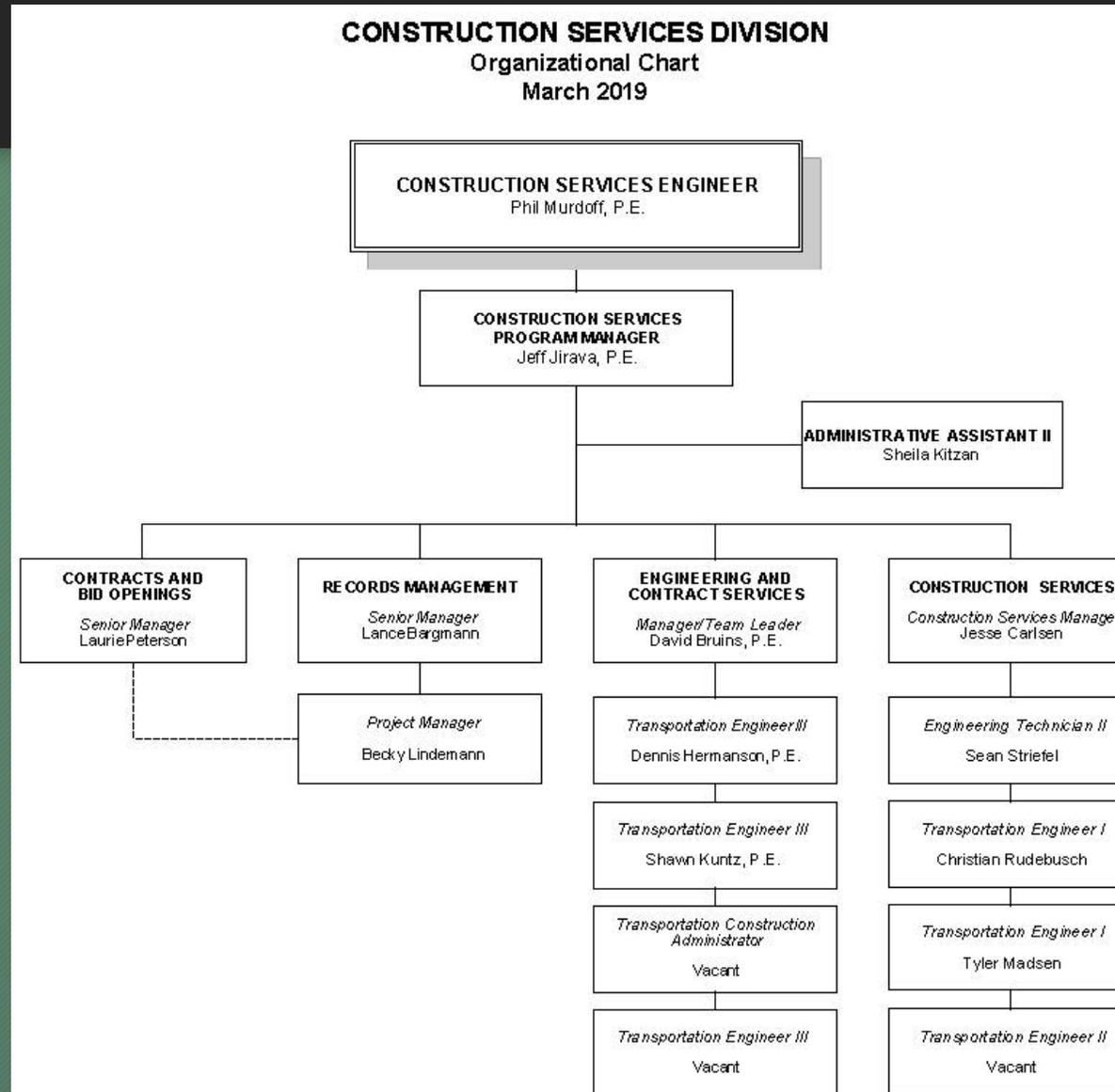


2019 Construction and Project Development Conference

Phil Murdoff, P.E., Construction Engineer

