# Midnite Mine Superfund Site

# 100~~90~~ Percent Design

# Appendix B – Construction Support Facilities and Early Works

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## LIST OF ACRONYMS

| | |
|---|---|
| BMP | Best Management Practice |
| BODR | Basis of Design Report |
| CD | Consent Decree |
| $CO_2$ | carbon dioxide |
| COC | constituents of concern |
| CSF | construction support facilities |
| CSZ | construction support zone |
| EMT | Emergency Medical Technician |
| EPA | U.S. Environmental Protection Agency |
| GSR | Green and Sustainable Remediation |
| HASP | Health and Safety Plan |
| HDPE | high-density polyethylene |
| LEED | Leadership in Energy and Environmental Design |
| MA | Mine Area or mined area |
| RA | Remedial Action |
| RAO | Remedial Action Objective |
| RAWP | Remedial Action Work Plan |
| RD | Remedial Design |
| Site | Midnite Mine Superfund Site |
| SOP | Standard Operating Procedure |
| SOW | Statement of Work |
| SWMP | Stormwater Management Plan |
| SWPPP | Storm Water Pollution Prevention Plan |
| Tribe | Spokane Tribe of Indians |
| WCA | Waste Containment Area |
| WSDOE | Washington Department of Ecology |
| WTP | Water Treatment Plant |

## B1.0 INTRODUCTION

This appendix to the *Midnite Mine Superfund Site Basis of Design Report* (BODR) presents the design information for the Early Works phase ~~associated with preparation~~ of the Remedial Action (RA) at the Midnite Mine Superfund Site (~~the~~ Site)~~.) for the Remedial Action (RA) and the construction support facilities (CSFs).~~ Specifically, this appendix discusses the earthworks to prepare a ~~associated with site preparation for construction, layout of the~~ Construction Support Zone (CSZ) where the Construction Support Facilities (CSF) will be located (Drawing 2-1); and the earthworks to prepare the new water treatment plant (WTP) location at the south end of the CSZ (Drawing 2-14). In addition, this appendix depicts design details of an area between Pit 3~~),~~ and Pit 4 (see Drawing 2-23) that will be used for processing and stockpiling aggregate.~~construction preparation.~~ This appendix also identifies the temporary facilities scheduled for removal or demolition at completion of the RA, and the permanent facilities that are to remain after RA~~,~~ for long-term management of the Site. Please note the design and schedule for the construction of the WTP and associated features have been put on hold pending the finalization of the NPDES permitting process. It is believed that sufficient area has been allotted at the south end of the CSZ for WTP and associated facilities. The WTP design details are presented in Appendix I of the 60% Basis of Design Report (MWH, 2013).

The Appendix B designs present the physical space and appropriate grading of the CSZ to accommodate the CSFs and to meet the performance standards specified in the Consent Decree (CD). The overall design of the CSZ is based upon the anticipated space requirements of the selected Contractor and information from previous investigations of subsurface conditions in the CSZ. The layout of the CSZ will ~~It should be noted that the details of the CSZ will primarily~~ be left to the selected Contractor's discretion in order to meet the space requirements for the project which ~~. Requirements for the CSFs and procedures, including decontamination, office space, medical services, etc.~~ are presented in the Technical Specifications (Appendix K) and Performance Standards.

~~).~~ The conceptual CSZ layout presented herein is intended only to demonstrate the adequacy of the CSZ for full-crew RA activities and is subject to change at the selected Contractor's discretion. The CSFs when completed

~~The Early Works are the earthworks needed to prepare the Site for the RA and the associated CSFs (Drawing 2-1), as well as the future water treatment plant (WTP) (Appendix I). In addition,~~

~~this appendix depicts design details of a separate area on the Site that will be used for processing and stockpiling of aggregate, which has to be completed early in the RA, as shown on Drawings 2-16 and 2-17.~~

~~The CSZ is located in the southwestern corner of the Site as illustrated on Drawing 2-12. The CSFs used for the RA will vary according to the specific needs and preferences of the selected Contractor. Therefore, the overall design of the CSZ is based upon the anticipated needs of the selected Contractor and information from previous investigations of subsurface conditions in the CSZ area.~~

~~This design presents the physical space and appropriate grading of the CSZ to accommodate the CSFs and meet the performance standards specified in the CD. The CSFs when completed by the Contractor~~ will include: temporary construction roads, the permanent Site Access Road, Site security, emergency medical and administration buildings, a maintenance/electrical shop, the construction laydown areas, the construction water and fuel storage and load-out system, and the decontamination area (including separate vehicle and personnel decontamination areas, pump house, drainage controls, and facilities for showers, lockers, and laundry). It ~~also~~ is anticipated that the selected Contractor will use temporary facilities for the vast majority of the CSFs (such as mobile trailers or prefabricated structures). ~~The WTP building, ponds, and appurtenant structures also will be located in this area. The design of the WTP and associated features has been put on hold pending the finalization of the NPDES permitting process. As such, the schedule for the construction of these facilities is not known at this time; however, it is believed that sufficient area has been allotted for these facilities. The WTP, associated facilities, and design details are discussed in Appendix I.~~

