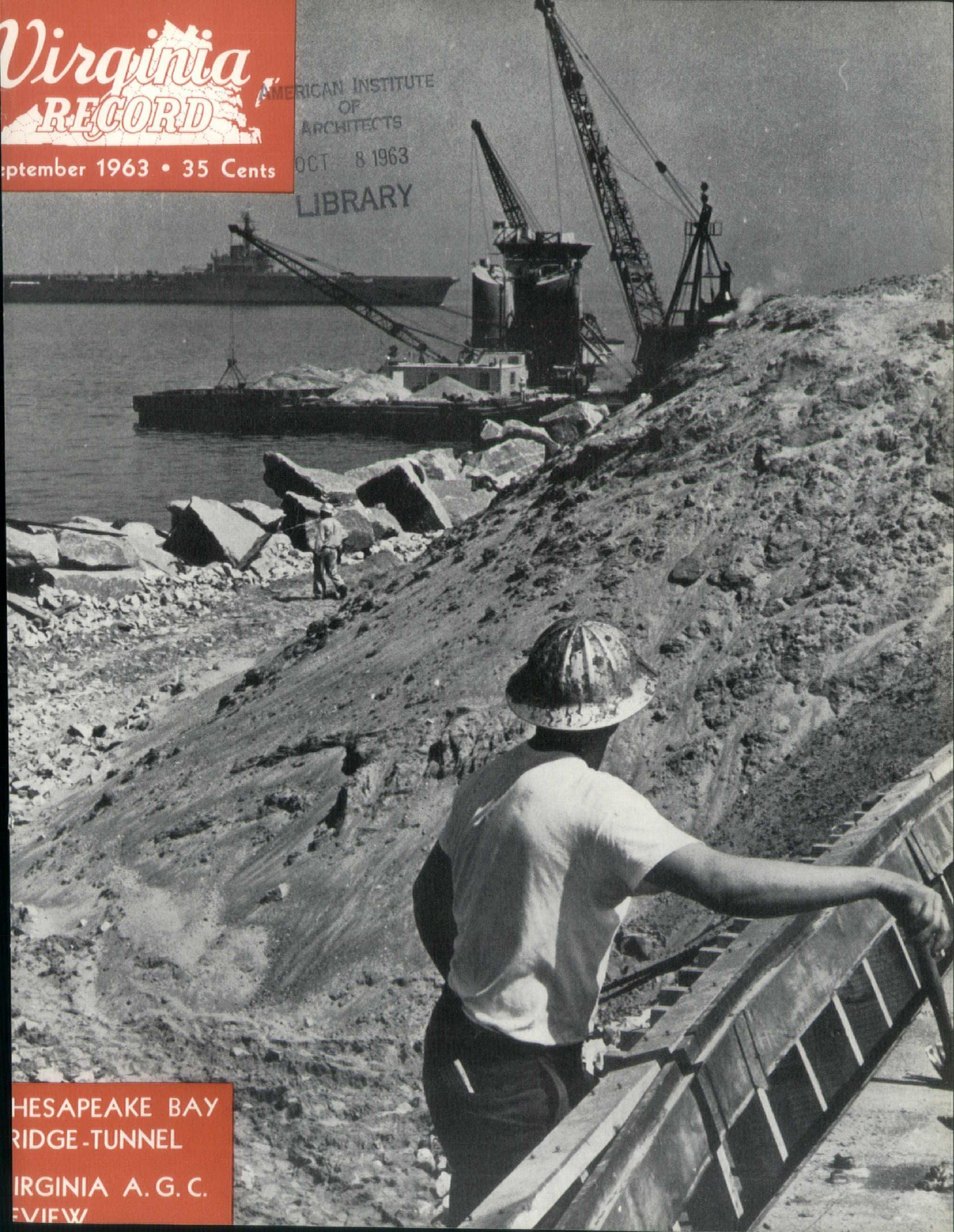
Virginia RECORD

eptember 1963 • 35 Cents



HESAPEAKE BAY
RIDGE-TUNNEL

IRGINIA A. G. C.
EVIEW

E. C. ERNST, INC.

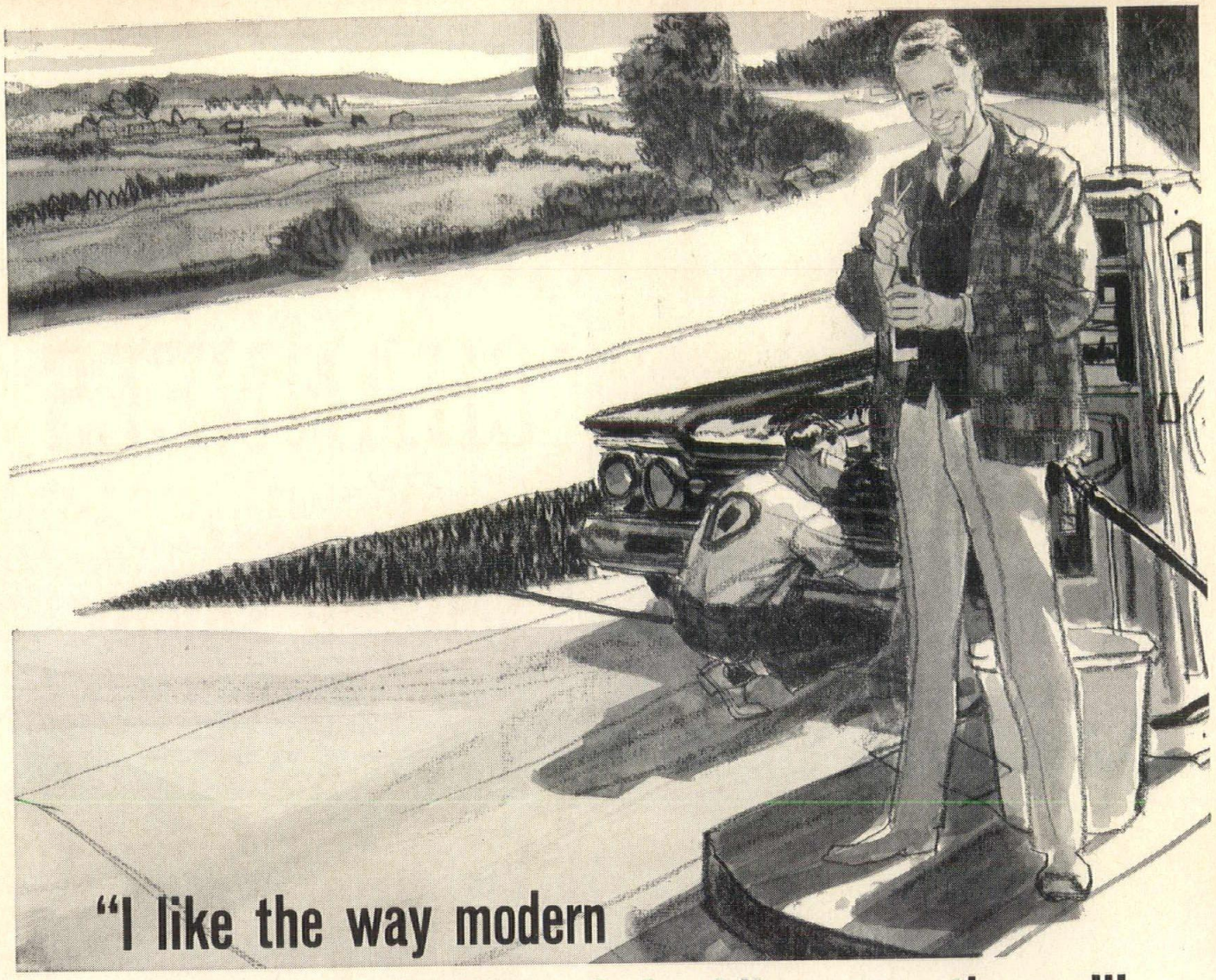
WASHINGTON, D. C.

Electrical Contractors

— Branch Offices —

NORFOLK, VA.
RICHMOND, VA.
NEWPORT NEWS, VA.
ATLANTA, GA.
AUGUSTA, GA.
WEST PALM BEACH, FLA.
HARRISBURG, PA.
PITTSBURGH, PA.
NASHVILLE, TENN.
GULFPORT, MISS.
ORLANDO, FLA.
CAPE CANAVERAL, FLA.
GADSDEN, ALA.

Electrical Contractors for the
Chesapeake Bay Bridge-Tunnel Project featured in this issue



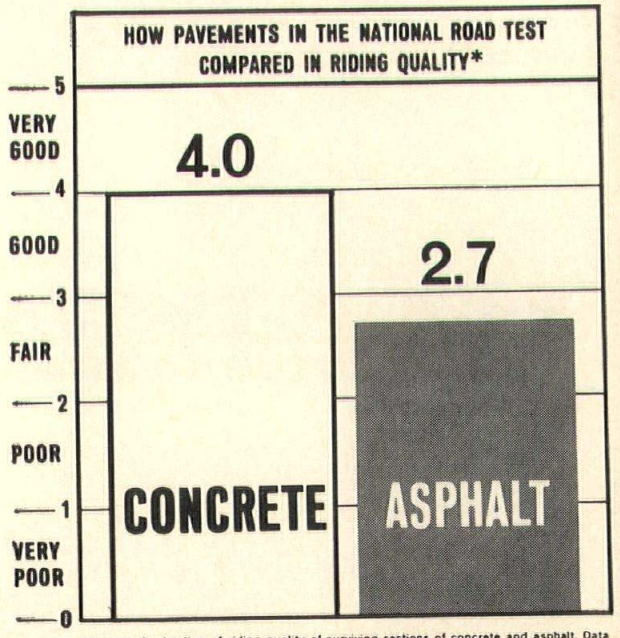
"I like the way modern concrete roads keep their riding smoothness!"

The National Road Test confirms for taxpayers that concrete provides lasting riding quality.

Concrete and asphalt were tested side by side on 5 loops in the recent National Road Test, sponsored by the American Association of State Highway Officials. Loaded trucks traveled 17 million miles over the hundreds of pavement test sections.

At the end of test (two years of traffic), the surviving sections were measured for riding quality. Concrete averaged "very good." Asphalt averaged "fair."

It's with good reason that concrete is preferred for important roads such as state primary routes. The low upkeep cost of concrete saves taxpayers money year after year.



*Average final rating of riding quality of surviving sections of concrete and asphalt. Data apply to loops tested by loads typical of truck traffic on primary highways (loops 3, 4, and 5).

PORTLAND CEMENT ASSOCIATION
1401 State Planters Bank Bldg., Richmond 19, Va.
A national organization to improve and extend the uses of concrete

AN INDEPENDENT PUBLICATION—FOUNDED 1878 TO TELL THE VIRGINIA STORY

Virginia RECORD

Published Monthly At The State Capital
By Virginia Publishers Wing, Inc.

EDITORIAL OFFICES: 1015 EAST MAIN STREET
Phones MI 4-6717 — 4-2722

CLIFFORD DOWDEY
Editor

DONNA Y. LAURINO
Executive Editor

R. N. ANDERSON, JR., AIA
Architectural Editor

"Second Class Postage Paid at Richmond, Va."

SUBSCRIPTION PER YEAR $3; TWO YEARS $5

Please address all mail to:

P. O. Drawer 2-Y, Richmond, Va. 23205

VIRGINIA RECORD is an independent publication cooperating with all organizations that have for their objectives the welfare and development of Virginia. While this publication carries authoritative articles and features on statewide and local industries, business, governmental and civic organizations, they are in no other respect responsible for the contents hereof.

VOLUME LXXXV SEPTEMBER 1963 NUMBER NINE

"A Brief, Noisy Hour"

WE ARE LIVING NOW, we are told, in the "post-Christian era," which can be taken to mean a decline in spiritual values. Men's actions cease to be based upon the religious spirit of Christianity, nor is comfort derived from it. Psychologists tell us that we are "estranged," a spiritually rootless people, wandering uneasily in a wasteland lacking the landmarks of inner meaning. But this is not merely "post-Christian," since this is a religion of a scant 2,000 years, while man's religious sense dates back to earliest history. We may find the gods of other people primitive and quaint, but they gave meaning and direction to life on earth. This sense of meaning was prominent in the long harmony of Egypt's day in the sun, beside which—as Professor Herbert Muller wrote—America is "a brief, noisy hour."

It was very strong during the triumph of the Greek cities of Ionia, where we usually date the birth of the modern Western World around the end of the 8th Century, B. C. In those Ionian cities—such as Miletus, Smyrna, Ephesus—we observe the first soaring of the mortal spirit in man's self-awareness in terms of the inner values of *himself* and his world. So the heritage of spiritual values, that is being negated in the decline of the Christian spirit, derives from the earliest strivings of what became Western man and from the influences, incalculable and immeasurable, of civilizations that had gone before.

Of course, all this could be dismissed, as some do, as "ancient history," if we could, in the vanity of technological achievements, affirm our present as a world that had progressed beyond the past in its superiority in spiritual, or inner, satisfactions. But in moving out of the Christian era—or, more broadly, the era of the religious spirit—we look upon a society whose inner misery is revealed in every available measurement. Our times are characterized by high crime rates, juvenile delinquency, high suicide rates, high incidence of alcoholism and dope addiction, the rise of a population of psychoanalysists and the breakdown of the home-family as a unit of society. Not to be measured in statistics is the quality held in the great civilizations preceding ours—a tragic sense of life.

None of the religions sought to relieve man of his tragic sense of life. Pestilence and famines, droughts and floods, were acts of the gods to the earlier people; and predecessors of the Christian faith, as well as Christianity, accepted hunger and illness, grief and fear—even "terror by night"—as parts of man's estate. Most of all, as a compound of all that can befall the mortal, *anxiety* was accepted as an inevitable consequence of being alive. Many were the prayers that asked for "peace" at the heart. And so we see today that in man's estangement, his absence of a tragic sense of life, his most acute suffering is from *anxiety*.

Countless books, from profound studies to quack panaceas, strive to help the contemporary American conquer or find escape from his anxiety. The more serious studies point out that our disorders—from juvenile delinquency to adult neuroses—represent escapes from anxiety. The ultimate relatively normal escape is the idiot box, where hours are devoted to manufacturing laughter in people frightened of being alone. Several nights ago I went to a small delicatessen for some emergency article (bread or milk), and I saw one man at a beer-bar and

(*Continued on page 36*)

TABLE OF CONTENTS

Presenting:

VIRGINIA
A.G.C. REVIEW

SPECIAL FEATURE PRESENTATION

Chesapeake Bay Bridge-Tunnel
Page 7

(All material, including photographs, through Project Information Office)

COVER NOTE: Two symbols of Coastal Virginia. Workman on newly built island of Chesapeake Bay Bridge-Tunnel pauses to watch navy aircraft carrier steam into Chesapeake Bay and the Norfolk navy base. (Photo by Neal V. Clark, Jr.)

Chesapeake Bay Bridge—Tunnel Nearing Completion

ONE OF THE MOST REMARKABLE engineering projects ever undertaken is rapidly nearing completion on Virginia's coast. Early next spring, the $200,000,000 Chesapeake Bay Bridge-Tunnel will open for traffic, providing a physical link between the Old Dominion mainland and the Eastern Shore for the first time in recorded history.

Old salts on the bay—wise to the wicked unpredictability of Chesapeake Bay weather—have watched in awe as the bridge they thought couldn't be built took shape across the very edge of the Atlantic Ocean. Engineers from every continent have come to look and marvel. Construction experts list the crossing among the seven wonders of the modern world.

On March 31, 1956, the Chesapeake Bay Ferry Commission headed by Lucius J. Kellam of Belle Haven, was authorized by the General Assembly of Virginia to construct and operate a bridge-tunnel across the lower Chesapeake Bay, to replace the existing ferry service. The route was approved in October, 1957. Now this long-held dream is becoming a reality.

The Chesapeake Bay Bridge-Tunnel will open a new era for both the Delmarva Peninsula and the fast-growing Hampton Roads area. It will eliminate the last water barrier on the popular Ocean Hiway, and speed Eastern Seaboard travel. It will replace the ferry service now operated by the Chesapeake Bay Bridge & Tunnel Commission.

The fixed crossing at the mouth of the bay is being built between Wise Point on Virginia's Eastern Shore and Chesapeake Beach in the Bayside area of the new City of Virginia Beach, 15 miles from downtown Norfolk. Total cost of the project is $200,000,000, including construction costs of $139,200,000. The completed project will open for traffic early in 1964. It will total 93,204 feet or 17.65 miles, shoreline to shoreline. The two-lane crossing will consist of 12.2 miles of low level trestle: 1.6 miles of earth-fill causeway across Fisherman Island and part of Fisherman Inlet; two bridges spanning the North Channel and Fisherman Inlet, totaling 4,250 feet; the 5,738-foot Thimble Shoal Tunnel and the 5,450-foot Chesapeake Channel Tunnel. Approximately five miles of approach highways will be constructed.

The project is being built as a joint venture by four major contractors—Tidewater Construction Corp. of Norfolk, Merritt-Chapman & Scott Corp. of New York, Raymond International Inc. of New York and Peter Kiewit Sons' Co. of Omaha, Neb. Tidewater

General Contractors

TIDEWATER CONSTRUCTION CORP.

