SURVEY OF HIGHWAY CONSTRUCTION MATERIALS

IN THE TOWN OF WASHINGTON, ORANGE COUNTY, VERMONT

Prepared by

STATE OF VERMONT
AGENCY OF TRANSPORTATION

MATERIALS & RESEARCH DIVISION
ENGINEERING GEOLOGY SUBDIVISION

Montpelier, Vermont

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State of Vermont
Agency of Transportation
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Acknowledgments

This project acknowledges the surficial geological information obtained from Professor D. P. Stewart of Miami University, Oxford, Ohio and the bedrock information from the Centennial Geologic Map of Vermont, C. G. Doll.

History

The Materials Survey Project was initiated in 1957 by the Vermont Department of Highways with the assistance of the Bureau of Public Roads to compile an inventory of highway construction materials in the State of Vermont. Previously, investigations for highway construction materials were conducted only as the immediate situation required and only limited areas were surveyed. Since no overall picture of material resources was available, highway contractors or resident engineers were required to locate the materials for their respective projects and the samples were tested by the Materials & Research Division. The additional expense of exploration for construction materials resulted in higher construction costs being paid by the State. The Materials Survey Project was formed to minimize this factor by enabling the State and the contractors to use available information on material resources and to project cost estimates. Knowledge of locations of suitable materials is an important factor in planning highways.

The sources of construction materials are located by this Project through ground reconnaissance, study of maps and aerial photographs, and geological and physiographic interpretation. Maps, data sheets and work sheets furnish information of particular use to contractors and construction personnel, and should be studied together for maximum benefit.

Enclosures

Included in this report are two surface-geology maps, one defining the location of tests on bedrock, the other defining the location of tests on

granular materials. These maps are based on 15-minute or 7-½-minute quadrangles of the United States Geological Survey enlarged or reduced to 1:31250 or 1" = 2604'. The various rock formations and types are delineated on the Bedrock Map of the township. This information is obtained from: Vermont Geological Survey Bulletins, Vermont State Geologist Reports, United States Geological Survey Bedrock Maps, Centennial Geologic Map of Vermont, the Surficial Geologic Map of Vermont and other references.

The granular materials map shows areas of various types of glacial deposits (outwash, moraines, kames, kame terraces, eskers, etc.) which are potential sources of gravel and sand. This information was obtained primarily from a survey conducted by Professor D. P. Stewart of Miami University, Oxford, Ohio, who mapped the glacial features of the State of Vermont during the summer months from 1956 to 1966. Further information is obtained from the Soil Survey (Reconnaissance) of Vermont (conducted by the Bureau of Chemistry and Soils of the United States Department of Agriculture), available Soil Surveys of individual counties (by the Soil Conservation Service of the United States Department of Agriculture), Vermont Geological Survey Bulletins, United States Geological Survey Quadrangles, aerial photographs and other sources. The location of each test area is represented by a Map Identification Number.

This report contains data sheets with detailed information on each test taken in the Granular and Bedrock areas. Data is also used from an active card file compiled by the Materials & Research Division over a period of years. Some cards are not used because they are incomplete or have unusable information on the location of the deposit.

