

1 1.0 Utilities

2 1.1 Introduction

3 This Technical Memorandum describes the existing utility systems in the Proposed Action's Region of
4 Influence (ROI) and potential impacts to utilities from the Proposed Action (i.e., Preferred Alternative) and
5 the No Action Alternative. Measures to reduce potential adverse utility effects from the Proposed Action are
6 also identified.

7 Treasury received comments related to utilities from stakeholders during the public scoping period. These
8 comments primarily concerned existing utility capacities and requested information on proposed
9 wastewater treatment processes and plans for discharge. Stakeholders also requested renewable energy
10 sources, primarily solar power, to be used in the Proposed Action. Please refer to Treasury's [Public Scoping
11 Report](#) for further details on the comments received during the scoping period. Concerns expressed during
12 public scoping regarding utilities are considered and addressed in this analysis.

13 Utilities considered in this analysis include electricity, natural gas, water, sanitary sewer, non-hazardous
14 solid waste, telecommunications, and stormwater management infrastructure.

15 1.2 Affected Environment

16 1.2.1 Region of Influence

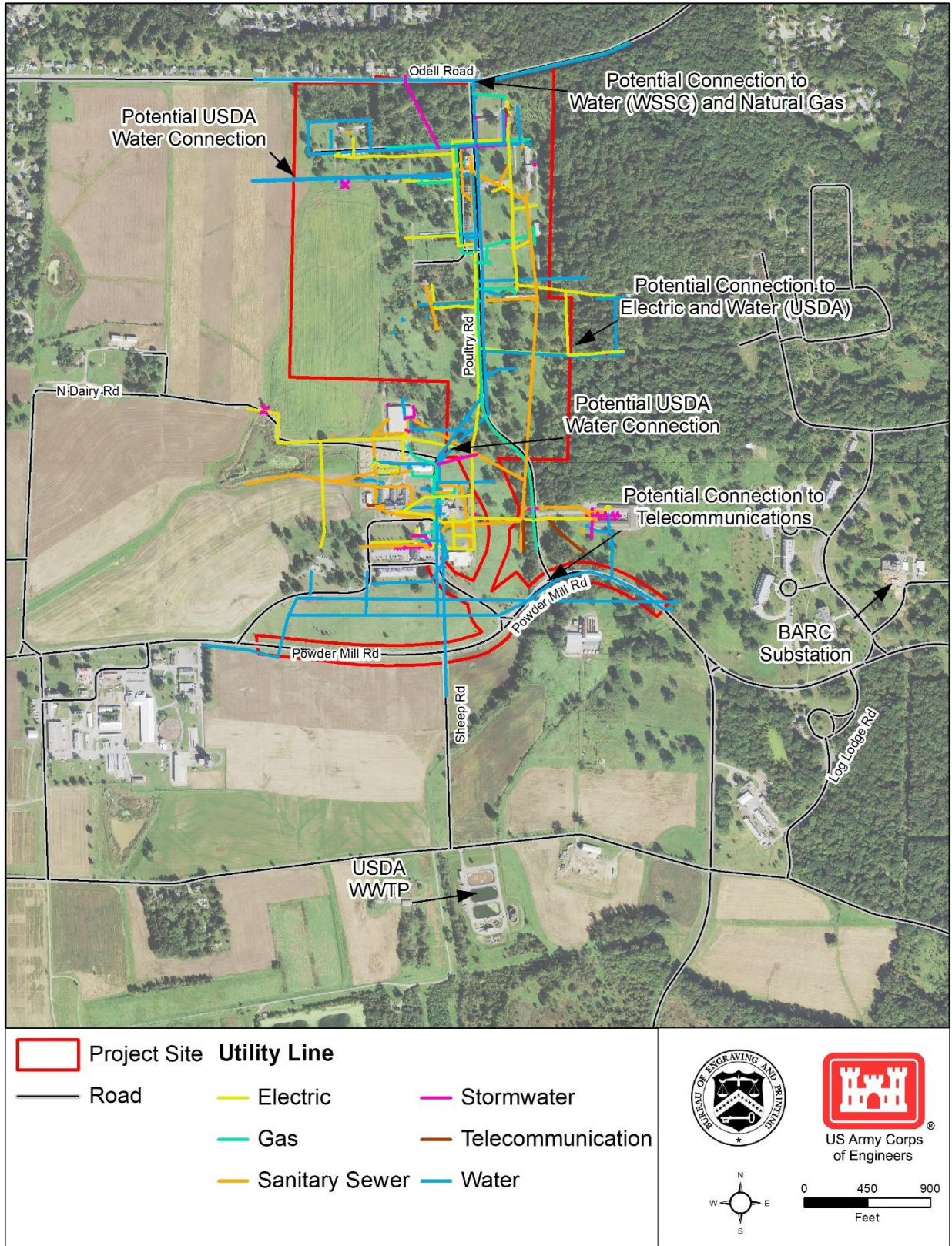
17 The ROI for this analysis is the Project Site and off-site areas providing required utility connections. Most
18 of these connection points are located on Beltsville Agricultural Research Center (BARC) to the south of
19 the Project Site. Specific locations of utility connections are shown in **Figure 1**.

