

JOB SAFETY ANALYSIS (JSA) FORM					Rev 1 Feb 24
Unit/Area:	Specific Location:	Work Authorizer (if applicable):	Supervisor / Work Lead:	Date:	
Job Description for Tasks with High Potential Consequence (i.e., life-altering injuries or Consequence Level 1 process safety events including HC 1&2 events) (include Equipment Numbers as Practical):					
Check LSRA(s) that apply and review Start Work Check(s). Complete Page 2 with any additional task steps with high potential consequence or if there is no applicable LSRA.					
 Confined Space Entry Obtain authorization before entering a confined space ☐		 Bypassing Safety Controls Obtain authorization before overriding or disabling safety controls ☐		 Energy Isolation Verify isolation and zero energy before work begins ☐	
<ol style="list-style-type: none"> 1. I confirm energy sources are isolated 2. I confirm the atmosphere has been tested and is monitored 3. I check and use my breathing apparatus when required 4. I confirm there is an attendant standing by 5. I confirm a rescue plan is in place 6. I obtain authorization to enter 		<ol style="list-style-type: none"> 1. I understand and use safety-critical equipment and procedures which apply to my task 2. I obtain authorization before: <ul style="list-style-type: none"> • Disabling or overriding safety equipment • Deviating from procedures • Crossing a barrier 		<ol style="list-style-type: none"> 1. I have identified all energy sources 2. I confirm that hazardous energy sources have been isolated, locked, and tagged 3. I have checked there is zero energy and tested for residual or stored energy 4. I never remove or tamper with energy control devices without authorization 5. I confirm equipment is back to safe operating condition prior to re-energizing 	
 Safe Mechanical Lifting Plan lifting operations and control the area ☐		 Hot Work Control flammables and ignition sources ☐		 Working Around Mobile Equipment See and be seen; maintain a safe distance ☐	
<ol style="list-style-type: none"> 1. I confirm that the equipment and load have been inspected and are fit for purpose 2. I only operate equipment that I am qualified to use 3. I establish and obey barriers and exclusions zones 4. I never walk under a suspended load 5. I understand the lift plan prior to starting work and keep hands off load unless authorized 6. I establish and maintain communication with lifting and rigging personnel 		<ol style="list-style-type: none"> 1. I identify and control ignition sources 2. Before starting any hot work: <ul style="list-style-type: none"> • I confirm flammable material has been removed or isolated • I obtain authorization 3. Before starting hot work in a hazardous area, I confirm: <ul style="list-style-type: none"> • A gas test has been completed • Gas will be monitored continually 		<ol style="list-style-type: none"> 1. I plan work to separate workers and mobile equipment 2. I only operate mobile equipment if qualified and use spotters where required 3. I verify safety devices are functional on mobile equipment 4. I establish clear means of communication with equipment operator 5. I stay out of the equipment's exclusion zone while in operation 6. I confirm controls are in place to prevent unintentional movement of mobile equipment and/or loads 	
 Breaking Containment/OPE Manage ignition sources and exposure to energy & hazardous substances ☐		 Driving Follow safe driving rules ☐		 Work Authorization Work with a valid permit when required ☐	
<ol style="list-style-type: none"> 1. I verify opening/break location(s) 2. I confirm energy isolation is complete 3. I manage ignition sources and confirm gas testing is completed when required 4. I use appropriate PPE and defensive behaviors when opening process equipment 		<ol style="list-style-type: none"> 1. I always wear a seatbelt 2. I do not exceed the speed limit, and reduce my speed for road conditions 3. I do not use phones or operate devices while driving 4. I am fit, rested and fully alert while driving 5. I follow journey management requirements 		<ol style="list-style-type: none"> 1. I have confirmed if a permit is required 2. I am authorized to perform the work 3. I understand the permit 4. I have confirmed that hazards are controlled, and it is safe to start 5. I stop and reassess if conditions change 	
				 Line of Fire Keep yourself and others out of the line of fire ☐	
				<ol style="list-style-type: none"> 1. I position myself to avoid: <ul style="list-style-type: none"> • Moving objects • Vehicles • Pressure releases • Dropped objects 2. I establish and obey barriers and exclusion zones 3. I take action to secure loose objects and report potential dropped objects 	
Confirm these safeguards are in place and effective prior to starting work using the applicable SWC(s). During the task, if safeguards are no longer in place or effective, STOP Work.					

