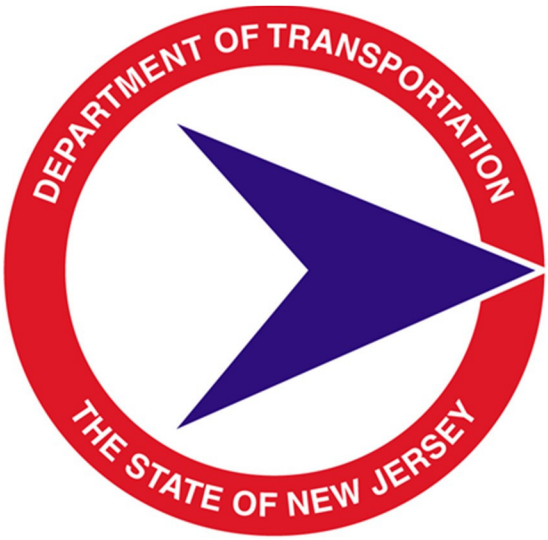
RIDE QUALITY
PAY ADJUSTMENT
PROCEDURE



By:
Haidy Abdu

PAVEMENT & DRAINAGE MANAGEMENT

This presentation contains necessary information to assist Pavement Management personnel in calculating ride quality pay adjustment for projects.

RAW Data

It will be generated by the field staff after testing and submitted in excel format. It will contains: IRI of both wheel paths computed at every 0.01 mile intervals, speed limits averaged at every 0.01 mile reported segment with proper file name. It will be stored on S drive ⟹ Pavement and Drainage ⟹ PvmtTech ⟹ Ride Quality XXXX " XXXX "stand for four digit current year.

S:\Pavement and Drainage\PvmtTech\Ride Quality 2017

International Roughness Index (IRI)

Roughness-the deviation of a surface from a true planar surface with characteristic dimensions that affects vehicle dynamics and ride quality.

International Roughness Index is an index used to define a characteristic of the longitudinal profile of a traveled wheeltrack and constitutes a standardized roughness measurement.

Ride Quality Requirements.

The ride quality requirements of a project is specified in the Standard Specifications/ Addendum in section 105.04 of the contract.

The Department will evaluate the HMA surface course using the International Roughness Index (IRI) according to ASTM E 1926. The Department will use the measured IRI to compute the appropriate pay adjustment (PA) to the contractor.

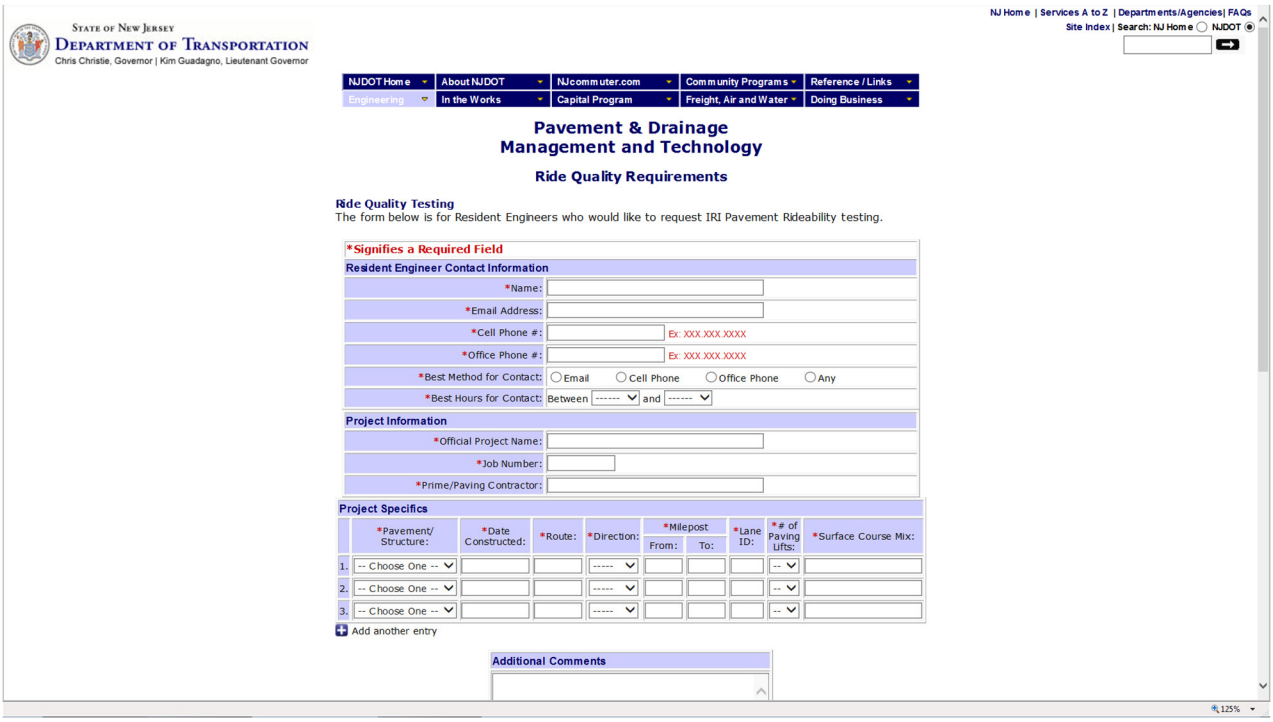
The pay adjustment equation provided in section 105.04 of the contract specifications for the proposed treatment will be used to calculate PA for a project.

The PA may be positive for superior quality work or negative for defective work.

The lot size for ride quality PA will be 0.01 mile. Total length of the project will be divided into 0.01 mile lot size. Staff calculating PA should review the video to establish the starting and ending lot. Next lot after transition of new and old pavement should be considered as a beginning lot for PA. Similarly, a lot before the transition of new pavement to old pavement should be considered as last lot for PA. The PA for ramp, and shoulder will be calculated, if tested on request of the Resident Engineer (RE).

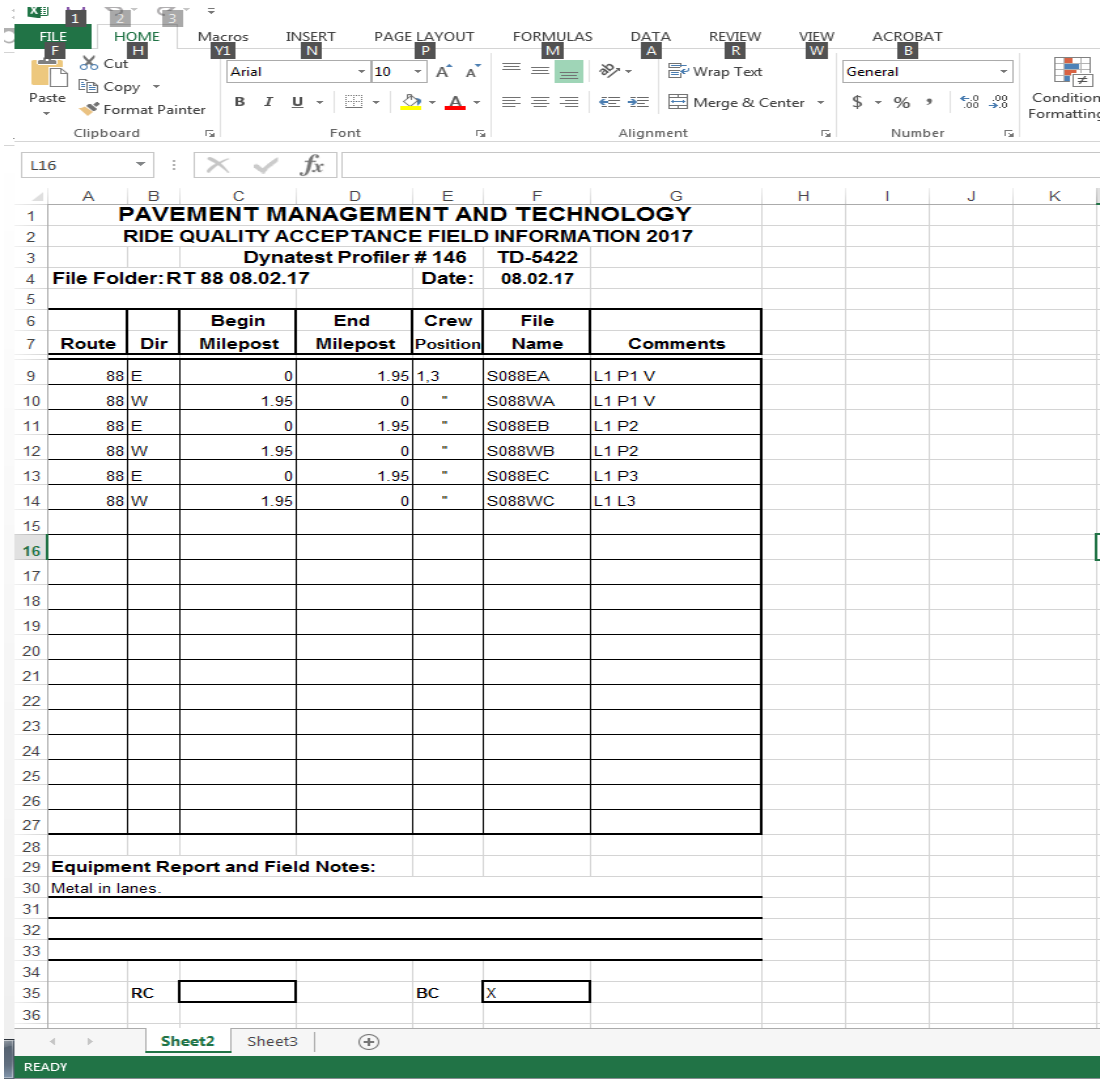
Ride Quality Testing

RE who would like to request Pavement Ride ability testing will need to complete and submit the online form."http://www.state.nj.us/transportation/eng/pavement/pavementform.shtm " If RE submit test request through email to individual person, RE should be advised to submit request through online request to ensure that all required information are collected before field staff schedule the testing.



A. Create Paper File Folder:

1. Initial test request, print this from Pavement Rideability mailbox.
2. Project's Ride quality spec from Bidex check for Addendums, if not provided by the RE.
3. Your video review notes, from ICC Imaging viewer, including paving
4. Starts/stops/breaks/events, anything excluded per the specifications
5. Record of any conversations, phone calls, etc, w/ RE or Designer/contractor.
6. Copy of approved revised spec i.e. change in target IRI or exclusions, if ride quality specifications was modified after award of project "Change Order". Save all related emails or letters in the file.
7. Copy of faxed results to RE, including fax/memo cover sheet and 'confirmation of sent fax' page.



PAVEMENT MANAGEMENT AND TECHNOLOGY

RIDE QUALITY ACCEPTANCE FIELD INFORMATION 2017

Dynatest Profiler # 146 **TD-5422**

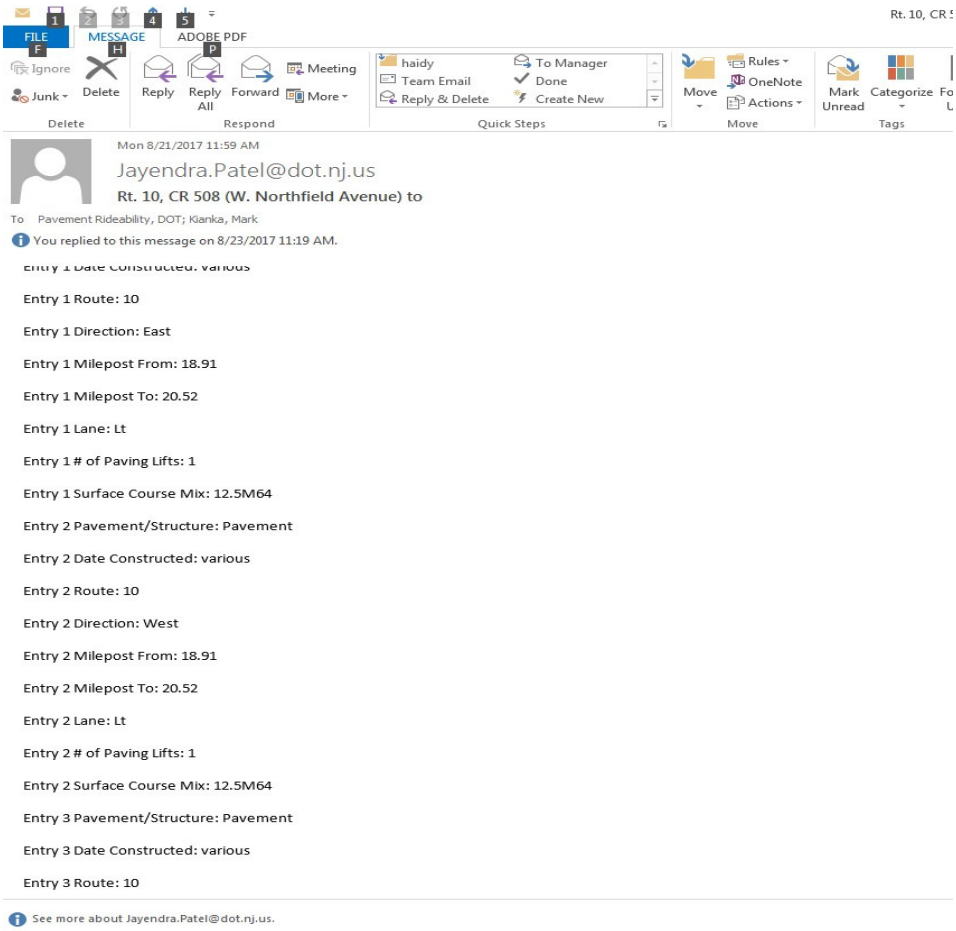
File Folder: RT 88 08.02.17 **Date:** **08.02.17**

Route	Dir	Begin Milepost	End Milepost	Crew Position	File Name	Comments
88	E	0	1.95	1,3	S088EA	L1 P1 V
88	W	1.95	0	"	S088WA	L1 P1 V
88	E	0	1.95	"	S088EB	L1 P2
88	W	1.95	0	"	S088WB	L1 P2
88	E	0	1.95	"	S088EC	L1 P3
88	W	1.95	0	"	S088WC	L1 L3

Equipment Report and Field Notes:

Metal in lanes.

RC [ ] BC [X]



B. Create Electronic Files:

1. Create a project folder on S drive:

   S:\Pavement and Drainage\PvmtTech\IRI Pay Adjustment\Projects\IRI 2017

2. Folder/ File should be named as below:
   (i) Create a main folder every year and name it as "IRI xxxx "Replace xxxx with the four digits of year. Ensure a blank space between IRI and XXXX. For Example:- IRI 2017
   (ii) Create project folders under above folder. Name the Project folder as below:

For CPM Projects-Project Name from BidX_MPXX-YY_DP#XXXXX

Note- Begin project name with "RteAAA" and do not repeat Route number in project name.

For Example:- Rte 057 Port Murray Rd. to Calremont Rd_MP 14.52-18.66_DP#16125

Maintenance Projects: MRRC_ContractID_Routes in Contract"

Example: MRRC_ C108_ Rte001 Rte029 Rte202NB

Note: keep one blank space after every route

(iii) File should be name as below:

Resurfacing Projects:

"RteXXX_DP#YYYYY_Status_Date"

Status-Final/Revised/Preliminary….etc.

Status for the first results sent out from a file should be BLANK except preliminary. If results are preliminary pending final testing can be used in first version of PA file.

Date should be in following format- April 1st, 2017 should be 04012017

Example: RteXXX_DP#16125_Final_09152017

FOR MRRC Projects

MRRC_ContractID_ RtXXX_Status(if required)_Date

Status-Final/Revised/Preliminary….etc.

