



**Office of Water Supply  
Compliance Checklist  
Local and Regional Water Supply Plan program documents**

**Locality / Region:** Hampton Roads Planning District Commission (HRPDC)

**If planning regionally, list localities included in WSP**

- Cities of Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg
- Counties of Gloucester, Isle of Wight, James City, Southampton, Surry, and York
- Towns of Boykins, Branchville, Capron, Claremont, Courtland, Dendron, Ivor, Newsoms, Smithfield, Surry, and Windsor

**Reviewing WSP PlannerS:** Heather Mackey, Mary Ann Massie

**Reason for Compliance Evaluation:**

- Initial Review**
- 5 years after Compliance Determination**, if circumstances have changed or new information has been made available
- 10 year revision and resubmission**

The *Compliance Checklist* (“*Checklist*”) is used by Water Supply Planning staff as a tool for evaluating local program elements required by §9 VAC 25-780, et seq., the Local and Regional Water Supply Planning regulation (the “*Regulation*”). The checklist is completed by Department of Environmental Quality (“*DEQ*”) staff, based upon information and materials provided by locality or regional staff. “*Yes*” and “*No*” indications for making a reasonable effort to meet specific requirements are generally followed by staff comments that may be helpful in developing future iterations of water supply plans.

The *Compliance Checklist* is composed of the following parts:

- **Part I – Program Background and Adoption Process**
- **Part II – Water Supply Plan and Required Program Elements**
- **Part III – Compliance Review and Consistency Determination Process**
- **Part IV – Requirements for Compliance to be Addressed by the Five-Year Review, Preliminary Identification Of Conflicts, Items of Interest, DEQ Action Items**

**PART I. PROGRAM BACKGROUND and ADOPTION PROCESS**

PART I of the checklist reviews the documents that constitute a local or regional water supply program and the planning process that was undertaken. The Regulation requires that local or regional water supply plans ("WSP" or "Plan") (§9 VAC 25-780-40) be developed through a planning process that includes a public hearing by all participating localities (§9 VAC 25-780-50) and local adoption. Once an adopted Plan is submitted to DEQ, the Plan(s) are reviewed to determine compliance with the Regulation.

- A. Describe the **WSP development process** (§9 VAC 25-780-140 A and C): HRPDC was the lead in development of the regional plan. A Memorandum of Agreement was signed by the localities in 2007 stating their intention of planning together. The Plan was prepared with the oversight of a standing committee of the directors of utility departments from the localities. All localities adopted the Plan and drought ordinances. There are 27 localities included in the planning area; the data chapters of the WSP have been organized into three sub-regions: Peninsula, Southside, and Western Tidewater.
1. What entity was lead for Plan development? (i.e. local planning or utility department or service provider, planning district commission, etc.) HRPDC with support from CH2M Hill
  2. Was a technical advisory or stakeholder group involved in the process?  yes  no  
If "Yes," then describe membership and level of expertise and involvement. Directors of Utilities Committee with representatives from each participating locality
- B. What **documents constitute the water supply program** (§9 VAC 25-780-50 A)? (e.g.  comprehensive plan amendments;  a map or maps identifying important elements such as existing environmental resources, existing water sources, significant existing water uses, and proposed new sources;  water supply plan(s);  water and sewer plan(s); and  other local plans/ordinances. Provide a list of document title(s), adoption date(s), and local code citations:
1. Hampton Roads Regional Water Supply Plan, July 2011
  2. Hampton Roads Local Program Adoption Documents, October 2011
- C. Have **copies of all adopted program documents** itemized above been submitted and received by DEQ for evaluation of compliance (§9 VAC 25-780-50 C 9)?  yes  no  
If "No," which document(s) is missing? \_\_\_\_\_
- D. Describe the **WSP adoption process** (§9 VAC 25-780-140 A and C):
1. Public Hearing/Adoption Date(s) for all localities participating in the planning effort:
    - a. Peninsula Sub-Region

<u>Hampton</u>	<u>8/10/11</u>
<u>Newport News</u>	<u>8/9/11</u>
<u>Poquoson</u>	<u>8/22/11</u>

Williamsburg 9/8/11  
Gloucester 8/2/11  
James City 9/27/11  
York County 9/20/11

b. Southside Sub-Region

Chesapeake 9/27/11  
Norfolk 10/11/11  
Portsmouth 8/23/11  
Suffolk 9/7/11  
Virginia Beach 10/11/11

c. Western Tidewater Sub-Region

Franklin 9/12/11  
Isle of Wight 10/6/11  
Southampton 8/22/11  
Surry 9/1/11  
Boykins 8/9/11  
Branchville 8/15/11  
Capron 8/1/11  
Claremont 9/14/11  
Courtland 8/9/11  
Dendron 9/12/11  
Ivor 9/12/11  
Newsoms 8/1/11  
Smithfield 8/2/11  
Surry 9/1/11  
Windsor 8/9/11

2. Has a copy of all program adoption resolution(s) been provided (§9 VAC 25-780-50 C 10)?  
 yes all resolutions mention adoption of the WSP, which includes a section dedicated to the drought plan, and the holding of a public hearing; however, none of the resolutions mention submission of written comments. Minutes are provided for each locality and include comments/responses made during public hearings where applicable  no
3. Has a record of public hearing(s) been provided, including copies of all written comments and comment responses (§9 VAC 25-780-50 C 11)?  yes  no  
 If "No," which localities have not provided copies of public hearing record? \_\_\_\_\_
4. COMMENTS: HRPDC prepared a separate document with all resolutions and public hearing minutes for each locality, which described the planning process and indicated that none of the localities in the planning region received any written public comments.

