

CHAPTER 8  
Roadway Aggregate Items

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**DOCUMENTATION REQUIREMENT  
SECTION A  
ROADWAY AGGREGATES (TON)**

Contracts containing aggregate items paid by the ton as illustrated in this chapter shall be documented in a LOAD book with the title being the same as the material placed in the book.

To setup the load books, the information for the aggregate items shall be found in the contract plans on the Estimate of Quantities, as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.).

Chapter 8 (Roadway Aggregates), Chapter 9 (Plantmix Surfacing, Asphalt Cement and Mineral Filler), and Chapter 11 (Concrete Paving, Roadbed Mod, Recycled Bit. Surface, Micro Surfacing and Misc. Surfacing items) are based on items paid by the ton. Separate load books shall be used for all major roadway aggregates such as type 1-2 class A-B aggregate base and shouldering material, plantmix bituminous surface (PBS), open graded and any other item that is delivered to the job with weigh tickets and is paid by the ton. Minor items such as sand blotter, screenings, etc., may be combined and put in one book if room permits, as long as the book is properly indexed and the record of delivery to the jobsite can be readily found. **Make sure to leave enough pages between items for any added or missed items.**

**Load books are required on all contracts with tons items. Ditto marks, vertical lines, arrows, etc. are not acceptable.**

It is important that all records be kept in a neat and legible manner. All **notes in the remarks column must be initialed** by the person or persons responsible for the entry. **All calculations must be checked and initialed by the checker.**

Any items requiring measurements, or final quantity calculations must be shown in the field book or on a CALCULATION sheet (Form No. 040-034) and filed in the CALCULATION book as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.). Make sure to cross reference the quantity in the field book to the CALCULATION sheet and the CALCULATION sheet to the field book(s) and page(s).

The Contractor shall not haul loads which are in excess of the limits set by the Department on any new or existing bridge, existing bituminous base and surface, cement treated base, or Portland cement paving which is to remain in place for vehicular traffic within the project or between the project and the material deposits or other sources of materials. The Contractor must comply with load limits established by the Department of the project regardless of the source of materials, whether from designated or non-designated deposits or approved commercial sources. Unless otherwise permitted in writing, do not exceed the maximum loads limits set forth in NRS Chapter 484. See 105.13 of the Standard Specifications of Road and Bridge Construction, (Silver book) for limitations. The VEHICLE WEIGHT LIMIT REPORT (Form No. 040-000) will be completed to assure the vehicle weight is within limits and will be completed by the weighmaster.

If there are any questions concerning the VEHICLE WEIGHT LIMIT REPORT (Form No. 040-000), please contact Headquarters Construction Quality Assurance for assistance.

**Forms change periodically, please assure that you are using the most current form available, see Chapter 26 (Distribution of Documents).**

**DOCUMENTATION REQUIREMENT  
SECTION B  
ROADWAY AGGREGATES (TON)  
(INDEX AND INITIAL KEY)**

Below are illustrations of an index and an initial key. When setting up a field book at the beginning of a contract make sure each item in the book is listed on the index. During the contract if anything is added to the book make sure it is placed on the index. At job closeout make sure the index has the ending page for each item listed on more than one page. Make sure to list the book recap page(s) on the index. If room permits skip a line between entries on the index. Check the initial key each progress payment to assure that everyone who has made entries in the book has initialed and signed the initial key. If the signature is not legible, have the person print his/her name under the signature. Make sure the initials used throughout the book match the way the initials show on the initial key. If the initials change, add the new initials to the initial key next to the original initials.

**TYPE 1  
CLASS B  
AGG. LOAD  
book**

Use when  
only one  
item is  
placed in a  
book.

Page	Index Description	Initial Key		
4-50	Type 1 Class B Agg.	Initials	Signature	Title
		SB	Sherril Brown	Tech 4
		JD	Jack Dougherty	Tech III

**MISC LOAD  
book**

Use when  
multiple  
items are  
placed in a  
book.

