



June 18, 2019

Mike Pio
Ludlow Construction Co. Inc.
19 Carmelinas Circle
Ludlow, MA 01056

RE: Durham Meadows Construct Waterline. Durham & Middletown, Connecticut – W912WJ19C0002

Subject: **Project Schedule Update 03 Submission with Recovery**

Dear Mr. Pio,

Please find attached Project Schedule Update 03 Recovery Submission Revision 00 for your review and approval. These documents have been prepared in accordance with the Contract Specifications. Included with the two copies of this narrative, please find two copies of the Activity Report, Logic Report, Total Float Report, Earnings Report by CLIN, Schedule Log, and the Schedule Summary. Additionally please find the attached .xer file and comparison report.

1. Schedule Submittal Identification and Schedule Log:

Update Period: 4/19/2019 – 6/16/2019

Data Date: 6/16/2019

Schedule File Name: DurhamWL_UP03.xer

Schedule	File Name	Data Date	Date to Contractor	Review Comments
Baseline Rev 00	DurhamWL_BL00.xer	12/18/2018	2/15/2019	Revise & Resubmit
Baseline Rev 01	DurhamWL_BL01.xer	12/18/2018	3/5/2019	Approved as Noted
Update 01	Durham WL_UP01.xer	3/8/2019	3/13/2019	Approved as Noted
Update 02	Durham WL-UP02.xer	4/19/2019	4/24/2019	Recovery Required
Update 02 Rec	Durham WL-UP02R.xer	4/19/2019	5/10/2019	Submitted 5/10
Update 03 Rec	Durham WL-UP03R.xer	6/16/2019	6/18/2019	Submitting

2. Review of Schedule Milestones

Activity ID	Activity Description	Total Float	Early Finish	BL Project Finish	Variance	Late Finish
A1000	Notice to Proceed 12.18.2018				0	
A7650	Level of Effort for Cost Loading	0	30-Nov-21	29-Sep-22	117	30-Nov-21
A1020	End Project 12.17.2021	0	17-Dec-21*	29-Sep-22	286	17-Dec-21

The contractually required Contract Field Completion date has been restrained to a “finish on or before” date of **December 17, 2021**. As indicated in the above table, this Schedule Update forecasts a **Contract Field Completion date of December 17, 2021**.

3. Summary of Schedule Update Period Progress –

Submittals and Procurement –

Activity ID	Activity Description	Early Start	Early Finish
A3460	R&A Environmental Protection Plan & Associated Submittals	19-Apr-19 A	16-May-19 A
A3480	R&A Waste Management Plan	08-Apr-19 A	16-May-19 A
A3620	R&A Excavation, Backfill & Fill Plan	09-May-19 A	22-May-19 A

A7840	R&A APP Accident Prevention Plan Rev 01	10-May-19 A	23-May-19 A
A3640	R&A Screened Gravel	29-May-19 A	30-May-19 A
A3800	R&A Crushed Stone	24-May-19 A	11-Jun-19 A

Construction Operations – This is a recovery schedule based on Update 03. In order to recover the schedule the Contractor has decided to maintain three crews to assist with the service installations.

The following construction activities were progressed during the course of the Update period: *No Construction has taken place.*

4. Miscellaneous Schedule Requirements:

Activity Codes:

All Activities have been assigned activity codes for WRKP (Workers per day), RESP (Responsible Party Coding), AREA (Area of Work Coding), MODF (Modification Number), BIDI (Bid Item Coding), PHAS (Phase of Work Coding), CATW (Category of Work Coding), FOW (Feature of Work Coding).

Abbreviations:

Below please find a list of abbreviations used within the Schedule.

P&S - Prepare and Submit	R&A - Review and Approve	STA - Station
ST - Street	FRP - Form Install Rebar & Pour	

WBS and Schedule Organization: *There has been no change to the project baseline WBS or the schedule organization.*

Relationship Types Other Than Finish to Start and Lags:

There are no activity relationships other than finish to start.

5. Review of the Project's Critical Path:

The Critical Path begins with the submission of the Environmental Protection Plan followed by the startup activities and work on Talcott Ridge Dr.

Early Start	Early Finish	2019												2020												2021					
		J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	Jan	F	M	A	M	J	Jul				
14-Jun-19 A	13-Jul-19																														
15-Jul-19	22-Jul-19																														
23-Jul-19	29-Jul-19																														
30-Jul-19	05-Aug-19																														
06-Aug-19	12-Aug-19																														
14-Aug-19	20-Aug-19																														
21-Aug-19	27-Aug-19																														
28-Aug-19	03-Sep-19																														
04-Sep-19	05-Sep-19																														
06-Sep-19	12-Sep-19																														
13-Sep-19	16-Sep-19																														
17-Sep-19	07-Oct-19																														
08-Oct-19	08-Oct-19																														

- R&A Environmental Protection Plan & Associated Submittals REV01
- Install E&S Controls
- Establish Laydown Yard
- Sta. 52+29 to 47+27 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL
- Sta. 47+27 to 42+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL
- Sta. 42+00 to 37+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL
- Sta. 37+00 to 32+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL
- Sta. 32+00 to 30+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 20" WL
- Connect to Existing Water Main - Sta. 41+50 - Talcott Ridge Dr.
- Sta. 600+00 to 604+32 - Watch Hill Dr. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL
- Sta. 607+14 to 605+00 - Watch Hill Dr. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL
- Sta. 756+51 to 751+55 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL
- Connect to Existing Water Main - Sta. 752+00 - Talcott Ridge Dr.

Following the Talcott ridge dr work, the tank access rd is critical followed by the tank vault and the tank itself.