Appendix B~~This appendix~~:

- Demonstrates that the design will attain the applicable standards identified in the CD.~~Consent Decree (CD).~~
- Explains the strategy used to evaluate alternative locations and select the proposed location for the CSFs.~~construction support facilities.~~
- Depicts the configuration and layout of the CSZ and the areas designated for specific purposes within.
- Discusses the sequence for site preparation and construction/mobilization of the support facilities and subsequent removal of temporary facilities.

- Presents Green and Sustainable Remediation (GSR) considerations.

## B2.0 PERFORMANCE STANDARDS

The Performance Standards presented herein are defined in the *Consent Decree Statement of Work* (CD SOW; EPA, 2011), and were developed to define attainment of the Remedial Action Objectives (RAOs) of the Selected Remedy. The Performance Standards~~performance standards~~ include both general and specific standards applicable to the Selected Remedy work elements and associated work components. All of the Performance Standards for the Midnite Mine RA, as well as a summary of where or how they are addressed in the RD, are summarized on Table 4-6 of the BODR. The general and specific Performance Standards related to the CSFs~~CSF~~ and Early Works~~early works~~ are outlined below.

## Table B-1 – Performance Standards Applicable to Construction Support Facilities

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| Performance Standard No. in CD SOW | Performance Standard | Comments |
|---|---|---|
| 2.3.15 B. | Access to active Work Areas shall be restricted through the use of appropriate measures (e.g., fencing, barricades, etc.) as necessary to supplement the existing perimeter fence installed around the Mined Area. For purposes of this provision, active Work Areas shall mean those areas of the Work Area in which construction associated with the Work is occurring and such construction activities would represent a potential safety hazard to the general public or other site workers if access were not controlled. Active Work Areas shall also include those portions of the Work Area where, as a result of the ongoing construction activities, exposure to contaminants is temporarily greater than that which existed prior to the implementation of the construction activities. | Access restrictions to Active Work Areas will be defined in the Remedial Action Work Plan (RAWP). It is anticipated that access to Active Work Areas will be restricted to one controlled access location. However, should the need for alternative access be identified at a later date, proper access control and decontamination facilities and procedures will be implemented.<br>During the Early Works~~early works~~, the permanent Site Access Road and decontamination area will be constructed and access to the work areas will be restricted by the existing perimeter fence. Upon completion of the permanent Site Access Road and decontamination area, construction access to the site will be restricted to the Permanent Site Access Road. Once inside the fence, the Site Access Road will pass through the support corridor, which includes construction support facilities and the WTP (and associated facilities). This corridor will be completely enclosed by a combination of proposed fencing and the existing perimeter fence. Site security will be regulated at the offices located at the construction management area. All visitors to the site will be required to check in at the construction management area. Once vehicles or personnel leave the support corridor and enter the Mine Site Proper by crossing the fence-line forming the northern boundary of the support corridor they will be required to pass through the decontamination area (and undergo appropriate decontamination procedures) before leaving the Mine Site. |

## Table B-1 – Performance Standards Applicable to Construction Support Facilities

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| Performance Standard No. in CD SOW | Performance Standard | Comments |
|---|---|---|
| 2.3.15 H. | To the extent practicable, construction activities shall be conducted in a manner that does not result in the re-contamination of areas already remediated or contamination of areas that were previously uncontaminated. Any such re-contaminated or newly contaminated areas shall be addressed by the Settling Defendants in a manner that is subject to the review and approval of EPA. | Removal of contaminated materials will be required prior to construction of the CSZ. Assembly of the individual facilities will occur during Phase 1 of RA construction activities and will be completed prior to sediment cleanup in the Western Drainage, thus avoiding recontamination of this support zone area (which has been remediated). Furthermore, the CSZ is designed to direct all personnel and vehicles through a decontamination zone to ensure that no vehicles or personnel transport contaminants from the Site. Potentially contaminated vehicles will travel through the decontamination zone via the Site Access Road. Clean vehicles transporting clean cover material will travel on a haul road that has been surfaced with clean material. This will prevent cross-contamination of the cover material and associated equipment. |
| 2.3.18 | Best Management Practices (BMPs) shall be used as specified below during all construction activities to minimize the transport of disturbed material by water, wind erosion or vehicles. The Settling Defendants shall develop a catalog of BMPs that shall be used at the Site and shall identify the primary activities requiring those BMPs. The BMP catalog shall be comprehensive and is subject to the review and approval of EPA. The minimum BMPs that must be contained in the BMP catalog are presented below. The Settling Defendants shall include these BMPs in the BMP catalog along with additional BMPs that may be necessary to complete the Work. A Stormwater Management Plan (SWMP) shall be prepared which contains the BMP catalog and identifies BMPs and specific sediment control measures to be employed before, during, and after construction. | The SWMP is included in Appendix O and the Construction SWPPP that will be prepared prior to beginning this work will include the proposed BMPs to be used during the RA. The Construction SWPPP will include specific BMPs for sediment and stormwater control before and during construction. A Master ~~Stormwater Management Plan (~~SWMP~~)~~ will be prepared for after construction, as described in Appendix O. |
| 2.3.19 | Decontamination of equipment prior to the equipment leaving a controlled Work Area, shall be performed to control physical tracking of contaminants off site or through remediated areas. For purposes of this provision, a controlled Work Area shall mean an area where contaminated material has been disturbed by the construction activities. Adequate decontamination shall be determined by visual inspection. Equipment | The "Construction Support Facilities" design discussion is contained in this appendix and Volume II includes the Vehicle Decontamination Facilities design drawings. The decontamination area will be on the border between the Active Work Area (in the hot zone) and the CSZ. The equipment and procedures associated with |

