

DEVELOPMENT PLAN
BIR-BILLING SPECIAL AREA- 2035

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TOWN AND COUNTRY PLANNING DEPARTMENT
GOVERNMENT OF HIMACHAL PRADESH



DEVELOPMENT PLAN-2035
BIR- BILLING SPECIAL AREA,
KANGRA DISTRICT, HIMACHAL PRADESH

Prepared By:
Town and Country Planning Department
Government of Himachal Pradesh



Mission Statement: “Shaping Tomorrow”

Chapter 1. Table of Contents

Chapter 1.	INTRODUCTION	1
Chapter 2.	BIR-BILLING SPECIAL AREA.....	3
2.1	INTRODUCTION	3
2.2	Administrative Divisions and Population of Bir-Billing Special Area.....	5
2.3	Connectivity	7
2.3.1	Rail.....	7
2.3.2	Road	8
2.3.3	Air	8
Chapter 3.	DEMOGRAPHY AND SOCIO ECONOMIC PROFILE	9
3.1	Demographic Profile	9
3.1.1	Decadal Population Growth Rate.....	9
3.1.2	Sex Ratio.....	10
3.1.3	Literacy Rate.....	11
3.1.4	Work Force Participation	11
3.2	Population Projection	12
3.3	Key Issues	13
3.4	Conclusion:.....	14
Chapter 4.	HOUSING PROFILE.....	15
4.1	Introduction	15
4.2	Overview of Housing Scenario	15
4.3	Primary Survey Findings.....	15
4.3.1	Type of Residential Properties	15
4.3.2	Number of Bedrooms in Residential Properties	16
4.3.3	Type of Structure of Residential Properties.....	16
4.3.4	Material used for Walls of Residential Properties	16
4.3.5	Material used for Roof and Floor of Residential Properties	17
4.3.6	Problems Faced by Households	17
4.3.7	Monthly Income, Expenditure and Savings`1`	17
4.4	Census Data in Housing of Bir-Billing	18
4.4.1	Condition of Census Houses.....	18
4.4.2	Type of Structure	18



Development Plan - 2035

4.4.3	Material of Roof	18
4.4.4	Material of Wall	19
4.4.5	Material of Floor	19
4.4.6	Number of Dwelling Rooms	19
4.4.7	Toilet Facility	19
4.4.8	Bathing Facility within the Premises	19
4.4.9	Waste Water outlet Connection	20
4.4.10	Kitchen Facility	20
4.5	Key issues	20
4.6	Housing Projections	20
4.7	Conclusion	21
Chapter 5. INFRASTRUCTURE		22
5.1	Physical and Social Infrastructure	22
5.2	Social Infrastructure.....	22
5.2.1	Existing Medical Facilities	22
5.2.2	Existing Educational Facilities in Bir-Billing Special Area	24
5.2.3	Projections and Gaps	26
5.2.4	Other Facilities	27
5.3	Physical Infrastructure	27
5.3.1	Water Supply.....	27
5.3.2	Drainage	28
5.3.3	Sanitation	28
5.3.4	Solid Waste Management System	29
5.3.5	Transportation Facility	31
5.3.6	Road Linkage	31
5.3.7	Power Supply	32
5.3.8	Banking Facility	34
5.3.9	Market Facilities.....	34
5.3.10	Anganwari and Community Centre Facility	34
5.3.11	Recreational Facility	35
5.3.12	Communication Facilities.....	35
5.4	Key issues	36
5.5	Conclusion.....	36



Chapter 6. TRAFFIC AND TRANSPORTATION	37
6.1 Existing Volume Survey	37
6.1.1 Capacity of Main Road	42
6.2 Origin – Destination Survey	43
6.3 Issues.....	45
6.4 Proposals.....	46
6.4.1 Traffic Management Techniques	46
6.4.2 Other Suggested Measures and Policies.....	47
Chapter 7. TOURISM	48
7.1 Initiatives by Himachal Pradesh Government.....	48
7.1.1 Tourists Circuits.....	48
7.1.2 Tourism Policy	51
7.1.3 Home Stay Scheme:	51
7.2 Tourist attraction in the Kangra District	51
7.3 Major areas of attraction in Bir- Billing Special Area	51
7.3.1 Paragliding.....	52
7.3.2 Learning.....	53
7.3.3 Meditation	53
7.3.4 Sightseeing	54
7.3.5 Accommodation.....	55
7.3.6 Volunteering	56
7.3.7 Walking: Day Hikes and Longer Treks in the Bir Area	56
7.4 Existing and Anticipated Tourist Inflow	57
7.5 Proposals for Tourism Development	58
7.5.1 Development Control Measures for Areas around Takeoff and Landing Sites	58
7.5.2 Road Widening.....	58
7.5.3 Forest Based Recreation	58
7.5.4 Protection of Monuments and Environment in Planning Area	58
7.5.5 Artisans Village cum-Vocational Training Centre.....	58
7.5.6 Formation of Volunteer Network for Identified Sites.....	58
7.5.7 Tourism Branding and Promotion.....	59
7.5.8 Improvement in Infrastructure	59
Chapter 8. ENVIRONMENT AND DISASTER MANAGEMENT.....	60



