Infrastructure & Services Alignment Plan

Integrate
All missions needing Hanford Site Services and Infrastructure to Optimize Productivity

Transform
Site Services Infrastructure for Energy Efficient Operations

Protect
The Assets and Employees of the Site

Modernize
The Infrastructure to Ensure Reliable Service to All Projects

Serve
The Diverse Needs of the Cleanup Mission

Right-Size
The Site Infrastructure

Reliable Service at Needed Capacity for Reduced Cost at Hanford
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Hanford's Future: The Manhattan Project National Historical Park

A New National Park
In December 2014, the President signed into law the Manhattan Project National Historical Park Act, which directs the Department of Energy (DOE) and the National Park Service (NPS) to work together to establish a new co-managed National Park in the three original Manhattan Project locations – Oak Ridge, TN, Los Alamos, NM and the Hanford Site in Washington State. The park was established December 19th, 2014.

Possible Eligible Sites
Six Hanford facilities are eligible for possible inclusion in the new Park, including:
- B Reactor National Historic Landmark
- Hanford High School
- White Bluffs Bank Building
- Hanford Irrigation District Pump House
- Bruggemann's Warehouse
- T-Plant (221-T Process Building)

With the coming of the National Park, DOE will need to reevaluate its long term strategy for roads and services to ensure safety and public access to the historic facilities in the Park. Decisions about which roads are needed, and the condition in which the roads should be kept for the National Park, may be made in 2016, as one example. Other affected systems include utilities, communications and emergency services.

An initial boundary map indicating which eligible facilities will eventually be in the Park will be established by December 2015, along with a Memorandum of Agreement outlining roles and responsibilities for DOE and NPS. The law directs DOE to expand public access to Park facilities and to undertake historic preservation and maintenance work to ensure the longevity of the historic facilities. DOE welcomes and embraces this new mission for the Hanford Site, and is already working closely with NPS to prioritize preservation work and evaluate options for public access to proposed Park facilities.

Integration and Alignment
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Hanford's Future: Infrastructure, Cleanup and Beyond

**RL GOALS**
- Continue ground water treatment along River Corridor & Central Plateau
- K-Basin sludge removal
- 100K reactors in safe storage
- Complete demolition of Plutonium Finishing Plant (PFP)
- Remediate Burial Sites 618-11 & 618-10
- Complete Fast Flux Treatment Facility (FFTF) and 400 Area Demolition and Dismantling
- Complete demolition of Building 324
- Preserve historic sites and open broad public access to Manhattan Project National Historic Park locations
- Open public recreation areas
- Increase Tribal access

**ORP GOALS**
- Complete and operate the Waste Treatment Plant (WTP) in the direct feed (DFLAW) mode as the initial phase of WTP startup
- Conduct single-shell tank (SST) retrievals to meet commitments
- Mitigate double-shell tank (DST) AY-102 while safely managing the entire tank waste inventory
- Provide DST space and infrastructure upgrades to ensure longer-term and SST retrievals
- Complete the WTP Pretreatment (PT) Facility and High-Level Waste (HLW) Vitrification Facility incorporating tank waste characterization and staging (TCWS) capabilities

**Key Infrastructure Projects:**
The Foundation of Successful Cleanup
- 200E electrical distribution system capacity upgrades to support waste feed and delivery needs
- Fire station relocation and consolidation projects to align with the shrinking cleanup footprint and needs of the River Protection Project
- Export water system piping upgrades to improve reliability of water delivery to critical Central Plateau facilities
- Roadway refurbishment of primary access roads to the Central Plateau facilities, including Route 45, 1st Street, and Akron Avenue
- Electrical power pole replacement for improved reliability of power delivery to Central Plateau facilities, including tank farms, Waste Encapsulation and Storage Facility (WESF), Central Waste Complex (CWC), Effluent Treatment Facility (ETF), and Canister Storage Building (CSB)
- DFLAW infrastructure projects for electrical, water, sanitary sewer and roads
Over the past six years, significant progress has been made by Hanford contractors in realizing the 2015 Vision, allowing active cleanup at the Hanford Site to focus on the Central Plateau and the River Protection Project made up of the 200E and 200W Tank Farms and the WTP.

The 2015 Infrastructure and Services Alignment Plan (ISAP) and the 2015 Washington River Protection Solutions (WRPS) Infrastructure Upgrade Plan reflect a changing landscape by outlining future states of infrastructure and the support needed to complete mission requirements. Both identify the scope and timing of the key activities needed to reach those future states.

The ISAP document works in conjunction with baseline operations and maintenance of the infrastructure to assure that reliable, on time, and cost effective services are provided at the required capacities for the Hanford stakeholders.

