

From: [Emiliano Mancini](#)
To: [Richard Noble \(Richard.Noble@ca.ey.com\)](#); [David Steele](#)
Subject: Astaldi's schedule issues
Date: Wednesday, April 29, 2015 3:27:00 PM
Attachments: [~WRD000.jpg](#)
[image001.png](#)
[MFA-AT-SD-0000-PM-A02-0001-01.pdf](#)
[C1 Contractor Schedule Status Mar 31 2015.JPG](#)

Hi,

I thought I would share some preliminary findings from the review of the attached Astaldi schedule that was received today.

The attached schedule was issued on 9 October 2014 and approved by Nalcor on 30 October 2014 and has the following issues:

1. Schedule doesn't provide the current status of the project. For instance, the bulk of the work on the Integrated Cover System is in the future. Therefore the schedule doesn't reflect the delays these activities have encountered during wintertime...
2. There are more than 500 activities with negative float, ranging from -1 up to -150 days. Negative float indicates the inability to meet schedule milestones/deadlines. The more tasks with negative float, the more unrealistic the schedule is...
3. Schedule shows "Substantial Completion of the Work" on 30 June 2018 and "Final Completion of the Work" on 29 September 2018; however, in Nalcor's January Monthly Report the construction progress curve for MFG component reaches 100% progress in April 2018. There is potentially a 5-month gap. To be validated.

It also has to be noted that Astaldi "Control Schedule Baseline Document" and "Schedule Development and Control Plan" remain unapproved, as shown in the attached picture. These documents describe the approach to planning and schedule control including schedule development, forecasting, corrective actions, progress measurement system...

Regards,



Emiliano Mancini | Manager | Advisory Services

Ernst & Young LLP
Ernst & Young Tower, 222 Bay Street, P. O. Box 251, Toronto, ON M5K 1J7 Canada
Phone: +1 416 943 4418 | Cell Phone: +1 647 455 0371
EY/Comm: 1636262 | Emiliano.Mancini@ca.ey.com

From: Nalcor Energy [mailto:publications_comments@intralinks.com]
Sent: Wednesday, April 29, 2015 9:26 AM
To: Emiliano Mancini
Subject: Independent Engineer and Project Finance Documents - 6 New Documents in E&Y Review

New Documents are Available in E&Y Review

New Documents are now available in the Independent Engineer and Project Finance Documents exchange.

Note from Nalcor Energy

(no note included)

View Documents: E&Y Review

File Name: [2014 10 10 - ACI-MFC-0143 - Issue Of Revised Construction Schedule](#)

File Name: [AH-MFG-PM-0002_r06 Proj Baseline \(MFA-AH-SD-2000-EP-A02-0001-01_C1\)](#)

File Name: [AH-MFG-PM-0011_r05 CSBD \(MFA-AH-SD-2000-EP-A44-0001-01_A6\)](#)

File Name: [CH0007-MUSKRAT FALLS - EXECUTION DETAILED SCHEDULE v8.2 DD 28](#)

[SEP14 Official Submission 09.10.2014](#)

File Name: [MFA-AT-SD-0000-PM-A02-0001-01](#)

File Name: [RS_MFA-AH-SD-2000-EP-A44-0001-01_A5 \(AH-MFG-PM-0011\) CSBD](#)

Folder: [E&Y Review](#)

Exchange: Independent Engineer and Project Finance Documents

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Document Front Sheet

| | | | | |
|-----------------------------------|--|--|--|---------------|
| NE-LCP Contractor/Supplier | Contract or Purchase Number and Description: CH0007-001 – Construction of Powerhouse, Spillway and Transition Dams | | Contractor/Supplier Name: ASTALDI CANADA INC. | |
| | Document Title: Astaldi Execution Detailed Schedule | | Total Number of Pages Incl. Front Sheet 41 | |
| | Contractor Document Number: MFA-AT-SD-0000-PM-A02-0001-01 | | Revision Number: A5 | |
| | Supplier Document Number : | | Revision Number : | |
| | NE-LCP Document Number : | | NE-LCP Issue Number : | |
| | MFA-AT-SD-0000-PM-A02-0001-01 | | A5 | |
| | Approver's Signature :  | | Date (dd-mmm-yyyy): 10-Oct-2014 | Review Class: |
| | Comments: | | Equipment Tag or Model Number: | |

| | | | | |
|--------------------------|---|------------------------------------|------------------|---------------------|
| NE-LCP | REVIEW DOES NOT CONSTITUTE APPROVAL OF DESIGN DETAILS, CALCULATIONS, TEST METHODS OR MATERIAL DEVELOPED AND/OR SELECTED BY THE CONTRACTOR, NOR DOES IT RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OR OTHER OBLIGATIONS. | | | |
| | <input checked="" type="checkbox"/> 01 – REVIEWED AND ACCEPTED – NO COMMENTS <input type="checkbox"/> 02 – REVIEWED – INCORPORATE COMMENTS, REVISE AND RESUBMIT <input type="checkbox"/> 03 – REVIEWED - NOT ACCEPTED <input type="checkbox"/> 04 – INFORMATION ONLY <input type="checkbox"/> 05 – NOT REVIEWED | | | |
| | This document has been reviewed & coded electronically via Aconex. | | | |
| | Lead Reviewer: Mike Collins | Date (dd-mmm-yyyy): 30-Oct-2014 | Project Manager: | Date (dd-mmm-yyyy): |
| | NE-LCP Management: | Date (dd-mmm-yyyy): | | |
| <u>General Comments:</u> | | | | |



10.October.2014

Muskrat Falls Corporation
350 Torbay Road, Suite 2
St. John's, NL Canada
A1A 4E1

ACI / MFC - 0143

Attention: Mr. D. Tranquilla

Subject: LCP Muskrat Falls Contract No. CH0007
RE: Issue of Revised Construction Schedule

Dear Mr. Tranquilla,

As per the last letter we have received (LTR-CH0007001-0283) concerning the "Baseline Control Schedule Conditional Acceptance", Astaldi Canada Inc. would like to emphasize that the comments are reaching to an endless process. Every time, our planning department resolve the comments as required by Company's team to get the baseline schedule approved, Astaldi receives new comments with a new deadline date. This process is draining the capacity of our planning department and distracting it from focusing on tracking site issues and needs.

Astaldi Canada Inc., believes the planning department was more than cooperative with the requirements asked by Company, though those requirements kept being changed and modified.

Astaldi Canada Inc., is responsible of its own schedule, and would like to put the efforts of the planning team where there is really a need.

The planning department is going to adjust and implement what is requested on your letter and would like to clarify the following points in the same order as presented on you letter(LTR-CH0007001-0283):

- 1- Concerning the first point structural steel sequence, the strategy has been discussed with Company lead site planner and lags have been put to split the delivery for different structures.
- 2- Astaldi Canada Inc., has treated the priority 1 Items as instructed and agreed with the company, and treated more than 90% of the Items related to priority 2 and 3.
- 3- Astaldi Canada Inc. has not duplicated the budget on the progress curve, the other issues are resolved.

A handwritten signature in blue ink, appearing to be a stylized 'S' or 'J' followed by a flourish.



- 4- Winter effect calendars have been assigned to the pours driving the milestone M4B, in order to make this Milestone achievable.
- 5- Astaldi Canada Inc. will still need clarifications concerning the erection of the intake structure and the interferences with the other contractors. A 30 days duration is allocated to those structure for the moment, till more clarifications are provided.
- 6- The negative lags -888 have been removed, though there presence were justified by Astaldi planners to the Company team.
- 7- This issue has been treated and Astaldi Canada Inc. will make sure for the next Schedule submission it is verified, and it came out of the Company request to push the Data date, while Astaldi planning team advised that it was the middle of the month and progress was not yet collected.

Astaldi Canada Inc. is fully aware of the situation of the project and will try its best effort to make the contractual Milestone dates achievable.

As a conclusion, Astaldi Canada Inc. considers this submission as a final review, having followed all Company comments and instructions.

Yours sincerely,

Astaldi Canada Inc.

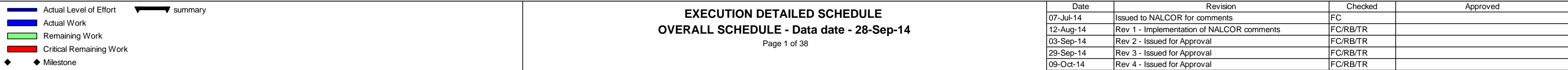

Mr. J. Alves

Project Manager






Lower Churchill Project – Muskrat Falls

Cc: Mr. E. Lucchini; Mr. R. Hopkins; Mr. E. Violato GB/RJH – 11. September. 2014
Mr. G. Bader; Mr. F. Costa; Mr. T. Rana
Nalcor: Mr. A. Kelly; Mr. M. Melhem; Mr. H. Geres; Mr. P. Aucoin

CH0007: CIVIL WORKS







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 Actual Level of Effort  summary
 Actual Work
 Remaining Work
 Critical Remaining Work
 Milestone

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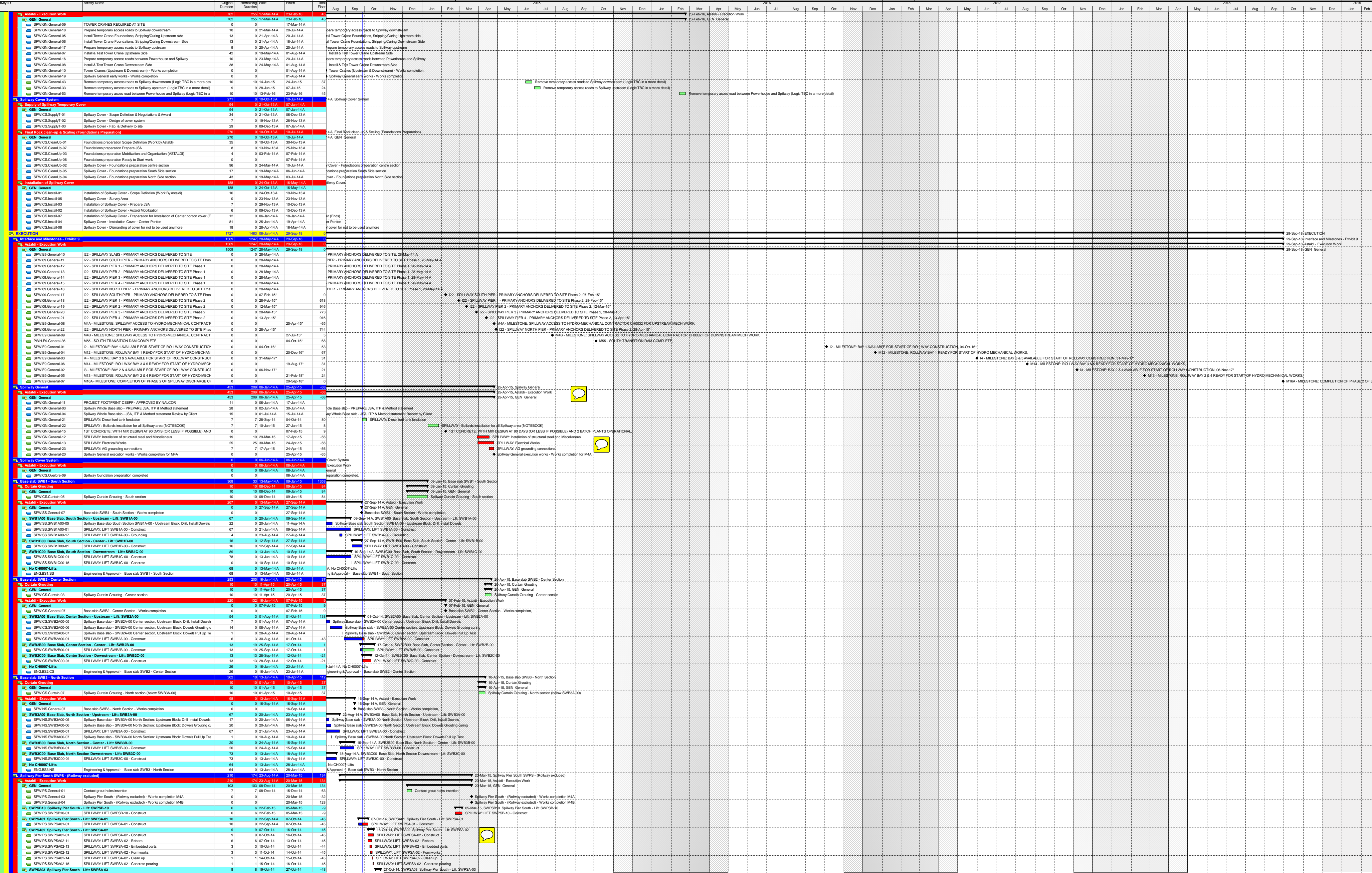
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CH0007: CIVIL WORKS

