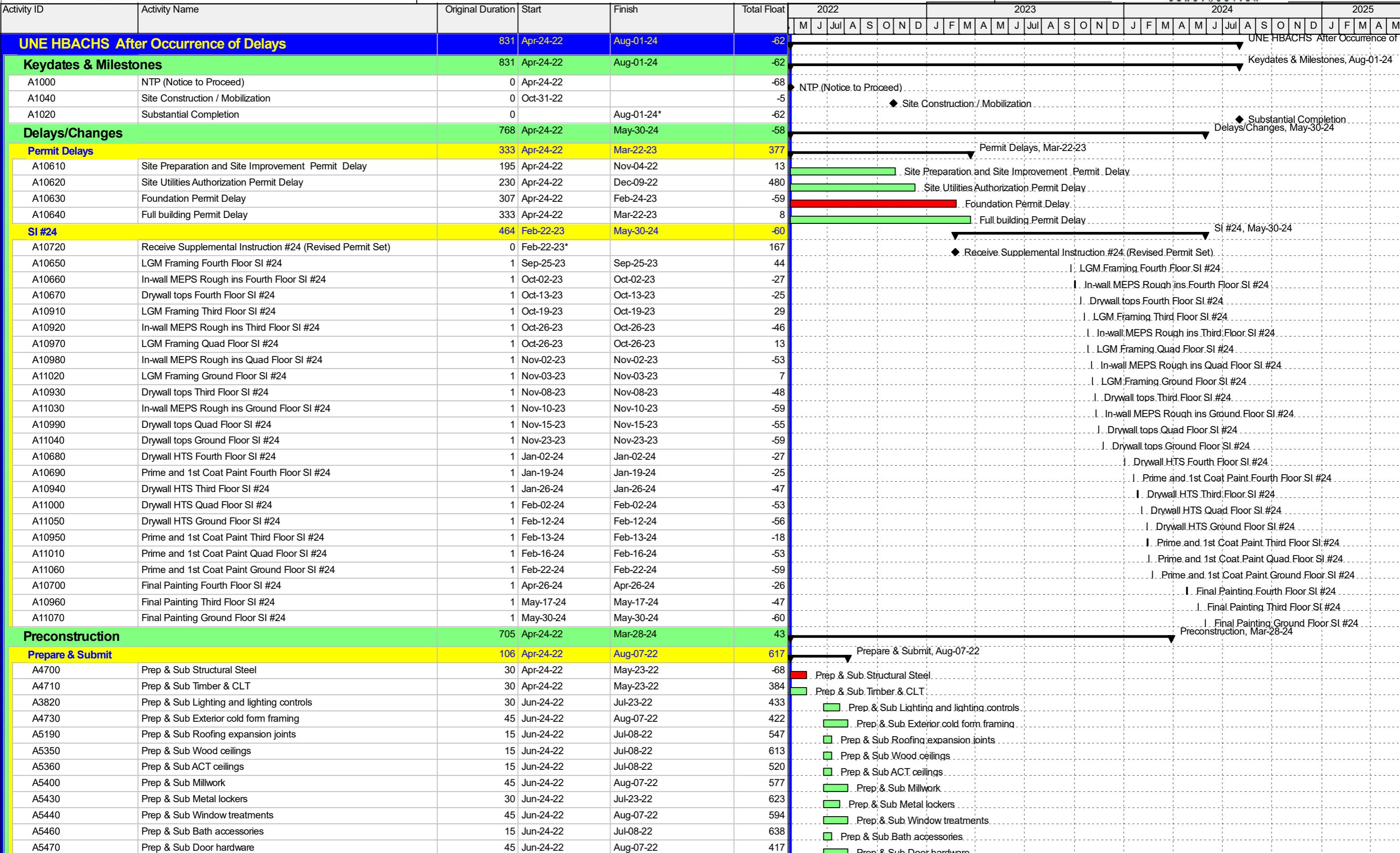
Appendix (B): Baseline Schedule – Before Occurrence of Delay Events – Critical Path



- █ Remaining Level of Effort    █ Remaining Work    ▼ Summary  
█ Actual Level of Effort    █ Critical Remaining Work  
█ Actual Work    ◆ Milestone

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022						2023						2024						2025			
						M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F
A8830	Prime and 1st Coat Paint	30	Nov-14-23	Dec-25-23	0																						
A8840	ACT Grid and cuts	25	Dec-26-23	Jan-29-24	0																						
A8850	Ceiling MEPS Rough-in/Drop-in	13	Jan-30-24	Feb-15-24	0																						
A8860	Above Ceilings inspection	1	Feb-16-24	Feb-16-24	0																						
A8870	Flooring	20	Feb-19-24	Mar-15-24	0																						
A8920	Flood Ceilings	20	Feb-19-24	Mar-15-24	0																						
A8880	Final Painting	10	Mar-18-24	Mar-29-24	0																						
A8930	Install Doors	5	Apr-01-24	Apr-05-24	0																						
A9660	Millwork	25	Apr-01-24	May-03-24	0																						
A8940	Install Window treatment	20	Apr-08-24	May-03-24	0																						
A10080	Final Polish Concrete Floor	5	May-06-24	May-10-24	0																						
<b>Close Out</b>		15	May-13-24	May-31-24	0																						
A1030	Punch List	10	May-13-24	May-24-24	0																						
A1070	Testing & Commissioning	10	May-13-24	May-24-24	0																						
A7730	City Occupancy Inspection	5	May-27-24	May-31-24	0																						

