# FINAL REPORT <br> A SURVEY <br> OF NON-ARCHED HISTORIC CONCRETE BRIDGES IN VIRGINIA CONSTRUCTED PRIOR TO 1950 



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#### Abstract

Bridges are among the cultural resources that must be considered for historic significance under the Historic Preservation Act of 1966. The Virginia Transportation Research Council conducted pioneering studies of Virginia's early metal truss bridges and concrete and masonry arch bridges during the 1970s and 1980s, but no comprehensive evaluation of non-arched concrete bridges in Virginia was undertaken. The lack of information on non-arched concrete bridges made the case-by-case evaluation of these bridges in construction or maintenance projects a standard practice. Most of these studies were done by outside consultants, a time-consuming and expensive method which yielded only information about particular bridges, not comparative or contextual data on non-arched bridges as a whole.

This study rectifies this lack of information and analysis of non-arched concrete bridges built before 1950 (a cut-off date chosen because, in general, a structure must be 50 years of age or older to be considered historically significant under National Register criteria). Given the average monetary cost of $\$ 10,000$ per consultants' study, and an average time frame of 90 to 120 days, it is estimated that this project has already saved the Virginia Department of Transportation more than $\$ 500,000$ and eliminated a typical three to four month delay for each project. Projected savings arising from this project are estimated at approximately $\$ 2.5$ million over the next ten years. As construction and maintenance projects are initiated on older non-arched concrete bridges, the benefits from this survey in costs and time saved will continue to accumulate.

The project consisted of field survey, data tabulation, documentary research into historic non-arched concrete bridge types, and comparison of the resulting information on bridge chronology, technology, and usage during the first half of the 20th century. Criteria for the evaluation of historic significance were developed and applied, and a final review of the results was done with the Historic Structures Task group (an interdisciplinary historic transportation study committee) and the State Historic Preservation Officer. Of 1,420 non-arched concrete bridges built before 1950, fewer than a dozen were found individually eligible for the National Register of Historic Places. This project identified Virginia's few significant bridges of this type for appropriate management, and cleared over 1,400 bridges, the great majority of Virginia non-arched concrete bridges, for necessary maintenance and upgrade.


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Virginia Transportation Research Council
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Lastly, and sadly, this report marks one of the final projects of Nathaniel Mason Pawlett, longtime Faculty Research Historian for the Virginia Transportation Research Council. His death in the spring of 1995 deprived the Research Council, and VDOT, of our greatest resource for Virginia transportation history. He will be sincerely missed.

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## INTRODUCTION

Reliable bridges are essential to a safe transportation system. However, as our transportation system ages, many bridges are becoming obsolete. This obsolescence is a product of natural deterioration, of the materials used in construction, and of earlier design standards that no longer accommodate the speed, dimensions and volume of modern traffic.

In addition to safety, another factor must be considered in the case of older bridges. Bridges are among the types of cultural resources that must be considered for historic significance under the National Historic Preservation Act. Numerous bridges have been, and more will be, identified as historically significant structures. To upgrade an historic bridge to modern use and safety standards while leaving it in place and in service often presents a considerable challenge. Several options are open to the Virginia Department of Transportation (VDOT) for mitigating the impacts on these structures, including preservation in place, preservation by avoidance, removal with documentation, relocation, and replacement with a sympathetic structure.

Action which serves and protects the highway user, while complying with the spirit of the National Historic Preservation Act of 1966, requires advance planning. If it is known well in advance that a bridge is historically significant, plans for mitigation can be efficiently implemented. The obvious solution is to devise an "early warning" procedure by which all historically significant bridges can be identified and included in a bridge management system plan well before the planning and design phase.

While the National Register program (created under the National Historic Preservation Act) is recognized as the general basis for making decisions concerning historical significance, there is no precise formula for the factors relating to the evaluation of a bridge for historic significance. Even the factors to be considered are not always agreed upon. Opinions differ about which structures provide valuable information about our cultural heritage, in terms of aesthetics, uniqueness, innovations in engineering, and the evolution of the transportation
system. Basically, the question is which bridges are "historically significant" and which bridges are just "old."

The problem, in this case, is to gather the data and to develop the criteria by which concrete bridges can be evaluated. Those that are identified as historically significant can then be incorporated into a historic bridge management system that preserves some and documents others, thus conscientiously managing our historic resources.

## PURPOSE AND SCOPE

The purpose of this project was to identify and categorize historically significant nonarched concrete bridge structures within the VDOT transportation system. (Surveys of pre-1932 metal truss bridges and concrete/masonry arch bridges were completed in the 1970s and 1980s.)

To obtain full data on concrete non-arched bridge types in the state, a complete survey of bridges in each VDOT construction district was undertaken. The resulting data is contained in this report, which includes an introduction to the project and to the history of non-arched concrete bridges in Virginia, historic context, survey data (including the types and numbers of non-arched concrete bridges in Virginia), comparative analysis of bridges, criteria for evaluation, and determination of historical significance.

## RESEARCH DESIGN

An inventory of all concrete bridges in Virginia constructed prior to 1950 was obtained from the VDOT bridge files, using "Supernatural" to query the HTRIS database. The inventory was broken down by construction district and, more minutely, by county within each construction district. Bridges were located on county maps, and each bridge was field-surveyed. All data deemed necessary to describe the bridge and evaluate its historic significance were collected and collated for presentation to an interdisciplinary study committee, which reviewed and evaluated information from this survey to determine the historically significant non-arched concrete bridges in Virginia.

## METHODOLOGY

The research design included 10 tasks:

1. Organize an interdisciplinary group to help conduct the study.
2. Establish the historical period of bridge construction to be studied.
3. Select the geographic area to be studied.
4. Generate an inventory of all concrete bridges constructed within the period chosen.
5. Decide upon the data to be obtained on each site.
6. Organize the study teams and conduct the survey.
7. Organize and review field data.
8. Publish an Interim Report.
9. Determine Historical Significance.
10. Publish a Final Report.

These tasks are explained more fully below.

## 1. Organize an Interdisciplinary Group to Help Conduct the Study

The National Register program is the recognized basis for making decisions about historical significance. Generally, to be considered historically significant under National Register criteria a structure must be 50 years of age or older and fulfil one or more of the following criteria: have association with events or with the lives of persons significant in our past; embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or yield, or be likely to yield, information important to the study of history or prehistory.

The researchers felt that any analysis of a structure based on these criteria would require an interdisciplinary group, including an engineer, an historian, an archaeologist, an architectural historian, and representatives of state and federal transportation agencies. A pre-existing committee with appropriate membership, the Historic Structures Task Group, was used for this purpose.

## 2. Establish the Historical Period of Bridge Construction to be Studied

A structure generally has to be at least 50 years old to be considered historically significant. Allowing time to complete the survey, tabulate the survey results and develop criteria by which to evaluate these structures, the researchers determined that structures constructed before 1950 would be considered within the purview of this study. This date eliminated any need for additional survey work through the end of the 20th century.

## 3. Select the Geographic Area to be Studied

For a comprehensive survey and evaluation of pre-1950 non-arched concrete bridges, all such bridges in all VDOT construction districts had to be studied. Historical significance was judged under National Register guidelines of national, state or local significance.

## 4. Generate an Inventory of All Pre-1950 Non-Arched Concrete Bridges Currently On-System

The Structure and Bridge Division of VDOT supplied a comprehensive inventory of bridges in each construction district throughout the state. Bridges on this inventory were located on county maps for use in the survey.

## 5. Decide Upon the Data to be Obtained on Each Site

The Historic Structures Task Group identified the necessary types of information that needed to be obtained from each site, and a standardized survey/inventory form for concrete bridges was designed and used in field work (Figure 1). The information includes:

- Geographic location
- Engineering profile, including designer (if known), builder (if known), date of construction, date of reconstruction, design and technological data, physical description, photographic documentation of bridge, etc.
- Historical context, including photographs of associated buildings and surroundings, documentation of historic relevance, etc.


## 6. Organize the Study Teams and Conduct the Survey

Several teams, each consisting of a researcher and a technician, conducted the survey. Before beginning the study, field trips were made to bridges previously identified as historically significant. These field trips were intended to train the teams more fully in survey techniques, recognition of bridge types, and developing an awareness of historical context.

## 7. Organize and Review Field Data

The information was organized and reviewed by members of the survey teams, then collated for documentation and organized for publication and for presentation to the Historic Structures Task Group. Review and comparison of the data being collected was frequent. For an initial ranking, each bridge was placed into one of three categories: $A$ (has one or more unusual features and should be assessed further for potential historical significance; $B$ (has no significant features and is of a common type); and $C$ (has no significant features, is in poor condition, or is largely or totally rebuilt).

Figure 1. Sample survey sheet.

Photo Numbers:

R-364
SURVEY AND inventory form - CONcrete bridges
Geographic Information
State: Virginia

County:
County:
City Trown:
Street/Road:
River $/$ Strean/Railroad (crossing):
Street/Road:
River Strean/Railroad (crossing):-
UTM/KGS Coordinates:
Historical Information
Formal designation:___
Local designation:__
Designer:
Designer:
Builder:___ basis for:___
Date:
Reconstruct date:

Reconstruct date:
Original owner: Historical Significance
Contextual Integrity: Historical Significance
Contextual Integrity:
general surroundings:________________
immediate surroundings:_____________्_
 Nature/Degree of any destructive threats:_____________________

Is bridge in listed or eligible historic district? Is bridge in listed or eligible historic district?
DRR Historic Theme(s)

Reference materials and contemporary photos/illustration with their
respective locations:



[^0] | respective locations: |
| :--- | Present owner: ____ use:_

general surroundings:
immediate surroundings:

## 8. Publications: Interim Draft Report

An Interim Draft Report, consisting of general descriptions of bridge types and tabulations of survey data, was circulated among VDOT Cultural Resource and Environmental personnel, VDOT District and Central Office bridge engineers, and members of the Historic Structures Task Group. Their comments were used in the editing of the final report.

## 9. Determine Historical Significance

Using the information distilled from the field data, the Historic Structures Task Group met and formulated the criteria for determining historic significance and for the ranking of bridges by local, state and national significance. Bridges which potentially possessed unusual, significant or unique attributes (the initial $A$ list) were considered for eligibility for the National Register of Historic Places.

## 10. Publications: Final Report

This final report contains a summary and conclusions resulting from the analysis of the non-arched concrete bridge survey data. The body of the text contains:

- General transportation historic context
- General bridge historic context
- Discussion of general descriptions and types of non-arched concrete bridges, including common types vs. rare or unusual types of bridges
- Conclusions, including criteria for determining historic significance, the ranking of bridges by local, state and national significance, and bridges determined eligible for the National Register
- An appendix in spreadsheet format.

The appendix consists of an inventory of bridges, district-by-district and county-bycounty, and includes the categories below. The appendix also includes statewide tabulations.

- County/City Code
- Bridge Number
- Route
- Type of Rails
- Construction Date
- Condition
- Span Type
- Span Number
- Length.


# DEVELOPMENT OF CRITERIA AND IDENTIFICATION OF HISTORICAL SIGNIFICANCE OF BRIDGES 

Identification of historical significance by the Historic Structures Task Group involved two stages:

1. Establish criteria by which "historical significance" can be determined.
2. Select bridges with potential historical significance, in order of rank.

There was initial debate as to whether the criteria should be developed before or after the survey and inventory. The existing criteria, used to evaluate metal truss bridges and masonry/concrete arch bridges, were developed in broad categories, basically adapted from criteria used to determine the historic significance of buildings. The metal truss criteria had been developed during the course of the metal truss bridge survey, principally by Daniel Grove Deibler, who did the field survey work and wrote a number of the reports regarding metal truss bridges in Virginia (Deibler, 1975; Newlon, 1978). The metal truss criteria had subsequently been applied to determine the historical significance of masonry and concrete arch bridges (Spero, 1984). However, the difference in materials and technology between metal truss and masonry/concrete arch bridges made the validity of applying these criteria questionable.

In the non-arched concrete bridge survey we were breaking new and uncharted ground, and the best course was to use the historic significance criteria for steel truss and masonry arch bridges in previous studies as instructive, but not definitive, templates for developing new criteria. The evaluation criteria for non-arched concrete bridges would be similar to the criteria used to evaluate the metal truss and masonry/concrete arch bridges, but some significant differences would not be apparent until many bridges had been surveyed and the resulting data had been compared. Accurate evaluation of historic significance also requires extensive background data and comparative information (for example, it is difficult to assign values for "uniqueness of structure" until we have some idea of the number of existing bridges of a given type).

Over 1,400 bridges were surveyed during this project. To facilitate the Task Group's ability to rank the significance of these bridges, the principal researchers divided the bridges into one of three general categories $(A, B$, or $C$ ) before submitting the material to the Task Group. An $A$ category bridge has one or more somewhat unusual features, and should be assessed further for potential historical significance. A $B$ category bridge has no notable features, is of a common type, and possesses no apparent significance. A $C$ category bridge lacks notable features and is in poor condition, or is largely or totally rebuilt and has lost its historical integrity.

The development of the criteria to determine historic significance, and the final historic ranking of the bridges, was the last stage of the study. The Historic Structures Task Group
reviewed the information collected and published as a result of the survey. The Task Group then collectively developed criteria by which concrete bridges can be evaluated, and applied these for determining historic significance. Bridges ranked for historical significance can be incorporated into a historic bridge management plan. The criteria, summary and conclusions from the analysis of the survey data are contained in the conclusions of this report.

This study established procedures for meeting FHWA and Virginia requirements for the inventory of historically significant structures. The major benefit to VDOT is to avoid construction delays by the early identification of historic bridges. The benefit to the state and to the nation is that structures of historic importance will be identified, evaluated, and catalogued so questions of mitigation, replacement and preservation can be addressed systematically.

## HISTORIC BACKGROUND: CONSTRUCTION DISTRICTS

Virginia's highway construction districts came into existence in the 1922 departmental organization. Earlier attempts to develop construction "divisions" within Virginia had failed primarily due to the shortages and disruptions in materials and manpower imposed by World War I. The establishment of the 1922 construction districts emerged from the needs of the State Highway System created in 1918.

The State Highway System came into being in 1918 to meet the requirements of the Federal Aid Road Act of 1916, in order to be able to get federal funds. The way the highway commission was constituted had been changed in 1919. Previously it had been a technicallyoriented body, composed initially of the State Highway Commissioner and three civil engineers (the heads of the engineering departments of Virginia Military Institute, Virginia Polytechnic Institute, and the University of Virginia). In 1919 the commission shifted to a more political orientation. Its members now had to be private citizens, representatives from the major geographical areas: Piedmont, Southside, Valley, Tidewater, and Southwest Virginia. Two more years would see the creation of Henry Shirley's departmental structure, most of which remains in place today, along with its attendant construction districts.

Virginia currently has nine construction districts: Staunton, Culpeper, Northern Virginia (NOVA), Fredericksburg, Suffolk, Richmond, Lynchburg, Salem, and Bristol (Figure 2).

The Staunton District encompasses the Shenandoah Valley north of the James River, and Highland, Bath and Alleghany counties. In 1922, the district also contained Albemarle County (later made a part of Culpeper District). The Staunton Construction District currently covers the counties of Frederick, Clarke, Warren, Shenandoah, Page, Rockingham, Augusta, Rockbridge, Highland, Bath, and Alleghany.


The Culpeper District covers the north-central Piedmont. In 1922, the district contained Fluvanna, Louisa, Orange, Greene, Madison, Culpeper, Rappahannock, Fauquier, Prince William, Loudoun, Arlington and Fairfax counties. There have been two changes to Culpeper District since its inception. Albemarle County, originally in the Staunton District, was made a part of Culpeper District, and the intensive urbanization of northern Virginia in the last half of the 20th century, with attendant population growth, required the division of Culpeper District in the 1980s. Prince William, Loudoun, Arlington and Fairfax became the Northern Virginia (NOVA) District in 1984. The Culpeper construction district currently covers the counties of Albemarle, Fluvanna, Louisa, Orange, Greene, Madison, Culpeper, Rappahannock, and Fauquier.

As noted above, the NOVA District is a relatively late development, created from Culpeper District in 1984 in response to the tremendous growth in the northern Virginia area. It includes Loudoun, Prince William, Arlington and Fairfax counties.

The Fredericksburg District includes the region lying south of the Potomac River and north of the York and its branches: the counties of Stafford, King George, Westmoreland, Northumberland, Lancaster, Richmond, Gloucester, Mathews, Middlesex, Essex, King William, King and Queen and Spotsylvania.

The Suffolk District encompasses southeast Virginia and the Eastern Shore. At its formation in 1922, it contained the counties of James City, York, Warwick, Elizabeth City, Princess Anne, Norfolk, Nansemond, Accomack, Northampton, Isle of Wight, Southampton, Surry, Sussex, and Greensville. After World War II, the old counties of Warwick, Elizabeth City, Princess Anne, Norfolk, and Nansemond underwent intense urbanization and development as industrial and recreational centers. These counties eventually ceased to exist, transformed into the independent cities of Newport News, Hampton, Virginia Beach, Chesapeake, Norfolk, Portsmouth and Suffolk. This has produced two distinct regions within the district: the highly urban southeastern section and the primarily rural Eastern Shore and counties west of Suffolk. Suffolk District currently covers the above-named cities, as well as the counties of Accomack, Northampton, James City, York, Isle of Wight, Southampton, Surry, Sussex, and Greensville.

The Richmond District contains the counties of Goochland, Hanover, New Kent, Charles City, Henrico, Powhatan, Chesterfield, Amelia, Nottoway, Dinwiddie and Prince George.

The Lynchburg District includes the south-central portion of Virginia: the counties of Nelson, Buckingham, Cumberland, Appomattox, Prince Edward, Campbell, Charlotte, Pittsylvania and Halifax.

The Salem District contains Botetourt, Bedford, Craig, Roanoke, Montgomery, Giles, Pulaski, Floyd, Frankin, Henry, Patrick and Carroll counties.

The Bristol District encompasses southwestern Virginia. The district contains Grayson, Wythe, Bland, Tazewell, Smyth, Washington, Russell, Buchanan, Dickenson, Wise, Scott, and Lee counties.

## NON-ARCHED CONCRETE BRIDGES IN VIRGINIA: HISTORICAL OVERVIEW AND CONTEXT

Bridge technology and construction was minimal in most regions of 17 th and 18th century Virginia. Fords served for crossing most streams and rivers, while wet or marshy places were frequently traversed by causeways (raised roads or pathways on a base of stones, logs, timbers and earth, capped with clay for weatherproofing). Broad rivers were typically crossed by ferries. In the few areas where these methods would not suffice, simple timber bridges were commonly used. These timber bridges took the form of basic beam bridges and the most rudimentary and traditional wooden trusses (e.g. king post and queen post). Stone bridges were expensive and time-consuming to build; only a handful were erected in Virginia during this period.

The 19th century saw the advent of a number of improved timber truss bridges, including patented varieties such as the Town lattice truss and the Long panel truss, as well as the combination wood-and-iron Howe truss patented in 1840. A few early 19th century stone lintel or arched masonry bridges were constructed, primarily as turnpike bridges, but stone construction generally remained prohibitive in terms of cost and time (Newlon, 1973).

Metal truss bridges were first developed in the 1840s and 1850s, although they did not appear in many areas of Virginia until the 1870s. Since most varieties of wooden bridges needed constant maintenance, and still deteriorated quickly, metal truss bridges were seen as a more long-lasting solution. However, metal truss bridges, besides their greater initial construction costs, still required consistant maintenance, particularly painting, and the cost of upkeep was a constant drain on county budgets. It was common practice among county governments to delay or ignore what should have been routine maintenance on metal bridges in an effort to stretch dollars, with resultant deterioration and damage to the bridges.

Clearly, a more maintenance-free and long-lived alternative to wooden and metal truss bridges was desirable. By the early 20th century, reinforced concrete bridges were beginning to fill this need.

Although concrete was used as a building material by the Romans over two millennia ago, its first modern use in bridge construction dates to the 19th century. It was first used in nonreinforced adaptations of traditional masonry arch bridges, such as the 1871 Prospect Park Bridge in Brooklyn, New York. However, the lack of reinforcement required the use of massive structural elements, and did not allow such bridges to span long distances. The development of
reinforced concrete in the late 19th century made it possible to construct versatile concrete bridges.

Reinforced concrete arch bridges predated non-arched bridges in the United States by approximately a decade, the first known reinforced concrete bridge in the country being the 1889 arch in Golden Gate Park in San Francisco, California. The popularity of "steel-concrete" or "concrete-steel" (reinforced concrete) grew through the 1890s, and by 1904, pioneering concrete bridge designer Fritz von Emperger could note that "Ten years ago the number of concrete-steel bridges was so small that there would have been no difficulty in giving a complete list, whereas now it would be quite impossible to give such a list. . ." The selling points of reinforced concrete included several real and perceived advantages compared to metal truss bridges. Concrete bridges offered durability and little or no maintenance, and less reliance on "big steel" corporations (something which had special appeal to many rural/populist interests). In addition to permanence and cost-effectiveness, concrete bridges were also touted as more aesthetically pleasing and less visually intrusive in rural areas than metal truss bridges (Snyder and Mikesell, 1994; p. 40).

The earliest known Virginia bridges made of reinforced concrete date from the first years of the 20th century. In the course of the non-arched concrete bridge survey, a well-preserved set of concrete abutments, dated 1903, was identified. These are still in service, supporting a steel beam railroad bridge in Stafford County. Just south of this structure is the oldest known surviving in-service concrete bridge in the state, an arched railway overpass built in 1904 (Spero, 1984; pp. 32, 34). The earliest documented non-arched concrete bridge in Virginia was the nowdemolished girder-and-floorbeam 5th Street bridge in Lynchburg, built in 1906. Virginia's oldest surviving documented non-arched concrete bridge is a 1908 slab bridge, still in service, located on Bedford Avenue in Lynchburg (Structure \# 1849).