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PROJECT: LOWER CHURCHILL PROJECT

CH0007: CIVIL WORKS



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CH0007: CIVIL WORKS

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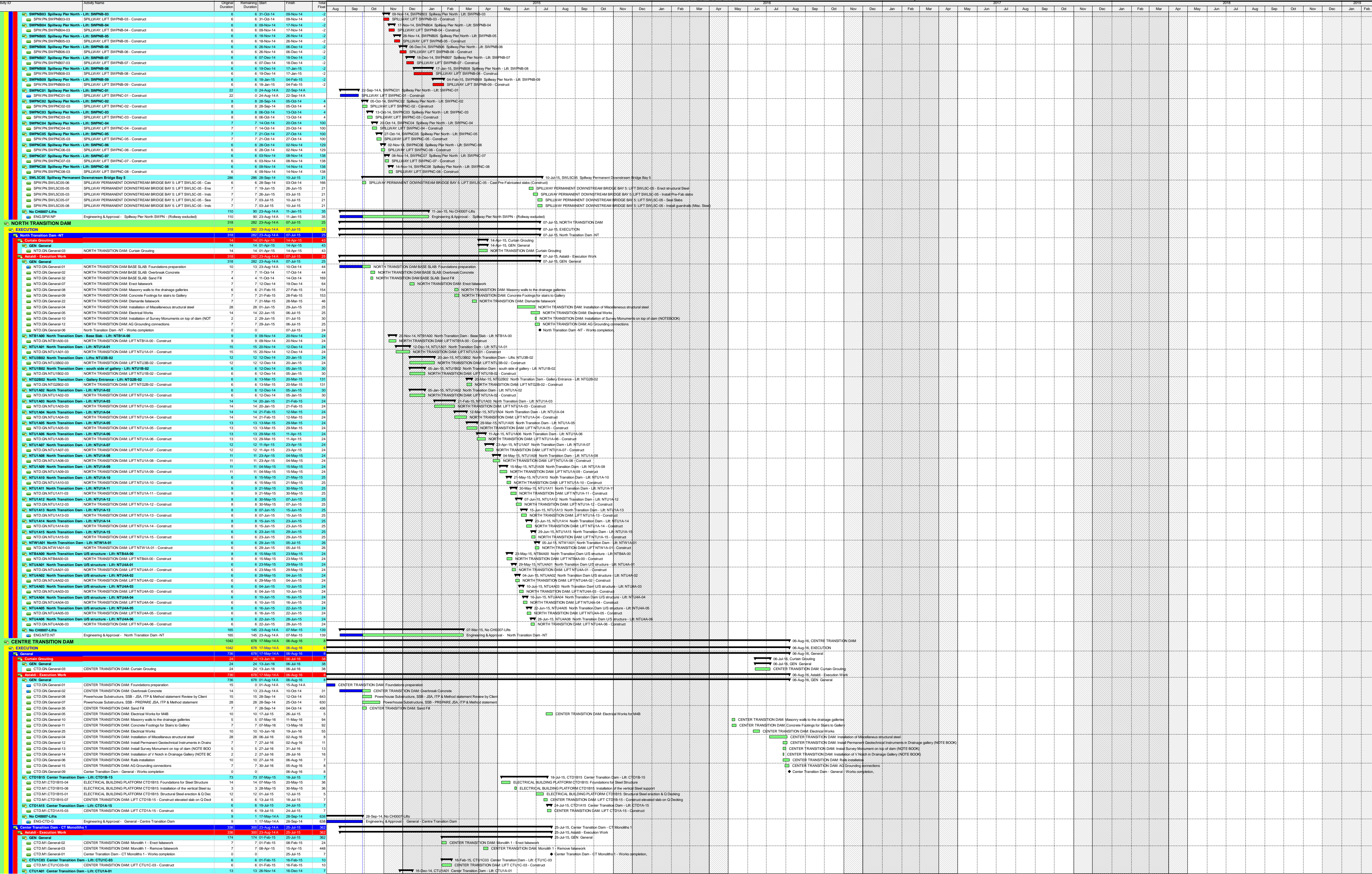
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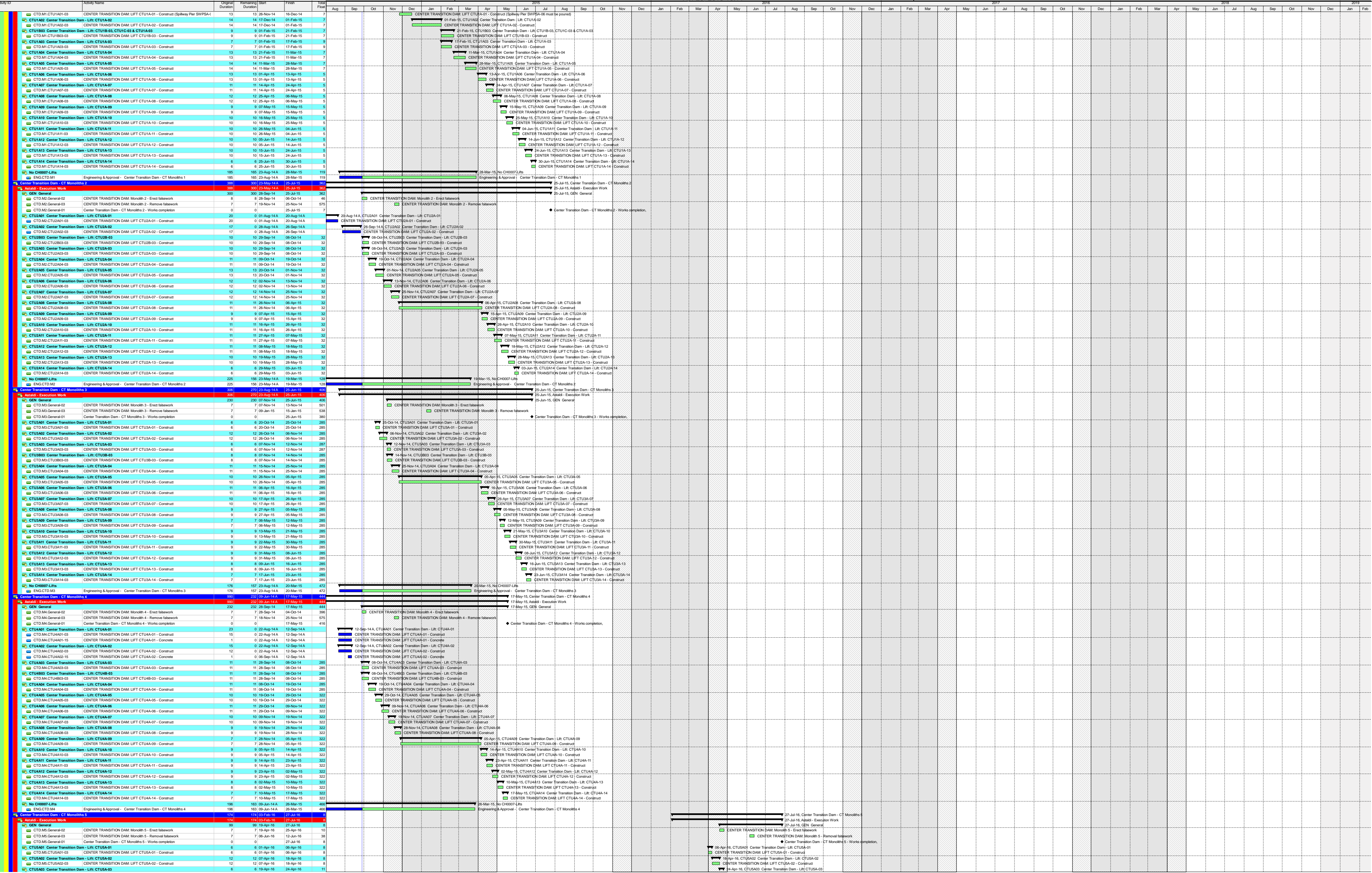
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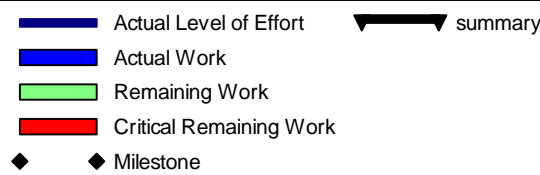
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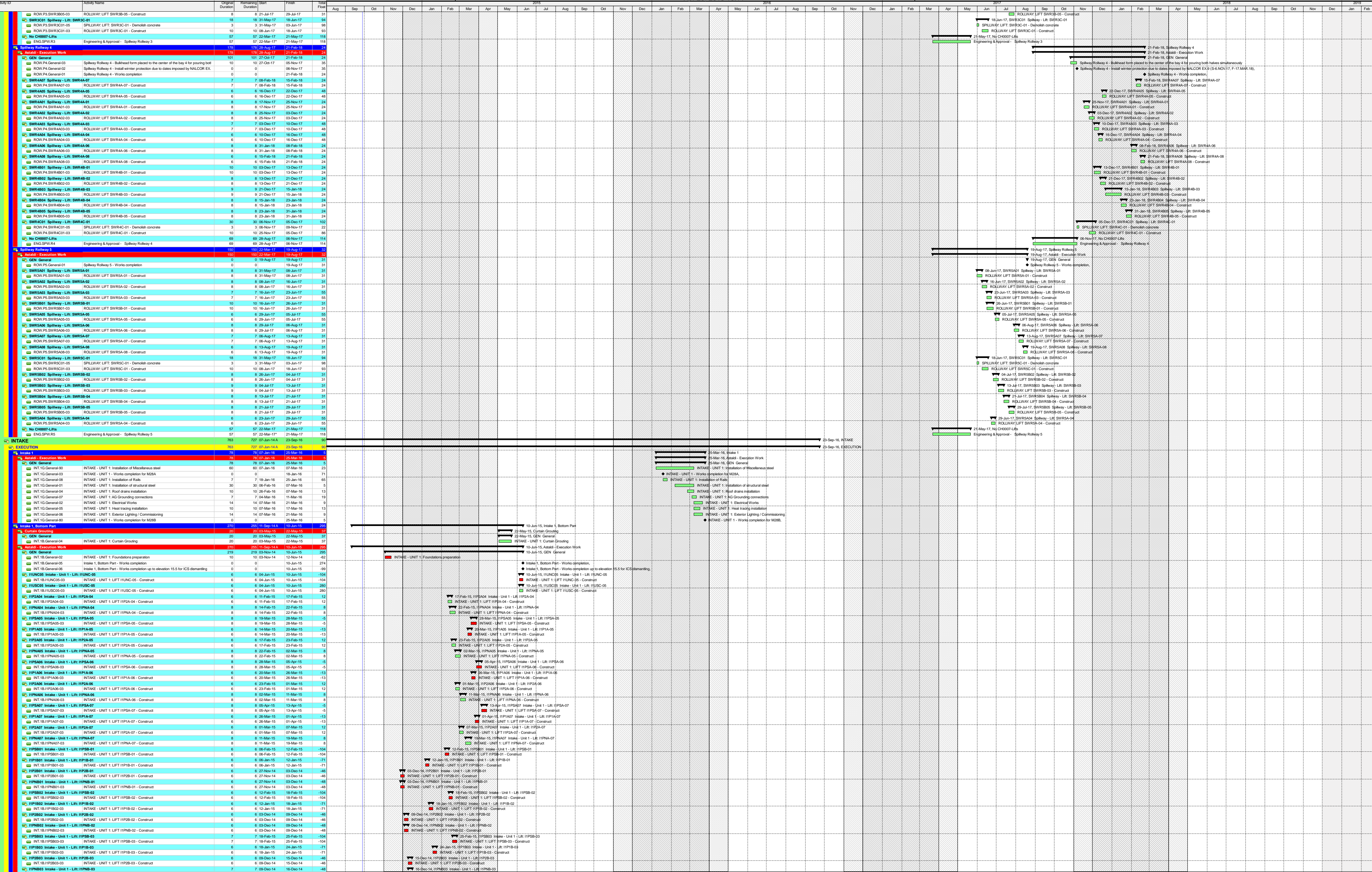


