

UNLV Field Project Hazard Assessment and Mitigation Plan

Instructions for Hazard Assessment and Mitigation Planning

The principal investigator or project manager should use this form to assist in the development of a project-specific field safety plan. (**Note:** The plan should be thorough, therefore do not feel constrained to maintain a five page form upon completion.)

Multiple trips to the same location can be covered by a single safety plan; however, the plan will require review whenever there is a significant change to location or scope of field work and after any injury, illness or accident attributed to the field work.

While the actual team members may not be identified during the hazard review, the plan should indicate the number of team members and what everyone's role will be. Field studies that include hazardous operations or situations or work in remote locations shall always be conducted by a two-person (minimum) team or include detailed information on the procedures in place to communicate emergency information. Other field studies should use the 'buddy' system whenever possible or include a detailed communication and emergency plan. The completed plan must be communicated to all members working on the study prior to deployment.

The plan should be developed and approved prior to conduct of field work. A lead time of two weeks for Risk Management & Safety (RMS) review is requested.

Upon approval, the plan should be maintained by the project PI, a copy shall accompany the workers when in the field and a copy should be routed to RMS for filing.

RMS is available to assist in completion or review of the safety plan. Contact Brent Webber at 702-895-5522 or brent.webber@unlv.edu if you require assistance.

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| Project Title | |
| Budget Number | |
| HAMP Author | |
| Author Department | |
| Effective Date | |
| Ending Date | |
| Revision Number | |

Signatures

| Name | Title | Signature | Date |
|---------------------------------|--------------|------------------|-------------|
| PI | | | |
| | | | |
| Co-PI(s) / Co-I(s) | | | |
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| | | | |
| Department Chair or Dean | | | |
| | | | |
| RMS Representative | | | |
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| PI Information | |
| Principal Investigator/Project Manager | |
| Department/Program | |
| Phone Number | |
| Email | |
| Project Duration | |
| Location of Field Research | |
| Country | |
| Geographical Site (address if applicable or approximate coordinates) | |
| Nearest City | |
| Nearest Hospital Information | |
| Name | |
| Telephone Number | |
| Street Address | |
| Brief Description of Field Work | |
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| UNLV Contact | |
| Name | |
| Telephone Number | |
| Email Address | |
| Alternate UNLV Contact | |
| Name | |
| Telephone Number | |
| Email Address | |
| Local (Field) Contact | |
| Name | |
| Telephone Number | |
| Email Address | |
| Additional Contact | |
| Name | |
| Telephone Number | |
| Email Address | |
| Additional Contact | |
| Name | |
| Telephone Number | |
| Email Address | |

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Stop-Work Authority

All UNLV employees and students, regardless of position or seniority, have the **right** and **responsibility** to exercise stop-work authority any time they feel there is an unsafe condition or activity occurring on a field project. No UNLV personnel will ever be reprimanded for stopping work when they feel it is unsafe.

Emergency Procedures

Emergency Procedures: Include detailed plans for the field location including evacuation and emergency communications. Attach additional sheets if necessary.

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Specific Hazards, Concerns, and Controls

Those marked “likely” may benefit from reviewing available safety fliers.