In Virginia, and throughout the United States, reinforced concrete technology grew steadily through the first three decades of the 20th century and become the dominant bridge type. Reinforced concrete bridges were a logical choice. They were described in early publications as "permanent bridges" which would require little or no maintenance, in contrast to the continual care needed by wooden and metal truss bridges. The 1916 Annual Report of the Virginia State Highway Commission shows photographs of single reinforced concrete spans with solid parapets, labeled "permanent bridges" (Annual Report, 1916; pp. 77, 81).

William M. Thornton (Dean of Engineering at the University of Virginia, and a member of the state Highway Commission) and C. D. Snead, (state bridge engineer) championed the virtues of concrete bridges in the August, 1915 Bulletin of the Virginia State Highway Commission, wholly devoted to, and indeed subtitled, "Highway Bridges and Culverts." Thornton and Snead recommended concrete bridges for many applications. They cited beam bridges (of timber, steel or concrete) as the logical application for spans of eight to forty feet, but in a comparison of material durability they stated that timber lasts ten years or less, steel lasts
twenty-five years, and concrete lasts at least forty years (Thornton and Snead, 1915, pp. 9-10). They stated that:

> ... timber beam bridges must be discarded except for locations where lumber is abnormally cheap and traffic abnormally light. Steel beam bridges of short span with their perishable timber floors are recommended only where the erection gangs are too ignorant to handle reinforced concrete in the right way. Reinforced concrete must be accepted as the economic solution of the problem of the short span highway bridge up to spans of twenty feet. For strength, for durability, for true economy these bridges excel all others...

> For spans from twenty to forty feet, the steel beam regains its old pre-eminence and is cheaper than the reinforced concrete slab at present normal prices. Bridges consisting of two doubly reinforced concrete girders carrying a reinforced concrete slab floor may be built as cheaply as steel beam bridges for these spans. The fact that they require more highly skilled labour and direction for their successful erection makes them of doubtful expediency in ordinary highway work. Their low maintenance cost gives them the preference for locations where first-class reinforced concrete can be counted on.

During the first quarter of this century, the common reinforced concrete bridges used in Virginia were either arch or girder construction, the latter including slab, deck-girder, T-beam, through-girder, and girder-and-floorbeam structural types. The history, inventory and evaluation of arched concrete bridges in Virginia have already been covered in a previous report (Spero, 1984). This study deals with the various non-arched bridge types in Virginia, including the several early types of girder construction mentioned above, the later versions of T-beams and slabs (which remained popular through much of the 20th century), and some additional bridge types, like rigid-frame and continuous, which were first designed during the 1910s and were further developed during the second quarter of the century.

In the first two decades of this century, bridge engineering was still in a somewhat experimental stage. The early slab bridges and girder bridges were often greatly overengineered, with massive substructures and parapets. Better ways to calculate the amount of reinforcing bar and concrete needed to carry loads safely were being developed in the 1910s and early 1920s. These advances led to the development of standard plans during the same period. By the end of the 1910 s , standard plans had been developed for most of the common non-arched concrete bridge types: slab, deck-girder, and through-girder (including girder-and-floorbeam).

Most of these early bridges had the solid parapet railings typical of the era. In a simple slab, the parapet had no structural application, and might be dispensed with altogether. In deckgirder and through-girder construction, the parapet was structural. A primary difference between the two girder designs was that deck-girders could be widened, while through-girders could not. In a deck-girder, concrete beams supported an independent deck slab; the parapets acted as additional beams but a parapet could be removed and the road widened without disturbing the main supporting beams or endangering the bridge structure. In a through-girder, each side of a reinforced concrete slab was supported on integral reinforced concrete beams which extended
into a parapet. The resulting structure was massive and extremely strong, but narrow (roadways were usually 12 or 16 feet wide) and impossible to widen, since removing a parapet would also remove the girder supporting that entire side of the bridge.

As Virginia moved into ever-greater transportation design standardization in the 1920s and 1930s, bridges took on a lighter, more streamlined outline. Through-girder bridges, whose technology required massive construction and narrow width, and which could not be widened, were falling out of favor by the mid-1920s as two-lane roads and bridges, built with slab or T beam construction, became the norm. Solid parapets, unneeded for structural strength on nongirder construction, became less massive and began to be rejected in favor of the new concrete "cork rail" system with separate posts and rails. Similarly, deck-girders were replaced by the new standardized T-beams with lighter, non-structural railings, which took considerably less concrete to build. In Virginia, the first standard-plan T-beams with cork rails date from 1924. By the 1930s, concrete slabs and T-beams had become the predominant bridge types, with all bridge elements, including railings, abutments and piers, following standard Virginia Department of Highways plan elements. Other bridge types, such as rigid frames, were not used widely in Virginia during the first half of this century.

## NOTES ON CONSTRUCTION METHODOLOGY

The new use of reinforced concrete for bridges also required new construction practices. The "General Note" seen on bridge plans had its roots in the earliest standard plans furnished by the Virginia State Highway Commission. From the beginning, these plans included requirements for construction methods and materials, to insure that at least minimum standards would be followed. Specifications for concrete, steel, masonry and reinforcing bar were given. Capacity was also specified. Early bridges (in the 1900s and early 1910s) had to be designed to support a 12 ton road roller; by the late 1910s this requirement had been raised to a 15 ton truck, and by the 1930s it was two 15 ton trucks passing on the bridge.

The early specifications included environmental and navigational protections as well. In the construction of early reinforced concrete bridges, extensive wooden forms were made from heavy timbers and boards, while massive falsework was needed to support the wet concrete until it set up and could support its own dead load. (There are reminders of this technology in the impressions of the wood grain--including knots--from the shuttering boards, which still can be seen on some early bridges.) Careless disposal of the forms and falsework material constituted an environmental hazard, as it could significantly obstruct the waterway channel and produce waterborne debris.

As an example, the Virginia State Highway Commission specifications for a proposed bridge in 1916 noted the following:

- Capacity: 12 Ton Roller.
- $\quad$ Specifications for Concrete: Wilbur J. Watson’s 1910.
- Specifications for Steel: Va. State Highway Commission's 1909.
- All Masonry in Substructure is to be of Concrete mixed in the proportion 1 part No. 1 Portland Cement, 3 parts sharp clean sand and 6 parts broken stone, $1 / 4$ " to $2-1 / 2$."
- All Masonry in Superstructure is to be of Concrete mixed in the proportion 1 part No. 1 Portland Cement, 2 parts sharp clean sand and 4 parts broken stone, $1 / 4$ " to $1-1 / 2$."
- All reinforcement is to be of Deformed Structural Steel Bars, the grade of which is to conform to the grade of Structural Steel specified in the specifications of the Va. State Highway Commission's 1909.
- For further details and information not herewith given see drawing entitled "Standard $35^{\prime} 0$ " Reinforced Concrete Span" plan L-26.
- Contractor or Contractors are to leave channel clear and free from all forms, falsework, debris or obstructions of any description.

Wilbur J. Watson, mentioned in the specifications, was a well-known consulting engineer of the period. This particular bridge was Warren County Structure \# 6017, a girder-and floorbeam structure completed in 1918 over Gooney Creek (construction drawings are filed in the Staunton District Office). This bridge is currently scheduled for replacement.

## SPAN TYPES

The reports in this series utilize the standard three-digit structure span codes used for federal item 43 of the National Bridge Inventory (NBI). The first numeral indicates the material of the main span:
$1=$ Concrete
$2=$ Concrete continuous
The second and third numerals indicate the construction of the main span:
$01=$ Slab
$02=$ Stringer, multibeam or girder (deck-girder)
$03=$ Girder and floorbeam
$04=$ T-beam
$05=$ Box beam or girder--multiple
$06=$ Box beam or girder--single or spread
$07=$ Rigid frame

The following non-arched concrete span types are documented to have been built in Virginia prior to 1950:
$101=$ Concrete slab
$102=$ Concrete stringer, multibeam or girder
$103=$ Concrete girder and floorbeam
$104=$ Concrete T-beam
$107=$ Concrete rigid frame

201 = Concrete continuous slab
202 = Concrete continuous beam
203 = Concrete continuous girder-and-floorbeam
204 = Concrete continuous T-beam
207 = Concrete continuous rigid frame

Slab (101). The simplest of these bridge types, a slab span consists of a reinforced concrete slab, supported at either end of its span upon end walls (abutments) or piers. Slab spans were in use in Virginia from the first decade of the 20th century onwards. Recommended for spans up to 25 feet, they were easily widened, afforded the most headroom, and were simple to form (Figure 3; see also Figures 11, 12, 16).

Deck-Girder (102). The deck-girder (also known as a stringer, girder or multibeam) consists of a reinforced concrete slab in conjunction with two or more girders which form a series of T-beams side by side. They were recommended for spans from 20 to 60 feet. In the true deck-girder, rectangular beams support an independent slab. The stirrups of the outside girders reinforce the railings: early examples of these bridges often had solid parapets which acted as additional beams. Deck-girders could easily be widened. The railings or parapets could be removed and the width of the roadway extended without disturbing the main supporting beams. This type of construction was used in Virginia from ca. 1910 to the mid-1920s. These bridges require less material than through-girders (below), but require more complex forming and supervision, and more headroom (Figures 4, 5).


Figure 3. Slab bridge: Structure \# 1049, Alleghany County (1922; widened and cork rails added in 1932).


Figure 4. Deck-girder bridge: Structure \# 6074, Bedford County (ca. 1920), with solid parapet rails.


Figure 5. Deck-girder bridge: Structure \# 6074, Bedford County (ca. 1920), showing details of girders on the underside of the bridge; one girder shows a later repair.

Through-Girder (103). In a through-girder bridge, each side of a reinforced concrete slab is supported on reinforced concrete beams (girders) which are incorporated into the slab and extend to form a solid parapet railing. The girders span the length of the bridge (or the individual span) and rest upon the abutments or piers. Through-girder bridges use both stirrups and curb reinforcement. This system was recommended for use in spans from 20 to 60 feet, with widths of 20 feet or less ( 12 or 16 foot widths being the most common). The integral girder/parapet arrangement gave these bridges considerable strength. It also required a massive structure with a narrow roadway (to prevent excessive dead load), and made these bridges impossible to widen. Removing a parapet would remove the support for an entire side of the bridge, causing the bridge to deform and probably collapse.

Through-girder construction appears in standard bridge engineering texts during the first three decades of the 20th century. There were two different types of construction for throughgirders: (a) with the girders extending below the bottom of the parapet, a form commonly used for highway bridges, and (b) with a thicker slab incorporating the girders, and thus allowing a smooth underside, a type particularly recommended for railroad bridges. Although it used less concrete, the visible-girder variety was the more expensive of the two, owing to the complicated forming needed for the girders on the underside. The bridges with the smooth undersides, although more massive, were less complicated to build since flat forms could be used; the greater depth of the slab, along with thicker parapets, also may have given increased strength to the bridge. Merely on the basis of a surface examination, the latter through-girders can be difficult or impossible to distinguish from slab bridges with thick solid parapets. No basic throughgirders, either with visible girders or smooth undersides, have been documented to survive inservice in Virginia; however, an abandoned bridge of this type still stands upstream from Rt. 1 crossing Accakeek Creek in Stafford County. The extremely thick parapet on Structure \#6040 in Hanover County also suggests that this bridge may utilize this technology, but precise documentation is lacking. Extant in-service Virginia bridges constructed using this technology utilize a related, slightly more complex through-girder system known as girder-and-floorbeam (see below).

Girder-and-Floorbeam (103). In this system, each side of a reinforced concrete slab is supported on reinforced concrete girders which extend into solid parapets (e.g. basic throughgirder construction). In addition, however, reinforced concrete floor beams are set perpendicular to, and incorporated into, the girders. Like other through-girders, girder-and-floorbeam systems were used for spans from 20 to 60 feet, with a maximum width of 20 feet. As with all kinds of through-girders, the interconnected floorbeam/girder/parapet made these spans impossible to widen. Girder-and-floorbeam spans were constructed in Virginia from ca. 1906 to the mid-1920s (Figures 6, 7).


Figure 6. Girder-and-floorbeam bridge: Structure \# 6016, Roanoke County (1921), showing (structural) solid parapet rails.


Figure 7. Girder-and-floorbeam bridge: Structure \# 6016, Roanoke County (1921), showing details of floorbeams and girders on the underside of the bridge.

T-Beam (104). In the T-beam, as in the deck-girder, rectangular beams support the deck. However, in the T-Beam, the slab and beams are integral, with the slab acting as the main compressive component. Like deck-girders, T-beams are easy to widen; however, deck replacement is impossible. Exterior beams were usually lighter than interior beams due to wheel distribution.

T-beams are an extremely common bridge type. Concrete T-beam spans were constructed in Virginia from the 1910s onward. The first standard plan T-beam bridges in Virginia date from 1924, and T-beams were a dominant concrete bridge design from the late 1920s through the late 1960s (Figure 8).

Rigid-Frame (107). The first rigid frame bridge was designed in 1919-1922. Further development occurred during the 1920s and 1930s (Hool and Kinne, 1944, p. 471). In other contemporary bridge systems, the deck of each span was supported by its abutments. In contrast, in a concrete rigid frame bridge the concrete would be poured monolithically, with the result that the walls support the deck slabs as continuous bents. This combination of superstructure and abutments produced a bridge of great stability. Rigid-frame bridges can be either arched or nonarched. Pre-1950 non-arched rigid frame bridges are relatively rare in Virginia (Figure 9).


Figure 8. T-beam bridge: Structure \# 1010, Highland County (1931) with cork rails.


Figure 9. Rigid frame bridge: Structure \# 5020, Arlington County (1945).

Rigid frame bridges were usually limited to spans under 100 feet, although one continuous rigid frame bridge in Virginia exceeds this length (the Mary Street bridge, Structure \# 1804 in the city of Bristol, built in 1918, with five spans totalling 232 feet long). Although simple rigid frames were a popular expressway bridge for overpasses in the 1940s through the mid-1950s, their large bents restricted the oncoming motorists' view beyond the bridge, limited the potential for widening the roadway under the bridge, and were hazardous to high-speed traffic. By the late 1950s, new advances in highway construction such as prestressed, precast concrete beams and new pier designs had superseded the older rigid frame design (Dorton, 1991, pp.10-11).

Continuous (201, 202, 203, 204, 207). As the name implies, continuous concrete bridges consist of continuous-poured superstructure elements (usually slabs or T-beams), instead of separate spans. These continuous superstructures are supported at regular intervals by concrete frame or concrete pile piers. Continuous bridges should be considered variations on their basic construction systems (e.g. slab or T-beam) rather than separate bridge types. The form was first developed in the 1910s. Aside from continuous slabs (201) and T-beams (204), one continuous beam (202), one continuous girder (203), and three continuous rigid frames (207) (Figure 10) were encountered during the course of the survey. The 202 and 203 bridges (Richmond City Structures \# 8067 and 8066), and one of the 207 bridges (Henrico County Structure \# 1001; Figure 10) were possibly experimental. All date from the last half of the 1930s and all are within Richmond District, being located in or near the city of Richmond. In general, pre-1950 continuous concrete spans are uncommon in Virginia


Figure 10. Continuous rigid frame bridge: Structure \# 1001, Henrico County (1939), with vertical rails.

## RAILINGS

Although ornate classical-style pre-cast balusters were in use from the early 20th century onwards, they were generally confined to decorative urban or park bridges. John J. Earley used such precast classical balusters in a number of his projects in the Washington, D. C., area in the 1910s. Contemporary catalogs for Daniel B. Luten's Luten Bridge Company also show similar balusters on what he termed "park bridges," as opposed to more utilitarian highway bridges with solid parapets.

Pipe railings, curbs and solid concrete parapets were the dominant railings used for highway bridges during the 1900 s and 1910 s , and into the 1920s. Pipe railings were commonly of 2-inch pipe. Curbs were generally between 6 and 12 inches high. Solid concrete parapets varied greatly in height and thickness. Their dimensions were largely a function of whether the parapets were structural or non-structural.

In the cases of through-girder/girder-and-floorbeam construction, of course, the parapets were fully structural, not just safety features. Surviving standard plans from the 1910s show two varieties of parapets on through-girder bridges. Most common was a heavy solid parapet between 3 and 4 feet high and between 18 and 24 inches thick (thickness and height of the parapets increased with span length). Alternately, short through-girder bridges (less than 30 feet
long) might have low solid parapets (approximately 2 feet high and 15 to 18 inches thick) used in concert with pipe railings, or most of the girders might be below the level of the deck, with only a short length, e.g. a curb, visible above the level of the roadway.

The following are common rail types (with terminology and periods of use) in pre-1950 concrete bridges in Virginia.

Solid. Solid concrete parapets are usually between 3 and 4 feet high. These parapets can be structural (as in most deck-girders and all through-girder/girder-and-floorbeam systems) or non-structural (as in slab construction), and may be plain or ornamented. Ornamentation is most typically with incised or cast recessed panels. Solid parapets were in general use in Virginia from the early 1900s until the mid-to-late 1920s, and a few slab bridges with (non-structural) parapets continued to be built on rural roads well into the 1930s (Figure 11; see also Figures 4, 5, $6,7,16$ ).

From the 1930s on, solid parapet railings have seen occasional use for special, primarily decorative, purposes. In the last three decades, of course, the Jersey barrier has become the typical rail for many applications, and in general form is reminiscent of the old solid parapets.


Figure 11. Solid parapet rail (on a slab bridge): Structure \# 6106, Augusta County (1920); the cast panels on the sides are a typical decoration on solid parapet bridges of the era.

Low Solid. Low solid parapets range from 1 to 3 feet high, with approximately 2 feet being average. These sometimes supported pipe rails (see below). A low solid parapet and pipe railing are shown on the 1912 Virginia State Highway Commission standard plan for a girder-and-floorbeam bridge. Low solid parapets were used in Virginia from the early 1900s into the early 1930s.

Curb. A low concrete curb less than 1 foot high was used on many early Virginia bridges, particularly in rural areas between the early 1900s and ca. 1940. Some curbs supported pipe railings, but handrails were not always present (Figure 12).


Figure 12. Lowwater (slab) bridge with a typical curb: Structure \# 6019, Warren County (1925).

Cork. The so-called "Cork Rail," a railing with separately-cast uprights, or posts, and two cross members, was Virginia's most widely-used railing during the second quarter of the 20th century. The common name derives from the early use of cork as a filler where the cross rails (which were cast in place) enter the uprights. Cork rails, developed in the 1910s, were already appearing in U. S. Office of Public Roads standards by 1920, when Milo Ketchum illustrated one such plan in the second edition of The Design of Highway Bridges_of Steel, Timber and Concrete (Ketchum, 1920; p. 366). Cork rails first appeared on standard plans in Virginia in 1922 as railings for slab bridges. They appeared as railings for the new standard plan T-beams in 1924. By the late 1920s, the cork rail had become the standard bridge rail in Virginia, and continued in that position into the 1940s (see Figures 3, 8).

Two apparent variants on the cork rail were encountered in the course of the survey. Fauquier County contains two early rails with general similarity to cork rails, in Structure \# 6232, built in 1919, and Structure \# 6036, built in 1928. These rails have paneled posts. The lower crossrail is attached to the curb. Lastly, Luten-type cork rails (cork rails with unusually wide endposts) survive on a non-arched concrete bridge in Pulaski County (Structure \# 6080, built in 1932). Many similar rails survive on Luten arched concrete bridges in Southwest Virginia, as well as elsewhere in the U.S. The rails were used by the Luten Bridge Company in the last half of the 1920s and the early 1930s.

Vertical. This somewhat decorative railing type has several varieties: individual square, rectangular or shaped upright members (e.g. square or shaped balusters, spindles, etc.), or unitary-pour uprights (e.g. a series of round-headed arches, pointed "Gothic" arches, etc.), supporting a handrail. Several varieties of vertical railings were used in Virginia from the late 1910s until the 1960s (Figures 13, 14; see also Figure 10).

Pipe. As the name indicates, this railing was made of pipe; 2 inch pipe was customary in Virginia, although smaller and larger diameters were also used. Pipe rails were in use from the early 1900s until ca. 1945.


Figure 13. Vertical railing (one of several styles): Structure \# 1002, Shenandoah County (1932).


Figure 14. Vertical railing (one of several styles): Structure \# 1017, Southampton County (1946).

Single. This is a unitary railing with widely-spaced uprights and a single cross member: the uprights may be either straight or have slightly inclined backs. These were standard-plan railings for slab and T-beam bridges in Virginia from ca. 1940 to the 1960s. The inclined-back upright was used primarily during the 1940s, the straight-back upright during the 1950s and 1960s. This rail type was also used for bridge widenings and rebuildings. Note: "Single" is not a period term, but is a descriptive category used for identification in this survey (Figure 15).


Figure 15. "Single" railing: Structure \# 1804, Hampton (1949).

Lowwater. "Lowwater" or "submarine" type bridges are slab spans which were built with no curbs or perforated very low curbs (approximately 6 inches) to allow flooded streams to flow over and drain from the bridge. Lowwater bridges were used ca. 1920 to ca. 1935 (see Figure 12).

## OTHER STRUCTURAL ELEMENTS

## Curbs and Trestles

Curbs are usually present in slabs, deck girders and T-beams. Curbs are frequently absent in through-girder construction. However, the presence or absence of curbs should not be considered an infallible diagnostic clue to separating slabs, deck girders and T-beams from through-girders.

