



Initial Environment Examination

Project Number: 42267-026
December 2018
(Addendum)

IND: Rajasthan Urban Sector Development Program

Subproject : Bulk Water Supply for Pali

Submitted by

Rajasthan Urban Infrastructure Development Project, Jaipur

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Date: 31/10/2018

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**Subject:- Compliance of ADB's Environmental Safeguard policy-
Submission of Addendum to Initial Environmental
Examination Report for Pali-02 Package (ADB loan No
3183-IND).**

Please find enclosed herewith addendum to Initial Environmental
Examination Report for Pali Bulk Water package (Pali-02) for ADB's review
and approval.

Kindly acknowledge the receipt.

Encl: As above.


(G.S. Hada)
**Addl. Project Director
RUIDP, Jaipur**



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Addendum- Initial Environmental Examination

November 2018

IND: Rajasthan Urban Sector Development
Program

Bulk Water Supply for Pali

ABBREVIATIONS

ADB	–	Asian Development Bank
ADB	–	Asian Development Bank
ASI	–	Archeological Survey of India
ASO	–	Assistant Safeguards Officer
CFE	–	Consent for Establishment
CFO	–	Consent for Operation
CPCB	–	Central Pollution Control Board
EA	–	Executing Agency
EHS	–	Environmental Health & Safety
EMP	–	Environmental Management Plan;
GOI	–	Government of India
GOR	–	Government of Rajasthan
IA	–	Implementing Agency
IEE	–	Initial Environmental Examination;
PIU	–	Project Implementation Unit;
PMU	–	Project Management Unit
LSGD	–	Local Self Government Department
MLD	–	Million Liters per Day
LPCD	–	Liters per Capita per Day
ELSR	–	Elevated Service Reservoir
PE	–	Polyethylene
DWC	–	Double Corrugated Duct
NHAI	–	National Highways Authority of India
NOC	–	No Objection Certificate
PHED	–	Public Health Engineering Department
PMDSC	–	Project Management, Design and Supervision Consultant
REA	–	Rapid Environmental Assessment Checklist
RoW	–	Right of Way
RPCB	–	Rajasthan Pollution Control Board
RUIDP	–	Rajasthan Urban Infrastructure Development Project
RUSDP	–	Rajasthan Urban Sector Development Program
SIP	–	Service Improvement Plan
SPS	–	Safeguard Policy Statement, 2009
ULB	–	Urban Local Body
WTP	–	Water Treatment Plant

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I Introduction

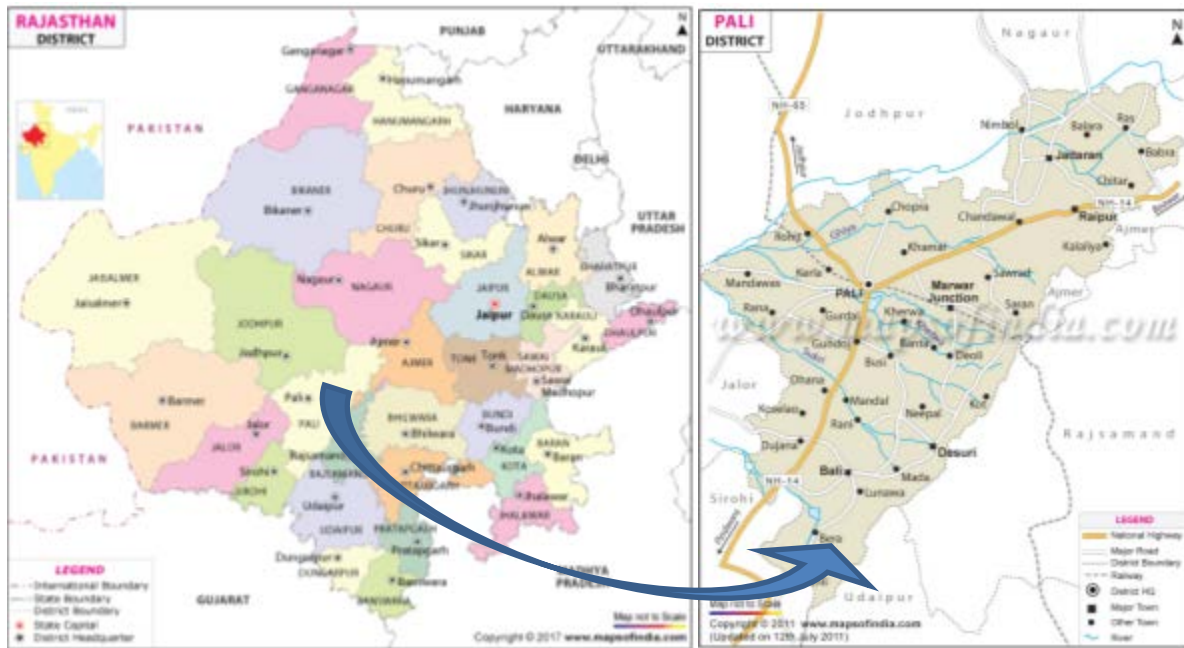
1. Project Background

1. The proposed Rajasthan Urban Sector Development Program (RUSDP) will complement the past and ongoing efforts of Government of Rajasthan (GoR) to improve water supply and wastewater services to the residents of the state of Rajasthan. The program component of the RUSDP will support policy reforms and consolidate institutional development and governance improvement in the urban sector in the state, while the investment component of the RUSDP will invest in water distribution network improvements and sewerage systems in the six project cities, each having a population of more than 100,000, and identified considering the lack of basic services at present and willingness to undertake reforms and institutional restructuring. The expected impact of the RUSDP will be sustainable urban development in Rajasthan. The expected outcome will be improved urban service delivery in Rajasthan.
2. The focus of the RUSDP investment will be on water supply and sewerage infrastructure. A series of subprojects will be implemented under the Project, with each subproject providing improvements to water supply or sewerage or both in a project town.
3. Proposed project of Bulk Water System in Pali is one of the subprojects proposed under RUSDP in District Pali in the State of Rajasthan.

2. Project Location

4. Proposed subproject components are location in District Pali in Rajasthan State of India. Pali Town is the headquarters of Pali District, and is situated in the south central part of Rajasthan State. It is located at about 300 km southwest of State Capital, Jaipur. Pali is one of the six project towns selected for implementation of the ADB funded Rajasthan Urban Sector Development Program (RUSDP). Location Map of Pali is given in Figure-1 below-

Figure -1: Location Map of Pali



3. Background of IEE

5. Bulk Water Supply for Pali subproject is one of the subprojects proposed under the RUSDP. ADB requires the consideration of environmental issues in all aspects of the Bank's operations, and the requirements for environmental assessment are described in ADB's Safeguards Policy Statement (2009). Accordingly, Initial Environmental Examination (IEE) was prepared in detail design phase in May 2016 to assess the environmental impacts and provide mitigation and monitoring measures to ensure that there are no significant impacts as a result of the subproject. Scope of works in this IEE was taken from bid documents (employers requirement section) and were part of the bid. After mobilization of contractor, during preparation of Service Improvement Plan (SIP) by contractor, it was confirmed by the contractor, after details survey, that there are some change in length and alignment of pipelines are required. Therefore, due to changes in length of pipeline networks, suggested by contractor and confirmed by RUIDP and Consultant (PMDSC), this addendum to earlier IEE is being prepared as per ADB SPS. This addendum reflects the changes made in scope of works. Anticipated impacts and mitigation measures will remain same as assessment of environmental impact had been carried out for the whole town and no location changes for the components are in effect. Environment Management Plan as included in IEE is already part of contract agreement, which is well structured and sufficient to mitigate impacts as identified in this addendum.

