

8-4

Field Inspection Reports: Review Guardrail

Objective

Access to Review Guardrail

Using the windows in the Guardrail sub-module

Access To Review Guardrail

Choose **Field Inspection Reports** from the **Functions** menu in HiCAMS.

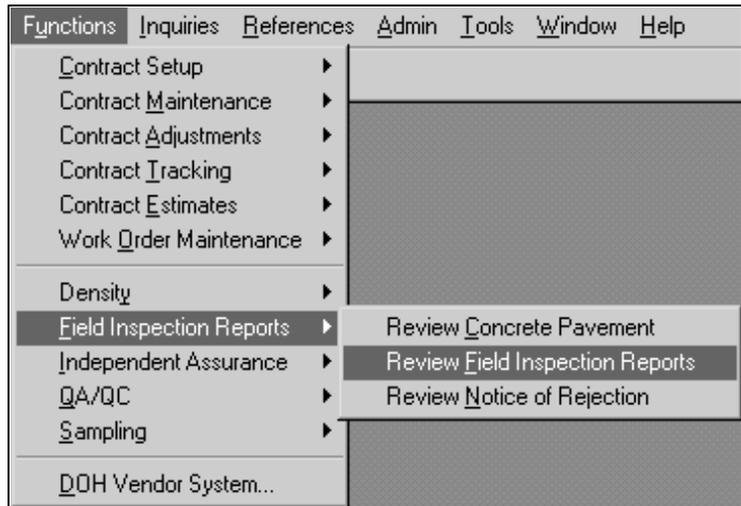


Figure 1 - Access to Review Field Inspection Reports

Step 1: To access a NEW Guardrail Report, click the *Report Name* field and select Guardrail.

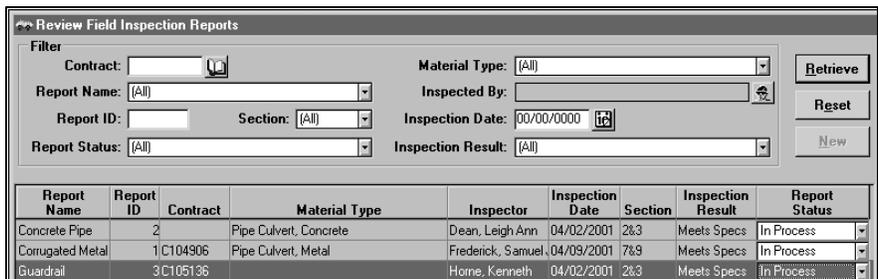


Figure 2 - Access to a NEW Guardrail Report

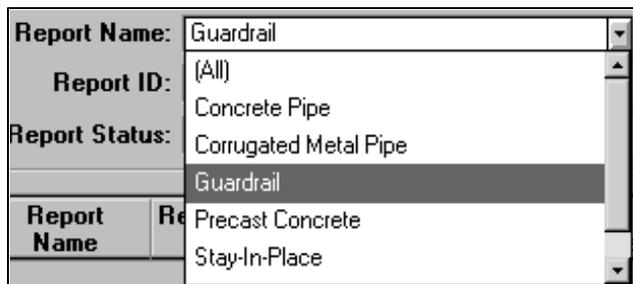


Figure 3 - Access to a NEW Guardrail Report

Step 2: Click the **New** button and the following initial screen for Guardrail is displayed:

The screenshot shows the 'Review Guardrail (New)' window. At the top, the title bar reads 'HiCAMS - [1853010]'. Below it is a menu bar with 'File', 'Edit', 'Functions', 'Inquiries', 'References', 'Admin', 'Tools', 'Window', and 'Help'. A toolbar contains icons for file operations and help. The main window area is titled 'Review Guardrail (New)'. It displays 'Report Name: Guardrail', 'Report ID:', and 'Report Status: In Process'. Below this is a tabbed interface with 'General' selected. The 'General' tab contains various input fields: 'Sample From' (Project), 'Test Category' (Acceptance), 'Contract', 'Work Order', 'County', 'Contractor', 'Furnished By', 'Station' (+), 'Location', 'Search by Plant ID', 'Section', 'Producer', 'Inspection Results' section with 'Inspector', 'Inspection Date' (00/00/0000), 'Inspection Result', 'Notice of Rejection', and a 'Comment' text area.

Figure 4 - New Review Guardrail Window

Step 3: To access an *existing* Guardrail Report, follow Step 1 above and double-click the desired report from the list displayed. Click the **Details** button after highlighting the desired report:

Review Field Inspection Reports

Filter

Contract: C105239 Material Type: (All) Retrieve

Report Name: Structural Steel Inspected By: [User Icon] Reset

Report ID: [] Section: (All) Inspection Date: 00/00/0000 [Calendar Icon] New

Report Status: (All) Inspection Result: (All)

Report Name	Report ID	Contract	Material Type	Inspector	Inspection Date	Section	Inspection Result	Report Status
Concrete Pipe	3		Pipe Culvert, Concrete	Main, Robert W	06/04/2001	5	Pay Adjustment - D	In Process
Guardrail	4			Main, Robert W	04/25/2001	5	Meets Specs	In Process
Precast Concrete	5			Schmidt, Sonia I	06/04/2001	6&8	Meets Specs	In Process
Stay-In-Place	6	C105239	Metal Stay-In-Place Forms	Pace, Randy K	04/19/2001	7&9	Meets Specs	In Process
Structural Steel	7	C105239	Structural Steel	Pace, Randy K	04/25/2001	5	Meets Specs	In Process