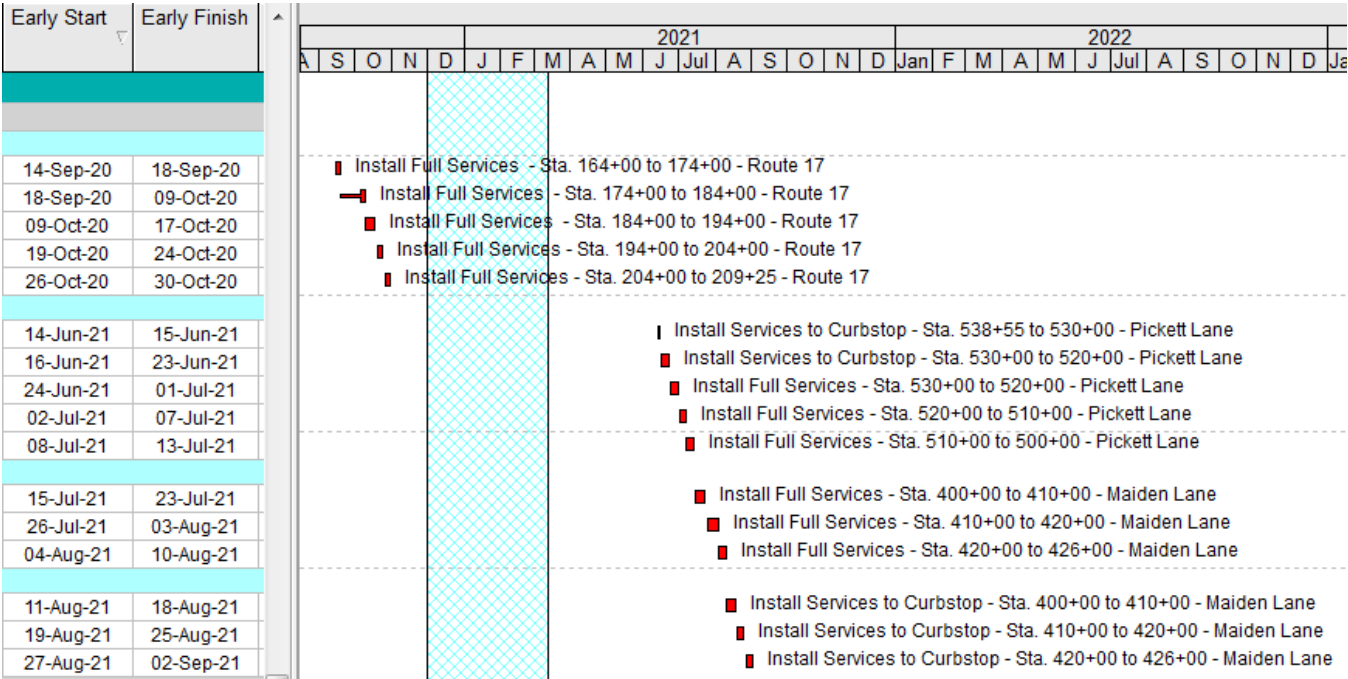
Early Start	Early Finish	2019												2020												2021					
		J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	Jan	F	M	A	M	J	Jul	A			
09-Oct-19	17-Oct-19																														
18-Oct-19	25-Oct-19																														
28-Oct-19	01-Nov-19																														
04-Nov-19	12-Nov-19																														
14-Nov-19	18-Nov-19																														
19-Nov-19	25-Nov-19																														
26-Nov-19	29-Nov-19																														

- Perform Grubbing, Grade & Compact Subbase - Tank Access
- Sta. 23+26 to 17+00 - Tank Access - Excavate, Install Pipe, Hydrants & Backfill - 20" WL
- Sta. 17+00 to 10+00 - Tank Access - Excavate, Install Pipe, Hydrants & Backfill - 20" WL
- Remove & Install Drainage Structures & Pipes as Needed - Tank Access
- Install Rip Rap Aprons as Needed - Tank Access
- Install Aggregate Base - Two Courses - Tank Access
- Pave HMA Binder Course - Tank Access