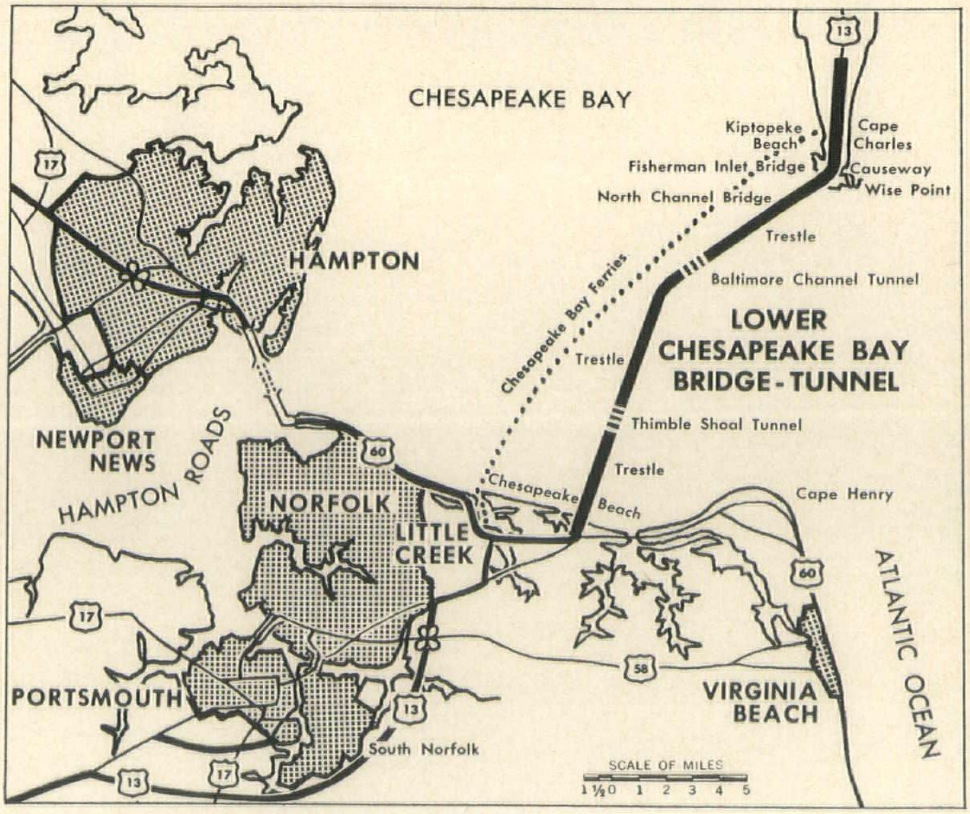
MERRITT-CHAPMAN & SCOTT CORP.

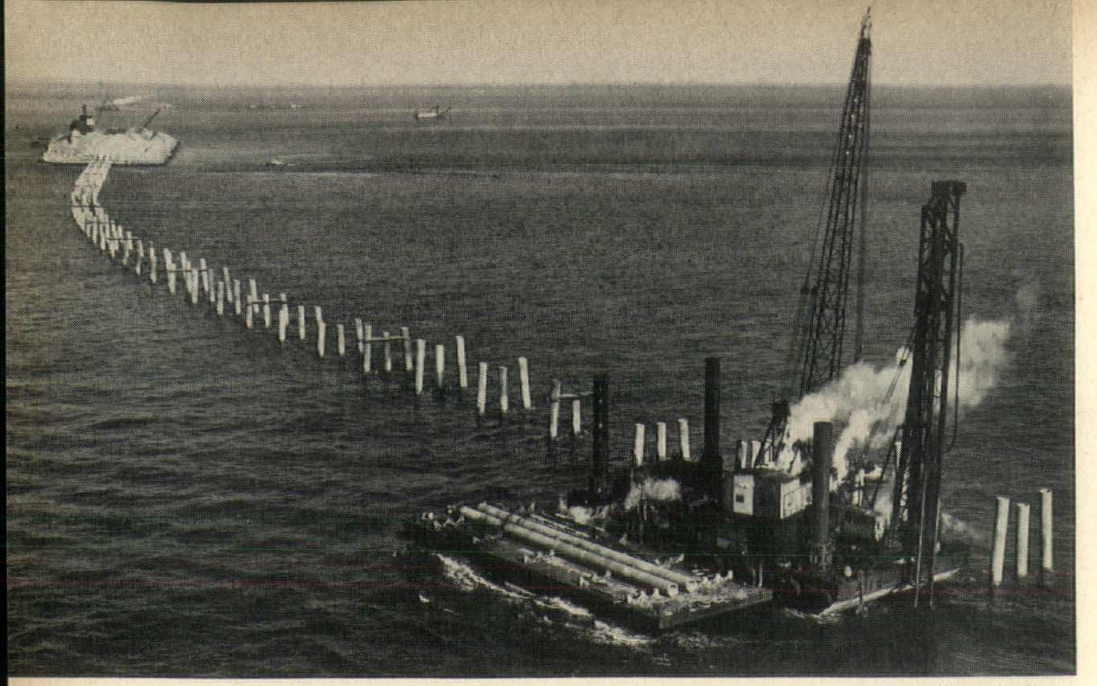
RAYMOND INTERNATIONAL INC.

PETER KIEWIT SONS' CO.

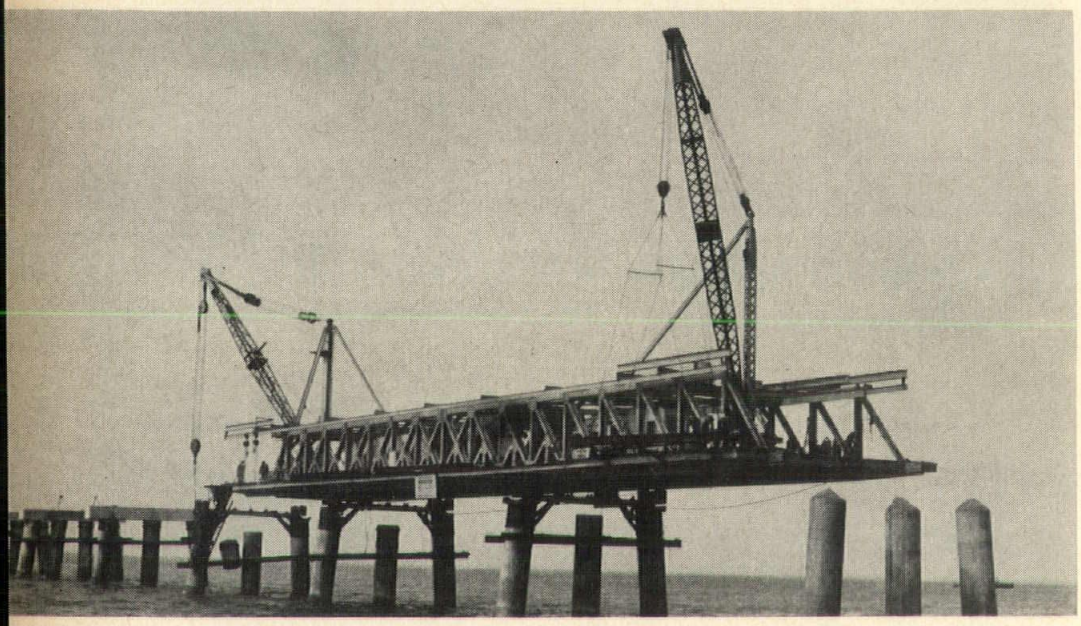
SVERDRUP & PARCEL

Consulting Engineers

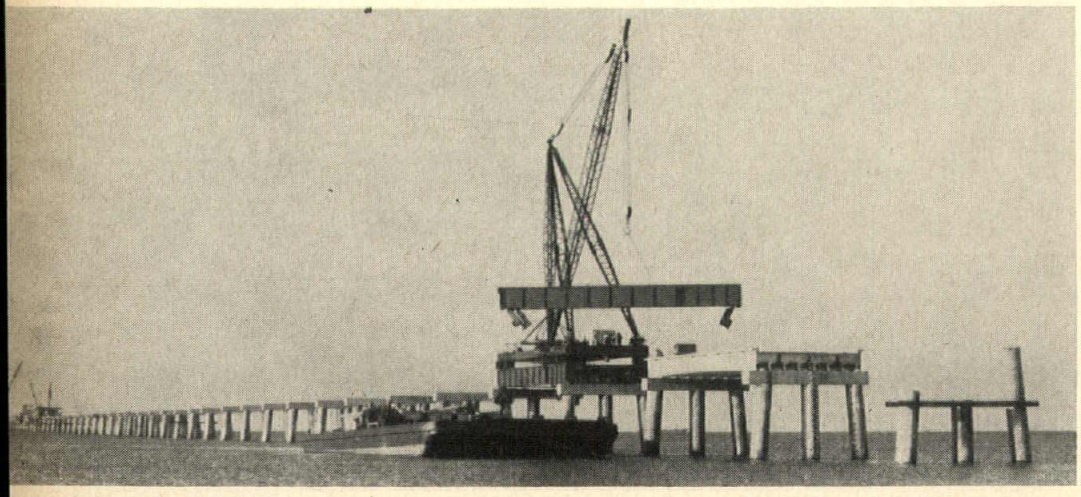




(Photo by Roy



Three specially designed machines build 12.2 miles of trestled highway across the edge of the Atlantic. Top photo, a $1,500,000 pile driver called the "Big D" pounds the huge concrete piles into the bay bottom. Center, the "Two-Headed Monster" levels and caps the hollow piles after a floating derrick fills them with sand. Bottom, after placing deck sections, slabsetter moves forward by picking up rear part of its platform, swinging it around to the front.



President S. E. Liles is Chairman of the Executive Committee of the joint venture. Superstructures for the bridges were built by American Bridge Division of United States Steel Corp. Sverdrup and Parcel, Consulting Engineers of St. Louis, designed the bridge-tunnel and are overseeing its construction.

The Chesapeake Bay Bridge-Tunnel will receive no tax funds. It is financed by a $200,000,000 tax-exempt revenue bond issue of the Chesapeake Bay Bridge & Tunnel District, due July 1, 2000, payable solely from tolls and other other revenues pledged for its payment. Estimated next revenues are calculated to be sufficient to retire all the bonds by July 1, 1984.

The bridge-tunnel will carry an estimated 5,027 vehicles daily during its first year compared to a 2,000 vehicle average for the ferries in 1962. Estimated annual toll revenues are expected to increase from $11,882,000 in 1964 to $21,070,000 by 1978 and will be ample to finance construction, maintenance and bond service. Estimated operation and maintenance expense will total $967,000 for the first year of operation.

More than two-thirds of the 17.6-mile long crossing consists of concrete trestle. This work has been done by a team of three contractors—Tidewater, Raymond, and Kiewit.

Although the trestle design is similar to that used in the crossings of Pensacola Bay, Florida, and Lake Pontchartrain, Louisiana, the exposed position of the Chesapeake Bay crossing, depth of water and heavy marine traffic presented challenging construction problems.

To reduce cost and speed construction, virtually the entire trestle was assembled of concrete sections mass-produced at the $3,500,000 dollar Bayshore Concrete Products Corporation plant especially built for this purpose at Cape Charles, Virginia.

Basically, the trestle consists of 75-foot spans of prestressed concrete girders and deck, supported at each end by three hollow prestressed concrete cylinder piles driven deep into the bed of the bay. Roadway width is 28 feet. The 54-inch diameter cylinder piles vary in length from 60 to 170 feet.

Three major groups of trestle components were mass-produced in the casting plant—cylinder piles, pile caps and deck slabs.

The type of cylinder piles used, a development of Raymond International, are made by first casting 16-foot long sections by the Cen-Vi-Ro process, a patented method involving a combination of centrifugal force, vibration

and rolling. These sections, resembling large concrete pipes, are then laid out on horizontal beds and strung together with high-strength prestressing cables. As piles are completed, they are loaded onto barges and hauled to the site and driven in place.

Because of the difficulty of operating floating equipment under adverse weather conditions that often prevail in the exposed bay, the contractor drove piles from a self-elevating mobile platform called the "Big D". A large crane and pile driver mounted on this platform sank the cylinder piles to firm bearing by a combination of driving with a hammer and jetting with high-pressure water jets. Built at a cost of $1,500,000, the Big D ordinarily operated high above the effect of waves even in difficult weather. But a severe storm in March, 1962, capsized it. The rig had to be salvaged and rebuilt.

Pile caps, the horizontal beams that cover the tops of each 3-pile group, also were precast in the Bayshore plant and hauled to the construction site on barges. An especially built bridge-traveler leveled the pile tops and positioned the caps.

The roadway slab and stringers were cast monolithically into a "double tee" shape, each stand consisting of two inner and two outer girder units weighing approximately 75 tons each. After placement on the pile caps, the four girders were cross stressed and grouted to form a single deck span unit.

To minimize the difficulty of working in the turbulent waters, these units were set in place with a large traveling derrick mounted on the pile caps. Each time the derrick placed a slab, it moved ahead 75 feet to position itself for the next slab placing.

Guard rails, lighting and a thin asphaltic surfacing completed the trestle.

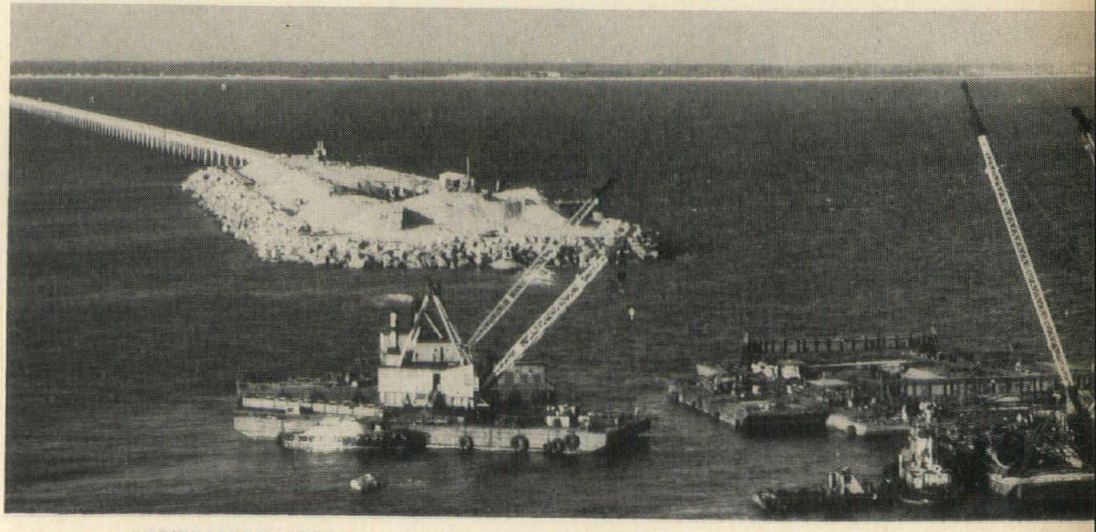
The two tunnels, each more than a mile long, that form the underwater portions of the Chesapeake Bay Bridge-Tunnel literally were built on shore and assembled under water.

In engineering terms they are known as trench-type tunnels—so named because the tunnel is constructed in a huge, open trench that is dredged across the bottom rather than bored through it. Giant, watertight sections of double-walled steel casing, prefabricated ashore on ways and launched like ships, are lowered one by one into the trench and joined together by divers, much like an underwater pipeline. Then construction crews, working toward the middle from opposite shores, progressively break through the bulkheads at the ends of the sections and complete the interior work under water.

Here is a sidewalk superintendent's preview of how it was done in the case of the two underwater stretches of the Lower Chesapeake Bay Bridge-Tunnel —the Thimble Shoal Tunnel, 5,738 feet long, and the Baltimore Channel Tunnel, 5,450 feet long.

Under an inter-company agreement among the four contractors who built the crossing as a joint venture, the two tunnels and four man-made islands linking them to the bridge sections

(Haycox Photoramic, Inc.)



Top photo: South Thimble Shoal Island, nearly complete, shows ventilating building straddling approach ramp leading down into tunnel from trestle. Bottom: Merritt-Chapman & Scott rigs cluster around tube, cradled in lowering barge, as they jockey it into position over trench.

Above, McAllister tugs nose the huge steel shell of a tunnel section into the fitting-out pier at Norfolk. Each section is as long as a football field, with an interior as wide and high as a three-story building. Thirty-seven of them will form the two tunnels. The sections are encased in concrete and sunk end to end in trenches under the channels. Divers join the sections before the end plates are removed to allow passage through the tubes. Below: Concrete is piped into tube to form roadway before ceiling hatches are sealed.

were constructed by Merritt-Chapman & Scott Corporation. Construction methods were much the same as those used by Merritt to build two other trench-type crossings at Norfolk—the Hampton Roads Tunnel (completed in 1957) and the first Elizabeth River Tunnel (completed in 1952).

Except for variations in distance and grade, Chesapeake Bay's two tunnels are identical in design. The core of both was fashioned from sections of double-walled steel casings, each about 300 feet long, with an octagonal-shaped outer shell 37 feet wide and a circular shell 34 feet in diameter.

Thimble Shoal Tunnel, constructed beneath the channel that leads to the ports of Hampton Roads, required 19 sections; Chesapeake Channel Tunnel, beneath the channel serving upper Chesapeake Bay, took 18.

Nearly 600 tons of structural steel was used to build each tube section. They were fabricated and assembled, complete with an inner webbing of reinforcing steel, under subcontract at Orange, Texas. After each was launched, it was towed 1700 miles to a special "shape-up" at Norfolk, where most of the outfitting was completed.

By the time the section was ready to be lowered to the bottom of the bay, the interior had been lined with a solid layer of concrete and fitted with a roadway slab. It also was equipped with pipelines for water supply and drainage, conduits for power and communications, ventilation ducts and flues, and electrical boxes and outlets. The open hatches along the top through which materials were lowered into the tube were then sealed.

As a final step at the "shape-up" basin, carefully calculated tons of concrete were placed between the outer and inner shells of the section until it was barely afloat. It was then floated to the tunnel site and shackled to a specially designed lowering device moored above the precise spot where it was to be sunk. Instruments set up on survey towers enabled engineers to align the tunnel section.