All non-arched concrete bridges could be constructed as single-span or multiple span. Single spans were supported by abutments on each end. Multiple spans (or trestles) were supported by abutments on the ends, and at intermediate points by bents, or piers.

## ANALYSIS AND SUMMARY

This project identified and categorized historically significant non-arched concrete bridge structures within the VDOT transportation system. VDOT records list 1,420 pre-1950 nonarched concrete bridges still in-service. To obtain full data on concrete non-arched bridge types in the state, a complete survey of such bridges built prior to 1950 was undertaken in each VDOT construction district. This report includes historic context, descriptions and comparative analysis of non-arched concrete bridges, and survey data, including tabulations of the types and numbers of non-arched concrete bridges in Virginia.

The state totals for the various span types were:

- 442 slabs (101), 16 continuous slabs (201) for a total of 458 ;
- 29 deck girders (102), 1 continuous beam (202) for a total of 30 ;
- 12 girder-and-floorbeams (103), 1 continuous girder (203), for a total of 13 ;
- 427 T-beams (104), 9 continuous T-beams (204), for a total of 436 ;
- $\quad 9$ rigid frames (107), 3 continuous rigid frames (207), for a total of 12 ;
- 471 rebuilt bridges (bridges which have been primarily or completely reconstructed).

Ignoring the rebuilt bridges, the most numerous span types of non-arched pre-1950 bridges in Virginia were slabs, followed closely by T-beams, while the other span types combined make up a small fraction of the total. Chronologically, the numbers of extant inservice bridges ran as follows:

- 1900-1909: 2 bridges
- 1910-1919: 37 bridges
- 1920-1929: 182 bridges
- 1930-1939: 543 bridges
- 1940-1949: 185 bridges.

After the initial field survey results were tabulated, bridges were roughly divided into three categories ( $A, B$, and $C$ ). $A$ indicates that the bridge has one or more somewhat unusual features, and should be assessed further for potential historical significance. $B$ indicates that the bridge has no notable features, is of a common type, and possesses no apparent significance. $C$ indicates that the bridge has no notable features and is in poor condition or is largely/totally rebuilt and has lost its historical integrity.

A total of 99 bridges in Virginia were tentatively graded $A$. An $A$ rating is not meant as an endorsement of probable historical significance, but denotes that the bridge has some unusual or distinguishing features, or is of a relatively uncommon type and merits further assessment and comparison with $A$ rated bridges from the other construction districts.

The $A$ rating includes not only bridges with unusual decorative features (including unusual or uncommon railings) but the three least common types of bridges in Virginia: deckgirder bridges, girder-and-floorbeam bridges, and rigid frame bridges. Also included were bridges dating from 1920 or before, a period from which relatively few bridges still survive (and, additionally, the period prior to the 1922 reorganization of the Department of Highways and before the overwhelming use of standard plans). Continuous slabs and continuous T-beams, although not common per se, were considered variations of common slab and T-beam construction, and were not given $A$ ratings. Continuous girders and continuous rigid frames were given $A$ ratings, since they were considered variations of rare bridge types. Bridges in extremely poor, altered or deteriorated physical condition were not given $A$ ratings.

With this background data in hand, the final phase of the project was initiated: the development of criteria for determining historic significance, the ranking of bridges according to their historical significance, and development of an historic concrete bridge management plan.

## Bristol District (1)

A total of 256 bridges were surveyed in the Bristol District. Slab bridges were the most numerous ( 73 slab bridges; no continuous slabs) followed closely by T-beams ( 69 T-beam bridges; no continuous T-beam bridges). Much smaller numbers of other span types were noted: deck-girders ( 9 bridges), rigid frames ( 2 simple rigid frames; one continuous rigid frame bridge), and girder-and-floorbeams ( 1 bridge). There were 101 bridges that were complete or nearcomplete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge still in service in Bristol District is a 1910 slab bridge (Structure \# 6242) in Smyth County.

Nineteen bridges in Bristol District were tentatively graded $A$. These bridges, with their distinguishing features, are described below.

## Buchanan County (13)

\# 1004: A rigid frame bridge [107], built in 1939, located on Rt. 83 crossing Slate Creek.

## Lee County (52)

\# 6326: VDOT records give a date of 1932, but stylistic elements indicate that this deck-girder bridge [102] probably dates from the late 1910s or very early 1920s, as it is similar to standard plan deck-girder bridges of that period. It is located on Rt. 814 crossing Hardy Creek.

## Russell County (83)

\# 6270: A deck-girder bridge [102] built in 1923, probably from the ca. 1920-1923 standard plan for deck-girder bridges, located on Rt. 758 crossing Little Cedar Creek.
\# 6273: A deck-girder bridge [102]. VDOT records give a date of 1913, but the bridge is virtually identical to Russell County bridge \# 6270 cited above, and is probably from the same standard plan. We are assuming that the 1913 date is an error and are dating this bridge c. 1923 in the survey. This bridge is located on Rt. 770 crossing Indian Creek.

Smyth County (86)
\# 1008: Commemorative "Pioneer Memorial Bridge" with decorative obelisks, a T-beam bridge [104] built in 1932. It is located on Rt. 11 crossing the middle fork of the Holston River. \# 6242: A slab bridge [101], built in 1910, the oldest remaining in-service non-arched concrete bridge in Bristol District. It is located on Rt. 731 over Carlock Creek.

Tazewell County (92)
\# 6077: A slab bridge [101], built in 1920, located on Rt. 747 crossing Laurel Fork Creek.
\# 6225: A slab bridge [101], built in 1919, located on Rt. 747 crossing Laurel Fork Creek.
\# 6232: A deck-girder bridge [102]. VDOT records give a date of 1932, but stylistic elements indicate that the bridge dates from ca. 1920-1923, as it appears to be built from the standard plan of that period. The bridge is located on Rt. 770 crossing Laurel Branch.
\# 6265: A deck girder bridge [102], built in 1923, apparently from the standard plan of that period, located on Rt. 637 crossing Pounding Mill Brook.

Wise County (97)
\# 6128: A deck-girder bridge [102], built in 1921, located on Rt. 633 crossing Indian Creek. \# 6141: A slab bridge [101], built in 1915, located on Rt. 613 crossing Beaverdam Creek.

## Bristol (102)

\# 1804: A continuous rigid frame bridge [207], built in 1918, located on Mary Street crossing the Norfolk Southern RR.
\# 8001: An unusual T-beam bridge [104], built in 1930, with solid parapets and original concrete streetlight poles, located on Fairview Street crossing Beaver Creek.
\# 8010: A deck-girder bridge [102], built in 1925, located on Oak Street crossing the Norfolk Southern RR.
\# 8015: An unusual T-beam bridge [104], built in 1930, with solid parapets and original concrete streetlight poles, located on Mary Street crossing Beaver Creek.
\# 8027: An unusual concrete and pipe railing on a 1930 T-beam bridge, with original concrete streetlight poles, located on Elm Street crossing Beaver Creek.

Tazewell (158)
\# 8003: A deck-girder bridge [102]. VDOT records give a date of 1932, but stylistic elements indicate that the bridge dates from ca. 1920-1923, as it appears to be built from the standard plan of that period. The bridge is located on Blenbolt Avenue crossing Sulfur Springs Branch.

## Lebanon (252)

\# 6079: A deck-girder bridge [102]. VDOT records give date of a 1932, but the 1923 Annual Report of the State Highway Commissioner indicates that the bridge was built ca. 1923. The bridge is located on Rt. 1036 crossing Little Cedar Creek.

## Salem District (2)

A total of 212 bridges were surveyed in Salem District. T-beam bridges were the most numerous ( 86 T-beam bridges; 1 continuous T-beam bridge) followed by slab bridges ( 63 slab bridges; 4 continuous slab bridges), deck-girders ( 5 bridges), rigid frame ( 1 bridge), and girderand floorbeam ( 1 bridge). There were 51 bridges that were complete or near-complete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge still in service in Salem District is a 1919 deck girder bridge (Structure \# 6074) in Bedford County. (Although VDOT records carry a building date of 1917 for Structure \# 1805 in the town of Pulaski, town records document that this structure underwent a total replacement in 1933-34.)

Ten bridges in Salem District were tentatively graded $A$. Two deck-girder bridges (Structure \# 6192, Giles County, built in 1924, and Structure \# 6119, Roanoke County, built in 1920), which had been rated $A$ in the Interim Report were dropped from the $A$ class in the final report, after it was learned that the bridges had serious structural problems which had not been apparent to the field survey team. After reviewing the Interim Report, the Salem District Bridge Engineer notified us that both bridges had areas of sufficiently badly deteriorated concrete to
prevent rehabilitation. Both of these bridges will have their posted load limits reduced as necessary, and may eventually have to be replaced. Pulaski County Structure \# 6186 was also rated $A$ in the Interim Report. This structure consists of a non-arched slab bridge [101] used to widen a small Luten-type concrete arch bridge [111]. There is no Luten Bridge Company identifying plaque on the arch bridge, but the one surviving original rail of the arch bridge is the cork-rail variant used primarily (maybe exclusively) by the Luten Bridge Company. After consideration of the unusual nature of this bridge, the Historic Structures Task Group decided to drop Structure \# 6186 not only from the $A$ list but from the Non-Arched Concrete Bridge Survey as well; this bridge will be included in the updated survey of masonry and concrete arch bridges, to be undertaken by the Research Council in 1996-1998.

The Salem District $A$ bridges, with their distinguishing features, are listed below.

## Bedford County (9)

\# 6074: A deck girder bridge [102]. VDOT records give a date of 1932, but the Annual Reports indicate a construction date of 1919-1920. The bridge is located on Rt. 647 crossing Judith Creek.

Carroll County (17)
\# 6003: A slab bridge [101], built in 1937 by the United States Department of Agriculture/ Forest Service, located on Rt. 602 crossing Brush Creek.

## Patrick County (70)

\# 6251: A deck-girder bridge [102]. VDOT records give a date of 1932, but stylistic elements suggest that the bridge was built ca. 1920. The bridge is located on Rt. 765 crossing a tributary of the Mayo River.

## Pulaski County (77)

\# 6180: A non-arched continuous slab bridge [201] built in 1932, with a cork-rail variant known to have been used primarily (possibly exclusively?) by the Luten Bridge Company, located on Rt. 636 crossing Back Creek.

## Roanoke County (80)

\# 6016: A girder-and-floorbeam bridge [103] built in 1921, located on Rt. 612 crossing an unnamed stream.

Martinsville (120)
\# 1802: An unusual T-beam bridge [104], built in 1934 with solid-parapet railing and obelisks, located on Rt. 58 crossing the Norfolk \& Southern RR.

Town of Pulaski (125)
\# 1805: An urban-type T-beam bridge [104] with pre-cast balusters on the railing. VDOT records give a date of 1917, but the town records indicate replacement of the earlier bridge in

1933-34, when Rt. 11 was improved. The bridge is located on Rt. 11 (Washington Avenue) crossing Peak Creek.
\# 8002: A T-beam bridge [104] with unusual cork rail variant with Art Moderne motifs on end posts, built 1933-34. The bridge is located on Randolph Avenue crossing Peak Creek. \# 8003: An unusual T-beam bridge [104] with solid-parapet railing, built in 1933-34. The bridge is located on Jefferson Avenue crossing Peak Creek.
NOTE: These three bridges are slated for modification or replacement; documentation and mitigation has either been completed or is in progress.

City of Salem (129)
\# 1805: A rigid frame bridge [107], built in 1932 with reconstruction in 1948, located on Rt. 11 crossing the Norfolk \& Southern RR.

## Lynchburg District (3)

A total of 139 bridges were surveyed in Lynchburg District. T-beam bridges were the most numerous ( 73 T-beam bridges; no continuous T-beam bridges) followed by slabs ( 35 slab bridges; 1 continuous slab bridge), and rigid frames (1 bridge). No deck-girders or girder-andfloorbeams were identified during the survey. There were 29 bridges that were complete or nearcomplete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge still in service in Lynchburg District is an 1908 concrete bridge (Structure \# 1849), coded as a slab [101] in the city of Lynchburg. This is also the oldest in-service non-arched concrete bridge in Virginia (Figure 16).

Three bridges in Lynchburg District were tentatively graded $A$. These bridges, with their distinguishing features, follow:

## Appomattox County (6)

\# 1002: A commemorative bridge built in 1930 in the vicinity of the Civil War surrender site at Appomattox Court House. This T-beam bridge [104] has unique rails incorporating Union and Confederate motifs, with endposts topped with obelisks. The rails were moved and reused, and the end posts and obelisks were replicated when the bridge was widened in 1971. The bridge is located on Rt. 24 crossing the Appomattox River.

## Halifax County (41)

\# 6079: A stone-veneered rigid-frame bridge [107] with masonry rails, built in 1935 from plans prepared by the Virginia Department of Highways. This bridge is one of a number of similar stone-veneered bridges and culverts associated with the adjacent Carlbrook estate; it is located on Rt. 684 crossing Birch Creek.


Figure 16. The oldest documented surviving non-arched bridge in Virginia: Structure \# 1849, Lynchburg (1908), a slab bridge.

Lynchburg (118)
\# 1849: A concrete bridge, coded as a slab [101] with solid parapet rails, built in 1908. It is the oldest in-service non-arched concrete bridge both in Lynchburg District and in Virginia. The bridge is located on Bedford Avenue crossing the Norfolk Southern RR. However, there are some anomalies: the 47 -foot length of this bridge is far longer than the maximum 25 feet recommended for slabs at the time; the heavy (approximately 2 feet thick) parapets suggest a through-girder, but the width of the roadway ( 35 feet with an additional 5 -foot sidewalk) is double the usual 20 -foot maximum width for throughgirder construction. Although the original bridge inspection report described the bridge as a "beam," suggesting a deck-girder [102], there is no apparent physical evidence of deck-girder construction, and the bridge is currently coded as a slab. The structure was built by the Southern Railroad; according to the Norfolk-Southern Archives no plans survive, and thus the exact technology of this unusual bridge is uncertain. Possibly it is basically a slab with extremely heavy reinforcement or conventional reinforcement strengthened with encased I-beams. When the bridge reaches the end of its useful life, a demolition study would add much to our knowledge of early reinforced concrete bridge construction in Virginia.

## Richmond District (4)

A total of 123 bridges were surveyed in Richmond District. T-beam bridges were the most numerous ( 33 T -beam bridges; 3 continuous T-beam bridges) followed by slabs ( 24 slab
bridges; no continuous slab bridges), girder-and-floorbeams ( 2 girder-and-floorbeam bridges; 1 continuous girder bridge), deck-girders ( 1 deck-girder bridge; 1 continuous beam bridge), and rigid frame ( 1 continuous rigid frame bridge). There were 57 bridges that were complete or nearcomplete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge still in service in Richmond District is a 1913 concrete slab bridge (Structure \# 1850) in the city of Richmond.

Twelve bridges in Richmond District were tentatively graded $A$. One bridge built in 1920, Structure \# 8069 in the city of Richmond, was not given an $A$ rating due to alterations to the structure which compromised its historical integrity. The $A$ bridges, with their distinguishing features, are as follow:

Charles City County (18)
\# 6004: A deck-girder bridge [102] built in 1920, located on Rt. 609 crossing East Run.

## Hanover County (42)

\# 6040: A bridge, built in 1919 and coded as a slab [101], located on Rt. 661 crossing Stony Run. However, the extremely heavy parapets of this bridge raise the possibility that this bridge may be a smooth-bottomed through-girder [103]. No plans, construction drawings or other structural documentation on this bridge have been found.
\# 6059: A girder-and-floorbeam bridge [103] built in 1917, located on Rt. 686 crossing the South Anna River.
\# 6908: A girder-and-floorbeam bridge [103] built in 1920, located at the end of Rt. 623 and in the process of being abandoned.

## Henrico County (43)

\# 1001: A continuous rigid-frame bridge [207] built in 1938, possibly an experimental structure. One of only three pre-1950 207 spans in the state, and the only one not crossing railroad tracks, this bridge is located on Rt. 1 crossing Upham Brook.

Lunenburg County (55)
\# 6132: A slab bridge [101] built in 1915, located on Rt. 638 crossing Stony Creek.
Powhatan County (72)
\# 1009: A slab bridge [101] built in 1920, located on Rt. 13 crossing Sallee Creek.
City of Petersburg (123)
\# 1813: An access ramp to Structure \# 1912 (see below), and like \# 1912 a continuous T-beam [204], built at the same time and in the same style.
\# 1912: An extremely long (1683 ft.) monumental urban bridge, a continuous T-beam bridge [204] built in 1925 as a cooperative effort by several public and private entities. The bridge is located on Rt. 1 crossing the Appomattox River.

City of Richmond (127)
\# 1850: A slab bridge [101] built in 1913. This is the oldest in-service non-arched concrete bridge in Richmond District; it is located on Rt. 5 crossing the CSX RR.
\# 8066: A continuous girder bridge [203] with unusual railing, built in 1935; possibly an experimental structure, it is the only remaining pre-1950 203 span in the state. The bridge is located on 1st Street crossing the CSX RR and Valley Road.
\# 8067: A continuous beam bridge, built in 1938 [coded as 202]. Possibly an experimental structure, with an unusual railing with consoles on the endposts, it is the only pre-1950 202 in the state. The bridge is located on Water Street over a storm drain.

## Suffolk District (5)

A total of 47 bridges were surveyed in Suffolk District. Of those bridges which retained discernible historical integrity, T-beams were the most numerous ( 18 T -beam bridges; 1 continuous T-beam bridge), followed by slabs ( 7 slab bridges; 1 continuous slab bridge), and deck-girders ( 3 bridges). No girder-and-floorbeams or rigid frames were identified in this district during the course of the survey. There were 18 bridges that were complete or near-complete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge identified in Suffolk District is Structure \# 8003 in Newport News, built in 1915 but extensively (and probably completely) rebuilt in 1931 as a cork-railed T-beam. In any event, the bridge retains no identifiable elements which reflect 1910's technology. The next-oldest bridges in the district are two deck-girders dating from 1919. Structure \# 6030 in Greensville County, a solid-parapet deck-girder bridge, retains its historical integrity. Structure \# 6104 in Sussex County retains less of its original integrity; it currently has modern guard rails, with no indication of earlier railings.

Seven bridges in Suffolk District were tentatively graded $A$. These bridges, with their distinguishing features, are:

## Chesapeake (131)

\# 1808: An unusual T-beam bridge [104], incorporating automobile and railroad bridges, built in 1948 with some reconstruction in 1960. The bridge is located on Rt. 13 (Military Highway), crossing the Norfolk Southern RR and Rt. 460.

## Greensville County (40)

\# 6030: Built in 1919, this deck-girder bridge [102] is the oldest remaining non-arched concrete bridge in Suffolk District retaining its original appearance. It is located on Rt. 688 crossing Falling Run.

Hampton (114)
\# 8006: A slab bridge [101] built in 1929 with an unusual cork rail featuring obelisks for lighting fixtures, located on Powhatan Parkway crossing Indian River.

Norfolk (122)
\# 1843: This structure, the 26th St. Bridge, has an unusual metal/concrete railing. It is a continuous slab bridge [201] built in 1939 with Federal Emergency Administration of Public Works funds. The bridge is located on 26th Street crossing the Lafayette River.

## Southampton (87)

\# 1931: A T-beam bridge [104] built in 1936 as a cooperative project between Virginia and North Carolina, using Federal funds. It is located on Rt. 186 crossing the Meherrin River

Sussex (91)
\# 6104: Built in 1919, this deck girder bridge [102] has a modern guardrail; there is no indication of the original railing. It is located on Rt. 681 crossing Harris Swamp.
\# 6122: A slab bridge [101] built on top of a mill dam, ca. 1910-1915, located on Rt. 603 crossing Spring Mill Pond.

## Fredericksburg District (6)

A total of 55 bridges were surveyed in Fredericksburg District. T-beam bridges were the most numerous (18 T-beam bridges; 1 continuous T-beam bridge), followed by slabs ( 10 slab bridges; no continuous slabs), girder-and-floorbeams ( 1 bridge), and rigid frames ( 1 continuous rigid frame). No deck-girders were identified in this district during the course of the survey. There were 24 bridges that were complete or near-complete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge still in service in Fredericksburg District is a 1914 slab bridge (Structure \# 6017) in Caroline County. The next oldest in-service non-arched concrete bridge is a continuous rigid frame bridge, Structure \# 6020 in Stafford County, built in 1917.

Four bridges in Fredericksburg District were tentatively graded $A$. These bridges, with their distinguishing features, are:

## Caroline County (16)

\# 6017: A slab bridge [101], built in 1914, this is the oldest remaining in-service non-arched concrete bridge in Fredericksburg District. It is located on Rt. 614 (Ware Creek Road), crossing Ware Creek.

Essex County (28)
\# 6018: A girder-and-floorbeam bridge [103], built in 1923, located on Rt. 691 crossing Piscataway Creek.

Stafford County (89)
\# 6020: A continuous rigid frame [207], built in 1917, located on Rt. 630 crossing the R.F. \& P. RR.
\# 6075: VDOT records give a date of 1931, but stylistic elements suggest that this slab bridge [101] may date from first half of 1920s. Its solid parapet (with rounded edges) is a form usually seen on ca. 1920-1923 standard plan deck girders. This bridge is attached to a 1904 arched railroad culvert that is the oldest reinforced concrete bridge in Virginia. Although VDOT records cite this as a single span, 23 -foot slab bridge, each parapet of the slab bridge is approximately twice this length, and each parapet is on an opposite side of the culvert. Structure \# 6075's significance arises from its proximity to the 1904 bridge. Any alterations to Structure \# 6075 will likely impact upon the older bridge. The bridge is located on Rt. 607, under the R. F. \& P. RR and crossing Clayborn Run.

