Construction Management of the Jordan School Expansion Project (JSEP) and the Schools for a Knowledge Economy Project (SKEP)

Site Visit Report Form FTR #253 HSE

A. BASIC DATA

(Trigon staff shall complete this field trip report within 48 hours after returning from the field and ensure that it is sent properly distributed within 72 hours after leaving the construction site)

Program (JSEP or SKEP): **SKEP** **PHASE: III** **PACKAGE: I**
School Name: Al Khansa' Basic Mixed School
Supervisory Engineer (SE): Wahib Medanat Consultant Engineers (Medanat)
Construction Contractor (CC): Derar Saraireh & Son
Date and Time of Field Trip: January 25, 2021 11:15 AM
Date of Report: January 31, 2021
Weather During Visit: Sunny
Report Submitted By: Trigon's HSE Engineer, Odai Tawalbeh

PURPOSE OF VISIT

General Site Inspection (Quality)
Corrective Action (CA) Review Report
Heath, Safety & Environment (HSE)
Site Meeting
Substantial Completion Inspection
Handover (First Inspection)
Second Final Inspection
OTHER (list below)

PERSONNEL ON TRIP

No.	Name	Title	Agency
1	Odai Tawalbeh	HSE Engineer	Trigon Jordan (CMTO)
2	Mohammad Ali-Ahmad	Fresh Grad. – Engineer	Trigon Jordan (CMTO)

PERSONNEL AT SITE *(if a site meeting or a final inspection, use attachment to list other participants)*

No.	Name	Title	Agency
1	Qais Malkawi	SE	Medanat
2	Maram Abu Awwad	Fresh Grad.	Medanat
3	Abdullah Al-Zoubi	Safety Manager	Medanat
4	Rami Alhaj-Mohammad	SE	Derar Saraireh & Sons
5	Anas Emran	Safety Manager	Derar Saraireh & Sons
6	Netham Al-Tarawneh	Safety Officer	Derar Saraireh & Sons
7	Ghassan Al-Ajjouri	Fresh Grad.	Derar Saraireh & Sons
8	Walaa Khraisat	Tech. Foreman	Derar Saraireh & Sons
9	Laith Al-Zoubi	Q/S Engineer	Derar Saraireh & Sons

Construction Management of the Jordan School Expansion Project (JSEP) and the Schools for a Knowledge Economy Project (SKEP)

B. QUALITY, SCHEDULE AND H&S FINDINGS CHECKLIST

(For any "No" answer in this section, the Observer shall provide a narrative explanation in Section C. of this Report including corrective action requested) ***NA-Not Applicable, DC-Didn't* Check**

	Construction Contractor	Supervisory Engineer
A. SITE DOCUMENTATION		
1. Drawings and Specifications on site? (Y/N)	Y	Y
2. CC HSE Plan on site? (Y/N)	Y	Y
3. CC QC Plan on site? (Y/N)	Y	Y
4. As-Built Drawings up to date? (Y/N)		
5. Hard copy files neat and up to date? (Y/N)	Y	Y
6. Inspector's Daily Journal up to date? (Y/N)	Y	Y
B. SCHEDULE		
7. SE has up to date CC Schedule on site? (Y/N)		Y
8. CC has up to date CC Schedule on site? (Y/N)	Y	
C. EXIT OBSERVATIONS		
9. What time does CC start work each morning on average?	7:00 AM	
10. What time does CC stop work each day on average?	4:00 PM	
11. What is the average # of hours worked each day?	8:00 hrs.	

C. DESCRIPTION OF FINDINGS

(State if fact or opinion. Use attachments, maps, sketches if necessary)

A. **SITE DOCUMENTATION**

Documents were up to date on site.

B. **HEALTH, SAFETY & ENVIRONMENT**

1. For more information about HSE status at the site, please see the attached Trigon HSE Field Trip Report later in this form; and
2. For more information about Contractor's compliance with the COVID-19 MOL Measures, please see the attached JSEP and SKEP H&S Activities According to the Ministry of Labor (MOL) Working Procedures for Safety (Construction Projects) later in this form.