Page	Index Description	Initial Key		
4-10	Sand blotted	Initials	Signature	Title
15-30	Screening	SB	Sherril Brown	Tech 4
		JD	Jack Dougherty	Tech III

**DOCUMENTATION REQUIREMENT  
SECTION C  
ROADWAY AGGREGATES (TON)  
(DAILY RECORD OF SCALE WEIGHTS, aka 40-LOAD SHEET)  
(Form No. 040-009)**

The **Weighmaster** shall do the following:

1. Prepare the DAILY RECORD OF SCALE WEIGHTS as illustrated on pages 8-5 and 8-6. Record the sheet number, pit number or commercial source, material type, date, and contract number. This information is required on each sheet. Due to some pits being on private property and having royalties involved, the Deposit No. shall be recorded in the Pit No. space. Make sure to cross off Pit No. and place Deposit No. above.
2. Weigh the material and record the ticket number, truck number, gross, tare, and net weight in pounds or kilograms (circle one), and net weight (circle Tons or Metric Tons). If a single beam scale is used, gross weights and tare weights must be shown on every load. If a scale with a tare bar, or certified load scales on a silo are used, the gross weights do not need to be shown and the tare weights shall be indicated only when the trucks are tared twice each shift. (See subsection 109.01 of the Standard Specifications for Road and Bridge Construction, (Silver book.)
3. Record the time every five loads with AM and PM listed on each time on the DAILY RECORD OF SCALE WEIGHTS.
4. Calculate and record the total of every 10 loads for the Gross, Tare, Net, and Tons on the DAILY RECORD OF SCALE WEIGHTS. Record the accumulative ton total in the remarks column for every 10 loads.
5. Deduct any waste from the total tons delivered and calculate a new total. If there is no waste, place "0 waste" below the total on the DAILY RECORD OF SCALE WEIGHTS. **An explanation for all waste must be noted and circled in red in the load book.**
6. Sign the bottom of the DAILY RECORD OF SCALE WEIGHTS as **Weighmaster**.
7. Turn the DAILY RECORD OF SCALE WEIGHTS into the office daily.

**If NDOT is not the Weighmaster, the Contractor must sign the DAILY RECORD OF SCALE WEIGHTS as Weighmaster.**

The **Weighmaster** shall prepare a HAUL TICKET (Form No. 040-049) for the truck driver indicating the following information: Date, load no., type of material, truck no., contract no., tons, and initials. If the Contractor generates COMPUTERIZED TICKETS, as illustrated on page 8-9, it shall be given to the truck driver in lieu of the HAUL TICKET.

If there are any questions concerning HAUL TICKET (Form No. 040-049), please contact Headquarters Construction Quality Assurance for assistance.

**Forms change periodically, please assure that you are using the most current form available, see Chapter 26 (Distribution of Documents).**

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There may be some cases where the scales being used on the contract do not have sufficient length to weigh both truck and trailer loads at the same time. When this happens, the weights of the truck and trailer must be entered separately on the DAILY RECORD OF SCALE WEIGHTS. Be sure to use the correct tare weights for the separate truck and trailer.

The **Officeperson** shall check for mathematical correctness, place the AEB number(s) and stationing from the load book on the DAILY RECORD OF SCALE WEIGHTS, making sure all stations are represented and match the load books. Check to make sure all waste has been explained in the load book and the waste quantity deductions are correct and match the waste shown in the load book. **Show the actual moisture done for the day and the optimum moisture for the material and calculate any adjustments needed.** Sign the DAILY RECORD OF SCALE WEIGHTS as Checked by and Checked against book by.

The DAILY RECORD OF SCALE WEIGHTS shall be filed in Section 1-Contract Files, Division No. 12 as described in Chapter 1 (Organization of Project).

