

# GAZA SOLID WASTE MANAGEMENT PROJECT (ADDITIONAL FINANCE RBF)



## JSC Quarter Annual Report: Environmental and Social Compliance

(January 2021 - March 2021)



# Table of Contents

<b>1. Al-Fukhary (Sofa) Sanitary landfill .....</b>	<b>4</b>
1.1 The landfill Site Components .....	4
1.2 Operation of Al-Fukhary (Sofa) Sanitary Landfill .....	5
1.3 Landfill Organization and Staffing .....	5
<b>2. Operation Progress .....</b>	<b>6</b>
2.1 Waste Quantities .....	6
2.2 Waste Compaction .....	7
2.3 Daily Coverage of Waste .....	7
2.4 Groundwater Monitoring .....	7
2.5 Stormwater and Leachate Management .....	8
2.6 Dust Control .....	9
2.7 Pest Management .....	9
2.8 Health and Safety of Workers .....	10
2.9 Grievance Redress Mechanism (GRM) .....	11
2.10 Stakeholder Engagement and Communication Activities .....	12
<b>3. Sofa Landfill Access Road .....</b>	<b>21</b>
<b>Annex1: Summary of Environmental and Social measures in Al-Fukhary Sanitary Landfill .....</b>	<b>22</b>



## List of Tables:

Table 1 Existing Al-Fukhary Landfill Staff .....	5
Table 2 Existing Al-Fukhary Landfill Quantities .....	6
Table 3. List of prohibited waste in Al-Fukhary (Sofa) Landfill.....	6
Table 4 . Waste density at Al-Fukhary Landfill .....	7
Table 5. Groundwater quality results – Al Fukhary Sanitary Landfill (March. 2021) .....	8
Table 6. Leachate Quality at Al-Fukhary site (March, 2021).....	8
Table 7. Leachate Volumes at Al-Fukhary site .....	9
Table 8. Female awareness survey respondents .....	12
Table 9. Summary for outreach activities .....	15
Table 10. Summary of Site visits during the reporting period (July – December 2020).....	19

## List of Figures:

Figure 1. Schematic of Sofa Sanitary Landfill in Al-Fukhari.....	4
Figure 2. Levels of pest management at Al-Fukhary (Sofa) Sanitary landfill .....	10
Figure 3. The potential complaints related to the landfill as shown in the E-GRM.....	12
Figure 4. Responding to the question “Who collects the waste in Gaza Strip” .....	13
Figure 5. Responding to the question “ Do you know how transfer station works?” .....	13
Figure 6. Responding to the question “Do you how the medical waste is treated in Gaza Strip?” .....	13
Figure 7. Responding to the question “Has any waste awareness campaign been implemented in your area during the past two years?” .....	13
Figure 8. Responding to the question “What are the expenses of the waste collection and disposal?” .....	13
Figure 9. Access Road layout.....	21



## List of Acronyms

AFD	French Development Agency
ARAP	Abbreviated Resettlement Action Plan
EQA	Environmental Quality Agency
ESMP	Environmental and Social Management Plan
ESIA	Environmental and Social Impact Assessment
EU	European Union
ERW	Explosive Remnants War
HSEQ	Health, safety, environment Quality
IDB	Islamic Development Bank
GSWMP	Gaza Solid Waste Management Plan
JD	Jordanian Dinar
JSC-KRM	Joint Service Council – Khan Younis, Rafah and Middle area
MDLF-PDSU	Municipal Development and Lending Fund- Project Development and Safeguards Unit
MSW	Municipal Solid Waste
OP	Operational Policy
OSHA	Occupational Safety and Health Administration
PARC	Palestinian Agricultural Relief Committees
PAPs	Project Affected Persons
PCBS	Palestinian Central Bureau of Statistics
PEL	Environmental Law of Palestine
PWA	Palestinian Water Authority
SW	Solid Waste
ST cell	Short-term cell
TS	Transfer Station
UNDP-DEEP	United Nation Development Program- Deprived Families Empowerment Program
UNMASS	United Nation Mine Action Service System
UNRWA	United Nations Refugee Work Agency
UXO	Unexploded ordnance
WB	World Bank
WHO	World Health Organization
WWTP	Wastewater Treatment Plant



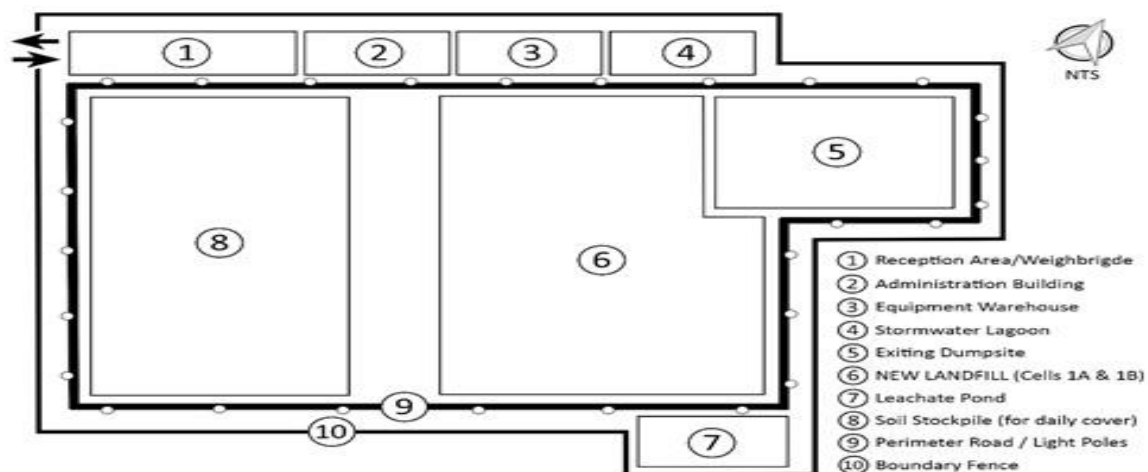
## 1. Al-Fukhary (Sofa) Sanitary landfill

Al-Fukhary (Sofa) landfill is a sanitary landfill over an area 235,000 m<sup>2</sup>, it is located east of Khan Younis Governorate (800 m from the eastern border of Gaza Strip), and it receives 600 ton/day of municipal waste from three governorates (Khan Younis, Rafah, and Middle Area) which mainly consist of food waste, paper and cardboard, plastics and nylon, tin cans and aluminum, glass, leather...etc. The landfill site is fully secured by a fence, and only one entrance gate is available for incoming and outgoing trucks which managed by a control room, as well the site is secured by two guards and a CCTV system. A second gate is available but closed, it is used only for some specific purposes. The Landfill site is also included the old waste dumping site which is semi-closed by a clayey layer with a side slope 1:2 and height 30 m above the ground, and it also included excavated soil stockpile which is located over an area 85,000 m<sup>2</sup> with a height up to 14 m. Figure (1) provides schematic of the new sanitary landfill with all major facility elements.

