



# WATER-RIGHT DOCKET

## Blue Ridge Parkway

Docket No: 19

JAMES RIVER MAINTENANCE AREA.

Supporting Hydro Data

00-00-0000: james river

The fourth test well (Pine Spur No. 6) was drilled to a depth of 100 feet in layered gneiss, and completed September 24, 1963. The 6-inch well casing was set at 42 feet below land surface and the well was finished as an open-end well from 42 feet to 100 feet. Ground Water was obtained from a permeable zone between 42 feet and 60 feet. Static water level in the well was 13.5 feet at its completion. The well was test pumped and the yield of the well was 50 gpm. Drawdown to pumping level (60 feet) was not attained during the 6-hour test. A second pumping test was performed October 8, 1963. Hydrographs of the tests showing the drawdown are included. The chemical quality of water from this well is acceptable for general use without treatment. A complete chemical analysis of the water is attached.

### James River

One test well was drilled to a depth of 156 feet at this site, and completed September 27, 1963. The 6-inch well casing was set at 48 feet below land surface and the well was finished as an open-end well from 48 feet to 156 feet in greenstone. Ground water was obtained from permeable zones at 58 feet, 78 feet, and 118 feet. Static water level in the well was at 21 feet at its completion. The well was test pumped and the yield of the well is 10.7 gpm at 60 feet of drawdown after 3½ hours. A hydrograph of the test is included. The chemical quality of the water is acceptable for general use without treatment. A complete chemical analysis of the water is attached.

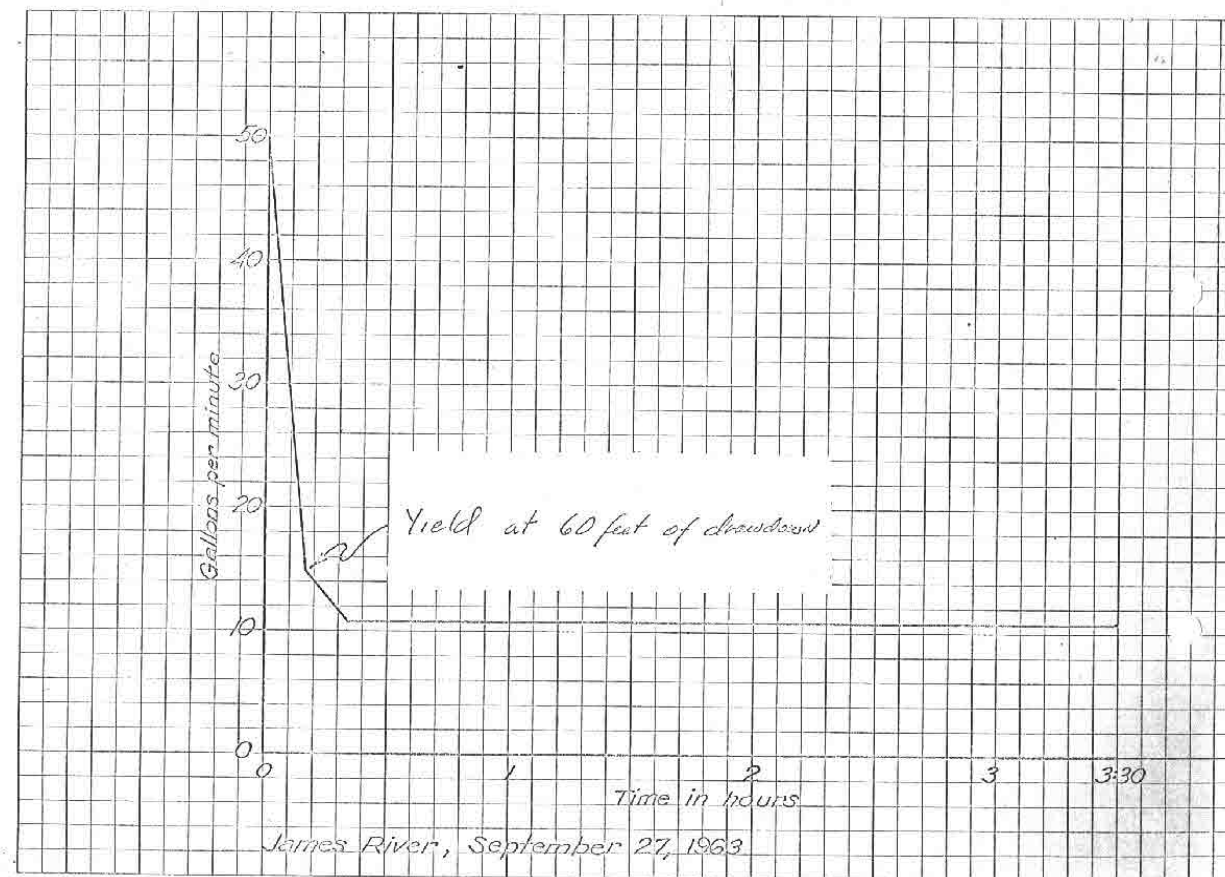
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
WATER ANALYSIS