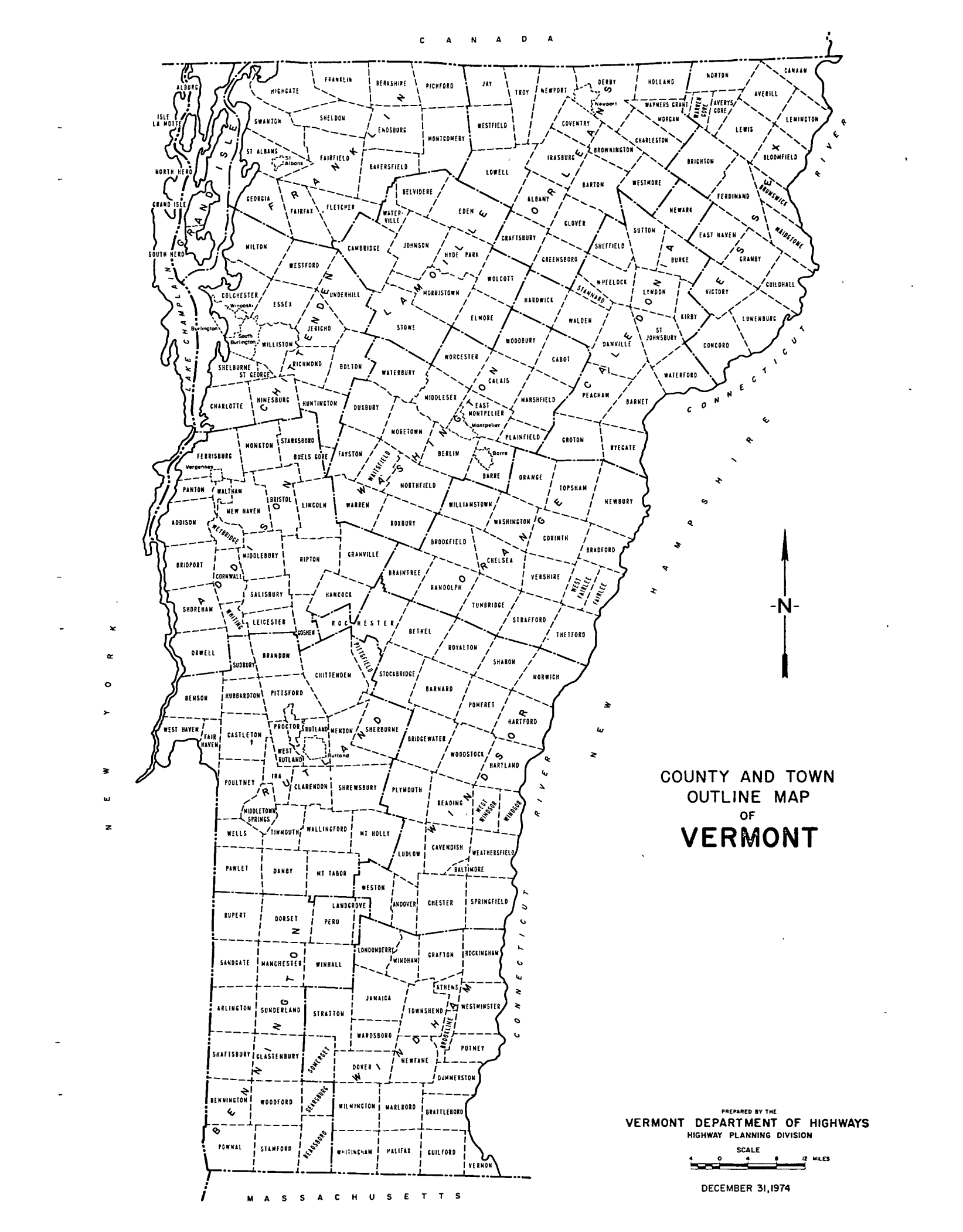
Work sheets containing more detailed information and a field sketch of the area, and laboratory test results are on file in the Materials & Research Division of the Agency of Transportation, State of Vermont.

LOCATION

The Town of Washington is in the north-central corner of Orange County in east-central Vermont. It is bounded on the north by Orange, the east by Corinth, the south by Chelsea, the west by Williamstown, and the northwest corner by Barre. (see County and Town Outline Map of Vermont on the following page.)

Washington lies entirely within the Vermont Piedmont Physiographic Subdivision of the New England Upland. This subdivision is a stream-dissected plateau with undulating-to-rough topography. Elevations vary from 2,404 feet atop Michigan Hill, to 990 feet in the southwest corner of Washington where the First Branch White River crosses the Chelsea Town line.

Drainage to the north is by the Jail Branch of the Stevens Branch of the Winooski River. The northeast corner of town is drained by the East Orange Branch of the Waits River. Drainage to the south is by the First Branch White River and several unnamed tributaries. There are no significant bodies of water in Washington.



COUNTY AND TOWN OUTLINE MAP OF VERMONT

PREPARED BY THE
VERMONT DEPARTMENT OF HIGHWAYS
HIGHWAY PLANNING DIVISION

SCALE
4 0 4 8 12 MILES

DECEMBER 31, 1974

SURVEY OF ROCK SOURCES

Procedure for Rock Survey

The method employed by the project in a survey of possible sources of rock for highway construction is divided into two main stages: office and field investigations.

