

CAPA 2014 Annual Meeting Construction & Materials Topics

Ron Hancock, PE
State Construction Engineer

Chris Peoples, PE
State Materials Engineer

NCDOT / CAPA Committees

1) Joint Technical Committee – Large Group

2) Joint Asphalt Committee CAPA Members – 2013_

Skip Partington – Barnhill Ivan Clayton – Sharpe Brothers Reade Dawson – S.T. Wooten Jule Smith - FSC Wiley Roark – Maymead

3) Specs / Training Subcommittee CAPA Members

David Glover - Barnhill Chris Croom - S. T. Wooten Berry Hall - Blythe Marvin Hylton - Apac Ellis Powell - CAPA

CAPA Members - 2014

Skip Partington - Barnhill Tim Rose - Rose Brother Carlton Powell - Ferebee Jim Russell - JTR George Marsh - Gelder

NCDOT Members

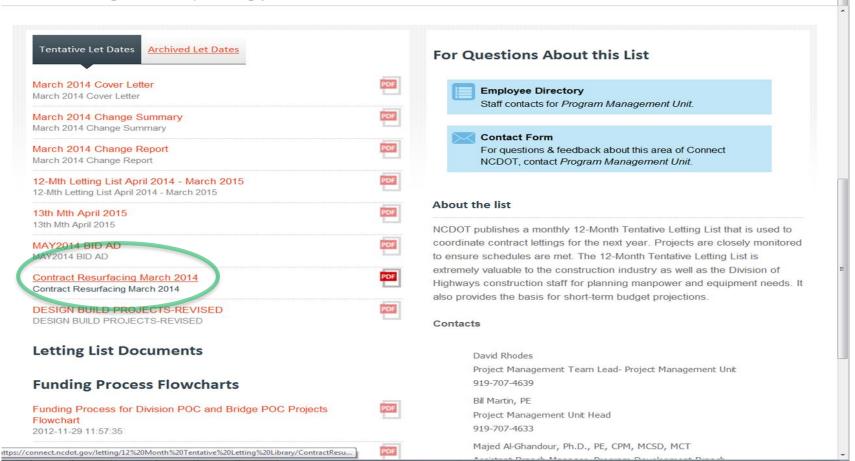
Todd Whittington Nilesh Surti Wesley Welborn David Jackson Dan Hunter Ted Naylor





12 Month Tentative Letting list

Contract lettings for the upcoming year.



