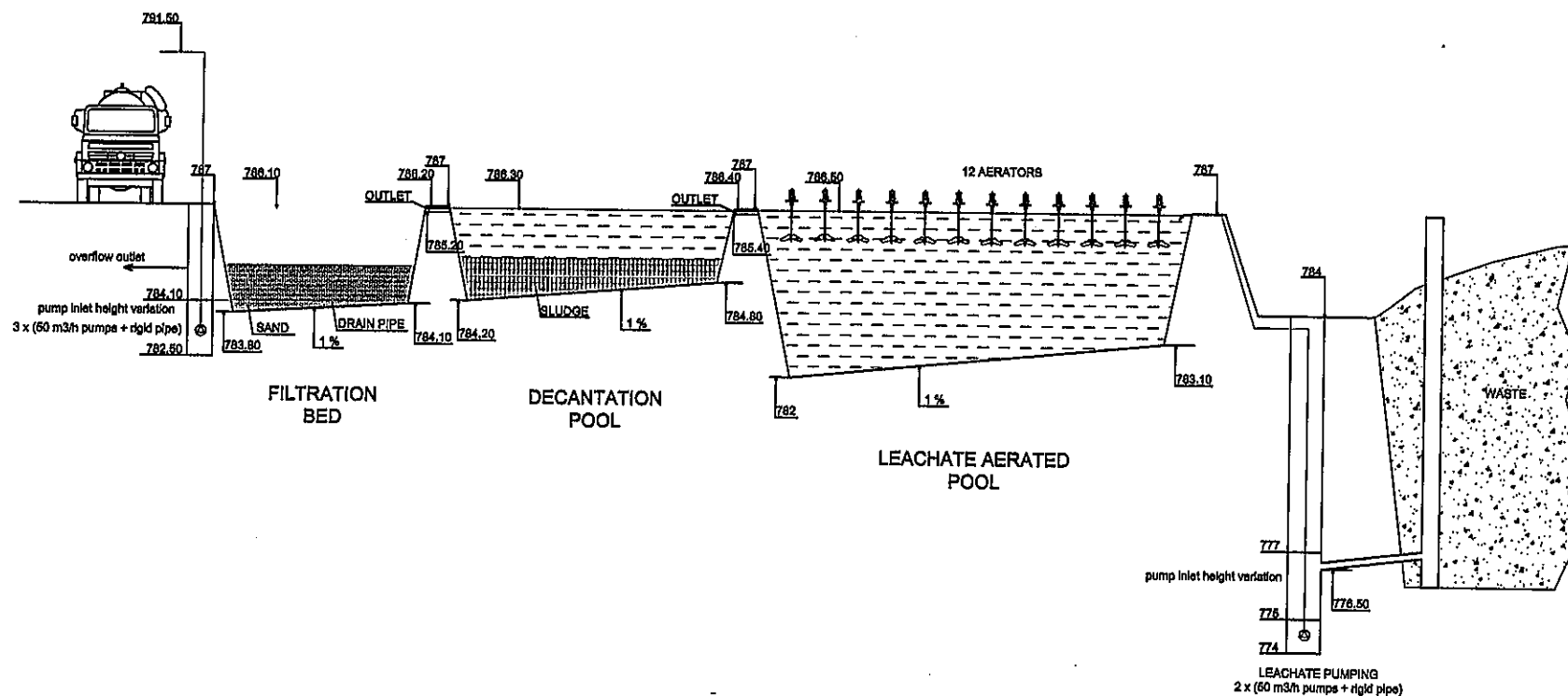
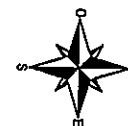


LEACHATE TREATMENT LINE N°1



MUNICIPALITY OF
GREATER AMMAN
Ghabawi landfill



Scale:
H : 1 cm = 20 m
V : 1 cm = 2 m

Date:
August, 9, 2001

File:
Reference:
D : RFA V : JLV

LEACHATE TREATMENT LINE N°1



امانة عمان الكبرى
Municipality of Greater Amman



Ref.

Date 16/6/2004

To :

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
BASIC DESIGN TEAM
YACHIYO ENGINEERING CO., LTD.

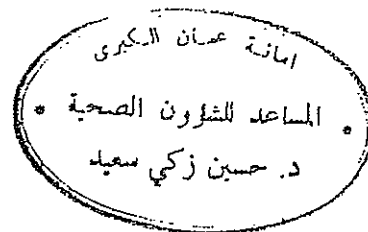
Attached with this letter a proposed monitoring report.
Which is now under ongoing discussion with one of Jordan
universities to do a contract and regular schedule for
monitoring Ghabawi operation process.

This will be completed according to EIA report and other
local and international standards in the future, before the end of
this year 2004.

Thank you.

Dr. Hussein Zaki

Under Secretary Assistant For
Health & Environmental Affairs



أمانة عمان الكبرى

Municipality of Greater Amman

Ref.

Date 30.6.2004

To :-

Jica - Basic Design Team

Reference to screening and scoping format submitted to us to be included EIA study for the new SW transfer's station.

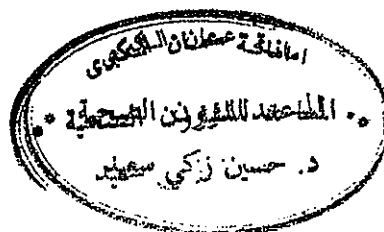
I would like to assure you that the environment items will be included in the scope of works for the consultant contract.

Thank you.

