

## MONITORING FORM

JULY - SEPTEMBER 2023

### PROJECT FOR CONSTRUCTION OF SAN MIGUEL CITY BYPASS (PACKAGE 2)

According to JICA Guidelines for environmental and social considerations, there are some items to include in monitoring environmental quality during construction and operation phase of projects. JICA undertakes monitoring based on regular reports including measured data submitted by the project proponent. When monitoring plans including monitoring items, frequencies and methods are decided, project phase or project life cycle (such as construction phase and operation phase) should be considered.

#### 1. Environmental Permits, approvals, consultations Package 2.

Permit	Managed by	Environmental Resolution ID	Status
San Miguel City By pass construction	MOPT	MARN No17242-R-179-2021	Approved
Camp yard D+O Includes asphalt mixing plant, concrete dosage plant and stone crushing plant.	UDP Consorcio D+O	MARN-NFA550-2021-R-194-2023	Approved
Site for Final Disposal Sta 1+710 LS	UDP Consorcio D+O	MARN-NFA-887-2021-R-33-2022	Approved
Site for Final Disposal Sta 0+260 RS	UDP Consorcio D+O	MARN-NFA2094-2021-R-67-2023	Approved
Site for Final Disposal Sta 3+200 RS	UDP Consorcio D+O	MARN-DEC-GEA-NFA98-2023-608-2023	Approved
Site for Final Disposal Sta 8+800 LS	UDP Consorcio D+O	MARN-DEC-GEA-NFA38-2022-6165-2022	Approved and closed
Site for Final Disposal Sta 0+470 LS	UDP Consorcio D+O	MARN-NFA48-2022-R-95-2023	Approved
Site for Final Disposal Sta 7+700 RS	UDP Consorcio D+O	MARN-NFA314-2022-R-746-2022	Approved
Stone and Sand Extraction Comacarán	UDP Consorcio D+O	MARN-NFA-772-2021-R-216-2022 MARN-NFA722-2021-MOD-72-2022	Approved
Stone and Sand Extraction Las Delicias	UDP Consorcio D+O	MARN-NFA-866-2022-R-157-2023	Approved

#### 2. Environmental quality monitoring

- Air Quality (Environmental Air Quality).

Item	Sampling	Measure Point	Location	STATION / ID	Period	Country Norm	Standard $\mu\text{g}/\text{Nm}^3$ in 24 hours	Measured value
TSP	1	1	13° 30' 33.40"N 88° 12' 40.47"W	D+O Camp 1+320 RS	07/27- 28/2021	NSO 13.11.01:01	260	60.60
		2	13° 30' 57.23"N 88° 11' 01.43"W	4+540 RS	07/28- 29/2021	NSO 13.11.01:01	260	41.80
	2	1	13° 30' 33.43"N 88° 12' 40.47"W	D+O Camp 1+320 RS	04/04- 05/2022	NSO 13.11.01:01	260	330.46
		2	13° 30' 57.22"N 88° 11' 01.41"W	4+540 RS	04/05- 06/2022	NSO 13.11.01:01	260	260.17

TSP: Total suspended particulate.

According to the results obtained in the second sampling, a value slightly above the norm for Point 2 is detected; while in Point 1 the surplus value measured reflects the environmental air quality in the area of influence of the stone crusher, concrete dosage and asphalt plant facilities located within D+O campus. In addition, the measurement was made in dry season, so humectation was needed for better control of dust.

The monitoring of TSP for the construction phase is completed.

### 3. Noise.

Item	Sampling	Measure Point	Location	STATION / ID	Date	Standard dBA in 1 hour	Measured value
Noise	1	1	13° 30' 33.40" N 88° 12' 39.45" W	D+O Camp 1+320 RS	JUL-2021	75	60.8
		2	13° 30' 57.23" N 88° 11' 01.43" W	4+540 RS	JUL-2021	75	54.3
	2	1	13° 30' 33.40" N 88° 12' 39.45" W	D+O Carr.p 1+320 RS	APRIL- 2022	75	58.3
		2	13° 30' 57.23" N 88° 11' 01.43" W	4+540 RS	APRIL- 2022	75	58.9
	3	1	13° 30' 33.5.1" N 88° 12' 40.47" W	D+O Camp 1+320 RS	JUL-2022	75	65.4
		2	13° 30' 57.36" N 88° 11' 01.46" W	4+540 RS	JUL-2022	75	53.8
	4	1	13° 30' 33.5.1" N 88° 12' 40.47" W	D+O Camp 1+320 RS	SEP-2022	75	64.8
		2	13° 30' 57.36" N 88° 11' 01.46" W	4+540 RS	SEP-2022	75	62.1
	5	1	13° 30' 33.5.1" N 88° 12' 40.47" W	D+O Camp 1+320 RS	DEC-2022	75	63.3
		2	13° 30' 57.36" N 88° 11' 01.46" W	4+540 RS	DEC-2022	75	66.1
	6	1	13° 30' 33.3" N 88° 12' 41.0" W	D+O Camp 1+320 RS	MAR-2023	75	65.8
		2	13° 30' 56" N 88° 11' 02" W	4+540 RS	MAR-2023	75	57.9

NSO 13.11.03:01

All the values measured are below national noise limit. The monitoring of noise for the construction phase is completed.

