2019 Construction and Project Development Conference

Phil Murdoff, P.E., Construction Engineer
Annual Construction Program Chart

NDDOT Construction Program
($$ Millions)


As of Nov. 30, 2018
# Notice of Intent Chart

<table>
<thead>
<tr>
<th>Dispute Status</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolved</td>
<td>44</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Unresolved</td>
<td>8</td>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>26</td>
<td>34</td>
</tr>
</tbody>
</table>
Construction Status Report

2018 Construction Progress
Percent Complete

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Percent Complete</td>
<td>11%</td>
<td>14%</td>
<td>22%</td>
<td>30%</td>
<td>46%</td>
<td>54%</td>
<td>63%</td>
<td>68%</td>
<td>71%</td>
<td>79%</td>
<td>79%</td>
<td>81%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Report Date</th>
<th>Current</th>
<th>One Year Ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Contracts</td>
<td>185</td>
<td>171</td>
</tr>
<tr>
<td>Total Construct Contract Amount</td>
<td>$356,543,734</td>
<td>$382,705,009</td>
</tr>
<tr>
<td>Contract Amt. Complete</td>
<td>$290,095,339</td>
<td>$336,554,158</td>
</tr>
<tr>
<td>Contract Amt. Remaining</td>
<td>$66,448,395</td>
<td>$461,508,951</td>
</tr>
<tr>
<td>% Complete</td>
<td>81%</td>
<td>88%</td>
</tr>
</tbody>
</table>
Recent Accomplishments and Changes

- Interactive GIS Based Cost Data
- Updated Work Drawing Guidance
- Revised Change Order Approval Limits
- CARS Upgrades
Brian Bieber from the NDDOT IT GIS Section has developed an interactive map to display average bid prices for all bid items used on construction projects. It is available on the NDDOT website.

Interactive GIS Based Cost Data
Interactive GIS Based Cost Data

Information that is output:
(Ex. 302 0120 Aggregate Base Course Burleigh County)

• Average Bid: $20.57
• Number of Bids: 6
• Average Quantity: 21,005 TON
• Average Award: $22.37
• Number of Jobs: 2
There are a wide range of users and uses for this map. A few of the uses would be:

- Preliminary and final cost estimates for projects
- Bid evaluations
- Evaluation and development of cost justifications for change orders
- Research
- Planning and scoping of projects
Guidance for Uploading Work Drawings

The following guidance is for uploading work drawings.

1. All documents are to be in portable document format (.pdf) file format.

2. The documents shall use the following naming convention:
   
   *NDDOT Project Number_Name of Work Drawing_Submission Number.pdf*
   
   Example: SER-7-073(01)XX08_Concrete CCE_#1.pdf

3. Login to the Managed File Transfer (MFT) Site:
   
   a. [https://mft.nd.gov](https://mft.nd.gov)
   b. Username: workingdrawings
   c. Password: Drawings2017

4. Click on “Folders”

5. Navigate through the folder structure:
   
   a. Home -> doteng -> Engineering -> workingdrawings
   b. Place documents in the month that corresponds with the submittal date.
# New Change Order Approval Limits

## Change Order Approval Process Chart - Addition of Team Leader Level

<table>
<thead>
<tr>
<th>Reason for Change Order</th>
<th>Change Order Parameters</th>
<th>Final Approval Authority</th>
</tr>
</thead>
</table>
| A. All reasons except those listed in items B. through E. including:  
  • Changes in contract documents.  
  • Extra work within the scope of the contract.  
  • For establishing the basis of payment or time adjustments for work affected by the changes. | Costs up to $10,000.  
  Time extensions up to 5 working days. | Project Engineer |
| | Costs up to $20,000.  
  Time extensions up to 5 working days. | Team Leader |
| | Costs up to $100,000.  
  Time extensions over 5 working days up to 15 working days. | District Engineer |
| | Costs up to $500,000.  
  Time extensions over 15 working days. | Office of Operations Director |
| B. Structural Design Changes. | All | Office of Operations Director |
| C. Changes in specifications, including materials specifications. | All | Office of Operations Director |
| D. Changes that affect the “Environmental Commitments” where the environmental action needs to be reassessed. | All | Office of Operations Director |
| E. Emergency Relief (ER) Projects | All | NDDOT approval in accordance with A. |

1. Cost thresholds can be an increase or decrease to the original cost. The costs are cumulative, not net:  
   - (An increase of $80,000 and decrease of $70,000 = $150,000 final approval authority required)
2. Calendar to working days conversion: (working days = calendar days requested) x (working days specified to be charged per week) + 7.
3. Verbal approval of the final approval authority is required prior to the start of change order work and prior to obtaining the Contractor’s signature on the Change Order.
4. Change Orders over $500,000 will be signed by the Office of Operations Director but will require verbal approval from the Deputy Director for Engineering.
5. If not authorized to sign as final approval authority, need to sign “Approval Recommended” before going to the next authority.
New Change Order Approval Limits

Update has been made

Update in progress
Create Progressive Estimate

Message: The last estimate #8 has been paid.