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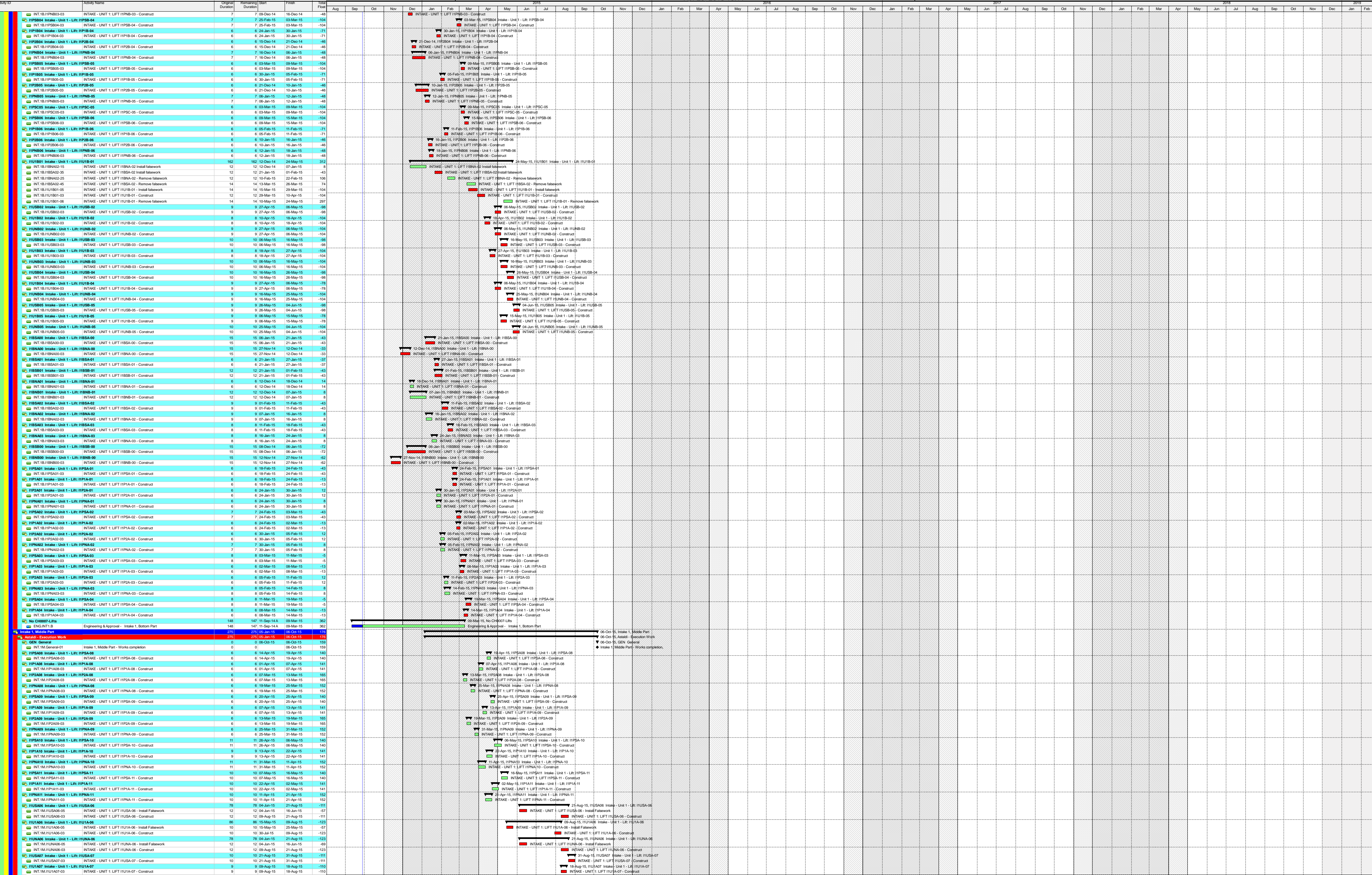
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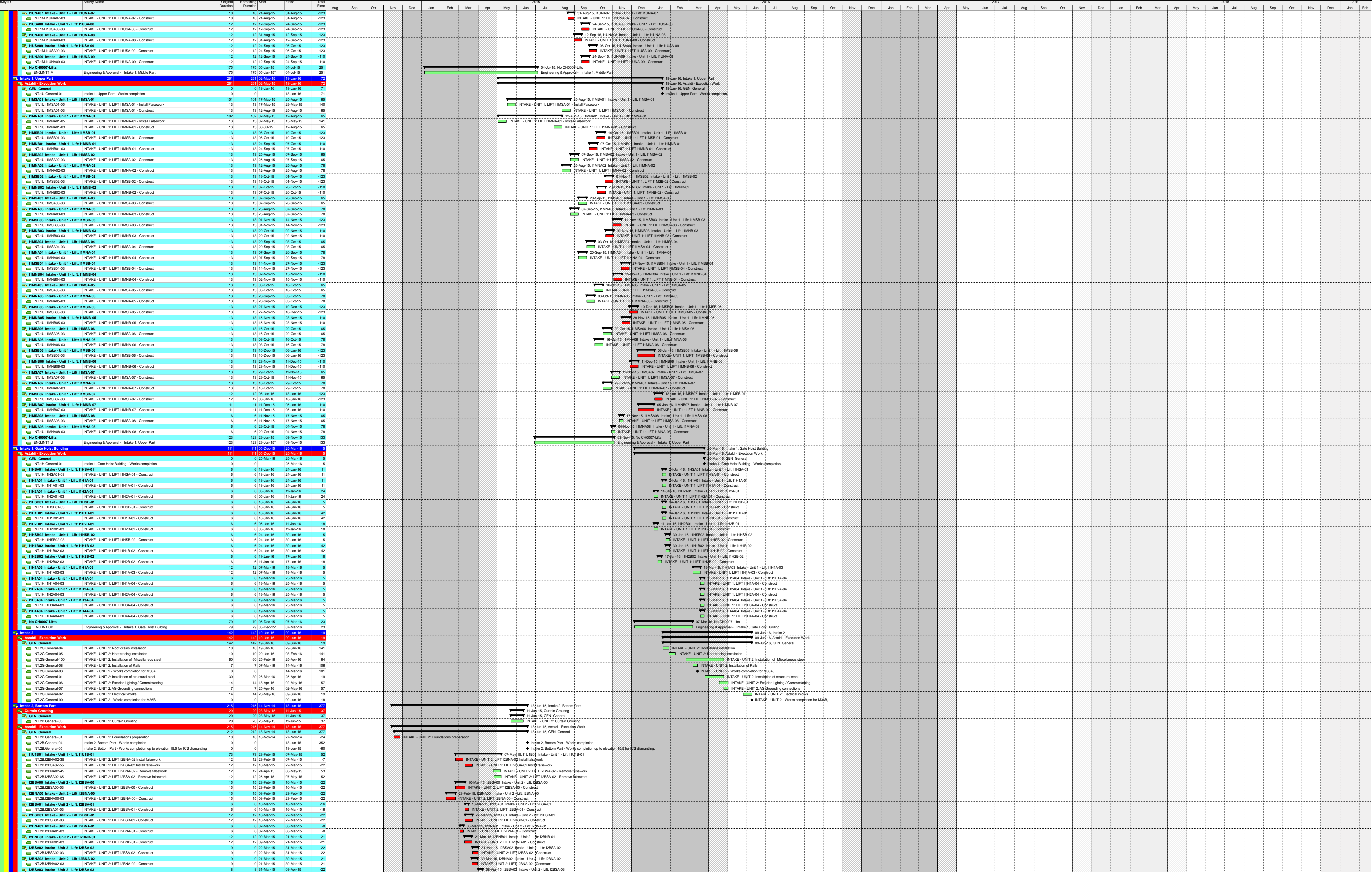
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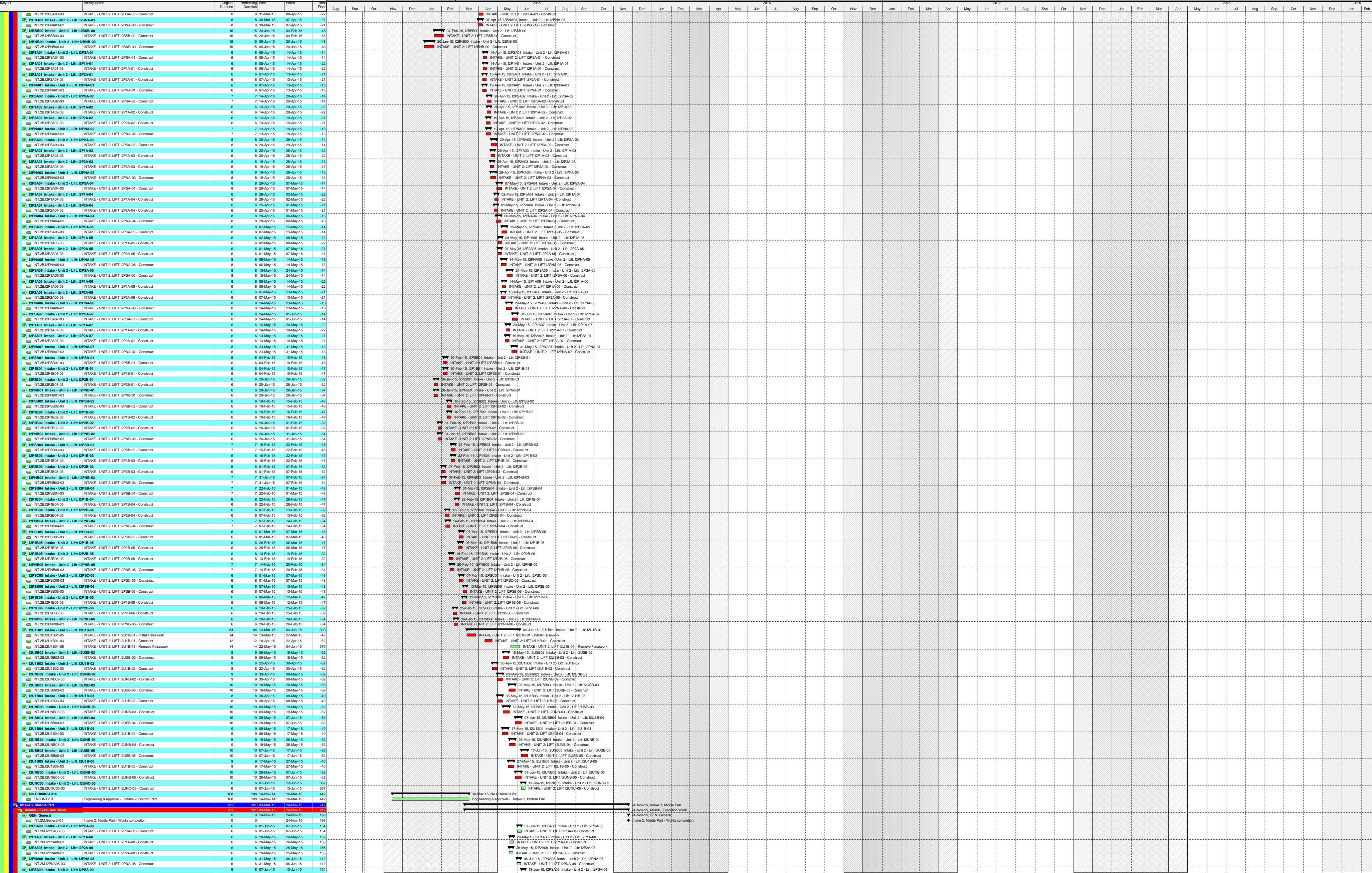