Dr. Hussein Zaki

H. Zaki

**Under Secretary Assistant For
Health & Environmental Affairs**



Attachment 3-1
Screening Result for New Transfer Station Sites

Screening Format

Project: New Transfer Station

Candidate Site Name : Ruseifeh closed landfill

Environmental Item		Contents	Evaluation	Remarks
Social Environment	1. Resettlement	Possible resettlement caused by the land acquisition (Diversion of 'right of residence' and 'land ownership')	1. Yes, <u>2. No</u> , 3. Unclear	No residents
	2. Economic Activities	Loss of production opportunity of land and etc., and change of economic structures	1. Yes, <u>2. No</u> , 3. Unclear	No economic activities
	3. Traffic and Public Facilities	Increase of traffic jam and traffic accident and impacts on schools, hospitals and so on	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	4. Split of Communities	Possibility of split of communities by traffic obstruction.	1. Yes, <u>2. No</u> , 3. Unclear	No communities in the closed landfill
	5. Ruin & Cultural Property	Loss and loss in value of mosques, temples, buried cultural properties and so on.	1. Yes, <u>2. No</u> , 3. Unclear	Closed landfill site
	6. Water Rights and Rights of Common	Inhibition of fisheries rights, water rights, forest rights of Common and others.	1. Yes, <u>2. No</u> , 3. Unclear	No rivers and mountains
	7. Public Health Condition	Degradation of sanitary condition and environment such as generation of solid waste and vector insects and so on.	<u>1. Yes</u> , 2. No, 3. Unclear	Transfer of Solid Waste
	8. Waste	Generation of construction debris, surplus soil and incinerated residue and ash.	1. Yes, <u>2. No</u> , 3. Unclear	No generation of waste
	9. Hazards (Risk)	Increase of hazardous nature on landslide, rock falling and accidents and others.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
Natural Environment	10. Topography and Geology	Change of topography and geology by excavation, filling and others	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	11. Soil Erosion	Run off of surface soil by rainwater after land formation and deforestation.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	12. Groundwater	Pollution by leachate	1. Yes, <u>2. No</u> , 3. Unclear	No leachate from transfer station
	13. Hydrological Situation	Change of riverbed and flow volume by inflow of wastewater and landfill	1. Yes, <u>2. No</u> , 3. Unclear	No ponds and rivers
	14. Coastal Zone	Change of coastal zone and coastal vegetation by landfill	1. Yes, <u>2. No</u> , 3. Unclear	No coastal zones
	15. Fauna, Flora and Protected Area	Extinction of species and inhibition of reproduction by a habitat alternation	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of fly and so on
	16. Meteorology	Change of temperature and wind by a large-scale reclamation and building structures.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	17. Landscape	Change of topography by a creation of land, and inhibition of harmony by building structures	<u>1. Yes</u> , 2. No, 3. Unclear	To be constructed in the closed landfill site
Pollution	18. Air Pollution	Air pollution by exhausts gases and hazardous gases from vehicles and factories.	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	19. Water Pollution	Pollution of river water and ground water caused by earth and sand, factory wastewater and others	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of car wash wastewater and gray water
	20. Soil Contamination	Pollution of soil caused by run off and diffusion of incineration ash and non-burnable waste	<u>1. Yes</u> , 2. No, 3. Unclear	Scattering of waste by wind and during transfer freight
	21. Noise and Vibration	Generation of noise and vibration caused by operation of collection vehicles, disposal sites and others	<u>1. Yes</u> , 2. No, 3. Unclear	Operation of collection & transfer vehicles
	22. Land Subsidence	Land subsidence in association with transformation of ground and lowering of ground water.	1. Yes, <u>2. No</u> , 3. Unclear	Operation of Transfer Station
	23. Offensive Odor	Generation of offensive odor from exhaust gases of incineration plants and solid waste.	<u>1. Yes</u> , 2. No, 3. Unclear	From transfer waste
Overall evaluation: Whether this project shall be required the implementation of IEE and/or EIA or not			<u>1. Necessary</u> 2. Not necessary	There are items which may have environmental impacts

Screening Format

Project: New Transfer Station

Candidate Site Name : Al Jubeha- Bajous

Environmental Item		Contents	Evaluation	Remarks
Social Environment	1. Resettlement	Possible resettlement caused by the land acquisition (Diversion of 'right of residence' and 'land ownership')	<u>1. Yes</u> , 2. No, 3. Unclear	No residents but a private land
	2. Economic Activities	Loss of production opportunity of land and etc., and change of economic structures	1. Yes, 2. No, <u>3. Unclear</u>	There are a bloc factory and several restaurants in the neighboring area
	3. Traffic and Public Facilities	Increase of traffic jam and traffic accident and impacts on schools, hospitals and so on	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	4. Split of Communities	Possibility of split of communities by traffic obstruction.	1. Yes, <u>2. No</u> , 3. Unclear	No communities in the closed landfill
	5. Ruin & Cultural Property	Loss and loss in value of mosques, temples, buried cultural properties and so on.	1. Yes, <u>2. No</u> , 3. Unclear	Closed stoneyard
	6. Water Rights and Rights of Common	Inhibition of fisheries rights, water rights, forest rights of Common and others.	1. Yes, <u>2. No</u> , 3. Unclear	No rivers and mountains
	7. Public Health Condition	Degradation of sanitary condition and environment such as generation of solid waste and vector insects and so on.	<u>1. Yes</u> , 2. No, 3. Unclear	Transfer of Solid Waste
	8. Waste	Generation of construction debris, surplus soil and incinerated residue and ash.	1. Yes, <u>2. No</u> , 3. Unclear	No generation of waste
	9. Hazards (Risk)	Increase of hazardous nature on landslide, rock falling and accidents and others.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
Natural Environment	10. Topography and Geology	Change of topography and geology by excavation, filling and others	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	11. Soil Erosion	Run off of surface soil by rainwater after land formation and deforestation.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	12. Groundwater	Pollution by leachate	1. Yes, <u>2. No</u> , 3. Unclear	No leachate from transfer station
	13. Hydrological Situation	Change of riverbed and flow volume by inflow of wastewater and landfill	1. Yes, <u>2. No</u> , 3. Unclear	No ponds and rivers
	14. Coastal Zone	Change of coastal zone and coastal vegetation by landfill	1. Yes, <u>2. No</u> , 3. Unclear	No coastal zones
	15. Fauna and Flora	Extinction of species and inhibition of reproduction by a habitat alternation	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of fly and so on
	16. Meteorology	Change of temperature and wind by a large-scale reclamation and building structures.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	17. Landscape	Change of topography by a creation of land, and inhibition of harmony by building structures	<u>1. Yes</u> , 2. No, 3. Unclear	Construction of a transfer station
Pollution	18. Air Pollution	Air pollution by exhausts gases and hazardous gases from vehicles and factories.	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	19. Water Pollution	Pollution of river water and ground water caused by earth and sand, factory wastewater and others	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of car wash wastewater and gray water
	20. Soil Contamination	Pollution of soil caused by run off and diffusion of incineration ash and non-burnable waste	<u>1. Yes</u> , 2. No, 3. Unclear	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	Generation of noise and vibration caused by operation of collection vehicles, disposal sites and others	<u>1. Yes</u> , 2. No, 3. Unclear	Operation of collection & transfer vehicles
	22. Land Subsidence	Land subsidence in association with transformation of ground and lowering of ground water.	1. Yes, <u>2. No</u> , 3. Unclear	Operation of Transfer Station
	23. Offensive Odor	Generation of offensive odor from exhaust gases of incineration plants and solid waste.	<u>1. Yes</u> , 2. No, 3. Unclear	From transfer waste
Overall evaluation: Whether this project shall be required the implementation of IEE and/or EIA or not			<u>1. Necessary</u> 2. Not necessary	There are items which may have environmental impacts