## Culpeper District (7)

A total of 139 bridges were surveyed in Culpeper District. Slab bridges were the most numerous ( 51 slab bridges; 3 continuous slab bridges), followed by T-beams ( 20 T-beam bridges; no continuous T-beams), deck-girders ( 4 bridges), girder-and-floorbeams combined with slab approaches ( 2 bridges), and rigid frame ( 1 bridge). There were 58 bridges that were complete or near-complete replacements.

According to VDOT records, the earliest non-arched reinforced concrete bridge still in service in Culpeper District is the 1913 girder-and-floorbeam bridge with slab approach spans (Structure \#6046) near Carrico's Mill in Culpeper County. Culpeper County also contains a similar bridge, built in 1915 (Structure \# 6010), which is the second-oldest in-service non-arched concrete bridge in the district.

Ten bridges in Culpeper District were tentatively graded $A$. These bridges, with their distinguishing features, are:

Albemarle County (2)
\# 1046: A rigid frame bridge [107], built in 1936, located on Rt. 250 crossing Little Ivy Creek.

## Culpeper County (23)

\# 6010: A girder-and-floorbeam bridge [103] with slab approach spans [101], built in 1915. It is the second-oldest in-service non-arched concrete bridge in Culpeper District. It is located on Rt. 620 crossing Mountain Run.
\# 6046: A girder-and-floorbeam bridge [103] with slab approach spans [101], built in 1913. This is the oldest in-service non-arched concrete bridge in Culpeper District. It is located on Rt. 669 crossing Mountain Run.

## Fauquier County (30)

\# 1033: A deck-girder bridge [102], built in 1923, probably from a standard plan. It is located on Rt. 215 crossing South Run.
\# 1065: A slab bridge [101] with solid parapets. A marble plaque documents the builder's name and date: "Built by/R. H. LeGarde/The Plains, Va./1925." It is located on Rt. F-185 crossing Goose Creek. (Note: information from the Fauquier Heritage Society indicates that Mr. Legard was a local farm manager who also ran a small, part-time bridge contracting business in Fauquier County in the early and mid-1920s.)
\# 6036: A continuous slab bridge [201] built in 1928 with an unusual railing which is probably a local variant of the cork rail, located on Rt. 626 crossing Burnt Mill Branch.
\# 6053: A deck-girder bridge [102]. VDOT records give a date of 1932, but stylistic elements indicate that the bridge probably dates from first half of the 1920s. It is located on Rt. 647 crossing Thumb Run.
\# 6054: A deck-girder bridge [102]. A marble plaque gives the builder's name and date: "Built by/R. H. LeGarde/The Plains, Va./1923." It is located on Rt. 647 crossing Thumb Run. \# 6232: A continuous slab bridge [201] built in 1919; its unusual railing is probably a local variant of the cork rail and is virtually identical to the railing on Fauquier County Structure \# 6036. It is located on Rt. 776 crossing Little River.

Rappahannock County (78)
\# 6047: A deck-girder bridge [102] built in 1920, located on Rt. 655 crossing Beaverdam Creek.

## Staunton District (8)

A total of 381 bridges were surveyed in Staunton District. When tabulated, the survey results indicated that slab bridges were the most numerous ( 165 slab bridges; 7 continuous slab bridges), followed by T-beams ( 98 T-beam bridges; 3 continuous T-beams). Much smaller numbers of other types of bridges were noted: deck-girders ( 7 bridges), girder-and-floorbeams ( 4 bridges), and rigid frame ( 1 bridge). There were 96 bridges that were complete or near-complete rebuildings/replacements.

The earliest bridge still in service is the 1909 girder-and-floorbeam structure near Churchville in Augusta County (Structure \# 6113) (Figure 17). The second-oldest in-service bridge is the 1912 deck-girder in the town of Staunton (Structure \# 8002).


Figure 17. The second-oldest documented non-arched bridge in Virginia: Structure \# 6113, Augusta County (1909), a girder-and-floorbeam bridge.

Twenty-seven bridges in Staunton District were tentatively graded $A$. One girder-andfloorbeam (Structure \# 6086, Augusta County, built in 1925) was not given an $A$ rating due to its extremely poor condition: its concrete is disintegrating, and portions of its parapets have completely weathered away. The $A$ bridges, with their distinguishing features, follow:

## Alleghany County (3)

\# 6046: An unusually deep T-beam bridge [104] built in 1932, located on Rt. 632 crossing Wilson Creek.
\# 6067: This large (9 span, 324 feet) continuous T-beam [204], built in 1925, is a well-designed bridge crossing the major C\&O (now CSX) railroad corridor at the entrance to Clifton Forge. Excellent context: the bridge, town, railroad and mountain views combine into an impressive total image, and further research into its design and history may be warranted. The bridge is located on Rt. 696 crossing the CSX railroad.

## Augusta County (7)

\# 1182: A slab bridge [101] built in 1920, with unique applied decoration on its solid parapet, located on Rt. 252 crossing Moffats Creek.
\# 6104: A slab bridge [101] built in 1919, located on Rt. 705 crossing Middle River.
\# 6106: A slab bridge [101] built in 1920, located on Rt. 707 crossing Middle River.
\# 6113: Built in 1909, this girder-and-floorbeam bridge [103] is the oldest in-service non-arched concrete bridge in Staunton District. It is located on Rt. 722 crossing Whiskey Creek.
\# 6283: A slab bridge [101] built in 1935, with unique molded and applied decoration on its solid parapet. It is located on Rt. 613 crossing a tributary of Long Glade Creek.
\# 6339: Built in 1925, this slab bridge [101] has decorative molded panels on the solid parapet; it is possibly from a standard plan. The bridge is located on Rt. 732 crossing a tributary of Middle River.
\# 6553: A deck girder bridge [102] built in 1925 from a standard plan, located on Rt. 1205 crossing South River.

## Frederick County (34)

\# 6049: A deck girder bridge [102]. VDOT records give a construction date of 1916; the plans are dated 1918, from January, 1917 standard plans. The bridge is located on Rt. 723 crossing Buffalo Lick Run.
\# 6904: A deck girder bridge [102]. VDOT records give a construction date of 1932; the plans are dated 1918, from December, 1916 standard plans. It is located on Rt. 723 crossing Opequon Creek.

## Page County (69)

\# 6030: A girder and floorbeam bridge [103] built in 1915, located on Rt. 642 crossing Mill Creek. There are a number of well-preserved 19th and early 20th century buildings surrounding the bridge.
\# 6037: A deck girder bridge [102], built in 1919, located on Rt. 662 crossing Jeremiah Run.

## Rockbridge County (81)

\# 6106: A 1928 slab bridge [101] with inscription "JMK Nov 161928 1928" in concrete. The bridge is located on Rt. 646 crossing Collier's Creek.
\# 6513: A 16 -span, 112-foot lowwater bridge [101]. VDOT records give a construction date of 1932, the year the bridge was taken into the state system, but the bridge may predate this. It is surrounded by a hamlet containing well-preserved 19th and early 20th century buildings. The bridge is located at the intersection of Rts. 674 and 753, and crosses Buffalo Creek.

## Rockingham County (82)

\# 6584: A rigid frame bridge [107] built in 1934 (rebuilt in 1941). Located on Rt. 996, crossing Stony Run in the village of McGaheysville, this structure has an unusual, urban-style railing for a bridge in a small rural village.

## Shenandoah County (85)

\# 6011: A 15-span, 212-foot lowwater bridge [101]. VDOT records give a construction date of 1932, the year the bridge was taken into the state system, but the bridge may predate this. It is located on Rt. 609 crossing the North Fork of the Shenandoah River.
\# 6043: A 16-span, 293-foot lowwater bridge [mostly 101], built in 1922, and located on Rt. 663 crossing the North Fork of the Shenandoah River.
\# 6092: A 12-span, 204-foot lowwater bridge [101]. VDOT records give a construction date of 1932, the year the bridge was taken into the state system, but the bridge may predate this. The bridge is located on Rt. 744 crossing the North Fork of the Shenandoah River.
\# 6113: A small lowwater bridge [101], built in 1916, and located on Rt. 758 crossing Passage Creek.
\# 6368: A slab bridge [101], built in 1934 by the United States Department of Agriculture/ Forest Service. It is located on Rt. 678 crossing Dry Run. This is at the hamlet of Seven Fountains; there are a number of well-preserved 19th and early 20th century structures in the vicinity.

## Warren County (93)

\# 6007: A deck girder bridge [102], built in 1918. The bridge is located on Rt. 613 crossing Gooney Creek; it is surrounded by the village of Browntown, containing well-preserved structures dating from the late 19th and early 20th century (contemporary with the bridge).
\# 6011: A 13-span, 266-foot lowwater bridge. It was built in 1923; a plaque lists a county supervisor, the engineer and builder. The bridge is located on Rt. 613, crossing the South Fork of the Shenandoah River.
\# 6017: A girder and floorbeam bridge [103], built in 1918. The bridge is located on Rt. 622 crossing Gooney Creek.
\# 6019: A 16-span, 321-foot lowwater bridge, built in 1925; a plaque lists the county supervisors, the engineer, inspector and builder. The bridge is located on Rt. 624 crossing the Shenandoah River.

City of Clifton Forge (105)
\# 8006: A standard-plan T-beam bridge with unusual bronze plaques commemorating World War I casualties from the area. The bridge is located on Lowell Street crossing Smith Creek.

City of Staunton (132)
\# 8002: A deck girder bridge [102] built in 1912; "4/20/12 WLA" is inscribed in the concrete. This is the second-oldest remaining non-arched concrete bridge in Staunton District. The bridge is located at the entrance to the municipal sewerage treatment plant, crossing Lewis Creek.

## NOVA District (A)

A total of 68 bridges were surveyed in NOVA District. When tabulated, the survey results indicated that slab bridges were the most numerous ( 14 slab bridges; no continuous slabs), followed by T-beams ( 12 T-beam bridges; no continuous T-beams), rigid frames ( 3 bridges, including one in poor and altered condition), deck-girders ( 1 bridge), and girder-and-floorbeams (1 bridge). A total of 37 bridges were complete or near-complete rebuildings/replacements.

The earliest bridge still in service is the 1911 girder-and-floorbeam structure in Loudoun County (Structure \# 6032).

Six bridges in NOVA District were tentatively graded $A$. These bridges, with their distinguishing features, are:

## Arlington County (0)

\# 5020: A rigid frame bridge [107] built in 1945; it is located on Memorial Avenue, crossing Rt. 110, adjoining Arlington National Cemetery.
\# 5069: A rigid frame bridge [107] built in 1941, located on Smith Boulevard crossing Abingdon Drive.

## Fairfax County (29)

\# 6332: A slab bridge [101] built in 1920, located on Rt. 3546 (Twin Lakes Drives) crossing Johnny Moore Creek.

Loudoun County (53)
\# 6002: A slab bridge [101] built in 1914, located on Rt. 607 crossing Beaverdam Run. \# 6020: A deck-girder bridge [102] built in 1919, located on Rt. 719 crossing Jefferies Branch. \# 6032: A girder and floorbeam bridge [103] built in 1911, the oldest remaining non-arched concrete bridge in NOVA District. The bridge is located on Rt. 629 crossing Little River.

## CRITERIA AND HISTORICAL SIGNIFICANCE

The final criteria for determining historic significance/national register eligibility were formulated by the Historic Structures Task Group in late 1995. Although based on similar criteria for determining the historical significance of buildings, there were several adaptations to accomodate bridges, and non-arched concrete bridge construction in particular, and to eliminate subjectivity as much as possible. Figure 18 shows the eligibility rating sheet.

The maximum possible score with a determination of national significance is 38 ; the maximum score with a determination of statewide significance is 33 ; with regional significance, 30; with local significance, 28. A score of 18 is the cut-off between eligible bridges ( 18 points or over) and those bridges deemed not eligible (less than 18 points).

## Bristol District (1)

One bridge in Bristol District was found individually eligible for the National Register (Structure \# 1804 in the city of Bristol). Ratings are:

Buchanan County (13)
\# 1004: Rigid frame [107], 1939, Rt. 83 crossing Slate Creek. Rating: 13

## CONCRETE BRIDGE ELIGIBILITY RATING SHEET

District:$\qquad$ County: $\qquad$
Structure No. $\qquad$ Route $\qquad$ Crossing: $\qquad$
I. Categories
A. DHR Theme(s):

$\qquad$
B. Period(s) of Significance:
$\qquad$
C. Area(s) of Significance: $\qquad$
D. National Register Criteria: $\qquad$
II. Assignment of Basic Points
A. Level of Significance
(local, regional, state, national) ..... $5 \quad 7 \quad 10$ ..... 15
B. Visual Prominence as a Landmark $\begin{array}{ccc}\text { non } & \text { somewhat } & \text { yes } \\ 0 & 1 & 2\end{array}$non somewhat yes very
C. Rarity of Bridge Type ..... $\begin{array}{lll}0 & 1 & 2\end{array}$ ..... 3
D. Rarity of Design Elements
(including unique or special features) $\begin{array}{lll}0 & 1 & 2\end{array}$ ..... 3
E. Technological Significance(first of its kind)$\begin{array}{llll}0 & 1 & 2 & 3\end{array}$
F. Integrity of Bridge
(Condition, Degree of Modifications) ..... $\begin{array}{llll}0 & 1 & 2 & 3\end{array}$ ..... 4
G. Contextual Integrity

| (1) | General Surroundings | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- |
| (2) | Immediate and associated |  |  | 2 |
|  | transportation resources | 0 | 1 | 2 |H. Historic Significance and Associative Value(including builder)$0 \quad 1 \quad 2$ - 34

Figure 18. Concrete Bridge National Register Eligibility Sheet.
Lee County (52)\# 6326: Deck-girder [102], ca. 1920, Rt. 814 crossing Hardy Creek. Rating: 13
Russell County (83)
\# 6270: Deck-girder [102], 1923, Rt. 758 crossing Little Cedar Creek. Rating: 11
\# 6273: Deck-girder [102], ca. 1923, Rt. 770 crossing Indian Creek. Rating: 12
Smyth County (86)
\# 1008: "Pioneer Memorial Bridge" T-beam [104], 1932, Rt. 11 crossing the middle fork of theHolston River. Rating: $\mathbf{1 6}$
\# 6242: Slab [101], 1910, Rt. 731 over Carlock Creek. Rating: 9
Tazewell County (92)
\# 6077: Slab [101], 1920, Rt. 747 crossing Laurel Fork Creek. Rating: 10
\# 6225: Slab [101], 1919, Rt. 747 crossing Laurel Fork Creek. Rating: 7
\# 6232: Deck-girder [102], ca. 1920-1923, Rt. 770 crossing Laurel Branch. Rating: 12
\# 6265: Deck girder [102], built 1923, Rt. 637 crossing Pounding Mill Brook. Rating: 11
Wise County (97)
\# 6128: Deck-girder [102], 1921, Rt. 633 crossing Indian Creek. Rating: 12
\# 6141: Slab [101], 1915, Rt. 613 crossing Beaverdam Creek. Rating: 7
Bristol (102)
\# 1804: Continuous rigid frame [207], 1918, Mary Street crossing the Norfolk Southern RR.
Rating: 20 [Eligible for National Register]
\# 8001: T-beam [104], 1930, Fairview Street crossing Beaver Creek. Rating: 10
\# 8010: Deck-girder [102], 1925, Oak Street crossing the Norfolk Southern RR. Rating: 13
\# 8015: T-beam [104], 1930, Mary Street crossing Beaver Creek. Rating: 10
\# 8027: T-beam [104], 1930, Elm Street crossing Beaver Creek. Rating: 9
Tazewell (158)
\# 8003: Deck-girder [102], ca. 1920-1923, Blenbolt Avenue crossing Sulfur Springs Branch.Rating: 11
Lebanon (252)
\# 6079: Deck-girder [102], ca. 1923, Rt. 1036 crossing Little Cedar Creek. Rating: 11
Salem District (2)

No bridges in Salem District were found individually eligible for the National Register. Ratings are:
Bedford County (9)
\# 6074: Deck girder [102], ca.1919-1920, Rt. 647 crossing Judith Creek. Rating: 12
Carroll County (17)
\# 6003: Slab bridge [101], 1937, Rt. 602 crossing Brush Creek. Rating: 13
Patrick County (70)
\# 6251: Deck-girder [102], ca. 1920, Rt. 765 crossing a tributary of the Mayo River. Rating: 13
Pulaski County (77)
\# 6180: Continuous slab bridge [201], 1932, Rt. 636 crossing Back Creek. Rating: 10
Roanoke County (80)
\# 6016: Girder-and-floorbeam [103], 1921, Rt. 612 crossing an unnamed stream. Rating: 14
Martinsville (120)
\# 1802: T-beam [104], 1934, Rt. 58 crossing the Norfolk \& Southern RR. Rating: 14
Town of Pulaski (125)
\# 1805: T-beam [104], 1933-34, Rt. 11 (Washington Avenue) crossing Peak Creek.
\# 8002: T-beam [104], 1933-34, Randolph Avenue crossing Peak Creek.
\# 8003: T-beam [104], 1933-34, Jefferson Avenue crossing Peak Creek
Rating: Not individually evaluated since all three bridges have been previously determined to be contributing structures to the surrounding historic district.
City of Salem (129)
\# 1805: Rigid frame [107], 1932 with 1948 reconstruction, Rt. 11 crossing Norfolk \& Southern RR. Rating: $\mathbf{1 7}$

## Lynchburg District (3)

Two bridges in Lynchburg District were found individually eligible for the National Register (Appomattox County Structure \# 1002 and Structure \# 1849 in the city of Lynchburg). Ratings are:
Appomattox County (6)
\# 1002: T-beam [104], 1930 with 1971 widening, Rt. 24 crossing the Appomattox River.
Rating: 21 [Eligible for the National Register]

Halifax County (41)
\# 6079: Rigid-frame [107], 1935, Rt. 684 crossing Birch Creek. Rating: 18
[NOTE: this bridge acchieved a rating of 18 due to a combination of its rigid frame technology and its stone veneer, which is rare in non-arched concrete bridges. However, the Historic Structures Task Group notes the presence of a number of similar stone-veneered bridges in the vicinity (a slab culvert and two arches, all apparently associated with the adjacent Carlbrook estate). While Structure \#6079 is unusual compared with other non-arched concrete bridges in Virginia, it is not unusual in comparison with the other Carlbrook bridges. Accordingly, the Task Group recommends that Structure \# 6079 not be considered individually eligible for the National Register, but rather recommends that further research should be done, with possible evaluation of the Carlbrook bridges as a group.]

Lynchburg (118)
\# 1849: Coded as a slab [101], 1908, Bedford Avenue crossing the Norfolk Southern RR.
Rating: 18 [Eligible for the National Register]

## Richmond District (4)

Four bridges in Richmond District were found individually eligible for the National Register. The Task Group evaluated Henrico Structure \# 1001. City of Petersburg Structures 1813 and 1912 and City of Richmond Structure \# 8066 were previously determined eligible. Ratings follow:

Charles City County (18)
\# 6004: Deck-girder [102] built in 1920, Rt. 609 crossing East Run. Rating: 12
Hanover County (42)
\# 6040: Coded as a slab [101] but a possible through-girder [103], 1919, Rt. 661 crossing Stony Run. Evaluated as a through-girder. Rating: 13
\# 6059: Girder-and-floorbeam [103], 1917, Rt. 686 crossing the South Anna River. Rating: 12
\# 6908: Girder-and-floorbeam [103], 1920, end of Rt. 623 and in the process of being abandoned. Rating: 10

Henrico County (43)
\# 1001: Continuous rigid-frame [207], 1938, Rt. 1 crossing Upham Brook. Rating: 19 [Eligible for the National Register]

Lunenburg County (55)
\# 6132: Slab [101], 1915, Rt. 638 crossing Stony Creek. Rating: 9

## Powhatan County (72)

\# 1009: Slab [101], 1920, Rt. 13 crossing Sallee Creek. Rating: 8

## City of Petersburg (123)

\# 1813: Continuous T-beam [204], 1925, access to \# 1912
\# 1912: Continuous T-beam [204], 1925, Rt. 1 crossing Appomattox River.
Rating: Both of these bridges were previously determined eligible.
City of Richmond (127)
\# 1850: Slab [101], 1913, Rt. 5 crossing the CSX RR. Rating: 10
\# 8066: Continuous girder [203], 1935, 1st Street crossing the CSX RR and Valley Road. Rating: Previously determined eligible.
\# 8067: Continuous beam [202], 1938, Water Street over a storm drain. Rating: 15

## Suffolk District (5)

No bridges in Suffolk District were found individually eligible for the National Register. Ratings are as follows:

## Chesapeake (131)

\# 1808: T-beam [104], 1948, Rt. 13 (Military Highway), crossing the Norfolk Southern RR and Rt. 460. Rating: 17

Greensville County (40)
\# 6030: Deck-girder [102], 1919, Rt. 688 crossing Falling Run. Rating: 13
Hampton (114)
\# 8006: Slab [101], 1929, Powhatan Parkway crossing Indian River. Rating: Not individually evaluated; previously determined to be a contributing structure to an historic district.

Norfolk (122)
\# 1843: "26th St. Bridge," continuous slab [201], 1939, 26th Street crossing Lafayette River. Rating: Not individually evaluated; this structure is being evaluated as part of a cultural resources survey.

