Autzen Stadium	Sanitary sewer pump station room W152 West end inside visitor locker room		Permit posted Atmospheric Test Traffic Control Pedestrian Control Lockout/tagout where applicable	Monitor Hard hat Graphia and a second a second and a second a second and a second a second and a second and a second and a second a second and a sec	Permit required Attendant required
Autzen Stadium	Storm water vaults x2 (field drainage collection sumps), West end zone in front of visitor's locker room (approx. 14' deep)	Oxygen deficiency Fall Electrical shock Engulfment	Permit posted Atmospheric Test Pedestrian Control Lockout/tagout where applicable	1. Monitor 2. Retrieval equipment 3. Harness 4. Lifeline for fall protection 5. Compatible communication equipment-radio 6. Hard hat 7. Barricades/cones 8. Ladder may be needed	1. Permit required 2. Attendant required
Autzen Stadium	Water control valve North of Casanova Center, next to MLK Blvd	1. Oxygen deficiency	Permit posted Atmospheric Test Ventilation/Purge Traffic Control	Monitor Compatible communication equipment-radio Hard hat Barricades/cones	Permit required Attendant required
Autzen Stadium	Water control valve Northeast of end zone terrace, concourse level (approximately 4' deep)	Oxygen deficiency Flammable gases/vapors	Permit posted Atmospheric Test Ventilation/Purge Traffic Control	Monitor Compatible communication equipment-radio Hard hat Barricades/cones Ventilation equipment	Permit required Attendant required
Backflow Preventer Vaults	All backflow preventer vaults	Oxygen deficiency Electrical shock (if sump pump)	Permit posted Atmospheric Test If water present lock out sump pump to entry if applicable Hard hat if entering beyond sump pump if applicable	Monitor Compatible communication equipment-radio	Permit required Attendant required
Backflow Preventer Vaults < 4 Feet Deep	All	If no hazard exists	None - No permit needed.	None	If hazards exist then follow backflow preventer vaults – permit required
Bean Cistern	Off tunnels outside Bean mechanica room	1. Oxygen deficiency 2. Flooding	Permit posted Atmospheric Test 3. 2-Person tunnel rule	1. Monitor 2. Hard hat 3. Flashlight	Permit required Attendant required
Casanova Center Mechanic Room	Water heating tanks (3)	Oxygen deficiency Water engulfment	Permit posted Atmospheric Test	Compatible communication equipment-radio Monitor Wentilation equipment	Permit required Attendant required Lockout/tagout water source
Casanova Center Mechanical Room	Heat furnaces (2)	Oxygen deficiency Flammable gases/vapors	Permit posted Atmospheric Test	Compatible communication equipment-radio Monitor Wentilation equipment	Permit required Attendant required Lockout/tagout (blank bleed) gas source
Cascade Hall	Chemical exhaust, building roof	Oxygen deficiency Toxic gases/vapors Material harmful to the skin	Permit posted Atmospheric Test Open all doors	Monitor Compatible communication equipment-radio Eye protection Protective clothing SCBA	Permit required Attendant required
Cascade Hall/Cascade Annex	Oil separator in sidewalk between buildings	Oxygen deficiency Flammable gases/vapors Toxic gases/vapors Material harmful to the skin	Permit posted Atmospheric Test Pedestrian control Both doors open	Monitor Compatible communication equipment-radio Hard hat Barricades/cones Both doors open	Permit required Attendant required
Central Kitchen	Room 110; rotary oven	Oxygen deficiency Heat Natural Gas Other (tight space)	1. Permit posted 2. Atmospheric Test 3. Lockout/Tagout 4. Cooling time	Compatible communication equipment-radio Monitor Hard Hat and Knee Pads	Permit required Attendant required

Central Power Station	#1 boiler exhaust breeching	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor	Permit required Attendant required Cockout/tagout gas lines, oil lines and steam atomizer lines
Central Power Station	#1 boiler fire box	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor	Permit required Attendant required Lockout/tagout gas lines, oil lines and steam atomizer lines
Central Power Station	#1 boiler mud drum	Oxygen deficiency Steam/water engulfment Toxic gases/vapors	Permit posted Atmospheric Test Ventilation/purge	Compatible communication equipment-radio Monitor Wentilation equipment	Permit required Attendant required Lockout/tagout on main steam, feedwater and steam blanket systems
Central Power Station	#1 boiler steam drum	Oxygen deficiency Steam/water engulfment Toxic gases/vapors	Permit posted Atmospheric Test Ventilation/purge	Compatible communication equipment-radio Monitor Wentilation equipment	Permit required Attendant required Lockout/tagout on main steam, feedwater and steam blanket systems
Central Power Station	#1 horizontal D.A. tank (third level)	Oxygen deficiency Steam/water engulfment Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor Sentilation equipment	Permit required Attendant required Cockout/tagout on main steam condensate/make-up, feedwater systems and chemical feed line
Central Power Station	#2 Boiler Exhaust Breeching	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor	Permit required Attendant required Cockout/tagout gas lines, oil lines and steam atomizer lines
Central Power Station	#2 Boiler Fire Box	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor	Permit required Attendant required Lockout/tagout gas lines, oil lines and steam atomizer lines
Central Power Station	#2 Boiler Mud Drum	Oxygen deficiency Steam/water engulfment Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor Sentilation equipment	Permit required Attendant required Lockout/tagout gas lines, oil lines and steam blanket systems
Central Power Station	#2 Boiler Steam Drum	Oxygen deficiency Steam/water engulfment Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor Section 1. Ventilation equipment	Permit required Attendant required Lockout/tagout gas lines, oil lines and steam blanket systems