W.R. Lab. No. NC 39727

|                                                                         |             |                                                  |    |
|-------------------------------------------------------------------------|-------------|--------------------------------------------------|----|
| Location Blue Ridge Parkway. James River M. Area, Virginia              |             |                                                  |    |
| Source Drilled well. Depth: 156 ft. Diameter: 6 in. Cased to: 48 ft.    |             |                                                  |    |
| Drilled: 1963. Owner: B.R. Parkway. Use: Public Supply. WBF: Greenstone |             |                                                  |    |
| 58-118 ft. Water level: 21 ft. below LSD. Yield: 10.7 gpm meas.         |             |                                                  |    |
| Date of collection Sept. 27, 1963                                       |             |                                                  |    |
| Gage height(ft.)                                                        |             | Discharge(sec.ft.)                               |    |
|                                                                         |             | Temp.(°F) 57                                     |    |
| (Parts per million)                                                     |             |                                                  |    |
| Silica (SiO <sub>2</sub> ).....                                         | 29          | Carbonate (CO <sub>3</sub> ).....                | 0  |
| Aluminum (Al).....                                                      | .0          | Bicarbonate (HCO <sub>3</sub> ).....             | 40 |
| Iron (Fe).....                                                          | .02         | Sulfate (SO <sub>4</sub> ).....                  | .6 |
| Manganese (Mn).....                                                     | .01         | Chloride (Cl).....                               | .8 |
| Calcium (Ca).....                                                       | 6.1         | Fluoride (F).....                                | .2 |
| Magnesium (Mg).....                                                     | 2.1         | Nitrate (NO <sub>3</sub> ).....                  | .0 |
| Sodium (Na).....                                                        | 4.7         | Phosphate (PO <sub>4</sub> ).....                | .5 |
| Potassium (K).....                                                      | 2.7         | .....                                            |    |
| Lithium (Li).....                                                       | .0          | .....                                            |    |
| (Parts per million)                                                     |             |                                                  |    |
| Dissolved solids:                                                       |             |                                                  |    |
| Sum.....                                                                | 67          | ABS.....                                         | .0 |
| Residue upon evapo-<br>ration @ 180°C.....                              | 64          | Color.....                                       | 10 |
| Hardness as CaCO <sub>3</sub> .....                                     | 24 <u>1</u> | .....                                            |    |
| Noncarbonate.....                                                       | 0           | .....                                            |    |
| pH.....                                                                 | 7.0         | Specific conductance<br>(micromhos at 25°C)..... | 68 |