Status for the first results sent out from a file should be BLANK. except preliminary If results are preliminary pending final testing can be used in first version of PA file. Date should be in following format- April 1st, 2017 should be 04012017

For Example: MRRC_C-108_Rte001_Final_09122017

- The team leader of field testing crew should store the Raw data on shared drive at the following location. An email regarding the availability of data should be sent to the team leader of PA calculation:
  S:\Pavement and Drainage\PvmtTech\Ride Quality XXXX. XXXX is the four digits of year.

Note: Due to potential for virus from flash drive, data in USB drive will not be accepted without prior approval from the Manager or Supervising Engineer.

- Once the team leader of PA calculation received an email from the field crew, the raw data should be copied and pasted to Q drive at the following location:
  Q:\PMS DATA\Dynatest Project Data_17 DYNATEST_IRI_SPECIALS

  Note: An annual folder should be created at the beginning of year with name "YYYY_Dynatest_IRI_Specials

- Team leader of PA calculation or assigned person should search for the following information from Tracking folder in S:\ drive or Bidx as explained below.

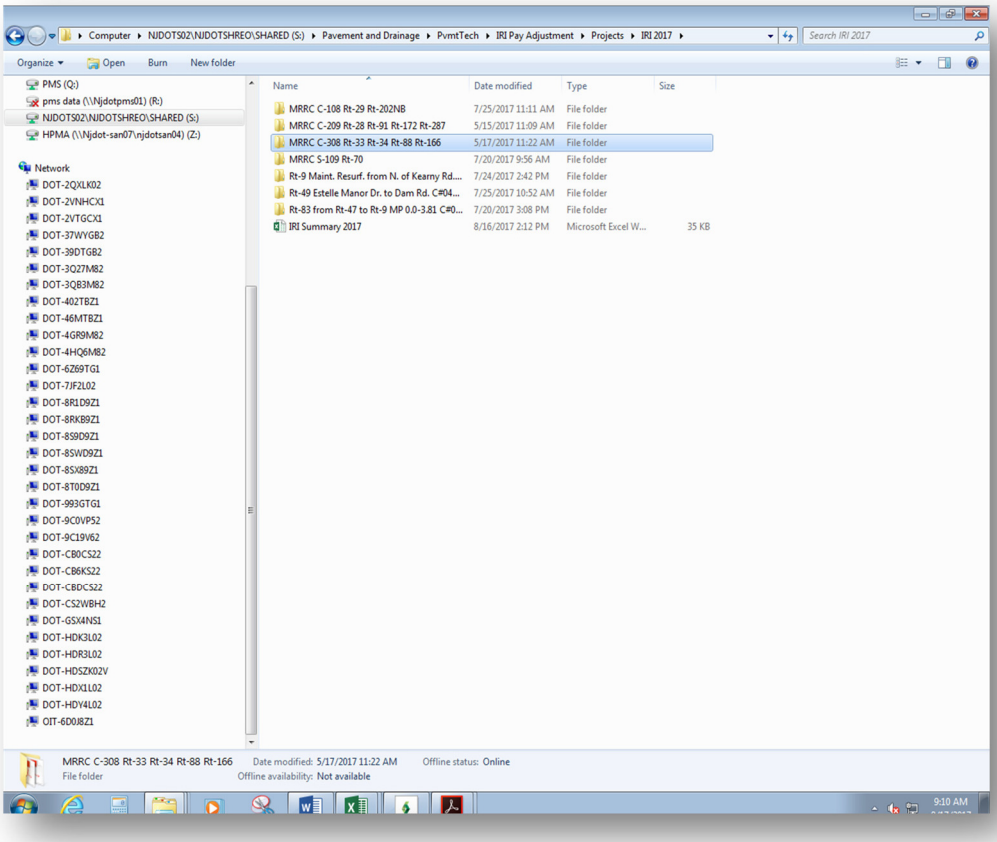
  -Ride Quality Specification
  -Typical Section/Construction plans to determine any addendum or COP (change of Plan)/verify the treatment.
  -Bid Summary to determine bid price of the contract.
  -Project folder under pavement design on S:\ drive to verify any revision in exclusions or target IRI, email related with the changes and discuss with the pavement designer to verify these are applicable for the project.

A copy of a ride quality specifications and bid summary and typical section should be saved in the ride quality PA project folder created in step XXXX. Follow following steps to search above information:

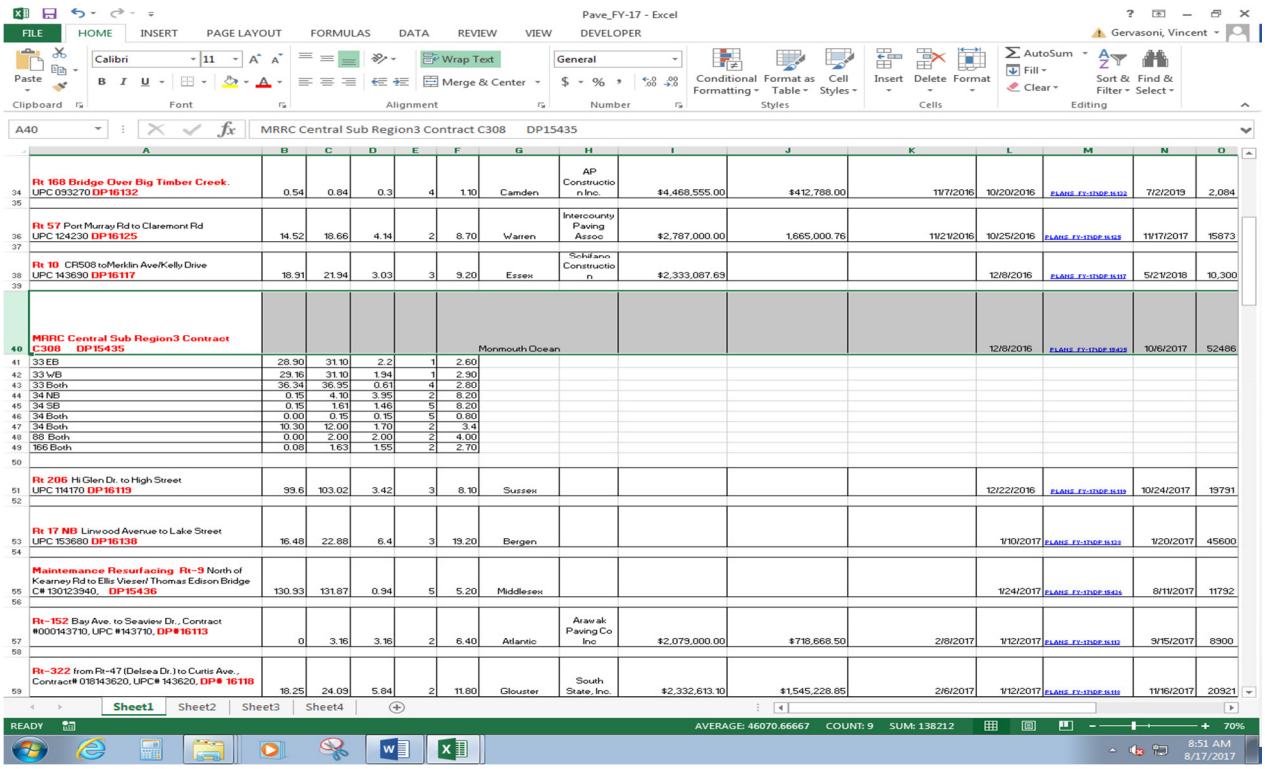
Project's contract information- Locate the project in the tracking system (letting date) at the following location:

Tracking: S:\Pavement and Drainage\PvmtTech\Tracking\TRAX_2017

Pave _FY-XXXX



Search for the letting date:

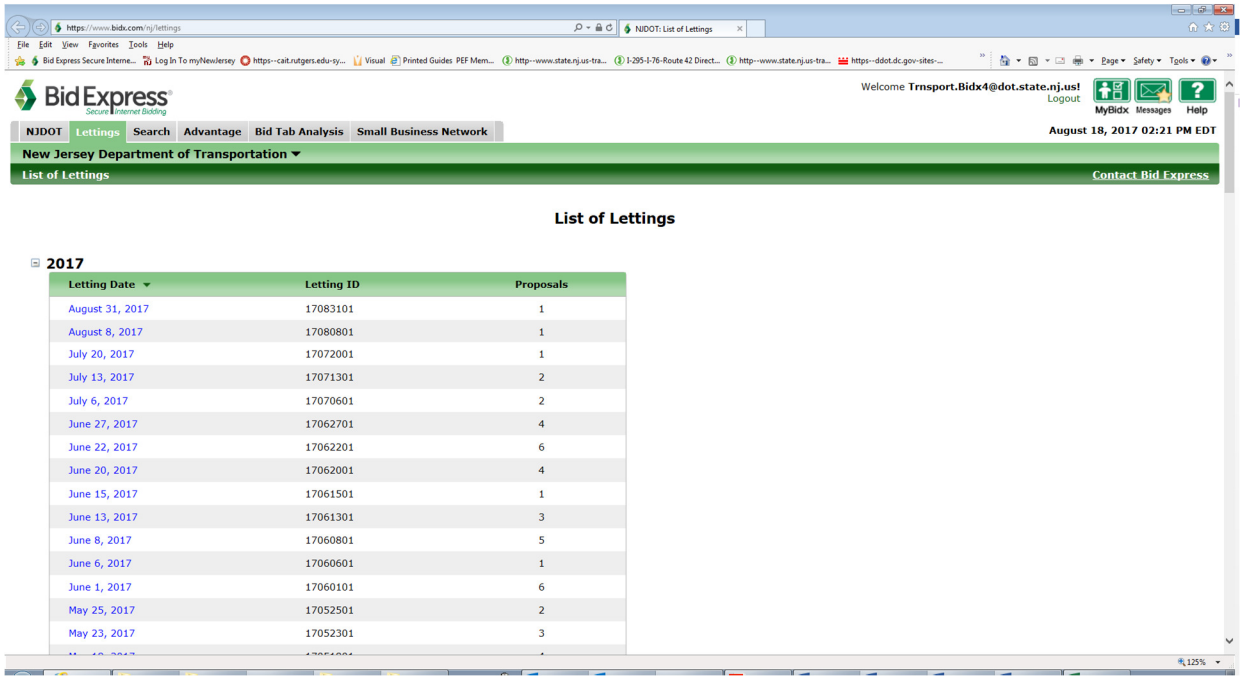


Rt 168 Bridge Over Big Timber Creek. UPC 093270 DP16132	0.54	0.84	0.3	4	1.10	Camden	AP Constructio n Inc.	$4,468,555.00	$412,788.00	11/7/2016	10/20/2016	PLANS_FY-17\DP 16132	7/2/2019	2,084
Rt 57 Port Murray Rd to Claremont Rd UPC 124230 DP16125	14.52	18.66	4.14	2	8.70	Warren	Intercounty Paving Assoc	$2,787,000.00	1,665,000.76	11/21/2016	10/25/2016	PLANS_FY-17\DP 16125	11/17/2017	15873
Rt 10 CR508 toMerklin Ave/Kelly Drive UPC 143630 DP16117	18.91	21.94	3.03	3	9.20	Essex	Schifano Constructio n	$2,333,087.69			12/8/2016	PLANS_FY-17\DP 16117	5/21/2018	10,300
MRRC Central Sub Region3 Contract C308 DP15435						Monmouth Ocean					12/8/2016	PLANS_FY-17\DP 15435	10/6/2017	52486
33 EB	28.90	31.10	2.2	1	2.60									
33 WB	29.16	31.10	1.94	1	2.90									
33 Both	36.34	36.95	0.61	4	2.60									
34 NB	0.15	4.10	3.95	2	8.20									
34 SB	0.15	1.61	1.46	5	8.20									
34 Both	0.00	0.15	0.15	5	0.80									
34 Both	10.30	12.00	1.70	2	3.4									
88 Both	0.00	2.00	2.00	2	4.00									
166 Both	0.08	1.63	1.55	2	2.70									
Rt 206 Hi Glen Dr. to High Street UPC 114170 DP16119	93.6	103.02	3.42	3	8.10	Sussex					12/22/2016	PLANS_FY-17\DP 16119	10/24/2017	19791
Rt 17 NB Linwood Avenue to Lake Street UPC 153680 DP16138	16.48	22.88	6.4	3	19.20	Bergen					1/10/2017	PLANS_FY-17\DP 16138	1/20/2017	45600
Maintenance Resurfacing Rt-9 North of Kearney Rd to Ellis Viezer/ Thomas Edison Bridge C# 130123940, DP15436	130.93	131.87	0.94	5	5.20	Middlesex					1/24/2017	PLANS_FY-17\DP 15436	8/11/2017	11792
Rt-152 Bay Ave. to Seaview Dr., Contract #000143710, UPC #143710, DP#16113	0	3.16	3.16	2	6.40	Atlantic	Arawak Paving Co Inc	$2,079,000.00	$718,668.50	2/8/2017	1/12/2017	PLANS_FY-17\DP 16113	9/15/2017	8900
Rt-322 from Rt-47 (Delsea Dr.) to Curtis Ave., Contract# 018143620, UPC# 143620, DP# 16118	18.25	24.09	5.84	2	11.80	Glouster	South State, Inc.	$2,332,613.10	$1,545,228.85	2/6/2017	1/12/2017	PLANS_FY-17\DP 16118	11/16/2017	20921

- Obtain more information about the project from Bid Express : https://www.bidx.com/nj/lettings
- Using the following log in :