Central Power Station	#2 horizontal D.A. tank (third level)	Oxygen deficiency Steam/water engulfment Toxic gases/vapors	Permit posted Atmospheric Test Wentilation/purge	Compatible communication equipment-radio Monitor Wentilation equipment	Permit required Attendant required Lockout/tagout on main steam condensate/make-up, feedwater systems and chemical feed systems
Central Power Station	Boiler blowdown sump pumping tank	Oxygen deficiency Water engulfment	Permit posted Atmospheric Test	Compatible communication equipment-radio Fall protection equipment Monitor Barricades for walkway protection Hard hat	Permit required Attendant required Lockout/tagout of electrical equipment (480v Sump pump)

Central Power Station	Emergency standby generators access panels	Oxygen deficiency Diesel fumes Electrical shock	1. Permit posted 2. Atmospheric Test 3. Lockout/tagout where applicable 4. Maintain 25" minimum approach distance. Two qualified high-voltage electricians required if unable to maintain 25" clearance 5. Open access door and allow air to flow at least 10 minutes prior to entry	Monitor Hard hat Compatible communication equipment-radio	1. Permit required 2. Attendant required
Central Power Station	Heat Recovery and Steam Generation (HRSG)	Oxygen deficiency Heat	1. Permit posted 2. Atmospheric Test 3. Lockout/tagout 4. Ventilation/purge 5. Open stack cover and ALL manhole doors	Compatible communication equipment-radio Monitor Fans and ventilation equipment Flashlight and/or appropriate lighting	1. Permit required 2. Attendant required 3. Lockout/tagout on main steam, steam blanket systems and connection between gas and turbine 4. Ensure fire box is a room temperature
Central Power Station	RO make-up tank – ground level	Oxygen deficiency Engulfment Toxic gases/vapors	Permit posted Atmospheric Test Ventilation/purge if needed	Communication equipment Hard hat Harness Lifeline Ventilation equipment Retrieval equipment	1. Permit required 2. Attendant required 3. Harness with lifeline 4. Hard hat 5. Lockout/tagout water supply
Central Power Station	Steam intertie	Oxygen deficiency Steam Heat	Permit posted Atmospheric Test	Compatible communication equipment-radio Hard hat Monitor	Permit required Attendant required
Central Power Station Chiller Building	Various external e- vaults South and East side of building – under transformers	Possible stagnant air High voltage connections Electrical shock	1. Permit posted 2. Atmospheric Test 3. Lockout/tagout where applicable 4. Maintain 25" minimum approach distance. Two qualified high-voltage electricians required if unable to maintain 25" clearance 5. Open access doors and allow air to flow at least 10 minutes prior to entry 6. Perform visual check for presence of water on the floor. Do not enter if water is visible. 7. Take added precaution as necessary to remove water prior to entry.	Monitor Hard hat Compatible communication equipment-radio Appropriate FR PPE and insulated tools	1. Permit required 2. Attendant required
Central Power Station	11 Underground Storage Tanks (9 deisel, 1 gasoline, 1 automotive diesel)	Oxygen deficiency Diesel/Gasoline vapors Engulfment Electrical shock	1. Permit posted 2. Atmospheric test 3. Lockout/Tag out if required 4. After opening inner lid wait 60 seconds to allow for any accumulated vapors to disperse.	Monitor Compatible comminication equipment - radio Hard Hat Barricades/cones Tool to open inner lid Magnet to aid in opening outer steel cover	Permit required Attendant required
Central Power Station Electrical Vault (Switch House)	Entrances at Northeast edge of building and Northwest edge of building - switch house underground electrical vault	Possible stagnant air Electrical shock	1. Permit posted 2. Atmospheric Test 3. Lockout/tagout where applicable 4. Open both access doors and allow air to flow at least 10 minutes prior to entry 5. Barricade entrances	1. Monitor 2. Compatible communication equipment-radio 3. Barricades	Permit required Attendant required

Central Power Station Oil/Water Separator (3 water chambers)	Southwest side of Chiller Building	Oxygen deficiency Engulfment	Permit posted Atmospheric Test Traffic control Pedestrian control	Monitor Compatible communication equipment-radio Hard hat Retrieval equipment	Permit required Attendant required Lockout/tagout pumps
Earl	Crawl spaces under each wing (McClure, Morton, Sheldon, Stafford, Young)	Uneven walking surface Low headroom Low light	No permit required under normal conditions Permit required if hazard is present or if work conducted in space will create hazard Two persons required for non-permit entries	Monitor (required if conducting a permit entry, voulantary if non-permit entry) Compatible communication equipment-radio Hard hat Light source (head lamp, flashlight, etc.)	No permit required under normal operations Two persons required for ALL entries Lockout/tagout on steam, electrical, water line, etc. as required for work
Electrical Vault	All	Oxygen deficiency Electrical shock	1. Permit posted 2. Atmospheric Test 3. Traffic control 4. Pedestrian control 5. Lockout/tagout where applicable. 6. Maintain 25" minimum approach distance. Two qualified highvoltage electricians required if unable to maintain 25" clearance.	Monitor Hard hat Compatible communication equipment-radio Appropriate FR PPE and insulated tools Barricades/cones	Permit required Attendant required
Fine Arts Studio	Vault with backflow devices on West side of building	Oxygen deficiency	Permit posted Atmospheric Test	1. Monitor 2. Hard hat	Permit required Attendant required
Ford Alumni Center	NE sidewalk corner of East 13th and Columbia Street, backflow preventer vault	Oxygen deficiency Electrical shock	Permit posted Atmospheric Test Pedestrian control Lock out sump pump prior to entry if applicable	Monitor Barricades/cones Compatible communication equipment-radio Hard hat	Permit required Attendant required Due to pedestrian traffic on sidewalk – ensure adequate barricades are up and attendant keeps pedestrians from area around vault.