Are there any additional high potential consequence hazards present?

Electrical Energy 	Moving Objects 	Lighting & Visibility 	Simultaneous Operations (SIMOPS) or Stacked Work 
Stored Energy 	Hazardous Substances 	Noise & Vibration 	
Thermal Energy 	Radiation 		

High Potential Consequence Task Steps (Description)	Check off to indicate Hold Point	POTENTIAL HAZARDS & CONSEQUENCES Include applicable Error Prone Situations and Triggers	SAFEGUARDS (Actions & Physical Safeguards) Eliminate or Mitigate the hazards
	Hold Point ☐		
	Hold Point ☐		
	Hold Point ☐		
	Hold Point ☐		
	Hold Point ☐		

Confirm these safeguards are in place and effective prior to starting work using this JSA.
During the task, if safeguards are no longer in place or effective, STOP Work.

Lessons Learned (as needed): What improvements should be made for future work? Discussion leader to provide feedback to update planning package.

LAI HAZARD ANALYSIS

Project Number:		Project Task: Excavation and Earthworks				Location:					
Prepared By:			Date:		Reviewed By:				Date:		
Ref. Number	High Potential Consequence Task Steps	POTENTIAL HAZARDS & CONSEQUENCES Include applicable Error Prone Situations and Triggers	Target Check off to indicate Hold Point ☐	Preliminary Risk Assessment			Control Type	SAFEGUARDS (Actions & Physical Safeguards) Eliminate or Mitigate the hazards	Final Risk Assessment		
				H	M	L			H	M	L
1	Excavation and Earthworks Work Activities within and around the GOLD project     	Personnel exposure to: unstable soil associated with excavation work resulting in cave-in or collapse and personnel injury. Fall hazards. Inadequate access/egress. Mobile equipment and traffic.	P		X		D/E /S/ W/ A A A	Prior to starting a task, Evaluate the Lifesaving Rules and actions (LSRA) start work Checks (SWC) that may apply to that task review START/STOP work expectations and implement, Verify & Validate (V&V) the appropriate behaviors and or control Safeguards per the ExxonMobil PSMS and site HSE Procedures during the pre-task brief Ensure JHA for specific LAI tasks address proper hazard control methods Complete a Last Minute Risk Assessment (LMRA) prior to beginning each task			X

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				H	M	L			H	M	L
							A	Utilize work permit system to control excavation work.			
							A	Perform analysis of soil to determine required actions.			
							A	Designate a competent person to perform daily inspections of excavations and protective systems.			
							E	Use appropriate protective systems (shoring, shields, and/or trench boxes).			
							E	Ensure spoil pile and heavy equipment is kept away from the edge of the excavation if workers are required to be in the excavation.			

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				H	M	L			H	M	L
							E A D/S /A	Excavation shall be sloped and benched appropriately according to the type of soil present. Adequate means for access to and egress from the excavation shall be provided (access ladders required every 25 feet of lateral travel) For excavations deeper than 4 ft, follow Working at Height requirements. Ensure hard barricades are installed if left unattended and personal fall protection equipment is utilized if within 6 ft. of excavation edge.			

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				H	M	L			H	M	L
							D/S /A	Ensure excavations are barricaded and guarded from vehicle and mobile equipment traffic. No mobile equipment shall be within 2 ft. of unprotected excavation edges.			
							D/A	Ensure all personnel are out of excavation while digging (or lowering in materials / equipment)			
2	Excavation and Earthworks Work Activities within and around the GOLD project	Personnel exposure to a hazardous atmosphere while working in an excavation resulting personnel injury. (Oxygen deficient, toxic, or flammable atmospheres)	P ☐		X		A A	Utilize work permit system to control excavation work. Designate a competent person to perform daily inspections of excavations and protective systems.			X

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				H	M	L			H	M	L
							A	Evaluate potential sources of hazardous gases including nearby storage tanks, pipelines, unloading stations, vehicle traffic, internal combustion engine driven equipment, etc.)			
							W/S	Utilize a gas monitor to verify the atmosphere in the excavation prior to personnel entering the area.			
							A	Coordinate with ExxonMobil site Environmental dept. to verify and conduct soil testing (VOC's) as required.			
							A	Adequate means for access to and egress from the excavation shall be provided.			