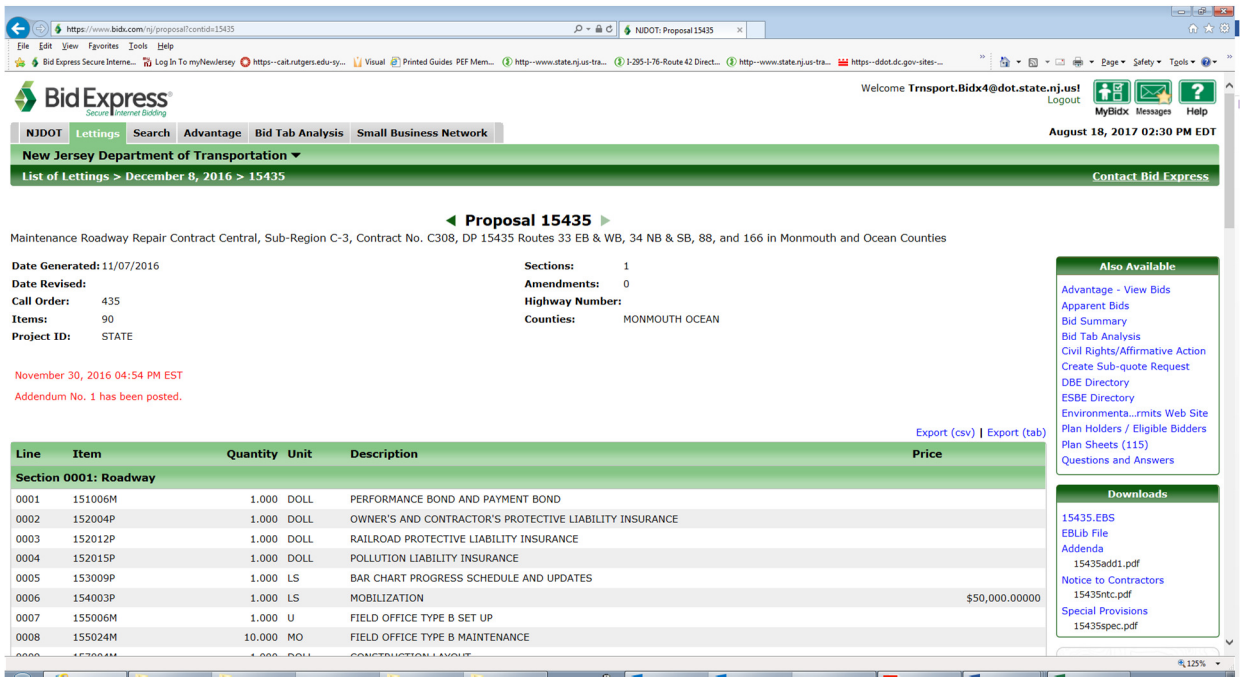
  Email:trnsport.bidx5@dot.state.nj.us

  Password: useraccess5



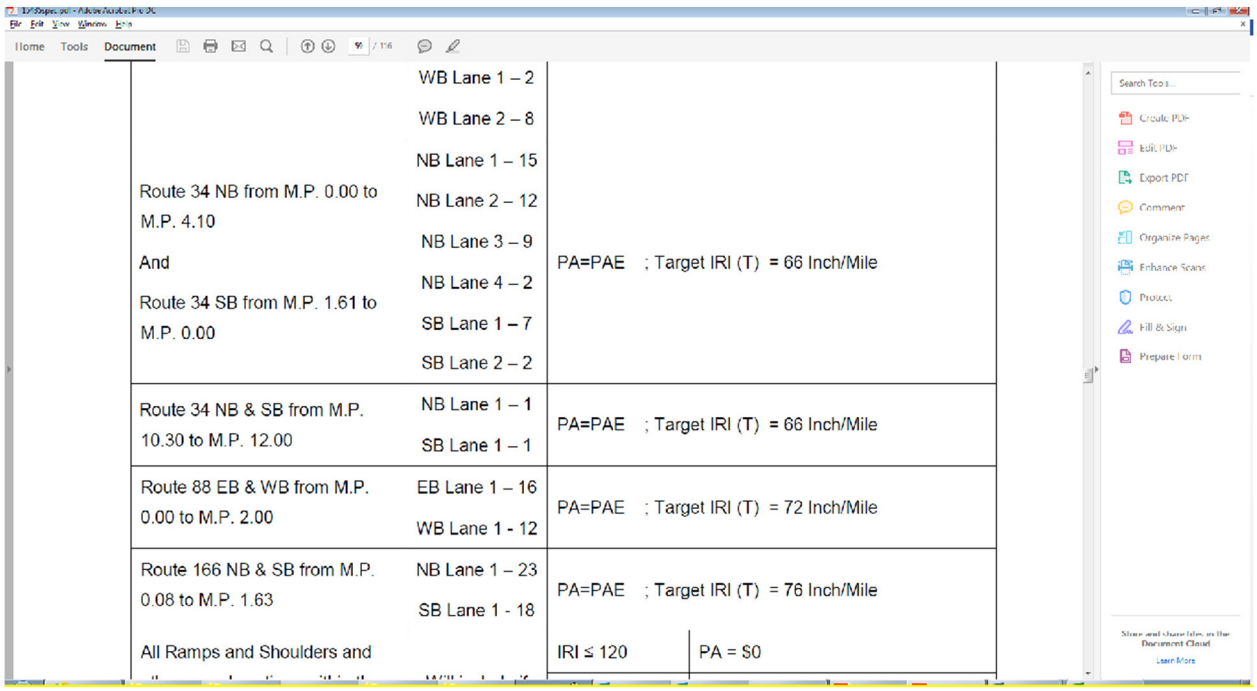
Letting Date	Letting ID	Proposals
August 31, 2017	17083101	1
August 8, 2017	17080801	1
July 20, 2017	17072001	1
July 13, 2017	17071301	2
July 6, 2017	17070601	2
June 27, 2017	17062701	4
June 22, 2017	17062201	6
June 20, 2017	17062001	4
June 15, 2017	17061501	1
June 13, 2017	17061301	3
June 8, 2017	17060801	5
June 6, 2017	17060601	1
June 1, 2017	17060101	6
May 25, 2017	17052501	2
May 23, 2017	17052301	3

- Click on the matching letting date and DP number



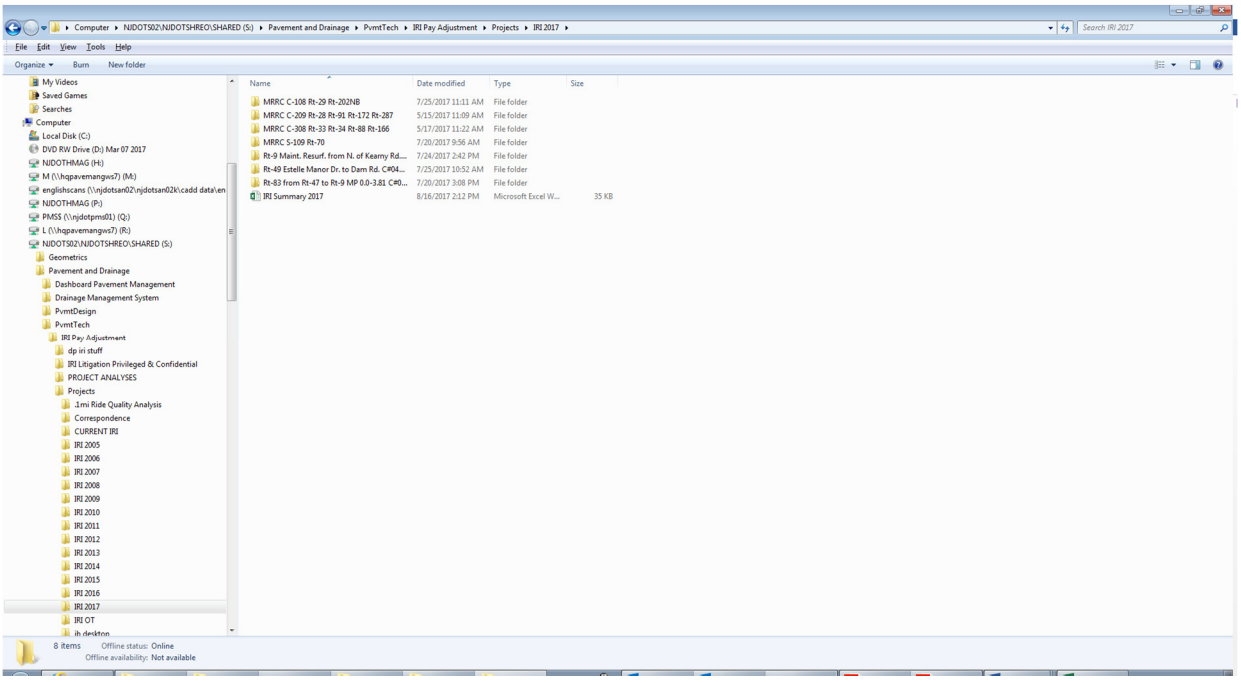
Line	Item	Quantity	Unit	Description	Price
Section 0001: Roadway					
0001	151006M	1.000	DOLL	PERFORMANCE BOND AND PAYMENT BOND	
0002	152004P	1.000	DOLL	OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE	
0003	152012P	1.000	DOLL	RAILROAD PROTECTIVE LIABILITY INSURANCE	
0004	152015P	1.000	DOLL	POLLUTION LIABILITY INSURANCE	
0005	153009P	1.000	LS	BAR CHART PROGRESS SCHEDULE AND UPDATES	
0006	154003P	1.000	LS	MOBILIZATION	$50,000.00000
0007	155006M	1.000	U	FIELD OFFICE TYPE B SET UP	
0008	155024M	10.000	MO	FIELD OFFICE TYPE B MAINTENANCE	

- First check Addenda to make sure no change for ride quality (table)and/or check with RE if any changes orders occurred for ride quality.
- Next identify the specification – special provision- check 400- table 401.03.03-7 (pay equations for ride quality)

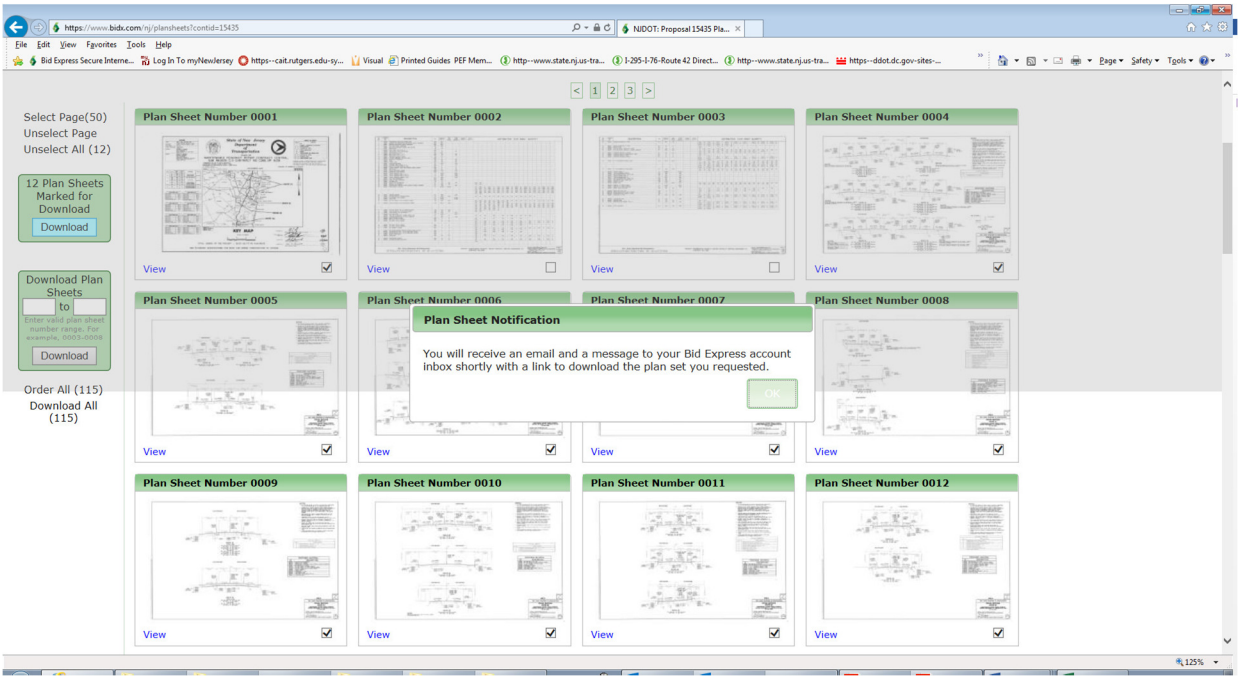


Route 34 NB from M.P. 0.00 to M.P. 4.10 And Route 34 SB from M.P. 1.61 to M.P. 0.00	WB Lane 1 – 2 WB Lane 2 – 8 NB Lane 1 – 15 NB Lane 2 – 12 NB Lane 3 – 9 NB Lane 4 – 2 SB Lane 1 – 7 SB Lane 2 – 2	PA=PAE ; Target IRI (T) = 66 Inch/Mile
Route 34 NB & SB from M.P. 10.30 to M.P. 12.00	NB Lane 1 – 1 SB Lane 1 – 1	PA=PAE ; Target IRI (T) = 66 Inch/Mile
Route 88 EB & WB from M.P. 0.00 to M.P. 2.00	EB Lane 1 – 16 WB Lane 1 - 12	PA=PAE ; Target IRI (T) = 72 Inch/Mile
Route 166 NB & SB from M.P. 0.08 to M.P. 1.63	NB Lane 1 – 23 SB Lane 1 - 18	PA=PAE ; Target IRI (T) = 76 Inch/Mile
All Ramps and Shoulders and		IRI ≤ 120 PA = $0

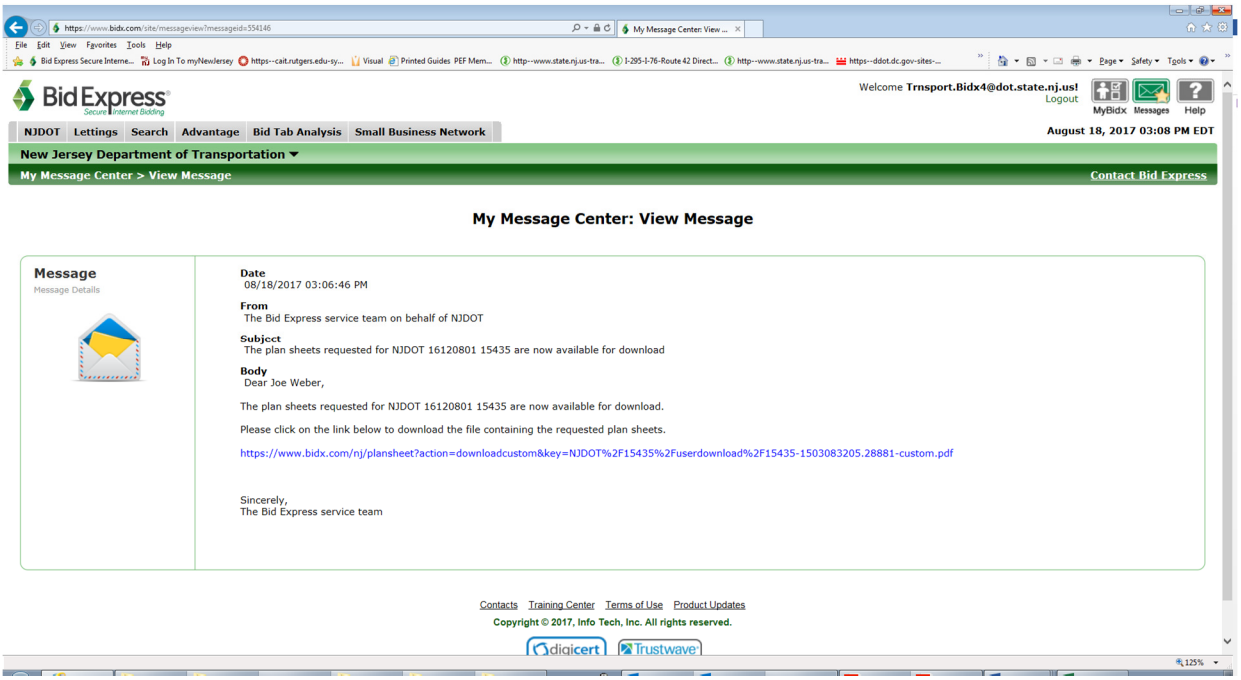
- Check the record of any conversation to make sure that no change on the target IRI Value.
- Print a hard copy of the IRI table.
- Then create a PDF format for this table and save it under project folder on the share drive
  S:\Pavement and Drainage\PvmtTech\IRI Pay Adjustment\Projects\IRI 2017