Construction Management of the Jordan School Expansion Project (JSEP) and the Schools for a Knowledge Economy Project (SKEP)

General Safety Recommendation:

i. Excavation Work

- A competent person experienced in excavation work must supervising the shoring system (if shoring system is to be installed);
- Safe Work Method Statements (SWMS) should be developed and followed for the excavation and shoring system works (if shoring system is to be progressively installed) workers never work ahead of the support or remove it prematurely;
- Workers must be trained on the SWMS and ERP;
- The public must be prevented from accessing the edge of the excavation or the construction site – ensure all temporary fencing is secured to prevent collapse;
- While the excavation remains open the assigned Contractor should ensure the excavation and site security are inspected regularly by a competent person – and as soon as possible after any event that could affect the safety of the excavation, like a storm or ground slip;
- Workers and the public must be protected from the risks associated with the collapse of excavation sides, even where these sides are low (for instance, less than one meter); and
- Risk controls must be implemented in accordance with the hierarchy of control.

Before excavation work starts, the assigned Contractor must:

- Engage suitably qualified persons (for example, experienced geotechnical and civil engineers) to assess ground conditions and determine the appropriate shoring system for the site;
- Work with engineers to develop a safe system of work for the installation of the shoring system (if required);
- Develop an emergency response plan (ERP) to deal with the risk of a person becoming engulfed by soil or other material.

ii. Tools & Heavy Equipment

Working with tools and heavy equipment is a major hazard on site. Injuries can result from equipment hitting or running over personnel.

The assigned Contractor must ensure:

- Train operators in proper operating procedures; and
- Install adequate onsite access, signs, lights, and devices.

C. **GENERAL QUALITY OBSERVATIONS**

D. **SCHEDULE**

E. **STATUS OF UTILITY CONNECTIONS / OTHER OUSTANDING ISSUE**

1. **Water Supply**: Not Connected
2. **Wastewater**: Not Connected
3. **Electricty**: Not Connected
4. **Other Issue:**

ATTACHMENTS – as marked below

1. QUALITY CHECKLIST
2. MEETINGS / INSPECTION MINUTES
3. HEALTH, SAFETY & ENVIRONMENT ATTACHMENT

E. PHOTOS

Figure #1: Project ID Sign Board on site.
Photo credit: Odai Tawalbeh, 1/25/2021

Figure #2: GATE (1) – Site Staff & Visitors Entrance. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #3: GATE (2) – Site Equipment & Vehicles Entrance. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #4: Unsafe Contractor Office Trailers, fixed on unstable objects. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #5: A Water Tank Placed on Unsafe Scaffold. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #6: The Roof of Temporary Electrical Room was Not Properly Protected from the Rain, It will be A Real Hazard if Rainstorm Hit the Site. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #7: Movement of Heavy Equipment very close to the Excavated Portion and Lack of Lateral Support may lead to the Collapse of Soil and Rocks from the top of the Slope towards the Site Offices, which may result in Serious Injuries. We've already recommended the assigned Contractor to install an additional temporary support along the site offices and the immediate corrective action has been taken by the next day of our site visit. Accordingly, we will arrange another field trip ASAP to re-inspect the site and ensure that the required support is effective. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #8: Gravel Road for Site Equipment & Vehicles – No Barriers, Warning Tapes, Warning Signs and Speed Limit Signs were observed along the road leading to the site. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #9: Part of the Temporary fencing was Damaged as a result of Collapsing Soil & Rocks near it on Site. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #10: Rockfall Protection Steel Wire Mesh has been installed, however, a competent person experienced in excavation work must inspect this area to assess whether this support is sufficient or not. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #11: An Effective Guardrail Edge Protection System should be Installed on Site. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #12: Lack of Lateral Support for Deep Excavations, Risk of Collapse, Serious Injuries. The area was closed by the Contractor, however, a competent person experienced in excavation work must inspect this dangerous area to assess ground conditions and determines the appropriate shoring system for the site, according to Soil Test Results. Photo credit: Odai Tawalbeh, 1/25/2021

Figure #13: This Excavator Located at the Edge of An Unbelievable Slope in An Extremely Scary Conditions. Immediate Corrective Action had been Taken. However, **REMEMBER**: Precautions Must ALWAYS Be Taken in Mountain Regions, **AND** Operators Really Need To Develop A Feel For The Controls When Digging On A Slope. Photo credit: Odai Tawalbeh, 1/25/2021