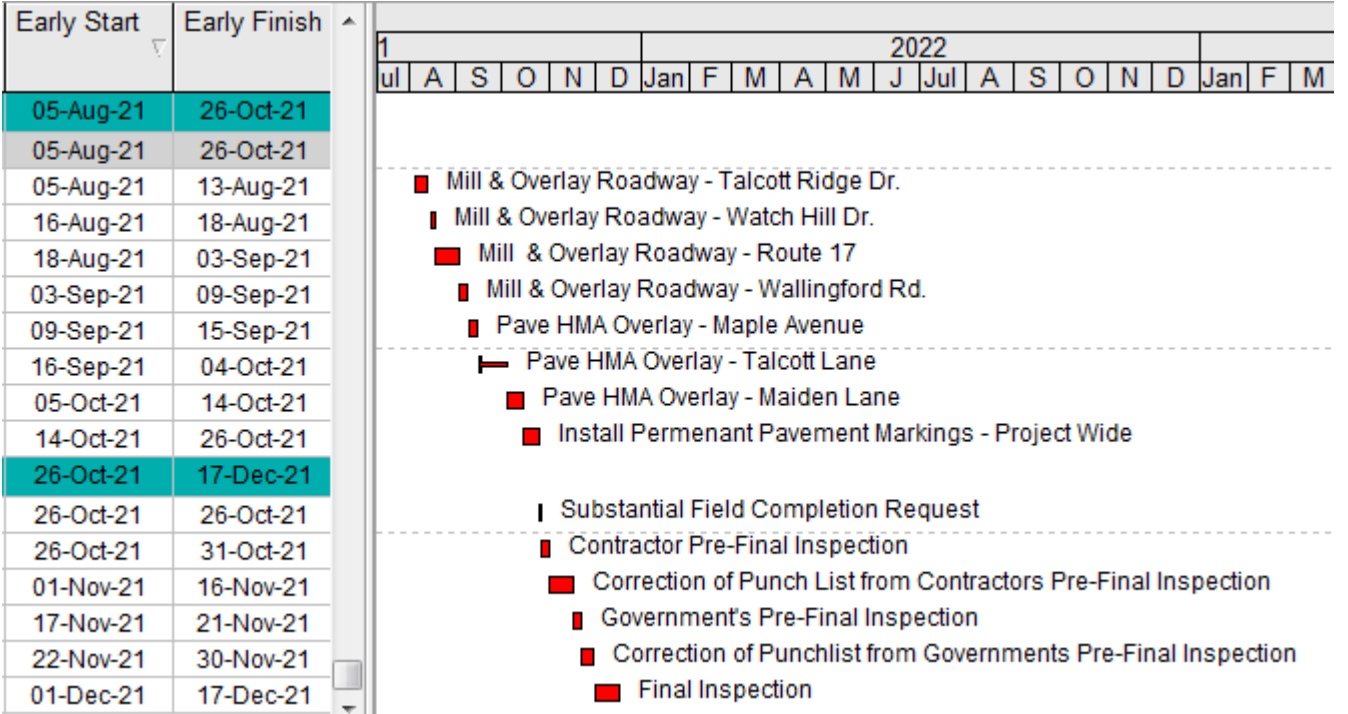
Early Start	Early Finish	2019												2020												2021					
		J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	Jan	F	M	A	M	J	Jul	A	S	O	
01-Apr-20	03-Apr-20																														
06-Apr-20	07-Apr-20																														
09-Apr-20	10-Apr-20																														
13-Apr-20	13-Apr-20																														
14-Apr-20	20-Apr-20																														
14-Apr-20	20-Apr-20																														
21-Apr-20	27-Apr-20																														
28-Apr-20	15-May-20																														
18-May-20	28-May-20																														
29-May-20	16-Jun-20																														
17-Jun-20	23-Jun-20																														
24-Jun-20	13-Jul-20																														
14-Jul-20	23-Jul-20																														
24-Jul-20	17-Aug-20																														
18-Aug-20	24-Aug-20																														
25-Aug-20	31-Aug-20																														
01-Sep-20	08-Sep-20																														
10-Sep-20	14-Sep-20																														

- Excavate, Grade & Install Crushed Stone Bedding - Altitude Valve Vault
- Install Precast Structure - Altitude Valve Vault
- Connect to Installed Waterline - Altitude Valve Vault
- Install Sump Drain Discharge - Altitude Valve Vault
- Install Electrical Conduit from Existing Service to Vault - Altitude Valve Vault
- Install Phone Service from Existing Service to Vault - Altitude Valve Vault
- Install Electrical Cabinets & Meters, Connect & Test - Altitude Valve Vault
- Excavate Foundation, Grade & Install Leveling Base - Storage Tank
- Grade & Install Perimeter Drainage as Needed
- Form, Reinforce & Place Floor Slab - Storage Tank
- Cure Floor Slab - Storage Tank
- Install & Grout Precast Wall Panels - Storage Tank
- Install Precast Dome Panels - Storage Tank
- Finish Prestressed Wall Exterior - Storage Tank
- Install Tank Pipe & Fittings - Storage Tank
- Install & Connect Grounding - Storage Tank
- Install Stairs & Railings - Storage Tank
- Chlorinate, Test & Fill - Storage Tank

Next the service connections are critical.



After the services are connected, the finishes and closeout activities can take place.



Next the well abandonments and closeout activities are critical.

Early Start	Early Finish	2021												2022											
		M	J	Jul	A	S	O	N	D	Jan	F	M	A	M	J	Jul	A	S	O	N	D	Jan	F	M	
03-Sep-21	13-Sep-21																								
14-Sep-21	21-Sep-21																								
22-Sep-21	28-Sep-21																								
29-Sep-21	05-Oct-21																								
06-Oct-21	15-Oct-21																								
18-Oct-21	22-Oct-21																								
23-Oct-21	23-Oct-21																								
23-Oct-21	28-Oct-21																								
28-Oct-21	15-Nov-21																								
15-Nov-21	20-Nov-21																								
22-Nov-21	30-Nov-21																								
01-Dec-21	17-Dec-21																								

- Abandon Wells - Maiden Lane
- Abandon Wells - Rte 17
- Abandon Wells - Pickett Lane
- Abandon Wells - Maple Ave
- Abandon Wells - Talcott Lane
- Abandon Wells - Wallingford Rd.

- | Substantial Field Completion Request
- Contractor Pre-Final Inspection
- Correction of Punch List from Contractors Pre-Final Inspection
- Government's Pre-Final Inspection
- Correction of Punchlist from Governments Pre-Final Inspection
- Final Inspection

Sub-Critical Path

The second most critical path is through the mainline pipe installation.