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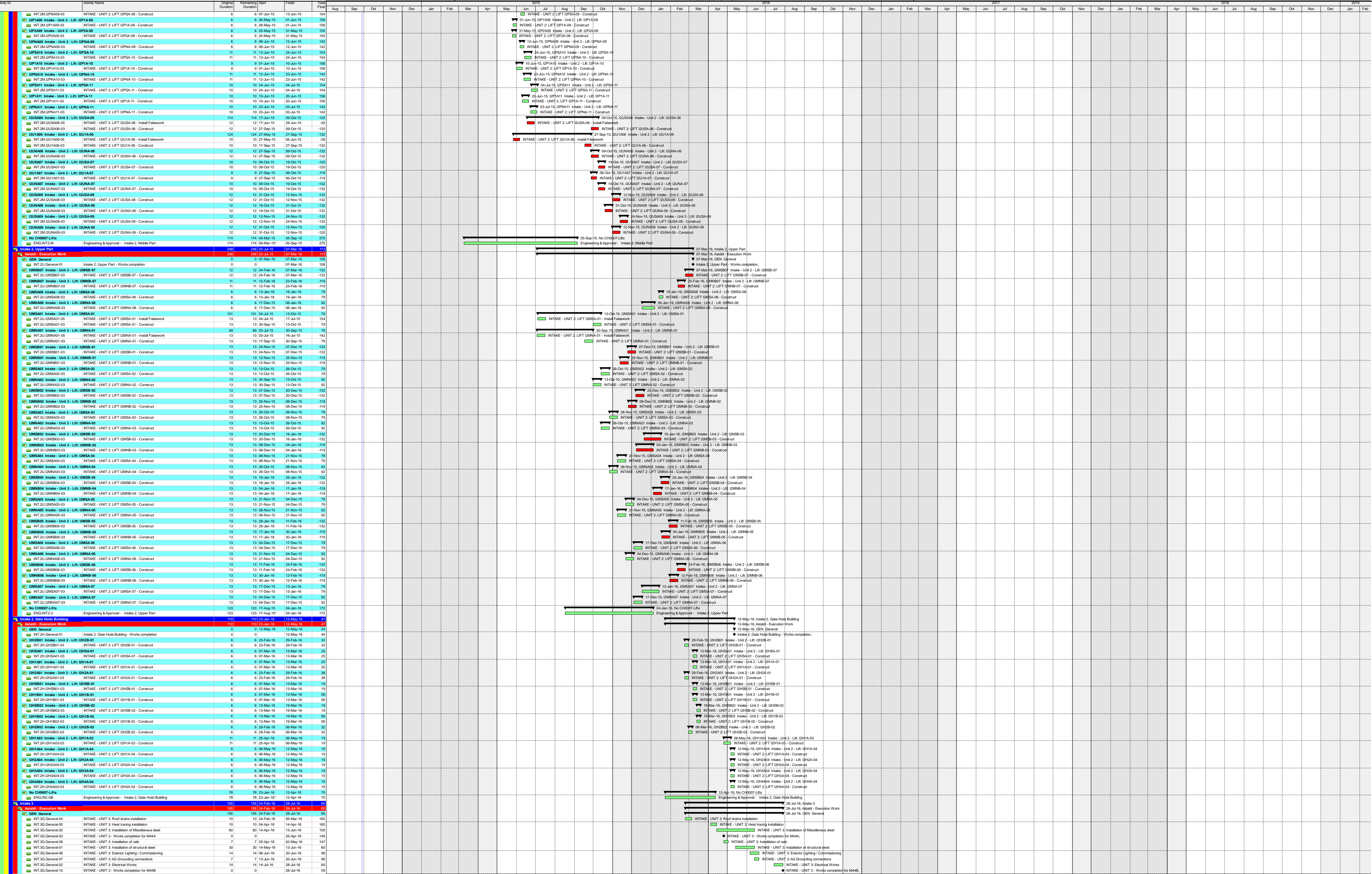
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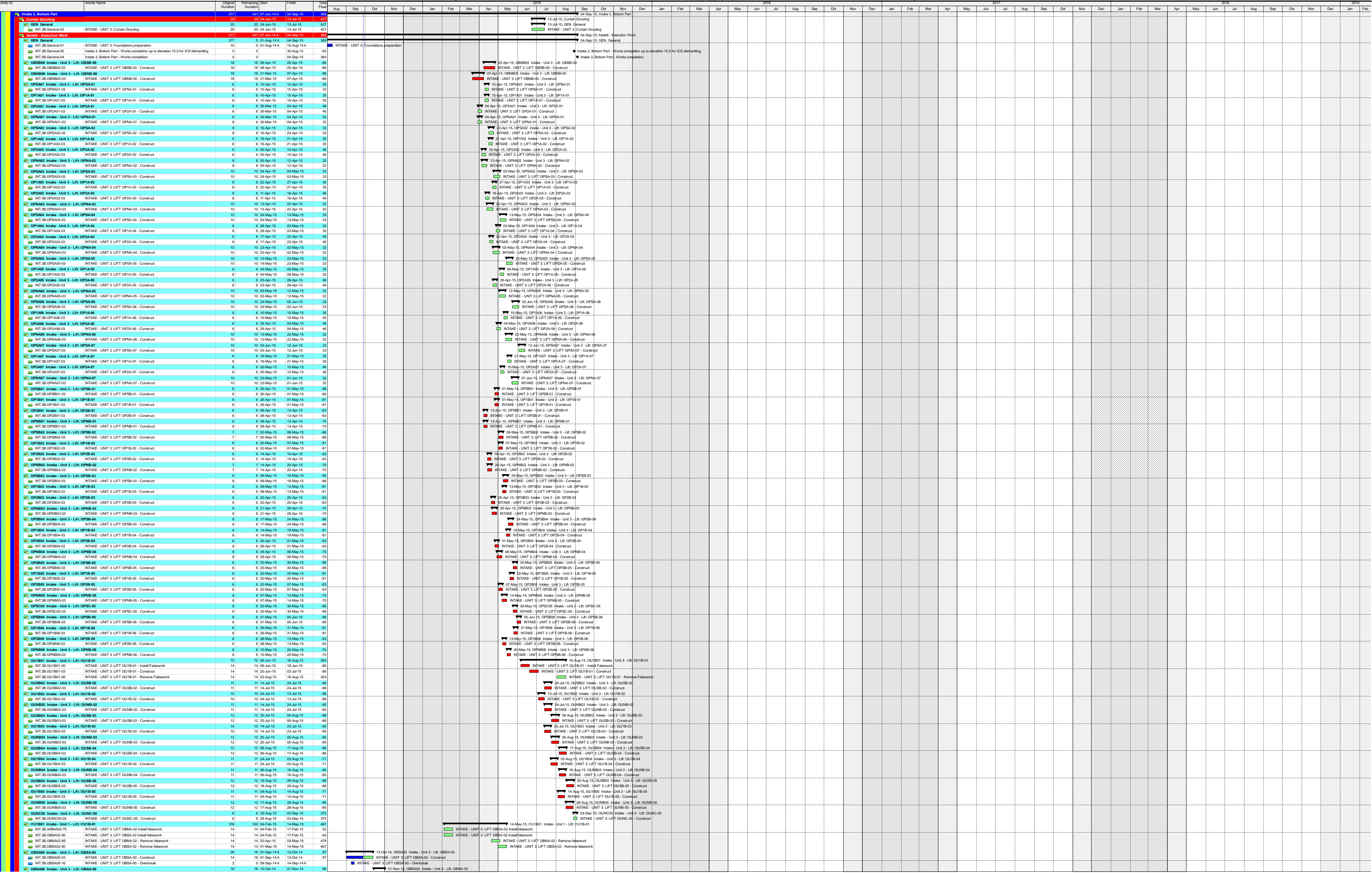