Trigon HSE Field Trip Report Attachment

Date and Time of Field Trip:	1/25/2021 11:15
School Name:	Al Khansa' Basic Mixed School
Location:	South Shounah District, Balqa Governorate
Program / Phase / Pakage:	SKEP / Phase III / Package 1
Prepared by:	Trigon's HSE Engineer, Odai Tawalbeh

JSEP/SKEP PROJECT HS RQMT	S	U	N/A	GENERAL COMMENTS
Contrctors HSE Plan	S			
Risk Assessment (RA)		U		**Risk assessment & mitigation measures must be completed and agreed on site**
Toilets, Washing Facilities	S			
Potable Water	S			
Training, Competency	S			
First Aid Box, Medical Attention	S			
Emergency Contact Numbers	S			
Fire Extinguishers	S			
Assembly Point	S			
Evacuation Plan	S			
Recordkeeping, Reporting	S			
Storage Area	S			
Track Waste, Recycling	S			
Permit To Work (PTW)	S			
COVID-19 MOL Measures	S			
HSE Awareness	S			
Site Supervisor	S			
Site Management	S			

S = SATISFACTORY | **N/A = NOT APPLIACABLE** | **U = UNSATISFACTORY**

Task / Activity	Observ. Y	N	N/A	Date	SC	Findings	Recommendations	CA, Follow-up Y	N	N/A	Date	SC	Current Status
H&S Regulations													
Site Security	Y			1/25/2021	5	**The construction site has been secured with temporary fencing for protection of equipment and site personnel. However, part of the fence was damaged as a result of collapsing soil & rocks near it on site.**	**The damaged temporary fencing that were noted on this inspection should be promptly repaired, and the assigned Contractor must ensure that the site excavations are properly secured to prevent collapse.**						
HSE Signage	Y			1/25/2021	4	**Poor construction site safety signs.**	**Having the proper signage in your construction site can significantly reduce accidents. Proper safety signs (including speed limit signs) should be installed along the road leading to the site so as to inform workers, visitors and local residents of the surrounding hazards. In addition, all safety signs should be written in a language that everyone understands.**						

Excavation, Backfilling	Y			1/25/2021	3	**The project is located in A Mountain Region and there are many risks associated with collapsing soil and rocks, in addition to the insufficient warning signs of deep excavations and the ineffectiveness of the existing barriers in controlling risks on site.**	**We've already recommended both Construction Contractor and Supervisory Engineer to take some urgent Engineering Controls that could reduce the risk associated with the collapse of soil & rocks as much as possible by installing an additional temporary barriers along the site offices to isolate them from surrounding hazards. The immediate corrective action had been taken from the Contractor side. However, the assigned Contractor still needs to submit a Method statement and Risk Assessments and Engineering Controls to the Supervisory Engineer for approval as well as to provide the site with an effective temporary railing system & proper warning signs along the deep excavations on site. Moreover, a suitably qualified persons (for example, experienced geotechnical and civil engineers) must be engaged to assess ground conditions and determine the appropriate shoring system for the site (if required) according to Soil Test Result.**						
Scaffolding, Temporary Works	Y			1/25/2021	3	**A water tank was observed on an unsafe scaffold on site.**	**All scaffolds on site should be provided with handrails for side protection, and each scaffold should be erected on a level ground.**						
Ladders, Stepladders		N		1/25/2021	7								
Electrical	Y			1/25/2021	3	**The roof of temporary electrical room was not properly protected from the rain, it will be a real hazard if rainstorm hit the site.**	**This item must be promptly addressed by the responsible party.**						
Working At Height			N/A	1/25/2021									
Lifting Ops.			N/A	1/25/2021									
Hand Tools, Powered Tools, Heavy Powered Equip.	Y			1/25/2021	3	**An excavator was observed at the edge of an unbelievable slope in an extremely scary conditions; Gravel road for site equipment and vehicles with no any means of barriers and warning signs; and No ongoing maintenance program for tools and equipment on site.**	**The Excavator has been moved out of place. However, an effective training on safe work practices should be provided to all heavy equipment operators on site to prevent the recurrence of such unsafe conditions. Moreover, the assigned Contractor must: (1) Provide safe access for heavy equipment and vehicles on site; (2) Implement an ongoing maintenance program for all tools and equipment; (3) Keep maintenance and repair logs; (4) Install adequate onsite signs, lights, and devices; and (5) Train heavy equipment operators in proper operating procedures. REMEMBER: Working with tools and heavy equipment is a major hazard on site. Injuries can result from equipment hitting or running over personnel so, effective safety measures are required.**						
Public Protection	Y			1/25/2021	3	**Poor public protection at the site.**	**Immediate action to enhance site safety must be taken.**						

