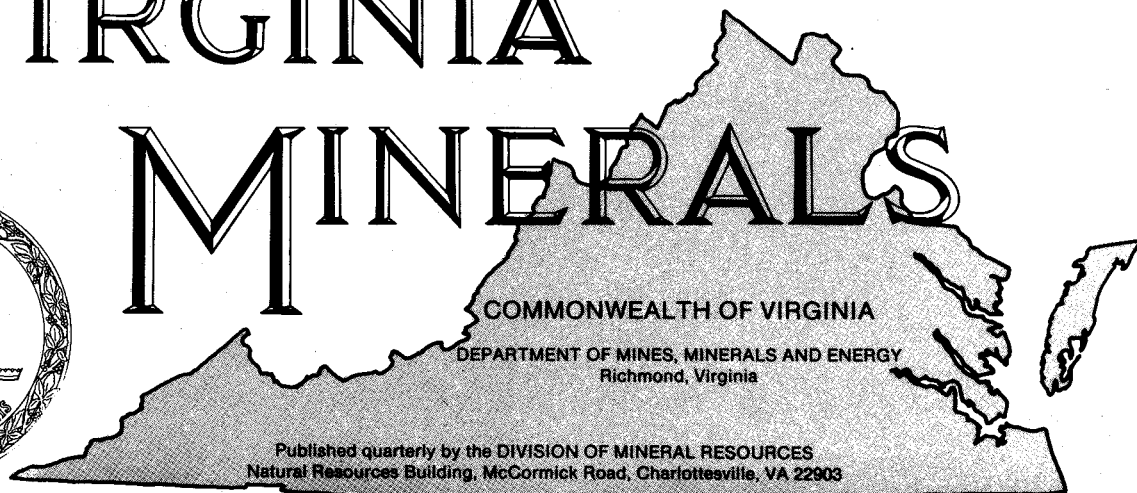


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INTERESTING USES OF STONE IN VIRGINIA - PART I

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ABSTRACT

Dimension stone has been used in the construction of buildings, monuments, bridges, iron furnaces, dams, roads, mills, locks, forts, overlooks, and towers. Schist, conglomerate, diabase, gabbro, gneiss, granite, greenstone, limestone, dolomite, marble, quartzite, sandstone, slate, and soapstone have been or are being quarried in Virginia. Some 350 interesting uses of dimension stone across the state are listed, located, and described.

INTRODUCTION

The purpose of this article is to provide information on the locations and uses of various types of dimension stone in Virginia. Architectural terms are defined in the Appendix. A list of examples of interesting stone and brick features in most of the counties and cities follows the text. (Most of the listing will be published in "Virginia Minerals", v. 39, No. 1, January 1993.) This list is not a comprehensive survey of all stone and brick construction in the state; it presents only those interesting uses visible from the public roads. Each place on the list was visited, photographed, and described. The more recent uses of crushed stone in exposed aggregate panels and construction are not included herein. It is hoped that the interested reader will research the uses of stone and brick in their local areas and determine where the materials came from and the workmen who used them.

Dimension stone has been used in Virginia for the construction of buildings, monuments, bridges, iron furnaces, dams, place markers, sidewalks, mills, locks, forts, overlooks, streets, lighthouses and towers since the days of the early colonists. The stone used for construction purposes in Virginia, was obtained locally, from other U. S. states, and from foreign countries. For example, most of the fossiliferous, fragmental limestone described in building use probably came from Indiana. Most of the stone used has been shaped by masons with various types of finishes and sometimes with carved ornamentation. In places, local field stones have been used with little or no shaping.

ROCK TYPES

The principal rock types quarried for dimension stone uses in Virginia include amphibolite schist, conglomerate, diabase, gabbro, gneiss, granite, greenstone, limestone-dolomite, marble, quartzite, sandstone, schist, slate, and soapstone. The quarrying of most dimension stone in Virginia is uneconomical today because of the relatively high costs of labor and transportation. Land-use restrictions can also preclude extraction of stone from otherwise favorable sites. The principal uses for stone, both rough and dressed, are for building walls, veneer stone, monuments, flagging, roofing, flooring, fireplaces, cook stoves, and laboratory counters. In addition, there is a wide variety of architectural uses such as decorative special order pieces, stair treads, and walkways.