- E. Was a **Drought Response and Contingency Plan (“DRCP”)** (§9 VAC 25-780-120) required (see Part II D)?  yes §5 pgs. 5-20 thru 5-34 of the WSP  no
1. If “Yes,” was a drought response ordinance adopted?  yes  no
  2. Has a copy been provided for review?  yes  no
- F. Has a **WSP Review Checklist** previously been submitted for grant purposes?  yes  no  N/A
1. If “Yes,” have all outstanding or inadequate items been addressed?  yes  no
  2. If “No,” list any outstanding or inadequate items to be addressed by the locality/region:

## PART II: WATER SUPPLY PLAN and REQUIRED PROGRAM ELEMENTS

PART II of the checklist pertains to the required elements of each water supply plan, as outlined in §9 VAC 25-780-70 through 130. The Regulation requires that Plans be developed using “*existing, readily available information.*” Additional, detailed studies were not required to be performed per the Regulation. If data gaps are identified during Plan review, it may be that the information did not exist or was not readily available at the time of Plan development, in which case a notation to that effect should be made in the “COMMENTS” area provided for each subsection below.

### A. Describe **Existing Water Sources** (§9 VAC 25-780-70) as follows:

1. Summarize existing water sources as identified in the Plan: The planning area is located within Virginia’s Coastal Plain Province and, as of June 17, 2013 when the State Water Control Board voted to approve its expansion, all localities within the planning area are included in the Eastern Virginia Ground Water Management Area (“EVGWMA”). The area is served by surface water reservoirs, stream intakes, and groundwater sources. All surface water sources and some of the groundwater sources have a high susceptibility to contamination, including elevated concentrations of fluoride.
  - a. Peninsula sources: seven reservoirs and the Chickahominy River, groundwater wells, 26 publicly-owned CWSs, seven privately-owned CWSs (five of which have wells that are highly susceptible to contamination). 23 active ground water withdrawal permits. Eight of the publicly-owned CWSs rely solely on groundwater, three systems are conjunctive use systems using both surface and groundwater. Majority of population served by publicly-owned CWSs; portions of Gloucester, James City, and York do not have public water service. 20 SSUs withdrawing more than 300,000 gallons per month for non-agricultural purposes. No large agricultural users.
  - b. Southside sources: groundwater wells, reservoirs, Lake Gaston, Northwest Blackwater, and Nottoway rivers. The majority of the population served by 15 publicly-owned CWSs, most of which use both surface water and groundwater. Nine privately-owned CWSs, all rely on groundwater, and seven of which have a well or wells with a high susceptibility to contamination. As of 2010, three privately-owned CWSs in Suffolk and two systems in Chesapeake were under a VDH fluoride consent order. 38 SSUs withdrawing more than 300,000 gallons per month for non-agricultural purposes. three large agricultural users.
  - c. Western Tidewater sources: groundwater wells, Blackwater and Nottoway rivers. This sub-region is mostly rural with scattered, small population centers. The majority of the population is served by private residential wells. 24 publicly-owned CWSs, all but one served by groundwater and 11 of which have a well or wells with a high susceptibility to contamination. At the end of 2010, 2 publicly-owned systems were under a VDH fluoride consent order. 40 privately-owned CWSs, all relying on groundwater, and 13

under a VDH fluoride consent order. 12 large, non-agricultural SSUs, 13 large agricultural SSUs.

2. Date and source of data used to provide the following information:  Virginia Department of Health (“VDH”) and/or  DEQ
3. List other sources of data, the date or date range of the data: 2007 USGS report *Private Domestic-Well Characteristics and the Distribution of Domestic Withdrawals among Aquifers in the Virginia Coastal Plain.*
4. For community water systems (“CWS”) using ground water, is the following information provided (§9 VAC 25-780-70 B)? If a CWS is not using ground water, so note in the “COMMENTS.”
  - a. name and ID number of all wells in locality  yes  no
  - b. well depth  yes  no
  - c. casing depth  yes  no
  - d. screen depth (top and bottom) or water zones  yes  no
  - e. well diameter  yes  no
  - f. design capacity for the average daily and maximum daily withdrawal  yes  no
  - g. system capacity permitted by VDH  yes  no
  - h. annual and monthly permitted amounts contained in ground water withdrawal permits (for all wells located within ground water management areas)  yes  no  N/A
  - i. COMMENTS: Although the information required above was provided for most CWS’s using groundwater, gaps in the data provided exist for private CWS’s in some localities. Brackish water in the region treated by reverse osmosis. Aquifers: Potomac, Chickahominy-Piney Point, Aquia, Yorktown-Eastover
5. For CWS using reservoirs, is the following information provided (§9 VAC 25-780-70 C)? If a CWS is not using reservoirs, so note in the “COMMENTS.”
  - a. name of the reservoirs  yes Lee Hall, Harwood’s Mill, Skiffe’s Creek, Little Creek, Diascund Creek, Beaverdam, Lake Gaston, Norfolk’s Western Reservoirs (Western Branch, Lake Prince, and Lake Burnt Mills), Intown Reservoirs (Lake Smith, Lake Lawson, Lake Whitehurst, and Lake Wright), Lake Meade, Lake Cahoon, Speights Run, Lake Kilby, Lone Star Lakes Reservoir, Crumps Mill Pond Reservoir,  no
  - b. sub-basins in which the reservoir(s) are located  yes  no
  - c. drainage area above dam  yes  no
  - d. amount of on-stream storage available for water supply  yes  no
  - e. design capacity for average daily and maximum daily withdrawals from the reservoir(s)  yes  no
  - f. safe yield of the reservoir(s)  yes  no