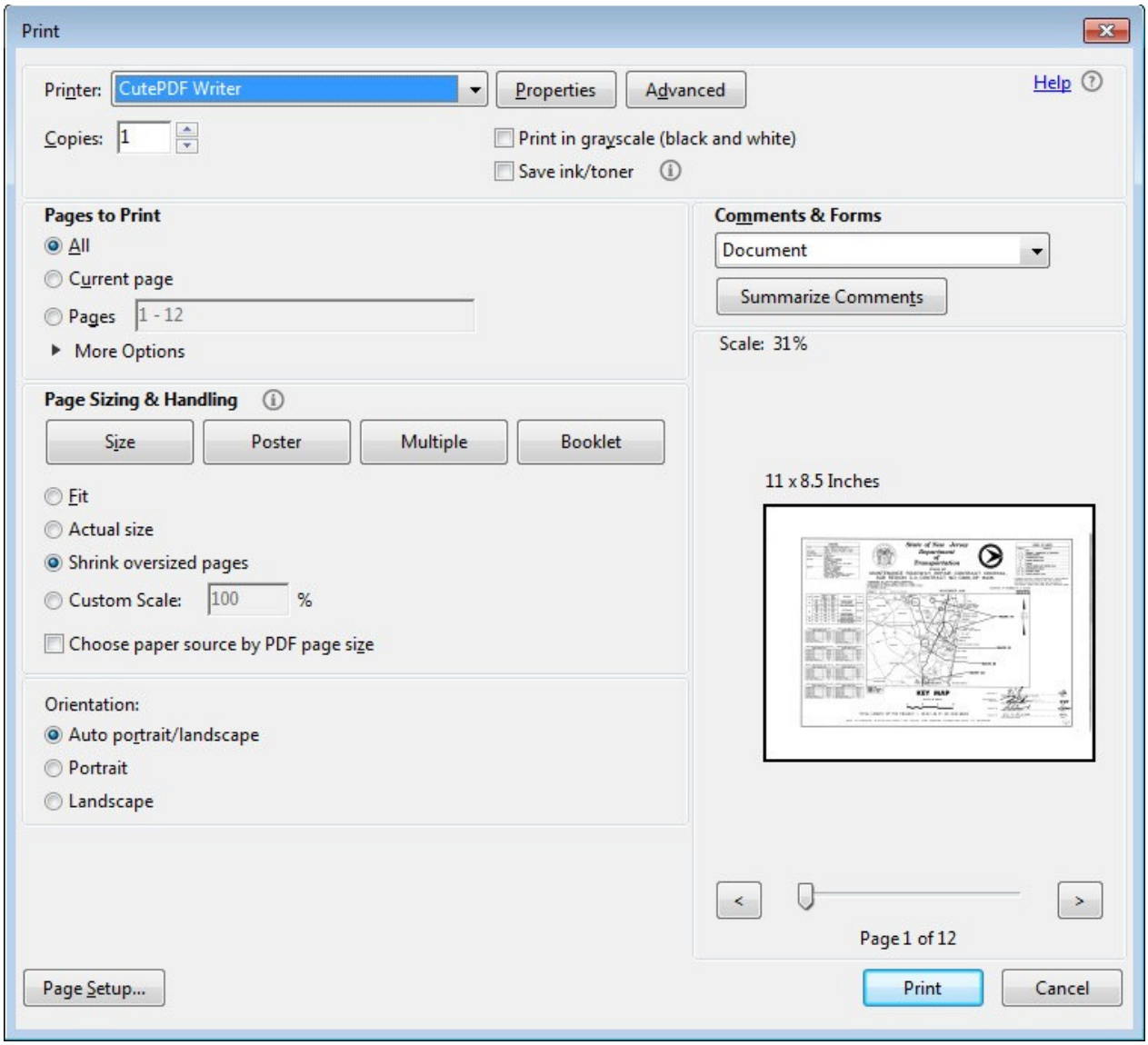
- At Last check the project plan sheet (KEY + Typical section) and download the plan by click download key locate at upper left corner of Bidx



- Open the message and click on the link.



- Open plans and save as PDF file on the project folder in S drive.
- If RE has informed you about COP ask for PDF of plans and save as stated above.



- Now we need to obtain information regarding unit price for pavement items that were used on project (project plan sheet) i.e. HMA MILLING 3" or less and HOT MIX ASPHALT 9.5 M E SURFACE COURSE.
  First make sure that the surface course mix list on RE request match with project plan; if it is not match so we check with the RE to know if there is any change of plan.

  "Change of Plan (COP)" and "Change Of Order"
  This can include additional pavement work authorized or change in pavement material and could lead to change in unit price.

  Then check DOT-PDMT.Forms@dot.nj.gov mailbox to see if there is any DC-177 form associate with this project.

- Construction:

http://www.state.nj.us/transportation/business/procurement/ConstrServ/awards15.shtm

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STATE OF NEW JERSEY
DEPARTMENT OF TRANSPORTATION
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Division of Procurement

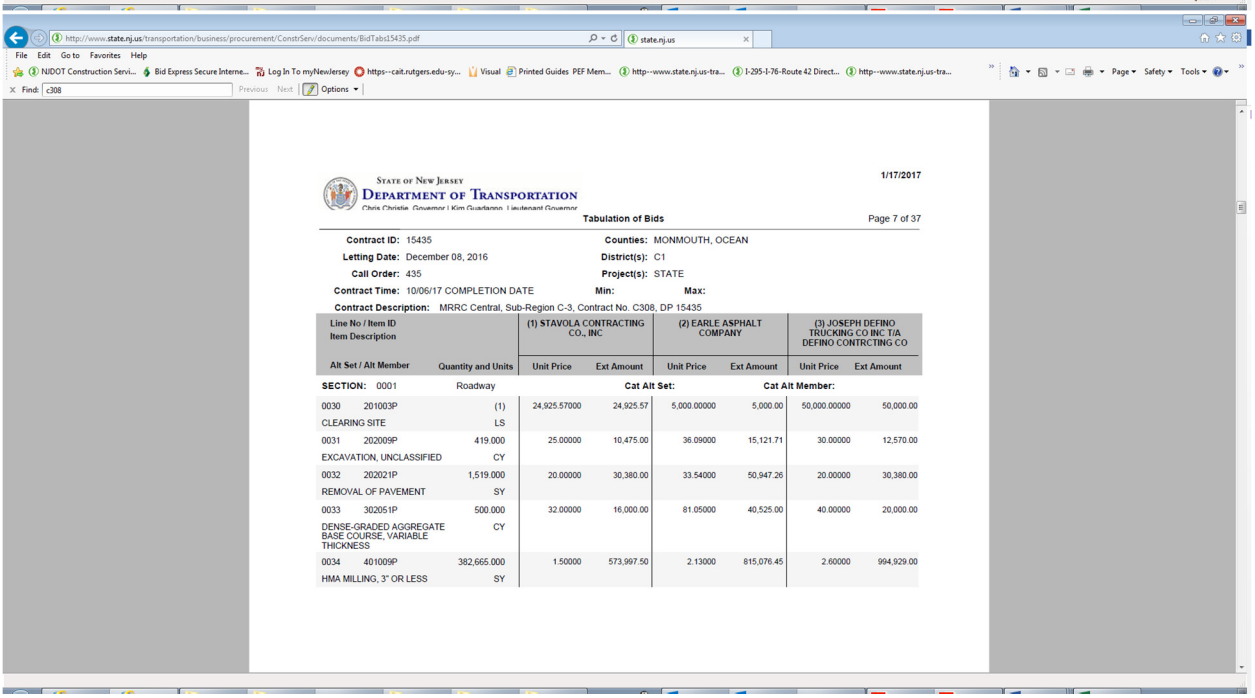
Construction Services
1035 Parkway Avenue
P.O. Box 600
Trenton, NJ 08625-0600
Phone: 609.530.2103 Fax: 609.530.2238
E-mail

Fiscal Year 2017 Awards
July 1, 2016 to June 30, 2017

Fiscal Year Archives: Select One

* ARRA - American Recovery and Reinvestment Act

Award Date	Funded by ARRA or Sandy Restoration	Contractor	Project Description	Amount
6/30/17	NA	Joseph M. Sanzari, Inc. Hackensack, NJ	Maintenance Job Order Contracting (JOC) Bridge Repairs, North - 2017, Various Locations Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union and Warren Counties ; Federal Project No. STP-C00S(971), PE No: 2622512, CE No: 2206225, DP No: 16432.	$5,506,500.00 Bid Tabulations
6/30/17	NA	Allied painting,	Maintenance Bridge Painting	$2,495,161.00



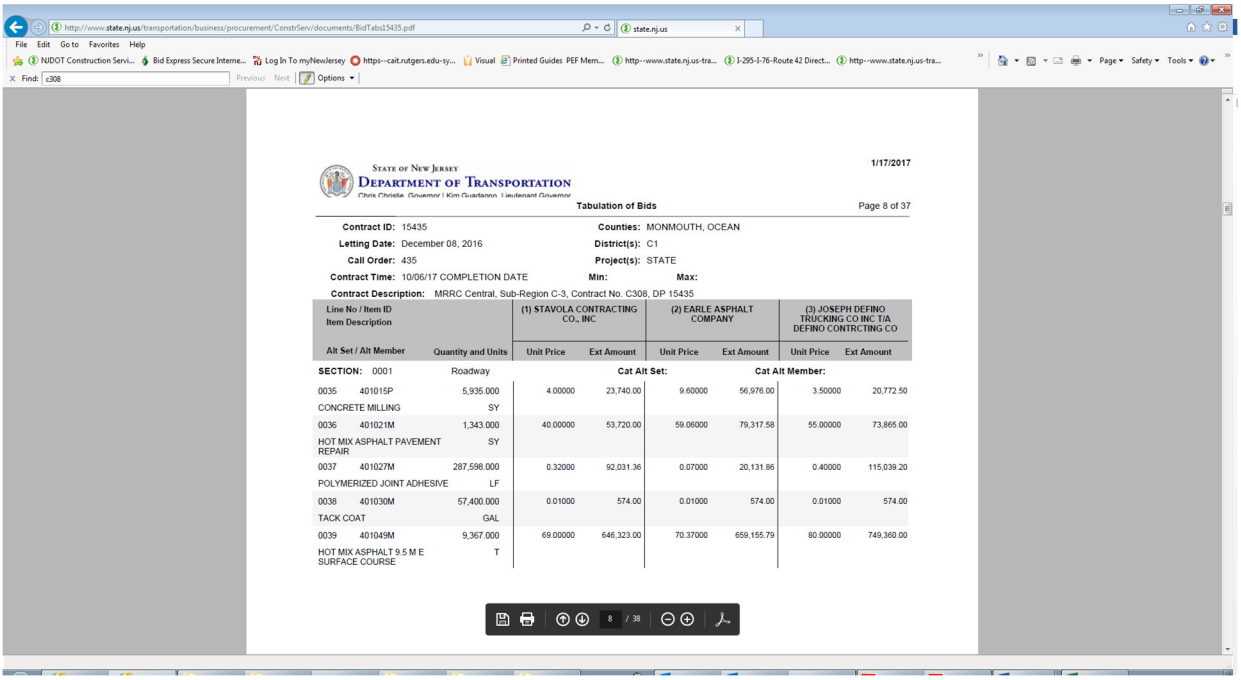
STATE OF NEW JERSEY
DEPARTMENT OF TRANSPORTATION

1/17/2017

Tabulation of Bids Page 7 of 37

Contract ID: 15435 Counties: MONMOUTH, OCEAN
Letting Date: December 08, 2016 District(s): C1
Call Order: 435 Project(s): STATE
Contract Time: 10/06/17 COMPLETION DATE Min: Max:
Contract Description: MRRC Central, Sub-Region C-3, Contract No. C308, DP 15435

Line No / Item ID / Item Description	Alt Set / Alt Member	Quantity and Units	(1) STAVOLA CONTRACTING CO., INC Unit Price	(1) STAVOLA CONTRACTING CO., INC Ext Amount	(2) EARLE ASPHALT COMPANY Unit Price	(2) EARLE ASPHALT COMPANY Ext Amount	(3) JOSEPH DEFINO TRUCKING CO INC T/A DEFINO CONTRCTING CO Unit Price	(3) JOSEPH DEFINO TRUCKING CO INC T/A DEFINO CONTRCTING CO Ext Amount
SECTION: 0001	Roadway		Cat Alt Set:		Cat Alt Member:			
0030 201003P CLEARING SITE	(1)	LS	24,925.57000	24,925.57	5,000.00000	5,000.00	50,000.00000	50,000.00
0031 202009P EXCAVATION, UNCLASSIFIED		419.000 CY	25.00000	10,475.00	36.09000	15,121.71	30.00000	12,570.00
0032 202021P REMOVAL OF PAVEMENT		1,519.000 SY	20.00000	30,380.00	33.54000	50,947.26	20.00000	30,380.00
0033 302051P DENSE-GRADED AGGREGATE BASE COURSE, VARIABLE THICKNESS		500.000 CY	32.00000	16,000.00	81.05000	40,525.00	40.00000	20,000.00
0034 401009P HMA MILLING, 3" OR LESS		382,665.000 SY	1.50000	573,997.50	2.13000	815,076.45	2.60000	994,929.00



STATE OF NEW JERSEY
DEPARTMENT OF TRANSPORTATION
Chris Christie, Governor | Kim Guadagno, Lieutenant Governor

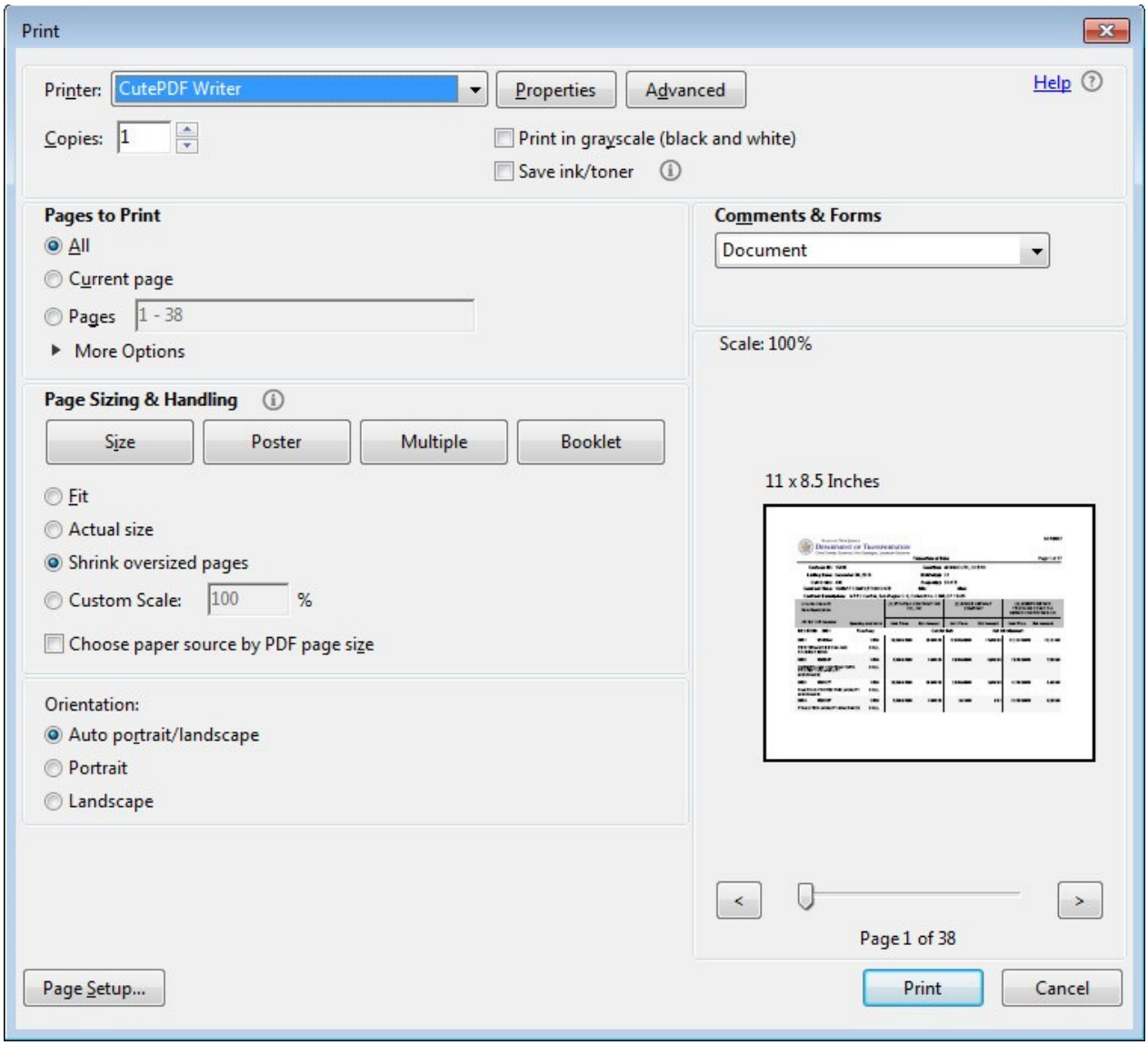
1/17/2017

Tabulation of Bids

Contract ID: 15435 **Counties:** MONMOUTH, OCEAN
Letting Date: December 08, 2016 **District(s):** C1
Call Order: 435 **Project(s):** STATE
Contract Time: 10/06/17 COMPLETION DATE **Min:** **Max:**
Contract Description: MRRC Central, Sub-Region C-3, Contract No. C308, DP 15435