Development Plan - 2035

8.1	Introduction	60
8.2	Environment.....	60
8.2.1	Geology and hydrogeology of the study area	60
8.2.2	Soil.....	61
8.2.3	Forest	61
8.2.4	Ground water resources	61
8.3	Natural Hazards.....	62
8.3.1	Earthquake	62
8.3.2	Landslides.....	63
8.3.3	Cloud Burst.....	64
8.3.4	Wind Storm	64
8.4	Man-Made Hazards.....	64
8.4.1	Forest Fire	64
8.4.2	Road Accidents.....	64
8.5	Risk Vulnerability.....	64
8.6	Key issues	65
8.7	Environmental and Disaster Management Proposals	65
8.7.1	Proposals.....	65
Chapter 9.	EXISTING LAND USE	67
9.1	Introduction	67
9.2	Existing Land Use in Bir-Billing Special Area - 2016	67
9.2.1	Residential.....	68
9.2.2	Commercial	68
9.2.3	Industrial	68
9.2.4	Public and Semi-Public	69
9.2.5	Recreational	69
9.2.6	Transport and Communication	70
9.2.7	Agriculture and Tea Garden	70
9.2.8	Ecologically Sensitive Area	71
9.3	Growth Direction	71
9.4	Proposed Land Use- 2035	72
9.4.1	Land Requirement.....	73
9.4.2	Proposed Land Use	75



Development Plan - 2035

Chapter 10.	Plan Implementation and resource mobilization.....	78
10.1	Resource Mobilization and Implementation Framework	78
10.1.1	Resource Mobilization	79
10.1.2	Implementation Strategy	79
10.2	Phasing and Prioritization of Development	80
10.3	Costing	81
Chapter 11.	ZONING AND SUB-DIVISION REGULATIONS.....	82
11.1	Land Use Designated.....	82
11.2	Development Control Regulations (DCR).....	88
11.3	Jurisdiction of Regulations	89
11.4	Applicability of Regulations.....	89
11.4.1	Part Construction	89
11.4.2	Re-construction.....	90
11.4.3	Existing approved buildings	90
11.5	Development Permission	90
11.5.1	Building Permission.....	90
11.6	Grant, Refusal and Deemed to be sanctioned	91
11.7	Already permitted buildings	91
11.8	Procedure for obtaining Permission	92
11.8.1	Application and Fee	92
11.8.2	Documents Required	92
11.9	General Regulations.....	94
11.9.1	Regulations for Landing and Take Off Sites (No Construction Zone).....	104
11.10	Sub-Division of Land Regulations.....	106
11.11	Regulations for Each Land Use Zone.....	109
11.11.1	Residential Zone.....	109
11.11.2	Commercial Zone	110
	The Hotels/Guest Houses shall be permitted provided following regulations:-	111
11.11.3	Industrial Zone	112
	Note:-	112
11.11.4	Public and Semi Public Zone	113
	The maximum coverage, setbacks and FAR shall be as under:-	113



Development Plan - 2035

11.11.5	Traffic and Transportation	114
11.12	Risk Based Classification of Buildings.....	114
11.13	Other Regulations	116
	Regulations for Solar Passive Building Design, for Development of Barrier Free Environment for the Persons with Disabilities in Public and Semi Public Building & Re-creational Areas within the limits of Economic Capacity, for collection of Rain Water Harvesting, for Development of Apartments and Colonies in Real Estate Projects and for Installation for Communication Towers shall be as prescribed in the Himachal Pradesh Town and Country Planning Rules, 2014.....	116
11.14	Fire and Life safety	116
11.15	Relaxations.....	116
11.16	Parks and Open Spaces	116
11.17	Agriculture.....	117
11.18	Regulations for Landing and Take- Off Sites (No Construction Zone)	117
11.19	Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines.	117

