



Final Documentation Reference Manual



Presented By
Mobile County Public Works
Engineering Department

February 23, 2011

Required Documentation for Final Estimate Submittal

1. As Built Plans: 1 set original, 1 set prints.
2. Final Estimate
3. Supporting information and documents for all pay items including calculations, must be in a field book written in pencil. (Original and Copy)
4. Inspector Daily Reports MCIR-1 form (Hand Written)
5. Soil Report (1 copy)
6. Bound copy of all test reports (See Handout)
7. Asphalt job mix formula, QC/QA packets, Bituminous Price Adjustments, tickets, cross-slope information, certification letter (see example Pg. 56)
 - ❖ All information to be turned in with monthly estimate for any month asphalt is placed.
8. Concrete Mix Design & Placement Reports (MC-83 or equal)

Required Documentation for Final Estimate Submittal

9. Haul tickets (MC-LT) for Borrow Excavation with tabulation attached along with truck bed measurements.
10. Haul tickets (MC-LT) for Topsoil with tabulation attached along with measured areas of Topsoil placement. If TBM units are used truck bed measurements must be supplied.
11. All material tickets. (i.e. concrete, riprap, aggregate surfacing, etc.)
12. Proof of Advertisement of Project Completion. (original & 1 copy)
13. Consent of Surety to pay Contractor's Retainage. (original & 1 copy)
14. Affidavit for Payment of Debts incurred on construction project. (original & 1 copy)

Required Documentation for Final Estimate Submittal (continued)

15. Final Progress Report, including start date and final inspection date (original & 1 copy)
16. Recap of overrun for each item that exceeds plan quantity by more than 5%. (original & 1 copy)
17. Copies of all ALDOT Standard Drawings referenced for project.
18. Field notes for original and final cross-section taken as per Engineering Services Contract. (1 copy each)
19. Final right-of-way map for recording.
20. Miscellaneous Items (Waterline Documentation)

GENERAL INFORMATION FOR AS-BUILTS

1. Summary of Quantities

Include Plan Quantity, As-Built Quantity, Description (Example Next Page) and where Back-Up Information may be found.

2. Cross- Section Sheets

Show Final Cut and Fill Areas as well as Volumes next to Each Station for Unclassified Excavation*. Final Quantity for Unclassified Excavation is determined by the Average End Area Method.

On cross sections all break points and intersection points on original surface and as-built surface must be labeled with offset and elevations.

If total station is used, submit the pre-construction and post-construction ASCII files with a letter from the surveyor or engineer attesting to the fact that the information shown on the cross sections was extracted from the above-referenced ASCII files. If total station was not used, submit the field book containing all level work.

**Refer to example following Summary of Quantities Sheet*

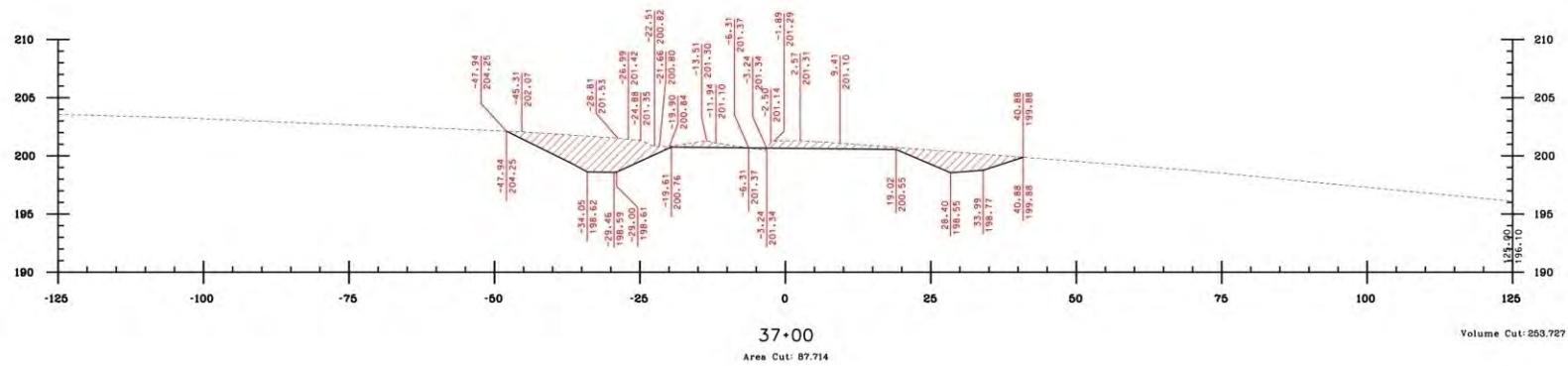
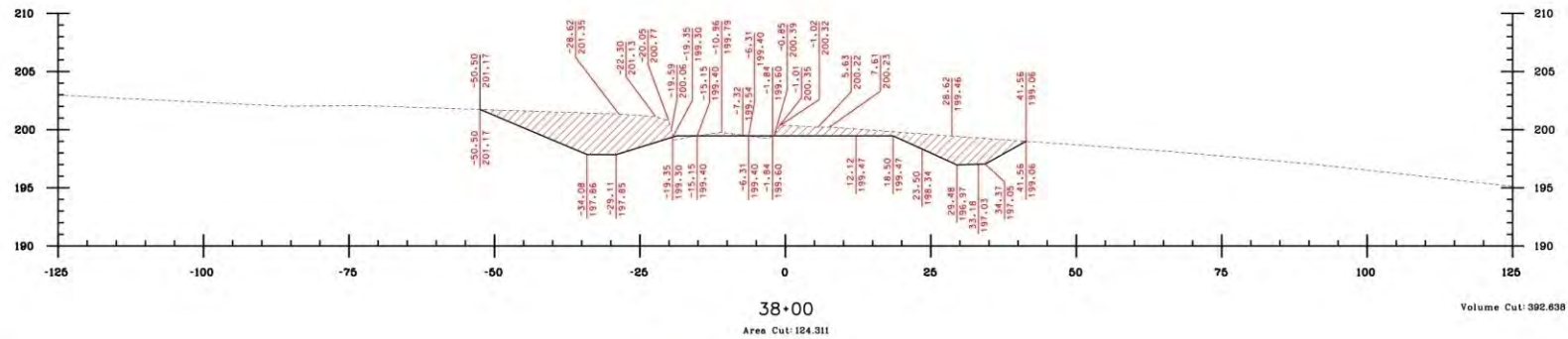
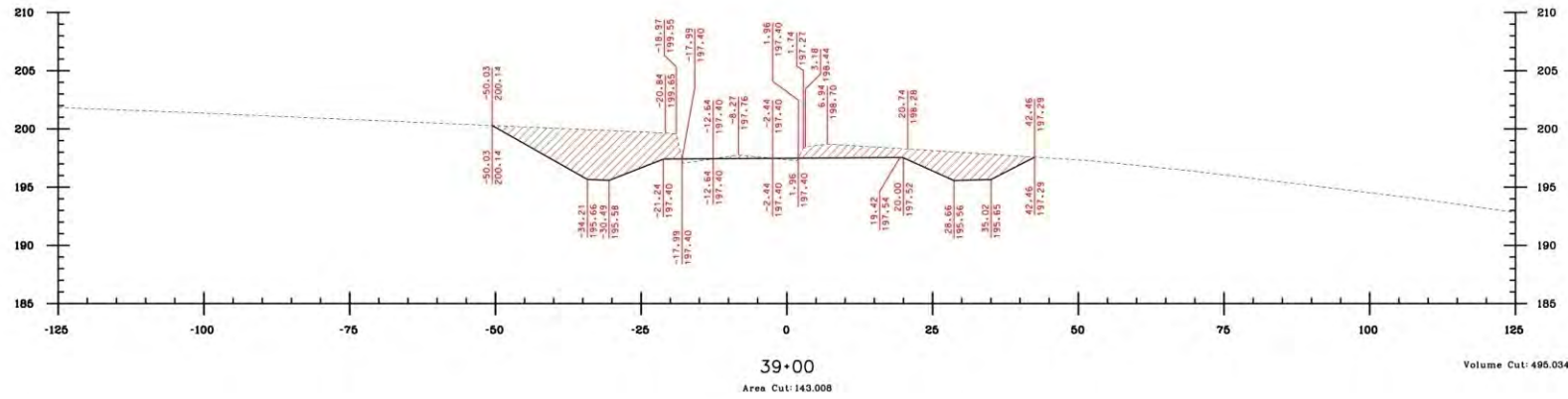
SUMMARY OF QUANTITIES