II Description of Updated Scope of works

6. In the another subproject, Water Supply and Sewerage Works in Pali (Package no. RUSDP/Pali/01) most of the components were taken for water supply improvement in the town. But the components in the scheme were not sufficient to cover the water demand of entire town. In this subproject (Package no. RUSDP/Pali/02), the water supply scheme components to be developed have been identified and sized in order to bring completeness to the scheme. This part of planning, designing and execution

of the water treatment-transmission-storage-bulk supply is called Bulk Water Supply for Pali (Pali Water Supply Scheme Phase-II) and is described herein under.

7. Under Bulk Water Supply for Pali Subproject, works proposed are mainly- (i) New Raw Water Transmission Pipeline of Length 4150m, Diameter 700mm Material DI K-9 (ii) Pipe laying of various diameters (150mm -700mm) of total length of 36802m in different locations of town (iii) Construction of 7 nos. of OHSRs of various capacities at various locations of town (iv) construction of a new WTP of capacity 30 MLD at Manpura Bhakhri including CWR of 5000 KL capacity and Clear Water Pump Station (v) Refurbishment of 3 nos. existing WTPs (vii) Refurbishment of 19 nos. of existing OHSRs. The sub project components are described in **Table-1** below-

Table 1: Proposed Components of Bulk Water Supply for Pali sub project

S.N.	Project component	Description of proposed works (Earlier)	location	Description of proposed works (Updated)	
	Construction of new WTP	Construction of WTP of 30 MLD capacity (for year 2031) and clear water pumping station, (Detail design and layout of 41 MLD for year 2046)	Manpura Bhakhri, Pali	Construction of WTP of 30 MLD capacity (for year 2031) and clear water pumping station, (Detail design and layout of 41 MLD for year 2046) including Clear Water Reservoir 5000 KL and Clear Water Pump Station	
	Construction of OHSRs	Construction of 7 nos. OHSRs as following-		No Change	
		3 nos. OHSRs of 1000 m ³ capacity	Labour Colony, Raiko Ki Dhani, Mandiya Village	3 nos. OHSRs of 1000 m ³ capacity	
		4 nos. OHSRs of 500 m ³ capacity	Housing Board, Industrial area, Shantinath (Mandiya road OHSR location) and Jodhpur Road	4 nos. OHSRs of 500 m ³ capacity	
	Pipe laying	New Raw Water Transmission Pipeline of Length 3752m, Diameter 700mm, Material- DI K-9 Pipe laying of various dia for transmission of treated water to different location as follows-	Through existing ROW in Various location in town	New Clear Water Transmission Pipeline of DI-K9 pipe	
				Pipeline Diameter (mm)	New scope Length (m)
				700	4150
				Pipe laying for transmission as per following table-	
				Pipeline Diameter (mm)	New scope Length (m)
				150	875
				200	3635
				250	10977
				300	2190

S.N.	Project component	Description of proposed works (Earlier)		location	Description of proposed works (Updated)	
		500	1920		350	6100
		700	7964		400	4200
		Total	38280		450	725
					500	1430
					700	6670
					Total	36802
					Grand Total	40952
4.	Refurbishme nts of existing WTPs	Refurbishment of 3 WTPs as following- City Campus-IV (19.40 MLD) Mandli Head Works (7.35MLD) Mandli Head Works (3.7MLD)		Existing PHED headwroks at City Campus and Mandli	Refurbishment of 3 WTPs as following- City Campus-IV (19.40 MLD) Mandli Head Works (7.35MLD) Mandli Head Works (3.7MLD) -No Change	
	Refurbishme nts of existing OHSRs	Out of existing 22 OHSRs in Pali, total 3 are recommended to abandoned and 19 are recommended for refurbishment		Various locations in the Pali city	Refurbishment of 19 OHSRs- No change	
	Raw Water Pumps	Construction of 2Nos. Working + 1No. Standby, New Raw Water Pump Station (Electro-Mechanical Works and minor Civil Works) at Mandli		Mandli Head Works	Provide and installation of 2Nos. Working + 1No. Standby, New Raw Water Pumps (Electro-Mechanical Works and minor Civil Works) at Mandli- No Change	
	Clear Water Pump Stations	Construction of New Clear Water Pump Station with 2Working + 1Standby, Clear Water Pumps Construction of New Clear Water Pump Station at Mandli WTP Head Works		PHED campus Mandli WTP Head works	Construction of New Clear Water Pump Station with 2Working + 1Standby, Clear Water Pumps Construction of New Clear Water Pump Station at Mandli WTP Head Works - No change	
	Electrical and Instrumentat ion works	Bulk meters, pressure sensors, Level sensors for ESRs and CWR, Water Quality Monitoring sensors at WTPs, communication RTUs through GPRS, SCADA and complete system for automation.		At various Head Works	Bulk meters, pressure sensors, Level sensors for ESRs and CWR, Water Quality Monitoring sensors at WTPs, communication RTUs through GPRS, SCADA and complete system for automation.- No Change	
	GIS works	Integration of proposed system of GIS of Phase II compatible with Pali Phase I including Preparation of GIS base map and GIS development of water supply infrastructure containing all water supply components under Pali Phase 2		All sites in Pali	Integration of proposed system of GIS of Phase II compatible with Pali Phase I including Preparation of GIS base map and GIS development of water supply infrastructure containing all water supply components under Pali Phase 2- No change	

8. The subprojects include laying of water supply pipes in the municipal area of Pali, and construction of a water Treatment Plant (30 MLD at Manpura Bhakhri). Scope of works is updated in only length of pipelines of various diameters in various locations. Layouts of original scope of works, updated scope of works and change in Pipe laying works is given in **Appendix 1-3**. Details of these changes and reason for changes is given in **Table 2** below -