**Note:** All stations must have a line designation and left, right, or centerline.

Whenever the moisture content of aggregate base materials exceeds optimum plus one percent, the excess shall be calculated by the **Officeperson** or **Inspector** and deducted from the weight of material delivered for the day. (Refer to subsection 302.04.01 of the Standard Specifications for Road and Bridge Construction (Silver book) for method of deducting excess water.) These calculations shall be based on the moisture test that represents what was weighed. Actual moistures are located on the FIELD MATERIAL SIEVE WORKSHEET (Form No. 040-013) and optimum moistures are located on the COMPACTION REPORT (Form No. 040-004), line #16. **Assure the actual moisture tests were taken after the material was weighed and prior to additional water added in the field. If moisture was not weighed, it should not be deducted and a note should be placed on the DAILY RECORD OF SCALE WEIGHTS or the COMPUTERIZED TICKET relaying this information.** Compaction reports may not be run daily, so use the compaction report that was completed on or before the date being processed. **Moistures apply to both Type A and Type B aggregate. Moisture tests are required per the Standard Specifications for Road and Bridge Construction (302.04.01) (Silver book) and per the Memorandum dated March 24, 2009.**

Calculations for water deductions, if necessary, shall be shown on the scale sheet as illustrated on page 8-5. The following formulas shall be used to arrive at the daily pay total of aggregate base material when a deduction is necessary:

$$\frac{\text{total aggregate}}{1 + (\text{actual moisture \%} \div 100)} = \text{dry agg}$$

$$\text{dry agg} \times [1 + ((\text{optimum \%} + 1\%) \div 100)] = \text{dry agg pay quantity}$$

For instance, the daily total for aggregate is 1000 tons, actual moisture is 10.9% and optimum moisture is 8.5%, the calculated quantity for payment would be:

$$\frac{1000.00}{1.109} = 901.71 \times 1.095 = 987.37 \text{ dry agg pay total}$$

If calculations are needed and there are more than one AEB number evolved, make sure to prorate the new pay total to all the AEB numbers as illustrated on page 8-5.

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DAILY RECORD OF SCALE WEIGHTS with a moisture adjustment.

STATE OF NEVADA  
DEPARTMENT OF TRANSPORTATION

Sheet No. 1

DAILY RECORD OF SCALE WEIGHTS

Pit No. \_\_\_\_\_

Or Commercial Source Granite/Patrick

Material Type Type 1 Class B AGG

Date 9-30-08

Contract No. 3247

Ticket No.	Truck No.	Gross Weight	Tare Weight	Net Weight	Net Weight	Time	Remarks
Circle	Units	(Lbs) Kg	(Lbs) Kg	(Lbs) Kg	(Tons) Metric Tons		
234	6	88180	34320	53800	2690	6:20AM	1ST TARE "A" 1+00LT
235	43	84188	33757	50431	2522	6:25AM	1ST TARE
236	47	90121	34710	55411	2771	6:30AM	1ST TARE
237	50	92370	34727	57643	2882	6:35AM	1ST TARE
238	6	90900	34380	56520	2826	7:00AM	
240	43	87259	33757	53502	2675		"A" 9+75LT
241	47	89316	34710	54606	2730		"X" 10+15LT
242	50	93755	34727	59028	2951		
243	6	89901	34380	55521	2776		
244	43	88952	33757	55195	2760	7:50AM	
		894942	343285	551657	275.83		275.83
245	47	91976	34710	57266	2863		
246	50	92686	34727	57959	2898	8:30AM	"X" 20+03LT
		184662	69437	115225	57.61		Tons Deliv = 333.44
							Tons Wasted = 0
							Tons Placed = 333.44
							AEB #1 = 163.66
							AEB #2 = 169.78
							ACT moisture = 9.6%
							DPT moisture = 8.5%
							333.44 - 1.096 = 304.23
							304.23 X 1.095 = 333.13
							163.66 ÷ 333.13 = .49
							169.78 ÷ 333.13 = .51
							333.13 X .49 = 163.23
							333.13 X .51 = 169.90
							333.13
							Adj. Pay Totals =
							163.23 AEB #1
							169.90 AEB #2

NOTES: Take tare weights twice each shift, once prior to starting work in the morning and again at some other time during the day. Note times tares were taken. Record time every five loads.