### 1.1 The landfill Site Components

*Al-Fukhary (Sofa) Sanitary landfill consist of:*

- Entrance area including weighbridge and control room;
- Building (190 m<sup>2</sup> on 3 levels) for JSC-KRM operation personnel staff;
- Maintenance Workshop (528 m<sup>2</sup>); Storm water drainage and storage pond (10,531 m<sup>3</sup> capacity);
- Disposal cell 1, divided in cell 1A and 1B (excavated up to 20 m below natural ground level), and slope 1:2 for sides with horizontal perm 5m width;
- Leachate pre-treatment (aeration lagoon, usable volume 6800 m<sup>3</sup>), it is excavated to 2.75 m below natural ground level;
- Peripheral road (length 1,735 m);
- Old Dumpsite (40,000 m<sup>2</sup>);
- Stockpile of excavated soil (85,000 m<sup>2</sup>); and
- Fence is surrounding all the site.



*Figure 1. Schematic of Sofa Sanitary Landfill in Al-Fukhari*



## 1.2 Operation of Al-Fukhary (Sofa) Sanitary Landfill

Al-Fukhary (Sofa) Landfill is a sanitary landfill which managed by JSC-KRM since July 15<sup>th</sup>, 2019. During the reporting period; it received an average **478.5** ton/day or **14,356.3** Ton/month of municipal waste from 17 localities in middle and south of Gaza Strip. An average of **50** of incoming waste vehicles are received to the landfill on the daily basis; their access is managed by the control room employee which proceed with the weighting of incoming waste and controlling the access of vehicles to the landfill. The waste is dumped at the disposal cell based on a specific filling sequence, flagman (observer) is directing the vehicles for unloading of waste regarding to the landfill manager instructions, whereas Bulldozer is leveling the received waste. At the end of any working day, the waste is covered by a thin layer of daily clay cover (20-30 cm of sub-soil).

External storm water is collected by a storm water ditch which is installed surrounding the landfill site, and it is directed by gravity to the storm water lagoon; The stormwater lagoon is lined by a geomembrane. The stormwater is sprayed against the dust in the dry days and pumped to the nearest landfill land to be used for irrigation of crops.

Leachate, which resulted from the internal storm water and the waste liquid, are collected through the geo-composite network (AFTIX) and pumped to the leachate lagoon; the leachate lagoon is lined by a geomembrane. Leachate was planned to be treated biologically and physically and sent to the adjacent WWTP for additional treatment regularly.

## 1.3 Landfill Organization and Staffing

The landfill is totally managed by JSC-KRM, there are **13** fixed term employees working on different managerial and technical tasks to accomplish the daily operations of the landfill, according to the following table (1):

*Table 1 Existing Al-Fukhary Landfill Staff*

#	Position/ Task	Number of Employees
1	Landfill Manger	1
2	Weighbridge Employee	2
3	Heavy Machinery Driver	4
4	Worker	2
5	Flagman (observer)	2
6	Guard	2

The landfill manager is directly reporting to JSC-KRM executive manager and he is leading the other employees according to the bylaws of the JSC-KRM and the instructions of the operational plan.

## 2. Operation Progress

### 2.1 Waste Quantities

During January – March 2021, the landfill received **43,069** tons of Municipal Solid Waste (MSW); the average received waste is **478.5** ton/day or **14,356.3** ton/month. Table (2) shows the monthly received quantities during the reporting period.

*Table 2 Existing Al-Fukhary Landfill Quantities*

Month	January	February	March	Total (Ton)	Average (Ton/month)	Average (Ton/day)
Quantity	15,371	13,353	14,345	43,069	14,356	478.5

The control room and the weighbridge are located near the entrance and are to be managed at all times. The following data are obtained from all vehicles entering the site which carry waste time and date, vehicle registration details, weight and type of waste.

The control room employee asks about the type of wastes entering the site initially, and the observer (flagman), who manage the filling of waste at the disposal cell, observes the type of waste as a second level of observation. The landfill was designed to receive only municipal solid waste, as well JSC-KRM regulations state a list of waste which is not acceptable to be received at the landfill. The list of prohibited wastes is printed and installed in front of the landfill gate. Table (3) shows the list of prohibited waste

*Table 3. List of prohibited waste in Al-Fukhary (Sofa) Landfill*

**Joint Service Council (JSC-KRM) shall not be obliged to collect, transfer or dispose of hazardous solid wastes classified according to the Basel Convention of 1992 including:**

- A. Untreated Health-Care Waste.
- B. Residues from industrial waste disposal operation which contains heavy metals, or residues from pharmaceutical facilities.
- C. Wastes from production, formulation and use of inks, paints, oils, dyes, varnish.
- D. Detergents.
- E. Waste terry residues arising from refining, distillation, and any pyrolytic treatment.
- F. All types of Batteries.
- G. Tires.



*Photo: Reception of Waste at Al-Fukhary Landfill*





## 2.2 Waste Compaction

Al-Fukhary (Sofa) Landfill receives an average 478.5 ton/day. The Filling sequence is followed as planned in the operational manual. The density of the first layer was 935 kg/m<sup>3</sup>, and 1,090 kg/m<sup>3</sup> in the second layer and 1260 kg/m<sup>3</sup> in the third layer. Hence, Landfill equipment including Bulldozer (D8) were used in the second layer, but they were not used in the first layer in order not to damage the liner. Table (4) shows the volume of each layer and the received quantities as well the density. Waste compaction aims at expanding the life span of the landfill.