The office investigation is conducted during the winter months and comprises the mapping and description of rock types perused from many reference sources, as acknowledged in the bibliography. These references differ considerably in dependability due to subsequent developments and studies that have contributed to the obsolescence of a number of reports. The results of samples taken by other individuals are analyzed, and their location is mapped when possible. As complete a correlation as possible is made of the available geological information concerning the area under consideration.

The field investigation is begun by making a cursory survey of the entire town. The information obtained from the preliminary survey, and that from the office investigation, is used to determine where sampling will be concentrated. When a promising source has been determined by rock type, volume of material, accessibility, adequate exposure and relief, chip samples are taken with a hammer across the strike or trend of the rock, and are submitted to the Materials & Research Division for abrasion testing by the Deval Method (AASHTO T-3) and the Los Angeles Method (AASHTO T-96). Samples taken by the chip method are often within the weathered zone of the outcrop and thus may give a less satisfactory test result than fresh material from unweathered rock. When the rock is uniform, and the chip samples yield acceptable abrasion test results, the material source is listed in this report as being satisfactory.

DISCUSSION OF ROCK AND ROCK SOURCES

The information on the Rock Materials Map (Plate II) is a cartographic generalization. A more detailed description of the rock formation is given in the Summary of Rock Formations included in this report.

Occasionally, rocks belonging to the same formation and exhibiting similar characteristics (ie, color and texture) produce different abrasion test results owing to differing physical properties or chemical compositions. Therefore, in no case should satisfactory test results obtained in one area be construed to mean that the same formation, even in the same area, will not later produce unsatisfactory material; this is particularly true of metamorphic rocks.

Metamorphic rock of the Green Mountain Sequence (Waits River Formation) underlies the town. The steepest scarp in town was investigated west of a private drive west of Vermont Route 110, 1.5 miles south of Washington Town Highway No. 38 (Class 3). The rock was intensely weathered into soft, very thin, crumbly pieces which were not large enough for abrasion testing. There are no quarries in Washington.

SURVEY OF SAND AND GRAVEL SOURCES

Procedure for Sand and Gravel Survey

The method used for conducting the survey of possible sources of sand and gravel for highway construction is divided into two main stages: office and field investigations.

The office investigation is conducted during the winter months and comprises the mapping of potentially productive areas from various references. Of these references, the survey of glacial deposits mapped by Professor Stewart is particularly helpful when used with soil-type maps, aerial photographs, and United States Geological Survey Quadrangles. The last two are used in the recognition and location of physiographic features indicating glacial deposits, and in the study of drainage patterns. The locations of existing pits are mapped, as are the locations in which samples were taken by other individuals.

The field investigation is begun by making a cursory survey of the entire town. All pits, and any areas that show evidence of glacial or fluvial deposition are noted, and later investigated by obtaining samples from pit faces and other exposed surfaces. Test holes in pit floors and extensions are later dug with a backhoe to a depth of approximately 11 feet to obtain material which is submitted to the Materials & Research Division for gradation, sieve analysis and AASHTO T-4 Method stone abrasion test.

DISCUSSION OF SAND AND GRAVEL DEPOSITS

Results of this survey showed that granular deposition in Washington is extremely limited in depth, extent, and quality. Four small pits have material unsuitable for Granular Borrow, Item 703.05 and two small pits (Map Identification No. 3 and 4) have material which did not meet specification requirements for Gravel for Sub-base, Item 704.05.

The Glacial drift in town is deposited as various types of till in small moraines which have not been washed or sorted enough to supply usable construction material.

Granular material is usually obtained from areas in Barre or Tunbridge.

SUMMARY OF ROCK FORMATIONS IN THE TOWN OF WASHINGTON

GREEN MOUNTAIN SEQUENCE

Eastern Vermont Group

Waits River Formation: Gray quartzose and micaceous crystalline limestone weathered to distinctive brown earthy crust; interbedded and intergradational with gray quartz-muscovite phyllite or schist. Where more metamorphosed the limestones contain actinolite, hornblende, zoisite, diopside, wollastonite, and garnet, and the phyllite and schist, biotite, garnet, and locally andalusite, kyanite, or sillimanite.

