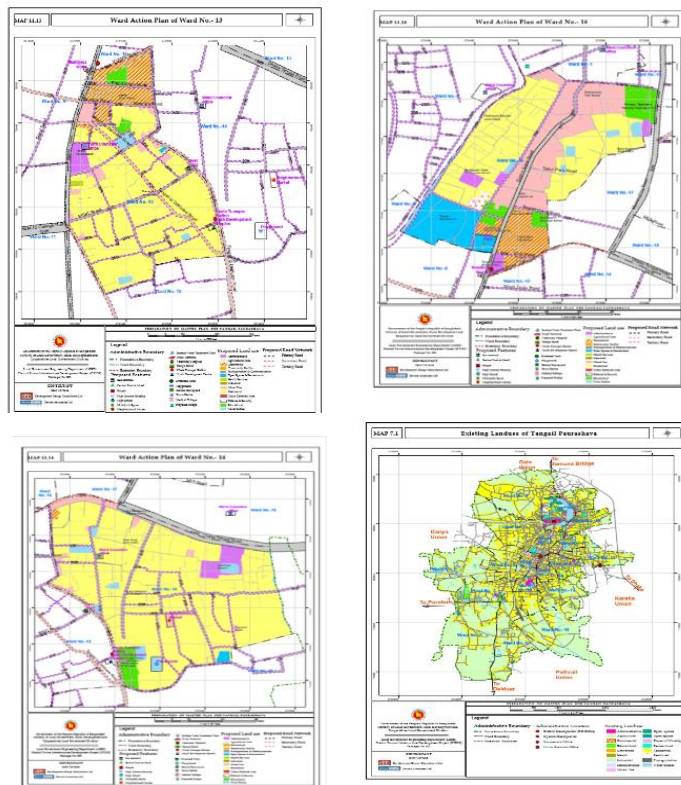




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## Risk Reduction Action Plan: Volume 2 Tangail Municipality



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),

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December, 2021



**National  
Resilience  
Programme**



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Resilient nations.*

**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)**

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## 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.<br><br>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 TANGAIL POURASHAVA

### **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 Tangail Pourashava

| <b>Information of the building</b> |               |                                |                    |                     |                         | <b>Action</b>   |
|------------------------------------|---------------|--------------------------------|--------------------|---------------------|-------------------------|---|
| <b>Ward No.</b>                    | <b>Label*</b> | <b>Name</b>                    | <b>Present use</b> | <b>Proposed use</b> | <b>Condition</b>        |   |
| 13                                 | 1             | Tangail Girl’s High School     | Educational        | WCC                 | NA                      | 1. Rapid Visual Screening to determine structural vulnerability<br>2. If RVS score < 1.2, Detailed Engineering Assessment<br>3. If vulnerable, retrofitting |
|                                    | 2             | Maa & Shishu Hospital Quarters | Hospital           | Emergency Health    | Unsafe according to RVS | 1. Detailed Engineering Assessment<br>2. If vulnerable, retrofitting  |
|                                    | 3             | Maa and Shishu Hospital        | Hospital           |                     |                         |   |
|                                    | 4             | Maa and Shishu Hospital        | Hospital           |                     |                         |   |
|                                    | 5             | Samsul Haque Memorial Hospital | Hospital           |                     |                         |   |
|                                    | 6             | –                              | Pharmacy           |                     |                         |   |