*Table 4 . Waste density at Al-Fukhary Landfill*

Layer	Duration		Quantity (Kg)	Volume (m <sup>3</sup> )	Density (Kg/m <sup>3</sup> )
	from	to			
1 <sup>st</sup> Layer	(15 / July / 2019)	(19 / March / 2020)	134,783,686	144,135	935
2 <sup>nd</sup> layer	(19/ March /2020)	(17/ Sep /2020)	103,939,490	94,540	1,090
3 <sup>rd</sup> Layer	(17/ Sep /2020)	(10/ March /2021)	118,417,000	93,816	1,262
4 <sup>th</sup> Layer	(10/ March /2021)	Ongoing	-	-	-

## 2.3 Daily Coverage of Waste

The construction of Al-Fukhary Sanitary landfill resulted in excavation of 1,350,000 m<sup>3</sup> of excavated material. Part of the excavated soil is stockpiled within the boundary of the landfill site to be used during operation of the landfill as daily cover. The waste is covered by a 20 - 30 cm layer of sub-soil at the end of each working day to prevent odors, pests, and for better atheistic conditions. The average daily volume used for the daily cover is 140-200 m<sup>3</sup>, so that the clay volume used for the daily cover in the reporting period is 12,189 m<sup>3</sup> (see annex 3)

## 2.4 Groundwater Monitoring

Four groundwater piezometers were installed during the construction period around Al-Fukhary sanitary landfill, the frequency of testing is 6 months. The quality of groundwater was tested chemically before operating the new landfill, and it was found that all samples are slightly basic and have a high concentration of Chloride (CL). The concentration of Nitrates (NO<sub>3</sub>) is slightly high in one sample only. Other parameters were tested, and they were found they are under the limit of EQA regulatory standard of the drinking water. The high concentration of Total Dissolved Solids (TDS) is reasonable and expectable due to the high turbidity of all samples of the new piezometers and the high concentration of Chlorides. In 2018, a water sample was also collected from a near groundwater well owned by (Hassan Mohammed Al Amour) to be compared with the previous collected samples from Al-Fukhary site. The well is far about 800 m from the existing dumpsite. It was found results of both the site GW and the outside GW are close. Table (5) shows the groundwater quality during the reporting period.





*Table 5. Groundwater quality results – Al Fukhary Sanitary Landfill (March, 2021)*

Well Number	Depth	pH	EC	TDS	COD	BOD	CL	NO <sub>3</sub>	NH <sub>3</sub> -N
	m	-	μS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
<b>EQA Regulatory Standards of drinking water</b>	-	6.8-8.5	-	1500	NA	NA	600	70	0.5
<b>Well (1)</b>	30.15	7.25	13800	8800	120	20	3100	32	NIL
<b>Well (2)</b>	28.3	7.2	8600	5450	40	<10	1450	40	NIL
<b>Well (3)</b>	29.4	7.33	19400	13100	200	30	4500	45	NIL
<b>Well (4)</b>	30	7.38	15300	9700	150	22	3500	56	NIL
<b>Water well from surrounding lands</b> (far about 800 m from the existing dump site) - 2018	-	7.052	14,080	9,855	150	<10	4,293	51	Nil

## 2.5 Stormwater and Leachate Management

Leachate is collected through the geo-composite layer (AFTIX) to the lower point by gravity, and it is pumped to the leachate lagoon which is lined and has a capacity 6,800 m<sup>3</sup>. The leachate is pumped automatically. The leachate was planned to be treated biologically by aeration before sending to the adjacent WWTP for additional treatment, but this plan is not meeting the requirements of WWTP for the received wastewater.

In order to decrease the formation of leachate, the collection of external stormwaters was designed by constructing a ditch surrounding the landfill. The collected stormwater is collected by gravity to the stormwater lagoon which is lined and has a capacity 10,500 m<sup>3</sup>. The collected stormwater is still not planned for any purposes, but it can be used for irrigation of green areas inside the landfill site, and evaporation of the remaining quantity.

Leachate quality was tested in September 2020 in two points (Sub location and from the leachate lagoon); results are shown in Table (6).

*Table 6. Leachate Quality at Al-Fukhary site (March, 2021)*

#	Parameter	Unit	Sample (Sub)	Sample (Lagoon)
1	BOD <sub>5</sub>	mg/L	1100	1400
2	COD	mg/L	7000	10000
3	TSS	mg/L	350	700
4	pH	-	8.46	7.9
5	NO <sub>3</sub>	mg/L	1	11
6	T-N	%	400	1680
7	TDS	mg/L	19000	24000
8	CL	mg/L	5500	5600
9	SO <sub>4</sub>	mg/L	160	230
10	NH <sub>4</sub>	mg/L	350	1630
11	TOC	%	-	-
12	CN	-	ND	ND



13	As	mg/L	ND	ND
14	Fe	mg/L	1.05	1.25
15	Mn	mg/L	0.38	0.2
16	Ni	mg/L	0.43	0.64
17	Pb	mg/L	0.03	0.08
18	Cd	mg/L	0.04	0.05
19	Zn	mg/L	2.5	2.8
20	Cr	mg/L	0.35	0.36

During the reporting period, the quantity of leachate pumped to the leachate lagoon is 680 m<sup>3</sup> with a monthly average 267 m<sup>3</sup>/month. Table (7) shows the monthly pumped volumes of leachate. Hence, during the reporting period, only 8 Rainy days were reported.

*Table 7. Leachate Volumes at Al-Fukhary site*

Month	January	February	March	Total (M <sup>3</sup> )	Average (M <sup>3</sup> /month)
Volume	341	0	339	680	267

## 2.6 Dust Control

Dust is noticed at dry days due to the passage of waste trucks, inside the cell or besides the soil stockpiling place only, since the other paths and roads inside the landfill are paved. The dust is managed basically by water spraying by a jitter- vacuum or washing vehicle they were used for 32 days during the report period. Although there are no complaints received from neighbors, but the dust is controlled once it is noticed in dry days. The used water is taken from the stormwater lagoon.

## 2.7 Pest Management

A pest management plan has been prepared for Al-Fukhary Landfill during operation. The plan categories the source of pesticides and level of required measure as shown in Figure (2). Hence, the pest management time is associated with the pests breeding seasons which are mainly between April and October, so that there was no need to have any pest management activities during the reporting period as it is out of the breeding season.