**Table B-1 – Performance Standards Applicable to Construction Support Facilities**

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| Performance Standard No. in CD SOW | Performance Standard | Comments |
|---|---|---|
| | staining without the surface accumulation of material shall not require decontamination. Surface accumulations of materials on the tires, tracks, chassis, and truck body shall be removed either by brushing (or similar activity) or by washing with water. | decontamination during the RA will be presented in detail the RAWP. |

## B3.0 ENGINEERING DESIGN DRAWINGS

The engineering design drawings are contained in Volume II (Section 2) of the BODR. The drawings related to Construction Support Facilities include:

| Sheet Number | Description |
|---|---|
| 2-1 | Early Works Plan |
| 2-2 | Southwest and Southeast Topsoil Stockpiles Removal Plan |
| 2-3 | Northeast and Northwest Topsoil Stockpiles Removal Plan |
| 2-4 | West Access Road and Whitetail Creek Materials Excavation Plan |
| 2-5 | Site Access Road IndexKey Map |
| 2-6 | Site Access Road Plan and Profile Station 0+00 to 512+00 |
| 2-7 | Site Access Road Plan and Profile Station 5+00 to 12+00 to 24+00 |
| 2-8 | Site Access Road Plan and Profile Station 12+00 to 24+00 to 36+00 |
| 2-9 | Site Access Road Plan and Profile Station 24+00 to 36+00 to 48+00 |
| 2-10 | Site Access Road Plan and Profile Station 36+00 to 48+00 to 54+00 |
| 2-11 | Site Access Road Plan and Profile Station 48+00 to 54+00 to End |
| 2-12 | Site Access Road Plan and Profile Station 54+00 to End |
| 2-1312 | Site Access Road Centerline Alignment and Typical Section Schedule |
| 2-1413 | Construction Support Zone Layout |
| 2-1514 | Vehicle Decontamination Area Grading Plan |
| 2-1615 | Vehicle Decontamination Area Grading Points |
| 2-1716 | Decontamination Zone Collection Sump Grading Plan |
| 2-18 | Collection Sump Drain Pipeline to Western Drainage Pump Station |
| 2-1917 | Northern Support Facilities Grading Plan |
| 2-2018 | Southern Support Facilities Grading Plan |
| 2-2119 | Construction Support Zone Fencing Plan |
| 2-2220 | Ore Stockpile 7 Relocation Plan |
| 2-2321 | Material Processing and Stockpiling Area Preparation Plan |
| 2-2423 | Early Works Typical Details and Sections (12 of 63) |
| 2-25 | Early Works Typical Details and Sections (2 of 6) |
| 2-2624 | Early Works Typical Details and Sections (3 of 63) |
| 2-27 | Early Works Typical Details and Sections (4 of 6) |
| 2-28 | Early Works Typical Details and Sections (5 of 6) |
| 2-29 | Early Works Typical Details and Sections (6 of 6) |

## B4.0 CONSTRUCTION SUPPORT FACILITIES

The CSFs will be constructed within the CSZ during the early stages of the RA. The location selected for the CSFs is within the mined area (MA) boundary, but out of the way of the majority of the RA activities (including existing access road cleanup and drainage sediment cleanup). AllAs discussed above, all facilities not necessary to support long-term management of the Site

will be removed at the end of the RA. As a result, this section distinguishes between the permanent facilities necessary for long-term Site management and thefrom temporary facilities that will be used only during the RA and then either demolished or removed. WhereIn many cases where practical, temporary facilities will be mobile trailers that can be transported to the Site, used during the RA, decontaminated (as necessary), and transported offsite at the end of the RA.