- g. capacity of any associated water treatment plant  yes  no
- h. VDH permitted capacity of the systems  yes  no
- i. any limitations on withdrawal established by permits issued by the SWCB, VDH, or any other agency  yes  no  N/A
- j. COMMENTS: Although the information required above was provided for most CWS's using reservoirs, gaps in the data provided exist in some localities.
6. For CWS operating a system of interconnected reservoirs, is the following information provided either for the entire system, or as a subset of the system (§9 VAC 25-780-70 C)?
- a. reporting of the design capacity for withdrawals  yes  no
- b. designed average daily withdrawal  yes  no
- c. designed maximum daily withdrawal  yes  no
- d. safe yield  yes  no
- e. Does the Plan designate which reservoirs and which intakes constitute a system?  yes Norfolk's Western Reservoirs (Lake Prince, Lake Burnt Mills, Western Branch reservoirs) and the Intown Reservoirs (Lake Lawson, Lake Smith, Little Creek Reservoir, Lake Whitehurst, and Lake Wright), City of Portsmouth (Lake Meade, Lake Cahoon, Speights Run, Lake Kilby)  no
- f. Does the Plan report the drainage area and amount of storage available for water supply from each reservoir independently?  yes  no
- g. COMMENTS: Although most of the information required above was provided, gaps in the data provided exist for some CWS's using interconnected reservoirs.
7. For CWS using stream intakes, is the following information provided (§9 VAC 25-780-70 D)? If a CWS is not using stream intakes, so note in the "COMMENTS."
- a. name of the stream or river  yes Chickahominy, Northwest River, Blackwater River, Nottoway River  no
- b. drainage area above the intake  yes  no
- c. sub-basin in which the intake is located  yes  no
- d. design capacity for average daily and maximum daily withdrawal from the stream  yes  no
- e. safe yield  yes  no
- f. lowest daily flow of record  yes  no
- g. design capacity of the pump station  yes  no
- h. design capacity of the water treatment plant  yes  no
- i. capacity of the system permitted by VDH  yes  no
- j. any limitation on withdrawals established by permits issued by the SWCB, VDH, or any other agency  yes  no  N/A
- k. COMMENTS: Although most of the information required above was provided for most CWS's using stream intakes, gaps in the data provided exist in some localities.

8. For all non-agricultural, self-supplied users (SSU) of more than 300,000 gallons per month of surface water, is the following information provided (§9 VAC 25-780-70 E)? If none exist, so note in the "COMMENTS."
- name of the water body utilized  yes  no
  - design capacity for average daily and maximum daily withdrawal  yes  no
  - any limitations on withdrawals established by permits issued by the SWCB, VDH, or any other agency  yes  no  N/A
  - COMMENTS: Although the information required above was provided for most non-agricultural SSU's using surface water, gaps in the data provided exist for some SSU's.
9. For all non-agricultural, self-supplied users of more than 300,000 gallons per month of ground water, is the following information provided (§9 VAC 25-780-70 F)? If none exist, so note in the "COMMENTS."
- name and ID number of the well or wells  yes  no
  - well depth  yes  no
  - casing depth  yes  no
  - screen depth (top and bottom) or water zones  yes  no
  - well diameter  yes  no
  - design capacity for the average daily and maximum daily withdrawal, and  yes  no
  - any limitation on withdrawal established by permits issued by the SWCB, VDH, or any other agency  yes  no  N/A
  - COMMENTS: Although the information required above was provided for most non-agricultural SSU's using ground water, gaps in the data provided exist for some SSU's.
10. For ground or surface water to be purchased from water supply systems outside the geographic boundaries of the planning area, is the following information provided (§9 VAC 25-780-70 G)? (NOTE: 'to be purchased' presumes an existing contract with an entity outside of the planning region)
- amount to be purchased, on a maximum daily and average annual basis  
 yes  no  N/A
  - any contractual limitations on the purchase of the water, including but not limited to:
    - term of any contract or agreement  yes  no
    - recipient(s) or areas served by the water purchased  yes  no
    - name(s) of the supplier(s)  yes  no
  - COMMENTS: There are many water sales between jurisdictions in the region. The information above is provided both in the narrative and in tabular form by jurisdiction.
11. For water available to be purchased outside the planning area from any source with the capacity to withdraw more than 300,000 gallons per month of surface and ground water, is the following information provided (§9 VAC 25-780-70 H)? (NOTE: 'available to be

purchased' presumes no contract is in place but could be in the future with an entity outside the planning region)