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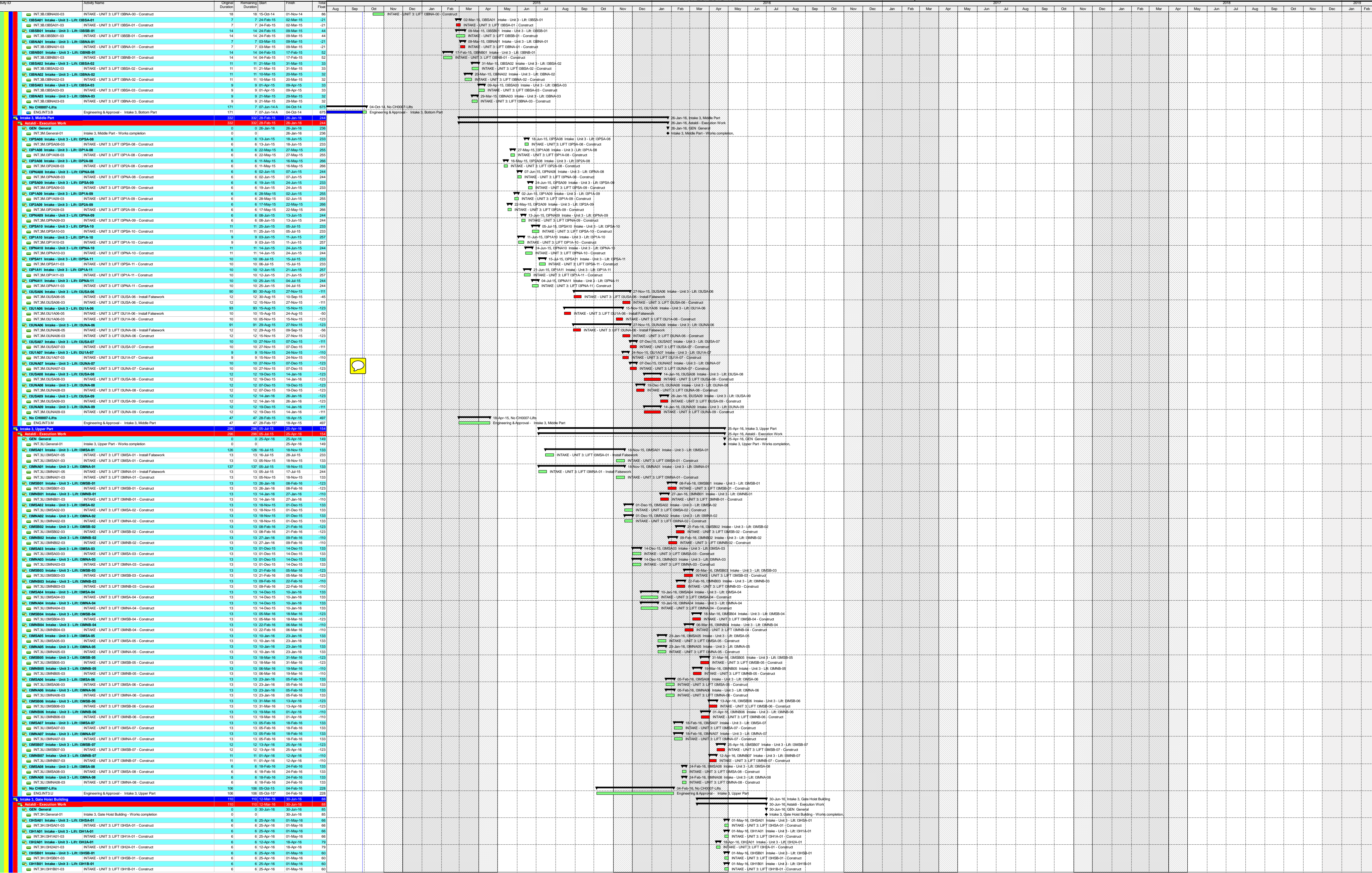
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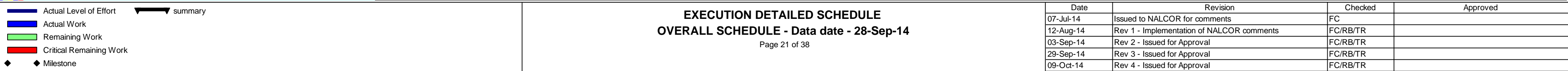
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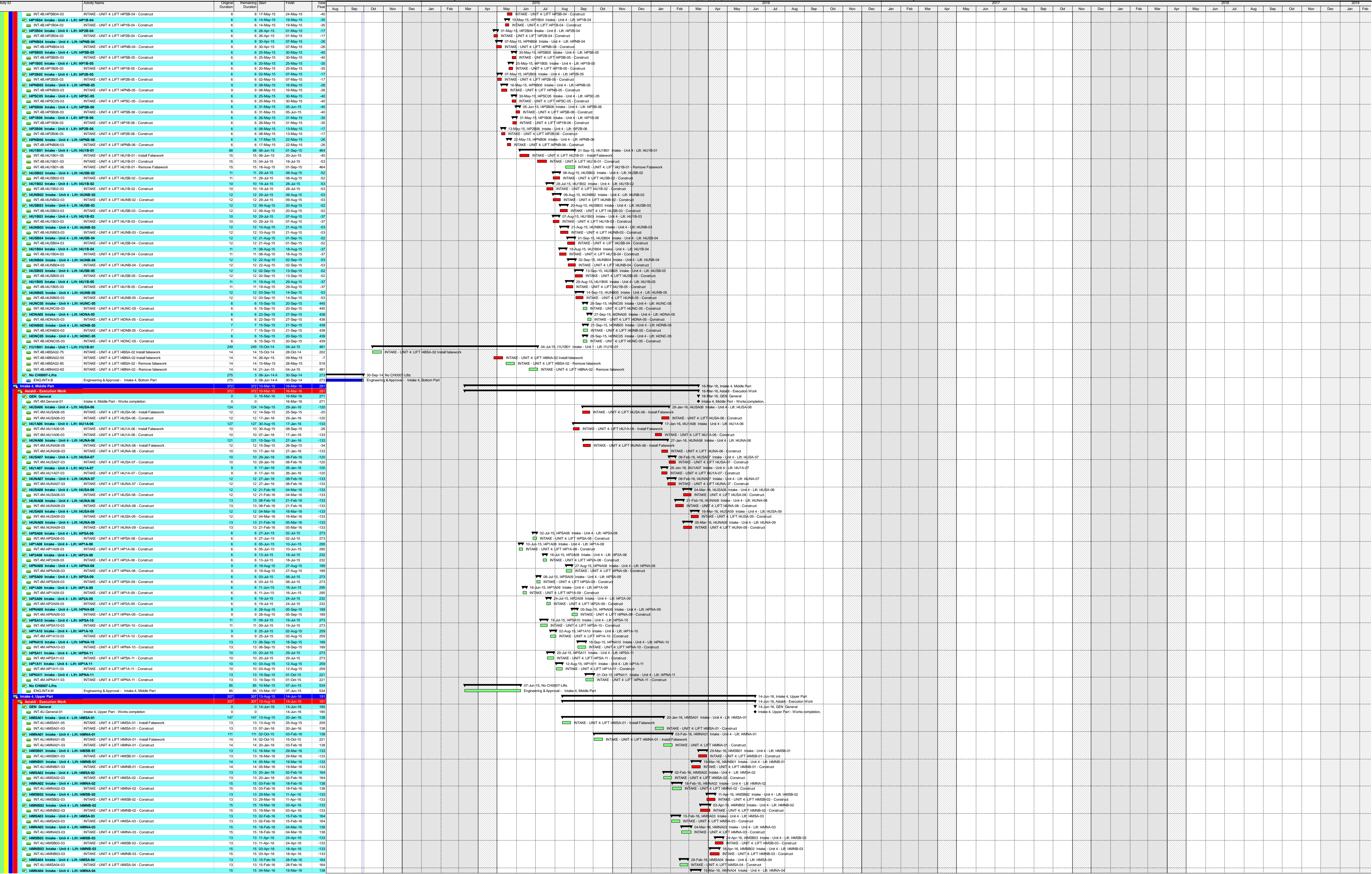
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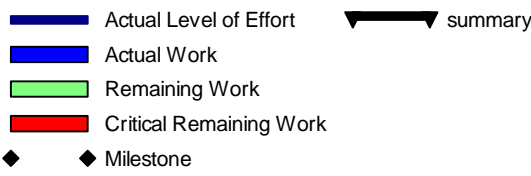
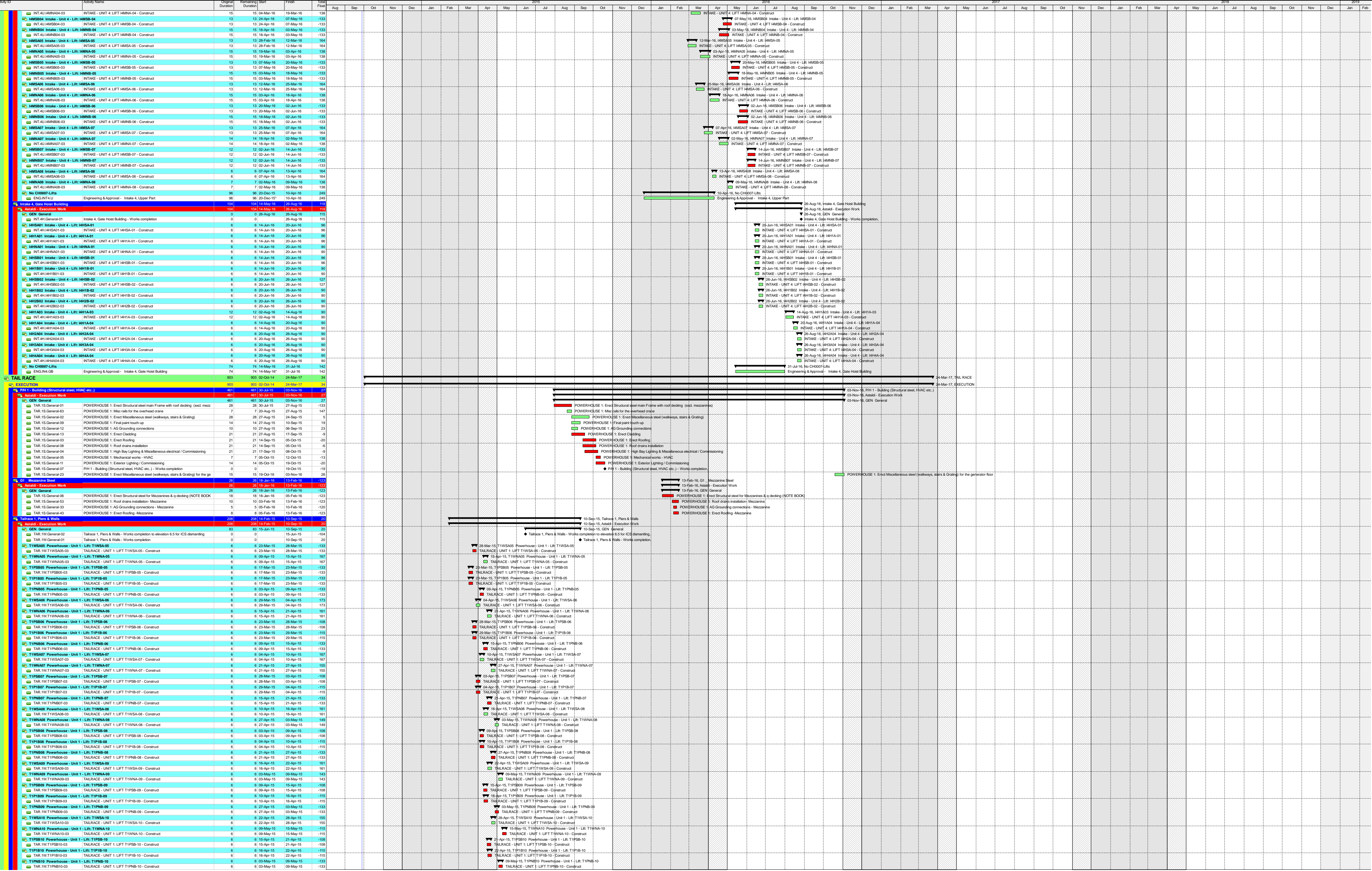