The selected location for the CSFs and the new WTP is in an area with existing mine buildings and stockpiled topsoil that may contain mined materials. As a result, this area must be scanned and remediated (as described in Appendix S) prior to construction of the CSFs. Access to this CSZ will be by the new Site Access Road (as shown in Drawing 2-1), which also will serve as the permanent site access at completion of the RA activities.

Figure B-1 presents the CSZ and each CSF within this area. Figure B-1 identifies each area with an ID number that corresponds to Table B-2, where a description, approximate size, location, and general comments for each area are presented.

Specific requirements for each area/facility are presented in the Technical Specifications (Appendix K). It will be the selected Contractor's responsibility to meet the requirements identified in the specifications and to facilitate performance of the Work. Additional decisions regarding the specifics of these facilities will be left to the selected Contractor's discretion

## B4.1 PERMANENT FACILITIES/ACTIVITIES

The following permanent facilities will remain after completion of the RA.

1) The Site Access Roadsite access road to the WTP/support zone and into the Mine Area (MA.).

2) AThe security facility near the MA boundary to be identified at a later date.

3) A vehicle/small equipment decontamination facility.

The Site Access Roadsite access road will be surfaced with an asphalt pavement over a crushed aggregate base course to the entrance of the proposed WTP. The unpaved portion of the Site Access Road will be surfaced with a crushed aggregate surface course to minimize rutting and dust emissions.. Design of this pavement is presented in Attachment B-2.

Other permanent facilities associated with the WTP will remain after completion of the RA, but are not discussed herein. This infrastructure includes the new WTP and, its associated piping,

treatment ponds, and appurtenant structures. Information regarding the WTP is presented in Appendix I of the 60% Basis of Design Report (MWH, 2013). Information regarding the WTP influent and effluent pipelines is presented in Appendix J.

## B4.2 TEMPORARY FACILITIES/ACTIVITIES

Also located within southwestern corner of the Site are the "temporary" structures/facilities discussed below. It is anticipated that the selected Contractor will use temporary facilities for the vast majority of the CSFs (such as mobile trailers or prefabricated structures) for), the vast majorityuse of which is reflected in the CSFsdesign presented herein. These trailers and pre-fab structures will have foundations, and electrical and other utility connections provided in accordance with recommendation of the manufacturer of each type of temporary structure. At the end of the construction, all temporary facilities will be decontaminated and removed, if practical, or demolished and disposed of in the Pit 3 Waste Containment Area (WCA).

Figure B-1 presents the CSZ and each area within this zone. Each area on Figure B-1 is identified with an ID number that corresponds to Table B-2, where a description, approximate size, location, and general comments for each area are presented.

Specific requirements for each area/facility are presented in the Technical Specifications (Appendix K). It will be the selected Contractor's responsibility to provide the appropriate facilities to meet the requirements identified in the specifications and to facilitate performance of the Work. Additional decisions regarding the specifics of these facilities will be left to the selected Contractor's discretion.