| Likely? | Hazard | Control |
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| Hazards Inherent to Field Site | | |
| <input type="checkbox"/> | High Altitude | Limit activity/workload, take breaks, ensure to have appropriate clothing (layers, cold/wet weather, etc.), limit exposure time. |
| <input type="checkbox"/> | Extreme Cold/Heat | Ensure to wear appropriate clothing (layers – cold; light-color/material – heat). Stay fed and hydrated. Use sunscreen and a hat. Run vehicle for heater and a/c as needed. Take breaks to warm up or cool down. Bring bottled water and keep in vehicle. Take frequent breaks to allow personnel to access facilities. |
| <input type="checkbox"/> | Excess exposure to sun, wind, blowing sand, etc. | Wear sun screen, eye protection (sun glasses), watch footing when walking on rough terrain as hard gusts can cause loss of balance. |
| <input type="checkbox"/> | Work in Confined Spaces (natural or man-made) | Ensure personnel have been trained in confined space. Ensure space is not a Permit Required Confined Space (ask RMS if unsure). Ensure means of access and egress are stable and maintained. Ensure personnel are capable of entering and exiting the space under their own power. Ensure space is adequately ventilated (natural or mechanical). Ensure communication (audio or visual) is maintained between persons working in space and person outside of space. |
| <input type="checkbox"/> | Work or Travel Over/Under Water | Ensure all personnel can swim and/or have appropriate life preservers, dive equipment, and that all equipment has been checked for proper function/fill (O ₂). Ensure rescue boat is available if needed with standby personnel on shore near work area. |
| <input type="checkbox"/> | Falling Objects (avalanches, rock falls, etc.) | Survey fieldwork area to ensure higher terrain/surfaces is/are stable and that there are no imminent falling object threats. Check walking/working surfaces for stability, loose soil/rock, ice, or built-up or unstable snow. If any threats or unstable conditions are observed in or around fieldwork site, work will be restricted from those areas. |
| <input type="checkbox"/> | Remote Location | Keep vehicle fueled. Ensure check-in/out system was utilized. Bring satellite phone if available. Ensure you know where nearest phone service and emergency services are and how to get to them. Ensure vehicle is adequately stocked with water and blankets. |
| <input type="checkbox"/> | Rough Terrain | Ensure team members are fit and capable of negotiating terrain. Ensure personal locator or cellular communications work in field location or that you know where the nearest reception is available. Wear boots with ankle support. Avoid negotiating terrain during bad weather or when surface is slick or icy. |
| <input type="checkbox"/> | Wild Animal/ Plant Hazards | Research wild plants and animals native to the field location. Discuss dangerous or deadly species with team members as well as symptoms of exposure or reactions to bites and stings. Ensure to ask all fieldwork team members about any allergies or sensitivities to the species identified. Be sure to bring any necessary medications, ointments, anti-venom or other treatments that may be necessary. Team members with life-threatening allergies to any wildlife WILL NOT be brought to field location without emergency medical supplies (adrenalin shot, epi-pen, Benadryl, etc.). |
| <input type="checkbox"/> | Potential for Adverse Weather | Check weather forecast before heading to field location. Ensure to research weather patterns for geographical area. Consider flash-floods, lightning, high-winds, blizzards and other weather anomalies which may occur in your field location. Be sure to bring clothing layers and water-proof outerwear when working in higher elevations or in areas with sudden weather change potential. |
| <input type="checkbox"/> | Flash Flood Potential | Check weather forecast before heading to field location. Study terrain surrounding field location to determine low-lying areas and natural formations which may direct flood waters through the field work location or prevent return travel. Pre-determine an egress location and pathway in the event of flash-flood conditions and discuss with team. |
| <input type="checkbox"/> | Long Distance to Medical Services | Ensure personal locator system functions in field location and has emergency notification capability. If locator does not function in field location, identify nearest area of reception for locator or cellular communications. Ensure all team members know location of and route to medical services. Bring proper emergency medical supplies (litter, bandages, tourniquet, etc.). Ensure field team members do not have any specific medical conditions |