| Information of the building |        |   |                      |                   |                         | Action   |
|-----------------------------|--------|---|----------------------|-------------------|-------------------------|--|
| Ward No.                    | Label* | Name  | Present use          | Proposed use      | Condition               |  |
|                             | 7      | Family Planning Clinic                        | Clinic               |                   |                         |  |
|                             | 8      | Aysha Memorial Hospital and Diagnostic Center | Hospital             |                   |                         |  |
| 13                          | 9      | Sri Sri Kali Mondir                           | Religious            | Temporary Shelter | Unsafe according to RVS | 1. Detailed Engineering Assessment<br>2. If vulnerable, retrofitting |
|                             | 10     | Sri Sri Kali Mondir                           | Religious            |                   |                         |  |
|                             | 11     | Central Jame Masjid Super Market              | Religious            |                   |                         |  |
|                             | 12     | Major General Mahamudul Hasan Adorsho College | Educational          |                   |                         |  |
|                             | 13     | Tangail Mahalla Jame Masjid                   | Religious            |                   |                         |  |
|                             | 14     | –   | Educational          |                   |                         |  |
|                             | 15     | Tangail Girls' High School                    | Educational          |                   |                         |  |
|                             | 16     | Shahin School                                 | Educational          |                   |                         |  |
|                             | 17     | Maloncha Cinema Hall                          | Community Facilities |                   |                         |  |
| 14                          | 1      | Adarsha Govt. Primary School                  | Educational          | WCC               | Unsafe according to RVS | 1. Detailed Engineering Assessment<br>2. If vulnerable, retrofitting |
|                             | 2      |   | Diagnostic Center    | Emergency Health  |                         |  |
|                             | 3      | Seba Eye Hospital                             | Clinic               |                   |                         |  |
|                             | 4      | Bitul Aman Jame Masjid                        | Religious            | Temporary Shelter |                         |  |
|                             | 5      | Bishonabi Reg. Primary School                 | Educational          |                   |                         |  |

| Information of the building |        |   |             |                   |                         | Action   |
|-----------------------------|--------|---|-------------|-------------------|-------------------------|--|
| Ward No.                    | Label* | Name  | Present use | Proposed use      | Condition               |  |
|                             | 6      | Bulbul Residential School                               | Educational |                   |                         |  |
|                             | 7      | Purba Adalatpara Jame Masjid                            | Religious   |                   |                         |  |
|                             | 8      |   | Educational |                   |                         |  |
|                             | 9      | Textile Institute Quarters Tangail                      | Educational |                   |                         |  |
|                             | 10     | Textile Institute Tangail                               | Educational |                   |                         |  |
|                             | 11     | Textile Institute Tangail                               | Educational |                   |                         |  |
|                             | 12     | Textile Institute Tangail (Jute Spinning Shed)          | Educational |                   |                         |  |
|                             | 13     |   | Educational |                   |                         |  |
|                             | 14     |   | Educational |                   |                         |  |
| 16                          | 1      | Apollo Hospital Ltd.                                    | Hospital    | Emergency Health  | Unsafe according to RVS | 1. Detailed Engineering Assessment<br>2. If vulnerable, retrofitting |
|                             | 2      | Meristops Clinic  | Hospital    |                   |                         |  |
|                             | 3      | Maa Nursing Home  | Hospital    |                   |                         |  |
|                             | 4      | BRAC Office, Rural Research, Market Instructor's Office | Clinic      |                   |                         |  |
|                             | 5      | –   | Clinic      |                   |                         |  |
|                             | 6      | PTI Jame Masjid   | Religious   | Temporary Shelter |                         |  |
|                             | 7      | Bibekananda High School                                 | Educational |                   |                         |  |
|                             | 8      | Bibekananda High School                                 | Educational |                   |                         |  |
|                             | 9      | Bibekananda High School                                 | Educational |                   |                         |  |
|                             | 10     | Muslimpara Baitullah Jame Masjid                        | Religious   | Temporary Shelter |                         |  |

| Information of the building |        |   |                      |              |                         | Action |
|-----------------------------|--------|---|----------------------|--------------|-------------------------|--------|
| Ward No.                    | Label* | Name  | Present use          | Proposed use | Condition               |        |
|                             | 11     | Tangail Pre-Cadet School                    | Educational          |              | Unsafe according to RVS |        |
|                             | 12     | Bindubashini Girls High School              | Educational          |              |                         |        |
|                             | 13     | Sheikh Fazillatun Nesa Mujib Mohila College | Educational          |              |                         |        |
|                             | 14     | Sri Sri Choto Kalibari Mondir               | Religious            |              |                         |        |
|                             | 15     | Nazrul Sena Non-Govt. Primary School        | Educational          |              |                         |        |
|                             | 16     | –   | Community Facilities |              |                         |        |
|                             | 17     | Nazrul Sena High School                     | Educational          |              |                         |        |
|                             | 18     | Tangail Rifles Club                         | Community Facilities |              |                         |        |
|                             | 19     | –   | Religious            |              |                         |        |