Construction Start, or
Previous Estimate Date: 12/13/2018
Current Estimate Date: 3/1/2019

Division: Construction
Type: Intermediate

Retainage Percent: ______% or
Retainage Amount: ______

Liquidated Damage Days this Estimate: ______
Liquidated Amount Per Day: ______

Contractor Email: ______

Email Approved Estimate to Contractor: □
Emailing Estimates to Contactors

1. Can accommodate multiple email addresses
2. Email addresses separated by a semi colon
3. Check box needs to be clicked to send emails
4. Email gets sent when Construction Engineer approves the estimate
If you are managing a project with a contract value of $1M and the contractor has bid $200,000 for the Mobilization bid item, what is the Mobilization payment amount when 75% of the original contract amount has been earned?

A. 100% of the Mobilization bid item ($200,000)
B. 10% of the original contract amount ($100,000)
C. 75% of the Mobilization bid item ($150,000)
D. I don’t know - will need to review specification 702.06 to determine the proper payment amount.
### Pay Quantity Entry Details

**261 - 113 - REMOVE FIBER ROLLS 12IN**

<table>
<thead>
<tr>
<th>Unit</th>
<th>QTY</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF</td>
<td>854,000</td>
<td>1.050</td>
</tr>
</tbody>
</table>

- **Pay Quantity Date:** 10/08/2017
- **Source Document:** No Additional
- **Change Orders:** NONE
- **Contractor Approval:** N

**Remarks:** NW, SW, NE, SE. 11+47-13+83, 11+47-13+83, 16+17-20+91, 16+17-18+21.

**File Comments:**

**Added By:** Brian Hach

**New Attachments:**

**Approval Status:**
- Checked by Caleb Christman on 10/24/2017
- Submitted For Estimate by Caleb Christman on 10/24/2017
- District Final: Completed by Lee Westling on 02/04/2019
- Const. Final: None

**Locations:**

<table>
<thead>
<tr>
<th>Quantity Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1120</td>
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</tbody>
</table>

**Appendages:**

<table>
<thead>
<tr>
<th>Status</th>
<th>Date</th>
<th>Quantity Location</th>
<th>Remarks</th>
</tr>
</thead>
</table>

**Approval History**
Checking PQE's (cont'd)

Pay Quantity Entry Details

401 - 70 - FOG SEAL

Unit: GAL  QTY: 9,376.000  Price: 3.320
Pay Quantity Dates: 07/27/2018
Source Documents: Attached
Change Orders: NONE
Contractor Approval: N
File Comments:
About:
Added By: Cathleen Maychak
New Attachments:
Add More Files
Saved Attachments
PQ 401 70 image.jpg
PQ 401 70 image.jpg

Approval Status: Checked by Aaron Auer on 07/28/2018
Submitted For Estimate by Aaron Auer on 07/28/2018
District Finals: Completed by Belinda Ureche on 11/28/2018
Const. Finalist: None

Locations:
Quantity Location
2801  RP 0.000 - 8.325
3008.5  RP 6.0 - 10.5

Appendages:
Status Date Quantity Location Remarks
Add Appendage

Approval History
Wording Matters!

MUCK?
Unsuitable Material?
Saturated Material

Coal?
Scoria?
Coal/Scoria?
Hematite?!
OLD Inspector Diary
**Construction Automated Records System**

Project: NHU-8-081(0399)24
SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMENT

**Inspection Diary Days and Weather Maintenance**

You have 20:22 minutes left to complete this page.

<table>
<thead>
<tr>
<th>Date Created:</th>
<th>02/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor:</td>
<td>MASTER CONSTRUCTION CO INC</td>
</tr>
<tr>
<td>Inspector:</td>
<td>SIN Care</td>
</tr>
</tbody>
</table>

**File Comments:**

**New Attachments:**

### Weather 1:
- **Time:** 08:00
- **Temperature:** 50
- **Humidity:**
- **Wind Direction:** East
- **Wind Speed:** 5 - 15 mph
- **Precip. Forecast:** 10-20%; isolated

### Weather 2:
- **Time:** 12:00
- **Temperature:** 50
- **Humidity:**
- **Wind Direction:** Partly Cloudy
- **Wind Speed:** 15 - 25 mph
- **Precip. Forecast:** 10-20%; isolated

### Weather 3:
- **Time:** 18:00
- **Temperature:** 70
- **Humidity:**
- **Wind Direction:** South
- **Wind Speed:** 15 - 25 mph
- **Precip. Forecast:** 50-50%; scattered
North Dakota Construction Automated Records System

Project: ND-0-001-009-024
SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMENT

Inspection Diary Progress and Remarks Maintenance

You have 29:53 minutes left to complete this page.