Contract Resurfacing Let List

Contract Resurfacing	FY 2014									FY 2015																
12 MLL (\$M)		Feb		Mar		Apr		May		Jun		Jul	- 4	Aug		Sep		Oct	- 1	Nov		Dec	1	lan		Feb
Edgecombe Div Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	S	2.73	S	-	\$	-	S	-	S	-	S	-
Edgecombe Ral Let	\$		\$	-	\$	-	\$		\$		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Halifax Div Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$	100	\$	-	5	3.36	\$	-	\$	-	5	-	5	-	\$	-
Halifax Ral Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$	~	\$	-	\$	-	\$	~	\$	-	\$	-	\$	-	\$	-
Johnston Div Let	\$	-	\$	2	\$	-	\$	-	\$	2	\$	-	\$	-	\$	5.38	\$	2	\$	12	S	_	S	1	\$	-
Johnston Ral Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Nash Div Let	\$		\$	1.86	\$	-	\$	(*)	\$	-	\$		\$	-	S	4.07	S	-	\$	-	S	-	5	-	\$	-
Nash Ral Let	\$	•	\$	7	\$	-	\$	•	\$	-	\$	7	\$		\$	-	\$	-	\$	=	\$	-	\$	-	\$	-
Wayne Div Let	\$	-	5	-	\$	-	\$	-	\$	-	\$	4	\$	-	\$	4.08	\$	-	\$	-	5	-	\$	-	5	-
Wayne Ral Let	\$	-	\$	_	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	_	\$	-
Wilson Div Let	\$	170	\$	1.47	\$	-	\$	-	\$	-	\$		\$		\$	3.29	S	-	\$	-	5	(7)	\$	-	\$	-
Wilson Ral Let	\$	•	\$	-	\$	(5)	\$		\$	-	\$	-	\$		5		\$	-	\$	-	5	•	5	-	\$	-
Total Division 4	\$	J	\$	3.32	\$	·	\$	-	\$	¥	\$	ū	\$	2	\$	22.91	\$	Ü	\$	9	\$	-	\$	÷	\$	12
Durham Div Let	\$		\$		\$		\$	-	\$	0.27	\$		5		S	-	\$	_	\$	_	S	-	S	_	S	-
Durham Ral Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$		\$	-	\$	-	S	-	\$	-	\$	4.30	\$	-	\$	-
Franklin Div Let	\$	-	\$	_	5		\$	_	\$	_	\$	2	\$	-	\$	_	\$		\$	-	S	-	S		\$	-
Franklin Ral Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$	2	\$		S	-	S	3.40	\$	2	S	-	\$	ū	\$	-
Granville Div Let	\$	(70)	5		\$	-	\$	-	\$		\$	-	\$	-	S	-	\$		\$	-	5		S		\$	-
Granville Ral Let	\$	-	\$	-	\$	-	\$	3.20	\$	-	\$		\$		\$	-	\$	-	\$	-	\$	-	\$	$\tilde{}$	\$	-
Person Div Let	\$	-	\$	2	S	-	\$	-	\$		\$	92	\$	0.40	S	-	S	-	\$	-	S	12	S	¥	\$	-
Person Ral Let	\$	-	\$	2	\$	-	\$	-	\$	-	\$	-	\$	-	\$	5.20	\$	-	\$	-	\$	-	\$	2	\$	-
Vance Div Let	\$	-	\$	-	\$	-	\$	-	\$	-	\$	_	\$	-	\$	-	\$	-	\$	2	5	-	\$	-	\$	-
Vance Ral Let	\$	•	\$	-	\$	2.78	\$	•	\$	-	\$	-	\$	-	\$		\$	-	\$	-	\$		\$	-	\$	-
Wake Div Let	\$	1.60	\$		\$	-	\$	-	\$	-	\$	-	\$	-	S	-	S	-	\$	-	S		S	-	\$	-
Wake Ral Let	\$	-	\$	-	\$	2.30		10.60	\$	-	\$	12	\$	-	5	-	\$	-	\$	-	S	-	\$	-	\$	-
Warren Div Let	\$		\$	_	\$	-	\$		\$		\$	2	\$	-	\$	-	\$	0	\$	-	\$	-	S	2	\$	2
Warren Ral Let	\$	-	\$	-	\$	4.00	\$	•	\$	-	\$		\$	-	\$	-	\$	-	\$	-	S	-	\$	-	\$	-
Total Division 5	\$	1.60	\$			9.08					\$														\$	

 https://connect.ncdot.gov/letting/12%20Month%20Tentative%20 Letting%20Library/ContractResurfacing-12MLL-Feb27-2014.pdf