Screening Format

Project: New Transfer Station

Candidate Site Name : Zaharan Area

Environmental Item		Contents	Evaluation	Remarks
Social Environment	1. Resettlement	Possible resettlement caused by the land acquisition (Diversion of 'right of residence' and 'land ownership')	<u>1. Yes</u> , 2. No, 3. Unclear	There are illegal occupants
	2. Economic Activities	Loss of production opportunity of land and etc., and change of economic structures	1. Yes, <u>2. No</u> , 3. Unclear	No economic activities
	3. Traffic and Public Facilities	Increase of traffic jam and traffic accident and impacts on schools, hospitals and so on	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	4. Split of Communities	Possibility of split of communities by traffic obstruction.	1. Yes, <u>2. No</u> , 3. Unclear	No communities in the closed stone yard
	5. Ruin & Cultural Property	Loss and loss in value of mosques, temples, buried cultural properties and so on.	1. Yes, <u>2. No</u> , 3. Unclear	Closed stone yard
	6. Water Rights and Rights of Common	Inhibition of fisheries rights, water rights, forest rights of Common and others.	1. Yes, <u>2. No</u> , 3. Unclear	No rivers and mountains
	7. Public Health Condition	Degradation of sanitary condition and environment such as generation of solid waste and vector insects and so on.	<u>1. Yes</u> , 2. No, 3. Unclear	Transfer of Solid Waste
	8. Waste	Generation of construction debris, surplus soil and incinerated residue and ash.	1. Yes, <u>2. No</u> , 3. Unclear	No generation of waste
	9. Hazards (Risk)	Increase of hazardous nature on landslide, rock falling and accidents and others.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
Natural Environment	10. Topography and Geology	Change of topography and geology by excavation, filling and others	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	11. Soil Erosion	Run off of surface soil by rainwater after land formation and deforestation.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	12. Groundwater	Pollution by leachate	1. Yes, <u>2. No</u> , 3. Unclear	No leachate from transfer station
	13. Hydrological Situation	Change of riverbed and flow volume by inflow of wastewater and landfill	1. Yes, <u>2. No</u> , 3. Unclear	No ponds and rivers
	14. Coastal Zone	Change of coastal zone and coastal vegetation by landfill	1. Yes, <u>2. No</u> , 3. Unclear	No coastal zones
	15. Fauna and Flora	Extinction of species and inhibition of reproduction by a habitat alternation	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of fly and so on
	16. Meteorology	Change of temperature and wind by a large-scale reclamation and building structures.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	17. Landscape	Change of topography by a creation of land, and inhibition of harmony by building structures	<u>1. Yes</u> , 2. No, 3. Unclear	Construction of a transfer station close to residential area
Pollution	18. Air Pollution	Air pollution by exhausts gases and hazardous gases from vehicles and factories.	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	19. Water Pollution	Pollution of river water and ground water caused by earth and sand, factory wastewater and others.	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of car wash wastewater and gray water
	20. Soil Contamination	Pollution of soil caused by run off and diffusion of incineration ash and non-burnable waste	<u>1. Yes</u> , 2. No, 3. Unclear	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	Generation of noise and vibration caused by operation of collection vehicles, disposal sites and others	<u>1. Yes</u> , 2. No, 3. Unclear	Operation of collection & transfer vehicles
	22. Land Subsidence	Land subsidence in association with transformation of ground and lowering of ground water.	1. Yes, <u>2. No</u> , 3. Unclear	Operation of Transfer Station
	23. Offensive Odor	Generation of offensive odor from exhaust gases of incineration plants and solid waste.	<u>1. Yes</u> , 2. No, 3. Unclear	From transfer waste
Overall evaluation: Whether this project shall be required the implementation of IEE and/or EIA or not			<u>1. Necessary</u> 2. Not necessary	There are items which may have environmental impacts

Screening Format

Project: New Transfer Station

Candidate Site Name : Wadi Al Sair Industry Area

Environmental Item		Contents	Evaluation	Remarks
Social Environment	1. Resettlement	Possible resettlement caused by the land acquisition (Diversion of 'right of residence' and 'land ownership')	<u>1. Yes</u> , 2. No, 3. Unclear	A private land. Acquisition of the land is necessary
	2. Economic Activities	Loss of production opportunity of land and etc., and change of economic structures	1. Yes, 2. No, <u>3. Unclear</u>	Farm products are being cultivated in a part of the site
	3. Traffic and Public Facilities	Increase of traffic jam and traffic accident and impacts on schools, hospitals and so on	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	4. Split of Communities	Possibility of split of communities by traffic obstruction.	1. Yes, <u>2. No</u> , 3. Unclear	No communities in the site
	5. Ruin & Cultural Property	Loss and loss in value of mosques, temples, buried cultural properties and so on	1. Yes, <u>2. No</u> , 3. Unclear	Industrial area
	6. Water Rights and Rights of Common	Inhibition of fisheries rights, water rights, forest rights of Common and others.	1. Yes, <u>2. No</u> , 3. Unclear	No rivers and mountains
	7. Public Health Condition	Degradation of sanitary condition and environment such as generation of solid waste and vector insects and so on	<u>1. Yes</u> , 2. No, 3. Unclear	Transfer of Solid Waste
	8. Waste	Generation of construction debris, surplus soil and incinerated residue and ash.	1. Yes, <u>2. No</u> , 3. Unclear	No generation of waste
	9. Hazards (Risk)	Increase of hazardous nature on landslide, rock falling and accidents and others.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
Natural Environment	10. Topography and Geology	Change of topography and geology by excavation, filling and others	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	11. Soil Erosion	Run off of surface soil by rainwater after land formation and deforestation.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	12. Groundwater	Pollution by leachate	1. Yes, <u>2. No</u> , 3. Unclear	No leachate from transfer station
	13. Hydrological Situation	Change of riverbed and flow volume by inflow of wastewater and landfill	1. Yes, <u>2. No</u> , 3. Unclear	No ponds and rivers
	14. Coastal Zone	Change of coastal zone and coastal vegetation by landfill	1. Yes, <u>2. No</u> , 3. Unclear	No coastal zones
	15. Fauna and Flora	Extinction of species and inhibition of reproduction by a habitat alternation	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of fly and so on
	16. Meteorology	Change of temperature and wind by a large-scale reclamation and building structures.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
Pollution	17. Landscape	Change of topography by a creation of land, and inhibition of harmony by building structures	<u>1. Yes</u> , 2. No, 3. Unclear	Construction of a transfer station
	18. Air Pollution	Air pollution by exhausts gases and hazardous gases from vehicles and factories.	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	19. Water Pollution	Pollution of river water and ground water caused by earth and sand, factory wastewater and others	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of car wash wastewater and gray water
	20. Soil Contamination	Pollution of soil caused by run off and diffusion of incineration ash and non-burnable waste	<u>1. Yes</u> , 2. No, 3. Unclear	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	Generation of noise and vibration caused by operation of collection vehicles, disposal sites and others	<u>1. Yes</u> , 2. No, 3. Unclear	Operation of collection & transfer vehicles
	22. Land Subsidence	Land subsidence in association with transformation of ground and lowering of ground water.	1. Yes, <u>2. No</u> , 3. Unclear	Operation of Transfer Station
	23. Offensive Odor	Generation of offensive odor from exhaust gases of incineration plants and solid waste.	<u>1. Yes</u> , 2. No, 3. Unclear	From transfer waste
Overall evaluation: Whether this project shall be required the implementation of IEE and/or EIA or not			<u>1. Necessary</u> 2. Not necessary	There are items which may have environmental impacts