20 1.2.2 Applicable Guidance

21 **Table 1** identifies federal guidance and regulations relevant to this analysis. Treasury would comply with all
22 federal and state regulations and guidance while constructing and operating the Proposed Action.

23 **Table 1: Utilities Applicable Guidance and Regulations**

Guidance/Regulation	Description/Applicability to Proposed Action
Energy Independence and Security Act of 2007 (EISA)	Establishes standards for energy efficiency in federal buildings and energy consumption reduction goals. Section 438 requires federal agencies to maintain the pre-development hydrology of project sites to the extent practicable through the consideration of green infrastructure and low impact development (GI/LID) features.
Executive Order (EO) 13834, Efficient Federal Operations (2018)	Mandates federal agencies to achieve reductions in building energy use. Requires new federal construction projects to conform to applicable energy efficiency requirements and sustainable design.
EO 13508, Chesapeake Bay Protection and Restoration (2009)	Directs federal agencies to make efforts to protect and restore the Chesapeake Bay, and to establish strategies to address water pollution coming from federal lands and facilities. Guidance created under this EO provides stormwater best management practices to manage and reduce runoff.
Unified Facilities Criteria (UFC) Department of Defense Building Code	Establishes criteria for planning, construction, and modernization of buildings under the Military Departments. Includes criteria for energy and water efficiency and sustainable design for new construction and existing buildings.



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Figure 1: Existing Utility Infrastructure and Potential Connection Points in the ROI

26 **1.2.3 Existing Conditions**

27 Existing uses on the Project Site generate limited demand for utilities. Three small buildings remain
28 operational within the Project Site and have a cumulatively minimal demand for electricity, natural gas,
29 water, sanitary sewer, non-hazardous solid waste disposal, telecommunications, and stormwater
30 management.

31 **Table 2** provides brief descriptions of the existing utility supply and the current conditions of the utility
32 infrastructure within the ROI for electricity, natural gas, water, sanitary sewer, non-hazardous solid waste,
33 telecommunications, and stormwater management. **Figure 1** identifies relevant utility infrastructure within
34 the ROI.