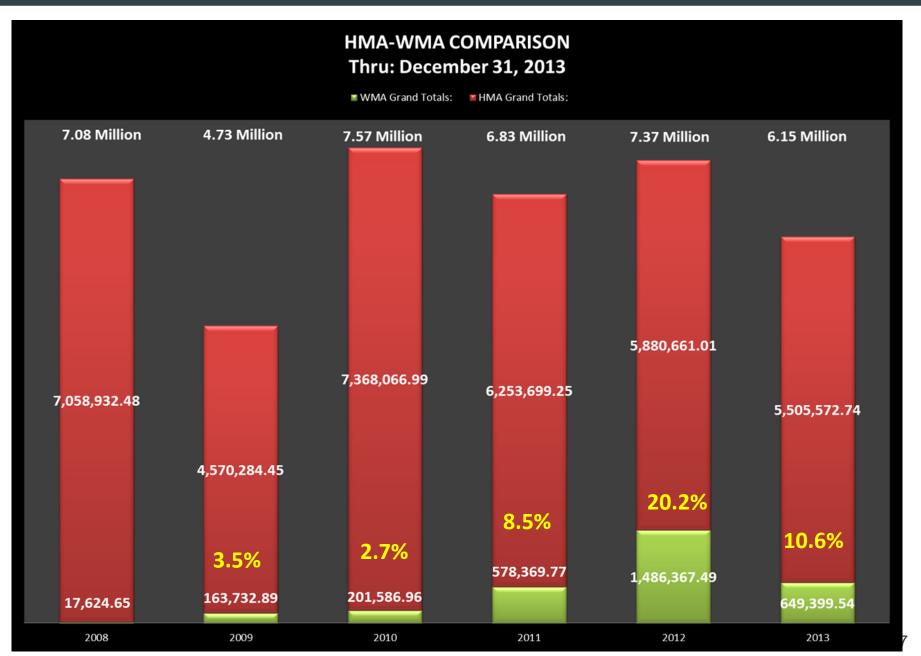
Historical Funding for C/R Program

SFY	\$(M)
2008	277
2009	277
2010	300
2011	267
2012	406
2013	427
2014	433
2015	402

PROGRAM-TONNAGE COMPARISON

<u>Year</u>	Total <u>Tonnage</u>	<u>ARRA</u>	<u>GARVEE</u>	CONTRACT RESURFACING		POCs
2010	7,569,653	25.9%	3.3%	30.0%	24.4%	16.3%
2011	6,747,708	10.6%	2.2%	46.5%	38.2%	2.5%
2012	7,305,488	5.4%	5.6%	55.0%	33.7%	0.3%
2013	6,154,972	1.5%	1.2%	57.5 %	38.9%	0.2%





Revised to Include Unlimited Status: 04/01/2013

Warm Mix Asphalt

- WMA: Over 3.0 million tons placed to date since 2008-09
- WMA Status Approvals

Unlimited (any route) > 250,000 tons Limited (US, NC, SR) > 75,000 tons Trial (NC, SR) approved for use

See Materials and Tests website for Approved List and Criteria

- 9 WMA Processes on the Approved List
- 3 with "Unlimited" status

North Carolina Department of Transportation Approved Products Listing

APPROVED WARM MIX ASPHALT (WMA) PROCESSES

Prior to any approval, the WMA process manufacturer must submit documentation from a minimum of three (3) successfully constructed projects using the WMA process that includes the following:

- Product Name & Supplier;
- Contact Name & Telephone Number;
- WMA Process Material Safety Data Sheet (MSDS);
- Documentation from each successfully constructed project, including: project type, project owner, location, tonnage placed, mix design used, field density and performance data.

After the initial review, the WMA process can be given the following approval statuses based on the construction and performance of NCDOT-approved job mix formulas (JMFs) using the WMA process:

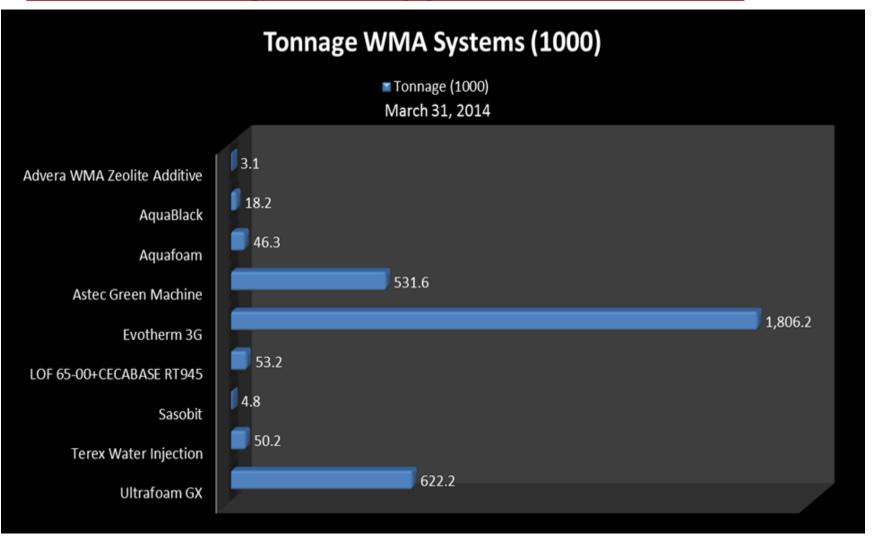
WMA Manufacturer	WMA Process	Current Approval Status
Astec Industries	Double Barrel Green	Unlimited
Gencor Industries	Ultrafoam GX	Unimited
MeadWestvaco	Evotherm 3G	Unimited
Aqua Foam, LLC	Aqua Foam WMA	Trial
ArrMaz Custom Chemicals	ADhere LOF65-00 + CecaBase RT945	Trial
Maxam Equipment	AQUABlack WMA	Trial
PQ Corporation	Advera	Trial
Sasol Wax	Sasobit	Trial
Terex Roadbuilding	Terex WMA	Trial

- 1) <u>Trial Approval</u> one or more NCDOT-let projects have been successfully constructed using the WMA process and monitored through a minimum of one winter season.
 - WMA processes with <u>Trial</u> status may be used on NC and Secondary routes.
- Limited Approval a minimum of 75,000 tons of mix using the WMA process have been successfully constructed on NCDOT-let projects.
 - WMA processes with <u>Limited</u> status may be used on US, NC, and Secondary routes.
- Unlimited Approval a minimum of 250,000 tons of mix using the WMA process have been successfully constructed on NCDOT-let projects.
 - WMA processes with Unlimited status may be used on any route, including Interstate routes.

