

2021 MOBILIZATION

2021.1 DESCRIPTION

This work consists of preparatory work and operations, including the movement of personnel, equipment, supplies, and incidentals to the project to establish contractor's offices and buildings or other facilities. This work may also include obtaining bonds, permits, and demobilizing.

2021.2 MATERIALS — (BLANK)

2021.3 CONSTRUCTION REQUIREMENTS — (BLANK)

2021.4 METHOD OF MEASUREMENT — (BLANK)

2021.5 BASIS OF PAYMENT

The Department will provide partial payments for mobilization in accordance with the following table:

Table 2021-1 Mobilization Partial Payments		
When	Pay Lesser of these Two Amounts	
Percent of Original Contract Amount Completed*	Percent of Mobilization	Percent of Original Contract Amount
5	50	3
15	75	5
25	100	5
95	100	—
<p>* The percent of Original Contract Amount = the amount earned by the Contractor, excluding money earned for mobilization and material on hand, divided by the total value of the original contract (all contract items).</p> <p> If the contract unit price for mobilization exceeds 5 percent of the total original contract amount, the Department may withhold (on any partial estimate) the portion in excess of 5 percent until the Contractor earns at least 95 percent of the original contract amount.</p>		

The Department will not pay more than the original contract unit price for the mobilization item, even if the Contractor shuts down work on the project or moves equipment away from the project and then back again.

If the contract does not contain a lump sum item for mobilization, all costs incurred by the Contractor for mobilization shall be incidental to other work.

The Department will pay for mobilization on the basis of the following schedule:

Item No.:	Item:	Unit:
2021.501	Mobilization	lump sum

2031 FIELD OFFICE AND LABORATORY

2031.1 DESCRIPTION

This work consists of providing, maintaining, and removing field office and laboratory facilities for the exclusive use of Department personnel to perform field tests and write reports, for storage of records and equipment, and as field headquarters for the Engineer.

2031.2 MATERIALS

Obtain the Engineer's approval of facilities and services before installing on the project site. The facilities shall remain the property of the Contractor. Provide, maintain, and service the facilities with fuel, electrical power, sanitary services, access roads, and other items required by the contract. Provide telephone service, including a modular jack and voice activated, beeperless, telephone recorder to all field office and laboratory facilities. Provide for the telephone installation, provide basic monthly phone service, and remove the telephone at project completion at no additional cost to the Department. Submit invoices for long distance telephone charges to the Engineer for payment.

Do not place field offices, laboratories, equipment, or supplies within 26 ft [8 m] outside of the dripline of specimen trees or other vegetation designated for preservation unless otherwise approved by the Engineer. Restrict traffic movement from this protected area. Provide temporary fence and other protection measures as specified in 2572, "Protection and Restoration of Vegetation" and as directed by the Engineer.

Locate, relocate, and maintain the facilities as approved by the Engineer unless otherwise specified by the contract. Locate the field office and laboratory sites within the right-of-way if possible. If a site within the right-of-way is not possible, arrange for a site adjacent to the right-of-way. If site rental is necessary, the Department will compensate the Contractor for rental costs as Extra Work. The Engineer will notify the Contractor when to deliver a unit to the project, ready it for occupancy, and

relocate or remove it. Do not relocate or remove any unit from the project unless otherwise approved by the Engineer.

The Engineer may use field office units for the full life of the contract including periods of work suspension and until the execution of the Certificate of final acceptance. The Engineer will not use the laboratory units during periods of authorized winter suspension without the Contractor's permission or unless otherwise required by the contract.

The Engineer will release field laboratory units upon completion of field inspection work and acceptance in accordance with 1516, "Acceptance," unless otherwise required by the contract.

The Engineer will decide all disputes concerning site selection, placement conditions, service needs, and other functional matters.

2031.3 CONSTRUCTION REQUIREMENTS

A Basic Requirements

Provide each field office and laboratory as a separate mobile unit or building unless otherwise approved by the Engineer. The Engineer may accept separate quarters in stationary structures or combination trailer units if they satisfy the Department's location and mobility needs.