PROJECT NO. MCR-2004- ()

COUNTY OF MOBILE, ALABAMA

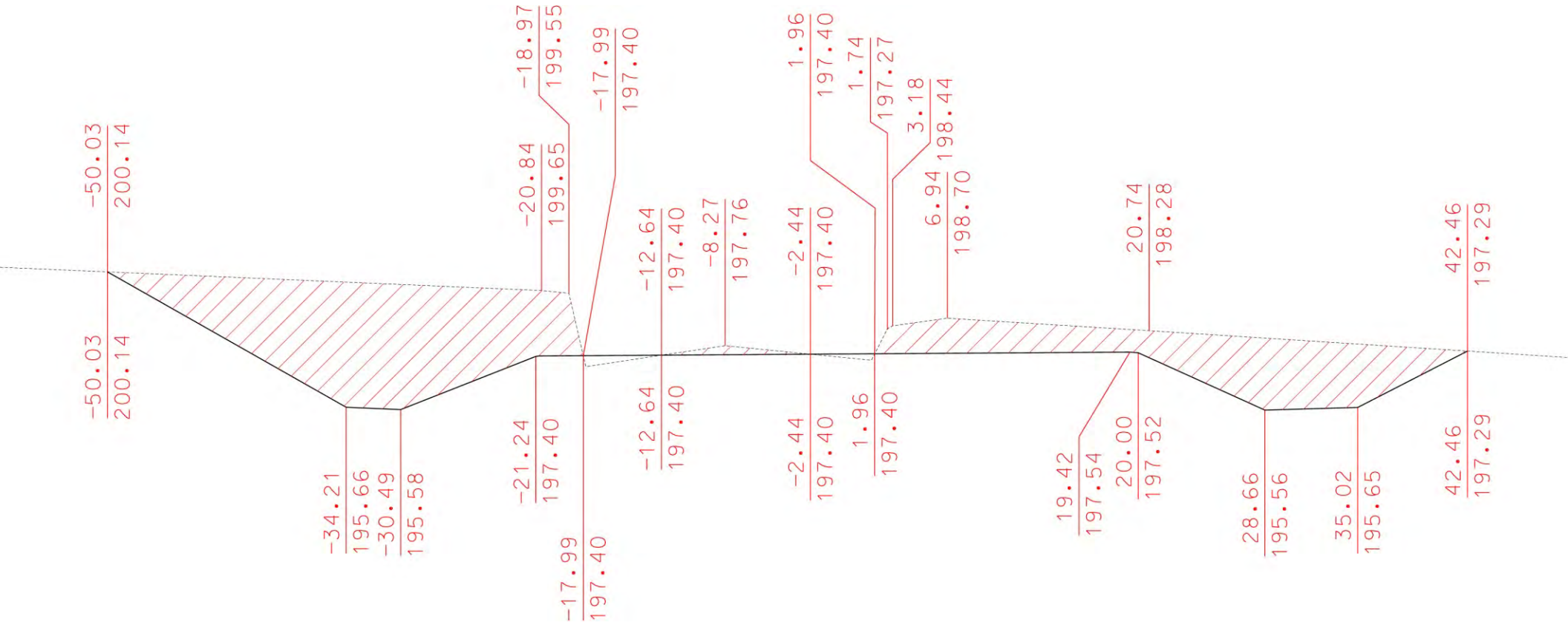
ITEM NO	PLAN QUANTITY	AS-BUILT QUANTITY	UNIT	DESCRIPTION	REMARKS
201A-002	1	1	LUMP SUM	CLEARING & GRUBBING (APPROXIMATELY 3 ACRES) (MAXIMUM ALLOWABLE BID \$4000/ACRE)	Bk 1, Pg 1
206C-010	188	371.6	SQUARE YARD	REMOVING CONCRETE DRIVEWAY	Bk 1, Pg 2
206D-000	205	289.0	LINEAR FEET	REMOVING PIPE	Bk 1, Pg 3
208E-000	11	12	EACH	REMOVING HEADWALLS	Bk 1, Pg 4
208A-000	28	31	EACH	MAILBOX RESET, SINGLE	Bk 1, Pg 5
209A-002	1	1	EACH	MAILBOX RESET, MULTIPLE	Bk 1, Pg 6
210A-000	7155	5752	CUBIC YARD	UNCLASSIFIED EXCAVATION	Bk 1, Pg 7
210D-001	6197	7882	CUBIC YARD	BORROW EXCAVATION (LOOSE TRUCKBED MEASUREMENT)	Bk 1, Pg 8
214A-000	272	408	CUBIC YARD	STRUCTURE EXCAVATION	Bk 1, Pg 9
214B-000	182	0	CUBIC YARD	FOUNDATION BACKFILL, LOCAL	Bk 1, Pg 10
230A-000	22	22	ROADBED STATION	ROADBED PROCESSING	Bk 1, Pg 11
301A-012	6000	3382.2	SQUARE YARD	CRUSHED AGGREGATE BASE COURSE, TYPE B, PLANT MIXED, 6" COMPACTED THICKNESS	Bk 1, Pg 12
401A-000	3600	1872	SQUARE YARD	BITUMINOUS TREATMENT A	Bk 1, Pg 13
405A-000	5700	7458	GAL	TACK COAT	Bk 1, Pg 14 & 15
429A-220	6000	6053.38	TON	IMPROVED BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE B	Bk 1, Pg 16 to 18
429B-221	750	391.94	TON	IMPROVED BITUMINOUS CONCRETE BINDER LAYER, 1" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE B	Bk 1, Pg 19
429B-226	200	0	TON	IMPROVED BITUMINOUS CONCRETE BINDER LAYER, PATCHING, 1 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE B	Bk 1, Pg 20
429B-227	7760	8261.88	TON	IMPROVED BITUMINOUS CONCRETE BINDER LAYER, LEVELING, 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE B	Bk 1, Pg 21 to 23
429C-231	3000	2085.39	TON	IMPROVED BITUMINOUS CONCRETE BASE LAYER, WIDENING, 1 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE B	Bk 1, Pg 24 & 25
430B-040	500	145.3	TON	AGGREGATE SURFACING (CRUSHED AGGREGATE BASE, TYPE B)	Bk 1, Pg 26
530A-001	40	40.00	LINEAR FEET	18" ROADWAY PIPE (CLASS 3 R.C.)	Bk 1, Pg 27
530A-004	18	16.00	LINEAR FEET	36" ROADWAY PIPE (CLASS 3 R.C.)	Bk 1, Pg 28
530A-101	24	48.00	LINEAR FEET	18" ROADWAY PIPE (CLASS 3 R.C.) (EXTENSION)	Bk 1, Pg 29
530A-102	72	16.00	LINEAR FEET	24" ROADWAY PIPE (CLASS 3 R.C.) (EXTENSION)	Bk 1, Pg 30
530A-104	32	0	LINEAR FEET	36" ROADWAY PIPE (CLASS 3 R.C.) (EXTENSION)	Bk 1, Pg 31
530B-001	70	72.00	LINEAR FEET	22" SPAN, 14" RISE ROADWAY PIPE (CLASS 3 R.C.)	Bk 1, Pg 32
533A-098	435	438.00	LINEAR FEET	18" STORM SEWER PIPE (CLASS 3 R.C.)	Bk 1, Pg 33
533A-099	23	24.00	LINEAR FEET	24" STORM SEWER PIPE (CLASS 3 R.C.)	Bk 1, Pg 34
535A-078	248	312.00	LINEAR FEET	16" SIDE DRAIN PIPE (CLASS 3 R.C.)	Bk 1, Pg 35
535A-080	92	200.00	LINEAR FEET	18" SIDE DRAIN PIPE (CLASS 3 R.C.)	Bk 1, Pg 36