Contact the Materials & Tests Unit at (919) 329-4060 for any information and current approval status.



WMA Tonnages – 9 Approved Processes!



Warm Mix Asphalt (WMA)

TABLE 610-1 MIXING TEMPERATURE AT THE ASPHALT PLANT										
Binder Grade HMA JMF Temperature		WMA JMF Temperature Range								
PG 64-22	300°F	225 - 275°F								
PG 70-22	315°F	240 - 290°F								
PG 76-22	335°F	260 - 310°F								

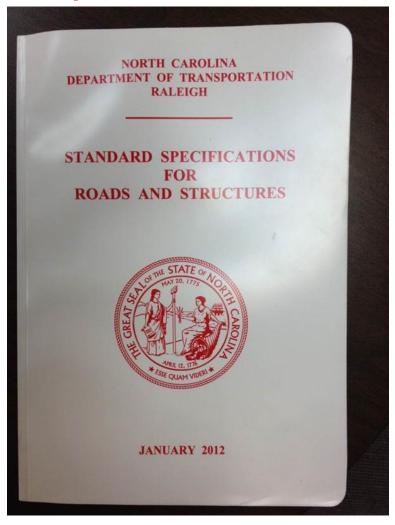
Old Note:

When WMA is used, the Asphalt Design Engineer (after consultation with the Contractor) will set the mixing temperature at the plant within the allowable temperature range of 225 °F to 275 °F.

New Note:

The mix temperature, when checked in the truck at the roadway, shall be within plus 15 °F and minus 25 °F of the temperature specified on the JMF.

Other 2013 Specification Changes



Air & Surface Temperatures

TABLE 610-5 PLACEMENT TEMPERATURES FOR ASPHALT

Asphalt Concrete Mix Type	Minimum Surface and	Minimum Surface
Asphalt Concrete Mix Type	<u> Air Temperatures</u>	Temperature
B25.0B, C	35°F	35°F
119.0B, C, D	35°F	35°F
SF9.5A, S9.5B, S4.75A	40°F	50° F ^A
S9.5C, S12.5C	45°F	50°F
S9.5D, S12.5D	50°F	50°F

- Simplified Table with one requirement for both Air and Surface. Still check both and lower temperature controls.
- Check temps. away from artificial heat and at location of paving operation.
- Wording of "in the shade" has been removed

<u>Ultra-Thin Bonded Wearing Course with</u> Alternate Method

- Two pilot projects in 2012
 - Divisions 14 and 5
- New SP placed in three contracts
 - Divisions 9 and 10







<u>Ultra-Thin Bonded Wearing Course with</u> <u>Alternate Method – Special Provision</u>

- SP replaces Section 661 UBWC in Spec Book
- Alternate method is an option that allows
 Contractor to use distributor truck to shoot special
 non-tracking hot-applied tack and conventional
 paver to place Ultra-thin
- "Application" pay item has been removed
- With this SP, only one pay item which is "Ultrathin" paid for in Tons
- Pavement Technical Committee was presented with the SP
- Goal to make it a standard later this year

S4.75A Mix

- 4.75mm (Thin lift) Superpave Mix
 - Subdivision roads in Divisions 4 and 12
 - NC 27 west of Lincolnton



S4.75A Mix

- Separate PSP's for:
 - S4.75A: "Thin-Lift" Superpave mix
 - SA-1: "Sand Asphalt"
- Mixes are NOT Interchangeable
- SA-1 Has been used as a subdivision mix
- S4.75A = Preservation Treatment
 - Placed @ 3/4" (approx. 90 lbs/sy)
 - For Roads In Fair to Good Condition

Ground Tire Rubber Modified Asphalt

- Still looking for a pilot
- Needs to be a project requiring mixes that utilize PG 76-22 modified binder
- We have a specification for terminal blended ready to go
- M&T will assist with discussions with the Division

Dispute Resolution Process - Mix

- Section 7.18.3: DR for Plant Mix
 - QA Verification results compared to JMF and not LOP.
 - Added specific scenarios for when QA Verification mix sample will trigger Pay Reductions vs. Sublots.