1 Includes hardness of all polyvalent cations reported.

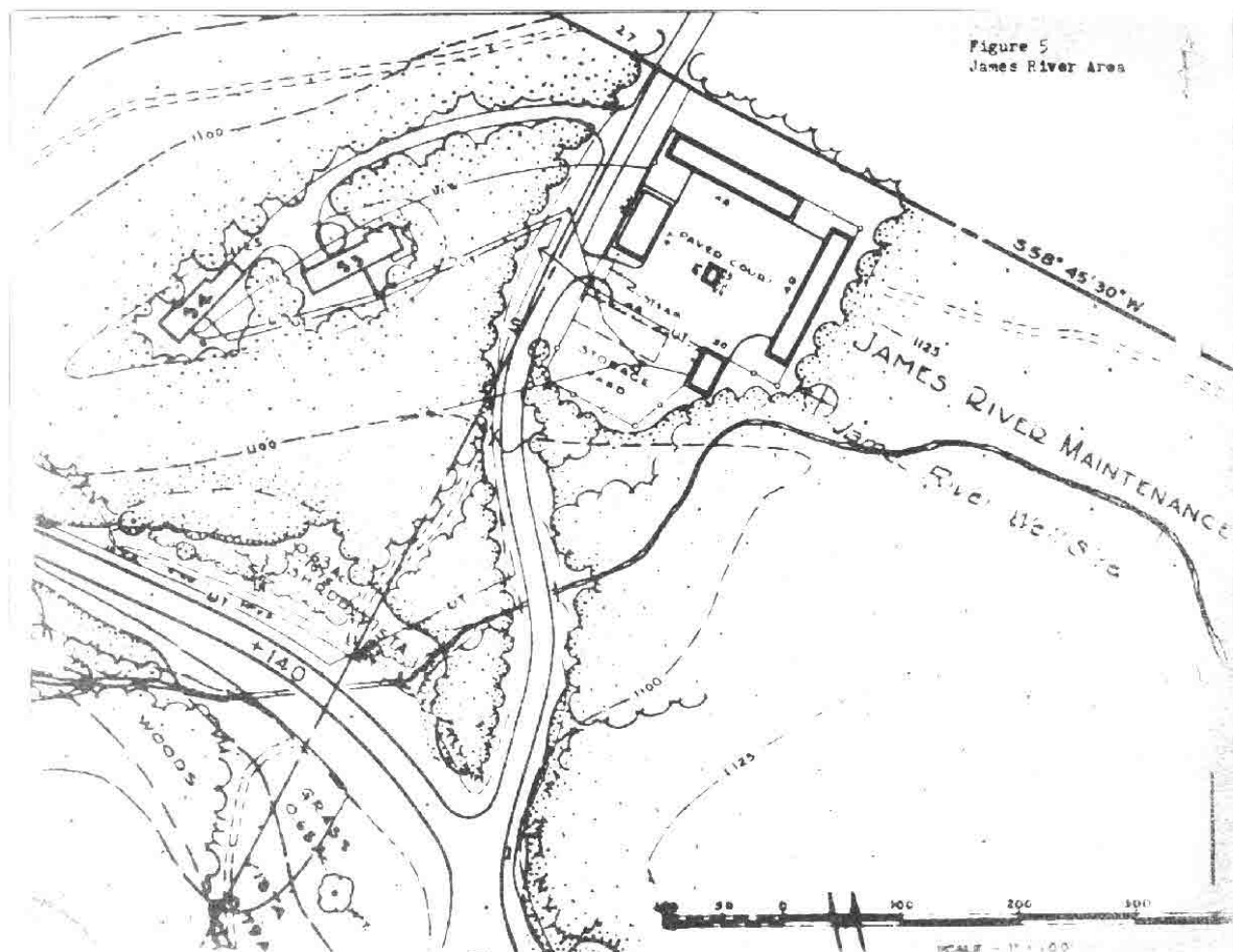
Unpublished records subject to revision



### James River

Topography in the vicinity of the James River maintenance area is moderate to rugged. The maintenance compound lies in a draw which trends S 60° E. The consistent linear character of this, and other near-by draws is parallel suggests that they have developed along fracture systems. Springs are common throughout the area, but there are no wells in the vicinity of the maintenance compound. This locality is underlain by metabasalt or greenstone and related metavolcanic rock types.