AMPHIBOLITE SCHIST

Greenish-black amphibolite schist was quarried in northwestern Patrick County by Wade and Griffith from the early 1950s until the late 1970s. The stone, which contained sulfide bearing quartz veins, also had prominent joints. The stone was quarried with crowbars and was marketed for use on bridges, walks and walls along the Blue Ridge Parkway. Some product was sold for \$0.90/foot in the early 1970s.

CONGLOMERATE

Both limestone conglomerate and quartz conglomerate (Figure 1) have been extracted locally in the Leesburg area of Loudoun County. The limestone conglomerate is very attractive when cut and polished. In Maryland, similar material has been marketed as "Potomac marble."

A sandstone conglomerate of Mississippian age was produced on Brush Mountain in Montgomery County for use as millstones in the early 1900s. The stone consisted of rounded quartz pebbles in a fine siliceous matrix; product was marketed as "Brush Mountain" stone. A similar conglomerate was quarried in Pulaski County for use in construction of buildings (Figure 2).

¹. Deceased.

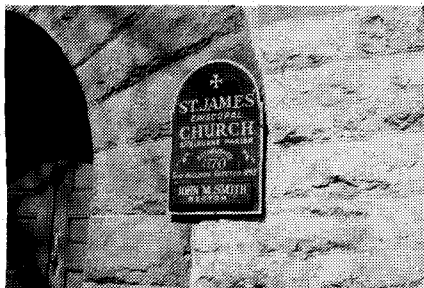


Figure 1. St. James Episcopal Church, Leesburg, Loudoun County.

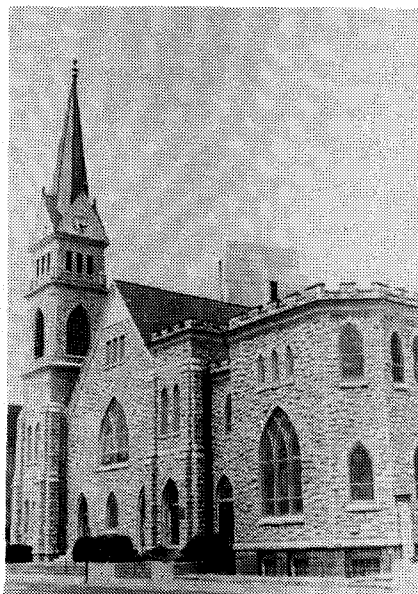


Figure 2. Greene Memorial Methodist Church, City of Roanoke.

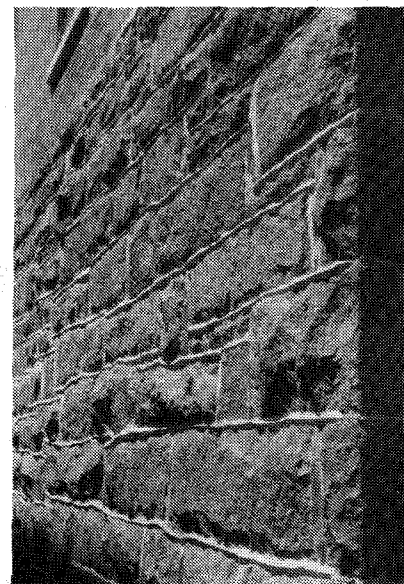


Figure 3. Diabase faced building, Leesburg, Loudoun County.

DIABASE

Diabase, referred to commercially as "black granite", has been quarried for dimension stone and monument use at two sites, northeast of Rapidan, in Culpeper County from the 1960s until the late 1980s. Presently, only New England Stone is actively producing dimension stone. The stone quarried is gray to dark-gray, medium-grained diabase of Jurassic age. The rock is composed chiefly of dark pyroxene and light feldspar, which gives the rock a distinct salt and pepper appearance. Joints in the stone aid the quarrying; holes are drilled at right angles into the joints. Metal wedges are driven into the holes in order to break out the blocks which average 6 x 8 x 10 feet. Jackhammers are used where feasible. Hot jet-piercing techniques have been used to cut the stone into blocks when natural fractures are lacking. This technique utilizes the heat derived from the burning of fuel oil and oxygen to disintegrate the rock and cut vertical channels in the stone. Then horizontal holes are drilled and low-velocity explosives are utilized to break the stone block free. Currently, less than 5,000 tons of the stone per year is sent to Georgia for processing into cemetery monuments. In addition, diabase has been quarried during the first half of the 20th century in the Leesburg area of Loudoun County for building stone (Figure 3).

GABBRO

Coarse grained metagabbro has been quarried from several sites south of Rocky Mount in Franklin County for use in construction of buildings, walls and walkways.

