

GUARDRAIL ITEMS

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OVERVIEW

Guardrail Items have different documentation requirements for each unit of measure (UOM). All Guardrail Items must be counted or measured and calculated. Documentation examples for a few selected Guardrail Items are illustrated in this chapter. Some minor modifications may be required to show the unusual circumstances that may occur with different items, but the general format should be followed. If there are items which cannot be documented according to the following examples, contact the Construction Admin Services Section for assistance.

SURVEY CREW CHIEF'S RESPONSIBILITIES – GUARDRAIL ITEMS

- When survey data is used as support for payment, any survey data output/reports from Trimble Business Center (TBC) should be formatted to accurately represent the points (data) collected and a description of what the data represents.
- Email ALL TBC survey data output/reports to the Office Engineer. Use the naming convention: Stakeout Data YYYY-MM-DD Inspectors Initials, (e.g. Stakeout Data 2017-03-19 BLF) in the email subject line.

DAILY WORK REPORT (DWR) – AWP

1. Create a DWR in AWP daily to document the survey activity. Refer to Chapter 5, Daily Work Reports, in the [AWP User Guide](#) for details.
2. Record the following required information in the General tab (Figure 17-1).
 - DWR Date
 - Inspector
 - Weather
 - Low Temp and High Temp
 - Remarks: Select the General Remark Type and enter an overview of survey activities for the day (Figure 17-2).

Contract: 03779 - CHIP SEAL WITH SEAL COAT Save ?

General

DWR Date *
07/05/2019

Inspector *
KMcDaniel2@dot.nv.gov
McDaniel Kristen

Weather
01 - Clear

Rainfall Amount
-

Low Temperature
68

High Temperature
87

Number of Remarks
0

Federal Project Number

State Project Number

Entered By
-

Entered Date

Approval Date

Approved By

Remarks

Type *
01 - GENERAL

Remarks *
"CW" 45+29.66 to "CW" 61+79.66 RT. Install Galvanized Guardrail with Trailing End Anchor. For data see email: stakeout data 7/5/19.

Figure 17-1: Survey Crew Chief DWR General Tab

"CW" 45+29.66 to "CW" 61+79.66 RT. Install Galvanized Guardrail with Trailing End Anchor. For data see email: stakeout data 7/5/19.

Apply

Figure 17-2: Survey Crew Chief General Remarks Expanded

- Complete a final review of the DWR and Generate it.

INSPECTOR'S RESPONSIBILITIES – GUARDRAIL ITEMS

- Use the Agreement Estimate report as a reference to ensure that items and quantities are paid in the correct category (AEB).
- Use the Structure List (Figure 17-3), located in the Contract plans and the Standard Plans, to help identify items, quantities, descriptions and locations.

Figure 17-4: DWR Report Detail Window

3. Record the following required information in the New Item Postings window:
 - Item: Select the appropriate Project/Catg., if item is in more than one Project/Catg. – Refer to the AEB report.
 - Contractor: ALWAYS the Prime Contractor (Subs are not allowed).
 - Qty: Based on plan, measurements and calculations
 - Location: Line Designation
 - Station From/To: Refer to Contract plans.
 - Offset Type: Enter the LT, RT, or CL.
 - Offset Dist. Enter if known.
 - Comments – Must show calculations when appropriate, refer to Calculation Sheet when appropriate (refer to Appendix B, Calculation Formulas, in this Manual for a Calculation Sheet example), other information relevant to item posting, and explanations when Attention Flag is checked.
 - Attention Flag – Use to bring attention to Resident Engineer and Office Engineer for overruns and plan errors. Must enter Attention Comments.

NOTES for Guardrail Item postings:

- If an each item has a specific location/station callout in the plans, then a separate posting will be done. It should NOT be grouped in a posting.
- If each items do NOT have a location/station callout but are grouped in a table or structure list, then they can be combined in one posting.
- The Design Division's Standards and Compliance Section shall review the guardrail once it is staked and prior to the Contractor ordering the material and starting the installation. This will allow changes to be made to the guardrail if the Contract plans are incorrect for the actual field conditions. On current and future contracts, contact the Standards and Compliance Section to schedule a review.
- The Resident Engineer will contact the Maintenance and Asset Division at the completion of every contract to see if a Guardrail Inventory Data sheet is required. If the data sheet is required, it will be completed by the Resident Engineer and sent to the Safety Division, with a copy sent to the Construction Admin Services Section. If there are any questions, contact Maintenance and Asset Division for assistance.

