



CIVIL ENGINEERING ASSOCIATES, INC.
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 CONTRACTORS @ 2000 - ALL RIGHTS RESERVED

DATE: **MARCH, 2003**
 SCALE: **AS SHOWN**
 DRAWING NUMBER: **C4**

STATE OF VERMONT
 DEPARTMENT OF BUILDINGS AND GENERAL SERVICES
 MONTPELIER, VERMONT

SALT and STORAGE DERBY
 US ROUTE 5
 DERBY, VERMONT

BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
 1. Base Course
 2. Bedding Course
 3. Finish Course

C. Longitudinal joints that have become cold shall be coated with Emulsified Asphalt, Type RS-1, before the adjacent mat is placed. If they have been exposed to traffic, they shall be cut back to a clean vertical edge prior to painting with the emulsion.

D. Unless otherwise directed, longitudinal joints shall be offset at least 6' from any joint in the lower courses of pavement. Transverse joints shall not be constructed near one end of the work. Transverse joints constructed in lower courses shall be staggered from joints in upper courses.

3.07 TOLERANCES

- A. The surface will be tested by the Engineer using a 16 foot centirule. Any variations exceeding 3/16" of an inch between any two contacts shall be satisfactorily eliminated. A 10 foot straight-edge may be used on a vertical curve. The straight-edges shall be provided by the Contractor.

3.08 FIELD QUALITY CONTROL

- A. Permit no vehicular traffic on surfaces until thoroughly cured and hatched.

3.09 REPAIR OR SUSIDENCE

- A. Settlement - Should any pavement settle within one year of completion of the Contract, such pavement shall be repaired at the Contractor's expense. If the Contractor fails to make such repairs promptly upon receipt of notice to do so from the Owner, then the Owner may make such repairs at the Contractor's expense. The Owner shall bear all costs incurred in making such repairs.

3.10 MARKING PAVEMENT FOR PARKING

- A. Striping - Thoroughly clean the area to receive striping and locate all striping on an independent on the Contract Plans. All striping shall be 4" wide unless otherwise noted.
- B. Miscellaneous signs and symbols as indicated on all other Plans.

PROJECT COORDINATION

PART 1 - GENERAL

1.01 MEETINGS & PROJECT ACCESS

- A. The Owner shall be notified five (5) days prior to commencement of Work by the Contractor.
- B. The Contractor will coordinate with the Owner to arrange an on-site pre-construction meeting prior to commencement of any Work. Job superintendents and subcontractors shall be included in this meeting.
- C. The Contractor will coordinate all phases of the Work, so as not to interfere with the normal work procedures in the area.
- D. The Contractor shall conduct his work in such a manner as to adjacent to the construction area, except as permitted by the Owner. The Contractor shall so arrange his construction operations as to provide access for emergency vehicles and personnel to the work site at all times.

1.02 LABOR

- A. The Contractor and subcontractors will employ mechanics skilled in their respective trades.
- B. All labor will be performed in a neat and workmanlike manner.

1.03 PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor shall be responsible for including, maintaining, and supervising all OSHA safety precautions in connection with the Work.
- B. Fire Protection: The Contractor shall take all necessary precautions to prevent fire. The Contractor shall provide adequate facilities for extinguishing fires. The Contractor shall prevent fires in project related buildings and shall prevent the spread of fires to areas outside the limits of the Work.
- C. Safety Precautions: Prior to commencement of Work, the Contractor shall be familiar with all safety regulations and practices applicable with construction operations. No additional permits will be made for equipment and procedures necessitated by these safety precautions.

1.04 CORRECTION OF WORK

- A. The Contractor shall promptly correct all Work rejected by the Owner as defective or as failing to conform to the Contract Documents. The Contractor shall bear all cost of correcting such rejected Work.

1.05 WEATHER CONDITIONS

- A. No Work shall be done when, in the opinion of the Owner, the weather is unsuitable. No concrete, earth backfill, embankment, or paving shall be placed upon frozen material if there is delay or interruption in the Work due to weather conditions. The necessary precautions must be taken to avoid any Work to die.
- B. Protection Against Water and Storm: The Contractor shall take all precautions to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground. In case of damage by storm or water, the Contractor shall immediately repair or replace such parts of the Work as the Engineer may require in order that the finished work may be completed as required by the Drawings and Specifications.