Table 2: Existing Utility Services in the ROI

Utility	Provider	Service Area	Capacity	Existing Conditions in ROI
Electricity	Potomac Electric Power Company (Pepco)	<ul style="list-style-type: none"> 883,000 customers 640-square miles, including Washington, DC, and Montgomery and Prince George’s Counties in Maryland (MD) 	<ul style="list-style-type: none"> 141 miles of 500 kilovolt (kV) transmission lines 747 miles of 230 kV transmission lines 72 miles of 138 kV transmission lines 38 miles of 115 kV transmission lines (NERC, 2015) 	Overhead 13.2 kV feeders distribute electricity throughout the Project Site from an existing substation located approximately 0.2 mile east of the Project Site boundary on Powder Mill Road. No renewable energy sources are present.
Natural Gas	Washington Gas	<ul style="list-style-type: none"> 1.1 million customers Washington, DC and surrounding metropolitan areas in MD and Virginia (Washington Gas, 2020) 	<ul style="list-style-type: none"> 200 billion cubic feet of gas in 2018, 100 billion of which were provided in MD 576 miles of transmission mains 13,188 miles of distribution mains 12,449 miles of distribution lines (WGL, 2019) 	Natural gas lines are present throughout the Project Site, from Odell Road to Powder Mill Road. Several lines branch off to service existing buildings (BEP, 2020).
Water	Washington Suburban Sanitary Commission (WSSC)	<ul style="list-style-type: none"> 1.8 million customers Approximately 1,000-square miles, including Washington, DC, and Montgomery and Prince George’s Counties in MD (WSSC, 2020) 	<ul style="list-style-type: none"> 5,768 miles of freshwater pipeline sourced from the Potomac and Patuxent Rivers Two water filtration plants producing 390 million gallons per day (gpd) (WSSC, 2019; 2020) 	A water line located along Odell Road runs adjacent to the Project Site. No service is provided to the Project Site (BEP, 2020).
	US Department of Agriculture (USDA)	BARC	<ul style="list-style-type: none"> Eight wells, three of which are operational One water treatment plant treating 750,000 gpd Distribution lines throughout BARC 	Underground lines are located throughout the Project Site.
Sanitary Sewer	USDA	BARC	<ul style="list-style-type: none"> Sewage is conveyed to a USDA owned and operated wastewater treatment plant (WWTP) through gravity piping, lift stations, and force mains throughout BARC USDA is substantially renovating this system, independent of the Treasury’s Proposed Action, to increase pump capacity and remove combined sanitary and stormwater sewers from the system 	The USDA WWTP is located approximately 0.3 mile south of the Project Site. Sanitary sewer lines are in disrepair and inadequate for the Proposed Action (BEP, 2020).

Utility	Provider	Service Area	Capacity	Existing Conditions in ROI
<p>Non-hazardous Solid Waste</p>	<p>Prince George’s County</p>	<p>Prince George’s County citizens, residents, and local businesses (Prince George’s County, MD, 2020)</p>	<p>County-managed Brown Station Road Sanitary Landfill:</p> <ul style="list-style-type: none"> • Accepts 2,000 tons of waste per day • Total capacity of 8.5 million tons (MDE, 2016) • Currently at least 73 percent filled, with plans to extend its lifespan by 30 to 65 years (MDE 2018; Ricks, 2019) 	<p>RJ Disposal Service collects and disposes of BARC wastes at off-site landfills and disposal facilities, including County-managed facilities (USDA, 2018). BARC operates recycling programs for concrete, asphalt, paper, cardboard, and aluminum (USDA, 1996).</p>
	<p>RJ Disposal Service</p>	<p>BARC (USDA, 2018)</p>		
<p>Telecommunication</p>	<p>Verizon</p>	<p>National, including BARC</p>	<p>Widely available</p>	<p>An operational telecommunications facility is present east of the Project Site, connecting existing infrastructure to a manhole located within the Project Site by the intersection of Poultry Road and Powder Mill Road. Four conduits are accessible from this manhole, and only half of one is currently in use. Lines are also located within the Odell Road right-of-way (BEP, 2020).</p>
<p>Stormwater Management</p>	<p>USDA</p>	<p>BARC</p>	<ul style="list-style-type: none"> • Capacity is unknown; however, existing drainage is obsolete with significant inflow and infiltration issues (BEP, 2020). 	<p>Limited stormwater infrastructure is located on the Project Site, primarily in the northern portion; it consists of terra cotta stormwater piping with portions connecting to the sanitary sewer system. BARC operations are currently permitted under a National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) General Stormwater Permit (see the Water Resources Technical Memorandum).</p>

37 1.3 Environmental Effects

38 This section assesses potential impacts to utilities within the ROI that would occur under the Proposed
39 Action (i.e., Preferred Alternative) and the No Action Alternative. Measures to reduce potential adverse
40 utilities impacts from the Proposed Action are identified.

41 1.3.1 Approach to the Analysis

42 Treasury assessed potential impacts to utilities within the ROI by comparing the capacity and condition of
43 existing utilities that service the Project Site against anticipated utility requirements of the Proposed Action.
44 Treasury conducted utility analyses, in consultation with utility providers, to determine both the anticipated
45 needs of the proposed Currency Production Facility (CPF) and providers' capabilities to support the
46 Proposed Action's utility requirements.

47 For this analysis, Treasury assumed that a significant impact would occur if the Proposed Action would:

- 48 • Result in prolonged or repeated service disruptions to utility end users.
- 49 • Substantially increase utility demand relative to existing and planned regional uses.
- 50 • Reduce local utility supply to the detriment of local communities.