## MONITORING FORM

JUL-SEP 2023

### PROJECT FOR CONSTRUCTION OF BYPASS IN SAN MIGUEL CITY (PACKAGE 3)

According to JICA Guidelines for environmental and social considerations, there are some items to include in monitoring environmental quality during construction and operation phase of projects. JICA undertakes monitoring based on regular reports including measured data submitted by the project proponent. When monitoring plans including monitoring items, frequencies and methods are decided, project phase or project life cycle (such as construction phase and operation phase) should be considered.

#### 1. Environmental Permits, approvals, consultations Package 3.

Permit	Managed by	Environmental Resolution ID	Status
San Miguel City By pass construction	MOPT	MARN-No 17242-R-277-2021	Approved
Stone and Sand Extraction La Hulera.	UDP ECON - LA CANTERA	MARN NFA-3600-655-2018	Approved
Mobile concrete dosage plant in project site.	UDP ECON - LA CANTERA	MARN-NFA-799-2023	Approved
Mobile stone crushing plant in project site.	UDP ECON - LA CANTERA	MARN-NFA-823-2023	Approved

#### 2. Environmental quality monitoring

- Air Quality (Environmental Air Quality).

ITEM	Sampling	Measure Point	Location	STATION / ID	Period	Country Norm	Standard $\mu\text{g}/\text{Nm}^3$ in 24 hours	Measured value
TSP	1	1	13°30'29.0"N 88°09'04.7"W	STA 9+000 Hato Nuevo	01/12/2023	NSO 13.11.01:0 1	260	64.92
		2	13°30'22.48"N 88°13'55.59"W	STA 16+300 El Papalón	01/13/2023	NSO 13.11.01:0 1	260	44.89

TSP: Total suspended particulate.

- Results of first sampling are below the limit, which is  $260\mu\text{g}/\text{Nm}^3$ .

#### 3. Noise.

Item	Sampling	Measure Point	Location	STATION / ID	Date	Standard dBA in 1 hour	Measured value
NOISE	1	1	13°30'28.5"N 88°09'05.8"W	STA 9+000 Hato Nuevo	Jun/2023	75	51.4
		2	13°26'1.7"N 88°07'54.6"W	STA 16+300 El Papalón	Jun/2023	75	59.6

The values obtained from the measurement do not exceed the NSO for atmospheric emissions from fixed sources 13.11.02.01 CONACYT, which is 75 dBA.



# **ANNEX 04**



2.1 AVANCE DE OBRAS



Fig. 1: Medición en conjunto con el Contratista de losetas tipo 2 sobre caja colectora número 1, SAM-10 Est 4+374 LD. 04-09-2023.



Fig. 2: Colocación de vialetas en Est. 8+500 LI en área de ciclo ruta. 05-09-2023.



Fig. 3: Medición en conjunto con el contratista de canaleta tipo 6 en pie de talud entre Est. 1+630 a 1+807 LI. 09-09-2023.



Fig. 4: Inspección de alineamiento barreras separadoras tipo F entre Est. 8+565 a 8+580. 24-09-2023.



Fig. 5: Medición en conjunto de bordillo en rampa sur Quelepa entre Est. 1+603 a 1+626 LD. 18-09-2023.



Fig. 6: Recorrido mensual JICA-MOPT-NKLAC-D+O, puente Intercambiador. 27-09-2023.



Fig. 7: Colocación de ménsulas en separadores entre Est. 7+900 a 8+300. 28-09-2023.



Fig. 8: Riego en talud Est. 6+100 a 6+300 LD. 22-09-2023.

## 2.2 ACTIVIDADES DE HIGIENE Y SEGURIDAD OCUPACIONAL Y SEGURIDAD VIAL



Fig. 9: Dispositivo de seguridad vial para actividad de colocación de pintura termoplástica. Est. 4+510. 09-09-2023.



Fig. 10: Personal usando el uniforme institucional en la actividad de colocación de pintura termoplástica. Señalización sobre el pavimento, Est. 7+910. 19-09-2023.



Fig. 11: Inspección de seguridad. Paso inferior Michinoeki Est. 7+505. 24-09-2023.



Fig. 12: Reunión mensual sobre seguridad. Oficina del Ingeniero. 25-09-2023.



2.1 AVANCE DE LAS OBRAS



Fotografía 1: Colado de concreto en módulo No. 3 de muro de retención de Est. 14+844.20 a 14+856.30. 21-09-2023.



Fotografía 2: Construcción de zapatas de paso peatonal elevado de Est. 8+668. 21-09-2023.



Fotografía 3: Colado de concreto en diafragma de estribo de entrada del puente sobre río El Papalón Est. 15+100. 22-09-2023



Fotografía 4: Compactación de relleno estructural en zona de paso de ganado en Est. 11+006. 23-09-2023.