- Per subsection 109.06, (*Measurement and Payment*) *Partial Payment*, of the Standard Specifications, partial payment may be made for guardrail when only the posts have been put in. Therefore, when the guardrail posts are installed, 50% of the guardrail quantity shall be allowed for payment. The remaining 50% will be paid when the guardrail is complete.
- After each section of guardrail has been completed the final in-place measurement will be documented.
- Refer to Figure 17-5 through Figure 17-9 for examples of guardrail item postings with different UOM.

New Item Posting

Item: TRAILING END ANCHOR

Contractor: Q&D CONSTRUCTION INC

Qty: 2.00 EACH
 Authorized: 6.000 EACH
 Total Posted: 0.000 EACH

Location: "CW"

Station From: 45 + 29.66
Offset Type: RT.
Offset Dist:

Station To: 61 + 76.66
Offset Type: RT.
Offset Dist:

Measured:

Comments:
 Counted
 Item complete for this installation

3955 remaining

Figure 17-5: DWR Item Posting - Guardrail EACH

NOTES for Guardrail EACH (Figure 17-5):

- Payment for EACH items will be based on field count.
- Location: Enter the Line Designation
- Station From/To: Refer to Contract plans
- Offset Type: Enter the LT, RT, or CL.
- Offset Dist: Enter if known
- Sig. Fig. = .01

New Item Posting

Item: GALVANIZED GUARDRAIL

Contractor: Q&D CONSTRUCTION INC

Qty: 525.00 LFT
 Authorized: 3,214.000 LFT
 Total Posted: 0.000 LFT

Location: "CW"

Station From: 45 + 29.66
Offset Type: RT.
Offset Dist:

Station To: 61 + 76.66
Offset Type: RT.
Offset Dist:

Measured:

Comments:
 1050 LFT for this section
 Paid 50% for Posts only

3949 remaining

Figure 17-6: DWR Item Posting - Guardrail LFT

NOTES for Guardrail LFT (Figure 17-6):

- Payment for LFT items will be based on field measurements.
- Pay 50% of the measured length (section) when the Posts are complete.
- Location: Enter the Line Designation
- Station From/To: Refer to Contract plans
- Offset Type: Enter the LT, RT, or CL.
- Offset Dist: Enter if known
- Sig. Fig. = .01

New Item Posting

Item: GALVANIZED GUARDRAIL

Contractor: Q&D CONSTRUCTION INC

Qty: 525.00 LFT
 Authorized: 3,214.000 LFT
 Total Posted: 525.000 LFT

Location: "CW"

Station From: 45 + 29.66
Offset Type: RT.
Offset Dist:

Station To: 61 + 76.66
Offset Type: RT.
Offset Dist:

Measured:

Comments:
 For this section = 1050 LFT
 Paid 50% for Rail only

3948 remaining

Figure 17-7: DWR Item Posting - Guardrail LFT

NOTES for Guardrail LFT (Figure 17-7):

- Payment for LFT items will be based on field measurements
- Pay 50% of the measured length (section) when the Rail are complete
- After each length (section) of guardrail has been completed, the final in-place measurement shall be documented
- Location: Enter the Line Designation
- Station From/To: Refer to Contract plans
- Offset Type: Enter the LT, RT, or CL.
- Offset Dist: Enter if known
- Sig. Fig. = .01

New Item Posting

Item: REMOVE AND RESET G...