Activity ID	Activity Description	Orig. Dur.	Total Float	Early Start	Early Finish	Late Start	Late Finish
2		410	0	14-Jun-19 A	17-Dec-21	24-Jun-19	17-Dec-21
Milestones		0	0	17-Dec-21	17-Dec-21	17-Dec-21	17-Dec-21
A1020	End Project 12.17.2021	0	0		17-Dec-21*		17-Dec-21
01 57 20 - Environmental Protection		30	8	14-Jun-19 A	13-Jul-19	24-Jun-19	21-Jul-19
A8020	R&A Environmental Protection Plan & Associated :	30	8	14-Jun-19 A	13-Jul-19	24-Jun-19	21-Jul-19
Start-up		10	4	15-Jul-19	29-Jul-19	22-Jul-19	02-Aug-19
A1140	Install E&S Controls	5	4	15-Jul-19	22-Jul-19	22-Jul-19	26-Jul-19
A1160	Establish Laydown Yard	5	4	23-Jul-19	29-Jul-19	29-Jul-19	02-Aug-19
Route 17 South Main Street		86	5	29-Jul-19	24-Apr-20	03-Aug-19	30-Apr-20
Maple Avenue, Talcott Lane, Wallingford Rd. - Line		51	3	24-Apr-20	13-Jul-20	30-Apr-20	17-Jul-20
Pickett Lane - Line Installation		49	2	14-Jul-20	06-Jul-21	17-Jul-20	09-Jul-21
Service Installations		68	1	08-Jul-21	22-Oct-21	09-Jul-21	26-Oct-21
Closeout		23	0	23-Oct-21	17-Dec-21	26-Oct-21	17-Dec-21
A1060	Substantial Field Completion Request	1	3	23-Oct-21	23-Oct-21	26-Oct-21	26-Oct-21
A1070	Contractor Pre-Final Inspection	5	3	23-Oct-21	28-Oct-21	27-Oct-21	31-Oct-21
A1090	Correction of Punch List from Contractors Pre-Fin	10	1	28-Oct-21	15-Nov-21	01-Nov-21	16-Nov-21
A1100	Government's Pre-Final Inspection	5	1	15-Nov-21	20-Nov-21	17-Nov-21	21-Nov-21
A3180	Correction of Punchlist from Governments Pre-Fir	5	0	22-Nov-21	30-Nov-21	22-Nov-21	30-Nov-21
A1110	Final Inspection	17	0	01-Dec-21	17-Dec-21	01-Dec-21	17-Dec-21

Substantial Completion

With the completion of the permanent line markings, the contractor can request substantial completion on October 26th 2021. After substantial completion is requested the inspections and punchlist activities can take place.

Contractor Field Completion

Following all of the punchlist and final inspection, the project end date is scheduled for an early finish of December 17th 2021.

6. Review of Utility and Other Third-Party Impacts & Critical Issues:

At this time, there are no third-party impacts incorporated into this Schedule submission.

7. Contract Specification Requirements Not Followed in this Submission

At this time, this submission does not depict any contractual specification requirements that are not being followed.

8. Review of Project Calendars

The contractor and subcontractors currently plan to work 5 days per week on the majority of construction operations. This schedule utilizes the following calendars:

Calendar Name	Description
Cure, Milestone, & Submittal	7D/Hr No Holidays or Weekends excluded - Used for Cure, Milestones, & Submittals
In Roadway Work – Days*	5D/8Hr No Work on Holidays or Weekends - April 1st through December 1st - Daytime
In Roadway Work – Nights*	5D/8Hr No Work on Holidays or Weekends - April 1st through December 1st - Nighttime
Out of Roadway Work - Days	5D/8Hr No Work on Holidays or Weekends - April 1st through December 1st - Not affected by Road Closures
Pickett Lane School Zone - Days	5D/8Hr No Work on Holidays or Weekends - No Work while school is in session. Dates are approximated.

*In roadway calendars include the Durham Fair shutdown period
The following holidays / non-work days used in the project calendars are listed below:

- New Year’s Day
- Labor Day
- Martin Luther King Day
- Columbus Day
- President’s Day
- Thanksgiving Day
- Memorial Day
- Christmas Day
- Independence Day

9. Work which should have started this period but did not:

Activity ID	Activity Description	Orig. Dur.	Total Float	Early Start	Early Finish
A1120	Mobilization Period	10	18	17-Jun-19	28-Jun-19
A4650	Establish Engineers Field Office	5	18	17-Jun-19	21-Jun-19
A4680	Perform Vibration Monitoring Survey	5	28	17-Jun-19	21-Jun-19

10. Construction Work Scheduled to be Started Next Period:

Activity ID	Activity Description	Orig. Dur.	Total Float	Early Start	Early Finish
A1120	Mobilization Period	10	18	17-Jun-19	28-Jun-19
A4650	Establish Engineers Field Office	5	18	17-Jun-19	21-Jun-19
A4680	Perform Vibration Monitoring Survey	5	28	17-Jun-19	21-Jun-19
A7730	Issuance of Permits & Police Detail - Project Wide	30	7	27-Jun-19	26-Jul-19
A1140	Install E&S Controls	5	4	15-Jul-19	22-Jul-19

11. Change Orders, RFI’s and Unit Price Quantity Overruns that Could Result in Schedule Impacts

Change Orders

The following change orders have been incorporated into the project schedule: *None at this time.*

Request for Information (RFI’s)

The following RFI’s have been incorporated into the project schedule: *None at this time.*

Unit Price Quantity Overruns

The following unit price quantity overruns have been incorporated into the project schedule: *None at this time.*

12. Notice of Delays (Non-Third Party Utility) and Time Entitlement Analyses (TEA’s)

Notice of Delays (Non-Third Party Utility)

There are no new Notice of Delays to discuss this Update Period.

Time Entitlement Analyses (TEA’s)

At this time, there have not been any TEA’s issued by the Contractor.

13. Contractor’s Approach to the Project and Planned Resources:

Contractor Resources & Subcontractors

The Contractor’s plan to complete the work is best depicted by the Critical Path Schedule. In general, the Contractor will, utilizing several crews of their own resources to complete the general work detailed within the scheduled stages.

In general the average crew makeup will consist of the following

- 1 Foreman 2 Operators
- 2-3 Laborers

Crew sizes will be adjusted and managed accordingly based upon the volume of work / concurrency of activities.