## Southampton (87)

\# 1931: T-beam [104], 1936, Rt. 186 crossing the Meherrin River. Rating: 14
Sussex (91)
\# 6104: Deck girder [102], 1919, Rt. 681 crossing Harris Swamp. Rating: 9
\# 6122: Slab [101], ca. 1910-1915, Rt. 603 crossing Spring Mill Pond. Rating: 14 [Note: The Task Group recommended this structure as "not eligible" when evaluated as a bridge, as it is effectively part of a milldam; however, it might be eligible for the National Register for other reasons related to the adjacent mill or roadway.]

## Fredericksburg District (6)

No bridges in Fredericksburg District were found individually eligible for the National Register. Ratings are:

Caroline County (16)
\# 6017: Slab [101], 1914, Rt. 614 (Ware Creek Road), crossing Ware Creek. Rating: 9
Essex County (28)
\# 6018: Girder-and-floorbeam [103], 1923, Rt. 691 crossing Piscataway Creek. Rating: 13
Stafford County (89)
\# 6020: Continuous rigid frame [207], 1917, Rt. 630 crossing the R.F. \& P. RR. Rating: 15 \# 6075: Coded as a slab [101], ca. 1920-1923 , Rt. 607 under the R. F. \& P. RR and crossing Clayborn Run. Rating: 11

## Culpeper District (7)

One bridge in Culpeper District was found individually eligible for the National Register (Culpeper County Structure \# 6046, which was previously determined eligible). Ratings are:

## Albemarle County (2)

\# 1046: Rigid frame [107], 1936, Rt. 250 crossing Little Ivy Creek. Rating: 13

## Culpeper County (23)

\# 6010: Girder-and-floorbeam [103] with slab approach spans [101], 1915, Rt. 620 crossing Mountain Run. Rating: 15
\# 6046: Girder-and-floorbeam [103] with slab approach spans [101], 1913, Rt. 669 crossing Mountain Run. Rating: Not individually evaluated; previously determined eligible.

## Fauquier County (30)

\# 1033: Deck-girder [102], 1923, Rt. 215 crossing South Run. Rating: 13
\# 1065: Slab [101], 1925, Rt. F-185 crossing Goose Creek. Rating: 10
\# 6036: Continuous slab [201], 1928, Rt. 626 crossing Burnt Mill Branch. Rating: 11
\# 6053: Deck-girder [102], early 1920s, Rt. 647 crossing Thumb Run. Rating: 12
\# 6054: Deck-girder [102], 1923, Rt. 647 crossing Thumb Run. Rating: 13
\# 6232: Continuous slab [201], 1919, Rt. 776 crossing Little River. Rating: 9

Rappahannock County (78)
\# 6047: Deck-girder [102], 1920, Rt. 655 crossing Beaverdam Creek. Rating: 12

## Staunton District (8)

Two bridges in Staunton District were found individually eligible for the National Register (Augusta County Structure \# 6113 and Augusta County Structure \# 6553). Ratings are:

Alleghany County (3)
\# 6046: T-beam [104], 1932, Rt. 632 crossing Wilson Creek. Rating: 9
\# 6067: Continuous frame [207], 1925, Rt. 696 crossing the CSX railroad. Rating: Not evaluated; the bridge is part of a current project.

Augusta County (7)
\# 1182: Slab [101], 1920, Rt. 252 crossing Moffats Creek. Rating: 11
\# 6104: Slab [101], 1919, Rt. 705 crossing Middle River. Rating: 10
\# 6106: Slab [101], 1920, Rt. 707 crossing Middle River. Rating: 11
\# 6113: Girder-and-floorbeam [103], 1909, Rt. 722 crossing Whiskey Creek. Rating: 21
[Eligible for the National Register]
\# 6283: Slab [101], 1935, Rt. 613 crossing a tributary of Long Glade Creek. Rating: 8
\# 6339: Slab [101], 1925, Rt. 732 crossing a tributary of Middle River. Rating: 10
\# 6553: Deck girder [102], 1925, Rt. 1205 crossing South River. Rating: 19 [Eligible for the
National Register]
Frederick County (34)
\# 6049: Deck girder [102], 1918, Rt. 723 crossing Buffalo Lick Run. Rating: 13
\# 6904: Deck girder [102], 1918, Rt. 723 crossing Opequon Creek. Rating: 14
Page County (69)
\# 6030: Girder and floorbeam [103], 1915, Rt. 642 crossing Mill Creek. Rating: 15
\# 6037: Deck girder [102], 1919, Rt. 662 crossing Jeremiah Run. Rating: 11
Rockbridge County (81)
\# 6106: Slab [101], 1928, Rt. 646 crossing Collier's Creek. Rating: 9
\# 6513: Lowwater slab [101], pre-1932, at intersection of Rts. 674 and 753, crossing Buffalo
Creek. Rating: 10
Rockingham County (82)
\# 6584: Rigid frame [107], 1934 (rebuilt in 1941), Rt. 996 crossing Stony Run. Rating: 17

## Shenandoah County (85)

\# 6011: Lowwater slab [101], pre-1932, Rt. 609 crossing the North Fork of the Shenandoah River. Rating: 10
\# 6043: Lowwater [mostly 101], 1922, Rt. 663 crossing the North Fork of the Shenandoah River. Rating: 8
\# 6092: Lowwater slab [101], pre-1932, Rt. 744 crossing the North Fork of the Shenandoah River. Rating: 9
\# 6113: Lowwater slab [101], 1916, Rt. 758 crossing Passage Creek. Rating: 8
\# 6368: Slab [101], 1934, Rt. 678 crossing Dry Run. Rating: 14
Warren County (93)
\# 6007: Deck girder [102], 1918, Rt. 613 crossing Gooney Creek. Rating: 15
\# 6011: Lowwater slab [101], 1923, Rt. 613 crossing the South Fork of the Shenandoah River. Rating: 10
\# 6017: Girder and floorbeam [103], 1918, Rt. 622 crossing Gooney Creek. Not rated: the bridge is part of a current project and was previously determined not eligible.
\# 6019: Lowwater slab [101], 1925, Rt. 624 crossing the Shenandoah River. Rating: 9
City of Clifton Forge (105)
\# 8006: T-beam [104], 1928, Lowell Street crossing Smith Creek. Rating: 10
City of Staunton (132)
\# 8002: Deck girder [102], 1912, entrance to the municipal sewage treatment plant, crossing Lewis Creek. Rating: 17

## NOVA District (A)

One bridge in NOVA District was found individually eligible for the National Register (Arlington County Structure \# 5020). Ratings are:

## Arlington County (0)

\# 5020: Rigid frame [107], 1945, Memorial Avenue, crossing Rt. 110, adjoining Arlington
National Cemetery. Rating: 23
\# 5069: Rigid frame [107], 1941, Smith Boulevard crossing Abingdon Drive. Rating: 13
Fairfax County (29)
\# 6332: Slab [101], 1920, Rt. 3546 (Twin Lakes Drives) crossing Johnny Moore Creek. Rating: 10

Loudoun County (53)
\# 6002: Slab [101], 1914, Rt. 607 crossing Beaverdam Run. Rating: 11
\# 6020: Deck-girder [102], 1919, Rt. 719 crossing Jefferies Branch. Rating: 15
\# 6032: Girder-and-floorbeam [103], 1911, Rt. 629 crossing Little River. Rating: 16

## FINAL LIST:

NON-ARCHED CONCRETE BRIDGES ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

City of Bristol Structure \# 1804
Appomattox County Structure \# 1002

City of Lynchburg Structure \# 1849 (Figure 16)
Henrico County Structure \# 1001
City of Petersburg Structure \# 1813
City of Petersburg Structure \# 1912
City of Richmond Structure \# 8066

## Culpeper County Structure \# 6046

Augusta County Structure \# 6113 (Figure 17)
Augusta County Structure \# 6553
Arlington County Structure \# 5020
Note: Although Halifax County Structure \# 6079 acchieved a rating of 18 due to a combination of its rigid frame technology and its stone veneer (which is rare in non-arched concrete bridges), the Historic Structures Task Group notes the presence of three similar stoneveneered bridges in the vicinity (a slab culvert and two arches ), all apparently associated with the adjacent Carlbrook estate. While Structure \# 6079 is unusual compared with other nonarched concrete bridges in Virginia, it is not unusual in comparison with the other Carlbrook bridges. Accordingly, the Task Group recommends that Structure \# 6079 not be considered individually eligible for the National Register, but rather recommends that further research should be done, with possible evaluation of the Carlbrook bridges as a group.

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APPENDIX

## KEY TO TABULATIONS

## Span Types:

$101=$ Concrete slab
$102=$ Concrete stringer, multibeam or girder
$103=$ Concrete girder and floorbeam
$104=$ Concrete T-beam
$107=$ Concrete rigid frame
201 = Concrete continuous slab
$202=$ Concrete continuous beam
$203=$ Concrete continuous girder-and-floorbeam
204 = Concrete continuous T-beam
$207=$ Concrete continuous rigid frame
Condition:
$G=$ Good
F = Fair
$\mathrm{P}=\mathrm{Poor}$
A = Altered
$\mathrm{RK}=$ Portions of bridge were replaced in kind (e.g. original elements were replicated using the original kind of material)
$\mathrm{RB}=\mathrm{Near} /$ Total Rebuilding


|  | Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | District | County | Bridge \# | Route \#/Street | Raill Type | Date | Cond. | Span Type | Spans | Total Len | Slgn | Historical Rating |
|  | ${ }^{1}$-BRISTOL | 038-GRAYSON | 1006 | 21 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 038-GRAYSON | 1011 | 58 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 038-GRAYSON | 1014 | 58 | CORK | 1932 | G | 104 | 3 | 113 | B |  |
|  | 1-BRISTOL | 038-GRAYSON | 1015 | 16 | CORK | 1934 | FRK | 104 | 2 | 87 | B |  |
|  | 1-BRISTOL | 038-GRAYSON | 1026 | 16 | CORK | 1934 | P | 101 | 1 | 23 | C |  |
|  | 1-BRISTOL | 038-GRAYSON | 1034 | 701 | CORK | 1927 | F/RK | 104 | 1 | 48 | B |  |
|  | 1-BRISTOL | 038-GRAYSON | 1037 | 58 | SINGLE | 1949 | G | 104 | 2 | 87 | в |  |
|  | 1-BRISTOL | 038-GRAYSON | 1039 | 89 | SINGLE | 1943 | G | 104 | 1 | 43 | в |  |
|  | 1-BRISTOL | 038-GRAYSON | 1049 | 21 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 038-GRAYSON | 1057 | 21 | CORK | 1927 | P | 101 | 1 | 23 | C |  |
|  | 1-BRISTOL | 038-GRAYSON | 1058 | 21 | CORK | 1927 | P | 101 | 1 | 23 | C |  |
|  | 1-BRISTOL | 038-GRAYSON | 1069 | 274 | CORK | 1930 | G/RK | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 038-GRAYSON | 6246 | 658 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 052-LEE | 1007 | 880 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 052-LEE | 1011 | 58 | CORK | 1930 | F/RK | 104 | 1 | 33 | B |  |
| $\infty$ | 1-BRISTOL | 052-LEE | 1014 | 58 | CORK | 1931 | F | 104 | 3 | 84 | B |  |
|  | 1-BRISTOL | 052-LEE | 1015 | 58 | CORK | 1934 | F | 104 | 4 | 132 | B |  |
|  | 1-BRISTOL | 052-LEE | 1016 | 58 | CORK | 1934 | F | 10.4 | 2 | 66 | B |  |
|  | 1-BRISTOL | 052-LEE | 1021 | 421 | CORK | 1932 | F | 104 | 1 | 38 | B |  |
|  | 1-BRISTOL | 052-LEE | 1023 | 421 | CORK | 1935/1988 | G/RK | 104 | 2 | 56 | B |  |
|  | 1-BRISTOL | 052-LEE | 1024 | 421 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 052-LEE | 1057 | 58 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 052-LEE | 1058 | 58 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 052-LEE | 1059 | 58 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 052-LEE | 1060 | 58 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 052-LEE | 1062 | ALT 58 | CORK | 1932 | F | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 052-LEE | 1068 | 352 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 052-LEE | 1084 | 58 | CORK | 1932 | F | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 052-LEE | 1087 | 58 | CORK | 1932 | FRRK | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 052-LEE | 1089 | 58 | CORK | 1932 | F/RK | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 052-LEE | 1108 | 421 | CORK | 1932 | G/RK | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 052-LEE | 6041 | 645 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 052-LEE | 6078 | 729 | LOW CURB | 1932 | G | 101 | 1 | 22 | B |  |


|  | Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spams | Total Len | Sign | Historical Rating |
|  | 1-BRISTOL | 052-LEE | 6305 | 744 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 052-LEE | 6326 | 814 | SOLD | C. 1920 | G | 102 | 2 | 48 | A | 13 |
|  | 1-BRISTOL | 052-LEE | 6365 | 612 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 052-LEE | 6459 | 647 | SOLD | 19327 | F | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 083-RUSSELL | 1003 | 19 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELL | 1014 | 63 | SINGLE | 1942 | G | 104 | 1 | 45 | B |  |
|  | 1-BRISTOL | 083-RUSSELL | 1018 | 63 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELL | 1037 | 80 | total rb |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELL | 1041 | 58 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 083-RUSSELL | 1042 | 58 | SINGLE | 1947/1992 | RK | 104 | 3 | 144 | B |  |
|  | 1-BRISTOL | 083-RUSSELL | 1043 | 80 | SINGLE | 1948 | P | 104 | 2 | 87 | B |  |
|  | 1-BRISTOL | 083-RUSSELL | 1072 | 71 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELL | 1073 | 71 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 083-RUSSELL | 1074 | 71 | TOTAL RB |  |  |  |  |  | C |  |
| 0 | 1-BRISTOL | 083-RUSSELL | 1075 | 71 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 083-RUSSELL | 1097 | 80 | total rb |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELI | 6001 | 841 | CORK | 1938 | G/RK | 104 | 1 | 28 | B |  |
|  | 1-BRISTOL | 083-RUSSELL | 6122 | 608 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELL | 6226 | 658 | CORK | 1935 | G | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 083-RUSSELL | 6270 | 758 | SOLD | 1923 | F | 102 | 2 | 57 | A | 11 |
|  | 1-BRISTOL | 083-RUSSELL | 6273 | 770 | SOLD | C. 1923 | G | 102 | 3 | 113 | A | 12 |
|  | 1-BRISTOL | 083-RUSSELL | 6274 | 770 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 083-RUSSELL | 6319 | 616 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 084-SCOTT | 1004 | 58 | total rb |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 084-SCOTT | 1005 | 58 | CORK | 1930 | F | 104 | 1 | 44 | B |  |
|  | 1-BRISTOL | 084-SCOTT | 1006 | 58 | CORK | 1930 | G | 104 | 1 | 44 | B |  |
|  | 1-BRISTOL | 084-SCOTT | 1009 | 58 | CORK | 1930 | F | 104 | 1 | 43 | B |  |
|  | 1-BRISTOL | 084-SCOTT | 1016 | 23 | total rb |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 084-SCOTT | 1061 | 23 | NEAR-TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 084-SCOTT | 1064 | 58 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 084-SCOTT | 1089 | 659 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 084-SCOTT | 1100 | 71 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 084-SCOTT | 6057 | 637 | LOWWATER | 1932 | F | 101 | 2 | 34 | B |  |


|  | Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | District | County | Bridge \# | Route \#/Street | Rail Type | Date | Cond. | Span Type | Spans | Total Len. | Slgn. | Historical Ratling |
|  | 1-BRISTOL | 084-SCOTT | 6366 | 619 | CORK | 1933 | G | 104 | 2 | 56 | B |  |
|  | 1-BRISTOL | 084-SCOTT | 6401 | 649 | total RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 084-SCOTT | 6600 | 871 | CORK | 1932 | P | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1001 | 11 | CORK | 1936/1987 | G | 104 | 2 | 66 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1002 | 11 | CORK | 1936/1985 | F | 104 | 5 | 170 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1004 | 11 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 086-SMYTH | 1008 | 11 | VERTICAL | 1932/1986 | G | 104 | 4 | 196 | A | 16 |
|  | 1-BRISTOL | 086-SMYTH | 1009 | 11 | CORK | 1931/1985 | G | 104 | 5 | 175 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1011 | 11 | CORK | 1930/1985 | G | 104 | 5 | 232 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1019 | 16 | CORK | 1933 | F/RK | 104 | 1 | 43 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1020 | 16 | CORK | 1933 | F | 104 | 1 | 44 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1021 | 16 | CORK | 1933 | F | 104 | 1 | 48 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1022 | 16 | CORK | 1933 | G | 104 | 1 | 38 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1030 | 11 | CORK | 1932 | F | 101 | 1 | 22 | B |  |
| 0 | 1-BRISTOL | 086-SMYTH | 1031 | 11 | CORK | 1932 | G | 101 | 1 | 22 | B |  |
| 0 | 1-BRISTOL | 086-SMYTH | 1037 | 42 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 086 -SMYTH | 1046 | 16 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 086-SMYTH | 1061 | 42 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-Bristol | 086-SMYTH | 1078 | 16 | CURB/GUARDRAIL | 1932 | G | 101 | 1 | 23 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 1901 | 11 | CORK | 1932 | P | 101 | 1 | 22 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 6015 | 603 | CURB/GUARDRAILS | 1932 | F | 101 | 1 | 26 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 6046 | 637 | sold | 1932/1988 | F/RK | 101 | 1 | 22 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 6069 | 659 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 086-SMYTH | 6076 | 670 | Total rb |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 086-SMYTH | 6096 | 695 | TOTAL RB |  |  |  |  |  | c |  |
|  | 1-BRISTOL | 086-SMYTH | 6108 | 670 | GUARDRALL | 1931 | G | 101 | 3 | 56 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 6197 | 631 | LOWWATER | 1932 | G | 101 | 1 | 69 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 6242 | 731 | SOLD | 1910 | F | 101 | 2 | 30 | A | 9 |
|  | 1-BRISTOL | 086-SMYTH | 6252 | 670 | NEAR-TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 086-SMYTH | 6272 | 689 | total rb |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 086-SMYTH | 6344 | 600 | CURB | 1932 | G | 101 | 1 | 22 | B |  |
|  | 1-BRISTOL | 086-SMYTH | 6352 | 610 | TOTAL RB |  |  |  |  |  | C |  |
|  | 1-BRISTOL | 086-SMYTH | 6366 | 659 | CURB | 1932 | G | 101 | 1 | 20 | B |  |









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Inventory of Pre-1950 Non-Arched Concrete Bridges