Line No / Item ID / Item Description			(1) STAVOLA CONTRACTING CO., INC		(2) EARLE ASPHALT COMPANY		(3) JOSEPH DEFINO TRUCKING CO INC T/A DEFINO CONTRCTING CO	
Alt Set / Alt Member	Quantity and Units		Unit Price	Ext Amount	Unit Price	Ext Amount	Unit Price	Ext Amount
SECTION: 0001	Roadway			**Cat Alt Set:**		**Cat Alt Member:**		
0035 401015P	5,935.000	SY	4.00000	23,740.00	9.60000	56,976.00	3.50000	20,772.50
CONCRETE MILLING								
0036 401021M	1,343.000	SY	40.00000	53,720.00	59.06000	79,317.58	55.00000	73,865.00
HOT MIX ASPHALT PAVEMENT REPAIR								
0037 401027M	287,598.000	LF	0.32000	92,031.36	0.07000	20,131.86	0.40000	115,039.20
POLYMERIZED JOINT ADHESIVE								
0038 401030M	57,400.000	GAL	0.01000	574.00	0.01000	574.00	0.01000	574.00
TACK COAT								
0039 401049M	9,367.000	T	69.00000	646,323.00	70.37000	659,155.79	80.00000	749,360.00
HOT MIX ASPHALT 9.5 M E SURFACE COURSE								

- Page7, 8 (mill item and surface course)
- Create a PDF from all pavement items and saved in the project folder.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Printer: CutePDF Writer
Properties
Advanced
Help
Copies: 1
Print in grayscale (black and white)
Save ink/toner
Pages to Print
All
Current page
Pages 1 - 38
More Options
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Document
Scale: 100%
Page Sizing & Handling
Size
Poster
Multiple
Booklet
11 x 8.5 Inches
Fit
Actual size
Shrink oversized pages
Custom Scale: 100 %
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Landscape
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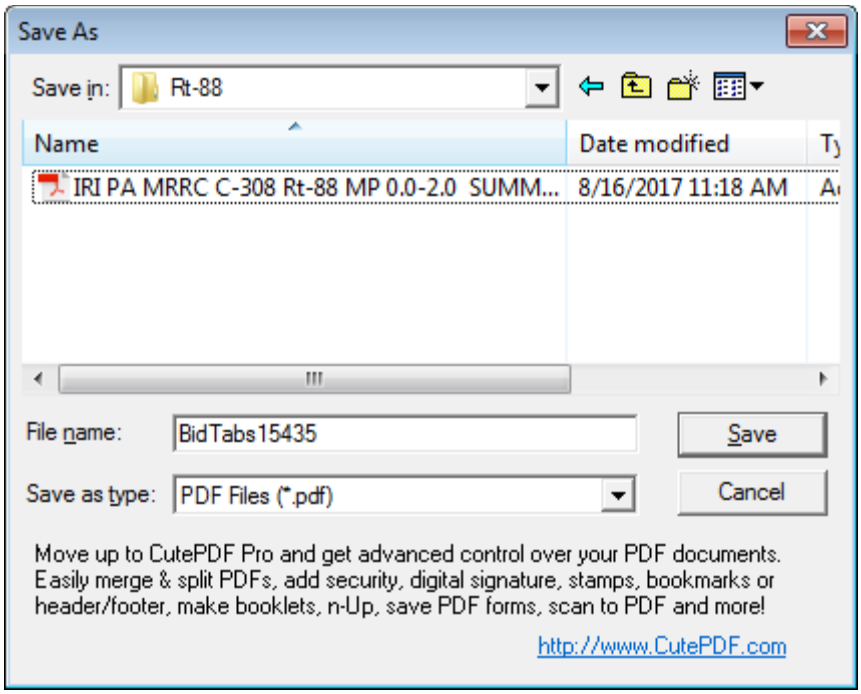
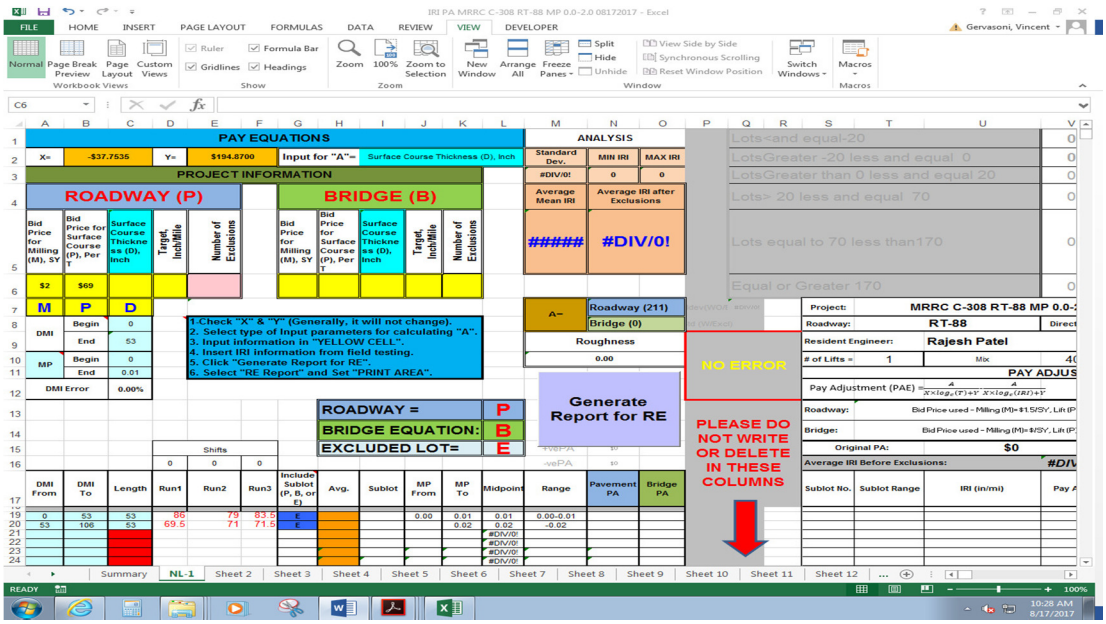
Print
Cancel



Now we collect and save all data need to calculate the IRI

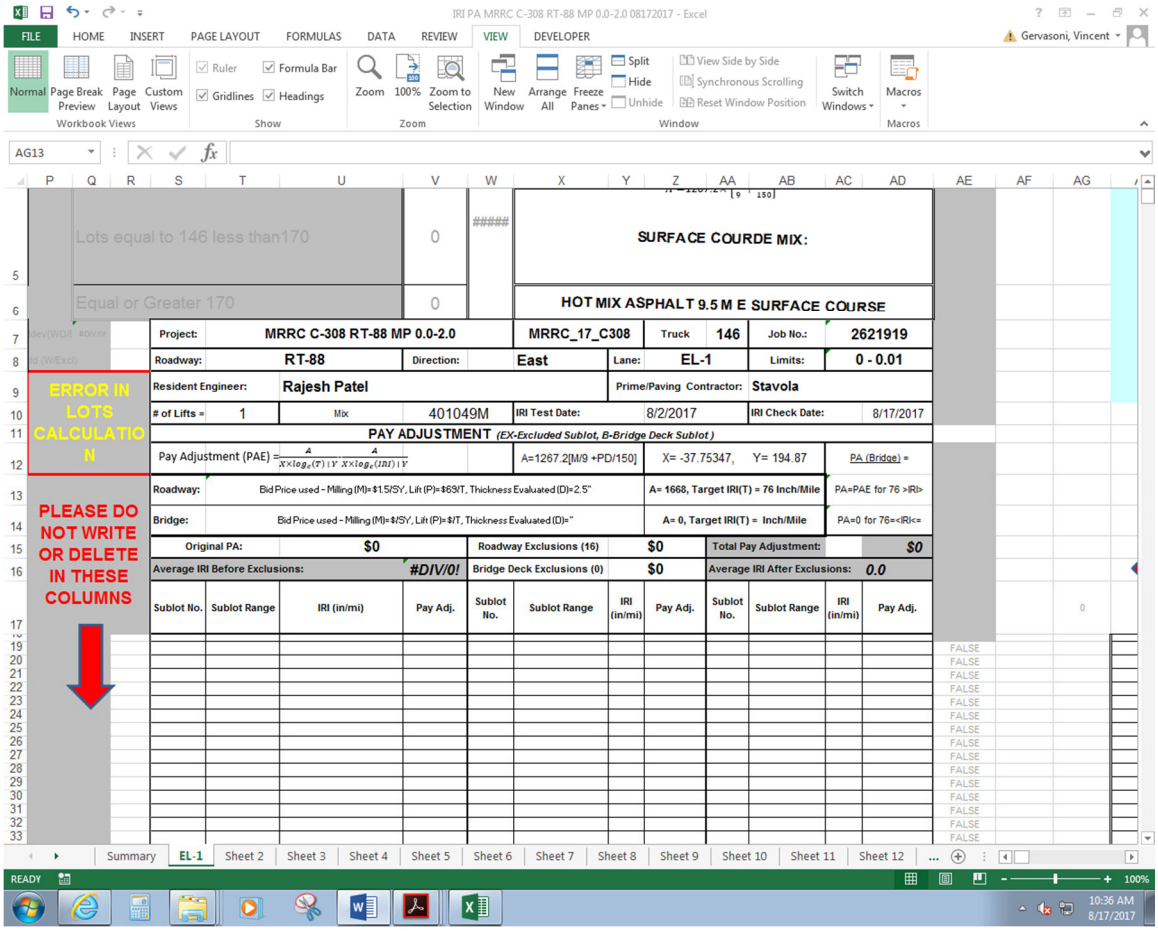


1. Open the IRI PA excel sheet template (locate at……)
2. Rename the file to carry the project information " IRI PA MMRC C-308 Rt. " and save under the projet folder at the following location:

   S:\Pavement and Drainage\PvmtTech\IRI Pay Adjustment\Projects\IRI 2017

3. Open the file and click on "View" then activate the "normal View"

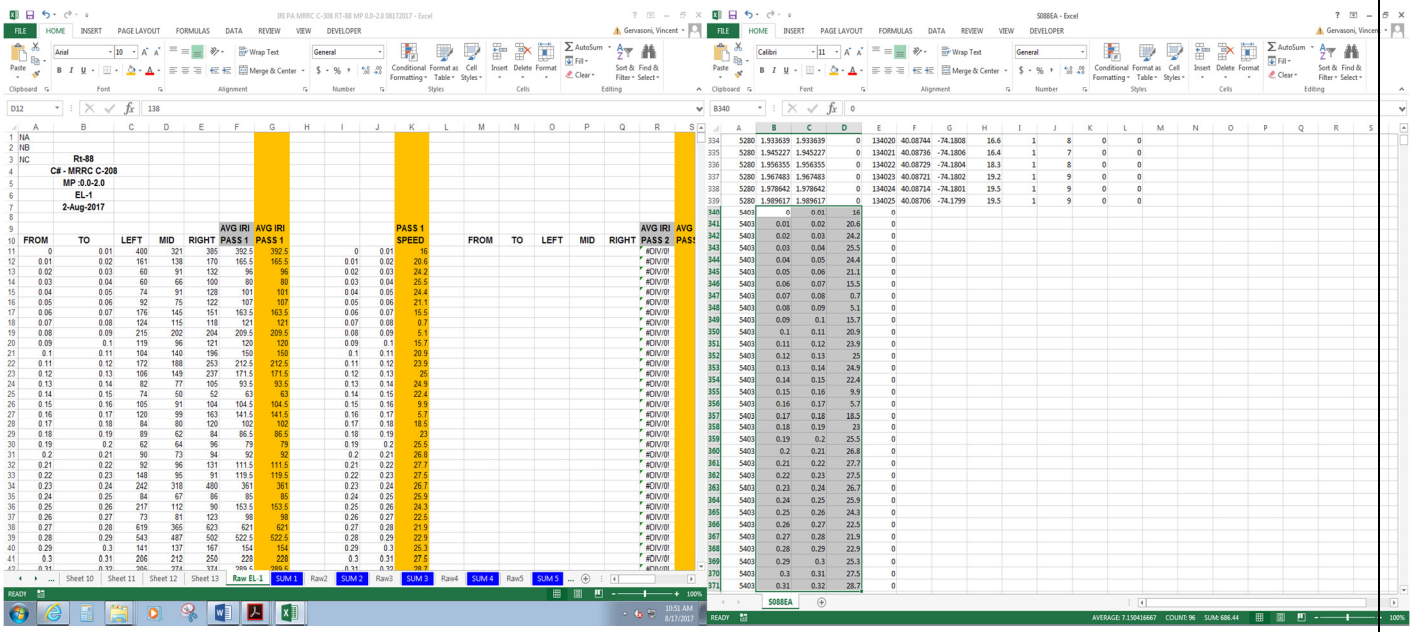
4. Fill the Yellow blocks i.e. Bid price for milling, Bid price for surface course "we obtain this information from procurement and saved as pdf file" , surface course thickness, and target IRI "we obtain this information from BIDX and saved as pdf under the project folder"



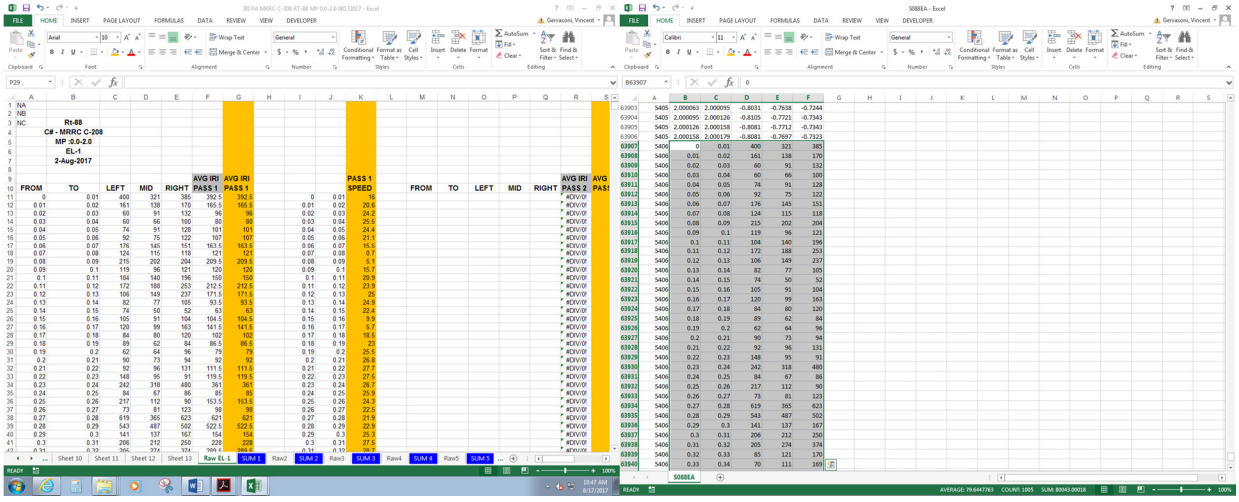
5. Fill the project limit, Truck #, job No., resident engineer name, …and Prime/Paving contractor name.
6. Rename the Raw data sheet to Raw EL-1 "we know from review the video that the vehicle perform 3 runs on east lane. Location for the raw data:

   Q:\PMS DATA\Dynatest Project Data_17 DYNATEST_IRI_SPECIALS

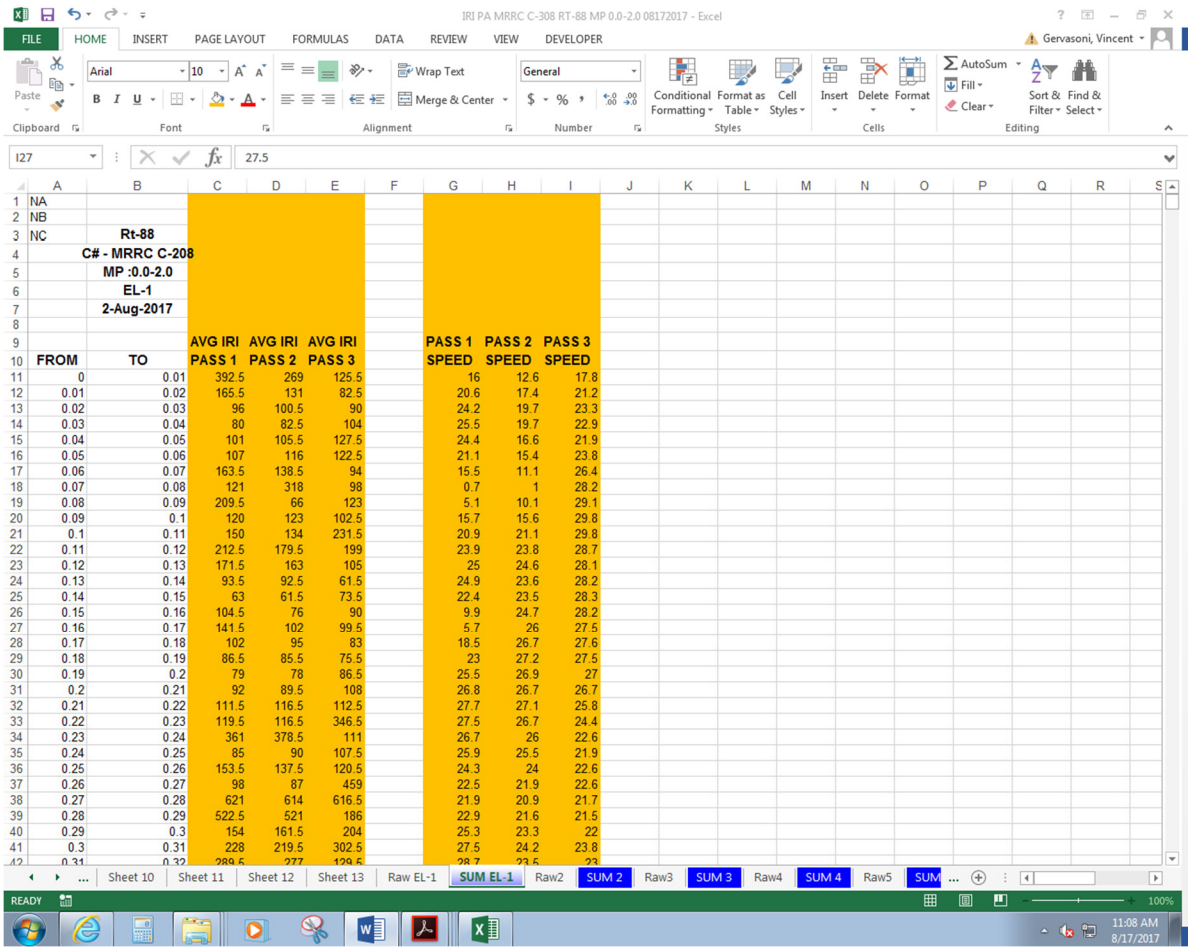
7. Raw data check section 5403 get from MP to MP and speed.3 Colum copy and paste.



8. Raw data check section 5406 get from MP to MP and RIRI, MID, LRIR. (5 columns) Copy and Paste to under the from box.

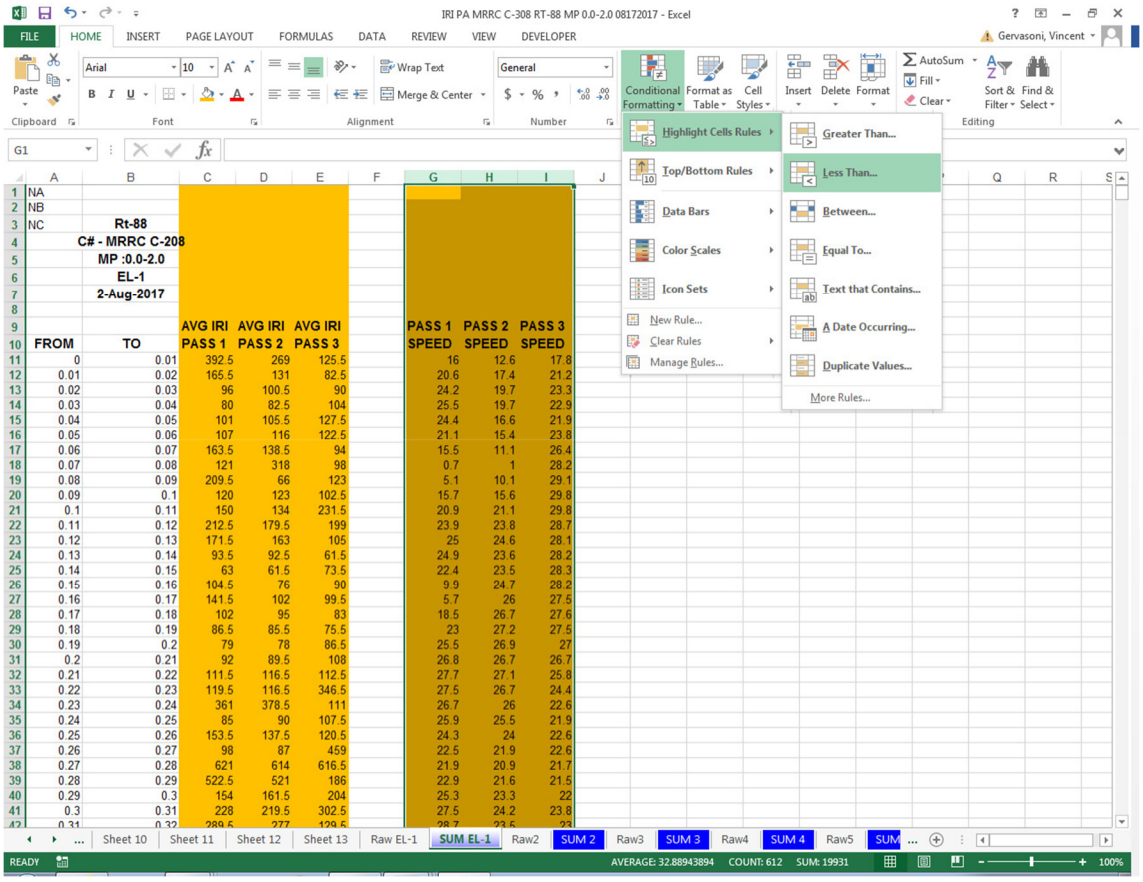


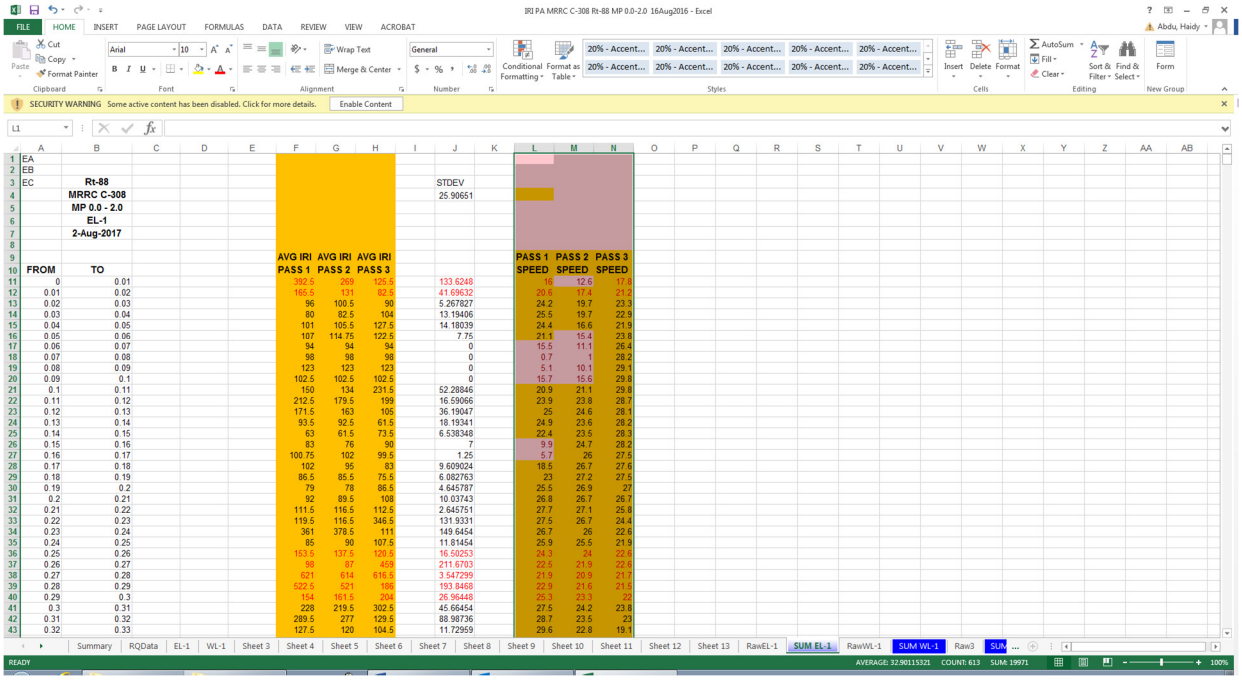
9. Copy the average IRI to the next column to the orange column (AVG IRI PASS1) Repeat 3 times(each lane has 3 run).
10. Rename the SUM sheet to SUM EL-1, copy the data from RAE EL-1 to SUM EL-1.
11. Clean the data on SUM EL-1, see below



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	NA																		
2	NB																		
3	NC	Rt-88																	
4		C# - MRRC C-208																	
5		MP :0.0-2.0																	
6		EL-1																	
7		2-Aug-2017																	
8																			
9			AVG IRI	AVG IRI	AVG IRI		PASS 1	PASS 2	PASS 3										
10	FROM	TO	PASS 1	PASS 2	PASS 3		SPEED	SPEED	SPEED										
11	0	0.01	392.5	269	125.5		16	12.6	17.8										
12	0.01	0.02	165.5	131	82.5		20.6	17.4	21.2										
13	0.02	0.03	96	100.5	90		24.2	19.7	23.3										
14	0.03	0.04	80	82.5	104		25.5	19.7	22.9										
15	0.04	0.05	101	105.5	127.5		24.4	16.6	21.9										
16	0.05	0.06	107	116	122.5		21.1	15.4	23.8										
17	0.06	0.07	163.5	138.5	94		15.5	11.1	26.4										
18	0.07	0.08	121	318	98		0.7	1	28.2										
19	0.08	0.09	209.5	66	123		5.1	10.1	29.1										
20	0.09	0.1	120	123	102.5		15.7	15.6	29.8										
21	0.1	0.11	150	134	231.5		20.9	21.1	29.8										
22	0.11	0.12	212.5	179.5	199		23.9	23.8	28.7										
23	0.12	0.13	171.5	163	105		25	24.6	28.1										
24	0.13	0.14	93.5	92.5	61.5		24.9	23.6	28.2										
25	0.14	0.15	63	61.5	73.5		22.4	23.5	28.3										
26	0.15	0.16	104.5	76	90		9.9	24.7	28.2										
27	0.16	0.17	141.5	102	99.5		5.7	26	27.5										
28	0.17	0.18	102	95	83		18.5	26.7	27.6										
29	0.18	0.19	86.5	85.5	75.5		23	27.2	27.5										
30	0.19	0.2	79	78	86.5		25.5	26.9	27										
31	0.2	0.21	92	89.5	108		26.8	26.7	26.7										
32	0.21	0.22	111.5	116.5	112.5		27.7	27.1	25.8										
33	0.22	0.23	119.5	116.5	346.5		27.5	26.7	24.4										
34	0.23	0.24	361	378.5	111		26.7	26	22.6										
35	0.24	0.25	85	90	107.5		25.9	25.5	21.9										
36	0.25	0.26	153.5	137.5	120.5		24.3	24	22.6										
37	0.26	0.27	98	87	459		22.5	21.9	22.6										
38	0.27	0.28	621	614	616.5		21.9	20.9	21.7										
39	0.28	0.29	522.5	521	186		22.9	21.6	21.5										
40	0.29	0.3	154	161.5	204		25.3	23.3	22										
41	0.3	0.31	228	219.5	302.5		27.5	24.2	23.8										
42	0.31	0.32	289.5	277	129.5		28.7	23.5	23										

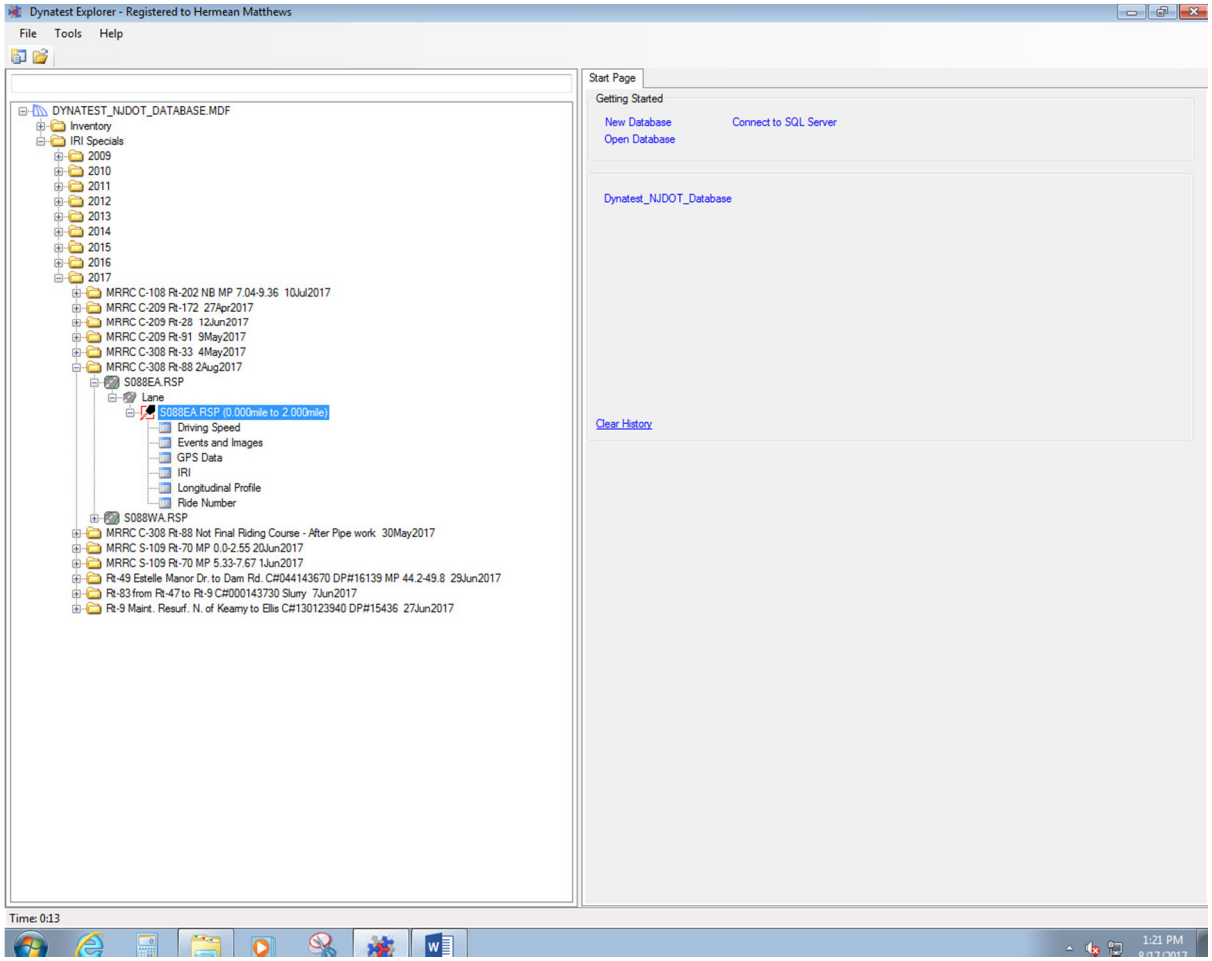
12. Repeat all lanes.
13. Perform a speed data filter by highlighting all speed pass columns (Pass1&Pass2&Pass3) and apply conditional formatting ,highlight cell rules lessthan 16 mile/h with light red fill.


