Date Submitted: 01/17/11 Originator: M. L. Proctor Phone: 372-9227	**WASTE SITE RECLASSIFICATION FORM** Operable Unit(s): 100-DR-1 Waste Site Code: 100-D-86:2 Type of Reclassification Action: Closed Out ☐ Interim Closed Out ☐ No Action ☒ RCRA Postclosure ☐ Rejected ☐ Consolidated ☐	Control Number: 2010-104

This form documents agreement among parties listed authorizing classification of the subject unit as Closed Out, Interim Closed Out, No Action, RCRA Postclosure, Rejected, or Consolidated. This form also authorizes backfill of the waste management unit, if appropriate, for Closed Out and Interim Closed Out units. Final removal from the NPL of No Action and Closed Out waste management units will occur at a future date.

Description of current waste site condition:

The 100-D-86:2, Additional Process Sewer Pipelines subsite consisted of suspected process sewer segments from the 190-D and 190-DR buildings and the 105-D Reactor Building that were not included in the 100-D-31 and 100-D-50 waste sites, including pipelines, manholes, and drains, which would have carried nonradioactive waste streams from laboratories, water treatment facilities, and the reactor buildings. The 100-D-86 waste site was included in the 2009 *Explanation of Significant Differences for the 100 Area Remaining Sites Interim Remedial Action Record of Decision, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington as a candidate site for further evaluation. Confirmatory investigation test pits were dug at locations agreed upon with the Washington Department of Ecology (Ecology) to determine if process sewer segments existed at several suspected locations. Per agreement with Ecology, test pit locations where no pipelines, manholes, and drains were found are proposed for reclassification to No Action. With the exception of the pipelines associated with the 105-DR Large Sodium Fire Facility (LSFF) at test pit 1, no process sewer segments were found during the investigation. The 105-DR LSFF pipelines have been transferred from the 100-D-86:2 subsite to the 100-D-86:3 subsite, and are recommended for Remove, Treat, and Dispose (RTD).

Basis for reclassification:

Confirmatory investigation of the 100-D-86:2 subsite by digging test pits at suspected locations of remaining process sewer segments from the 190-D and 190-DR buildings, the 105-D Reactor Building, and other facilities determined that no pipeline segments, manholes, or drains existed at five of the six test pit locations. The segment where a pipeline was found was transferred to a different subsite for RTD. In accordance with this evaluation, the investigation findings support a reclassification of the 100-D-86:2 subsite to No Action. The results of this investigation show that no process sewer segments are expected to remain at this subsite. No pipelines, manholes, or drains are present, having been previously removed or never constructed. As a consequence, the subsite does not preclude any future uses (as bounded by the rural-residential scenario) and allows for unrestricted use of shallow-zone soils (i.e., surface to 4.6 m [15 ft] deep), and is protective of groundwater and the Columbia River. The investigation of the locations of suspected process sewer segments is described in detail in the *Remaining Sites Verification Package for the 100-D-86:2, Additional Process Sewer Pipelines* (attached).

Waste Site Controls:

Engineered Controls: Yes ☐ No ☒ Institutional Controls: Yes ☐ No ☒ O&M requirements: Yes ☐ No ☒
If any of the Waste Site Controls are checked Yes specify control requirements including reference to the Record of Decision, TSD Closure Letter, or other relevant documents.

M. S. French DOE Federal Project Director (printed)	M S French Signature	4/28/11 Date
N. Menard Ecology Project Manager (printed)	Nina M. Menard Signature	5/11/11 Date
N/A EPA Project Manager (printed)	Signature	Date

REMAINING SITES VERIFICATION PACKAGE FOR THE 100-D-86:2, ADDITIONAL PROCESS SEWER PIPELINES

Attachment to Waste Site Reclassification Form 2010-104

January 2011

REMAINING SITES VERIFICATION PACKAGE FOR THE 100-D-86:2, ADDITIONAL PROCESS SEWER PIPELINES

SUMMARY

Test pits were dug at selected locations agreed upon with the Washington Department of Ecology (Ecology) to investigate whether process sewer segments associated with the 100-D-86:2, Additional Process Sewer Pipelines subsite were present or had been previously removed with other decommissioning and demolition or remedial action activities. Where pipelines associated with the 100-D-86:2 subsite were found, the test pit area was transferred to the 100-D-86:3 subsite recommended for remove, treat, and dispose (RTD). Where no pipelines, manholes, or drains associated with the 100-D-86:2 subsite were found, it was assumed that any process sewer segments had been previously removed with other field activities, and a No Action reclassification decision was made in accordance with the TPA-MP-14 procedure in the *Tri-Party Agreement Handbook Management Procedures* (DOE-RL 2007).

