











Date Revised:	July 2021	Overall Task Risk Rating: Before Controls	B	After Controls	C
Description:	Crushing Operations at the asphalt plant.				
Location(s):	Asphalt Plant				
Associated Documents: Housekeeping WTS, Hazardous Agents WTS, Noise WTS, Driving and Vehicle Operation WTS, Equipment and Machinery Operation WTS, Working at Height WTS					

RED FLAGS (HOLD WORK UNTIL CORRECTED):

Note:

- If Electrical, pneumatic, mechanical or hydraulic energy are not locked out as required during maintenance
- Guards removed while crusher conveyor is operating
- Guardrails removed without fall protection measures being used
- Failure to follow manufacturer's safety instructions and/or warnings
- Do not commence work if the equipment operator is not trained

PERSONAL PROTECTIVE EQUIPMENT (CSA APPROVED)

									
Head Protection	Foot Protection	High-Vis Protection	Hearing Protection	Hand Protection	Eye Protection	Respiratory Protection	Skin Protection	Face Protection	Fall Protection
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note:

- Workers must wear all PPE listed in the MSDS / SDS for the specific hazardous products that they are to handle
- Additional PPE such as hand protection (i.e. gloves) and respiratory protection (i.e. a full face respirator) may be required depending on the task.
- The noise level exceeds 85 dB in the crusher area. Hearing protection shall be worn during prolonged exposure.
- Fall protection or travel restraint equipment must be worn when guardrails are removed.

SAFE WORK PRACTICES (SWP)

Asphalt Plant Key Practices:

- Start the work only when you are certain that you understand the work, the hazards and you have implemented the appropriate controls.
- Unsafe conditions and situations must be reported to Foreman/Superintendents immediately (and stop work until the hazard is controlled)
- Visitors must report to the plant office and sign in and out.

Guarding:

- Ensure all moving components of the crusher conveyor are guarded during operations.
- Ensure guarding is in adequate condition.
- Ensure guarding is present at all pinch points and beneath conveyors.

Aggregate Pile Management:

- Freezing/thawing, changing moisture content and other conditions can affect pile stability.
- Piles shall be kept at the 'angle of repose' and not be 'undercut'.
- Pile stability will be maintained using excavators and bulldozers as required.
- Pile haul roads and ramps must have berms or barriers to prevent vehicle tipping.
- Pile dumping areas should be kept level to prevent truck tipping when dumping.

Access / Egress:

- All walkways, stairways, access / egress points, and access to emergency equipment are to be kept clean and free of obstructions at all times (remove any build up debris or snow / ice that may accumulate)
- “Authorized Entry Only” “Danger” & “Warning” Signs as required

Vehicles / Equipment / Machinery/Traffic:

- Maximum speed limit while on the asphalt property is 10 kph.
- If you are not familiar with the safe use of any equipment or machinery, ask your foreman / superintendent for assistance before starting.
- Do not leave operating equipment or machinery, unattended.
- Refer to the owner’s manual for safety and maintenance information specific to the equipment or machinery.
- Maintain an awareness of equipment, machinery and personnel around the equipment or machinery that you are operating.
- Ensure back up alarms are functioning (sound horn twice before reversing)
- Signalers are required for backing vehicles when the operator’s view of the path of travel is obstructed.
- Use three points of contact when mounting and dismounting the machine.
- Workers and equipment operators will follow the Safe Limit of Approach – not entering within 10 metres of mobile equipment.
- One-way traffic signage is in place and must be followed. Trucks will give way for front end loaders.

Path of Travel:

- Be aware of the sequence of operation and stay out of the Path of Travel of moving vehicles and equipment.

Loading/Unloading Trucks:

- Truck drivers must remain in the cab of the truck and visible to the loader operator at all times during loading.

Hazardous Energy:

- When authorized persons are setting up or making adjustments to equipment or machinery, ensure that it is locked-out / tagged-out.
- Do not attempt to clear jammed equipment or machinery without first shutting off the power.
- Secure equipment and machinery loads before moving.
- Refer to Hazardous Energy Control WTS for more information.

Working at Heights:

- Only use ladders that are in adequate condition.
- Ensure Cat-Walks and Ramps have adequate fall protection in place.
- Guard Rails must have a toe board, mid rail and top rail and be securely fastened in place.
- Refer to the Working at Heights WTS for more information.