Screening Format

Project: New Transfer Station

Candidate Site Name : Wadi Al Sair El Domina

Environmental Item		Contents	Evaluation	Remarks
Social Environment	1. Resettlement	Possible resettlement caused by the land acquisition (Diversion of 'right of residence' and 'land ownership')	<u>1. Yes</u> , 2. No, 3. Unclear	A city land but a illegal occupation is identified
	2. Economic Activities	Loss of production opportunity of land and etc., and change of economic structures	1. Yes, <u>2. No</u> , 3. Unclear	No economic activities
	3. Traffic and Public Facilities	Increase of traffic jam and traffic accident and impacts on schools, hospitals and so on	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	4. Split of Communities	Possibility of split of communities by traffic obstruction.	1. Yes, <u>2. No</u> , 3. Unclear	No communities in the site
	5. Ruin & Cultural Property	Loss and loss in value of mosques, temples, buried cultural properties and so on.	1. Yes, <u>2. No</u> , 3. Unclear	A city land
	6. Water Rights and Rights of Common	Inhibition of fisheries rights, water rights, forest rights of Common and others.	1. Yes, <u>2. No</u> , 3. Unclear	No rivers and mountains
	7. Public Health Condition	Degradation of sanitary condition and environment such as generation of solid waste and vector insects and so on.	<u>1. Yes</u> , 2. No, 3. Unclear	Transfer of Solid Waste
	8. Waste	Generation of construction debris, surplus soil and incinerated residue and ash.	1. Yes, <u>2. No</u> , 3. Unclear	No generation of waste
	9. Hazards (Risk)	Increase of hazardous nature on landslide, rock falling and accidents and others.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
Natural Environment	10. Topography and Geology	Change of topography and geology by excavation, filling and others	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	11. Soil Erosion	Run off of surface soil by rainwater after land formation and deforestation.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	12. Groundwater	Pollution by leachate	1. Yes, <u>2. No</u> , 3. Unclear	No leachate from transfer station
	13. Hydrological Situation	Change of riverbed and flow volume by inflow of wastewater and landfill	1. Yes, <u>2. No</u> , 3. Unclear	No ponds and rivers
	14. Coastal Zone	Change of coastal zone and coastal vegetation by landfill	1. Yes, <u>2. No</u> , 3. Unclear	No coastal zones
	15. Fauna and Flora	Extinction of species and inhibition of reproduction by a habitat alternation	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of fly and so on
	16. Meteorology	Change of temperature and wind by a large-scale reclamation and building structures.	1. Yes, <u>2. No</u> , 3. Unclear	No large-scale construction
	17. Landscape	Change of topography by a creation of land, and inhibition of harmony by building structures	<u>1. Yes</u> , 2. No, 3. Unclear	Construction of a transfer station
Pollution	18. Air Pollution	Air pollution by exhausts gases and hazardous gases from vehicles and factories.	<u>1. Yes</u> , 2. No, 3. Unclear	Increase of collection & transfer vehicles
	19. Water Pollution	Pollution of river water and ground water caused by earth and sand, factory wastewater and others.	<u>1. Yes</u> , 2. No, 3. Unclear	Generation of car wash wastewater and gray water
	20. Soil Contamination	Pollution of soil caused by run off and diffusion of incineration ash and non-burnable waste	<u>1. Yes</u> , 2. No, 3. Unclear	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	Generation of noise and vibration caused by operation of collection vehicles, disposal sites and others	<u>1. Yes</u> , 2. No, 3. Unclear	Operation of collection & transfer vehicles
	22. Land Subsidence	Land subsidence in association with transformation of ground and lowering of ground water.	1. Yes, <u>2. No</u> , 3. Unclear	Operation of Transfer Station
	23. Offensive Odor	Generation of offensive odor from exhaust gases of incineration plants and solid waste.	<u>1. Yes</u> , 2. No, 3. Unclear	From transfer waste
Overall evaluation: Whether this project shall be required the implementation of IEE and/or EIA or not			<u>1. Necessary</u> 2. Not necessary	There are items which may have environmental impacts

Scoping Format

Project: New Transfer Station

Candidate Site Name: Ruseifeh closed landfill

Environmental Item		Evaluation	Reasons
Social Environment	1. Resettlement	D	No residents
	2. Economic Activities	D	No economic activities due to the closed landfill
	3. Traffic and Public Facilities	B	Increase of collection & transfer vehicles
	4. Split Communities of	D	No communities in the closed landfill
	5. Cultural Property	D	Closed landfill site
	6. Water Rights and Rights of Common	D	No rivers and mountains
	7. Public Health Condition	B	Transfer of Solid Waste
	8. Waste	D	No generation of waste
	9. Hazards (Risk)	D	No large-scale construction
Natural Environment	10. Topography and Geology	D	No large-scale construction
	11. Soil Erosion	D	No large-scale construction
	12. Groundwater	D	No leachate from transfer station
	13. Hydrological Situation	D	No ponds and rivers
	14. Coastal Zone	D	No coastal zones
	15. Fauna, Flora and Protected Area	B	Generation of fly and so on
	16. Meteorology	D	No large-scale construction
	17. Landscape	B	Emerge of a waste transfer station
Pollution	18. Air Pollution	B	Increase of collection & transfer vehicles
	19. Water Pollution	B	Generation of car wash wastewater, and gray water from the transfer station
	20. Soil Contamination	B	Scattering of waste by wind and during transfer freight
	21. Noise and Vibration	B	Operation of collection & transfer vehicles
	22. Land Subsidence	D	Operation of Transfer Station
	23. Offensive Odor	B	From transfer waste

Evaluation

- A : Serious impact will be expected
 B : Some impact will be expected
 C : Extent of impact is unknown (Further study will be required)
 D : No impact will be expected (IEE and/or EIA are not required)

Scoping Format

Project: New Transfer Station

Candidate Site Name : Al Jubeha- Bajous

Environmental Item		Evaluation	Reasons
Social Environment	1. Resettlement	B	No residents but a private land
	2. Economic Activities	C	There are a bloc factory and several restaurants in the neighboring area
	3. Traffic and Public Facilities	B	Increase of collection & transfer vehicles
	4. Split of Communities	D	No communities in the closed landfill
	5. Cultural Property	D	Closed stone yard
	6. Water Rights and Rights of Common	D	No rivers and mountains
	7. Public Health Condition	B	Transfer of Solid Waste
	8. Waste	D	No generation of waste
	9. Hazards (Risk)	D	No large-scale construction
Natural Environment	10. Topography and Geology	D	No large-scale construction
	11. Soil Erosion	D	No large-scale construction
	12. Groundwater	D	No leachate from transfer station
	13. Hydrological Situation	D	No ponds and rivers
	14. Coastal Zone	D	No coastal zones
	15. Fauna, Flora and Protected Area	B	Generation of fly and so on
	16. Meteorology	D	No large-scale construction
	17. Landscape	B	Construction of a transfer station
Pollution	18. Air Pollution	B	Increase of collection & transfer vehicles
	19. Water Pollution	B	Generation of car wash wastewater and gray water
	20. Soil Contamination	B	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	B	Operation of collection & transfer vehicles
	22. Land Subsidence	D	Operation of Transfer Station
	23. Offensive Odor	B	From transfer waste

Evaluation

- A : Serious impact will be expected
- B : Some impact will be expected
- C : Extent of impact is unknown (Further study will be required)
- D : No impact will be expected (IEE and/or EIA are not required)