The Contractor currently plans to employ the following subcontractors (by work type):

- Paving Tank Installation Electrical Work Plumbing work

14. Changes to the Project Schedule: Comparing Update 02 to Update 02 Recovery

a. Activity Name

- i. The following activity name changes were made: *None.*

b. Calendar Name

- i. The following calendar assignments were modified during the preparation of this update: *None.*

c. Original Duration

- i. The following changes to original durations of task dependent activities were made: *This duration was reduced in a recovery effort as it was decided that this work could be done more aggressively.*

Activity Id	Activity Name	New Original Duration	Old Original Duration
A6900	Install Full Services - Sta. 400+00 to 410+00 - Maiden Lane	7	8

d. Activities Added / Deleted

- i. The following activities were deleted during the preparation of this update: *None.*
- ii. The following activities were added from the schedule as part of this update: *These activities were added to represent a second revisions of the QA Plan*

Activity Id	Activity Name
A8030	P&S Quality Assurance Plan REV 02
A8040	R&A Quality Assurance Plan REV 02

e. **Relationships Added / Deleted**

- i. The following successor relationships were added during the preparation of this Update: *These relationships were added as part of the recovery effort.*

Activity Id	Activity Name	Lag	Relationship	Successor Id	Successor Activity Name
A8040	R&A Quality Assurance Plan REV 02	0	Finish to Start	A4670	Sta. 100+00 to 105+00 - Rte 17 - Excavate, Install Pipe, Hydrants & Backfill - 16" WL
A8040	R&A Quality Assurance Plan REV 02	0	Finish to Start	A5120	Sta. 52+29 to 47+27 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL
A6960	Install Full Services - Sta. 510+00 to 500+00 - Pickett Lane	0	Finish to Start	A6900	Install Full Services - Sta. 400+00 to 410+00 - Maiden Lane
A6020	Sta. 505+00 to 500+00 - Pickett Lane - Excavate, Install Pipe, Hydrants & Backfill - 12" WL	0	Finish to Start	A6960	Install Full Services - Sta. 510+00 to 500+00 - Pickett Lane
A6920	Install Full Services - Sta. 420+00 to 426+00 - Maiden Lane	0	Finish to Start	A6870	Install Services to Curbstop - Sta. 400+00 to 410+00 - Maiden Lane
A6600	Install Full Services - Sta. 204+00 to 209+25 - Route 17	0	Finish to Start	A7970	Install Services to Curbstop - Sta. 538+55 to 530+00 - Pickett Lane
A5980	Sta. 518+00 to 512+00 - Pickett Lane - Excavate, Install Pipe, Hydrants & Backfill - 12" WL	0	Finish to Start	A7970	Install Services to Curbstop - Sta. 538+55 to 530+00 - Pickett Lane
A7880	R&A Quality Assurance Plan REV 01	0	Finish to Start	A8030	P&S Quality Assurance Plan REV 02
A8030	P&S Quality Assurance Plan REV 02	0	Finish to Start	A8040	R&A Quality Assurance Plan REV 02
A5580	Sta. 902+25 to Existing Water Main - Maple Ave. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL	0	Finish to Finish	A5790	Sta. 400+00 to 405+00 - Maiden Lane - Excavate, Install Pipe, Hydrants & Backfill - 12" WL

- ii. The following successor relationships were deleted during the preparation of this Update: *These relationships were deleted as part of the recovery effort.*

Activity Id	Activity Name	Lag	Relationship	Successor Id	Successor Activity Name
A6020	Sta. 505+00 to 500+00 - Pickett Lane - Excavate, Install Pipe, Hydrants & Backfill - 12" WL	0	Finish to Start	A5790	Sta. 400+00 to 405+00 - Maiden Lane - Excavate, Install Pipe, Hydrants & Backfill - 12" WL
A6960	Install Full Services - Sta. 510+00 to 500+00 - Pickett Lane	0	Finish to Start	A6750	Install Services to Curbstop - Sta. 300+00 to 306+00 - Talcott Lane
A6890	Install Services to Curbstop - Sta. 420+00 to 426+00 - Maiden Lane	0	Finish to Start	A6900	Install Full Services - Sta. 400+00 to 410+00 - Maiden Lane
A6770	Install Services to Curbstop - Sta. 600+00 to 609+50 - Wallingford Rd.	0	Finish to Start	A6870	Install Services to Curbstop - Sta. 400+00 to 410+00 - Maiden Lane
A6780	Install Full Services - Sta. 600+00 to 609+50 - Wallingford Rd.	0	Finish to Start	A6870	Install Services to Curbstop - Sta. 400+00 to 410+00 - Maiden Lane
A6960	Install Full Services - Sta. 510+00 to 500+00 - Pickett Lane	0	Finish to Start	A6680	Install Services to Curbstop - Sta. 100+00 to 110+00 - Route 17

f. **Lag Additions / Modifications**

- i. The following Lag modifications were made during the preparation of this Update: *None.*
- ii. The following Lags were added during the preparation of this Update: *None.*

15. Review of Project Costs / Earnings Report:

In order to prepare the Earnings Report, a materials resource list was created utilizing the Contractors unit price for each material. These material resources are then assigned to activities as needed. The cost loading in the schedule is accurate to the

exact contract amount of \$24,401,154.00 The Earnings Report has been included with this submittal. The full contract amount is split between all activities and include all CLIN.

16. Closing Statement

This schedule represents the current planned sequence and flow of work, but may be modified during the actual progress of the work. Any modification to sequencing will be addressed and shown during the monthly update process. Please see enclosed schedule documents and the requested layouts & reports. If you require any additional information please contact me.

