

- i) Reclamation of Khash land and fixing of ROW.
 - ii) Resectioning of khals.
 - iii) Widening of Khals.
 - iv) Re-excavation of silted up and undersized khals.
 - v) Slope protection of khals by RCC blocks or Pitching, etc.

The above improvement works shall serve the following purpose:

- i) Increase the velocity of flow and thus the discharge.
- ii) Check the scour of bed and erosion of bank.
- iii) Retain earth or structure along the side of the drain.
- iv) Reduce land acquisition problem.
- v) Preserve the right of way and avoid encroachment to Government property.

Natural Drainage Setting and Proposals for Development

The present drainage trend of the planning area is aligned to east and west that is towards two main channels flowing north-south by the two edges of the planning area. On the eastern edge the river Turag and its tributaries flow from north to south. On the western edge Dhaleswari-Bangshi River flows north to south. The Karnapara river originates from the Dhalaswari river, south of Savar bazaar and flows south-east and joins the Turag near Amin Bazar. Another tributary originating from Karnapara River near Savar moves southward almost parallel to the Karnapa River and joins it again at Banagram and flows into large linear shaped flood zone and runs north-south along the Turag River that carries all the flood water from its catchment during monsoon. The flood free high lands of the study area are crisscrossed by low lying drainage channels that drain rain water into the flood plains. These drainage channels can retain water for substantial time period even after the rains that are also are used for growing paddy when water recedes. The deeper channels called khals serve as natural drainage systems round the year. The consultant proposes to retain all the existing natural drainage system. Most of these low lying lands belong to state or khas lands (Please see **Annex-3.2**), so it is easier to mark them and preserve them. Apart from the drainage channels, the Structure Plan delineated flood flow zone will be strictly maintained to allow smooth flow of flood water during monsoon. This will enable freeing the unplanned settlement areas from the flood risk

3.0 Description of the Land use Plan

Considering changed circumstances the consultant carried out categories and some reshuffling in the major land use areas proposed by the Structure Plan. The new land use categories and proposals for the Group-E area are presented in **Table-3.8**. Proposed land uses have been regrouped into sixteen classes. The areas under agriculture and high value agriculture land, flood flow, as earmarked by Structure Plan, have been slightly squeezed due to practical reasons. Sub-flood flow zone as indicated by the Structure Plan has been omitted and redistributed among rural settlement, agriculture and flood zone in order to avoid controversies regarding building permission in the zone.

a. Urban Residential Zone

An area of 7023.66 acres or 9.35 % of total planning area (**Table-3.8**) have been placed under urban residential use. This includes existing urban residential areas as well as potential residential areas to accommodate future urban population of the planning area with an average density of 87 ppa (population/acre). Major residential areas are located in DPZ 6, DPZ 5, DPZ 1 and DPZ 9. Please see **Map-3.4**.

b. Rural Settlement Zone

Rural settlements are the village settlements found in relatively remote areas, classified by Structure Plan as sub-flood flow zone. The settlements close to major roads are under transition. Allured by high land value many villagers are selling out their lands and migrating to remote places to continue their traditional livelihood. Thus the rural settlement areas are slowly being squeezed due to urban invasion. Again, new settlements are being established destroying valuable farm land. The intention behind delineating rural settlement is to bind the rural settlement within existing areas through densification. The total lands under rural settlements accounts to 13213.09 acres i.e. 17.59% (**Table-3.8**) of the total area. Please see **Map-3.4**.

c. Commercial Zone

Existing commercial areas and areas potential for future commercial development have been placed under commercial use. Mainly bazar, shopping agglomerations and areas suitable for commercial development have been placed under this category. Total area earmarked for future commercial use stands at 13.20 acres or 0.02% of the planning area. Most commercial areas have been delineated on major roads. Please see **Map-3.4**.

d. Industrial Zone

The industrial zone has been classified into two groups- General Industrial Zone and Heavy / Noxious Industrial Zone to separate heavy and hazardous type of industries and their environmental implications. The total land for industrial use stands at 560.60 acres which is about 0.75 percent of the planning area. Industrial zones have proposed in clustered form. Please see **Map-3.4**.

i. General Industrial Zone

Industrial land use includes areas where industries have already been developed like Manufacturing of food, Textiles, Leather, Wood products, Paper, Metal etc, EPZ, and areas that are potential for future industrial development. The total land earmarked for industrial use stands at 480.01 acres. Please see **Map-3.4**.