GOODSON STREET
MARY STREET
PIEDMONT STREET
11
FAIRVIEW STREET
RANDAL STREET
OAK STREET
MARY STREET

MOORE STREET
LEE STREET
WASHINGTON STREET




| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| District | County | Bridge \# | Route \#/Street | Rail Type | Date | Cond. | Span Type | Spans | Total Len. | Slgn. | Historical Rating |
| 1-BRISTOL | 102-BRISTOL | 8022 | VIRGINIA STREET | PIPE | 1932 | P | 104 | 1 | 45 | C |  |
| 1-BRISTOL | 102-BRISTOL | 8025 | MoCHESNEY STREET ? | PIPE | 1932 | G/A | 101 | 1 | 48 | B |  |
| 1-BRISTOL | 102-BRISTOL | 8027 | ELM STREET | CONCRETE/PIPE | 1930 | A | 104 | 1 | 52 | A | 9 |
| 1-BRISTOL | 119-MARION | 1800 | 11 | VERTICALNJB | 1941/1985 | F/A | 107/104 | 1 | 94 | B |  |
| 1-BRISTOL | 119-MARION | 1801 | 11 | NONE | 1935 | G | 104 | 1 | 45 | B |  |
| 1-BRISTOL | 119-MARION | 1802 | 16 | VERTICAL/METAL | 1941/1971 | G | 104 | 1 | 33 | B |  |
| 1-BRISTOL | 119-MARION | 8000 | BAUGHMANAVE | TOTAL RB |  |  |  |  |  | c |  |
| 1-BRISTOL | 119-MARION | 8002 | SHANNON HILL RD | Total rb |  |  |  |  |  | c |  |
| 1-BRISTOL | 119-MARION | 8006 | LEE ST | PIPE/GUARDRAIL | 1932 | F | 101 | 1 | 28 | B |  |
| 1-BRISTOL | 140-ABINGDON | 1004 | 11 | CORK | 1935/1987 | G | 104 | 5 | 188 | B |  |
| 1-BRISTOL | 140-ABINGDON | 1050 | 19 | TOTAL RB |  |  |  |  |  | C |  |
| 1-BRISTOL | 140-ABINGDON | 8000 | "A" STREET | guardrails | 1932 | F | 101 | 1 | 22 | B |  |
| 1-BRISTOL | 143-BLUEFIELD | 1801 | 19 | TOTAL RB |  |  |  |  |  | c |  |
| 1-BRISTOL | 146-NORTON | 8000 | mand ave | SOLD | 1932 | F | 101 | 1 | 23 | B |  |
| I-BRISTOL | 148-RICHLANDS | 1800 | 67 | TOTAL RB |  |  |  |  |  | C |  |
| 1-BRISTOL | 158-TAZEWELL | 1800 | 16 | CORK | 1928/1963 | P/RK | 104 | 2 | 65 | c |  |
| 1-BRISTOL | 158-TAZEWELL | 1804 | 19 BUS. | CORK | 1937 | P | 104 | 2 | 65 | c |  |
| 1-BRISTOL | 158-TAZEWELL | 1807 | 61 | TOTAL RB |  |  |  |  |  | C |  |
| 1-BRISTOL. | 158-TAZEWELL | 1808 | 51 | TOTAL RB |  |  |  |  |  | c |  |
| 1-BRISTOL | 158-TAZEWELL | 8001 | PISGAH ROAD | PIPE | 1932 | P/RK | 101 | 1 | 32 | C |  |
| 1-BRISTOL | 158-TAZEWELL | 8003 | benbolt avenue | SOLD | c. 1925 | F | 102 | 1 | 34 | A | 11 |
| 1-BRISTOL | 252-LEbANON | 1004 | 19 | CORK | 1936 | G | 104 | 4 | 150 | B |  |
| 1-BRISTOL | 252-LEBANON | 1006 | 19 | TOTAL RB |  |  |  |  |  | C |  |
| 1-BRISTOL | 252-LEBANON | 6079 | 1036 | SOLD | 1923 | F | 102 | 2 | 66 | A | 11 |
| 1-BRISTOL | 252-LEBANON | 6178 | 841 | CORK | 1925/1939 | F/ARK | 104 | 1 | 40 | B |  |
| 2-SALEM | 009 -BEDFORD | 1003 | 24 | CORK | 1940 | F | 104 | 2 | 75 | B |  |
| 2-SALEM | 009-BEDFORD | 1005 | 24 | CORK | 1939 | F | 104 | 3 | 84 | B |  |
| 2-SALEM | $009-$ BEDFORD | 1013 | 122 | CORK | 1939 | F | 104 | 2 | 65 | B |  |
| 2-SALEM | 009-BEDFORD | 1014 | 122 | CORK | 1938 | F | 104 | 2 | 96 | B |  |
| 2-SALEM | 009 -BEDFORD | 1016 | 122 | CORK | 1937 | F | 104 | 3 | 98 | B |  |
| 2-SALEM | 009-BEDFORD | 1020 | 221 | TOTAL RB |  |  |  |  |  | C |  |
| 2-SALEM | 009-BEDFORD | 1024 | 221 | CORK | 1928/1957 | G | 104 | 3 | 113 | B |  |
| 2-SALEM | 009 -BEDFORD | 1029 | 501 | CORK | 1926 | G | 104 | 4 | 125 | B |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Sign | Historical Rating |
| 2-SALEM | $009-$ BEDFORD | 1030 | 501 | CORK | 1931 | G | 104 | 1 | 43 | B |  |
| 2-SALEM | 009-BEDFORD | 1035 | 460 | SINGLE | 1948 | F | 104 | 3 | 128 | B |  |
| 2-SALEM | 009-BEDFORD | 1038 | 24 | SINGLE | 1949 | G | 104 | 3 | 113 | B |  |
| 2-SALEM | 009-BEDFORD | 6060 | 643 | CORK | 1932 | F | 101 | 3 | 42 | B |  |
| 2-SALEM | 009-BEDFORD | 6069 | 644 | LOWWATER | 1932 | P | 101 | 7 | 72 | C |  |
| 2-SALEM | 009-BEDFORD | 6074 | 647 | SOLD | 1920 ? | G | 102 | 1 | 35 | A | 12 |
| 2-SALEM | 009-BEDFORD | 6107 | 691 | LOWWATER | 1932 | F | 101 | 3 | 67 | B |  |
| 2-SALEM | 009-BEDFORD | 6295 | 840 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
| 2-SALEM | 011-BOTETOURT | 1001 | F-55 | CORK | 1931 | G | 104 | 1 | 43 | B |  |
| 2-SALEM | 011-BOTETOURT | 1002 | F-54 | CORK | 1930 | G | 104 | 1 | 43 | B |  |
| 2-SALEM | 011-BOTETOURT | 1005 | 11 | CORK | 1925/1938 | P | 101 | 1 | 23 | C |  |
| 2-SALEM | 011-BOTETOURT | 1006 | 11 | CORK | 1925/1938 | P | 201 | 2 | 44 | c |  |
| 2-SALEM | 011-BOTETOURT | 1007 | 11 | CORK | 1923/1938 | P | 104 | 1 | 33 | c |  |
| 2-SALEM | 011-BOTETOURT | 1010 | 11 | CORK | 1924/1938 | P/RK | 104 | 1 |  | c |  |
| 2-SALEM | 011-BOTETOURT | 1011 | 11 | CORK | 1923/1938 | P | 101 | 3 | 62 | C |  |
| 2-SALEM | 011-BOTETOURT | 1012 | 11 | CORK | 1923/1974 | P/RK | 104 | 3 | 83 | c |  |
| 2-SALEM | 011-BOTETOURT | 1028 | 221 | TOTAL RB |  |  |  |  |  | C |  |
| 2-SALEM | 011-BOTETOURT | 1030 | 11 | CORK | 1932 | P | 101 | 1 | 23 | C |  |
| 2-SALEM | 011-BOTETOURT | 1032 | 11 | TOTAL RB |  |  |  |  |  | c |  |
| 2-SALEM | 011-BOTETOURT | 1035 | 11 | CORK | 1932 | P | 101 | 1 | 23 | C |  |
| 2-SALEM | 011-BOTETOURT | 1036 | 11 | CORK | 1932 | F | 101 | 1 | 23 | B |  |
| 2-SALEM | 011-BOTETOURT | 1072 | 220 | CORK | 1932 | F/RK | 101 | 1 | 22 | B |  |
| 2-SALEM | 011-BOTETOURT | 1099 | 221 | CORK | 1932 | G | 101 | 1 | 22 | B |  |
| 2-SALEM | 011-BOTETOURT | 1105 | 11 | CORK | 1932/1934 | G | 101 | 1 | 20 | B |  |
| 2-SALEM | 011-BOTETOURT | 1106 | 11 | total rb |  |  |  |  |  | C |  |
| 2-SALEM | 011-BOTETOURT | 6141 | 738 | CORK | 1921/1969 | G | 101 | 3 | 62 | B |  |
| 2-SALEM | 011-BOTETOURT | 6206 | 640 | LOW SOLD | 1932 | P/RK | 101 | 1 | 21 | B |  |
| 2-SALEM | 011-BOTETOURT | 6274 | 630 | VERTICAL | 1932 | G | 101 | 1 | 21 | B |  |
| 2-SALEM | 011-BOTETOURT | 6323 | 655 | LOW SOLD | 1932 | F | 101 | 1 | 22 | B |  |
| 2-SALEM | 017-CARROLL | 1006 | 58 | CORK | 1915/1939 | F | 104 | 3 | 120 | B |  |
| 2-SALEM | 017-CARROLL | 1007 | 58 | TOTAL RB |  |  |  |  |  | C |  |
| 2-SALEM | 017-CARROLL | 1010 | 94 | CORK | 1938 | G | 104 | 3 | 113 | B |  |
| 2-SALEM | 017-CARROLL | 1012 | 100 | SINGLE | 1942 | G | 104 | 1 | 48 | B |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Slgn | Historical Ratug |
| 2-SALEM | 017-CARROLL | 1013 | 100 | VERTCAL | 1947 | G | 101 | 2 | 45 | в |  |
| 2 -SALEM | 017-CARROLL | 1018 | 52 | total rb |  |  |  |  |  | c |  |
| 2-SALEM | $017-\mathrm{CARROLL}$ | 1019 | 52 | Total Rb |  |  |  |  |  | c |  |
| 2 -SALEM | 017-CARROLL | 1032 | 52 | total rb |  |  |  |  |  | c |  |
| 2 -SALEM | 017-CARROLL | 1037 | 58 | total rb |  |  |  |  |  | c |  |
| 2 -SALem | 017-CARROLL | 1058 | 221 | total rb |  |  |  |  |  | c |  |
| 2-SALEM | 017 -CARROLL | 6003 | 602 | CORK | 1937 | G | 101 | 1 | 26 | A | 13 |
| 2 -SALEM | 017-CARROLL | 6014 | 620 | single | 1948 | G | 104 | 1 | 44 | в |  |
| 2 -SALEM | 017-CARROLL | 6193 | 872 | CORK | 1925 | F | 104 | 1 | 33 | в |  |
| 2 -SALEM | 017-CARROLL | 6263 | 887 | SINGLE | 1941 | G | 104 | 1 | 43 | в |  |
| 2 -SALEM | 022 -craig | 1004 | 42 | CORK | 1939 | G | 104 | 1 | 43 | в |  |
| 2 -SALEM | 022-craig | 1005 | 42 | single | 1949 | G | 104 | 1 | 44 | в |  |
| 2 -SALEM | 022 -craig | 1011 | 311 | cork | 1927 | G | 101 | 2 | 45 | в |  |
| 2 -SALEM | 022 -craig | 1026 | 42 | CORK | 1945 | F | 101 | 1 | 23 | в |  |
| 2-SALEM | 022 -CRAIG | 1030 | 42 | cork | 1949 | F | 101 | 1 | 22 | в |  |
| 2 -SALEM | 022 -cralg | 1031 | 42 | Cork | 1942/1954 | G | 101 | 1 | 23 | B |  |
| 2 -Salem | 022 -Craig | 1033 | 311 | total rb |  |  |  |  |  | c |  |
| 2-SALEM | $022-\mathrm{CRAGG}$ | 1036 | 311 | CORK | 1934 | F | 101 | 1 | 22 | в |  |
| 2 -SALEM | 022 -craig | 6046 | ${ }_{615}$ | single | 1948 | G | 104 | 1 | 34 | B |  |
| 2-SALEM | 031-FLOYD | 1001 | 8 | CORK | 1936 | G | 104 | 2 | 65 | в |  |
| 2-SALEM | 031-FLOYD | 1015 | 221 | CORK | 1938 | G | 104 | 1 | 28 | B |  |
| 2-SALEM | 031-FLOYD | 1016 | 221 | CORK | 1941 | G | 104 | 1 | 41 | в |  |
| 2-SALEM | 031-FLOYD | 1017 | 221 | Cork | 1939 | G | 104 | 2 | 96 | B |  |
| 2 -SALEM | 031-FLOYD | 1018 | 221 | CORK | 1938 | G | 104 | 1 | 43 | в |  |
| 2-SALEM | 031-FLOYD | 1019 | 221 | CORK | 1938 | F | 104 | 3 | 98 | в |  |
| 2-SALEM | 031-FLOYD | 1020 | 221 | total rb |  |  |  |  |  | c |  |
| 2-SALEM | 031-FLOYD | 1021 | 221 | CORK | 1938 | G | 104 | 3 | 113 | B |  |
| 2-SALEM | 031-FLOYD | 1023 | 221 | cork | 1936 | G | 104 | 3 | 128 | B |  |
| 2 -SALEM | 031-FLOYD | 1024 | 221 | cork | 1936 | G | 104 | 1 | 33 | в |  |
| 2 -SALEM | 031-FLOYD | 1025 | 221 | CORK | 1936 | G | 104 | 2 | 65 | B |  |
| 2 -SALEM | 031-FLOYD | 1026 | 221 | CORK | 1936 | G | 104 | 3 | 113 | в |  |
| 2-SALEM | 031-FLOYD | 1027 | 221 | Cork | 1935 | F | 104 | 1 | 43 | B |  |
| 2 -SAIEM | 031-FLOYD | 1030 | 8 | TOTAL RB |  |  |  |  |  | c |  |

Historical Rattug怘
Inventory of Pre-1950 Non-Arched Concrete Bridges





|  | Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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|  | District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Sign | Historical Rating |
|  | 2-SALEM | 044-HENRY | 1027 | 220 | TOTAL RB |  |  |  |  |  | c |  |
|  | 2-SALEM | 044-HENRY | 6094 | 754 | TOTAL RB |  |  |  |  |  | c |  |
|  | 2-SALEM | 060-MONTGOMERY | 1006 | 11 | CORK | 1926 | G/RK | 104 | 3 | 144 | B |  |
|  | 2-SALEM | 060-MONTGOMERY | 1008 | 11 | SINGLE | 1925/1943 | F | 104 | 2 | 45 | B |  |
|  | 2-SALEM | 060-MONTGOMERY | 1018 | 114 | SIngle | 1942 | G | 104 | 4 | 181 | B |  |
|  | 2-SALEM | 060-MONTGOMERY | 1036 | 11 | TOTAL RB |  |  |  |  |  | c |  |
|  | 2-SALEM | 060-MONTGOMERY | 1039 | 11 | Total Rb |  |  |  |  |  | C |  |
|  | 2-SALEM | 060-MONTGOMERY | 1041 | 11 | TOTAL RB |  |  |  |  |  | c |  |
|  | 2-SALEM | 060-MONTGOMERY | 6011 | 604 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
|  | 2-SALEM | 060-MONTGOMERY | 6012 | 604 | CORK | 1932 | F | 101 | 1 | 23 | B |  |
|  | 2-SALEM | 060-MONTGOMERY | 6023 | 615 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | O60-MONTGOMERY | 6141 | 745 | CORK | 1926 | G | 101 | 2 | 45 | B |  |
|  | 2-SALEM | 060-MONTGOMERY | 6236 | 15 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 060-MONTGOMERY | 6314 | 777 | CORK | 1932 | F/RK | 101 | 1 | 22 | B |  |
| 9 | 2-SALEM | 070-PATRICK | 1001 | 8 | SINGLE | 1941 | G | 104 | 3 | 113 | B |  |
| $\infty$ | 2-SALEM | 070-PATRICK | 1002 | 8 | CORK | 1932 | GRK | 104 | 1 | 33 | B |  |
|  | 2-SALEM | 070-PATRICK | 1003 | 8 | CORK | 1932 | G | 104 | 2 | 67 | B |  |
|  | 2-SALEM | 070-PATRICK | 1004 | 8 | CORK | 1932 | G | 104 | 2 | 65 | B |  |
|  | 2-SALEM | 070-PATRICK | 1005 | 8 | CORK | 1932 | G | 104 | 1 | 33 | B |  |
|  | 2-SALEM | 070-PATRICK | 1014 | 8 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 070-PATRICK | 1016 | 58 | CORK | 1928 | G | 104 | 1 | 38 | B |  |
|  | 2-SAIEM | 070-PATRICK | 1017 | 58 | CORK | 1928 | F | 104 | 1 | 38 | B |  |
|  | 2-SALEM | 070-PATRICK | 1020 | 58 | CORK | 1928 | G | 104 | 3 | 98 | B |  |
|  | 2-SALEM | 070-PATRICK | 1022 | 103 | CORK | 1941 | G | 104 | 2 | 65 | B |  |
|  | 2-SALEM | 070-PATRICK | 1025 | 103 | CORK | 1939 | G/RK | 104 | 2 | 65 | B |  |
|  | 2-SALEM | 070-PATRICK | 1026 | 103 | CORK | 1939 | G | 104 | 3 | 98 | B |  |
|  | 2-SALEM | 070-PATRICK | 1027 | 103 | SINGLE | 1940 | F | 104 | 4 | 153 | B |  |
|  | 2-SALEM | 070-PATRICK | 1037 | 40 | SINGLE | 1947 | G | 104 | 3 | 102 | B |  |
|  | 2-SALEM | 070-PATRICK | 1042 | 40 | SINGLE | 1948 | G | 104 | 1 | 56 | B |  |
|  | 2-SALEM | 070-PATRICK | 1058 | 103 | CORK | 1939 | G | 101 | 1 | 22 | B |  |
|  | 2-SALEM | 070-PATRICK | 1061 | 103 | CORK | 1939 | G | 101 | 1 | 22 | B |  |
|  | 2-SAIEM | 070-PATRICK | 1066 | 103 | CORK | 1940 | G | 101 | 1 | 21 | B |  |
|  | 2-SALEM | 070-PATRICK | 1082 | 58 | CORK | 1926 | F | 101 | 1 | 23 | B |  |


|  | Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | District | County | Bridge \# | Route \#/Sreet | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Slgn | Historical Rating |
|  | 2-SALEM | 070-PATRICK | 1083 | 58 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 070-PATRICK | 1085 | 58 | CORK | 1926 | F | 101 | 1 | 23 | B |  |
|  | 2-SALEM | 070-PATRICK | 6028 | 626 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 070-PATRICK | 6144 | 773 | SINGLE | 1948 | G/RK | 104 | 3 | 131 | B |  |
|  | 2-SALEM | 070-PATRICK | 6148 | 773 | SINGLE | 1948 | G | 104 | 2 | 65 | B |  |
|  | 2-SALEM | 070-PATRICK | 6251 | 765 | SOLD | c. 1920 | G | 102 | 3 | 98 | A | 13 |
|  | 2-SALEM | 070-PATRICK | 6308 | 832 | CORK | 1924 | G | 104 | 3 | 98 | B |  |
|  | 2-SALEM | 077-PULASKI | 1002 | 11 | TOTAL RB |  |  |  |  |  | c |  |
|  | 2-SALEM | 077-PULASKI | 1007 | 11 | total rb |  |  |  |  |  | C |  |
|  | 2-SALEM | 077-PULASKI | 1013 | F-047 | CORK | 1939/1955 | F/RK | 104 | 5 | 213 | B |  |
|  | 2-SALEM | 077-PULASKI | 1015 | 100 | CORK | 1936 | P | 104 | 3 | 128 | B |  |
|  | 2-SALEM | 077-PULASKI | 1017 | F-047 | SOLD | 1924 | G | 201 | 2 | 32 | B |  |
|  | 2-SALEM | 077-PULASKI | 1026 | 100 | CORK | 1940 | F | 101 | 1 | 23 | B |  |
|  | 2-SALEM | 077-PULASKI | 1027 | 100 | CORK | 1940 | F | 101 | 1 | 23 | B |  |
| 0 | 2-SALEM | 077-PULASKI | 6013 | 617 | LOW SOLD | 1932 | G | 101 | 1 | 22 | B |  |
|  | 2-SALEM | 077-PULASKI | 6023 | 1109 | CURB | 1932 | G | 101 | 1 | 22 | B |  |
|  | 2-SALEM | 077-PULASKI | 6058 | 747 | CORK | 1934 | G | 104 | 3 | 97 | B |  |
|  | 2-SALEM | 077-PULASKI | 6158 | 752 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 077-PULASKI | 6180 | 736 | CORK | 1932 | G | 201 | 3 | 34 | A | 10 |
|  | 2-SALEM | 077-PULASKI | 6188 | 607 | total rb |  |  |  |  |  | C |  |
|  | 2-SALEM | 080-ROANOKE | 1001 | 11 | VERTICAL | 1947 | G | 104 | 2 | 86 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1008 | 11 | total rb |  |  |  |  |  | C |  |
|  | 2-SAIEM | 080-ROANOKE | 1009 | 11 | SINGLE | 1922/1946 | G | 104 | 2 | 55 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1010 | 24 | CORK | 1937 | F | 104 | 1 | 38 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1023 | 221 | CORK | 1931 | F | 104 | 1 | 24 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1037 | 220 | SINGLE | 1947 | G | 104 | 1 | 33 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1038 | 220 | SINGLE | 1947 | F | 104 | 1 | 33 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1039 | 220 | SINGLE | 1947/1990 | G | 104 | 4 | 170 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1069 | 221 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 080-ROANOKE | 1093 | 221 | CORK | 1932 | F | 101 | 1 | 22 | B |  |
|  | 2-SALEM | 080-ROANOKE | 1098 | 220 | TOTAL RB |  |  |  |  |  | C |  |
|  | 2-SALEM | 080-ROANOKE | 1105 | 221 | CORK/CULVERT | 1932 | G/A | 101 | 1 | 22 | B |  |
|  | 2-SALEM | 080-ROANOKE | 6016 | 612 | SOLD | 1921 | G | 103 | 1 | 36 | A | 14 |



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Inventory of Pre-1950 Non-Arched Concrete Bridges








