

CHAPTER 3

PROJECT ORGANIZATION

At first, it may seem like you'll never get organized. But when you do, it will make your job much easier. Your efforts will be more proactive than reactive, it will be less stressful, and the more thorough the documentation is, the quicker and easier final acceptance by the Contract Administration Engineer will be. The benefit of balancing the desk and field work is that it will get you out there more often, which not only improves the quality of the projects, it can be more fun.

The following are some useful guidelines to help the process:

- Obtain project Specials and Plans; review thoroughly before pre-construction conference. Breakdown the requirements for all materials for each bid item, noting the expected QC, QA and special considerations. Most QCCSs list required tests, minimum frequencies and estimated quantities on the Test Summary sheets, but checklists or spreadsheets are also used. It's a good idea to work with the RAS on this, and to share the information with the inspector.
- Attend the pre-construction conference, and arrange for a separate Quality Control conference with the designated QC manager and all participants. Besides a representative from the prime contractor, you might request inspectors, technicians, subcontractors and suppliers, who may all have something to offer. Insist that every bid item get covered. You can use your project checklist or test summaries as an agenda (see Exhibit B for examples). It may be beneficial to give copies to the contractor. You may or may not get the QC plan at this first meeting, but you should set a submittal deadline.
- Written Quality Control Plans are required from the contractor but are not defined by the QA Program. This is due to the varying degrees of project complexity, familiarity with the contractor and your basic comfort level with their QC program. Whatever form suits you, it should be enough to convince you that the QC manager has planned for delivery of conforming materials and the required supporting documents. Have an understanding with the PM about when the QC Plan is considered complete and approved.
- For best results, obtain a schedule from the QC manager for all materials intended for delivery, keep it updated and be firm about notifications of changes. You'll be better at making sound decisions when not pressured, and there's less chance of missing a QA test. Attend weekly meetings, (if held, encourage having if not held.) with the Contractor and Project Coordinator and Inspectors. Check in with the QAC weekly to relate the construction progress and the scheduled material placements. If the contractor is using Commercial Sources, the QAC should be notified and recommendation letters received before placement.

- Discuss with QC technicians the reports they'll use so you'll be familiar with them when they come in on a busy day. The QCCS has authority for approval of forms (Section 3, MFTP).
- On a daily basis, check your IN-basket. Sort by project, date, and then prioritize by urgency. Some of us use lists, Post-its, or computer programs. Find your best method of keeping up with the urgent needs and attend to them first. Save the rest for later. Decide urgency by deadlines, placement schedules, availability of help, etc. Re-sort regularly. Stockpile work that can be assigned to an assistant as you sort.
- Maintain whatever tracking system works best for you, if other than Test Summaries, to keep track of produced material, or incorporated quantities, and Quality Control tests. *That way, you insure that all delivered material is represented by QC tests, and that the minimum 10% QA is covered.*
- Log test documentation in the Test Summary as you compile it. Once it's in its final resting-place you can forget it. Show inspectors how to look it up.
- Maintain communication with a buddy -- an adviser, another QCCS with more experience -- that you can contact for help with problems only another QCCS would know.
- Keep a filing system, for hard copies and on your PC, which maintains necessary divisions of your work. Keeping them handy and current is the key. If you're not using it often, then you probably don't need it. Review your processes occasionally; during slow times, you can always modify them. Use binders, file folders, clipboards, file drawers, etc. to keep your paperwork separated. The divisions are usually by project, and sometimes documentation looks pretty much the same from project to project. Be careful you don't lose paperwork by filing it under the wrong one. Computer folders should follow similar rules. Hard drive folders store more than your QCCS work, so they tend to get messy. Shared drives must follow pre-set formats so that everyone in your office can navigate them.
- Talk to Project Inspectors as often as you can about how the work is going, what is coming up, or if work is delayed. This will help keep you up to date with what is happening in the field, so you can better prioritize your time.
- The following documents were created by various QCCSs to help them with their organization of project documents and ensure critical contract items were discussed prior to project work commencing. There are checklists, meeting data for discussion and various test logging formats.

EXHIBIT B
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PCCS MIX DESIGN SUBMITTAL

CONTRACTOR/SUPPLIER CHECKLIST

Aggregate Data:

- ODOT aggregate source numbers for each sand and aggregate
- Aggregate specific gravities and absorptions (from Contractor's or ODOT's test results.
 - ❖ It is recommended that mix designs be developed, adjusted, or updated based on current materials properties data)
- Sand F.M. from current process control test data
- Dry-Rodded unit weight (kg/m^3) (lb/ft^3)

Cement Paste:

- Brand, Type, and Source of cement
- Brand, Class, and Source of flyash
- Brand, trade name, and anticipated dosage rate of each chemical admixture (Example: Master Builders, Polyheed-997, (ml/m^3) or (ml/kg) (oz/yd^3))
- Other additives, Micro-Silica, latex...be specific
- Identify the source of water used in the concrete mixture

Mix Design Criteria:

- Name of concrete supplier and their unique mix design number
- Class of concrete, and intended use(s)
- Name and certification number of CCT who developed/submitted the mix design
- Mix design constituents should be computed in kg/m^3 or lb/yd^3
- Mix design volumes should be computed to three decimal places (metric 2 decimal places YD^3)
- Total of all volumes should equal 1,000 cubic meters or 27.00 cu. ft.
- Scales and admixture dispenser checked as required.
- Trial batch data including; slump, air content, yield, water-cement ratio, temperature
- Trial batch compressive strength test results (average of 3 cylinders minimum)
 - ❖ Note any special requests or proposed changes from the Standard Specifications or Special Provisions. **Some changes may require a contract change order.**
 - ❖ Note any special design or placing criteria considerations.
- Any requirements for several exposure noted for this design area, need addressed?
- Anticipated date of use _____

Transferring a Current Mix Design:

- Previous Lab Report Number, Contract Number, Contractor's mix design number. If more than 1-year since receiving a favorable ODOT review, perform and include compressive strength analysis according to Section 02001.47(a),(b),(c), and (d) on all compressive strength tests (10 sets minimum).
- Name and certification number of CCT who reviewed the mix design.
- Note any adjustments or changes made to current mix design constituents
- Anticipated date of use _____