Table-2: Changes in Pipe Line Length and Reasons

Package-RUSDP/PALI/02						
Detail For Pipeline						
S. No.	Section / Reach	Size (mm)	Length of Pipe (m)		Excess	Reasons of Changes
			As per BOQ	As per SIP		
1	Manpura Bhakhri TO JN-1	700 mm	4248	5165	917	Length increased as NHAI did not permitted for pipe crossing under ROB
2	JN-1 TO JN-2	700 mm		1505	1505	Between Jn-1 to jn-2 Dia 500 to 700 mm Changed in design due to increase demand of Nayagoan i.e. 1.46 to 4.25 MLD
		500 mm	1502			
3	RWPS Mandli To WTP Manpura Bhakri	700 mm	3752	4150	398	Along N H. (DPR route) 7 pipeline are already laid, so changed alignment through Mandli Village
TOTAL			8000	10820	2820	
300 mm						Heavy traffic & underground utilities on Jodhpur road. So, alignment changed along the service road of PHED canal as well as no need of road restoration and dia got changed from original 250 to 300 mm to meet the demand of Jodhpur road and Housing board.
4	JN-3 TO Suraj Pole OHSR	300 mm	208			
		250 mm		300		
5	JN-9 TO JN-10	300 mm	412	2190		
		250 mm	1755			
		200 mm				
TOTAL			620	2190	1570	
400 mm						1.New C C road was constructed therefore route has been changed. 2. Jn-8 has to be shifted due to pipe route was going to plot area of Deen Dayal Upadhaya colony.
6	JN-6 TO JN-7	450 mm		495		
		400 mm	533			
		150 mm				
7	JN-7 TO JN-8	450 mm		230		
		400 mm		2235		
		350 mm	2688			
		300 mm				
		150 mm				

8	labour colony JN TO JN-13, Raiko ki dhani OLD OHSR	400 mm	2117	1965		
		100 mm				
TOTAL			2650	4200	1550	
450 mm						
7	JN-3 TO JN-4	450 mm	474			Due to revision of Hydraulic design some pipe dia were converted 450mm to 350mm therefore 450mm length decreased while 350mm increased 450 m.
		350 mm		915		
11	JN-1 TO JN-6	500 mm		975		
		450 mm	976			
15	JN-6 TO JN-7	450 mm		495		
		400 mm	533			
		150 mm				
17	JN-7 TO JN-8	450 mm		230		
		400 mm		2235		
		350 mm	2688			
TOTAL			1450	725	-725	
150 mm						
9	JN-6A TO Shantinath New OHSR	150 mm		30		Due to revision of hydraulic design some pipe dia convert 200mm to 150mm therefore 150mm length increased 385 M. while 200mm decreased 365 m.
		200 mm	23			
10	JN-6A TO Mandia Road OHSR	150 mm	150	90		
11	JN-8 TO Punayta OHSR	350 mm	2277			
		200 mm		1800		
		150 mm		695		
12	JN-11 to H.B. New SR	200 mm		195		
		150 mm	210			
13	JN-12 to Old Labour Colony	150 mm	50	60		
14	JN-14 to IND. Phase-IV New OHSR	200 mm		100		
		150 mm	80			
TOTAL			490	875	385	
350 mm						
29	JN-2 TO Naya Gaon OHSR	350 mm		2760		Jn-8 has to be shifted due to pipe route was going through plot area of Deen Dayal Upadhaya colony. From Jn-8 to Gandhinagar OSHR length got increased due to shifting of location of Jn-08.
		250 mm	2637			
31	JN-3 TO JN-4	450 mm	474			
		350 mm		915		
32	JN-4 TO JN-5, CWR	100 mm				
		350 mm	599	310		
33	JN-7 TO JN-8	450 mm		230		
		400 mm		2235		
		350 mm	2688			
34	JN-8 to Gandhi Nagar OHSR	350 mm	86	795		
35	JN-8 TO Punayta OHSR	350 mm	2277			
		200 mm		1800		
		150 mm		695		

36	CWPS City Campus (HW TO JN-9)	350 mm		1320		
		200 mm	1250			
TOTAL			5650	6100	450	
200 mm					Due to revision of hydraulic design some pipe dia convert 200mm to 150mm therefore 150mm length increased 385 M. while 200mm decreased 365 m.	
15	JN-4 to Bhatwada ESR	200 mm	615	305		
16	JN-5 to PHED ESR	200 mm	221	150		
17	JN-6 to JN-6A	200 mm	300	300		
18	JN-6A TO Shantinath New OHSR	150 mm		30		
		200 mm	23			
19	JN-7 TO Shantinath Old OHSR	250 mm		252		
		200 mm	252			
20	JN-8 TO Punayta OHSR	350 mm	2277			
		200 mm		1800		
		150 mm		695		
21	CWPS City Campus (HW TO JN-9)	350 mm		1320		
		200 mm	1250			
22	JN-10 to Jodhpur road campus	200 mm	107	50		
		200 mm	39	30		
23	JN-10 TO JN-11	250 mm		685		
		200 mm	738			
24	JN-11 to H.B. New SR	200 mm		195		
		150 mm	210			
25	JN-11 TO Housing Board Old OHSR	200 mm	455	525		
26	JN-12 to New Labour Colony	200 mm		90		
		250 mm	373			
27	JN-14 to IND. Phase-IV Old OHSR	200 mm		90		
28	JN-14 to IND. Phase-IV New OHSR	200 mm		100		
		150 mm	80			
TOTAL			4000	3635	-365	
500 mm					Between Jn-1 to Jn-2 ,Dia 500 to 700 mm Changed in design due to increase demand of Nayagoan i.e. 1.46 to 4.25 MLD therefore length saving in 500mm dia.	
2	JN-1 TO JN-2	700 mm		1505		
		500 mm	1502			
5	JN-2 TO JN-3	500 mm	418	455		
		700 mm				
11	JN-1 TO JN-6	500 mm		975		
		450 mm	976			
TOTAL			1920	1430	-490	
250 mm					Between Jn-2 to Nayagoan Dia 250 to 350 mm Changed	
37	JN-2 TO Naya Gaon OHSR	350 mm		2760		
		250 mm	2637			

38	JN-3 TO Suraj Pole OHSR	300 mm	208			in design due to increased demand of Nayagoan i.e. 1.46 to 4.25 MLD therefore length saving in 250mm dia.
		250 mm		300		
39	JN-7 TO Shantinath Old OHSR	250 mm		252		
		200 mm	252			
40	JN-9 TO JN-10	300 mm	412	2190		
		250 mm	1755			
		200 mm				
41	JN-10 TO JN-11	250 mm		685		
		200 mm	738			
42	JN-12 to New Labour Colony	200 mm		90		
		250 mm	373			
43	JN-13 to New Raiko ki dhani	250 mm		85		
44	JN-12 TO JN-14	250 mm	2785	2845		
45	CWPS Mandli To Mandiya Village OHSR	250 mm	5950	6800		
TOTAL Mtrs.			13500	10967	-2533	
Grand Total Mtrs.			38280	40952	2626	

III Description of Baseline Environment

9. **Pipe Laying Works.** Pipes for water supply are being laid along the roads/streets in the town within the road right of way (ROW). In wider roads pipes are being laid in the road shoulder beside the tarmac, and in narrow roads, where there is no space, pipes will be laid in the road carriage way by break opening the tarmac. City Roads are lined both sides with open drains. There are no trees along the proposed roads where pipe laying is being done. Bigger diameter pipes are being laid along the main roads and Highway, which are wide and have adequate space. No tree cutting is anticipated as there is adequate space to lay the pipelines in those roads. No wildlife exists in the municipal areas where water supply pipeline works are proposed. No any ASI or state protected monuments, protected biological areas (sanctuaries or reserves) exist within the project impact areas.