- a. amount available for purchase, reported on a maximum daily and average annual basis  
 yes  no  N/A
- b. any contractual limitations on the purchase of the water, including but not limited to:
- term of any contract or agreement  yes 11/17/87 - open ended  no
  - geographic region(s) that receive the water purchased  yes Chesapeake  no
  - name(s) of the supplier(s)  yes City of Virginia Beach  no
- c. COMMENTS: Chesapeake has a contract with Virginia Beach to purchase water from their Lake Gaston source. Lake Gaston is the only water source available outside of the planning area (pg. 1-23).
12. For agricultural self-supplied users (SSU) of more than 300,000 gallons per month, is the following information provided (§9 VAC 25-780-70 I)? If none exist, so note in the "COMMENTS."
- a list of agricultural users  yes  no
  - an estimate of total agricultural usage by source  yes  no
  - whether the use is irrigation or non-irrigation  yes  no
  - whether the source is surface or ground water  yes  no
13. For self-supplied residential and business users withdrawing less than 300,000 gallons per month, is the following information provided (§9 VAC 25-780-70 J)? If none exists, so note in the "COMMENTS."
- an estimate of the number of residences  yes  no  N/A
  - an estimate of the population served by individual wells  yes  no  N/A
  - an estimate of the number of businesses supplied by individual wells  yes  no  N/A
  - COMMENTS: Aquifers: Yorktown-Eastover, Piney Point, Potomac aquifers
14. Has a summary of findings and recommendations from source water assessment plans and/or wellhead protection programs been provided (§9 VAC 25-780-70 K)?  yes  no
- a. COMMENTS: All surface water and some groundwater sources have a high susceptibility for contamination in the planning area; several sources are under a VDH fluoride consent order.
15. COMMENTS: A significant amount of water is bought and sold between localities within the region. Section 1, pgs. 1-1 thru 1-70, and App A. Nice maps, tables, and figures. Data is presented by locality, within localities by publicly- and privately-owned CWSs, then SSUs. Localities are grouped into 3 sub-regions; includes an overview of numbers of CWSs and SSUs for each sub-region and summaries of sources by locality. Section 9 VAC 25-780-

50.C.1 of the Regulation requires “a description of existing water sources in accordance with the requirements of 9 VAC 25-780-70.” Although an effort to provide this information has been made, data gaps exist for CWS’s and SSU’s in some localities. Provide all of the data requested by 9 VAC 25-780-70 for all CWS’s and SSU’s in all localities. Examples of missing source data include well construction data, such as average and max daily design capacity; casing, screen and well depth; and well diameter.

B. Describe **Existing Water Use** (§9 VAC 25-780-80) as follows:

1. Summarize existing water use as discussed in the Plan: Most users within the planning area are served by publicly-owned CWSs, with the exception of the more rural Western Tidewater sub-region where most users are self-supplied. §2, pgs 2-1 thru 2-35, App. A.
  - a. Peninsula sub-region use: 94% of the population in this sub-region is served by publicly-owned CWSs. Private, rather than publicly-owned, CWSs serve the populations of Gloucester, James City, and York Counties. In addition, private residential wells serve ~33,384 people in Gloucester, James City, and York Counties. An estimated 54 businesses were served by private wells in 2007, 36 of which were located outside of CWS boundaries. In 2007 there were 20 large, non-agricultural SSUs and no large agricultural SSUs.
  - b. Southside sub-region use: 92% of population is served by publicly-owned CWSs including the entire populations of Norfolk and Portsmouth. Public CWSs in Chesapeake, Suffolk, and Virginia Beach serve dense population centers, but not the entire cities. Areas not served by the public CWSs in these cities are served either by private residential wells or private CWSs. Chesapeake and Suffolk are the only localities in the sub-region with privately-owned CWSs (there are nine serving ~1% of the sub-region population). Private residential wells are found in the southern and western portions of Chesapeake, Suffolk, and Virginia Beach with the majority being in Chesapeake. About 5% of the sub-region’s population was served by private wells in 2007. 49 businesses were served by private wells. 38 large, non-agricultural SSUs and several agricultural SSUs.
  - c. Western Tidewater use: a significant portion (49%) of the population in this sub-region is served by private residential wells (35 businesses are served by private wells). Franklin, Smithfield and Windsor are the only localities in the sub-region where the majority of the population is served by publicly-owned CWSs. 24 publicly-owned CWSs serve 41% of the population; the remainder is served by one of 40 privately-owned CWSs. The majority of the privately-owned CWSs are located in Isle of Wight and Southampton Counties. 12 large non-agricultural SSUs; 13 large agricultural SSUs.

2. Source of data used -- *Source*:  VDH waterworks permit compliance reports,  ground water permit compliance reports, and/or  water use reports (§9 VAC 25-780-80 A).  
*Date or date range of data used*: 2007-08
3. For each CWS, has the following information been provided (§9 VAC 25-780-80 B)?
- a. Population served  yes  no
  - b. Number of connections  yes  no
  - c. Average and maximum daily withdrawal  yes  no
  - d. Water usage by CWS on an average monthly and annual basis, expressed in terms of million gallons per day ("MGD")  yes  no
  - e. Peak day water use by month  yes  no
  - f. Within each CWS service area, have the following estimates been provided?
    - i. An estimate of the water used on an average annual basis by self-supplied nonagricultural users of more than 300,000 gallons per month of surface and ground water  yes  no  N/A
    - ii. An estimate of the amount of water used on an average annual basis by self-supplied agricultural users of more than 300,000 gallons per month of surface and ground water  yes  no  N/A
    - iii. An estimate of the number of self-supplied users of less than 300,000 gallons per month of ground water and an estimate of the total amount of water used by them on an annual average basis  yes  no  N/A
  - g. An estimate of the disaggregated amounts of water used in categories of use appropriate for the system, as follows:
    - i. Residential use  yes  no
    - ii. Commercial institutional and light industrial ("CIL") use  yes  no  N/A
    - iii. Heavy industrial use  yes  no  N/A
    - iv. Military water use  yes  no  N/A
    - v. Water used in water production processes  yes  no  N/A
    - vi. Unaccounted for losses  yes  no
    - vii. Sales to other community water systems and the names of such systems  yes  no  N/A
    - viii. Subtotals of the above categories for all community water systems  yes  no
    - ix. Other: \_\_\_\_\_
  - h. For each CWS using stream intakes, has a qualitative description of existing in-stream beneficial uses either within or outside the planning area that may be affected by the point of stream withdrawal been provided?  yes Peninsula, pg. 2-6; Southside, Pg. 2-14  no  N/A