FHWA REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
-	-		2008		



SCALE: HOR 1"=10'
VERT 1"=5'

Sta 38+00 - Sta 39+00



GENERAL INFORMATION FOR AS-BUILTS (continued)

3. Drainage Sheets

Show Pipe End Treatments, Drainage Structures, Pipes, Rip-Rap and Filter Blanket for Roadway Drainage. If structure excavation and foundation backfill is required then they should also be shown on these sheets.

4. Index for Standard Drawings and Special Drawings

List what page number drawings can be found from the ALDOT Standard Drawing Book. Also, provide a Standard Drawing Number and a Description. A hard copy of any Special Drawing Sheets not included in the ALDOT Standard Drawing Book as well as copies of all ALDOT Standard Drawings Referenced for projects are required.

PLAN AND PROFILE SHEETS

The following should be shown on the plan and profile sheets for both installation and removal of the following item:

1. **Pipes** (Example Next Page)

- Locations by Upstream and Downstream Stations
- Lengths
- Size
- Type
- Class
- Skew (for installation only)
- Invert Elevations

72 LIN FT
L 3, RDWY
~~50%~~ 0.71%

PE

REQD SPECIAL
DITCH, TYPE S-4

: CNSTR RE-ALIGNMENT
GRAND BAY - WILMER RD.

SD
1

~~REQD~~ STA 129+06 (RT) TO 129+38 (RT), ~~30~~ 32 LIN FT
18" RCP SD PIPE, CLS 3 @ ~~1.13%~~ 1.31%
W/(2)18" SD PET, CLS 1, 4:1 SLOPE
FL (IN)=~~161.68~~ 161.75
FL (OUT)=~~161.34~~ 161.33

SD
1

+33.6
40' RT

4
27A

PT
Sta 129+33.63

PLAN AND PROFILE SHEETS

(continued)

2. Drainage Structures

- Location by Station
- Type
- Class
- Required Slope
- Weir Inlet (Throat, Bottom & Pipe Elevation)
- Grate Inlet (Grate, Bottom & Pipe Elevation)
- Junction Box (Top, Bottom & Pipe Elevation)

3. Drive Ways

- Location by Stations
- Area (Removed & Placed)

PLAN AND PROFILE SHEETS

(continued)

4. Concrete Items paid by cubic yard (Slope Paved Ditch and Minor Structure Concrete)

- Provide Upstream and Downstream Stations for Concrete Ditches
- Quantity
- Type of Structure
- Length

5. Filter Blanket and Rip Rap

- Location by Station
- Quantity
- Class
- Thickness
- Area Placed (SY)

NOTE:

For clarity

this information was typed.

ALL FIELD NOTES

SHOULD BE

HANDWRITTEN.

[illegible]

INDEX (continued)

[illegible]

ITEM 206C-030 Removing Asphalt Drive & Pavement

Pay To 1 Decimal Places

DATE	STA	STA	QTY	TO DATE	EST. PAID	Dimensions	
2-27-99	1 + 22 RT	2 + 05	* 138.33	* 138.33		83 FT x 15 FT = 138.33 SY	83 FT
2-27-99	2 + 22 RT	3 + 07	* 112.00	* 250.33	3	9 FT ² /SY	15 FT

$$\frac{84 \text{ FT} \times 12 \text{ FT}}{9 \text{ FT}^2/\text{SY}} = 112.00 \text{ SY}$$

84 FT

12 FT

PAY 250.3 SY

* Notice that you carry all calculations and numbers to 1 extra decimal place than required until the total then round total to correct decimal place.

ITEM 206D-001 Removing Guardrail (LF)

Pay To 1 Decimal Place

DATE	FROM STA	TO STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
1-22-01	217+03	219+53	RT	127.00	127.00		LENGTHS ARE NOT REPRESENTATIVE OF STATIONS LISTED. GUARDRAIL PLACED IN CURVE AREA.
1-22-01	217+03	219+53	LT	127.00	254.00		
1-25-01	195+36	194+92	LT	6.50	260.50		
1-25-01	196+86	197+31	RT	7.50	268.00	2	
3-2-01	195+36	194+98.5	RT	25.00	293.00		
3-2-01	196+85	197+22.5	LT	25.00	318.00	4	
4-24-01	216+93	219+13	LT , RT	350.00	668.00	5	

PAY 668.0 LF

IF LENGTHS DO NOT MATCH STATIONS
GIVE AN EXPLANATION OF WHY THEY
DO NOT MATCH.

ITEM 206E-000 Removing Headwalls (EA)

Pay To 0 Decimal Place

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
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1-22-01	215+08	RT	1			
	138+08	LT	1	2		
1-23-01	243+47	LT	1	3		
	218+00	LT	1	4		
	218+00	RT	1	5	2	

PAY 5 EA

ITEM 206E-007 Removing Mail Boxes (EA)

Pay To 0 Decimal Place

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
8-23-01	25+75	RT	1	1		4 FT Wood Post
8-23-01	31+20	RT	1	2		“ “ “
8-23-01	84+35	LT	1	3		“ “ “
8-23-01	212+45	LT	1	4		8 FT Wood Post
8-23-01	212+45	LT	1	5	7	“ “ “

PAY 5 EA

ITEM 206E-051 Removing Guardrail

End Anchors (EA) All Types

Pay To 0 Decimal Place

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
1-22-01	92+64	LT	1	1		
	92+85	RT	1	2		
	94+34	LT	1	3		
	94+51	RT	1	4		
1-25-01	195+00	LT	1	5		
	195+86	RT	1	6	2	
3-2-01	196+86	LT	1	7		
	195+00	RT	1	8	4	

PAY 8 EA

ITEM 210D-000 Borrow Excavation (TBM) (CY)

Pay To 0 Decimal Place

DATE	TRUCK Number	TRUCK SIZE	LOADS TODAY	QTY	TO DATE	EST. PAID	REMARKS
1-23-01	112	20.22	6	121.32	121.32		SHOULDER BUILDING
	114	21.74	6	130.44	251.76		“ “
	JS3	22.06	4	88.24	340.00		“ “
	01	22.26	4	89.04	429.04		“ “
1-25-01	EP-1	20.89	4	83.56	512.60	2	“ “

PAY 513 CY

Truck bed measurements are required to be taken out to 2 decimal places. Final borrow excavation totals are rounded to 0 decimals.

Must provide truck bed measurements and calculations and submit with tickets on the County Form.

MC-LT Haul Ticket
MUST BE USED

ITEM 405A-000 Tack Coat (GAL)

Pay To 0 Decimal Place

DATE	START GAL.	END GAL.	FROM STA	TO STA	TEMP. APPLIED	QTY.	GAL @ 60°F	TO DATE Adjusted	EST. PAID
2-1-01	1400	1000	10+00 RT	65+00 RT	125	400	393.5	393.5	
2-2-01	1000	500	65+00 RT	140+00 RT	130	500	491.3	884.8	3

PAY 885 GAL

$$\text{GAL}_{\text{Adjusted}} = \text{GAL}_{\text{INITIAL}} \left([1 - (T_{\text{HOT}} - T_{60}) (\text{Factor})] \right)$$

Factor comes from ALDOT Specifications Section 109.02 (c).
Factor is typically 0.00025 which is for emulsified.