GNEISS

Grayish-black, coarse-grained and moderately-to well-foliated amphibole gneiss and dark to light-gray, fine to medium-grained and well-foliated biotite gneiss have both been quarried by Tosalma Stone Quarry in the southern part of Hanover County, northwest of Richmond from 1964 to 1985. These gneisses have been sold for facing and building, patio and flagging stone and were marketed as "granite."

A fine-grained, dark blue-gray biotite gneiss was quarried in the Lynchburg area. The quarries are on the north side of the James River in Amherst County and east of Lynchburg along tributaries of the James River in Campbell County. Stone was utilized around the turn of the 20th century for general building and street purposes in Lynchburg. Gneiss has been quarried in northern Virginia along the south side of the Potomac River for local use.

The most recent operation was in a biotite gneiss quarry along the Big Otter River in eastern Bedford County. Stone from this quarry was marketed for flagstone until the early 1970s by Lawhorne Brothers.

GRANITE

Granite has been quarried from many sites along the eastern edge of the Piedmont province including quarries in the Richmond, Petersburg and Fredericksburg areas. Some dimension granite has been quarried in Amherst, Brunswick, Fairfax, Fluvanna, Grayson, Mecklenburg, Nottoway and Prince Edward Counties.

Beginning in the 1830s and into the 1940s, the Petersburg granite, of Paleozoic age and ranging from a light-gray to dark blue-gray, fine-to coarse-grained stone, was quarried from more than 20 sites along the bluffs on both sides of the James River, in the City of Richmond and in Chesterfield and Henrico Counties (Figure 4). The granite has well developed and widely spaced joints, which readily lends itself to quarrying. The Old State quarry, one of the largest in the area, was operated by the Old Dominion Granite Company. The company employed as many as 300 employees as early as 1870 to produce building and curbing stone (Church, 1954).

The Petersburg granite was quarried north and west of Petersburg, south of Richmond. Four companies operated quarries and produced stone for building, curbing, and rubble paving and for monumental uses. This stone was marketed as far as Denver, Colorado (Watson, 1907).

Six sites were quarried west of Fredericksburg, along the Rappahannock River in the late 1800s and early 1900s in a blue-gray biotite granite, gneiss and schist of the Fredericksburg Complex of Lower Cambrian age. The granite was marketed as "Battlefield Granite". The stone was drilled with hand and steam drills and subsequently broken with round wedges driven in the

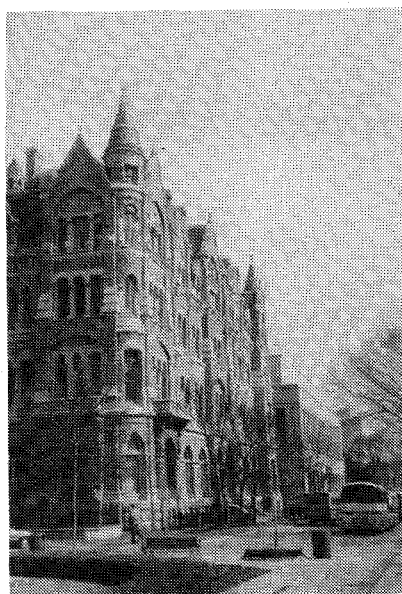


Figure 4. Old City Hall, City of Richmond.



Figure 5. Alcoholic Beverage Control store, City of Richmond.

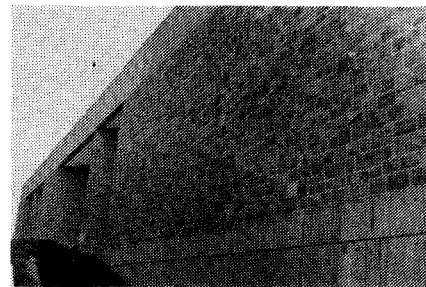


Figure 6. University Bookstore, Blacksburg, Montgomery County

prominent joints (Harrison, 1986).

Red Oak biotite granite of Lower Cambrian age was quarried about 6 miles southeast of Boydton, Mecklenburg County, from the early 1940s until early 1966. This granite is light gray, medium-grained and even textured with widely spaced vertical joints. Stone from this quarry was utilized for rip-rap and bridge work for the John Kerr dam and reservoir and for rip-rap blocks (up to 6 x 6 x 5 feet) for construction of the Chesapeake Bay Bridge-Tunnel.

