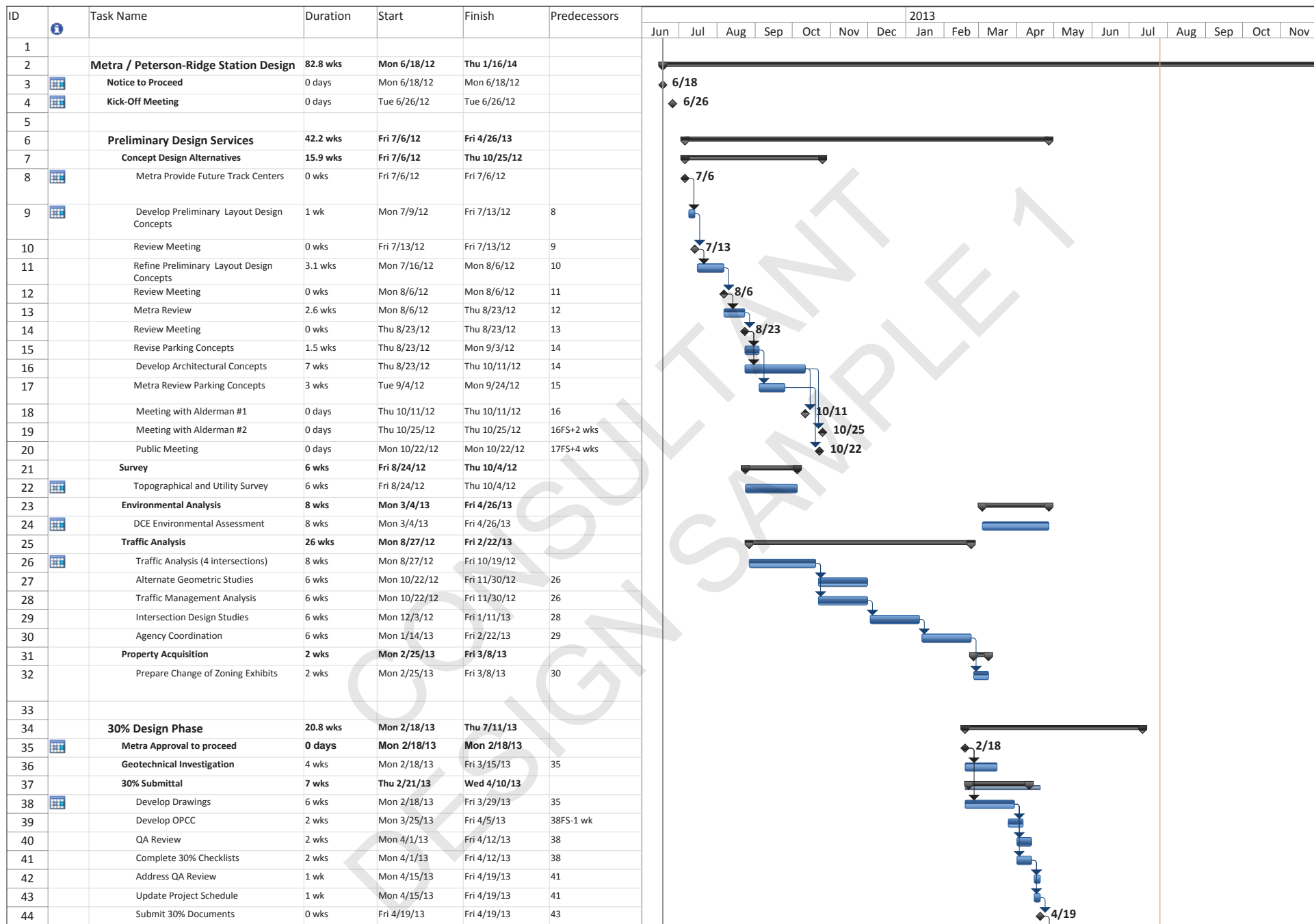


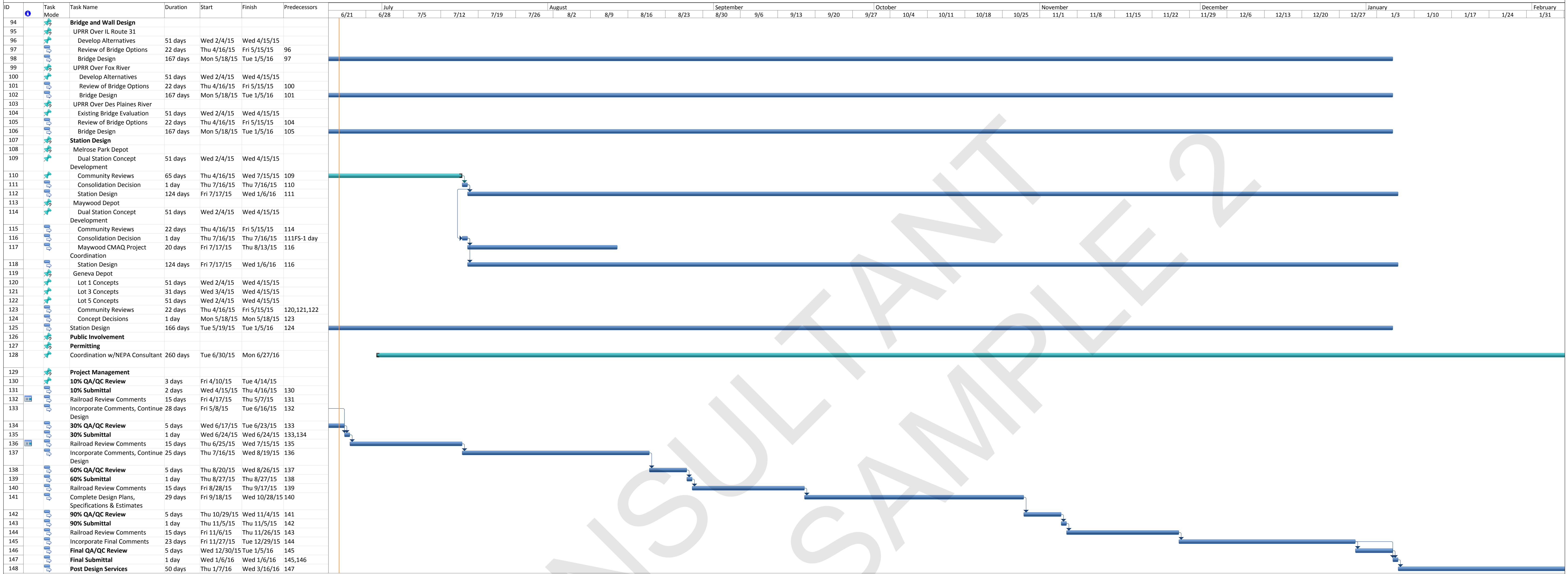
Metra Petersen-Ridge Station Design



Metra Petersen-Ridge Station Design

ID	Task Name	Duration	Start	Finish	Predecessors	2013														
						Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
91	Metra's Approval to Issue	0 wks	Thu 12/19/13	Thu 12/19/13	88															
92	Pre-Bid Meeting	0 wks	Thu 1/9/14	Thu 1/9/14	88FS+3 wks															
93	Building Permit Review	4 wks	Fri 12/20/13	Thu 1/16/14	88															
94	Prepare Addenda	1 wk	Fri 12/20/13	Thu 12/26/13	88															
95	Review Bids	1 wk	Fri 1/10/14	Thu 1/16/14	94FS+2 wks															

CONSULTANT
DESIGN SAMPLE 1



ID	Task Mode	Task Name	Duration	Start	Finish	2019																					
						Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1		1 Notice to Proceed	1 day	Mon 3/19/18	Mon 3/19/18																						
2		2 Existing Document & Constructability Review	30 days	Mon 3/19/18	Fri 4/27/18																						
3		3 Schedule Review & Comments	262 days	Mon 4/30/18	Tue 4/30/19																						
4		4 Shop Drawing Review	262 days	Mon 4/30/18	Tue 4/30/19																						
5		5 Construction Monitoring & Documentation	262 days	Mon 4/30/18	Tue 4/30/19																						
6		6 Punch List	60 days	Wed 5/1/19	Tue 7/23/19																						
7		7 Close Out	30 days	Tue 7/23/19	Mon 9/2/19																						
8		8 Final Documentation to Metra	30 days	Tue 9/3/19	Mon 10/14/19																						

Project: Harlem Station Construction Management
Date: Mon 3/19/18

Rev: 00

Task		Manual Summary Rollup	
Split		Manual Summary	
Milestone		Start-only	
Summary		Finish-only	
Project Summary		External Tasks	
Inactive Task		External Milestone	
Inactive Milestone		Deadline	
Inactive Summary		Progress	
Manual Task		Manual Progress	
Duration-only			

