

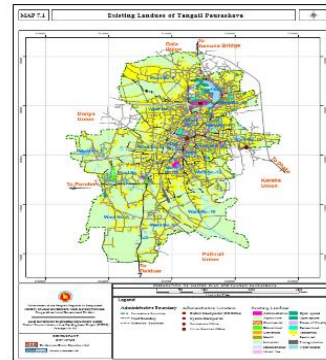
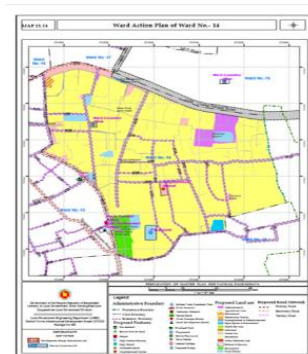
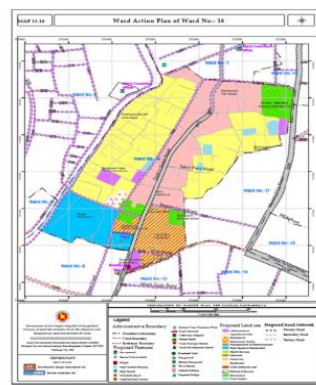
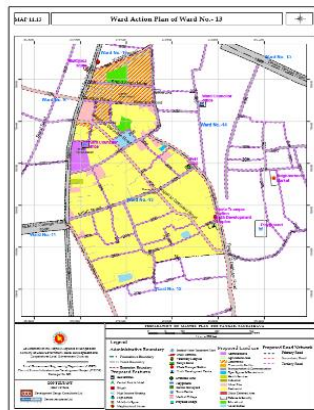


National Resilience Programme



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Risk Reduction Action Plan: Volume 2 Rangpur City Corporation



BUET-Japan Institute of Disaster Prevention and Urban Safety (BUET-JIDPUS)

Department of Urban and Regional Planning

Department of Civil Engineering

Bangladesh University of Engineering and Technology (BUET),

Dhaka-1000, Bangladesh.

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Resilience
Programme**



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**Earthquake Risk Assessment for Developing Contingency
Plans, Training Modules and Awareness Materials for
Rangpur City Corporation and
Tangail, Rangamati and Sunamganj Pourashavas**



BUET-Japan Institute of Disaster Prevention and Urban Safety (BUET-JIDPUS)
Department of Urban and Regional Planning
Department of Civil Engineering
Bangladesh University of Engineering and Technology (BUET),
Dhaka-1000, Bangladesh.

Project Team Members

Faculty:

- Prof. Dr. A. F. M. Saiful Amin, Director, BUET-JIDPUS, Professor, Dept. of Civil Engineering, BUET
- Prof. Dr. Raquib Ahsan, Professor, Dept. of Civil Engineering, BUET
- Prof. Dr. Ishrat Islam, Professor, Dept. of Urban and Regional Planning, BUET
- Prof. Dr. Mohammad Shakil Akther, Professor, Dept. of Urban and Regional Planning, BUET
- Ms. Uttama Barua, Assistant Professor, Dept. of Urban and Regional Planning, BUET
- Ms. Tasnim Tarannum, Lecturer, BUET-JIDPUS
- Ms. Shamontee Aziz, Lecturer, BUET-JIDPUS
- Ms. Sadia Afroj, Lecturer, Dept. of Urban and Regional Planning, BUET

Research Assistant:

- Ms. Shegufta Zahan, Dept. of Civil Engineering, BUET
- Ms. Meher Afjun Faria, Dept. of Urban and Regional Planning, BUET
- Ms. Madiha Choudhury, Dept. of Urban and Regional Planning, BUET

Officer and Technical Personnel:

- Md. Samsur Rahman, BUET-JIDPUS
- Md. Jasim, BUET-JIDPUS
- Mr. Azader Rahman, BUET-JIDPUS
- Md. Haroonor Rashid, BUET-JIDPUS

1. GENERAL GUIDELINES

Action Plan: Short Term

Priority 1		Priority 2		Priority 3		Priority 4	
Actions	Key Targets	Actions	Key Targets	Actions	Key Targets	Actions	Key Targets
Continuation and planned expansion of earthquake program	Public communication and awareness of citizens on DRR	Committees formed as per recommendations and a database on them prepared. A specific number of training sessions must be conducted for capacity building.	Strengthening disaster risk governance	Equitable disaster management activities	Development of local disaster management fund	Facilitating the emergency response activities	Promotion of household preparedness plan
		Capacity building of the members.	Developing Implementing Authority			A minimum specific number of training sessions must be conducted.	Arrangement and capacity building of the selected facilities for effective preparedness and response
		A minimum specific number of training sessions with a specific minimum number of local professionals must be conducted.	Capacity building of the local professionals for DRR				