GREENSTONE

Greenstone, a metamorphic rock containing one or more of the minerals chlorite, epidote or actinolite, has been quarried from two sites in the past in the City of Lynchburg and in adjacent Bedford County. The greenstone (actinolite-chlorite schist) in Lynchburg was quarried by the Virginia Greenstone Co., Inc. from 1931 until June, 1969. Production of rough and dressed stone was almost 1500 tons per year in the late 1960s. The material, marketed as "Virginia Greenstone", was sold for exterior wall facing, spandrels and in the rough for stone in buildings, walls and chimneys. Numerous commercial buildings, houses and churches have utilized this stone, especially older Alcoholic Beverage Control buildings (Figure 5).

LIMESTONE-DOLOMITE

Limestone and dolomite, mainly of Cambrian and Ordovician age, have been quarried in the past for dimension stone in most of the counties of the Valley and Ridge province. Light-to medium-gray, massive, thick-bedded, fine-to medium-grained dolomite and micritic, massively bedded limestone in the Knox Group of Upper Cambrian to Lower Ordovician age, have been quarried just northeast of Blacksburg, Montgomery County. This stone has been used as building stone at Virginia Polytechnic Institute and State University (VPI&SU) (Figure 6) and is intermittently quarried on an as-needed-basis.

The New Market Limestone of Middle Ordovician age and the upper limestone and dolomite unit of the Beekmantown Group of Lower Ordovician age have both been quarried for use as a building stone near the City of Harrisonburg in the 1950s and 1960s (Figure

7). Stone in both of these units weathers to a distinct light-gray to white color. The grayish-black Liberty Hall limestone member of the Edinburg Formation of Middle Ordovician age was quarried just north of Harrisonburg until the early 1980s. The stone was crushed and utilized as terrazzo by the Jamison Black Marble Company.

MARBLE

White to greenish-gray, fine-to medium-grained marble in the Swift Run Formation of upper Precambrian age, was quarried along Goose Creek, 8.5 miles southwest of Leesburg, Loudoun County. The marble was first quarried in 1798 for use as liming material (Scheel, 1978). The Virginia Marble Company was chartered for quarrying here in 1870 for liming use. The white, compact, high-quality marble was quarried around the turn of the century. This ornamental and architectural stone, was awarded medals at the Columbian Exposition in Chicago in 1893 and at the Century of Progress Exhibition in St. Louis in 1904. Examples of the white, statuary marble can be seen in Confederate memorials in Luray, Page County (Figure 8) and in Little Washington, Rappahannock County (Scheel, 1978).

This marble has a thickness of 52 feet (Watson, 1907). In a report of the Virginia Marble Company in the 1920s, the unit was noted in 5 core holes to be 80 feet thick. This marble exhibits light green, light blue, white, and also contains bands of white, green, and white marble tinged with blue. The Virginia Marble Company and several subsequent operations intermittently quarried the stone for marble chips (terrazzo) of various colors until 1949. Transportation costs and flooding of the quarry due to its proximity to Goose Creek led to closing of the company. Blocks of marble are still present on the dumps around the quarry.

Pink to white, fine-to coarse-grained marble was quarried from a site about 4 miles south of Troutdale, Grayson County. The country rock is a granite gneiss and the marble, which is about 30 feet thick, is cut by a number of pegmatites. A block of dimension marble from this quarry was reportedly used for construction of Grant's tomb (W. Peak, 1987, personal communication).

Fine to medium-grained, grayish-red to red ("marble") was observed west of Narrows, Giles County (Mathews, 1932). This recrystallized Moccasin Limestone of Upper Ordovician age is



Figure 7. James Madison University building, City of Harrisonburg.



Figure 8. Confederate monument, Luray, Page County.



Figure 9. Texaco station, City of Danville.

thin-bedded and jointed. The unit is about 70 feet thick and is exposed in a remote area on the southeast slope of Piney Ridge. Its use is probably limited to terrazzo chips because of its thin beds and close jointing. The cost and availability of transportation is also a problem for extraction.