ABC Construction Company
METRA/UPRR North Line Contract No. K12345
Reconstruction of Bridges Deering to Balmoral
Baseline Schedule & Narrative

Enclosed is the ABC Construction Company's (ABC) Baseline CPM Schedule and Baseline Narrative for the Project Known as Reconstruction of Bridges Deering to Balmoral, Contract No. K12345

As part of this submittal, enclosed are the following documents:

- Schedule Narrative
- 11x17 (pdf) printed CPM Schedule
- 11x17 (pdf) printed CPM Schedule (Milestone Critical Paths)

This narrative will include:

- Executive Summary
- Milestone Summary Table
- Construction Sequencing Explanation
- Calendar System
- Critical Path Analysis
- Critical Submittals and Approvals
- Potential Issues/Schedule Assumptions

Executive Summary:

The Reconstruction of Bridges Deering to Balmoral (Contract No. K12345) was bid on May 8th, 2017. The scope of work involves repairs and replacement of steel members on the Deering Bridge 3.20 (No.1300) over the North Branch of the Chicago River, deck replacement and steel repairs on Webster Ave Bridge 3.10 (No.1299), reconstruction of retaining wall from Webster to Deering, filling-in Bridge 3.25

No.1300.25 over the old Milwaukee Road, and construction of retaining walls between the Deering Bridge and Fullerton Ave.

The contract was awarded on July 12th, 2017. Notice to proceed was received on August 18th, 2017. The Project Completion Date is July 12th, 2018.

This Narrative and Baseline Schedule were prepared in accordance with Section 01320 of the Metra Specification No 1425-05. This Narrative and Baseline Schedule were based on the information provided in the Contract Documents. The CPM schedule uses all Finish-to-Start relationships.

Milestone Summary Table:

The following table lists the Contract Milestones and Interim Milestones that will be utilized to monitor the schedule:

Activity ID	Activity Name	Contract	Baseline Schedule
MILE-1010	Notice to Proceed	8/18/2017	8/18/2018
1TRKWRK-10	UP-Shift Tracks 1&2 West at Webster	N/A	10/05/2017
2TRKWRK-40	UP-Construct New West Track1 155+00 to 142+00	N/A	10/2/2017
2TRKWRK-20	UP-Construct New West Track1 165+85 to 158+00	N/A	11/17/2017
2TRKWRK-30	UP-Construct New West Track1 158+00 to 155+00	N/A	11/16/2017
3TRKWRK-10	UP-Shift Center Track to West Bay	N/A	11/18/2017
4TRKWRK-20	UP-Construct New Track2 (Center)	N/A	4/19/2018
5TRKWRK-10	UP-Cutover East Track to Center Bay	N/A	4/26/208
MILE-1020	Substantial Completion	7/12/2017	7/12/2018

The interim milestones have been added to the schedule to clarify the Construction Operations Plan and are explained in further detail below.

Construction Sequencing Explanation:

The project is broken into five major elements of work which are dependent on five stages of Tracks Alignment. The Track Alignments will control the limits and sequence of activities for each of the five major elements of work.

The five elements of work are the Deering Bridge, Webster Ave Bridge, Webster to Deering Retaining Wall, Old Milwaukee Fill-in Bridge and the Retaining walls from Deering to Fullerton Ave.

The Five stages of Track Alignment are detailed in the contract drawings (Sheet No.3 of 117) and explained briefly in the narrative below.

Stage 1 Construction activities in this stage include: deck replacement on the west portion of Webster Bridge, constructing the retaining wall from Webster to Deering, removing and replacing the Deering Bridge west bay steel as well as the north and south approach steel and bearings, constructing the retaining wall from Deering to old Milwaukee, constructing closure walls at Milwaukee Fill-in Bridge, and constructing a portion of the Deering to Fullerton west wall.

Stage 1 requires the UPRR to shift Tracks 1&2 south of Webster Ave. to the east to their temporary alignment. The start of the Webster deck replacement activities are dependent on this track shift. As seen in the baseline schedule, the Webster deck replacement activities are near critical to the overall project schedule and it is imperative that the trackwork begin as soon as UP crews can mobilize to the jobsite to begin work.

In addition to the initial track shift, the timely review and approval of the engineering submittals for the gantry crane, bridge balancing shoring towers, counterfort wall design, and steel shop drawings are essential to ensuring a timely start on ABC's work activities. All construction activities in this stage are on or very near the critical path and could easily impact the project schedule if they are impacted for any reason. . In order to streamline the review and approval process, ABC will be separating some elements of work into multiple submittal packages based on order of precedence, location, or design type. ABC will help Metra prioritize submittals as they are sent. The schedule has incorporated 15 working days for review and approval of the submittals as detailed in the Metra Specifications.