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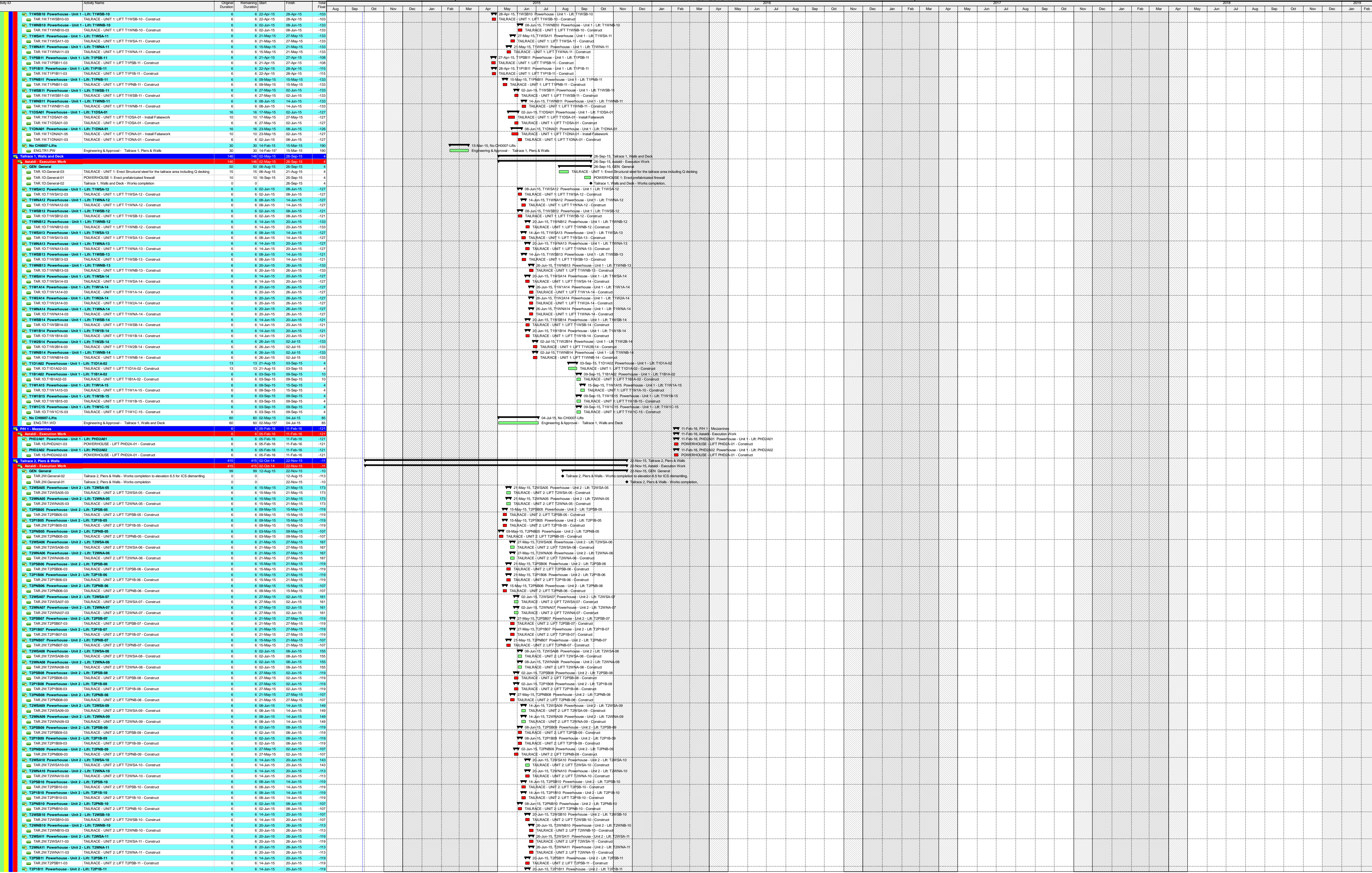
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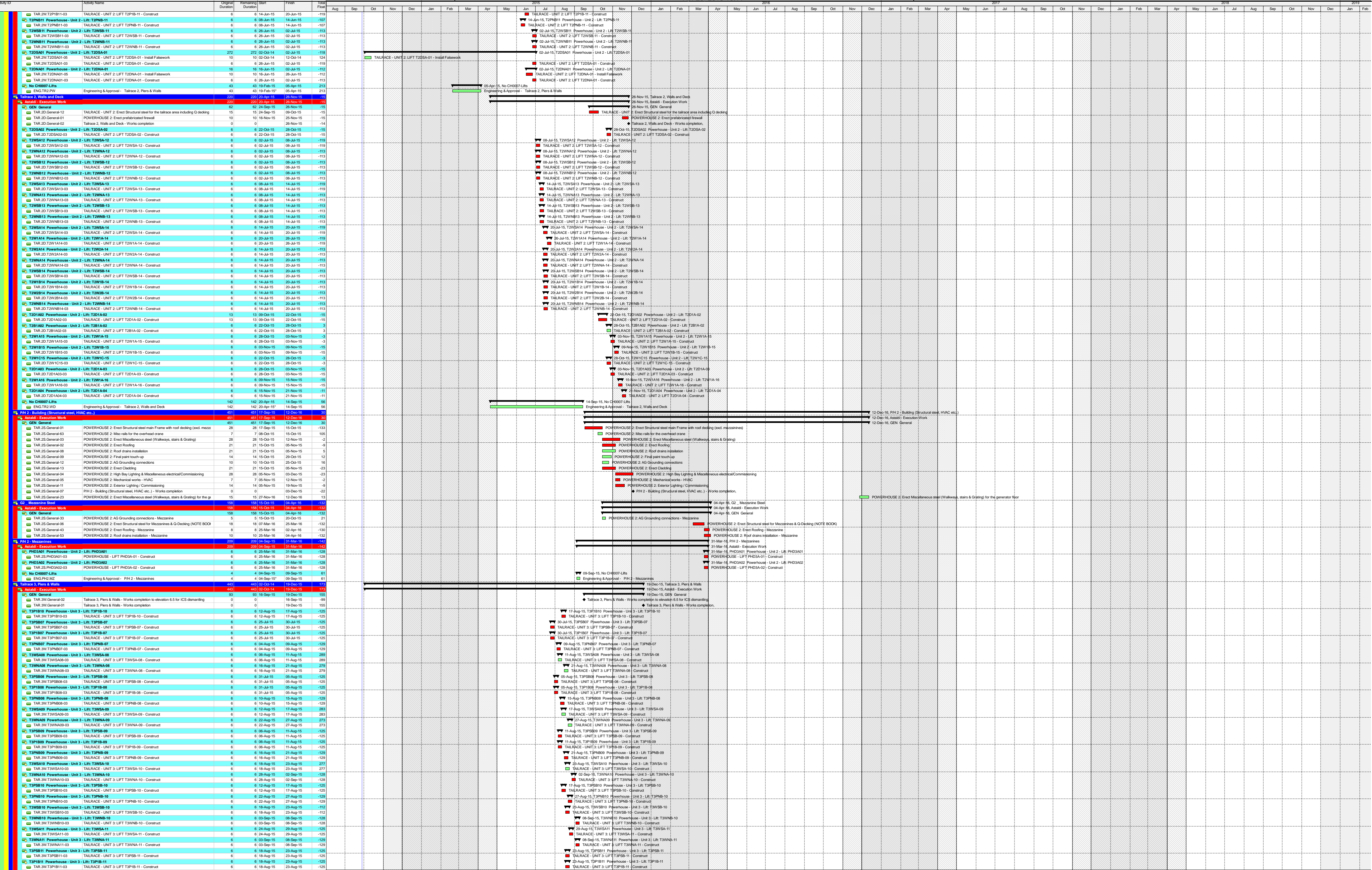
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PROJECT: LOWER CHURCHILL PROJECT

CH0007: CIVIL WORKS



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

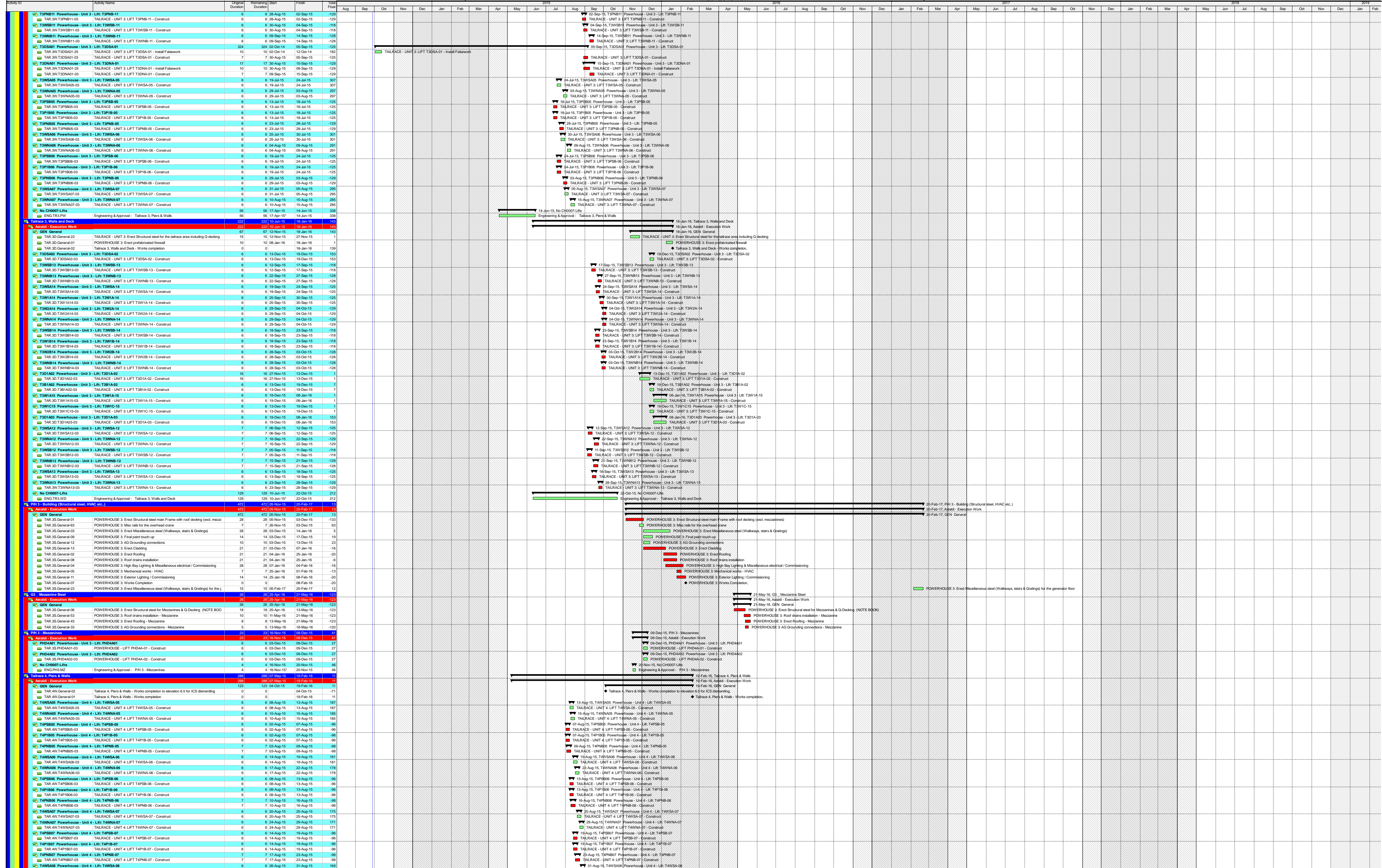
