



**NDOR SiteManager
Materials Management**

Construction Project Manager
Materials Compliance Guide

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1. Introduction and Purpose:

This document is intended to be used in conjunction with the existing training materials provided by the NDOR (Nebraska Department of Roads (NDOR), M&R (Materials & Research (M&R) Division).

1.1 Purpose:

The purpose of this document is to define the responsibilities of the Highway Construction Project Manager to ensure materials compliance for a typical highway construction project during the following time periods:

- Pre-placement
- Placement
- Post-placement

1.2 Roles and Responsibilities:

As of the publication date of this document, roles and responsibilities are defined as follows:

Materials and Research Engineer: Mick Syslo, 402.479.4750, Mick.Syslo@nebraska.gov

Research Engineer: Amy Starr, 402.479.3687, Amy.Starr@nebraska.gov

SiteManager Staff: 402.479.4760, DOR.SiteManagerMaterials@nebraska.gov.

Highway Construction Project Manager

District Final Reviewer

1.3 Definitions:

For the purposes of this document, the terms are defined:

Acceptance: The action that signifies all materials and processes associated with that sample are substantially compliant to the plans/special provisions/standard specifications.

Authorization: The action taken when all processes associated with that sample has been completed. Authorization is not meant to signify acceptance of the material associated with that sample.

Materials Compliance: To ensure test results used in the acceptance program indicate the materials incorporated in the construction work and the construction operations controlled by sampling and testing were in substantial compliance with the approved plans and specifications. Further, to ensure independent assurance samples and tests fall within tolerance limits of the samples and tests used in the acceptance program.

Pre-placement: The time before the construction project begins.

Placement: The time during active construction of the project.

Post-Placement: The time after active construction has been completed.

Project Manager: The NDOR Highway Construction Project Manager or LPA/CE personnel acting in the same role for local projects.

1.4 Authentication:

Assessing SiteManager Material Discrepancies: http://www.nebraskatransportation.org/mat-n-tests/pdfs-docs/Materials_Management_Guidance/General/SiteManager_Material_Discrepancies.pdf

Creating and Authorizing a Sample Record: http://www.nebraskatransportation.org/mat-n-tests/pdfs-docs/Materials_Management_Guidance/Sitemanager/SOP_Creating_Authorizing_SiteManager_Sample_Record.pdf

Generate a Sampling Checklist: http://www.nebraskatransportation.org/mat-n-tests/pdfs-docs/Materials_Management_Guidance/Reporting/Generate-a-Sampling-Checklist2112013.pdf

Material Management Guidance: <http://www.nebraskatransportation.org/mat-n-tests/matmanguidance.htm>

Materials Required Document List (M-RDL)

NDOR Final Review Process Manual, [S:\Final Review Manual](#).

NDOR Materials Sampling Guide, <http://www.dor.state.ne.us/mat-n-tests/sampguide.htm>

NDOR Standard Specifications for Highway Construction, <http://www.nebraskatransportation.org/ref-man/specbook-2007.pdf>

Nebraska Qualified Laboratories: <http://www.nebraskatransportation.org/mat-n-tests/pdfs-docs/qualconsullabs.pdf>

1.5 Abbreviations:

CE: Construction Engineer

LPA: Local Public Agency

M&R: Materials and Research

M-RDL: Materials Required Document List

MSG: Material Sampling Guide

NDOR: Nebraska Department of Roads

SCL: Sampling Checklist

SMGR: SiteManager

1.6 Sample Acceptance:

Acceptance of samples, and the materials and/or processes associated with those samples, is conducted by either:

1. Field Personnel (i.e., Project Managers, Construction Technicians, LPA/CE Employees) or,
2. NDOR Laboratory Personnel.