The UPRR Trackwork for this stage needs to be complete by November 18, 2017.

Stage 2 Construction activities in this stage include the removal of the center bay of the Old Milwaukee Bridge and the backfilling of the Old Milwaukee Bridge for the new west track. ABC understands that Northbound and Southbound tracks will be operating under single track conditions for these operations. At the end of this stage, construction activities that allow for the new west track between Webster Ave. and the west side of the old Milwaukee Fill-in Bridge will be complete.

Stage 3 Construction activities in this stage include the repair of the Deering Bridge center bay and the repair of the center bay of the Webster Ave. deck after the UPRR has completed construction of the new west tracks. This stage also allows ABC to continue working during 54 hour weekend single tracks on the existing east track (Track 1 out of service) to construct the retaining walls on the west side north of Milwaukee Bridge.

Stage 4 Similar to Stage 2, Construction activities in this stage include the removal of the east bay of the Old Milwaukee Bridge and the backfilling of the Old Milwaukee Bridge for the new center track. ABC understands that Northbound and Southbound tracks will be operating under single track conditions for these operations. At the end of this stage, construction activities that allow for the new west track between Webster Ave. and the old Milwaukee Fill-in Bridge will be complete.

Stage 5 Construction activities in this stage include repairs to the Deering and Webster Ave bridges east bays as well as the reconstruction of the east retaining walls. ABC will perform the east retaining wall reconstruction during 54 weekend single tracks on the new west track (Final Track 2 out of service).

Meeting the project staging milestones established in the Milestone Summary Table above is the key to maintaining the project schedule. ABC understands that the track work performed by the UPRR is weather dependent and has sequenced the baseline schedule to accommodate this requirement. Meeting the Stage 2 track work milestone to shift the center track to the west bay before the winter of 2017 will allow ABC to finish the center bay work before the next track shift in the spring of 2018. Impacts to the critical path have the potential to disrupt stage changes which are subject to additional weather impacts if pushed beyond the dates outlined above. Additional potential impacts to the schedule that are beyond ABC's control, such as track outage coordination, adjacent property coordination, utility conflicts, and differing site conditions can also have extremely negative consequences on the project schedule and are further described below.

Definition of Project Calendars:

Calendar 5D – 5 Work days at 8 hours per day; 1 shift. The standard 5D calendar includes 20 days per year of weather, in accordance with common scheduling practice. Additional weather days in a given year could also impact the project schedule.

Calendar 5W winter – 5 Work days at 8 hours per day; 1 shift; no work from the 2nd week in December through the 3rd week in March. With the weekends listed as workdays in November. This calendar influences UP Track Work.

Calendar 5D ENG – This is a calendar with 5 work days at 8 hours per day. Standard holidays and weekends are non-work days in the calendar.

Calendar Weekend 54 hr. – 54 hours work on weekends starting on Friday 22:00 and ending on Monday 04:00. Holiday and winter weekends are excluded from work weekends on this schedule.

Critical Path Analysis

The critical path consists of the following activities:

Critical Activities.....33

Project:	Activity: 1BRNG-2000	(West) N App Bearing Replacement
	Activity: SUBMIT-1130	Submit Bearing Shop Drawings
	Activity: SUBMIT-1030	Submit Safespan
	Activity: SUBMIT-1020	Submit Gantry Crane Design
	Activity: REV-1130	Review/Approve Bearing Shop Drawings
	Activity: REV-1030	Review/Approve Safespan
	Activity: REV-1020	Review/Approve Gantry Crane Design
	Activity: MILE-1020	Substantial Completion
	Activity: MILE-1010	Notice to Proceed
	Activity: FAB-1130	Fabricate/Procure Bearings
	Activity: FAB-1030	Fabricate/Procure Safespan
	Activity: FAB-1020	Fabricate/Procure Gantry Crane
	Activity: 5TRKWRK-10	UP - Cutover East Track 2 to Center Bay
	Activity: 5STEEL-1060	RMV Safespan
	Activity: 5STEEL-1030	East Bay Steel Repair
	Activity: 5STEEL-1020	(East) S. Approach Steel Erection
	Activity: 5STEEL-1010	(East) N. Approach Steel Erection
	Activity: 5DEMO-1020	(East) S. Approach Demo
	Activity: 5DEMO-1010	(East) N. Approach Demo
	Activity: 5BRNG-2070	(East) S App Bearing Replacement
	Activity: 5BRNG-2040	(East) N App Bearing Replacement
	Activity: 4TRKWRK-20	UP - Construct New Track 2 (Center)
	Activity: 4TRKWRK-10	UP - Close East Track 2
	Activity: 3TRKWRK-10	UP - Shift Center Track 1 to W. Bay
	Activity: 2TRKWRK-20	UP - Construct New West Track 1 165+85 to 158+00
	Activity: 1STEEL-1080	West Bay Steel Repair
	Activity: 1STEEL-1070	(West) S. Approach Steel Erection
	Activity: 1STEEL-1060	(West) N. Approach Steel Erection
	Activity: 1STEEL-1030	Bust Rivets/Install Temp Bolts
	Activity: 1STEEL-1020	Install Safespan
	Activity: 1STEEL-1010	Install Gantry Crane
	Activity: 1DEMO-1020	(West) S. Approach Demo
	Activity: 1BRNG-2050	(West) S App Bearing Replacement