Ford Alumni Center (By Hamilton)	NW sidewalk corner of E 13th and Columbia St, backflow preventer vault	Oxygen deficiency Electrical Shock Other: This space is known to have black widow spiders	1. Permit Posted 2. Atmospheric test 3. Pedestrian control 4. Lock out sump pump prior to entry if applicable	Monitor Barricades/cones Compatible communiction equipment - radio Hard Hat	Permit Required Attendant Required Due to pedestrian traffic on sidewalk - ensure adequate barricades are up an attendant keeps pedestrians from area around vault.
Franklin/Onyx Backflow Vault	NE Corner of Franklin and Onyx in the parking lot E of Knight Campus	Oxygen deficiency Toxic gases/vapors (from traffic) Electrical Shock (sump pump)	1. Permit Posted 2. Ventilate 3. Atmospheric test 4. Pedestrian control 5. If water present – pump out prior to entering	Monitor Compatible communiction equipment - radio Barricades/cones	Permit required Attendant required
Friendly Hall	Sump pump vault west central	Oxygen deficiency Electrical shock Engulfment	Permit posted Atmospheric Test	Compatible communication equipment – radio/cell Lockout/tagout if applicable Monitor	Permit required Attendant required
Frohnmayer Music	Domestic and fire water check valves manhole – Northwest corner of building	Oxygen deficiency Electrical shock Engulfment Fall from ladder	1. Permit posted 2. Atmospheric Test 3. Pump out prior to entry 4. Lockout/tagout sump pump 5. Pedestrian control 6. Barricades	Monitor Retrieval equipment Harness Lifeline Communication equipment-radio Hard hat	Permit required Attendant required Harness with lifeline

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Frohnmayer Music	Fire water check valves vault – Southeast corner of building at 18th Street parking lot	Oxygen deficiency Electrical shock	1. Permit posted 2. Atmospheric Test 3. Pump out prior to entry 4. Lockout/tagout sump pump 5. Pedestrian control 6. Barricades	Monitor Compatible communiction equipment - radio Hard hat Barricades/cones	Permit required Attendant required
Frohnmayer Music	Storm sewer pump station manhole – North side of building against center wall	Oxygen deficiency Electrical shock Engulfment Fall from ladder	Dermit posted Atmospheric Test Pump out prior to entry Lockout/tagout sump pump Barricades	Monitor Retrieval equipment Harness Hifeline Communication equipment-radio Hard hat	Permit required Attendant required Harness with lifeline
Gerlinger Hall	Chemical mixing pit in exterior building West end	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric Test	Monitor Compatible communiction equipment - radio Tripod Harness	Permit required Attendant required
Global Scholars Fire Backflow and Sprinkler System Vault	15th Street, NW corner of Global Scholars Housing next to walkway near sidewalk	Oxygen deficiency Electrical	Permit posted Atmospheric Test If water present-pump out- un-plug sump pump prior to entry	Monitor Compatible communiction equipment - radio Barricades/cones	Permit required Attendant required
Hayward Field	Mehcanical room, 491 pit	Sewer gas Electrical shock Fall from ship ladder Pressurized steam Water Pipes	Permit posted Atmospheric test If water present - pump out prior to entering	Monitor Compatible communication equipment - radio Hard hat	Permit required Attendant required
Hayward Field	Backflow preventer vault, Lot 32 SE entrance		Permit posted Ventilate Atmospheric test If water present- pump out prior to entering Pedestrian control Traffic control	Monitor Compatible communiction equipment - radio Barricades/cones	Permit required Attendant required
HEDCO Education	SW side of building- Fire backflow preventer vaults	Oxygen deficiency Electrical Shock	Permit posted Ventilate Atmospheric test If water present- pump out prior to entering Lock out sump pump prior to entry if applicable	Monitor Compatible communiction equipment - radio	Permit required Attendant required
HEDCO Parking Garage	Exhaust fans at North side #8 and Southeast corner #10	Oxygen deficiency (car fumes) Limited access/egress Electrical Moving parts	Permit posted Atmospheric test Lockout fan prior to entry	Monitor Compatible communiction equipment - radio	Permit required Attendant required
luestis Courtyard	Reclaimed water tank in SE corner of the Huestes Courtyard	Oxygen Deficiency Engulfment Electrical shock Other (tight space with equipment)	Permit Posted Atmospheric Test Pump out standing water Cockout/tagout water supply and electrical (if applicable) Rescue Plan Entry with ladder	Monitor Compatible Communication Equipment Ladder Tripod Emergency Escape Unit Escape harness/lifeline Hard hat	Permit required Attendant required Entry is tight with ladder, tripod with safety hardness is required for emergency retrieval
luestis Food Prep Room 24-Sump Pump Vault SP- :	Huestis basement, Zebrafish Facility (vault is approx. 18'x5'x7' deep)	Oxygen deficiency Electrical Shock Deep/standing water	1. Permit posted 2. Atmospheric test 3. Ventilate/purge vault prior to entry 4. Fan and/or other ventilation equipment should be used to provide extra ventilation 5. Lockout pumps 6. Attach air monitor close to entrant's breathing zone	Full Face Shield OR Surgical Mask and Safety Glasses Disposable rain gear Rubber wader boots Rubber or Neoprene gloves Head light and or/battery operated portable light Compatible communication equipment-radio Monitor	Permit required Attendant required