*Photo: Pest management of leachate lagoon*

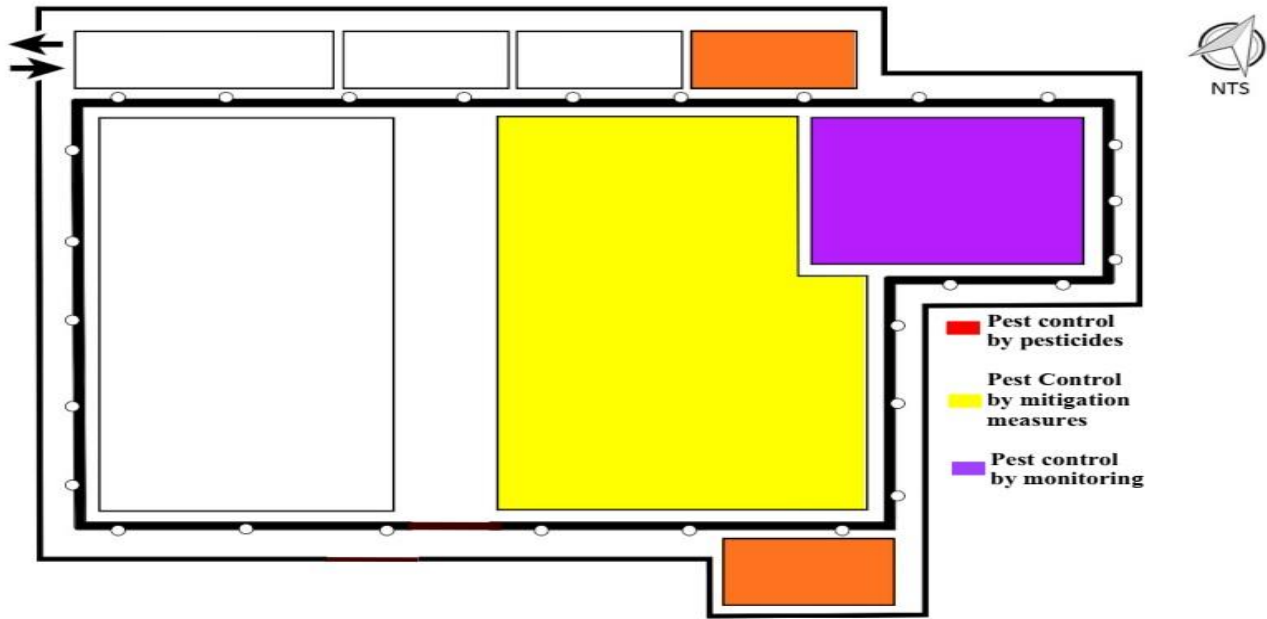


Figure 2. Levels of pest management at Al-Fukhary (Sofa) Sanitary landfill

## 2.8 Health and Safety of Workers

The health and safety of workers is the top priority at Al-Fukhary site. Workers were provided by training related to precaution measures regarding to COVID-19, as well they were provided by daily safety instructions. Workers at al-Fukhary landfill was provided with a full PPE (Vest, Safety Shoes, Masks, hats, gloves). In addition, the sterilization of internal roads and facilities landfill twice a week using chlorine.

No injuries were reported during the reporting time, knowing that Insurance on workers and landfill equipment was issued. Only one worker infected by Covid-19 on February, 25th 2021, and list of procedures were followed such as a request from the infected worker to stay at home until recovery, and also workers who workers with him to stay at their homes for few days. All workers are tested in terms of temperature at the beginning of each day before entering the landfill site, as well there was strict instructions to use the PPE and the personal sanitizers.



Photo: Sterilization of internal roads and facilities landfill



First Aid Boxes are also provided in the maintenance warehouse and the admin building for any potential accidents. Furthermore, fire extinguishers are provided in the maintenance warehouse; it is used for only fires at the workshop or the admin building.

Awareness posts were also utilized via the available platforms such as JSC website and the social media (Facebook and Youtube), during the reporting period, the following were published:

- A total of 31 awareness image posts were shared from the relevant pages.
- A total of 28 awareness video posts were shared from the relevant pages.
- A total of 6 awareness image posts were prepared by JSC.
- A total of 2 awareness video posts were prepared by JSC.

## **2.9 Grievance Redress Mechanism (GRM)**

The landfill is one of the facilities, which are included inside the comprehensive GRM system in JSC-KRM, and this system is known for all the community around the landfill and the drivers and workers who could pass to the landfill. The available GRM tools which are active to receive complaints from the landfill are:

- Complaint box: there is a complaint box installed on the control room wall, in front of the main path for all the vehicles, and all the community and workers could reach it easily.
- Phone Number: the direct mobile number for the landfill manager is registered on the adhesive brochures, which were distributed on all the SW collection vehicles (39 Municipal vehicle +11 UNRWA vehicle and 15 JSC-KRM vehicles), and they can contact him directly in anytime.
- E-complaint application: this tool is available for all people, and it is uploaded on the official website of JSC-KRM ([www.jsc-krm.ps](http://www.jsc-krm.ps)) and its link is published through all the printings and during the community meetings.
- Facebook Page: JSC-KRM has an active F.B. page and all the local community around the landfill used to follow it and send their complaints through the inbox to the JSC-KRM manager.

Immediately after receiving any complaint from any of the above tool, the person in charge will register it in the complains database file then refer the complaint to the related department in the JSC-KRM or if it is related to the municipality service, it refers to the related municipality to take an action.

As soon as the operational phase in the landfill started, the complaints categories in the GRM system has been updated to include the potential complaints, which may receive from this facility as shown in Figure 3.

During the reporting period, there were no complaints about the landfill operation, but complaints mainly about the waste collection activities.



The screenshot shows a web-based complaint form for the Joint Services Council. The form is divided into several sections:

- Header:** Includes the council's logo and navigation links: JSC-KRM, Municipalities, Projects, Activities, Media Center, Complaints, and Contact Us. There are also social media icons for Facebook, Twitter, and YouTube.
- Personal Information:** Fields for Full Name, Mobile, and Email.
- Complaint Information:** A section with a blue header containing:
  - Complainant:** A text input field.
  - Select Type of Application:** A dropdown menu currently showing "AlFukhari Landfill".
  - Complainant:** A list of checkboxes for selecting the type of complaint:
    - Emission of unpleasant odors from landfill
    - Reproduction of insects and rodents in the landfill
    - Gas emissions from landfill or landfill fire
    - Change in the characteristics of groundwater wells
    - Excess speed of the vehicles in the main road
    - Other type
  - Details:** A text input field labeled "Type Here".
- Council facilities:** A sidebar on the right providing contact information:
  - Main Office:** Al-Fakhari Sanitary Landfill, Al-Fukhari Town, Khan Younis, Gaza Strip, Palestine.
  - Khan Younis Department:** Khan Younis municipality garage, Khan Younis, Palestine, Phone: +970 82052793.
  - Middle Area Department:** Deir Al-Balah municipality garage, Deir Al-Balah, Palestine, Phone: +970 82531499.

*Figure 3. The potential complaints related to the landfill as shown in the E-GRM*

## 2.10 Stakeholder Engagement and Communication Activities

This section shows the progress regarding the indicators of stakeholder engagement and wider communication activities during the report period as follows:

### ***1. Female project beneficiaries aware of solid waste management practices***

The action was taken during the report period under this indicator was distributing a short survey targeted (100) women from the three governorates. The survey investigated the awareness of women about waste collection, landfilling, medical waste, transfer station, GRM system, and awareness campaigns. It was distributed and analyzed during January 2021.