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| | | which would become life-threatening if not treated urgently. Bring flashlights, blankets, extra water and fuel. |
| <input type="checkbox"/> | Difficult Communications with the outside world | Ensure check-in/out system is utilized. Bring satellite phone if available. Ensure you know where nearest reception, phone service and emergency services are and how to get to them. |
| <input type="checkbox"/> | Climbing/ Strenuous Hiking required | Ensure team members are physically fit/capable of performing field activity. Ensure personnel have proper boots with ankle support, balanced packs with back support, and walking sticks as needed. |
| <input type="checkbox"/> | Crossing High Water required | Use a boat if possible. Ensure team members can swim. Consider bringing/wearing life preservers. Ensure communications devices are secured in a waterproof bag/container. If crossing water with current, tie off to a nearby solid terrain feature (rock, tree, etc.) before attempting to cross. Once across, secure rope to another solid terrain feature. Have other team members tie off to this rope using a loop and non-slip knot so as to slide it along the guide-rope while crossing the water. |
| <input type="checkbox"/> | Travel on Primitive Roads or cross county required | Ensure roadway/travel path is stable and wide enough for vehicle. Drive at a safe speed. If roadway/travel path is unknown, or if terrain prevents you from seeing the roadway well ahead of your vehicle, keep your speed much lower than what you normally would (You want to be able to stop if needed!). DO NOT attempt to negotiate terrain that would not be considered within the typical operational means of the vehicle when driven by a novice driver. Ensure you have a spare tire, fix-a-flat, and a tire plug kit. |
| <input type="checkbox"/> | Towing | Properly secure towed item to tow hitch. This includes tying down or locking the tow hitch pin or lever. Ensure towed vehicle or trailer has properly inflated tires. Ensure brake light cable is connected, if available, and that brakes and turn signals of trailer are functioning properly. Properly secure load on trailer (for heavier items, use of ratchet straps/chains is required). Ensure driver is capable of driving with an item/trailer in tow (weight/size of item needs to be considered). Ensure driver can back vehicle with item/trailer in tow. |
| <input type="checkbox"/> | Work along roadway shoulders (Attach traffic control plan and permit, if required) | Wear bright/reflective clothing or vests. Place road cones or triangles on the side of the road, in both directions of travel, at least 50 yards from where field work is to take place. If possible, have one team member keep an eye out for wide loads, heavy traffic, or speeding/reckless drivers. |
| <input type="checkbox"/> | Cultural considerations when traveling to remote or rural locations | Consider whether hunting season is open or closed; if open, are researchers wearing non-earth tone clothing? Note: Nevada recommends but does not mandate hunters wear blaze-orange. To the extent possible, work with local partners to identify potential issues such as private property considerations or misunderstandings, hostility toward outsiders, or possible biased treatment due to race, ethnicity, gender identity, etc. |
| <input type="checkbox"/> | Other | |
| Additional Hazards | | |
| <input type="checkbox"/> | Cut hazards, such as those associated with working with metal, sharp edges on equipment, etc. | Wear leather/cut-resistant gloves when handling sharp material/equipment. Be careful to avoid handling sharp edges/parts if possible. Handle/carry items in a manner that they won't shift or slide. Additional: |
| <input type="checkbox"/> | Mechanical/ Moving Parts | Be sure to keep hands and limbs out of rotating or moving mechanical parts. Equipment will be properly de-energized, locked and tagged out if necessary (single energy sources with plug or quick-connect can simply be disconnected when in line-of-site of person performing work.), before working on any moving parts. Additional: |