Action Plan: Mid Term

Priority 1		Priority 2		Priority 3		Priority 4	
Actions	Key Targets	Actions	Key Targets	Actions	Key Targets	Actions	Key Targets
		Development of a system and capacity building for land use clearance and resilient construction of buildings and infrastructures	Ensuring building safety	Ensuring safety measures of facility buildings	Retrofitting immediately required facility buildings	Area-wise proper management of debris	Prepare a plan for debris management identifying debris accumulation points along with necessary capacity building
				Ensuring building safety	Development of a system and capacity building for land use clearance and resilient construction of buildings and infrastructures	Area-wise proper management of dead bodies	Prepare a plan for dead body management
						Proper implementation of the post-disaster	Development of a system and capacity building for post-disaster

						management activities	building vulnerability assessment to ensure recovery, rehabilitation and reconstruction
<i>Continuing Actions</i>							
Continuation and planned expansion of earthquake program	Public communication and awareness of citizens on DRR	A specific number of training sessions must be conducted for capacity building of the committee members.	Strengthening disaster risk governance	Equitable disaster management activities	Development of local disaster management fund		
		A minimum specific number of training sessions with a specific minimum number of local professionals must be conducted.	Capacity building of the local professionals for DRR				

Action Plan: Long Term

Priority 1		Priority 2		Priority 3		Priority 4	
Actions	Key Targets	Actions	Key Targets	Actions	Key Targets	Actions	Key Targets
Ensuring social sustainability of the disaster management activities	Prepare a plan to ensure continuity of awareness and capacity building (public communication and awareness of citizens on DRR; capacity building of the committee members; capacity building of the local professionals for DRR; etc.)			Earthquake resilient development	Density zoning to control further development	Contingency plan revised and updated.	Revision and enhancement of the contingency plan at regular interval
				Minimizing economic vulnerability.	Mandatory insurance policy	Minimizing the earthquake vulnerability	Further arrangement for effective preparedness and response (Road widening, retrofitting of

							facility buildings, etc.)	
				Earthquake resilient land-use planning	Promotion of RSLUP			
				Minimizing the earthquake vulnerability	Preserving and restoring water bodies and open spaces			
				At least one remedy introduced and implemented.	Remedies for liquefiable soils			
<i>Continuing Actions</i>								
Continuation and planned expansion of earthquake program	Public communication and awareness of citizens on DRR	A minimum specific number of training sessions with a specific minimum number of local professionals must be conducted.	Capacity building of the local professionals for DRR	Ensuring safety measures of facility buildings	Retrofitting immediately required facility buildings	Proper implementation of the post-disaster management activities	Development of a system and capacity building for post-disaster building vulnerability assessment to ensure recovery, rehabilitation and reconstruction	

2. ACTION PLAN FOR RANGPUR CITY CORPORATION

Action Plan for retrofitting of vulnerable buildings

The buildings specified as Ward Coordination Center and for providing temporary shelter and emergency health facilities need attention in the mid-term based on their status of vulnerability. Those which have undergone Rapid Visual Screening (RVS) and were found to be vulnerable should be assessed via Detailed Engineering Assessment (DEA). If the DEA results assure their status as vulnerable, they must be retrofitted. Table-01 lists the buildings, their detailed information, and actions required accordingly.

Table 01 – List of vulnerable selective buildings with required actions in study areas of Rangpur City Corporation

Information of the building						Action
Ward No.	Label*	Name	Present use	Proposed use	Condition	
16	1	Lal Kuthi Girls' High School & College	Educational	WCC	Unsafe according to DEA	1. Retrofitting
	2	Max Fear Hospital	Health	Emergency Health	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	3	–	Health			
	4	Apollo Diagnostic Center & Imaging Center Ltd.	Health			
	5	–	Health			
	6	–	Health			
	7	–	Health			
	8	–	Health			

	9	–	Health	Emergency Health	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting	
	10	Doctors Amanullah Diagnostic Center	Health				
	11	Islami Bank Committee Hospital	Health				
	12	–	Health				
	13	–	Health				
	14	Rangpur Clinic	Health				
	15	Piyarles Clinic & Nursing Home	Health				
	16	–	Health				
	17	Saif Islami Hospital	Health				
	16	18	–				Health
		19	–				Health
		20	–				Health
		21	Motri Bhaban				Health
		22	Pramani Mansion, Green Life Clinic, Japan Bangla Dental Clinic				Health
		23	–				Health
		24	Rupali Bank Ltd., Cental Laboratory				Health
		25	–				Health
26		–	Health				
27		–	Health				
28		–	Health				
29		Tithi Girls Hostel, UCC Coaching Center	Health				
30		Rayel Clinic	Health				
31		–	Health				
32		Lab One	Health				
33		–	Health				

	34	–	Health			
16	35	–	Health	Temporary Shelter	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	36	–	Health			
	37	Sub-Division Engineer's Office (Ganopurta)	Health			
	38	Annex Diagnostic Center	Health			
	39	Northern Medical College Academic Bhaban	Educational			
	40	–	Educational			
	41	Rangpur Medical College Public High School	Educational			
	42	Baitul Najat Jame Masjid	Religious			
	43	Sonar Bangla Clinic, Senakunjo Community Center	Community Facility			
	44	Dhap Govt. Primary School	Educational			
	45	Retina Bhaban	Educational			
	46	Birprotik Taramon Bibi Govt. Teacher Training College	Educational			
	47	Dhap Boro Jame Masjid	Religious			
	48	Roads & Highway Jame Masjid	Religious			
	49	Banani Jame Masjid	Religious			
	50	Kellaband Govt. Primary School	Educational			
	51	Kellaband Hafezia Nurani Madrasa	Educational			
	52	Basic Shilpa Nagar Jame Masjid	Religious			
	53	Al-Jamiatul Islamia Darul Ulom Madrasa	Educational			
	54	Al-Jamiatul Islamia Darul Ulom Madrasa	Educational			