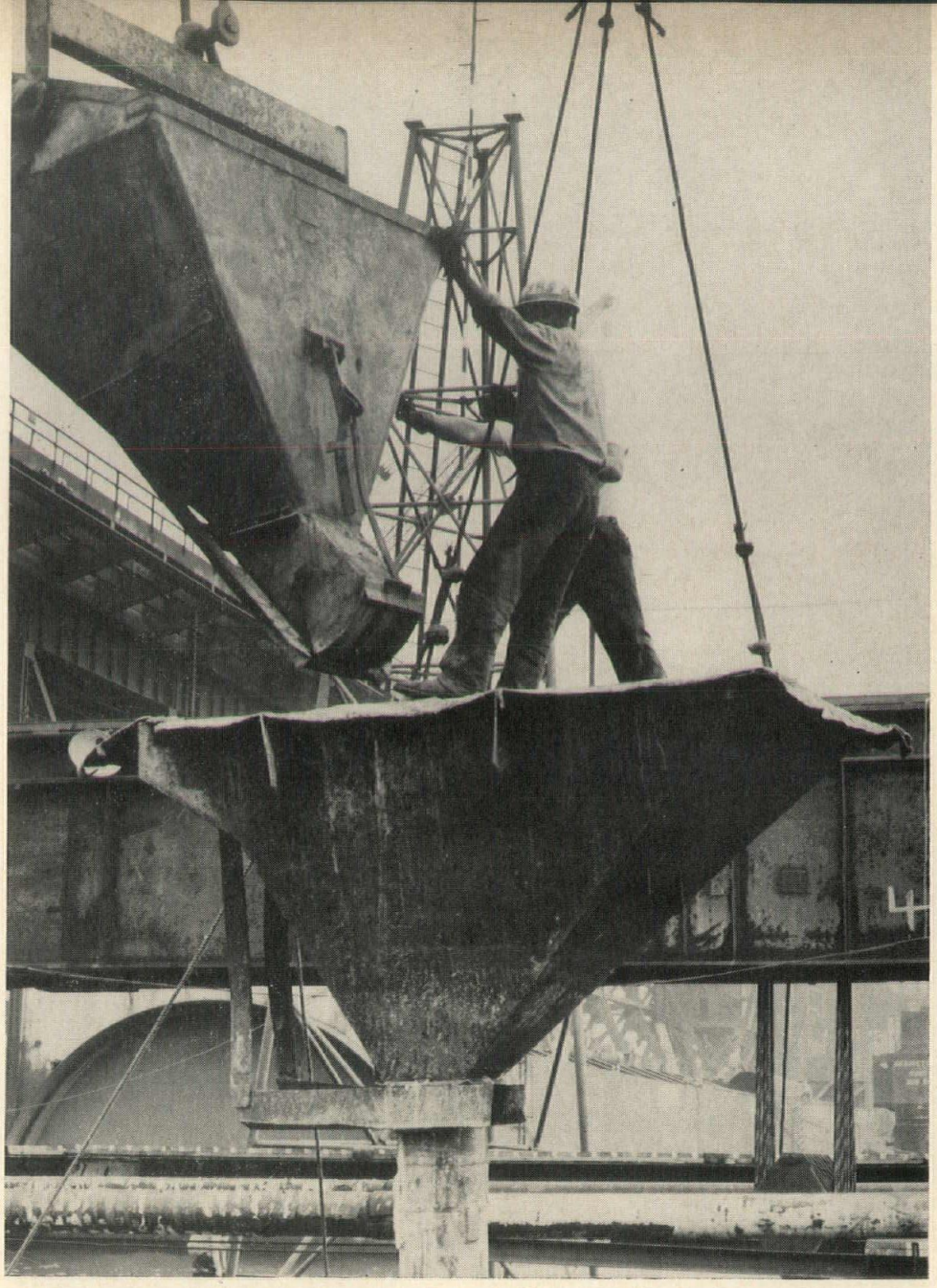
Once in position, additional tons of concrete were pumped from a floating mix plant and placed into the spaces between the inner and outer shells until the tube reached negative buoyancy—the point where it no longer can stay afloat. Guided by the lowering device, the section then was sunk gently to the bottom.

If put on the scales at this point, the watertight tube would hit about 12,000 tons, comparable to the weight of a U. S. naval cruiser. Its buoyancy had been so carefully calculated, however, that its weight underwater was only

about 200 tons. The section therefore was relatively easy to maneuver as it was lowered onto a specially prepared gravel bed at the bottom of the trench.

As each section was placed in its blue-printed position in the trench, it was securely locked to the preceding section by divers. To provide additional ballast hundreds of tons of concrete were placed under water into the remaining space between the two shells. Solid rings of concrete then were built around the outer joints to seal them tightly. Finally the tube was covered with a heavy blanket of fine sand.

Starting from the man-made island at one end of the tunnel, the steel bulkheads between sections were progressively cut through, joints sealed from inside, and interior work resumed. Installation of the ventilation system, power lines, communications cables and like facilities is being completed. Tubes are "squared off," with ceilings and walls covered with ceramic tile and the two-lane roadway surfaced with asphalt. Continuous fluorescent lighting fixtures and a sidewalk railing are to be installed—and the tunnel will be ready for business.



More concrete is piped into pockets between double steel shells to overcome buoyancy of air inside sealed tube. (Photo by Roy)

PROJECT PARTICIPANTS

A.A.T. SERVICE CORP., Staten Island, N. Y.; ALABAMA DRY DOCK & SHIPBUILDING CO., Mobile, Ala.; ALASCO RUBBER & PLASTICS CORP., Bruno, Calif.; ALLEN WEATHER CORP., Washington, D. C.; ALLOY RODS CO., York, Penna.; ALPHA PORTLAND CEMENT CO., Easton, Penna.; ALUMINUM CO. OF AMERICA, Richmond, Va.; AMERICAN DEWATERING CORP., Rockaway, N. J.; AMERICAN HOIST & DERRICK CO., St. Paul, Minn.; AMERICAN STEEL & WIRE, DIV. U.S. STEEL CORP., New York, N. Y.; AMERICAN BRIDGE DIV., U.S. STEEL CORP., Pittsburgh, Penna.; ANCHOR FENCE DIV., ANCHOR POST PRODUCTS, INC., Norfolk, Va.; THE ANDREWS & PECK LUMBER CO., Hartford, Conn.; ATLANTIC PHOTO SERVICES, INC., Norfolk; ATLAS MACHINE & IRON WORKS, INC., Arlington, Va.

BAITINGER ELECTRIC CO., INC., New York, N. Y.; R. M. BARWISE, INC., New York, N. Y.; BALDT ANCHOR & CHAIN CO., New York, N. Y.; BATCHELDER & COLLINS, INC., Norfolk; BAYSHORE CONCRETE PRODUCTS CORP., Cape Charles, Va.; ROBERT E. BENZE, Agent, Norfolk; BERKLEY MACHINE WORKS & FOUNDRY CO., Norfolk; BEST REPAIR CO., Norfolk; BETHLEHEM STEEL CO., Baltimore, Md.; BIRSCH CONSTRUCTION CORP., Norfolk; BIRSHTEIN STUDIOS, INC., Norfolk; BLAW-KNOX EQUIPMENT DIV., Pittsburgh, Penna; N. BLOCK & CO., Norfolk; BOOFIELD SUPPLY CO., Villanova, Penna.; THE BOSTON METALS CO., Baltimore; BRATTEN PONTIAC CORP., Norfolk; HARRY M. BROWN CO., Norfolk; W. T. BROWNLEY, Norfolk; BRUCE-FLOURNOY MOTOR CORP., Norfolk; BRYAN ELECTRIC CO., CO., Norfolk; BUFF INDUSTRIES, INC., New York, N. Y.; J. W. BURRESS, INC., Roanoke, Va.; BUSINESS MACHINES, INC., Norfolk; BUTLER BIN CO., Waukesha, Wisc.; W. C. BUTTERFIELD, New York, N. Y.

CADDELL ELECTRIC CO., Norfolk; CALDEL PETROLEUM CORP., New York, N. Y.; E. CALIGARI & SON, INC. Norfolk; CAMPBELL'S CAMERA CENTER, Norfolk; CAPITAL EQUIPMENT CO., INC., Richmond; F. K. CARLON CORP., Norfolk; F. W. CARNEY CO., New York, N. Y.; CHESAPEAKE AUTO SUPPLY CO., INC., Norfolk; CLEVELAND DIESEL ENGINE DIV., GENERAL MOTORS CORP., Cleveland, Ohio; CLYDE IRON WORKS, INC., Duluth, Minn.; COASTAL DRY DOCK & REPAIR CORP., Staten Island, N. Y.; COASTAL MACHINERY CO., Norfolk; COLONNA'S SHIPYARD, INC., Norfolk; COLUMBIAN BRONZE CORP., Freeport, L. I.; COMMERCIAL RADIO SERVICE, Norfolk; CONCRETE EQUIPMENT CO., Milwaukee, Wisc.; CONDENSER SERVICE & ENGINEERING CO., Hoboken, N. J.; CONMACO., INC., Kansas City, Kans.; CONSTRUCTION SUPPLY CORP., Norfolk; CONSTRUCTION AGGREGATES CORP., Chicago, Ill.; COOL WELD CO., INC., Long Island, N. Y.; COULBOURN LUMBER CO., Suffolk, Va.; J. COWHEY & SONS, INC., Brooklyn, N. Y.; CRAFTSWELD EQUIPMENT CORP., Long Island City, N. Y.; CURTIS BAY TOWING CO., Baltimore; CURTIS MARINE CO., INC., Norfolk.

DAVIS & LEE, INC., Norfolk; DEAN BROTHERS PUMPS, INC., Indianapolis, Ind.; DeLONG CORP., New York, N. Y.; DEVOE & RAYNOLDS CO., INC., Newark, N. J.; DIAMOND AIR COMPRESSOR CO., INC., Norfolk; DIESEL INJECTION SALES & SERVICE, INC., Norfolk; DIESEL PARTS CORP., Bronx, N. Y.; THE DI MATTINA SUPPLY CO., Brooklyn, N. Y.; DIGGS ENGINE & PARTS SERVICE, Norfolk; DIXIE FORM & STEEL CO., San Antonio, Tex.; DOMINION CHEMICAL CO., INC., New

TOP MEN ON BIG JOB—Inspecting construction of tunnel ventilation building on man-made island are Lucius J. Kellam, Chairman of the Chesapeake Bay Bridge and Tunnel Commission; Edwin A. Pasha and J. R. Liles, Project Managers for Tidewater-Merritt-Raymond-Kiewit, the joint-venture contractors; and Percy Z. Michener, Project Manager for Sverdrup & Parcel, Consulting Engineers.

York, N. Y.; E. F. DREWS & CO., Norfolk.

HENRY EAGLETON CO., INC., Norfolk; E & B MILL SUPPLY CO., Perth Amboy, N. J.; EDMUND SCIENTIFIC CO., Barrington, N. J.; EMPIRE MACHINERY & SUPPLY CORP., Norfolk; EQUIPMENT CORP. OF AMERICA, Clifton Heights, Penna.; EQUITABLE EQUIPMENT, INC., New Orleans, La.; ERIE STRAYER CO., Erie, Penna.; E. C. ERNST, INC., Norfolk; ESCO IRON WORKS, New York, N. Y.; ESSO STANDARD DIV., HUMBLE OIL & REFINING CO., New York, N. Y.; R. B. EVERETT & CO., Houston, Tex.; EXCHANGE SALES CO., Norfolk.

FARRELL CHEEK STEEL CO., Sandusky, Ohio; FERGUSON PROPELLER & RECONDITIONING CO., Hoboken, N. J.; FERRELL LINOLEUM & TILE CO., INC., Norfolk; FIRE EQUIPMENT ENGINEERING CO., South Norfolk; THE EDWARD C. FLAHERTY CORP., Long Island City, N. Y.; FREYSSINET CO., INC., New York, N. Y.; MARTIN FRIEDMAN, JR., South Norfolk; FROEHLING & ROBERTSON, INC., Norfolk.

GAMLEN CHEMICAL CO., Norfolk; GARY STEEL PRODUCTS CORP., Lynchburg; F. H. GASKINS CO., INC., Norfolk; GEM ELECTRONICS, INC., Farmingdale, L. I., N. Y.; GENERAL ELECTRIC CO., New York, N. Y.; GENERAL FOAM PLASTICS CORP., Portsmouth; GENERAL MACHINERY & WELDING CORP., Norfolk; GENERAL TIRE & RUBBER CO., INDUSTRIAL PRODUCTS DIV., Wabash, Ind.; THE HENRY B. GILPIN CO., Norfolk; GLENROCK RADIATOR SERVICE, Norfolk; GLOBE IRON CONSTRUCTION CO., INC., Norfolk; GOODMAN ELECTRIC SUPPLY CO., Norfolk; B. F. GOODRICH CO., New York, N. Y.; GOSSETT'S BATTERY SUPPLY, Norfolk; GRAYBAR ELECTRIC CO., Norfolk; NELSON STUD WELDING, DIV. OF GREGORY INDUSTRIES, INC., Lorain, Ohio; E. T. GRESHAM CO., INC., Norfolk; GRIFFIN EQUIPMENT CORP., New York.

HALL-HODGES CO., INC., Norfolk; HAMPTON ROADS TRACTOR & EQUIPMENT CO., Norfolk; HAMPTON ROADS WELDERS SUPPLY CO., Norfolk; HAYCOX PHOTORAMIC, INC., Norfolk; HIGHWAY & INDUSTRIAL EQUIPMENT CO., Norfolk; HODGE & HAMMOND, INC., New York, N. Y.; HOGSHIRE TENT & AWNING MFG. CO., INC., Norfolk; J. HENRY HOLLAND CORP., Norfolk; A. HOLM-ANDERSEN, New York, N. Y.; R. W. HUDGINS & SON, INC., Norfolk; HUNT AUTO SUPPLY CO., INC., Norfolk; HYDRAULIC SERVICE CO., Portsmouth.

I.B.M. ELECTRIC TYPEWRITER DIV., Norfolk; INDUSTRIAL BROWN HOIST CORP., Bay City, Mich.

JETT & CO., Norfolk; JOHN BROTHERS, Norfolk; ALMON A. JOHNSON, INC., New York, N. Y.; JOHNSON BROS., INC., Ferrysburg, Mich.; JOHNSON'S SHIP PROPELLER REBUILDING, Portsmouth; JONES & LAUGHLIN STEEL CORP., Edison, N. J.; JOY MFG. CO., Philadelphia.

KAHLENBERG BROS. CO., Two Rivers, Wisc.; KEELOX MFG. CO., Baltimore; R. J. KEHOE CO., New York, N. Y.; KIPPENBROCK SCALE SERVICE, Norfolk; KLINE CHEVROLET SALES CORP., Norfolk.

THE LAWRENCE CO., Port Washington, N. Y.; LESLIE CO., Lyndhurst, N. J.; LEVINGTON SHIPBUILDING CO., Orange, Tex.; LISKEY LITHOGRAPH CORP., Norfolk; LONE STAR CEMENT CORP., Richmond; LOVEJOY FLEXIBLE COUPLING CO., Chicago, Ill.

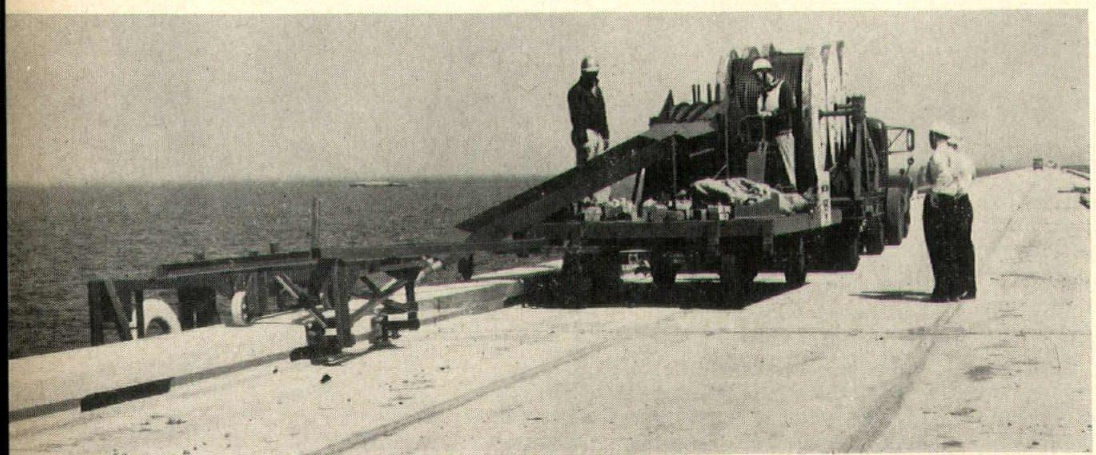
M & G SHEET METAL CO., Brooklyn, N. Y.; McALLISTER BROS., INC., Norfolk; M. P. McCAFFREY, INC., Los Angeles, Calif.; McLEAN AUTO SUPPLY CORP., Norfolk; MACKAY RADIO & TELEGRAPH CO., Norfolk; MADISON KIPP CORP., Madison, Wisc.; W. F. MAGANN CORP., Portsmouth; MANITOWOC ENGINEERING CO., Manitowoc, Wisc.; MARINE ENGINE SPECIALTIES CORP., New York, N. Y.; MARINE TAXIS, INC., Harvey, La.; MARION POWER SHOVEL CO., Marion, Ohio; MARITIME POWER CORP., New York, N. Y.; P. F. MARTIN, INC., Philadelphia, Penna.; MARYMAR MARINE CORP., Harvey, La.; MERCER RUBBER CORP., New York, N. Y.; MERCURY PRINTING CO., New York, N. Y.; MINE SAFETY APPLIANCES, Philadelphia; MILTON STEEL DIVISION, Milton, Penna.; MONOGRAM PRODUCTS CORP., New York, N. Y.; MONTAGUE RUBBER CO., INC., Norfolk; MORAN TOWING, New York, N. Y.; MOORE'S WHOLESALE BUILDING SUPPLY OF NORFOLK, INC.; BEN MORRELL SERVICE CENTER, Norfolk; MURPHY DIESEL CO., Milwaukee.

NATIONAL TRAILER CO., Buffalo, N. Y.; A. A. NIELSEN, New York, N. Y.; NOLAND CO., Norfolk; NORFOLK DREDGING CO.; NORFOLK GLASS & MIRROR CO.; NORFOLK MACK DISTRIBUTORS, INC.; NORFOLK MARINE CO.; NORFOLK NAVAL SHIPYARD; NORFOLK PAINT CO.; NORFOLK STATIONERY CO.; NORFOLK WELDERS SUPPLY, INC.; NORFOLK & WESTERN RWY. CO., Roanoke; NORTH STATE EQUIPMENT CORP., Model City, N. Y.; NORVA PLASTICS, Norfolk.