Sam Smith Weighmaster  
Steve Ely Resident Engineer

Rocky Rhoads Checked by  
Terrie McCafferty Checked Against Book by

NDOT 040-009 (Rev. 12-00)

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DAILY RECORD OF SCALE WEIGHTS without a moisture adjustment.

STATE OF NEVADA  
DEPARTMENT OF TRANSPORTATION

Sheet No. 1

DAILY RECORD OF SCALE WEIGHTS

Pit No. \_\_\_\_\_

Or Commercial Source Granite/Patrick

Material Type Type 1 Class B Agg

Date 9-28-08

Contract No. 3247

Ticket No.	Truck No.	Gross Weight		Tare Weight		Net Weight		Net Weight		Time	Remarks											
Circle	Units	Lbs/Kg		Lbs/Kg		Lbs/Kg		Tons/Metric Tons														
1521	6	8	8	1	8	0	3	4	3	8	0	5	3	8	0	0	2	6	9	0	6:20AM	1ST TARE "P" 10+00 RT
1522	43	8	4	1	8	8	3	3	7	5	7	5	0	4	3	1	2	5	2	2	6:25AM	1ST TARE
1523	57	10	0	1	2	1	4	4	7	1	0	5	5	4	1	1	1	2	7	1	6:30AM	1ST TARE
1524	50	9	2	3	7	0	3	4	7	2	7	5	7	6	4	3	2	8	3	2	6:35AM	1ST TARE
1525	6	9	0	9	0	0	3	4	3	8	0	5	6	5	2	0	2	8	2	6	6:40AM	"P" 11+80 RT
		455759		181954		273805		136.91														Tons Delivd = 136.91
																						Waste = 0
																						Tons Placed = 136.91 ASP#1
																						ACT moisture = 4.6%
																						OPT moisture = 7.5%
																						NO ADS.

NOTES: Take tare weights twice each shift, once prior to starting work in the morning and again at some other time during the day. Note times tares were taken. Record time every five loads.

Stanley Jones Weighmaster  
Joe Taylor Resident Engineer

Oliver Joseph Checked by  
Mark Travis Checked Against Book by

NDOT 040-009 (Rev. 12-00)

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**DOCUMENTATION REQUIREMENT  
SECTION D  
WEIGHMASTER'S CHECKLIST**

The scale person shall post a copy of the **Weighmaster's** checklist in each scale shack for easy reference.

1. Inspect scale area for proper drainage of water away from scale installation.
2. See that ramps or approaches to scale are kept smooth to prevent bouncing of vehicles on the platform. Lock scale beams in place when trucks are driving on or off platform.
3. Check to see that the scale has been inspected and sealed by the Bureau of Weights and Measures as required in subsection 109.01 of the Standard Specifications for Road and Bridge Construction (Silver book).
4. Inspect the scale platform often to see that the surface is kept free of mud, gravel, or any other material accumulating on the surface that might affect the weights or become lodged between the platform and frame in such a way that the scale operation is impaired.
5. Before beginning work and occasionally during the day, check to see that the scale balances at zero when empty.
6. Obtain tare weights of all trucks to be used before work commences and again later in the shift. Record the tare weights and the time they are taken on the DAILY RECORD OF SCALE WEIGHTS. Demand that a new tare be taken whenever you suspect the weight has changed due to accumulation of mud or any other condition. The truck driver is to remain in the truck at all times when tares are taken or when loads are being weighed.
7. Make sure to record all necessary information on the DAILY RECORD OF SCALE WEIGHTS. It is the **Weighmaster's responsibility** to record the following information:

<b>Sheet number</b>	<b>Gross weights (when single beam scale is used), lbs/kg</b>
<b>Pit number</b>	<b>Tare weights, lbs/kg</b>
<b>Material Type</b>	<b>Net weights, lbs/kg</b>
<b>Contract number</b>	<b>Net weights, tons</b>
<b>Date</b>	<b>Time (every five loads and at tares)</b>
<b>Ticket numbers</b>	<b>Subtotals &amp; accum. totals every 10 loads</b>
<b>Truck numbers</b>	<b>Weighmaster's signature</b>

8. Know how to operate the type of scale being used. The gross and tare weights must be shown on every load when a single beam scale is used. Be sure to note at which loads the tare weights were actually taken.