Use MC-4 Form to show rate of placement.

Monthly Bituminous Price Adjustments
must be submitted with every estimate
and final documentation.

Forms Required: MC-BCR, MC-3-2, MC-26-1,
AND MC-26-3.

ITEM 408-050 Planing Existing Pavement (SY)

Pay To 1 Decimal Place

DATE	FROM STA	TO STA	WIDTH FT	QTY	TO DATE	EST. PAID
1-10-02	0+58 LT	1+74 LT	20	257.78	257.78	
1-10-02	1+75 LT	2+25 LT	10	83.33	341.11	2

116 FT

20 FT

Calculations

$$(116 \text{ FT} \times 20 \text{ FT}) \div 9 \text{ FT}^2/\text{SY} = 257.78 \text{ SY}$$

PAY 341.1 SY

75 FT

10 FT

Calculations

$$(75 \text{ FT} \times 10 \text{ FT}) \div 9 \text{ FT}^2/\text{SY} = 83.33 \text{ SY}$$

ITEM 429-A Bituminous Concrete Wearing Surface (TON)

Pay To 2 Decimal Places

DATE	QTY.	CONTROLLING PF	PAY	Payable To Date	EST. PAID	REMARKS
5-17-02	510.0	1.00	510.00	510.00	3	SEE QC/QA REPORTS
5-18-02	794.0	1.01	801.94	1311.94	3	
PAY 1304.00 TON						
Monthly Bituminous-Price Adjustments Must be submitted with every estimate and final documentation.						
Forms Required: MC-BCR, MC-LS-S, MC-LS-2 MC-2, MC-3-1, MC-26-1, MC-26-2, MC-27-1, MC-27-2, & QC/QA Packet.						

**ITEM 430B-003, AGGREGATE SURFACING
(#57 STONE)**

ONE DEC. PLACE (TONS)

DATE	STA	STA	QTY	TO DATE	EST. PAID	TICKET #
3-9-10	4 + 00 LT/RT	6 + 00 LT/RT	23.76	23.76	4	216066
3-10-10	2 + 00 LT/RT	4 + 00 LT/RT	25.41	49.17	4	216085

REMARKS

USED TO MAINTAIN SAFE TRAFFIC
ACCESS DUE TO INTENSE RAINFALL
CAUSING SLICK CONDITIONS @ 3" THICKNESS

PAY 49.2 TONS

400 FT

LT

6 FT

400 FT

RT

6 FT

ITEM 530-102 24" Roadway Pipe, Class 3 R.C., (LF)

Extensions

Pay To 2 Decimal Places

DATE	STA	STA	SKEW	QTY	TO DATE	EST. PAID
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REMARKS

11-8-99	15+00		0°	152.00	152.00	
11-9-99	13+48	12+04	45°	203.65	296.00	
11-11-99	20+00		0°	200.00	492.00	3

PIPE LENGTH NOT REPRESENTATIVE OF STATIONS LISTED AS PIPE WAS SKEWED.

PAY 555.65 LF

ITEM 600A-000 Mobilization (LUMP)

Pay To 0 Decimal Places

DATE	QTY	TO DATE QTY	EST. PAID	REMARKS
1-31-00	0.20	0.20	1	
2-28-00	0.50	0.70	2	Mobilization \leq 12% of Original Contract
4-30-01	0.30	1.00	4	Contract Amount \$2,000,000 } 5% Mobilization Bid \$100,000 Est #1 20% X 100,000 = \$20,000 Est #2 5% of Work Completed 50% X 100,000 = \$50,000 Est #4 50% of Work Completed 30% X 100,000 = \$30,000

PAY 1 LS

* See section 600.04 (a) of ALDOT Specifications
For Partial Payment.

ITEM 620-000 Minor Structure Concrete (CY)

Pay To 2 Decimal Places

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
1-26-01	243+47	LT	0.244	0.244	2	Concrete Collars 24" Pipe Page 28

PAY 0.24 CY

Please See Page 28 for Calculations

NOTE:

For clarity

this information was typed.

ALL FIELD NOTES

SHOULD BE

HANDWRITTEN.

Calculations For Pipe Collars

24" Pipe

$$\begin{aligned}\text{Full Diameter} &= 24'' + 3'' (2) + 8'' (2) \\ &= 46''/12 \frac{\text{Inches}}{\text{FT}} = 3.83 \text{ FT}\end{aligned}$$

$$\begin{aligned}\text{Pipe Diameter} &= 24'' + 3'' (2) \\ &= 30''/12 \frac{\text{Inches}}{\text{FT}} = 2.50 \text{ FT}\end{aligned}$$

$$\begin{aligned}\text{Full Area} &= \frac{\pi D^2}{4} = \frac{3.1416 (3.83 \text{ FT})^2}{4} \\ &= 11.520 \text{ FT}^2\end{aligned}$$

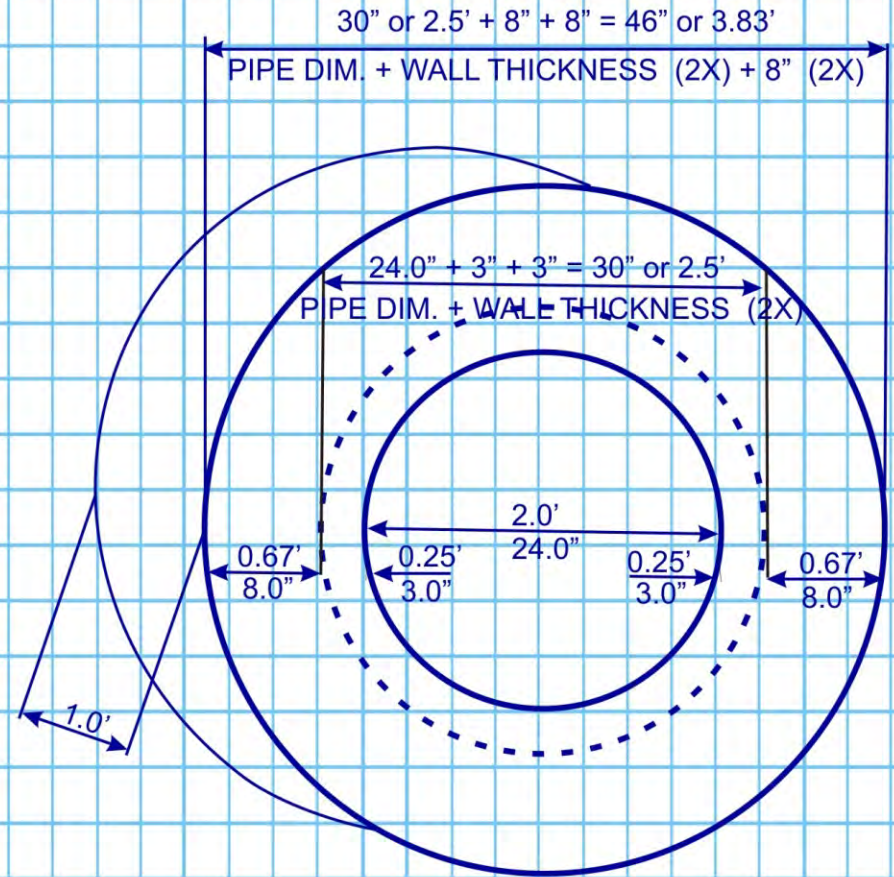
$$\begin{aligned}\text{Pipe Area} &= \frac{\pi D^2}{4} = \frac{3.1416 (2.50 \text{ FT})^2}{4} \\ &= 4.908 \text{ FT}^2\end{aligned}$$

$$\text{Full Volume} = 11.520 \text{ FT}^2 \times 1 \text{ FT} = 11.520 \text{ CU FT}$$

$$\text{Pipe Volume} = 4.908 \text{ FT}^2 \times 1 \text{ FT} = 4.908 \text{ CU FT}$$

$$\begin{aligned}\text{Total Volume} &= 11.520 \text{ CU FT} - 4.908 \text{ CU FT} \\ &= 6.612 \text{ CU FT} / 27 \text{ CU FT/CU YD} \\ &= 0.244 \text{ CU YD}\end{aligned}$$

Refer to standard drawing CC-530 for required collar thickness.