\*Labels are depicted in the respective maps of the vulnerable buildings to be retrofitted of the wards (Ward 13: Figure – 01; Ward 14: Figure – 02; Ward 16: Figure – 03)

## Proposal for Retrofitting Public Buildings Selected as WCC, Temporary Shelter and Emergency Health Facility in Ward 13, Tangail Pourashava

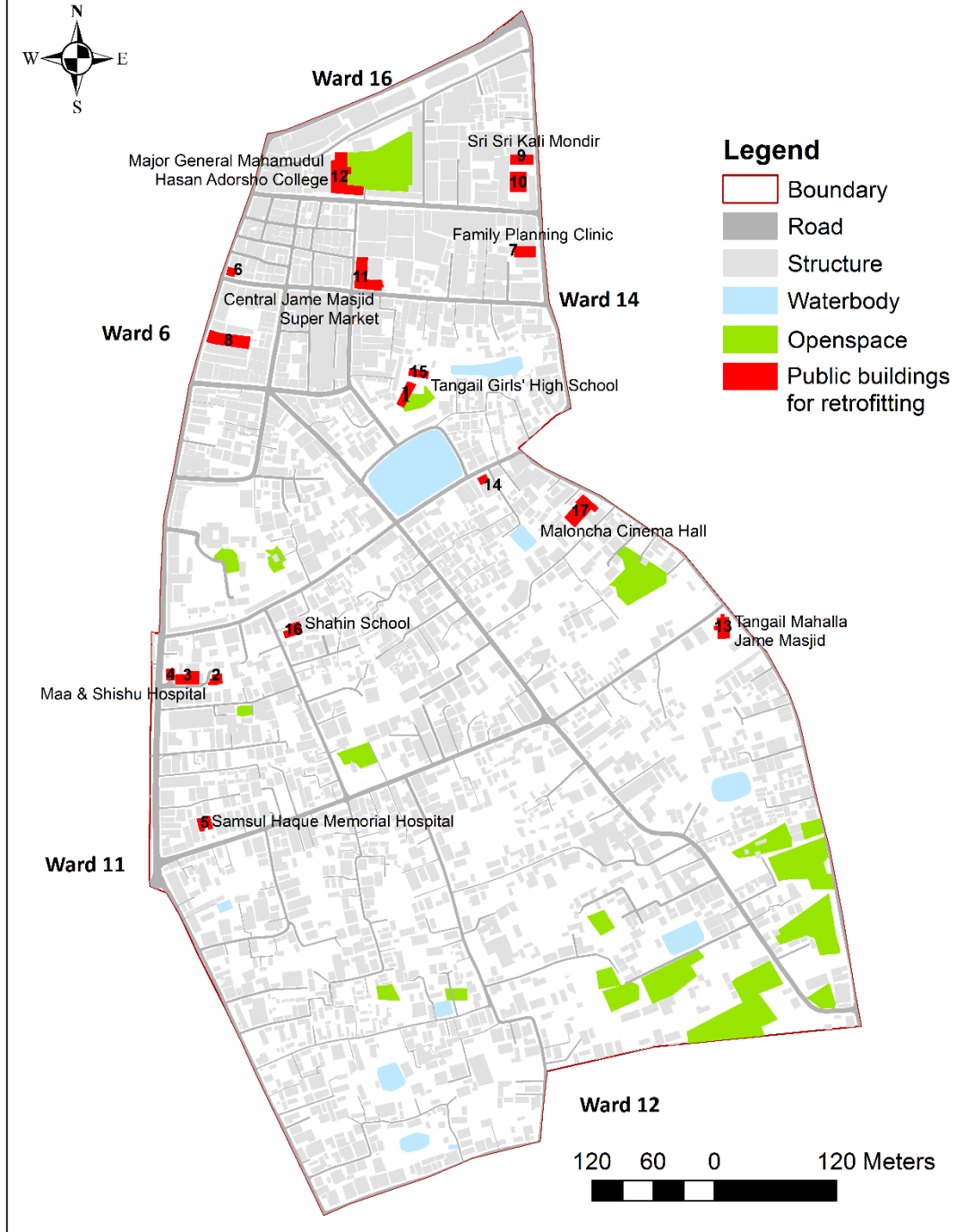


Figure 01 - Proposal for retrofitting of vulnerable buildings  
in Ward-13, Tangail Pourashava