Details NOR Save As

Figure 5 - Access to an EXISTING Guardrail Report

Step 4: The **Guardrail Report Details Window** is displayed as shown in the example below:

Review Guardrail (Report ID: 4)

Report Name: Guardrail Report ID: 4 Report Status: In Process

General | Pay Items | Hardware | Alt IDs | Report | History

Sample From: Project Test Category: Acceptance

Contract: [] Work Order: County: Wake

Contractor:

Furnished By: A & A UTILITY CONTRACTORS, INC

Station: 213 + 32 Location: NC-210

Search by Plant ID: GR10 Section: 5

Producer: Central Fabricators, Central Fabricators - Koscuisko, MS - GR10

Inspection Results

Inspector: Main, Robert W Inspection Result: Meets Specs

Inspection Date: 04/25/2001 Notice of Rejection: []

Comment: TEST COMMENT

Figure 6 - Review Guardrail Details Example (General Tab Window)

Note: To further aid in the retrieval of an EXISTING report, there are filtering functions available in HiCAMS. These filter functions are especially helpful when choosing from a very large listing of

reports. See *Field Inspection Reports: Overview - Retrieval Tips* for all *Field Inspection Reports* for details using these functions.

General Tab - Review Guardrail Report

The following fields are the *minimum required* to save a Guardrail Report. This message is displayed when these fields are not completed prior to attempting to save the record:

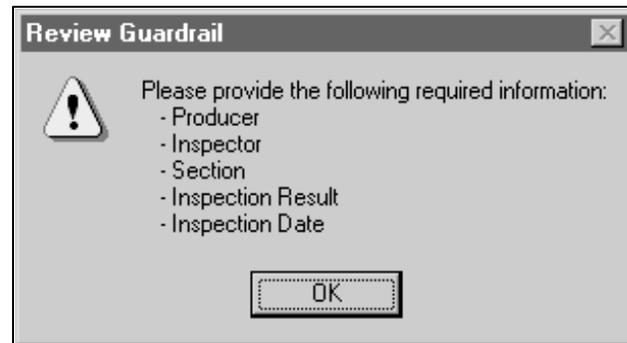


Figure 7 - Advisory Message, Required Information

HiCAMS allows multiple Material Types per report with one or more associated materials per Material Type. These are sorted by *Pay Items* and *Hardware Materials*. This area can have an associated Pay Adjustment Recommendation record.

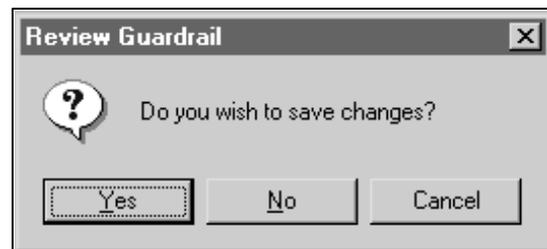
The upper portion of the **General Tab - Review Guardrail Report** window displays the *Report Name*, *Report ID*, and the *Report Status*.

The **General Tab** Window allows data entry into the following fields:

- ◆ The *Sample From* field is required and defaults to "Project" but still allows other selections.
- ◆ The *Testing Category* field for Guardrail reports is required and defaults to "Acceptance".
- ◆ *Contract Number* field. When the Contract Number is entered, the Contractor Name, Contract Status, Contract Description, and primary Work Order number (Project Number) is defaulted.

- ◆ Work Order number (is defaulted from Contract)
- ◆ County
- ◆ Contractor
- ◆ Furnished By
- ◆ Station
- ◆ Location
- ◆ Search by the Plant ID
- ◆ Section
- ◆ Producer
- ◆ Inspection Results data including Notice of Rejection

Note: The Notice of Rejection (NOR) field/button is activated when any rejected amounts are recorded on the Pay Items Tab Window or when the record is saved. If the record is NOT saved and you wish to access the NOR, the system displays a message to save when you click the NOR button. After clicking the YES button, the



record is saved and the system automatically displays the NOR.

Figure 8 - Guardrail Save and NOR Access

Figure 9 - Review Notice of Rejection Window

For further details about this window, see Field Inspection Reports: Review Notice of Rejection section.

Figure 10 - Guardrail General Tab Window

Pay Items Tab - Review Guardrail Report

The **Pay Items Tab** Window contains all information for the individual Materials:

- ◆ Material Type
- ◆ Material
- ◆ Spot
- ◆ Avg Zinc Reading
- ◆ Zinc Coating
- ◆ Accepted and Rejected quantities
- ◆ Zinc Test Status

The lower portion of this window also contains a *Line Item* drop-down menu and an entry field for *Pay Adjustment Recommendations (PAR)*.

Step 1: To insert an additional row for entering Pay Item

Figure 11 - Pay Items Tab Window

- Step 2:** To delete a Pay Item row, select the appropriate row and click the **Erase** button.
- Step 3:** To select the **Material Type**, click inside the field and all applicable selections are displayed. Click the desired *Material Type* to select.

The valid Material Types for Guardrail include the following:

- ◆ Guardrail Anchor Cable (Both)
- ◆ Guardrail Anchor Unit (Both)
- ◆ Guardrail Anchor Unit – Chemical Check (Both)
- ◆ Guardrail, Aluminum Beam (English, Metric)
- ◆ Guardrail, Hardware Guardrail, Plastic Block (Both)
- ◆ Guardrail, Steel Beam (English, Metric, Both)
- ◆ Guardrail, Steel Post & Block (Both)

Note: *The available material types are derived from the MSG, which is maintained by the Materials Operations Engineer.*

After a **Guardrail** record has been saved, there are a number of messages that may appear as a result of certain conditions in the **Pay Items Tab** window.