FORMULA'S

$$\text{Area} = \pi R^2 \text{ or } \frac{\pi D^2}{4} = \text{FT}^2$$

$$\text{Volume} = \text{Area} \times \text{Depth} = \text{CU FT}$$

$$\text{Total Volume} = \frac{\text{Volume's}}{27 \text{ CU FT/ CU YD}} = \text{CU YD}$$

**ITEM 630A-000 Steel Beam Guardrail,
Class A, Type 1 (LF)**

Pay To 1 Decimal Place

DATE	FROM STA	TO STA	QTY	TO DATE	EST. PAID	REMARKS
2-20-01	91+75 RT	92+85 RT	75.00	75.00		
	91+85 LT	82+85 LT	62.50	137.50		
	94+34 RT	96+07 RT	137.50	275.00		
	94+34 LT	96+99 LT	225.00	500.00	3	
3-2-01	192+61 LT	195+36 LT	275.00	775.00		
	192+23 RT	195+36 RT	212.50	987.50		
	196+26 LT	197+36 LT	100.00	1087.50		
	196+86 RT	198+36 RT	150.00	1237.50	4	
4-25-01	216+81 LT	219+56 LT	275.00	1512.50		
	217+43 RT	219+19 RT	175.00	1687.50	5	
<div>PAY 1687.5 LF</div>						

**ITEM 630C-050 Guardrail End Anchor,
Type 20 Series (EA)**

Pay To 0 Decimal Places

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	<u>REMARKS</u>
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3-3-01	192+11	LT	1	1		
	192+73.5	RT	1	2		
	198+36	LT	1	3		
	198+86	RT	1	4	4	

4-25-01	220+08	LT	1	5	5	Changed due to close proximity of side drain pipe
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PAY 5 EA

**ITEM 630C-070 Guardrail End Anchor,
Type 10 Series (EA)**

Pay To 0 Decimal Place

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
1-20-01	91+33.5	RT	1	1		
	91+47.5	LT	1	2		
	96+44.5	RT	1	3		
	97+36.5	LT	1	4	3	
4-25-01	216+40	LT	1	5		
	217+04		1	6		
	219+59	RT	1	7	4	

PAY 7 EA

641A-001 1 3/4" Copper Service Pipe Laid (LF)

Pay To 2 Decimal Places

DATE	STA	QTY	QTY TO DATE	EST. PAID	Description / Road
7-7-07	20 + 30 RT	30.00	30.00	1	Long Side Service /Smith Road
7-7-07	21 + 05 LT	15.00	45.00	1	Short Side Service/Smith Road

PAY 45.00 LF

641A-049 6” P.V.C. Water Main Laid (SDR21) (LF)

Pay To 2 Decimal Places

DATE	STA	STA	QTY	QTY TO DATE	EST. PAID	Description / Road
6-2-07	10 + 50 LT	14 + 30 LT	380.00	380.00	1	Smith Road
6-3-07	14 + 30 LT	22 + 45 LT	815.00	1195.00	1	Smith Road

PAY 1195.00 LF

641C-000 Ductile Iron M.J. Fittings (Lbs.)

Pay To 1 Decimal Places

DATE	STA	QTY	QTY TO DATE	EST. PAID	Description / Road	
9-1-07	27 + 40 LT	39.0	39.0	1	(1) 6" - 90 M.J. Bend	Smith Road
9-1-07	27 + 40 LT	10.0	49.0	1	(1) 6" Retaining Gland	Smith Road

(Refer to fittings schedule for verification of weights.)

PAY 49.0 LBS

641J-004 6' Valve & Box (Ea.)

Pay To 0 Decimal Places

DATE	STA	QTY	QTY TO DATE	EST. PAID	Description / Road
6-15-07	17 + 35 LT	1	1	1	Smith Road

PAY 1 EA

641D-000 Fire Hydrant (Ea.)

Pay To 0 Decimal Places

DATE	STA	QTY	QTY TO DATE	EST. PAID	Description / Road
6-16-07	17 + 35 LT	1	1	1	Smith Road

PAY 1 EA

641P-000 3/4" Service Tap (Ea.)

Pay To 0 Decimal Places

DATE	STA	QTY	QTY TO DATE	EST. PAID	Description / Road
7-7-07	20 + 30 RT	1	1	1	Smith Road
7-7-07	21 + 05 LT	1	2	1	Smith Road

PAY 2 EA

ITEM 650A-000 Top Soil (CY)

Pay To 1 Decimal Place

DATE	TRUCK NUMBER	TRUCK SIZE	LOADS TODAY	QTY	TO DATE	EST. PAID	REMARKS
1-23-01	112	20.22	2	40.44	40.44		
	114	19.00	1	19.00	59.44		
	113	15.28	2	30.56	90.00	2	

TOTAL: 90.00 CY

PAY 90.0 CY

Truck bed measurements are required to be taken out to 2 decimal places. Final top soil totals are rounded to 1 decimal.

Must provide truck bed measurements and calculations and submit with tickets on the County Form.

MC-LT Haul Ticket
MUST BE USED

ITEM 650A-000 Topsoil (CY) Example Calculations

Pay To 1 Decimal Place

Calculated In Place

Acres seeded from page ?? = 0.17 AC

Acres sodded from page ?? = 186.1 SY

Total area for topsoil

$$0.17 * 43560 = 7405.20 \text{ SF}$$

$$186.1 * 9 = 1674.90 \text{ SF}$$

$$\underline{\hspace{1cm}} \\ 9080.10 \text{ SF}$$

Thickness = 2" = 0.17'

$$\text{QTY} = \frac{9080.10 \text{ SF} * 0.17 \text{ FT}}{27} = 57.17 \text{ CY}$$

$$\frac{\text{CU FT}}{\text{CY}}$$

$$57.17 < 63 \text{ CY}$$

PAY 90.0 CY

Calculated (TBM) Delivered

$$\text{Area} = \text{Total Acres Grassed and Sodded} * 43560$$

$$\text{Volume} = \frac{\text{Area} * \text{Thickness}}{27}$$

Total From Tickets is 90 CY.