Dispute Resolution Process - Density

- Section 10.7.2: Core Verification Testing
 - Added Dispute Resolution process for when QC & QA results are outside limits of precision.
 - ONE Additional Core is taken whenever a Verification core is cut = "DR Core"
- Section 10.5.4: Gauge Verification Testing
 - Added Dispute Resolution process for when QC & QA gauge readings vary by more than 2.0%.
 - Field confirmation of gauges QC & QA work together to verify equipment operation.
 - If QC & QA cannot determine issues, Soils Lab Technical Trainer is requested to investigate.

Temporary Traffic Control and Law Enforcement SPs for Resurfacing

LUMP SUM pay item includes the following:

- Portable Signs
- Cones and Drums
- Changeable Message Boards and Flashing Arrow Panels (per standard, additional considered extra work)
- Includes 4 flaggers per operation per map
- Additional flaggers paid at \$20 per hour for each flagger as approved by Engineer as Supplemental Flagging pay item

Law Enforcement SP

- Guidelines on when Law Enforcement pay item needed high speed routes, urban intersections, etc.
- Each Law Enforcement officer will be paid Per Hour and not considered incidental or lump sum

Contract Time Considerations for Resurfacing

- Division POCs up to \$2.5 million under new legislation
- Worked with Contract Office / CAPA to better define Contract Time Guidelines for resurfacing projects
- Resurfacing production rates (300 1000 tons/day):
 - Size of the project
 - Heavy congested areas or seasonal traffic
 - Time restrictions for lane closures, WZTC
 - Utility adjustments
 - Number of Intersections
- Allow 16 days per calendar month
- Allow 3 months for winter weather
- Pavement Marking limitations

Disadvantaged Business Enterprise(DBE) Provision Changes

- Submit ALL DBEs at bid time
- Letters of Intent must be submitted only for those DBEs necessary to meet the goal
 - These become the Committed DBEs
 - Letter of Intent must be received by noon on the 6th day following the opening of bids
- Additional DBEs
 - No Letter of Intent submission
 - Replacement rules do not apply

Additional DBE Subcontractors

LIST OF WBE PARTICIPANTS

VENDOR DBE NAME NUMBER ADDRESS	WORK CODE TYPE OF WORK	CERT TYPE	AMOUNT	
10129 CONCRETE SPECIALTY CONTRACTORS N/A POST OFFICE BOX 2303 , SHELBY,	NC 28151	Sub	35,479.08	Not Committed
5762 WB JLS COMPANY LLC P.O. BOX 1265 , SKYLAND, NC 28		Sub	153,075.00	Committed
3404 N/A HERITAGE GRADING & PAVING, INC. POST OFFICE BOX 1076 , BURNSVI		Sub	47,764.00	Not Committed
3765 N/A STAY ALERT SAFETY SERVICES INC POST OFFICE BOX 467 , KERNERSV	•	Sub	4,926.24	Not Committed
5319 N/A NEW DIMENSIONS IN PAVEMENT MARK P.O. BOX 9928 , ASHEVILLE, NC		Sub	104,926.44	Not Committed
		OTAL:	\$153,075.00 8.37%	

Replacement of DBE Subcontractors

- Committed DBEs can be replaced
 - Performance Related Issues
 - Decertification
- NCDOT must concur with replacement
- Submit a DBE/MBE/WBE Replacement Request Form(RF-4) to RE for concurrence

https://connect.ncdot.gov/projects/construction/Pages/Construction-Resources.aspx

DBE/MBE/WBE Replacement

Request Form



DBE MBE WBE REPLACEMENT REQUEST FORM

The North Carolina Department of Transportation (NCDOT) is committed to the participation of Disadvantaged, Minority and Woman Business Enterprises (DBE/MBE/WBE), in contracting opportunities in accordance with 49 Code of Federal Regulations (CFR). It is the policy of NCDOT to ensure nondiscrimination on the basis of race, color, sex or national origin in the award and administration of the contacts.