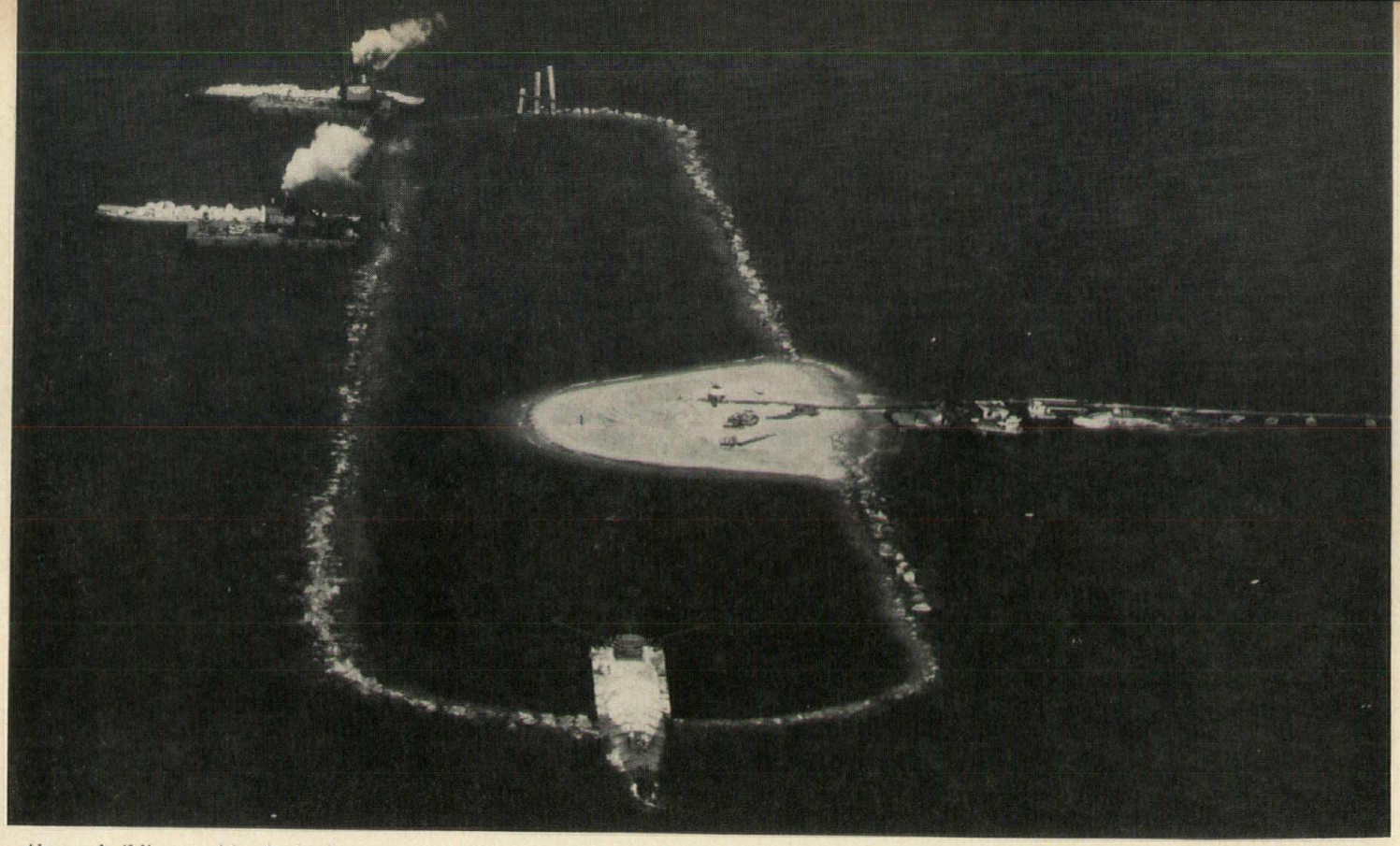
OAKWOOD COAL & SUPPLY CO., Norfolk; OIL EQUIPMENT SALES & SERVICE CO., South Norfolk; THE OEXLE SUPPLY CO., Ridgefield, Conn.; OLD DOMINION FOUNDRY WORKS, INC., Norfolk; OLD DOMINION UNIFORM SERVICE, Norfolk; OSTERHOUT ELECTRIC CORP., Philadelphia; OTIS ELEVATOR CO., Philadelphia.

PATRON TRANSMISSION CO., New York, N. Y.; PAULSEN-WEBBER, New York, N. Y.; THE PAXTON CO., Norfolk; PECK IRON & METAL CO., Richmond; H. O. PENN MACHINERY CO., New York, N. Y.; THE PENNSYLVANIA RAILROAD CO., Philadelphia; PERTH AMBOY DRY DOCK CO., Perth Amboy, N. J.; PHILLIPS MACHINERY CO., Richmond; PHOTO CRAFTSMEN, INC., Norfolk; PINTO ISLAND METALS CO., Mobile, Ala.; PITTSBURGH PLATE GLASS CO., Norfolk; PORTABLE LIGHT CO., Kearny, N. Y.; PORTSMOUTH MACHINE & WELDING CORP.; PORTSMOUTH SALVAGE CO., South Norfolk; PRESTIGE PRESS, INC., Hampton; PRIEST ELECTRONICS, INC., Norfolk.

RADCLIFF MATERIALS, INC., Mobile, Ala.; RADIATOR COOLING SERVICE, Norfolk; RADIO SUPPLY CO., Norfolk; RAYTHEON CO., Norfolk; RCA SERVICE—DIV. OF RADIO CORP. OF AMERICA, Norfolk; EUGENE P. READING, INC., Roselle, N. J.; E. R. REESE, JR., Norfolk; REPUBLIC AUTO PARTS, INC., New York, N. Y. REVERE SUPPLY CO., INC., New York, N. Y.; RICHARD MACHINE WORKS, INC., Norfolk; RICHMOND SCREW ANCHOR



Electrical subcontractor E. C. Ernst devised this cable laying rig, dubbed the "Santa Fe Express" to place power lines in trays mounted on side of trestle.



Above: building an island, dredge pumps sand into quarter-mile long rock basin. End tube of tunnel is embedded in near end of island. Below: Barges float a steel bridge span into position between concrete supporting piers. This span is the highest point on the 17.5 mile crossing, providing 75' vertical clearance for fishing vessels using the North Channel.

CO., Brooklyn, N. Y.; RICHMOND STEEL CORP., Norfolk; RISH EQUIPMENT CORP., Richmond; RIVERSIDE METAL WORKS, Norfolk; JOHN A. ROEBLING SONS, New York, N. Y.; ROUGHTON PONTIAC CORP., Norfolk; ROYAL-McBEE CORP., Norfolk.

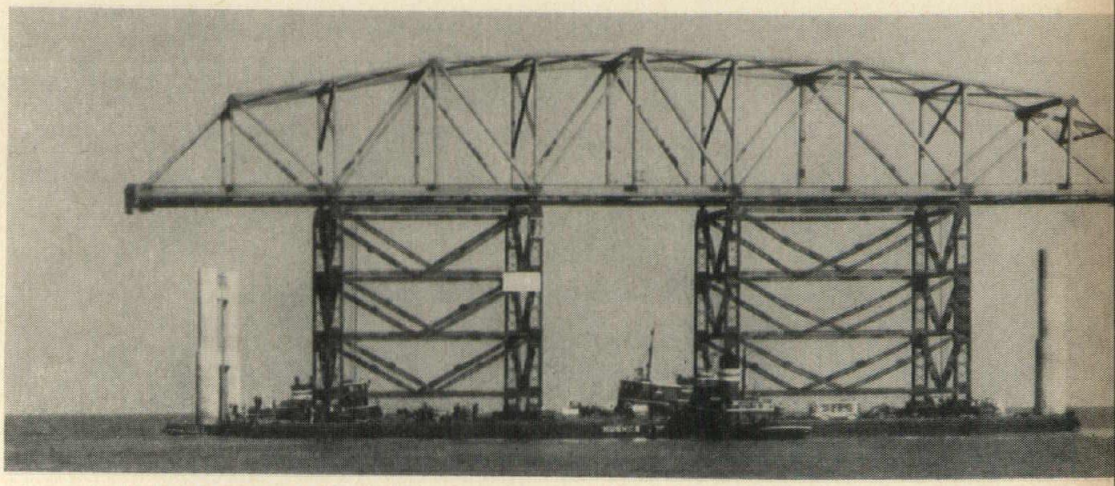
J. THOMAS SCOTT, Philadelphia; SEABOARD PAINT & SUPPLY CO., INC., Norfolk; SEAWAY EQUIPMENT SALES, INC., Cleveland, Ohio; SHOVEL CRANE CO., INC., Harrison, N. Y.; SIGNODE STEEL STRAPPING CO., Richmond; SMALL HARDWARE CO., Norfolk; SMITH-CORONA-MARCHANT, INC., Norfolk; DAVID SMITH STEEL CO., Brooklyn, N. Y.; HOWARD SOBER, Linden, N. J.; SOUTHERN MATERIALS CO., INC., Norfolk; SPECIAL WELDING ALLOY CO., INC., Long Island City, N. Y.; SPERRY PRODUCTS CO., Danbury, Conn.; STANDARD PARTS CORP., Norfolk; STANDARD STEAM WINCH & HOIST CO., New York, N. Y.; STERN STEEL CO., Silver Spring, Md.; M. E. STERN, OFFICE SUPPLY DIV., Norfolk; SOUTHERN PIPE & SUPPLY CO., Jacksonville, Fla.; STATES ELECTRONICS CORP., Elizabeth, N. J.; STROUDSBURG ENGINE WORKS, INC., Stroudsburg, Penna.; SUTTON ELECTRIC CORP., Norfolk; WM. H. SWAN & SONS, INC., Norfolk.

TATE ENGINEERING CORP., West Norfolk; TAYLOR-PARKER CO., Norfolk; TAYLOR SALT & CHEMICAL CO., Norfolk; TELTRONICS, INC., Norfolk; TEXACO, INC., New York, N. Y.; C. E. THURSTON & SONS, INC., Norfolk; TIDEWATER CONSTRUCTION CORP., Norfolk; TIDEWATER EQUIPMENT CORP., Norfolk; TIDEWATER SAND CO., Norfolk; TIDEWATER SUPPLY CO., Norfolk; TODD ELECTRIC CO., Norfolk; TODD SHIPYARD CORP., Brooklyn, N. Y.; TOPPING BROS., New York, N. Y.; TRENCH & MARINE PUMP CO., INC., New York, N. Y.; TURECAMO COASTAL & HARBOR TOWING CORP., Brooklyn, N. Y.; TURNER STENCIL CO., Norfolk.

UNITED STATES STEEL CORP., New York, N. Y.; UNIVERSAL-ATLAS CEMENT DIV., U.S. STEEL, New York, N. Y.

VIRGINIA BEARING & SUPPLY CO., Norfolk; VIRGINIA BUSINESS SERVICES, Norfolk; VIRGINIA ELECTRIC & POWER CO., Norfolk; VIRGINIA ELEVATOR CO., INC., Richmond; VIRGINIA PILOT ASSN., Norfolk; VIRGINIA TRACTOR CO., INC., Norfolk; VON ROESCHLAUB BROS. CORP., Lynbrook, L. I., N. Y.

THE HENRY WALKE CO., Norfolk; THE JAMES WALKER CO., Baltimore; WALLACE & TIERNAN, INC., Newark, N. J.; WALL ROPE WORKS, New York, N. Y.; WARDS CORNER KEY & LOCK CO., Norfolk; WATERMAN SUPPLY CO., Wilmington, Calif.; WELBACH EQUIPMENT CO., Philadelphia; WESTERN BRANCH DIESEL, INC., West Norfolk; WHALEY ENGINEERING CORP., Norfolk; THE WHITMORE MFG. CO., Cleveland, Ohio; WHITLOCK BROTHERS, Portsmouth; C. M. WHITNEY CO., INC., New York, N. Y.; WILD HEERBUGG INSTRUMENT CO., Port Washington, N. Y.; WILEY MFG. CO. Port Deposit, Md.; WILKINS CHEVROLET, INC., Norfolk; WILLIAMS WASTE OIL SERVICE, Norfolk; E. K. WILSON & SONS, INC., Norfolk; RAY WOLFF ASSOCIATES, Long Island City, N. Y.; E. C. WOMACK, INC., Norfolk; JOHN E. WOOL LUMBER CO., INC., Norfolk; WORTHINGTON CORP., Holyoke, Mass.; A. WRENN & SONS, INC., Norfolk.



THE NEW WOMEN'S GYMNASIUM at William & Mary College is located on a hillside site overlooking a branch of Lake Matoaka. The sloping site has been utilized to provide an entrance to the first floor and at the same time permits the swimming pool to be constructed on ground level with a rolling glass wall on the side of the building adjacent to the lake. The entrance to the locker rooms also has a direct exit on ground level.

The building contains offices for faculty, three classrooms and two gymnasiums on the first floor. The second floor contains a large dance studio with adjacent offices, lounges and sewing and dyeing rooms. Also located on the ground floor are the locker and shower rooms for students and faculty.

The pool has six racing lanes with two one meter diving boards and includes spectators seating area with a capacity of 250. Overlooking the swimming pool room is a large glass enclosed student lounge and meeting room.

The building was designed to blend with the traditional buildings on the campus while incorporating the latest proven materials and methods of construction.

The walls of the exterior are of moulded red brick with shaded headers, similar to brick found in other buildings on the campus. Extensive use of cast stone for trim and column enclosures has been made and color has been added to the building through the use of venetian glass tile spandrels and panels.

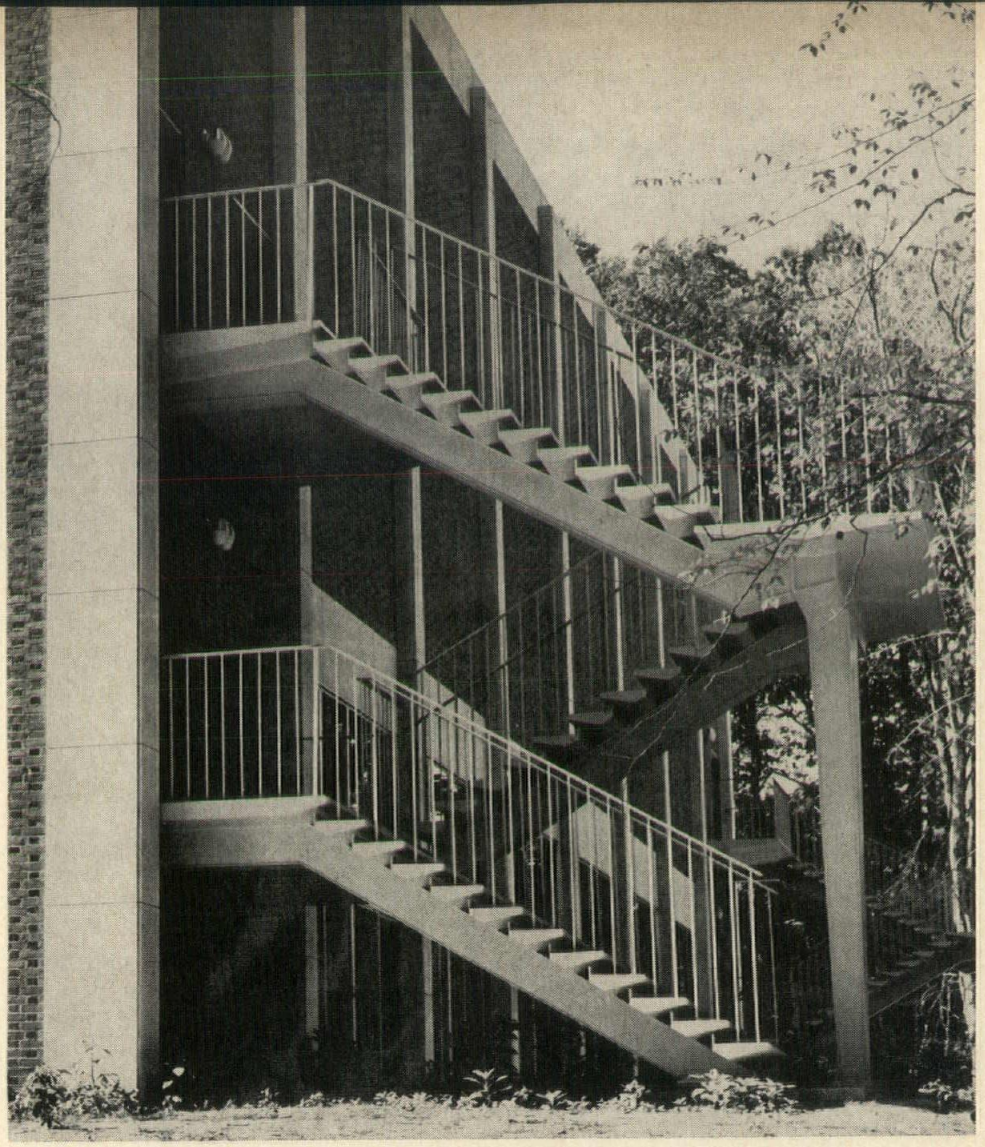
The rectangular building is 121′ by 134′ feet with built up slag roof, aluminum windows, interior walls of plaster and vinyl asbestos floors. It was completed at a cost of $664,155.94.

The building is constructed on pile foundation and has a frame of structural steel and reinforced concrete. Heating is provided by a new central high temperature water distribution system.