4. Has an estimate of the water used on an average annual basis by self-supplied non-agricultural users of more than 300,000 gallons per month of surface and ground water outside the service areas of CWS been provided (§9 VAC 25-780-80 C)?  
 yes  no  N/A
  5. Has an estimate of the amount of water used on an average annual basis by self-supplied agricultural users of more than 300,000 gallons per month of surface and ground water outside the service areas of CWS been provided (§9 VAC 25-780-80 D)?  
 yes  no  N/A
  6. Has an estimate of the number of self-supplied users of less than 300,000 gallons per month of ground water and an estimate of the total amount of water used by them on an annual average basis outside the service areas of CWS been provided (§9 VAC 25-780-80 E)?  
 yes  no  N/A
  7. COMMENTS: Section 9 VAC 25-780-50.C.2 of the Regulation requires “a description of existing water use in accordance with the requirements of 9 VAC 25-780-80.” Although an effort to provide this information has been made, gaps in the data provided exist for CWS’s and SSU’s in some localities. HRPDC provided an explanation to DEQ of the data collection and analysis process that led to a finding that the requested information was not “readily available,” in a letter dated 8/27/13. For estimates of small SSUs, domestic water use was assumed to be 75 gallons per person, household size was based on 2000 census estimates. Annual use by small business based on VDH guidelines for public drinking water supply needs assessments. Data is presented by publicly- and privately-owned CWSs within each locality, then SSUs. Localities are grouped into 3 sub-regions; includes a summary of total water use for each sub-region and by CWS, SSU, and use type for each locality. Section 2, pgs. 2-1 thru 2-35, and App. A
- C. For **Existing Water Resources** (§9 VAC 25-780-90), has the following information been provided?
1. Summarize existing water resources as identified in the Plan: The planning area is located in Virginia’s Coastal Plain Province and all localities but the County of Gloucester are in the Eastern Virginia Ground Water Management Area. All surface water sources and some groundwater sources in the planning area are highly susceptible to contamination.
  2. List sources and dates of data provided: US Geological Survey, Department of Conservation and Recreation (DCR), DEQ, Department of Game and Inland Fisheries, Department of Historic Resources, National Oceanic and Atmospheric Administration Coastal Change Analysis program, Virginia Fish and Wildlife Service National Rivers Inventory, DCR Virginia Outdoors Plan, US Department of Agriculture, US Fish and Wildlife Service National Wetlands Inventory, 2008 Virginia Water Quality Assessment.

3. Existing geologic, hydrologic, and meteorological conditions within the locality, and in proximity to the point of withdrawal if it is outside the planning area (§9 VAC 25-780-90 A).  yes pgs. 3-1 thru 3-12  no
4. Existing environmental conditions that pertain to, or may affect, instream flow, instream uses, and sources that provide the current supply, as follows (§9 VAC 25-780-90 B):
- State or federal listed threatened or endangered species or habitats of concern  yes pg. 3-13  no  N/A
  - Anadromous, trout, and other significant fisheries  yes pg. 3-15  no  N/A
  - River segments that have recreational significance, including state scenic river status  yes pg. 3-17  no  N/A
  - Sites of historic or archaeological significance  yes pg. 3-22  no  N/A
  - Unusual geologic formations or special soil types  yes Chesapeake Bay impact crater  no  N/A
  - Wetlands  yes pg. 3-25  no  N/A
  - Riparian buffers and conservation easements  yes pg. 3-32  no  N/A
  - Land use and land coverage, including items such as percentage of impervious cover within a watershed and areas where new development may impact water quality of the source  yes 10% impervious cover; pg. 3-38  no  N/A
  - The presence of impaired streams and the type of impairment  yes pg. 3-42  no  N/A
  - The locations of point source discharges  yes pg. 3-48  no  N/A
  - Potential threats to the existing water quantity and quality, other than those from above  yes solid waste management facilities, underground storage tanks, superfund sites, uranium mining, fluoride  no  N/A
5. COMMENTS: Thorough research, documentation, and analysis. Section 3, pgs. 3-1 thru 3-61.
- D. Describe **Projected Water Demand** (§9 VAC 25-780-100) based upon accepted methodology (as outlined in the American Water Works Association (“AWWA”) or American Society of Civil Engineers (“ASCE”) manuals), as follows:
- Summarize changes in projected water demand as provided in the Plan: Demand is expected to increase as population continues to grow. Southside will see the most growth followed by Peninsula and Western Tidewater. Publicly-owned CWS demand is anticipated to increase by 44%; the majority of development is expected to occur within CWS service areas. Demand in privately-owned CWS service areas is anticipated to decrease as some of these systems opt for service from publicly-owned CWSs and as development occurs in publicly-owned CWS service areas. Small SSU demand is expected to increase by 27%, most of which is anticipated in the Southside sub-region. Large SSU demand is deemed too

difficult to predict, so demand levels remained constant through the end of the planning period.