51 1.3.2 No Action Alternative

52 Under the No Action Alternative, Treasury would not construct the proposed CPF at BARC. Treasury would
53 continue to operate the existing Washington, DC Facility (DC Facility) as under current conditions. The
54 existing DC Facility, located in an urban environment, currently does not adversely impact local utilities.

55 The Project Site would remain in its current condition. However, the USDA intends to relocate operations
56 from the only three existing operational buildings within the Project Site to elsewhere on BARC under a
57 separate action independent of the Treasury's Proposed Action. Therefore, utility usage at the Project Site
58 would be anticipated to cease in the near future.

59 As there would be no change to existing utilities from the Proposed Action at the Project Site, the No Action
60 Alternative would result in **no impact** on utilities in the ROI.

61 1.3.3 Preferred Alternative

62 The Proposed Action would include the following utility upgrades:

- 63 • All existing utility infrastructure at the Project Site would be removed and replaced with new
64 infrastructure designed to support the specific needs of the Proposed Action, tying into existing
65 utility infrastructure proximal to the Project Site (e.g., along Odell or Powder Mill Roads; see **Figure**
66 **1**).
- 67 • Renewable energy sources and sustainable features would be considered during design of the
68 Proposed Action; currently, Treasury intends to incorporate rooftop solar panels on the proposed
69 CPF. Additionally, high efficiency equipment and systems for heating and cooling, humidification,
70 and lighting would reduce the amount of energy required to operate the proposed CPF, and the
71 building's electrical and mechanical systems would be optimized through automation. The
72 proposed CPF would achieve a Silver Leadership in Energy and Environmental Design (LEED)
73 rating.
- 74 • An existing USDA water line that passes through the Project Site would be relocated around the
75 proposed CPF and reconnected to maintain the loop in the current water distribution system.

- 76 • A new sanitary sewer lift station would be installed onsite. Approximately 1 mile of new force main
77 would be installed to tie into the USDA's existing sanitary sewer system south of the Project Site.
- 78 • New GI/LID features would be installed and other stormwater control practices implemented onsite
79 as part of Treasury's stormwater management strategy in compliance with Section 438 of the EISA
80 and EO 13508.

81 **Table 3** summarizes the anticipated utility providers for, and the utility demand of, the Proposed Action, as
82 well as the anticipated capability of utility providers to meet these utility requirements based on current
83 and/or proposed utility systems. Treasury generated the data presented in **Table 3** through extensive
84 coordination with utility providers to the ROI based on the Proposed Action's anticipated utility requirements
85 (BEP, 2020).

86 **Table 3: Anticipated Utility Conditions**

Utility	Demand	Provider	Sufficient Capacity?
Electricity	6.5 megawatts	Pepco	Yes
Natural Gas	600,000 cubic feet per day	Washington Gas	Yes
Water	280,000 gpd	WSSC ¹ and USDA	Yes
Sanitary Sewer	120,000 gpd	USDA	Yes

87 1. Before supplying water for the Proposed Action, the WSSC would need to apply for a waiver from Prince George's County to
88 service the Project Site. Further, while Treasury anticipates using the WSSC for the full demand of the proposed CPF, Treasury
89 would also establish a connection to the USDA water system to provide supplemental external fire protection capability.

90 Solid waste requirements of the proposed CPF would be similar to those of Treasury's Western Currency
91 Facility (WCF). The WCF generates approximately 1,200 tons of non-hazardous solid waste per year (BEP,
92 2018).

93 A minimum of two telecommunications providers would be required to ensure redundancy to the proposed
94 CPF (BEP, 2017). However, Treasury has not yet determined telecommunication and stormwater
95 requirements; these will be determined through the proposed CPF design process. Treasury would continue
96 to work with all utility providers through the design process to ensure sufficient capacity is available.

97 *Construction*

98 Construction of the Proposed Action would not require the use of any on-site utilities, as construction
99 equipment would be diesel-powered. Therefore, the Proposed Action would have **no impact** on utility
100 supply during construction.

101 Service disruptions to local communities could occur while new utility infrastructure is being connected to
102 the existing, non-USDA owned systems. Specifically, natural gas and water utilities would connect to
103 infrastructure located along Odell Road. However, these disruptions would be minimized to the extent
104 practicable through efficient construction sequencing (e.g., keeping existing utilities operational until the
105 new utilities are ready to be connected), and affected end users would be given advance notice of
106 anticipated disruptions. Therefore, the Proposed Action would result in **negligible adverse impacts** to the
107 ROI from temporary service disruptions of natural gas and water utilities during construction.