Appendix (C): Baseline Schedule – After Occurrence of Delay Events – Detailed Schedule





# UNE HBACHS After Occurrence of Delays Detailed Schedule Layout



 Remaining Level of Effort

 Remaining Work

Summary

Actual Level of Effort

Critical Remaining Work

### Actual Work

◆ Mileston



# UNE HBACHS After Occurrence of Delays Detailed Schedule Layout

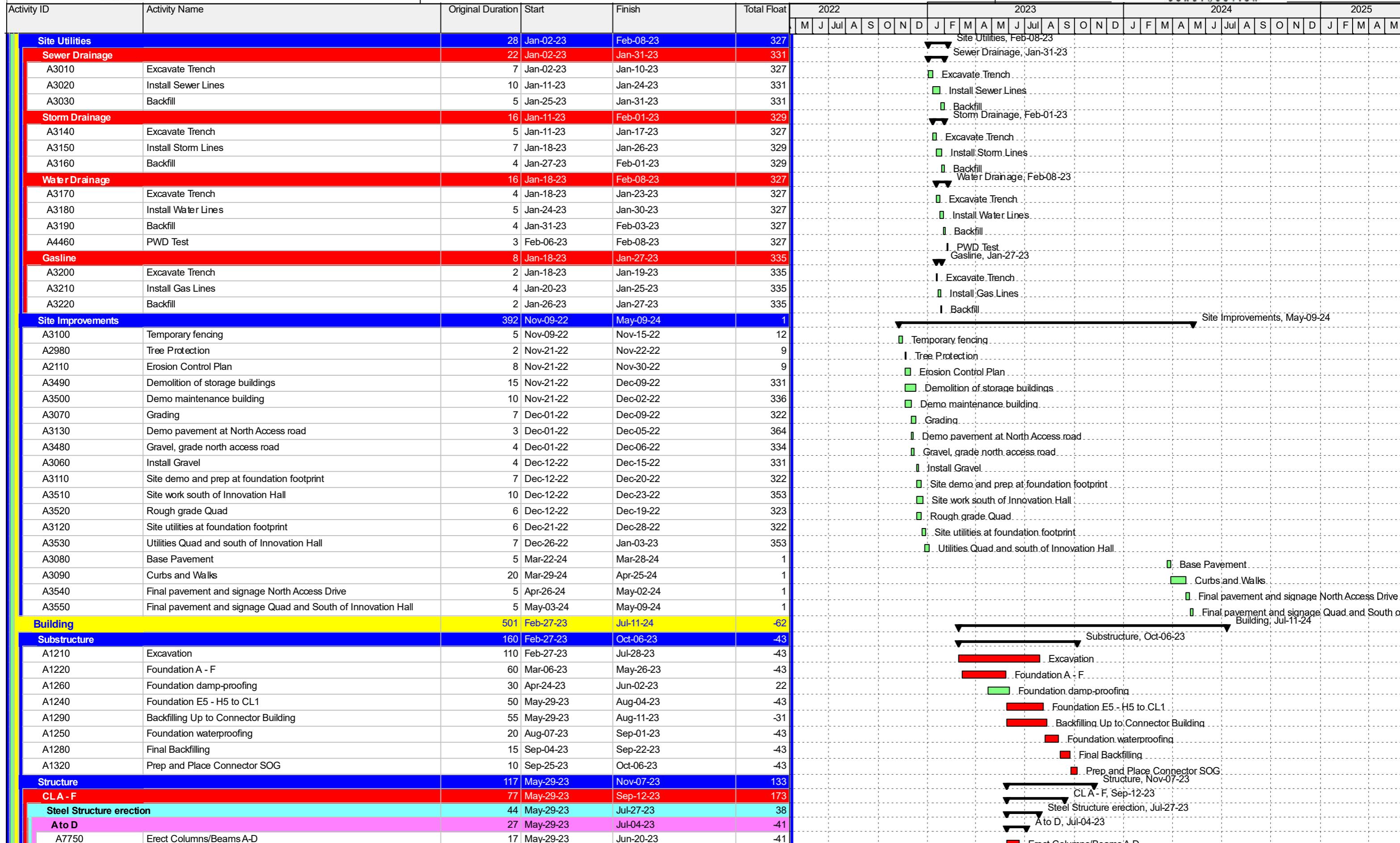


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- Actual Work: Represented by a blue bar.
- Remaining Work: Represented by a light green bar.
- Critical Remaining Work: Represented by a red bar.
- Milestone: Indicated by a black diamond symbol.

A summary icon is also present, consisting of three downward-pointing chevrons.

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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022						2023						2024						2025								
						M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M		
A8930	Install Doors	5	May-31-24	Jun-06-24	44																											
A9660	Millwork	25	May-31-24	Jul-04-24	44																											
A8940	Install Window treatment	20	Jun-07-24	Jul-04-24	44																											
A8900	Wall base	2	Jun-12-24	Jun-13-24	42																											
A8910	Specalties/Fixtures	15	Jun-12-24	Jul-02-24	42																											
A10080	Final Polish Concrete Floor	5	Jul-05-24	Jul-11-24	44																											
<b>Close Out</b>		15	Jul-12-24	Aug-01-24	44																											
A1030	Punch List	10	Jul-12-24	Jul-25-24	44																											
A1070	Testing & Commissioning	10	Jul-12-24	Jul-25-24	44																											
A7730	City Occupancy Inspection	5	Jul-26-24	Aug-01-24	44																											

Appendix (D): Baseline Schedule – After Occurrence of Delay Events – Critical Path