If a double beam scale with a tare bar is used, be sure to enter the correct tare in the scale with each load. No gross weights need be shown and tares shall be shown only when they are taken.

9. Prepare a HAUL TICKET for each load weighed as explained on page 8-3. Give the original of each HAUL TICKET to the truck driver. Carbon copies of HAUL TICKETS are turned into the field office daily to be used for checking if a ticket is lost.
10. Make sure to use separate DAILY RECORD OF SCALE WEIGHTS if more than one type of material is being weighed.

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**DOCUMENTATION REQUIREMENT  
SECTION E  
ROADWAY AGGREGATES (TON)  
(COMPUTERIZED SCALE TICKETS)**

Some Contractors are equipped with automated scales, which produce a COMPUTERIZED ticket with each load as illustrated on page 8-9. On projects where these facilities are available, these tickets may be used in lieu of the DAILY RECORD OF SCALE WEIGHTS to document roadway aggregates. **Each COMPUTERIZED ticket must contain the date, material source, material type, ticket number, truck number, gross, tare and net weights, tons, time and accumulative total.**

Each day, the **Officeperson** shall add all of the tickets to verify the accumulative total and initial. If the total is incorrect the **Officeperson** must investigate. If the error is only a rounding error, the **Officeperson** will line through the printed total and place the new total above and initial. If there are loads missing, then a DAILY RECORD OF SCALE WEIGHTS (Form No. 040-009) must be completed in lieu of the COMPUTERIZED tickets. The **Officeperson** shall place the AEB number(s) and stationing from the load book on the last COMPUTERIZED ticket for the day, making sure all stations are represented and match the load books. **Show the actual moisture done for the day and the optimum moisture for the material and calculate any adjustments needed.** The Resident Engineer must sign, **not initial** the last ticket for the day.

**If there is waste for the day it must be deducted from the checked accumulative total and the tons placed, must be initialed after any deductions are shown. If there is zero waste, place 0 waste on the last scale ticket for the day. An explanation for all waste must be noted in the load book.**

The last ticket along with the load books, become the source documents and shall be turned in at the completion of the contract.

Special care must be taken to insure that only those loads used on the contract are included in the accumulated total shown on the ticket and accumulative tons are zeroed each day.

The last COMPUTERIZED ticket for the day shall be filed in Section 1-Contract Files, Division No. 12 as described in Chapter 1 (Organization of Project).

Load books as illustrated on page 8-11 and spreadsheet as illustrated on page 8-13 are still required when using this method.

Information required on every computerized ticket:

- Date
- Material source
- Material type
- Ticket and truck number
- Gross, tare, net weights, and tons
- Accumulative total tons
- Time

On the last ticket of the day, the following information must be recorded:

- Beginning and ending stations, making sure all stations are represented and match the load book
- Stations shall have a line designation left, right, or center line
- AEB number
- Pit information
- Optimum and actual moistures, making sure to show calculations for any adjustments that are needed (see page 8-4 for calculations)
- Waste, if zero waste, place 0 waste
- Resident Engineers **signature** and checker's initials

		SIGN AND RETURN		CONTROL NO. → <b>531322</b>				
				TICKET NO. → <b>21943422</b>				
		DATE	TIME	HAULER NO.	TRUCK NO.			
		<b>2/9/2008</b>	<b>8:01:41 AM</b>		<b>TR1809</b>			
CUSTOMER	PURCHASE ORDER NO.	PRODUCT CODE	SALE TYPE	ZONE	PLANT NO.	PROJECT NO.	LOAD	ACCUM. AMOUNT
<b>Joan P.t</b> 627198	321500	71332	Picku.		219	3215	36	1300.58 /SB
CUSTOMER NAME			JOB NAME / DIRECTIONS			Total Deliv		
Contract Sales - SNP			NDOT 3247 SR-160, Blue Diamond and I-15 BD' 10+95 To BD' 62+20 RT opt moisture - 5.2 /SB ACT moisture - 3.7 NO ADJ AEB#2 1300.58 placed @ waste					
RE. <i>Joe Green</i>								
PRODUCT	QUANTITY	UNIT	PRICE	AMOUNT		MEGA GRAMS	POUNDS	TONS
Type 1 B	34.89	Ton			GROSS	55.29	121900	60.95
					TARE *	23.64*	52120	26.06
					NET	31.65	69780	34.89
					TOTAL DUE			
I / We relieve the seller of any liability for personal injury or property damage when delivery is made beyond the curb line. See reverse side. * Predetermined Tare					ARRIVE JOB	DEPART JOB	WAITING TIME	WEIGHT MASTER
								<i>Susan Le</i>