	55	Baitul Eahein Dhap Kellaband Jame Masjid	Religious	Temporary Shelter	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	56	M/S Chowdhury & Co. Storage Ltd. Jame Masjid	Religious			
	57	Upazila Parishad Jame Masjid	Religious			
	58	Dhap Shimulbag Jame Masjid	Religious			
	59	–	Educational			
	60	–	Educational			
	61	–	Educational			
	62	–	Religious			
	63	–	Educational			
18	1	Kiramotia High School	Educational	WCC	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	2		Hospital	Emergency Health		
	3		Pharmacy			
	4		Pharmacy			
	5		Pharmacy			
	6		Clinic			
	7		Educational	Temporary Shelter		
	8	Nasirabad Akramia Jame Masjid	Religious			
	9	Kerani Para Govt. Primary School	Educational			
	10	Beximco Pharmaceuticals Ltd.	Educational			
	11		Religious			
	12		Educational			
	13	Munshi Para Jame Masjid	Religious			
	14	Kiramotia High School	Educational			
	15	Kiramotia High School	Educational			

	16	Satgara Mistrypara Paschim Rajob Jame Masjid	Religious			
	17	Jamtala Jame Masjid	Religious			
	18		Religious			
	19	Siddikia Bissho Islam Mission Madrasa	Religious			
19	1	Rangpur Zila School	Educational	WCC	NA	1. Rapid Visual Screening to determine structural vulnerability 2. If RVS score < 1.2, Detailed Engineering Assessment 3. If vulnerable, retrofitting
	2	–	Health	Emergency Health	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	3	PWD Office	Health			
	4	Agrani Bank Ltd.	Health			
	5	Rangpur Dental College & Hospital, Community Medical College	Health			
	6	–	Health	Emergency Health	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	7	Rangpur Life Line Community Hospital (Pvt) Ltd.	Health			
	8	Nuclear Medicine & Ultrasound Center	Health			
	9	Medical College & Hospital	Health			
	10	Rangpur Diabetic Samiti	Health			
	11	Govt. Medical College Rangpur	Health			
	12	Nuclear Medicine & Ultrasound Center	Health			

	13	–	Health			
	14	–	Health			
	15	Private Medical College, Dutch Bangla Booth	Health			
	16	Nuclear Medicine & Ultrasound Center	Health			
	17	–	Health			
	18	–	Health			
	19	Islampur Jame Masjid	Religious	Temporary Shelter	Unsafe according to RVS	
	20	–	Educational			
	21	Islampur Jame Masjid	Religious			
	22	Amzadia Jamiul Ulom Madrasa	Educational			
	23	Rangpur Police Line School & College	Educational			
	24	Rangpur Govt. College	Educational			
	25	Rangpur Govt. College Jame Masjid	Religious			
	26	Rangpur Govt. College Administrator Bhaban	Educational	Temporary Shelter	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	27	Rangpur Govt. College	Educational			
	28	Rangpur Govt. College	Educational			
	29	Rangpur Stadium	Community Facility			
	30	Helpful Fujul Jame Masjid	Religious			
	31	Dhap Chikli Vata Jame Masjid	Religious			

	32	Dhap Chicli Vata Govt. Primary School	Educational			
	33	Rangpur Medical College	Educational			
	34	Dhap Chicli vata Jame Masjid	Religious			
	35	Rangpur Medical College	Educational			
	36	Rangpur Medical College	Educational			
	37	Rangpur Medical College	Educational			
	38	–	Community Facility			
	39	Rangpur Zila School	Educational			
	40	Rangpur Zila School	Educational			
	41	Rangpur Zila School	Educational			
	42	Radha Bollab Girls' High School	Educational			
	43	–	Community Facility			
	44	Rangpur Rifles Club	Community Facility	Temporary Shelter	Unsafe according to RVS	1. Detailed Engineering Assessment 2. If vulnerable, retrofitting
	45	Rangpur Station Club	Community Facility			
	46	–	Religious			
	47	Dhap Adorsha Govt. Primary School	Educational			
	48	C&B Quraters Jame Masjid	Religious			
	49	–	Religious			

	50	DPHE Jame Masjid	Religious			
	51	Chapatla Jame Masjid	Religious			
	52	Govt. Medical College Rangpur	Educational			
	53	–	Educational			
	54	Rangpur Zila School	Educational			

*Labels are depicted in the respective maps of the vulnerable buildings to be retrofitted of the wards (Ward 16: Figure – 01; Ward 18: Figure – 02; Ward 19: Figure – 03)