Table (8) shows the geographical distribution of respondents.

*Table 8. Female awareness survey respondents*

Area	Khan Younis	Rafah	Bani Suhaila	Abasan Kabeera	Dier Balah	Nussirat	Total (No.)
No.	30	25	10	10	15	10	100

The following figures (4 – 8) shows some of results:

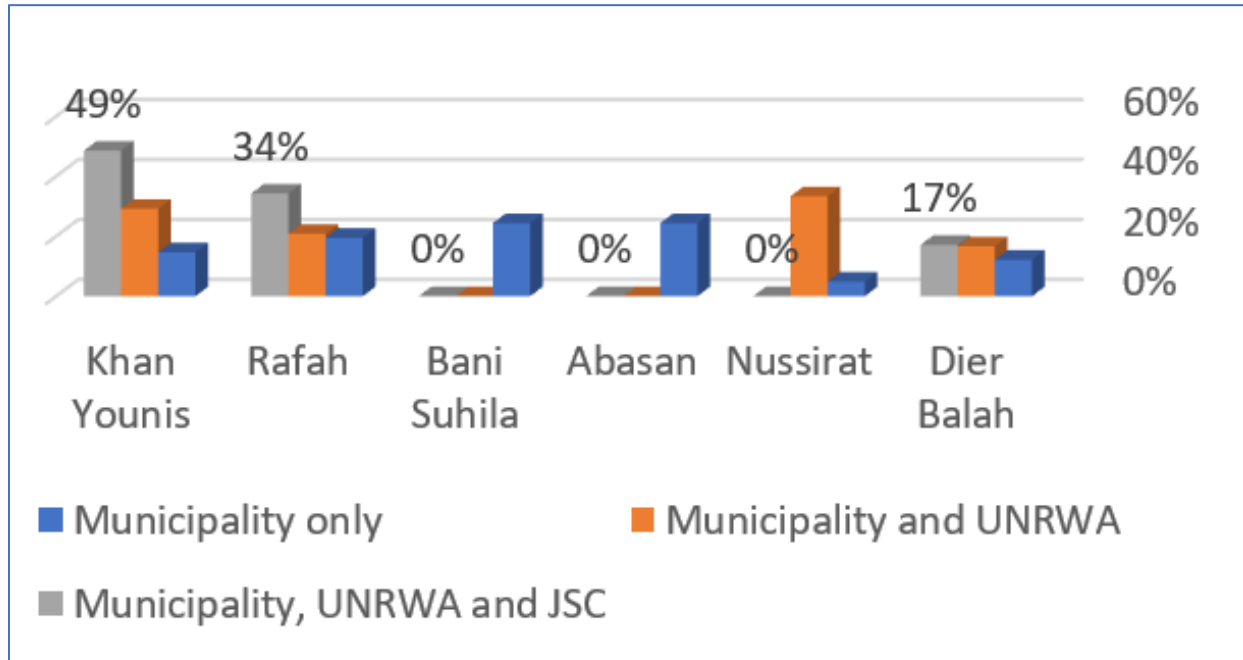


Figure 4. Responding to the question “Who collects the waste in Gaza Strip”

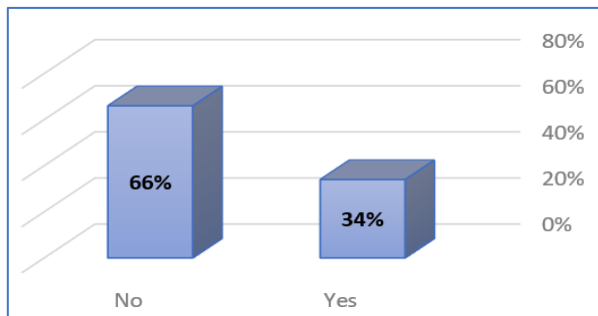


Figure 5. Responding to the question “Do you know how transfer station works?”

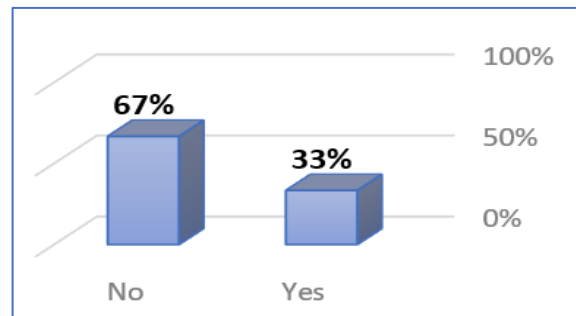


Figure 6. Responding to the question “Do you know how the medical waste is treated in Gaza Strip?”

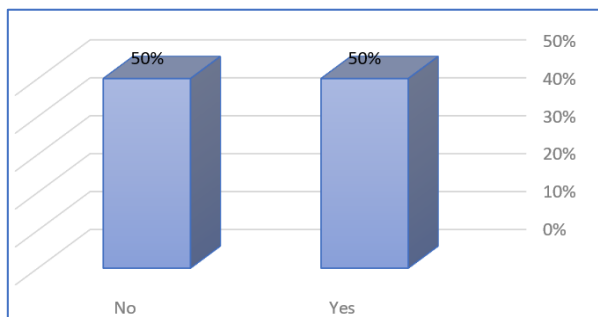


Figure 7. Responding to the question “Has any waste awareness campaign been implemented in your area during the past two years?”

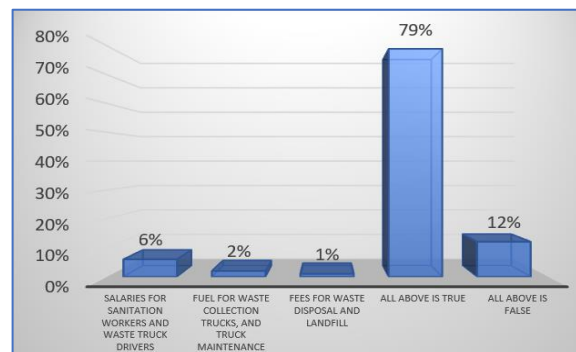


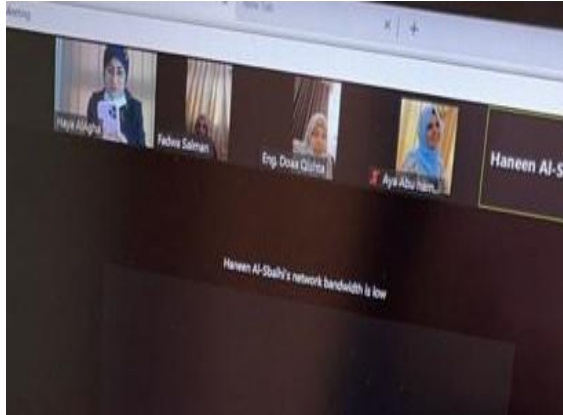
Figure 8. Responding to the question “What are the expenses of the waste collection and disposal?”