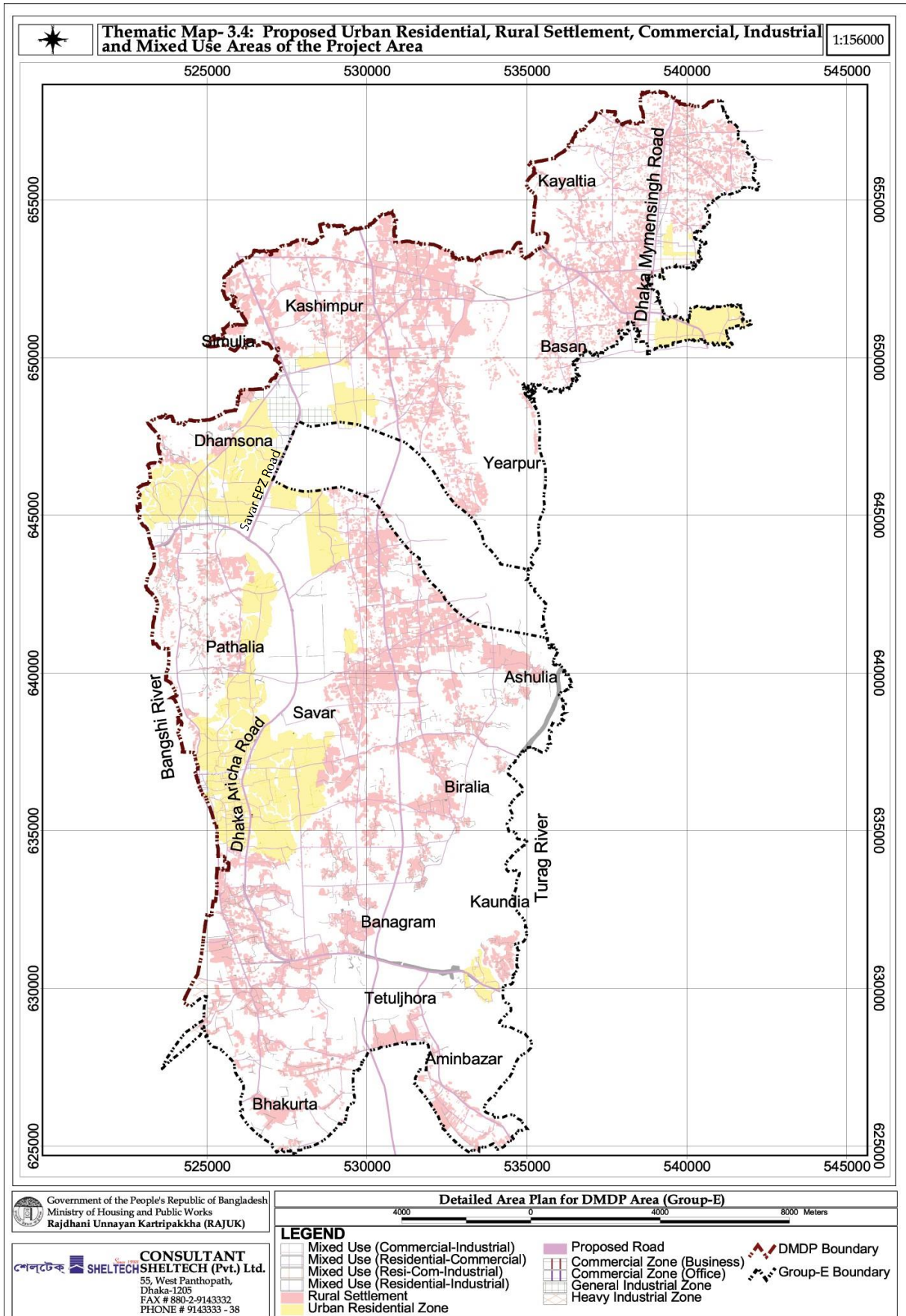
Table- 3.8: Proposed General Land Use Provision