Sincerely,
On Point Construction Services, LLC



Ben Junco, Project Coordinator
BJunco@onpointct.com | 703.656.6248

Attachments: 2 Copies of each of the following:

Schedule with All Activities, *.XER file, Earnings Report.xls, Earnings Report.pdf, Activity Report.pdf, Logic Report.pdf, Schedule Log.pdf, Total Float Report.pdf, Network Diagram.pdf, CD's with above files

DD6.18.18 Durham Meadows Waterline - UP03								Ludlow - All Activities				PAGE 2 OF 9 PAGES																		
Activity ID	Activity Description	Orig. Dur.	Total Float	Early Start	Early Finish	Late Start	Late Finish	Calendar	Remaining Duration	Physical % Complete	2019				2020				2021				2022							
											J	J	A	S	N	D	J	F	A	J	J	A	N	D	J	F	A	J	J	A
A3470	P&S Waste Management Plan	30		12-Feb-19 A	08-Apr-19 A	01-Apr-20	01-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3480	R&A Waste Management Plan	30		08-Apr-19 A	16-May-19 A	01-Apr-20	01-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
01 78 00 - Closeout Submittals																														
A3490	P&S Closeout Documentation	30	856	16-Jun-19	15-Jul-19	19-Oct-21	17-Nov-21	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3500	R&A Closeout Documentation	30	856	16-Jul-19	14-Aug-19	18-Nov-21	17-Dec-21	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
01 78 23 - Operation and Maintenance Data																														
A3510	P&S O&M Data	30	886	16-Jun-19	15-Jul-19	18-Nov-21	17-Dec-21	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02012 - Protecting Existing Underground Utilities																														
A3520	P&S Existing Utility Protection Shop Drawings	30	85	16-Jun-19	15-Jul-19	09-Sep-19	08-Oct-19	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3530	R&A Existing Utility Protection Shop Drawings	30	85	16-Jul-19	14-Aug-19	09-Oct-19	07-Nov-19	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02013 - Connection to Existing Buried Pipelines																														
A3540	P&S Product Data - Tapping Sleeves & Valves	30	18	16-Jun-19	15-Jul-19	04-Jul-19	02-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02018 - Vibration Monitoring																														
A3550	P&S Vibration Monitoring Plan & Documentation	30		04-Mar-19 A	14-Mar-19 A	29-Jul-19	29-Jul-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3560	R&A Vibration Monitoring Plan & Documentation	30		15-Mar-19 A	18-Mar-19 A	29-Jul-19	29-Jul-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02053 - Excavated Material Management Plan																														
A3570	P&S Soil Management Plan	30	782	16-Jun-19	15-Jul-19	06-Aug-21	04-Sep-21	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3580	R&A Soil Management Plan	30	782	16-Jul-19	14-Aug-19	05-Sep-21	04-Oct-21	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02160 - Excavation Support System																														
A3590	P&S Excavation Support Plan & Product Data	30		25-Feb-19 A	08-Mar-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3600	R&A Excavation Support Plan & Product Data	30		09-Mar-19 A	14-Mar-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02210 - Earth Excavation, Backfill, Fill and Grading																														
A3610	P&S Excavation, Backfill & Fill Plan	30		29-Mar-19 A	09-May-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3620	R&A Excavation, Backfill & Fill Plan	30		09-May-19 A	22-May-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02223 - Screened Gravel																														
A3630	P&S Screened Gravel Samples	30		27-May-19 A	28-May-19 A	30-Apr-20	30-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3640	R&A Screened Gravel	30		29-May-19 A	30-May-19 A	30-Apr-20	30-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02224 - Bank Run or Crushed Gravel																														
A3650	P&S Bank Run Gravel Sample	30		28-Mar-19 A	22-Apr-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3660	R&A Bank Run Gravel	30		22-Apr-19 A	04-May-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02225 - Select Borrow																														
A3670	P&S Select Borrow Sample	30	230	16-Jun-19	15-Jul-19	01-Feb-20	01-Mar-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3680	R&A Select Borrow	30	230	16-Jul-19	14-Aug-19	02-Mar-20	31-Mar-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02230 - Site Clearing																														
A3690	P&S Certified Arborist	30	92	16-Jun-19	15-Jul-19	16-Sep-19	15-Oct-19	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3700	R&A Certified Arborist	30	92	16-Jul-19	14-Aug-19	16-Oct-19	14-Nov-19	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02240 - Dewatering																														
A3710	P&S Dewatering Plan	30		18-Mar-19 A	05-Apr-19 A	18-Jul-19	18-Jul-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3720	R&A Dewatering Plan	30	32	06-Apr-19 A	01-Jul-19	18-Jul-19	02-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	16	50%																				
02241 - Construction Water Management																														
A3730	P&S Water Management Plan	30	335	16-Jun-19	15-Jul-19	16-May-20	15-Jun-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3740	R&A Water Management Plan	30	335	16-Jul-19	14-Aug-19	15-Jun-20	15-Jul-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02273 - Geotextile Fabric																														
A3750	P&S Geotextile Product Data	30		25-Feb-19 A	28-Feb-19 A	24-Apr-20	24-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02371 - Riprap																														
A3760	P&S Rip Rap Material Certs	30	290	16-Jun-19	15-Jul-19	01-Apr-20	30-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02400 - Temporary Cofferdam																														
A3770	P&S Temporary Cofferdam Plan	30	277	16-Jun-19	15-Jul-19	19-Mar-20	17-Apr-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
A3780	R&A Temporary Cofferdam Plan	30	277	16-Jul-19	14-Aug-19	18-Apr-20	17-May-20	Cure, Milestone, & Submittal - 7D/Wk	30	0%																				
02435 - Crushed Stone																														
A3790	P&S Crushed Stone Sample	30		25-Mar-19 A	24-May-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3800	R&A Crushed Stone	30		24-May-19 A	11-Jun-19 A	03-Aug-19	03-Aug-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
02510 - Water Utilities																														
A3810	P&S Pipe Material & Fittings Product Data	30		04-Feb-19 A	26-Feb-19 A	25-Jun-19	25-Jun-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				
A3820	R&A Pipe Material & Fittings Product Data	30		27-Feb-19 A	14-Mar-19 A	25-Jun-19	25-Jun-19	Cure, Milestone, & Submittal - 7D/Wk	0	100%																				