TEST PIT EXCAVATION DETAILS

Investigation at the 100-D-86:2 subsite was carried out on November 16 and 17, 2010. Test pits were excavated at six locations shown in Figure 1 of Attachment A (all coordinates listed correspond to the Washington State Plane). The purpose of each test pit was to determine if process sewer segments associated with the 100-D-86:2 subsite were present in any location.

- Test pit 1 (N 151287, E 573725) was excavated to a total depth of 6 m (19 ft) below ground surface (bgs) attempting to access a pipeline associated with the 105-DR Large Sodium Fire Facility (LSFF). Because no pipeline was found in this test pit, an additional test pit was excavated to 6 m (19 ft) bgs at an alternate location (WSP coordinates N 151275, E 573725). Because a pipeline was found at the alternate test pit location, the entire test pit 1 area was sent to RTD, including the 36 m (120 ft) of pipeline that extends from this location to the south. Approximately 17 m (55 ft) of pipeline in the area south of the test pit is in the shallow zone, at a depth of approximately 3 m (9 ft) (GE 1948). The test pit 1 area was transferred to the 100-D-86:3 subsite for RTD.

- Test pit 2 (N 151189, E 573551) was excavated to a total depth of 1.2 m (4 ft) bgs, attempting to access the center of a north-south-trending pipeline shown approximately 15 m (50 ft) to the east of the 190-DR pump house and west of the valve house test pits 1 and 2 on a temporary drawing. Because the pipeline segment was not found in this test pit, it is concluded that the segment was not present because the pipeline was identified on a temporary piping drawing as being located inside a shallow trench with only 45 cm (18 in.) of sediment covering.

- Test pit 3 (N 151127, E 573543) was excavated to a total depth of 4.6 m (15 ft) bgs to access the corner of a 20- to 61-cm (8- to 24-in.) steel discharge pipeline. No pipeline was found. The pipeline is concluded to have been removed with demolition of the 190-DR pump house.

- Test pit 4 (N 151622, E 573697) was believed to be the location of a manhole connecting to the 100-D-31:3 subsite (GE 1955b) and was to be excavated to a maximum depth of 4.6 m (15 ft) bgs. However, the test pit 4 location was determined to be within the excavation boundary of the 100-D-31:4 subsite, which was at a depth of 5.4 m (18 ft) bgs. Therefore, no excavation was necessary to determine that there was no manhole at this location.

- Test pit 5 (N 151592, E 573698) was excavated to a maximum depth of 4.6 m (15 ft) bgs, attempting to access a 91-cm (36-in.)-diameter manhole associated with the 190-D building annex (GE 1955b). However, only miscellaneous debris was found during the excavation. This miscellaneous debris included rebar, pieces of concrete, a piece of sheet metal, and a section of conduit. Due to the non-hazardous nature of this debris, the material was backfilled into the test pit when excavation was completed. It was concluded that the manhole and associated piping had been previously removed during demolition of the 190-D building annex.

- Test pit 6 (N 151036, E 573549) was excavated to a maximum depth of 4.6 m (15 ft) bgs to access a 30-cm (12-in.)-diameter drain shown on historical drawings to run north-south and connect with the 100-D-50:1 sewer pipelines. However, no pipeline was found and it is concluded that it was never constructed.

STATEMENT OF PROTECTIVENESS

The 100-D-86:2, Additional Process Sewer Pipelines subsite excavations, site evaluations, and supporting documentation demonstrate that this site meets the objectives established in the *Remedial Design Report/Remedial Action Work Plan for the 100 Area* (RDR/RAWP) (DOE-RL 2009) and the *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington* (Remaining Sites ROD) (EPA 1999). Test pits dug at selected locations agreed upon with Ecology determined that process sewer segments do not exist at five of the six test pit locations. Test pit 1 was transferred to subsite 100-D-86:3 for RTD. The results also show that residual soil concentrations support future land uses that can be represented (or bounded) by a rural-residential scenario. Current results also demonstrate that residual contaminant concentrations support unrestricted future use of shallow-zone soil (i.e., surface to 4.6 m [15 ft]) and that no known evidence of deep-zone contamination exists for this site; therefore, according to currently available documentation, no deep-zone institutional controls are required.

REFERENCES

DOE-RL, 2007, *Tri-Party Agreement Handbook Management Procedures*, RL-TPA-90-0001, Guideline Number TPA-MP-14, "Maintenance of the Waste Information Data System (WIDS)," Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-RL, 2009, *Remedial Design Report/Remedial Action Work Plan for the 100 Area,* DOE/RL-96-17, Rev. 6, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

EPA, 1999, *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington,* U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

EPA, 2009, *Explanation of Significant Differences for the 100 Area Remaining Sites Interim Remedial Action Record of Decision, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.