GLOSSARY OF SELECTED GEOLOGIC TERMS

Actinolite - A variety of amphibole occurring in greenish bladed crystals or in masses.

Andalusite - A variously colored, orthorhombic aluminum silicate mineral found in schistose rocks.

Biotite - A platy silicate mineral commonly known as black mica.

Diopside - A mineral of the pyroxene group having the composition $CaMg(SiO_3)_2$. It is especially characteristic of contact metamorphic zones, and also occurs in some gneisses and schists.

Drift - As used today the term embraces all rock material in transport by glacial ice, all deposits made by glacial ice, and all deposits predominantly of glacial origin made in the sea or in bodies of glacial meltwater; drift includes till and scattered rock fragments.

Garnet - An important group of silicate minerals having the general formula $R_3R_2(SiO_4)_3$, in which the radical R_3 is calcium, magnesium, ferrous iron, or manganese, and R_2 is aluminum, ferric iron, or chromium. There are numerous varieties, of which pyrope, almandite, and andradite are the most common.

Glacial - Pertaining to ice or to its action, or consisting of ice; frozen, icy, freezing, esp., pertaining to glaciers; as glacial soil.

Hornblende - A common member of the amphibole group of silicate minerals. It is usually black, dark green, or brown, has a hardness of 5 to 6 and specific gravity of about 3.0. The mineral commonly occurs in prismatic masses in igneous and metamorphic rocks.

Kyanite - A blue, aluminum silicate mineral occurring as thin-bladed crystals or crystalline aggregates in metamorphic rocks.

Limestone - A bedded sedimentary deposit containing from 40% to more than 98% calcium carbonate; common impurities are clay and sand. Limestone is the most important and widespread of carbonate rocks.

Metamorphic- Rocks that owe their distinctive characteristics to the transformation of pre-existing rocks through intense heat, high pressure, solutions, or combination.

Micaceous - Composed of, resembling, or pertaining to mica. In mineralogy it refers to thin plates or scales.

Moraine - An accumulation of drift with an initial topographic expression of its own, built within a glaciated region by the direct action of glacial ice.

Muscovite - An important member of the mica group of silicate minerals; known also as white mica, potash mica or isinglass.

Phyllite - A fine-grained, metamorphic rock intermediate between the mica schists and slates, into which it may grade. Its cleavage is due to the high content of the potash mica, sericite, which gives the rock a distinctive silvery appearance. Its fracture is intermediate between the smooth, even cleavage of slate and the rather splintery fissility of schist; the rock is not as tough as slate.

Physiographic - Pertaining to the physical divisions of the earth's surface.

Piedmont - Lying, or formed at the base of mountains.

Quartzose - Of, or pertaining to quartz.

Relief - The relative difference in elevation between the summits and the lowlands of a particular region.

Schist - A crystalline metamorphic rock having secondary foliation or lamination based on parallelism of platy or needle-like grains. The name refers to the tendency to split along the foliation.

Sillimanite - A brown, grayish, or pale green silicate mineral (Al_2SiO_5) occurring as long, slender, often fibrous crystals in metamorphic rocks.

Stream-dissected - Cut by erosion into hills and valleys or into flat interstream divides and valleys.

Till - An unsorted, unstratified, unconsolidated, heterogeneous mixture of clay, silt, sand, gravel, and boulders deposited directly by glacial ice.

Wollastonite - A metamorphic mineral ($CaSiO_3$) usually associated with marble. It occurs in groups of needle-like, or fibrous crystals.

Zoisite - A metamorphic mineral ($Ca_2Al_3(SiO_4)_3(OH)$) commonly associated with amphiboles in crystalline schists.

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PARTIAL SPECIFICATIONS FOR HIGHWAY CONSTRUCTION MATERIALS

Listed below are partial specifications for Highway Construction Materials as they apply to this report at date of publication. For a complete list of specifications see Standard Specifications for Highway and Bridge Construction, approved and adopted by the Vermont Department of Highways, March, 1976.