Construct and equip each field office or laboratory meeting the following characteristics and requirements:

- (1) Weatherproof thermal resistant construction with finished interior walls, ceiling, and floor, capable of being easily maintained and cleaned;
- (2) Exterior width of at least 8 ft [2.4 m] and a floor to ceiling height of at least 7 ft [2.1 m];
- (3) At least two entrance doors with inside latches and at least one of those doors functioning as an exterior door equipped with an outside lock and having an opening of at least 30 in × 76 in [750 mm × 1,930 mm];
- (4) Commercial type windows of normal number and size, with a total window area of at least 20 percent of the unit floor area, and with inside latches on all vent windows;
- (5) Ceiling ventilator or exhaust fan, insect-proof screening on each exterior door and all vent windows, and Venetian blinds or effective awnings over all windows;
- (6) Artificial lighting system with fixtures providing adequate illumination over each desk and all work areas;
- (7) Portable or wall mounted plans rack;

- (8) At least one multipurpose fire extinguisher meeting the requirements of applicable Federal and State safety and health regulations;
- (9) Electric heating system capable of maintaining a uniform temperature of at least 70 °F [22 °C] throughout the interior in all zones; and
- (10) Floor area, based on exterior dimensions, of at least 230 sq. ft [21 sq. m] for the field office and at least 150 sq. ft [14 sq. m] for the field laboratory.

Ensure the exterior doors provide convenient and safe egress from the ends of the unit. Provide a main door with dimensions of at least 30 in × 76 in [750 mm × 1,930 mm]. The Contractor may install a smaller auxiliary door on laboratory units as approved by the Engineer, if it fulfills the basic needs for an emergency exit. Ensure the doors and passageways provide easy access to all areas of the unit.

B Specific Requirements

Design or arrange the interior layout of each unit to make the furnishings easy to use, accommodate the use and storage of ordinary office machines or testing apparatus, and provide a reasonably modern and universally acceptable facility. Provide built-in furnishings and fixtures. Provide desks, tables, and work top surfaces surfaced or finished with mar resistant materials.

Provide appliance installations, sanitary facilities, electrical circuitry, waste and water supply systems, venting, and safety features meeting the requirements of Federal, State, and local regulations.

Equip the field office or laboratory with the following:

B.1 Field Office Furnishings

B.1.a Desks

Provide at least two pedestal type desks meeting the following characteristics and requirements:

- (1) Contains supply drawers,
- (2) Top width of at least 30 in [750 mm],
- (3) Either the portable or built-in type, and
- (4) Top length of at least 60 in [1,500 mm].

The Contractor may mount at least one end of the desk flush with a wall, provided the top length is at least 72 in [1,800 mm].

Provide vacant wall space for placement of a Department-furnished stenographic desk.

B.1.b File Drawers

Provide at least three letter or legal size file drawers, either of the built-in or portable cabinet type.

B.1.c Drafting Desk

Provide a drafting desk meeting the following requirements and characteristics:

- (1) Contains a plan sheet and pencil drawer,
- (2) Top dimensions of at least 36 in × 72 in [900 mm × 1,800 mm],
- (3) Commercially built,
- (4) Tilt or slant top desk, and
- (5) Wall mounted, pedestal, or cabinet style.

Do not mount either end flush with a wall.

B.1.d Storage Cabinet

Provide an enclosed storage cabinet or closet with space for the usual outdoor garments, office supplies, and other materials not separately stored on open shelves or in desk drawers.

B.1.e Shelving

Provide at least 20 ft [6 m] of open shelving at least 12 in [300 mm] wide. Install shelving above desks or at other convenient locations.

B.1.f Drafting Stools and Desk Chairs

Provide one drafting stool for each drafting desk and one swivel-type desk chair for each desk. Provide at least two additional desk chairs for each facility.

B.2 Field Laboratory Furnishings

B.2.a Workbench

Provide a sturdily-built workbench with a work top at least 10 ft × 24 in [3 m × 600 mm] and with open space below for placement of a curing tank or other equipment. Install the workbench along a side wall.

B.2.b Service Sink

Provide a service sink meeting the following requirements and characteristics:

- (1) At least 12 in [300 mm] deep,
- (2) Capacity of at least 20 gal [75 L]
- (3) Contains water supply, faucet, and an outside drain.

Install the sink near one end of the workbench. Recess the sink into the workbench.

B.2.c Storage Cabinet or Closet

Provide an enclosed storage cabinet or closet with space for the usual outdoor garments, standard supplies, and other miscellaneous equipment or apparatus that would ordinarily be stored for convenience or protection.

B.2.d Desk or Table

Provide a desk or table with a work top at least 30 in × 60 in [750 mm × 1,500 mm].

B.2.e File drawers

Provide at least two letter or legal size file drawers, either of the built-in or portable cabinet type.

B.2.f Stools or Chairs

Provide at least two stools or chairs of a height that will provide seating at the workbench and clerical desk.