SUBCONTRACTORS & SUPPLIERS
(All of Richmond unless otherwise noted)

Dudley C. Waltrip, Williamsburg, excavating; Raymond Concrete Pile Div., Raymond International, Inc., Washington, D. C., piling; Eastern Building Supply Co., Inc., masonry supplier; Hammond Masonry Corp., masonry; Montague-Betts Co., Inc., Lynchburg, steel, steel roof deck, steel doors and bucks, handrails; Roof Engineering Corp., Norfolk, roof deck, roofing, insulation; Economy Cast Stone Co., stone work; Sash, Door & Glass Corp., windows, window walls, glazing, paneling; E. Caligari & Son, Inc., Newport News, painting; The Staley Co., Inc., plastic wall finish; Brisk Waterproofing Co., Inc., waterproofing; McL. T. O'Ferrall & Co., acoustical, resilient tile; John Edmonds, Jr., Petersburg, plaster; Oliva & Lazzuri, Inc., terrazzo, ceramic tile; Dixie Flooring Co., Greensboro, N. C., wood flooring; Ruffin & Payne, Inc., millwork; E. H. Saunders & Sons, Inc., Hopewell, electrical work; W. D. Sams & Co., Norfolk, plumbing, air conditioning, heating, ventilating; Pleasants Hardware, Richmond, hardware.

Work on foundations and concrete was by the general contractor.



(Photos by Thomas L. Williams)

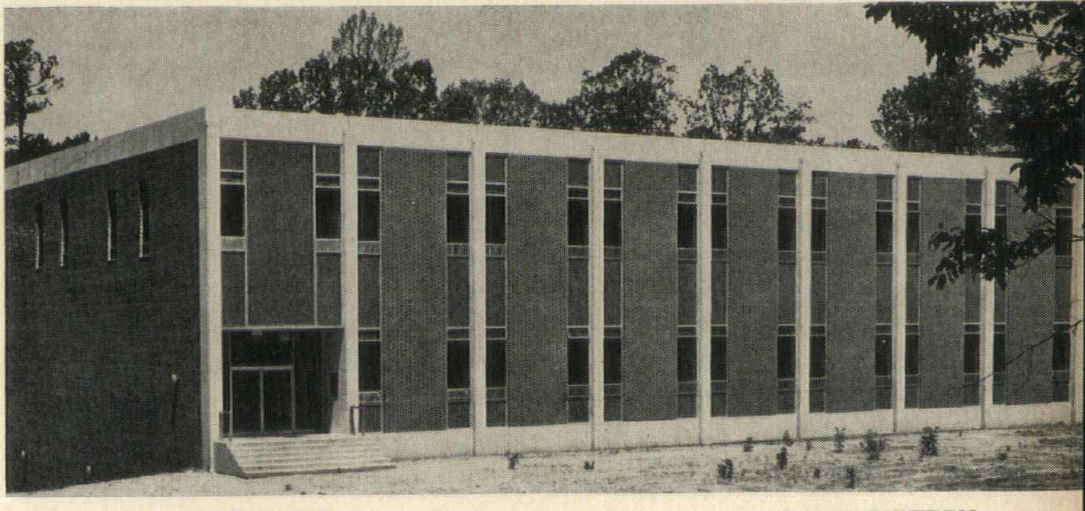
NEW WOMEN'S GYMNASIUM AT WILLIAM & MARY COLLEGE:

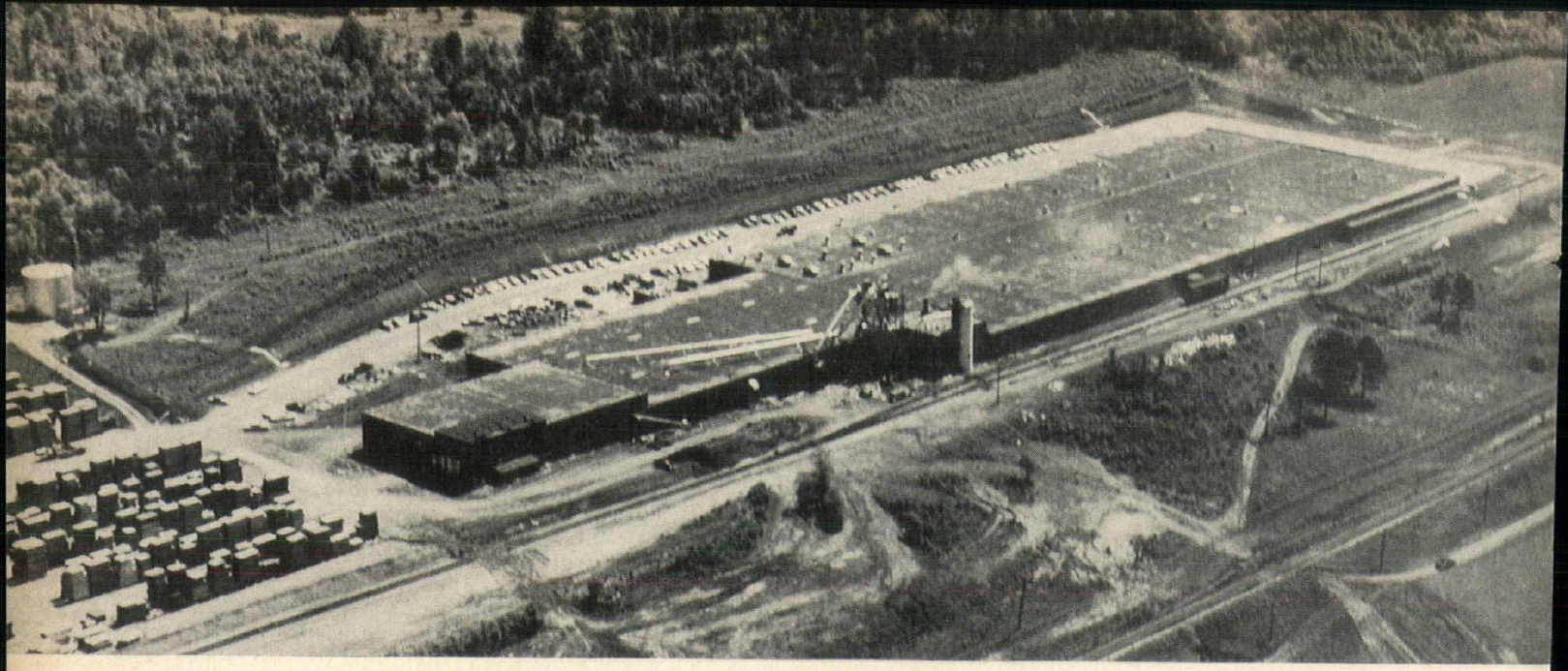
J. W. ENOCHS, INC., GENERAL CONTRACTOR

WRIGHT, JONES & WILKERSON, Architects

WILLIAM A. BROWN
Mechanical Consultant

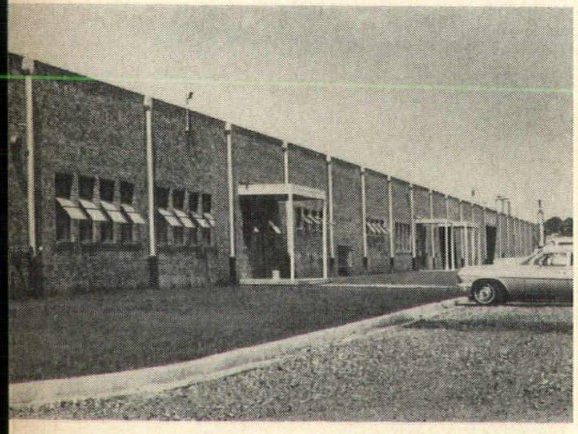
WILLIAM T. ST. CLAIR
Structural Consultant



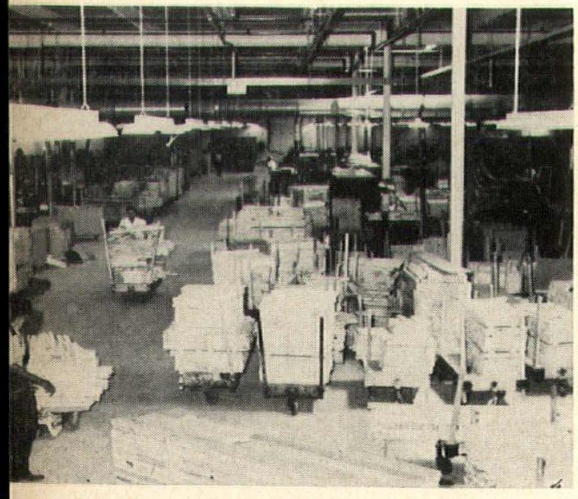


(Photos by Remsen Studio)

AMERICAN OF MARTINSVILLE PLANT COMPLETED BY STANLEY W. BOWLES



Top photo shows entire plant #8, looking southeast, with railroad siding and lumber yards. Center: front exterior, looking northwest. Bottom: interior of machine room.



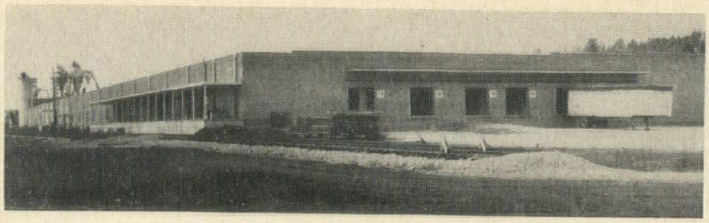
THE NEWEST expansion of American of Martinsville, the Upholstery Division plant, is located on an 80 acre tract approximately one mile south of Martinsville, Virginia, and presents some impressive statistics. The building itself occupies roughly eight acres of the tract, measuring 1183′ x 302′, according to Stanley W. Bowles, General Contractor for the huge project.

Block and brick form the exterior walls of the one story structure, while the interior walls are of block and the roof is of lightweight concrete. Steel windows and concrete floors complete the primary construction materials for the plant. All other units of American of Martinsville's large operation are within the city limits of Martinsville and are of multi-story design which precludes the use of most recently developed materials-handling devices. These, this newest plant has been planned to employ.

The new building is a complete plant within itself from the stacked rough lumber, which is shown in the far left of the accompanying aerial photo, completely through the building, to the completed, cartoned furniture which is placed at the loading docks shown at the right end of the building. Progressively, the rough lumber goes to the smaller portion of the building and into the extreme lower left of the building (shown by the raised roof) which houses the dry kilns and then, after processing, to the cooling sheds which comprise the balance of the smaller portion of the building. Here the lumber is acclimated to existing conditions. The next—or middle section—of the plant houses the rough and finish mills where wooden parts of the furniture are produced. The largest section of the building makes up the assembly areas which include the finishing rooms, the rub rooms, the upholstery area (housing the cutting and sewing rooms) and the shipping department. Finally, the furniture, packed in cartons, comes to the 8 truck loading docks located at the rear of the building or to the 200′ railroad loading docks shown at the side of the building to the rear. An idea of the immensity of the building can be gained by the boxcar on the spur at the building's side.

The plant is cooled with 15 five h.p. room-mounted ventilators and 20 6′ x 6′ air intake grills on the sides of the building. The boiler room provides both heat and process steam and the furnace economically uses the wood scraps from the process of manufacture or, when indicated, coal.

In this building designed specifically for newest methods and maximum efficiency, the clear ceiling heights reach 14, 16 and 26 feet, depending on phase of manufacture in each area. The new plant presently employs 375 with an anticipated employment role of 500 when the plant is in complete operation.



SUBCONTRACTORS & SUPPLIERS

(All Martinsville firms unless otherwise noted)

STANLEY W. BOWLES
General contractor, foundations, concrete, carpentry, masonry, acoustical, resilient tile

SOUTHERN ROOF DECK CO., INC., Roanoke
Roof deck

HELMS ROOFING CO., INC.
Roofing

CAROLINA STEEL CORP., Greensboro, N. C.
Steel, windows

PITTSBURGH PLATE GLASS CO., Roanoke
Glazing

GEORGE REYNOLDS, Bassett
Painting

MARTINSVILLE IRON & STEEL CO., INC.
Steel doors and bucks

GRAVES SUPPLY CO., INC.
Lighting fixtures, plumbing fixtures

SCHLUETER ELECTRIC CO.
Electrical work

LECK PHARIS
Plumbing, heating

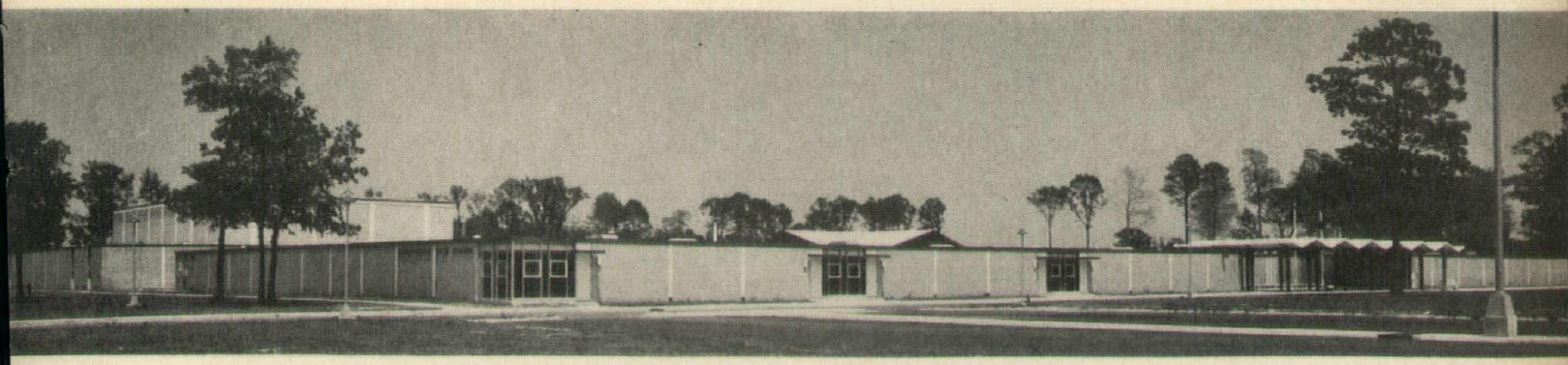
PRILLAMAN & PACE, INC.
Air conditioning

VIRGINIA BLOWER CO., Collinsville
Ventilating

PINE HALL BRICK & PIPE CO. Winston-Salem, N. C.
Brick supplier

Left: railroad and truck loading docks. Above: interior of cooling shed, with 27' clear ceiling.

See the Chesapeake Bay Bridge-Tunnel Feature in this Issue



(Photos by William T. Radcliffe)

KECOUGHTAN HIGH SCHOOL AT HAMPTON: SILAS S. KEA & SONS, GENERAL CONTRACTOR

OLIVER & SMITH, Architects

MATHEW J. THOMPSON, III
Mechanical Consultant

R. C. M. CALVERT, JR. & ASSOC.
Electrical Consultants

FRAIOLI-BLUM-YESSELMAN
Structural Consultants

• The 1500-student Kecoughtan High School in Hampton, completed by Silas S. Kea & Sons at a total cost of $2,332,800, will be open for the 1963-64 term.

Exterior wall construction is cavity brick and masonry block with interiors of painted block and ceramic tile. Gross area is 178,000 square feet at a cost of $11.56 per square foot.

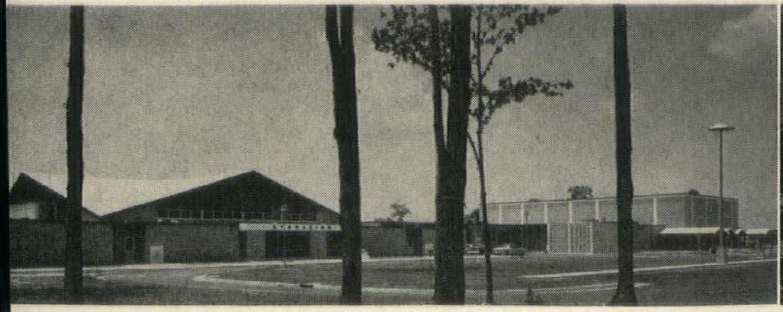
Floor construction is slab on grade; structural system is bearing wall—bar joists; roof is cement plank roof deck, 20-year built-up. Ceilings are painted exposed joists. Windows are aluminum and lighting is fluorescent. Nesbitt heating, ventilating and air conditioning equipment was used throughout to provide a system at a cost of $2.36 per square foot. All classroom areas are protected by a sprinkler system.

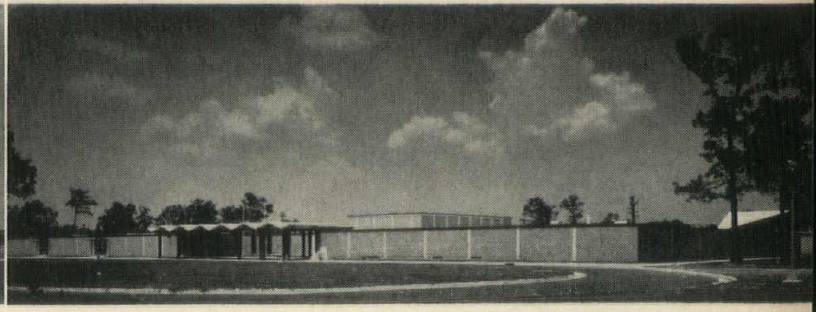
The building contains 35 standard classrooms, two health classrooms, seven science rooms, two music and choral rooms, two shops, two homemaking suites, study hall (capacity 80), art room, library, auditorium (capacity 1,100) cafeteria (capacity 800), gymnasium (capacity 1,000), 12 toilets, 17 storage rooms, five faculty rooms, a TV studio, a shop-related classroom.