**Table B-2 – Construction Support Zone Areas**

| Area ID # | Area Designation | Function/Use | Location | Approximate Size | Notes/Comments |
|---|---|---|---|---|---|
| 1 | Construction Management Area and Site Sign-In | Area for construction offices (for contractor foremen, site engineer, etc.) and parking. Will be used as the primary sign-in location for all Site visitors (does not include Site worker sign-in/out). | Central portion of the CSZ | 80' x 125' | This area will include visitor parking. |
| 2 | Safety/Emergency Services Area | Area for medical/safety office, cover (e.g., carport) for on-site ambulance, and 80' x 80' pad for aerial evacuation during an emergency. | Central portion of the CSZ | 90' x 140' | This area will house the ambulance/EMT staff and facilities for taking care of routine medical issues for construction staff and emergency evacuations. It should be noted that other areas on the Site (such as the existing WTP or other reasonably flat areas without trees) are suitable for use as an alternate medevac location if the medical station is inaccessible. |
| 3 | Contractor Lay-Down and Storage Area | Clean material laydown area immediately adjacent to the restricted work~~mined~~ area within the remediation area~~(MA)~~ to be used for construction materials storage (e.g., piping) prior to use. | Central and northern portion of the CSZ | 2.3 Acres | Located in the clean CSZ to minimize delivery traffic into the restricted work area~~MA~~ (which will require decon when leaving the Site). Grading, area layout, etc. left to Contractor discretion. |
| 4 | Fuel Farm Area | This area will be used for bulk fuel storage. Located within the CSZ to facilitate deliveries without decon of delivery trucks. The area is adjacent to the CSZ perimeter fence to facilitate filling of mobile fuel trucks located within the restricted work area.~~MA.~~ This eliminates the need for the on-Site fuel trucks to enter the CSZ. | Northern end of CSZ, adjacent to CSZ boundary | 160' x 65' | Contractor will be responsible for implementing spill containment measures according to an approved spill containment and cleanup plan (submitted by the Contractor). |
| 5 | Crew Drop-Off/Pick up and Lunch Area | Area for: (1) Construction crew to be dropped off and picked up by shuttle vehicles, (2) Contractor trailers for crew lunches, safety meetings, etc.~~.~~.~~,~~ and (3) portable~~Portable~~ restrooms. | North-central end of the CSZ adjacent to the Decontamination Zone | 0.5 Acres | Located adjacent to the Personnel Decontamination Area to promote efficient flow of construction crew members through the decontamination facilities and to/from the lunch trailers and Site pick-up/drop-off area at shift change. |
| 6 | Construction Personnel Decontamination Area | Area for decontamination trailers and laundry facilities. Flow of personnel to/from this area will be controlled by fencing and gates. Construction crew will sign in/sign out when moving through decontamination trailer at lunch breaks and shift changes. | In the Decontamination Zone, between the northern end of the CSZ and the restricted work area~~MA~~ | 135' x 55' | Decontamination facilities must include: clean (CSZ side) and dirty side (restricted work area~~MA~~) lockers for construction workers. Lockers must be available for each Site worker to be used for storage of personal items when arriving on-Site, and changing into and out of work coveralls and boots. -The facilities also must include Scanning equipment, a sign in/sign out area, clearly defined restricted work area~~MA~~ (potentially contaminated) and CSZ (clean) sides and decontamination showers (to be used as necessary). Laundry facilities will be available in this area for weekly cleaning of worker coveralls. |
| 7 | Vehicle and Equipment Decontamination Area | Area for scanning and decontamination of vehicles and equipment leaving the restricted work area.~~MA.~~ Will include a geomembrane-lined sump for collecting impacted water and separating sediment, concrete pavement for conveying water to the collection sump and facilitating housekeeping activities, and a small, heated building for housing decontamination equipment. The building will include an area where the driver can scan out and sign out. | In the Decontamination Zone, between the northern end of the CSZ and the restricted work area~~MA~~ | 0.5 Acres | Decontamination equipment for vehicles/equipment and operators will be provided here. Should a driver or other personnel in this area require additional decontamination they will walk over to the personnel decontamination area for further decontamination. |
| 8 | MA Vehicle Parking Area | Area is within the restricted work area~~MA~~ and adjacent to the Personnel Decontamination Area to promote efficient flow of Site Contractor personnel from the drop off point inside the CSZ to on-site vehicles in the MA that will transport the workers to the work sites.~~equipment~~ | Northern end CSZ inside the restricted work area~~MA~~ | 160' x 80' | By parking the on-Site vehicles on the restricted work area~~MA~~ side of the CSZ fencing, these vehicles will not require daily decontamination. |
| 9 | Contractor Maintenance/ Electrical Area | Area within the restricted work area~~MA~~ for the Contractor to construct a shop for maintenance of vehicles, construction support equipment, etc. | Northern end of CSZ inside the restricted work area~~MA~~ | 60' x 90' | To be designed and constructed by the Contractor for equipment maintenance during the Site remediation. |
| 10 | On-Site Mobile Laboratory Area | Area within the restricted work area~~MA~~ to be used for the On-Site Mobile Laboratory and associated storage and parking. Adjacent to the personnel decontamination area and pickup location. Located within the restricted work area~~MA~~ to minimize traffic through the Decontamination Zone and promote quick transition of laboratory staff to and from the mobile laboratory. Details of the required area for the lab to be provided by laboratory testing consultant. | Northern end CSZ inside the restricted work area~~MA~~ | 40' x 40' | On-Site Lab will need to be mobilized to the Site prior to any cleanup activities and placed in an interim location (e.g., the existing WTP) until completion of Early Works soil clean-up. It is envisioned that the trucks used for this work will be parked adjacent to the facility and will not have to be decontaminated daily as the laboratory crew enters/exits the Site. |

## B4.3 DECONTAMINATION ZONE

The Decontamination Zone presented on Drawings 2-1514 through 2-1917 will contain (1) a vehicle decontamination area, and (2) a personnel decontamination area. These decontamination areas will be adjacent to one another, but separate to isolate personnel traffic from vehicular traffic and to minimize the potential for accidents. The decontamination areas are designed to promote flow of personnel and vehicles between to and from the restricted work area, in which the RA construction will be occurring, and the clean CSZMA in a safe and efficient manner. In addition, the decontamination areas collect, and to contain, and convey for treatment at the WTP water used for decontamination activities to the water treatment system.

- The personnel decontamination area (see Drawing 2-1917) is primarily intended for use by RA construction workers whose construction vehicles and equipment are left on-site at the MA Vehicle Parking Area where they can be accessed for use during the RA.
- The vehicle decontamination area (see Drawing 2-1514) is intended for use only by vehicles that cannot be left in the restricted work areaMA vehicle parking area (such as WTP operator vehicles).