Huestis Hall	Backflow preventer valve vault in 13th Avenue sidewalk	1. Oxygen deficiency	Permit posted Atmospheric test	Monitor Compatible communiction equipment - radio	Permit required Attendant required

Lawrence Hall	Room 196 crawl space under building	Oxygen deficiency Heat Piping and tight spaces Areas that slope upward create potential for entrant to get stuck	Permit posted Atmospheric test	Monitor Compatible communication equipment - radio Hard hat Flash light Ventilation equipment if necessary	Permit required Attendant Required
Lillis Business Complex	Backflow device in vault at SW corner of Peterson Hall	1. Oxygen deficiency	Permit posted Atmospheric test Pedestrian control	Monitor Compatible communication equipment - radio Barricades/cones Flashlight	Permit required Attendant Required High traffic area
LISB	Roof-chemical exhaust x2	Oxygen deficiency Toxic gases/vapors Material harmful to skin	Permit posted Atmospheric test Other-open all doors	Monitor Compatible communication equipment - radio Eye protection Protective clothing	Permit required Attendant Required
LISB (sidewalk north of building by Franklin BLVD)	Backflow	Oxygen deficiency Electrical shock - sump pump	Permit posted Atmospheric test Pedestrian control Lockout/tagout, if required for sump pump	Monitor Compatible communication equipment - visual and radio Pump out water if necessary	Permit required Attendant required High traffic area
Living Learning Center	Water control valve vault North side	Oxygen deficiency Flood Electrical (sump pump)	Permit posted Atmospheric test Traffic/pedestrian control If water present lockout sump pump prior to entry	Monitor Compatible communication equipment Hard hat if working below sump Barricades/cones	Permit required Attendant Required
Living Learning Center	Water control valve vault South side along 15th Avenue	Oxygen deficiency Flood Electrical (sump pump)	Permit posted Atmospheric test Traffic/pedestrian control If water present lockout sump pump prior to entry	Monitor Compatible communication equipment Hard hat if working below sump Barricades/cones	Permit required Attendant Required
Lokey Education	Hatch door in the crawl space. Located in Lokey A.	Oxygen deficiency Flammable Gases or Vapors Toxic Gases or Vapors Electrical Shock	Permit posted Atmospheric test Pedestrian control	1. Monitor 2. Compatible communication equipment 3. Hard hat (optional) 4. Hand Protection 5. Protective Clothing 6. Lighting 7. G. F. C. I. 8. Barricades and Cones	Permit required Attendant Required
Manholes <5 Feet Deep	All, except tunnel accesses	Oxygen deficiency Electrical if sump pump	Permit posted Atmospheric test Pedestrian control Traffic Control Lockout sump pump prior to entry if applicable	Monitor Hard hat Barricades/cones	Permit required Attendant Required
Manholes >5 Feet Deep	All, except tunnel accesses	Oxygen deficiency Electrical if sump pump	Permit posted Atmospheric test Pedestrian control Traffic Control Lockout sump pump prior to entry if applicable	1. Monitor 2. Hard hat 3. Barricades/cones 4. Retrieval equipment 5. Harness 6. Lifeline	Permit required Attendant Required

Many Nations Longhouse	Vaults (electrical and utilities) on West side of Vivian Olum Child Care next to Knight Law parking lot	Oxygen deficiency Electrical shock	1. Permit posted 2. Atmospheric test 3. Pedestrian control 4. Traffic Control 5. Barricades 6. Lockout/tagout where applicable 7. Maintain 25" minimum approach distance. Two qualified high-voltage electricians required if unable to maintain 25" clearance.	Monitor Hard hat Compatible communication equipment-radio Appropriate FR PPE and insulated tools Barricades/cones	Permit required Attendant Required
Matthew Knight Arena	East side fire pump station and backflow preventer vaults along Villard Street	Oxygen deficiency Electrical shock	1. Permit posted 2. Atmospheric test 3. Ventilate 4. If water present – pump out prior to entering 5. Lockout sump pump prior to entry if applicable 6. Pedestrian Control	Monitor Barricades/cones Compatible communication equipment-radio	Permit required Attendant required due to close proximity to sidewalk and pedestrian traffic
Matthew Knight Arena	Oil/water separator – Arena parking level P3 – manhole near parking space 290	1. Oxygen deficiency	1. Permit posted 2. Atmospheric test 3. Ventilate/purge 4. Traffic control 5. Pump out prior to entry	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Retrieval equipment Harness Lifeline for fall protection	1. Permit required 2. Attendant Required
Matthew Knight Arena	Oil/water separator – manhole in Arena loading dock area	1. Oxygen deficiency	1. Permit posted 2. Atmospheric test 3. Ventilate/purge 4. Traffic control 5. Pump out prior to entry	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Retrieval equipment	Permit required Attendant Required
Matthew Knight Arena	Room 28 sewage ejector pit (SEP 2)	Oxygen deficiency Sewer gas Electrical shock	Permit posted Atmospheric test Ventilate/purge Lockout/tagout where applicable	1. Monitor 2. Hard hat 3. Compatible communication equipment-radio 4. Barricades/cones 5. Retrieval equipment 6. Harness 7. Lifeline for fall protection 8. Rubber boots 9. Disposable Tyvek coveralls 10. Neoprene gloves	1. Permit required 2. Attendant Required 3. For work on sump pump – remove w/wire cable. 4. If work in space, pump out sewage, decontaminate – wash and flush out space and pump out prior to entry.