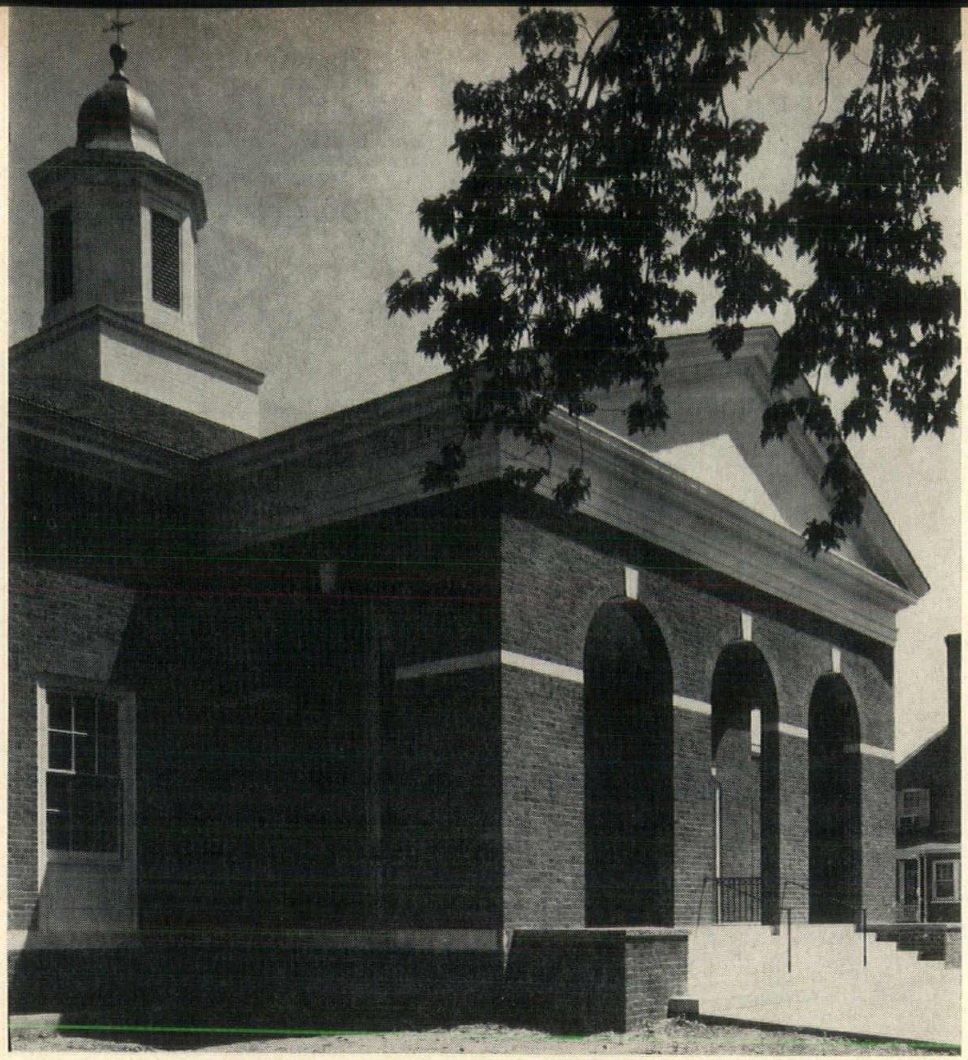
Also, two drafting rooms, four locker rooms, four shower rooms, kitchen, administrative suite (consisting of waiting rooms, offices, vault and duplicating room), guidance suite (consisting of waiting room and counseling offices), health suite (consisting of examining room, rest rooms and toilet facilities), language lab with office and storage room, three student activity rooms and student store.

SUBCONTRACTORS & SUPPLIERS

M. D. KNOX, Emporia
Masonry
LIPHART STEEL CO., INC., Richmond
Steel, handrails
ROOF ENGINEERING CORP., Norfolk
Roof deck, insulation
WITHERS-CLAY-UTLEY, INC., Norfolk
Windows
BUILDING SUPPLIES CO., Norfolk
Glazing
E. CALIGARI & SON, INC., Newport News
Painting
JOHN BROTHERS, Norfolk
Plaster
POMPEI TILE CO., INC., Newport News
Ceramic tile
W. MORTON NORTHEN & CO., INC., Richmond
Resilient tile
R. L. DRESSER, INC., Raleigh, N. C.
Wood flooring
FERRELL LINOLEUM & TILE CO., INC., Norfolk
Terrazzo
RICH-LINE MFG. CO., INC., Richmond
Millwork
HALL-HODGES CO., INC., Norfolk
Steel doors and bucks
VOLTA ELECTRIC CO., INC., Norfolk
Lighting fixtures
HARRIS HEATING & PLUMBING CO., INC., Richmond
Plumbing fixtures, plumbing, air conditioning, heating, ventilating
CLYDE R. ROYALS, INC., Hampton
Grading and roads
LOWE & ASSOCIATES, INC., Newport News
Storm sewers and drainage
GRINNELL CO., INC., Richmond
Sprinkler system







(Holsingers' Studio)

Charlottesville Courthouse Constructed by C. W. Hancock & Sons, Inc.

JOHNSON, CRAVEN & GIBSON: Architects

HANKINS & ANDERSON
Electrical Consultants

HANSON & CRAIG
Structural Consultants

ON A SITE at the corner of High and Fourth Streets, Charlottesville's first courthouse is nearing completion. The structure, a two-story brick and cinder block building, has dimensions of 108′ x 96′. It has interior walls of plastered concrete block; limestone and wood trim mark the exterior, and the courthouse is capped with a slate roof.

Facilities in the building include a courtroom which has a seating capacity of 125, judges' chambers, jury room and a clerk's office. The lower level has offices for civil defense along with storage rooms for records.

The building has been set back from the street to keep it in line with other buildings in the area and the main floor is elevated several feet above street level.

Designed by the architectural firm of Johnson, Craven and Gibson, the building is accordant with architecture prevalent in the area while offering functional quarters to the court and the court clerk previously housed in rented space in county buildings. After some years of initial planning and discussion, the project got firmly under way when the citizens of Charlottesville gave resounding approval to a $600,000 bond issue in March 1961 in which funds for the then proposed courthouse were provided.

The cost of the building itself is $292,000.00, which figure is exclusive of the site purchase, clearing, architects' fees and other pre-construction costs. Special furnishings for the courthouse —such as pews for the courtroom— have been ordered and with the structure more than 98% complete at press time, it is expected that Charlottesville's first courthouse will shortly be serving the community.

SUBCONTRACTORS & SUPPLIERS

(Charlottesville firms unless otherwise noted)

H. T. Ferron, concrete; Home Materials, Inc., masonry; Montague-Betts Co., Inc., Lynchburg, steel; J. B. Eurell Co., Richmond, Gypsum roof deck; Virginia Steel Co., Inc., Richmond, reinforcing steel, steel joist; I. N. McNeil, Roanoke, roofing; McNeely Stone Co., Ellettsville, Ind., stone work; North Carolina Granite Corp., Mount Airy, N. C., granite; Pittsburgh Plate Glass Co., Lynchburg, glazing; Superior Paint Contractors, Lynchburg, painting; Manson & Utley, Inc., weatherstripping; Charlottesville Floor Covering, acoustical, resilient tile; Paul E. Styles, Lynchburg, plaster; Oliva & Lazzuri, Inc., ceramic tile; Taylor Bros., Inc., Lynchburg, millwork; Clarke Electric Co., Inc., Danville, electrical work; Hungerford, Inc., Richmond, mechanical; Roanoke Iron & Bridge Works, Inc., Roanoke, miscellaneous metals; Skyline Paint & Hardware, Roanoke, finish hardware; Allied Supply Co., cinder block.

W. M. JORDAN CO., INC.

Commercial – Industrial – Governmental

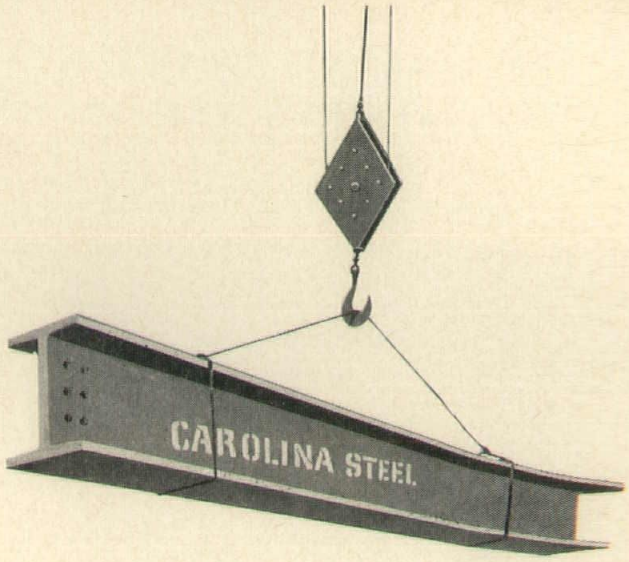
St. Reg. # 4636

11050 Warwick Blvd. Phone LY 6-6341

NEWPORT NEWS, VIRGINIA

General Contractors

- Tabernacle Baptist Church, Page 24
- Barron Elementary School, Page 24
- Benjamin Syms Jr. High School, Page 23



HELPING TO BUILD A NEW SOUTH

Carolina Steel Corporation

Greensboro, North Carolina

PERRY ELECTRIC CO., INC.

ELECTRICAL CONTRACTORS

Industrial — Residential — Commercial

THE SEAL THAT SYMBOLIZES ELECTRICAL SATISFACTION — NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION INC. — QUALIFIED ELECTRICAL CONTRACTORS — NECA

28th & Huntington Ave. Phone CHestnut 4-1300

NEWPORT NEWS, VIRGINIA

See Benjamin Syms Jr. High School, Page 23
Barron Elementary School, Page 24
Tabernacle Baptist Church, Page 24

SERVING LEADING CONTRACTORS & INDUSTRIES OF TIDEWATER FOR OVER TWENTY (20) YEARS

DIAL

KI 5-7388

All Sizes
2 x 4 Thru 12 x 12

Lumber When You Want It

JOHN E. WOOL LUMBER CO., INC.

Office & Mill — 1000 E. Berkley Ave. Ext.

NORFOLK, VIRGINIA

See the Chesapeake Bay Bridge-Tunnel Feature in this Issue

SEABOARD PAINT & SUPPLY CO.

Distributors for

SCHLAGE, YALE AND KWIKSET HARDWARE

40th & Killam Ave.
NORFOLK, VA.

T. A. TALLEY, JR. & CO.

Mechanical Contractors

COMMERCIAL — INDUSTRIAL

1501 Sledd St. MI 8-0129
RICHMOND, VIRGINIA

Mechanical Contractors: Plumbing, Heating and Ventilating for Fire Station, Fort Lee, Page 32.

Andrews-Joyner Iron Works

Steel Fabricators

PETERSBURG, VIRGINIA
515 Bollingbrook Street RE 3-5333

Steel:
- Fire Station, Fort Lee, Page 32
- Two Battalion Headquarters, Fort Lee, Page 32

STANLEY W. BOWLES

GENERAL CONTRACTOR AND BUILDER

P. O. Box 1348 Phone ME 2-3446
MARTINSVILLE, VIRGINIA

Virginia State Registration No. 1086

North Carolina State Registration No. 2924

General Contractor for American of Martinsville, Featured on Page 16.

We Are Proud to Have Been Selected
As the Concrete Supplier for the New
Charlottesville Courthouse
(See Page 20)

H. T. FERRON COMPANY

Carlton Addition
CHARLOTTESVILLE, VIRGINIA

TODD ELECTRIC COMPANY

Electrical Contractors

SALES — SERVICE — SUPPLIES

2311 Ingleside Road Phone UL 5-3111
NORFOLK, VIRGINIA

Electrical contractor for Steel Service of Hampton Roads, Inc. and Chesapeake Bay Bridge-Tunnel, featured in this issue.

DISTRIBUTORS FOR

PETTER & YANMAR DIESELS • PALMER GAS ENGINES
SURRETTE MARINE BATTERIES

SALES GM DIESEL POWER SERVICE

STEWART-WARNER INSTRUMENTS
Dial 397-0776
Nights Dial EX 3-1344

Western Branch Diesel Inc.

WEST NORFOLK PORTSMOUTH, VA.

See the Chesapeake Bay Bridge-Tunnel Feature.

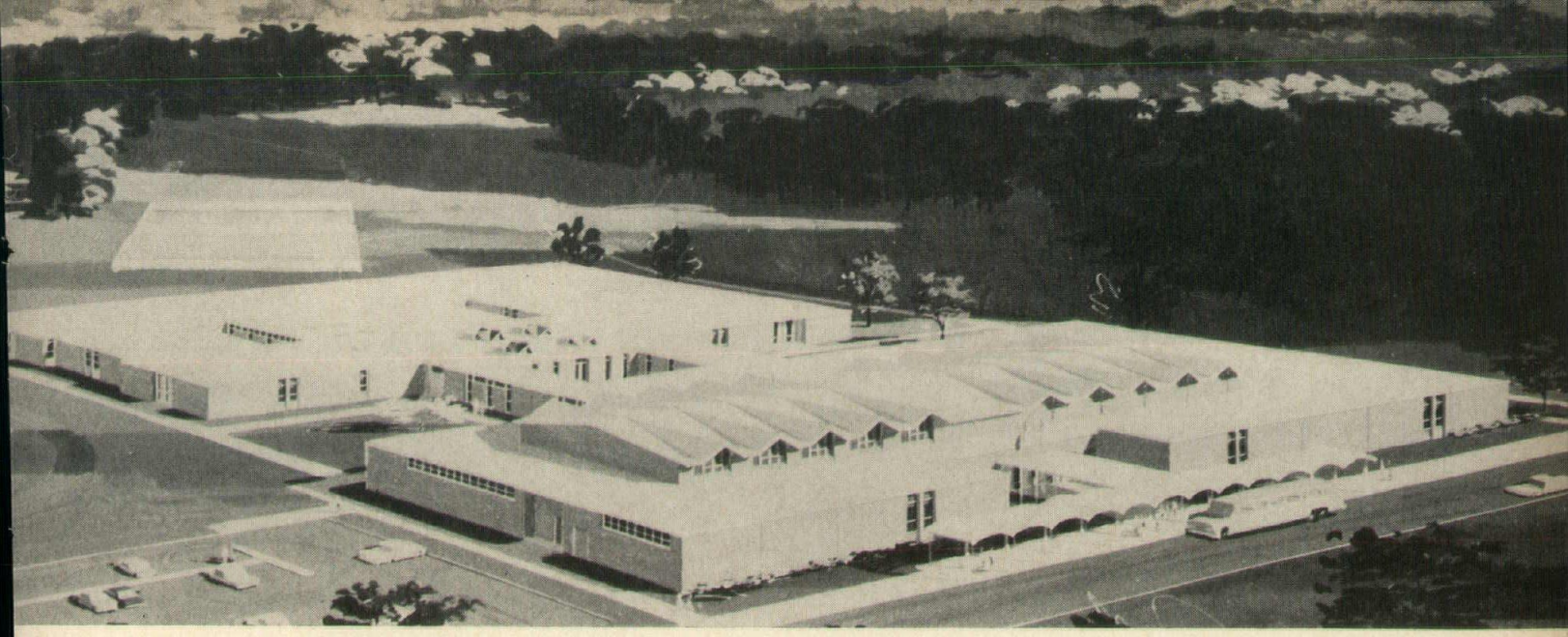
K. & M. PLUMBING & HEATING CO.

HEATING, PLUMBING & AIR CONDITIONING CONTRACTORS

COMMERCIAL — INDUSTRIAL
RESIDENTIAL

315 Wythe St. RE 2-1544
PETERSBURG, VIRGINIA

Plumbing, heating, ventilating and air conditioning contractors for two battalion headquarters buildings, Fort Lee, page 32.



BENJAMIN SYMS JUNIOR HIGH SCHOOL OPEN THIS FALL: CONSTRUCTION BY W. M. JORDAN CO., INC.

• The Benjamin Syms Junior High School, located on Fox Hill Road in Hampton, will be opened for the school term this fall. This compact, air-conditioned facility, designed by Oliver & Smith, AIA, Norfolk, and constructed by W. M. Jordan Co., Inc., Newport News, will house 1200 seventh, eighth and ninth grade students.

The five-part one-story brick building covers 118,000 square feet. Interior walls are masonry; roof is built up; windows are aluminum, and floors are terrazzo and resilient tile. The building was constructed at a total cost of $1,687,000.

The basic scheme for the school is to provide separate areas for undepartmentalized academic instruction for the seventh grade students and departmentalized instruction for the eighth and ninth grades. The circulation system promotes segregated traffic between the seventh and the eighth-ninth grade areas, allowing for use of the corridors without disturbing the other homeroom area.

The seventh grade area consists of 15 classrooms for 450 students. Two of these rooms are equipped for science demonstrations and the room adjacent to the art laboratory is equipped for seventh grade art instruction. The reading clinic, located in the common interest area, is oriented toward seventh grade for "reading assistance"; should large class instruction or team-teaching become necessary, the masonry partitions are removable to provide larger spaces.

The eighth and ninth grade area consists of 14 regular classrooms and science facilities. Also here are a student activities room, art lab and language suite. Similar homemaking units open to each of the two academic areas. Included is a group instruction area for large class instruction, special lectures or demonstrations and special audio-visual aids presentations. This area will also provide opportunities for the exploration of "team teaching" and developing other large group instruction techniques.

A central area provides spaces for the administration functions, guidance, health clinic, book supply and student store. Across a court, the library complex provides an area of common interests and is accessible from the two academic areas. Control is provided by the charge desk at the eighth/ninth grade entrance and the librarian's office at the seventh grade entrance. Two seating areas for library classes are arranged in the reading room. A nearby television studio is for programs that originate in the school, live or pretaped, and the distribution of broadcast programs.

The main entrance of the five-part building, on the far side from the academic areas, falls between the gymnasium and the auditorium. In this complex are also located band, choral, health, exercise and shop facilities.