Proposal for Retrofitting Public Buildings Selected as WCC, Temporary Shelter and Emergency Health Facility in Ward 16, Rangpur City Corporation

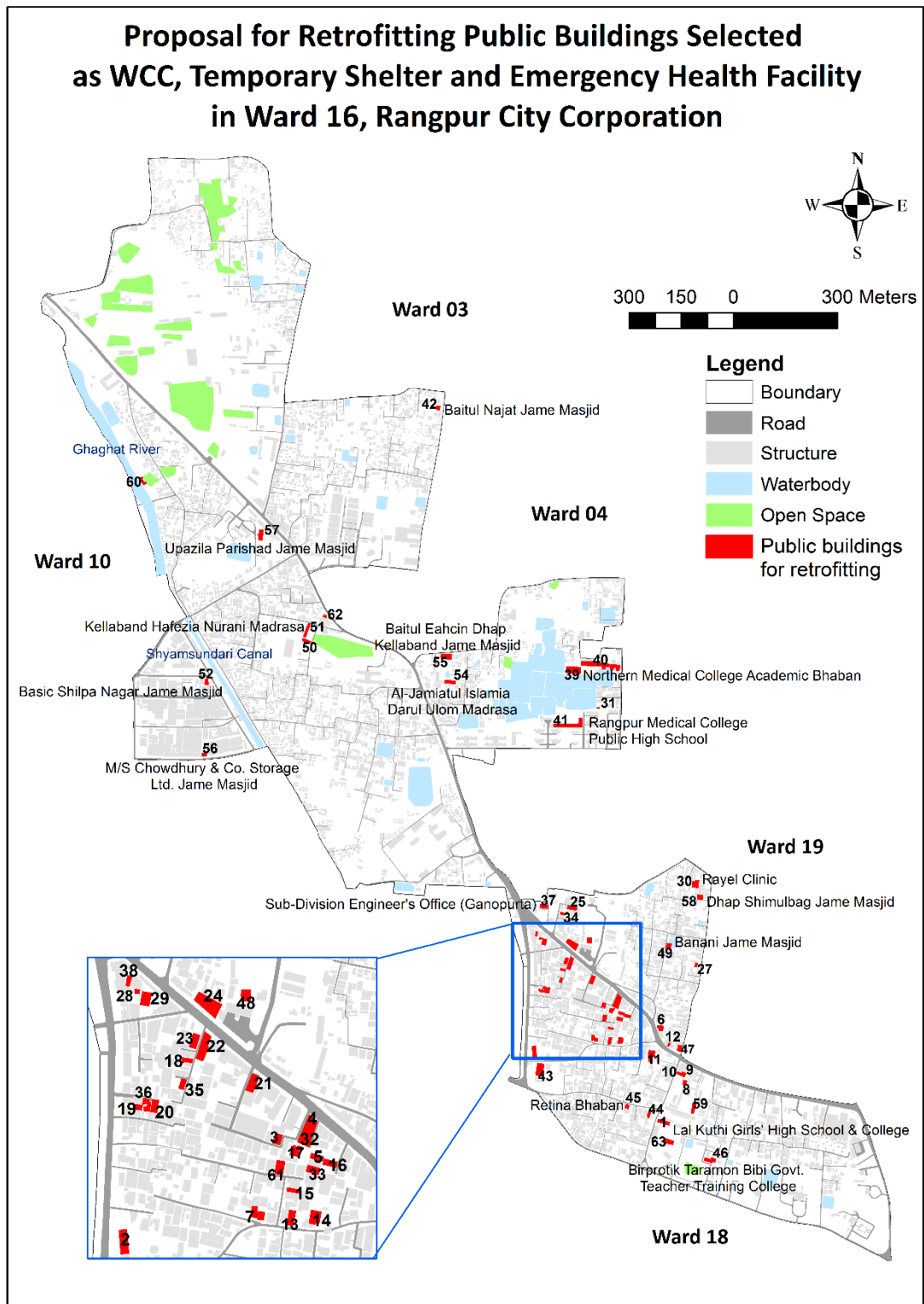


Figure 01 - Proposal for retrofitting of vulnerable buildings
in Ward-16, Rangpur City Corporation

Proposal for Retrofitting Public Buildings Selected as WCC, Temporary Shelter and Emergency Health Facility in Ward 18, Rangpur City Corporation