2. Are water demand projections included (§9 VAC 25-780-100 A)?  yes projections were developed by HRPDC or provided by locality utility departments  no
  - a. List source and date or date range for population estimates:  U.S. Census Bureau  Weldon Cooper Center  Virginia Employment Commission (“VEC”)  Other
  - b. Dates and description of any other accepted source of population information used, including local or regional sources: For publicly-owned CWSs, HRPDC staff or locality utility departments provided projections using Regional Economic Models, Inc. software developed for long-term regional transportation plans. Other projections were based on specific assumptions and data deemed appropriate for use by utility departments, including historic use and safe yield studies (Pg. 4-1). Demand numbers for small privately-owned CWSs were based on analysis included in groundwater withdrawal permits.
  - c. Is documentation of information sources and methodologies provided?  yes documentation of assumptions and methodology is provided for each subset (publicly- and privately-owned CWSs, large and small SSUs).  no
3. Is an estimate of water demand within the planning area for 30 to 50 years into the future provided (§9 VAC 25-780-100 B)?  yes  no
4. Is an estimate of future water use projected at the beginning of each decade (2010, 2020, 2030, etc.) provided (§9 VAC 25-780-100 C)?  yes  no
5. Are the following projections provided for CWS within the planning area (§9 VAC 25-780-100 D)?
  - a. An estimate of population within the locality served by each CWS  yes  no
  - b. A map depicting the proposed service area of each existing or proposed CWS  yes Maps of existing and proposed CWS service areas are located in Section 1 Existing Sources  no
  - c. Estimated water demand for each existing or proposed CWS on both an annual average and peak monthly basis  yes  no
  - d. Estimated water demand for each existing or proposed CWS disaggregated into categories of use appropriate for the system, such as:
    - i. Residential use  yes  no
    - ii. Commercial institutional and light industrial use  yes  no  N/A
    - iii. Heavy industrial use  yes  no  N/A
    - iv. Military water use  yes  no  N/A
    - v. Water used in water production processes  yes  no  N/A
    - vi. Unaccounted for losses  yes  no  N/A

- vii. Sales to other community water systems and the names of such systems  yes  no  N/A
- viii. Subtotals of the above categories for all community water systems  yes  no
- e. Total projected water demand for all existing or proposed CWS disaggregated into the categories mentioned in subdivision d, above.  yes  no
- f. Were current conservation practices, techniques and technologies considered in the above water demand projections (§9 VAC 25-780-110 B)?  yes  no
- g. COMMENTS: publicly-owned CWS data presented on pgs. 4-1 thru 4-5; privately-owned CWS data presented on pgs. 4-6 thru 4-7.
6. Has a projection of water demand on an annual average basis for each existing and any proposed self-supplied nonagricultural user of more than 300,000 gallons per month of surface and ground water located outside the service areas of CWS been provided (§9 VAC 25-780-100 E)?  yes  no  N/A COMMENTS: Demand not expected to increase over 2007 numbers.
7. Has a projection of the amount of water use on an annual average basis for each existing and any projected self-supplied agricultural user of more than 300,000 gallons per month of surface and ground water located outside the service areas of CWS been provided (§9 VAC 25-780-100 F)?  yes  no  N/A COMMENTS: Demand not expected to increase over 2007 numbers.
8. Has a projection of the number of self-supplied users of less than 300,000 gallons per month of ground water and a projection of the amount of water used on an annual average basis outside the service areas of CWS been provided (§9 VAC 25-780-100 G)?  yes Numbers are projected to remain constant  no  N/A
9. Has an explanation of how the projected needs of domestic consumption, in-stream uses, and economic development have been accounted for in the demand projection for the planning period been provided (§9 VAC 25-780-100 I)?  yes Provided as attachment 2B to letter from HRPDC to DEQ dated 8/27/13  no
10. COMMENTS: Projected population estimates and water demand are organized by CWS (public and private), and SSUs over and under 300,000. Good explanation of assumptions and methodologies; nice summary of regional projected demand on pg. 4-11. Section 4, pgs 4-1 thru 4-14.
- E. Describe proposed **Water Demand Management** actions (§9 VAC 25-780-110), as follows:
1. Does the Plan describe practices for more efficient use of water?  yes  no
    - a. If “Yes,” which of the following are used:  adoption and enforcement of Uniform Statewide Building Code (“USBC”) sections requiring maximum flow of water closets,