## Proposal for Retrofitting Public Buildings Selected as WCC, Temporary Shelter and Emergency Health Facility in Ward 14, Tangail Pourashava

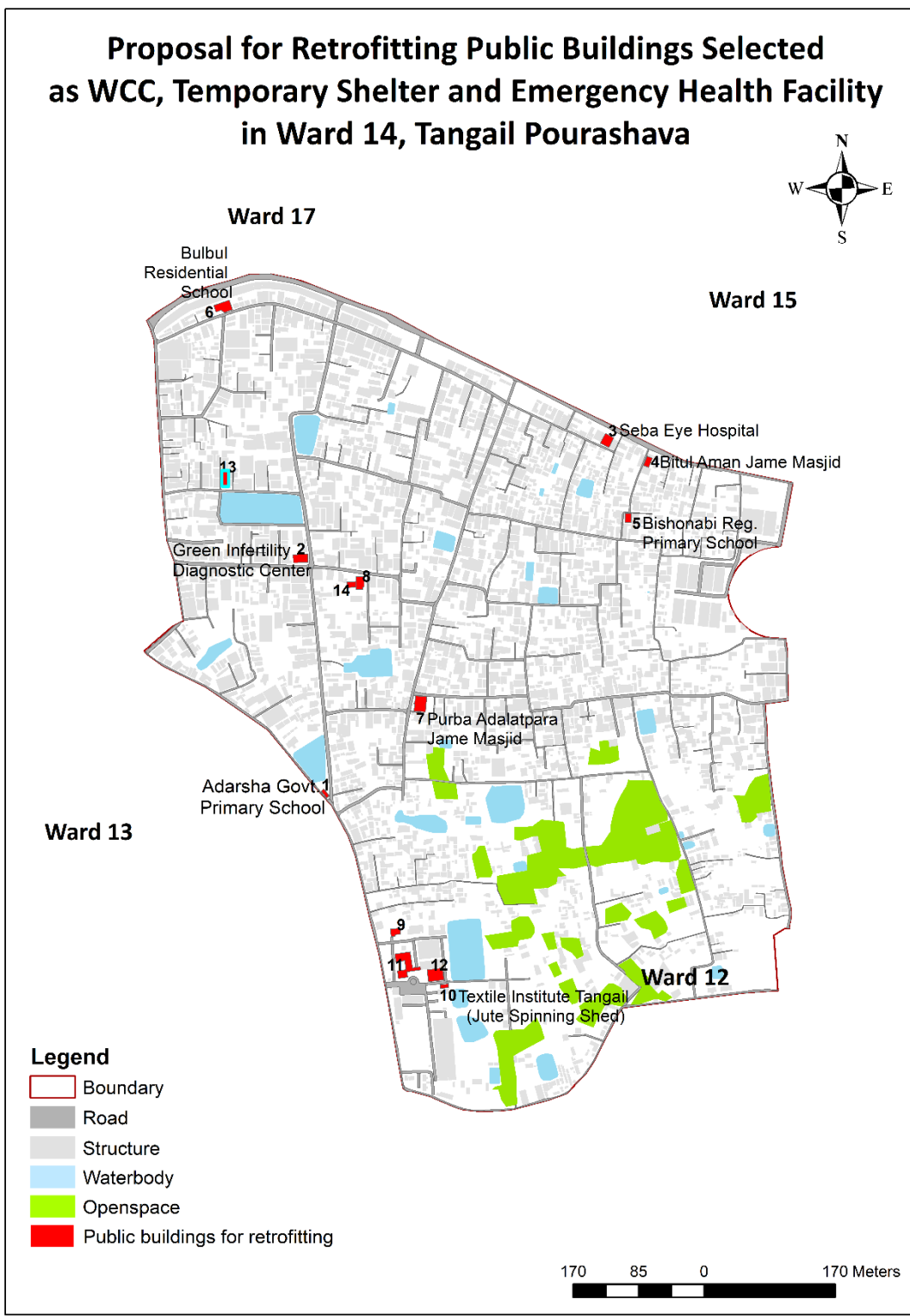


Figure 02 - Proposal for retrofitting of vulnerable buildings  
in Ward-14, Tangail Pourashava