### SEWER: Protect
System modifications are predominately influenced by population changes on the Central Plateau coupled with degraded conditions of several drain fields needed for long term mission requirements. While short-term mitigation strategies are in place to pump the failing drain fields, as needed, long term projects have been defined to eliminate the workarounds:

- Install pumping systems to route septage from the failing W-1 and W-16 drain fields to the 200W sewer lagoon and abandon the drain fields
- Replace the failing E-12 drain field in 200E to support long-term tank farm needs
- Sewer capability to support LAWPS

### ROADS: Right-size
Transformation of the Hanford road system is characterized by completion of the River Corridor cleanup and the focus of resources on the arterial and core roads serving the Central Plateau. This strategy will eliminate maintenance costs associated with a significant portion of the 100 Area roads while establishing restricted access. Key activities include:

- Apply asphalt overlays of arterial access roads to the Central Plateau (Rte 3, Rte 4S, and Rte 11A west of 200 East)
- Chip seal repairs to Central Plateau core roads
- 1st St/Canton Ave upgrade to support DFLAW
- Establish restricted access program for non-maintained roads

### HAMMER: Serve
While HAMMER’s future remains rooted in its mission to serve the training needs of Hanford personnel, it is also being driven by business development opportunities with other stakeholders and the need to improve and modernize the training environment to sustain high quality training. Key areas of focus over the next 5–10 years include:

- Install long-term business partnerships with other federal agencies and support existing agency agreements with federal and non-federal customers
- Invest in upgrades to curriculum, facilities and technology to improve quality of training
- Maintain core business of training the Hanford Site workers
- Develop strategies for supporting future training needs of the WTP

### SAFEGUARDS & SECURITY/PATROL: Protect
The posture of the site security program will continue to be driven by the need to protect against theft of special nuclear material and unauthorized access to facilities and classified information. While those requirements will remain effectively unchanged over the planning period, land transfers and aging facilities at the Patrol Training Academy (PTA) need to be addressed.

- Evaluate potential scenarios for broad public access to the Manhattan Project National Historical Park as well as associated upgrades or changes.

### WATER: Modernize
Raw/Export
Modifications and maintenance to the site export and raw water distribution systems are strongly influenced by the need for reliable raw water delivery to the Central Plateau for fire protection and process cooling water to the River Protection Project facilities (e.g., 242-A Evaporator; LAW). Long-term projects are also defined for right-sizing the export water system while taking advantage of variable speed pumping technology for energy savings.

- Refurbish/replace aging export water supply lines to maintain high reliability of export water to the Central Plateau
- Eliminate the 100D and 100B export water reservoirs and upgrade the pumping system to the Central Plateau
- Water loop and connection to serve LAWPS

Potable
While capacity of the potable water system on the Central Plateau appears to be adequate to support the future mission needs of the WTP, the safety and reliability requirements of the drinking water supply are driving several key projects:

- Install a redundant filter backwash pump at the 200W Water Treatment Plant to eliminate a single point vulnerability, and prevent a shutdown
- Install 200W Water Treatment Plant improvements to include system control valves, monitoring instrumentation, Programmable Logic Controller software, and the alum mixing system
- Replace the existing chlorine gas injection system with a liquid sodium hypochlorite injection system to eliminate the risks and associated costs with storing and handling chlorine gas
- Refurbish/replace aging potable water supply lines at A Tank Farm, T-Plant, and ETF
- Implement improvements to the preventative and predictive maintenance program that focuses resources on critical system components needed for continuity of water delivery

- Replace the weapons cleaning trailer
- Upgrade Buildings 662 and 662A (PTA classrooms)
- New Live Fire Shoot House
NATURAL GAS PIPELINE: Transform
In 2012, DOE issued a Notice of Intent in the Federal Register to prepare an Environmental Impact Statement for the Acquisition of a Natural Gas Pipeline and Natural Gas Utility Service at the Hanford Site, Richland, Washington (NGP EIS) under the National Environmental Policy Act (NEPA). In the Notice of Intent, DOE proposed to make natural gas utility service available to the DOE’s Waste Treatment Plant (WTP), currently under construction, and the 242-A Evaporator in the Central Plateau 200-East Area of the Hanford Site. The proposed action would involve entering into a contract with a licensed natural gas supplier to construct, operate, and maintain a natural gas pipeline, approximately 30 miles long, running from an interconnect near Pasco, Washington, westerly across non-DOE lands beneath the Columbia River to the Hanford Site, and terminating in the 200 East Area of the Central Plateau. The Department remains supportive of completing the analyses necessary to consider bringing natural gas onto the Hanford Site. However, given current cleanup priorities and schedules, DOE intends to better align the completion of the Natural Gas Pipeline EIS and the decision to enter into a supplier agreement with planned future operations of facilities on Hanford’s Central Plateau. DOE intends to resume work and complete the EIS in the future and will continue to work closely with the community and other key stakeholders regarding the proposal for bringing natural gas onto the Hanford Site.