## ***II. Increased the participation and role of women in decision making of the JSC-KRM through formation of a “women's committee”***

The group aims at engaging women from the partner municipalities on different levels as; decision making, consultation, and sharing information, as they will meet periodically.

The group was created on November 2020 from seven females who work in member municipalities and two JSC awareness staff (Total nine members). And each of municipality representative had created a larger group of influencers' women (8 – 12 women) to help in design and implement the communication activities.



*Photo: Second meeting using zoom, (24.12.2020)*



*Photo: Third meeting for Females group and landfill visit, (12.01.2021)*

In addition, they will be used to engage larger layer of females of the local society by the following:

- **Conducting focus groups for females.**

The municipalities representatives had created influencers group in their municipality area with average of (10) women of community representatives (CBOs, neighborhoods, youth, private sector, people with disabilities) for each municipality. Focus groups were held in each municipality as shown in images (6 – 11), please note the date of each focus group under each image.



*Photo: FG for females in Khan Younis, (14.01.2021)*



*Photo: FG for females in Abasan, (28.01.2021)*





*Photo: FG for females in Nussirat, (18.01.2021)*



*Photo: FG for females in Rafah, (01.02.2021)*



*Photo: FG for females in Bani Suhila, (07.02.2021)*



*Photo: FG for females in Dier Al-Balah, (10.02.2021)*

- **Outreach activities for females (school program, household program ...etc)**

The women committee along with the awareness team from JSC-KRM had implemented many activities in person or online, as table (9) shows the number of attendees for the community meetings in different governorates.

*Table 9. Summary for outreach activities*

#	Date	CBO/Neighborhood	Place	Number of Attendees
1.	20. 01. 2021	Watan Youth Center	Khan Younis, Manarah	50
2.	22. 02. 2021	Watan Association for Heritage and Family Development	Khan Younis, City center	26
3.	03. 03. 2021	Human Development Association	Khan Younis, AlQararah	18
4.	15. 03. 2021	Al-Batn Assamin Neighborhood	Khan Younis, AlBatn Assamin area	19
5.	15. 03. 2021	Manarah Life Youth Center	Khan Younis, Qizan Najjar	15
6.	24. 03. 2021	Heart Beat Youth Center	Khan Younis, Camp	22
7.	10. 02. 2021	Hawaa' Association	Rafah	28



8.	20. 02. 2021	Youth Capacity Development Association	Rafah	25
9.	15. 03. 2021	Bara'a Association	Rafah	35
10.	09. 03. 2021	Bisan Kindergarten	Middle Area, Dier AlBalah	32
11.	14. 02. 2021	AlRahma Neighborhood	Middle Area, Nussirat	35
12.	16. 02. 2021	Star Kids Kindergarten	Middle Area, Nussirat	14

### Some of activities photos:



*Photo: Star Kids, Nussirat*



*Photo: Youth Association, Rafah*



*Photo: Al Manarah, Khan Younis*



*Photo: Watan Association, Khan Younis*



*Photo: Human Development, Khan Younis*



*Photo: Heart Association, Khan Younis*





*Photo: AlBatan Assamin, Khan Younis*



*Photo: Manarah Center, Khan Younis*



*Photo: AlBaraa Association, Rafah*



*Photo: Bisan Kindergarten, Middle Area*

- **A representative of the female group will participate in the JSC Board of directors' meetings.**

During the report period, only one JSC BOD meeting was held and the female representative had attended it as shown in the below photo, the participation included the activities conducted throughout the municipality women committee.



*Photo 1: JSC BOD meeting*

### III. Targeted communication programs for women.

This indicator includes the outreach activities for:

- School outreach program: Due to school outreach program, a meeting was held with Ministry of Education, but the activities were suspended due to COVID-19 pandemic.
- Household outreach program: The awareness team participated in two sessions for neighborhoods in Khan Younis and Nussirat they were targeting both men and women with a total of (70) attendees for both.
- NGOs outreach program: MoU were signed with the largest NGO in the south area to be a partner with JSC-KRM in increasing awareness level.
- University outreach program: Initial understandings have been raised with AlAqsa University (the largest one in Gaza governorates) and the signature is expected to be during the third week of February, 2021 at the beginning of second semester.



Photo: MoU Signature



Photo: MoU with CAFTA

### IV. Bridging the solid waste service satisfaction gap between male and female headed households

This aims at bridging the knowledge gap and increasing the awareness level of both male and female. Four activities were conducted under this indicator.

- Conducted online meeting (10.02.2021) for the residents of Abasan AlKabeera municipality and shared it on Facebook live.
- Conducted a survey for random groups of women and men in the project area (Khan Younis, Rafah and Middle Governorate areas). Targeted (100) male and female.



- Conducted meetings with neighborhoods in different areas targeted (85) male and female.
- Usage of social media venues for raising awareness.



*Photo: Meeting with Abasan Residents*



*Photo: Usage of Social media venues*

Table (10) shows the list of groups/institutions who visited the landfill site during the reporting period. Hence, for any site visit, visitors are invited to the hall for a presentation then they have a tour at the landfill site.

*Table 10. Summary of Site visits during the reporting period (July – December 2020)*

#	Date of Site visit	Institution / Group Name	Number of Males	Number of Females
1	14.01.2021	Influential Women Group	0	7
2	08.02.2021	Governmental Work Committee	13	0
3	13.02.2021	Culture and Free Thought Association	0	2
4	27.02.2021	Previous mayors of Khan Younis	2	0
5	03.03.2021	A group of influential women in Nuseirat	0	16
6	03.03.2021	A group of influential women in Rafah	0	18
7	03.03.2021	A group of influential women in Khan Younis	0	11
8	18.03.2021	A group of influential women in Al-Fukhary	0	14
9	20.03.2021	University students from Rafah	0	16
10	08.03.2021	UNRWA	6	0





*Photo: Influential Women Group*



*Photo: Governmental Work Committee*



*Photo: Culture and Free Thought Association*



*Photo: Previous mayors of Khan Yunis*



*Photo: A group of women, Nuseirat*



*Photo: A group of women, Rafah*



*Photo: A group of women, Khan Yunis*



*Photo: A group of women, AlFukhary*



*Photo: University students from Rafah*



*Photo: UNRWA*

### 3. Sofa Landfill Access Road

Sofa road is used as access road to Sofa Solid Landfill, it has an access from Salah Al Dein Street and ends at the armistice borderline. Access road status is considered as not good due to the deep damage in large parts of its body. Figure (9) shows the location of the road. The length of the road is approximately 2.5 Km (from Salah Al Dein Street to the access gate of the landfill), knowing that the remaining length (from the access of the landfill to the borderline) will not be taken into account within this project. The width of existing access road varies from 4m to 6m in some parts.