IRI PA MRRC C-308 RT-88 MP 0.0-2.0 08172017 - Excel
Rt-88
C# - MRRC C-208
MP :0.0-2.0
EL-1
2-Aug-2017
AVG IRI PASS 1
AVG IRI PASS 2
AVG IRI PASS 3
PASS 1 SPEED
PASS 2 SPEED
PASS 3 SPEED
FROM
TO
Highlight Cells Rules
Top/Bottom Rules
Data Bars
Color Scales
Icon Sets
New Rule...
Clear Rules
Manage Rules...
Greater Than...
Less Than...
Between...
Equal To...
Text that Contains...
A Date Occurring...
Duplicate Values...
More Rules...
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Raw EL-1
SUM EL-1
Raw2
SUM 2
Raw3
SUM 3
Raw4
SUM 4
Raw5
READY
AVERAGE: 32.88943894
COUNT: 612
SUM: 19931


IRI PA MRRC C-308 Rt-88 MP 0.0-2.0 16Aug2016 - Excel
Rt-88
MRRC C-308
MP 0.0 - 2.0
EL-1
2-Aug-2017
STDEV
25.90651
AVG IRI PASS 1
AVG IRI PASS 2
AVG IRI PASS 3
PASS 1 SPEED
PASS 2 SPEED
PASS 3 SPEED
FROM
TO
Summary
RQData
EL-1
WL-1
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
RawEL-1
SUM EL-1
RawWL-1
SUM WL-1
Raw3
READY
AVERAGE: 32.90115321
COUNT: 613
SUM: 19971

14. All highlight data (<16) should be tested by reviewing the Dynatest video

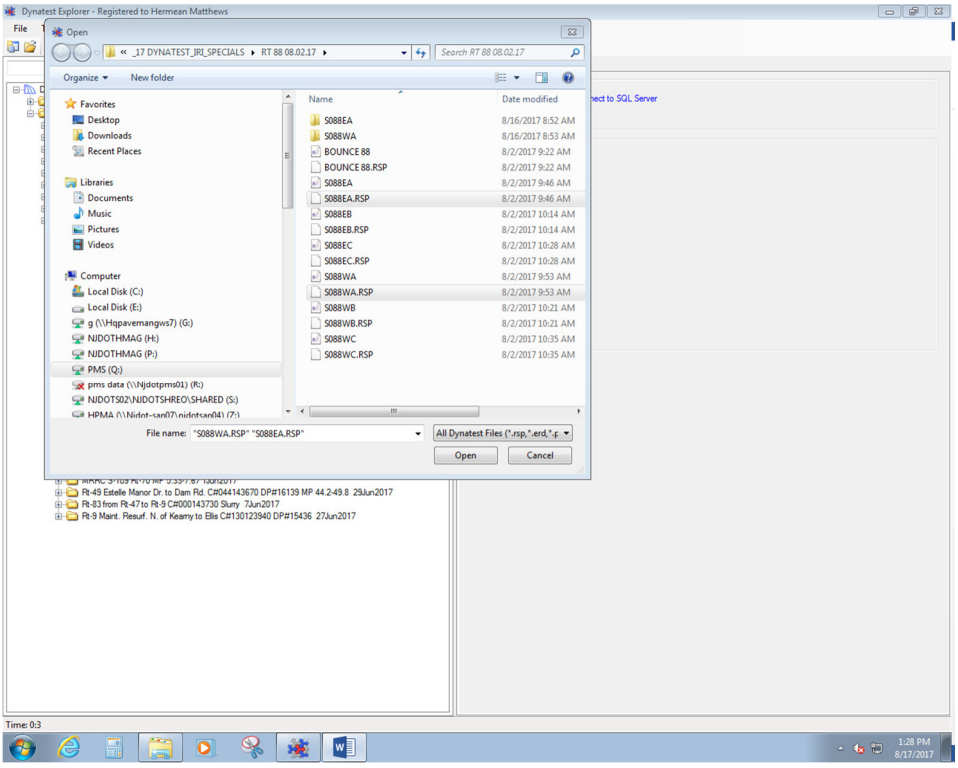
- Video:
- Go to Dynatest Explorer



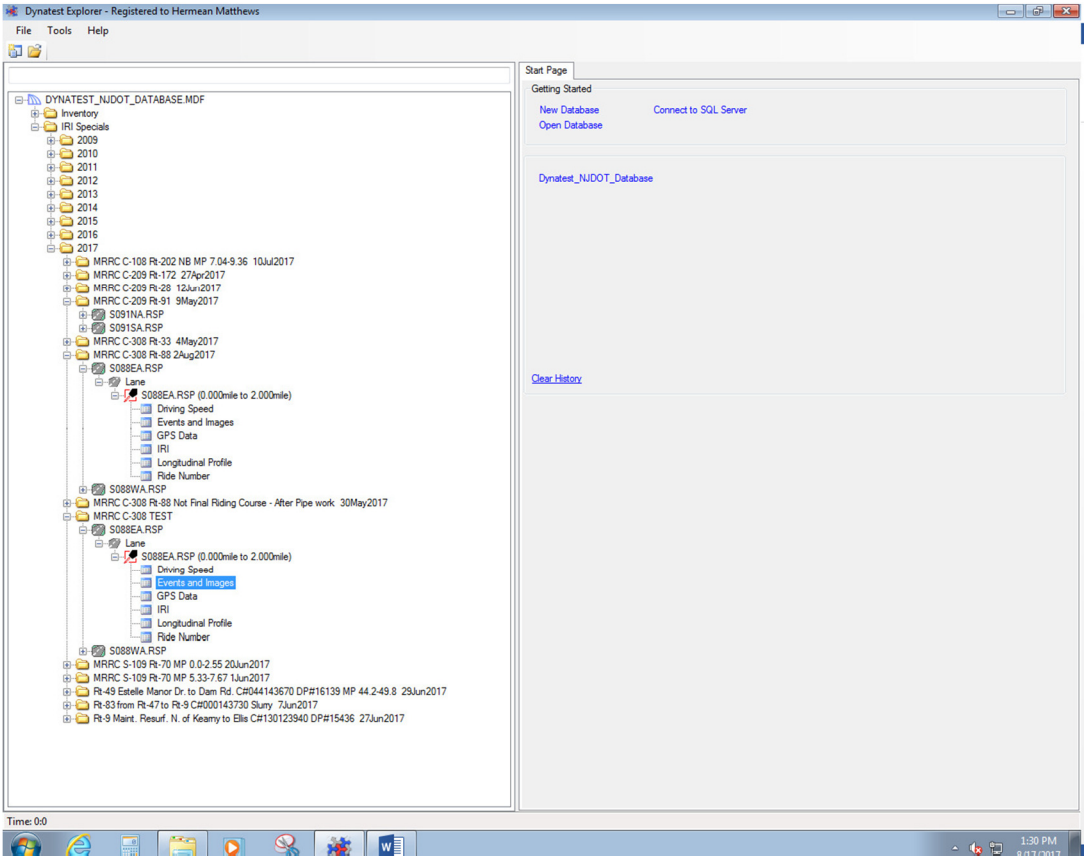
- Open IRI Specials – year-add new project folder (right click year, select new-group)

Q:\PMS DATA\Dynatest Project Data_17 DYNATEST_IRI_SPECIALS\RT 88 08.02.17

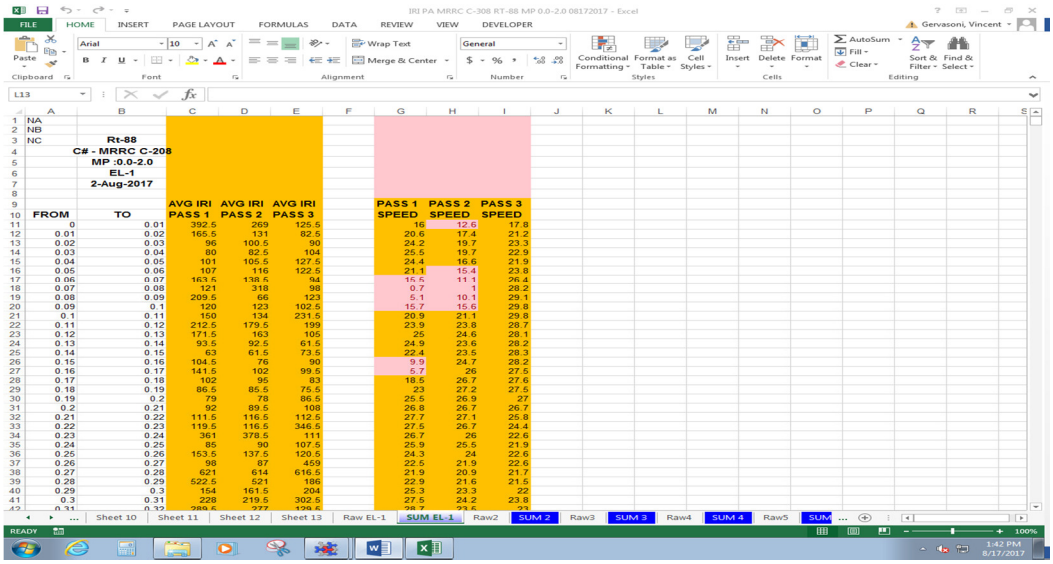
- IMPORT the image to database



- Select both bound of RSP files.



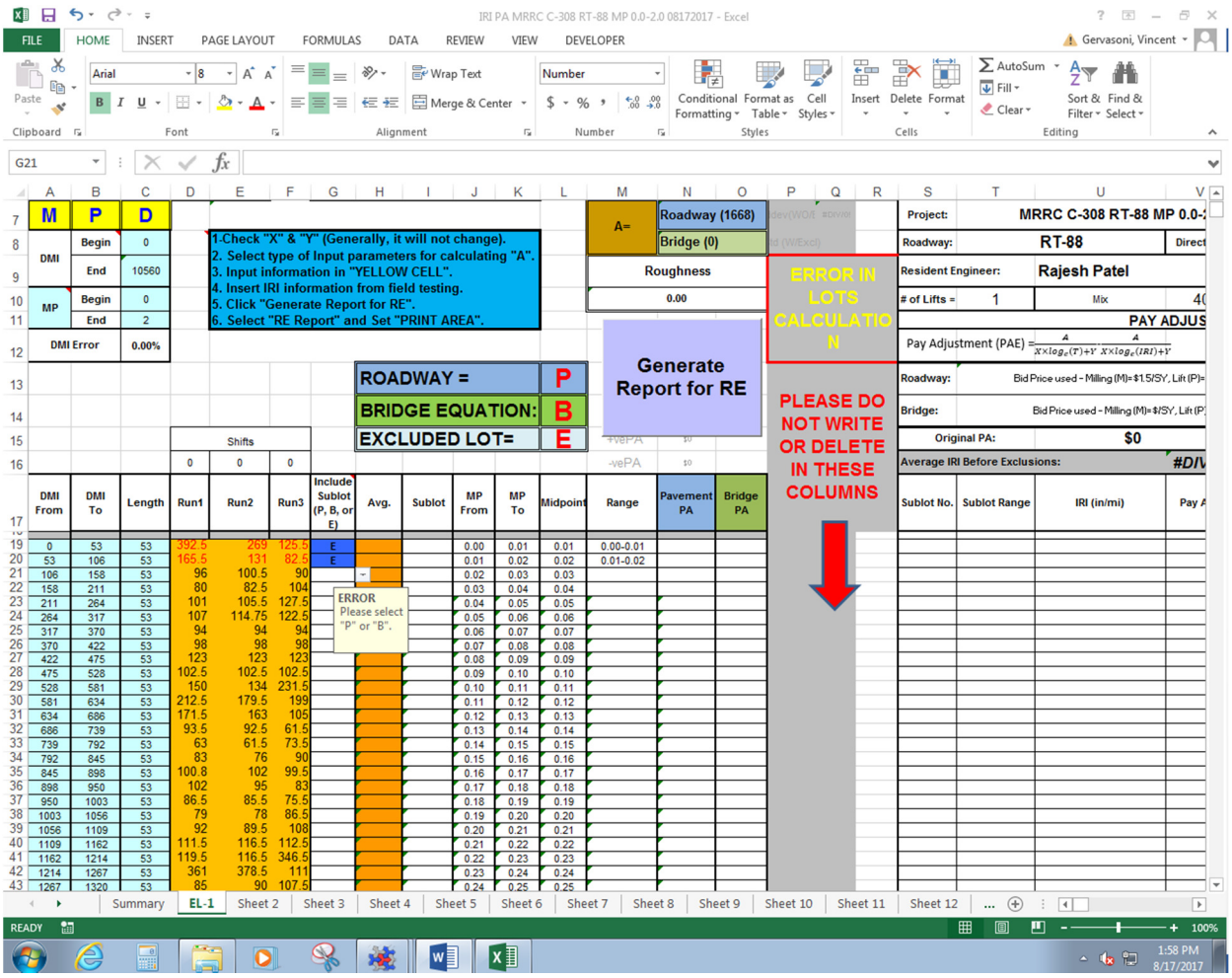
- To view image select event and image
- To check, confirm MP start point, bridge, mark down any unpaved area, railroad on paper
- Exclude shoulder, outside lane.
- Fill IRI video review log(see appendix A)
- Address the Sum EL-1 (pink) excel sheet data.