- urinals, and appliances;  lower-water use landscaping;  increases in irrigation efficiency (§9 VAC 25-780-110 A 1)?;  other
- b. Describe additional water use efficiency practices: wasteful water use ordinances, water loss awareness education, and WaterSense partnership.
2. Does the Plan describe water conservation measures used to conserve water through the reduction of use?  yes  no
- a. If “Yes,” which of the following are used:  technical,  educational, and  financial programs (§9 VAC 25-780-110 A 2)?  other provide retrofit kits and leak detection kits as part of HR WET (Hampton Roads Water Efficiency Team) program; active water reuse/reclamation programs in some localities.
3. Does the Plan describe practices to address water loss in the maintenance of systems to reduce unaccounted for water loss?  yes  no
- a. If “Yes,” which of the following are used:  leak detection and repair,  old distribution line replacement (§9 VAC 25-780-110 A 3)?  other leaking fixtures ordinances, metering of all uses and meter testing/replacement programs, unauthorized connection ordinances.
4. COMMENTS: Hampton Roads has a long history of water conservation and water demand management (almost 40 years) due to relatively small tributary watersheds that feed the region’s reservoirs, and limited natural water supply reserve. Due to the coastal nature of the region, most of the surface water is salty and not readily available for drinking water. In addition, groundwater sources are vulnerable to excessive use and saltwater intrusion. Section 5, pgs. 5-1 thru 5-19.
- F. **Drought Response and Contingency Plan** (§9 VAC 25-780-120) for CWS and self-supplied users withdrawing more than an average of 300,000 gallons per month of surface or ground water.
1. Does the DRCP address unique characteristics of the water source being utilized and the nature of the beneficial use of water (§9 VAC 25-780-120.1)?  yes  no
2. Does the DRCP contain the following graduated stages of response to the onset of drought conditions, at a minimum (§9 VAC 25-780-120.2):
- a. Drought watch stage responses, intended to raise awareness:  yes  no
- b. Drought warning stage responses, voluntary water conservation practices intended to reduce water use by 5 to 10%:  yes  no
- c. Drought emergency stage responses, mandatory water conservation practices intended to reduce water use by 10-15%:  yes expect a 10 to 25% reduction, pg. 5-33  no
- d. Describe any additional drought response stages included in the DRCP: Extreme Drought Emergency occurs when only critical supplies of water are available (pg. 5-33).

3. Does the DRCP contain references to adopted local ordinances and procedures for implementation and enforcement (§9 VAC 25-780-120.3)?  yes  no
- a. If “Yes,” list code citations or describe policy: all localities in the region adopted “water supply emergency ordinances”
- b. If “No,” describe DRCP implementation and enforcement policy: \_\_\_\_\_
4. COMMENTS: Section 5, pgs. 5-20 thru 5-34.

G. **Statement of Need and Alternatives Analysis** (§9 VAC 25-780-130), is the following provided:

1. Statement of Need: based upon the analysis of the above information derived from §9 VAC 25-780-70 through 110, are existing water sources adequate to meet current and projected demand (§9 VAC 25-780-130 A):  yes projected supply for the region is anticipated to meet projected future demand through 2050; however, demand may exceed supply in the Peninsula sub-region by 2040 as projections are within a +/- 10% margin of error. In addition, while most of the region depends upon conjunctive use systems (using both surface and ground water), 23% of the raw source water for publicly-owned CWSs is from ground water, and some localities rely exclusively on groundwater (most in Western Tidewater). With the exception of Gloucester County, the entire planning area is located within the Eastern Virginia Groundwater Management Area because of the vulnerability of the source. In addition, there are indicators of a relationship between groundwater withdrawals and land subsidence in the region and DEQ has encouraged several public CWSs in the region to reduce the amount of withdrawal requested in their permit renewal applications, effectively reducing the available water supply for those facilities.  no
2. If future demand is determined to exceed current supply, then has an analysis of alternative sources been provided, as follows (§9 VAC 25-780-130 B)?
- a. A description of potential water savings through demand management actions  yes  no
- b. A description of potential new supply sources  yes  no
- c. A description of potential resource issues and impacts (based upon §9 VAC 25-780-140 G) for each potential new source  yes  no
- d. Is a description of various alternatives provided, including (§9 VAC 25-780-130 C):
- i. water demand management and conservation measures  yes  no
- ii. traditional supply increases such as wells, reservoirs, impoundments and stream intakes, etc.  yes reservoir, increased surface water storage, additional groundwater withdrawals  no
- iii. Nontraditional means of increasing supply such as interconnection, desalination, reclamation and reuse, etc.  yes desalination, interconnection, reuse, and system optimization  no
- iv. Describe any other alternatives considered: Aquifer storage and recovery

- v. Does the alternatives analysis include a combination of short and long term alternatives?     yes     no
3. Provide a list of preferred water supply alternatives for the planning area, if applicable: N/A
4. COMMENTS: Statement of Need is organized by sub-region in Section 6, pgs. 6-1 thru 6-10. The Alternatives Analysis addresses the potential for demand to exceed supply by 2040 in the Peninsula sub-region. A wide range of possibilities is reviewed as are associated impacts and costs. Alternatives is Section 7, pgs 7-1 thru 7-11.

**PART III: COMPLIANCE REVIEW and CONSISTENCY DETERMINATION PROCESS**

PART III of the checklist pertains to the compliance review to be conducted by DEQ. This review includes program evaluation by state resource management agencies, identification of conflicts between submitted programs, and assessment of program compliance with the Regulation.