Matthew Knight Arena	Room 73 sewage ejector pit (SEP 3)	Oxygen deficiency Sewer gas Electrical shock	Permit posted Atmospheric test Ventilate/purge Lockout/tagout where applicable	1. Monitor 2. Hard hat 3. Compatible communication equipment-radio 4. Barricades/cones 5. Retrieval equipment 6. Harness 7. Lifeline for fall protection 8. Rubber boots 9. Disposable Tyvek coveralls 10. Neoprene gloves	1. Permit required 2. Attendant Required 3. For work on sump pump – remove w/wire cable. 4. If work in space, pump out sewage, decontaminate – wash and flush out space and pump out prior to entry.
Matthew Knight Arena	Room 85 sewage ejector pit (SEP 4)	Oxygen deficiency Sewer gas Electrical shock	Permit posted Atmospheric test Ventilate/purge Lockout/tagout where applicable	1. Monitor 2. Hard hat 3. Compatible communication equipment-radio 4. Barricades/cones 5. Retrieval equipment 6. Harness 7. Lifeline for fall protection 8. Rubber boots 9. Disposable Tyvek coveralls 10. Neoprene gloves	1. Permit required 2. Attendant Required 3. For work on sump pump – remove w/wire cable. 4. If work in space, pump out sewage, decontaminate – wash and flush out space and pump out prior to entry.

Matthew Knight Arena	Sanitary sewer pump station- pump 1 and 2 - Arena parking level P3 cage	Oxygen deficiency Sewer gas Electrical shock	1. Permit posted 2. Atmospheric test 3. Ventilate/purge 4. Lockout/tagout where applicable 5. Traffic control 6. Pedestrian control	1. Monitor 2. Hard hat 3. Compatible communication equipment-radio 4. Barricades/cones 5. Retrieval equipment 6. Harness 7. Lifeline for fall protection 8. Rubber boots 9. Disposable Tyvek coveralls 10. Neoprene gloves 11. Goggles	1. Permit required 2. Attendant Required 3. For work on sump pump – remove w/wire cable. 4. If work in space, pump out sewage, decontaminate – wash and flush out space and pump out prior to entry.
Matthew Knight Arena	Storm water sump pump pit (SP-2) – Southeast ramp to loading dock	- 1. Oxygen deficiency	1. Permit posted 2. Atmospheric test 3. Ventilate/purge 4. Traffic control 5. Pump out prior to entry	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Retrieval equipment Harness Lifeline for fall protection	1. Permit required 2. Attendant Required 3. For work on sump pump – remove w/wire cable. 4. If work in space, pump out sewage, decontaminate – wash and flush out space and pump out prior to entry.
Matthew Knight Arena	Storm water sump pumps 1, 2 & 3 – arena parking level P3 cage	Oxygen deficiency	1. Permit posted 2. Atmospheric test 3. Ventilate/purge 4. Traffic control 5. Pump out prior to entry	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Retrieval equipment	 Permit required Attendant Required For work on sump pump – remove w/wire cable.
Matthew Knight Arena Manholes < 5 Feet Deep	All – inside and outside of Arena	Oxygen deficiency Electrical if sump pump	1. Permit posted 2. Atmospheric test 3. Traffic control 4. Pedestrian control 5. Lockout sump pump prior to entry if applicable	 Monitor Hard hat Barricades/cones 	Permit required Attendant Required
Matthew Knight Arena Manholes > 5 Feet Deep	All – inside and outside of Arena	Oxygen deficiency Electrical if sump pump	1. Permit posted 2. Atmospheric test 3. Traffic control 4. Pedestrian control 5. Lockout sump pump prior to entry if applicable	 Monitor Hard hat Barricades/cones Retrieval equipment Harness Lifeline if > 5 feet depth for fall protection 	Permit required Attendant Required
Millrace	Backflow preventer vault along Millrace Drive, North of Lot 4, behind Building 125A (Vault 3'x5' wide, approx. 8' deep)	Oxygen deficiency	Permit posted Atmospheric test Ventilate If water present- pump out prior to entering	Monitor Compatible communication equipment-radio	Permit required Attendant Required
Millrace – New Sewage Lift Station	Sanitary sewage lift station and two 5000 gallon surge tanks in sidewalk next to Onyx Street and Millrace – 5 manholes	2. Electrical shock	1. Permit posted 2. Atmospheric test 3. Traffic control 4. Pedestrian control 5. Lockout/tagout where applicable	1. Monitor 2. Hard hat 3. Barricades/cones 4. Retrieval equipment 5. Harness 6. Lifeline for fall protection 7. Compatible communication equipment-radio	1. Permit required 2. Attendant Required
Millrace Studio II	Steam connection vault in road to North	Oxygen deficiency Steam Water	Permit posted Atmospheric test	Monitor Hard hat Compatible communication equipment-radio	1. Permit required 2. Attendant Required
Millrace Studio III	Water valve box Northwest end	Oxygen deficiency Steam Water	Permit posted Atmospheric test	Monitor Hard hat Compatible communication equipment-radio	Permit required Attendant Required

Mobile Shop Moss Street Child Care	Oil/water separator NW corner outside Mobile Shop Water control valve vault along 17th Avenue	Oxygen deficiency Electrical Oxygen deficiency Electrical (sump pump)	1. Permit posted 2. Atmospheric test 3. Traffic control 4. Pedestrian control 5. Lockout sump pump prior to entry 1. Permit posted 2. Atmospheric test 3. Traffic control 4. Pedestrian control 5. Lockout sump pump if applicable	1. Monitor 2. Hard hat 3. Barricades/cones 4. Retrieval equipment 5. Harness 6. Lifeline for fall protection 1. Monitor 2. Barricades/cones 3. Compatible communication equipment	Permit required Attendant Required Permit required Attendant Required Attendant Required