Acceptance of the materials and/or processes associated with those samples is signified by the absence of comments in the comment box on the material template and full payment for the item associated with that material. An example of the comment box is shown in Figure 1.

| Crushed Concrete for Foundation Course | | | | | | | | | | | | |
|--|---|-------|------|-----|-----|-------|---|----|----|---------------------|--|-----------------------------|
| Field Performed Tests | | | | | | | | | | Rep Mat Qty (cu yd) | | Spacer Sieve Gradation Type |
| Dry Wt of Smpl | Wash Test - Sieve Analysis Total Passing Percentage | | | | | | | | | Station | | |
| | 1 1/2 | 1 1/4 | 1 | 3/4 | 1/2 | 3/8 | 4 | 10 | 40 | | | |
| 1. | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | |
| Average | 100 | | 0/85 | | | 20/50 | | | | 0/8 | | |

Crushed Concrete for Foundation Course
Material represented by samples that average 15% or more passing on the No.200 sieve will be subject to removal.

| Gradation Type | |
|------------------|---|
| Field Acceptance | Results from field performed gradation tests for acceptance. A minimum of three samples is required for Field Acceptance. |
| Re-Sample | Results from a new material sample obtained to replace the original sample. |
| Re-Test | Results from a second test portion, prepared from the same original sample to confirm the initial test results. |
| Verification | Results of a field performed gradation test for acceptance; a split companion sample has been sent to NDOR Central Laboratory for gradation verification (correlation) testing and aggregate quality testing. |

Note: Any sample record containing failing test results will require a description of the corrective action taken. The corrective action shall be documented in the Comments field.

Comments:

Test Specification: NDR T27

Figure 1, Material Template Comment Box

1.6.1 Field Accepted Materials:

Field accepted materials are tested and accepted independent of the NDOR M&R Central Laboratory. The M&R Division does not examine these materials for compliance with specification, but will provide guidance for field personnel upon request.

1.6.2 NDOR Central Laboratory Accepted Materials:

NDOR M&R Central Laboratory accepted materials are tested and accepted in the NDOR M&R Central Laboratory. These materials may consist of samples that are collected by laboratory or field personnel.

1.7 Sample Authorization:

1.7.1 Authorization Authority:

Authorization of sample records is conducted by either:

1. Field Personnel (i.e., Project Managers, Construction Technicians, LPA/CE Employees) or,
2. NDOR Laboratory Personnel.

Authorization of the sample record does not signify acceptance of the material and /or processes associated with that sample. It simply signifies that all processes associated with that sample have been completed.

For more information regarding how to authorize a SMGR sample, please refer to ["Creating and Authorizing SiteManager Samples"](#).

1.7.1.1 Field Authorization:

Field authorized materials are designated in SMGR by the  symbol. This symbol appears on the material description on the "Basic Sample Data" tab, see Figure 2, and on the SMGR SCL, see Figure 3.

*Note: There may be instances when the NDOR Central Laboratory may run tests on material that is identified as field authorized. In these instances, please DO NOT authorize the sample, laboratory personnel will authorize the sample when testing is complete.

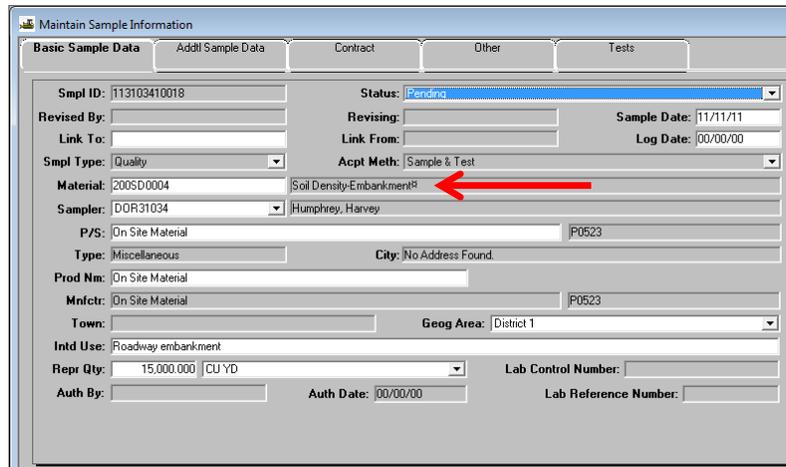


Figure 2, Field Created & Authorized Material Symbol on "Basic Sample Data" Tab in SMGR

Process ID: MSX00008 State of Nebraska Report Date: November 23, 2011
 Report Version: 10212010 Department of Roads
 Test Meth: N/A