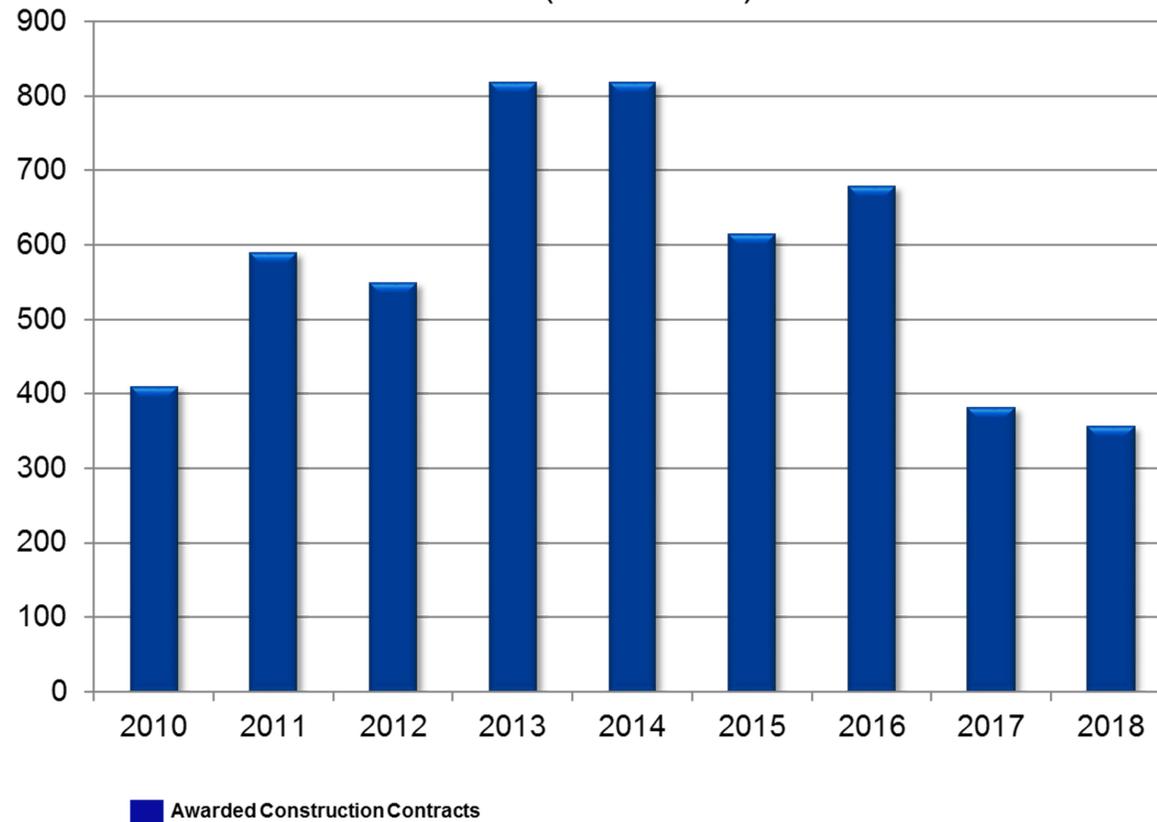


Construction Services Organizational Chart



Annual Construction Program Chart

NDDOT Construction Program
(\$\$ Millions)