1.06 DISPOSAL OF DEBRIS

- A. All debris and excess materials, other than that which is authorized to be reused, before, during or after the Work, shall be promptly removed from the property. The Contractor shall receive title to all debris and/or materials removed from the property and shall be responsible for their disposal or removal to debris or excess material owned by the Contractor.

1.07 PROJECT LAYOUT

- A. The Contractor shall be responsible for providing all necessary survey staking.
 1. Locate and protect control points during progress of work on the site.
 2. Preserve permanent reference points during progress of work.
 3. Establish a minimum of two permanent benchmarks on the site, referenced to data established by survey control points.
 - a. Record locations, with horizontal and vertical data, on Project Record Documents.

1.08 UTILITY TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
 1. Trench, backfill, and compact as required herein and as needed for installation of underground utilities located outside the building.

1.02 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- C. Comply with all requirements of governmental agencies having jurisdiction.

1.03 SOIL MATERIALS

PART 2 - PRODUCTS

- A. Fill and backfill materials:
 1. Provide backfill materials free from organic matter and one 6" in greatest dimension.
 2. Fill material is subject to the approval of the Engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly detritus material, and is free from roots and other deleterious matter.
 3. Do not permit rocks having a dimension greater than 2" within 2' of the outside of pipe.
 4. Freezes and unfreezes material and other foreign matter, and as approved by the Engineer.

1.04 BACKFILLING

- A. Backfilling shall not be done in freezing weather, with frozen materials, or when materials already placed are frozen.
- B. Unless otherwise specified or indicated on the plans, material used for backfilling trenches above the bedding area shall be stable material which was removed during excavation. The bedding area shall be made of dense stable fill. The material shall not contain vegetation, porous matter, masses of roots, individual roots more than 18 inches long or 1/2 inch thick, or stones greater than 50 pounds or larger than six inches in the widest dimension.
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- E. Repair trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct, to the approval of the Engineer.

1.05 BEDDING

- A. Pipe Bedding Area: Prior to laying pipe, bedding material shall be placed to the limits of the excavation and to a depth beneath the pipe as specified. This material shall be compacted to the required density. The bedding shall be made of dense stable fill. The material shall not contain vegetation, porous matter, masses of roots, individual roots more than 18 inches long or 1/2 inch thick, or stones greater than 50 pounds or larger than six inches in the widest dimension.
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1.07 GEOTECHNICAL - STABILIZATION FABRIC

- A. This work shall consist of furnishing and placing on approved stabilization fabric on a prepared surface with the following properties:
 1. Gross tensile strength (ASTM D-682) - 300 lbs
 2. Geotensile strength (ASTM D-1582) - 35 %
 3. Burst strength (ASTM D-751) - 600 psi

1.08 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. Identify known below grade utilities. Stake and flag locations.
- C. Maintain and protect existing utilities remaining which pass through work area.
- D. Upon discovery of unknown utility or concealed conditions, excavation directed work, notify Engineer.

1.09 SITE CLEANING

- A. Clear areas required for access to site and execution of Work.
- B. Maintain access to the site at all times.

1.10 CONSTRUCTION REQUIREMENTS

- A. All backfills and fills shall be compacted in even lifts (12" maximum) to attain the required densities as follows:

Subgrade (6" or Over for Roads and Paving)	95%
General Embankments	90%

EXECUTION

PART 3 - EXECUTION

3.01 PROCEDURES

- A. Existing Utilities:
 1. Locate and mark the drainage or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace at no additional cost to the Owner.
 2. Where existing underground utilities, which are not in the excavation, they shall be adequately supported and protected from damage. Any damage to utilities shall be repaired promptly at no additional cost to the Owner.
 3. If this section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
 4. If existing utilities are found to interfere with the excavation, they shall be relocated, repaired, or removed in accordance with the specifications of the Engineer.
 5. Do not proceed with permanent relocation of utilities until all instructions are received from the Engineer.

3.02 PROTECTION OF PERSONS AND PROPERTY

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PART 1 - GENERAL

1.01 SUMMARY

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PART 2 - PRODUCTS

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