FIRE/EMERGENCY SERVICES: Protect
The fire/emergency services planning horizon is driven by changes in site demographics and aging facilities and systems.
- Replace the Radio Fire Alert and Reporting (RFAR) system to address aging and obsolescence
- Upgrade the Hanford emergency siren system
- Upgrade Station 92 (between 200E and 200W)
- Construct new vehicle storage building to consolidate personnel and equipment from the 100 Area and 300 Area stations
- Close 100 Area and 300 Area Stations

FACILITIES: Modernize
The transformation of facilities across the site is driven by multiple factors, including demographic shifts, energy savings initiatives, facility aging, and consolidation. With facilities aging, routine building maintenance will be supplemented to address significant roof and heating, ventilation, and air conditioning (HVAC) replacements. Other key projects include:
- Installation of electric vehicle charging stations in 200E to support electric vehicle fleet expansion
- Renovation and expansion of the 200E Vehicle Fleet Maintenance Shop
- Consolidation of warehousing activities

INFORMATION TECHNOLOGY (IT): Integrate
IT infrastructure continues to be fueled by technology advances and the need for more accessibility of electronic information across organizations supporting the Hanford missions. Cyber security threats and capacity are also driving changes in the IT arena over the next decade. Key activities include:
- Upgrades to network hardware to address cyber security requirements and new internet protocols
- Consolidation from 29 to 11 IT facilities to shrink the footprint, improve services delivery, and reduce operating costs
- Leveraging Hanford Federal Cloud hosted applications for Other Hanford Contractors (OHCs) as well as across the Emergency Management (EM) Complex to maximize use of DOE investments
- Continue to deploy Thin Client workstations to lower life cycle costs, reduce power consumption, advance solutions delivery and strengthen cyber security posture

ELECTRICAL: Transform
The Hanford electrical distribution system will continue to shrink in response to cleanup completion, while customer requirements on the Central Plateau will drive system upgrades for capacity and reliability. Projects and programs to support these changes include:
- Upgrade the current capacity of the 200 Area substation to support forecasted infrastructure loads at the Tank Farms and LAWPS
- Increase capacity and balance loads on 200E 13.8kV distribution lines to support new loads within the Tank Farms and LAWPS
- Start-up the A6 substation and electrical supply to WTP
- Address 230kV line vulnerabilities in order to assure service to LAWPS

INTEGRATE
- Continue expansion and commercialization of broadband wireless services to support mobilization of workforce leveraging tablets/Pad platforms
- Develop strategies for supporting future WTP IT needs
- Work with National Park Service agency to ensure capabilities are with the National Park Service interpretation best practices as well as associated upgrades or changes
Safeguards and Security Roadmap

### 2015 CURRENT CONDITION

- Continue to maintain emphasis on protection of special nuclear materials.
- Ensure appropriate levels of security for unauthorized access, acts of sabotage, theft or loss of classified matter and government property.
- Address Patrol Training Academy (PTA) general facility concerns including: the lunchroom, classrooms 662 and 662A, live fire shoot house, and need to relocate Range 10.
- Operate Rattlesnake Barricade at reduced hours.

### END STATES 2020

- Continued protection of special nuclear material.
- Patrol Barricades and Patrol Operations Center will remain in service.
- New Live Fire Shoot House to applicable standards and in use.
- PTA Range 10 will be relocated to support land conveyance.
- New weapons cleaning trailer in use.
- Security approaches are customized to enable broad public access to the Manhattan Project National Historical Park and any other approved public access.

### Project Descriptions

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<td>5-245, New Live Fire Shoot House</td>
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<td>5-276, Provide Access Control Barriers to the Firing Range Complex</td>
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<td>5-244, Relocate Range 10</td>
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<td>5-244, PTA Replace weapons cleaning trailer (M1 222)</td>
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<td>5-242, PTA Range 9 Mock-up</td>
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<td>5-239, PTA Range 9 Elevated Platform</td>
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<td>5-240, 662 and 662A Building Modifications</td>
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*Project needed - currently NOT funded.