QUARTZITE

Quartzite in the Weverton Formation of Cambrian age has been quarried occasionally since 1893 from High Acres Ridge, in the northern part of the Bull Run Mountains, Fauquier County. Present operations have been active since the 1970s. The quartzite is light-gray to light-bluish-gray, medium grained and thin to massive-bedded with well developed joints and with some iron-staining near the surface. The quartzite formation, which is reportedly at least 165 feet thick, has a strike of N30°E and a dip of 45° to the southeast. Stone near the surface is extracted by the use of crow-bars. The thicker, more massive stone is broken by drilling into the joints with a jackhammer and by using explosives to extract the rock. Drill holes are put a maximum of four feet into the face of the quartzite. Extracted stone is further split with chisels and sledge hammers to specific sizes, depending on the bedding of the stone. The quartzite is marketed for flagstone and veneer facing stone, building stone for bridge work and for various decorative uses. A "fern" stone, containing a dendritic growth of manganese oxides along bedding planes, is also marketed.

Quartzite from the Mount Athos Formation of Lower Cambrian age has been quarried west of Leesville, from the southwest slope of Moon Mountain, in southern Campbell County since the mid-1800s for steps, walls and buildings. Carter Stone Company has been active since March 1966, quarrying the light-gray, jointed quartzite which contains distinct brown and purplish-iron staining along cleavage planes that exhibits a split-log appearance when the rock is broken. The material is marketed under the name "Virginia Log" and is used for construction of building exteriors in both mosaic and straight-line patterns. In the early to mid-1970s, facing stone was sold to Texaco stations nationwide (Figure 9). Stone was supplied to about 60 stations in the New Orleans area alone.

SANDSTONE

Sandstone has been quarried from many localities in the Piedmont, Valley and Ridge and the Coastal Plain provinces for use as dimension stone. Large blocks of tan semi-consolidated, arkosic "Aquia" sandstone of Cretaceous age have been quarried in north-eastern Stafford County. Ledges of this sandstone, referred to as "freestone" by the early settlers, are exposed on both sides of Interstate 95 southeast and northeast of Stafford and along Aquia Creek. The sandstone is fine grained at the base and coarsens upward to a conglomeratic layer. Bedding is up to six feet thick.

In 1791, the U.S. Government purchased Wiggington's Island (now Government Island), which is underlain by the Aquia Formation. The sandstone on the island is at least sixty feet thick. Quarrying of stone here began in 1792 and continued into the early 1830s. Stone was originally cut to an 8- to 16-inch depth with pickaxes and then broken by wedges and dragged by horses and oxen to a dock for loading on barges. Stone from these quarries was used in construction of the White House, the old part of the Capitol Building, Treasury building and the Patent Office building in Washington, D.C. Another old quarry, located north of Stafford and south of Aquia Creek, supplied Aquia sandstone for an old stone house that was built on the site in the 1840s. Aquia Episcopal Church, located about 3 miles north of Stafford, contains quoins (with 1860s dates scratched in them), from the fine-grained Aquia sandstone. Coarse-grained stone is present in some of the old buildings around the community of Aquia Creek as well as in the rock wall around the courthouse in Stafford. The stone was also used in Pohick Church in Fairfax County (Figure 10). In the 1920s, the sandstone was quarried for a brief period from a site just north of Aquia Creek. The stone was marketed as "Aquia Freestone, The Stone of Colonial Virginia", for use in churches, homes and school buildings. The operation closed permanently during the Depression.

Dull to bright-red, fine- to medium-grained, Manassas sandstone of Triassic age was quarried in Virginia from the 1770s to the early 1900s. The sandstone commonly contains many joints that allow the stone to be broken in rectangular blocks. Additional quarries were operated on a small scale in Loudoun, Prince William, Buckingham, and Nelson Counties. The Stone House on the Manassas Battlefield was built in the 1820s as a tavern and then

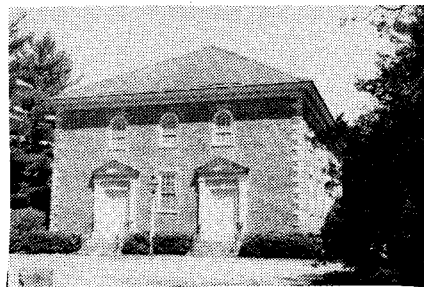


Figure 10. Pohick Church, Fairfax County.