Materials & Research
1400 Hwy 2
Lincoln, NE 68502

Sampling Checklist

Contract ID: 1472X Federal/State Project: IM-NH-80-9(845)
 Location: 98TH STREET BRIDGE, LINCOLN County: LANCASTER Route: 080
 Type of Work: NEW BRIDGE Vendor Name: HAWKINS CONSTRUCTION COMPANY
 Vendor ID: 0049

DISCLAIMER:
Material sampling requirements on the Sampling Checklist may not represent the actual number of samples required. Please refer to the project contract and the Materials Sampling Guide to make sure all material requirements are met.

| Project | Line Item | Item Code | Item Description | Unit | Bid - CO Qty | Qty Reported To Date | Qty Authorized To Date | Installed Qty | | | |
|---|-----------|--------------|----------------------------------|------|--------------|----------------------|------------------------|---------------|---------|---------|---------|
| Material | | | | | | | | | | | |
| Producer / Supplier | | | | | | | | | | | |
| | | | | | | Test Description | Cur Req | Tot Thn | Tot Cmp | Tot Req | Tot Rem |
| 12472 | 000 | 0005 1030.00 | EARTHWORK MEASURED IN EMBANKMENT | CY | 79,714.000 | 46,670.000 | 40,573.000 | 40,573.000 | | | |
| 200SD0004 - Soil Density-Embankment  | | | | | | | | | | | |
| P0523 - On Site Material | | | | | | | | | | | |
| Moisture Calculation and Correction for Soils - Field | | | | | | | 1 | 0 | 0 | 1 | 1 |
| Nuclear Density Tests for Soil - Field | | | | | | | 1 | 16 | 0 | 1 | 1 |

Figure 3, Field Created & Authorized Material Symbol on SMGR SCL

1.7.1.2 NDOR Central Laboratory Authorization:

Central laboratory authorized materials are those materials that the central laboratory has a role in testing for acceptance.

For more information regarding how to document the process a SMGR sample is in, please refer to [Creating and Authorizing SiteManager Samples](#).

2. Pre-Placement:

Before construction begins, the Project Manager should review the following:

2.1 NDOR Standard Specification for Highway Construction:

As needed, review the NDOR Standard Specification for Highway Construction for any material requirements that may be present on the project.

2.2 Material Sampling Guide

As needed, review the Material Sampling Guide that was active at the time of project letting, for any material requirements that may be present on the project.

2.3 Project Plans and Special Provisions:

Review the project plans and specifications for any material sampling that deviates from the normal required NDOR practices.

2.4 Materials Required Document List (M-RDL):

NDOR M&R will provide the M-RDL (Materials Required Document List) before the construction project begins.

This document is intended to provide an overview of the forecasted materials requirements based on the final plans and it not updated throughout the life of the project. The M-RDL also provides guidance to the reference documents, as well as M&R contacts available to provide a reference for detailed information for the specific material requirements.

For more information about information required to satisfy each MRDL Acceptance Method, please refer to Section 1 of the [Material Sampling Guide](#).

2.5 NDOR Inspector Qualifications:

Verify the Construction Inspectors performing the inspection work on the project have the proper certifications for the work that will take place.

Refer to Section 28, Appendix A of the [Material Sampling Guide](#) for details of the Sampling and Testing Personnel Qualification Program.

Testing Personnel Certifications can be found in RUG at the following path:

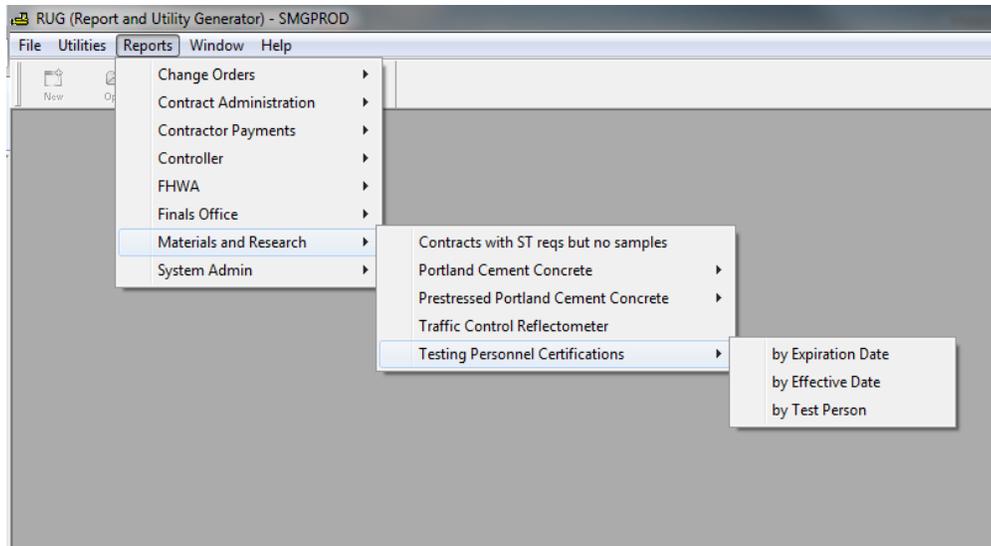


Figure 4, Testing Personnel Certification Path in RUG

2.6 Non-NDOR Laboratory Qualifications:

If applicable, ensure that Non-NDOR laboratories performing material testing and personnel working for those labs who are conducting material testing for acceptance or verification on the project, have the proper qualifications for the materials they are testing for the project.

For more information, refer to the list of [Nebraska Qualified Laboratories](#) found on the M&R website. Testing Personnel Certifications can be found in the same path as shown in Figure 5.

3. Placement:

During construction, the Project Manager shall review the following items to assist in meeting all requirements for material compliance.

For material specific guidance please refer to the [Materials Management Guidance](#) webpage.

The Materials Management Guidance page is undergoing development as Standard Operating Procedures are approved and updated.

3.1 SiteManager Sampling Checklist (SCL):

As a result of periodic generation of progress estimates throughout the lifecycle of a project, review the SMGR SCL for any project material discrepancies. Ideally, any material discrepancy should be taken care of before the progress estimate is generated and approved.

3.2 Materials Required Document List (M-RDL):

Periodically refer to the M-RDL throughout the life of the construction project to ensure that the material requirements not tracked in SMGR are being properly documented.

3.3 Project Documentation:

During the life of the construction project, ensure all measured quantities have adequate supporting documentation and review item quantities included for payment on progress estimates. These quantities will, in turn, affect the sampling and testing frequencies as required in the MSG (Materials Sampling Guide).

3.4 Non-NDOR Laboratory Qualifications:

If there has been a change in laboratory, or laboratory personnel during construction, ensure that the new lab and personnel meet the requirements outlined in section 2.6 of this document.

3.5 Project Specific Testing

Coordinate any project specific testing that is conducting by M&R.

i.e. Smoothness Testing, Coring, etc...

4. Post-Placement:

Upon completion of the construction project, the Project Manager shall reference the following to assist in meeting all material compliance requirements:

4.1 NDOR Final Review Process Manual:

For more detailed information on the Final Review process, please consult the NDOR Final Review Process Manual.

4.1.1 Project Completion Notification:

Upon completion of the construction project send the Project Completion Notification to the **DOR-Const-Completion Notification** mailbox. This email triggers the M&R to begin their review of the project.

4.1.2 Materials and Research Final Review:

4.1.2.1 Material Review Completion:

A letter will be sent to the Highway Construction Project Manager from the M&R Final Review Section stating that the material review has been completed.

4.1.2.2 Release Final Estimate for Payment:

The M&R Final Review Section will sign the final estimate in SiteManager, and send a letter to the Project Manager stating that the M&R has released the final estimate.

4.2 SiteManager Sampling Checklist (SCL):

Run the SCL to verify that all field material requirements created and tracked in SMGR have been satisfied. This includes authorizing any field authorized sample records. See section 1.7.1.1 for guidance in authorizing samples. For more information on assessing material discrepancies, please refer to the [Materials Management Guidance](#) webpage.

4.3 Record Retention:

4.3.1 Materials and Research:

M&R shall keep final records according to their record retention policy and schedule.

4.3.2 District/LPA/Consultant Offices:

District/LPA/Consultant Offices shall keep final records according to their specific record retention policies and schedules. Individual LPA/Consultant offices shall meet all State of Nebraska Record Retention requirements.