

THE BRONX ZOO

2300 SOUTHERN BLVD, BRONX, NY 10460

PROJECT No.2 – MTW DISTRIBUTION PIPING UPGRADES

NYPA PROJECT NO.ES-GSN-0990



**NY Power
Authority**



CLIENT: NEW YORK POWER AUTHORITY (NYPA)



**MAIN CONTRACTOR: ALPINE CONSTRUCTION & LANDSCAPING
CORP.**



HSE CONTRACTORS INC. CPM SCHEDULING CONSULTANTS

Narrative Report – Main Baseline Schedule

Notice to Proceed	August 2 nd , 2022
Substantial Completion	July 20 th , 2023
Final Completion	October 18 th , 2023

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1. Purpose of this Document

The Purpose of this document is to illustrate and define HSE's Project Execution Strategy and Planning Approach demonstrated in the Baseline schedule complying with the Specs and Drawings.

1.1 Project Description and Scope of Work

- The work is located in 2300 Southern Boulevard, Bronx, NY, 10460.

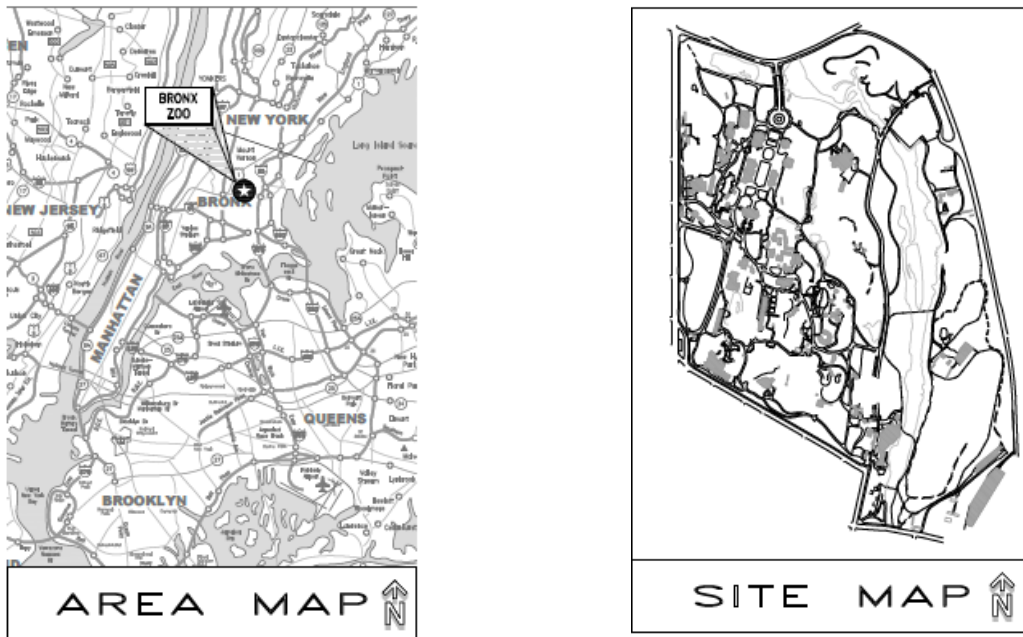


Figure 1: Project Location

- Alpine Construction & Landscaping Corp. is responsible for the installation of a pipe lining in the existing MTW FRP Pipe in the Congo Loop and the Main Loop. This will be done by Excavating Pits to gain access to the existing buried FRP distribution piping then cleaning the pipes and removing existing concrete thrust blocks to access the pipe. After that is the furnishing and installation a pipe lining system. After that is to backfill and compact all excavation pits, and restore the area to the original conditions.

2. Project Phasing

The Baseline Schedule shows the process of the pipe lining system through the Congo and Main Loops starting with the Procurement Section which is divided into Prepare & Submit, Review & Approve, and Fabricate & Deliver. This section includes shop drawings and the delivery of the main materials required for Construction.

The construction section then includes Phase 1 (Congo Loop) and Phase 2 (Main Loop) starting with the Mobilization and Site Protection then starts the process of pipelining by site preparation and Excavation. of the pits, then cleaning the pipe. After that comes Spraying the Epoxy Coat followed by the camera inspection and hydrostatic testing, and finally the pits restoration. This is done consequently from the Co-Gen MER through Pits in the Congo Loop then in the Main Loop till Pit 26 in the Education Centre.