In the following scenario, the *Material Type* field is being changed *after* the Guardrail record has been saved - this displays the following advisory message:

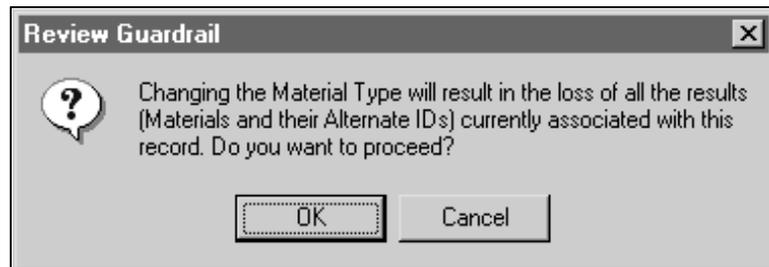


Figure 12 - Advisory Message

Step 4: To select **Material**, select the *Material* field and a list of selections are displayed. Double-click the desired *Material* from the drop-down menu.

After a **Guardrail** record has been saved, there are a number of messages that may appear as a result of certain conditions in the **Pay Items Tab** window.

In the following scenario, the *Material* field is being changed *after* the Guardrail record has been saved - this displays the following advisory message:

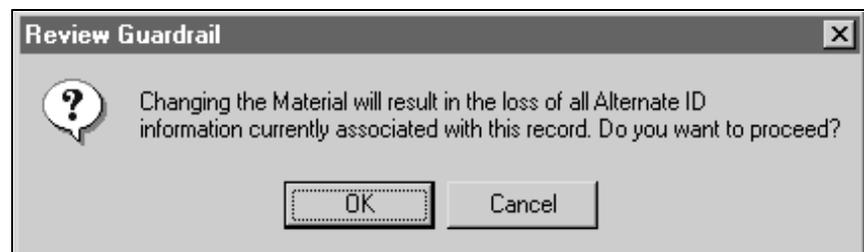


Figure 13 - Advisory Message

Step 5: To select **Spot**, click the drop-down menu and select "Single" or "Triple".

For English or Metric Contracts, the Zinc Coating result will be compared to the Single Spot or Triple specification ranges depending on the test to determine the acceptability range and the resulting status.

If the Zinc Coating for either the Single Spot Test or the Triple Spot Test is not within the acceptable specification range, the rejected quantity must be greater than zero and an asterisk will be placed to the right of the data in the Coating field.

To review the Zinc Coating Specs in HiCAMS, perform the following:

- 1 Select the **Admin** \equiv **Codes Tables** menu. A list of codes tables used in HiCAMS displays.
- 2 Scroll through the list and select "**FIR Zinc Coating Specs**" from the list. The list of minimum/maximums for either single or triple spot tests for both English and Metric is listed.

Step 6: To enter the **Average Zinc Reading**, select the field and enter the appropriate value.

Note: *Any reading entry that is not applicable may display an error message.*

Step 7: The **Zinc Coating** value will be adjusted by the system's calculations. For English Contracts, the Zinc Coating (ounces per square foot) is calculated by dividing the Zinc Reading by 1.7 for Single Spot and Triple Spot Tests.

For Metric Contracts, the Zinc Coating is calculated by multiplying the Zinc Reading by 179.706 for Single Spot and Triple Spot Tests.

Note: *If the Zinc Coating for either the Single Spot Test or the Triple Spot Test is not within the acceptable specification range, the rejected quantity must be greater than zero and an asterisk will be placed to the right of the data in the Coating field.*

Step 8: To enter **Accept and Rejected** quantities, select the field and enter the appropriate amount.

When a number greater than zero is entered in the Quantity Rejected field, a Notice of Rejection will be automatically generated by the system regardless of the overall status of the report.

Step 9: To select **Zinc Test Status**, select the field and choose from the drop-down menu. See the valid ranges for **Zinc Spot Tests** below:

Status	Single Spot oz/ft ²	Single Spot grams/sq M ²	Triple Spot oz/ft ²	Triple Spot grams/sq M ²
Meets Specs	3.60	1098.72	4.00	1220.8
Does Not Meet Specs	3.30 – 3.59	1007.16 – 1095.668	3.70 – 3.99	1129.24 – 1217.748
Pay Adjustment - Does Not Meet Specs	3.00 – 3.29	915.6 – 1004.108	3.40 – 3.69	1037.68 – 1126.188

Step 10: The *Gage* drop-down menu has selections for both Metric and English. If selecting a Gage measurement that differs from the material's unit of measurement being tested, the following message is displayed:

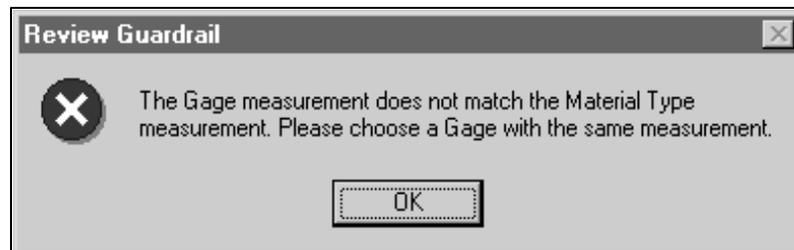


Figure 14 - Advisory Message for Gage Measurement

Step 11: The *Metal Thickness* field accepts direct entry of metal thickness values.