ODOT/PROJECT MANAGER'S OFFICE CHECKLIST

- Include the Project Manager's name, name or person submitting the request for review, phone and fax numbers, project name, contract number, CON number, crew number, concrete use, and bid item number on your request and on all correspondence
- Did Project Manager's office witness the trial batch plastic properties?
- Did Project Manager's office witness the breaking of trial batch cylinders?
- Are aggregate source compliance tests current?
- Process control data acceptable? (does not have to be submitted, however, the Contractor may wish to include this information to help support a special request or to justify a proposal for a special mix design)
- Perform cursory review for completeness, prior to submitting to Salem
- Anticipated date of use _____

Project Name:	
Contract No.:	Project Manager:
County:	Highway:
Date:	Contractor:

DECK PLACEMENT CONFERENCE §00540.02(a) (b)

1. Estimated Date ____ / ____ / ____ **Estimated quantity/day** _____

2. Mix Design Approved _____ **Mix Design #** _____

List Types of admixtures to be used: _____

3. Finishing Machine

- A. Type §00540.24: _____
- B. Brand Name: _____
- C. Approved working drawings showing location of deck machine rails §00540.24(b) _____
- D. Deck machine to be set up and run over full length of area of placement §00540.48(g)
- E. Experienced operator _____ with good knowledge of machine operation.
- F. Changes in crown or super? _____

How will changes be handled?

G. Method of checking rebar clearance:

H. C, D, F and G to be completed prior to start of placement.

4. Contractor Quality Control

- A. CCT name and certification # _____
- B. QCT Name and certification # _____ (to be at job site and equipment set up prior to starting placement of concrete and when placement is in progress)
- C. Individual authorized for acceptance and rejection of materials: _____

5. Supplier notified well in advance. Supplier's Name: _____

- A. Supplier aware of specification on truck mixer equipment. §00540.21(b).
- B. Communication between batch plant and project. How? Who? _____
- C. Continuous delivery assured for cubic meters needed per hour, at what intervals? _____
- D. Supplier has sufficient material on hand for quantity required.
- E. Assure concrete mix temperature range.

6. Forms

- A. Cleanliness of bottom and rebar ----- How? _____ When? _____
- B. Edge of forms set to line and grade ----How? _____ When? _____
- C. Supports for outside edge?

7. Temperature:

- A. Air temperature per specifications: §00540.49 and surface evaporation chart figure 00540-1.
- B. Mix temperature at delivery 10°C min and 26°C max, except when air temperature is below 4°C then min concrete temperature is not less than 15°C.

8. Deck Placement:

- A. Minimum rate of placement 6m/hr. §00540.48(g) second bullet.
- B. Calculated M³ to be placed. _____
- C. Method of placement _____ Back-up method _____
- D. Slump range _____ W/C _____ Air content _____

E. Vibrators §00540.48(c)

Experienced vibrator person? _____
Size of vibrators to be used? _____ Meet requirements of §00540.23? _____
Number of vibrators to be used? _____ (2 minimum)
Number of spare vibrators on job? _____
Discuss methods of consolidation. §00540.48(c).
Power source:
Generators _____
Direct power _____
Backup _____ Type: _____

F. Placement direction: §00540.48(g) _____

G. §00540.54 – A 3.6m straightedge is required for final acceptance of bridge deck surface.

Straightedge on jobsite prior to start of pour? _____

9. Environmental

Where will concrete trucks clean out? _____ Containment? _____
Where will deck machine clean out? _____ Containment? _____
Steps to assure containment of in forms? _____

10. Curing concrete §00540.51(b)

- A. Provide wind breaks, for spray or other approved methods to prevent premature drying during placement operations.
- B. Presoaked wet burlap and 100µm-polyethylene film. Color as weather dictates.
- C. Additional soaking to keep the deck moist at all times during the cure period.
- D. Water availability during and after placement.

Where: _____
How: _____
If above information not available, who will advise PM prior to start of placement?
During non-working days, who will be available to add water for cure?
Name _____ Phone # _____
Other types of curing prior approved. (Contract Change Order)

11. General information: Check special provisions for additional information.

- A. Some admixtures may change the handling time for final placement.
- B. Wind velocity effect on deck cure. Maximum in specifications.
- C. Cold or hot weather concreting discussed. §00540.49
- D. Monitor falsework, tattle-ails installed (when needed).
- E. Review for sign supports, conduit, electrical pole bolts, etc., are in place.
- F. Cold weather curing when necessary.
- G. All forming and bulkhead in place prior to start of placement.

Attendants:

NAME:	REPRESENTING:

**FIELD MATERIALS
FRANKPORT VIADUCT**

FRANKPORT VIADUCT					
Bid Item	Material	Tests	Frequency	Remarks	Status
290, General Excavation	native embankment	max. density	1	no permanent embankment	
310, Loose Riprap, Class 50	riprap	density in place	1/day if <1000CM		
330, 150mm Drain Pipe	gran. drain backfill	product compliance	1	source pending, need sample	
	conc. protection block	gradation see 440	1		
350, 300mm Culvert Pipe	backfill	max. density	1/gradation		
		density in place	1/100m		
360, Manholes				pre-cast	
370, Inlets CIP	minor struct. concrete	mix design submittal	1	ID #S-1, Freeman's Class 25	
		mix placement tests	1/20 m3, max. 1/day		
430, Gran. Str. Backfill	gran. str. backfill	gradation	1	maybe same as aggr. Base	
450, Drilled Shaft Concrete	class 25 seal concrete	product compliance	1/yr.		
		aggr. production tests	1/1000 Mg.	QA @ 10%	
		mix design submittal	1	see Spec. Provisions	
		mix production tests	1/20CM, max. 1/day	QA @ 10%	
510, Class 25 Str. Concrete	class 25 concrete	same as above		Ret. Walls, caps, etc.	
520, Class 35 Str. Concrete	class 35 microsilica conc.	same as above	see sect. 00543	Box girder slab & stems	
530, Class 40 Str. Concrete	class 40 microsilica conc.	same as above	see sect. 00544	Deck	
540, R.C. Bridge End Panels	class 30 concrete	same as above		Freeman's Class 25, adjusted	
550, Post-Tensioning	non-shrink grout	see Spec. Provisions		requires R. Kessler to attend	
580, Type "F" Concrete Rail	class 25 concrete	same as above			
590, Ret. Wall, CIP Concrete	class 25 concrete	same as above			
	wall backfill	gradation			
600, Ret. Wall, Sol. Pile Tieback	concrete or shotcrete			pending	
610, 19.0mm-0 Aggr. Base	aggregate	product compliance	1	est. 2300 Mg, probably Tidewater	
	need CCO to allow road-	production tests	1/1500Mg	QA @ 10%	
		max. density	1/gradation	QA needed 1/project	
		compaction	5/2000Mg	QA @ 10%	
620, Asphalt Conc. Pavement	HMAC	mix design submittal	visual	sect. 00744, probably Tidewater	
640, Conc. Curbs, Type "C"	minor str. Concrete	mix design submittal		class 25	
		mix placement tests	1/20 m3, max. 1/day		