In accordance with the Special Provisions the Contractor shall not terminate a committed DBE/MBE/WBE subcontractor for convenience or perform the work with its own forces or those of an affiliate. Reasonable emethods to resolve performance disputes must be applied. The contractor must demonstrate reasonable efforts to replace a committed DBE/MBE/WBE firm that does not perform as intended with another committed DBE/MBE/WBE firm. Replacement of a DBE without written approval from NCDOT is a violation of contract provisions and may result in the Contractor being disqualified from bidding for a period of up to 6 months.

Contract Number:
DBE/MBE/WBE being replaced:
Explanation for Replacement:
Subcontract Amount:
Amount of Subcontract Remaining:
Line Items:

If a DBE/MBE/WBE subcontractor is terminated, or fails to complete its work on the contract for any reason, the prime contractor will make good faith efforts to find another DBE/MBE/WBE subcontractor to substitute for the original DBE/MBE/WBE. These good faith efforts shall be directed inding another DBE to perform at least the same amount of work under the contract as DBE/MBE/WBE that was terminated, to the extent needed to meet the contract goal established for the project

Replacement Contractor:

Is this a NCDOT Certified DBE/MBE/WBE contractor? Yes No

By signing this document, the Contractors and Resident Engineer who is the designated representative of NCDOT, concurs with the process of replacing the named DBE/MBE/WBE subcontractor.

DBE Contractor Signature Date

Prime Contractor Signature Date

Resident Engineer Signature

Upon Completion Send to:

Division Engineer State Construction Engineer State Contractor Utilization Engineer Business Opportunity and Workforce Development

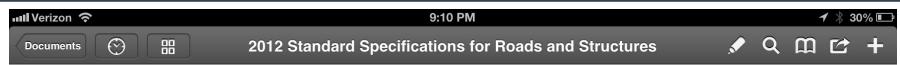
Replacement of DBE Subcontractors

- Additional DBE can be used as replacement
 - Just submit RF-4 Form listing the Additional DBE
 - Can list Additional DBE that has completed work
- Good Faith Effort for Replacement
 - Required when there are no Additional DBEs
 - Must seek DBEs to participate in the contract

Prompt Payment

- Article 109-4(B)
- Requires payment within 7 days
- Allows retainage of up to 10%
 - Only if no bond is provided
 - Mutual agreement between Prime and Sub
 - Agreement must be provided to Resident Engineer





payment shall be incorporated into each subcontract or second tier subcontract issued for work performed on the project or for services provided.

The Contractor shall not withhold any payments to a subcontractor, second tier subcontractor or material supplier for any claim or action arising outside the current contract with the Department. Notwithstanding the provisions of this section, the Contractor may withhold up to 3% retainage if any subcontractor does not obtain a payment and performance bond for their portion of the work. Additionally, this retainage may be increased to a maximum of 10% where the Contractor and any subcontractor have supplied to the Engineer a satisfactorily executed mutual agreement for an increased amount. If any retainage is held on subcontractors, all retainage shall be released within seven calendar days of satisfactory completion of all work. For release of retainage, satisfactory completion is defined as completion of all physical elements and corresponding documentation as defined in the subcontract, as well as agreement between the parties as to the final quantities for all work performed in the subcontract. The Department will provide internal controls to expedite the determination and processing of the final quantities for the satisfactorily completed subcontract portions of the project.

Failure of any entity to make prompt payment as defined herein may result in the Department:

(1) Withholding money from the Contractor due for work performed by that entity in the next partial payment until the necessary assurances are made consistent with this specification; or

Tablet Pilot Program & QA Lab E-mails

- Tablets to QA Supervisors
- Improve communication
- Access documents out of office
- Reduce faxing and submit electronically
- E-mail accounts for each QA Lab
- E-mail Address as follows for Div. 1 thru 14:

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SVC_DOT.QALAB_Div01@ncdot.gov
SVC_DOT.QALAB_Div14@ncdot.gov
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Asphalt Plants Sharepoint Site

- Web-based site to share documents
- All asphalt plants will have a folder
- Improve internal and external communication
- Responsiveness to submittals (JMFs and mix designs)
- One producer will have access for Pilot testing
 - Blythe Construction, Inc.
 - Lake Norman Plant (AS55)
 - Blythe Rep must log on from QA Lab computer
 - E-mail alerts to Todd and Nilesh
 - Mix design documents, JMF Change requests, etc.