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| <input type="checkbox"/> | Trenching/ Excavating | If working within reasonable proximity of a city, town, or other man-made structure or civilization, make “one call” to 811 to verify no underground utilities are present in area where trench/excavation is planned. If using heavy equipment to dig, equipment will be kept at least 2 ft. from the trench edge. Ensure that the ground is stable enough to support the weight of the equipment. Trenches/Excavations deeper than 4 ft. shall be sloped to prevent cave-in or a trench-box or bracing will be used if personnel are to enter the excavation. Trenches/excavations deeper than 5 ft. are considered confined spaces. If personnel need to enter the trench, a means of access/egress shall be available within 25 ft. of horizontal travel from any point within the excavation. No one will be allowed to enter a trench deeper than 4 ft. if water is seen in the bottom of the trench where sloping or trench box are not utilized. Trench/excavation will be examined for stability each time after it has been left unattended. It will also be examined after any rain or other event which might compromise the integrity of the trench walls. Additional: |
| <input type="checkbox"/> | Heavy Equipment Operations | Ensure personnel are trained and competent in the operation of any equipment to be used. Check equipment prior to use for proper functionality, signs of excessive wear/damage (be sure to check all parts), and proper air/fluid levels. Make sure terrain is suitable for operation of heavy equipment. Never operate cranes or certain other types of heavy equipment on unlevel ground. If equipment is mobile, ensure you see all personnel and equipment and that they see you prior to moving. Avoid traveling on a slope perpendicular to the direction of the slope. Drive straight up or down the slope and the travel in the other direction. Watch for overhead power lines or other structures. A spotter shall be used when negotiating tight areas or when tool end of equipment is beyond line-of-sight. Additional: |
| <input type="checkbox"/> | Overhead Hazards, including, but not limited to power and other utility lines | Watch for overhead hazards. Ensure tools, equipment, and other materials are not ever at risk of contacting power lines or other overhead hazards. Additional: |
| <input type="checkbox"/> | Slip/Trip/Fall Hazards | Watch step while walking around the field site. Minimize, police and secure materials and other trip hazards that may exist around the work site. Watch for slick surfaces or loose soil/rocks. Avoid working near leading edges that may have drop-offs. If you need to work at height (>4ft above a lower surface), use proper fall protection (See “Falls (from height)”). Additional: |
| <input type="checkbox"/> | Falls (from height) | If working >4 ft. above a lower surface, use proper fall protection. Fall protection can be proper guard rails, capable of withstanding 200 lbs of horizontal force (should have a mid-rail equidistant between the working surface and a top rail which is 42” high (+/- 4”)), or a fall prevention/arrest system. If an alternative fall prevention or arrest system is used, ensure the fall protection prevents you from contacting a lower surface with any part of your body. Use shock-absorbing lanyards with a proper body harness if possible. Fall protection systems meant to arrest a fall must be capable of withstanding 5000 lbs or more of incident force. This includes the anchor point used. Travel-limiting fall protection may also be used. Travel-limiting fall protection will use a rope or lanyard, secured to the worker and to the anchor, which prevents the worker from being able to reach any adjacent leading edge. Travel-limiting fall protection shall be anchored to a support reasonably expected to withstand 1000 lbs of force or more (the rope/lanyard and other securing elements must also be capable of holding at least 1000 lbs of force). A means of rescuing/retrieving personnel who may have fallen will be established prior to using fall protection/working at height. RMS will assist with selecting the appropriate fall protection system if this is needed. Additional: |
| <input type="checkbox"/> | Use of Ladders/ Scaffolding | Ladders/Scaffolding will be inspected prior to use. Ensure the steps/rungs of the ladders are free of dirt, debris, or anything which may make them slippery. Personnel will not stand on the top step/rung of the ladder. Non-folding/extension ladders will be placed at a |