Contractor: Q&D CONSTRUCTION INC

Qty: 300.00 LFT
 Authorized: 2,391.000 LFT
 Total Posted: 0.000 LFT

Location: "CW"

Station From: 370 + 50
Offset Type: RT.
Offset Dist:

Station To: 376 + 50
Offset Type: RT.
Offset Dist:

Measured:

Comments:
 For this section = 600 LFT
 paid 50% for removal only

3946 remaining

Figure 17-8: DWR Item Posting – Guardrail Remove and Reset LFT

NOTES for Guardrail Remove and Reset LFT (Figure 17-8):

- Payment for LFT items will be based on field measurements.
- Guardrail must be Measured before removed
- Pay 50% for removal of the measured length (section) when completed.
- Location: Enter the Line Designation
- Station From/To: Refer to Contract plans
- Offset Type: Enter the LT, RT, or CL.
- Offset Dist: Enter if known
- Sig. Fig. = .01

New Item Posting

Item: REMOVE AND RESET G... ▼

Contractor: Q&D CONSTRUCTION INC ▼

Qty: 300.00 LFT

Authorized: 2,391.000 LFT

Total Posted: 300.000 LFT

Location: "CW"

Station From: 370 + 50

Offset Type: RT

Offset Dist:

Station To: 376 + 50

Offset Type: RT

Offset Dist:

Measured:

Comments:

600 LFT for this section
 Paid 50% for reset only

3950 remaining

- NOTES for Guardrail Remove and Reset LFT (Figure 17-9):
- Payment for LFT items will be based on field measurements.
 - Pay 50% for reset of the measured length (section) when completed.
 - Location: Enter the Line Designation
 - Station From/To: Refer to Contract plans
 - Offset Type: Enter the LT, RT, or CL.
 - Offset Dist: Enter if known
 - Sig. Fig. = .01

Figure 17-9: Item Posting – Guardrail Remove and Reset LFT

- Record the following required information in the New Equipment window (Figure 17-10 and Figure 17-11):
 - Contractor: Actual contractor performing the work (include subs).
 - Type: Select from the Equipment list
 - Used: How many of each type.
 - Hours Used: Total hours in use.
 - Comments: Details of the type of equipment (e.g., diesel, HP, model, make). Include equipment attachment information if applicable.

New Equipment

Contractor: LAS VEGAS PAVING C... ▼

Type: LOADER / BACKHOE /... ▼

Used:

On Site:

Hours Used:

Hours Idle:

Comments:

Bobcat 256C, Skid Steer, Diesel, 82HP, 1350lbs with an Auger Loader, attachment, 15C w/12" bit

506 remaining

Figure 17-10: DWR Equipment Entry



Add Equipment

Contractor: LAS VEGAS PAVING CORPORATION
Type: LOADER / BACKHOE / WHEEL LOADER / SKID STEER
Used: 1
Hours Used: 8.000
Comments:
 Bobcat 256C, Skid Steer, Diesel, 82HP, 1350lbs with an Auger Loader,
 attachment, 15C w/12" bit


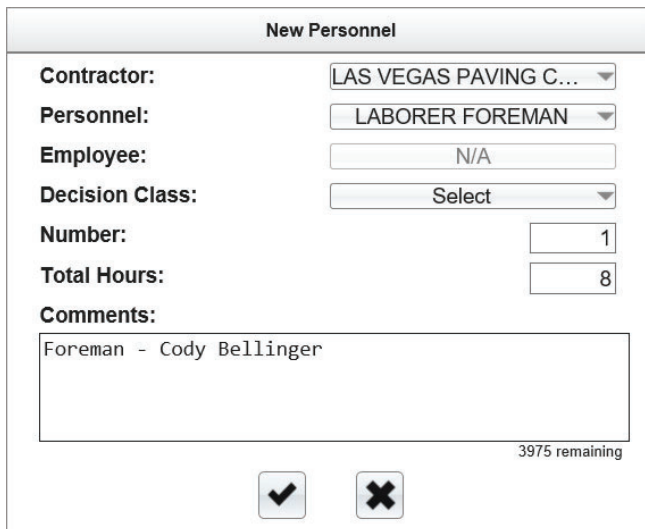
 

Figure 17-11: DWR Equipment List

5. Record the following required information in the New Personnel window (Figure 17-12 and Figure 17-13):
- Contractor: Actual contractor performing the work (include subs).
 - Type: Select from the Personnel list.
 - Number: How many of each title.
 - Total Hours: Total hours worked.
 - Comments: Details of personnel type (e.g., foreman w/name, laborer, truck driver).