### Major Actions/Decisions

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<td>Develop Emergency Services Strategic Plan (ESSP) document</td>
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<td>Implementation of the recommendations from ESSP document</td>
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<td>Develop approach for broad public access to the Manhattan Project National Historical Park, including private vehicle access to some facilities, as appropriate</td>
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*No specific year established.
Site population has moved from the outer areas to the Central Plateau

HNF-S1581, Fire Station Infrastructure and Deployment Evaluation Study recommendations completed, including these topics:
- Design and construction of a new Central Plateau Fire Station
- Closure of 100 Area Fire Station
- Upgrade of 200 Area Fire Station

Fire and emergency response equipment in good to excellent condition excluding ambulances 91, 92, and 93; past National Fire Protection Association (NFPA) lifespan guidance

Radio Fire Alert Reporting (RFAR) system obsolete, replacement parts are no longer manufactured

Project Description

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<tr>
<td>L-763, Replace RFAR (Phase II)</td>
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<td>L-794, Upgrades to HFD Station 92 (Bid 609A)</td>
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<td>L-771, New Equipment Storage Building at HFD Station 92</td>
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<td>L-780, Consolidated Operations - Central Plateau East Fire Station - Conceptual Design Report/Definitive Design/Construction</td>
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<td>EF28, Replace Fire Engine Pumper Truck - E-94 (First Run) HO 68D-3890 (2000)</td>
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<td>EF26, Replace 65-ft Aerial Telesquirt with a 75-ft E-932, HO 68D-3893 (1994) (First Run)</td>
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<td>EF30, Replace 65-ft Aerial Telesquirt with a 75-ft E-932, HO 68D-3893 (1994) (First Run)</td>
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<td>L-326, 300 Area Fire Service Relocation</td>
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<td>EF12, Replace Mobile Incident Command Post - HO 68N-1989 (1998)</td>
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<td>EF10, Replace 300 Area Station 93 - Building 3709A</td>
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<td>EF9, Replace 300 Area Station 91 - Building 609</td>
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<td>EF8, Replace 300 Area Station 90 - Building 608</td>
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<tr>
<td>Develop Emergency Services Strategic Plan for document</td>
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<td>Close 300 Area Station 93 - Building 3709A</td>
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<td>Close 100 Area Station 91 - Building 609</td>
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Construct and Implement
Consolidated Operations Fire Station on the Central Plateau

300 Area Fire Station Closure beyond 2020

100 Area Fire Station Closure

Upgrade Station 92 for additional staff and build new equipment storage building

RFAR system replaced (transmitters)
Emergency Management Roadmap

2015 CURRENT CONDITION

- Emergency Management Program and capabilities in place to support cleanup mission
- Emergency Management Program maintained to respond effectively and efficiently to emergencies so appropriate measures are taken to protect workers, the public, and the environment
- 24/7 Hanford Emergency Operations Center (EOC) and shift office maintained in a state of readiness for emergency operations and to support site-wide occurrence reporting
- Coordination with other Hanford contractors to ensure emergencies are promptly recognized, categorized, and classified with required reporting and notifications made

END STATES 2020

- EOC remains at the Federal Building and in operation for overall Hanford response
- Continued work with Information Management on the Hanford Site Emergency Alerting System upgrades and footprint
- WTP incorporated into Emergency Management facility/program plans per the Emergency Services Strategic Plan
- Emergency Management planning includes provisions and coverage for the Manhattan Project National Historical Park

Project Descriptions

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<tr>
<th>Project Description</th>
<th>2015</th>
<th>2016</th>
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<th>2019</th>
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<td>Beyond 2020</td>
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<tr>
<td>ETSA, EP, HDF, &amp; Patrol Zetron Console Upgrade</td>
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<td>Beyond 2020</td>
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<td>Assumption made that Energy Northwest will maintain sirens for Columbia Generating Station through FY2020</td>
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<td>Prepare Strategic Plan for Emergency Services</td>
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<td>Determine whether any changes to support implementation of broad public access as part of Manhattan Project National Historical Park</td>
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*No specific year established
Transportation Roadmap

**2015 CURRENT CONDITION**

- Average daily traffic trips = 5,700
- Total roads = 397 lane miles
- Open roads = 354 lane miles
- Restricted roads = 43 lane miles (*restricted* = roads open and paved but not maintained)
- 88.3% single occupancy vehicle trips
- 100 annual public buses visiting B Reactor National Historic Landmark and the Manhattan Project National Historical Park sites
- 10,000 visitors per year touring the B Reactor National Historic Landmark
- 1,400 public visitors touring cleanup program sites annually
- 1,000 public visitors to Pre-Manhattan Project historic sites in 2015

**Project Descriptions**

- L-759, Akron Avenue (12th to 2704HV)
- L-856, Route 4N Rutting Repair, RT 11A to MP 2
- L-777, Overlay Route 4S, 618-10 Waste Site to Horn Rapids Road - DESIGN
- L-859, 1st St/Canton Ave Upgrade - DESIGN
- L-775, Overlay Route 4S, Canton Avenue to Wye Barricade - DESIGN
- L-858, 1st St/Canton Ave Upgrade - DESIGN
- L-777, Overlay Route 4S, 618-10 Waste Site to Horn Rapids Road - CONSTRUCTION
- L-775, Overlay Route 4S, Canton Avenue to Wye Barricade - CONSTRUCTION
- L-859, 1st St/Canton Ave Upgrade - CONSTRUCTION
- L-779, Overlay Route 4S, Wye Barricade to 618 Waste Site entrance
- L-517, Overlay Route 3 & 20th Street (Route 4S to Beloit Ave.)
- L-519, Overlay Interior 200 West Roads
- L-523, Chip Seal 200 West Interior Roads
- L-533, Chip Seal Interior 200 East Roads
- L-534, Overlay Interior 300 East Roads