IV Environmental Impact Assessment of Updated scope of works

10. As described in **Table 1 & 2** scope of works has been updated in pipe line works only in this subproject. As described in **Table 2** changes have been made due to various reasons, which are due to change in design, to avoid impact on highway, to facilitate the demand of the area etc. and having positive impacts.
11. Project impacts and mitigation measures were identified and described in the Initial Environment Examination report, including those of pipe laying works in proposed areas. There are no additional change of impact due to updated scope of pipe laying as the pipe laying (updated scope) is on the same location/road and same type of topography. No trees or residential or commercial establishments are being affected due to updated scope of works. Impacts on project affected displaced persons (DPs) are being addressed separately in RP.
12. Environmental features and impacts assessment for updated scope of works is given in **Table 3**, whereas mitigation measures for these impacts are already described in IEE, which will be applicable here also.

Table 3: Environmental Impacts of Updated Scope of Works

Package-RUSDP/PALI/02								
Detail For Pipeline						Features and potential environmental impacts		
S. No.	Section / Reach	Size (mm)	Length of Pipe (m)		Excess	Reasons of Changes	Features of road (residential/commercial/ road), trees	Potential impacts on environmental features
			As per BOQ	As per SIP				
1	Manpura Bhakhri TO JN-1	700 mm	4248	5165	917	Length increased as NHAI did not permitted for pipe crossing under ROB	Partly residential, no trees present in alignment, very less traffic, no commercial activities	Sufficient space available for pipe laying, no impact except dust and traffic safety
2	JN-1 TO JN-2	700 mm		1505	1505	Between Jn-1 to jn-2 Dia 500 to 700 mm Changed in design due to increase demand of Nayagoan i.e. 1.46 to 4.25 MLD	Commercial activities along the road side, no tree present in alignment	Sufficient space available for pipe laying, no impact except dust, disturbance to vendors and traffic safety
		500 mm	1502					
3	RWPS Mandli TO WTP Manpura Bhakri	700 mm	3752	4150	398	Along N H. (DPR rout) 7 pipeline are already laid, so changed alignment through Mandli Village	Partly Residential and Right of Way (ROW) of NHAI, no commercial activities, no trees present in alignment	Sufficient space available for pipe laying, no impact except dust and traffic safety
TOTAL			8000	10820	2820			
300 mm						Heavy traffic & underground utilities on Jodhpur road. So, alignment changed along the service road of PHED canal as well as no need of road restoration and dia		
4	JN-3 TO Suraj Pole OHSR	300 mm	208				Residential and commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		250 mm		300				
5	JN-9 TO JN-10	300 mm	412	2190			Residential and commercial activities, no trees along the	Sufficient space available for pipe
		250 mm	1755					

		200 mm				got changed from original 250 to 300 mm to meet the demand of Jodhpur road and Housing board.	alignment	laying, dust, noise and traffic safety to be considered		
TOTAL			620	2190	1570					
400 mm										
6	JN-6 TO JN-7	450 mm		495		1.New C C road was constructed therefore route has been changed. 2. Jn-8 has to be shifted due to pipe route was going to plot area of Deen Dayal Upadhaya colony.	Residential and commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered		
		400 mm	533							
		150 mm								
7	JN-7 TO JN-8	450 mm		230						
		400 mm		2235						
		350 mm	2688							
		300 mm								
7	JN-7 TO JN-8	150 mm								
		8	labour colony JN TO JN-13, Raiko ki dhani OLD OHSR	400 mm		2117	1965		Residential and commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
				100 mm						
TOTAL			2650	4200	1550					
450 mm										
7	JN-3 TO JN-4	450 mm	474			Due to revision of Hydraulic design some pipe dia were converted 450mm to 350mm therefore 450mm length decreased while 350mm increased 450 m.	No Residential and No Commercial along PHED Canal, no trees along the alignment	Sufficient space available for pipe laying, dust and noise impacts to be considered		
		350 mm		915						
11	JN-1 TO JN-6	500 mm		975			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered		
		450 mm	976							
15	JN-6 TO JN-7	450 mm		495			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and		
		400 mm	533							

		150 mm						traffic safety to be considered
17	JN-7 TO JN-8	450 mm		230			Commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		400 mm		2235				
		350 mm	2688					
TOTAL			1450	725	-725			
150 mm					Due to revision of hydraulic design some pipe dia convert 200mm to 150mm therefore 150mm length increased 385 M. while 200mm decreased 365 m.			
9	JN-6A TO Shantinath New OHSR	150 mm		30		Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered	
		200 mm	23					
10	JN-6A TO Mandia Road OHSR	150 mm	150	90				
11	JN-8 TO Punayta OHSR	350 mm	2277					
		200 mm		1800				
		150 mm		695				
12	JN-11 to H.B. New SR	200 mm		195				
		150 mm	210					
13	JN-12 to Old Labour Colony	150 mm	50	60		Commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered	
14	JN-14 to IND. Phase-IV New OHSR	200 mm		100				
		150 mm	80					
TOTAL			490	875	385			
350 mm					Jn-8 has to be shifted due to pipe route was going through plot area of Deen Dayal Upadhaya colony. From Jn-8 to Gandhinagar OSHR			
29	JN-2 TO Naya Gaon OHSR	350 mm		2760		Commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered	
		250 mm	2637					
31	JN-3 TO JN-4	450 mm	474			No Residential and No Commercial along PHED	Sufficient space available for pipe	
		350 mm		915				

		100 mm			450	length got increased due to shifting of location of Jn-08.	Canal, no trees along the alignment	laying, dust and noise impacts to be considered
32	JN-4 TO JN-5, CWR	350 mm	599	310			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		100 mm						
33	JN-7 TO JN-8	450 mm		230			Commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		400 mm		2235				
		350 mm	2688					
34	JN-8 to Gandhi Nagar OHSR	350 mm	86	795			No Residential and No Commercial activities nearby the road, no trees along the alignment	Sufficient space available for pipe laying, dust and noise impacts to be considered
35	JN-8 TO Punayta OHSR	350 mm	2277				Partly residential and partly commercial activities beside road, no trees present along the alignment	Sufficient space available for pipe laying, dust and noise impacts to be considered
		200 mm		1800				
		150 mm		695				
36	CWPS City Campus (HW TO JN-9)	350 mm		1320			No Residential and No Commercial activities nearby the road, no trees along the alignment	Sufficient space available for pipe laying, dust and noise impacts to be considered
		200 mm	1250					
TOTAL			5650	6100				
200 mm					450	Due to revision of hydraulic design some pipe dia convert 200mm to 150mm therefore 150mm length increased 385 M. while 200mm		
15	JN-4 to Bhatwada ESR	200 mm	615	305			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
16	JN-5 to PHED ESR	200 mm	221	150			Inside PHED campus	No impact