Concrete R/F Starter Bar	Y			1/25/2021	3	A protruding steel reinforcement bars were observed on site.	All protruding steel reinforcement bars must be provided with safety mushroom caps to prevent impalement.								
Occupational Health, Hygiene Conditions		N		1/25/2021	7										
Fire Prevention		N		1/25/2021	7										
Housekeeping Standards		N		1/25/2021	7										
Materials Storage		N		1/25/2021	7										
Welfare Facilities	Y			1/25/2021	3	Unstable temporary Contractor office trailers were observed on site.	Unstable objects (rocks, blocks, etc.) should not be used to support temporary office trailers on site.								
PPE		N		1/25/2021	7										
			Total H&S %		48%								**Total CA %**	0%	
			Action Status		At Risk								**Action Status**		
Environmental Regulations	**Y**	**N**	**N/A**					**Y**	**N**	**N/A**					
Waste Management		N		1/25/2021	7										
Dust Management	Y			1/25/2021	5	Poor dust management at the site.	Dust is an inevitable issue which when not controlled effectively can lead to hazards, for this reason, dust control solutions (e.g. water spraying, wind barriers, etc.) must be adopted on site.								
Tracking / Transporting Waste		N		1/25/2021	7										
Runoff Discharge		N		1/25/2021	7										
Noise Nuisance	Y			1/25/2021	5	Work with heavy equipment without wearing the correct PPE required to reduce the risk of hearing loss due to excessive noise. As a result, this can cause workers to experience varying levels hearing loss.	Noise pollution is likely to be the type of pollution that's effects are experienced immediately so, the assigned Contractor must ensure all employees wear the correct PPE when working with heavy equipment or when required to reduce the risk of hearing loss due to excessive noise.								
Air Pollution	Y			1/25/2021	5	For employees working regularly on site, there is an increased risk of them developing health complications as a result of poor air quality due to pollution. For local residents nearby to the site, they may also experience the effects of air pollution due to construction activities and may then develop a cough or shortness of breath as a short-term consequence.	The assigned Contractor must: (1) Use water sprays or sprinklers to control some types of dust and stop it spreading; and (2) Ensure all employees wear appropriate PPE, such as the correct type of respiratory protective equipment (RPE) depending on the task.								
Land Pollution		N		1/25/2021	7										
Water Pollution		N		1/25/2021	7										

Environmental Impacts	Y			1/25/2021	5	All of the above pollutants poses a serious danger to the environment.	Reducing the construction effects on the environment requires a collaborative effort from both Construction Contractor and Supervisory Engineer (e.g. water sprays for dust control, proof of proper disposal, receipts from government approved dump sites, needs to be available on site for review, construction debris and waste disposal can be streamlined by the use of materials that are quickly and efficiently recycled to the extent possible, no dumping outside the limits of construction should be allowed, etc.)						
			Total Environ. %		61%						Total CA %	0%	
			Action Status		NEEDS IMPROV.						Action Status		

Notes:

1. The above HSE scoring express the Contractor's compliance with each task / activity to find out the average of HSE program performance on site.
2. Each task / activity has a score and all scores above are out of 10. (Leave blank if not applicable)
3. The total percentage for both H&S and Environment will be calculated using the following formulas.
   - Total H&S % = [(Total SUM of H&S Score) / (Total No. of Applicable H&S Activities x 10)] x 100
   - Total Environmental % = [(Total SUM of Environmental Score) / (Total No. of Applicable Environmental Activities x 10)] x 100
4. Examining this HSE scoring, one can draw two simple conclusions:
   - The total percentage of H&S equals 48% indicating that the Action Status of H&S is "At Risk". Immediate Action To Enhance Site Safety Must Be Taken.
   - The total percentage of Environment equals 61% indicating that the Action Status of Environmental is "Needs Improvement".