**Project Descriptions (Continued)**

- L-601, Rebuild Route 11A Rt 25 to MP 3.14
- L-602, Overlay Route 2N (Route 1A to Route 3)
- L-695, Chip Seal Route 11A (Route 4N/4S to Route 3N)
- L-765, Dayton Avenue (16th St. to 19th St and Curve 6A9 to 19th St) and 23rd Street (Dead to Dayton)

**Major Actions/Decisions**

- Develop Roads Master Plan Document
- Core Road Condition Assessment
- 300 Area Road Condition Assessment and Response
- ILAW Container transporter route from WTP LAW to IDF

**END STATES 2020**

- Average daily traffic trips = 4,000
- Total roads = 397 lane miles
- Open roads = 284 lane miles
- Restricted roads = 113 lane miles
- 80% single occupancy vehicle trips
- Several 100 Area roads eligible for restricted status
- ILAW container transporter route from WTP LAW to IDF completed via 1st St.

**Road Categories**

- Local Routes
- State Routes
- Open and Paved Routes
- Restricted Routes

**Roadway Data**

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- Total roads = 397 lane miles
- Open roads = 354 lane miles
- Restricted roads = 43 lane miles
- 88.3% single occupancy vehicle trips
- 100 annual public buses visiting B Reactor National Historic Landmark and the Manhattan Project National Historical Park sites
- 10,000 visitors per year touring the B Reactor National Historic Landmark
- 1,400 public visitors touring cleanup program sites annually
- 1,000 public visitors to Pre-Manhattan Project historic sites in 2015

**Project Descriptions**

- L-759, Akron Avenue (12th to 2704HV)
- L-856, Route 4N Rutting Repair, RT 11A to MP 2
- L-777, Overlay Route 4S, 618-10 Waste Site to Horn Rapids Road - DESIGN
- L-859, 1st St/Canton Ave Upgrade - DESIGN
- L-775, Overlay Route 4S, Canton Avenue to Wye Barricade - DESIGN
- L-858, 1st St/Canton Ave Upgrade - DESIGN
- L-777, Overlay Route 4S, 618-10 Waste Site to Horn Rapids Road - CONSTRUCTION
- L-775, Overlay Route 4S, Canton Avenue to Wye Barricade - CONSTRUCTION
- L-859, 1st St/Canton Ave Upgrade - CONSTRUCTION
- L-779, Overlay Route 4S, Wye Barricade to 618 Waste Site entrance
- L-517, Overlay Route 3 & 20th Street (Route 4S to Beloit Ave.)
- L-519, Overlay Interior 200 West Roads
- L-523, Chip Seal 200 West Interior Roads
- L-533, Chip Seal Interior 200 East Roads
- L-534, Overlay Interior 300 East Roads

**Project Descriptions (Continued)**

- L-601, Rebuild Route 11A Rt 25 to MP 3.14
- L-602, Overlay Route 2N (Route 1A to Route 3)
- L-695, Chip Seal Route 11A (Route 4N/4S to Route 3N)
- L-765, Dayton Avenue (16th St. to 19th St and Curve 6A9 to 19th St) and 23rd Street (Dead to Dayton)

**Major Actions/Decisions**

- Develop Roads Master Plan Document
- Core Road Condition Assessment
- 300 Area Road Condition Assessment and Response
- ILAW Container transporter route from WTP LAW to IDF

Evaluate which existing roads will be needed to support the Manhattan Project National Historical Park as well as whether any upgrades are needed

*No specific year established
**2015 CURRENT CONDITION**

- Core system demand: 39MW peak
- Core system capacity: 38MW/41MW peak
- Extend 200E 13.8kV line – 8Mi
- Completed in FY2013, 251W
- Remaining 300 Area load
- Completed in FY2013, 200E electrical
- 2017
- 2020
- Peak Demand: 76MW
- Capacity: 110MW
- 100 & 200 Areas served from 251E (A6) & 251W (A8) substations:
  - Peak Demand: 76MW
  - Capacity: 110MW
- 100 Area served from 151KE
  - Substation: 151KE
- Remaining 300 Area load served from 451B after removal of 351B
- 400 Area served from 451B substation:
  - 400 Area loads removed, transferred to alternative off-grid power, or operation of substation transferred to an off-site utility
- Downsize other areas—isolate distribution as loads are no longer needed