Rock Creek/materials/
field mats checklist

FIELD MATERIALS
Haynes Inlet Slough

Haynes Inlet Slough Bridge		Field Materials Checklist			
Bid Item	Material	Tests	Frequency	Remarks	Need/Have
330, General Excavation	roadbed cut	max. density	1/soil type	T-99, Method A	
340, Stone Embankment	stone emb. Material	density in place	Various, see Specials	All 95% min.; QA @ 10%	
380, Loose Riprap, Class 25	riprap	riprap compliance tests	initial, then as needed	see Specials	
390, Loose Riprap, Class 1000	riprap	product compliance	1		
350, Subgrade Stabilization	Base aggr, stone emb.	product compliance	1		
410-440, Storm Sewer Pipe	Bedding & backfill	spec aggr, st.emb. visual depends	same as spec material	optional choices, not pd. as bid items	
			1/project	Requires submittal	
		max. density	1/gradation	T-99, Method A	
470-520, MnHls, Inlets & Curbs	Minor Struct. Concrete	density in place	1/100m		
		mix design submittal	1	Need separate design for curb	
580, Gran. Str. Backfill	backfill material	mix placement tests	1/20 m3, max. 1/day		
		gradation	1/type	510.13 spec, for bridge ends	
		max. density	1		
680, Str. Conc. Class 23	PCC	density in place	1	near footings: 97% min.	
690, RC Bridge End Panels	Class 25 PCC	str. conc. submittal, w/trial-	see table 540-6	est. 965m3	
710, Seal Conc. Class 25	Class 25 PCC	aggr. source & proc. cont.-	• • • •	est. 165m3	
720, Str. Conc. Class 28	microsilica	& full plastic tests	• • • •	est. 1420m3	
730, Str. Conc. Class 35	microsilica	same as above	each load: temp & slump	est. 1815m3	
770, Comb. Bridge Rail	Class 23 PCC	• • • •	• • • •	est. 2800m3	
810-820, Retaining Walls	MSC, Prebored Holes	See 440		est.	
	Class 28 PCC				
	Gr. Wall Backfill	gradation, 510.12			
		max. density			
		density in place			
830, Aggr. Base	Gr. Drain Backfill	gradation, 2690.20g-2			
	Aggr. Base	source qualifying	1		
		process control	1/1500Mg	QA @ 10%	
		placement gradation	1/2000Mg	QA @ 10%	
		max. density	1/gradation	QA needed 1/project	
		density in place	1/2000Mg	QA @ 10%	
840, Lev3, 19mm Dense HMAC	HMAC	source qualifying	1		
		process control	1/1000 Mg	QA @ 10%	
		mix design submittal	1	2 testable lots	
		mixture acceptance	1/1000Mg	QA @ 10%	
		Compaction		QA @ 10%	
		JMF Verification	1/sublot		
850, 12.5mm Dense, Levelling	HMAC	same as above		est. 350Mg, possible Small Qty.	
		no compaction			

Field Materials
N. F. Burn Hill Creek

Field-Tested Materials Checklist				
N.F. Burnt Hill Crk. - N.F. Whalehead Crk. (Carpenterville Hwy.)				
Bid Item	Material	Tests	Frequency	Remarks
100, 575mm Surfacing Stabilization	stone emb. material	visual		est. 216 S.M.
	aggregate base	product compliance	1	Section 2630
	12.5mm HMAC	base course tests	with sublots or Small Qty.	Section 745
110, Loose Riprap, Class 50	riprap	product compliance	1	est. 37 C.M.
120, 450mm Culvert Pipe	bedding & backfill	depends	1/project	Requires submittal
130, 600mm Culvert Pipe	bedding & backfill	same as above		
140, Aggr. Base	aggr. base	visual		est. 960 Mg
150, Asphalt in Tack Coat	tack	sample & deliver	1/50Mg (est. 26 Mg.)	Section 730QA, Supplementals
250 & 260, Culvert Pipe	bedding & backfill	as submitted		
		max. density	1/gradation	
		compaction	1/100m	
310, 330 & 350, Type F Rail	Class 25 Concrete	mix design submittal	1/project	Need trial batch, if not current design
		plastic tests	1/20 m3	
		strength	1/20 m3	
380, Aggregate Base	aggr. base	product compliance	1	est. 850Mg
		production tests	1/1500Mg	QA @ 10%
		max. density	1/gradation	QA needed 1/project
		compaction	5/2000Mg	QA @ 10%
390, Asphalt in Tack Coat	tack	sample & deliver	1/50Mg	Section 730QA, Supplementals
400, Lev3, 19mm Den. HMAC	HMAC	product compliance	1	est. 6400Mg
		production tests	1/1000 Mg	QA @ 10%
		job mix formula submittal	1	1 lift
		mixture acceptance	1/1000Mg	QA @ 10%
		compaction		QA @ 10%
		JMF Verification	1/sublot	
410, Lev3, 19mm Open HMAC	HMAC	product compliance	1	est. 12 000Mg
		production tests	1/1000 Mg	
		job mix formula submittal	1	
		mixture acceptance	1/1000Mg	
		smoothness testing	wearing course	need calibration & test-run docs

PROPOSED QUALITY CONTROL PERSONNEL AND MATERIALS

Date: _____

Name of Project: _____

Contract Number: _____

Contractors Superintendent: _____

Quality Control Manager:

Name: _____

Phone: _____ Cell Phone: _____

Office Fax: _____ On Site Fax: _____

Office Location or Address: _____

Who will be responsible for rejecting out of spec. materials?