Moss Street Tunnel Sump Pump Manhole	Moss Street roadway between lots 33 and 34 on South side of Arena (approx. 17' deep)	Oxygen deficiency Fall Selectrical shock	Permit posted Atmospheric test Traffic control Pedestrian control Remove water if sump pump is submerged Lockout sump pump prior to entry if applicable	1. Monitor 2. Hard hat 3. Barricades/cones 4. Ventilation equipment 5. Harness 6. Lifeline 7. Compatible communication equipment-radio 8. Retrieval equipment	1. Permit required 2. Attendant Required
Motor Pool	Oil/water separator, South side of facility near fence (approx. 12.5' deep)	1. Oxygen deficiency	Permit posted Atmospheric test Traffic control Pump out prior to entry	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Retrieval equipment Harness	Permit required Attendant Required
Motor Pool/Fleet Services	located inside of the sign for motor pool	Oxygen deficiency Other (carbon monoxide from vehicle traffic)	Permit posted Atmospheric test Other (a ladder is needed to access the space, a fall exposure)	Monitor Hard hat Compatible communication equipment-radio Ladder	1. Permit required 2. Attendant Required
Motor Pool Manholes	330 Franklin Blvd car wash, NE corner of building, West of settling tanks – overflow and sanitary sewer (2 manholes), continuation of car wash	1. Oxygen deficiency	Permit posted Atmospheric test Traffic control	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Retrieval equipment Harness Lifeline Ventilation equipment	1. Permit required 2. Attendant Required
Motor Pool Manholes	330 Franklin Blvd, car wash settling tanks x4, NE corner of building	1. Oxygen deficiency	Permit posted Atmospheric test Traffic control	Monitor Hard hat Compatible communication equipment-radio Barricades/cones Ventilation equipment	Permit required Attendant Required If only pumping sludge from the top – no permit is required
Motor Pool Manholes	330 Franklin Blvd, South side of facility near fence, oil/water separator (2 manholes approx. 12.5' deep), East of natural gas pumps	Oxygen deficiency Engulfment	Permit posted Atmospheric test Traffic control	1. Monitor 2. Retrieval equipment 3. Harness 4. Lifeline for fall protection 5. Compatible communication equipment-radio 6. Hard hat 7. Barricades/cones	1. Permit required 2. Attendant Required
Museum of Natural and Cultural History	Water control valve vault North side along sidewalk - new addition	Oxygen deficiency Flood Bectrical (sump pump)	Permit posted Atmospheric test Traffic control/pedestrian control If water present lockout sump pump prior to entry	Monitor Hard hat if working below sump Compatible communication equipment-radio Barricades/cones	Permit required Attendant Required

Network & Telecom Vaults/Manholes	All	Oxygen deficiency Stagnant air Bectrical (if sump pumps)	Permit posted Atmospheric test Wentilation/purge – if organic solvents used, open flame torches or if manhole/vault is located near vehicle traffic or vault/manhole is unvented. If sump pump isn't working and water present – lockout sump pump prior to entry.	Barricades/cones Ventilation equipment	Permit required Attendant Required
Non-Electrical All Other Vaults	All vaults that are over 3 feet in depth	Noygen deficiency Engulfment Toxic gasses/vapors Flammable gasses/vapors Steam Heat	1. Permit posted 2. Atmospheric test 3. Traffic control 4. Pedestrian control 5. Lockout/tagout where applicable	Monitor Hard hat Compatible communication equipment-radio Barricades/cones	Permit required Attendant Required
Onyx Bridge	Excavated area (air plenum) through hatch across from Science Library through door to Men's restroom in Room# B72A (janitor's room)	1 1. Oxygen deficiency	Permit posted Atmospheric test	Monitor Compatible communication equipment-radio	Permit required Attendant Required
Oregon Hall	Data center vault. North of Oregon hall next to sidewalk.	Oxygen deficiency Engulfment Electrical shock Stagnant air	1. Permit posted 2. Atmospheric test 3. Drain water 4. Pedestrian control 5. Lockout/tagout where applicable 6. Ventilation/purge if applicable	1. Monitor 2. Compatible communication equipment-radio 3. Manhole ladder 4. Magnetic manhole cover lift tool Water pump if applicable 6. Ventilation equipment if applicable 7. Barricades/cones	Permit required Attendant Required Use West manhole, East may be blocked by cable
Oregon Institute of Marine Biology	Seawater tanks	1. Oxygen deficiency	Permit posted Atmospheric test	1. Monitor 2. Hard hat	Permit required Attendant Required
Pine Mountain	Pump house	Oxygen deficiency Electrical	Permit posted Atmospheric test Lockout pump if applicable	Monitor Compatible communication equipment-radio or cell phone	Permit required Attendant Required
Pine Mountain	Water cistern	1. Oxygen deficiency	Permit posted Atmospheric test	1. Monitor 2. Hard hat	Permit required Attendant Required