**Project Descriptions**

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<thead>
<tr>
<th>Project Description</th>
<th>2015</th>
<th>2016</th>
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<th>2018</th>
<th>2019</th>
<th>2020</th>
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<td>*Project Supports LAWPS</td>
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**Major Actions/Decisions**

- Complete Electrical Master Plan Update
- Startup all electrical supply to WTP
- Electrical Supply to LAWPS
- 100 Area, Remove from service substation A9
- 200 Area, Remove from service substation A9

**END STATES 2020**

- 100 & 200 Areas served from 251E (A6) & 251W (A8) substations:
  - Peak Demand: 76MW
  - Capacity: 110MW
- 100 Area served from 151KE (A9) substation:
  - Downsize 100 Area or eliminate 151-KE (A-9) substation
- 300 Area served from 351B Substation (B354):
  - Remaining 300 Area load served from 451B after removal of 351B
- 400 Area served from 451B substation:
  - 400 Area loads removed, transferred to alternative off-grid power, or operation of substation transferred to an off-site utility
  - Downsize other areas—isolate distribution as loads are no longer needed

**Project Descriptions**

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**Major Actions/Decisions**

- Complete Electrical Master Plan Update
- Startup all electrical supply to WTP
- Electrical Supply to LAWPS
- 100 Area, Remove from service substation A9
- 200 Area, Remove from service substation A9

---

**Electrical Roadmap**

### 2015 CURRENT CONDITION

**A7**
- BPA Midway Bus 3 Power Generation
- River Corridor Cleanup
- D&D
- Mission Support

**A9**
- BPA Midway Station Service
- Mission Support

**A4**
- BPA Midway Bus 1 Power Generation
- Tank Farms
- D&D
- Mission Support

**A2**
- BPA Midway Bus 3 Power Generation
- Long Term Stewardship & B Reactor
- Mission Support

**A8**
- BPA White Bluffs
- RTB
- Mission Support

**A6**
- BPA White Bluffs
- Mission Support

**B354**
- Columbia Gen Station
- Pull Box
- City of Richland

### END STATES 2020

**A7**
- BPA Midway Bus 3 Power Generation
- River Corridor Cleanup
- Mission Support

**A9**
- BPA Midway Station Service
- Mission Support

**A4**
- BPA Midway Bus 1 Power Generation
- Tank Farms
- D&D
- Mission Support

**A2**
- BPA Midway Bus 3 Power Generation
- Long Term Stewardship & B Reactor
- Mission Support

**A8**
- BPA White Bluffs
- RTB
- Mission Support

**A6**
- BPA White Bluffs
- Mission Support

**B354**
- Columbia Gen Station
- Pull Box
- City of Richland
### Project Descriptions

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<td>L-851, L-852, Design and Install 202F Pipe to Replace 42&quot; Export Water Pipe in 100D / 100B</td>
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### Major Actions/Decisions

- Deferred Tracer Study to increase 283W water filter plant capacity to 1950 gal/min
- Completed 242A cooling tower feasibility report
- Completed plateau improvements to 200E and 200W Raw Water operations
- 100 B/C Areas being transferred from Washington Closure Hanford to MSA
- 300 Area transferred in FY2015 from WCH to MSA
- Population served: 5,988

### Project Descriptions (Continued)

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### Major Actions/Decisions (Continued)

- Eliminate 182D reservoir
- Variable speed drives for export water pumps for energy savings
- Support WTP operations tank waste reduction
- Operate 283W on alternative disinfection process
- Continue to provide water service to 300 Area
- Population served: 3,954

---

**Water Systems**

- **Raw**
- **Potable**
- **Export**
- **Fire**

**Conditions**

- **Good**
- **Fair**
- **Poor**
- **Unknown**

**Pump Station**

- **Phase out Reservoir**
- **U.S. Fish and Wildlife Services Managed**

---

**2015 CURRENT CONDITION**

- Deferred Tracer Study to increase 283W water filter plant capacity to 1950 gal/min
- Completed 242A cooling tower feasibility report
- Completed plateau improvements to 200E and 200W Raw Water operations
- 100 B/C Areas being transferred from Washington Closure Hanford to MSA
- 300 Area transferred in FY2015 from WCH to MSA
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---

**END STATES 2020**

- Eliminate 182D reservoir
- Variable speed drives for export water pumps for energy savings
- Support WTP operations tank waste reduction
- Operate 283W on alternative disinfection process
- Continue to provide water service to 300 Area
- Population served: 3,954
Sanitary Sewer Roadmap

2015 CURRENT CONDITION

- 200W evaporative lagoon in operation
  - Capacity: 55,000 gallons/day
- All wastewater received at 200W evaporative Lagoon is pumped from holding tanks and hauled by trucks
  - Approximately 30,000 gallons/day
- Continued operations of existing septic systems
  - Drain fields = 28
  - Holding tanks = 18
- Population served: 5,988