B.2.g Shelving

Provide at least 12 ft [3,600 mm] of open shelving at least 12 in [300 mm] wide above the workbench or at other convenient locations.

B.2.h Stove

Provide an electric kitchen stove with four heating plates and electric oven. The Contractor may substitute separate heating plates as approved by the Engineer.

B.2.i Exhaust Fan

Provide an electric exhaust fan.

C Special Requirements

Level and support units at the project site. Rigidly support the field laboratory to eliminate floor and workbench vibrations for accurate weighing on a bench-supported scale.

Provide a curing tank with adequate capacity and in dimensions that allow installation below a laboratory workbench for concrete test cylinder curing when the work involves casting of standard concrete test cylinders. The Contractor may place the tank outside when used at the site of a field office, as approved by the Engineer.

Equip the field office or laboratory with the following special services in accordance with the type required by the contract.

C.1 Type A Service

Provide a pressurized water supply of sufficient capacity to meet materials testing and cylinder curing needs for the project. If a pressurized water supply is not available, provide and install a storage tank with a 50 gal [180 L] water capacity at each field laboratory site. Install the tank to produce sufficient gravity pressure to maintain constant flow through the sink faucet.

C.2 Type B Service

For Type B Service, provide Type A service and add toilet and lavatory facilities, drinking water facilities, and trash disposal service. Install detached portable toilets in locations as directed by the Engineer. Provide a closed faucet-equipped drinking-water container or cooler with an adequate supply of potable water, if a potable pressure water system is not available. Provide trash containers and regularly remove trash from the project site.

C.3 Type C Service

For Type C Service, provide Type B service and add electrical power supply and fixtures, including duplex outlet receptacles capable of providing adequate amperage for electric lighting and other appliance needs.

Provide an electrically powered mechanical sieving apparatus meeting the following characteristics and requirements to determine particle size distribution of fine aggregate (–No. 4 sieve [–4.75 mm]):

- (1) Capable of accommodating six Department-provided full height 4 in [200 mm] round sieves with pan and cover,
- (2) Equipped with an automatic timing device of at least 15 min duration, and
- (3) Meeting the requirements of the AASHTO T 27 sieving sufficiency.

C.4 Type D Service

For Type D Service, provide Type C service and add a thermostatically controlled heating and cooling system capable of maintaining a uniform temperature from 72 °F to 85 °F [22 °C to 29 °C] in all zones. The Contractor may provide separate systems.

C.5 Type X Service

Provide Type X Service only for field laboratory units in combination with the requirements of one of the service types specified in this section. If the contract requires Type AX, Type BX, Type CX, or Type DX, the Engineer may use the specified laboratory unit as a combination office-laboratory facility during the contract

time, including periods of work suspension, until the Department executes the Certificate of Final Contract Acceptance in accordance with 1516, "Acceptance." Provide the service requirements based on the first letter of the service type specified, i.e. for Type AX provide Type A Service.

2031.4 METHOD OF MEASUREMENT

The Engineer will separately measure accepted field office and field laboratory units by the number and type provided and used as required by the contract, regardless of the duration of its use at any one or different locations on the project site.

2031.5 BASIS OF PAYMENT

The contract unit price for field office or field laboratory units of each type includes the cost of providing, placing, relocating, maintaining, and servicing the complete facility as required, including removal and relocation. The Department will separately pay for public utility connections for facility relocations directed by the Engineer after the initial public utility connections made at the original site. The Department will not pay for ordinary relocation expenses not involving public utility changes.

The Department will pay for field office and laboratory on the basis of the following schedule:

Item No.:	Item:	Unit:
2031.501	Field Office, Type ____	Each
2031.503	Field Laboratory, Type ____	Each

2051 MAINTENANCE AND RESTORATION OF HAUL ROADS

2051.1 DESCRIPTION

This work consists of the maintenance, repair, and restoration of designated haul roads for materials hauled for the work covered by the contract.

2051.2 DEFINITIONS

The Department defines "designated haul road" as any public road or street officially designated as a haul road, except for a Minnesota trunk highway or road officially designated by the Commissioner as a detour around a construction project, over which the following materials are hauled:

- (1) Soil or other material for embankment construction,

- (2) Sand, gravel, or other material for backfill,
- (3) Sand, gravel, or crushed rock for base or surfacing courses,
- (4) Aggregates for bituminous surfacing, including hauling bituminous mixtures from the mixing plant,
- (5) Aggregates for concrete base or pavement, including hauling concrete batches from batch plants, and
- (6) Bituminous materials and portland cement for paving mixtures.