## Proposal for Retrofitting Public Buildings Selected as WCC, Temporary Shelter and Emergency Health Facility in Ward 16, Tangail Pourashava

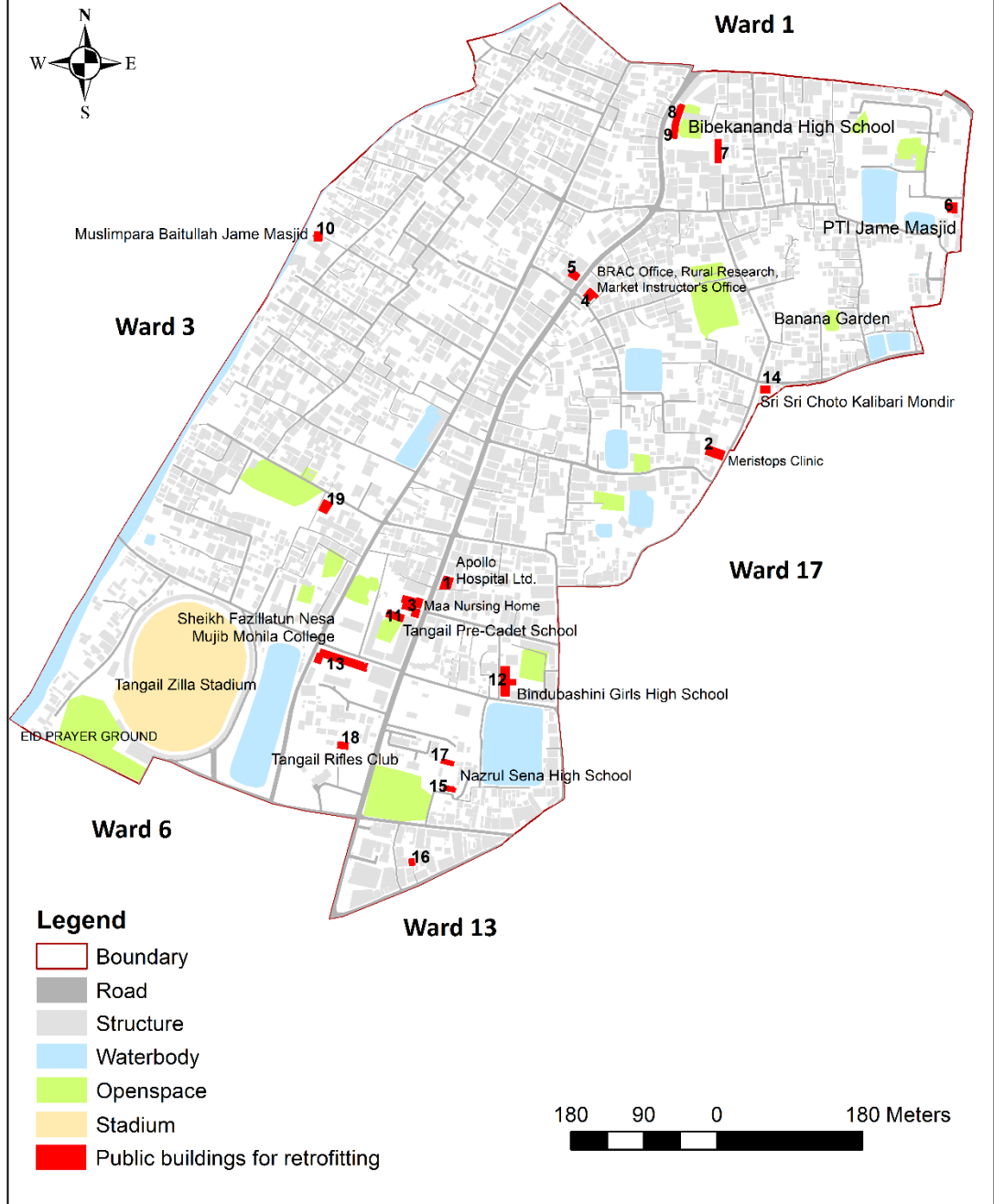


Figure 03 - Proposal for retrofitting of vulnerable buildings  
in Ward-16, Tangail Pourashava