DIVISION 700 - MATERIALS

703.03 SAND BORROW AND CUSHION. Sand borrow shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and shall meet the requirements of the following table:

TABLE 703.03A - SAND BORROW AND CUSHION

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE	SAND PORTION
2"	100	
1½"	90-100	
½"	70-100	
No. 4	60-100	100
No. 100		0- 30
No. 200		0- 12

703.05 GRANULAR BORROW. Granular borrow shall be obtained from approved sources, consisting of satisfactorily graded, free draining, hard, durable stone and coarse sand reasonably free from loam, silt, clay, or organic material.

The Granular Borrow shall meet the requirements of the following table:

TABLE 703.05A - GRANULAR BORROW

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE	SAND PORTION
No. 4	20-100	100
No. 200		0- 15

The maximum size stone particles of the Granular Borrow shall not exceed 2/3 of the thickness of the layer being spread.

704.05 GRAVEL FOR SUB-BASE. Gravel for Sub-base shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and shall meet the following requirements:

(a) Grading. The gravel shall meet the requirements of the following table:

TABLE 704.05A - GRAVEL FOR SUB-BASE

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE	SAND PORTION
No. 4	20-60	100
No. 100		0- 18
No. 200		0- 8

The stone portion of the gravel shall be uniformly graded from coarse to fine, and the maximum size stone particles shall not exceed 2/3 the thickness of the layer being placed.

(b) Percent of Wear. The percent of wear of the gravel shall be not more than 25 when tested in accordance with AASHTO T-4, or more than 40 when tested in accordance with AASHTO T-96.

704.06 CRUSHED STONE FOR SUB-BASE. Crushed stone for sub-base shall consist of clean, hard, crushed stone, uniformly graded, reasonably free from dirt, deleterious material, pieces which are structurally weak and shall meet the following requirements:

(a) Source. This material shall be obtained from approved sources and the area from which this material is obtained shall be stripped and cleaned before blasting.

(b) Grading. This material shall meet the requirements of the following table:

TABLE 704.06A - CRUSHED STONE FOR SUB-BASE

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE
4½"	100
4"	90-100
1½"	25- 50
No. 4	0- 15

(c) Percent of Wear. The percent of wear of the parent rock shall be not more than 8 when tested in accordance with AASHTO T-3, or the crushed stone a percent of wear of not more than 40 when tested in accordance with AASHTO T-96.

(d) Thin and Elongated Pieces. Not more than 30 percent, by weight, of thin and elongated pieces will be permitted.

Thin and elongated pieces will be determined on the material coarser than the No. 4 sieve.

(e) Filler. The filler shall be obtained from approved sources and shall meet the requirements as set up for Sand Cushion, Subsection 703.03.

(f) Leveling Material. The leveling material shall be obtained from approved sources and may be either crushed gravel or stone screening produced by the crushing process. The material shall consist of hard durable particles, reasonably free from silt, loam, clay or organic matter.

This material shall meet the requirements of the following table:

TABLE 704.06B - LEVELING MATERIAL

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE
3/4"	100
1/2"	70-100
No. 4	50- 90
No. 100	0- 20
No. 200	0- 10

704.07 CRUSHED GRAVEL FOR SUB-BASE. Crushed gravel for sub-base shall consist of material reasonably free from silt, loam, clay or organic matter. It shall be obtained from approved sources and shall meet the following requirements:

(a) Grading. The crushed gravel shall be uniformly graded from coarse to fine and shall meet the requirements of the following table:

TABLE 704.07A - CRUSHED GRAVEL FOR SUB-BASE

GRADING	Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE	SAND PORTION
COARSE	4"	100	
	No. 4	25- 50	100
	No. 100		0- 20
	No. 200		0- 12
FINE	2"	100	
	1½"	90-100	
	No. 4	30- 60	100
	No. 100		0- 20
	No. 200		0- 12

(b) Percent of Wear. The percent of wear of the parent gravel shall be not more than 20 when tested in accordance with AASHTO T-4, or the crushed gravel a percent of wear of not more than 35 when tested in accordance with AASHTO T-96.

(c) Fractured Faces. At least 30 percent, by weight, of the stone content shall have at least one fractured face.

Fractured faces will be determined on the material coarser than the No. 4 sieve.