Project Descriptions

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* TBD for year of completion, pending outcome of FY2015 study results

END STATES 2020

- 200E Area waste water to be handled by:
  - 200W Lagoon (trucked or pumped via pipe)
  - Possible 200E flow equalizer facility (FEF) to consolidate flows from adjacent facilities
- Target number of building connections: 300
- Demand in FY2020: 83,000 gal/day met by ground and central system
- Population served: 3,954

Major Actions/Decisions

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Information Technology Roadmap

2015 CURRENT CONDITION

- Telecommunication buildings under utilized because legacy telephone system is not removed
- Not all site contractors are leveraging the Hanford Federal Cloud government asset
- End user organization will continue to migrate to hosted desktop as technology matures
- Emergency notification sirens need to be modernized and scaled to current requirements
- The demand for wireless technology in the field is growing faster than the cyber solutions and the infrastructure can be deployed
- End user demands for data storage, collaboration, and video service will soon exceed the fiber bandwidth capacity between the Central Plateau and City of Richland

END STATES 2020

- Increase "Record Material" automation with business processes and stored electronically
- Plateau and Richland approaches 95% of IT's physical Active infrastructure serving the cleanup mission, plus new needs to support Manhattan Project National Historical Park
- Hanford end user can move anywhere, anytime and to anywhere without moving IT desktop equipment
- Field forces access applications to receive, process, and document completed work at the job site
- Field forces have outdoor access to wireless service from anywhere on the Plateau
- IT Services are acquired through service catalog across site contractors at predefined rates
- Hanford Site maintains 95% minimum of procured electronic assets to meet Electronic Product Environmental Assessment Tool (EPEAT) Gold requirements
- Site IT governance and investments are managed across contractors
- Minimal impact to business processes when major network transport or data center applications fail
- 30% of site IT assets are owned by the government, 30% are owned by end users through a Stipend/BYOD policy, and 40% purchased as cloud services
- Legacy application are modernized to site standard
- 90% of Hanford desktops don't require patching
- Preventative Maintenance (PM) is current to manufacturer & regulated requirements

Project Descriptions

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<td>L-766, New Data Center Upgrade from G4 to T220</td>
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<td>L-876, High Capacity Fiber Optic (200 Area - Central Plateau)</td>
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<td>L-966, Next Generation Wireless (Including Wireless/Mobile Coverage Study)</td>
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<td>ET58, HLAN Network Upgrade - IPv6 OMB Compliance Phase 2 - Internal (OMB Mandate)</td>
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<td>L-818, Remodeled Facilities Reconfiguration</td>
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Major Actions/Decisions

- Modernize Enterprise Resource Planning (aka Business Management System)
- Decision on IT ready for WTP, LAMPS and CIFUN
- Modernize wireless infrastructure to support mobile workforce (predecessor to ET66, Next Generation Wireless)
Land Roadmap: Controls, Planning and Uses

2015 CURRENT CONDITION

- 586 square miles site area
- Biological controls enabled to treat up to 10,000 acres per year for Integrated Vegetation Management (IVM) treatment per NEPA action
- NEPA/National Historic Preservation Act (NHPA) for Borrow Pits expansion was completed
- Maintain integrated land management (municipal planning) process
- Support broad public access to B Reactor National Historic Landmark and Manhattan Project National Historical Park
- In accordance with NDAA 2015, convey 1,641 acres to the Community Reuse Organization (TRIDEC) by September 30, 2015
- Complete CLUP Supplement Analysis before March 29, 2015
- NEPA/NHHPA review for cover material completed for long term mission clean-up needs through FY2035
- Support development of the Manhattan Project National Historical Park at Hanford

END STATES 2020

- Central Plateau is the primary focus of cleanup mission operations at the Site; Manhattan Project National Historical Park is up and operating at full capacity
- Biological controls operational scenario enables permitted capacity to treat up to 34,000 acres/year for IVM requirements
- NEPA/NHHPA review for cover material completed for long term mission clean-up needs through FY2035
- Maintain integrated land management process

Selected Facilities Eligible for the Manhattan Project National Historical Park*

CLUP Designations:
- Conservation/Preservation
- Industrial
- Research & Dev.
- Industrial (Excluisive)
- Conservation (Mining)
- Recreation (High Intensity)
- Recreation (Low Intensity)
- Borrow Areas
  - Active Pits
  - Inactive Pits
- TRIDEC Land Conveyance Assessment Area

Project Descriptions

In accordance with NDAA 2015, convey 1,641 acres to the community reuse organization (TRIDEC) by Sept. 30, 2015

Complete CLUP Supplement Analysis before March 29, 2015

Major Actions/Decisions

Consent Decree & Tri-Party Agreement Modifications
South 600 Area Land Conveyance (Sept. 2015)
Borrow Pit Management Program for Active Pit Areas
Develop River Corridor Integrated Land Planning document
Initiate NEPA Review for Evaporative Transpiration Barriers
Support development of the Manhattan Project National Historical Park at Hanford

*Department of Interior will determine sites with input from Department of Energy. T-Plant is unlikely due to cleanup mission duration.
Long-Term Stewardship (LTS) transition in FY2015 included the IU2/Segment 4A and 100B/C geographical areas. Work will start on the remaining areas (100D/H, 100N and IU6/Segment 4B).