Haul trucks using the haul road (presented in Appendix C and Section 3 of the Design Drawings) will be moving clean material on a road constructed with clean aggregate and, therefore, will not require regular use of the vehicle decontamination area. Should a haul truck need to undergo decontamination procedures, it must use the Site Access Road within the restricted work areaMA before proceeding to the vehicle contamination area. Detailed discussions of these two primary decontamination areas are presented below.

### B4.3.1 Vehicle Decontamination Area

The vehicle decontamination area will be located in the northwest corner of the fenced-in support corridor (see Drawings 2-1413 and 2-1514). The south-bound lane of the Site Access Road passes through the vehicle decontamination area to ensure that all vehiclesvehicle leaving the Site will undergo screening and if necessary, decontamination procedures. The vehicle decontamination area will allow vehicles to move into and off site from the restricted work areaMA in a safe and efficient manner.

The vehicle decontamination area will be paved with concrete and surface water will drain to a geomembrane-lined collection sump directly and via a shotcrete-lined ditch.. The collection sump will collect impacted water from the vehicle decontamination procedures, and stormwater

runoff from a portion of the Site Access Road and other nearby areas within the CSZ. Impacted water collected in the sump will drainpass by gravity to the existing seep collection system in the Western Drainage via a dual-contained HDPE pipeline (see Sheet 2-18). The Western Drainage seep collection system , where it will pump the collected waterbe pumped to the water treatment system.Water Treatment system. Additional discussion of this influent pipeline is presented in Appendix J. The collection sump has been designed to store the runoff from the 25-year recurrence interval short-duration storm (WSDOE, 2004). For sizing purposes, it has been conservatively assumed that no outflow from the pond occurs during this storm. The stormwater analysis associated with design of the collection sump is included as Attachment B-1.

Vehicles needing access to the restricted work areaMA must first enter the Site from the south on the Site Access Road and pass through the existing site perimeter fence. Access to the Site will be controlled at an office located in the Construction Management Area (Drawing 2-2018), where visitors and vendors must check in. After checking in and verifying the purpose of their visit and their need to access the restricted work areaMA, visitors and vendors will be allowed to pass through the Vehicle Decontamination Area on the north-bound lane of the Site Access Road, and into the restricted work areaMA where active remediation is ongoing. As a vehicle leaves the restricted work areaMA, the south-bound lane of the Site Access Road will direct the vehicle attempting to exit to the decontamination area for screening and cleaning if necessary. Upon leaving the vehicle decontamination area, these vehicles must stop at the access control office (within the Construction Management Area) and sign out before leaving the Site.

Equipment necessary for screening the vehicle operators and passengers will be available in a heated structure at the vehicle decontamination area where the vehicle decontamination equipment also will be kept. Personnel screening equipment at the vehicle decontamination area is intended for use by a relatively small number of vehicle operators and passengers (e.g., field engineers) and will not be used by the vast majority of the construction personnel (who will use the facilities at the personnel decontamination area).

Suggested decontamination and verification procedures for personnel and vehicles are discussed in Radiation Protection Plan SOP-06 which is an attachment to the Midnite Mine HASP in Appendix L. The SOP has criteria for both vehicle and personnel decontamination which specifies action levels where decontamination is required prior to leaving the restricted

work area.~~MA.~~ Specific decontamination procedures and layout of the decontamination facilities and area will be the responsibility of the selected Contractor.

### B4.3.2 Personnel Decontamination Area

The personnel decontamination area is depicted on Drawing 2-19~~17~~. Equipment and facilities will be present in the Personnel Decontamination Area to accommodate scanning of site construction workers, with decontamination facilities available for use if and when they are needed. The facilities in this area will include: scanning equipment, showers, lockers (for changing from civilian clothes into work clothes and vice versa), and laundry facilities.

Site construction workers entering the restricted work area~~MA~~, will be dropped off at the crew drop-off/pick-up area located immediately south of the personnel decontamination area (see Drawing 2-19~~17~~). Restroom and other crew facilities will be located in the immediate area for convenience and efficiency. Personnel arriving on site will walk to the north of the drop-off/pick-up area and into the personnel decontamination area where they will access their “clean side” lockers to drop of any personal items then sign in. Once on the other side of the sign in area, personnel will access the “dirty side” lockers~~lock~~ and change into their work coveralls. Site personnel~~Personnel~~ then will exit the personnel decontamination area and walk east to the restricted area vehicle parking area~~ready line~~ where their equipment and vehicles are~~will be~~ parked and proceed to work.