Name: _____ Phone: _____

If consultants are used for testing, list:

Subcontract Date(s): _____

Company Name: _____ Phone: _____ Materials?: _____

Company Name: _____ Phone: _____ Materials?: _____

Company Name: _____ Phone: _____ Materials?: _____

Certified Laboratories to be used:

Subcontract Date(s): _____

(1) Name: _____

Location: _____

Phone: _____ Cell Phone: _____

Office Fax: _____ On Site Fax: _____

(2) Name: _____

Location: _____

Phone: _____ Cell Phone: _____

Office Fax: _____ On Site Fax: _____

(3) Name: _____

Location: _____

Phone: _____ Cell Phone: _____

Office Fax: _____ On Site Fax: _____

(1) **Testing Personnel, Certifications:** Submit copy of certification to ODOT Q.C.C.S.
 CAGT CEBT CAT-1 CAT-2 CMDT CDT QCT CCT CLTT

Name: _____ Company: _____
Certification Card Number: _____
Phone: _____ Cell Phone: _____
Office Fax: _____ On Site Fax: _____

Responsible for:

- | | |
|--|---|
| <input type="checkbox"/> Testing Soils | <input type="checkbox"/> Testing Concrete |
| <input type="checkbox"/> Testing Aggregate | <input type="checkbox"/> Density Testing |
| <input type="checkbox"/> Testing Asphalt | <input type="checkbox"/> Sampling |

(2) **Testing Personnel, Certifications:** Submit copy of certification to ODOT Q.C.C.S.
 CAGT CEBT CAT-1 CAT-2 CMDT CDT QCT CCT CLTT

Name: _____ Company: _____
Certification Card Number: _____
Phone: _____ Cell Phone: _____
Office Fax: _____ On Site Fax: _____

Responsible for:

- | | |
|--|---|
| <input type="checkbox"/> Testing Soils | <input type="checkbox"/> Testing Concrete |
| <input type="checkbox"/> Testing Aggregate | <input type="checkbox"/> Density Testing |
| <input type="checkbox"/> Testing Asphalt | <input type="checkbox"/> Sampling |

(2) **Testing Personnel, Certifications:** Submit copy of certification to ODOT Q.C.C.S.
 CAGT CEBT CAT-1 CAT-2 CMDT CDT QCT CCT CLTT

Name: _____ Company: _____
Certification Card Number: _____
Phone: _____ Cell Phone: _____
Office Fax: _____ On Site Fax: _____

Responsible for:

- | | |
|--|---|
| <input type="checkbox"/> Testing Soils | <input type="checkbox"/> Testing Concrete |
| <input type="checkbox"/> Testing Aggregate | <input type="checkbox"/> Density Testing |
| <input type="checkbox"/> Testing Asphalt | <input type="checkbox"/> Sampling |

Paper work: How will the prime contractor, sub-contractor & Consultants assure that all test results get to the ODOT P.M. office as per the Quality Assurance Program?

- Hand delivered to ODOT office
- Fax to ODOT office
- Hand delivered to ODOT Inspector on site
- U.S. Mail
- Other (Explain) _____

Anticipated materials to be accepted by small quantities:

- (1) Material type: _____
Quantity: _____ Bid Item: _____
Acceptance Means: _____

- (2) Material type: _____
Quantity: _____ Bid Item: _____
Acceptance Means: _____

- (3) Material type: _____
Quantity: _____ Bid Item: _____
Acceptance Means: _____

- (4) Material type: _____
Quantity: _____ Bid Item: _____
Acceptance Means: _____

Where will the backup samples be kept?

Location: _____ Phone # _____

Who will generate the Random numbers?

Name: _____ Phone # _____

Who will generate Statspec (QL Levels)?

Name: _____ Phone # _____

Material Suppliers:

Aggregate for bid item _____ Section # 00405

- (1) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Aggregate for bid item _____ Section # 00641

- (2) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Aggregate for bid item _____ Section # 00641

(3) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Asphalt for bid item _____ Section # 00745

(1) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Asphalt for bid item _____ Section # 00749

(2) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Concrete for bid item _____ Section # 00540—class 25-9.5

(1) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Concrete for bid item _____ Section # 00543—class 38-9.5 (Microsilica)

(2) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Concrete for bid item _____ Section # 00540—class 30-19

(3) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Concrete for bid item _____ Section # 00543—class 30-19 (Microsilica)

(4) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Concrete for bid item _____ Section # 758—class 30-19 (fract) (strength @ 7 days)

(5) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Concrete for bid item _____ Section # 00440—Minor Structure Concrete

(6) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

Earthwork for bid item _____ Section # 00330

(4) Company Name: _____
Contact Person: _____ Phone # _____
Company Address: _____
Estimated Quantity: _____ Location of Materials: _____

QUALITY CONTROL TESTING PLAN

For each section of work that applies to this contract, outline all required tests to be performed, testing frequency, bid item number, est. quantity of material and number of tests required. (Refer to the Field Tested Materials Acceptance Guide, Special Provisions and Standard Specifications).