The minimum and maximum specification range on the Gage code table will be used to determine the validity of the Metal Thickness entered for a Gage number. If the Metal

Thickness is not within the valid range, an asterisk (*) will appear to the right of the data.

The Line Item field is automatically activated when a Contract is entered in the General Tab and a Material is selected in the Pay Items Tab.

Note: *If there is only one applicable line item, that item will be displayed in the field.*

This drop-down/field also accomodates other Line Items if the material selection has multiple Line Items:



Figure 15 - Line Item Drop-Down/Field

Note: *There may be an error message displayed if the Contract is incompatible:*

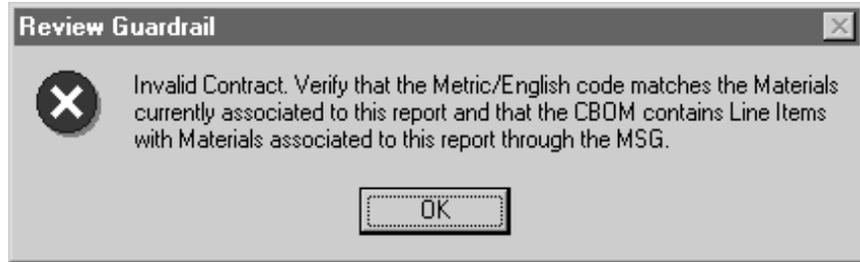


Figure 16 - Error Message for Invalid Contract

The Disposition area displays Accepted Quantity, Pay Adjusted Quantity, Removed Quantity, Test ID, and any Comments.

Note: *The Disposition area is available for edit/update for those with proper security access (when the report has been authorized). The Accepted Quantity field is automatically updated when these conditions exist:*

- ◆ *An amount exists in the Accepted field*
- ◆ *No entries in the Rejected field*
- ◆ *A Contract is selected*
- ◆ *The record is saved.*

The MOE and the Resident Engineer (ARE) are able to enter Disposition quantities for Guardrail. The Accepted and Pay Adjustment Recommendation (PAR) Quantities will be totaled and added to the *Contract Materials Accepted* quantity.

Note: *A Disposition Comment is required when the overall Inspection Result for the Report has been set to either "Pay Adjustment - Does Not Meet Specs" or "Rejected - Does Not Meet Specs" and the Disposition Accepted Quantity is greater than zero.*

Step 12: Save the record, click the **Save** button.

Note: *Saving a record can be performed at any point. If the record save is interrupted at any point, it is usually as a result of incomplete data entry. There are various messages that the system may display based upon what is required to be entered in order to save the record. The following is one example message:*



Figure 17 - Typical Advisory Message, Required Information

To rectify the saving error, click the **OK** button, enter the required data mentioned in the message, and click the **Save** button.

Material Type	Material	Spot	Avg Zinc Reading	Zinc Coating	Accepted	Rejected	Zinc Test Status
Guardrail, Plastic Block - Both	Block, Guardrail, Plastic	Single	11.00	3,357.20	343.000	.000	Meets Specs

Figure 18 - Completed Pay Items Tab Window

Hardware Tab - Review Guardrail Report

The **Hardware Tab** includes the *Material Type*, *Material*, and a *Pass/Fail* indicator. This window handles the testing of related hardware items that are associated with Guardrail materials by indicating *Pass* or *Fail*.

The *Material Type* and *Material* on the **Hardware Tab** are filtered and listed according to the list in the Materials Sampling Guide. The *Material Type* and *Material* descriptions both include the Unit of Measure.

In addition, the *Material Type* drop-down selection controls what is displayed in the *Material* drop-down.

The example below displays *Material Type: Guardrail, Hardware - Both* and the *Material* field lists only hardware items directly associated with that *Material Type*:

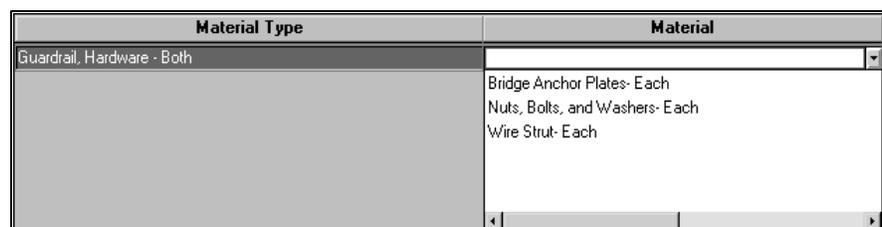


Figure 19 - Material Type/Material Drop-Downs

Step 1: To enter a **Material Type** row, click the **Insert** button. A blank row is displayed:

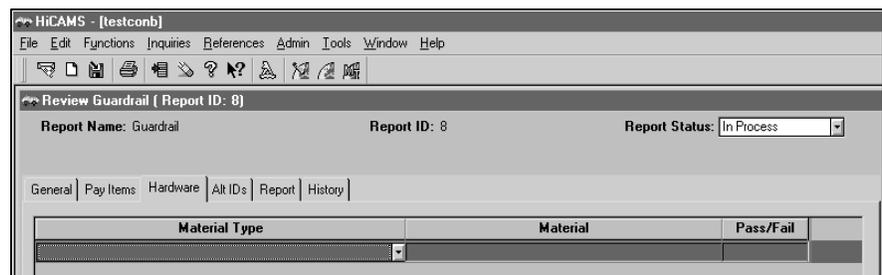


Figure 20 - Insert a Material Type row, Hardware Tab

Step 2: To delete a **Material Type** row, select the appropriate row and click the **Erase** button.