704.09 DENSE GRADED CRUSHED STONE FOR SUB-BASE. Dense graded crushed stone for sub-base shall consist of clean, hard, crushed stone, uniformly graded, reasonably free from dirt, deleterious material and pieces which are structurally weak, and shall meet the following requirements:

(a) Source. This material shall be obtained from approved sources and the area from which this material is obtained shall be stripped and cleaned before blasting.

(b) Grading. This material shall meet the requirements of the following table:

TABLE 704.09A - DENSE GRADED CRUSHED STONE FOR SUB-BASE

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE
3½"	100
3"	90-100
2"	75-100
1"	50- 80
½"	30- 60
No. 4	15- 40
No. 200	0- 10

(c) Percent of Wear. The percent of wear of the parent rock shall be not more than 8 when tested in accordance with AASHTO T-3, or the crushed stone a percent of wear of not more than 40 when tested in accordance with AASHTO T-96.

(d) Thin and Elongated Pieces. Not more than 30 percent, by weight, of thin or elongated pieces will be permitted.

Thin and elongated pieces will be determined on the material coarser than the No. 4 sieve.

704.10 GRAVEL BACKFILL FOR SLOPE STABILIZATION. Gravel backfill for slope stabilization shall be obtained from approved sources, consisting of satisfactorily graded, free draining, hard, durable stone and coarse sand reasonably free from loam,

silt, clay, and organic material.

The gravel backfill shall meet the requirements of the following table:

TABLE 704.10A - GRAVEL BACKFILL FOR SLOPE STABILIZATION

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE	SAND PORTION
No. 4	20-50	100
No. 100		0- 20
No. 200		0- 10

The stone portion of the gravel backfill shall be uniformly graded from coarse to fine, and the maximum size stone particles shall not exceed 2/3 the thickness of the layer being placed.

704.11 GRANULAR BACKFILL FOR STRUCTURES. Granular backfill for structures shall be obtained from approved sources, consisting of satisfactorily graded, free draining granular material reasonably free from loam, silt, clay, and organic material.

The granular backfill shall meet the requirements of the following table:

TABLE 704.11A - GRANULAR BACKFILL FOR STRUCTURES

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE	SAND PORTION
3"	100	
2½"	90-100	
No. 4	50-100	100
No. 100		0- 18
No. 200		0- 8

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS AND RESEARCH DIVISION
ENGINEERING GEOLOGY SECTION

WASHINGTON GRANULAR DATA SHEET NO. 1 TABLE I

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Abrasion AASHTO T-4-35	Sieve Analysis % Passing						Meets Vt AOT Spec.	Remarks
							2"	1-1/2'	1/2"	#4	#100	#200		
1	1	1979	1-8	0-1	Yes	-	100	100	-	93.4	63.4	43.7	-	Owner: Bernard Emmons, (Former owner: Marshall Webster.) Area is a small shallow pit adjacent to east side of Vermont Rt. 110, 0.06 mile south of the jct. of Washington Town Highway No.5 (Class 3). The pit is on a stripped knoll just north of a steep drop-off to an arm of the Jail Branch Brook. Test No. 1 was in the north-west face of east lobe of pit. Material is: 0' - 1', over-burden; 1' - 8', mostly silt-clay with some very thin layers of fine silty sand; bottom, silt-clay and sloughed material. There are some angular rock fragments in the face. There are many angular and faceted ice-rafted boulders. Material is classified as a sandy silt.

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WASHINGTON GRANULAR DATA SHEET NO. 2

TABLE I

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Abras-ion AASHTO T-4-35	Sieve Analysis % Passing						Meets Vt AOT Spec.	Remarks
							2"	1-1/2'	1/2"	#4	#100	#200		
2	1	1979	7-18	0-3.5	Yes	-	100	100	-	84.0	72.7	58.0	-	Owner: Thelma Carpenter. Area is a pit on the south-east edge of a partly over-grown knoll, 0.08 mile south of Washington Town Highway No. 5 (Class 3) and 0.1 mile west of its junction with Vt. Route 110. Test No. 1 was in east face of south lobe of pit. Material is :0' - 3.5', over-burden; 3.5'- 7', vertical faces of silty fine sand and silt-clay seams that are inaccessible; 7' - 18', thin beds of silt-clay, silt, fine sand, and random, angular, pebble-sized stones; bottom, silt-clay. Material is classified as a silt.