A test-well site was located within the draw at the north corner of the James River maintenance area (figure 5). Required yield of the well is 10 gpm, and estimated drilling depth is less than 200 feet, in greenstone. Limited access and distance to other favorable sites precludes location of an alternate well site in the immediate area.



Other Supporting Information

## BLUE RIDGE PARKWAY

## WATER SYSTEM DATA

AREA Blue Ridge DATE COLLECTED \_\_\_\_\_ COLLECTED BY \_\_\_\_\_)

1. Name of System: James River Maintenance Area

2. Location: State Virginia County Bedford General Area M.P. 66.3

Reference to permanent landmark \_\_\_\_\_

3. Source of Supply: Well Capacity 10.7 gpm  
(Well, spring, stream, impoundment, etc.)

4. Type of System: Pumped to storage, gravity distribution  
(Pumped, gravity, etc.)

5. Treatment: None  
(Filtration, Chlorination, Aeration, etc.)

6. Distribution Mains: Size 4" Length 1126'; Size \_\_\_\_\_ Length \_\_\_\_\_  
Size 1" Length 180'; Size \_\_\_\_\_ Length \_\_\_\_\_  
Size 1 1/2" Length 751'; Size \_\_\_\_\_ Length \_\_\_\_\_

7. Pump Unit: Make Jacuzzi; Type Submersible; Model No. 594BS1  
Serial No. 80A 6117; Outlet 2" in.; Inlet 2 1/2" in.  
(Size) (Size)

8. Power Source: Electric Motor: Make Franklin; HP 1/2;  
(Elec., gas, generator)  
Serial No. C4004217D1; Voltage 115; Amps 9.4;  
RPM 3450; Type 115; Phase Single;  
Cycles 60; Others \_\_\_\_\_; Stages \_\_\_\_\_

9. Control: Automatic Float; Manual \_\_\_\_\_;  
(Float, Electrobe, Pressure, Time)  
Other \_\_\_\_\_  
(Explain)

10. Pump Design: Capacity 95 gpm (Actual) (Design) gpm  
Head 148 ft. (Actual) (Design) ft.
11. Pump Housing: Type Const. Monitor 1188; (Walls) (Roof); Size
12. Storage: Underground; Type Const. Concrete  
(Pneumatic, elevated, underground, etc.) (concrete, wood, steel)  
Size ; Capacity 10,000 gal.; Inlet 1188.0 ft. 4 in.  
(Elev.) (Size)  
Outlet 1188.0 ft. 4 in.; Pressure Setting   
(Elev.) (Size) (if pneumatic)
13. Distribution: Water Closets 5; Lavatory 5; Urinal 1;  
Drinking Fountain ; Hose Bibs 4; Residences 2;  
Other ;
14. Metered or nonmetered: Nonmetered; No. ; Size   
No. ; Size   
No. ; Size
15. Fire Protection: Fire Hydrants 3; Yard Hydrants
16. Water Analysis: Temp 57°F; PPM: SiO<sub>2</sub> 29; Al 0; Fe .02; Mn .01;  
Ca 6.1; Mg 2.1; Na 4.7; K 2.7; HCO<sub>3</sub> 40; SO<sub>4</sub> .6; Cl .8; F .2; PO<sub>4</sub> .5  
Dissolved solids: Sum 67; Residue 64; Hardness 24; Noncarbonate 0;  
ABS .0; Color 10; pH 7.0; Specific conductance 68
17. Condition of System: Good  
(Repairs needed itemize)
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Form 10-174  
(Rev. 8-56)UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