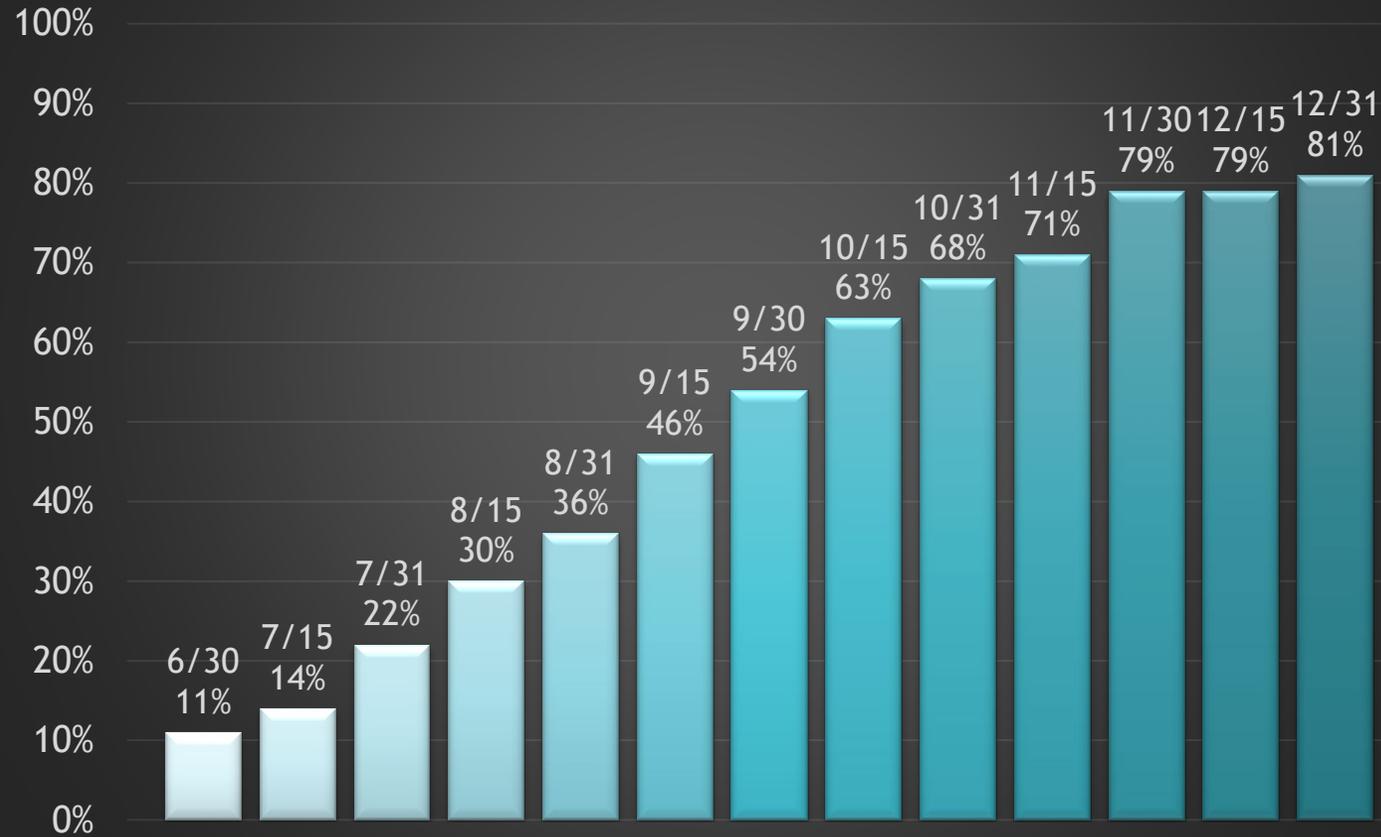
As of Nov. 30, 2018

Notice of Intent Chart

Dispute Status	2016	2017	2018
Resolved	44	18	5
Unresolved	8	8	29
Total	52	26	34

Construction Status Report

2018 Construction Progress
Percent Complete



	Current	One Year Ago
Report Date	12/31/2018	12/31/2017
Number of Contracts	185	171
Total Construct Contract Amount	\$356,543,734	\$ 382,705,009
Contract Amt. Complete	\$290,095,339	\$ 336,554,158
Contract Amt. Remaining	\$66,448,395	\$ 461,508,951
% Complete	81%	88%

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

Interactive GIS Based Cost Data

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

New Work Drawings

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(011)008_Concrete ECB_#1.pdf

3. Login to the Managed File Transfer (MFT) Site:
 - a. <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

REASON FOR CHANGE ORDER	CHANGE ORDER PARAMETERS	FINAL APPROVAL AUTHORITY ⁵
A. All reasons except those listed in items B. through E. including: <ul style="list-style-type: none"> • 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. ¹ Time extensions up to 5 working days. ²	Project Engineer
	Costs up to \$20,000. ¹ Time extensions up to 5 working days. ²	Team Leader ³
	Costs up to \$100,000. ¹ Time extensions over 5 working days up to 15 working days. ²	District Engineer ³
	Costs up to \$500,000. ^{1,4} Time extensions over 15 working days. ²	Office of Operations Director ^{3,4}
B. Structural Design Changes.	All	Office of Operations Director ³
C. Changes in specifications, including materials specifications.	All	Office of Operations Director ³
D. Changes that affect the "Environmental Commitments" where the environmental action needs to be reassessed.	All	Office of Operations Director ³
E. Emergency Relief (ER) Projects	All	NDDOT approval in accordance with A.
	Scope Change	Federal Highway Administration ³