- Continue with scheduled transitions though FY2020.
- 6 of the 9 Reactors (all but KE, KW, and B) are cocooned in interim safe storage. KE and KW Reactors are scheduled for LTS transition by FY2021.
- B Reactor is being preserved for public access and is managed under a separate process.
- Initiate required surveillance and maintenance (S&M) activities at appropriate waste sites and maintain institutional controls to protect human health and the environment.

**Project Descriptions**

|------|------|------|------|------|------|------|--------------|
| None Identified

**Major Actions/Decisions**

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<td>5-Year Inspection of ES reactors</td>
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* Scheduled milestones by transition area are available at LTS webpage this link: http://www.hanford.gov/page.cfm/LTSTransition#Panel_4

The Hanford Site footprint will be reduced by 1,641 acres from land conveyed to TRIDEC by Sept. 30, 2015.
Facilities Roadmap

CURRENT CONDITION

- Facility Master Plan Update Completed (1,002 Active Facilities)
- 156 existing buildings scheduled for D&D through FY2020
- Continued operations and maintenance of existing buildings
- Planning for a target of 846 existing buildings beyond FY2020
- Contractor office population served 2,614
- Hanford workforce (including tenants and subcontractors) is approximately 15,982

END STATES

- Facility Master Plan Update Commissioned (846 Active Facilities)
- Major facilities completed in 200E:
  - New office for tank waste remediation support
  - WTP Laboratory, Balance of Facilities, and Low Activity Waste Facility
- Achieve and maintain occupancy rate of 90% in office facilities
- Contractor office population served 2,850
- Hanford workforce (including tenants) is approximately 12,900

Project Descriptions

- L-845, New Fleet Maintenance Building
- L-XXX, 200 East Area Office Facility Support
- New Administration Building
- L-798, 2101M HVAC Replacement
- L-696, 2101M Facility Renovations
- L-572, Fire Systems Maintenance Consolidation
- L-649, PDA Equipment Parking and Staging Area
- L-764, Replace Generators (Emergency Generators) (Yakima-604A, WYE-6701, WYE-K9-6701E, Rattlesnake-6701C)
- L-772, Electrical Vehicle Charging Station for 2266E Facility
- L-773, Electrical Vehicle Charging Station for 2750E Facility
- L-864, Construct Biological Controls Facility
- A-018, Repair/Replace 6062 Roof

Project Descriptions (Continued)

- L-863, Replace Obsolete FACPs for General Use Facilities
- L-797, Key Facilities HVAC Replacements
- L-813, Concrete Pads-211ED and 212ED Tents
- L-796, Key Facilities Roof Replacements
- L-810, Install Paint Booth in New Facility (formerly - Autobody Paint Booth Replacement)
- L-811, 2711EA & 273E Fire Barrier Welding Areas
- L-814, 2711EA Insulation Repairs

Major Actions/Decisions

- LAWPS, Replace Obsolete FACPs for Generation Facilities
- LAWPS, Concrete Pads-211ED and 2711EA
- LAWPS, Key Facilities Roof Replacements
- LAWPS, Install Paint Booth in New Facility (formerly - Autobody Paint Booth Replacement)
- LAWPS, 2711EA & 273E Fire Barrier Welding Areas
- LAWPS, 6062 Insulation Repairs

32 Project Supports LAWPS, Project number yet assigned

33
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Mission Forward

Notes:
Hanford is nationally recognized for:

- Its culture of safe and secure conduct of operations
- Clean energy and environmental compliance
- Leadership and management excellence
- Changing the course of world history by helping to usher in the atomic age

Infrastructure and site-wide services are:

- Provided at significantly reduced cost and with improved customer service
- Satisfaction aligned with contractor requirements, with no shortage or excess
- Modernized to support the world's largest radioactive waste treatment plant

The Hanford Site “end state” demonstrates:

- A mutual vision among Stakeholders, regulators, Community, Indian Tribes and Department of Energy
- Strategic progress in Tri-Party Agreement milestones and cleanup projects
- Post-cleanup land use and economic diversification consistent with the comprehensive land use plan