Environmental Considerations:

- Ensure puddles / sitting water due to rain or flooding is dealt with.
- Ensure salt is used in areas where ice can build up potentially causing a trip hazard.
- Ensure adequate lighting (functional lights for night work)

Screening Operations:

- Screening conveyor at the asphalt plant filtering sand and different sizes of stones powered by an electric motor and a hydraulic pump.
- Conveyor is equipped with two e-stops at the operation panels and railed access to the screening station.

Maintenance of Screening conveyor:

- Conveyor is equipped with automatic greasing equipment to all bearing required to be greased. Maintenance to check and top-up greasing container as required.
- Maintenance to change hydraulic filter as scheduled by the manufacturer and top-up hydraulic fluid as required.
- Five screens on the conveyor to be repaired/replaced upon wear as required using the railed access to the screens and following all lockout tagout procedures.
- Gearboxes on the conveyors to be checked by maintenance every season for any damage or defects using an elevated working platform while following all working at height procedures.

Dust Control:

- Silica dust is hazardous.
- Airborne dust is controlled using waster distributed by the mister machine, water tank trucks and wet sweeping.



CRUSHING & SCREENING OPERATIONS

Housekeeping:

- Housekeeping shall be ongoing during operations.
- Each employee is responsible for maintaining and cleaning their work area on a daily basis (or more frequently if necessary)
- Aggregate fallout shall not be allowed to accumulate to the point of becoming a hazard.
- Refer to Housekeeping WTS for more detail.

Inspections:

- A pre-operational safety inspection is to be completed prior to using equipment.
- Do not use defective equipment or machinery, inform your foreman / superintendent & note the defect on the Equipment Inspection Form.
- Before starting machines or equipment, ensure guards and safety devices are in place, adjusted and functioning properly.
- Before using Working at Heights PPE, inspect it for defects / wear-and-tear – do not use unless it is in adequate condition.

Training:

- Employee Orientations (including roles, responsibilities, applicable workplace task standards, WHMIS, etc.)
- Workers exposed to, required to work with, or required to clean up / dispose of WHMIS controlled hazardous products, must be trained in WHMIS and have supplemental task specific training.
- Workers exposed to fall hazards, must be trained in 'Working at Heights' by an MOL approved training provider.
- All workers must be trained in the use and maintenance of any PPE they are required to wear including fall protection.
- Only trained, authorized personnel are allowed to operate or perform maintenance on vehicles / machinery / equipment.

Personal Protective Equipment:

- Mandatory minimal PPE to be worn at the Asphalt Plant includes head, foot, eye and high visibility protection.
- The noise level exceeds 85 dB in the crusher area. Hearing protection shall be worn during prolonged exposure.
- Depending on condition and task being undertaken, respiratory protection (i.e. a full face respirator) may be required
- Equipment and Truck drivers are required to use all listed PPE if they are to step away from the equipment/truck.
- Workers must adhere to all requirements of legislated regulations when handling specific designated substances.
- Workers must wear all PPE listed in specific materials MSDS / SDS

JOB HAZARD AND RISK ANALYSIS		RISK RATING SYSTEM	
		A	B
TASK HAZARDS	RATING BEFORE CONTROLS	TASK CONTROLS	RATING AFTER CONTROLS
<ul style="list-style-type: none"> • Poor Housekeeping and Site Planning 	C	<ul style="list-style-type: none"> • Packaging and debris must not conceal dangerous hazards underneath such as protruding nails, faulty wiring or damaged flooring 	C
<ul style="list-style-type: none"> • Airborne Dust 	B	<ul style="list-style-type: none"> • Mister machine and sweeper will apply water in quantities necessary to prevent airborne dust • Workers will wear appropriate PPE 	C
<ul style="list-style-type: none"> • High Noise Levels 	B	<ul style="list-style-type: none"> • Workers exposed to high noise levels must use hearing protection (CSA approved Ear plugs / Earmuffs) • Workers shall wear appropriate hearing protection where the potential exposure of noise cannot be reduced below the occupational exposure limit of 85 dBA over an 8-hour period 	C