Section 00330 Earthwork

Tests to be Performed: MAX DENS (AASHTO T99), BULK GRAV. (AASHTO T85), COARSE PARTICLE CORRECTION (AASHTO T 224), DENSITY IN PLACE (AASHTO T-310), MOISTURE CONTENT (AASHTO T 255/T 265 OR T 217), OBSERVE DEFLECTION(ODOT TM 158)

Test Frequencies: 1/2500 m² (cut)

Bid Item #

Bid Quantity amount:

Number of Test Required:

Section 00390 Riprap Protection

Tests to be Performed: Soundness - AASHTO T 104, Degradation - ODOT TM 208, Specific Gravity & Absorption -AASHTO T 85

Test Frequencies: 1/source and 1/year

Bid Item #

Bid Quantity amount:

Number of Test Required:

Section 00405 Bedding and Backfill

Tests to be Performed: MAX DENS (AASHTO T99), BULK GRAV. (AASHTO T85), COARSE PARTICLE CORRECTION (AASHTO T 224), DENSITY IN PLACE (AASHTO T-310), MOISTURE CONTENT (AASHTO T 255/T 265 OR T 217), OBSERVE DEFLECTION(ODOT TM 158)

Test Frequencies: 1/ aggregate source for max density, 1/100 m of trench length and 1/0.5 m of depth

Bid Item #

Bid Quantity amount:

Number of Test Required:

Section 00440 & 00759 Minor Structure Concrete

Tests to be Performed: Sampling - WAQTC T-2, Air Content - AASHTO T-152, Slump - AASHTO T-119, Temperature - AASHTO T-309, Strength - AASHTO T22 & T 23

Test Frequencies: 1/20 m³ or 1/day, for each mix design

Bid Item #

Bid Quantity amount:

Number of Test Required:

Section 00540 Concrete Bridges

Tests to be Performed: Sampling - WAQTC T-2, Air Content - AASHTO T-152, Slump - AASHTO T-119, Temperature - AASHTO T-309, Strength - AASHTO T22 & T 23

Test Frequencies: Minimum 1/75 m³ and 1/day.

Bid Item #

Bid Quantity amount: for all bid items

Number of Test Required:

--

Section 00543 Concrete Bridges (With Microsilica)

Tests to be Performed: Sampling - WAQTC T-2, Air Content - AASHTO T-152, Slump - AASHTO T-119,
Temperature - AASHTO T-309, Strength - AASHTO T22 & T 23
Test Frequencies: Minimum 1/75 m3 and 1/day and slump and temperature on each load.

Bid Item #
Bid Quantity amount: for all bid items
Number of Test Required:

Note: besides these tests and frequencies, aggregate production testing and qualification is required.

Section 00641 Aggregate Subbase, Base and Shoulders

Tests to be Performed: Density Curve - AASHTO T-99, Coarse Particle - AASHTO T 224,
Bulk Spec. Grav. - AASHTO T 85
Density in Place AASHTO T-310, Moisture - T 255/265

Test Frequencies: 1/ aggregate source for max density,
5/Sublot (2000 Mg)

Bid Item #
Bid Quantity amount:
Number of Test Required:

(For aggregate base only)

Note: besides these tests and frequencies, aggregate production testing and qualification is required.

Section 00745 Hot Mixed Asphalt Concrete (HMAC)

Tests to be Performed: Gyrotory specimen--ODOT TM 326, Bulk specific gravity AASHTO T 166
Maximum specific gravity AASHTO T 209, Tensile strength ratio AASHTO T 283
Sieve Analysis - AASHTO T-30, Moisture - WAQTC TM 6, Asphalt Content AASHTO T 308
Control Strip - TM 306, MAMD - ODOT T 305, Nuclear Dens.- WAQTC TM 8

Test Frequencies: 1/1000 Mg sublot (and one for Quality Assurance) for mixture
5/1000 Mg sublot (and at least one for control strip) for density

Bid Item #
Bid Quantity amount:
Number of Test Required:

Note: besides these tests and frequencies, aggregate production testing and qualification is required.

Section 00758 Concrete Pavement Repairs

Tests to be Performed: Sampling - WAQTC T-2, Air Content - AASHTO T-152, Slump - AASHTO T-119,
Temperature - AASHTO T-309, Strength - AASHTO T22 & T 23
Test Frequencies: Minimum 1/75 m3 and 1/day.

Bid Item #
Bid Quantity amount:
Number of Test Required:

Note: besides these tests and frequencies, aggregate production testing and qualification is required.

EARTHWORK

Earthwork Section: 00330
Soil and Soil/Aggregate Mixtures

1) Maximum Density (for compaction)

- ✦ Contractor provides certified technicians in the following fields;
CEBT - Certified Embankment and Base Technician
CDT - Certified Density Technician

2) Maximum Density (for compaction)

- ✦ Contractor sends test reports to ODOT PM office by noon the next day.
 - Density Curve - AASHTO T 99 } 1/Soil type
 - Coarse Particle Correction - T 224 } Done by Contractor
 - Bulk Specific Gravity - T 85 } 1/Project by Region QA
 - Family of Curves } 1/Project by Contractor (If needed)

3) Density in Place

- ✦ Contractor sends test reports to ODOT PM office by noon the next day.
 - Density in Place - AASHTO T-310
 - Coarse Particle Correction -AASHTO T-224 } 1/2500 m² (cut)
 - Moisture - AASHTO T255/265 or T 217 } 1/2500 m³ (fill)
 - Observe Deflection ODOT TM 158
 - Region QA performs IAV test @ minimum of 10% of required QC

AGGREGATE DITCH LINING & RIPRAP PROTECTION

Aggregate Ditch Lining: 00333

For each size of Material:

- ✎ Contractor provides ODOT PM office with copy of test result for review.
Aggregate - T 27

Riprap Protection: 00390

Source number: _____

1) Product Compliance

- ✎ Send Sample to ODOT PM office w/4000 sheet.
Soundness - AASHTO T 104
Degradation - ODOT TM 208
Specific Gravity & Absorption -AASHTO T 85

} Tests to
be done by
Salem Lab

2) Gradation in Place

- ✎ Visual

TRENCH EXCAVATION

Trench Excavation: 00405

Soil and Soil/Aggregate Mixtures

- ✎ Contractor provide certified technicians in the following fields;
 - CEBT - Certified Embankment and Base Technician
 - CAGT - Certified Aggregate Technician
 - CDT - Certified Density Technician

1) Maximum Density (for compaction)

- ✎ Contractor sends test reports to ODOT PM office by noon the next day.

Density Curve - TM 9	}	1/ backfill source
Coarse Particle Correction - T 224	}	Done by Contractor
Bulk Specific Gravity - T 85	}	1/Project by Region QA
Family of Curves	}	1/Project by Contractor

2) Density in Place

- ✎ Contractor sends test reports to ODOT PM office by noon the next day.