Personnel leaving the restricted work area~~MA~~ will enter the personnel decontamination area from the MA vehicle parking area, where they will change out of potentially contaminated clothing (again, this likely will be work coveralls on the dirty side of the locker area). Workers then will undergo scanning. Workers who meet the scanning criteria will sign out and proceed to the drop-off/pick-up area. Workers failing to meet the scanning criteria will attempt to remove contamination from their undergarments. In the unlikely situation where the contamination cannot be removed from workers undergarments (i.e., denim pants, long underwear, etc.), they will take a shower, will be provided temporary undergarments, and pass to the clean side lockers where all workers will have stored a clean change of clothes.

Due to limited space for vehicle parking, any Site visitors will be encouraged to carpool and coordinate with the site access office prior to arrival. A limited number of parking spaces for visitors will be available at the Construction Management Area.

## B5.0 CONSTRUCTION SEQUENCING

The selected location for the CSZ is in an area with existing mine buildings and stockpiled topsoil that may contain mined materials. As a result, preparation/cleanup of this CSZ (including the West Access/West Haul Road) is a necessary initial element of Phase 1 construction. Due to the schedule for preparation of this area, the material removed from this area will need to be temporarily stockpiled until it can be used as cover soil or placed in the WCA~~Pit 4~~ as waste.

The anticipated sequence for preparation, mobilization, and construction of the CSFs is as follows:

1) BMP installations for sediment and stormwater controls.
2) Demolition of the existing structures and foundations in this area (Drawing 2-1), with demolition debris stockpiled in an approved location within the MA (Drawing 2-1 and Appendix R - Staging / Temporary Stockpiling Plan). The demolition procedures are described in Appendix H.
3) Begin well abandonment activities (Appendix Z). Wells located in areas to be disturbed by the Early Works will be abandoned first.
4) Cleanup and removal of the West Access/West Haul Road (Drawing 2-4). Materials failing to meet the cleanup criteria will be stockpiled in an approved stockpiling location, such as that shown on Drawing 2-1 (also described in Appendix R).
5) Cleanup and removal of soil and sediments associated with Whitetail Creek and the other contaminated area identified on Drawing 2-4. Materials failing to meet the cleanup criteria will be stockpiled in an approved stockpiling location, such as that shown on Drawing 2-1 (also described in Appendix R).
6) Excavation of other contaminated mine waste and sediments within the proposed fenced area of the CSZ. These materials will be stockpiled in an approved location within the MA, such as that shown on Drawing 2-1 (also described in Appendix R). Procedures for identifying surface materials and sediments above the action levels for cleanup are discussed in Appendix S.
7) Excavation of stockpiled topsoil (Drawings 2-2 and 2-3) and placement in an approved stockpiling location (described in Appendix R). This material will be sampled to

determine if it is clean (i.e., below the action level for surface material cleanup) or if it is above the action levels for constituents of concern (COCs).

8) Construction of the Site Access Road and Vehicle Decontamination Area (including a heated building for housing decontamination and scanning equipment, collection sump and drain pipeline, and associated surface water controls). Site Access Road construction is illustrated on Drawings 2-5 through 2-1312 and construction of the Vehicle Decontamination Area and associated collection sump and pipeline is presented on Drawings 2-1514 through 2-1816.

9) Grading of the CSZ once the overlying materials have been removed and it is verified as clean. Drawings 2-1413 and 2-1917 through 2-2119 present the layout, grading plans, and fencing plan for the CSZ.

10) Construction and mobilization of the CSFs.

11) Preparation of the material processing and stockpiling area (Drawings 2-2220 and 2-2321).

Demolition or demobilization of the temporary CSFs unnecessary for long-term management of the Site will occur at the end of the RA. Demolition is discussed in detail in Appendix H.

## B6.0 MATERIAL PROCESSING AND STOCKPILING AREA

A material processing and stockpiling area will be developed as part of the Early Works (see Drawings 2-2220 and 2-2321). This area is intended to provide the selected Contractor with the physical space necessary to perform the crushing and screening activities associated with production of drain rock from the Hillside Waste Rock Pile. Activities associated with preparation of the material processing and stockpiling area include:

- Relocation of Ore Stockpile #7 onto Ore and Protore Stockpile 6 (Drawing 2-2220),
- Improvement of the existing safety berm at the northwest crest of the Pit 3 highwall (Drawings 2-2321 and 2-2923).
- Additional intermediate regrading of material processing and stockpiling area may be necessary to facilitate material processing and stockpiling. Large-scale regrading of the area prior to or during processing is not anticipated.

Details of material processing and stockpiling, including equipment type, location, and orientation are decisions that the selected Contractor will need to make. These decisions, which cannot be anticipated, will promote the safest and most efficient process for the selected Contractor. It is anticipated that material may go through a "grizzly" located on the Hillside Waste Rock Pile, the acceptable material may then be transported by conveyer belt (under a haulage overpass) to a processing plant for further processing. Due to safety concerns, the processing plant equipment will not be permitted within 100-feet of the Pit 3 highwall and stockpiling activities will not take place within 15 feet of the safety berm.