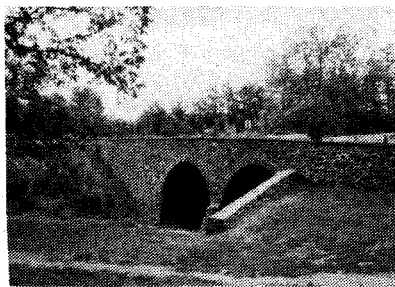


Figure 11. Stone Bridge, Prince William County

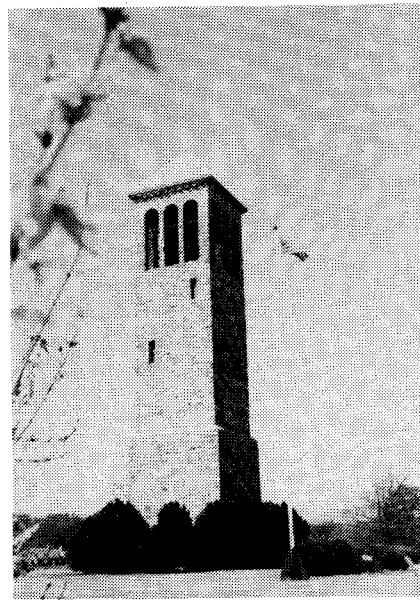


Figure 12. Belle Brown Northcott Memorial Tower, Luray, Page County

used as a field hospital for Union soldiers during two battles at Manassas during the Civil War. The stone in the building is mainly fine to medium grained, and tan to dull reddish-brown. The sandstone tends to crumble in time with exposure. Nearby, the restored Stone Bridge used during the battle of First Manassas is built of local Triassic sandstone (Figure 11).

A quarry near Stevensburg, Culpeper County, though presently operated by Martin Marietta Aggregates for crushed stone of Triassic age, contains good building stone because of its induration and good bedding (Roberts, 1928). In Goochland County, gray, coarse-to very coarse-grained, thick-bedded sandstones (Vinita Beds) of Triassic age were quarried in the mid 1700s along the James River and utilized in some of the steps and foundation work at Tuckahoe Plantation, west of Richmond.

The fine-grained Massanutten sandstone of Silurian age in Page and Rockingham counties (Figure 12) has been used locally as a building stone, mainly for stone walls and walks. Silurian-age sandstone from Catawba Mountain in northwest Roanoke County has been utilized for dimension stone in homes and churches (Figure 13), mainly in the cities of Salem and Roanoke area.

The Price sandstone of Mississippian age is a fine-to coarse-grained rock of yellowish to greenish color and was quarried on a small scale in the past in Pulaski County. Buildings in the town of Pulaski display use of this material.

SCHIST

Thinly foliated, gray, mica schist has been quarried around Rocky Mount, Franklin County. The stone, which can be slabbed to varying thicknesses, has been used for local construction uses, flagging, lining of drainage areas and for street work. Schist has also been quarried at several other localities in the Piedmont province, for local use.

SLATE

Slate has been quarried in Virginia since the 1720s and since 1876 in several dozen locations near the community of Arvon in northern Buckingham County. There are several dozen abandoned

quarries located along this slate belt over a distance of several miles. The dark gray slate dips steeply to the southeast and the cleavage is nearly parallel to the bedding. The best slate is fine-grained and homogeneous. The slate which is of poor quality is more silty and contains irregular faults and quartz stringers.

Slate is extracted by drilling horizontally for the placement of the low-velocity explosives which are used to extract the stone by shearing it vertically, thereby breaking out large chunks of stone. The material is loaded into trucks with power shovels and hauled to the cutting mill, where diamond or corundum saws are used to cut the irregular pieces into manageable blocks. Hammers and chisels are used to cut and split the slate by hand. By using the natural well-developed slaty cleavage the slate can be split into thin sheets. Slate has an economic advantage over some other stones as it does not have to be gang-sawed.

Products include roofing shingles, architectural slate for facing stone, plaques, signs (Figure 14), walks and patios. About 60 percent of the production of slate is used for roofing. Waste slate is crushed and marketed for roadstone and drainfields.

Dark-gray slate also has been quarried around Snowden, Amherst County from the 1880s for roofing slate. The site was operated intermittently in the 1970s for slate which was expanded to produce lightweight aggregate.

A varved "slate" was reportedly quarried around White Sulphur Springs in southwestern Fauquier County as early as 1837. This rock, a graphite-quartz-muscovite-schist, was probably utilized for only local use.

A greenish-gray slate was quarried at Esmont, in southeastern Albemarle County, by Blue Ridge Slate Corporation from 1906 to 1929 for granules for roofing shingles. The quarry was also active from 1932 to 1957.

Slate quarries, south of the old University of Virginia airport in east-central Albemarle County were the source of roofing slate and slate pencils in the first half of the 20th century.