Apply 30% Shrinkage Factor.

$$9 (1 - 0.3) = 63 \text{ CY}$$

ITEM 652A-061 Seeding and 656A-000 Mulching						Pay To 2 Decimal Place					
LEFT SIDE						RIGHT SIDE					
CUM AREA	AREA	(FT) LENGTH	(FT AVE) WIDTH	(FT) WIDTH	STA	CUM AREA	(ACRE) AREA	(FT) LENGTH	(FT AVE) WIDTH	(FT) WIDTH	STA
				$\frac{0}{15}$	0 + 00					$\frac{0}{10}$	0 + 00
0.020	0.020	50	17.5			0.006	0.006	20	15		
				20	0 + 50					$\frac{20}{0}$	0 + 20
0.024	0.004	10	20			0.006	0	20	0		
				$\frac{20}{0}$	0 + 60					$\frac{0}{20}$	0 + 40
0.024	0	20	0			0.011	0.005	10	25		
				$\frac{0}{30}$	0 + 80					30	0 + 50
0.036	0.012	20	27.5			0.014	0.003	5	27.5		
				25	1 + 00					25	1 + 00
0.061	0.025	50	22.5			0.022	0.008	15	25		
				20	1 + 50					$\frac{25}{0}$	1 + 15
0.083	0.022	50	20			0.022	0	15	0		
				20	2 + 00					$\frac{0}{20}$	1 + 30
0.095	0.012	25	22.5			0.030	0.008	20	17.5		
				$\frac{25}{0}$	2 + 25					15	1 + 50
0.095	0	20	0			0.050	0.020	50	17.5		
				$\frac{0}{20}$	2 + 45					20	2 + 00
0.097	0.002	5	25			0.072	0.022	50	20		
				$\frac{30}{0}$	2 + 50					$\frac{20}{0}$	2 + 50
Total Area = 0.169						Example STA 0 + 00 to 0 + 20 RT					
PAY 0.17 Acres						(10 FT + 20 FT) = 15 FT x 20 FT = 300 SQ FT					
						$\frac{2}{300 \text{ SQ FT} / 43560 \frac{\text{SQ FT}}{\text{AC}}} = 0.006$					
						44					

ITEM 665F-000 Hay Bales (EA)

Pay To 0 Decimal Places

DATE	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
1-23-01	125+25	LT	4	4		
	137+90	LT	4	8		
	138+30	LT	4	12		
1-24-01	218+00	RT	26	38		
	218+00	LT	70	108		
1-26-01	243+00	RT	4	112	2	
2-9-01	197+00	RT	33	145		
	195+00	RT	42	187		
	195+00	LT	35	222		
	94+00	LT & RT	101	323	3	
	PAY 323 EA					

665F-000 Silt Fence (LF)

Pay To 0 Decimal Places

DATE	STA	STA	SIDE	QTY	TO DATE	EST. PAID	REMARKS
5-3-00	64+39	64+64	RT	25	25.0		
5-3-00	54+75	55+60	RT	85	110.0	1	
<div style="border: 2px solid black; padding: 5px; display: inline-block;"> PAY 110 LF </div>							

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**ITEM 701C-002 Broken Temporary
Traffic Stripe (Mile)**

Pay To 3 Decimal Places

DATE	FROM STA	TO STA	FT	QTY	TO DATE	EST. PAID	REMARKS
2-07-01	8+00	248+00	24,000	4.5454	4.5454	3	AS NEEDED TO STRIPE OVER LEVELING
5-03-01	5+30	47+20	4,190	0.7935	5.3389		
5-04-01	61+63	213+77	15,214	2.8814	8.2203		“ “ “ “ “
5-10-01	0+70	248+00	24,730	4.6837	12.9040		“ “ “ “ “
5-11-01	248+00	210+00	3,800	0.7186	13.6236		PLACED OVER WEARING SURFACE
5-14-01	185+65	104+50	8,115	1.5369	15.1605		“ “ “ “
5-15-01	80+00	0+69	7,931	1.5020	16.6625	6	“ “ “ “

EXAMPLE CALCULATION

PAY 16.663 MILE

24,800 FT - 800 FT = 24,000 FT

24,000 FT / 5,280 FT/MILE = 4.5454 MILES

ITEM 740B-000 Construction Signs (SQ FT)
Continued From Previous Page

DATE	STA	SIDE	SIZE	QTY (EA)	TO DATE	EST. PAID	REMARKS
1-31-01	0+60	RT	4' x 4'	16.00	306.00		@ Ben Hamilton Shoulder Drop Off
	56+75	RT	4' x 4'	16.00	322.00		" Shoulder Drop Off
	113+30	RT	4' x 4'	16.00	338.00		" Shoulder Drop Off
	167+80	RT	4' x 4'	16.00	354.00		" Shoulder Drop Off
	221+60	RT	4' x 4'	16.00	370.00		" Shoulder Drop Off
	245+40	LT	4' x 4'	16.00	386.00		" Shoulder Drop Off
	187+75	LT	4' x 4'	16.00	402.00		" Shoulder Drop Off
	77+00	LT	4' x 4'	16.00	418.00		" Shoulder Drop Off
	23+50	LT	4' x 4'	16.00	434.00		" Shoulder Drop Off
	0+60	RT	4' x 4'	16.00	450.00	3	" Shoulder Drop Off

EXAMPLE CALCULATION

PAY 450.0 SF

4 FT x 4 FT = 16 SQ FT

ITEM 740D-000 Channelizing Drums (EA)

Pay To 0 Decimal Places

[illegible]

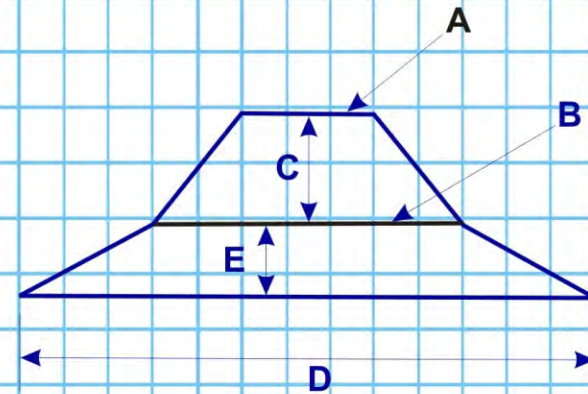
1002A-000 Asphalt Driveway (SY)

Pay To 2 Decimal Places

DATE	STA	QTY	TO DATE	EST. PAID
3-5-99	11 + 77 RT	27.777	27.777	4

PAY 27.78 SY

A B C D E
10 12 15 22 5
FT FT FT FT FT



$$= \frac{\left(\frac{10 \text{ FT} + 12 \text{ FT}}{2} \right) (15 \text{ FT}) + \left(\frac{12 \text{ FT} + 22 \text{ FT}}{2} \right) (5 \text{ FT})}{9 \text{ FT}^2/\text{SY}}$$

$$= 27.777 \text{ SY}$$

Formula

$$\frac{\left(\frac{A + B}{2} \right) C + \left(\frac{B + D}{2} \right) E}{9 \text{ FT}^2/\text{SY}} = \text{SY}$$

REQUIRED DOCUMENTATION **FOR ASPHALT**

1. Tickets

- Weigh master's Signature (must be on all tickets)
- Weigh master's Certificate (must be on all tickets)
- Field Inspector's Signature (must be on all tickets)
- Testing Lab's Signature (must be on all tickets)
- Temperature (must be on all tickets)
- Placement Location by Stations (must be on all tickets)
- Time Truck was Placed (must be on all tickets)

2. Ticker Tape

- Date, Pay Item Number/Description, and total quantity for each days placement. This applies for all materials used.
(See Example On Page 50)

TICKER TAPE

Example

2-28-08	
429A-241 Wearing Surface	
0 • C	
25 • 6400	+
23 • 6800	+
20 • 1900	+
24 • 5600	+
25 • 3200	+
20 • 4500	+
23 • 0300	+
007	
Total Day →	162 • 8700G+

REQUIRED DOCUMENTATION

FOR ASPHALT

(continued)

- 3. Certification Letter-** See Example pg. 56
- 4. Cross-Slope Information-** Provide readings at every 50 feet interval. In straight always and every 25 feet in curves. (Behind Spreader)
Readings must not deviate more than +/- 0.2% of the required cross slopes. (2.0 < 2.2 < 2.4)
- 5. QC/QA Packet -** See Example In Handouts

Assistant County Engineer
John E. Murphy Jr., P.E.

Construction Engineer
Cheryl Anthony, P.E.