## **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.



# Proposal for Road Widening in Ward 13, Tangail Pourashava

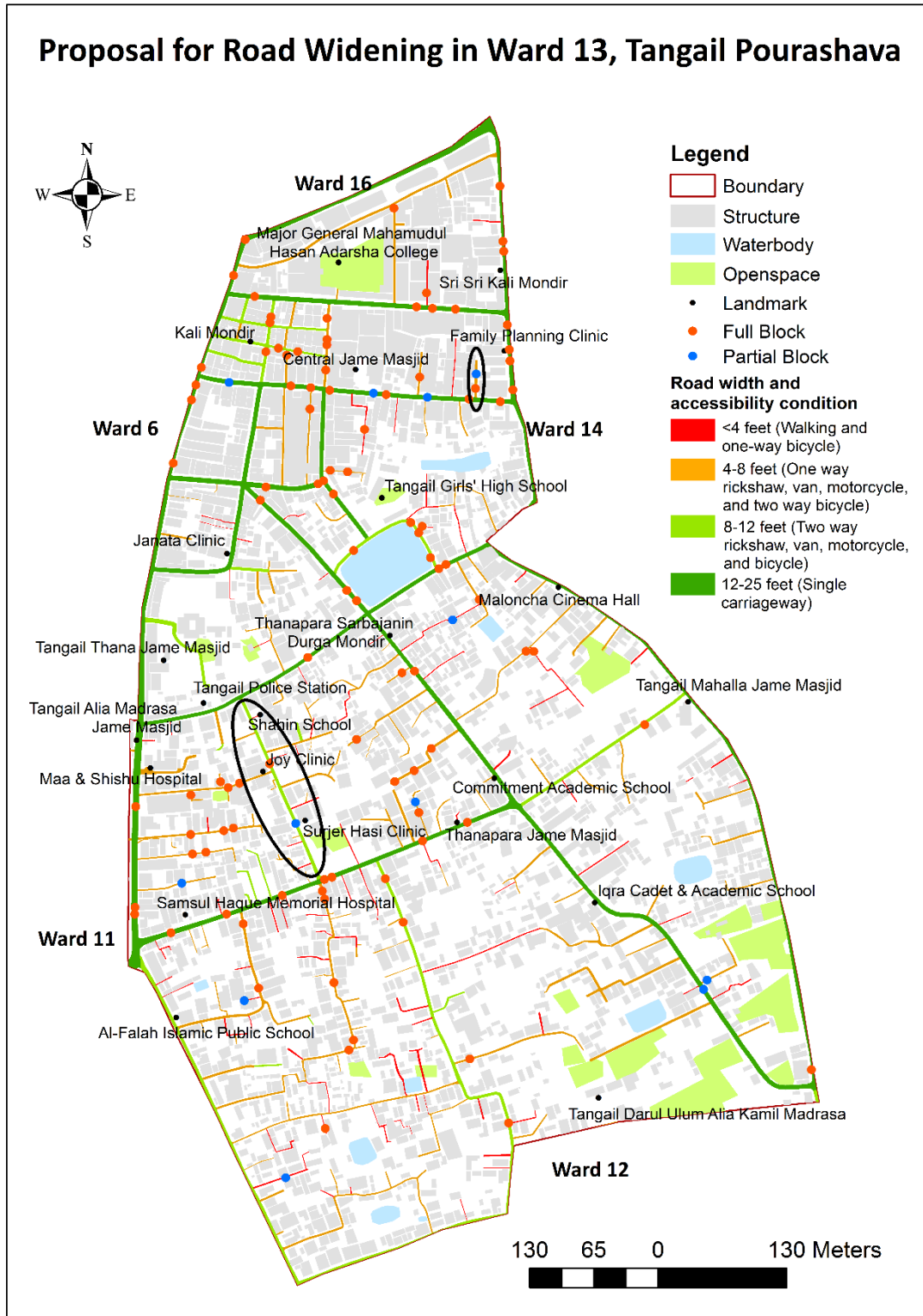