17	JN-6 to JN-6A	200 mm	300	300		decreased 365 m.	Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
18	JN-6A TO Shantinath New OHSR	150 mm		30			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		200 mm	23					
19	JN-7 TO Shantinath Old OHSR	250 mm		252			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		200 mm	252					
20	JN-8 TO Punayta OHSR	350 mm	2277				Partly residential and partly commercial activities beside road, no trees present along the alignment	Sufficient space available for pipe laying, dust and noise impacts to be considered
		200 mm		1800				
		150 mm		695				
21	CWPS City Campus (HW TO JN-9)	350 mm		1320			No Residential and No Commercial activities nearby the road, no trees along the alignment	Sufficient space available for pipe laying, dust and noise impacts to be considered
		200 mm	1250					
22	JN-10 to Jodhpur road campus	200 mm	107	50			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		200 mm	39	30				
23	JN-10 TO JN-11	250 mm		685			Residential and commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		200 mm	738					
24	JN-11 to H.B.	200 mm		195			Residential, no trees along	Sufficient space

	New SR	150 mm	210				the alignment	available for pipe laying, dust, noise and traffic safety to be considered
25	JN-11 TO Housing Board Old OHSR	200 mm	455	525			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
26	JN-12 to New Labour Colony	200 mm		90			Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
		250 mm	373					
27	JN-14 to IND. Phase-IV Old OHSR	200 mm		90			Industrial area, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered
28	JN-14 to IND. Phase-IV New OHSR	200 mm		100				
		150 mm	80					
TOTAL			4000	3635	-365			
500 mm					Between Jn-1 to Jn-2 ,Dia 500 to 700 mm Changed in design due to increase demand of Nayagoan i.e. 1.46 to 4.25 MLD therefore length saving in 500mm dia.			
2	JN-1 TO JN-2	700 mm		1505		Commercial activities along the road side, no tree present in alignment	Sufficient space available for pipe laying, no impact except dust, disturbance to vendors and traffic safety	
		500 mm	1502					
5	JN-2 TO JN-3	500 mm	418	455		Along canal, no residence, no trees along the alignment	Sufficient space available for pipe laying, no impact except dust, disturbance to traffic	
		700 mm						
11	JN-1 TO JN-6	500 mm		975	Residential, no trees along	Sufficient space		

		450 mm	976				the alignment	available for pipe laying, dust, noise and traffic safety to be considered	
TOTAL			1920	1430	-490				
250 mm					Between Jn-2 to nayagoan Dia 250 to 350 mm Changed in design due to increased demand of Nayagoan i.e. 1.46 to 4.25 MLD therefore length saving in 250mm dia.				
37	JN-2 TO Naya Gaon OHSR	350 mm		2760		Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered		
		250 mm	2637						
38	JN-3 TO Suraj Pole OHSR	300 mm	208					Residential and Commercial activities along the road side, no tree present in alignment	Sufficient space available for pipe laying, no impact except dust, disturbance to vendors and traffic safety
		250 mm		300					
39	JN-7 TO Shantinath Old OHSR	250 mm		252		Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered		
		200 mm	252						
40	JN-9 TO JN-10	300 mm	412	2190		Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered		
		250 mm	1755						
		200 mm							
41	JN-10 TO JN-11	250 mm		685	Residential and commercial activities, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered			
		200 mm	738						
42	JN-12 to New Labour Colony	200 mm		90		Residential, no trees along the alignment	Sufficient space available for pipe laying, dust, noise and traffic safety to be considered		

		250 mm	373				
43	JN-13 to New Raiko ki dhani	250 mm		85		Commercial activities along the road side, no tree present in alignment	Sufficient space available for pipe laying, no impact except dust, disturbance to vendors and traffic safety
44	JN-12 TO JN-14	250 mm	2785	2845		Commercial activities along the road side, no tree present in alignment	Sufficient space available for pipe laying, no impact except dust, disturbance to vendors and traffic safety
45	CWPS Mandli To Mandiya Village OHSR	250 mm	5950	6800		Along National Highway, no trees, no residences and no commercial activities	Sufficient space available for pipe laying, no impact except dust
TOTAL Mtrs.			13500	10967	-2533		
Grand Total Mtrs.			38157	40952	2626		

V. Public Consultation

13. Public consultations with different stakeholders like line departments, residents, road users, shopkeepers and businessmen etc. are continuously being done and reported through quarterly and semi-annual monitoring reports. Grievance redress mechanism as mentioned in IEE is fully functional.
14. Public consultations were also done during preparation of this addendum with nearby residents of changed pipe alignments to disclose the updated scope of works to them and obtain their opinion and suggestions and problems encountered due to proposed works. Report of public consultations is attached as **Appendix 4** with this addendum.
15. During public consultations it was found that public and residents want to finish the work well in time, provide access for houses and shops, reduction of dust during excavation, traffic safety etc. Public is satisfied with the ongoing works for improved water supply in town and ready to bear some disturbances in their routine works for better water supply in future.

VI. Field Based Environmental Due Diligence

16. This chapter ascertains presence of any residual environmental impacts due to implementation of works on account of changes in sub-projects locations and other additional scope, and suggests appropriate, time-bound corrective measures to address those residual environmental impacts.
17. EMP is part of contract documents. Mitigation measures as per EMP are already implemented in pre-construction stage and currently being practiced during construction stage of the project. All the mitigation measures suggested in EMP for operation stage shall also be complied.
18. Statutory permissions required and applicable for the project are being taken by contractor/PIU/line agencies. Periodical testing of environmental parameters (air, noise, water and soil) are being done as per approved IEE. Testing results show that all the parameters of ambient air, noise, water and soil are within the permissible limits/baseline stage.
19. Public/stakeholder consultations are done during design phase and pre-construction stages with different stakeholders such as PHED, Municipal Council, residents, shopkeepers and road users etc. Such consultations are continued throughout the construction phase and being regularly reported in quarterly and semi-annual reports. Public consultations were also done for updated scope of works and reported in this addendum.
20. Well established grievance redress mechanism, as described in IEE is operating in the project. No major significant grievances are received so far. Most of the grievances are for minor issues like housekeeping, disturbance of utilities, access to residences are being addressed within stipulated time of 1-3 days within PIU level.