SOAPSTONE

Production of dimension soapstone began in the Albemarle-Nelson county soapstone belt around 1880 and continued intermittently into the present. The soapstone is dark green to gray, fine-



Figure 13. First Presbyterian Church, City of Roanoke.



Figure 14. Buckingham County sign.



Figure 15. Soapstone stove construction, Schuyler, Nelson County.

to medium-grained and is composed of varying amounts of talc, chlorite, amphibole and carbonate minerals. Over the years, many different companies have been involved in operating the quarries in this area. In the past the soapstone was used to produce speciality laboratory materials and panels for the woodstove industry. By-product and waste pieces were sold for flagstone.

In March, 1987, The New Alberene Stone Company, Inc., a Finnish company, began quarrying blocks of soapstone from a quarry at Schuyler, Nelson County (Sweet, 1988). The blocks are being extracted by drilling corner holes and cutting the blocks out with a Korfmann chain saw. The blocks are carried out of the quarry with a front-end loader to a waiting truck and transported to the plant where they are first slabbed with gang saws. The wet slabs are then examined for cracks and flaws that may eliminate them from further processing. Stone is then cut to specific sizes and polished.

Products from the plant in Schuyler include soapstone fireplaces, woodstoves (Figure 15), cook stoves and other products as the stone has unique heat-retaining properties. Additional product uses include for laboratory counter tops and for architectural uses as facing stone, walkways, and stair treads. Reserves of soapstone in the district are estimated as available for at least 600 years.

Other occurrences of soapstone that have been exploited for dimension stone in Virginia occur in Amelia, Campbell, Fairfax, Floyd, Fluvanna, Grayson, and Orange counties (Smith, 1961). Of these, the most prominent operation was The Rapidan Soapstone Corporation, which operated a quarry near Rhoadesville, Orange County from before 1910 until 1918. The stone was used for laundry tubs, table tops, talc pencils, and other products. Indians opened many small quarries to obtain soapstone for the carving of cooking vessels. Many fragments of bowls have been found around archaeological sites.

A LIST OF USES OF STONE AND BRICK

Following is a list of a number of interesting uses of stone and brick in the state. Localities are listed alphabetically by county/city. The listing includes county or city, example name, specific location in parenthesis, and description of the stone or brick used.

Completion or dedication dates are indicated for many examples. Abbreviations used for locations are SH-State Highway; SR-State Road; USH-U.S. Highway; IH-Interstate highway. Dates with "c" are approximate. See Appendix for definitions of architectural terms.

County/City	Name(Location)Description
Accomack	Makemie monument (Accomack); granite statue of Francis Makemie founder of Presbyterianism in U.S.; 1908
	Confederate monument (Tasley); granite carved base and soldier; 1899
	St. George Episcopal Church (SH178 near Pungoteague); colonial brick church of Flemish bond pattern with millstone as front step and with slate roof; 1738
Alexandria	Christ Church (Corner of Columbus and Cameron City of Streets); colonial brick building of Flemish bond pattern with painted "Aquia" sandstone from Stafford County as quoins and keystones; slate roof; 1773
	George Washington Masonic National Memorial Temple (King Street and Russell Road); stepped-pyramid-shaped building constructed of carved granite from New Hampshire and marble from Tennessee inside memorial hall; 1931 (Figure 16)
Albemarle	Grace Episcopal Church (SH231 at Cismont); with front of carved local sandstone and sides and back of schist; 1895; back addition of granite from Massachusetts in 1986
	Albemarle Bank and Trust (USH29); building of bricks from Orange County; 1973
	Miller School (SR635 near junction SR637); main building brick with granite steps, belt courses, and sills; roof of Buckingham County slate; 1878
	Bridge supports of former Nelson and Albemarle railroad (SR800); supports of sawn blocks of Nelson County soapstone; c1900
	Emmanuel Episcopal Church (USH250, Greenwood); brick building with limestone quoins and slate roof, 1860
Alleghany	Clifton Furnace (USH220 near Iron Gate); cut blocks of