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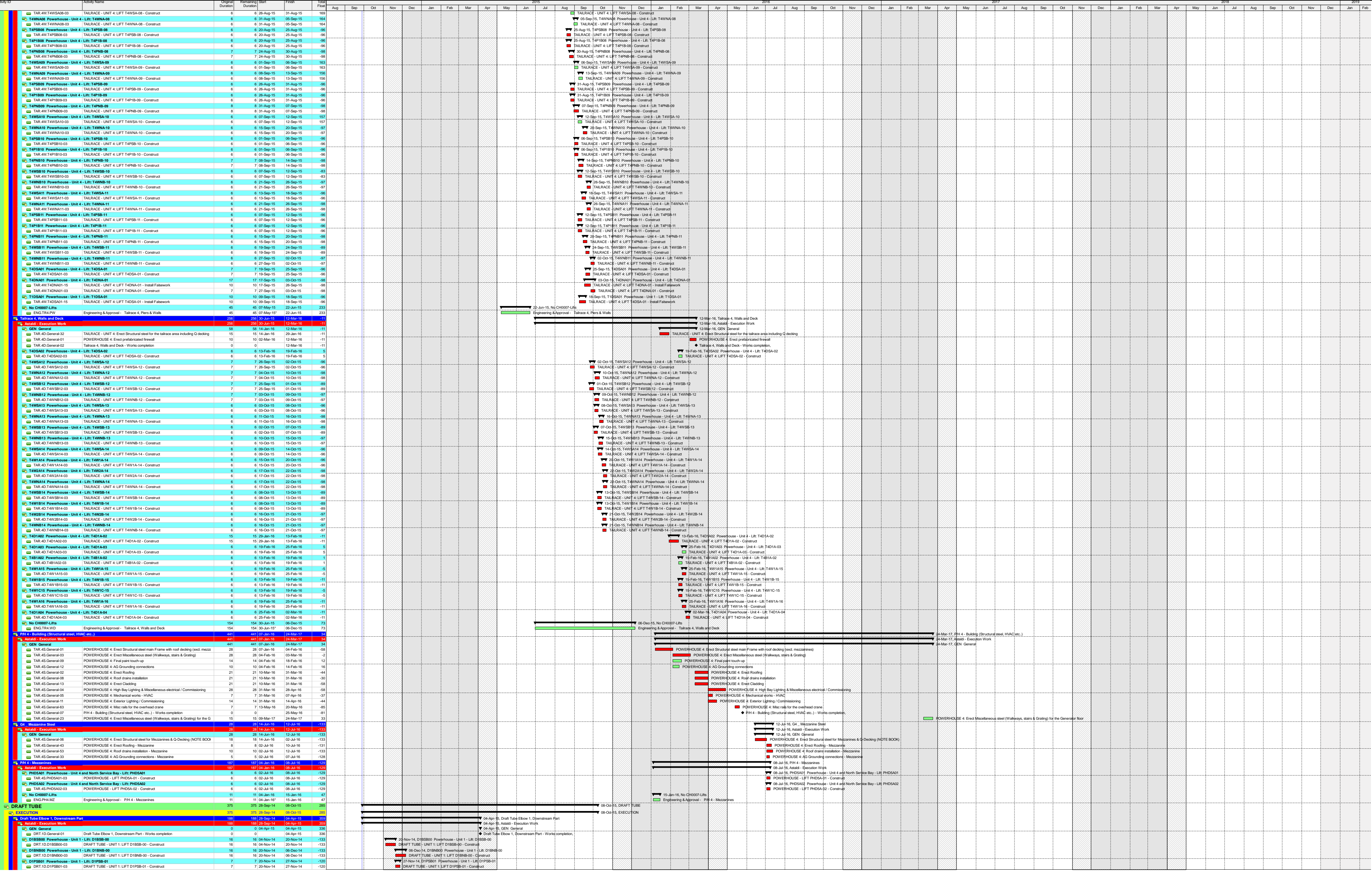
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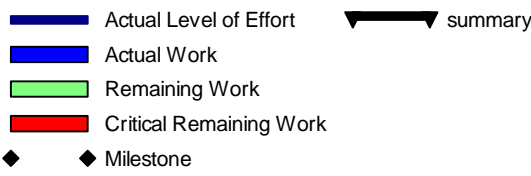
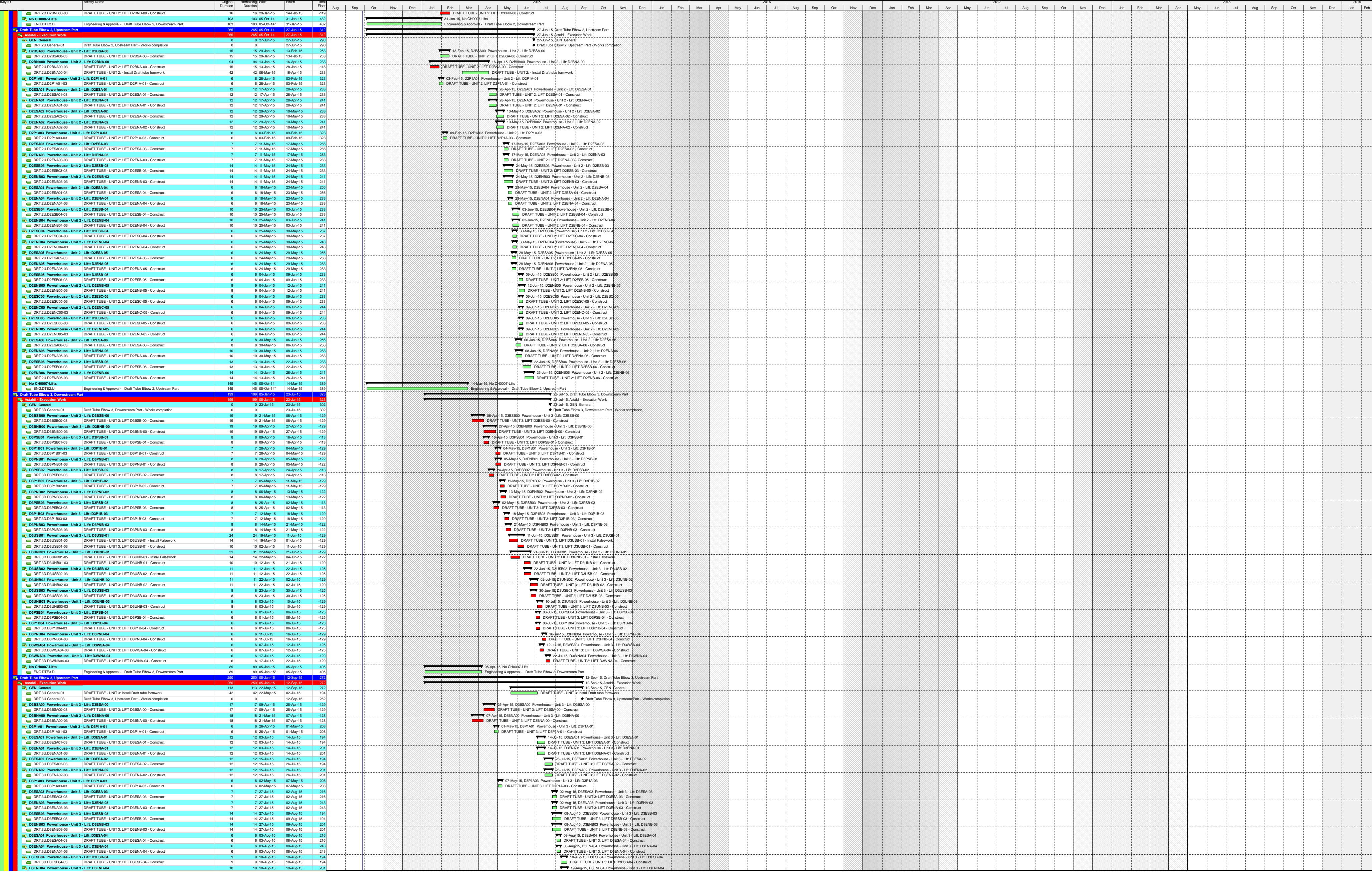
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 Remaining Work
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PROJECT: LOWER CHURCHILL PROJECT