Density in Place - AASHTO T-310	}	/100 m of trench length <u>and</u> 1/0.5 m of depth
Coarse Particle Correction -AASHTO T-224	}	
Moisture - AASHTO T255/265 or T 217	}	
Observe Deflection - ODOT TM 158	}	

Region QA performs IAV test @ minimum of 10% of required QC

MINOR STRUCTURE & MISCELLENOUS CONCRETE

Minor Struction & Miscellaneous Concrete: 00440

- ✦ Contractor provide certified technicians in the following fields;
CCT - Concrete Control Technicians
QCT - Quality Control Technicians

1) Mix design

- ✦ Contractor sends a copy of concrete mix design to ODOT PM office for approval.

2) Quality Control & Acceptance

- ✦ Contractor sends test reports to ODOT PM office by noon the next day.

- a) Non-Structural Items: ← One per 20 m³ or one a day.
 - b) Structural Item: ← One per day.
- } For each mix design

Sampling - WAQTC T-2
Air Content - AASHTO T-152
Slump - AASHTO T-119
Temperature - AASHTO T-309
Strength - AASHTO T22 & T 23

} Done by Contractor

STRUCTURAL CONCRETE (BRIDGES)

Contractor provides certified technicians in the following fields;

CCT - Concrete Control Technicians

QCT - Quality Control Technicians

1) Mix design

- ✎ Work with ODOT QCCS to get mix design approve.
- ✎ Contractor provides water quality certification meeting Section 02020
- ✎ Contractor provides admixture certification meeting Section 02040
- ✎ Contractor provides curing compound certification meeting Section 02050
- ✎ Contractor provides ODOT PM office with copy of random numbers used for testing.

2) Aggregate Product Compliance

- ✎ Send Sample to ODOT PM office w/4000 sheet.
 - Abrasion - T 96
 - Degradation - TM 208
 - Soundness - TM 206
 - Lightweight Pieces - T 113
 - Organics - T 21
- } Test to be done by Salem Lab

3) Process Control (Aggregate Production)

- ✎ Contractor sends test reports to ODOT PM office by noon the next day.
- ✎ Contractor submit QL level (statspec) weekly.

ODOT Project Managers office will run Statspec as a check.

Sieve - T 27 / T 11

S.E. - T 176

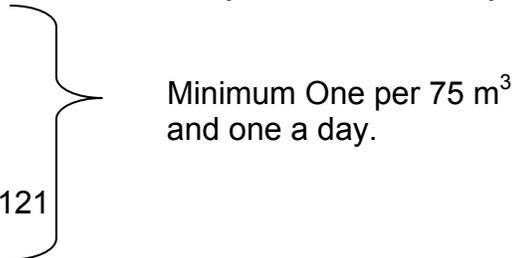
Wood Particles - TM 225

} 1/Sublot (1000 Mg) Done by Contractor

Region QA performs IAV test @ min. 10% of required QC

STRUCTURAL CONCRETE (BRIDGES)

4) Quality Control & Acceptance

- ✎ Contractor sends test reports to ODOT PM office by noon the next day.
 - Sampling - WAQTC T-2
 - Air Content - AASHTO T-152
 - Slump - AASHTO T-119
 - Temperature - AASHTO T-309
 - Strength - AASHTO T22 & T 23
 - Water/Cement Ratio - AASHTO T-121
 - Unit Weight - AASHTO T-121
- 

Region QA performs IAV test @ min. 10% of required QC

STRUCTURAL CONCRETE (BRIDGES) WITH MICROSILICA

Contractor provides certified technicians in the following fields;

CCT - Concrete Control Technicians

QCT - Quality Control Technicians

MMTR - Microsilica Manufacturer Technical Representative

1) Mix design

- ✎ Work with ODOT QCCS to get mix design approve.
- ✎ Contractor provides water quality certification meeting Section 02020
- ✎ Contractor provides admixture certification meeting Section 02040
- ✎ Contractor provides curing compound certification meeting Section 02050
- ✎ Contractor provides ODOT PM office with copy of random numbers used for testing.

2) Aggregate Product Compliance

- ✎ Send Sample to ODOT PM office w/4000 sheet.
 - Abrasion - T 96
 - Degradation - TM 208
 - Soundness - TM 206
 - Organics - T 21
- Test to be done by Salem Lab

3) Process Control (Aggregate Production)

- ✎ Contractor sends test reports to ODOT PM office by noon the next day.
 - ✎ Contractor submit QL level (statspec) weekly.
 - ODOT Project Managers office will run Statspec as a check.
 - Sieve - T 27 / T 11
 - S.E. - T 176
 - Wood Particles - TM 225
- 1/Sublot (1000 Mg) Done by Contractor

4) Quality Control & Acceptance

- ✎ Contractor sends test reports to ODOT PM office by noon the next day.
 - Sampling - WAQTC T-2
 - Temperature - AASHTO T-309
 - Slump - AASHTO T-119
 - Water/Cement Ratio - AASHTO T-121
 - Unit Weight - AASHTO T-121
 - Strength - AASHTO T22 & T 22
- Minimum Once per load.
- Minimum One per 75 m³ or one per day.