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| | | 1:4 horizontal to vertical ratio. A good rule of thumb is that if you're standing at the base of the ladder and extend your arms, you should just be able to touch the rung/ladder directly in front of your shoulders. Ladders/scaffolding shall be placed on even, level ground and shall be properly secured. Ensure the ladder/scaffold footing is secure and will not shift. Ensure extension ladders extend at least 3' (3 rungs) above the level being accessed. Tie the top of the ladder off to the higher surface. Use three points of contact when climbing up or down a ladder. Always face the ladder when ascending or descending. Do not climb a ladder with tools or equipment in hand. Tie a rope to a bucket or equipment to hoist equipment up to higher level after you've climbed the ladder. When working from a ladder, ensure to keep your center-line between the vertical support members of the ladder (your belt buckle is a good point of reference). Try and position the ladder so that you're facing the ladder when performing work from it. Use the proper ladder for the job. Do not lean a folding ladder against a wall or other surface. Additional: |
| <input type="checkbox"/> | Work at Night/in Poor Lighting | Bring proper lighting for the tasks to be completed. Bring spare batteries for flash lights and/or extra fuel for generator-operated lighting systems. Clear work area of trip hazards and ensure that workers know the lay of the land. Additional: |
| <input type="checkbox"/> | Long Drive to work site | Check vehicle prior to beginning trip. Ensure fluids are filled, engine/battery terminals are clean and in good condition, tires are properly inflated, gas tank is full, and that all indicators, lights and windshield wipers function. Bring extra fuel and water. Take breaks and swap out drivers. Get plenty of rest the night before the trip. Ensure check-in/check-out notification system has been utilized and that personal locator systems/cellular communications are brought and functional. Additional: |
| <input type="checkbox"/> | Manual Lifting > 40 lb | Proper lifting technique will be used. Where possibly, team-lift shall be used. Only personnel physically fit/capable of performing lifts will attempt to do so. Assess the load prior to lifting. Ensure lift is stable and that there are no parts or components which may shift, fall, or drag during the lift or transport of the object. Do not stack objects to be lifted. Additional: |
| <input type="checkbox"/> | Noise Generated > 85 dBA | Limit time spent in close proximity to noise sources. Wear hearing protection. Ensure that others can safely communicate with workers working near, on, or with noise generating equipment (use hand signals, air horns, or other established system if necessary). Additional: |
| <input type="checkbox"/> | Dust/other Airborne Hazard generated by work | Respiratory protection shall be provided as needed. Workers shall wear proper respiratory protection as required when working in an environment with hazardous airborne particulates. For nuisance dusts and non-hazardous particulates, it will be up to the worker if he/she wants to wear a dust mask or other respiratory protection. Additional: |
| <input type="checkbox"/> | Potential for Oxygen Deficient or other hazardous atmospheres generated by work | Activity known or suspected to create hazardous or oxygen deficient atmospheres will be kept to a minimum. These activities will occur outdoors or in areas with proper ventilation (ask RMS if unsure of ventilation requirements). Personnel will be supplied with the proper respiratory protection for hazardous atmospheres and will not work in oxygen deficient environments. Only personnel who have been fit-tested to wear a respirator can perform work in hazardous environments and only while wearing the appropriate respirator with the necessary cartridges. If hazardous atmosphere potential is suspected and airborne concentrations/potential or ventilation are unknown, no work is allowed to occur in that environment. If air testing is available, it can be utilized by trained personnel to determine airborne concentrations. Additional: |
| <input type="checkbox"/> | Fire issues related to hot work, ignition sources, flammable materials use, etc. | Activity which has the potential to cause fire or sparks, "Hot Work", shall be performed in controlled settings. Personnel involved in the activity will wear natural fiber clothing and/or fire retardant clothing as necessary. Fire extinguishers (at least one 10 lb. ext. – will depend on the work to be completed) will be kept on hand and be staged within 30 ft. of |