Pine Mountain	Water hauling tank	1. Oxygen deficiency	Permit posted Atmospheric test	1. Monitor 2. Hard hat	Permit required Attendant Required
Prince Lucien Campbell Hall (PLC)	Storm sewer pump station manhole Northwest corner of building in grass	Oxygen deficiency Electrical Shock Engulfment Fall from ladder	1. Permit posted 2. Atmospheric test 3. Pump out prior to entry 4. Lockout/tagout sump pump 5. Pedestrian control 6. Barricades	1. Monitor 2. Retrieval Equipment 3. Harness 4. Lifeline 5. Communication equipment-radio 6. Hard hat	Permit required Attendant Required
Psychology Department (Old ORI Building)	Backflow preventer vault, 1715 Franklin Blvd, SE end of building by sidewalk	Oxygen deficiency Exhaust from street traffic	Permit posted Atmospheric test If water present – pump out prior to entering	Monitor Compatible communication equipment-radio Ladder	Permit required Attendant Required
Riley Residence Hall	Pipe chases throughout building	Oxygen deficiency/ carbon monoxide Electrical shock Sewer leak/N Heat Entrapment Trip hazards	Permit posted Atmospheric test Pedestrian control Lockout steam valves and/or electrical if applicable Open all doors-ventilate prior to entry	1. Monitor 2. Long sleeve shirt 3. Long pants 4. Safety glasses 5. Head light and/or flash light 6. Safety cones or tape 7. Compatible communication equipment-radio	Permit required Attendant Required
Sanitary Sewage Lift Stations	ALL	Oxygen deficiency Electrical Shock Engulfment Sewer gas	Permit posted Atmospheric test Traffic control Lockout/tagout where applicable Pedestrian control Ventilate	Monitor Hard hat Compatible communication equipment-radio Barricades/cones5. Retrieval equipment Harness	Permit required Attendant Required If work in space, pump out sewage, decontaminate—wash and flush down space and pump out prior to entry

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Spencer View		Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
	_	2. Electrical equipment (sump pump)	•	2. Hard hat	2. Attendant Required
	Street		3. Lockout/tagout	Compatible communication equipment-radio	
			4. Barricades	4. Barricades/cones5.	
			5. Pedestrian control		
Streisinger Hall	Chemical exhaust, building roof	1. Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
		2. Toxic gases/vapors	2. Atmospheric test	2. Eye protection	2. Attendant Required
		3. Material harmful to skin	3. Open all doors	3. Compatible communication equipment-radio	·
				4. Protective clothing.	
Student Recreation	Cistern-stormwater catchment	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
Center	system	2. Toxic gases/vapors	2. Atmospheric test	2. Retrieval equipment	2. Attendant Required
		3. Stagnant air	3. Barricades	3. Harness	
			4. Pedestrian control	4. Lifeline	
			5. Lockout water supply and sump pump prior to entry	5. Communication equipment-radio	
				6. Hard hat	
	<u> </u>				
Student Recreation	Domestic water double check valve		1. Permit posted	1. Monitor	1. Permit required
Center	manhole – Northeast corner of	2. Electrical shock	2. Atmospheric test	2. Retrieval equipment	2. Attendant Required
	building	3. Engulfment	3. Pump out water prior to entry	3. Harness	
		4. Fall from ladder	Lockout/tagout sump pump	4. Lifeline	
			5. Pedestrian control	5. Communication equipment-radio	
			6. Barricades	6. Hard hat	
Student Recreation	Fountain pump vault at front	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
Center	entrance	2. Electrical shock	2. Atmospheric test	Compatible communication equipment	2. Attendant Required
1		3. Engulfment	3. Lockout if applicable		
Student Recreation	Recirculation pump manhole for	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
Center		2. Electrical Shock	2. Atmospheric test	2. Retrieval equipment	2. Attendant Required
	side of building	3. Engulfment	3. Lockout/tagout water supply and sump pump	3. Harness	
		4. Fall from ladder	4. Pedestrian control	4. Lifeline	
			5. Barricades	5. Communication equipment-radio	
				6. Hard hat	
Student Recreation	Recirculation pump pit (hair	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
Center/Leighton Pool	strainer) – basement	2. Toxic gases/vapors	2. Atmospheric test	Compatible communication equipment- radio	2. Attendant Required
center, reignton i con	stramer, basement	Material harmful to skin	3. Lockout/tagout pump	3. Hard hat	2.7.11.0.11.0.11.0.1
				4. Appropriate PPE for skin and eye protection (rubber gloves and	
				goggles)	
Student Degraption	Surge querflouvieult hasement	1 Overgan deficiency	1 Dormit ported		1. Downit varuinad
Student Recreation Center/Leighton Pool	Surge overflow vault – basement	Oxygen deficiency	Permit posted Atmospheric test	Monitor Compatible communication equipment-radio	Permit required Attendant Required
center/ Leignton F 001			2. Authospheric test	2. companie communication equipment- radio	A Accordance nequired
Student Recreation	Surge tank/water balance –	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
Center/Leighton Pool	basement	2. Toxic gases/vapors	2. Atmospheric test	2. Compatible communication equipment- radio	2. Attendant Required
_		Material harmful to skin		3. Hard hat	