Step 3: To select a **Material Type**, select the *Material Type* field and all applicable selections are displayed. Click the desired Material Type from the drop-down menu:

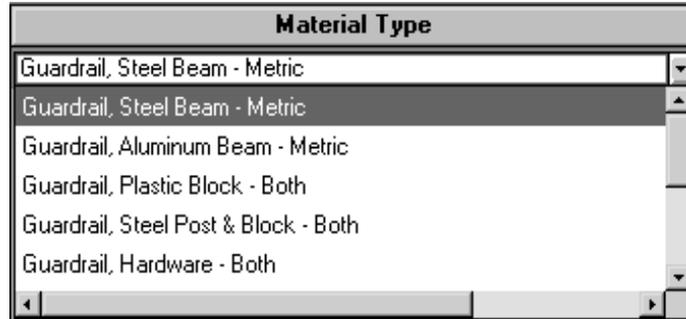


Figure 21 - Material Type Drop-Down Menu

Step 4: To select a **Material**, select the *Material* field and all applicable selections are displayed for that Material Type. Select the desired Material from the drop-down:

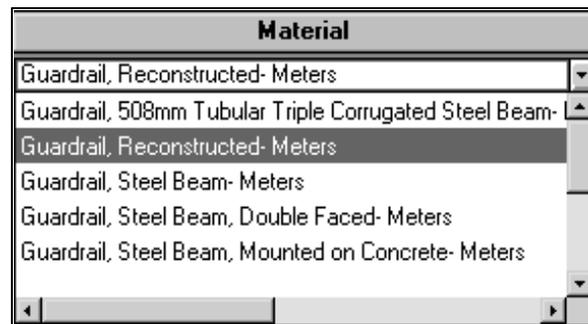


Figure 22 - Material Drop-Down Menu

To select **Pass or Fail**, select *Pass* or *Fail* using the drop-down menu:

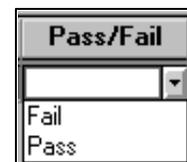


Figure 23 - Pass/Fail Drop-Down Menu

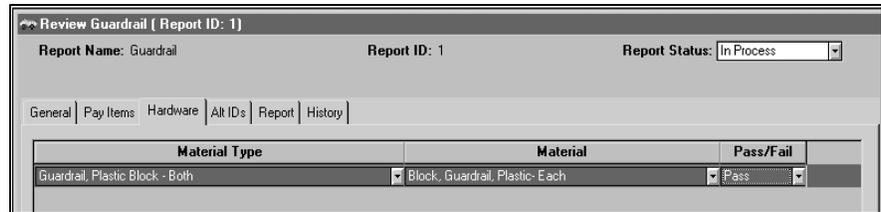


Figure 24 - Completed Hardware Tab Window

Alt IDs Tab - Review Guardrail Report

This tab addresses Alternate IDs one or more Alternate IDs may be entered for the material being tested. The Alternate ID defaults to the Plant/Facility ID with the user having the ability to edit this data.

Step 1: To enter an **Alternate ID** row on this tab, click the **Insert** button. A blank data entry row is displayed:

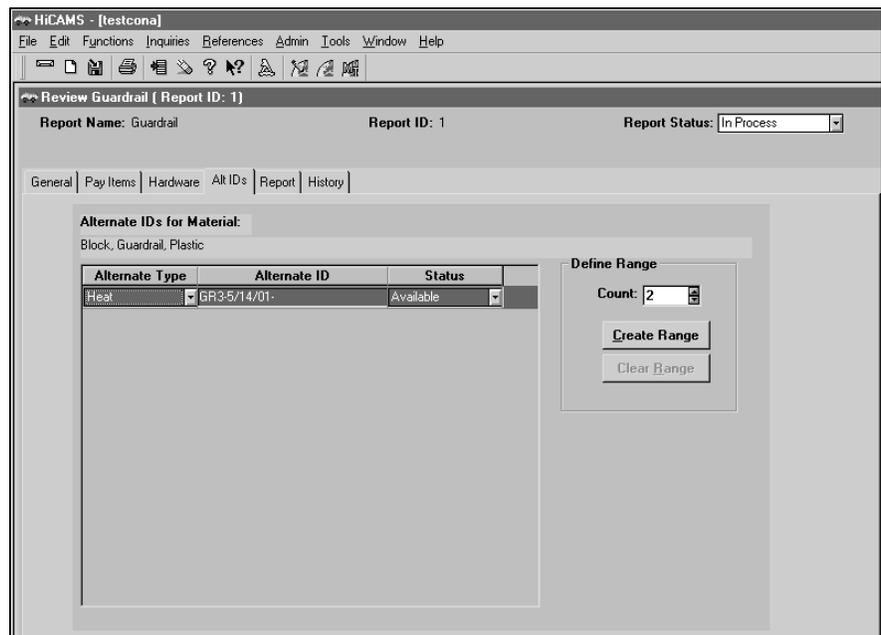


Figure 25 - Review Guardrail Alt IDs Tab Window

Step 2: To delete an **Alternate ID** row, select the appropriate row and click the **Erase** button.

To select an **Alternate Type**, click the drop-down menu and select from the list. See example below:



Figure 26 - Alternate Type Drop-Down Menu

There are a number of error messages that may appear as a result of certain conditions in the **Alt IDs Tab** window.