*Figure 9. Access Road layout*

Improvements of the Sofa landfill access road were implemented. Such improvements consist of road widening in some narrow parts without removal of any trees, structures or infrastructures, and paving/rehabilitate of some damaged parts and expanding the pavement width up to 7.5 m, and final pavement cover were paved for all the road. Moreover, the rehabilitation included the cleaning of the access road from any dumped waste along the road.



*Photo: Sofa Landfill Access Road*





## Annex1: Summary of Environmental and Social measures to be taken in Al-Fukhary Sanitary Landfill

### مصفوفة الإدارة البيئية والاجتماعية لموقع مكب الفخاري (صوفا) أثناء مرحلة التشغيل<sup>1</sup>

التأثير المحتمل	إجراءات التخفيف المقترحة	ملخص الاعمال المنجزة
التأثيرات العامة	يجب اتباع إجراءات التشغيل القياسية (SOPs) ودليل التشغيل	تم اتباع إجراءات التشغيل باستثناء إجراءات التشغيل المتعلقة بمعالجة وضخ العصارة. حيث من المتوقع أن يبدأ العمل بنظام معالجة العصارة عن طريق معالجتها معالجة بيولوجية وفيزيائية ومن ثم ضخها لمحطة معالجة الصرف الصحي المجاورة بحلول النصف الثاني من عام 2021.
تأثيرات الرائحة	الالتزام بدمك النفايات والتغطية اليومية	تم دمك النفايات وتغطيتها بشكل يومي بالتربة الطينية بسمك 20 - 30 سم. حيث تم استخدام كميات تربة طينية تقدر بمعدل 170 كوب يوميا لتغطية النفايات. وتم أخذ هذه الكميات من التربة من كميات التربة المشونة في موقع مكب النفايات وهي بالأصل ناتجة عن حفر مكب النفايات.
تلوث الهواء بسبب الغبار او الدخان	الالتزام بالتغطية اليومية لمنع الاحتراق الذاتي للنفايات	تم تغطية النفايات بشكل يومية بالتربة الطينية المخزنة بالقرب من خلايا الطمر والناتجة عن حفر الخلايا.
	رفض أي نفايات محترقة يتم استقبالها في خلية التخلص لمنع انتشار الحرائق	تم منع النفايات المحترقة من الوصول الى خلايا الطمر، حيث يمنع دخول النفايات المشتعلة إلى خلايا الطمر منعاً بات، وذلك لمنع انتشار الحرائق في خلايا الطمر.
	تأكد من اتباع الجدول الزمني وفقاً لخطة التعبئة بخلايا الطمر، وكذلك الغطاء اليومي.	تم اتباع خطة تعبئة بخلايا الطمر كما هو مفصل في دليل التشغيل، بحيث يتم ضمان الحفاظ على طبقات النفايات مرصوصة بشكل هندسي وميول تم حسابها مسبقاً أثناء مرحلة تصميم المكب. ويتم التأكد من صحة التعبئة في نهاية كل طبقة بعمل الخرائط المساحية.
	يجب صيانة جميع المركبات والمعدات الثقيلة العاملة في المكب وفقاً لجدول الصيانة الموصى به من قبل الشركة المصنعة / المورد. يجب إصلاح أي مركبة يتم اكتشاف انبعاث دخان منها على الفور.	يتم صيانة جميع المركبات وفق جدول الصيانة الخاص بالآليات مع العلم أن الصيانة تتم داخل ورشة الصيانة في مكب النفايات.
	رش الطرق الداخلية بالمياه وخصوصاً بالايام الجافة عند ملاحظة الغبار	تم رش المياه عند ملاحظة الغبار وتم التركيز على ذلك بالايام الجافة، حيث تم خلال شهر مارس الرش عدد 15 مرة. مصدر المياه هو بركة تجميع مياه الامطار.

<sup>1</sup> كل ما ورد من إجراءات هو حسب دراسة الأثر البيئي والاجتماعي للمشروع والذي تم إعدادها في عام 2020.



ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
تم وضع يافطات تحذير حول موقع تخزين التربة.	يجب وضع يافطات تحذير حول موقع تخزين التربة المستخدمة في التغطية اليومية	التأثيرات على المياه الجوفية والتربة
يتم اجراء صيانة بشكل دوري لكل من مضخات العصارة وشبكة تجميع العصارة.	يجب صيانة مضخات وشبكات تجميع العصارة بشكل جيد لضمان التشغيل الجيد	
تم فحص جودة المياه الجوفية كل ستة أشهر. تم مقارنة النتائج الحالية مع المعايير الفلسطينية ولم يلاحظ أي اختلاف.	اجراء فحص لجودة المياه الجوفية والسطحية بشكل دوري	
تم العمل على فحص المياه الجوفية في 4 أبار حول مكب النفايات في شهر مارس، وسيتم نشر النتائج على موقع المجلس الإلكتروني بشكل منفصل.		
المكب مؤمن بسياس من جميع الجهات ويوجد كاميرات مراقبة.	تأمين الموقع بالسياس ومراقبة المكب بالكاميرات ومتابعة عدم تسرب العصارة	مخاطر استقبال النفايات الخطرة
لا يسمح بدخول غير المصرح لهم بالدخول، ولم يلاحظ أي سرقة للعصارة من الموقع.		
تم تدريب جميع العاملين في المكب وتم التوقيع على مدونة سلوك لجميع العاملين بالمكب.	يجب أن يتلقى عمال المكب تدريباً كافياً على قائمة النفايات المسموح بها والمحظورة التي سيتم استلامها / رفضها في موقع المكب بناء على اللوائح الداخلية للمجلس	
تم مشاركة قائمة النفايات المحظورة مع البلديات وكذلك تم طباعتها وتعليق يافطة على مدخل المكب بها.	يجب مشاركة قائمة النفايات المحظورة بوضوح مع البلديات	مخاطر السلامة والصحة والنظافة المهنية
يتم اتباع خطة السلامة الخاصة بتشغيل المكب وكذلك خطة الاستجابة للطوارئ	يجب اتباع خطة السلامة الخاصة بتشغيل المكب، وكذلك خطة الاستجابة للطوارئ.	
تم اجراء تدريب حول الإجراءات الاحترازية لـ COVID 19 وبروتوكول الصحة للعاملين. كما تلقى العمال تدريباً حول محتوى مدونة قواعد السلوك.	يجب إجراء برنامج تدريب أكثر تحديداً للعمال حول أساليب العمل الآمنة وممارسات النظافة الجيدة. ضرورة تحديث البرنامج بما يتناسب مع أداء العاملين.	
يُمنع ملتقطو النفايات من دخول مكب النفايات، ولم يلاحظ ملتقطو النفايات في الموقع منذ تشغيل المكب.	منع الدخول غير العاملين إلى مكب النفايات وخاصة ملتقطي النفايات.	
لا يسمح بالتدخين في المكب	لا يسمح بالتدخين داخل المكب	



ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
تم تزويد جميع العمال بمعدات الحماية الشخصية	يجب تزويد جميع العاملين بالمكب بجميع معدات الحماية الشخصية	
لم يسجل أي إصابات منذ تشغيل المكب. تم إصابة عامل واحد في المكب بكوفيد 19 في شهر فبراير 2021، وقد تماثل للشفاء. ويتم يوميا قياس درجة حرارة العمال قبل دخولهم للمكب.	يجب توثيق جميع الإصابات، كما يجب كتابة تقرير بعد وقوع أي حادث	
يتم اتباع خطة إدارة الآفات. يلتزم العمال بمعدات الحماية الشخصية، والمبيد المستخدم هو PTI المسموح به من قبل وزارة الصحة. وتيرة الرش أسبوعيا.	يجب اتباع تعليمات خطة إدارة الآفات اثناء عملية التشغيل	اثار الآفات
لا توجد شكاوى من المناطق المجاورة للمكب بشأن وجود ضوضاء	في حالة تلقي مدير المكب شكاوى من المناطق المجاورة بشأن وجود ضوضاء داخل المكب، يجب وضع حواجز صوتية بين مصدر الضوضاء وموقع الجار المشتكي.	تأثير الضوضاء
تم تطبيق التغطية اليومية	ضع الغطاء اليومي للحفاظ على الظروف الجمالية	التأثيرات البصرية والجمالية
يتم استخدام معدات مختصة بدفع ودمك النفايات	قم بدمك النفايات في خلايا الطمر لزيادة العمر الافتراضي للمكب اقصى ما يمكن	
عدم تجاوز السائقين للسرعة القصوى 20 كم / ساعة داخل المكب، كما تم تركيب حواجز على الطريق الداخلي لمكب النفايات	يجب ألا يتجاوز السائقون حد السرعة 20 كم / ساعة داخل موقع المكب	حركة مرور البات النفايات الواردة والصادرة
تم وضع حواجز وإشارات مرور	تركيب حواجز وإشارات المرور لتقليل سرعة القيادة	
نتواصل مع مؤسسة سلالا للتعامل مع الحيوانات داخل المكب	التواصل مع جمعيات الرفق بالحيوان للتعامل معهم.	الحيوانات والنباتات على سبيل المثال توزيع الكلاب / الطيور في موقع المكب
تم إنشاء نظام الشكاوى الإلكترونية التابع للمجلس في عام 2018. ويمكن أيضا استخدام قنوات أخرى مثل هواتف الاتصال.	يجب ان يكون هناك قنوات للاستقبال الشكاوي الخاصة بالتشغيل داخل المكب	الإزعاج للمجتمع المحلي



ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
يتم مشاركة المعلومات والصور حول تقدم العمل على وسائل التواصل (صفحة الفيس بوك الخاصة بالمجلس)	استخدام الوسائط المتعددة ووسائل التواصل الاجتماعي لمشاركة الصور ومقاطع الفيديو حول العمل اليومي لمشاركتها مع المجتمع.	
زار بعض أصحاب المصلحة موقع المكب في الأشهر الماضية مثل بعض المنظمات غير الحكومية ورؤساء البلديات ومجموعات الشباب ولجان المرأة.	قم بدعوة أصحاب المصلحة لزيارة المكب لتعزيز العلاقة وتبادل المعرفة مع الأطراف ذات الصلة.	
يتم الإعداد لعقد لقاء مجتمعي حول مكب النفايات في شهر أبريل 2021.		
يتم تأمين جميع العاملين في المجلس	تأكد من أن جميع العاملين في المجلس مشمولون بالتأمين	
لا توجد قضايا للاستغلال الجنسي والاعتداء والتحرش الجنسي	يجب السيطرة على الاستغلال والاعتداء الجنسيين والتحرش الجنسي	
تم تحديث مدونة قواعد سلوك العمال وتوقيعها من قبل كل عامل	مراجعة قواعد سلوك العاملين بالمنشأة وتحديثها عند الحاجة وفقاً للحوادث والسلوكيات والمخاوف المسجلة والتأكد من أن جميع العمال على علم بها.	
تم توفير جميع مواد التنظيف والتعقيم المطلوبة للعمال	توفير كافة مستلزمات النظافة المطلوبة للعمال وإلزامهم باستخدامها بشكل خاص قبل تناول وجباتهم داخل المنشأة.	
تم توفير أدوات الإسعافات الأولية للعاملين في الأماكن المناسبة	توفير جميع أدوات الإسعافات الأولية المطلوبة وتخزينها في مكان مناسب يسهل الوصول إليه.	حقوق العمال
يتم عقد الاجتماعات مع العمال بشكل دوري	عقد اجتماعات دورية مع العمال للاستماع إلى مخاوفهم وتشجيعهم على استخدام نظام الشكاوى.	
يوجد مكان استراحة مناسب لجميع العاملين في الموقع.	توفير مكان راحة مناسب لجميع العاملين بالموقع ، وتخصيص ساعة راحة لجميع العاملين	
لا يوجد أطفال يعملون في الموقع	منع أي طفل دون السن القانوني من العمل في الموقع. يجب إجراء التحقق من العمر عند إشراك عمال المشروع ويجب مراقبته بحيث لا يقل عمره عن 18 عامًا.	





## Al-Fukhary Sanitary Landfill



## Disposal Cells