Scoping Format

Project: New Transfer Station

Candidate Site Name : Zaharan Area

Environmental Item		Evaluation	Reasons
Social Environment	1. Resettlement	B	There are illegal occupants
	2. Economic Activities	D	No economic activities
	3. Traffic and Public Facilities	B	Increase of collection & transfer vehicles
	4. Split of Communities	D	No communities in the closed stone yard
	5. Cultural Property	D	Closed stone yard
	6. Water Rights and Rights of Common	D	No rivers and mountains
	7. Public Health Condition	B	Transfer of Solid Waste
	8. Waste	D	No generation of waste
	9. Hazards (Risk)	D	No large-scale construction
Natural Environment	10. Topography and Geology	D	No large-scale construction
	11. Soil Erosion	D	No large-scale construction
	12. Groundwater	D	No leachate from transfer station
	13. Hydrological Situation	D	No ponds and rivers
	14. Coastal Zone	D	No coastal zones
	15. Fauna, Flora and Protected Area	B	Generation of fly and so on
	16. Meteorology	D	No large-scale construction
	17. Landscape	B	Construction of a transfer station close to residential area
Pollution	18. Air Pollution	B	Increase of collection & transfer vehicles
	19. Water Pollution	B	Generation of car wash wastewater and gray water
	20. Soil Contamination	B	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	B	Operation of collection & transfer vehicles
	22. Land Subsidence	D	Operation of Transfer Station
	23. Offensive Odor	B	From transfer waste

Evaluation

- A : Serious impact will be expected
- B : Some impact will be expected
- C : Extent of impact is unknown (Further study will be required)
- D : No impact will be expected (IEE and/or EIA are not required)

Scoping Format

Project: New Transfer Station

Candidate Site Name : Wadi Al Sair Industry Area

Environmental Item		Evaluation	Reasons
Social Environment	1. Resettlement	B	A private land. Acquisition of the land is necessary
	2. Economic Activities	C	Farm products are being cultivated in a part of the site
	3. Traffic and Public Facilities	B	Increase of collection & transfer vehicles
	4. Split Communities of	D	No communities in the site
	5. Cultural Property	D	Industrial area
	6. Water Rights and Rights of Common	D	No rivers and mountains
	7. Public Health Condition	B	Transfer of Solid Waste
	8. Waste	D	No generation of waste
	9. Hazards (Risk)	D	No large-scale construction
Natural Environment	10. Topography and Geology	D	No large-scale construction
	11. Soil Erosion	D	No large-scale construction
	12. Groundwater	D	No leachate from transfer station
	13. Hydrological Situation	D	No ponds and rivers
	14. Coastal Zone	D	No coastal zones
	15. Fauna, Flora and Protected Area	B	Generation of fly and so on
	16. Meteorology	D	No large-scale construction
	17. Landscape	B	Construction of a transfer station
Pollution	18. Air Pollution	B	Increase of collection & transfer vehicles
	19. Water Pollution	B	Generation of car wash wastewater and gray water
	20. Soil Contamination	B	Scattering of waste by wind and transfer freight
	21. Noise and Vibration	B	Operation of collection & transfer vehicles
	22. Land Subsidence	D	Operation of Transfer Station
	23. Offensive Odor	B	From transfer waste

Evaluation

- A : Serious impact will be expected
- B : Some impact will be expected
- C : Extent of impact is unknown (Further study will be required)
- D : No impact will be expected (IEE and/or EIA are not required)

Scoping Format

Project: New Transfer Station

Candidate Site Name : Wadi Al Sair El Domina

	Environmental Item		Evaluation	Reasons
Social Environment	1.	Resettlement	B	A city land but a illegal occupation is identified
	2.	Economic Activities	D	No economic activites
	3.	Traffic and Public Facilities	B	Increase of collection & transfer vehicles
	4.	Split Communities of	D	No communities in the site
	5.	Cultural Property	D	A city land
	6.	Water Rights and Rights of Common	D	No rivers and mountains
	7.	Public Health Condition	B	Transfer of Solid Waste
	8.	Waste	D	No generation of waste
	9.	Hazards (Risk)	D	No large-scale construction
Natural Environment	10.	Topography and Geology	D	No large-scale construction
	11.	Soil Erosion	D	No large-scale construction
	12.	Groundwater	D	No leachate from transfer station
	13.	Hydrological Situation	D	No ponds and rivers
	14.	Coastal Zone	D	No coastal zones
	15.	Fauna, Flora and Protected Area	B	Generation of fly and so on
	16.	Meteorology	D	No large-scale construction
	17.	Landscape	B	Construction of a transfer station
Pollution	18.	Air Pollution	B	Increase of collection & transfer vehicles
	19.	Water Pollution	B	Generation of car wash wastewater and gray water
	20.	Soil Contamination	B	Scattering of waste by wind and transfer freight
	21.	Noise and Vibration	B	Operation of collection & transfer vehicles
	22.	Land Subsidence	D	Operation of Transfer Station
	23.	Offensive Odor	B	From transfer waste

Evaluation

- A : Serious impact will be expected
- B : Some impact will be expected
- C : Extent of impact is unknown (Further study will be required)
- D : No impact will be expected (IEE and/or EIA are not required)

Attachment 3-3

Screening Result for New Transfer Station Sites based on New JICA Guideline

Screening Format

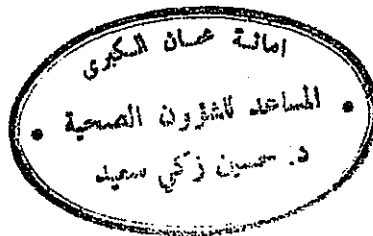
Name of a Proposed Project: **Construction of New Transfer Stations**

Project Executing Organization

Name, Post, Organization and Contact Point of a Responsible Officer

Name : Dr. Husseing Zaki Said
Post : Under Secretary Assistant for Health & Environmental Affairs
Organization : Municipality of Greater Amman, P.O.Box 132 Amman -Jordan
Tel: : (+ 962-6) 4646450 / 4636111
Fax: : (+ 962-6) 4649420
E-Mail :
Date : 3rd July 2004
Signature :

H. Zaki



Check Items

Question 1 Address of a project site:

At present, the following five candidates sits are proposed among which three are to be selected for the new transfer stations.

District		Location	Latitude (North)			Longitude (East)		
No.	Name		degree(°)	minute(')	second('')	degree(°)	minute(')	second('')
3	MARKA	Rusifa old landfill site	32	00	28.8	36	02	41.2
18	JUBAIHA	Yajouz	32	01	29.1	35	58	54.3
8	ZAHRAN	3rd circle	31	56	05.8	35	52	14.4
14	WADIAL SAIR	Industrial zone	31	56	60.0	35	50	55.5
14	WADIAL SAIR	El-Domina	31	55	22.8	35	50	35.5

Question 2 Outline of the project

2-1 Does the project come under following sectors?

☒ Yes ☐ No

If yes, please mark the corresponding items.