GE, 1948, "105-DR Building Drainage – SW Section," Drawing H-1-8521, General Electric, Richland, Washington.

GE, 1955a, "190-DR Building Annex Temporary Piping to Test Process Pumps," Drawing H-1-9970, General Electric, Richland, Washington.

GE, 1955b, "190-D Annex Plot Plan & Vicinity Map Reactor Plant Modifications," Drawing H-1-26391, General Electric, Richland, Washington.

ATTACHMENT A

REGULATOR AGREEMENT FOR INVESTIGATION OF THE 100-D-86:2 SUBSITE

INVESTIGATION OF 100-D-86:2, ADDITIONAL PROCESS SEWER PIPELINES

PURPOSE

The purpose of this investigation is to determine whether pipelines associated with the 100-D-86:2, Additional Process Sewer Pipelines subsite are present or have been previously removed with other decommissioning and demolition or remedial action activities. If pipelines associated with the 100-D-86:2 subsite are found, they will be recommended for remove, treat, and dispose (RTD), regardless of sampling results from any samples taken during this investigation. If no pipelines associated with the 100-D-86:2 subsite are found, it will be assumed that these pipelines were previously removed with other field activities, and a No Action or Rejected determination will be made.

EXCAVATION LOCATIONS

Test pits will be placed at each of the following six locations depicted in Figure 1 according to the corresponding specifications (all coordinates listed correspond to the Washington State Plane). Each area to be excavated should be evaluated individually by the field personnel to maximize safety during investigation activities. Some of the areas are adjacent to active excavations. The purpose of each test pit is to determine if pipelines associated with the 100-D-86:2 subsite are present in each location. If present, the pipelines (including all related pipe segments shown on Figures 1 and 2) will be recommended for RTD. If a pipeline or other feature associated with the 100-D-86:2 subsite is not found in a test pit, it will be assumed that this pipeline has been previously removed or was never constructed and a No Action or Rejected determination will be made for that pipeline area. All test pits will be recorded in the field logbook, including approximate depth and construction material for any pipes that are found.

- Test pit 1 (N 151287, E 573725) will be excavated to an approximate total depth of 6 m (19 ft) below ground surface (bgs) to access a pipe of unknown construction material associated with the 105-DR LSFF, from which the pipe likely received non-radioactive alkali metal wastes, including wastes of sodium, lithium, and sodium-potassium alloy. This test pit will be used to assess the presence of all of the 100-D-86:2 pipeline segments to the south of this test pit, which served as the gravity drain system for the 105-DR LSFF and flowed to this location, where it connects with the 100-D-50:1 pipelines. If no pipeline is located in this test pit, an additional test pit will be excavated to 6 m (19 ft) at an alternate location (N 151275, E 573725) to determine whether there is a pipeline present in this area. If a pipeline is present in either test pit location, the entire portion of pipes will be sent to RTD, including the 36 m (120 ft) of pipeline that extends from this location to the south. Approximately 17 m (55 ft) of pipeline in the area south of the test pit is in the shallow zone, at a depth of approximately 3 m (9 ft) (GE 1948).

Figure 1. 100-D-86:2 Subsite Test Pit Locations.