Materials and Tests Reorganization

- Todd Whittington New Responsibilities
 - PG Binder Program Administration
 - PG Binder Testing and Inspection
 - Asphalt Emulsion Program Administration
 - Asphalt Emulsion Testing and Inspection
- Shifted additional resources to Asphalt Materials and Services Group to manage additional responsibilities

Materials and Tests Reorganization

- All New Asphalt Mix Design and JMF approvals go through one central contact
 - Charles Colgate
- Asphalt Pavement Specialists can approve changes to existing JMFs
 - Very minimal exceptions
 - Based on the delta from the original design

QMS Asphalt Classes



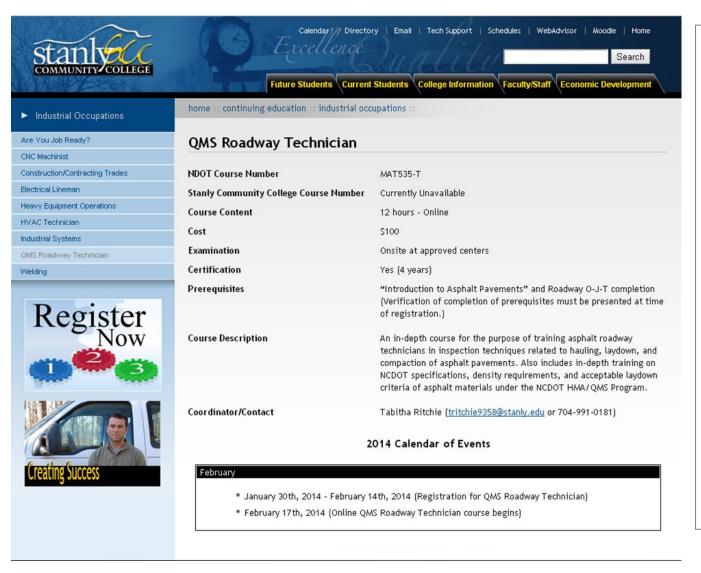


HMA/QMS Asphalt Technician Certification Training Schedule - 2014

NCDOT HMA/QMS Asphalt Technician Training Schedule										20	14					
Courses	Location	City	Begin Time	Capacity	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Roadway Technician Class	NCSU - McKimmon Ctr.	Raleigh, NC	8:30 AM	75	8-9											
Roadway Technician Class	Village Inn Conf. Ctr.	Clemmons, NC	8:30 AM	75	15-16											
Roadway Technician Class	Salon 1 & 2, City Hotel and Bistro	Greenville, NC	8:30 AM	75	22-23											
Roadway Technician Class	Renaissance Hotel	Asheville	8:30 AM	75		5-6										
Level II Plant Technician Class	Wake Forest Room, Ramada Inn	Burlington	8:30 AM	25		19-20										
Level I Plant Technician Class	Wake Forest Room, Ramada Inn	Burlington	8:30 AM	25			12-13									
Roadway Technician Class	Wake Forest Room, Ramada Inn	Burlington	8:30 AM	75					14-15							
Roadway Technician Class	Renaissance Hotel	Asheville	8:30 AM	75									24-25			
Roadway Technician Class	Salon 1 & 2, City Hotel and Bistro	Greenville, NC	8:30 AM	75										15-16		
Roadway Technician Class	Wake Forest Room, Ramada Inn	Burlington	8:30 AM	75											5-6	
Last Revised: 11/18/2013																

https://connect.ncdot.gov/resources/Materials/Pages/QMSAsphaltTrainingSchool.aspx

Online Roadway Technician Course



Partner CC Testing Sites
A-B Tech CC

Brunswick CC

Edgecombe CC

Fayetteville Tech. CC

Guilford Tech CC

Halifax CC

Piedmont CC

Stanly CC (some do charge a fee)

Comparison of Results

Stanly C.C. Online Roadway Technician Course

43 Attendees

4.65 % Fail 95.35 % Pass

Other Recent Classroom Taught Roadway Classes

Jan. 8 & 9, 2014 Roadway Class Raleigh, NC

48 Students

10.42 % Fail 89.58 % Pass Jan. 15 & 16, 2014 Roadway Class Clemmons, NC

> 72 Students

25.00 % Fail 75.00 % Pass

Jan. 22 & 23, 2014 Roadway Class Greenville, NC

> 47 Students

6.38 % Fail 93.62 % Pass

Feb. 4 & 5, 2014 Roadway Class Asheville, NC

> 74 Students

13.51 % Fail 86.49 % Pass

Questions