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				H	M	L			H	M	L
3	Excavation and Earthworks Work Activities within and around the GOLD project	Damage to underground utilities resulting in damage to or temporary shutdown of the facility.	P ☐		X		A A A	Utilize work permit system to control excavation work. Survey of excavation area to determine location of underground utilities. i.e. probing, GPRS Review of underground utility drawings by a competent person.			X
4	Operation of heavy equipment, and mobile equipment within and around the GOLD project 	Working in close proximity to large mobile equipment. Large equipment working in close proximity to live process systems.	P/F ☐	X			A/S/D A/W A/W	Barricade or cone working area of heavy equipment. Area shall be barricaded whenever possible to restrict access to personnel. Personnel shall wear high visibility vest or reflective arm bands around mobile equipment and at night. Have spotter located to direct foot or vehicle traffic around equipment. Designated Flaggers/Spotters shall wear high visibility vest day and night.		X	

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				H	M	L			H	M	L	
							W/A	When working in close proximity to live systems, use a spotter when moving, mobilizing, or positioning mobile equipment into place.				
							A	Barricade off area where equipment will be swung over.				
							W/A /S	Utilize whistles and horns.				
4	Managing Human Performance	Failure, injury, property damage, or harm to the environment due to Error traps -Performance Influencing Factors (PIF's)	P/F/E ☐	X			D	Performance influencing factors (PIFs) are the characteristics of the job, the individual and the organization that influence human performance. Optimizing PIFs reduces the likelihood of all types of human failure and improves human performance.		X		
							A	All employees will be trained to understand PIFs, their influence on human performance as well as				

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				H	M	L			H	M	L
								strategies and controls to keep them optimal, daily focus on PIF's is achieve though integrated PIF evaluation during daily JSA process, Supervisory auditing, and assessment of PIFs integrated into the safety observation report SOR process.			
5	Pedestrian Traffic 	Pedestrians being struck my motor vehicle or mobile equipment	P ☐		X		A D A A/W	Controlled speed limit of 10 MPH within all project areas Designated crosswalk/ crossing areas to be evaluated on a regular basis. Limit vehicle and mobile equipment access within pedestrian travel paths A spotter shall be used to assist during vehicle movement in congested areas and while backing.			X

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				H	M	L			H	M	L
6	Review of Emergency Preparedness	Unaware of procedures, meeting points and assembly areas	P <div>☒</div>		X		A A D	Review emergency procedures, contact numbers and identify RAA's. Review incident/near miss reporting procedures Keep access roads clear and maintained			X
7	Obtain Proper Permits, Safe Work Authorizations and Ground Disturbance / One-Call	Unverified work	F/E/P <div>☒</div>		X		A A	Ensure validated permit before commencing work. Do not commence work until permits verified Ground disturbance permit acquired.			X
8	Identification of Required Personal Protective equipment	Personal Injury	P <div>☒</div>		X		A/S /D A	All personnel to wear required PPE as stated within GOLD project HSE plan, Safe Work Practices and ExxonMobil HSE Procedures LMRA/JSA/Permit to be used to identify proper PPE and Hazards with Controls in Place			X

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				H	M	L			H	M	L
9	Tailgate Meeting before any work commences	Injuries to workers and damage equipment or Environment	F/E/P ☒		X		D/E /S/ W/ A A A	Prior to starting a task, Evaluate the Lifesaving Rules and actions (LSRA) start work Checks (SWC) that may apply to that task review START/STOP work expectations and implement, Verify & Validate (V&V) the appropriate behaviors and or control Safeguards per the ExxonMobil PSMS and site HSE Procedures during the pre-task brief Ensure JHA for specific LAI tasks address proper hazard control methods Complete a Last Minute Risk Assessment (LMRA) prior to beginning each task			X