## COMPLETION REPORT OF CONSTRUCTION PROJECT D2621

|                                                                                               |                                   |                                           |                                         |
|-----------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------|-----------------------------------------|
| REGION<br><b>One</b>                                                                          | AREA<br><b>Blue Ridge Parkway</b> | COUNTY<br><b>Bedford</b>                  | STATE<br><b>Virginia</b>                |
| PROJECT OR JOB TITLE<br><b>Construction of Water System addition for buildings 53 and 54.</b> |                                   |                                           | PCP NO.<br><b>U-69</b>                  |
| LOCATION IN AREA<br><b>James River, Section 1-N</b>                                           |                                   | MASTER PLAN NO.<br><b>PKY-BR-GEN-2296</b> | BUILDING NO.                            |
| WORKING DRAWING NO. AND TITLE<br><b>PKY-BR-1H-2073 Utilities - James River Residences</b>     |                                   |                                           |                                         |
| APPROPRIATION TITLE AND SYMBOL<br><b>14X1037 Construction (Liq. of Contract Auth.) NPS</b>    |                                   |                                           | WORK ORDER NO.<br><b>514.70</b>         |
| CONTRACT NO.                                                                                  |                                   | DATE WORK STARTED<br><b>May 1958</b>      | DATE WORK COMPLETED<br><b>July 1958</b> |
| NAME OF CONTRACTOR                                                                            |                                   | ADDRESS                                   |                                         |

## COST ANALYSIS

| CONSTRUCTION ITEMS                                                                                                                                                                                | QTY. | UNIT COST<br>IN PLACE | TOTAL COST<br>IN PLACE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------|------------------------|
| Water facilities existed in this area; therefore, a water connection including necessary valves and drains was installed to provide water supply facilities for Employee Residences Nos. 53 & 54. | 1    | 1,149.28              | 1,149.28 ✓             |
| PS&S and Other Indirect Costs                                                                                                                                                                     |      |                       | 175.49                 |
|                                                                                                                                                                                                   |      |                       | 1,324.77               |
|                                                                                                                                                                                                   |      | TOTAL                 | <b>1,324.77</b>        |

## SUMMARY OF EXPENDITURES

|                                    |                          |                                                                           |
|------------------------------------|--------------------------|---------------------------------------------------------------------------|
| PERSONAL SERVICES<br><b>798.13</b> | EQUIPMENT<br><b>None</b> | MATERIALS AND SUPPLIES<br><b>211.23</b>                                   |
| OTHER<br><b>139.92</b>             | PS&S<br><b>175.49</b>    | Certified: <i>Henry Sted</i><br><b>Henry Sted, Supervisory Accountant</b> |

## CHANGE ORDERS

|                          |        |        |       |
|--------------------------|--------|--------|-------|
| ORIGINAL CONTRACT AMOUNT | FIRST  | SECOND | THIRD |
| FINAL CONTRACT AMOUNT    | FOURTH | FIFTH  | SIXTH |

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH  
APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

|                                                                                                   |                                 |
|---------------------------------------------------------------------------------------------------|---------------------------------|
| SUBMITTED BY (Name and title)<br><i>Earl W. Batten</i><br><b>Earl W. Batten, Parkway Engineer</b> | DATE<br><b>October 23, 1959</b> |
| APPROVED BY (Name and title)<br><i>Sam P. Weems</i><br><b>Sam P. Weems, Superintendent</b>        | DATE<br><b>October 23, 1959</b> |

(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)

**Narrative Report:**

This usable facility provides a water supply for James River Employee Residences and was completed by National Park Service personnel between May 1958 and July 1958. Water facilities for Bldgs. Nos. 53 and 54 consisted of installation of 483 lin. ft. of 1½ inch plastic pipe, necessary valves, drains and fire hydrants and a connection of this water supply line to the existing James River Maintenance Area water system.

**Docket Information**

Number of Documents in Docket 9

Documents Dated from 9/27/1963 to 9/27/1963

Docket Compiled: 2/1/2011