Data Created: 02/15/2019
Inspection Date: 02/15/2019
Contractor: MASTER CONSTRUCTION CO INC
Inspector: SBH Cars

Work in Progress:

Remarks:

Copy Previous Day

Return Save Save and Continue
### Construction Automated Records System

**Project:** 1050-081/1956104
**Subproject:** 1 - DRAGONS, SURFACE, STORM DRAIN, LIGHTING, FLOOD

**Inspection Diary Labor And Equipment Maintenance**

- **Date Created:** 02/25/2020
- **Inspection Date:** 02/26/2020
- **Contractor:** MASTER CONSTRUCTION CO INC
- **Inspection:** E2N Carts

#### Labor Force

<table>
<thead>
<tr>
<th>Labor Force</th>
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#### Hours Worked

<table>
<thead>
<tr>
<th>Hours Worked</th>
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#### Equipment

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
<th>Hours Worked</th>
<th>Hours Down</th>
<th>Mandatory Hours</th>
<th>Delete</th>
</tr>
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<tbody>
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</tbody>
</table>

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**Add Equipment** | **Copy Previous Day Equipment**
NEW Inspector Diary - Creation Screen

Inspector Diary

Inspection Diaries

Filter Options

Date Range: (mm/dd/yyyy) to (mm/dd/yyyy)

Diary Date:
02/26/2019 (mm/dd/yyyy)

Contractors:
- BEK CONSULTING LLC
- BITUMINOUS PAVING INC
- CUSTOM CONTRACTING SOLUTIONS LLC
- DALLMANN SERVICES COMPANY
- DIAMOND SURFACE INC
- MYLES LORENTZ INC
- ON POINT EXCAVATING LLC
- PARK CONSTRUCTION COMPANY
- PLOTE CONTRACTING LLC
- PRECISION ROADWAY SERVICES LLC
- ROCK SOLID STABILIZATION & RECLAMATION
- SHIMIC SEEDING INC
- SOUTHWEST CONCRETE PAVING CO
- SWANSTON EQUIPMENT COMPANY
- TRUE NORTH SURVEYS P.A.

Create Diary
Create Cancel
NEW Inspector Diary - Main Screen

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Remarks</td>
<td>Remarks have not been added to this diary.</td>
</tr>
<tr>
<td>Work In Progress</td>
<td>Work In Progress has not been added to this diary.</td>
</tr>
<tr>
<td>Labor Force</td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Weather</td>
<td>Weather has not been added to this diary.</td>
</tr>
<tr>
<td>Documents</td>
<td>Documents have not been added to this diary.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Equipment has not been added to this diary.</td>
</tr>
</tbody>
</table>
### Project Diary Days and Weather Maintenance

- **Date Created:** 2/26/2019
- **Added By:** DM Cars
- **Diary Date:** (mm/dd/yyyy)
- **Day Charged:**
- **Day Worked:**

#### Weather

<table>
<thead>
<tr>
<th>Weather</th>
<th>Time</th>
<th>Temperature</th>
<th>Sky Cover</th>
<th>Humidity</th>
<th>Wind Speed</th>
<th>Precip. Forcast</th>
<th>Precip. Intensity</th>
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</thead>
<tbody>
<tr>
<td>Weather 1</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Weather 2</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Weather 3</td>
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<td></td>
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</tr>
</tbody>
</table>

**Lost Time Reason:**

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**Return** | **Save** | **Save and Continue**
NEW Project Diary

Project: IM-8-094(090)351
SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMENT

Project Diary  02/01/2019  Created: 02/25/2019  Created By: Joe Engineer

View Inspector Diaries: Select Diary  Create Inspector Diary

General

Remarks
Remarks have not been added to this diary.

Contract Time
Contract Time has not been added to this diary.

Engineering Staff
Engineering Staff has not been added to this diary.

Weather
Weather has not been added to this diary.

Documents
Documents have not been added to this diary.
Project Diary and Inspection Diary Training

Wednesday, March 13, 2019 from 10:00 AM - Noon (CT):
Online Webex

Monday, April 1, 2019 from 10:00 AM - Noon (CT):
Online Webex & at NDDOT Central Office in Rooms 310, 311, 312

Space is limited to 100 online users per session so please watch as a group if possible!!
Current and Future Initiatives

• Managing and Tracking Finals
• eConstruction
• Updated As-Built Process
Questions or Comments?