**DOCUMENTATION REQUIREMENT  
SECTION F  
ROADWAY AGGREGATES (TON)  
(LOAD BOOK)**

Separate load books shall be used for all major roadway aggregates such as type 1-2 class A-B aggregate base and shouldering material. Minor items such as sand blotter, screenings, etc., may be combined and put in one book if room permits, as long as the book is properly indexed and the record of delivery to the jobsite can be readily found. An illustration of a page in a load book is on page 8-11.

The **Officeperson** shall complete for each page all headings, Record of Delivery, date, type of material, ticket no., truck no., time, station, tickets taken by, and checked against scale sheet. Alternate load books may be used in order that one book remains in the office for checking and posting while the other is being used in the field. The headings may be handwritten or stamped. A stamp can be ordered through Headquarters Construction.

When the load is delivered to the jobsite, the truck driver will hand the ticket to the **Inspector**. The **Inspector** will record the **date, type of material, ticket no., truck no., time every fifth load, and beginning and ending station for each page** in the load book. Make sure all stations have a line designation left, right, or center line and equations are listed to explain any changes in the line. The **Inspector** shall initial tickets taken by:.

**Load books are required on all contracts with ton items. Ditto marks, vertical lines, arrows, etc. are not acceptable.**

The **Inspector**, at the end of the shift, will turn the DAILY RECORD OF SCALE WEIGHTS or the COMPUTERIZED tickets and the load book into the field office.

The **Officeperson** shall compare the load book against the DAILY RECORD OF SCALE WEIGHTS or the COMPUTERIZED tickets. If there is a ticket, the load most likely arrived at the jobsite. If there is a ticket that does not show in the load book and should be included for payment, document the ticket in the appropriate load book. Loads appearing on the DAILY RECORD OF SCALE WEIGHTS or COMPUTERIZED tickets, that are not to be included for payment, must have a satisfactory explanation. **Stations in the load book and the DAILY RECORD OF SCALE WEIGHTS or the last COMPUTERIZED ticket for the day must match.**

**All waste quantities in the load books shall be explained and circled in red. On the last page of the day, in the load books, circle in red the total tons wasted for the day. If there is zero waste, place 0 waste and circle in red. Remember, an explanation for all waste must be noted.**

The **Officeperson** shall initial each page at the bottom, "checked against scale sheet" in the load book indicating that it was crosschecked against the DAILY RECORD OF SCALE WEIGHTS or the COMPUTERIZED tickets.

The DAILY RECORD OF SCALE WEIGHTS or the last COMPUTERIZED ticket for the day and the load books together become the source documents and must be turned in at the completion of the job.

Below is an illustration of a page in a TYPE 1 CLASS B AGG. LOAD book.

Make sure the following is recorded on each page:

- A complete date
- Type of Material
- Ticket No. **not** the load No., unless there is no ticket No.
- Truck No.
- Time is every 5<sup>th</sup> load
- Beginning and ending station per page
- Any equations to explain a change in the line designation
- Lt, Rt, or C/L on each station
- All waste is recorded and explained
- All waste, including 0 waste is circled in red
- Tickets taken by must be initialed
- Checked against scale sheet must be initialed

See page 8-10 for instructions on load books.

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**RECORD OF DELIVERY**

**DATE:** 9-30-08

**Type of Material:** Type 1 Class B Agg

Ticket No.	Truck No.	Time	Station
234	6	6:20 AM	"A" 1+00 LT
235	43		
236	47		
237	50		
238	6	7:00 AM	
240	43		"A" 9+75 LT
241	47		"X" 10+15 LT
242	50		
243	6		
244	43	7:50 AM	
245	47		
246	50	8:30 AM	"X" 20+03 LT

0 WASTE

**Tickets taken by:** JD

**Checked against scale sheet:** SB

**DOCUMENTATION REQUIREMENT  
SECTION G  
(ROADWAY AGGREGATES (TON  
(OTHER METHODS OF PAYMENT)**

When an NDOT Weighmaster and COMPUTERIZED tickets are not available, a copy of the Contractor's scale sheet should be obtained as source documentation. If the Contractor's scale sheet is not available, the ticket information must be transferred to a DAILY RECORD OF SCALE WEIGHTS, along with all other required information, and signed by the Contractor's Weighmaster.

If weights are not attainable and payment will be based on the plan quantity as shown on the summary sheet in the plans, use the appropriate calculation shown below to obtain the tons for payment.

**ENGLISH-CUBIC YARDS**

UNIT WEIGHT = POUNDS PER CUBIC FOOT

POUNDS PER CUBIC FOOT X 27 = POUNDS PER CUBIC YARDS

$\frac{\text{LENGTH X WIDTH X DEPTH}}{27} = \text{CUBIC YARDS}$

CUBIC YARDS X POUNDS PER CUBIC YARDS = POUNDS

$\frac{\text{POUNDS}}{2000} = \text{TONS}$

**ENGLISH-CUBIC FOOT**

UNIT WEIGHT = POUNDS PER CUBIC FOOT

LENGTH X WIDTH X DEPTH = CUBIC FEET

CUBIC FEET X POUNDS PER CUBIC FOOT = POUNDS

$\frac{\text{POUNDS}}{2000} = \text{TONS}$

The **Unit Weight** is taken from the COMPACTION REPORT (Form No. 040-004) line 28 or from the NUCLEAR COMPACTION REPORT FOR SOILS AND AGGREGATES (Form No. 040-007), under the Harvard Miniature Compaction section, Calc. Max. Density pcf. Attach the test report(s) to a CALCULATION sheet (Form No. 040-034). Make sure to cross reference the quantity in the field book to the CALCULATION sheet and the CALCULATION sheet to the field book(s) and page(s) as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.).

**The above calculations are only used when weights cannot be obtained for an item paid by the ton.**

**DOCUMENTATION REQUIREMENT  
SECTION H  
ROADWAY AGGREGATES (TON)  
(SPREADSHEET)**

All aggregate quantities paid by the ton shall be posted on a **spreadsheet** by the Officesperson as illustrated below. The significant figure is to the hundredth (.01). Each day will be listed separately and a final total is required on every column except the date and payment no. column. The DAILY RECORD OF SCALE WEIGHTS or COMPUTERIZED tickets shall be kept in order as listed on the spreadsheet. The spreadsheet and the DAILY RECORD OF SCALE WEIGHTS or COMPUTERIZED tickets will be filed in Section 1-Contract Files, Division No.12 as described in Chapter 1 (Organization of Project).

The yellow side of the spreadsheet is for posting the DAILY RECORD OF SCALE WEIGHTS or the COMPUTERIZED tickets. The green side is for posting what has been paid on the turnaround document. If an error is found at a later date on the DAILY RECORD OF SCALE WEIGHTS or the COMPUTERIZED tickets the correction is to be made to the **original entry** on the yellow side. **Do not make a new entry at the bottom of the spreadsheet on the yellow side.** If the correction will affect the turnaround document then the correction will be made on the next progress payment and will be entered on the green side of the spreadsheet.