				4. Appropriate PPE for skin and eye protection (rubber gloves and	
				goggles)	
Susan Campbell Hall	Old E-Vault (now low voltage lines	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
·	only) South side lawn		2. Atmospheric test	Compatible communication equipment- radio	2. Attendant Required
			•	3. Ladder	•
Susan Campbell Hall	Storm sewer pump station manhole	1 Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
	Northeast corner of building	2. Electrical Shock	2. Atmospheric test	2. Retrieval equipment	2. Attendant Required
	To the doctor let of building	3. Engulfment	3. Pump out prior to entry	3. Harness	a. /
		4. Fall from ladder	4. Lockout/tagout sump pump	4. Lifeline	
		ca nominado	5. Pedestrian control	5. Communication equipment-radio	
			6. Barricades	6. Hard hat	
			0. 506065	o. na. a nat	

Susan Campbell Hall	Sump pump vault at NE corner of building	Oxygen deficiency Electrical Shock Engulfment	Permit posted Atmospheric test	Compatible communication equipment-radio or cell phone Lockout/tagout if applicable Monitor	1. Permit required 2. Attendant Required
Tunnels (where work requires permit)	ALL NOTE: if work could create any potential atmospheric hazards, creates potential for entrapment or creates a safety or health hazard (e.g. welding, cutting and brazing, chemicals) and these hazards cannot be mitigated by fans and/or ventilation equipment, then permit is required	5. Steam 6. Natural gas 7. Tight spaces 8. Compressed air	Permit posted Atmospheric test Z person tunnel rule plus attendant outside Comply with safety signs on all electrical cables and equipment Hot work permit required when welding Cutting or brazing	Monitor Hard hat Compatible communication equipment-radio Flash light Fan or other ventilation equipment Appropriate respirator if required	Permit required Attendant Required
Tunnels	working and travelling in the tunnels – follow the tunnel entry	1. Heat 2. Asbestos 3. Electrical shock 4. Flooding 5. Natural gas 6. Sanitation issues 7. Compressed air 8. Steam lines	2. Person tunnel rule Comply with safety signs on all electrical cables and equipment Hot work permit if welding, cutting or brazing If confined space permit is required, air monitoring and an attendant/rescuer are required.	1. Hard hat 2. Flashlight 3. Compatible communication equipment 4. Long pants 5. Long-sleeve shirt 6. Shoes appropriate for work to be performed (no open-toe shoes) 7. Air monitor (if permit is required)	1. Log in/out with Power Plant control room
University Health Services	Backflow preventer vault East side by sidewalk	Oxygen deficiency Electrical (sump pump)	Permit posted Atmospheric test If water present lockout sump pump prior to entry	Monitor Compatible communication equipment-radio	Permit required Attendant Required Hard hat if entering beyond sump pump
Vaults All Other <4 Feet	ALL	1. If no hazard exists	NONE- no permit required		If hazards exist then follow Backflow Preventer Vaults- Permit Required
Villard-Miller Theater	Backflow preventer vault, South side of building by bike racks (approx. 6' deep)	1. Oxygen deficiency	Permit posted Atmospheric test Ventilate Water present pump out prior to entering	Monitor Compatible communication equipment-radio	Permit required Attendant Required
Walton Complex	Pipe runs in Smith and Clark adjacent to laundry area	1. Oxygen deficiency	Permit posted Atmospheric test	Monitor Compatible communication equipment-radio Hard Hat	1. Permit required 2. Attendant Required
West Side of New Residence Halls, East of LLC	Alley inbetween LLC and New Residence Halls	Oxygen deficiency Electrical (sump pump)	Permit posted Atmospheric test, if water present - pump out prior to entering Pedestrian control Lockout/tagout (sump pump)	Monitor Compatible communication equipment-radio Hard Hat Barricades/cones	1. Permit required 2. Attendant Required 3. High voltage cables in vault 4. Two confined spaces next to each other 5. If using both confined spaces at the same time, need 4th person as attendant.
Willamette Hall	Atrium, smoke fan duct works x2 South side of building on either side of door	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric test Pedestrian control	Monitor Compatible communication equipment-radio Hard Hat Barricades/cones	Permit required Attendant Required
Willamette Hall	Chemical exhaust x2, building East and West side roof	Oxygen deficiency Toxic gases/vapors Material harmful to the skin	Permit posted Atmospheric test Open all doors for ventilation	Monitor Compatible communication equipment-radio Eye protection Protective clothing SCBA	1. Permit required 2. Attendant Required
Willamette Hall	Room 40 cryogenic wind tunnel vault (Donnelly lab)	Oxygen deficiency Toxic gases/vapors	Permit posted Atmospheric test Open hatch and air out	Monitor Compatible communication equipment-radio Flashlight	Permit required Attendant Required

Zebrafish International	Room 120- Mechanical vault	Oxygen deficiency	1. Permit posted	1. Monitor	1. Permit required
Research Center-ZIRC		2. Steam	2. Atmospheric test	Compatible communication equipment	2. Attendant Required
		3. Heat		3. Tripod Emergency Escape Unit	
				4. Escape harness/lifeline	