The early critical activities are dependent on Metra review of submittals and procurement items. During this phase, timely submittals and reviews are essential. The critical path flows through the various track alignments on the project. In each stage, the Deering Bridge Structural Steel work drives the UP trackwork. The initial schedule requires the installation of safespan work deck and a gantry crane to facilitate the structural steel demolition and installation.

The UP trackwork is heavily dependent on the weather. The critical activities which take place in fall of 2017 are essential to be performed on time to allow the Stage 2 single track work to be performed prior to winter of 2017.

A separate schedule is attached with the critical path activities filtered. Although the activities listed above are on the critical path schedule and are the activities with 0 days of float; there are many other near critical activities which have less than 5 days of float. Any significant impact to the critical or near critical activities could adversely impact the project schedule.

Critical Submittals/Approvals:

Below is a list of submittals and approvals for which timely review and approval is imperative to maintaining the project schedule. Although not every one of these activities is on the critical path, an impact in the approval process has the potential to impact the critical. ABC will continuously monitor submittal status and work closely with Metra and the UPRR to expedite the submittal and review process if necessary.

- Counterfort Wall Design
- Gantry Crane Design
- Balancing/Shoring Design
- Structural Steel shop drawings
- Bearing Shop Drawings

The schedule has 15 working days for review and approval of the submittals as mentioned in the Metra Specifications. There are two submittals which only have 10 working days of review time. These are REV-1020 Review/Approve Gantry Crane Design and REV-1060 Review/Approve Balancing/Shoring Plan. These submittals are for key parts of the job that will control the overall project success. ABC requests Metra to expedite review as much as possible to get these designs and plans approved as early as possible.

Potential Issues:

ADJACENT PROPERTY COODRINATION AND UTILITY RELOCATIONS: To begin Stage 1 work on the Deering Bridge, and Webster to Deering Retaining wall require access outside the UPRR ROW from properties on Webster Avenue. The former Green Dolphin Street nightclub property on the east side of the tracks and Garrett Realty parking lot on the west side of the tracks both need to be accessed in order to perform this work.

On the North side of the river, ABC needs access to the north and south and alongside of the TJ Maxx building. This property is owned by MidAmerica Group and access is required to construct the new

retaining walls and Old Milwaukee Fill-in Bridge. In addition, the area north of TJ Maxx has ComEd and AT&T overhead lines that need to be temporarily relocated in order to construction the walls north of TJ Maxx. The walls cannot be constructed as shown if the overhead lines are not temporarily relocated. The utility relocations are included in the project schedule as predecessors to the walls they are in conflict with. Additionally, the property access agreements are included on the project CPM schedule as predecessors to the respective walls or other work they border.

On the east side of the Fullerton Walls, ABC needs access to the Medill Recycling plant and the Public Storage building to build the east walls. Again, the properties are directly in front of the UPRR ROW and access is needed in order to construct the project. It should also be noted that it appears that sections of the east retaining wall have failed and are in direct contact with the existing Public Storage building. ABC will not be responsible for any repairs required to this building as a result of the unforeseen conditions that may exist once exposed by the removal operations.

ABC will fulfil its obligation to coordinate with the respective land owners, however, ABC cannot control the approval of its right of entry to their property. In some instances ABC will require assistance from UPRR/Metra in gaining access to the properties. If access to an adjacent property is not granted ABC will notify Metra and work with Metra to come up with a mutually agreeable solution to mitigate the access issue and complete the contract work in the timeliest manner possible.