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WASHINGTON GRANULAR DATA SHEET NO. 3

TABLE I

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Abrasion AASHTO T-4-35	Sieve Analysis % Passing						Meets Vt AOT Spec.	Remarks
							2"	1-1/2'	1/2"	#4	#100	#200		
3	1	1979	1-6	0-1	Yes	-	91	88	68	54	24	13	Gran Borrow (Gravel)	Owner: George Donovan. Area is known as the Old Johnson Pit which Flint sold to present owner. Area is 0.3 mile south of Washington Town Highway No. 25 (Class 3), 1.07 mile west of its junction with Town Highway No. 14 (Class 3). Test No. 1 was in a low stony bank south of the over-grown main lobe of pit. Material is: 0' - 1', over-burden; 1' - 3', angular stones; 3' - 4.5', sand with some small angular stones; 4.5' - 6', angular stones with some sand; bottom, sloughed material.

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WASHINGTON GRANULAR DATA SHEET NO. 4

TABLE I

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Abrasion AASHTO T-4-35	Sieve Analysis % Passing						Meets Vt AOT Spec.	Remarks
							2"	1-1/2'	1/2"	#4	#100	#200		
4	1	1979	0.5-5	0-0.5'	Yes	-	75	75	69	55	24	15	Gran. Borrow (Gravel)	Owner: Mrs. Ivan Spencer. Area is a small pit-like dug-out area used as a storage area for pea-stone. It is adjacent to the west side of Vt. Rt. 110, 0.60 mile south of Town Highway No. 38 (class 3). Test No. 1 was in the southwest face of pit. Material is: 0' - 0.5', overburden; 0.5' - 5', mixed glacial debris with a lot of weathered rock fragments; bottom, boulders.

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WASHINGTON GRANULAR DATA SHEET NO. 5

TABLE I

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Abras-ion AASHTO T-4-35	Sieve Analysis % Passing						Meets Vt AOT Spec.	Remarks
							2"	1-1/2'	1/2"	#4	#100	#200		
5	1	1979	1-5	0-1	Yes	-	100	100	-	92.6	45.0	30.0	-	Owner: K. H. Kennedy. Area is a small overgrown pit with sloughed faces, 0.03 mile southwest of Town Highway No. 18 (Class 3); access is 0.52 mile south of its junction with Town Highway No. 44 (Class 4). There are many 24" to 40" angular, ice-rafted boulders at the base of the slope. Test No. 1 was on the upper part of the pit face. Material is: 0' - 1', overburden; 1' - 5', sticky, silty fine sand or silt-clay, and weathered rock fragments; bottom, silt-clay and boulders. There is moisture on the floor. Material is classified as silty sand.

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WASHINGTON GRANULAR DATA SHEET NO. 6 TABLE I

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Abras-ion AASHTO T-4-35	Sieve Analysis % Passing						Meets Vt AOT Spec.	Remarks
							2"	1-1/2'	1/2"	#4	#100	#200		
6	1	1979	1-12	0-1	Yes	-	100	100	78	70	35	20	-	Owner: Mae Kezer. Area is a shallow, overgrown pit, uphill and south across Town Highway No. 28, (Class 3) from an abandoned house. Access is 0.09 mile west of the jct. of Town Highway No. 28 and Vt. Route 110. Pit is used as a junk car area and a landfill of sorts. Test No. 1 was on north face of north lobe of pit. Material is: 0' - 1', overburden; 1' - 10' mostly weathered rock fragments and powder (sandy material); 10' - 12', sandy material and a very crude gravel with angular stones and not much sorting; bottom, boulders and sloughed material. The sand was just weathered rock (in place), and the pebbles are angular.

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TABLE I

SUPPLEMENT I

WASHINGTON PROPERTY OWNERS	MAP IDENTIFICATION NO.
Carpenter, Thelma	2
Donovan, George	3
Emmons, Bernard	1
Kennedy, K. H.	5
Kezer, Mae	6
Spencer, Mrs. Ivan	4

TABLE II

SUPPLEMENT II

WASHINGTON PROPERTY OWNERS - ROCK MAP IDENTIFICATION NO.

The most promising rock source in town yielded pieces too small and weathered to test by the AASHTO-T-96 abrasion method.