Figure 04 - Proposal for road widening in Ward-13, Tangail Pourashava

## Proposal for Road Widening in Ward 14, Tangail Pourashava

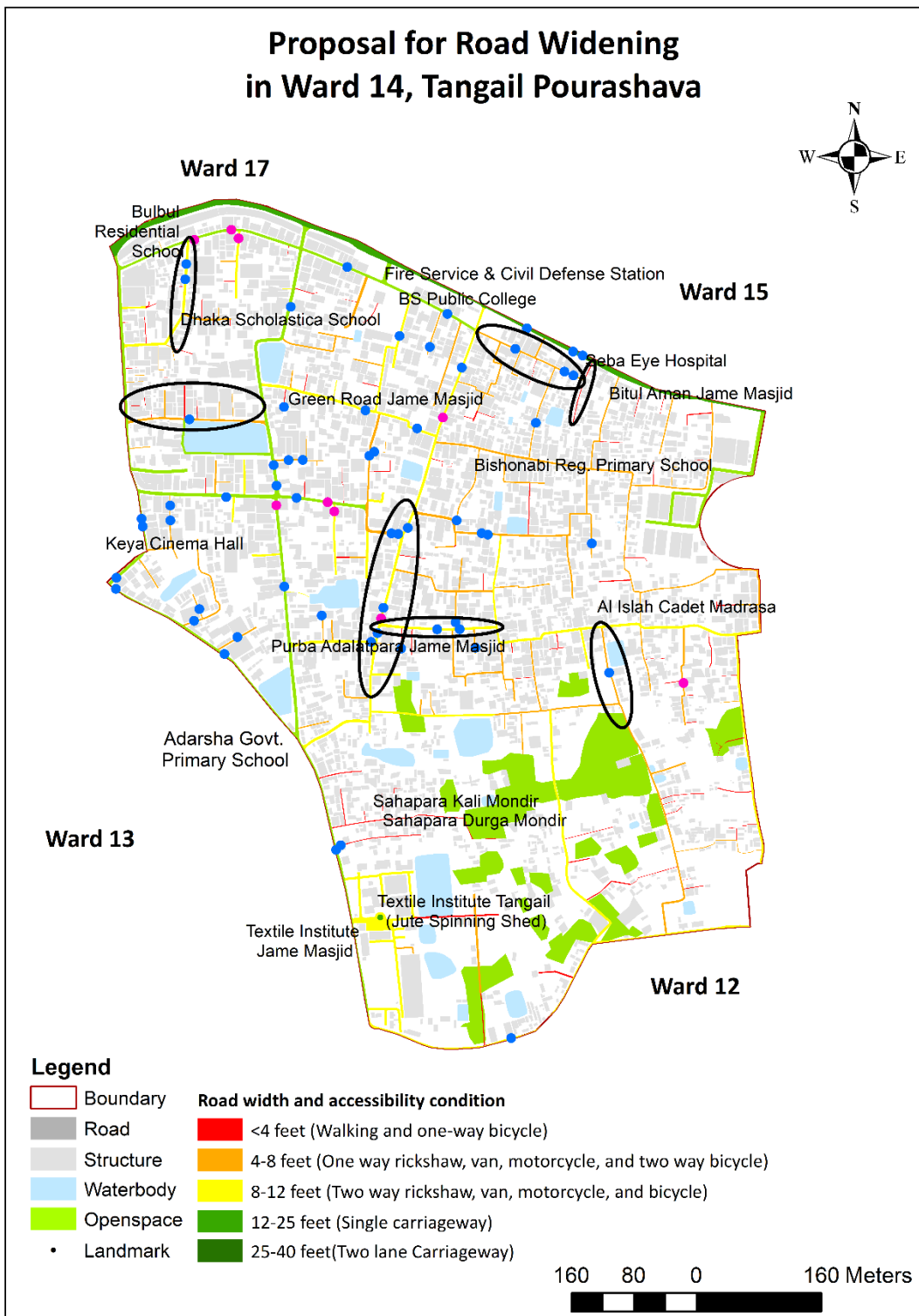


Figure 05 - Proposal for road widening  