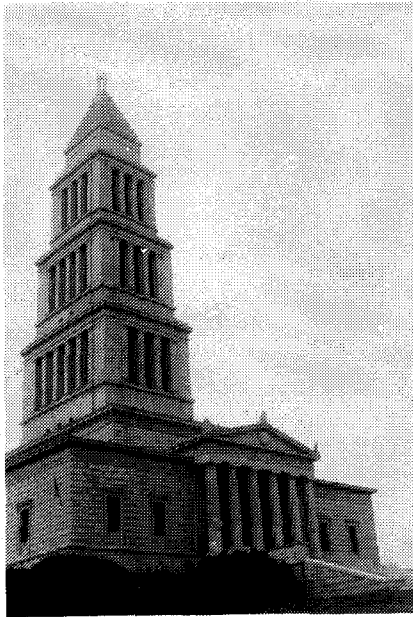


Figure 16. George Washington Masonic National Memorial, City of Alexandria.

sandstone and quartzite of Silurian age for iron furnace; 1822

- Amelia** John B. Tabb monument (SR609 near junction SR633); marble and brick monument to Tabb: poet, priest and patriot
Confederate monument (Amelia); base and polished columns of granite from Petersburg
Dicks Place Inc. former tobacco warehouse (Amelia); large building of granite blocks from Chesterfield County with roof of black slate from Buckingham County
- Amherst** Confederate monument (Amherst); granite monument
First Virginia Bank (Amherst); marble exterior with book matched pattern
Former Alcoholic Beverage Control store (Amherst); faced below window with "Virginia Greenstone" from Lynchburg and with fossiliferous, fragmental limestone above
- Appomattox** Appomattox Hardware (Appomattox); faced with "Virginia Greenstone" from Lynchburg
Confederate monument (Appomattox); granite carved base with Italian marble statue
Flood mausoleum (Appomattox); granite mausoleum of Joel Flood, U. S. Congressman
Pamplin Smoking Pipe Manufacturing Co. kiln (Pamplin City); circular brick kiln in which unique clay pipes were produced to 1951



Figure 17. Valley Railroad bridge, Augusta County.

- Augusta** Augusta Stone Presbyterian Church (Ft. Defiance); colonial church with local limestone walls and patterned slate roof; 1749
Valley Railroad bridge (IH64/81 near SR654 exit); multi-arch bridge with shaped blocks of limestone and dolomite (Figure 17)
Old Providence Church (SR620 near Spottswood); church of limestone rubble construction; 1793
Mt. Torrey Furnace (SR814 near junction SR664); constructed of sandstone blocks in 1804
Skyline Drive bridge (At USH250 overpass); arch and sides faced with granite

APPENDIX

Architectural and Stone Terms: definitions modified from Harris, 1975 and Bates and Jackson, 1980.

- ashlar construction** - shaped stones laid in courses
belt course - a horizontal band of masonry or stone
bioturbation - swirl markings in stone originated by churning of a sediment by organisms
book matched - stone pattern matched so that a panel is a mirror image of an adjacent panel
buttress cap - the cap on a brick or stone wall which has been constructed at right angles to another wall to counteract a thrust on that wall
capital - topmost member of a column
cornice - the projecting, often ornamental horizontal member at the top of a building
course - a continuous layer or row of brick or stone
cross-bedding - sedimentary rock bedding in which some beds are at an angle to other beds
cupola - a rounded structure built at the top of a building
diamond match - to match the pattern in stone so that four adjacent panels are mirror images of each other in a diamond shape
drill mark - remains of cylindrical holes in rock which have been drilled to blast or wedge the rock apart
English bond - pattern in bricklaying in which courses of headers (short dimension of brick showing) alternate with courses of stretchers (long dimension of brick showing)
exposed aggregate - concrete with exposed rock particles on its surface
Flemish bond - pattern in bricklaying in which stretchers (long dimension of brick showing) alternate with headers (short dimension of brick showing) in courses
headers - bricks placed in walls so that the short dimension of the brick appears
keystone - a wedge shaped stone located at the midpoint of an arch over a window or entrance
lintel - a horizontal member spanning the top of a window or door
mason mark - chiseled identifying mark in cut stone
obelisk - a four-sided monument tapering toward the top and surmounted by a pyramid shape
ornamentation - decorative chiseled features in stone
portico - a covered porch with supporting columns at the entrance to a building
quoins - stone placed for artistic effect and structural strength at the external intersections of walls
riser - vertical member between stair treads
rubbed brick - brick with a smooth finish often used at building corners, windows, and doors for a border effect
rubble construction - unshaped stone used in exterior walls of buildings
sill - lowest horizontal member of a door or window
spandrel - panel between windows
tool marks - line or gouge patterns chiseled into stone usually for decorative effect
wingwall - a subsidiary wall placed at an angle to a main wall to strengthen it

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