Traffic Manager
James D. Foster

Mobile Government Plaza
205 Government Street
Mobile, Alabama 36644 - 1600



MOBILE COUNTY PUBLIC WORKS

Director of Public Works / County Engineer
Joe W. Ruffer, P.E.

Environmental Services Director
G. William Melton, P.E.

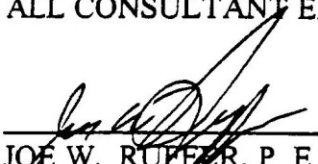
Design Engineer
W. Bryan Kegley II, P.E., P.L.S.

Property Agent
David M. Tacon

Phone: (334) 690-8595
Fax: (334) 690-4722

M E M O R A N D U M # 99-01

TO: ALL CONSULTANT ENGINEERS

FROM: 
JOE W. RUFFER, P. E.
COUNTY ENGINEER

DATE: MARCH 5, 1999

RE: CERTIFICATION LETTERS FOR BITUMINOUS CONCRETE

Before bituminous concrete is approved for payment by this office, a letter signed by the principal engineer will be written to the Mobile County Engineer, certifying that the pavement surface meets the specifications and/or typical section as set forth in contract documents, specifications and drawings. The engineer's professional stamp must appear on the letter of certification.

The above policy will be placed in effect immediately on all Mobile County projects.

TICKET REQUIREMENTS

1. Ticker Tape - Provide Date, Pay Item Number/Description, Day's Placement. This applies for all materials used. (See Example On Page 50)

2. Signatures- Field Inspector - Signs all Tickets

Weigh master - Signs all Tickets for items that Require Weighing (Asphalt, Rip Rap, Aggregate Surfacing)

Geotechnical Lab - Sign Asphalt Tickets

TICKET REQUIREMENTS

(continued)

3. List locations of placement by Stations -

Asphalt and Concrete tickets. Concrete Ticket should also provide type of structure poured, and Locations.

4. Truck Bed Measurements –

Ticket items paid in cubic yards **MUST BE REPORTED ON MC-LT CARDS** and submitted to the county.
(Topsoil, Borrow, etc.)

QC/QA REPORTS FOR GDBP PROJECTS ONLY

All QC/QA Reports are to be submitted with Monthly Estimate when Asphalt is placed. Asphalt Tickets, Certification Letter, Cross Slope Readings, AND Bituminous Price Adjustments should also be submitted with the QC/QA Reports.

- 1. QC/QA reports are required for all projects referencing the applicable year ALDOT Standard Specifications Manual for Highway Construction or later.**
- 2. If asphalt quantity produced is less than 50 tons no tests should be taken. First test should be taken from the first loaded truck following the truck containing the fiftieth ton produced. (ALDOT Standard Specification for Highway Construction- Table 1 Section 106.09)**

QC/QA REPORTS FOR GDBP PROJECTS ONLY

(continued)

3. Each Package consists of an Individual Lot.

A. No Test Strip Required.

B. The first lots should be labeled as Lot 1, Lot 2, etc.

1. Maximum Pay Factor is 1.00 or payable at 100 percent.
2. Each Day's Placement is classified as an Individual Lot.
3. The mat density shall be between 92 and 96 percent for all section-429 ESAL range A and B mixes.

QC/QA REPORTS FOR GDBP PROJECTS ONLY

(continued)

Required Forms for QC/QA

1. Cover Sheet

2. BMT-20 - Form Completed by Contractor.
Form Completed by Testing Lab.

3. BMT-19 - Form Completed by Engineer

- A. Deviations from the Contractor's results for Air Voids and Asphalt Content are checked against the Required Values.
- B. Use Average Deviations to determine Pay Factor from Section 410.08 of the ALDOT Specification Manual. (Table II)
- C. Compare Contractor's values to testing lab values. If outside allowable tolerance in Table V, Section 410.08, a referee sample must be take

QC/QA REPORTS FOR GDBP PROJECTS ONLY

(continued)

4. Core Density Worksheet (MC-CDW)

Testing frequency for cores

- A. Minimum of 2 cores per road for roads ≤ 3000 linear feet.
- B. For roads > 3000 linear feet see Supplemental Specification No. 410.05, Section 410.08 e.
- C. Individual Core Density must fall between the range of 92 and 96 percent to be accepted for any pay.

QC/QA REPORTS FOR GDBP PROJECTS ONLY

(continued)

5. BMT-97 Are not required for GDBP projects only

- A. Core must fall between 92 and 96 percent density for any payment.
- B. Anything outside this range will not be accepted, and will be removed and replace asphalt at no cost to Mobile County.

QC/QA REPORTS FOR GDBP PROJECTS ONLY

(continued)

6. BMT- 4 - Form Completed by Engineer's Field Inspector

- A. Spread rates should be calculated and checked as per Mobile County Supplemental Specifications No. 410-05 Section 410.03(f)
- B. Pay will be based on each unit or road whichever is less.
- C. MC-LS-1 & 2 form is not a valid substitute for a BMT-4 form.

7. QC/QA-1 Form Completed by Engineer

8. QC/QA-2 Form Completed by Engineer

- A. Only needed If referee was required.
- B. Referee Tests required if differences between the test results are not within tolerances shown in Table V, Section 410.08 of the Mobile County Supplemental Specifications..

QC/QA REPORTS FOR GDBP PROJECTS ONLY

(continued)

9. QC/QA-3 Form Completed by Engineer

- A. Apply lowest Pay Factor to determine Payable Tonnage

10. MC-LS-1 & 2 Forms Completed by the Engineer's Field Inspector

- A. All items must be filled out completely.

11. MC-26-1 Forms Completed by the Engineer

- A. Summary Sheet for Bituminous Price Adjustments, for monthly Asphalt & Tack Placement.

QC/QA REPORTS FOR GDBP PROJECTS ONLY (continued)

12. MC-26-2 Form Completed by the Engineer

- A. Bituminous Material Worksheet for Asphalt Placement per month.
- B. Asphalt Indexes must be checked monthly from ALDOT's web site for each month of asphalt placement.

13. MC-26-3 Forms Completed by the Engineer

- A. Bituminous Material Worksheet for Tack (Emulsified Asphalt) placement per month.
- B. Asphalt Indexes must be checked monthly from ALDOT's web site for each month of tack placement.

www.dot.state.al.us/constructionindexes/asphalt.aspx

QC/QA REPORTS FOR GDBP PROJECTS ONLY (continued)

14. MC-27-1 Forms Completed by the Engineer

- A. Summary sheet for HMA Fuel production cost, monthly.

15. MC-27-2 Form Completed by the Engineer

- A. HMA Fuel Production Cost.
- B. Fuel Indexes must be checked monthly from ALDOT's web site for each month of asphalt placement.

www.dot.state.al.us/constructionindexes/fuel.aspx

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY

All QC/QA Reports are to be submitted with Monthly Estimate when Asphalt is placed. Asphalt Tickets, Certification Letter, Cross Slope Reading's, and Bituminous Price Adjustments should also be submitted with the QC/QA Reports.

- 1. QC/QA reports are required for all projects referencing the applicable year ALDOT Standard Specifications Manual for Highway Construction or later.**
- 2. If asphalt quantity produced is less than 50 tons no tests should be taken. First test should be taken from the first loaded truck following the truck containing the fiftieth ton produced. (ALDOT Standard Specification for Highway Construction- Table 1 Section 106.09)**

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY (continued)

3. Each Package consists of an Individual Lot.

A. First Lot is labeled as the Test Strip and consists of not more than 500 tons.

1. Maximum Pay factor is 1.0 or payable at 100 percent.

B. The lots following the Test Strip should be labeled as Lot 1, Lot 2, etc.

1. Maximum Pay Factor is 1.02 or payable at 102 percent.

2. Each 2800 Ton Placement is classified as an Individual Lot.

3. The target density shall be 92 percent for all section-429 ESAL range A and B mixes

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY (continued)

Required Forms for QC/QA

1. Cover Sheet

- 2. BMT-20** - Form Completed by Contractor.
Form Completed by Testing Lab.