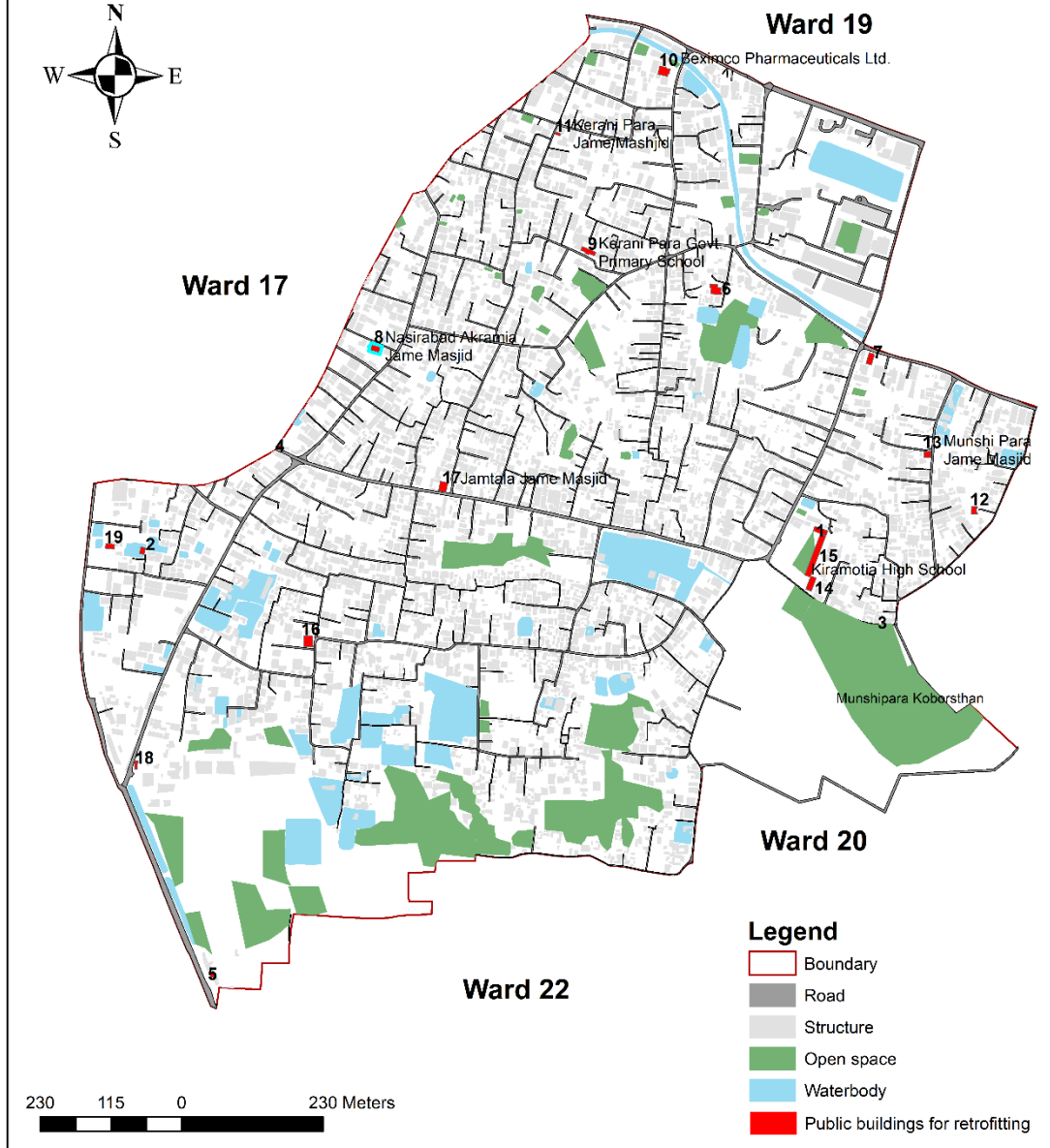


Figure 02 - Proposal for retrofitting of vulnerable buildings
in Ward-18, Rangpur City Corporation

Proposal for Retrofitting Public Buildings Selected as WCC, Temporary Shelter and Emergency Health Facility in Ward 19, Rangpur City Corporation