108 All other utility modifications would be for utilities located on BARC and associated with BARC operations;
109 **no impacts** to non-BARC end users would occur. Similarly, solid waste generated during construction of
110 the Proposed Action would be recycled or disposed of by the construction contractor and transported to
111 nearby landfills by an appropriate disposal service contractor. The amount of solid waste generated by
112 demolition and construction would not place undue burden on existing landfills and designated disposal

113 sites. In accordance with federal directives, Treasury would recycle materials to the maximum extent
114 feasible.

115 Construction of the Proposed Action would remove existing utility systems that are outdated and in disrepair
116 from the Project Site, replacing them with new, efficient utility infrastructure. This would result in the
117 improved condition and operation of utility systems at the Project Site, such as by decoupling the
118 stormwater management and sanitary sewer systems. Therefore, utility upgrades associated with the
119 Proposed Action would constitute a **beneficial impact** to BARC, including the Project Site, due to improved
120 utility efficiency.

121 Treasury would control stormwater discharges from the construction site through compliance with NPDES
122 permitting requirements as described in the [Water Resources Technical Memorandum](#).

123 *Operation*

124 As shown in **Table 3**, operation of the proposed CPF would generate demand on the utilities servicing the
125 Project Site; operation of the proposed entrance road would not require use of utilities. Under current
126 conditions, there is virtually no utility demand in the Project Site.

127 Through detailed analysis and close consultation between Treasury and ROI utility providers, the utility
128 providers identified that they would be able to accommodate the increased demand from the proposed CPF
129 while still meeting their existing and known future demands. The long-term increase in utility demand from
130 the proposed CPF would be minor in comparison to the overall capacity of the utility service providers and
131 would not reduce utility supply for other customers. Available supply for potential future developments in
132 the area may be reduced, but this effect would be minor as utility providers are continually improving and
133 expanding their service.

134 Overall, the Proposed Action would cause **negligible adverse impacts** on utility demand and availability,
135 as increased utility usage would be relatively small compared to the available capacity of regional and local
136 utility providers. Additionally, in compliance with federal directives, Treasury would pursue energy efficient
137 and sustainable design strategies, including maintaining a Silver LEED rating, installing rooftop solar
138 panels, and potentially implementing other renewable energy systems, to minimize the utility demand for
139 the proposed CPF.

140 All discharges of stormwater and sanitary sewer would be properly controlled in accordance with federal
141 and state requirements. Wastewater would be treated by the USDA owned WWTP on BARC to required
142 standards; operation of the Proposed Action would not discharge waste directly to surface waters.
143 Stormwater management in accordance with Section 438 of the EISA and EO 13508, including use of
144 GI/LID and methods for controlling nonpoint source pollution, would manage water pollution and ensure
145 post-project hydrology mirrors pre-project hydrology in terms of volume, quality, temperature, and other
146 critical parameters (see the [Water Resources Technical Memorandum](#)).

147 **1.4 Impact-Reduction Measures**

148 As part of the Proposed Action, Treasury would implement the following impact-reduction measures to
149 minimize potential adverse impacts to utility systems and end users:

- 150 • Minimize utility disruption to end users by implementing efficient construction sequencing of utility
151 modifications.
- 152 • Provide advance notice to potentially affected end users of any anticipated disruption to allow for
153 adequate planning.
- 154 • Obtain all required permits before any proposed utility work commences and adhere to permit
155 conditions.

- 156 • Consult with utility providers throughout the design process regarding utility supply and efficient
157 infrastructure options to support the Proposed Action.
- 158 • Achieve a Silver LEED rating to maximize resource efficiency and minimize utility demands.
- 159 • Incorporate GI/LID design features in accordance with Section 438 of the EISA to maintain the pre-
160 project hydrology of the Project Site to the extent practicable, and incorporate stormwater control
161 best management practices in accordance with EO 13508 to minimize the strain on stormwater
162 infrastructure.

163 **1.5 Mitigation Measures**

164 No project-specific mitigation measures are recommended.

165 **1.6 References**

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