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| | | the Hot Work in the event of a fire. Where the potential exists for plant life or other material around the fieldwork area to catch fire, a separate person shall supervise the work and watch for fire. That person, the fire watch, will watch the area of the activity for at least 30 minutes after the Hot Work has completed. Hot Work will not be performed in windy conditions or if abundant flammable/combustible material is within the vicinity of the worksite (flammable material must be kept 50 ft. from the work; combustible material must be kept at least 10 ft. away). Additional: |
| <input type="checkbox"/> | Potential for Hazardous Material Spill | Hazardous materials will be stored, transferred and used in a controlled setting. Transfers will occur over secondary containment. Pumps and hoses will be used for large container transfers. Small container transfers will be done using funnels and drip-trays. At no time shall anyone attempt to tip or dump full drums of hazardous materials for any reason. Spill kits will be kept on the fieldwork site or be brought to the site on the vehicle used by fieldwork personnel. The spill kit shall remain fully stocked with necessary means to deal with the volume and volatility of the materials being handled/used (if unsure, ask RMS). Only personnel with current training in HAZWOPER will handle or use hazardous materials on the work site. All personnel shall be informed of the specific hazardous materials to be handled/used, their chemical characteristics/properties, warning properties, symptoms of exposure, first-aid and spill response measures, and disposal requirements. Additional: |
| <input type="checkbox"/> | Waste Generation | Means to properly contain and transport waste for disposal shall be brought to field location. Waste containers shall be properly labeled in accordance with EPA regulations. Only properly trained individuals will handle or label waste containers. Additional: |
| <input type="checkbox"/> | Lack of Potable Water | Enough potable water for all personnel for several (3+) days longer than planned work activity will be brought to work site. |
| <input type="checkbox"/> | Lack of Sanitary Facilities | Biohazard containment bags will be brought to and removed from site. Antibacterial, disinfectant wipes will be brought onto site as well as enough soap and water for washing. Additional: |
| <input type="checkbox"/> | Transportation of Hazardous Materials to/from work site | Hazardous materials shall be transported in proper DOT packaging. The packaging shall be properly labeled by a trained HAZMAT shipper. The material shall be secured during transport so that it cannot shift, become damaged, or spill. Additional: |
| <input type="checkbox"/> | Storage of Hazardous Materials on site | Hazardous materials shall be stored in a secure, locked building or storage cabinet with proper secondary containment. The materials will be properly labeled per GHS requirements. Appropriate spill kits will be available on site near the hazardous materials storage. Additional: |
| <input type="checkbox"/> | Other: | |
| Personnel Considerations | | |
| <input type="checkbox"/> | Applicable medical conditions (Asthma, Diabetes, Epilepsy, High Blood Pressure, etc.) | Assess the risk to persons working on field project related to their medical concerns. Adjust project plan or specific work scopes as needed. Ensure personnel have necessary emergency medical devices and medications (7 days more than planned activity worth) as necessary. List those needed: |
| <input type="checkbox"/> | Allergies/sensitivities (Bees, plant-life, sun, etc.) | Assess the risk to persons working on field project related to their allergies against known plant and animal life at the field work location. Adjust project plan or specific work scopes as needed. Have allergy medications (Benadryl, creams, etc.), Epi-pen, and other necessary medical devices as needed. List: |
| <input type="checkbox"/> | Spare contact lenses/glasses | Bring contact solution, spare lenses and/or glasses. |
| <input type="checkbox"/> | Strenuous work activity or the need | Ensure personnel are physically fit/capable of performing work activity. Be sure to consider field environment, altitude, and personnel acclimatization. Ensure personnel can perform any skilled tasks needed to negotiate terrain such as swimming, climbing, etc.. |

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| | to climb or swim (potential) | Adjust project plan or specific work scopes as needed. List all specific skills required for planned activity: |
| <input type="checkbox"/> | Other: | |
| Equipment: Use of Heavy or Mobile Equipment | | |
| <input type="checkbox"/> | Forklift | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Backhoe | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Excavator | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Crane/hoist/ man lift | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Dump Truck | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Loader | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Scraper | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Steam Cleaner | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | High Pressure Washer | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Jack Hammer/ Concrete Saw | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Hydraulic Ram | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Vacuum Truck | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Water Truck | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Snowmobile/ ATV | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Airplane/ helicopter | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Drill Rig | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Dumpster/ Roll-Off Container | Operators trained, pre-use inspection of equipment, verification of environmental conditions and working surface/area, additional: |
| <input type="checkbox"/> | Other: | |
| Equipment: Use of Other Equipment/Materials | | |
| <input type="checkbox"/> | Generator | Only fuel the generator when it is cool. DO NOT attempt to refuel a hot generator as this presents a significant fire risk. Ensure the generator is clean and free of oil and spilled fuel before attempting to start it. Ensure the wiring is in good condition. Ground the generator before starting it. Ensure to maintain contact between the gas can and the fuel tank on the generator when fueling or that the can is grounded to prevent static accumulation and sparking while fueling the generator. |
| <input type="checkbox"/> | Pump | Ensure pumps and associated lines/hoses are secure before starting the pump. Use carter pins or zip-ties to secure hose/line fitting locks. Do not attempt to disconnect a |