Note: *The Alternate Type will default to “Heat” for Guardrail when first inserting an Alternate ID. The Range defined must be of the same Alternate Type with a Status of “Available” or “In Use” as indicated in the sample error message below.*

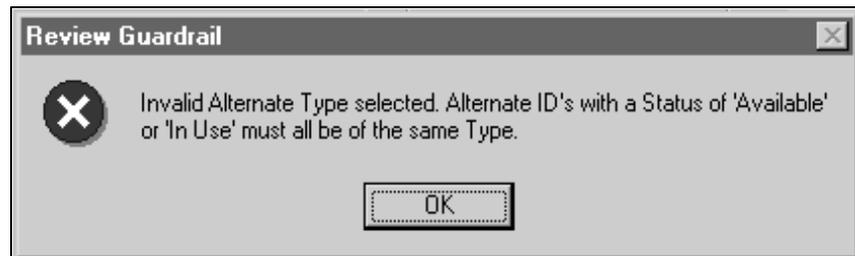


Figure 27 - Invalid Alternate Type Error Message

An error message could also appear in the case of duplicate Alternate Ids:

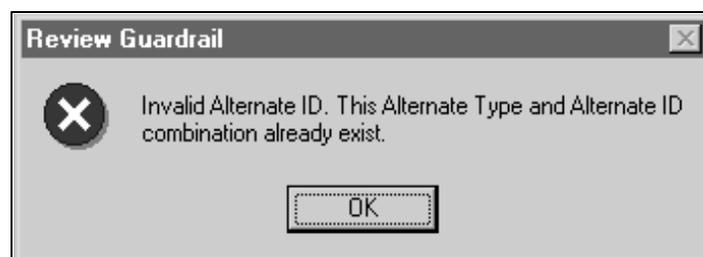


Figure 28 - Error Message, duplicate Alternate IDs

The Alternate ID number is defaulted according to the Producer that was selected on the General tab and to the Date Made that was entered on the Results tab.

Step 3: To enter an **Alternate ID** number, select the field and enter an appropriate ID number.

To change the **Status** from the default of Available, click the drop-down menu and choose a status as shown below:

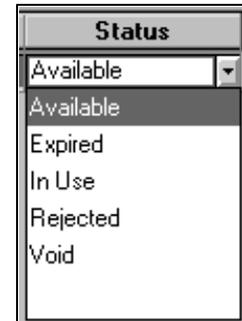


Figure 29 - Status Drop-Down Menu

Under the **Define Range** area, the **Create** or **Clear Range** buttons are available for defining ranges for Alternate Types/Alternate IDs.

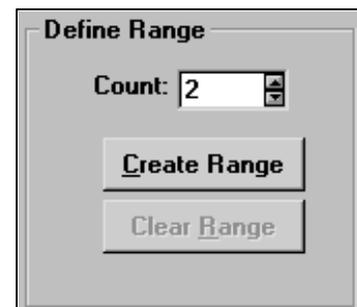
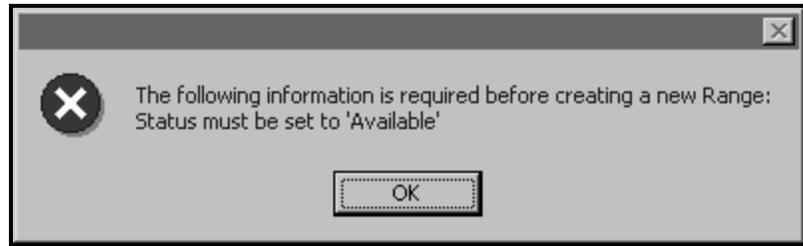


Figure 30 - Define Range Area, Alt IDs Tab Window

Step 4: To create a range, select the *Alternate ID* field to the right of the number and add a numeric suffix to start the range to be specified by the count.

If the range is defined on an ID with a status other than “Available”, the following message will appear:



To specify the **Count** for the range, click the up/down arrows OR enter the amount inside the field and click the **Create Range** button. The Range is created as shown in the example below:

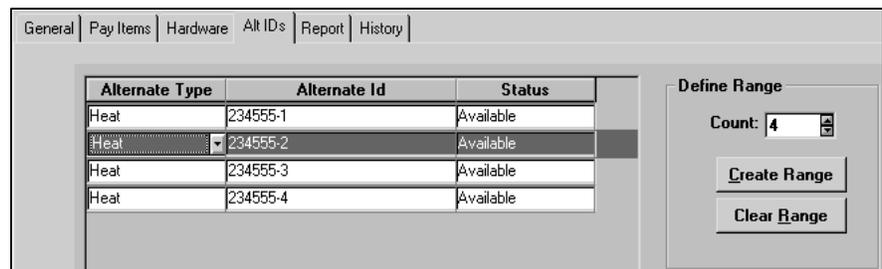


Figure 31 - Alt IDs Tab Window, Define Range example

Report Tab - Review Guardrail Report

The Guardrail Report is under the **Report** tab.