Sl No.	Landuse Category	Area in Acres	Area in Hectares	%
1	Agricultural Zone	20852.81	8438.87	27.76
2	Flood Flow Zone	18054.78	7306.54	24.04
3	Rural Settlement Zone	13213.09	5347.17	17.59
4	Urban Residential Zone	7023.66	2842.39	9.35
5	Water body	3481.43	1408.89	4.63
6	Institutional Zone	3037.45	1229.22	4.04
7	Overlay Zone	2408.80	974.81	3.21
8	Road Network	4082.38	1652.09	5.43
	a. Proposed Road Network	2163.76	875.65	2.88
	b. Existing Road Network	1918.62	776.44	2.55
9	Mixed Use Zone	1318.46	533.56	1.76
	a. Mixed Use Zone (Residential-General Industrial)	706.36	285.85	0.94
	b. Mixed Use Zone (Residential-Commercial-General Industrial)	502.55	203.37	0.67
	c. Mixed Use Zone (Residential-Commercial)	109.56	44.34	0.15
10	Industrial Zone	560.60	226.87	0.75
	a. General Industrial Zone	480.01	194.26	0.64
	b. Heavy Industrial Zone	80.58	32.61	0.11
11	Non-Conforming Use	693.48	280.64	0.92
12	Open Space	205.37	83.11	0.27
13	Uttara 3rd Phase	155.84	63.07	0.21
14	Commercial Zone (Business)	13.20	5.34	0.02
15	Water Retention Area	8.06	3.26	0.01
16	Transportation Facilities	5.13	2.08	0.01
	Total	75114.53	30397.90	100.00

The proposed land use details in the planning area are described below.

ii. Heavy/Noxious Industrial Zone

Presently there is no particular area earmarked for industries generating toxic liquid waste. There is also place for heavy industries. This has posed a threat to local ecology and environment including human health. They need to be agglomerated in a particular area with effective measure taken for treatment of waste water before drained into the



natural water system. An area of 80.58 (32.61 ha) acres has been earmarked in Tetuljhora for setting up heavy/noxious industries. No further permission should be given to any red industry anywhere except in the proposed industrial zone. Please see **Map-3.4**.

e. Mixed Use Area

The proposed mixed use areas have been classified into three categories- a. Residential plus Commercial b. Residential plus Industrial and c. Residential plus Commercial plus Industrial. The total land proposed combining two categories of mixed use zones account for about 1318.46 acres (1.76%). Please see **Map-3.4**.

i. Residential plus Commercial Use

In this zone only residential and commercial establishments will be allowed. This category has an area of about 109.56 acres. Please see **Map-3.4**.

ii. Residential plus Industrial Use

In this zone only residential and industrial establishments will be allowed. This category has an area of about 706.36 acres. Please see **Map-3.4**.

iii. Residential plus Commercial plus Industrial Use

This zone will accommodate residential, commercial and non-polluting industries like, garment and knitwear factories. Total land under this category will be about 502.55 acres. Please see **Map-3.4**.

f. Agriculture

Agriculture is mainly paddy based that takes place in low lying areas drained by rain water. Almost all flood zones are used for agriculture, but all agriculture areas are not in flood flow areas. In some parts of the planning area crops are cultivated round the year using irrigation facilities. Flood flow areas are the best land for cultivation as they are inundated annually and where water remains for some time after the rains. Major agricultural areas are located on the eastern and southern parts of the study area (SPZ 17.3) that are also flood flow zones. Based on recent survey about 20852.81 acres (27.76%) have been delineated under agriculture. Agricultural lands are fast depleting in areas close to major roads, as they are purchased by people mainly for non-farm activities. This land use transformation risks reduction in crop production as lands are being withdrawn from agriculture. Please see **Map-3.5**.