in Ward-14, Tangail Pourashava

# Proposal for Road Widening in Ward 16, Tangail Pourashava

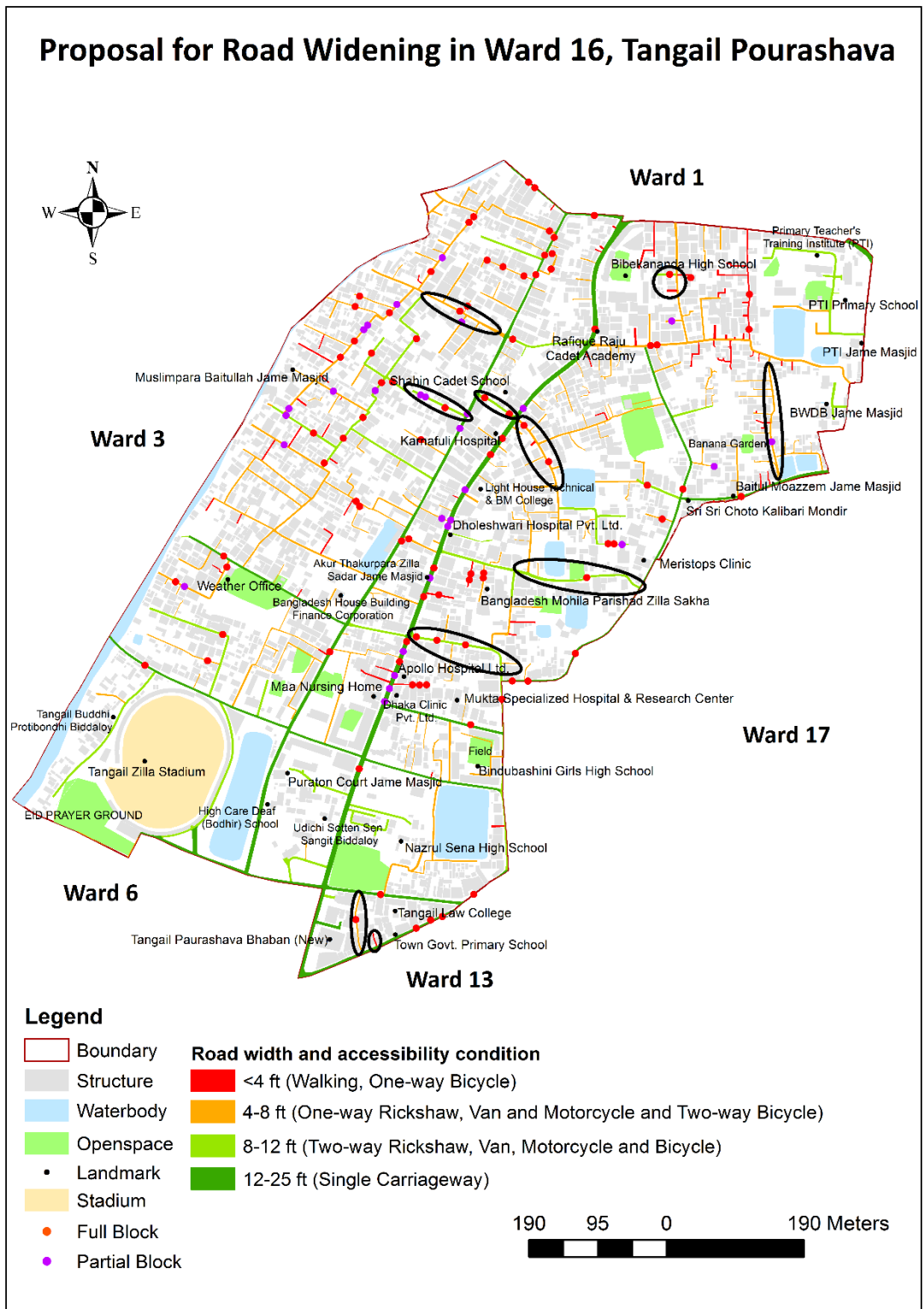


Figure 06 - Proposal for road widening in Ward-16, Tangail Pourashava