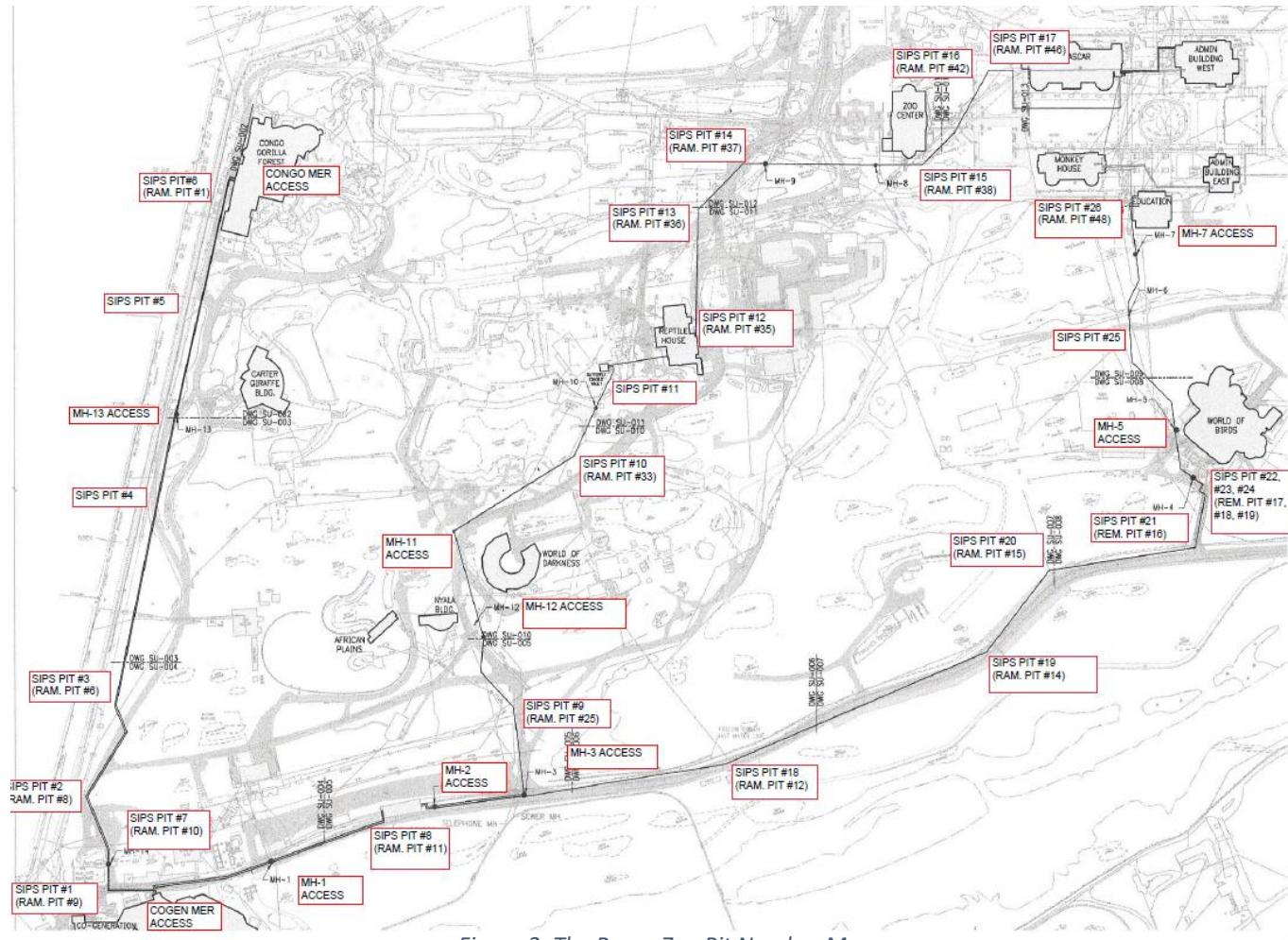


Figure 2: The Bronx Zoo Pit Number Map

2.1 Key dates & Milestones

The Key dates and Milestones section includes all important dates such as:

Milestone Name	Milestone Date
NTP	02-Aug-22
Mobilization Complete	25-Oct-22
Congo Loop Construction Start	11-Nov-22
Congo Loop Completion – Beneficial Use	13-Dec-22
Main Loop Construction Start	16-Mar-23
Main Loop Completion – Beneficial Use	05-Jul-23
Substantial Completion	20-Jul-23
Final Completion	18-Oct-23

2.2 Procurement

The procurement phase of the project starts with the preparation of submittals along with their review and approval and the delivery of the main material needed for the project. The submittals in the project starts with the Project Specific Site Safety Plan and Site-Specific Safety Plan. There are other submittals for materials such as Pipe Lining Material, Insulation, Top Soil, and Seeding for the restoration of the pits.

2.3 Construction

The Construction Phase is divided into Phase 1 – Congo Loop, and Phase 2 – Main Loop. For the Congo Loop, the sequence of work starts with the first pipelining process from the Co-Gen MER to Pit 1 to Pit 2. This is followed by Pit 2 through Pit 3 through Pit 4. After these pits are finished, then starts Pit 4 to MH#13 to Pit 5, then finally from Pit 5 to Pit 6 to the Congo MER. For the Main Loop, the sequence of work starts with the Cogen MER to Pit 1 to Pit 2, then the pipelining process continues consequently through the following sets of pits, Pit 7 to MH#1, MH#1 to Pit 8 simultaneously with MH#3, MH#3 to Pit 9 to MH#12, MH#12 to MH#11 to Pit 10, Pit 10 to Pit 11 to Pit 12, Pit 12 to Pit 13, Pit 14 to Pit 15, Pit 15 to Pit 16, Pit 16 to Pit 17. Then from MH#3 to Pit 18 to Pit 19, Pit 19 to Pit 20 to Pit 21, Pit 21 to Pit 22 to Pit 23, Pit 23 to Pit 24 to MH#5, MH#5 to Pit 25 to MH#7, and finally MH#7 to Pit 26.

3. WBS

The below figure is extracted from the baseline schedule of the project on the P6 software and shows all WBS levels. The Key dates & Milestones section includes all important milestones and dates for the project. Permits contain the permitting activity for the project. The Procurement section includes Submittal and preparation activities along with their reviews and approvals, their Fabrication, and Delivery. The Construction Phase is divided into Phase 1 – Congo Loop containing pits starting from the Co-Gen MER, Pits 1,2,3,4, MH#13,5,6 to the Congo MER, then Phase 2 – Main Loop includes pits starting from Cogen MER to Pits 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25, and 26 in addition to MH#1, MH#2, MH#3, MH#12, MH#11, MH#5, and MH#7.