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				H	M	L			H	M	L
10	Survey Area	Heavy equipment, weather conditions, lighting conditions, uneven terrain, crush points, limited access, congestion	P ☐		X		A/S /W A/ W D/S D/A D D/A /W D/A /W	Wear all proper PPE including reflective clothing. Be aware of weather conditions and follow lightning alert requirements. Have proper lighting to complete task safely. Communicate with other trades in the area, and discuss SIMOPS Have area laid out before commencing work. Make eye contact with operators before approaching equipment. Ensure the bucket/blade etc. is on ground before approach			X

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				H	M	L			H	M	L
11	Begin Excavation	Equipment Swing radius, overburden, open excavations, potential confined space, human traffic interface, tight areas, buried facilities, overhead hazards, crush points, burial, line of sight, weather, speeding, congestion, equipment failure, dust, uneven ground, access/egress	E/F/P ☐	X			W A/D A/D A A d/W	Barricade area to be excavated. Spoil pile to be a least 2 feet from edge of excavation. Spotter to be always used to ensure workers are kept clear of area. Spotter to be far enough back to maintain eye contact with operator and position themselves away from any points of contact. Check for all overhead hazards and clearances before starting. Daylight and or expose all underground hazards.		X	

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				H	M	L			H	M	L	
							D/S	Dewater as necessary, establish access and egress points and keep clear and always maintained.				
							A	Ensure all excavations comply with OH&S standards, if not sure ask your supervisor.				
							A	Do not enter any excavations unless properly sloped or shored.				
							A	Check all equipment and fill out equipment pre-use check list; let supervisor know of any issues.				
							A	Follow all site posted speed limits.				
							D/S /A	Have spill kit in equipment and report any spills that occur immediately.				

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				H	M	L			H	M	L	
							D/A	Have rescue plan in place and understand procedure for restricted / confined spaces.				
							S/A	Do not turn your back to equipment				
12	Remove all Spoil Piles	Congestion, equipment swings zones and backing up. Driving on site roads, weather, soft / wet areas Open excavations Human and equipment interface unstable slopes slips/trips/falls Repetitive strain injuries	P/F ☐		X		A/D	Use spotter to help direct equipment.			X	
							A/D	Give ROW to heavy equipment.				
							A	Only trained and competent operators on equipment.				
							A	Obey posted speed limits. Know your route to disposal area.				
							A/D	Do not track clay on gravel roads.				

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							A/D	Be aware of ground conditions and do not rut up soft areas.			
							A/D	Use Three-point contact when entering or exiting equipment.			
							A/D	Watch for open excavations and stay back a safe distance.			
							A	Watch for unstable slopes / edges Spotters will be used when moving material.			
13	Clean-Up Area	Ruts, debris, barricades, ankle biters,	P ☒		X		A	Have all barricades in place around excavation before leaving area.			X
							A/D	Clean up all garbage.			
							D	Back blade area to remove ruts Cover any small open holes			

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14	Haul Material	Congestion, dust, traffic, tipping equipment, crush points, equipment contact	P ☐	X			A A/D A/D A/D	Use spotter to direct truck drivers and sign and collect tickets. Keep Road watered to maintain dust control. Keep back from end dumps. Do not lose line of site with truck drivers, check mirrors, if you lose sight of driver, then STOP. Clean up spoil piles. Maintain safe operating distances between pieces of equipment		X	

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15	Backfill Area Fill in Soil. Compact Check moisture content	Moving equipment, dust, crush points, Exposure to loud noise, congestion, Work inside excavation, swinging equipment, jumping jack, contacting body parts, walking backwards with packers.	P <div></div>	X			A A/D /S A/D A/ W D/S D	Make eye contact with operators. Wear hearing protection and wear high vis stripes, all other PPE required. Avoid pinch points with piles, side of excavation, concrete and other equipment; be aware of body placement. Keep an eye on any slopes / edges that might start to slip or slough in. Have control of compaction equipment when in excavations. Bucket and blade to be placed on ground when worker approaching.		X	

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