OLIVER & SMITH
Architects

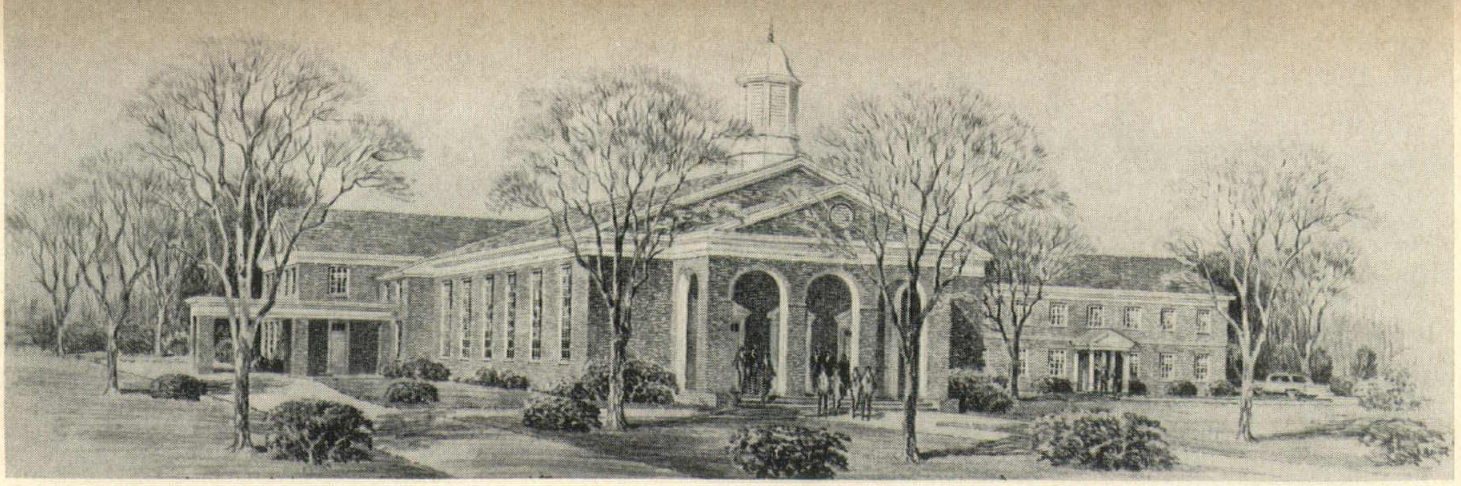
MATHEW J. THOMPSON, III
Mechanical Consultant

R. C. M. CALVERT, JR.
Electrical Consultant

FRAIOLI-BLUM-YESSELMAN
Structural Consultants

SUBCONTRACTORS & SUPPLIERS

W. M. JORDAN CO., INC., Newport News
General contractor, excavating, foundations, concrete, carpentry, insulation
SNOW, JR., & KING, INC., Norfolk
Masonry
BARNUM-BRUNS IRON WORKS, Norfolk
Steel, steel roof deck
ROOF ENGINEERING CORP., Norfolk
Roof deck, roofing
HALL-HODGES CO., INC., Norfolk
Windows (Ceco)
Steel doors and bucks (Atlantic)
WALKER & LABERGE CO., INC., Norfolk
Glazing
E. CALIGARI & SON, INC., Newport News
Painting, plastic wall finish
MANSON & UTLEY, INC., Richmond
Acoustical
FEBRE & CO. OF NEWPORT NEWS, INC.
Plaster
POMPEI TILE CO., INC., Newport News
Ceramic tile, terrazzo
SOUTHEASTERN TILE & RUG CO., INC., Newport News
Resilient tile
R. L. DRESSER, INC., Raleigh, N. C.
Wood flooring
RICH-LINE MFG. CO., INC., Richmond
Millwork
LEWIS & SALE, INC., Norfolk
Handrails
PERRY ELECTRIC CO., INC., Newport News
Lighting fixtures, electrical work
PEEBLES SUPPLY CORP., Hampton
Plumbing fixtures
WARWICK PLUMBING & HEATING CORP., Newport News
Plumbing, air conditioning, heating, ventilating



TWO PROJECTS OF W. M. JORDAN CO., INC.

TABERNACLE BAPTIST CHURCH

C. W. HUFF, JR.
Architect

• The new Tabernacle Baptist Church, located at Colony and Lucas Creek Roads in Newport News, was open for its first service June 23, 1963. Completed two months ahead of schedule by the W. M. Jordan Co., Inc., Newport News general contractors, the building was designed by C. W. Huff, Jr., Richmond architect.

The rendering shows the first unit, which will later on be used as a fellowship hall and recreation building, with stage in place of the pulpit. The future church will be in the center of the group and additional Sunday School space will be erected on the other side, so that there will be a balanced arrangement with the church in the center.

The new church has an interim auditorium that will seat 700 persons and an educational building of approximately 38,000 square feet of floor space to care for 915 in Sunday school. In addition to the pastor's study, educational directors' and secretaries' offices, there is space for a library, kitchen, fellowship hall and choir practice room. This building has six nurseries, four beginner and three primary departments. The two junior and intermediate departments have 16 classes each. The new unit also accommodates a young peoples department with four classrooms, a married young peoples department with four classrooms, a young adult department with six classes and two adult departments with six classes each. The entire structure is completely air conditioned. On the 10 acre site there is ample space for parking, recreational activities and future buildings. Future plans call for an auditorium that will seat 1600.

The T-shaped brick building has exterior walls of brick; interior walls are plaster. Roof is asphalt shingle, windows are wood and floors are resilient tile.

Prior to the year 1897 a group of Baptists living in what was then known as Orrsville, in the east end of Newport News, realized the need of a Baptist church in this fast growing section of the city. The movement received the encouragement and cooperation of First Baptist and Orcutt Avenue Baptist Churches. With this encouragement a mission Bible school was started in the home of W. W. Adams, 514-35th Street in the fall of 1897. Two years later the congregation moved to the 600 block of 32nd Street. In 1918 the church moved to 30th Street to worship in a building of frame construction. A three story educational building was erected in 1949 and a new auditorium was built in 1953.

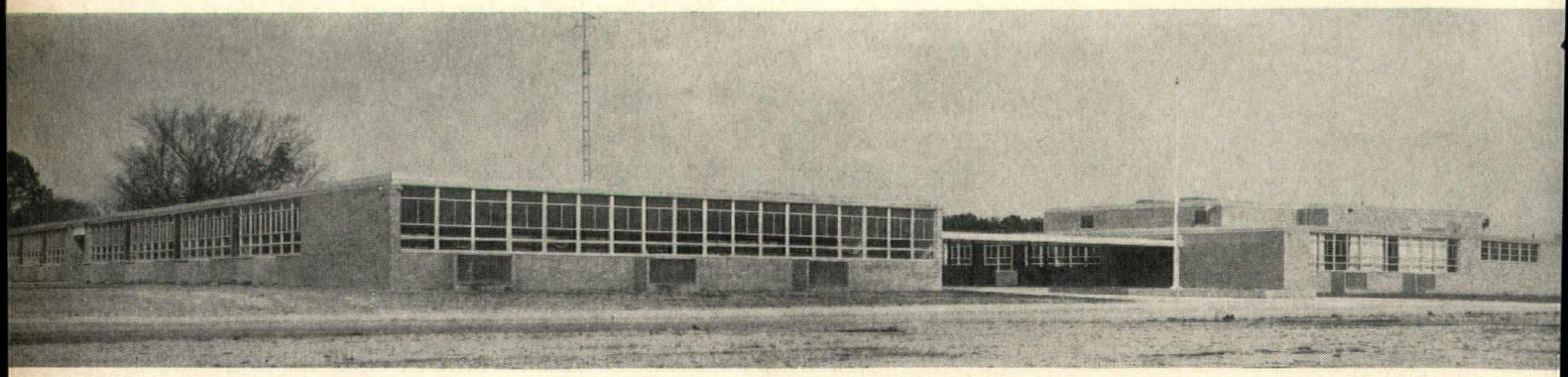
Last year the Tabernacle congregation voted to sell the buildings on 30th Street to the First Baptist Church, East End, a Negro congregation, for $150,000. Prior to this, the members of the Colony Baptist Mission extended an invitation to the Tabernacle Baptist Church members to unite with them in purchasing of property and the building of a new church. Both congregations purchased ten acres of land for $35,000.00 for the construction site, and the new building was constructed for a cost of $452,921.00.

Tabernacle is associated with the Peninsula Baptist Association, the General Baptist Association of Virginia and the Southern Baptist Convention.

The Rev. Jack V. Tesh became pastor of Tabernacle on January 19, 1947. Under his ministry, there have been 1,866 additions to the church. Of this number 1,137 were baptized. During the same period the members contributed more than a million dollars.

BARRON ELEMENTARY SCHOOL

FORREST COILE & ASSOCIATES: Architects
W. BOYCE BLANCHARD: Mechanical & Electrical Consultant



(Henry Sharp photo)

• The Barron Elementary School, completed in the fall of 1961, was one of a series of five semi-identical elementary schools built in Hampton utilizing electric heat pump installation, a revolutionary concept for all-year air conditioning for schools.

The school is a one-story brick building, covering 40,000 square feet. Exterior walls are brick with interior walls of exposed block painted. Roof is built-up; windows are aluminum and floors are terrazzo and resilient tile. Total cost of the building constructed by W. M. Jordan Co., Inc., was $530,000. Forrest Coile & Associates were architects, with W. Boyce Blanchard, mechanical and electrical consultant.

The electric heat pump installation, with electric resistance units for cold snaps and electric radiant baseboard heat in lavatories and halls, cost less than the next lowest bid based on hot water heat.

Savings resulted because the 36 self-contained electric heat pump units require no boiler room, stack or fuel storage, no pipes and duct work. The job required no redesigning of the three-wing building with its 24 classrooms, library, kitchen, offices, multi-purpose assembly room, wash rooms and storage space. And the electric units actually used no more floor space than ordinary hot water radiators.

W. Boyce Blanchard, mechanical and electrical consultant, has listed some of the advantages of heat pump system for school heating. These include individual classroom heating plants; individual ventilation systems; independent temperature control of each room; recovery of waste fuel; elimination of heating plant failure; summer air conditioning; low repair and maintenance costs; low operating cost—less than any other fuel for automatic individual heating plants; interchangeability of units; cleanliness, reducing cleaning and painting costs; flexibility, allowing for future expansion with a minimum cost for heating and ventilating equipment.

An additional advantage is the fact that the heat pumps go in as part of the electric system, whereas conventional fuel heat would mean separate construction taking six to seven months longer.

SUBCONTRACTORS & SUPPLIERS

Tabernacle Baptist Church

W. M. JORDAN CO., INC., Newport News
General contractor, excavating, foundations, concrete, structural wood, carpentry, paneling
CHESAPEAKE MASONRY CORP., Hampton
Masonry
STANDARD IRON & STEEL CO., INC., Norfolk
Steel
R. R. HOUSTON SHEET METAL WORKS, Hampton
Roofing
ECONOMY CAST STONE CO., Richmond
Stone work
MILLER MFG. CO., INC., Richmond
Windows, glazing, millwork
SHAW PAINT & WALL PAPER CO., INC., Newport News
Painting
MANSON & UTLEY, INC., Richmond
Weatherstripping
KRAUSE-MAYO, INC., Newport News
Insulation
A. D. STOWE, Portsmouth
Plaster
SOUTHEASTERN TILE & RUG CO., INC., Newport News
Resilient tile
UNITED ELECTRIC SUPPLY CORP., Newport News
Lighting fixtures
PERRY ELECTRIC CO., INC., Newport News
Electrical work
PEEBLES SUPPLY CORP., Hampton
Plumbing fixtures
WARWICK PLUMBING & HEATING CORP., Newport News
Plumbing

Barron Elementary School

W. M. JORDAN CO., INC., Newport News
General contractor, foundations, concrete, carpentry
UNITED FIREPROOFING CORP., Hampton
Masonry, structural tile
STANDARD IRON & STEEL CO., INC., Norfolk
Steel, steel roof deck
FOWLER ROOFING CO., INC., Norfolk
Roofing
BROWN & GRIST, INC., Newport News
Windows, window walls
WALKER & LABERGE CO., INC., Norfolk
Glazing
SHAW PAINT & WALL PAPER CO., INC., Newport News
Painting
FEBRE & CO. OF NEWPORT NEWS, INC.
Plaster
POMPEI TILE CO., INC., Newport News
Ceramic tile, terrazzo
SOUTHEASTERN TILE & RUG CO., INC., Hampton
Resilient tile
WATERFRONT LUMBER CO., Newport News
Millwork
HALL-HODGES CO., INC., Norfolk
Steel doors and bucks (Atlantic)
PERRY ELECTRIC CO., INC., Newport News
Lighting fixtures, electrical work, air conditioning, heating, ventilating
NOLAND COMPANY, INC., Newport News
Plumbing fixtures
WARWICK PLUMBING & HEATING CORP., Newport News
Plumbing

(Photos by Millie Boyer, Acme Photo Co., Inc.)

RAILWAY EXPRESS BUILDING AMONG PROJECTS RECENTLY COMPLETED BY E. T. GRESHAM CO., INC.

V. A. PINNELL, Atlanta: Architect

CHASTAIN & TINDEL, Atlanta: Structural Consultants

New headquarters for the Railway Express Agency in Norfolk have been completed at Lambert's Point adjacent to the new Norfolk & Western Railway passenger depot. This replaces the old facilities at Union Station.

The irregular shaped building, approximately 16 to 60 feet by 360 feet was erected at a total cost of $335,000. The one story structure has exterior walls of concrete and brick; interior walls are block. Roof is built-up; windows are aluminum, and floors are concrete.

The general contractor did the work on excavating, piling, foundations, concrete and carpentry. Principal subcontractors and suppliers, all of Norfolk unless otherwise noted, included the following:

H. F. Coke, masonry; Richmond Steel Co., Inc., Richmond, steel; Coastal Prestress, Inc., prestressed concrete; Roof Engineering Corp., roofing; Morris-Dudley & Associates, windows; Binswanger Glass Co., glazing; Harry E. Paul, Inc., painting; Manson & Utley, Inc., acoustical; Ajax Co., Inc., ceramic tile; Ferrell Linoleum & Tile Co., Inc., terrazzo; Burton Lumber Corp., millwork; Door Engineering, steel doors and bucks; E. G. Middleton, Inc., electrical work; Joseph S. Floyd Corp., plumbing, air conditioning.

TWO ADDITIONAL STRUCTURES BY GRESHAM: STEEL SERVICE OF HAMPTON ROADS, BAYSIDE BOATS

• The new plant of Steel Service of Hampton Roads, Inc., on Ingleside Road, Norfolk, contains 21,000 square feet of floor space and was completed at a cost of $100,000.

The building was manufactured by Armco Steel Corp., Metal Products Div., Middletown, Ohio, and erected by Gresham Metal Buildings Co., Inc., Norfolk. It is pre-engineered metal building utilizing a truss framed roof. Clear height is 24 feet; overall height is 35 feet. In addition to the regular roof loads, the roof system is designed to carry two 5-ton cranes and the radio tower for their mobile radio system. A scale for weighing steel products is built into the floor.

The one story rectangular structure is 70′ by 283′ by 28′. Exterior and interior walls of the office are block with built-up roof. Windows are aluminum and floors are reinforced concrete.

All design work was by the general contractor and Armco Steel Corp. The general contractor also did the work on excavating, foundations, concrete, carpentry, handrails.

Principal suppliers and subcontractors, all of Norfolk unless otherwise noted included: Snow, Jr., & King, Inc., masonry; Eastern Roofing Corp., office roofing; Pittsburgh Plate Glass Co., glazing; Shaw Paint & Wall Paper Co., Inc., painting; Manson & Utley, Inc., acoustical; Grover L. White, Inc., resilient tile; Door Engineering; steel doors and bucks (office); Todd Electric Co., electrical work (Lithonia fixtures); E. B. Sams Co., Inc., plumbing; C & P Air Conditioning Corp., air conditioning.

The overhead crane system was supplied by Cleveland Tramrail, suspended from trusses; furnished and installed by Hugh R. Noel Co., Inc., Richmond.

• The building for Bayside Boats, Inc., located on Shore Drive at Virginia Beach, is also an Armco pre-engineered rigid frame building 60′ clear span by 75′ long. The roof deck is a prepainted Armco Steelox Panel. Masonry walls walls were substituted for the usual Steelox walls. This building was also furnished and erected by Gresham Metal Buildings Co., Inc., Norfolk.

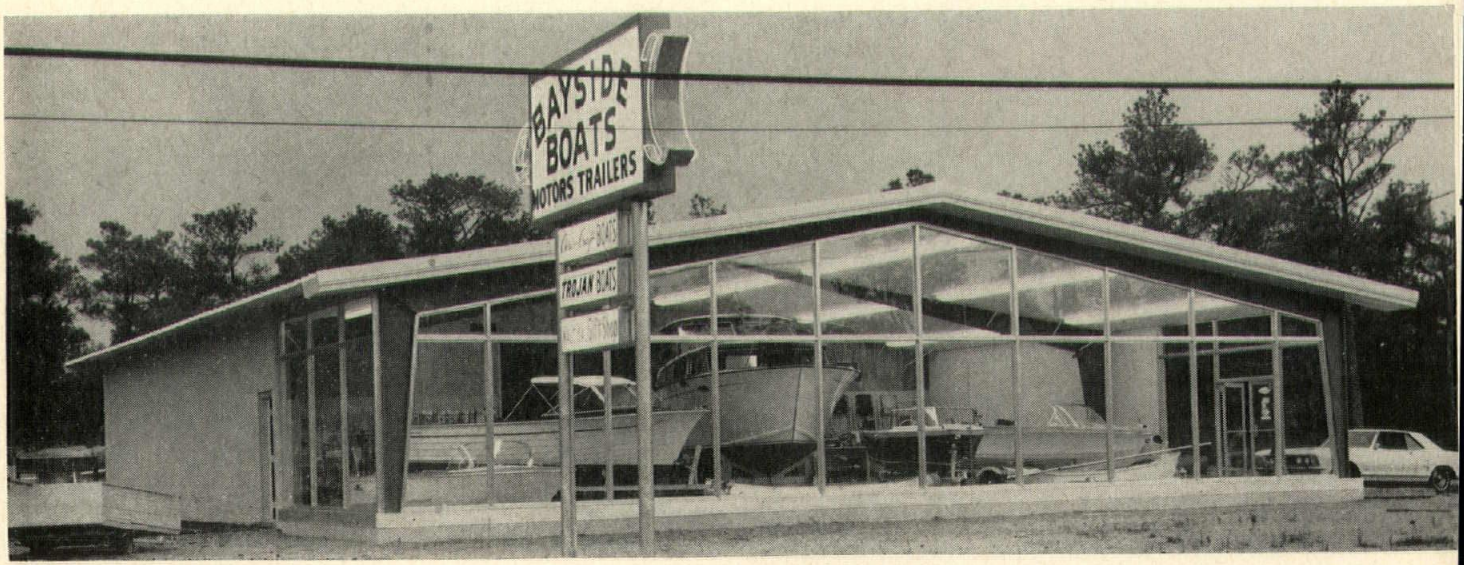
The one story building has exterior walls of block and interior walls of frame. Windows are steel and floor is concrete. All design work was by the general contractor and Armco Steel Corp.