Activity ID	Activity Name
+ Milestones	
+ Permits	
- Preconstruction/Procurement	
+ Prepare & Submit	
+ Review & Approve	
+ Fabrication & Delivery	
- Construction	
- Phase 1 - Congo Loop	
+ Mobilization	
+ Co Gen MER to SIPS Pit 1 (Ramb.Pit 9) to SIPS Pit 2 (Ramb.Pit 8)	
+ SIPS Pit 2 (Ramb.Pit 8) to SIPS Pit 3 (Ramb.Pit 6) to SIPS Pit 4	
+ SIPS Pit 4 to MH#13 to SIPS Pit 5	
+ SIPS Pit 5 to SIPS Pit 6 (Ramb. Pit 1) to Congo MER	
- Phase 2 - Main Loop	
+ Cogen MER to SIPS Pit 7 (Ramb. Pit 10)	
+ SIPS Pit 7 (Ramb. Pit 10) to MH#1	
+ MH#1 to SIPS Pit 8 (Ramb. Pit 11)	
+ MH#2 to MH#3	
+ MH#3 to SIPS Pit 9 (Ramb. Pit 25) to MH#12	
+ MH#12 to MH#11 to SIPS Pit 10 (Ramb. Pit 33)	
+ SIPS Pit 10 (Ramb. Pit 33) to SIPS Pit 11 to SIPS Pit 12 (Ramb. Pit 35)	
+ SIPS Pit 12 (Ramb. Pit 35) to SIPS Pit #13 (Ramb. Pit 36)	
+ SIPS Pit #13 (Ramb. Pit 36) to SIPS Pit #14 (Ramb. Pit 37)	
+ SIPS Pit #14 (Ramb. Pit 37) to SIPS Pit #15 (Ramb. Pit 38)	
+ SIPS Pit #15 (Ramb. Pit 38) to SIPS Pit #16 (Ramb. Pit 42)	
+ SIPS Pit #16 (Ramb. Pit 42) to SIPS Pit #17 (Ramb. Pit 46)	
+ MH#3 to SIPS Pit 18 (Ramb. Pit 12) to SIPS Pit 19 (Ramb. Pit 14)	
+ SIPS Pit 19 (Ramb. Pit 14) to SIPS Pit 20 (Ramb. Pit 15) to SIPS Pit 21 (Ramb. Pit 16)	
+ SIPS Pit 21 (Ramb. Pit 16) to SIPS Pit 22 (Ramb. Pit 17) to SIPS Pit 23 (Ramb. Pit 18)	
+ SIPS Pit 23 (Ramb. Pit 18) to SIPS Pit 24 (Ramb. Pit 19) to MH#5	
+ MH#5 to SIPS 25 to MH#7	
+ MH#7 to SIPS 26 (Ramb. Pit #48)	
+ Closeout	

4. Activity ID

The Activity ID for the project is structured to reflect the WBS description of the pipelining process through every section of Pits. The Abbreviation indicates the first pit in the list of SIPS Naming.

Abbreviation List	
Co Gen	Co Gen MER
P2	Pit 2
P4	Pit 4
P5	Pit 5
Congo	Cogen MER
P7	Pit 7
MH1	Manhole 1
MH2	Manhole 2
MH3	Manhole 3
MH12	Manhole 12
P10	Pit 10
P12	Pit 12
P13	Pit 13
P14	Pit 14
P15	Pit 15
P16	Pit 16
MH3	Manhole 3
P19	Pit 19
P21	Pit 21
P23	Pit 23
MH5	Manhole 5
MH7	Manhole 7

5. Calendars

This section contains details on the calendars which are assigned to all activities. The calendar usage and assignment demonstrate that the builder has taken into account all official holidays and weekends, and has scheduled the project activities efficiently to minimize any risk on project completion. The Calendars used in this project are:

- A 7-Day Workweek Calendar: the calendar is based on a 7-day week and is assigned on the milestones, procurement activities, curing activities, and closeout activities.
- A 5-Day Workweek Calendar: the calendar is based on a 5-day week and recognizes weekends, federal holidays, and shutdown periods and is assigned to construction activities.
- Weather days are also assigned on the 5-day calendar starting from December 15th, 2022 to March 15th, 2023.

2022 Federal Holidays:

Date	Holiday
Monday, September 5	Labor Day
Friday, November 11	Veterans Day
Thursday, November 24	Thanksgiving Day
Monday, December 26	Christmas Day

2023 Federal Holidays:

Date	Holiday
Monday, January 15	Birthday of Martin Luther King, Jr.
Monday, May 27	Memorial Day
Thursday, July 4	Independence Day

6. Working Hours

The working hours are 8 hours per day from Monday till Thursday, totaling 40 hours per week. These work durations have been used throughout all scheduled construction activities to calculate durations and remaining time to complete.

7. Critical Path

The Critical Path starts with the permitting and followed by the Congo loop site protection then the pipelining process in the Congo loop in the Excavation and site preparation, then the pipe cleaning, after ensuring the pipe is cleaned, then starts the Spraying of the Epoxy Coat followed by the Camera Inspection and Hydrostatic testing then the restoration of the pits. This is done consequently starting from the Co-Gen MER throughout the pits in the Congo Loop and till Pit 26 in the Main Loop.