Activity ID	Activity Description	Orig. Dur.	Total Float	Early Start	Early Finish	Late Start	Late Finish	Calendar	Remaining Duration	Physical % Complete	2019				2020				2021				2022							
											J				J				J				J							
											J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J
Milestones																														
A1020	End Project 12.17.2021	0	0		17-Dec-21*		17-Dec-21	Cure, Milestone, & Submittal - 7D/Wk	0	0%	◆ End Project 1																			
Submittals & Procurement																														
01 57 20 - Environmental Protection																														
A8020	R&A Environmental Protection Plan & Associated Submittals REV01	30	8	14-Jun-19 A	13-Jul-19	24-Jun-19	21-Jul-19	Cure, Milestone, & Submittal - 7D/Wk	28	0%	■ R&A Environmental Protection Plan & Associated Submittals REV01																			
Construction																														
Start-up																														
A1140	Install E&S Controls	5	4	15-Jul-19	22-Jul-19	22-Jul-19	26-Jul-19	Out of Roadway Work - Days	5	0%	■ Install E&S Controls																			
A1160	Establish Laydown Yard	5	4	23-Jul-19	29-Jul-19	29-Jul-19	02-Aug-19	Out of Roadway Work - Days	5	0%	■ Establish Laydown Yard																			
Talcott Ridge Dr. & Watch Hill Dr.																														
Talcott Ridge Dr. - 16" Waterline																														
A5120	Sta. 52+29 to 47+27 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL	5	33	30-Jul-19	05-Aug-19	18-Sep-19	08-Oct-19	In Roadway Work - Days	5	0%	■ Sta. 52+29 to 47+27 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants &																			
A5140	Sta. 47+27 to 42+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL	5	33	06-Aug-19	12-Aug-19	09-Oct-19	16-Oct-19	In Roadway Work - Days	5	0%	■ Sta. 47+27 to 42+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants &																			
A5160	Sta. 42+00 to 37+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL	5	33	14-Aug-19	20-Aug-19	17-Oct-19	23-Oct-19	In Roadway Work - Days	5	0%	■ Sta. 42+00 to 37+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants &																			
A5180	Sta. 37+00 to 32+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 16" WL	5	33	21-Aug-19	27-Aug-19	24-Oct-19	30-Oct-19	In Roadway Work - Days	5	0%	■ Sta. 37+00 to 32+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants &																			
A5200	Sta. 32+00 to 30+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 20" WL	3	33	28-Aug-19	03-Sep-19	31-Oct-19	04-Nov-19	In Roadway Work - Days	3	0%	■ Sta. 32+00 to 30+00 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants &																			
A7520	Connect to Existing Water Main - Sta. 41+50 - Talcott Ridge Dr.	2	39	04-Sep-19	05-Sep-19	05-Nov-19	07-Nov-19	Out of Roadway Work - Days	2	0%	■ Connect to Existing Water Main - Sta. 41+50 - Talcott Ridge Dr.																			
Talcott Ridge Dr. & Watch Hill Dr. - 8" Waterline																														
A5260	Sta. 600+00 to 604+32 - Watch Hill Dr. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL	5	33	06-Sep-19	12-Sep-19	08-Nov-19	15-Nov-19	In Roadway Work - Days	5	0%	■ Sta. 600+00 to 604+32 - Watch Hill Dr. - Excavate, Install Pipe, Hydrants &																			
A5240	Sta. 607+14 to 605+00 - Watch Hill Dr. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL	2	33	13-Sep-19	16-Sep-19	18-Nov-19	20-Nov-19	In Roadway Work - Days	2	0%	■ Sta. 607+14 to 605+00 - Watch Hill Dr. - Excavate, Install Pipe, Hydrants &																			
A5220	Sta. 756+51 to 751+55 - Talcott Ridge Dr. - Excavate, Install Pipe, Hydrants & Backfill - 8" WL	5	33	17-Sep-19	07-Oct-19	21-Nov-19	27-Nov-19	In Roadway Work - Days	5	0%	■ Sta. 756+51 to 751+55 - Talcott Ridge Dr. - Excavate, Install Pipe, Hyd																			
A7530	Connect to Existing Water Main - Sta. 752+00 - Talcott Ridge Dr.	1	31	08-Oct-19	08-Oct-19	29-Nov-19	29-Nov-19	Out of Roadway Work - Days	1	0%	■ Connect to Existing Water Main - Sta. 752+00 - Talcott Ridge Dr.																			
Tank Access Driveway																														
A5290	Perform Grubbing, Grade & Compact Subbase - Tank Access	5	31	09-Oct-19	17-Oct-19	01-Apr-20	07-Apr-20	Out of Roadway Work - Days	5	0%	■ Perform Grubbing, Grade & Compact Subbase - Tank Access																			
A5300	Sta. 23+26 to 17+00 - Tank Access - Excavate, Install Pipe, Hydrants & Backfill - 20" WL	5	31	18-Oct-19	25-Oct-19	09-Apr-20	16-Apr-20	Out of Roadway Work - Days	5	0%	■ Sta. 23+26 to 17+00 - Tank Access - Excavate, Install Pipe, Hydrants &																			
A5320	Sta. 17+00 to 10+00 - Tank Access - Excavate, Install Pipe, Hydrants & Backfill - 20" WL	5	31	28-Oct-19	01-Nov-19	17-Apr-20	23-Apr-20	Out of Roadway Work - Days	5	0%	■ Sta. 17+00 to 10+00 - Tank Access - Excavate, Install Pipe, Hydrants &																			
A5350	Remove & Install Drainage Structures & Pipes as Needed - Tank Access	5	31	04-Nov-19	12-Nov-19	24-Apr-20	30-Apr-20	Out of Roadway Work - Days	5	0%	■ Remove & Install Drainage Structures & Pipes as Needed - Tank Ac																			