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) × (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

North Dakota nd.gov Official Portal for North Dakota State Government 

Construction Automated Records System

Project: SOIB-7-058(013)000 [Main Menu](#)
SubProject: 2 - REINFORCED CONCRETE BOX CULVERT EXTENSION

Change Order Signatures

Change Order No: 14
PCN: 20416
Date: 03/04/2019
Reason: Changes in Specifications
Classification: Administrative Change
Recommended
Approval Personnel: District Eng
Highway Operations
Project Eng
Team Leader

Signatures

Order	Type	Name	Title/Organization	Action
1	External	PARK CONSTRUCTION COMPANY	Prime Contractor	

External Signatures

Name	Title/Organization
<input type="text"/>	<input type="text"/>

Electronic Signatures

Name (Title/Organization)
zz zz(District 7)
zz zz(District 7)
zz zz(Office of Operations)
zz zz(Project Engineer)
zz zz(Project Engineer)
Joe Engineer(Project Engineer)

 Update has been made

 Update in progress

T E S T

Construction Automated Records System

Project: NHU-8-081(039)924

[Main Menu](#)

SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMEN

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:

Retainage Percent: or

Retainage Amount:

Liquidated Damage Days this Estimate:

Liquidated Amount Per Day:

Contractor Email:

Email Approved Estimate to Contractor:

User:DM Cars PCN:21400

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.

Che

Pay Quantity Entry Details - Internet Explorer

https://apps.nd.gov/dot/crst/cars/qm/quantityManager.do State of North Dakota Pay Quantity Entry Details IBM Content Navigator

North Dakota nd.gov Official Portal for North Dakota State Government

Construction Automated Records System

Project: IM-6-029(131)171 [Main Menu](#)

SubProject: 1 - BRIDGE DECK OVERLAY, E-RAIL RETROFIT, APPROACH SLA

Pay Quantity Entry Details

261 - 113 - REMOVE FIBER ROLLS 12IN

Unit: LF QTY: 854.000 Price: 1.050

Pay Quantity Date: 10/08/2017

Source Document:

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:

[Add More Files](#)

Approval Status: Checked by Caleb Christman on 10/24/2017
 Checked by Caleb Christman on 10/24/2017
 Submitted For Estimate by Caleb Christman on 10/24/2017

District Finals: Completed by Lee Westling on 02/04/2019

Const. Finals: None Approve

Locations:

Quantity	Location
1120	See Remarks

Appendages:

Status	Date	Quantity	Location	Remarks	Approval History
Add Appendage					

Main Menu User:Lance Bargmann PCN:21284

Check

Pay Quantity Entry Details - Internet Explorer
https://apps.nd.gov/dot/cnst/cars/qm/quantityManager.do
Identified by COMODO ...
Pay Quantity Entry Details
IBM Content Navigator

North Dakota nd.gov Official Portal for North Dakota State Government
Construction Automated Records System

Project: H-5-085(076)000
SubProject: 1 - CHIP SEAL

[Main Menu](#)

Pay Quantity Entry Details

[Next](#)

401 - 70 - FOG SEAL

Unit: GAL QTY: 9,376.000 Price: 3.350
Pay Quantity Date: 07/27/2018
Source Document: Attached
Change Orders: NONE
Contractor Approval: N

Remarks: Manifest 10-368894 gallons =5602. diluted 50/50. Pay quantity=5602/2=2801 Manifest 10-368895 gallons =6017. Diluted 50/50. Pay quantity =6017/2=3008.5

File Comments: Manifests 10-368894 & 10-368895

Added By: Cathleen Maychrzak

New Attachments: Browse...
[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 Urlacher on 11/28/2018
Const. Finals: None Approve

Locations:

Quantity	Location
2801	RP 0.000- 6.325
3008.5	RP 6. -10.5

Appendages:

Status	Date	Quantity	Location	Remarks	Approval History
Add Appendage					

User:Lance Bargmann PCN:22087

Project Diary and Inspection Diary Updates



David Bruins, P.E.

Wording Matters!

MUCK?