- ☐ Mining development
- ☐ Industrial development
- ☐ Thermal power (including geothermal power)
- ☐ Hydropower, dams and reservoirs
- ☐ River/erosion control
- ☐ Power transmission and distribution lines
- ☐ Roads, railways and bridges
- ☐ Airports
- ☐ Ports and harbors
- ☐ Water supply, sewage and waste treatment
- ☒ Waste management and disposal
- ☐ Agriculture involving large-scale land-clearing or irrigation
- ☐ Forestry
- ☐ Fishery
- ☐ Tourism

2-2 Does the project include any of the following items?

☒ Yes ☐ No

If yes, please mark following items that the project includes.

- ☒ Involuntary resettlement (scale: A few households, A few persons who are identified in Zaharan and Wadi AL sair Eldomina candidates sites as illegal settlements and an occupancy. Namely small scale resetment.)
- ☐ Groundwater pumping (scale: m3/year)
- ☐ Land reclamation, land development and land-clearing (scale: hectors)
- ☐ Logging (scale: hectors)

2-3 Description of the Project:
(Scale and/or Basic Information)

- Construction of new three transfer stations of solid waste in Amman Municipality.
 - There are five candidate sites for the three transfer stations to be constructed.
 - The scale of each transfer station is as follows
- A- The sit and the land areas for each proposed Transfer stations as follow :-
- | | |
|-------------------------------|----------|
| * Ruseifeh closed (landfill) | 20,000m2 |
| * A Jubeh – bajous | 25,000m2 |
| * Zaharan eare | 8,000m2 |
| * Wadi Al Sair (industrial) | 7,000m2 |
| * Wadi Al Sair (El Domina) | 35,000m2 |
- B- The design of the 3 station will be like the existing AL-chaar Transfer station , Some for open top Trailers and others for compacting Trailers.
- C- The capacity of each one will be not less 500 – 700 tone per day which can be increased annually.
- D- Three site selection :- MOGA selected the following three sites :
- 1- Wadi Al sair Domina.
 - 2- Zahran area.
 - 3- Al Jubeha – Bajous station
- E- The EIA study will be carried within few days from now and a draft will be prepared to the final selected sites, this will be followed by constructions phase, which will be carried by MOGA staff as soon as possible.

2-4 Is the project consistent with the higher program/policy?

- ☒ Yes: Please describe the higher program/policy.
- Greater Amman Comprehensive Development Plan (1989)
 - Implementation of a Global Solid Waste Management Scheme (2002)

☐ No

2-5 Did the proponent consider alternatives before this request?

- ☒ Yes: Please describe outline of the alternatives
- We have selected five candidate sites for three new transfer station to be constructed.
 - The selection for three sites as above in Q2-3D.

☐ No

2-6 Did the proponent have meetings with related stakeholders before this request?

- ☐ Yes
- ☒ No (not yet, but in the EIA procedure for the transfer stations, related stakeholders meeting will be implemented)

If yes, please mark the corresponding stakeholders.

- ☐ Administrative body
- ☐ Local residents
- ☐ NGO
- ☐ Others

Question 3

Is the project a new one or an on-going one? In case of an on-going one, have you received strong complaints, etc., from local residents?

☒ New ☐ On-going (there are complaints) ☒ On-going (there are no complaints)
☒ Others

- In the Greater Amman Municipality, there are three existing transfer stations. But no complaints for the existing ones.
- The proposed new transfer stations will be constructed in other three sites within the Greater Amman Municipality border.

Question 4 Name(s) of laws or guidelines:

Is Environmental Impact Assessment (EIA) including Initial Environmental Examination (IEE) required for the project according to the laws or guidelines in the host country?

☐ Yes ☒ No

- Draft version of Environmental Law (2003), EIA Law and Guidelines are not come into existence at present.
- However, we will conduct EIA studies in accordance with Article 13th of present environmental law (1995) and in consultation with the Ministry of Environment.

If yes, please mark corresponding items.

- ☐ Required only IEE (☐ Implemented, ☐ on going, ☐ planning)
- ☐ Required both IEE and EIA (☐ Implemented, ☐ on going, ☐ planning)
- ☐ Required only EIA (☐ Implemented, ☐ on going, ☐ planning)
- ☐ Others:

Question 5

In the case when EIA steps were taken, was the EIA approved by the relevant laws in the host country? If yes, please mark date of approval and the competent authority.

<input type="checkbox"/> Approved: without a supplementary condition	<input type="checkbox"/> Approved: with a supplementary condition	<input type="checkbox"/> Under appraisal
(Date of approval:	Competent authority:)

- ☐ Not yet started an appraisal process
- ☒ Others: (Not yet started the EIA procedures and studies)

Question 6

If the project requires a certificate pertaining to the environment and society other than the EIA, please indicate the title of that certificate.

☐ Already certified ☐ Required a certificate but not yet done

Title of the certificate :()

☒ Not required

☐ Others

Question 7

Are any of the following areas located inside or around the project site?

☒ Yes ☐ No ☐ Not identified

If yes, please mark corresponding items.

☐ National park, protected area designated by the government (coast line, wetlands, reserved area for ethnic or indigenous people, cultural heritage), and areas being considered for national parks or protected areas

☐ Virgin forests, tropical forests

☐ Ecological important habitat areas (coral reef, mangrove wetland, tidal flats)

☐ Habitat of valuable species protected by domestic laws or international treaties

☐ Likely salts cumulus or soil erosion areas on a massive scale

☐ Remarkable desertification trend areas

☐ Archaeological, historical or cultural valuable areas

☒ Living areas of ethnic, indigenous people or nomads who have a traditional lifestyle or special socially valuable areas (Nomads of Bedouin are identified in the surrounding area of the candidate sites of Zaheran and Wadi AL Sair Industrial area, but they temporally settle in the areas.)

Question 8

Does the project have adverse impacts on the environment and local communities?

☒ Yes ☐ No ☐ Not identified

Reason:

- Increase of transfer vehicles
- Increase of Noise, vibration and exhaust gases by transfer vehicles
- Generation of bad smell

However, those impacts are not so serious because the construction of each station is not big scale and operation is the transfer of solid waste (not dumping of solid waste)

Question 9

Please mark related environmental and social impacts, and describe their outlines.