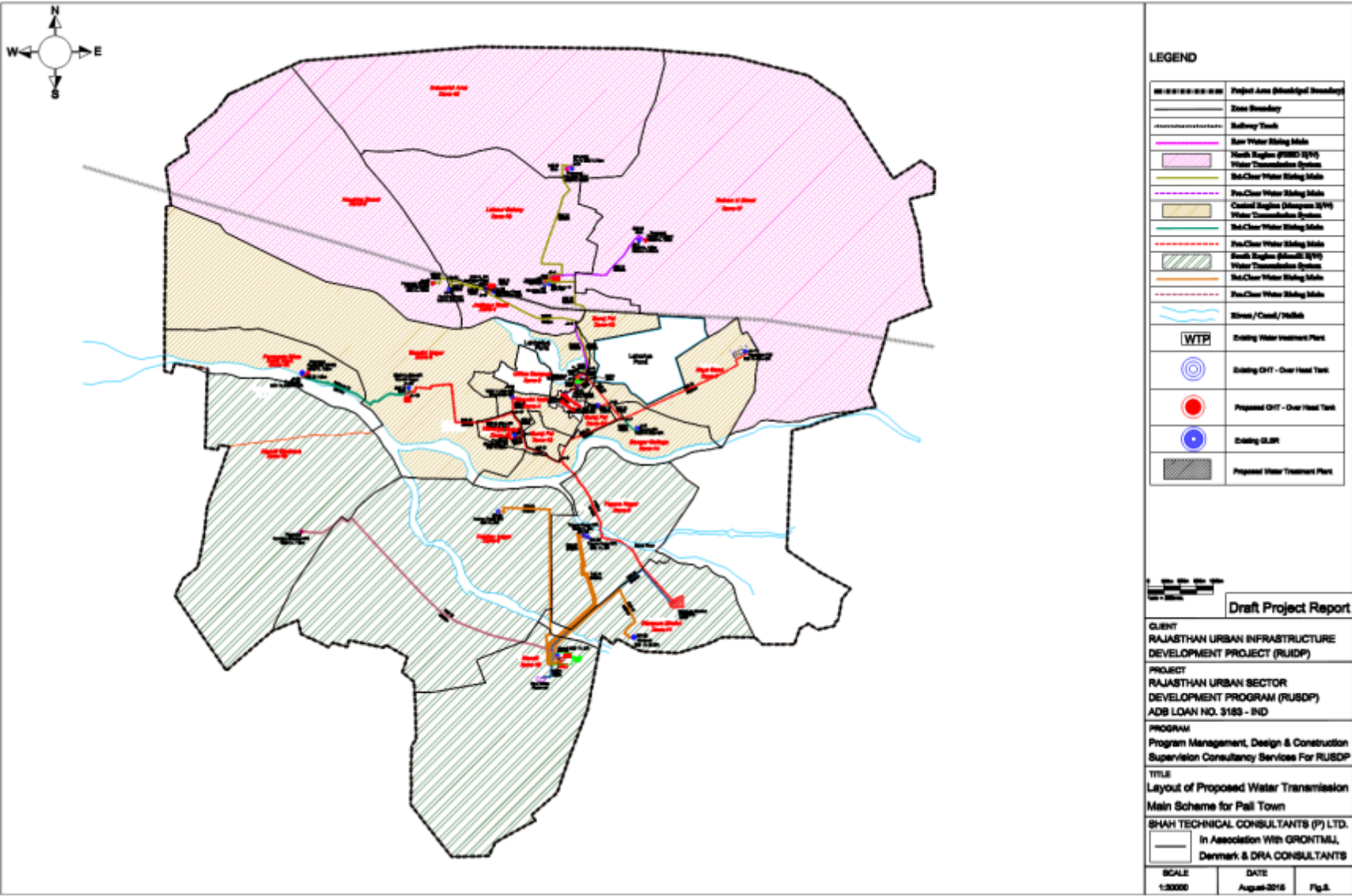
Safeguard team, comprising PMDSC, CAPC and contractor's personnel is actively participating in addressing grievances from public/stakeholders.

21. All the impacts arising due to updated scope of works can be mitigated through the mitigation measures given in EMP. No any environment impact of new nature was anticipated during impact assessment of updated scope of works and no residual impacts are identified after preparation of this addendum to the IEE.