The new headquarters will have display room for up to 12 boats indoors and twice as many outside.

In addition to its various boat lines, from four-foot Sport Yaks to 42-food cruisers, the company will handle Mercury outboard motors and Morton boat trailers.

The general contractor did the excavating, foundations, concrete, carpentry, and paneling work.

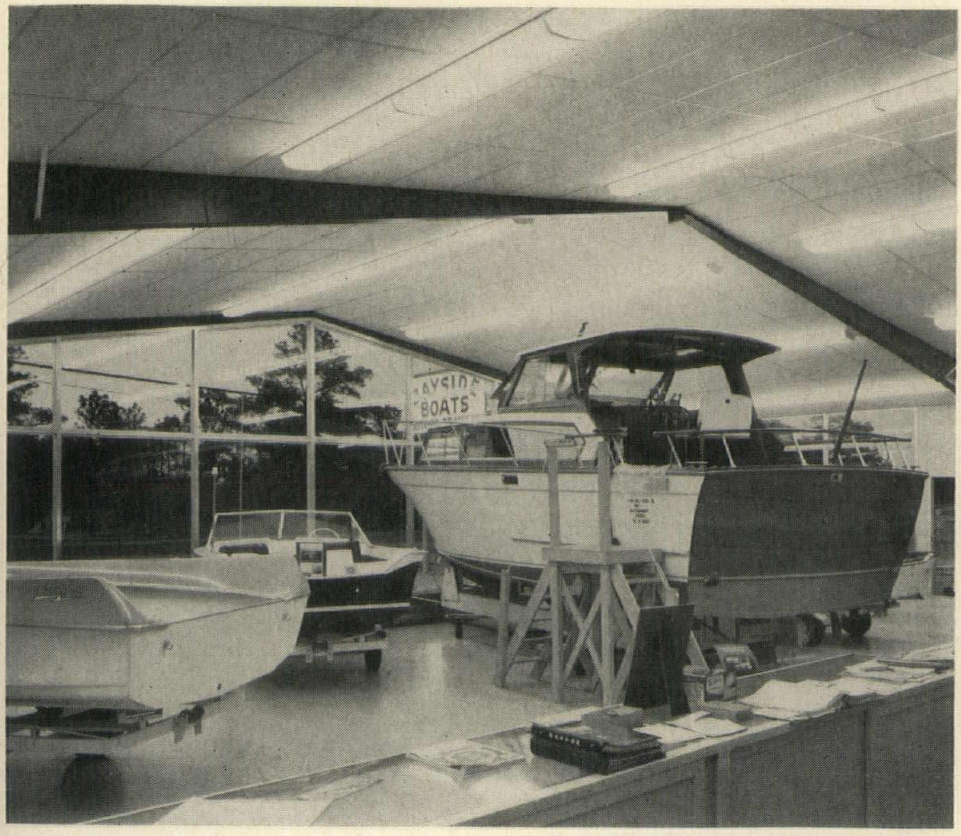
Principal subcontractors and suppliers, all of Norfolk unless otherwise noted, included: H. F. Coke, masonry; Binswanger Glass Co., glazing; Shaw Paint & Wall Paper Co., Inc., painting; Manson & Utley, Inc., insulation, acoustical; Grover L. White, Inc., resilient tile; Door Engineering, overhead doors, steel doors and bucks; E. G. Middleton, Inc., lighting fixtures, electrical work; Princess Anne Plumbing & Electrical Suppliers, Inc., Virginia Beach, plumbing (American-Standard fixtures); C & P Air Conditioning Corp., heating. Provisions were made for later installation of air conditioning by C & P.



▲ STEEL SERVICE

(Photos on these pages by Millie Boyer, Acme Photo Co., Inc.)

▼ BAYSIDE BOATS



VIRGINIA'S ANNUAL AUTUMN PILGRIMAGE

Virginia's Annual Autumn Pilgrimage, now in its third year, will this season be divided into two areas: Westmoreland, Richmond, King William, King and Queen Counties and Yorktown, the weekend of October 11-13; and Charles City, Prince George, Surry Counties and Hopewell October 18-20.

The 1963 Pilgrimage embraces eight historic churches, supported by thirty homes, plantations and national shrines. Churches and homes are open from 10:00 a.m. to 5:00 p.m. on weekdays, and from 1:30 to 5:30 p.m. on Sundays. Block tickets for each area are available at homes included on tour.

Information is available from The Virginia State Travel Bureau in Washington and from Virginia's Annual Autumn Pilgrimage, 3806 Chamberlayne Avenue, Richmond 27, Va.

Construction photos of battalion headquarters, above, and fire station, below. (Photos by Ray Hash Studio)

R. G. Martz Construction Corporation Has Fort Lee Projects Underway

Two battalion headquarters and a three-stall fire station are nearing completion at Fort Lee with R. G. Martz Construction Corp., Petersburg, as general contractors.

The fire station, to cost $115,131, is an L-shaped building approximately 66′ by 79′. Exterior walls are brick and interior walls are Solite block. Roof is poured Gypsum, windows are aluminum and floors, concrete.

The two battalion headquarters, to be completed at a total cost of $190,131, are approximately 131′ x 38′, one story and rectangular in shape. Exterior walls are brick; interior are Solite block; roof is built-up. Windows are aluminum and floors are concrete.

FIRE STATION

CORPS OF ENGINEERS, Norfolk
Architects

SUBCONTRACTORS & SUPPLIERS

(All Richmond firms unless otherwise noted)

Burton P. Short & Son, Inc., Petersburg, excavating; J. L. Lockwood Co., Hampton, piling; Southern Materials Co., Inc., Petersburg, concerte; Charleston Kelly, Lawrenceville, structural tile, masonry; Andrews-Joyner Iron Works, Petersburg, steel; J. B. Eurell Co., roof deck; De Shazo Roofing Co., roofing; Withers-Clay-Utley, Inc., windows; Pittsburgh Plate Glass Co., glazing; Gilbert Clements, Petersburg, painting; John Edmonds, Jr., Ettrick, plaster; Ace Tile & Floor Coverings, Inc., ceramic tile; C. B. Smith Co., resilient tile; Martz Building Supplies, Petersburg, millwork; J. S. Archer Co., steel doors and bucks; King Electric Co., Inc., Hopewell, lighting fixtures, electrical work; T. A. Talley, Jr. & Co., plumbing fixtures, plumbing, heating, ventilating; Guy Smith Hardware, Inc., hardware; Bowker & Roden, Inc., reinforcing steel.

Foundations, carpentry, paneling, waterproofing, weatherstripping are being done by the general contractor.

BATTALION HEADQUARTERS

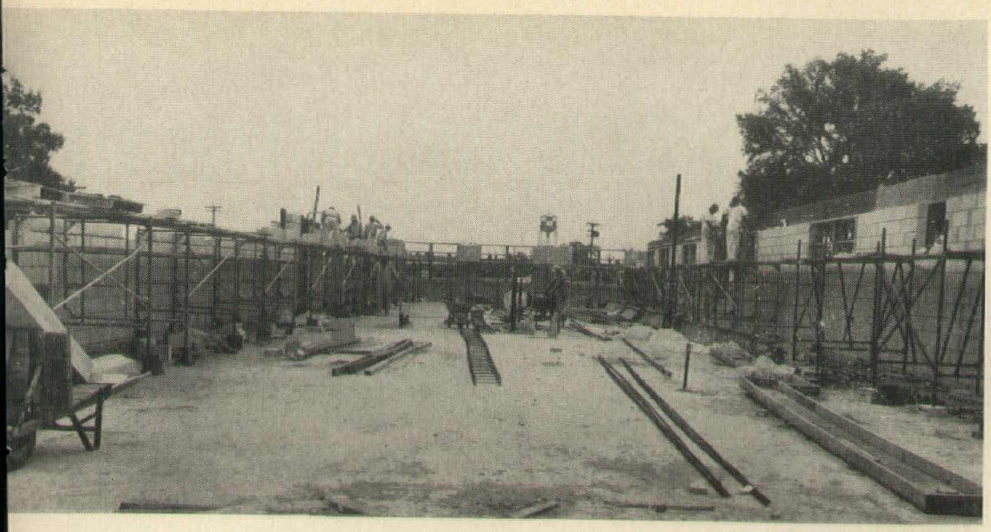
LUBLIN, McGAUGHY & ASSOCIATES
CORPS OF ENGINEERS, Norfolk
Architects

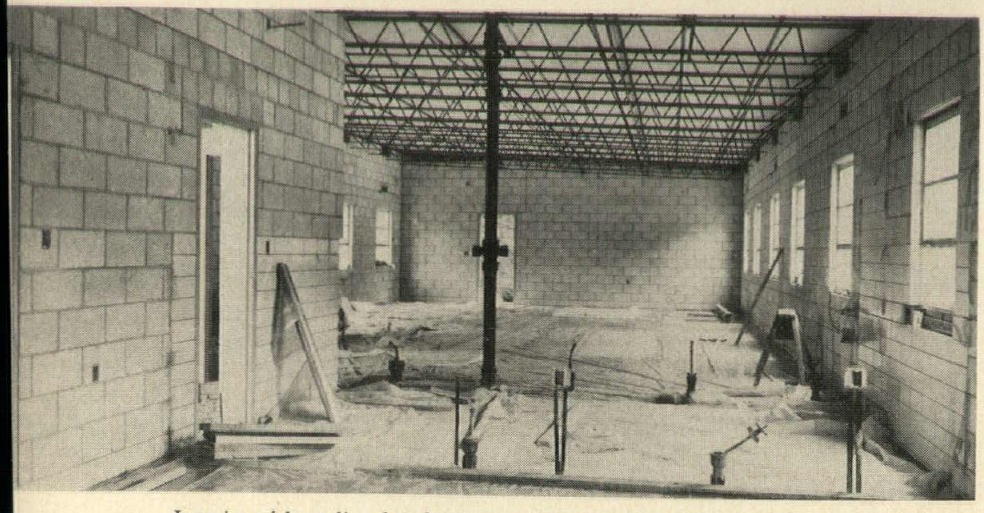
SUBCONTRACTORS & SUPPLIERS

(All Richmond firms unless otherwise noted)

Burton P. Short & Son, Inc., Petersburg, excavating; Southern Materials Co., Inc., Petersburg, concrete supplier; Charleston Kelly, Lawrenceville, masonry; Andrews-Joyner Iron Works, Petersburg, steel; J. B. Eurell Co., roof deck; De Shazo Roofing Co., roofing; Pittsburgh Plate Glass Co., glazing; Gilbert Clements, painting; John Edmonds, Jr., Ettrick, plaster; Ace Tile & Floor Coverings, Inc., ceramic tile; C. B. Smith Co., resilient tile; Miller Mfg. Co., Inc., millwork; J. S. Archer Co., steel doors and bucks; King Electric Co., Inc., Hopewell, lighting fixtures; K & M Plumbing & Heating Co., Petersburg, plumbing fixtures, plumbing, air conditioning, heating, ventilating; Guy Smith Hardware Co., Inc., hardware; Bowker & Roden, Inc., reinforcing steel.

The general contractor did the work on foundations, concrete, carpentry, waterproofing and weatherstripping.





Interior of battalion headquarters, above, and fire station, below.

See the New

Barron Elementary School, Page 24
Benjamin Syms Jr. High School, Page 23
Tabernacle Baptist Church, Page 24

Wise County's "small landing field"

. . . and about July

Editor
Virginia Record

Dear Mr. Dowdey:

I refer to Page 83 of your July 1963 edition in which we are a small advertiser.

You are referring on this page to Wise County and end your remarks with the following. "There are good highways and a small landing field."

The small landing field is a half a million dollar airport with a paved runway 4,050 feet long with landing lights, radio beacon, and homing device. It is also equipped with a large hangar and administration building.

It is one of Wise County's prized possessions and means a great deal to Wise County in connection with industrializing the area.

Yours very truly,
H. L. Thompson, *President*
Norton Coal Company, Inc.
Norton, Virginia

Editor,
Virginia Record
Dear Mr. Dowdey:

This is the first time in my life that I have ever written a "letter to the Editor," however, I happen to be rather proud of Norfolk Southern Railway Company and the contribution it has made to the economy of the cities of Norfolk, Chesapeake and Virginia Beach.

In your article covering the profiles of Virginia counties and cities, District Two consists of Chesapeake, Norfolk and Portsmouth. The last paragraph is the item which bothers me. You end by saying, " . . . ample rail service on the Norfolk and Western, Chesapeake and Ohio, Seaboard Air Line and Atlantic Coast Line railways" and no mention is made of poor little us. We happen to serve the City of Norfolk the same as these other people do. As for the City of Chesapeake, this is the northern terminus, in effect, of our railroad and we have our shops there to do all car and diesel repair work, and our annual payroll contribution to this area runs about two million dollars. I believe you can see from this why I am disturbed about the article.

Mr. Oetjen

While I know it is too late to correct it, I hope that the next time you put out a profile such as this that you will include the Norfolk Southern as a part of the State of Virginia and the various municipalities.

Yours very truly,
Henry Oetjen, *President*
Norfolk Southern Railway Company
Raleigh, North Carolina

"A Brief, Noisy Hour"

(Continued from page 5)

another drinking beer in a booth gazing, with the proprietors, at a comedian on the idiot box, and nothing could be more frightening for the state of our society than to hear those four separated individuals braying as if on signal to some sally by a comic. This is ultimate loneliness, ultimate anxiety, to be reduced to so passing the God-given hours of the journey on earth.

This is freedom from a tragic sense of life, where the hours, without meaning, need to be narcotized away. Yet, there is nothing in our leadership to indicate a population suffering from anxiety. Our political leaders are to protect us from all fear of want, and the current president even promised to "eradicate illness." We are persuaded to accept the new non-spiritual gods who are the first in recorded time to promise man a paradise on earth. In accepting these promises man, instead of being "happy," finds himself miserable and directionless. But this is inevitable. Whether or not under the new gods man rejects the tragic sense of life, he can not escape his *basic* anxieties as a mortal; indeed, the more he accepts palliatives for the natural misfortunes to which flesh is heir the more the inner emptiness grows. For, in accepting palliatives provided by others, he is denying his own resources as an individual.

Ultimately the State as a womb destroys man's reliance on himself, and the less reliance he has the more he will become prey to that uneasiness defined as "estrangement." If every legislation

liberals or conservatives wanted to enact were passed tomorrow, and billions were found to flow like water without consequences to the economy, man's inner state would not be benefitted one jot or tittle. There is only one frontier that can have any meaning, and that's the frontier of the individual spirit.

At all levels of political bodies, from cities to U.N., the representatives are talking—talking, *talking*—on the surface of things, adumbrating over pimples and sneezes, when the patient is suffering from a terminal illness. We seem to have forgotten that the nation is a composite of mortal human beings, and not statistics on a chart; and the human beings, in their desperate desolation, are grasping at the tinny false gods who ask man not to suffer nobly but promise that he can make his journey without pain—without a tragic sense of life. Contemporary man is the first who tried it and, however brief his total hour might be in comparison with Egypt, it is certainly the "noisiest" time any people have ever known on earth.

If the world survives sufficiently for us to be studied, we will be regarded as introducing the noisy sense of life.

Clifford Dowdey

AASHO ROAD TEST SHOWS HOW DEEP-STRENGTH ASPHALT PAVEMENT SOLVES "SPRING-THAW" PROBLEMS!

Official results offer clear proof of another advantage of DEEP-STRENGTH Asphalt construction for state and county roads

A familiar headache for many city, state and county highway engineers is the annual problem of pavement deflection and loss of strength due to "spring thaw." Now, out of the results of the recently completed AASHO Road Test come two pieces of evidence which show how **Deep-Strength** Asphalt bases and multi-layer Asphalt construction offer a practical solution to problems of this sort.

First, a study of Asphalt-base test road sections reveals that they were approximately 6½ times as effective as granular base for reducing deflection in the spring.

Second, an examination of the performance histories of the AASHO pavement sections discloses that while the major loss of serviceability for granular base pavements occurred in the spring, there was no noticeable acceleration whatsoever in the loss of serviceability for Asphalt-base pavement during this period.

This means that **Deep-Strength** Asphalt construction gives you a stronger, more durable roadway the whole year round, thus eliminating load restrictions during the critical spring period. In addition, multi-layer **Deep-Strength** pavements offer other advantages for the city, state and county road-builder. Asphalt pavements save up to 50% in construction costs and **they also have lower annual cost, including maintenance.** Traffic stripes and markings are more visible in any weather, day or night, for greater highway safety.

Asphalt surfaces are not harmed in winter by de-icing chemicals, and they are quieter and smoother riding, with no annoying **thump-thump-thump.**

Taken together, the facts add up to this: inch-for-inch and dollar-for-dollar, modern **Deep-Strength** Asphalt pavements are your soundest road investment.

THE ASPHALT INSTITUTE

1901 Pennsylvania Avenue, N. W., Washington, D. C.

Compliments of

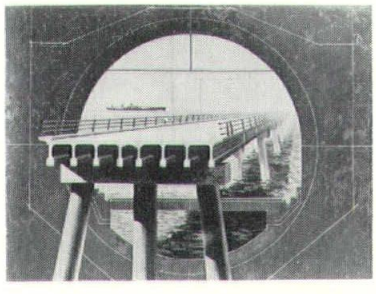
TIDEWATER CONSTRUCTION CORPORATION

MERRITT-CHAPMAN & SCOTT CORPORATION

RAYMOND INTERNATIONAL INC.

PETER KIEWIT SONS' CO.

A Joint Venture



Contractors for the Chesapeake Bay Bridge-Tunnel