New Personnel

Contractor: LAS VEGAS PAVING C...
Personnel: LABORER FOREMAN
Employee: N/A
Decision Class: Select
Number: 1
Total Hours: 8
Comments:
 Foreman - Cody Bellinger

3975 remaining



 

Figure 17-12: DWR Personnel Entry







Add Personnel	
Contractor: LAS VEGAS PAVING CORPORATION Description: LABORER Number: 3 Total Hours: 8.000	 
Contractor: LAS VEGAS PAVING CORPORATION Description: OPERATING ENGINEER Number: 2 Total Hours: 8.000	 
Contractor: LAS VEGAS PAVING CORPORATION Description: LABORER FOREMAN Number: 1 Total Hours: 8.000 Comments: Foreman - Cody Bellinger	 

Figure 17-13: DWR Personnel List

- Complete a final review of the DWR, lock the report, and Sync Data.

Note: When a Mobile Inspector DWR is completed, locked and Synd Data is completed, the information is uploaded into an AWP DWR, where it is reviewed and Approved for processing progress payments.

DAILY WORK REPORT (DWR) – AWP EDITS

The Officer Engineer reviews each Inspector's DWRs for required entries and accuracy. If edits are needed on a DWR, the Inspector who created it will be required to log into the AWP program on a computer (not the iPad) and complete the edits. Refer to Chapter 5, Daily Work Reports, Section, Editing a Mobile Inspector DWR, in the [AWP User Guide](#) for details.

OFFICE ENGINEER'S RESPONSIBILITIES – GUARDRAIL ITEMS

- Collect all Material Certifications. Scan and save them to the EDOC Contract Files\Material and Testing Files\Division No. 3 – Materials Division Certs and Test Reports\3.# directory. Send original certifications to the Materials Division for approval.
 - Name the scanned file with the Item No. and Description (e.g., 6180540 Galvanized Guardrail.pdf).
 - Email the scanned certifications to the Materials Division for approval.
- Withhold item payment(s) for insufficient material certifications using AWP's User-Generated Quantity-Based Item Adjustments. Refer to Chapter 9, Payment Estimates, in the [AWP User Guide](#) and Chapter 24, Progress Payments, in this Manual for details.
- Save emails containing TBC survey stakeout report/data in the appropriate EDOC Contract Files\Contract Files\Division No. 9 Survey directory.
- Save Guardrail Items photos in the appropriate EDOC Contract Files\Contract Files\Division No. 3 - Multimedia Records\3.# Photographs with Descriptions directory.

- Review guardrail item calculation sheets for accuracy and save electronically in the appropriate EDOC Contract Files\Contract Files\Division No. 7 - Construction Pay Estimate and Related Data\7.# DWR Calculation Sheets directory using this naming convention: DWR YYYY-MM-DD Inspectors Initials, (e.g. DWR 2017-03-19 KMM).
- Distribute executed copies of Change Orders to Inspectors.

DAILY WORK REPORT (DWR) – AWP

When a Mobile Inspector DWR is locked by an Inspector, the information is uploaded into an AWP DWR. Refer to Chapter 5, Daily Work Reports, in the [AWP User Guide](#) for details.

1. Verify the following:
 - Information in the Remarks
 - Information in the Contractor On Site tab
 - Information in the Contractor Equipment tab
 - Information in the Contractor Personnel tab
 - Items are paid correctly according to the contract documents (e.g., plans, supplemental notices, Change Orders).
 - Item quantities
 - Quantities in postings are documented to the correct Significant Figure (.01)
 - Stations and Line Designations in the Locations
 - Calculations are correct.
 - Comments reference calculation sheets, if applicable.

Note: Length does not always equal the difference between the beginning and ending station. Sometimes there is a curve or an obstacle that will affect the distance. Always check with the Inspector before assuming the calculations are incorrect.

2. Approve the DWR if everything is correct.
3. If there are edits required in the DWR, Reject it.
4. Notify the Inspector who created the DWR there are edits to be completed. The Inspector will be required to log into the AWP program on a computer (not the iPad) to complete the edits.
5. Review the corrected DWR and Approve.