**Note:** colors are for reference only and are not required on actual spreadsheets.

CONTRACT NO. 3247 ITEM NO. 302 0500 - TYPE 1 CLASS B AGG. BASE PLAN QUANTITY = 80,000.00 TONS										
DATE	AEB #1 TOTAL	AEB #2 TOTAL	AEB #9 TOTAL	DAILY TOTAL	ACCUM TOTAL	AEB #1 PAY TOTAL	AEB #2 PAY TOTAL	AEB #9 PAY TOTAL	ACCUM PAY TOTAL	PAYMENT NO.
2/9/2008		1300.58		1300.58	1300.58		1300.58		1300.58	9
2/25/2008	2864.69			2864.69	4165.27					
3/13/2008	3884.84			3884.84	8050.11					
3/31/2008	3630.28			3630.28	11680.39					
4/3/2008	4659.43			4659.43	16339.82					
4/4/2008	3856.42			3856.42	20196.24	18895.66			20196.24	15
4/11/2008	187.03			187.03	20383.27					
4/14/2008	7029.76			7029.76	27413.03					
4/18/2008	3393.47			3393.47	30806.50					
4/19/2008	5212.29			5212.29	36018.79					
4/20/2008	4942.41			4942.41	40961.20	20764.96			40961.20	16
5/4/2008	1045.13			1045.13	42006.33	1045.13			42006.33	17
5/18/2008	2374.10			2374.10	44380.43					18
5/19/2008	4234.18			4234.18	48614.61	6608.28			48614.61	
5/22/2008	4861.10			4861.10	53475.71					
5/23/2008	4206.46			4206.46	57682.17					
5/25/2008	2129.27			2129.27	59811.44	11196.83			59811.44	19
6/5/2008	645.43			645.43	60456.87					
6/6/2008	5434.21			5434.21	65891.08	6079.64			65891.08	20
6/30/2008			6782.00	6782.00	72673.08					
7/12/2008			5620.00	5620.00	78293.08			12402.00	78293.08	23
8/16/2008			5925.00	5925.00	84218.08			5925.00	84218.08	25
9/28/2008	136.91			136.91	84354.99					
9/30/2008	163.23	169.90		333.13	84688.12	300.14	169.90		84688.12	28
FINAL TOTALS	64890.64	1470.48	18327.00	84688.12	84688.12	64890.64	1470.48	18327.00	84688.12	





Roadway aggregates with a UOM of Cuyd shall be documented in a MISC. book. If only one type of roadway aggregate is being placed in a field book then the title will be the name of that item (example: if Type 1 Class A Aggregate is placed in a field book by itself then the book will be named TYPE 1 CLASS A AGG.).

**The illustration below is used when roadway aggregate has a UOM of Cuyd.**

The **Officeperson** shall complete for each page the item number, item description, plan quantity, significant figure on the top right-hand side of the page, all column headings, AEB number, page total in the bottom left-hand corner of the page, station to station, and plan for each location if indicated on a structure list. If an item with a UOM of Cuyd is not on a structure list omit the plan column. **Skip at least one line between entries. A separate page shall be provided for each bid item. Make sure to leave enough pages between items for any added or missed items. Calculations must be checked and initialed.**

Daily, the **Inspector** shall document station to station and AEB# if not already entered, cuyd, date, initials, the calculations, and any remarks that are needed. **Skip at least one line between entries.**

**Note:** All entries must be entered as called out in the plans and document left, right, or centerline, where applicable. If the item is located on a structure list on the same line as other items the plan qty heading will be changed to plan qty this installation.

**Payment for Cuyd items shall be based on plan quantity or field measure and calculations if different than plan.**

Item No: 3020592				Sig Fig = .01		4
Item: Type 1 Class A Aggregate				$L \times W \times D \div 27 = \text{Cuyd}$		
Plan Qty: 2,000.00 cuyd						
Station To Station	Plan	cuyd	Date	Insp	AEB#	Calc/Remarks
'X' 75+90 To 'X' 97+54 RT	400.00	438.81	1-25-08	JD	2	$2164 \times 7.3 \times .75 \div 27 = 438.81$
'X' 98+10 To 'X' 105+10 RT	350.00				2	
Page total:						