INDEX OF TABLES

Table 2-1	Village wise Population and Number of Households in Bir- Billing Special Area, 1991- 2011.	5
Table 2-2	Village wise Area of the Bir -Billing Special Area.....	5
Table 2-3	Particulars of Villages in Bir -Billing Special Area	7
Table 3-1	Decadal Population Growth Rate of Bir-Billing Special Area	9
Table 3-2	Sex Ratio of Bir-Billing Special Area and Kangra District, 2011.....	10
Table 3-3	Population and Sex Ratio of Bir-Billing Special Area in Year 1991 – 2011.....	10
Table 3-4	Male and Female Literacy Rate in Bir-Billing Special Area, 2011.....	11
Table 3-5	Workforce Participation in Bir-Billing Special Area, 2011.....	11
Table 3-6	Male and Female Workers in Bir-Billing Special Area and Kangra, 2011.....	12
Table 3-7	Sector wise categorization of Workers in Bir- Billing Special Area	12
Table 3-8	Population of the Bir- Billing Special Area as per Census 2001, 2011.	13
Table 3-9	Population Projection by Various Methods for the Horizon Year 2035	13
Table 4-1	Household Projection in Bir Billing Special Area.....	21
Table 5-1	Existing Medical Facilities in Revenue Villages of Bir-Billing Special Area	22
Table 5-2	Revenue Village Wise Details of Existing Educational Facilities in Bir-Billing Special Area...	24
Table 5-3	Higher education facilities nearest to Bir Billing Special Area	26
Table 5-4	Gaps and Requirements of Education and Health Care facilities for Projected Population (Census-2011) as per URDPFI Guidelines.....	26



Development Plan - 2035

Table 5-5 Revenue Village Wise Details of Existing Source of Water Supply in Bir-Billing Special Area	27
Table 5-6 Projection for Water Demand for Horizon Year 2035	28
Table 5-7 Revenue Village Wise Details of Existing Drainage Status in Bir-Billing Special Area	28
Table 5-8 Revenue Village Wise detail of Existing Sanitation Status in Bir-Billing Special Area.	29
Table 5-9 Projection for Sewage Generation.....	29
Table 5-10 Solid Waste Generation in Bir- Billing Special Area	29
Table 5-11 Solid Waste Generation for Horizon year 2035	29
Table 5-12 Revenue Village Wise Detail of Existing Road Linkage Status in Bir-Billing Special Area....	31
Table 5-13 Revenue Village Wise Detail of Existing Power Supply Facility in Bir-Billing Special Area..	32
Table 5-14 Power Consumption in Bir-Billing Special Area	32
Table 5-15 Revenue Village Wise Detail of Existing Banking Facility in Bir-Billing Special Area	34
Table 5-16 Revenue Village Wise Detail of Existing Market Facility in Bir-Billing Special Area	34
Table 5-17 Revenue Village Wise Detail of Existing Anganwari and Community Centre Facility in Bir-Billing Special Area	34
Table 5-18 Revenue Village Wise Detail of Existing Recreational Facility in Bir-Billing Special Area ...	35
Table 5-19 Revenue Village Wise Details of Existing Communication Facilities in Bir-Billing Special Area	35
Table 6-1 Peak hour Traffic Volume at Different Locations.....	41
Table 6-2 Capacity of the Roads taken in Bir-Billing Area.....	42
Table 7-1 Major Tourist Destination in Bir- Billing Special Area	51
Table 7-2 Tourist Destination with Road Typology and Distances from Bir	52
Table 7-3 Tourism Inflow in District-Kangra in the year 2014	57
Table 7-4 Indian and Foreign Tourists Inflow in District-Kangra in the year 2014	57
Table 9-1 Existing Land use –Bir- Billing Special Area, 2016 (After LU Validation)	67
Table 9-2 Land use structure for Heritage/ Religious/ Tourism City	73
Table 9-3 Land use structure for Hill Towns	73
Table 9-4 Proposed Land use Distribution- Special Area 2035	74
Table 11-1: Land Use categories divided into Use Zones	82
Table 11-2 Zoning Matrix	84

INDEX OF MAPS

Map 1 Boundary of Bir- Billing Special Area and Revenue Villages	6
Map 2 Regional Connectivity (Aerial Distance) and Location of Special Area	8
Map 3 Existing Facilities in Bir- Billing Special Area	25