A5360	Install Rip Rap Aprons as Needed - Tank Access	3	31	14-Nov-19	18-Nov-19	01-May-20	05-May-20	Out of Roadway Work - Days	3	0%	■ Install Rip Rap Aprons as Needed - Tank Access																			
A5340	Install Aggregate Base - Two Courses - Tank Access	5	31	19-Nov-19	25-Nov-19	07-May-20	14-May-20	Out of Roadway Work - Days	5	0%	■ Install Aggregate Base - Two Courses - Tank Access																			
A5370	Pave HMA Binder Course - Tank Access	3	31	26-Nov-19	29-Nov-19	15-May-20	19-May-20	Out of Roadway Work - Days	3	0%	■ Pave HMA Binder Course - Tank Access																			
Vaults & Stations																														
Altitude Valve Vault																														
A6070	Excavate, Grade & Install Crushed Stone Bedding - Altitude Valve Vault	3	31	01-Apr-20	03-Apr-20	20-May-20	22-May-20	Out of Roadway Work - Days	3	0%	■ Excavate, Grade & Install Crushed Stone Bedding - Altitud																			
A6080	Install Precast Structure - Altitude Valve Vault	2	31	06-Apr-20	07-Apr-20	26-May-20	27-May-20	Out of Roadway Work - Days	2	0%	■ Install Precast Structure - Altitude Valve Vault																			
A6090	Connect to Installed Waterline - Altitude Valve Vault	2	31	09-Apr-20	10-Apr-20	28-May-20	29-May-20	Out of Roadway Work - Days	2	0%	■ Connect to Installed Waterline - Altitude Valve Vault																			
A6140	Install Sump Drain Discharge - Altitude Valve Vault	1	31	13-Apr-20	13-Apr-20	01-Jun-20	01-Jun-20	Out of Roadway Work - Days	1	0%	■ Install Sump Drain Discharge - Altitude Valve Vault																			
A6110	Install Electrical Conduit from Existing Service to Vault - Altitude Valve Vault	4	31	14-Apr-20	20-Apr-20	02-Jun-20	05-Jun-20	Out of Roadway Work - Days	4	0%	■ Install Electrical Conduit from Existing Service to Vault - A																			
A6120	Install Phone Service from Existing Service to Vault - Altitude Valve Vault	4	31	14-Apr-20	20-Apr-20	02-Jun-20	05-Jun-20	Out of Roadway Work - Days	4	0%	■ Install Phone Service from Existing Service to Vault - Altit																			
A6130	Install Electrical Cabinets & Meters, Connect & Test - Altitude Valve Vault	5	31	21-Apr-20	27-Apr-20	08-Jun-20	15-Jun-20	Out of Roadway Work - Days	5	0%	■ Install Electrical Cabinets & Meters, Connect & Test - Altit																			
Cherry Hill Storage Tank																														
A7240	Excavate Foundation, Grade & Install Leveling Base - Storage Tank	12	31	28-Apr-20	15-May-20	16-Jun-20	01-Jul-20	Out of Roadway Work - Days	12	0%	■ Excavate Foundation, Grade & Install Leveling Base - S																			
A7320	Grade & Install Perimeter Drainage as Needed	8	31	18-May-20	28-May-20	02-Jul-20	15-Jul-20	Out of Roadway Work - Days	8	0%	■ Grade & Install Perimeter Drainage as Needed																			
A7250	Form, Reinforce & Place Floor Slab - Storage Tank	12	31	29-May-20	16-Jun-20	16-Jul-20	31-Jul-20	Out of Roadway Work - Days	12	0%	■ Form, Reinforce & Place Floor Slab - Storage Tank																			
A7260	Cure Floor Slab - Storage Tank	7	47	17-Jun-20	23-Jun-20	03-Aug-20	09-Aug-20	Cure, Milestone, & Submittal - 7D/Wk	7	0%	■ Cure Floor Slab - Storage Tank																			
A7270	Install & Grout Precast Wall Panels - Storage Tank	12	30	24-Jun-20	13-Jul-20	10-Aug-20	26-Aug-20	Out of Roadway Work - Days	12	0%	■ Install & Grout Precast Wall Panels - Storage Tank																			
A7300	Install Precast Dome Panels - Storage Tank	8	30	14-Jul-20	23-Jul-20	27-Aug-20	08-Sep-20	Out of Roadway Work - Days	8	0%	■ Install Precast Dome Panels - Storage Tank																			
A7280	Finish Prestressed Wall Exterior - Storage Tank	15	30	24-Jul-20	17-Aug-20	10-Sep-20	01-Oct-20	Out of Roadway Work - Days	15	0%	■ Finish Prestressed Wall Exterior - Storage Tank																			
A7290	Install Tank Pipe & Fittings - Storage Tank	5	30	18-Aug-20	24-Aug-20	02-Oct-20	08-Oct-20	Out of Roadway Work - Days	5	0%	■ Install Tank Pipe & Fittings - Storage Tank																			
A7420	Install & Connect Grounding - Storage Tank	5	30	25-Aug-20	31-Aug-20	09-Oct-20	19-Oct-20	Out of Roadway Work - Days	5	0%	■ Install & Connect Grounding - Storage Tank																			
A7310	Install Stairs & Railings - Storage Tank	5	30	01-Sep-20	08-Sep-20	20-Oct-20	27-Oct-20	Out of Roadway Work - Days	5	0%	■ Install Stairs & Railings - Storage Tank																			
A7330	Chlorinate, Test & Fill - Storage Tank	3	30	10-Sep-20	14-Sep-20	28-Oct-20	30-Oct-20	Out of Roadway Work - Days	3	0%	■ Chlorinate, Test & Fill - Storage Tank																			
Service Installations																														
Route 17 - Services																														

Data Date 16-Jun-19
Run Date 18-Jun-19 12:24

Ludlow Construction Co.
19 Carmelina's Circle | Ludlow, MA 01056
DD6.18.18 Durham Meadows Waterline - UP03

Actual Work	◆ Milestone
Remaining Work	Remaining Level of Eff...
Critical Remaining Work	