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| | | pressurized line. Bleed pressures off through pet-cock valves or by allowing the material in the line to discharge thoroughly before attempting to disconnect or open a line. If a hose or line breaks free of a fitting and is whipping around, turn off the pump and allow the line to stop before attempting to re-secure it. |
| <input type="checkbox"/> | Compressor | Ensure you inspect the compressor for obvious signs of damage or corrosion before pressurizing the tank. Ensure to discharge the compressor after use. Air left in the compressor can condense and cause corrosion and catastrophic failure of the pressure vessel without warning or signs of damage. Ensure the pressure-relief valve is present, unblocked, and in good condition. |
| <input type="checkbox"/> | Towers | Use three points of contact when climbing/descending the ladder. If you need to work with both hands from the ladder, use a body positioning harness to do so. Likewise, when working from a platform or other elevated work surface 4 ft or higher above a surrounding surface, you must have suitable fall protection. See the "Falls (from height)" hazard and the associated mitigation in section "B. Additional Hazards" earlier in this form. RMS will assist with selecting the appropriate fall protection system if this is needed. |
| <input type="checkbox"/> | Chemicals | Ensure personnel have been trained on the pertinent chemical handling information for each chemical to be used/handled. Ensure proper PPE is available and worn. Ensure emergency eye wash is available at work site (portable MUST be brought if one is not available at site). |
| <input type="checkbox"/> | Flammable Liquids/ Gasses | Ensure flammables are only used in open-air or in well ventilated areas. Appropriate fire extinguishers shall be kept on hand near flammable materials/work. Where the potential for flammable vapor build-up exists (inside enclosures whether ventilated or not), flame/spark-producing tools and equipment will not be used or permitted. Flammable liquids will be stored in proper flammable storage if in excess of 10 gallons (store any quantity in flammable storage if available). Flammable gas cylinders will be properly secured to a bottle rack or by a chain or clamp. Ensure the gas regulator valves are completely closed when not in use. |
| <input type="checkbox"/> | Biologicals | Ensure personnel have been trained on the pertinent handling information for each biological to be used/handled. Ensure proper PPE is available and worn. Ensure emergency eye wash is available at work site (portable MUST be brought if one is not available at site). |
| <input type="checkbox"/> | Radioactive Materials Class 3b or 4 lasers/laser systems | Ensure all personnel have received appropriate training for working with the radioactive materials or lasers to be encountered/used. Ensure all personnel have appropriate PPE and monitoring badges as necessary. |
| <input type="checkbox"/> | High Energy Sources | Ensure all personnel have been informed of the high energy sources. If work needs to be conducted on systems using these sources, ensure proper energy isolation procedures are utilized. Any personnel working on energized systems need to have had training on energy isolation/control (Lock-out/tag-out). |
| <input type="checkbox"/> | Boats/ Kayaks, Canoes | Ensure all personnel have appropriate life-vests/PFDs. Ensure personnel have received training on turn-overs in the type of boat, canoe, or kayak to be used. For use of boats in waterways with strong currents or waves/rapids, ensure the boat is appropriate for the waterway and that personnel are capable of negotiating the waterway and/or receive training in order to do so prior to attempting such. Ensure boats equipped with motors have adequate fuel for the trip and that rows or other navigatory means are available on board should the motor fail unexpectedly. Ensure the boat has appropriate patch and other emergency type kits as needed (may include flares, blankets, first-aid kit, etc.). |
| <input type="checkbox"/> | Pressurized/ Vacuum Systems | Ensure pressure systems have been inspected for condition and damage prior to pressurization (+/-). Ensure all fittings, seals and valves are in place, proper position, and secure prior to pressurizing the system. Keep personnel clear of the system during pressurization as this is the time when unexpected failure of seals, lines, and fittings is most likely to occur. |
| <input type="checkbox"/> | Fire Extinguishers | Ensure personnel know the limits of the fire extinguisher and when not to attempt to fight the fire. You should only attempt to fight incipient level fires. Ensure the extinguisher is accessible and in good working order. Inspect it monthly and verify pressure before |