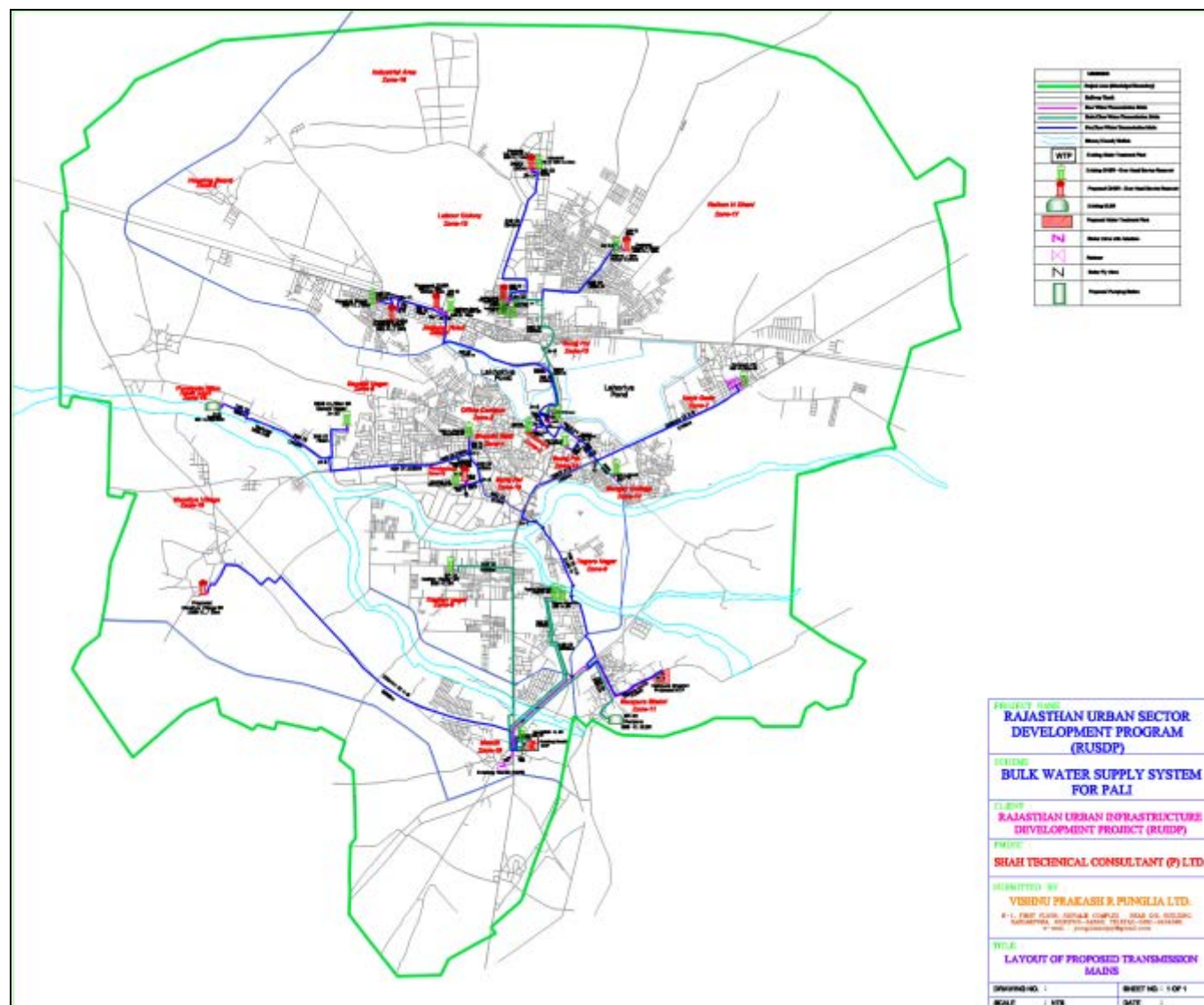
VII. Conclusion

22. The process described in IEE document had assessed the environmental impacts of all elements of the Pali Bulk Water System subproject. All potential impacts were identified in relation to pre-construction, construction, and operation phases. Planning principles and design considerations have been reviewed and incorporated into the site planning and design process wherever possible; thus, environmental impacts as being due to the project design or location were not significant. During the construction phase, impacts mainly arise from the construction dust and noise, the need to dispose of large quantities of waste soil and import a similar amount of sand to support the pipes in the trenches; and from the disturbance of residents, businesses, traffic and important buildings by the construction work. The temporary impacts (access disruptions) due to construction activities are unavoidable, as the residential and commercial establishments exist along some roads (refer Table 3) where pipes will be laid. A separate resettlement plan has been developed to address temporary disturbances to vendors, in accordance with ADB SPS 2009 and Government of India laws and regulations.
23. Public consultations are done in design and pre-construction stages, whereas public consultations are ongoing throughout the construction stage. Grievance redress mechanism is well established in the project and functioning as per requirement of ADB SPS.
24. As discussed in earlier sections there are no changes in nature of impacts due to updated scope of works, therefore no separate mitigation measures are required to be addressed in this addendum and mitigation measures as provided in IEE is sufficient to deal with updated scope of works as mentioned in this addendum. Therefore, as per ADB SPS, the project is classified as environmental category B and does not require further environmental impact assessment.

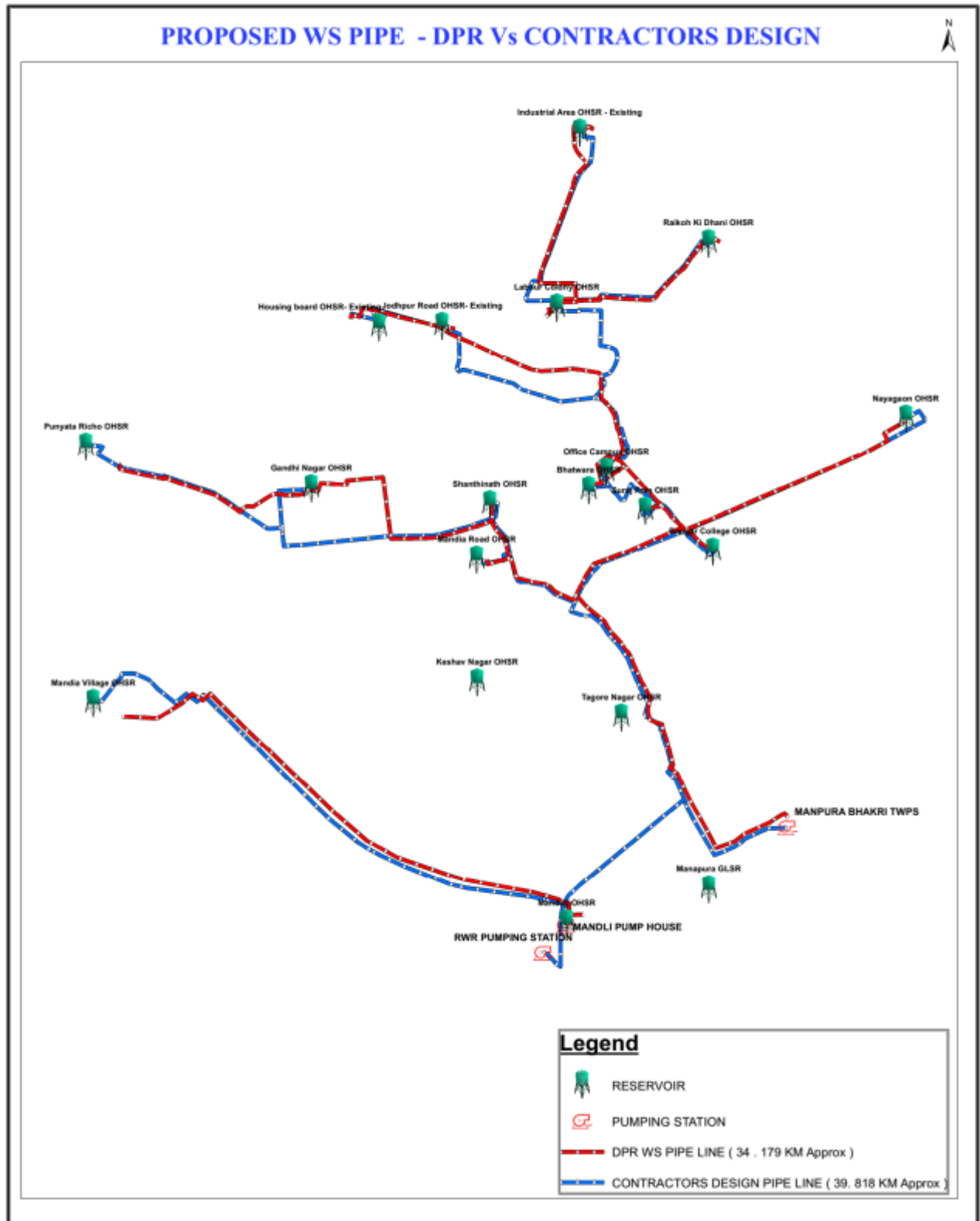
Appendix 1: Layout Plan showing Original scope of works as per Detail Design (DPR)