- | | |
|---|---|
| <input checked="" type="checkbox"/> Air pollution | <input checked="" type="checkbox"/> Involuntary resettlement |
| <input checked="" type="checkbox"/> Water pollution | <input type="checkbox"/> Local economy such as employment and livelihood etc. |
| <input checked="" type="checkbox"/> Soil pollution | <input type="checkbox"/> Land use and utilization of local resources |
| <input type="checkbox"/> Waste | <input type="checkbox"/> Social institutions such as social infrastructure and local decision-making institutions |
| <input checked="" type="checkbox"/> Noise and vibration | <input type="checkbox"/> Existing social infrastructures and services |
| <input type="checkbox"/> Ground subsidence | <input type="checkbox"/> The poor, indigenous of ethnic people |
| <input checked="" type="checkbox"/> Offensive odors | <input type="checkbox"/> Misdistribution of benefit and damage |
| <input type="checkbox"/> Geographical features | <input type="checkbox"/> Local conflict of interests |
| <input type="checkbox"/> Bottom sediment | <input type="checkbox"/> Gender |
| <input checked="" type="checkbox"/> Biota and ecosystem | <input type="checkbox"/> Children's rights |
| <input type="checkbox"/> Water usage | <input type="checkbox"/> Cultural heritage |
| <input checked="" type="checkbox"/> Accidents | <input type="checkbox"/> Infectious diseases such as HIV/AIDS etc. |
| <input type="checkbox"/> Global warming | <input type="checkbox"/> Others () |

Outline of related impacts:

Present Situation of each Candidate Site

Candidate Sites	Ownership	Settlement & Occupancy	Former Land utilization
Ruseifeh closed landfill	A Municipality Land	No	Closed Landfill
Al Jubeha- Bajous	A Private Land	No	Closed Stone Yard
Zaharan Area	A Municipality Land	Illegal Settlement (Bed win or Gypsy)	Semi Closed Stone Yard
Wadi Al Sair Industry Area	A Private Land	No	A farm land
Wadi Al Sair El Domina	A Municipality Land	Illegal Occupancy (a Gas bottle dealer)	Closed Stone Yard

Possible Impacts on each Candidate Site

Environmental Items		Ruseifeh closed landfill	Al Jubeha-Bajous	Zaharan Area	Wadi Al Sair Industry Area	Wadi Al Sair El Domina
Social	Resettlement	D	B	B	B	B
	Economic Activities	D	C	D	C	D
	Traffic and Public Facilities	B	B	B	B	B
	Public Health Condition	B	B	B	B	B
Natural	Fauna, Flora and Protected Area	B	B	B	B	B
	Landscape	B	B	B	B	B
Pollution	Air Pollution	B	B	B	B	B
	Water Pollution	B	B	B	B	B
	Soil Contamination	B	B	B	B	B
	Noise and Vibration	B	B	B	B	B
	Offensive Odor	B	B	B	B	B

Evaluation

- A : Serious impact will be expected
- B : Some impact will be expected
- C : Extent of impact is unknown (Further study will be required)
- D : No impact will be expected (IEE and/or EIA are not required)

Question 10

Information disclosure and meetings with stakeholders

10-1 If environmental and social considerations are required, does the proponent agree on information disclosure and meetings with stakeholders in accordance with JICA Guidelines for Environmental and Social Considerations?

☒ Yes ☐ No

10-2 If no, please describe reasons below.



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

أمانة عمان الكبرى

Municipality of Greater Amman



Ref.

Date

3rd July 2004

To: The JICA Basic Design Study Team

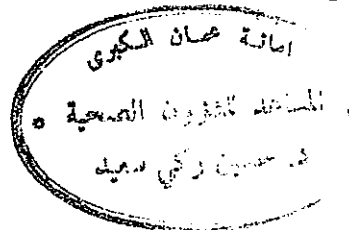
Schedule of EIA for three new Transfer Stations

Dear the Study Team

As for the above, we ensure the JICA Basic Design Study Team that we will get approval of draft EIA for proposed three transfer stations from reviewing committee to be organized by the end of Dec. of 2004.

Yours sincerely

Dr. Hussein Zaki Said
Under Secretary Assistant for
Health & Environmental Affairs
The Greater Amman Municipality



Ref.

Date 28.6.2004

**To :-
Jica Basic Design Team**

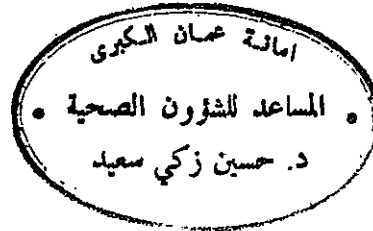
MOGA confirm the allocation of EIA budget for doing a full EIA study for the new SW transfer stations.

Thank you.

Dr. Hussein Zaki

H. Zaki

**Under Secretary Assistant For
Health & Environmental Affairs**



資料－９ 要請内容の変更に関するレター



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
أمانة عمان الكبرى

Municipality of Greater Amman



Ref.

Date

8/7/2004

To:

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
BASIC DESIGN STUDY TEAM
YACHIYO ENGINEERING CO., LTD.

Regarding the requested transfer station vehicles, we would like to change the type of trailers as follows;

Type of our original request

- Long Chassis Compacting Trailer : 30 to 50m³ x 8 units

Type of trailer to be changed

- Long Chassis Open Type Trailer : 40m³ x 8 units

The reasons for this change are described as follows.

We have a plan to construct three (3) new transfer stations with the function of transferring solid wastes by the combination of compacting type trailers and open type trailers in the same manner as the existing Al Shaar and Ein Ghazal transfer station. As mentioned in the attached plan for the new transfer stations, we will have to secure additional compacting trailers and open type trailers as required.

On the other hand, most of the existing open type trailers are over depreciation period and we intend to discard them as soon as possible because those trailers have many problems in operation every day. In this situation, we are now under the big pressure to put more priority on the open type trailers. Otherwise, our transferring works at the existing transfer stations and the new transfer stations will face many difficulties. Therefore, we would like to request to the Japanese site that the type of requested trailers (8 units, compacting type of 30 to 50m³) should be changed to open type trailers with a capacity of 40m³.

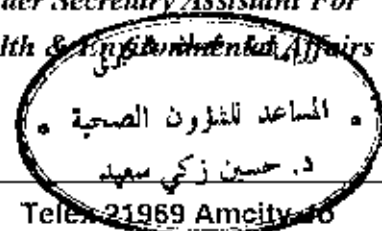
Thank you.

Dr. Hussein Zaki

Under Secretary Assistant For
Health & Environmental Affairs

Attachment : Plan for New Transfer Stations

資料-9-1



Ref.

Date

Basic Plan of Proposed New Transfer Stations

1. Outline

- 1) Location : Following three (3) sites
 - Zaharan
 - Wadi Al Sir
 - Al Jubeiha
- 2) Expected opening date : November 2005
- 3) Area : Approx. 10,000 m²
- 4) Capacity : Approx. 400 t/d
- 5) System : Combination of open type trailers and compacting trailers
- 6) Personnel required
 - Staff : 4
 - Operator : 8
 - Driver : 16
 - Sweeper : 28
 - total : 56
- 7) Operation time : 24 hours (3 shifts operation)

2. Equipment and Facility

Classification	Item	Number	Remarks
Open type vehicle	Open type trailer (40 m ³)	4	Existing, one is 30 m ³
	Tractor head (Approx. 350 HP)	3	
Compacting type vehicle	Compacting type trailer (50 m ³)	3	Same as existing one
	Tractor head (Approx. 380 HP)	2	
Facility	Weighbridge (60 ton)	2	Coming-in and Going-out
	Loading stage for open type trailer	1	
	Hydraulic type loading equipment	1	
	Gravity type loading chute	2	
	Vehicle washing area	1	
	Waste water treatment facility	1	
	Fence and trees	1	
	Workshop	1	
Building	Administration office	1	
	Guard house	1	

Note) Above mentioned specification and numbers are for each transfer station.