g. Institutional Zone

Under the broad category of institutional zone, uses such as, administration, education and research, health, etc. have been included. Land belonging to educational use includes all categories of educational institutions, training institutions. The category also includes the proposed educational institutions. Total land under this land use is 3037.46 acres which is about 4.04 % of the study area that include existing and proposed education and health areas. An area of 37 acres have been earmarked in Enayaetpur, Banshbari and Palashbari mauzas of Dhamsona Union for setting up university on public/private initiatives.

h. Flood Flow Zone

Flood flow zone refers to areas that are subject to regular inundation during monsoon. These areas are used for traveling path of flood water. DPZ 1, DPZ 2, DPZ 10, and DPZ 11 have most flood flow areas. Flood flow zone will be strictly maintained to allow smooth flow of flood water during monsoon. Except agriculturist no development will be allowed. This will enable free the upland settlement areas from the possible flood risk. Flood flow areas are also used for crop production. The total land earmarked as flood flow stands at 18054.78 acres which is about 24.04% of the study area. Please see **Map-3.5**.

i. Road and Transportation Facilities

Estimates show about 4087.53 acres of land under the existing and proposed road and relevant infrastructure facilities. This constitutes about 5.44% of the planning area. About 2163.76 acres of additional land would be required for the implementation of road development proposals. An area of about 30 acres of land has been earmarked for constructing the cloverleaf Interchange at the point of proposed western Bypass and Dhaka-Aricha Road to ease the traffic movement and to reduce the traffic congestion.

j. Non conforming Land Use

There are some land uses within the planning area that the consultant considers, should not stay there. These land uses are called non-conforming land uses. They are so called, because they do not conform to the dominant land use within which they have developed. These land uses have developed in those particular areas as no control could be exercised over their development. They are recommended to be gradually shifted from the present area to the areas earmarked for that particular use. About 693.48 acres of land has been designated as nonconforming uses which is 0.92% of the planning area.

k. Water body for Conservation

Water body includes all categories of land that permanently hold water or are used for retention of water. These include pond, khal, river and other water bodies. The consultant has delineated 3481.43 acres of land as water body which constitute about 4.63% of the study area.

l. Open Space

The study area has extremely low level of formal open space. The proposed open space cover the parks, play fields and the existing open space areas like, forest, eco-park, etc. The total land use estimated under open space stands at 205.37 acres (0.27%). Recreational open space include the following,

- In Major Civic Centre - Stadium, Park, Playground : 27.49 acres.
- Stadium in Ward No. 1 : 6.00 acres.
- Play grounds : 23.22 acres.
- Parks : 22.32 acres
- Park in Rajalakh Farm in Saver Paurashava ward No. 4 (mauza Savar), near the Dhaka-Aricha highway : 4.72 acres
- Savar Golf Course : 88.72 acres
- 100 m Settlement Restriction Zone around National Mausoleum which will be treated as Open Space : 47.21 acres

Adding 16.73 acres as existing recreational open space the total open space comes to 205.37 acres. This is about 0.27 percent of the total planning area. Population wise distribution shows 4.29 acres of open space per 25,000 population in the year 2015. Please see **Map-3.6**.

m. Overlay Zone

The uses that are not compatible to the surrounding landuses, but should not be removed are called overlay sites. Overlay Zone (Please see **Map-3.7**.) includes special use areas, cantonment area, cantonment fringe area, community/utility service and institutional area, forest area, service activity, food godown, heritage and graveyard etc. The total land earmarked as overlay zone stands at 2408.80 acres, which is about 3.21% of the study area.

i. Special Use Areas

Special areas refer to cantonment and security establishments, restricted areas including the national mausoleum. There is one cantonment in the study area. All the properties under this establishment have been classified as special areas. Besides, there are some other types of special areas, like, Radio Transmission Centre and its staff housing area, national mausoleum. Land under all these special areas have virtually not changed since formulation of DMDP, as no new land have either been added or withdrawn from this uses. Total area under this category is 1421.55 acres of land which is 1.89% of the planning area, while about 71.71 acres of land has been earmarked for Radio Transmission Center as overlay zone. About 297.13 acres of land has been used as Cantonment firing area which is also included in overlay zone.