The following figures show the critical path of the project:

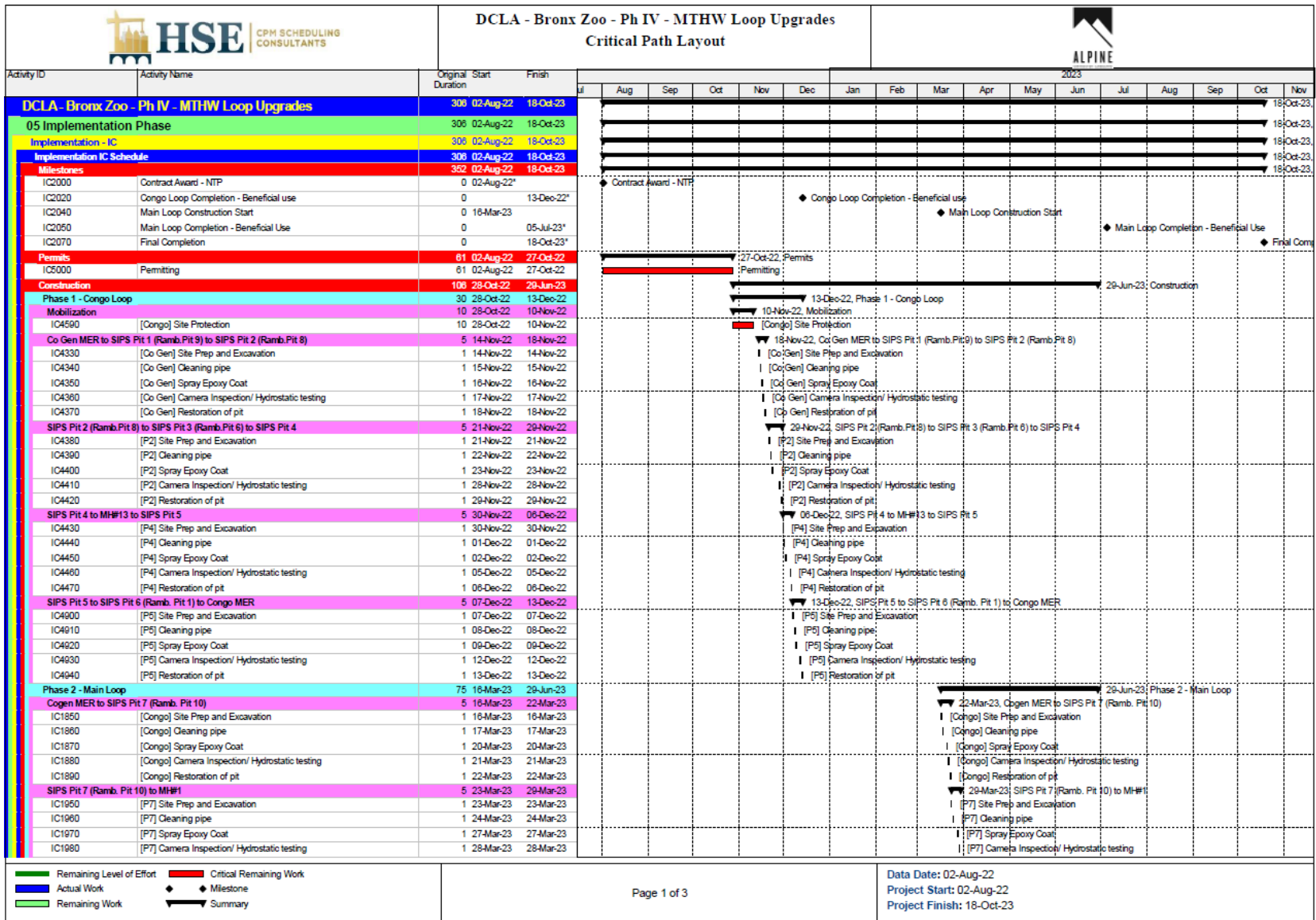


Figure 3: Critical Path 1 of 3

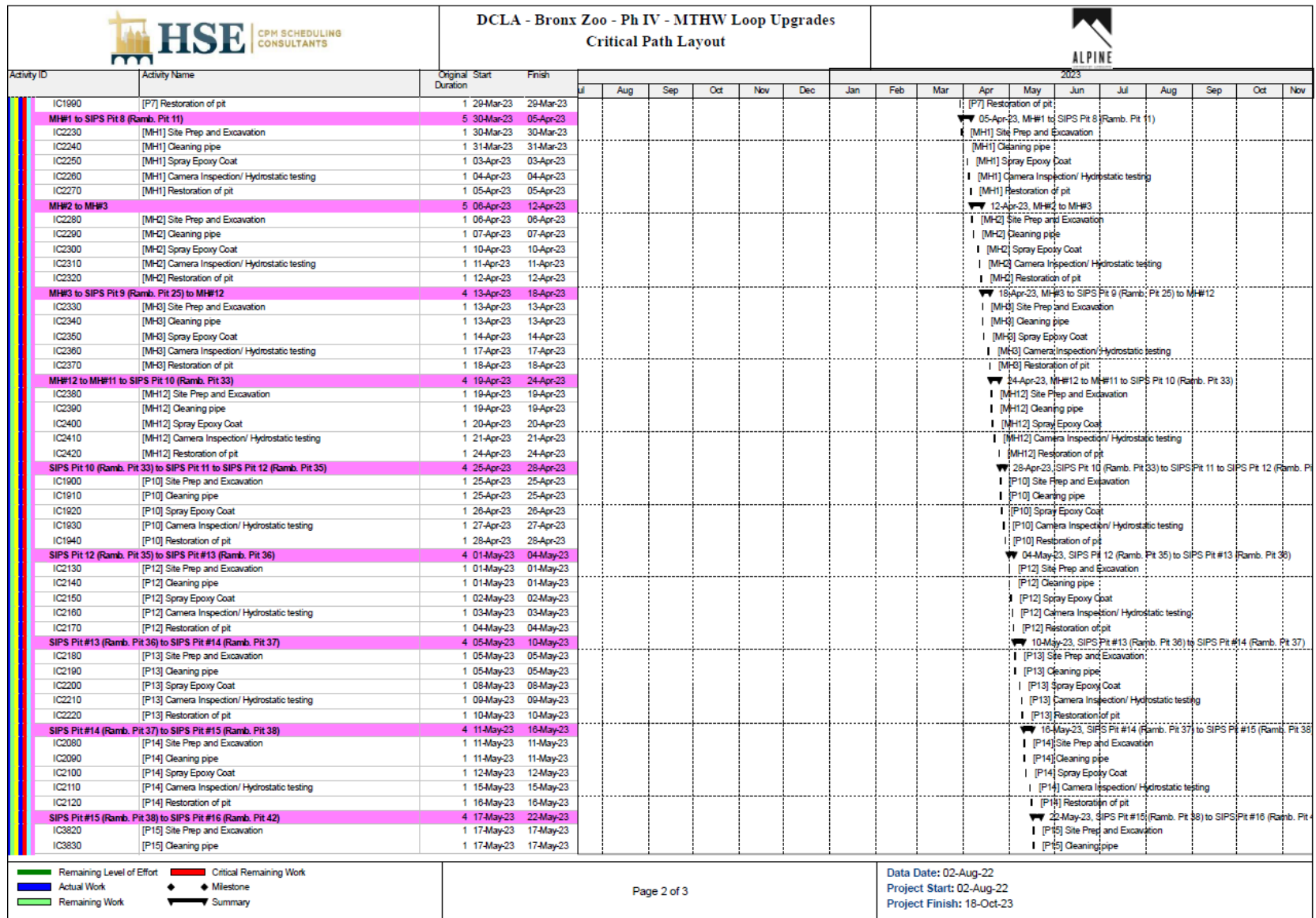


Figure 4: Critical Path 2 of 3

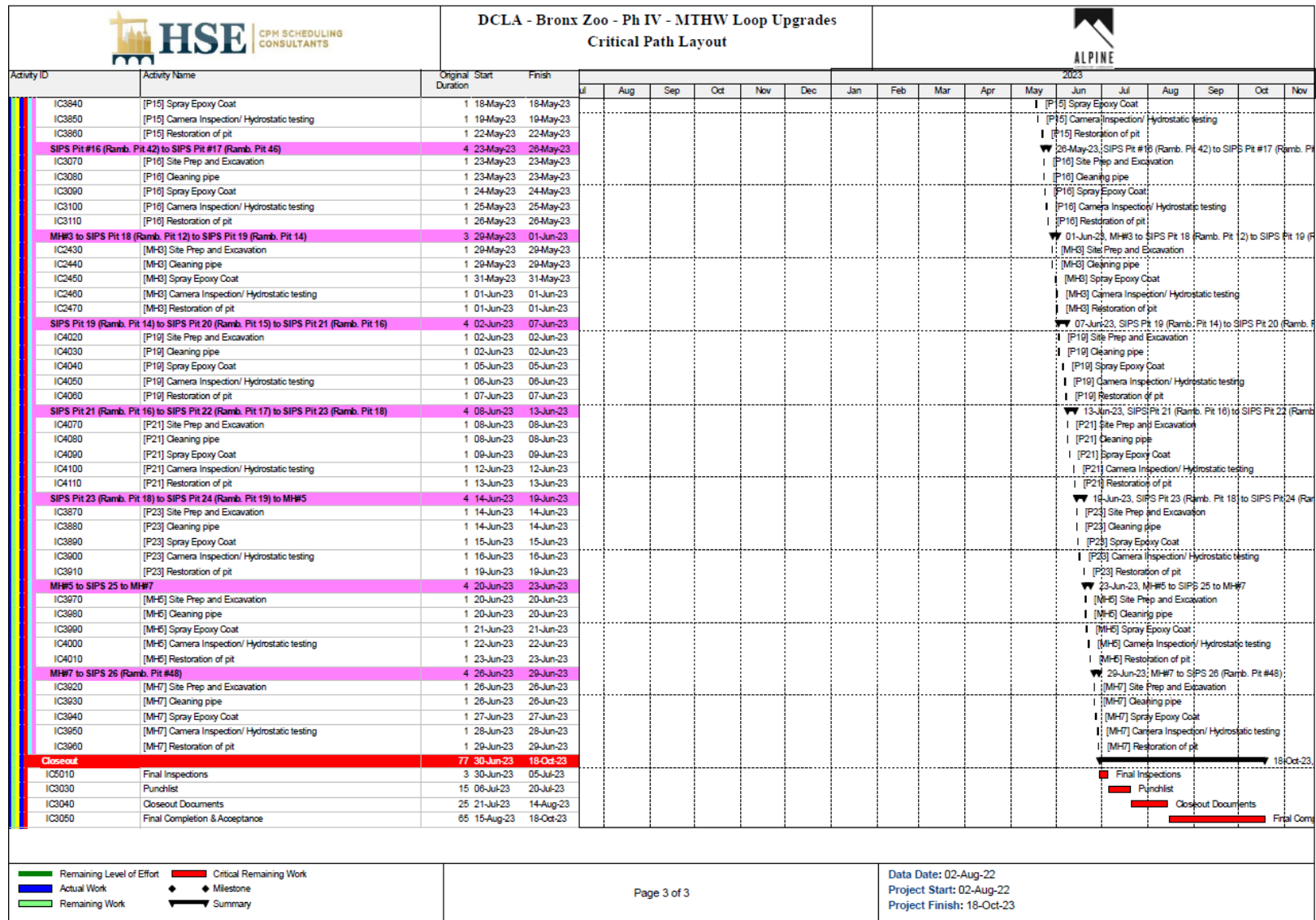


Figure 5: Critical Path 3 of 3

8. Conclusion

The Baseline Schedule shows the pipelining process starting from the procurement section in the delivery of the pipe lining materials then for the actual construction throughout the Congo Loop and the Main Loop along with the Site Preparation and the Mobilization which is done at the beginning of the project. The schedule has been assigned a 7-day and 5-day calendar including the federal holidays for the construction period.

Furthermore, the project exhibit works in open areas throughout its total duration which requires having specific calendars to match the working conditions of weather days, environmental safety, and traffic road closures. This is reflected in the schedule as demonstrated in the detailed sequencing operations of the schedule and this narrative report. This reflects on the schedule as demonstrated in the detailed sequencing operations of the schedule and this narrative report.

All the detailed Information about the project is discussed in the above sections. The overall strategy is to have the schedule match the construction logic along with maintaining it ahead of schedule and under budget.