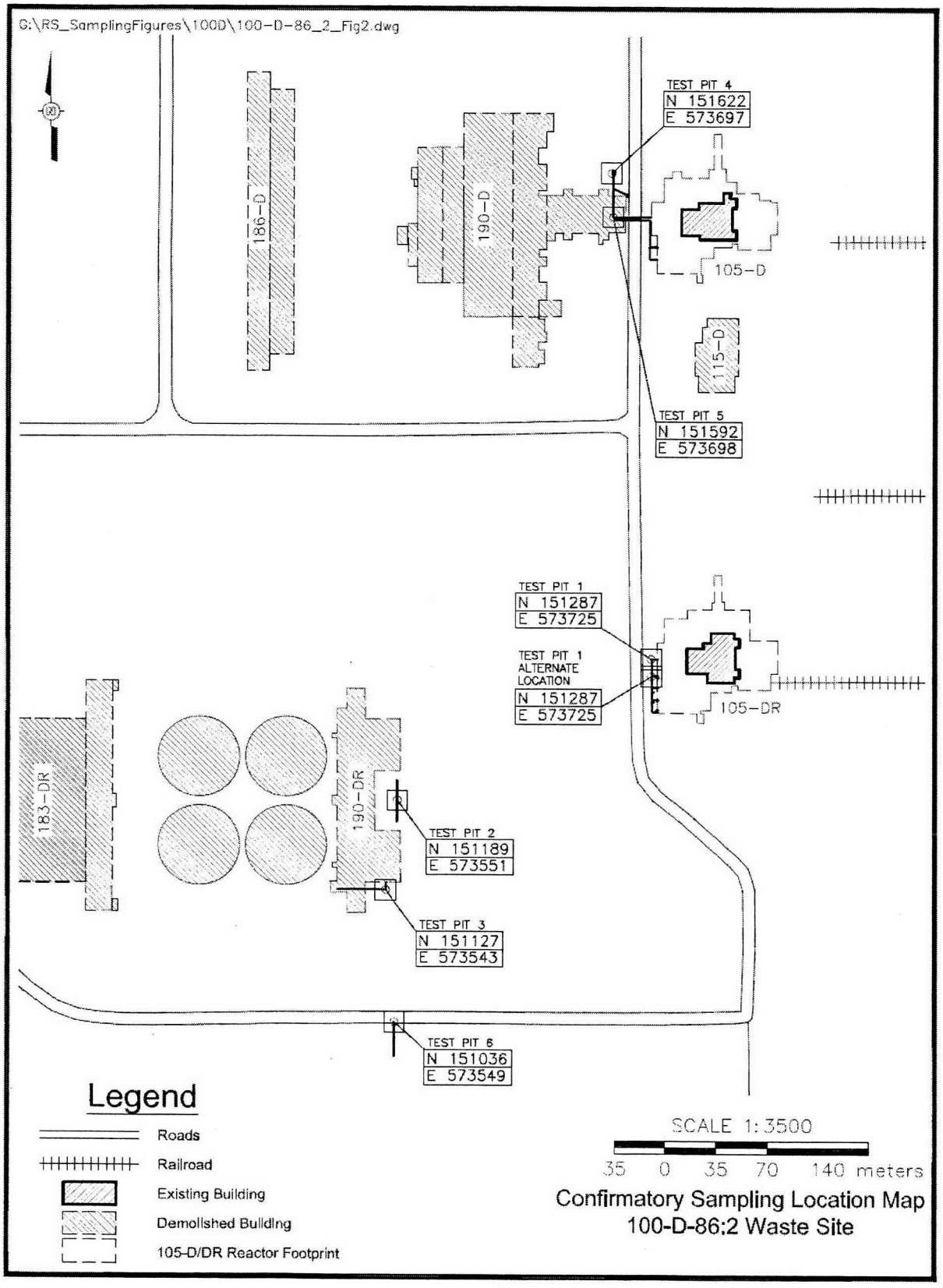
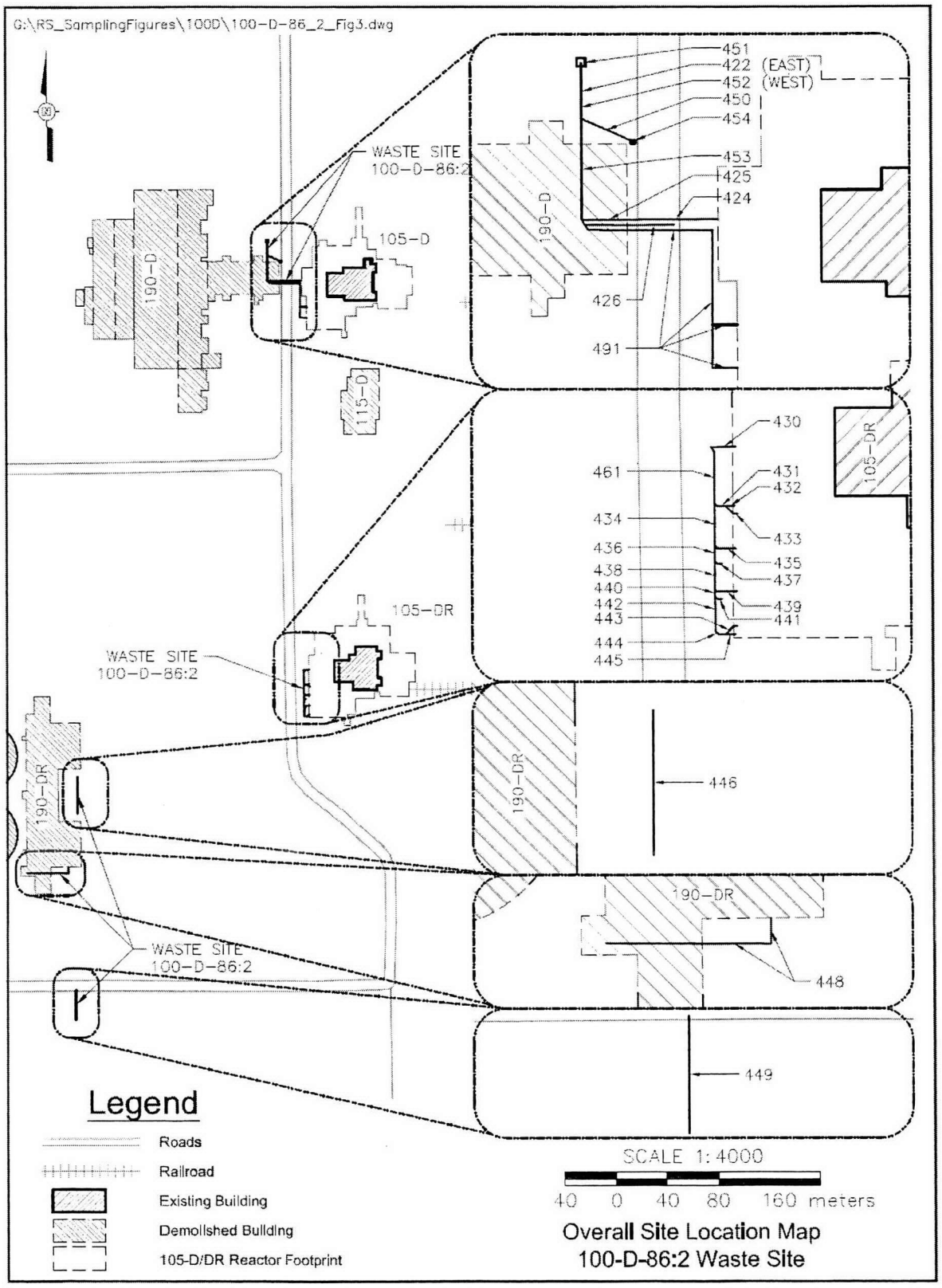


Figure 2. 100-D-86:2 Orphan Sites Evaluation Segments.



- Test pit 2 (N 151189, E 573551) will be excavated to an approximate total depth of 1 m (3 ft) bgs to access the center of a north-south-trending pipeline located approximately 15 m (50 ft) to the east of the 190-DR pump house and west of valve house test pit 1 and 2. The segment connected the 190-DR pipe tunnels, and leads to a trench and sump on the south portion of the annex. This piping may have been used to drain pump tests on sodium dichromate mixtures in the 190-DR Building. The 76-cm (30-in.) steel pipe has a total length of approximately 28 m (92 ft) (GE 1955a). If the pipeline segment cannot be found with this test pit, it will be assumed that the segment is not present because the pipeline is identified on a temporary piping drawing as being located inside a shallow trench with 45 cm (18 in.) of sediment covering.

- Test pit 3 (N 151127, E 573543) will be excavated to an approximate total depth of 4.6 m (15 ft) bgs to access the corner of a 20- to 61-cm (8- to 24-in.) steel discharge pipeline. The pipeline extends a total of 38 m (125 ft) through the 190-DR pump house, and likely received sodium silicate and sodium dichromate wastes (GE 1955a).

- Test Pit 4 (N 151622, E 573697) will be excavated to a maximum depth of 4.6 m (15 ft) bgs to access a manhole that connects to the 100-D-31:3 subsite (GE 1955b). The manhole most likely received sodium silicate and sodium dichromate wastes associated with the 190-D Building annex. The base of this manhole is expected to be at 7 m (22 ft) bgs; however, if present, the manhole and southern influent line from the former 190-D Building will be recommended for RTD.

- Test Pit 5 (N 151592, E 573698) will be excavated to a maximum depth of 4.6 m (15 ft) bgs to access a 91-cm (36-in.)-diameter manhole associated with the 190-D Building annex (GE 1955b). The base of this manhole is expected to be at 7 m (22 ft) bgs; however, if present, the manhole and associated piping will be recommended for RTD. The associated piping includes an eastern influent line leading from the former 190-D Building annex to the 105-D Reactor Building and a northern influent line that extends to the manhole associated with test pit 4, and other pipe segments shown in Figures 1 and 2.

- Test Pit 6 (N 151036, E 573549) will be excavated to a maximum depth of 4.6 m (15 ft) bgs to access a 30-cm (12-in.)-diameter drain that runs north-south and connects with the 100-D-50:1 sewer pipelines. On historical drawings, the segment appears to end at the paved road located 23 m (75 ft) to the north of the sewer, and likely received runoff from this location. If the pipeline segment or drain cannot be found within this test pit, it will be assumed that the pipe was never present.