6-100 GENERAL

After bids are solicited for a transportation project, the contract is awarded to a contractor, and the administration of the contract is transferred from Headquarters to the District. The District oversees the construction of the project in accordance with NDOT policies and procedures, and as described in the plans and specifications. This section provides guidance to the Resident Engineer and crew in monitoring the contractor's materials and construction activities used in constructing the transportation project.

The plans and specifications are the directions that NDOT provides to a contractor to construct a project. The plans are drawings, and specifications are written directions. In addition to the written contract between NDOT and the contractor, the following contract documents are used on NDOT construction projects:

- Standard specifications Written directions that are common to NDOT projects
- Standard plans Drawings that are common to NDOT projects
- Supplemental specifications Specifications that are issued by NDOT in Supplemental Notices after a project is advertised for bids and before the bid opening
- Plans Drawings of specific details and dimensions for an individual project
- Special provisions Specifications covering conditions peculiar to an individual project

In case of discrepancy, plans govern over specifications, supplemental specifications govern over specifications, and special provisions govern over both specifications and plans.

Specifications are organized in three principal sections: General Requirements (Section 100), Construction Details (Section 200 through 600), and Materials Details (Section 700). Section 6 of this *Construction Manual* is organized to correlate with the numbering system in the specifications. For example, information on clearing and grubbing is found in section 201 of the specifications and section 201 of this *Construction Manual*.

This Construction Manual communicates the policies of the Construction Division and presents guidance to field personnel. The Chief Construction Engineer is responsible for maintaining a current Construction Manual. Updating of the Construction Manual is discussed in Section 3-202, Construction Phase, of this Construction Manual.

6-101 AGGREGATE SOURCES

Aggregate materials for a project come from a material source, commonly called a pit. The material source can be either privately owned or publicly owned. During project development, Materials Division personnel locate material sources that most economically meet the project needs.

CONSTRUCTION

On most NDOT construction projects, the material sources are designated in the plans and specifications. In some situations, the contractor may want to use an alternate site, or expand the limits or boundaries of an approved site. When this situation occurs, the Resident Engineer must confirm that the material is acceptable for use on the project. Source acceptance is determined by the Materials Division, based on test results of aggregate samples collected by the Resident Engineer. The contractor should allow at least 30 days for completion of the additional sampling and testing. For sampling and testing guidance, refer to Section 5, Sampling and Testing, of this *Construction Manual*. The contractor must comply with the requirements stated in the specifications for furnishing materials from a source not listed in the specifications. Fulfilling the requirements for an alternate source may require additional time that the contractor must consider so that the project is not delayed.

The plans and specifications list the contractor's requirements regarding the material supply. See Section 106 of the specifications for information relative to material sources, state-furnished materials, material storage, and defective materials.

A contractor may process and stockpile aggregate before incorporating the material into the work. When this happens, the contractor may request payment of the stockpiled material. The Resident Engineer's Survey Crew Chief measures the stockpile, documents the measurement, and the Resident Engineer completes NDOT form 040-015, "Request for Payment for Materials on Hand." The Resident Engineer processes the request for payment only if the contractor's informational test results show conformance with specifications. Refer to the *Documentation Manual* for additional guidance on measurement and payment of stockpiled material.

6-101.1 STATE-PROVIDED SOURCES

After the contractor proposes a material source, the Resident Engineer should consider the following:

- Source location and access roads
- Right-of-way limits of source
- Haul routes on city or county roads and related requirements, such as weight restrictions
- Improvements that need to be removed, reset, adjusted, or protected, such as power lines or fences
- Slopes to maintain
- Areas to protect from dust, such as crops or buildings
- Conformance with environmental restrictions
- Avoidance areas

CONSTRUCTION

At times, the contractor will produce and stockpile materials before incorporation into the work. The contractor must preserve the integrity of the material when constructing the stockpile. Generally, the contractor constructs stockpiles in the following two ways:

- Construct stockpiles at the end of production belts.
- Haul the produced material from production belts to stockpiles.

With both methods, the contractor's objective is to reduce segregation or degradation of the materials.

The contractor typically constructs stockpiles as follows:

- Stockpile Area Before starting production, the contractor levels the storage or stockpile area and, if necessary, spreads and compacts a leveling course of the material to be stockpiled. This provides a uniform surface on which to place the stockpile material. If the contractor plans to request payment for stockpiled materials, the Resident Engineer's Survey Crew Chief establishes elevations on the stockpile storage surface before stockpile construction.
- Stockpile Placement When stockpiling material as it leaves the production belt, the contractor should minimize material handling with equipment. When using a dozer for spreading, the repeated abrasive action may segregate and degrade the material. When transporting material to the stockpile, the contractor should unload it so that the spreading equipment at the stockpile location will mix the material. For example, "belly-dump" vehicles are unloaded parallel to each other and the dumped loads are leveled before dumping a second layer of material. "End-dump" vehicles are unloaded in a similar manner. "End-dump" vehicles should only be unloaded on horizontal surfaces, not on the stockpile edge, to reduce excessive material segregation.
- Stockpile Contamination When stockpiling different aggregate types in the same general area, the
 contractor must provide a means to separate the stockpiles. The contractor may use walls to
 separate aggregate types.

6-101.2 COMMERCIAL SOURCES

At a commercial source, the material supplier must test the material being produced to verify conformance with the requirements of the specifications. The Resident Engineer requests copies of the test results to confirm compliance with the specifications. Although the material source may be a commercial source, for concrete aggregate the source must undergo an annual testing process to confirm that the source is acceptable for use on NDOT projects. For other aggregate sources, the source undergoes sampling and testing only if the source is in use or proposed for use. This material source sampling and testing process is called "source acceptance." The Resident Engineer consults with the Materials Division to confirm that the material source proposed for use by the contractor has received source acceptance approval. For additional information on source acceptance testing, refer to Section 5-403, Source Acceptance Sampling and Testing, of this *Construction Manual*.

The contractor may request stockpile payment for material at a commercial source. The stockpile must be separated from other stockpiles and clearly labeled, so it is not used for other projects. The Resident Engineer's Survey Crew Chief measures the stockpile, documents the measurement, and the Resident Engineer completes NDOT form 040-015, "Request for Payment for Materials on Hand." The Resident Engineer processes the request for payment only if the contractor's informational test results show conformance with specifications. Refer to the *Documentation Manual* for additional guidance on measurement and payment of stockpiled material.