Fotografía 5: Excavación de la vía en roca en Est. 9+720. 26-09-2023.



Fotografía 6: Visita mensual de JICA-MOPT, zona de trabajos del puente sobre el río El Papalón Est. 15+100. 26-09-2023.

2.2 ACTIVIDADES DE HIGIENE Y SEGURIDAD OCUPACIONAL Y SEGURIDAD VIAL



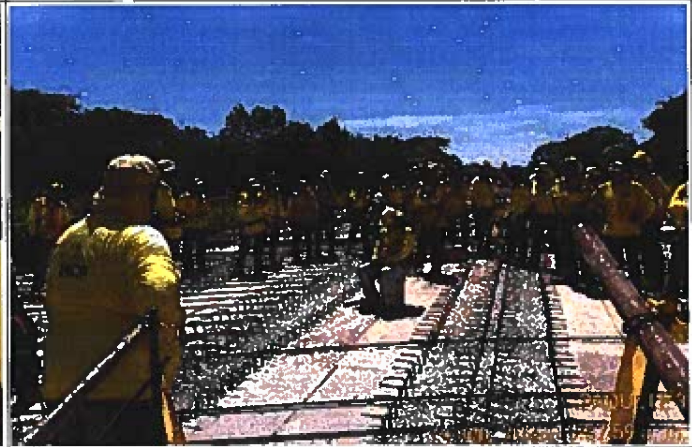
Fotografía 7: Inspección de seguridad conjunta previa a la admisión de un equipo ligero de compactación. Plantel del contratista. 05-09-2023.



Fotografía 8: Humectación para la mitigación de polvo en el Proyecto. Est. 15+010. 07-09-2023.



Fotografía 9: Prueba aleatoria de alcohol test a personal del Contratista. Est. 14+400. 13-09-2023.



Fotografía 10: Personal en charla de seguridad en el puente el Papalón. Est. 15+100. 24-09-2023.

2.1 AVANCE DE OBRAS  
PUENTE SOBRE RIO GRANDE



Fig. 1: Colado de losa de aproximación, lateral izquierdo, estribo de salida 11-09-2023



Fig. 2: Concreto lanzado en talud, Est. 5+585 - 5+613 LI. 05-09-2023



Fig. 3: Construcción de muro gavión, estribo A-1. Parte central 30-09-2023.



Fig. 4: Encofrado de barrera externa sobre puente, lateral izquierdo 12-09-2023



Fig. 5: Mezcla asfáltica modificada, ambos carriles laterales derecho del puente 21-09-2023



Fig. 6: Mampostería de derramadero VD-1, estribo A-2, Est. 5+189 04-09-23

PUENTE SOBRE RIO TAISIHUAT



Fig. 7: Instalación de flexbeam LI 9+510 -9+615  
26-09-2023.



Fig. 8: Colado de derramadero VD-5 LD Est. 9+513.20  
20-09-2023



Fig. 9: Mezcla asfáltica modificada Est. 9+391 - 9+496.  
29-09-2023.



Fig. 10: Siembra de grama y zacate vetiver Est. 9+494 -  
9+625. 18-09-2023.

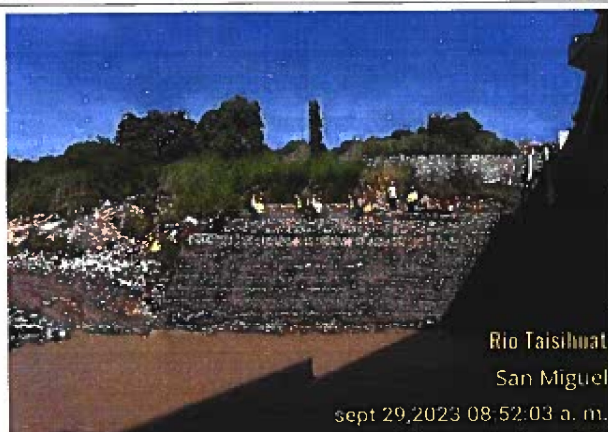


Fig. 11: Construcción de muro gavión. 29-09-2023



Fig. 12: Visita mensual MOP-JICA. 26-09-2023.

2.2 ACTIVIDADES DE HIGIENE Y SEGURIDAD OCUPACIONAL Y SEGURIDAD VIAL



Fig. 13 Trabajadores usando el uniforme institucional durante el colado de contracunetas. Aproche de salida del puente Río Grande. Est. 5+490. 06-09-2023.



Fig. 14 Trabajadores usando su EPP durante colocación de MAC en estribo A2. Puente Río Grande. Est. 5+160. 21-09-2023.



Fig. 15 Trabajadores usando el uniforme institucional y su EPP durante la instalación de guardacarriles. Aproche de salida del puente Taisihuat. 06-09-2023.



Fig. 16 Reunión mensual sobre seguridad e higiene. Oficina del Ingeniero. 25-09-2023.