To view the entire report, use the scroll bars or Print Preview:

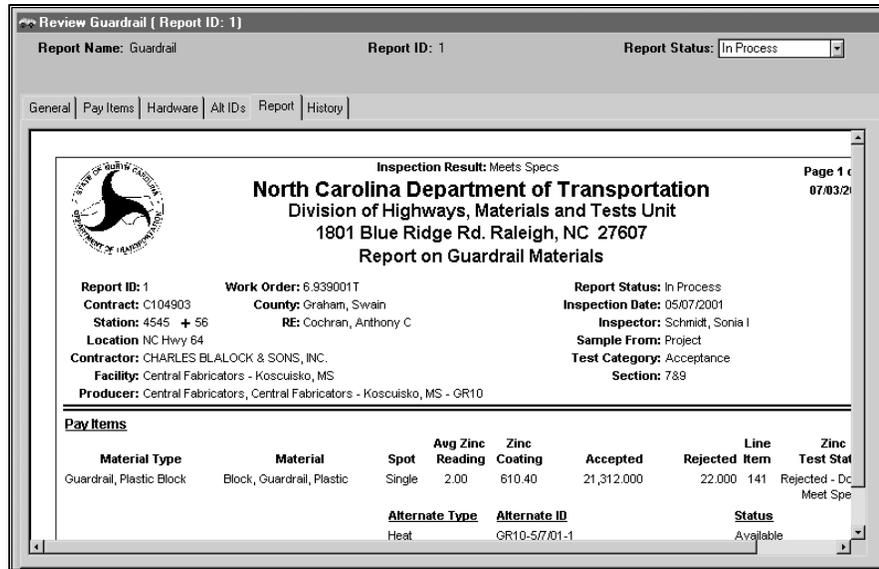


Figure 32 - Guardrail Detail Report Tab Window

Step 5: To print the report, click the **Print** icon on the toolbar. HiCAMS will generate a printable version of the report. The Report on Guardrail window will display:

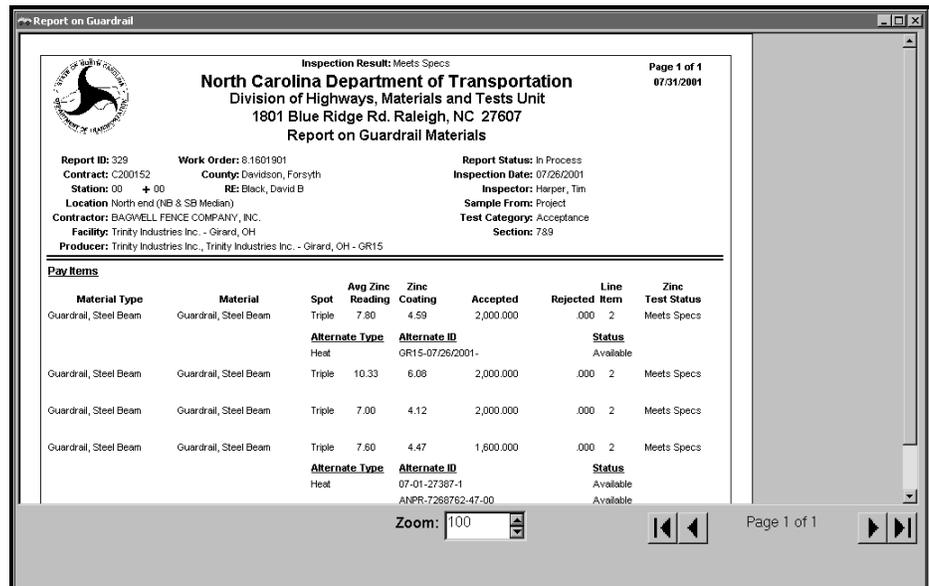
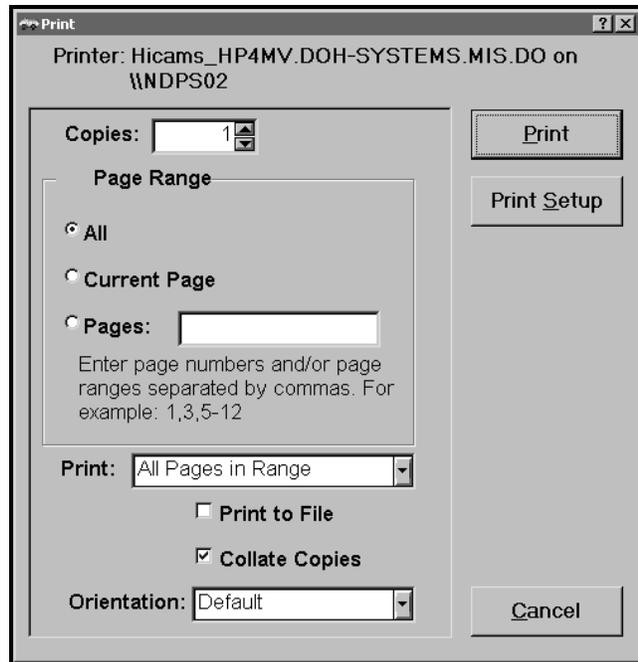


Figure Figure 33 - Report on Guardrail

Step 8: Click the print icon once again to print the report. The Print setup window will display. Click the **Print** button to print the report:



History Tab - Review Guardrail Report

Actions that have been performed for an individual Guardrail report are located under the **History tab**. The available historical information includes the *Action*, *Action Date/Time*, *Status*, and *Who* performed the action. This area also contains comments that may have been entered during Guardrail processing.

To view the individual comments for each action, double-click the specific row to view.