The Contractor may haul materials to the project or to other locations outside the project if required to complete the work specified in the contract

2051.3 DESIGNATION AND USE OF HAUL ROADS

If the contract specifies *Maintenance and Restoration of Haul Roads* as a contract item, do not haul material from any source until the Commissioner designates the haul road from that source as a haul road. Once the Commissioner designates the haul road from a source, haul all materials from that source over that road.

Make all vehicle trips, both loaded or unloaded, between material sources and the project on designated haul roads.

If the contract is with Mn/DOT for State Trunk Highway Projects, select haul roads and notify the Engineer of the selections. Within 15 calendar days after receipt of notification of the haul road selections, the Commissioner will determine the acceptability of the selected haul roads. If the haul roads are acceptable, the Commissioner will designate the roads as temporary trunk highway haul roads.

If the contract is with or for a governmental agency other than Mn/DOT, select a haul road and notify the Engineer representing that governmental agency of the selection. Within 15 calendar days after receipt of notification of the haul road selection, the Engineer will determine if the selected road is an acceptable road. If the road is acceptable, the Engineer will approve that road as a designated haul road.

After a haul road is officially designated, the Contractor may select a different road for official designation using the same procedure specified in this section. If the haul road designation changes and any of the above described materials were hauled over the previously designated haul road, the Contractor shall restore the previously designated haul road to the original condition.

A Bituminous Roadways

Reimburse local government agencies for haul road use on bituminous roadways in accordance with the following:

- (1) Verify spring load capacities of proposed haul roads with the local government agencies,
- (2) For a designated haul road with a bituminous surface and a spring load capacity less than 9 tons [8.2 metric tons, reimburse the local government agency for haul road use at a rate of \$0.01 per ton per mile [\$0.007 per metric ton per kilometer] of material hauled,
- (3) Make full payment to the local government agency upon receiving notice of payment due and computations from the Engineer, and
- (4) Provide the Engineer with confirmation of payment to the local agency.

The Department will not require payment if the amount due to an individual local government agency is less than \$500.00.

The Department will not require the Contractor to reimburse local government agencies for concrete surfaced roadways.

2051.4 MAINTENANCE AND RESTORATION

While hauling operations are in progress, maintain the haul road as approved by the Engineer. This work includes application of water, bituminous material, or calcium chloride to the road surface as necessary to alleviate dust nuisance and eliminate traffic hazards.

After the completion of hauling operations over a haul road, perform one of the following:

- (1) Restore that haul road to a condition at least equal to the condition existing at the start of the hauling operations, or
- (2) Compensate the local government agency in the amount approved by the local government agency and the Engineer for the restoration of that haul road by the local government agency.

The fact that other traffic used the haul road concurrently with the Contractor's material hauling operation does not relieve the Contractor of the obligation to maintain and restore the haul road as required in this section. If other contractors, performing highway construction under a contract with the same governmental agency, haul materials over the same road concurrently with the Contractor's material hauling operation, the Engineer will determine the amount of maintenance and restoration obligation to be shared by each.

The Engineer will determine the kind and amount of maintenance and restoration work required to restore the haul road to a condition equal to the condition existing at the time the hauling operations started. The Engineer's decision is final, binding, and conclusive.

When hauling over any designated haul road is completed and the Contractor has restored the road or has compensated the governmental agency for the restoration as required, the Engineer will accept such restoration or concur in such financial settlement for the restoration of the haul road in writing, and such acceptance shall relieve the Contractor of additional obligation in connection with the restoration of the designated haul road.

2051.5 BASIS OF PAYMENT

The contract lump sum amount for *Maintenance and Restoration of Haul Roads* includes the cost of maintenance, restoration, and the reimbursement to any local government agencies as specified in this section for use of haul roads officially designated and used in conjunction with the contract work.

The Department will not make payment for *Maintenance and Restoration of Haul Roads* unless one or more haul roads were officially designated and used for hauling materials. The Department will make payment at the contract lump sum amount if these two conditions were met and regardless of the amount of maintenance and restoration work required, provided work was completed or the local government agency certified receipt of payment for such restoration.

If the Contractor fails or refuses to perform haul road restoration or to make satisfactory financial settlement for such restoration as required within the period specified by the Engineer in writing, the Department will complete the restoration work and deduct the costs from any moneys that are or may become due the Contractor or require reimbursement from the Contractor's Surety.

The Department will pay for maintenance and restoration of haul roads on the basis of the following schedule:

Item No.:	Item:	Unit:
2051.501	Maintenance and Restoration of Haul Roads	lump sum