Unsuitable
Material?

Saturated
Material



Coal?

Scoria?

Coal/Scoria?

Hematite?!

OLD Inspector Diary

Construction Automated Records System

Project: NHU-8-081(039)924 [Search Documents](#) [Add Documents](#)

[Main Menu](#)

SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMEN

Inspection Diary Selection <<

Contractor or Sub:

Selection Range:

Inspection Date	Date Created	Inspector Name
-----------------	--------------	----------------

User: SIN Cars PCN: 21400

OLD Inspector Diary

Construction Automated Records System

Project: NHU-8-081(039)924

[Main Menu](#)

SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMEN

Inspection Diary Days and Weather Maintenance <<

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

Date Created:

Inspection Date: (mm/dd/yyyy)

Contractor: MASTER CONSTRUCTION CO INC

Inspector: SIN Cars

File Comments:

New Attachments:

[Add More Files](#)

Weather 1 :

Delete :

Time :

Temperature :

Sky Cover :

Humidity :

Wind Direction :

Wind Speed :

Precip. Forcast :

Precip. Intensity :

Weather 2 :

Delete :

Time :

Temperature :

Sky Cover :

Humidity :

Wind Direction :

Wind Speed :

Precip. Forcast :

Precip. Intensity :

Weather 3 :

Delete :

Time :

Temperature :

Sky Cover :

Humidity :

Wind Direction :

Wind Speed :

Precip. Forcast :

Precip. Intensity :

OLD Inspector Diary

Construction Automated Records System

Project: NHU-8-081(039)924

[Main Menu](#)

SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMEN

Inspection Diary Progress and Remarks Maintenance <<

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

Date Created: 02/25/2019

Inspection Date: 02/01/2019

Contractor: MASTER CONSTRUCTION CO INC

Inspector: SIN Cars

Work in Progress:

Remarks:

OLD Inspector Diary

Construction Automated Records System

Project: NHU-8-081(039)924
SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMEN

[Main M](#)

Inspection Diary Labor And Equipment Maintenance <<

You have 29:47 minutes left to complete this page.

Date Created: 02/25/2019
Inspection Date: 02/01/2019
Contractor: MASTER CONSTRUCTION CO INC
Inspector: SIN Cars

Labor Force:

You have 1000 characters remaining

Hours Worked:

Equipment

Unit	Description	Hours Worked	Hours Down	Standby Hours	Delete
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				
<input type="text"/>	<input type="checkbox"/>				

NEW Inspector Diary - Creation Screen

North Dakota nd.gov Official Portal for North Dakota State Government

Construction Automated Records System

Project: SOIB-7-058(013)000 [Search Documents](#) [Add Documents](#) [Main Menu](#)

SubProject: 1 - ROADWAY WIDENING, FULL DEPTH RECLAMATION, CONCRETE

Inspection Diaries <<

[Project Equipment Master List](#)

Filter Options

Date Range: (mm/dd/yyyy) to (mm/dd/yyyy) [Filter](#)

Contractors: [All Contractors](#)

Diary Results [Add Diary](#)

No Records Found

[Return](#) [Add Diary](#)

[Main Menu](#)

User: SIN Cars PCN:20416

Create Diary

Diary Date: (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](#) [Cancel](#)

W3C WAI-AA WCAG 1.0 AA Bobby

NEW Inspector Diary - Main Screen

Construction Automated Records System

Project: SOIB-7-058(013)000

[Main Menu](#)

SubProject: 1 - ROADWAY WIDENING, FULL DEPTH RECLAMATION, CONCRETE

Inspection Diary < 02/26/2019 Created: 02/26/2019 Created By: Inspector Barney

BEK CONSU | PLOTE CON | SOUTHWEST | +

BEK CONSULTING LLC

[Expand All](#) [Collapse All](#)

Remarks

Remarks have not been added to this diary.

[Edit](#)

Work In Progress

Work In Progress has not been added to this diary.

[Edit](#)

Labor Force

Type:	Quantity:
SUPERINTENDENTS	0
FOREMEN	0
OPERATORS	0
LABORERS	0
FLAGGERS	0
PILOT CARS	0
TRUCK DRIVERS	0
OTHER	0

Comments:

[Edit](#)

Weather

Weather has not been added to this diary.