Appendix 2: Layout Plan Showing updated scope of works as per SIP










Appendix 3: Layout Plan showing Change in pipe laying works



Appendix 4: Public Consultations

Public Consultation at prominent locations of changed scope of works

S.N.	Date	Area	Consulted Persons	Consultation Objective and topics discussed	Outcome of Consultation	Photos
1	11/10/2018	Mastan Baba to Shivaji Circle (JN-1 to JN-2)	1- Pawan 2- Rahul 3- Mod. Rasid 4- Suraj 5- Mod. Aslam	<ul style="list-style-type: none"> About information of RUIDP work and their benefit. About updated aliment and probable disturbance due to Pipe line laying. Required participation and coordination in RUIDP work. Information about grievance redress mechanism of RUIDP Any suggestion for proposed works 	<ul style="list-style-type: none"> People are ready to cooperate in the proposed works and to bear some disturbance due to proposed works They suggested that works should be finished quickly to avoid long duration of disturbance People want traffic safety and housekeeping during construction works 	 
2	11/10/2018	Subash Nagar (JN-9 to JN-10)	6- Kishan Banjara 7- Ramesh 8- Radheshyam	<ul style="list-style-type: none"> About information of RUIDP work Water Supply Pipe line and their benefit. About chances of Noise, dust due to works of Pipe line laying. Participation and coordination of residents in RUIDP work. Information about grievance redress mechanism of RUIDP Any suggestion about the project and proposed works 	<ul style="list-style-type: none"> People are aware of proposed works of RUIDP and ready to cooperate in the proposed works and to bear some disturbance due to proposed works People want mitigation measures to be adopted to reduce noise and dust during construction works People appreciated the grievance redress mechanism 	

					and ensured to inform in time if any difficulty is faced during construction works	
3	12/10/2018	Village - Mandli (RWPS to WTP)	9- Babu Lal 10- Hari Ram 11- Nemi chand 12- Chagan	<ul style="list-style-type: none"> About information of RUIDP work laying of Pipe line and their benefit. About aliment and Dia of Pipe line and probability of generation of Noise, dust due to works of Pipe line laying. Information about grievance redress mechanism of RUIDP Movement of any wildlife in the area 	<ul style="list-style-type: none"> People are ready to cooperate in the proposed works and to bear some disturbance due to proposed works They suggested that works should be finished quickly to avoid long duration of disturbance People confirmed that there is no wildlife movement reported in the area 	
4	12/10/2018	Village Manpura Bhakri (Manpurabhakri to JN-01)	13- Lunga 14- Tulsi Bai 15- Asha 16- Sharvan 17- Bhawri	<ul style="list-style-type: none"> About information of RUIDP work and their benefit, Disturbance due to Pipe line laying. Participation and coordination of RUIDP work . Information about grievance redress mechanism of RUIDP Movement of any wildlife in the area 	<ul style="list-style-type: none"> People are ready to cooperate in the proposed works and to bear some disturbance due to proposed works They suggested that works should be finished quickly to avoid long duration of disturbance People confirmed that there is no wildlife movement reported in the area 	 

Attendance Sheets of Public Consultations

RAJASTHAN URBAN SECTOR DEVELOPMENT PROGRAM (RUSDIP) Project Management, Design and Supervision Consultation (PMDSC), Pali Consultation Sheet

Date - 12/10/18

Name of Area - मीरापुरी (20)

Type of Work - Pipe laying work

(Mangray Khadon to JAL-01)

Issue discussed -

1. about Information of RUSDIP work for laying of pipe line and disturbance of pipe laying.

Participation & Coordination of RUSDIP work.
Out Come -

1. During public consultation it was appreciated by public for weather pipe laying.

Person Consulted -

S.No.	Name	Designation	Mob.	Signature
1.	मि. रा. रा. रा.	मि. रा. रा. रा.	-	-
2.	मि. रा. रा. रा.			-
3.	मि. रा. रा. रा.			मि. रा. रा. रा.
4.	मि. रा. रा. रा.	मि. रा. रा. रा.	9799784752	मि. रा. रा. रा.
5.	मि. रा. रा. रा.			-
6.	मि. रा. रा. रा.	AO - PMDSC, Pali		मि. रा. रा. रा.

RAJASTHAN URBAN SECTOR DEVELOPMENT PROGRAM (RUSDIP)
Project Management, Design and Supervision Consultation (PMDSC), Pali
Consultation Sheet

Date - 11/10/2018 Name of Area - ग्राम पंचायत

Type of Work - laying of pipeline (Jal. 9 to Jal. 10)

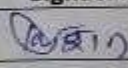
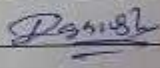

Issue discussed -

1. सार में आई है कि पीपलिंग का काम पीपलिंग आधिकारिक
 एजेंसी को कराने के लिए।
2. उपर्युक्त कार्य को कराने के लिए 35 लाख, वारंटवाला अनुदान देना
 के लिए भी जल्दी।

Out Come -

1. जल निकासी के लिए जल संचयन 'हैंग'।

Person Consulted -

S.No.	Name	Designation	Mob.	Signature
1.	अशोक कुमार	अधीनस्थ अधिकारी	9529491628	
2.	अशोक कुमार	अधीनस्थ अधिकारी	-	
3.	अधीनस्थ अधिकारी	अधीनस्थ अधिकारी	-	-
4.	अधीनस्थ अधिकारी	ASO. PMDSC, Pali	-	

RAJASTHAN URBAN SECTOR DEVELOPMENT PROGRAM (RUSDIP)
Project Management, Design and Supervision Consultation (PMDSC), Pali
Consultation Sheet

Date - 12/10/18

Name of Area - अशोकपुरा

Type of Work - laying of pipe-line (Rups mandli to WTP)

Issue discussed -

1. Information of RUSDIP work laying of water Pipe line.

about alignment of Dia of pipe-line and disturbance of Pipe line

Out Come

1. During public Consultation, RUSDIP work for better Sewer Infrastructure and we appreciate RUSDIP work.

Person Consulted -

S.No.	Name	Designation	Mob.	Signature
1	श्री. ग. केशव	उपा. श. अ. अ.	9001322881	श्री. ग. केशव
2	श्री. अ. अ.	"	9829682677	श्री. अ. अ.
3	श्री. अ. अ.	"		श्री. अ. अ.
4	श्री. अ. अ.	"		-
5	श्री. अ. अ. केशव	ASO-PMDSC	7597476571	श्री. अ. अ. केशव

RAJASTHAN URBAN SECTOR DEVELOPMENT PROGRAM (RUSDIP)

Project Management, Design and Supervision Consultation (PMDSC), Pali

Consultation Sheet

Date - 11/10/2018

Name of Area - Muzen Pali to Shim

Circ - (J21-1 to J21)

Type of Work - laying of pipe line

Issue discussed -

1. About Information of RUSDIP waste and their benefits.
2. About Change in alignment & Delay due to disturbance of pipe laying.
2. Participation and Coordination of RUSDIP waste.

Out Come -

1. We have carrying & moving shop across, 1-orth for the work laying of pipe line to avoid disturbance.

Person Consulted -

S.No.	Name	Designation	Mob.	Signature
1.	UAG	Manager	9001658385	[Signature]
2.	LIG	Manager	9571806562	[Signature]
3.	Mr. Zaf	Manager	-	[Signature]
4.	UAG	Manager	-	[Signature]
5.	Mr. Zaf	Manager	9252251161	[Signature]
6.	Mr. Zaf	ASO-PMDSC, Pali	7597471571	[Signature]