Region QA does IAV test @ min. 10% of required QC

Aggregate Production & Placement

Base Aggregate Section: 00641

For each size of Material; Source number:

- ✎ Contractor provide certified technicians in the following fields;
 - CEBT - Certified Embankment and Base Technician
 - CAgt - Certified Aggregate Technician
 - CDT - Certified Density Technician

1) Product Compliance

- ✎ Send Sample to ODOT PM office w/4000 sheet.
 - Abrasion - T 96
 - Degradation - TM 208} Test to be done by Salem Lab

2) Run Process Control (Agg. Production)

- ✎ Contractor provides ODOT PM office with copy of random numbers used for testing.
- ✎ Contractor sends test reports to ODOT PM office by noon the next day.
- ✎ Contractor submit QL level (statspec) weekly.
 - ODOT Project Managers office will run Statspec as a check.
 - Fracture - TM 1
 - Sieve - T 27
 - S.E. - T 176} 1/Sublot (1500 Mg)
 Done by Contractor
Region QA does IAV test @ min.10% of required QC

3) Maximum Density for Bases

- ✎ Contractor sends test reports to ODOT by noon the next day.
 - Density Curve - AASHTO T-99
 - Coarse Particle - AASHTO T 224
 - Bulk Spec. Grav. - AASHTO T 85} Each Gradation 1/Project
 Done by Contractor
 1/Project by Region QA

4) Density in Place for Bases

- ✎ Contractor provides ODOT PM office with copy of random numbers used for testing.
- ✎ Contractor sends test reports to ODOT by noon the next day.
 - Density in Place
 - AASHTO T-310
 - Moisture - T 255/265} 5/Sublot (2000 Mg) done by Contractor
Region QA does IAV test @ min.10% of required QC

5) Scale License and Certificate

- ✎ Contractor provides ODOT with copy of Scale license and Scale Certified.
- ✎ Tare Tally Sheet Each truck twice a day, if scales don't re-tare trucks each load
- ✎ Check Weight One per ten days or 10,000 Mg

HOT MIXED ASPHALT CONCRETE (HMAC)

(HMAC) SECTION 00745

- ✎ Contractor provide certified technicians in the following fields:
 - CAgt - Certified Aggregate Technician
 - CDT - Certified Density Technician
 - CAT 1 - Certified Asphalt Technician 1
 - CAT 2 - Certified Asphalt Technician 2

1) Mix Design

- ✎ Work with ODOT QCCS to get mix design approve.

2) Product Compliance

- ✎ Send Sample to ODOT PM office w/4000 sheet.
 - Abrasion - AASHTO T 96
 - Degradation - ODOT TM 208
 - Soundness - AASHTO T 104
 - Lightweight Pieces - AASHTO T 113
 - Plasticity Index -AASHTO T 90
- } Test to be done by Salem Lab

3) Process Control (Agg. Production)

- ✎ Contractor provides ODOT PM office with copy of random numbers used for testing.
 - ✎ Contractor sends test reports to ODOT PM office by noon the next day.
 - ✎ Contractor submit QL level (statspec) weekly.
 - ODOT Project Managers office will run Statspec as a check.
- | | | |
|--------------------------|---|---|
| Sieve - AASHTO T 27/T 11 | } | 1/Sublot (1000 Mg) Done by Contractor |
| S.E. - AASHTO T 176 | | Region QA performs IAV test |
| Elongated Piece - TM 229 | | @ min. 10% of required QC |
| Fracture - TM 1 | | 1/5 Sublot (5000 Mg) Done by Contractor |
| Wood Particles - TM 225 | | |

4) Mix Design Verification (MDV)--for Dense Graded Mixes

- ✎ Contractor sends test reports to ODOT by noon the next day.
 - Gyratory specimen--ODOT TM 326
 - Bulk specific gravity AASHTO T 166
 - Maximum specific gravity AASHTO T 209
 - Tensile strength ratio AASHTO T 283
- } 1/Sublot (1000 Mg)
Done by Contractor
Region QA performs IAV test @ min. 10% of required QC

HOT MIXED ASPHALT CONCRETE (HMAC)

(HMAC) SECTION 00745

5) Mixture Acceptance (HMAC)--for Dense Graded Mixes

- ✦ Contractor provides ODOT with copy of random numbers used for testing.
- ✦ Contractor sends test reports to ODOT by noon the next day.

Sieve Analysis - AASHTO T-30	1/Sublot (1000 Mg)
Moisture - WAQTC TM 6	Done by Contractor
Asphalt Content AASHTO T 308	Region QA performs IAV test @ min. 10% of required QC

6) Density in Place)--for Dense Graded Mixes

- ✦ Contractor provides ODOT with copy of random numbers used for testing.
- ✦ Contractor sends test reports to ODOT by noon the next day.

Control Strip - TM 306	← 1/Lift or 1/10 Days	} by Contractor
MAMD - ODOT T 305	← Adjust 1/1000 Mg	
Nuclear Dens.- WAQTC TM 8	← Average of 5/1000 Mg	

Region QA does IAV test @ min.10% of required QC

7) Compliance

- | | | |
|-----------------------|---|--|
| Asphalt Cement - T 40 | → | 1/Sublot (1000 mg) Submit to PM office |
| Lime - T 219 | → | See Section 00165.60 |
| Tack T 40 | → | 1 per 50 Mg Submit to PM office |

8) Scale License and Certificate

- ✦ Contractor provides ODOT with copy of Scale license and Scale Certified.
- ✦ Tare Tally Sheet ← Each truck twice a day, if scales don't re-tare trucks each load
- ✦ Check Weight One per ten days or 10,000 Mg

QUALITY CONTROL & ASSURANCE PLAN

The contractor will provide a quality control administrator to implement the program and be a contact for communications with the QCCS:

Show documentation of Certification of Technician(s) for each material:

Show documentation of Certification of Labs and Equipment (inc. calibrations):

Plan for submitting test results to QCCS:

Plan for labeling and storing backup samples:

Plan for coordinating schedule with the QCCS:

Address quality control required for Riprap, Stone Embankment, Surfacing Stabilization, & Wearing Surface Drains:

Embankment and pipes:

Placement schedule:

Plan for identifying all significant materials --- soil types: _____ bedding: _____ backfill: _____

Plan for generating required moisture-density curves:

Plan for coordinating with the CDT:

Base Aggregates:

Source:

Production schedule:

(If not Commercial) Who is designated to sample produced materials:

Plan for generating maximum density and optimum moisture:

Placement schedule:

Random numbers submitted:

Plan for coordinating daily quantities:

Structural Concrete:

Source:

Aggregate production schedule:

Who is designated to sample produced materials:

Random numbers submitted:

Location of plant:

Plant CCT: _____ Mix QCT: _____

Mix design submitted:

Plan for curing, transporting and breaking cylinders:

Minor Structure Concrete:

Location of plant:

Plant CCT: _____ Mix QCT: _____

Mix design submitted:

Plan for curing, transporting and breaking cylinders:

HMAC:

Source:

Aggregate production schedule:

Who is designated to sample produced materials:

Random numbers submitted:

JMF submitted:

Mix production schedule:

Plan for calibrating plant and test equipment:

Random numbers submitted:

Plan for sampling and forwarding samples of liquid asphalt, tack, and mix:

Plan for reporting current MAMD and lot changes to CDT:

Plan for coordinating with Plant Operator and CATII for mix quality control:

Density random number submitted:

Small Quantity Acceptance:

Material & estimated quantity:

Basis for waiver of normal testing:

Documents provided:

Pre-Construction Conference Quality Assurance

Project: _____

Introductions:

Testing Reminders:

- All persons sampling and testing need to be certified in appropriate application.
 - All labs need to be certified.
 - All test results must be submitted by the required timeline.
 - All mix designs need to be approved before placement.
 - The Inspector or QCCS must be notified of date and time of any field testing being performed.
 - Small Quantity requests must be submitted to our PM office.
 - Use correct version of Manual of Field Test Procedures.
 - Note on test reports the exact location of sampling.
 - Test reports must be completely filled out.
 - Sign all documents.
 - Discuss location of scales check-weights.
 - Note 165.10 Contractor Process Control
- a) Responsibilities
- b) Contractor sampling and testing

Field-Tested Bid Items:

Project Discussion:

Pre-Crushing Meeting

Commencement date of operations

Anticipated hours of operation

Aggregate production

- Production operation/order of individual materials to be crushed
- Testing frequency (MFTP Section 4D)
- Product Compliance samples (check frequency in MFTP Section 4A)
- IA/Verification sampling and testing
- Acceptance of materials (contractor QC if verified by QA)

Stockpiling

- Method
- Quality Level
- Location

Anticipated quantities/day

Review of technician & laboratory certifications

In-depth review of contractor Quality Control Plan

If meeting is not at site, visit and inspect certified lab

Questions, comments and/or concerns

PREPAVING CONFERENCE

Project: _____ Date: _____

Contract # : _____

Contractor: _____

Paving Supervisor: _____

Paving Inspector: _____

Quality Control Mgr.: _____

CAT II: _____ CAT I: _____ CDT: _____

QCCS: _____

Review JMF: _____

Start Date: _____ Hours: _____ Schedule: _____

Expected rate of Production: _____

Type and number of haul vehicles, temperatures & tarpin: _____

Weigher Duties and Forms: _____

Traffic Control Plan: _____

Drainage & utility features: _____

Tack spread rate, measurement and certs: _____

Quality Control Program: (Submit: Random #s, Lab Certification, Nuke Gauge Calibration, Plant Calibration, Report Forms if different from ODOT Forms):

Communication with plant, CAT2: _____

Random sampling, lots & sublots sizes: _____

Road approaches & leveling --- separate lots? _____

Core correlations of nuke gauges? _____

Completed reports, signed & faxed to our office daily

Statspec: To: _____ No.: _____

Type of Paver, review grade control & panel widths, lift sizes and staging:

Rollers: _____

Compaction: roller pattern, control strips, MAMD, Composite Pay Factor
If technician inexperienced, arrange for QCCS to be there to help

Smoothness Spec.: _____

PREPAVING ISSUES

Project: _____

CONTRACTOR

- A) Personnel Roles and Responsibilities
- Decision makers/line of communications for problems and contract issues?
 - Who is CAT 1, CAT 2? Decisions on mix changes/adjustments?
 - Who is CDT?
 - Who will be directing the rollers? Who and how?
 - Smoothness measurements? Who and How?
 - Documentation required daily and next shift.
 - Safety
- B) Paving Plan
- Approved Mix design?
 - Starting Date, Time and Locations?
 - Hours per shift.
 - Layout of paver pulls? Locations of longitudinal and transverse joints?
 - Dealing with business and residence accesses?
 - Soft spots in base aggregates.... Plan for corrective work?
 - Traffic Control Plan? What is it and who is responsible?
 - Temporary buttons/stripping layout and placement?
- C) Paving Methodologies
- Production Rates? Haul Distances? Adequate trucking available?
 - Types of trucks (belly's, end dumps, etc)? Truck access and haul route, access to workzone issues? Clean out areas? Release agents? (Open gates, lift beds).
 - Paver size? Grade controls? Clean up?
 - Roller types and sizes? Adequate rollers for anticipated production rate? Pneumatic availability?
 - Minimizing tracking of tack onto existing roadways?

AGENCY

- A) Roles and Responsibilities
- Decision makers/line of communications for problems and contract issues?
 - Authority delegated to paving inspectors/QCCS
 - Communication lines with local businesses and residents?
 - Paperflow... who gets what documentation?
 - Ticket taker, who and how?
 - Quantity tracking
- B) Miscellaneous Issues
- Lay out quality and workmanship expectations, gradation, oil content, compaction temperature, grades, straight joints, joint raking?
 - Process for dealing with rain/bad weather?
 - Use of pneumatic rollers for leveling or first base courses over uneven existing surfaces.
 - Review date and time of day work limitations?
 - Noise issues?
 - Special project specific testing/spec requirements?
 - Relations with and notification of media regarding closures?

QC/QA MATERIALS MEETING OUTLINE

Quality Control

- Furnish materials of the quality specified.
- Provide and administer a written quality control program
- Perform other testing as required by the Special Provisions.
- Statistical Analysis
- Quality Assurance

Certifications before installation

- Acceptable Conformance Documents
 - Test Result Certificate
 - Quality Compliance Certificate
 - Equipment Lists and Drawings
 - Certificate of Material Origin (This is a Buy America job)
 - Form 734-2126
 - \$2500 tolerance
 - Quality Control Documents
 - Materials Acceptance Guide
 - Non-field-tested Materials
 - Field-tested Materials
 - Routing of test results
 - Contacts with subs and suppliers

Coordinate field tested items with QCCS

- Routing of test results
- Routing of material delivery tickets
- Timeliness of test results
- Contact with subs and suppliers.
- Units (Metric Contract)

List of material sources

- Commercial Sources
- Product Compliance reports
- Small Quantity Acceptance