## B7.0 GREEN AND SUSTAINABLE REMEDIATION CONSIDERATIONS

Below are ~~green and sustainable remediation (~~GSR~~)~~ considerations for Appendix B. GSR considerations were evaluated for: 1) Construction Materials and Equipment (characteristics and manufacturing considerations), 2) Construction Methods, and 3) Low Impact/Sustainability measures undertaken during construction.

### B7.1 CONSTRUCTION MATERIAL CONSIDERATIONS

Site grading for the CSFs and the associated roads will be minimized to the extent possible to reduce the required construction equipment operating time, greenhouse gas emissions, and fill material.

Fly ash concrete, which provides improved performance and quality as well as a lower greenhouse gas ~~"~~footprint,~~",~~ has been specified for all concrete applications. Concrete suppliers in Spokane, Washington supply fly ash concrete of variable strengths using up to 20 percent fly ash in place of manufactured Portland cement. Since fly ash is considered a waste product from coal-fired power plants, the replacement of Portland cement with fly ash is considered to reduce the greenhouse gas ~~"~~footprint~~"~~ of concrete. The production of one ton of Portland cement produces approximately one ton of $CO_2$ as compared to zero $CO_2$ being produced using existing fly ash (http://www.us-concrete.com/ef_technology/index.asp). Therefore, for every ton of fly ash used, one ton of $CO_2$ emissions are prevented.

The use of LEED®-certified mobile trailers and prefabricated structures will be included as an option in the technical specifications and will be used if available and cost effective. The benefits of LEED-certified portable structure use include: the conservation of energy and water, reduction in greenhouse gas emissions and operating costs, and improvement of health and safety for occupants.

As requested by the Tribe, exterior color of any permanent structures will be selected to~~at the 90% design phase to best~~ blend into their surroundings.

A number of components in the filter press package from the existing WTP will be salvaged and reused for the new WTP, including the filter press, membrane squeeze tank, pumps, and control panels. Equipment currently in use at the existing decontamination facility will be evaluated for re-use at the proposed decontamination facilities.

## B7.2 CONSTRUCTION METHODS

The construction equipment used for the CSFs will be appropriately sized to reduce fuel consumption and greenhouse gas emissions, and to minimize stormwater erosion during RA activities. To further reduce air emissions through all phases of construction, ultra-low sulfur diesel fuel will be used for all vehicles and construction equipment; vehicle and equipment no-idling policies and speed limits will be adhered to on the Site; and haul route lengths will be minimized (where feasible). Aggressive dust suppression also will be conducted in work areas and where necessary on the unpaved roads to decrease visible dust~~-~~-related emissions.

The Stormwater Management Plan (SWMP; included in Appendix O) identifies ~~Best Management Practices (~~BMPs~~)~~ and specific sediment control measures that will be employed before, during, and after construction for both sediment and stormwater control during construction of the facilities in this area and following the RA.

## B7.3 LOW IMPACT DEVELOPMENT/SUSTAINABILITY

Consolidation of construction support facilities in the southwestern corner of the MA focuses construction and longer-term support activities in one area, minimizing prolonged disruption of the MA and nearby wildlife habitat. A thoughtful approach was taken to optimize the route of the Site access roads to minimize disruption and vehicle mileage during the RA and over the long term. The route chosen already is a two-track road, so limited additional habitat degradation will occur when using this new access road alignment.

The access road constructed for the RA also will serve as the permanent access road after completion of RA activities. This road will be paved to eliminate dust during and post-construction. The East and West Access roads will be closed and remediated (except for necessary local traffic as approved by the Tribe and EPA), which consolidates activities in one area of the Site, thereby minimizing wildlife and Site ecological disruption.

Maintaining a single point of entry/exit to the MA helps prevent re-contamination of areas already remediated or contamination of areas that were previously uncontaminated. This single point of entry/exit also minimizes the required support facilities and associated infrastructure that would be necessary if these facilities were positioned throughout the Site.

## B8.0 REFERENCES


MWH Americas, Inc. (MWH), 2013. Midnite Mine Superfund Site, 60 Percent Design Basis of Design Report. December 16

U.S. Environmental Protection Agency (EPA), 2011. Consent Decree Statement of Work for the Remedial Action for the Midnite Mine Superfund Site, Spokane Indian Reservation, Washington. Civil Action No. CV-05-020-JLQ. United States of America, Plaintiff v. Dawn Mining Company, LLC and Newmont USA Limited, Defendants. August.

Washington State Department of Ecology (WSDOE), 2004. Stormwater Management Manual for Eastern Washington. Publication Number 04-10-076. September.

# Attachment B-1

# Decontamination Zone Collection Sump Sizing Analysis

# Attachment B-2

# Midnite Mine Remedial Action Pavement Design