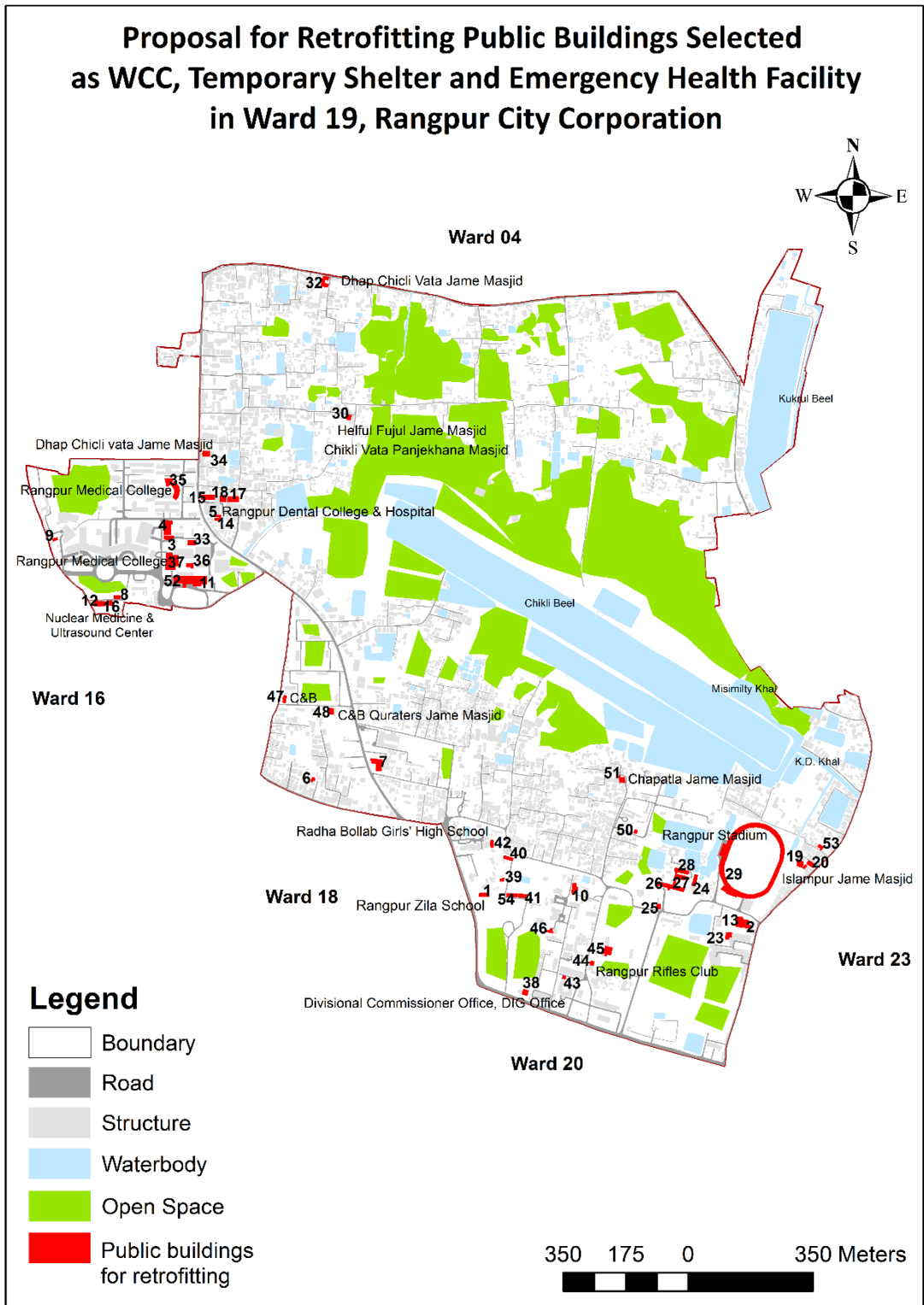


Figure 03 - Proposal for retrofitting of vulnerable buildings
in Ward-19, Rangpur City Corporation

Action Plan for Road Widening

The roads which provide access to the Ward Coordination Center, temporary shelters and emergency health facilities were checked for possible blockages and accordingly proposed for widening in the long-term as shown in Figures 04, 05, and 06. After that, all roads less than 12' wide need to be widened.