資料－１０ 車両の稼働率低下特性

10. 車両の稼働率低下特性

車両の稼働率低下特性について

1. 車両の稼働率低下に係る要因

一般に、車両の稼働率は主に以下の要因で低下する。

(新編自動車工学ハンドブック／社団法人自動車技術会編／図書出版社発行参照)

(1) 製造品質

設計及び製造により定められる車両の品質ならびに使用条件に対する適合性

(2) 使用条件

自然条件、走行距離、道路状況、運転技術、維持管理体制等車両使用上の諸条件

(3) 周辺条件

スペアパーツ入手の難易度、管理技術レベル、予算の多寡

2. 車両の稼働率低下特性

車両の稼働率低下はたとえ製造品質が同じ車両であっても、その使用条件および周辺条件に大きく左右される。

本計画における稼働率は、本文で述べたごとく、年間の稼働日を年間総日数（365 日）で除した値と定義し、新車時で 85%（312 日）である。

通常、車両は 25 万 km 程度走行すると、ピストン、クランクシャフト、ベアリングなどの重要な摺動部分の磨耗が目立ち始め稼働率が 20～25%程度低下し、第一次オーバーホールを実施する。これは車両の走行条件 35,000km/年（110km/日 x 312 日）とすると、使用開始後 7 年が経過した時点に当る。この時点を 1 次寿命と呼ぶ。

1 次オーバーホールにより車両の稼働率は上昇するが、新車時の 85%までは回復しない。

その後、車両を使用続けると、重要な摺動部分のみならず他の部品の磨耗、老朽化が目立ち始め、1 次オーバーホール後約 5 年（40 万 km）に 2 次オーバーホールが実施され重要な摺動部分のみならず他の部品も交換される。

しかしながら、稼働率の回復は新車時の 7 割程度（約 60%）である。

さらに、車両を使用続けると 2 回目のオーバーホールが必要となるが、稼働率は低下傾向をたどる。

3. 稼働率低下のモデル化

実際の稼働率は上記のごとくオーバーホール時にある程度回復はするものの、全体的には経過年数（走行距離）とともに低下する傾向にある。

従って、本計画においては、大アンマン市車両整備部門との協議により、稼働率の実績も考慮し、使用開始後 7 年までは稼働率の低下を無視し新車時の 85%とし、以後は、年 5%低下するものとモデル化した。（添付図参照）

尚、建設機械についても上記モデルで算定した稼働率は、実績稼働率より上回っており、モデル化は妥当である。

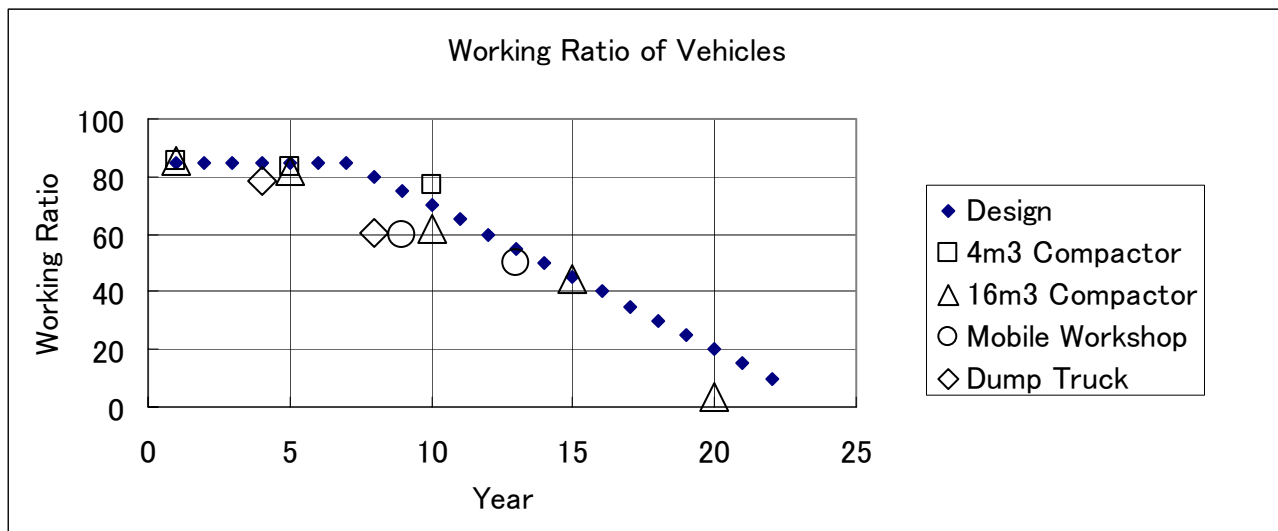


図-1 車両に関する稼働率低下特性

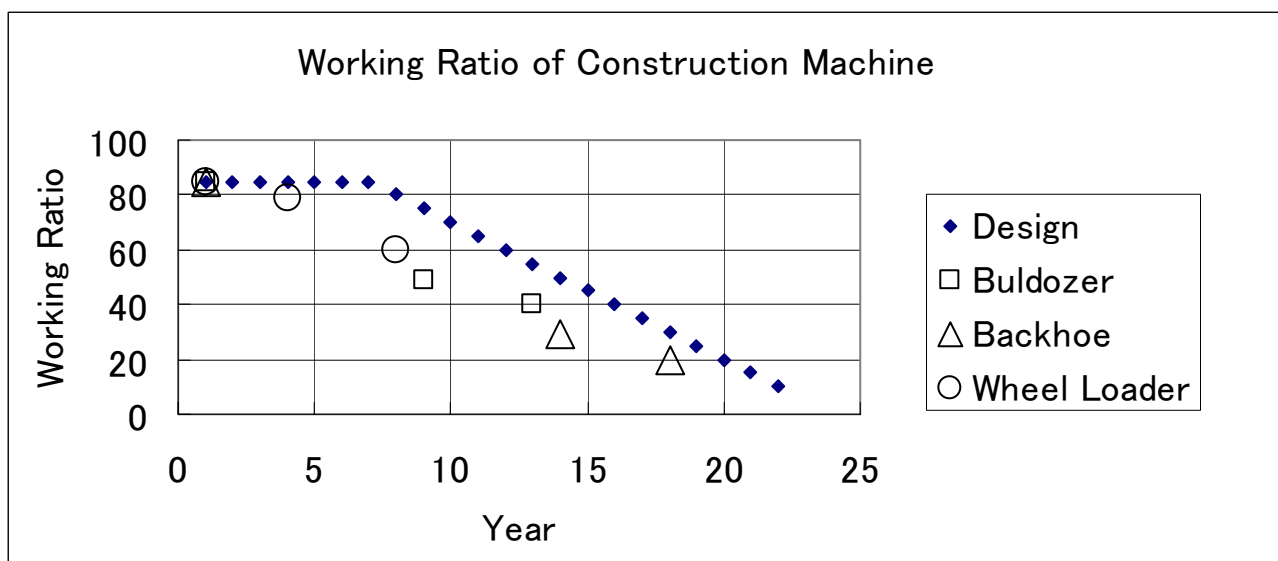


図-2 建設機械に関する稼働率低下特性