UPRR TRACK RELOCATIONS: In addition to the coordination of adjacent property, the project schedule is dependent on the UPRR track relocations. Each time the UPRR crews take the track to perform cutovers or build new track, they are on the project critical path. ABC has scheduled the UPRR in windows to complete the required work and not impact the project schedule in accordance with the contract defined restraints. Should the UPRR not complete the trackwork within the dates detailed in the baseline schedule, it will have a negative impact on the project schedule. Specific attention is drawn to the Stage 2 track relocation. If this work is not completed on time, it will have to be completed in the spring of 2018 and as a result no work will occur during the winter months, resulting in an impact of at least four months. ABC will track and coordinate the work performed by UPRR to ensure it is being completed in a timely manner. ABC will provide the earliest possible notice to UPRR of dates when the trackwork can begin. Please also note that if the initial track shift at Webster is not performed immediately at the start of the project it will impact the Webster Ave repairs and ultimately effect the Stage 2 track relocation.

ADJACENT PROJECT COORDINATION: Another potential issue is coordination with adjacent contracts. Other Metra contracts may require conflicting track outages which could negatively impact the project schedule. ABC will work with Metra and help coordinate outages in advance with other Contractors to minimize conflicts and negative impacts to the project schedule.

The baseline schedule is based on a total of 21 weekend single track outages. There are a total of 18 weekend single track outages planned for the retaining wall work from Deering to Fullerton. ABC has elected to install counterfort retaining walls and work weekend single tracks in order to eliminate the need for temporary earth retention. The Webster Avenue wall requires one weekend single track outage. The Old Milwaukee Fill-in Bridge requires 2 weekend single track outages as shown in the contract plans. If weekend single track outages are not permitted or cancelled by Metra or UP it could impact the overall project schedule and cost.

UNKNOWN UTILITIES: ABC is responsible for coordinating all known utility relocations identified in the contract documents and has included these durations in the baseline schedule. ABC will require the assistance of Metra and the UPRR to mark its utilities in the ROW prior to the start of construction. In order to minimize the impact of encountering unknown or abandoned utilities in the ROW, ABC requests the assistance of Metra/UPRR to provide support/personnel to quickly identify and determine a course of action if these utilities are encountered.

STEEL REHABILITATION: As is often the case, ABC recognizes that there is a potential for additional repairs that may be identified during each phase of the Deering bridge steel rehab. ABC assumes that the Engineer intends to investigate the existing condition of the steel once demolition is complete in each bay and requests that this investigation is done concurrently with the demolition operation in the west bay. This request is made due to the potential lead times for additional members and the importance of completing the west bay and relocation of the track to this bay as detailed above.

DEERING BRIDGE SHORING: ABC's scheme to complete the work in the required time frame on the Deering Bridge is heavily dependent on the approval of the shoring scheme to keep the bascule bridge and lift span in place. ABC developed a plan to install shoring towers under the counterweight of the bridge to keep the lift span in place while the bridge is under construction. This method will enable the work on the bridge to be completed in a shorter period of time than the ballast removal and replacement shown in the contract plans. At this time, the shoring plan has been engineered and submitted to Metra for approval and is critical to completing the work in the durations shown on the project schedule.

Conclusion:

This narrative has been prepared to clarify ABC's intent for performing the work. This narrative also clarifies ABC's understanding of the contract documents and the responsibilities of each party. ABC is committed to partnering and maintaining cooperative and open communication to mutually resolve conflicts at the lowest possible management level.



Harlem Station Construction
Contract # PO0012345
Project # AA-1234

2 Week Look-Ahead Schedule

Work Description	Contractor Name	DBE	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			12/5/17	12/5/17	12/6/17	12/7/17	12/8/17	12/9/17	12/10/17	12/11/17	12/12/17	12/13/17	12/14/17	12/15/17	12/16/17	12/17/17
Strip Walls	ABC		X													
Patch Walls	ABC			X	X	X	X									
Apply Dampproofing	XYZ	X					X									
Install Insulation	DWA									X	X	X				
Install Lightweight Cellular Concrete	FDR											X	X	X		
Install Ramp Rebar	CBS				X	X	X									
Pour Caisson Footing	ABC					X	X			X	X	X				
Frame Ramp Retaining Wall	ABC									X	X					
Install Underground Plumbing	ATS	X					X			X	X					
Demo Shelter	JNS	X			X	X	X			X	X	X	X	X		