[Edit](#)

Documents

Documents have not been added to this diary.

[Edit](#)

Equipment

Equipment List [Add Equipment](#)

Equipment has not been added to this diary.

[Add Equipment](#)

OLD Project Diary

Construction Automated Records System

Project: UGP-NHU-CPU-8-081(038)927

[Main Menu](#)

SubProject: 1 - GRADING, SALVAGED BASE, CONCRETE PAVING, & INCIDEN

Project Diary Days and Weather Maintenance <<

 You have **Expired!** minutes left to complete this page.

Date Created: 2/26/2019

Added By: DM Cars

Diary Date:  (mm/dd/yyyy)

Day Charged:

Day Worked:

Lost Time Reason:

Weather 1 :

Delete :

Time :

Temperature :

Sky Cover :

Humidity :

Wind Direction :

Wind Speed :

Precip. Forecast :

Precip. Intensity :

Weather 2 :

Delete :

Time :

Temperature :

Sky Cover :

Humidity :

Wind Direction :

Wind Speed :

Precip. Forecast :

Precip. Intensity :

Weather 3 :

Delete :

Time :

Temperature :

Sky Cover :

Humidity :

Wind Direction :

Wind Speed :

Precip. Forecast :

Precip. Intensity :

OLD Project Diary

Construction Automated Records System

Project: UGP-NHU-CPU-8-081(038)927

[Main Menu](#)

SubProject: 1 - GRADING, SALVAGED BASE, CONCRETE PAVING, & INCIDEN

Project Diary Section Selection <<

Diary Date:02/01/2019 Date Created:02/26/2019

Selection Section [View All](#)

- [Engineering Staff](#)
- [Work in Progress](#)
- [Labor Force](#)
- [Equipment Summary](#)
- [Project Visitors](#)
- [Hours Worked](#)
- [Remarks](#)
- [File Attachments](#)

[Return](#)

[Diary Selection](#)

[Main Menu](#)

[Logout](#)

NEW Project Diary

Project: IM-8-094(090)351

[Main Menu](#)

SubProject: 1 - GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMEN

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

View Inspector Diaries:

General

[Expand All](#) [Collapse All](#)

[-] 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.

Materials Dropbox

Construction Automated Records System

Project: SER-7-073(011)008

SubProject: 1 - SLIDE REPAIR



[Main Menu](#)

Document Entry

Materials Form Name:

Tester / Inspector:

Document:
File can be no larger than 20 MB.

Material:

Date: (mm/dd/yyyy)

* Pass Fail *(Possibly - This wouldn't work in scenarios such as Asphalt Paving Workbook when multiple tests are being uploaded in one summary file)

Document Viewer

Filter by Date Range, Material, Form, Tester, (Pass/Fail *Possibly)

Date	Form Name	Material	Tester	Notes
November 1, 2018	Asphalt Paving Workbook	Asphalt		Anything else we'd want to Filter by?
	SFN	Concrete		
	SFN	Concrete		
	SFN	Soil		
October 31, 2018	Asphalt Paving Workbook	Asphalt		
	SFN	Aggregate		
	SFN	Concrete		
October 30, 2018	SFN	Aggregate		
	SFN	Concrete		
	SFN	Concrete		
	SFN	Soil		

Construction Automated Records System

Project: SOIB-7-058(013)000 [Search Documents](#) [Add Documents](#)

SubProject: 1 - ROADWAY WIDENING, FULL DEPTH RECLAMATION, CONCRETE



Maintenance

- [Quantity Manager](#)
- [Certification Manager](#)
- [Concrete Paving](#)
- [Haul Sheets](#)
- [Mix Bitumen](#)
- [Piling / Test Piling](#)
- [Stockpiles](#)
- [Fuel Cost Adjustment](#)
- [Project Diary](#)
- [Inspection Diary](#)
- [PF-Create Progressive Estimate](#)
- [Weekly Progress Report](#)
- [Change Order](#)
- [Construction Status](#)
- [Contract Adjustment](#)
- [Force Accounts](#)
- [Project Personnel](#)
- [Project Permits](#)
- [Contractor NOI/Claims](#)
- [Vertical Clearances](#)
- [Final Checklist](#)
- [Contract Time for Completion](#)

[Main Menu](#)

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?