- 3. BMT-19** - Form Completed by Engineer
- A. Deviations from the Contractor's results for Air Voids and Asphalt Content are checked against the Required Values.
 - B. Use Average Deviations to determine Pay Factor from Section 410.08 of the ALDOT Specification Manual.
 - C. Compare Contractor's values to testing lab values. If outside allowable tolerance in Table V, Section 410.08, a referee sample must be taken.

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY (continued)

4. Core Density Worksheet (MC-CDW)

- A. Core Densities are used to fill out BMT-97 for sub-lot and lot pay factors.

5. BMT-97 Form Completed by Engineer.

- A. Densities for each Sub-lot are compared to Target of 92 Percent.
- B. Use Contractor's Average Deviations to determine Sub-lot Pay Factor from Section 410.08 of the ALDOT Specification Manual.
- C. Determine Lot Pay Factor by applying weighted average of Sub-lot Pay Factors.

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY (continued)

6. BMT- 4 - Form Completed by Engineer's Field Inspector

- A. Spread rates should be calculated and checked as per Mobile County Supplemental Specifications No. 410-05 Section 410.03(f)
- B. Pay will be based on each unit or road whichever is less.
- C. MC-LS-1 & 2 form is not a valid substitute for a BMT-4 form.

7. QC/QA-1 Form Completed by Engineer

8. QC/QA-2 Form Completed by Engineer

- A. Only needed if referee was required.
- B. Referee Tests required if differences between the test results are not within tolerances shown in Table V, Section 410.08.

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY (continued)

9. QC/QA-3 Form Completed by Engineer

- A. Apply lowest Pay Factor to determine Payable Tonnage

10. MC-LS-1 & 2 Forms Completed by the Engineer's Field Inspector

- A. All items must be filled out completely.

11. MC-26-1 Forms Completed by the Engineer

- A. Summary Sheet for Bituminous Price Adjustments, for monthly Asphalt & Tack Placement.

QC/QA REPORTS OR RESURFACING PROJECTS ONLY (continued)

12. MC-26-2 Form Completed by Engineer

- A. Bituminous Material Worksheet for Asphalt Placement per month.
- B. Asphalt Indexes must be checked monthly from ALDOT's web site for each month of asphalt placement.

13. MC-26-3 Forms Completed by the Engineer

- A. Bituminous Material Worksheet for Tack (Emulsified Asphalt) placement per month.
- B. Asphalt Indexes must be checked monthly from ALDOT's web site for each month of tack placement.

QC/QA REPORTS FOR RESURFACING PROJECTS ONLY (continued)

14. MC-27-1 Forms Completed by the Engineer

- A. Summary sheet for HMA Fuel production cost, monthly.

15. MC-27-2 Form Completed by the Engineer

- A. HMA Fuel Production Cost.
- B. Fuel Indexes must be checked monthly from ALDOT's web site for each month of asphalt placement.

www.dot.state.al.us/constructionindexes/fuel.aspx

QC/QA REPORTS FOR NON-UNIFORM SURFACE

(Leveling, Patching & Widening)

- Maximum Pay Factor is 1.00 (Tested for Only Air Voids and Asphalt Content)
- No Mat Density Test Required - (Core Density Worksheet and BMT-97 are Not Required)
- QC/QA forms are assembled and completed in the same manner as for resurfacing projects.

Determining Yield Rate Penalties For **GDBP Projects**

The required spread rate for the project is 165 lbs/s.y.
Between stations 24+18 to 31+37 Rt. A 12.0' wide lane was placed
encompassing an area of 958.67 s.y.
102.85 tons of 429-A wearing surface was used to cover this area
which amounted to a spread rate of 214.57 lbs/s.y.

Parameters:

$$110\% \times 165 \text{ lbs/s.y.} = 181.50 \text{ lbs/s.y.}$$

$$121\% \times 165 \text{ lbs/s.y.} = 199.65 \text{ lbs/s.y.}$$

The spread rate achieved over this area exceeded both the 110% and 121%
parameters
and is therefore subject to deductions of both 20% and 50% of the amounts
over target.

Calculations:

80% Payment Penalty

$$199.65 - 181.5 = 18.15 \times 958.67 = 17399.86 / 2000 = 8.70$$
$$8.70 \text{ tons} \times 0.20 = 1.74 \text{ ton deduction}$$

50% Payment Penalty

$$214.57 - 199.65 = 14.92 \times 958.67 = 14301.86 / 2000 = 7.15$$
$$7.15 \text{ tons} \times 0.50 = 3.58 \text{ ton deduction}$$

The total deduction for exceeding both penalties is therefore
 $1.74 \text{ tons} + 3.58 \text{ tons} = \mathbf{5.32 \text{ tons}}$

PROCEDURES TO FOLLOW BEFORE SUBMITTING ***WATERLINE DOCUMENTATION***

1. Coordinate with the *Design Engineer* responsible for *water line design* to verify the final quantities documented by the inspector representing the water authority are consistent with the county's inspector performing the CE&I.
2. Any changes to the original design should be handwritten in **RED** on the As-Built drawings.
3. Ensure the final quantities for each pay items are the same in the Field Book, the Summary Of Quantities For Pay Items, The Construction Estimate, The Summary Of Quantities in the As-Built Plan Set, and the Daily Reports. Any changes to the original plan must be shown on the As-Built Plan Set.

PROCEDURES TO FOLLOW BEFORE SUBMITTING *WATERLINE DOCUMENTATION* (continued)

4. **Do not** include insert drawings
5. Describe on the As-Built Plan Set the waterline and its components so it is clearly depicted as listed in the filed book. (This includes showing all fittings, valves, waterline, services, etc. on the As-Built Plan Set.)
6. Field Book should list documentation separately for each road where work was performed. Be sure to reference in the index the page where documentation for each road may be located.

WATERLINE DOCUMENTATION

1. Manufacturer's Certifications for Waterline Components. *
2. Fitting schedules from manufacturer listing the types and weights of fittings installed.*
(This information is provided by the contractor.)
3. Field book pages AND Daily Reports documenting quantities.*
4. As-Built Plans showing final quantities and locations.*

* All information to be provided to Mobile County Engineering Office by first pay estimate following completion of all water line work.

RAINER GLANDS
BE USED
ALL VALVES
FITTINGS
(ABANDON)
3" WATER MAIN

J. PIPE
VALVE
TEE
LUG
2 1/2"
RAINER GLANDS
BLOCKS

NEW
3" PR200 PVC

FLUSH HYDRANT

DETAIL "B"
N.T.S.

VERDIE H. HOLLAND,
1700 HENRY DAVIS RD.
CHUNCHULA AL. 36521

REQD
20 LF. 3" D.J. PIPE
2- 3" GATE VALVE
1- FLUSH HYDRANT
1- 3" D.J. TEE
2 - 3" D.J. 2 1/2"
1- 3" D.J. PLUG
1- 3" D.J. SLEEVE
10- 3" RETAINER GLANDS
4- THRUST BLOCKS

EXISTING 3" WATER MAIN
(RETAIN)

3" GATE VALVE

GRASS DITCH
17+00

CONST. LIMITS
18+00

19+00

20+00
GRASS

DISTRICT

(1)

P.I.

GRASS

GRASS

PTSD 19+73.26

**The End
Thank You.**

**If you would like additional copies of the *Manual* or a copy of the
Presentation go to www.mobilecountypublicworks.net
*Under Reports (on the left of the page) you will find the PDF files.***

**If you have any questions
Please See
James Vorpahl
before you leave.**