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| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| District | County | Brdge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len. | Slgn. | Historical Rating |
| 3-LYNCHBURG | 006-APPOMATTOX | 1004 | 26 | CORK | 1931/1977 | G/RK | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 006-APPOMATTOX | 1005 | 26 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 006-APPOMATTOX | 1007 | 60 | CORK | 1931 | P/RK | 104 | 3 | 113 | B |  |
| 3-LYNCHBURG | 006-APPOMATTOX | 1016 | 24 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 006-APPOMATTOX | 6009 | 608 | SINGLE | 1949 | G | 104 | 2 | 113 | B |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1004 | 20 | CORK | 1939 | G | 104 | 1 | 48 | B |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1005 | 20 | CORK | 1939 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1008 | 24 | Total rb |  |  |  |  |  | c |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1010 | 60 | TOTAL RB |  |  |  |  |  | c |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1013 | 20 | CORK | 1930 | P | 101 | 1 | 23 | B |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1014 | 60 | CORK | 1931/1974 | FRK | 104 | 1 | 33 | B |  |
| 3-LYNCHBURG | 014-BUCKINGHAM | 1016 | 24 | TOTAL RB |  |  |  |  |  | C |  |
| 3-L YNCHBURG | 014-BUCKINGHAM | 1020 | 60 | CORK | 1932 | F | 101 | 1 | 22 | B |  |
| 3-LyNCHBurg | 015-CAMPBELL | 1003 | 24 | CORK | 1931 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 015-CAMPBELL | 1019 | 460 E | TOTAL RB |  |  |  |  |  | c |  |
| 3-LYNCHBURG | 015-CAMPBELL | 1023 | 501 | TOTAL RB |  |  |  |  |  | c |  |
| 3-LyNCHBURG | 015-CAMPBELL | 1024 | 501 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 015-CAMPBELL | 1071 | 501 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
| 3-LYNCHBURG | 015-CAMPBELL | 6034 | 633 | CORK | 1939 | G | 201 | 3 | 64 | B |  |
| 3-LYNCHBURG | 015-CAMPBELL | 6115 | 811 | CORK | 1934 | G | 104 | 2 | 150 | B |  |
| 3-LYNCHBURG | 019-CHARLOTTE | 1004 | 40 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 019-Charlotte | 1006 | 40 | CORK | 1927 | F | 101 | 2 | 36 | B |  |
| 3-LYNCHBURG | 019-CHarlotie | 1008 | 40 | CORK | 1929 | F | 104 | 3 | 128 | B |  |
| 3-LYNCHBurg | 019-Charlotte | 1009 | 40 | CORK | 1927 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 019-CHARLOTTE | 1011 | 47 | CORK | 1939/1990 | G | 104 | 3 | 83 | B |  |
| 3-LYNCHBURG | 019-Charlotie | 1014 | 47 | CORK | 1940/1981 | F | 104 | 5 | 213 | B |  |
| 3-LYNCHBURG | 019-CHARLOTTE | 1017 | 92 | CORK | 1931/1976 | F | 104 | 2 | 75 | B |  |
| 3-LYNCHBURG | 019-CHARLOTTE | 1023 | 47 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
| 3-LYNCHBURG | 019-CHARLOTTE | 6106 | 727 | CORK | 1934 | G | 104 | 3 | 144 | B |  |
| 3-LYNCHBURG | 019-CHARLOTIE | 6149 | 727 | CORK | 1932 | G | 101 | 1 | 22 | B |  |
| 3-LYNCHBURG | 019-CHARLOTTE | 6150 | 727 | CORK | 1932 | G | 101 | 1 | 22 | B |  |
| 3-LYNCHBURG | 024-CUMBERLAND | 6029 | 629 | CORK | 1933 | G | 101 | 2 | 42 | B |  |
| 3-LYNCHBURG | 024-CUMBERLAND | 6030 | 629 | CORK | 1932 | G | 101 | 1 | 22 | B |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len. | Sign. | Historical Rating |
| 3-LYNCHBURG | 024-CUMBERLAND | 6085 | 690 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
| 3-LYNCHBURG | 041-halifax | 1007 | 58 | TOTAL RB |  |  |  |  |  | c |  |
| 3-LYNCHBURG | 041-HALIFAX | 1008 | 58 | total rb |  |  |  |  |  | c |  |
| 3-LYNCHBURG | 041-HALFFAX | 1009 | 58 | CORK | 1932/1978 | F | 104 | 3 | 114 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 1010 | 58E | CORK | 1933/1978 | F | 104 | 1 | 48 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 1011 | S8E | CORK | 1933/1978 | G | 104 | 3 | 84 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 1013 | 96 | CORK | 1935 | F | 104 | 1 | 43 | B |  |
| 3-LYNCHBURG | 041-halifax | 1014 | 96 | CORK | 1938/1983 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 041-halfax | 1017 | 360 | CORK | 1938/1993 | G | 104 | 1 | 33 | B |  |
| 3-LYNCHBURG | 041-HALFAX | 1022 | 360 | CORK | 1930/1988 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 041-HALFAX | 1023 | 360 | CORK | 1931/1988 | F | 104 | 3 | 114 | B |  |
| 3-LYNCHBURG | 041-halifax | 1036 | 501 | SINGLE | 1948/1992 | G | 104 | 2 | 76 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 1089 | 360 | CORK | 1938 | F | 101 | 1 | 22 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 6039 | 642 | SINGLE | 1949/1979 | G | 104 | 3 | 96 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 6057 | 659 | SINGLE | 1949/1974 | G | 104 | 4 | 170 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 6079 | 684 | MASONRY | 1935 | G | 107 | 1 | 26 | A | 18NIE |
| 3-LYNCHBURG | 041-HALIFAX | 6129 | 832 | CORK | 1938 | G | 104 | 1 | 43 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 6130 | 832 | CORK | 1939/1981 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 041-HALIFAX | 6131 | 832 | CORK | 1932 | G | 104 | 5 | 165 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1001 | 6 | CORK | 1933/1984 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 062 -NELSON | 1002 | 6 | CORK | 1939 | G | 104 | 2 | 105 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1003 | 6 | CORK | 1933/1985 | G/RK | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1008 | 56 | CORK | 1931 | G | 104 | 3 | 98 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1009 | 29 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 062-NELSON | 1010 | 29 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 062-NELSON | 1016 | 56 | CORK | 1936/1983 | G/RK | 104 | 4 | 170 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1018 | 56 | CORK | 1938/1973 | F | 104 | 1 | 42 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1019 | 56 | CORK | 1938/1973 | G | 104 | 5 | 209 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1030 | 151 | CORK | 1936/1977 | G | 104 | 1 | 44 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1031 | 151 | CORK | 1936/1980 | G | 104 | 3 | 113 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1032 | 151 | CORK | 1936/1977 | G | 104 | 1 | 44 | B |  |
| 3-LYNCHBURG | 062-NELSON | - 1043 | 29 | CORK | 1946 | $\mathrm{G} / \mathrm{RK}$ | 101 | 1 | 23 | B |  |
| 3-LYNCHBURG | 062-NELSON | 1051 | 29 | TOTAL RB |  |  |  |  |  | C |  |

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| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len. | Slgn. | Historical Ratiog |
| 3-LYNCHBURG | 108-DANVILLE | 1902 | 56 | CORKNJB | 1936/C. 1980 | F/A | 104 | 1 | 43 | c |  |
| 3-LYNCHBURG | 108-DANVILLE | 6912 | 655 | VERTICAL | 1942 | G | 104 | 3 | 128 | B |  |
| 3-LYNCHBURG | 108-DANVILLE | 8008 | FARRAR ST. | Vertical | 1947 |  | 104 | 3 | 114 | B |  |
| 3-LYNCHBURG | 108-DANVILLE | 8011 | BALTMORE AVE. | CORK | 1930 | F | 104 | 5 | 150 | B |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 1827 | HOLLINS MILL RD. | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 1828 | 221 | SOLD | 1932 | F | 101 | 1 | 33 | B |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 1840 | 460 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 1847 | 501 | TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 1849 | BEDFORD AVE. | SOLD | 1908 | G | 101 | 1 | 47 | A | 18 |
| 3-LYNCHBURG | 118-LYNCHBURG | 1865 | 460 W | CORK | 1936/1971 | F | 104 | 3 | 138 | B |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 1880 | 501N | SINGLE | 1932 | G/A | 101 | 1 | 22 | B |  |
| 3-LYNCHBURG | 118-LYNCHBURG | 8002 | CAMPBELL AVE. | NEAR-TOTAL RB |  |  |  |  |  | C |  |
| 3-LYNCHBURG | 144-FARMVILLE | 1801 | 15 | VERTICAL | 1923/1942 | G/A | 104 | 7 | 228 | B |  |
| 4-RICHMOND | 004-AMELIA | 1009 | 360 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 004-AMELIA | 1012 | 153 | SINGLE | 1948 | G | 104 | 2 | 65 | B |  |
| 4-RICHMOND | 004-AMELIA | 1021 | 360 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 004-AMELIA | 6162 | 656 | SOLD | 1936 | G | 101 | 1 | 21 | B |  |
| 4-RICHMOND | 012-BRUNSWICK | 1002 | 1 | SINGLE | 1929/1941 | P | 104 | 2 | 55 | B |  |
| 4-RICHMOND | 012-BRUNSWICK | 1003 | 1 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 012-BRUNSWICK | 1005 | 1 | total Rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 012-BRUNSWICK | 1006 | 1 | total RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 012-BRUNSWICK | 1015 | 58 | SINGLE | 1942 | F | 104 | 3 | 98 | B |  |
| 4-RICHMOND | 012-BRUNSWICK | 1019 | 58 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 012-BRUNSWICK | 1056 | 58 | total Rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 012-BRUNSWICK | 6100 | 712 | CORK | 1940 | G/RK | 104 | 3 | 128 | B |  |
| 4-RICHMOND | 018-CHARLES CITY | 1001 | 5 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 018-CHARLES CITY | 6004 | 609 | SOLD | 1920 | G | 102 | 2 | 55 | A | 12 |
| 4-RICHMOND | 020-CHESTERFIELD | 1001 | 1 | SINGLE | 1941/1976 | G | 104 | 5 | 188 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1003 | 1 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1004 | 1 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1005 | 1 | total rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1014 | 327 | CORK | 1939 | G | 104 | 4 | 131 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1016 | 1 | TOTAL RB |  |  |  |  |  | C |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Brdge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Sign | Hilstorical Rating |
| 4-RICHMOND | 020-CHESTERFIELD | 1017 | 60 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1018 | 1 | CORK | 1928/C. 1940 | G/A | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1021 | 145 | CORK | 1931 | G | 104 | 1 | 28 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1023 | 360 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1024 | 360 | CORK | 1929 | F | 104 | 1 | 48 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1026 | 360 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1028 | 144 | SINGLE | 1949 | G | 104 | 1 | 46 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 1044 | 60 | total rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6028 | 678 | CORK | 1947 | G | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6034 | 651 | CORK | 1941 | G | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6041 | 653 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6059 | 678 | CORK | 1947 | G | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6067 | 655 | CORK | 1947 | G | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6122 | 780 | TIMBER | 1937 | G | 101 | 1 | 27 | B |  |
| 4-RICHMOND | 020-CHESTERFIELD | 6147 | 628 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 020-CHESTERFIELD | 8002 | 2657 | CORK | 1943 | F | 104 | 1 | 33 | B |  |
| 4-RICHMOND | 026-DINWIDDIE | 1009 | 40 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 026-DINWDDIE | 1026 | 1 | CORK | 1926 | G | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 026-DINWDDIE | 1033 | 460 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 026-DINWIDDIE | 6083 | 703 | CORK | 1940 | GRK | 104 | 3 | 113 | B |  |
| 4-RICHMOND | 026-DINWIDDIE | 6084 | 703 | CORK | 1938 | G | 104 | 3 | 98 | B |  |
| 4-RICHMOND | 026-DINWIDDIE | 6909 | 708 | CORK | 1940 | G | 104 | 4 | 170 | B |  |
| 4-RICHMOND | 037-GOOCHLAND | 1002 | 6 | CORK | 1929 | F | 104 | 3 | 88 | B |  |
| 4-RICHMOND | 037-GOOCHLAND | 1004 | 6 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 037-GOOCHLAND | 1005 | 6 | Total RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 037-GOOCHLAND | 1006 | 6 | total rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 037-GOOCHLAND | 1007 | 6 | total Rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 037-GOOCHLAND | 1009 | 250 | total rb |  |  |  |  |  | C |  |
| 4-RICHMOND | 037-GOOCHLAND | 1010 | 250 | CORK | 1931 | P | 104 | 1 | 33 | B |  |
| 4-RICHMOND | 037-GOOCHLAND | 1027 | 250 | CORK | 1930/1988 | G/RK | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 037-GOOCHLAND | 6038 | 645 | CORK | 1929 | G | 104 | 3 | 98 | B |  |
| 4-RICHMOND | 042-HANOVER | 1004 | 1 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 042-HANOVER | 1006 | 1 | total rb |  |  |  |  |  | C |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Bridge \# | Route \#/Street | Rail Type | Date | Cond. | Span Type | Spans | Total Len. | Sign | Historical Rating |
| 4-RICHMOND | 042-HANOVER | 1011 | 54 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 042-HANOVER | 1015 | 301 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 042-HANOVER | 1050 | 360 | total rb |  |  |  |  |  | c |  |
| 4-RICHMOND | 042-HANOVER | 1053 | 301 | total rb |  |  |  |  |  | c |  |
| 4-RICHMOND | 042-HANOVER | 1968 | 1 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 042-HANOVER | 6040 | 661 | SOLD | 1919/1973 | G | 101 | 2 | 44 | A | 13 |
| 4-RICHMOND | 042-HANOVER | 6059 | 686 | SOLD | 1917/1976 | G | 103 | 4 | 137 | A | 12 |
| 4-RICHMOND | 042-HANOVER | 6908 | 623 | LOW SOLID | 1920 | F | 103 | 4 | 134 | A | 10 |
| 4-RICHMOND | 043-HENRICO | 1001 | 1 | VERTICAL | 1938 | G | 207 | 3 | 85 | A | 19 |
| 4-RICHMOND | 043-HENRICO | 1003 | 5 | SINGLE | 1942/1974 | F | 104 | 1 | 25 | в |  |
| 4-RICHMOND | 043-HENRICO | 1008 | 33 | VERTICAL | 1946 | F | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 043-HENRICO | 1014 | 156 | SOLD | 1921 | P | 101 | 3 | 54 | B |  |
| 4-RICHMOND | 043-HENRICO | 1017 | 360 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | 043-HENRICO | 1018 | 360 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 043-HENRICO | 1019 | 360 | total rb |  |  |  |  |  | c |  |
| 4-RICHMOND | 043-HENRICO | 1022 | 147 | total rb |  |  |  |  |  | c |  |
| 4-RICHMOND | 043-HENRICO | 1029 | 5 | CORK | 1941 | F | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 043-HENRICO | 1921 | 250 | TOTAL RB |  |  |  |  |  | C |  |
| 4-RICHMOND | OSS-LUNENBURG | 1009 | 49 | CORK | 1930 | P | 104 | 1 | 43 | B |  |
| 4-RICHMOND | 0SS-LUNENBURG | 1012 | 40 | CORK | 1935 | FRK | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 0ss-Lunenburg | 6102 | 723 | SINGLE | 1948 | G | 104 | 3 | 130 | B |  |
| 4-RICHMOND | 05S-LUNENBURG | 6132 | 638 | SOLID | 1915 | F | 101 | 1 | 23 | A | 9 |
| 4-RICHMOND | 0SS-LUNENBURG | 6139 | 652 | TIMBER | 1940 | F | 101 | 1 | 22 | B |  |
| 4-RICHMOND | 0SS-LUNENBURG | 6909 | 723 | SINGLE | 1941/1974 | F | 104 | 6 | 255 | B |  |
| 4-RICHMOND | 058-MECKLENBURG | 1001 | 1 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 058-MECKLENBURG | 1012 | 58 | SINGLE | 1928/1949 | F | 104 | 3 | 98 | B |  |
| 4-RICHMOND | 058-MECKLENBURG | 1013 | 15 | CORK | 1930 | F/A | 101 | 1 | 23 | B |  |
| 4-RICHMOND | 058-MECKLENBURG | 1017 | 58 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 058-MECKLENBURG | 1018 | 58 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 058-MECKLENBURG | 1019 | 58 | total rb |  |  |  |  |  | c |  |
| 4-RICHMOND | 058-MECKLENBURG | 1029 | 92 | TOTAL RB |  |  |  |  |  | c |  |
| 4-RICHMOND | 058-MECKLENBURG | 1926 | 49 | CORK | 1929 | F | 104 | 3 | 108 | B |  |
| 4-RICHMOND | 063-NEW KENT | 1001 | 273 | SINGLE | 1947 | G | 101 | 2 | 45 | B |  |



| Stgn． | Historical Rating |
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| A | 157 |
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Inventory of Pre－1950 Non－Arched Concrete Bridges

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Inventory of Pre－1950 Non－Arched Concrete Bridges

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| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len. | Slgn. | Historical Rating |
| 7-CULPEPER | 078-RAPPAHANNOCK | 1060 | 522 | TOTAL RB |  |  |  |  |  | C |  |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6047 | 655 | SOLID | 1920 | G | 102 | 2 | 94 | A | 12 |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6051 | 1001 | GUARDRAIL | 1938/1980 | F | 101 | 2 | 56 | B |  |
| 7 -CULPEPER | 078-RAPPAHANNOCK | 6080 | 678 | CORK | 1929 | F | 101 | 1 | 23 | c |  |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6083 | 675 | CORK | 1914/1930 | P | 101 | 2 | 44 | c |  |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6110 | 637 | SOLD | 1931 | P | 101 | 1 | 23 | B |  |
| 7 -CULPEPER | 078-RAPPAHANNOCK | 6122 | 644 | LOWWATER | 1930 | G | 101 | 1 | 30 | B |  |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6123 | 707 | TOTAL RB |  |  |  |  |  | C |  |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6130 | 683 | CORK | 1914/1930 | P | 104 | 3 | 105 | c |  |
| 7-CULPEPER | 078-RAPPAHANNOCK | 6910 | 644 | LOWWATER | 1933 | G | 101 | 2 | 50 | B |  |
| 7-CULPEPER | 104-CHARLOTTESVILLE | 1811 | 250 | SOLD | 1916 | P | 101 | 4 | 112 | C |  |
| 7-CULPEPER | 104-CHARLOTIESVILLE | 8012 | 29 | SOLID | 1932 | P | 104 | 3 | 98 | B |  |
| 7-CULPEPER | 204-CULPEPER | 1801 | . | Total rb |  |  |  |  |  | c |  |
| 7-CULPEPER | 204-CULPEPER | 1804 | 522 | TOTAL RB |  |  |  |  |  | c |  |
| 8 -STAUNTON | 003-ALLEGHANY | 1007 | 18 | CORK | 1942 | F | 104 | 3 | 129 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1013 | 18 | CORK | 1932 | F | 101 | 1 | 23 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1016 | 850 | CORK | 1927 | F/RK | 104 | 3 | 84 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1017 | 269 | CORK | 1930 | F | 104 | 2 | 66 | B |  |
| 8 -STAUNTON | 003-ALLEGHANY | 1018 | 269 | CORK | 1930 | G | 104 | 2 | 96 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1020 | 269 | CORK | 1930 | G/RK | 104 | 1 | 43 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1030 | 60 | CORK | 1929/1989 | G/RK | 104 | 3 | 162 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1036 | 159 | CORK | 1928 | P | 104 | 1 | 48 | C |  |
| 8-STAUNTON | 003-ALLEGHANY | 1040 | 159 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 003-ALLEGHANY | 1049 | 159 | CORK | 1928 | G | 101 | 2 | 36 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1059 | 18 | CORK | 1941 | G | 104 | 5 | 215 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 1107 | 18 | CORK | 1940 | G | 101 | 1 | 22 | B |  |
| 8 -STAUNTON | 003-ALLEGHANY | 1119 | 159 | CORK | 1929 | F | 101 | 1 | 23 | B |  |
| 8 -Staunton | 003-ALLEGHANY | 1120 | 311 | CORK/GDRAIL | 1929/1982 | A | 101 | 1 | 23 | c |  |
| 8 -STAUNTON | 003-ALLEGHANY | 1121 | 311 | CORK | 1929 | P | 101 | 1 | 23 | c |  |
| 8 -STAUNTON | 003-ALLEGHANY | 1122 | 311 | TOTAL RB |  |  |  |  |  | C |  |
| 8-STAUNTON | 003-ALLEGHANY | 6006 | 603 | TOTAL RB |  |  |  |  |  | C |  |
| 8-STAUNTON | 003-ALLEGHANY | 6007 | 603 | SINGLE | 1932 | RB/G | 101 | 2 | 44 | B |  |
| 8-STAUNTON | 003-ALLEGHANY | 6009 | 604 | SINGLE | 1932 | $\mathrm{RB} / \mathrm{G}$ | 101 | 1 | 22 | B |  |



| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Sign | Historical Rathng |
| 8-STAUNTON | 007-AUGUSTA | 1078 | 42 | SINGLE | 1949/1986 | GRK | 104 | 3 | 98 | B |  |
| 8-STAUNTON | 007-AUGUSTA | 1079 | 42 | SINGLE | 1949 | G | 104 | 1 | 32 | B |  |
| 8-STAUNTON | 007-AUGUSTA | 1080 | 11 | SINGLE | 1930/n | GRB | 101 | 1 | 22 | C |  |
| 8-STAUNTON | 007-AUGUSTA | 1114 | 42 | CORK | 1945 | G | 101 | 1 | 23 | B |  |
| 8 -STAUNTON | 007-AUGUSTA | 1128 | 42 | NEAR-TOTAL RB |  |  |  |  |  | C |  |
| 8-Staunton | 007-AUGUSTA | 1132 | 42 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 007-AUGUSTA | 1140 | 42 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 007-AUGUSTA | 1143 | 42 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8 -STAUNTON | 007-AUGUSTA | 1148 | 42 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 007-AUGUSTA | 1156 | 250 | SINGLE | 1938/1949 | G | 101 | 1 | 22 | c |  |
| 8-STAUNTON | 007-AUGUSTA | 1182 | 252 | SOLD | 1920 | F | 101 | 1 | 20 | A | 11 |
| 8 -STAUNTON | 007-AUGUSTA | 1183 | 252 | TOTAL RB |  |  |  |  |  | C |  |
| 8-STAUNTON | 007-AUGUSTA | 1185 | 252 | CORK | 1945 | G | 101 | 1 | 23 | B |  |
| 8-STAUNTON | 007-AUGUSTA | 1186 | 252 | CORK | 1945 | G | 101 | 1 | 21 | B |  |
| $\infty$ 8-STAUNTON | 007-AUGUSTA | 1187 | 252 | CORK | 1945 | G | 101 | 1 | 22 | B |  |
| $\infty$ 8-STAUNTON | 007-AUGUSTA | 1201 | 340 | TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 007-AUGUSTA | 1207 | 340 | TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 007-AUGUSTA | 1212 | 340 | CORK | 1940 | F | 101 | 1 | 22 | B |  |
| 8 -STAUNTON | 007-AUGUSTA | 6017 | 608 | LOW/PIPE | 1940 | G | 101 | 1 | 28 | B |  |
| 8 -STAUNTON | 007-AUGUSTA | 6024 | 612 | CORK | 1940 | G | 101 | 1 | 22 | B |  |
| 8-STAUNTON | 007-AUGUSTA | 6033 | 613 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 007-AUGUSTA | 6035 | 613 | TOTAL RB |  |  |  |  |  | c |  |
| 8 -STAUNTON | 007-AUGUSTA | 6063 | 831 | CORK | 1925 | G | 101 | 2 | 46 | B |  |
| 8 -STAUNTON | 007-AUGUSTA | 6086 | 685 | SOLID/GONE | 1925 | P | 103 | 2 | 70 | C |  |
| 8 -Staunton | 007-AUGUSTA | 6100 | 703 | PIPE | 1930 | G | 101 | 2 | 48 | B |  |
| 8 -STAUNTON | 007-AUGUSTA | 6104 | 705 | PIPE/POST | 1919 | G | 101 | 1 | 27 | A | 10 |
| 8 -STAUNTON | 007-AUGUSTA | 6105 | 707 | PIPE | 1935 | G | 101 | 1 | 25 | B |  |
| 8 -STAUNTON | 007-AUGUSTA | 6106 | 707 | SOLD | 1920 | G | 101 | 1 | 28 | A | 11 |
| 8 -STAUNTON | 007-AUGUSTA | 6113 | 722 | SOLD | 1909 | G | 103 | 1 | 44 | A | 21 |
| 8 -STAUNTON | 007-AUGUSTA | 6119 | 730 | PIPE | 1935---- | G/A | 101 | 1 | 22 | B |  |
| 8-STAUNTON | 007-AUGUSTA | 6121 | 731 | TOTAL RB |  |  |  |  |  | c |  |
| 8 -STAUNTON | 007-AUGUSTA | 6125 | 732 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 007-AUGUSTA | 6135 | 747 | TOTAL RB |  |  |  |  |  | C |  |




| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len | Sign. | Historical Rating |
| 8-STAUNTON | 034-FREDERICK | 6049 | 723 | SOLD | 1918/1941 | RK | 102 | 2 | 66 | A | 13 |
| 8 -STAUNTON | 034-FREDERICK | 6053 | 671 | total rb |  |  |  |  |  | c |  |
| 8 -STAUNTON | 034-FREDERICK | 6055 | 608 | CURB | 1932 | P | 101 | 1 | 23 | c |  |
| 8 -STAUNTON | 034-FREDERICK | 6084 | 608 | 8" STEAMPIPE | 1932 | P | 101 | 1 | 20 | c |  |
| 8 -STAUNTON | 034-FREDERICK | 6116 | 645 | CURB | 1932 | P | 101 | 1 | 20 | c |  |
| 8-STAUNTON | 034-FREDERICK | 6124 | 656 | GUARDRAIL | 192711974 | G/A | 101 | 1 | 24 | c |  |
| 8-STAUNTON | 034-FREDERICK | 6127 | 659 | CURB | 1932 | G | 101 | 1 | 20 | B |  |
| 8 -STAUNTON | 034-FREDERICK | 6904 | 723 | SOLD | 1918 | F | 102 | 3 | 90 | A | 14 |
| 8-STAUNTON | 034-FREDERICK | 6908 | 623 | LOWWATER | 1932 | G | 101 | 4 | 100 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1001 | 84 | CORK | 1931 | G | 104 | 2 | 66 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1005 | 84 | CORK | 1930 | G | 104 | 1 | 28 | B |  |
| 8 -STAUNTON | 045-HIGHLAND | 1006 | 84 | CORK | 1929 | G | 104 | 1 | 38 | B |  |
| 8 -STAUNTON | 045-HIGHLAND | 1007 | 84 | CORK | 1929 | G | 104 | 1 | 48 | B |  |
| 8 -STAUNTON | 045-HIGHLAND | 1008 | 84 | CORK | 1929 | G | 104 | 1 | 33 | B |  |
| 8-STAUNTON | 045-HGHHLAND | 1009 | 220 | CORK | 1930/1983 | G/RK | 104 | 3 | 114 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1010 | 220 | CORK | 1931 | G | 104 | 2 | 86 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1011 | 220 | CORK | 1930 | G | 104 | 2 | 86 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1012 | 220 | CORK | 1937 | G | 104 | 2 | 76 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1014 | 250 | CORK | 1925 | G | 104 | 3 | 114 | B |  |
| 8 -STAUNTON | 045-HIGHLAND | 1015 | 250 | CORK | 1927 | G | 104 | 1 | 33 | B |  |
| 8 -STAUNTON | 04S-HGHLAND | 1017 | 250 | CORK | 1927 | G | 104 | 3 | 114 | B |  |
| 8 -Staunton | 045-HIGHLAND | 1019 | 250 | CORK | 1938 | G | 104 | 1 | 43 | B |  |
| 8 -STAUNTON | 045-HIGHLAND | 1025 | 84 | CORK | 1930 | G | 101 | 1 | 23 | B |  |
| 8 -STAUNTON | 045-HIGHLAND | 1033 | 84 | CORK | 1930 | G | 101 | 1 | 22 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1052 | 220 | CORK | 1932 | G | 101 | 1 | 21 | B |  |
| 8-STAUNTON | 045-HIGHLAND | 1064 | 250 | CORK | 1925 | G | 101 | 1 | 23 | B |  |
| 8 -STAUNTON | 069-PAGE | 1003 | 340 | CORK | 1936 | G | 104 | 3 | 144 | B |  |
| 8 -STAUNTON | 069-Page | 1005 | 340 | CORK | 1934 | G | 104 | 3 | 129 | B |  |
| 8 -STAUNTON | 069-PaGE | 1006 | 340 | CORK | 1934/1935 | P | 104 | 4 | 172 | C |  |
| 8 -STAUNTON | 069-PagE | 1009 | 340 | total rb |  |  |  |  |  | c |  |
| 8 -Staunton | 069-PAGE | 1011 | 340 | CORK | 1927 | G | 104 | 1 | 33 | B |  |
| 8 -Staunton | 069-Page | 1012 | 340 | CORK | 1927 | G | 104 | 5 | 215 | B |  |
| 8 -STAUNTON | 069-PAGE | 1015 | 211 | NEAR-TOTAL RB |  |  |  |  |  | C |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Bridge \# | Route \#/Street | Rall ${ }^{\text {Type }}$ | Date | Cond. | Span Type | Spans | Total Len | Sign | Historical Ratting |
| 8 -STAUNTON | 069-PAGE | 1021 | 211 | CORK | 1926 | P | 101 | 1 | 22 | c |  |
| 8-STAUNTON | 069-PAGE | 1024 | 340 | Total rb |  |  |  |  |  | c |  |
| 8 -STAUNTON | 069-PagE | 6006 | 609 | total rb |  |  |  |  |  | c |  |
| 8-STAUNTON | 069-PAGE | 6010 | 611 | CORK | 1928 | G | 101 | 3 | 75 | B |  |
| 8 -STAUNTON | 069-PAGE | 6020 | 616 | CORK | 1930 | G | 101 | 2 | 40 | B |  |
| 8-STAUNTON | 069-PAGE | 6021 | 616 | CORK | 1930 | F | 101 | 2 | 36 | B |  |
| 8 -STAUNTON | 069-PAGE | 6023 | 626 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 069-PAGE | 6029 | 642 | CORK | 1948 | F | 201 | 3 | 66 | B |  |
| 8 -STAUNTON | 069-PAGE | 6030 | 642 | SOLD | 1915 | G | 103 | 3 | 105 | A | 15 |
| 8 -STAUNTON | 069-PAGE | 6037 | 662 | SOLID | 1919 | F | 102 | 2 | 68 | A | 11 |
| 8 -STAUNTON | 069-PAGE | 6040 | 718 | ---- | 1924 | A/G | 101 | 1 | 24 | B |  |
| 8 -STAUNTON | 069-PAGE | 6049 | 689 | CORK | 1929 | G | 101 | 3 | 75 | B |  |
| 8 -STAUNTON | 069-PAGE | 6109 | 766 | CORK | 1925 | G | 104 | 2 | 46 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 1001 | 11 | CORK | 1935/1976 | G/RK | 104 | 2 | 72 | B |  |
| 8-STAUNTON | 081-ROCKBRDGE | 1008 | 39 | LOWWATER | 1935 | F | 101 | 3 | 66 | B |  |
| N 8-STAUNTON | 081-ROCKBRIDGE | 1011 | 39 | CORK | 1941 | G | 104 | 1 | 43 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 1016 | 42 | CORK | 1930 | P | 104 | 1 | 43 | C |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 1025 | 130 | CORK | 1930 | F/RK | 204 | 3 | 144 | B |  |
| 8 -STAUNTON | 081-ROCKBRDGE | 1026 | 130 | CORK | 1930 | F/RK | 104 | 5 | 165 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 1042 | 501 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 081-ROCKBRDGE | 1043 | 11 | Vertical | 1947 | G | 101 | 2 | 46 | B |  |
| 8-STAUNTON | 081-ROCKBRDDGE | 1057 | 11 | CORK | 1938 | G | 101 | 1 | 23 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 1099 | 850 | GUARDRALIS | 1927 | A | 101 |  | 23 | C |  |
| 8-STAUNTON | 081-ROCKBRDGE | 1109 | 130 | CORK | 1932 | G/A | 101 | 2 | 46 | C |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 1128 | 501 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 1130 | 501 | total rb |  |  |  |  |  | c |  |
| 8 -STAUNTON | 081-ROCKBRDGE | 1142 | 850 | GUARDRAILS | 1932 | F | 101 | , | 23 | B |  |
| 8-Staunton | 081-ROCKBRDDGE | 1143 | 850 | CORK | 1932 | F | 101 | 1 | 23 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6008 | 602 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6012 | 602 | TIMBER CURB | 1932 | G | 104 | 1 | 30 | B |  |
| 8 -Staunton | 081-ROCKBRDGE | 6025 | 624 | LOWWATER | 1932 | F | 101 | 4 | 60 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6039 | 608 | SINGLE | 1947 | G | 104 | 1 | 42 | B |  |
| 8 -Staunton | 081-ROCKBRIDGE | 6044 | 610 | LOWWATER | 19327/1984 | A | 101 | 6 | 42 | B |  |


| Inventory of Pre-1950 Non-Arched Concrete Bridges |  |  |  |  |  |  |  |  |  |  |  |
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| District | County | Bridge \# | Route \#/Street | Rall Type | Date | Cond. | Span Type | Spans | Total Len. | Slgi. | Historical Rating |
| 8-STAUNTON | 081-ROCKBRIDGE | 6046 | 610 | LOWWATER | 1932\%/1984 | RB | 101 | 6 | 42 | B |  |
| 8-STAUNTON | 081-ROCKBRDGE | 6058 | 612 | LOW SOLD | 1932 | G | 201 | 2 | 44 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6085 | 638 | TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6098 | 645 | CORK | 1936 | G | 104 | 1 | 43 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6100 | 646 | NEAR-TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6106 | 646 | SOLD | 1928 | G | 101 | 2 | 48 | A | 9 |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6117 | 670 | LOWWATER | 1932 | F | 101 | 6 | 54 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6149 | 759 | CORK | 1938 | F | 104 | 2 | 76 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6177 | 692 | CORK | 1932 | G | 101 | 1 | 22 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6183 | 809 | LOWWATER | 1932 | P | 101 | 4 | 60 | c |  |
| 8-STAUNTON | 081-ROCKBRDGE | 6257 | 816 | 2X4 | 1932 | P | 101 | 1 | 23 | c |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6278 | 780 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6288 | 629 | CURB | 1932 | G | 101 | 1 | 22 | B |  |
| 8 -Staunton | 081-ROCKBRIDGE | 6316 | 770 | SINGLE | 1932/ | RB | 101 | 1 | 22 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6364 | 641 | SINGLE | 1932 | G | 101 | 1 | 22 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6414 | 792 | CORK | 1932 | G | 101 | 1 | 23 | B |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6420 | 764 | SOLD | 1932 | G | 101 | 1 | 21 | B |  |
| 8 -Staunton | 081-ROCKBRIDGE | 6430 | 610 | LOWWATER | 1932/1984 | RB | 101 | 5 | 40 | B |  |
| 8-STAUNTON | 081-ROCKBRDGE | 6431 | 610 | LOWWATER | 1932/1984 | RB | 101 | 3 | 24 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6437 | 679 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6441 | 759 | CORK | 1938 | F | 101 | 1 | 22 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6454 | 688 | I-BEAM | 1932 | AF | 104 | 1 | 22 | B |  |
| 8-STAUNTON | 081-ROCKBRIDGE | 6513 | 674/753 | LOWWATER | 1932 | G | 101 | 16 | 112 | A | 10 |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6522 | 623 | TOTAL RB |  |  |  |  |  | C |  |
| 8 -STAUNTON | 081-ROCKBRIDGE | 6653 | 706 | SINGLE | 1932 | A | 101/102 | 1 | 22 | B |  |
| 8 -STAUNTON | 082-ROCKINGHAM | 1002 | 11 | total rb |  |  |  |  |  | C |  |
| 8-STAUNTON | 082-ROCKINGHAM | 1004 | 340 | NEAR-TOTAL RB |  |  |  |  |  | c |  |
| 8-STAUNTON | 082-ROCKINGHAM | 1006 | 340 | CORK | 1939/1986 | RK | 104 | 3 | 98 | B |  |
| 8 -STAUNTON | 082-ROCKINGHAM | 1007 | 340 | SINGLE | 1942 | F | 104 | 1 | 43 | B |  |
| 8-STAUNTON | 082-ROCKINGHAM | 1008 | 340 | SINGLE | 1941/1987 | G/RK | 104 | 2 | 66 | B |  |
| 8 -STAUNTON | 082-ROCKINGHAM | 1009 | 340 | SINGLE | 1941/1987 | G/RK | 104 | 2 | 86 | B |  |
| 8-STAuNTON | 082-ROCKINGHAM | 1011 | 340 | SINGLE | 1942/1987 | G/RK | 104 | 4 | 172 | B |  |
| 8-STAUNTON | 082-ROCKINGHAM | 1013 | 33 | CORK | 1929 | G | 201 | 2 | 44 | B |  |





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Inventory of Pre-1950 Non-Arched Concrete Bridges

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Inventory of Pre- 1950 Non-Arched Concrete Bridges
Route \#/Street
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Rall Type
NEAR-TOTAL RB
$\frac{\text { Bridge \# }}{1802}$
$\frac{\text { County }}{\text { 151-FAIRFAX }}$
$\frac{\text { District }}{\text { A-NORTHERN VA }}$

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TABULATIONS OF RAIL TYPES FOR PRE-1950 NON-ARCHED CONCRETE BRIDGES

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| District/County-City | Cork | Vertical | Single | Pipe | Solid | Curb | Lowwater | Low Solid | Guardrails | Other | RB | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Accomack (01) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Greensville (40) | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| Isle of Wight (46) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 |
| James City (47) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Northampton (65) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Southampton (87) | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 |
| Surry (90) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 |
| Sussex (91) | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 5 |
| York (99) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Hampton (114) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 |
| Newport News (121) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 |
| Norfolk (122) | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 6 |
| Portsmouth (124) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Chesapeake (131) | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Suffolk (133) | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| District Total | 14 | 4 | 5 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 18 | 47 |
| Fredericksburg (6) |  |  |  |  |  |  |  |  |  |  |  |  |
| Caroline (16) | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 11 | 14 |
| Essex (28) | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Gloucester (36) | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| King George (48) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| King \& Queen (49) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| King William (50) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lancaster (51) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| Mathews (57) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Middlesex (59) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Northumberland (66) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

TABULATIONS OF RAIL TYPES FOR PRE－1950 NON－ARCHED CONCRETE BRIDGES

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TABULATIONS OF SPAN TYPES FOR PRE-1950 NON-ARCHED CONCRETE BRIDGES

| District/County-City | 101 | 102 | 103 | 104 | 107 | 201 | 202 | 203 | 204 | 207 | RB | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bristol (1) |  |  |  |  |  |  |  |  |  |  |  |  |
| Bland (10) | 4 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 19 |
| Buchanan (13) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 5 |
| Dickenson (25) | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 7 |
| Grayson (38) | 4 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 15 |
| Lee (52) | 7 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 24 |
| Russell (83) | 1 | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 19 |
| Scott (84) | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 13 |
| Smyth (86) | 12 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 32 |
| Tazewell (92) | 8 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 25 |
| Washington (95) | 8 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 21 |
| Wise (97) | 2 | 1 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 21 |
| Wythe (98) | 11 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 16 |
| Big Stone Gap (101) | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Bristol (102) | 4 | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 15 |
| Marion (119) | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 6 |
| Abingdon (140) | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| Bluefield (143) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Norton (146) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Richlands (148) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Tazewell (158) | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 |
| Lebanon (252) | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| District Total | 73 | 9 | 1 | 69 | 2 | 0 | 0 | 0 | 0 | 1 | 101 | 256 |
| Salem (2) |  |  |  |  |  |  |  |  |  |  |  |  |
| Bedford (9) | 4 | 1 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 16 |
| Botetourt (11) | 12 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 21 |
| Carroll (17) | 2 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 14 |

TABULATIONS OF SPAN TYPES FOR PRE-1950 NON-ARCHED CONCRETE BRIDGES

| District/County-City | 101 | 102 | 103 | 104 | 107 | 201 | 202 | 203 | 204 | 207 | RB | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Craig (22) | 5 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| Floyd (31) | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 |
| Franklin (33) | 3 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 12 |
| Giles (35) | 4 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Henry (44) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 9 |
| Montgomery (60) | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 12 |
| Patrick (70) | 5 | 1 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 26 |
| Pulaski (77) | 4 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 13 |
| Roanoke (80) | 7 | 2 | 1 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 21 |
| Galax (113) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Martinsville (120) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pulaski (125) | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Radford (126) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Roanoke (128) | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 14 |
| Salem (129) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 5 |
| Vinton (149) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Christiansburg (154) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| District Total | 63 | 5 | 1 | 86 | 1 | 4 | 0 | 0 | 1 | 0 | 51 | 212 |
| Lynchburg (3) |  |  |  |  |  |  |  |  |  |  |  |  |
| Amherst (5) | 9 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 25 |
| Appomattox (6) | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 |
| Buckingham (14) | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 8 |
| Cainpbell (15) | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 7 |
| Charlotte (19) | 4 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11 |
| Cumberland (24) | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Halifax (41) | 1 | 0 | 0 | 14 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 18 |
| Nelson (62) | 4 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 17 |

TABULATIONS OF SPAN TYPES FOR PRE-1950 NON-ARCHED CONCRETE BRIDGES

| District/County-City | 101 | 102 | 103 | 104 | 107 | 201 | 202 | 203 | 204 | 207 | RB | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pittsylvania (71) | 7 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 22 |
| Prince Edward (73) | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| Danville (108) | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| Lynchburg (118) | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 8 |
| Farmville (144) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| District Total | 35 | 0 | 0 | 73 | 1 | 1 | 0 | 0 | 0 | 0 | 29 | 139 |
| Richmond (4) |  |  |  |  |  |  |  |  |  |  |  |  |
| Amelia (05) | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |
| Brunswick (14) | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 8 |
| Charles City (18) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Chesterfield (20) | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 |
| Dinwiddie (26) | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 |
| Goochland (37) | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 |
| Hanover (42) | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 10 |
| Henrico (43) | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 10 |
| Lunenburg (55) | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Mecklenburg (58) | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 8 |
| New Kent (63) | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 10 |
| Nottoway (67) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| Powhatan (72) | 3 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Prince George (74) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 6 |
| Petersburg(123) | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 6 |
| Richmond (127) | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 6 |
| District Total | 24 | 1 | 2 | 33 | 0 | 0 | 1 | 1 | 3 | 1 | 57 | 123 |

Suffolk (5)
TABULATIONS OF SPAN TYPES FOR PRE-1950 NON-ARCHED CONCRETE BRIDGES

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 District/County-City

| Accomack (01) |
| :--- |
| Greensville (40) |
| Isle of Wight (46) |
| James City (47) |
| Northampton (65) |
| Southampton (87) |
| Surry (90) |
| Sussex (91) |
| York (99) |
| Hampton (114) |
| Newport News (121) |
| Norfolk (122) |
| Portsmouth (124) |
| Chesapeake (131) |
| Suffolk (133) |
| --------------------------. |

## District Total


TABULATIONS OF SPAN TYPES FOR PRE－1950 NON－ARCHED CONCRETE BRIDGES





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TABULATIONS OF SPAN TYPES FOR PRE-1950 NON-ARCHED CONCRETE BRIDGES

| District/County-City | 101 | 102 | 103 | 104 | 107 | 201 | 202 | 203 | 204 | 207 | RB | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Highland (45) | 4 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Page (69) | 6 | 1 | 1 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 20 |
| Rockbridge (81) | 26 | 0 | 0 | 9 | 0 | 1 | 0 | 0 | 1 | 0 | 8 | 45 |
| Rockingham (82) | 8 | 0 | 0 | 16 | 1 | 2 | 0 | 0 | 0 | 0 | 8 | 35 |
| Shenandoah (85) | 33 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 12 | 51 |
| Warren (93) | 11 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 22 |
| Buena Vista (103) | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 |
| Clifton Forge (105) | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Front Royal (112) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Harrisonburg (115) | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 |
| Lexington (117) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Staunton (132) | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 8 |
| Waynesboro (136) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Luray (159) | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| District Total | 165 | 7 | 4 | 98 | 1 | 7 | 0 | 0 | 3 | 0 | 96 | 381 |
| Northern Virginia (A) |  |  |  |  |  |  |  |  |  |  |  |  |
| Arlington (00) | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| Fairfax (29) | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 20 |
| Loudoun (53) | 12 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 26 |
| Prince William (76) | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 15 |
| Fairfax (151) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| District Total | 14 | 1 | 1 | 12 | 3 | 0 | 0 | 0 | 0 | 0 | 37 | 68 |
| State Total | 442 | 29 | 12 | 427 | 9 | 16 | 1 | 1 | 9 | 3 | 471 | 1420 |


[^0]:    respective locations:

