BUREAU OF RECLAMATION

Draft Environmental Assessment

Appendix B – Environmental Protection Measures

Eastside Reuse System, Washington County, Utah

Provo Area Office – Upper Colorado Basin Region

October 2025

Environmental Protection Measures

The Washington County Water Conservancy District (District) environmental protection measures include design features, best management practices, monitoring, standard operating procedures, and other practices consistent with permits, agreements and applicable Federal, state, or local regulatory requirements:

Air Quality

1. The District will comply with all requirements of applicable dust control permits.

2. Operating permits will be obtained as required from the local county and/or the state for stationary sources as necessary, such as aggregate rock handling equipment, rock crushers, conveyors, and screening equipment which may emit particulate matter. The District will comply with all requirements of the operating permits.

3. Operating permits will be obtained for combustion equipment such as stationary internal combustion engines (greater than 250 horsepower) used during construction or operation of the project. The Operating Permit will include operating requirements, reporting requirements and pollutant emission limits.

Construction Methods/Safety

4. A worker education program will be developed by the District and used during construction and operation. It will be presented to personnel who will be on-site, including but not limited to contractors, contractor's employees, supervisors, inspectors, and subcontractors. A handout will be developed addressing environmental protection measures incorporated into the project and the responsibility of each worker in environmental protection.

5. Temporary construction fencing may be installed, as necessary, for management of wildlife resources and for public safety during both construction and restoration efforts.

6. To protect human safety during construction, temporary signs warning the public of the presence and danger of any open trenches in the area will be installed where paved roads, gravel roads or OHV trails occur near an open trench.

7. Construction contractors will provide site security personnel or fencing, as necessary, for equipment and materials, and limit access to construction sites to authorized personnel.

8. Construction areas will be kept free from any accumulation of construction waste, trash, and debris. Disposal or recycling of trash and debris will be off-site, at a State of Utah approved sanitary landfill or recycling site. Construction materials shall be stored in a gathered, piled, or other organized manner that will readily accommodate use and eventual removal and will not create fluid or additional waste problems. Hazardous and toxic materials will be controlled to prevent accidental spills. Toxic and hazardous materials will be stored in accordance with the project's Spill Prevention, Control, and Countermeasures ("SPCC") plan. Vehicle and equipment refueling and hazardous

materials storage will not be allowed within 100 feet of any wash, stream, or spring. Spill cleanup kits will be available on heavy equipment and maintained so that any spill of fuels, solvents, lubricants, or acids can be quickly cleaned up. Construction and maintenance personnel will be trained in the proper use of the spill kit materials and correct disposal procedures.

9. Sanitary waste will be contained within portable toilet facilities. Portable toilets will be obtained by construction contractors and sited in designated locations in the construction area. The toilets will be maintained and serviced as needed for the duration of construction and removed at the completion of construction. Facilities will be anchored to prevent blowing over in high winds.

10. For every active phase of construction, fire suppression equipment such as extinguishers and shovels will be available on-site during construction. Vehicles will not be parked in tall vegetation to prevent fires from exhaust contact. One member of a construction crew, in addition to other roles, will be responsible for fire watch and fire suppression. For welding crews, one team member will be responsible for fire watch, in addition to the individual designated for the construction site fire watch and fire suppression. When welding at field locations, all flammable materials (i.e., brush, litter) will be cleaned for a distance of 15 feet around the area.

11. Noxious weed control will be implemented to minimize the spread of noxious weeds during construction and restoration/revegetation activities.

12. Where any ROWs cross beneath existing power lines, warning signs will be installed with identified height restrictions during construction. A construction watchman may be designated as needed during construction activities beneath power lines, to ensure equipment keeps specified distances from the power line conductor cables.

13. Any blasting will be conducted and managed to avoid damage to nearby facilities, properties, or sensitive cultural sites. Blast noise monitoring will be conducted if blasting will be in the vicinity of occupied properties, wildlife areas, or sensitive public uses.

14. Use of firearms by contractor personnel for target practice will be prohibited from the construction site and access routes.

15. Contractor personnel will be prohibited from bringing unrestrained domestic dogs to the construction site.

Cultural Resources

16. Historic Property Treatment Plans will direct the appropriate avoidance, monitoring, or mitigation measures that may be used for adversely affected eligible cultural resources.

Hydrology

17. If water is present at the time of construction of creek crossings, in coordination with the Virgin River Program, a temporary earthen cofferdam would be installed or trenchless technology used under the creek at each crossing. The cofferdams would maintain flow in at least a portion of the creek at any given time to allow for continued fish passage. Trenchless technology would not disrupt flow in the creek.

Migratory Birds (including Raptors)

18. As feasible and applicable, the District will conduct initial clearing outside of the migratory bird nesting season. Within Washington County, the nesting season can be divided into 3 major timeframes: (1) Early Nesting Season: January 1–March 31 (e.g., eagles, owls, falcons, and hawks); (2) Primary Nesting Season: April 1–July 15 (e.g., the majority of songbirds, flycatchers, cuckoos, raptors); and (3) Maximum Nesting Season: January 1–August 31 (e.g., eagles)

19. If initial ground clearing will occur during the critical nesting period, pre-construction surveys for nesting migratory birds will be conducted by a qualified biologist (no more than 10 days prior to construction). If an active nest is identified, a no-activity buffer (ranging from 100-feet to 1-mile, depending on species) will be established around the nest site by a qualified biologist. The no-activity buffer will remain in place until the young have fledged or the nest has been deemed inactive by a qualified biologist.

20. If trees located within the ROWs cannot be avoided and must be removed for construction, the trees will be removed outside of the nesting period for raptors or other migratory birds. If removal of a tree during the nesting period is required, the tree will first be surveyed by a qualified biologist to ascertain the presence of any nests. Should an active raptor or other migratory bird nest be present, the tree will not be removed until the birds have fledged.

21. Where appropriate, restrict permitted activities from May 1 through July 15 within 0.5 mile of raptor nest sites unless the nest site has been determined to be inactive for at least the previous 5 years. Construction could occur during restricted periods if sufficient monitoring of the nest is completed during the present active season and the nest is found to be unoccupied for that year by a qualified biologist.

Mojave Desert Tortoise

22. Desert tortoise surveys and monitoring in tortoise habitat in Utah will be completed prior to and during construction, respectively.

23. The District will designate an authorized desert tortoise biologist, one or more desert tortoise monitors, and one or more field contact representatives.

    Authorized desert tortoise biologists are approved by the U.S. Fish and Wildlife Service (USFWS) to conduct presence/absence and clearance surveys, handle and translocate tortoises, construct and excavate burrows, conduct health assessments, and oversee project monitoring and compliance. Authorized biologists must also hold federal and state handling permits and coordinate with the Washington County Habitat Conservation Plan (HCP) Biologist.

    Desert tortoise monitors are approved by the USFWS to assess habitat suitability, conduct presence/absence and abundance surveys, monitor project activities, ensure implementation of conservation measures, and report non-compliance. The monitor is not authorized to handle the tortoise.

Field contact representatives (FCRs) are approved by the USFWS to monitor project activities, conduct daily clearance sweeps, and ensure implementation of conservation measures. FCRs are not authorized to conduct habitat suitability surveys or handle tortoises.

24. All individuals working on the project in tortoise habitat will be required to take a worker education training class conducted by Washington County. All project personnel shall sign an affidavit certifying they have read and understand the material presented.

25. Before construction activities begin, a pre-construction meeting will be held between the District, all onsite workers, and a desert tortoise monitor identified by the District and approved by the responsible state and federal agencies to review all conservation measures. A handout of the conservation measures will be provided to all onsite workers.

26. All equipment taken into desert tortoise suitable habitat will be power-washed to remove noxious weeds and seeds and petroleum products prior to entering or re-entering the site. Fueling machinery will occur on already disturbed areas within the right of way (ROW). Laws and regulations pertaining to fueling of vehicles and equipment will be observed.

27. Project activities and equipment will be confined to the designated temporary ROW which will be identified by stakes, lathes, and flagging. To the extent possible, previously disturbed areas within the temporary ROW will be used for temporary storage areas.

28. Anytime a vehicle or construction equipment is parked in desert tortoise habitat, the area around and directly under the vehicle must be inspected for tortoises before the vehicle or equipment is moved. The inspection does not need to be performed by a tortoise monitor or FCR. If there is a desert tortoise observed, it will be left to move on its own – the tortoise will not be approached or handled. If this does not occur within 15 minutes, the designated desert tortoise biologist will be contacted to remove and relocate the tortoise.

29. If a desert tortoise is found in the construction area, the tortoise will not be approached or handled and all activities within 300 feet of the tortoise will be halted immediately, until such time as the tortoise leaves the area or is moved from the site. This distance can be adjusted down depending on specific circumstances as coordinated with applicable agencies. A desert tortoise biologist will be contacted to approach and handle the tortoise. Consistent with the HCP, the Washington County HCP administrator will be notified within 24 hours if a tortoise is found in the project area.

30. Designated routes of travel will be used whenever feasible in desert tortoise suitable habitat. Additional access routes outside designated routes of travel or the temporary ROWs will be limited to areas pre-cleared by the desert tortoise monitor that do not contain sign of desert tortoise within 100 meters (328 feet). Use of additional access routes will be kept to a minimum.

31. If additional construction or modification of access routes are needed outside designated routes, the desert tortoise monitor shall conduct the most recently published protocol level surveys approved by the applicable state and federal agencies. If a desert tortoise or fresh tortoise sign is found, the District will contact the applicable state and federal agencies to discuss appropriate translocation, avoidance, and minimization measures based on the case-specific circumstances.

32. Cross-country vehicular travel outside of the Project ROW by contractor personnel will be prohibited.

33. Surface occupancy or other surface disturbing activities will be avoided as feasible within 0.5 mile of occupied desert tortoise habitat.

34. During routine inspections, scheduled maintenance, emergency maintenance, or any other maintenance, if desert tortoises are encountered, they will be avoided, and applicable state and federal agencies will be contacted if there appear to be hazards to the tortoise.

35. Scheduled maintenance in suitable habitat will be performed during the less active season (December 1 – February 14). It will be overseen by an individual who has received the desert tortoise education training provided by the Washington County HCP. Scheduled maintenance activities will not create new disturbance beyond the already-disturbed access road and pipeline features.

36. If emergency maintenance activities create new surface disturbance in suitable habitat or are required during the active season in suitable habitat, the District will be contacted within 24 hours to minimize any effects and coordinate post-emergency response. The District will coordinate with the USFWS as appropriate.

For Occupied or High-Quality Desert Tortoise Habitat in the Active Season (February 15 – November 30)

37. The District may choose to use temporary tortoise-proof fencing infrastructure in lieu of full-time monitoring to keep desert tortoises out of construction activities. When temporary fencing is used and if the temperature is 95 degrees F or higher, the entire fence line will be checked at least three times a day—once by a tortoise monitor no more than one hour prior to each day's construction activities beginning or by 7 am (whichever is later), and twice more by trained staff throughout the day. Longer term projects can consider installing tortoise shade structures to lessen the need for three daily checks of the fence to one daily check. In the event shade structures are installed, daily fence line checks must continue no more than one hour prior to each day's activities beginning or 7 am (whichever is later). If temperatures do not reach 95 degrees F, the fence line can be checked once a day. Any fencing plans must be approved by applicable state and federal agencies.

    a. Temporary tortoise-proof fencing consists of barrier fence buried at least 15 centimeters or 6 inches (leaving 1 meter or 3.3 feet aboveground) and supported by stakes.

    b. Shade structures will be constructed on a flattened mound of dirt 20 cm high (to protect the shelter from runoff). Shelter material will be arranged in a half-moon shape, and must be a minimum of 20 cm tall, 40 cm long, and 40 cm wide. Shelters must be covered with 20 cm of soil on the top and sides to stabilize and insulate the structure.

38. If the District does not install temporary fencing, then by the close of each workday, open trenches and other open excavations will be covered or provided with tortoise escape ramps. Excavations left open will be checked each morning for presence of tortoise prior to commencement of daily work and at the end of the workday. Escape ramps will have a slope no steeper than 3:1 and be a minimum of 91.5 cm (3 feet) in length. Escape ramps will be placed at 100-meter (328 feet) intervals. These distances will be reduced if the desert tortoise monitor, and approved desert tortoise biologist

determine that the plug/escape ramp spacing is insufficient to facilitate animal escape from the trench.

39. Unless the District elects fencing in lieu of desert tortoise monitors, desert tortoise monitors will be on site during all construction activities for the protection of desert tortoises. These monitors will be responsible for determining compliance with environmental protection measures.

40. No more than one hour prior to daily construction activities commencing or by 7 am each work day (whichever is later), a desert tortoise monitor will conduct a clearance sweep of that day's project activity area (including a 100-meter [328 feet] zone of influence on all sides) and carefully inspect any hazards (e.g. trenches, open pipes). If temperatures are cold enough that tortoise activity is not expected, the District may coordinate with applicable agencies to reduce the monitoring requirements.

41. A desert tortoise monitor will be assigned to each grouping of equipment (heavy machines which use power to perform a construction function specific to the machine) operating in spatially disjunct areas within the project site. A grouping of equipment is defined as all construction equipment working within a 1,000-foot linear distance from the first piece of equipment to the last piece of equipment. Equipment performing backfilling, re-contouring, and reclamation activities are included in this measure. If the District chooses not to have a desert tortoise monitor on every grouping of equipment, it can use temporary fencing.

42. Blasting is not permissible within 100 meters (328 feet) of an occupied tortoise burrow, due to potential direct effects of this action on burrow stability.

43. If construction activities occur within occupied habitat during the most active seasons (March 15 – May 15 and August 20 – October 20), the District will hold a short refresher meeting with all personnel that will be led by the desert tortoise monitor on March 15 and August 20 (or the first working day just prior to those dates). This meeting will include instructions and handouts to remind workers of the conservation measures. A refresher meeting may need to be given on both dates. Refresher meetings will be held in addition to the pre-construction meeting described previously. However, if the initial pre-construction meeting occurred recently (within one month prior to the most active season start date, March 15 or October 20), the refresher meeting that will have normally been held on that date is not required.

44. No standing water as a result of construction operations will be permitted in desert tortoise habitat because this can attract desert tortoises and predators. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water. If watering conditions could temporarily attract tortoises, a desert tortoise monitor assigned to a group of equipment constructing the pipeline may periodically leave the group of equipment to patrol each area being watered.

45. The storing and handling of bulk hazardous waste materials will be excluded from the construction areas within 800 meters (0.5 mile) of active tortoise burrows.

46. Project and personnel vehicle speeds in the project area within occupied desert tortoise habitat will be limited to 15 mph. Speed limit signs can be posted when entering and exiting occupied habitat.

For Occupied or High-Quality Desert Tortoise Habitat in the Less Active Season (December 1 – February 14)

47. A desert tortoise monitor is not required during the less active season. An FCR will complete similar activities and remain on-site during all construction activities, conduct daily clearance sweeps out to 100 meters (328 feet), check any hazards, and check all backfilling, re-contouring, and reclamation activities prior to initiation. If a desert tortoise or fresh tortoise sign is found within the 100 meter (328 feet) zone of influence, the monitor will contact applicable agencies to discuss appropriate translocation, avoidance, and minimization measures based on the case-specific circumstances. A desert tortoise monitor will come out to the site weekly to check in with staff, review and collect field notes, and check any hazards.

48. In lieu of an FCR that remains on site throughout the day, the District may use temporary fencing infrastructure. An FCR will come out to the site daily to inspect the fence line and any hazards. A desert tortoise monitor will come out to the site twice a week to check in with the staff, review and collect field notes, and check the fence line and any hazards (regardless of temperatures).

49. Project and personnel vehicle speeds in the project area within occupied desert tortoise habitat will be limited to 20 mph. Speed limit signs can be posted when entering and exiting occupied habitat.

For Unoccupied, Low to Medium Quality Desert Tortoise Habitat in the Active Season (February 15 – November 30)

50. Desert tortoise monitors are not required to be on site during all construction activities and temporary fencing is not required.

51. A desert tortoise monitor will come out to the site twice weekly to check in with the FCR, review and collect field notes, and check any hazards.

52. A FCR will remain on-site during all project activities, conduct daily clearance sweeps out to 100 meters (328 feet), and perform a sweep of any open trench and any other open excavations at least three times daily. If a desert tortoise or fresh tortoise sign is found within the 100-meter (328 feet) zone of influence, the FCR will contact the monitor and the monitor will contact applicable state and federal agencies to discuss appropriate translocation, avoidance, and minimization measures based on the case-specific circumstances.

53. No standing water as a result of operations, outside of designated ponds, will be permitted in desert tortoise habitat as this can attract desert tortoises and predators. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.

54. If construction activities occur within occupied habitat during the most active seasons (March 15 – May 15 and August 20 – October 20), the District will hold a short refresher meeting with all personnel that will be led by the desert tortoise monitor or the FCR on March 15 and August 20 (or the first working day just prior to those dates). This meeting will include instructions and handouts to remind workers of the conservation measures. A refresher meeting may need to be given on both dates. Refresher meetings will be held in addition to the pre-construction meeting described previously. However, if the initial pre-construction meeting occurred recently (within one month prior to the most active season start date, March 15 or October 20), the refresher meeting that will have normally been held on that date is not required.

55. Desert tortoise monitors or a FCR are not required to remain on-site during all construction activities and temporary fencing is not required.

56. A FCR will perform a sweep of any open trench and any other open excavations once daily.

57. A FCR will contact a desert tortoise monitor twice a week to review and submit field notes (electronic submission is permissible) and report any hazards. The tortoise monitor will come out to the site once every two weeks to meet with the FCR and check any hazards. If a desert tortoise or fresh tortoise sign is found within the 100 meter (328 feet) zone of influence (regardless of habitat quality), the monitor will contact applicable agencies to discuss appropriate translocation, avoidance, and minimization measures based on the case-specific circumstances.

58. A desert tortoise monitor will come out to the site every two weeks to check with trained staff and check any hazards.

Noise

59. All construction equipment will be equipped with manufacturers' standard noise control devices (e.g., mufflers, acoustical lagging, and/or engine enclosures). All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices.

60. Pumping stations will be enclosed and utilize noise design features to lessen operational noise levels.

61. Equipment will be operated conservatively, which means the operator will not throttle the engine excessively and will keep engine speed as low as necessary to perform required tasks. In addition, the operator will not leave equipment running or idling needlessly.

62. Pump stations will be enclosed and will be designed with a maximum operational noise level of 60 dBA at the boundary of the facility.

Operations

63. Facility inspection and maintenance will only use established access roads, and no off-road travel will be allowed.

64. Pipelines and related facilities will be equipped with pressure and flow sensors that will immediately indicate a major system failure or break. Valve placement and storage capacity are planned to allow isolation of pipeline segments to manage drainage volumes. Personnel will be promptly mobilized to evaluate and repair any failure.

65. Pipeline and related facilities repairs that may be needed will be accomplished within the ROWs, as appropriate, following all environmental requirements of this plan.

Other Special Status Species

66. If federally listed species are documented within the ROW, the District will work with the appropriate federal agency to determine applicable avoidance and minimization measures or other

conservation activities. Avoidance and minimization measures may include buffers around documented specimens or construction timing restrictions. Conservation measures may include relocation.

67. If Utah Species of Greatest Conservation Need are documented within the ROW, the District will work with the appropriate state agency to determine applicable avoidance and minimization measures or other conservation activities. Avoidance and minimization measures may include buffers around documented specimens or construction timing restrictions. Conservation measures may include relocation.

Paleontological Resources

68. A paleontologist will monitor areas with high or very high potential to yield previously unknown significant fossil sites/specimens.

Recreation

69. Temporarily affected existing trail infrastructure would be restored after construction is complete.

Restoration

70. All available growth medium (topsoil and cleared vegetation) will be salvaged and marked with signage for redistribution during reclamation, where applicable. Growth medium will be windrowed along the edge of the ROWs or placed in stockpiles and temporarily stabilized (if stockpiled for more than 14 days) to reduce or eliminate erosion or dust.

71. Soils and cut/fill areas will be restored to blend into existing landforms, as appropriate. Pre-existing hydrological contours should be maintained so that the moisture regime of the area is not disrupted. Any aquatic connectivity should be maintained throughout construction or re-established upon project completion.

72. An appropriate seeding program (methods and sources to be developed during final design) will be applied after final grading, where applicable. Seeding will have the goal of restoring the vegetation to the condition equal to or better than the pre-existing condition. Where appropriate, the seed mixes will consist of native plants endemic to the region and habitat type being restored. Appropriate native seed mixes will be composed of species adapted to the arid climate to prevent the spread of non-native invasive species. Where appropriate, native milkweeds and nectarous/pollen-bearing plants will be included in the seeding program.

73. Monitoring will be conducted post-restoration to ensure stabilization of the area and that vegetative growth is successfully established in order to maintain the ecological integrity of the restored habitat. Adaptive management will be used to address any areas where restoration is unsuccessful.

74. Signs and/or physical blocking barriers indicating restoration activities are being conducted will be installed where needed to deter off-road vehicular damage to restored areas.

Stormwater and Erosion Control

75. As required, a General Permit for Stormwater Discharges Associated with Construction Activity will be obtained from the State of Utah prior to any surface disturbance that includes clearing, grading, excavation, and/or stockpiling.

76. A site-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented for each construction contract. A copy of the SWPPP will be kept on site and updated as needed to manage pollutants or reflect changes in site conditions.

77. A SPCC Plan (40 CFR 112) will be prepared and submitted to applicable agencies. The plan will describe measures that will be taken to properly store, handle, and prevent hazardous materials from being picked up in stormwater and transported offsite. It will also contain measures related to clean up procedures and time frames, notification procedures, and restoration efforts for the affected area.

78. Erosion and sediment control will be implemented using both non-structural and structural best management practices (BMPs).

79. Where appropriate, vegetation within construction areas will be crushed instead of removed by blading, to minimize effects to soils.

80. Non-stormwater discharges, including discharges from pipeline and facility hydrostatic testing, will be directed into existing dry washes or other downstream project facilities as appropriate. Best management practices will be used to prevent bank instability and erosion. Water quality of the hydrostatic testing water will be tested prior to discharge in accordance with UDEQ requirements.

81. At the completion of construction, all non-natural berms, ditches, temporary erosion and sediment controls, bales, wattles, and other energy dissipating/filtering devices not required for protection of facilities will be removed, and drainage function restored. Soils used for erosion control structures and soils captured by those structures will be distributed across the ROWs prior to replacing the topsoil and reclamation.

Traffic/Roads

82. A Construction Traffic Management plan will be developed and coordinated with relevant state and local authorities prior to the start of construction for each major phase of the project.

83. While driving on paved roads or marked dirt roads, posted speed limits will be maintained by construction vehicles and personnel. While driving within the construction area, ROW, or on un-posted dirt roads, a maximum speed limit of 25 miles per hour will be required for construction vehicles and personnel.

84. Designated construction exit locations from the ROWs onto existing paved or improved roads will be identified. These exit locations will be stabilized to minimize sediment being tracked onto asphalt, concrete, or improved road surfaces and to limit other damage.

85. Cross-country vehicular travel by contractor personnel outside of the ROWs or identified access routes is prohibited.

86. Sediment transported onto a public paved road surface by construction equipment or other vehicles that will require removal by sweeping will be disposed of in an approved landfill. Road washing and/or street sweeping on public paved roads will be conducted, as needed.

87. During construction and maintenance, all unpaved access roads used by construction personnel, equipment, and materials deliveries will be maintained to meet local county standards, as applicable.

Visual Resources

88. Pumping stations, permanent fencing, permanent access roads, culvert ends, markers and other project facilities will utilize architectural details and be painted or constructed according to local ordinances.

89. Lighting needed to conduct construction at night will be limited to the basic requirements for conducting the work. Lighting will be shielded and directed down towards the site and not into surrounding areas or onto roads.

90. Nighttime lighting during project operations at the pumping stations and other permanent facilities will either be manually controlled or programmed and used when occupied or when needed for safety and security.

91. Existing vegetation that screens pipeline alignments and other features from key viewing areas will be retained if it does not impede construction activities.