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| | | conducting field work where the extinguisher could be necessary. Ensure personnel have had at a minimum awareness-level training on fire extinguishers. |
| <input type="checkbox"/> | Personal Protective Equipment (Respirators, special suits or harnesses, etc.) | For PPE which may limit mobility, line-of-sight, respiration, or which may otherwise cause physical stress on the body due to its weight, impervious material trapping body heat, or other characteristics, ensure personnel have had appropriate health screenings or fitness assessments before attempting to use the PPE for field tasks. Assess the task itself as well. As appropriate, modify the task, environment and work schedules to accommodate the use of the PPE. Additional: |

| |
|---|
| Chemicals and other Hazardous Materials Used on this Project |
| |

UNLV Field Project Hazard Assessment and Mitigation Plan

Additional Personal Protection and Training Requirements

| Personal Protective Equipment Required (minimal required with notes as necessary) | | |
|---|--|-----------------------------|
| <i>NOTE: All jobs require basic Level D including sturdy work clothing; work gloves (leather /cotton); safety shoes/boots, and safety glasses</i> | | |
| Required | Equipment | Specify Type or Other Notes |
| <input type="checkbox"/> | Gloves | |
| <input type="checkbox"/> | Face Shields | |
| <input type="checkbox"/> | Hearing Protection | |
| <input type="checkbox"/> | Goggles | |
| <input type="checkbox"/> | ANSI approved hardhat | |
| <input type="checkbox"/> | Respirator (specify cartridge type) | |
| <input type="checkbox"/> | Impervious Boots | |
| <input type="checkbox"/> | Disposable Work Boot Covers | |
| <input type="checkbox"/> | Rain Gear | |
| <input type="checkbox"/> | Cotton Coveralls | |
| <input type="checkbox"/> | Disposable Coveralls | |
| <input type="checkbox"/> | Moisture Resistant Disposable Coveralls | |
| <input type="checkbox"/> | Eye Wash | |
| <input type="checkbox"/> | Emergency Shower | |
| <input type="checkbox"/> | Fall Protection | |
| <input type="checkbox"/> | Extraction Equipment (confined space) | |
| <input type="checkbox"/> | Other | |
| Travel Immunizations Required | | |
| | | |
| Safety Training Required: | | |
| Required? | Training | |
| <input type="checkbox"/> | HAMP Orientation | |
| <input type="checkbox"/> | Field Safety Orientation | |
| <input type="checkbox"/> | First Aid/CPR | |
| <input type="checkbox"/> | Emergency Action and Preparedness | |
| <input type="checkbox"/> | Fire Extinguisher Use | |
| <input type="checkbox"/> | Ergonomics, includes back safety, lifting, manual material movement | |
| <input type="checkbox"/> | Hazard Communication (general chemical safety) | |
| <input type="checkbox"/> | OSHA Carcinogens | |
| <input type="checkbox"/> | Compressed Gasses and Cryogenic Liquids | |
| <input type="checkbox"/> | Project Specific Hazard Communication (specific to chemical hazards) | |
| <input type="checkbox"/> | Dangerous Goods/Hazardous Materials Shipping | |
| <input type="checkbox"/> | Hazardous Waste Generator Training | |
| <input type="checkbox"/> | HAZWOPER Training | |
| <input type="checkbox"/> | First responder awareness level | |
| <input type="checkbox"/> | Hazardous Waste Operations level | |
| <input type="checkbox"/> | Storm Water Awareness Training | |
| <input type="checkbox"/> | Energy Control (Lockout/Tagout) | |
| <input type="checkbox"/> | Electrical Safety | |
| <input type="checkbox"/> | Biosafety (infectious agents) | |

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| | |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | Bloodborne Pathogens |
| <input type="checkbox"/> | Radiation Safety |
| <input type="checkbox"/> | Laser Safety |
| <input type="checkbox"/> | Personal Protective Equipment |
| <input type="checkbox"/> | Respiratory Protection |
| <input type="checkbox"/> | Hearing Conservation |
| <input type="checkbox"/> | Other: |