CH0007: CIVIL WORKS



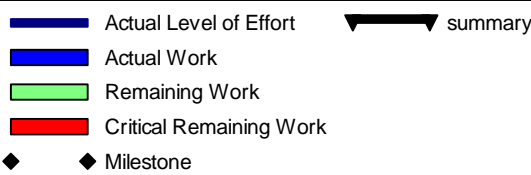
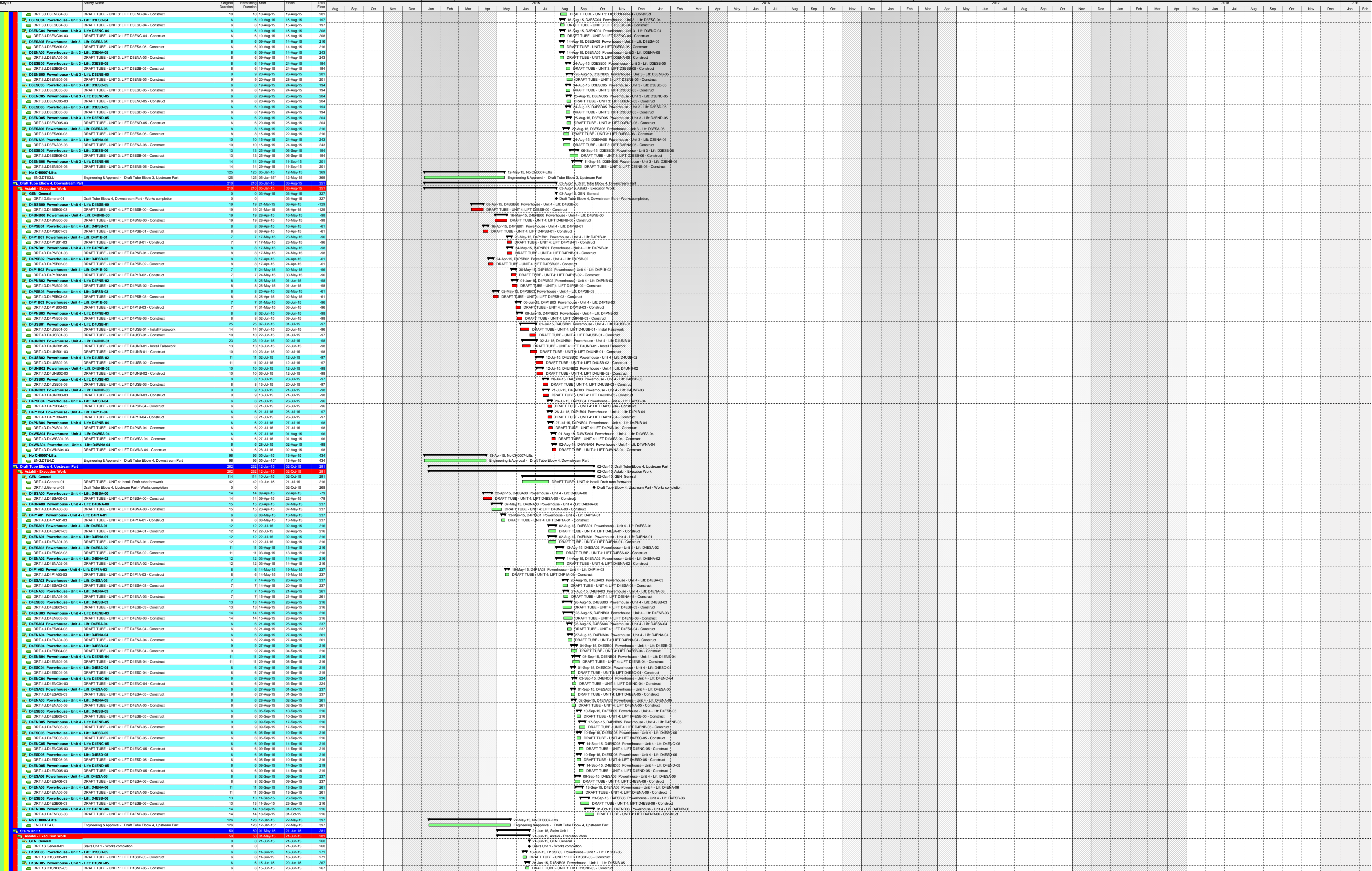
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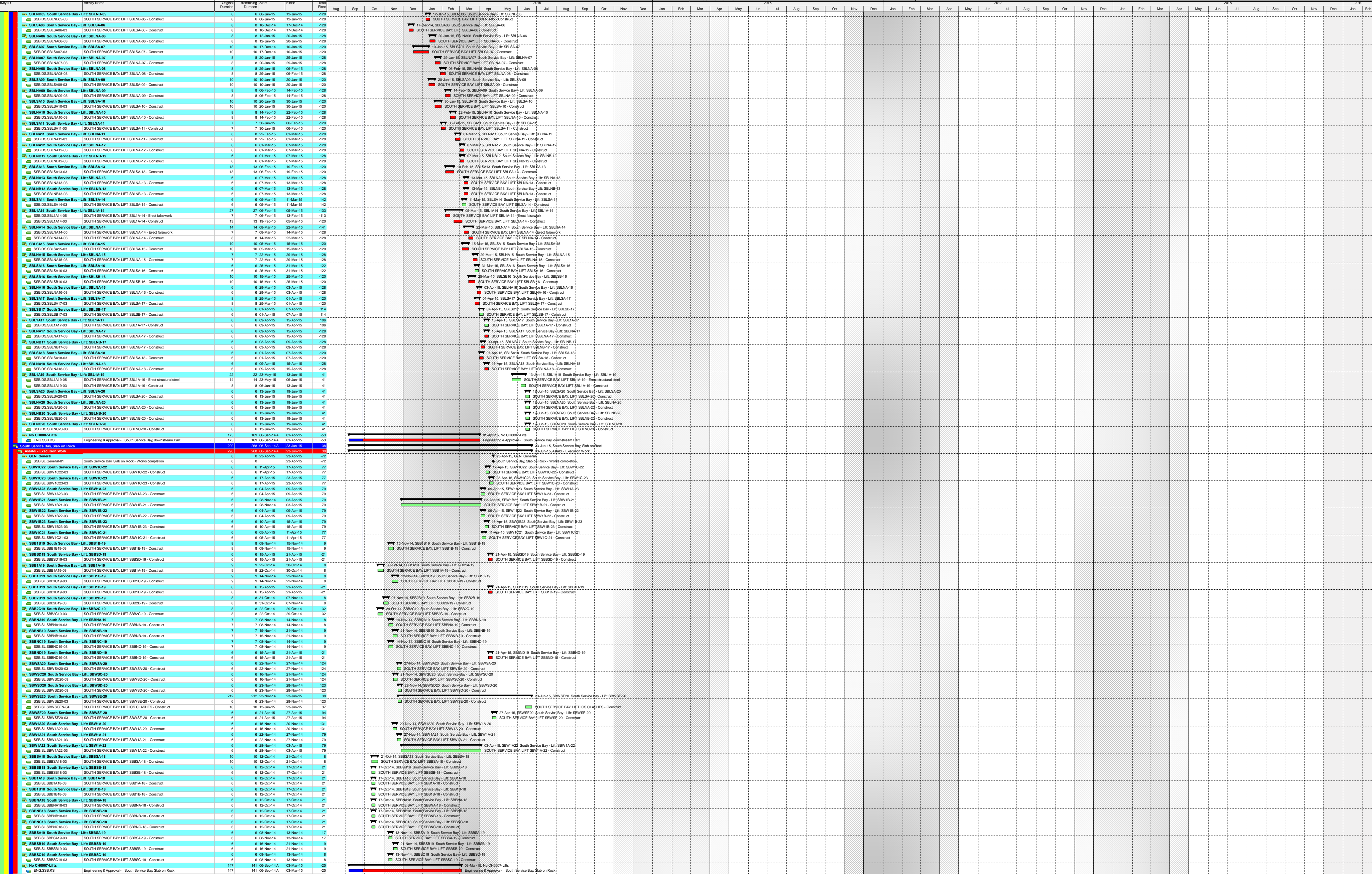
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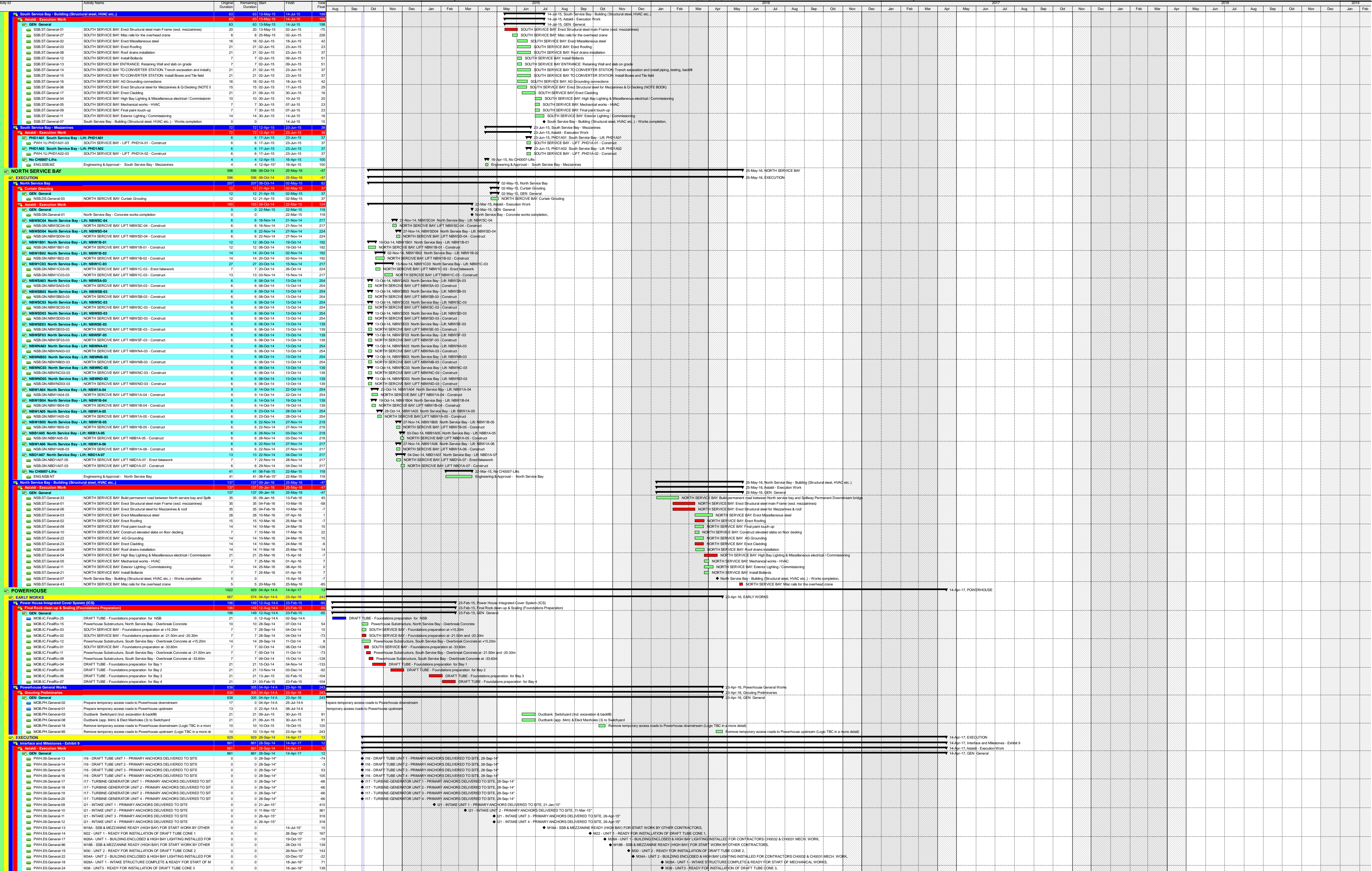
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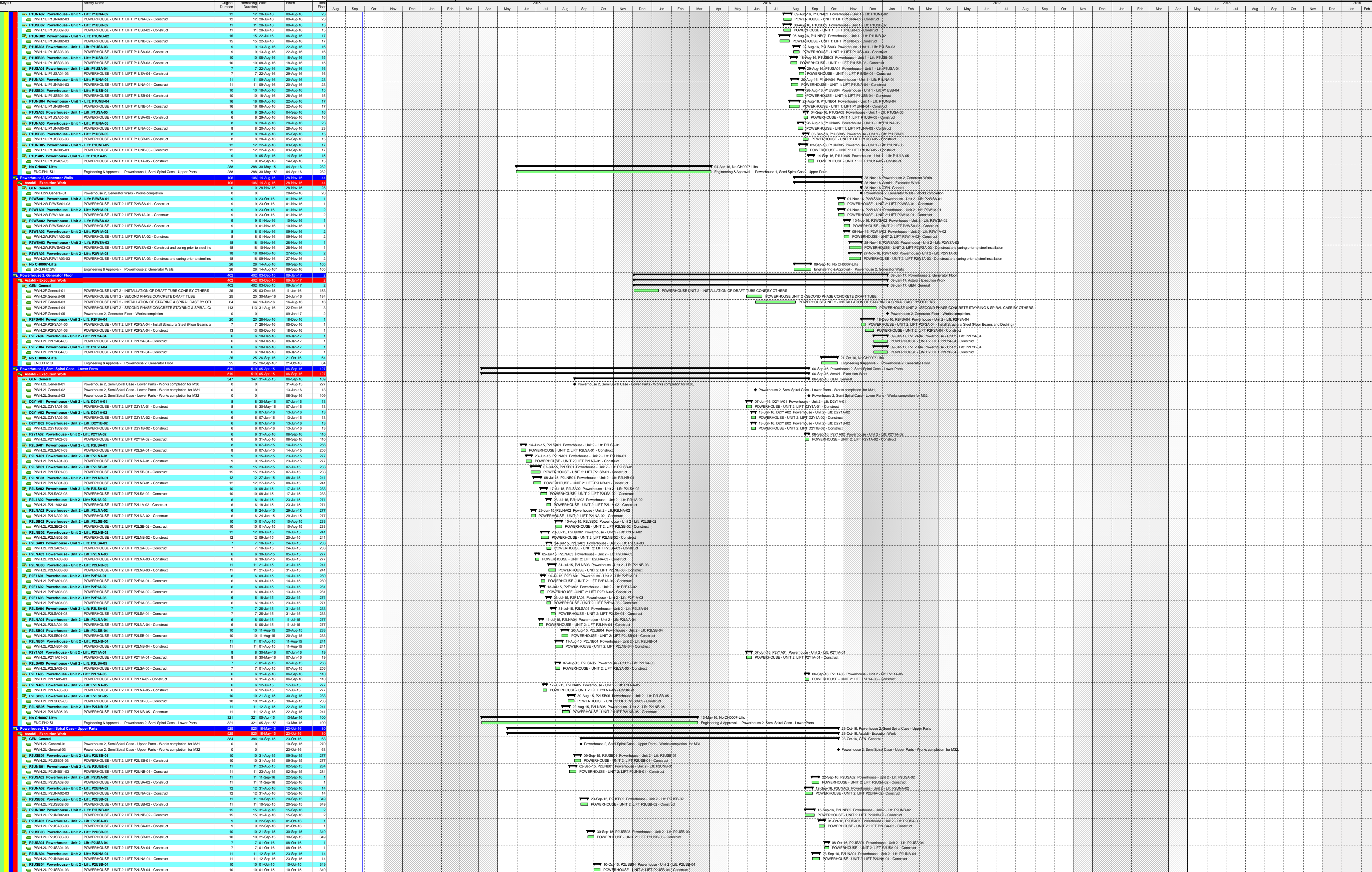
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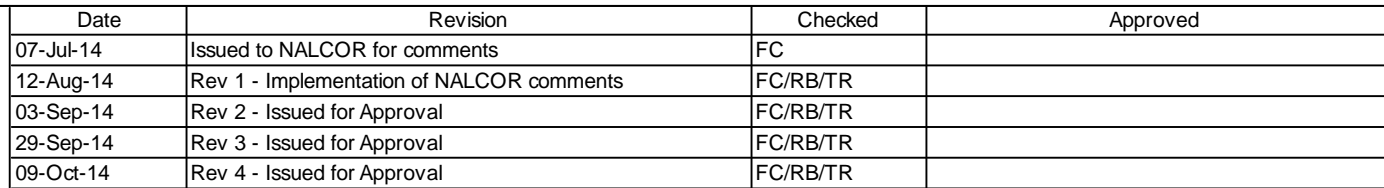


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CH0007: CIVIL WORKS



Component 1 Contractor Schedule Document Status

Updated 30-March-20

| Comp. | Code | Package Name | Status | Package Leader | Bid Schedule Review | Control Schedule Status | Control Schedule Baseline Document Status | Schedule Development and Control Plan Status |
|-------|--------|--|----------|----------------|---------------------|----------------------------------|---|--|
| C1 | CH0007 | Construction of Intake and Powerhouse, Spillway and Transition Dams | Awarded | Mika Collins | Complete | Complete | 1st Submission Rejected | 4th Submission Rejected |
| C1 | CH0008 | Construction of North Spur Stabilization Works | Awarded | Fletcher Baltz | Complete | | | |
| C1 | CH0009 | Construction of North and South Dams | RFP | Mark Turpin | Ongoing | | | |
| C1 | CH0025 | Construction of Site Restoration at Muskrat Falls | Forecast | Clyde Mclean | | | | |
| C1 | CH0030 | Supply and install Turbines and Generators | Awarded | Richard Severs | Complete | Part-Approved | N/A | N/A |
| C1 | CH0031 | Supply and install Mechanical and Electrical Auxiliaries (ME): Mechanical / Electrical | RFP | David Wright | Ongoing | | | |
| C1 | CH0032 | Supply and install Powerhouse Hydro-Mechanical Equipment | Awarded | Bruce Drover | Complete | Complete | Complete | Complete |
| C1 | CH0033 | Supply and install Powerhouse Cranes | Awarded | Bruce Drover | Complete | 3rd Submission Reviewed, Code 02 | | |
| C1 | CH0034 | Supply and install Powerhouse Elevator | Awarded | Bruce Drover | Complete | | | |
| C1 | CH0038 | Supply and install McKendree River Permanent Bridge | Awarded | Grant Horwood | | Complete | | |
| C1 | CH0049 | Supply and install Log Booms - Engineering | Awarded | Julia Hiscock | Complete | | | |
| C1 | CH0049 | Supply and install Log Booms - Fabrication/Installation | Forecast | Julia Hiscock | | | | |
| C1 | CH0052 | Construction of Habitat Compensation Works | Forecast | Clyde Mclean | | | | |
| C1 | PH0024 | Supply of Generator Step-up Transformer | Awarded | Jim Slade | Complete | Complete | | N/A |
| C1 | PH0025 | Supply of Excited Phase Bus | Awarded | Jim Slade | Complete | | | N/A |
| C1 | PH0025 | Supply of Generator Service Breaker | Awarded | Jim Slade | Complete | Complete | N/A | N/A |