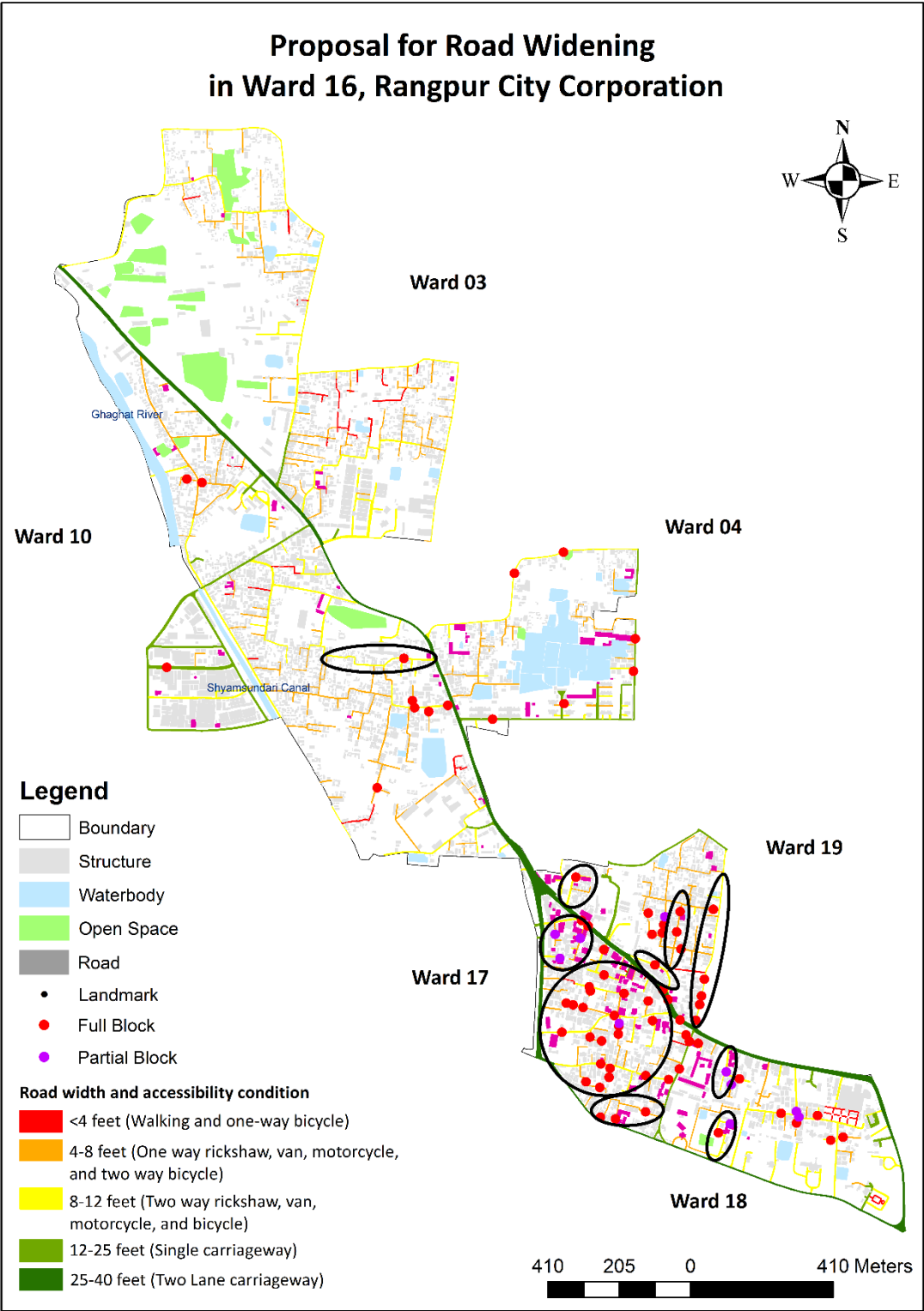


Figure 04 - Proposal for road widening in Ward-16, Rangpur City Corporation

Proposal for Road Widening in Ward 18, Rangpur City Corporation

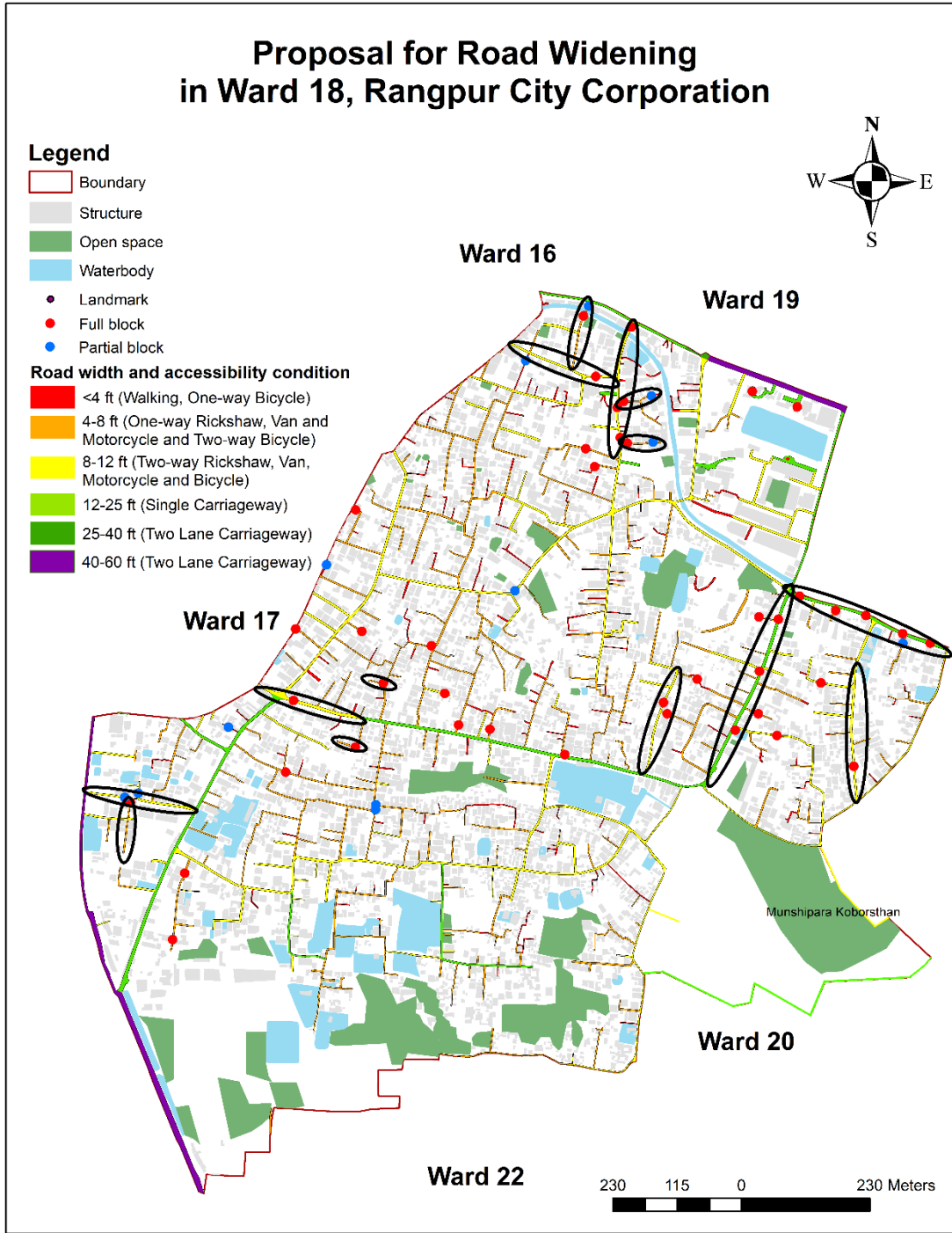


Figure 05 - Proposal for road widening in Ward-18, Rangpur City Corporation

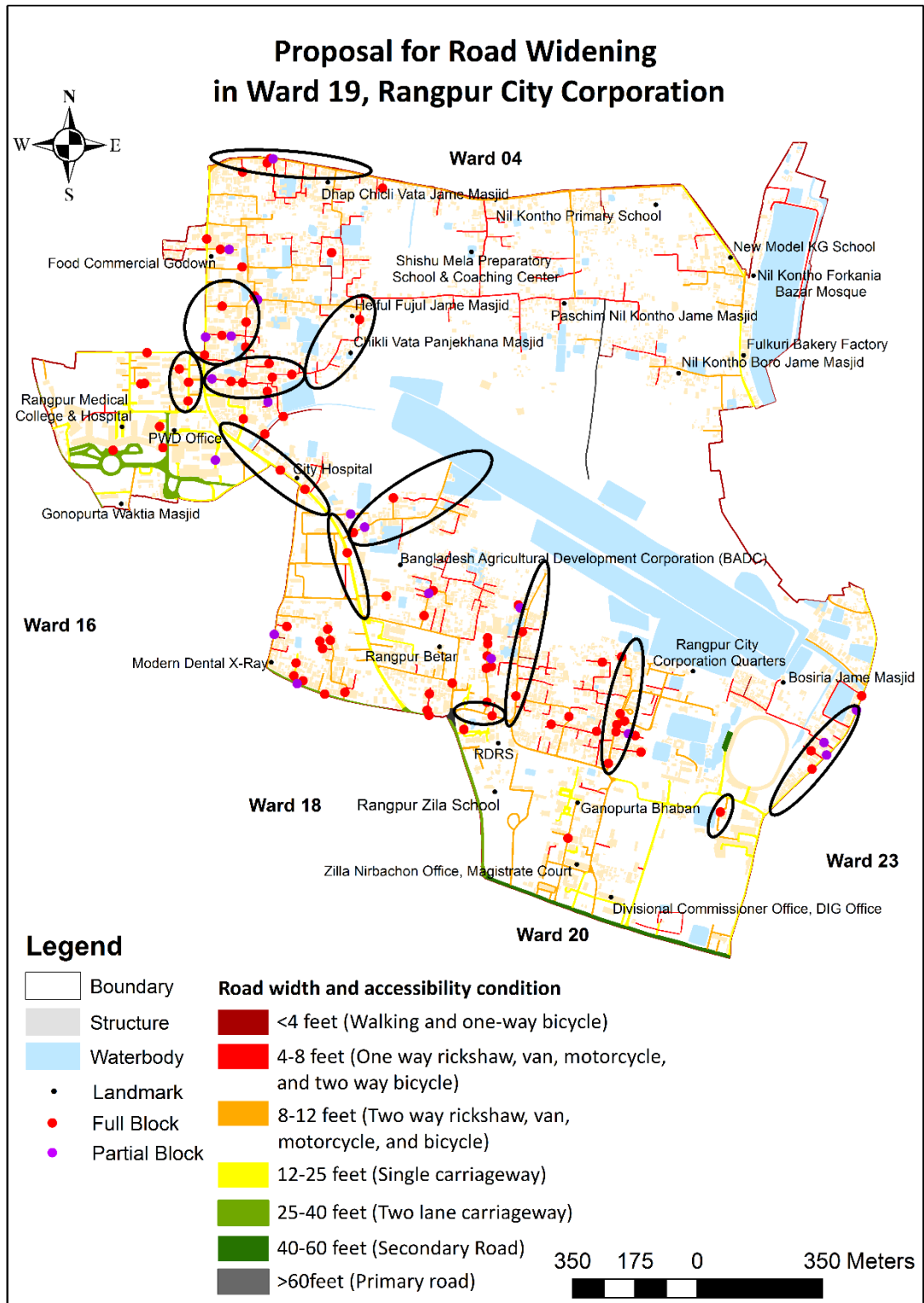


Figure 06 - Proposal for road widening in Ward-19, Rangpur City Corporation

Action Plan for Rangpur Central Jail

A separate evacuation plan to a designated open space needs to be prepared for the Central Jail in Ward 16 of Rangpur City Corporation. The plan must also meet precautionary requirements (design and guidelines) of the temporary shelter chosen to evacuate the prisoners to.

Action Plan for Institute of Nuclear Medicine & Allied Sciences, Rangpur

The buildings working with nuclear energy need to be assessed against the available guidelines and standards, example - those of Federal Emergency Management Agency (FEMA), International Atomic Energy Agency (IAEA).