COMPLIANT >= 70%	70% > NEEDS IMPROVEMENT >= 50%	AT RISK < 50%

LEGEND		
L	Low Risk	Manage by routine procedure
M	Medium Risk	Needs Improvements
H	High Risk	Immediate action require

JSEP and SKEP H&S Activities According to the Ministry of Labor (MOL) Working Procedures for Safety (Construction Projects)

#	Div. #	MOL Safety Measure / Procedure / Non MOL activity in Blue	Y/N	Comments
A		**First A: Job sites**		
1	1	The work on the sites should limited to the basic construction works of the project and with minimal manpower;	Y	
2	2	Commitment to apply work procedures for the applicable safety and preventive measures to reduce the spread of the Corona virus, Directory No. 9 for industrial enterprises chapter issued by the Ministry of Labor excludes Chapter Six (housing buildings residence and tenth) (kitchen and catering market);	Y	
3	3	All office work is done remotely using technical means;	Y	
4	4	Site offices are used only by necessity and by a limited number of persons;	Y	
5	5	A daily work program is presented by the contractor explaining the daily work list of the labor that is required to exist (and to a minimum), including the places of residence phone numbers and mode of transportation;	Y	
6	6	Publications on prevention and control of the spread of the Coronavirus are distributed in all project facilities;	Y	
7	7	Personal Protective Equipment (PPE) is secured for all on site structural by risk type;	Y	
8	8	Adequate disinfection stations are secured in the workplace at the entrances and exits;	Y	
9	9	Work sites and facilities designated for employment are cleaned on a daily basis the contractor using sterile materials;	Y	
10	10	Do not hold any meetings inside the offices and only meet with through technical means of communication.	Y	
		Second: Protection of site workers:		
		Provide all safety and health protection equipment provided that it be limited the minimum is as follows:		
11	1	Provide special clothes to work on the site and prevent them from leaving the site;	Y	
12	2	Providing disposable gloves that are delivered to workers before entering the site and disposing of them before leaving the site and in safe places;	Y	
13	3	Providing a medical mask to prevent the spread of the spray (N95);	N	
14	4	Establish preventive measures to reduce the spread of fires;	N	

#	Div. #	MOL Safety Measure / Procedure / Non MOL activity in Blue	Y/N	Comments
15	5	Work to check the temperature of workers at the site before entering the sites and during work and before exiting the site;	Y	
16	6	Adherence to the instructions for spacing between people on the job site and supervisors a minimum of a meter and a half;	Y	
17	7	Preventing gatherings of workers for whatever reasons;	N	
18	8	Providing individual meals to limit gatherings;	Y	
19	9	The Occupational Safety and Health Supervisor follows up on all instruction prevention of the outbreak of new COVID-19 virus and the procedures outlined above;	Y	
20	10	The contractor is obliged to secure the required quarantine ***to the sites approved*** by the authorities competent;	Y	
21	11	Continue to change medical masks every two hours for exposed workers to dust directly;	N	
22	12	Providing quantities of water for workers distributed in each work site and easy access to it;	Y	
23	13	The setting of mandatory signs prevents touching the face and adherence to special equipment safety and according to the construction standards and equipment for the viral risks such as medical masks and medical gloves before wearing business gloves structural;	Y	
24	14	Commitment to occupational safety and health standards, instructions and regulations issued under the Jordanian Labor Law;	Y	
25	15	Commitment by contractors to implement system No. (7) and system No. (42) and regulation (43) according to the requirements of the Labor Law;	Y	
26	16	Do not use long-term (washable) masks for construction workers exposed to dust.	Y	
		Third: Mobility		
27	1	Transfer (workers and supervisors) according to Guide No. (11), the means of transportation issued by Ministry of Labor.	Y	
28	2	The vehicles used by the contractor to transport the workers are determined. (***Assume this to mean disinfected***)	Y	
		Fourth AA: Cargo transportation		
29	1	All incoming and outgoing vehicles are disinfected by spraying materials disinfection and isolation of the driver directly in the disinfection area located in entrances and exits of the project;	N	

#	Div. #	MOL Safety Measure / Procedure / Non MOL activity in Blue	Y/N	Comments
30	2	All Flyer awareness flyers for COVID-19 are distributed to all drivers;	N	
31	3	Providing all drivers with personal protective equipment through a box dedicated for this equipment.	N	