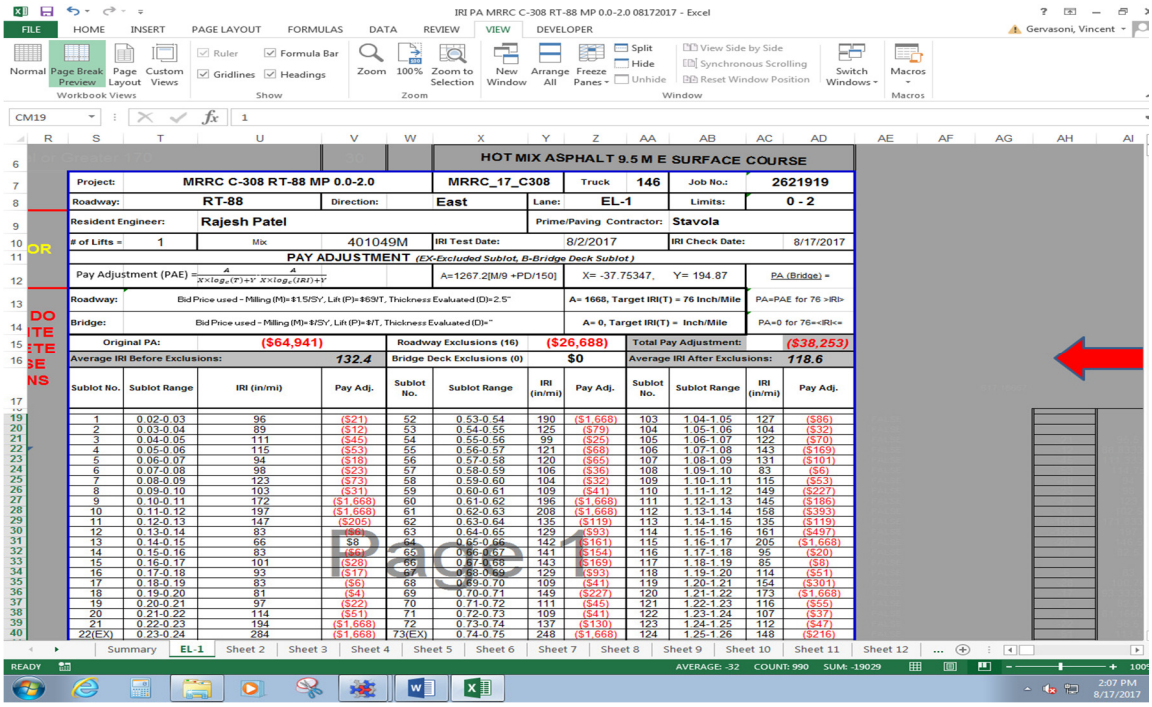
1	NA								
2	NB								
3	NC	Rt-88							
4		C# - MRRC C-208							
5		MP .0.0-2.0							
6		EL-1							
7		2-Aug-2017							
8									
9				AVG IRI	AVG IRI	AVG IRI		PASS 1	PASS 2	PASS 3
10	FROM	TO		PASS 1	PASS 2	PASS 3		SPEED	SPEED	SPEED
11	0	0.01		392.5	269	125.5		16	12.6	17.8
12	0.01	0.02		165.5	131	82.5		20.6	17.4	21.2
13	0.02	0.03		96	100.5	90		24.2	19.7	23.3
14	0.03	0.04		80	82.5	104		25.5	19.7	22.9
15	0.04	0.05		101	105.5	127.5		24.4	16.6	21.9
16	0.05	0.06		107	116	122.5		21.1	15.4	23.8
17	0.06	0.07		163.5	138.5	94		15.5	11.1	26.4
18	0.07	0.08		121	318	98		0.7	1	28.2
19	0.08	0.09		209.5	66	123		5.1	10.1	29.1
20	0.09	0.1		120	123	102.5		15.7	15.6	29.8
21	0.1	0.11		150	134	231.5		20.9	21.1	29.8
22	0.11	0.12		212.5	179.5	199		23.9	23.8	28.7
23	0.12	0.13		171.5	163	105		25	24.6	28.1
24	0.13	0.14		93.5	92.5	61.5		24.9	23.6	28.2
25	0.14	0.15		63	61.5	73.5		22.4	23.5	28.3
26	0.15	0.16		104.5	76	90		9.9	24.7	28.2
27	0.16	0.17		141.5	102	99.5		5.7	26	27.5
28	0.17	0.18		102	95	83		18.5	26.7	27.6
29	0.18	0.19		86.5	85.5	75.5		23	27.2	27.5
30	0.19	0.2		79	78	86.5		25.5	26.9	27
31	0.2	0.21		92	89.5	108		26.8	26.7	26.7
32	0.21	0.22		111.5	116.5	112.5		27.7	27.1	25.8
33	0.22	0.23		119.5	116.5	346.5		27.5	26.7	24.4
34	0.23	0.24		361	378.5	111		26.7	26	22.6
35	0.24	0.25		85	90	107.5		25.9	25.5	21.9
36	0.25	0.26		153.5	137.5	120.5		24.3	24	22.6
37	0.26	0.27		98	87	459		22.5	21.9	22.6
38	0.27	0.28		621	614	616.5		21.9	20.9	21.7
39	0.28	0.29		522.5	521	186		22.9	21.6	21.5
40	0.29	0.3		154	161.5	204		25.3	23.3	22
41	0.3	0.31		228	219.5	302.5		27.5	24.2	23.8
42	0.31	0.32		289.5	277	179.5		28.7	23.6	23

- Highlight unwanted data IRI and speed change to red
  a. one bad data(speed <= 16 m/h) use IRI data average
  b. two bad data use the third one IRI data
  c. all bad data , use the target IRI.

- Copy IRI DATA (3) SUM EL-1 to EL-1 (YELLOW)



- Drag DMI and length to match the IRI data.
- Fill the "include sublot" column with (P, B , E)
- Click Generate report for RE
- View- page break preview, set page include all date



HOT MIX ASPHALT 9.5 M E SURFACE COURSE

Project:	MRRC C-308 RT-88 MP 0.0-2.0		MRRC_17_C308	Truck	146	Job No.:	2621919
Roadway:	RT-88	Direction:	East	Lane:	EL-1	Limits:	0 - 2
Resident Engineer:	Rajesh Patel			Prime/Paving Contractor:	Stavola		
# of Lifts =	1	Mix	401049M	IRI Test Date:	8/2/2017	IRI Check Date:	8/17/2017

PAY ADJUSTMENT (EX-Excluded Sublot, B-Bridge Deck Sublot)

Pay Adjustment (PAE) = $\frac{A}{X \times \log_e(T)+Y} \frac{A}{X \times \log_e(IRI)+Y}$ A=1267.2[M/9 +PD/150] X= -37.75347, Y= 194.87 PA (Bridge) =

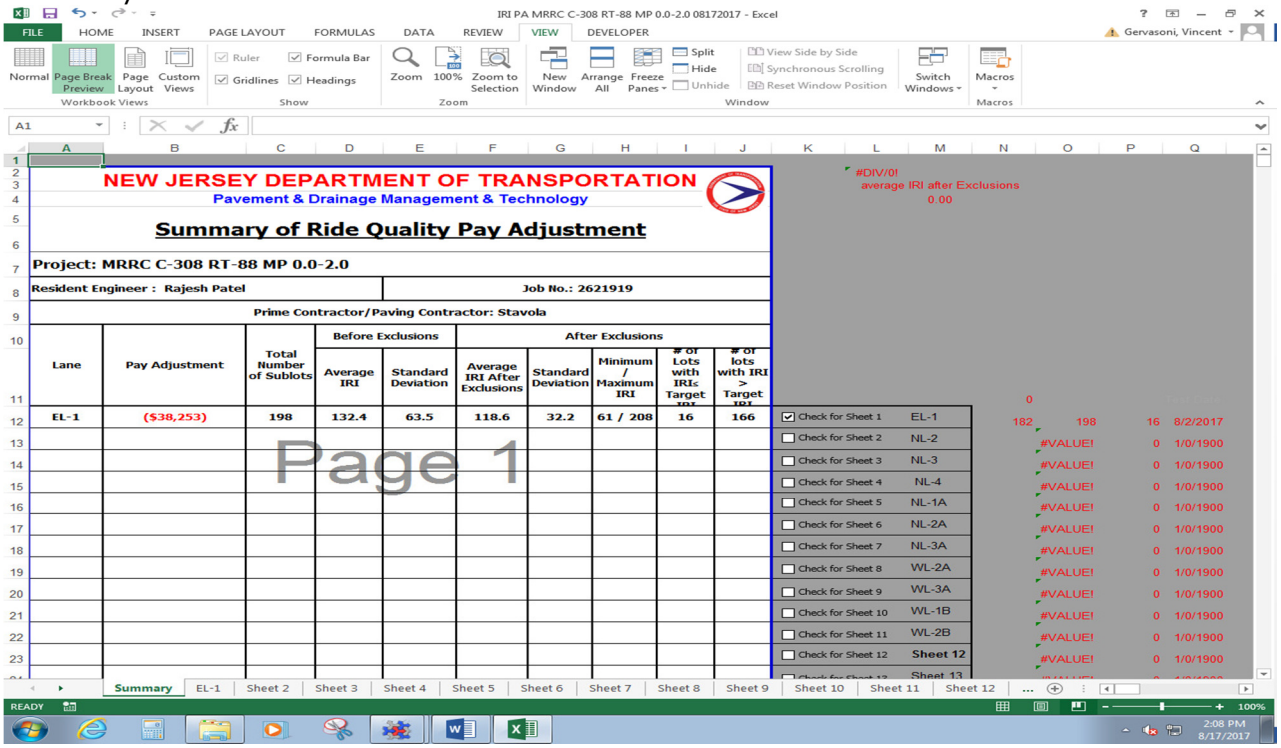
Roadway: Bid Price used - Milling (M)=$1.5/SY, Lift (P)=$69/T, Thickness Evaluated (D)=2.5" A= 1668, Target IRI(T) = 76 Inch/Mile PA=PAE for 76 >IRI>

Bridge: Bid Price used - Milling (M)=$/SY, Lift (P)=$/T, Thickness Evaluated (D)=" A= 0, Target IRI(T) = Inch/Mile PA=0 for 76=<IRI<=

Original PA:	($64,941)	Roadway Exclusions (16)	($26,688)	Total Pay Adjustment:	($38,253)
Average IRI Before Exclusions:	132.4	Bridge Deck Exclusions (0)	$0	Average IRI After Exclusions:	118.6

Sublot No.	Sublot Range	IRI (in/mi)	Pay Adj.	Sublot No.	Sublot Range	IRI (in/mi)	Pay Adj.	Sublot No.	Sublot Range	IRI (in/mi)	Pay Adj.
1	0.02-0.03	96	($21)	52	0.53-0.54	190	($1,668)	103	1.04-1.05	127	($86)
2	0.03-0.04	89	($12)	53	0.54-0.55	125	($79)	104	1.05-1.06	104	($32)
3	0.04-0.05	111	($45)	54	0.55-0.56	99	($25)	105	1.06-1.07	122	($70)
4	0.05-0.06	115	($53)	55	0.56-0.57	121	($68)	106	1.07-1.08	143	($169)
5	0.06-0.07	94	($18)	56	0.57-0.58	120	($65)	107	1.08-1.09	131	($101)
6	0.07-0.08	98	($23)	57	0.58-0.59	106	($36)	108	1.09-1.10	83	($6)
7	0.08-0.09	123	($73)	58	0.59-0.60	104	($32)	109	1.10-1.11	115	($53)
8	0.09-0.10	103	($31)	59	0.60-0.61	109	($41)	110	1.11-1.12	149	($227)
9	0.10-0.11	172	($1,668)	60	0.61-0.62	196	($1,668)	111	1.12-1.13	145	($186)
10	0.11-0.12	197	($1,668)	61	0.62-0.63	208	($1,668)	112	1.13-1.14	158	($393)
11	0.12-0.13	147	($205)	62	0.63-0.64	135	($119)	113	1.14-1.15	135	($119)
12	0.13-0.14	83	($6)	63	0.64-0.65	129	($93)	114	1.15-1.16	161	($497)
13	0.14-0.15	66	$8	64	0.65-0.66	142	($161)	115	1.16-1.17	205	($1,668)
14	0.15-0.16	83	($6)	65	0.66-0.67	141	($154)	116	1.17-1.18	95	($20)
15	0.16-0.17	101	($28)	66	0.67-0.68	143	($169)	117	1.18-1.19	85	($8)
16	0.17-0.18	93	($17)	67	0.68-0.69	129	($93)	118	1.19-1.20	114	($51)
17	0.18-0.19	83	($6)	68	0.69-0.70	109	($41)	119	1.20-1.21	154	($301)
18	0.19-0.20	81	($4)	69	0.70-0.71	149	($227)	120	1.21-1.22	173	($1,668)
19	0.20-0.21	97	($22)	70	0.71-0.72	111	($45)	121	1.22-1.23	116	($55)
20	0.21-0.22	114	($51)	71	0.72-0.73	109	($41)	122	1.23-1.24	107	($37)
21	0.22-0.23	194	($1,668)	72	0.73-0.74	137	($130)	123	1.24-1.25	112	($47)
22(EX)	0.23-0.24	284	($1,668)	73(EX)	0.74-0.75	248	($1,668)	124	1.25-1.26	148	($216)

15. Summary –select lane



NEW JERSEY DEPARTMENT OF TRANSPORTATION

Pavement & Drainage Management & Technology

Summary of Ride Quality Pay Adjustment

Project: MRRC C-308 RT-88 MP 0.0-2.0

Resident Engineer : Rajesh Patel | Job No.: 2621919

Prime Contractor/Paving Contractor: Stavola

Lane	Pay Adjustment	Total Number of Sublots	Before Exclusions: Average IRI	Before Exclusions: Standard Deviation	After Exclusions: Average IRI After Exclusions	After Exclusions: Standard Deviation	After Exclusions: Minimum / Maximum IRI	After Exclusions: # of Lots with IRI< Target IRI	After Exclusions: # of lots with IRI > Target IRI
EL-1	($38,253)	198	132.4	63.5	118.6	32.2	61 / 208	16	166

#DIV/0!
average IRI after Exclusions
0.00

Check for Sheet 1	EL-1	182	198	16	8/2/2017
Check for Sheet 2	NL-2	#VALUE!	0	1/0/1900	
Check for Sheet 3	NL-3	#VALUE!	0	1/0/1900	
Check for Sheet 4	NL-4	#VALUE!	0	1/0/1900	
Check for Sheet 5	NL-1A	#VALUE!	0	1/0/1900	
Check for Sheet 6	NL-2A	#VALUE!	0	1/0/1900	
Check for Sheet 7	NL-3A	#VALUE!	0	1/0/1900	
Check for Sheet 8	WL-2A	#VALUE!	0	1/0/1900	
Check for Sheet 9	WL-3A	#VALUE!	0	1/0/1900	
Check for Sheet 10	WL-1B	#VALUE!	0	1/0/1900	
Check for Sheet 11	WL-2B	#VALUE!	0	1/0/1900	
Check for Sheet 12	Sheet 12	#VALUE!	0	1/0/1900	

16. Save as PDF
17. Update the IRI pay adjustment summary sheet "S:\Pavement and Drainage\PvmtTech\IRI Pay Adjustment\Projects\IRI 2017

Appendix A

IRI VIDEO REVIEW LOG

Project:			Spec:	Job No.:
Roadway:	Direction:	Lane:		Limits:
Target IRI 1:		DP #:		Contract #:
Target IRI 2:		Exclusions:		Notes:
Target IRI 3:				
Bridge Target IRI:				
Video Review Date:		By:	IRI Test Date(s):	

MP	Event	Comments