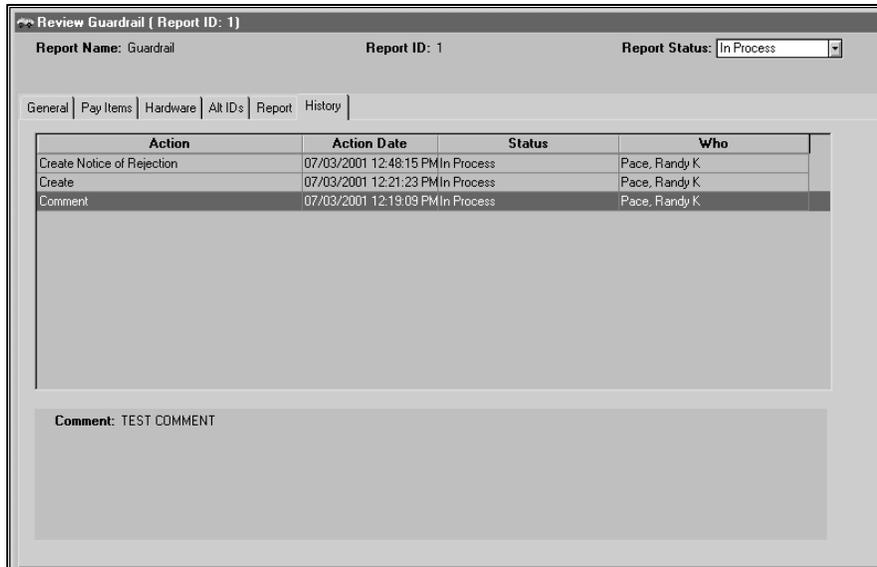
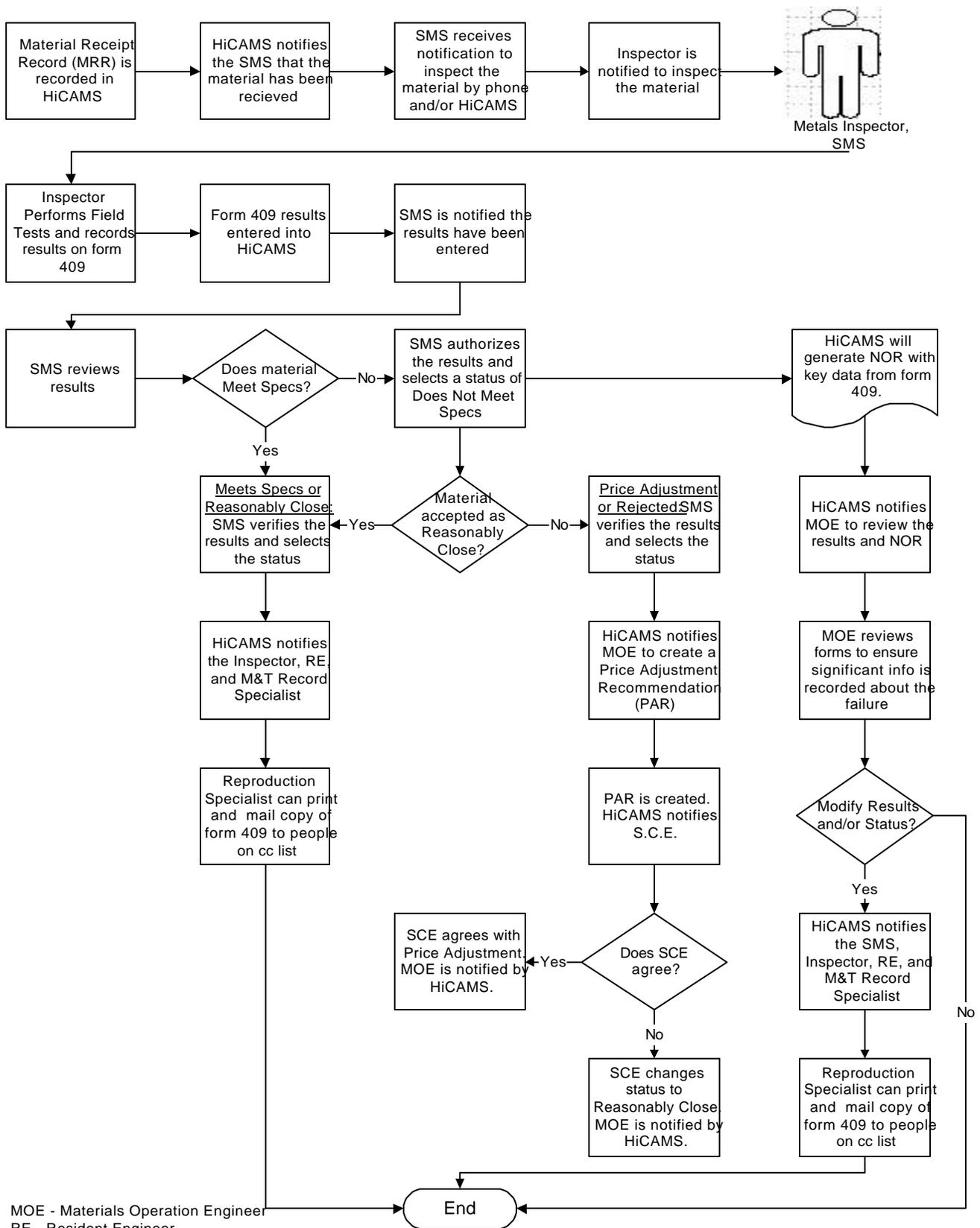


Figure 34 - Guardrail Detail History Tab Window

GUARDRAIL PROCESS FLOW



MOE - Materials Operation Engineer
 RE - Resident Engineer
 SCE - State Construction Engineer
 SMS - Section Material Specialist