- A. **Finding of Compliance with §9 VAC 25-780-50** as reviewed in PART II of the checklist:
1.  Tentatively Compliant – proceed to public notice, as per §9 VAC 25-780-140 and 150.
  2.  Compliant – proceed to public notice, as per 9 VAC 25-780-150.
  3.  Noncompliant – Part IV outlines reasons and steps to address noncompliance
  4. Date Finding of Tentative Compliance letter sent: 08/30/2013
  5. Record of informal proceeding (when requested) pursuant to Article 3 (§2.2-4018, et seq.) of Chapter 40 of the Virginia Administrative Process Act: N/A
- B. Determine **local/regional program consistency** with the following (§9 VAC 25-780-140 C):
1. §9 VAC 25-390-20 – SWCB Water Resources Policy: The Plan complies with the Local and Regional Water Supply Planning Regulation (§9VAC25-780, et seq.), and therefore provides the Board with the information necessary to fulfill its responsibilities under the Water Resources Policy (§9VAC25-390-20).
  2. Section 62.1-11 of the Code of Virginia (“COV” or “Code”) – declaration of Virginia’s waters as a natural resource, use of which can be limited: The Plan provides the information necessary for meeting the mandates put forth in this section of the Code, and recognizes the need for authorized withdrawals for water supply while protecting other beneficial uses.
  3. Section 62.1-44.36 of the Code of Virginia – SWCB assigned duty of planning for the development, conservation and use of Virginia’s water resources: The Plan complies with the Local and Regional Water Supply Planning Regulation (§9VAC25-780, et seq.), and therefore provides the Board with the information necessary to fulfill its responsibilities under this section of the Code.
- C. **Evaluation/inventory of conflicts** (§9 VAC 25-780-140 C 3 and 140 G)  
**This portion of the checklist will be relevant after development of the State Water Resources Plan.**
1. Cumulative demand impact analysis (“CIA”): \_\_\_\_\_
  2. Evaluation of conflicts between potential alternatives: \_\_\_\_\_

3. Evaluation of potential use conflicts between projected water demand and estimates of in-stream flow requirements: \_\_\_\_\_
  4. Evaluation of relationship between local/regional plan(s) and State Water Resources Plan: \_\_\_\_\_
  5. Describe any identified conflicts between jurisdictions, regions, and/or partners: \_\_\_\_\_
- D. Program evaluation by State Agencies:** Department of Conservation and Recreation (“DCR”), the Department of Game and Inland Fisheries (“DGIF”), the Department of Historic Resources (“DHR”), the Virginia Marine Resources Commission (“VMRC”), and VDH (§9 VAC 25-780-140 B and 150 B)
1. Dates of Agency comment period: 12/03/2012 to 06/11/2013
    - a. DCR written comments received on 3/14/2013
    - b. DGIF written comments received on \_\_\_\_\_
    - c. DHR written comments received on 5/13/2013
    - d. VMRC written comments received on 9/09/2013
    - e. VDH written comments received on 3/01/2013
  2. Written Agency comments and DEQ responses attached.
  3. Record of Technical Evaluation Committee meeting (if applicable): N/A
- E. Record of public notice(s), public comment period(s), and/or public meeting(s)** concerning DEQ findings concerning tentative program compliance (§9 VAC 25-780-150 and §9 VAC 25-780-160):
1. Dates of 30-day public comment period: 08/30/2013 to 10/01/2013
  2. Date notice posted to DEQ website: 08/30/2013
  3. Were written public comments received:  yes  no
  4. Written public comments and DEQ responses attached.
  5. Record of requested public meeting(s) including notice and record of comment N/A
  6. COMMENTS:
- F. Date of final determination of compliance with §9 VAC 25-780, et seq.** 11/15/2013
- G. State Water Resources Plan**
1. Applicable text incorporated into SWRP: \_\_\_\_\_
  2. Applicable data input into Cumulative Impact Analysis (“CIA”) model: 11/26/2012



## **PART IV: REQUIREMENTS FOR COMPLIANCE TO BE ADDRESSED BY THE FIVE-YEAR REVIEW, PRELIMINARY IDENTIFICATION OF CONFLICTS, ITEMS OF INTEREST, DEQ ACTION ITEMS**

PART IV of the checklist is a holding place for requirements for compliance by the five-year review, as well as a listing of future water source alternatives identified in the Plan that may conflict with neighboring plans or regions, as identified by the reviewing planners. In addition, it is a place for notable items of interest and DEQ action items.

### **A. REQUIREMENTS FOR COMPLIANCE TO BE ADDRESSED BY THE FIVE-YEAR REVIEW**

1. Provide all of the data requested by 9 VAC 25-780-70 for all community water systems and self-supplied users in all localities. See Part II, Section A.
2. Provide all of the data requested by Section 9 VAC 25-780-80 of the Regulation, including for privately-owned community water systems. See Part II, Section B.

### **B. PRELIMINARY IDENTIFICATION OF CONFLICTS**

### **C. ITEMS OF INTEREST**

1. Though not mentioned in the HRPDC Plan, the Lake Country Water Supply Plan indicates continued growth in Hampton Roads is seen as a potential threat to Lake Gaston as regional demand increases.
2. The PDC put together a nice submission package, with all adoption documentation packaged separately. The primary WSP document was well organized into three sub-regions, has excellent mapping, tables, and figures.
3. The long term, ongoing regional commitment to active water conservation use and demand management through technical, financial, and educational efforts is a sterling example for other regions.

### **D. DEQ ACTION ITEMS**

1. Develop clear, consistent guidance to aide localities in responding to regulatory requirements.
2. Develop an online tool for use by localities when updating the data requirements of the regulation.
3. Continue efforts to improve participation in water withdrawal reporting by agricultural and nonagricultural users through direct contact with users and coordination with other applicable agencies.

4. Continue efforts to create an inventory of DEQ permitted surface water withdrawals and to share this inventory with planning entities.
5. Continue efforts to create an inventory of ground water source (wells and springs) information, including DEQ permitted ground water withdrawals and to share this inventory with planning entities.