CRUSHING & SCREENING OPERATIONS

<ul style="list-style-type: none"> Heat Stress 	B	<ul style="list-style-type: none"> Drink water throughout the day (don't wait until you're thirsty) Taking rest breaks as needed (in a cool, shady spot) When possible, do the heaviest work at the coolest times Use the Buddy System – watch for signs of heat related illnesses in your co-workers If you think someone has heat stroke or heat exhaustion: call 911, inform the Foreman /Superintendent and begin First Aid 	C
<ul style="list-style-type: none"> Poor Housekeeping in vehicles 	C	<ul style="list-style-type: none"> Trucks and company vehicles should be cleared daily of any garbage so as not to obstruct brakes, accelerator pedals, stick shifts or windows. 	C
<ul style="list-style-type: none"> Lack of / Improper PPE 	C	<ul style="list-style-type: none"> Ensure any PPE as mandated by the MSDS / SDS is worn while handling the respective hazardous product A CSA approved full body harnesses and shock absorbing lanyard, must be worn at heights of 10 feet (or more), unless properly protected (by scaffolding, guardrails or floor covers) 	C
<ul style="list-style-type: none"> Unauthorized drivers, Lack of, or Improper, Training and Education 	B	<ul style="list-style-type: none"> Machine Operators must be authorized and trained Only trained and competent personnel are permitted to perform maintenance 	C
<ul style="list-style-type: none"> Struck by Equipment / Vehicles & Lack of Signaler 	B	<ul style="list-style-type: none"> Signalers are required for backing vehicles when the operator's view of the path of travel is obstructed 	C
<ul style="list-style-type: none"> Lack of Inspection 	C	<ul style="list-style-type: none"> A pre-operational safety inspection is to be completed Do not use defective equipment or machinery, inform your foreman / superintendent 	C
<ul style="list-style-type: none"> Lack of Maintenance/Equipment Failure 	B	<ul style="list-style-type: none"> Equipment shall be maintained as per the manufacturer's instructions and minimum regulatory requirements Damaged equipment must be taken out of use and reported to the foreman / superintendent 	C
<ul style="list-style-type: none"> Struck-by / Crushed-by Object 	B	<ul style="list-style-type: none"> No part of the equipment should be capable of inadvertent movement which may lead to personal injury 	C
<ul style="list-style-type: none"> Inadvertent Energization & Stored Energy 	B	<ul style="list-style-type: none"> Workers shall not remove locks or tags, other than their own Ensure all sources of hazardous energy are de-energized, and that all remaining energy has been discharged Test de-energized sources of hazardous energy prior to commencing the task 	C
<ul style="list-style-type: none"> Lack of Testing 	B	<ul style="list-style-type: none"> Verify Zero-Energy, test the operation switches and verify that the equipment cannot be restarted, if lockout has not occurred, do not proceed 	C

SAFE JOB PROCEDURES (SJP)

Pre-Task Commencement:

1. For plant operation the plant operator/foreman performs a daily plant equipment walk around looking for unfinished maintenance and hazards.
2. Gather and wear the required PPE for the task.
3. Plant foreman briefs the workers on the planned production and delegates the work for the day. No work is to be started prior to the arrival of the plant operator/foreman.

During Task:

1. Trucks to dump concrete or asphalt blocks at the designated collection point in the asphalt plant.
2. Gazzola's loader/bulldozer operator is responsible for organizing the piles, pushing down concrete or asphalt blocks to the bottom of the pile for easy pickup by the loader feeding the crusher.
3. Loader to feed the crusher hopper with concrete or asphalt blocks.
4. Crusher operator remotely operates the hydraulic hammer from the protected side (Guardrails) on the crusher to break concrete or asphalt blocks when needed.
5. Blocks to go through an automated two-step crushing process on the crusher conveyor until reaching the desired aggregate gradation/size.
6. The crusher conveyor is discharging the crushed aggregate into piles of raw material.
7. Gazzola's loaders will load trucks with the raw material if being sold or to the processing plant if being recycled and used by Gazzola.

Equipment Operators:

1. Mount and de-mount the equipment or machine using 3-points of contact.
2. Begin task when it is safe to do so - ensure all safety devices are on and functioning (i.e. back up alarms, beacons and reversing lights)
3. Do not leave operating equipment or machinery unattended.
4. Stop backing immediately if the signaller is not fully visible, visual contact is lost with other workers &/or an emergency stop signal is received from anyone in the area

Task Completion:

1. Remove the ignition keys and lock the doors before leaving the equipment or machine. Ensure that crusher controls are off and secured before leaving the crusher area.
2. Ensure all equipment / machinery / tools are maintained and stored appropriately in the designated locations.
3. Implement any housekeeping or maintenance as required