Development Plan - 2035

Map 4 Existing and Proposed Transport Network.....	33
Map 5 Tourists spots in Kangra District	50
Map 6 Spatial Growth in Special Area	72
Map 7 Take off and Landing Sites	105

INDEX OF FIGURES

Figure 2-1Location of Bir - Billing Special Area	4
Figure 3-1 Decadal Growth Rate of Bir- Billing Special Area.....	9
Figure 3-2 Sex Ratio of Bir-Billing Special Area in year 1991 – 2011	10
Figure 3-3Literacy Rate in Bir-Billing Special Area and Kangra District, 2011.....	11
Figure 4-1: Type of Residential Properties.....	15
Figure 4-2: Number of Bedrooms in HHs.....	16
Figure 4-3: Type of Structure	16
Figure 4-4: Material of Wall	16
Figure 4-5 Problem Faced by HHs	17
Figure 4-6Monthly Income of HHs.....	17
Figure 4-7 Condition of Census Houses	18
Figure 4-8: Type of Structure	18
Figure 4-9 Material of Roof.....	18
Figure 4-10: Material of Wall	19
Figure 4-11: Number of Dwelling Rooms.....	19
Figure 4-12Bathing Facility within the Premises.....	19
Figure 4-13: Waste Water outlet Connection.....	20
Figure 6-1Traffic Volume at all the Cordon Points in PCUs	37
Figure 6-2 Characteristics of Traffic in Inner Cordon Point 1 (Direction-1)	38
Figure 6-3 Characteristics of Traffic in Inner Cordon Point 1 (Direction-2)	38
Figure 6-4 Characteristics of Traffic in Inner Cordon Point 2 (Direction-1)	39
Figure 6-5Characteristics of traffic in inner cordon point 2 (Direction-2)	39
Figure 6-6 Characteristics of traffic in inner cordon point 3 (Direction-1)	40
Figure 6-7 Characteristics of traffic in inner cordon point 3 (Direction-2)	40
Figure 6-8 Characteristics of traffic in inner cordon point 4 (Direction-1)	41
Figure 6-9 Characteristics of Traffic in Inner Cordon Point 4 (Direction-2)	41
Figure 6-10V/C ratio at different location	43
Figure 6-11 Vehicle Trip by Mode	43



Development Plan - 2035

Figure 6-12 Passenger Trip by mode.....	44
Figure 6-13 Vehicle Trip by Distance.....	44
Figure 6-14 Vehicle Trips by Distance and Mode	45
Figure 7-1 Dhauladhar Circuit in 4 circuits of Himachal Pradesh.....	49
Figure 7-2 Dharmalya Institute	54
Figure 7-3 Chokling Monastery Temple, Bir	54
Figure 7-4 Tea garden of Chowgan	55
Figure 8-1 Earthquake Hazard Map	63
Figure 9-1 Bir Co-Operative Tea Factory Ltd.....	68
Figure 9-2 Primary School, Bir and Monastery in Chaugan	69
Figure 9-3 Paragliding Landing Site, Suja and Takeoff site in Billing.....	70
Figure 9-4 Parking near Paragliding landing site.....	70
Figure 9-5 Tea Gardens, Suja	71

INDEX OF ANNEXURES

Annexure 1 Detail of Khasra Nos. for Landing and Take-off sites (Existing & Proposed)	118
Annexure 2 Existing Land use of Special Area	119
Annexure 3 Existing Land use of Special Area Superimposed on Sajra	120
Annexure 4 Proposed Land use of Special Area	121
Annexure 5 Proposed Land use of Special Area Superimposed on Sajra	122



Abbreviations:

ASHA:	Accredited Social Health Activist
BIS:	Bureau of Indian Standards
CAGR:	Compound Annual Growth Rate
CGI:	Consultation to Government and Industries
CPHEEO:	Central Public Health and Environmental Engineering Organisation
CSC:	Common Service Centre
ECS:	Equivalent Car Space
FAR:	Floor Area Ratio
GIS:	Geographic Information System
HFL:	Highest Flood Level
HH:	House Hold
HPIPHD:	Himachal Pradesh Irrigation and Public Health Department
HPPWD:	Himachal Pradesh Public Works Department
HPSEB:	Himachal Pradesh State Electricity Board
HPTCP:	Himachal Pradesh Town and Country Planning
HT/LT:	High Tension/ Low Tension
IAY:	Indira Awas Yojana
IMD:	Indian Meteorological Department
IRC:	Indian Road Congress
ITES:	Information Technology Enabled Services
LCPD:	Litres per Capita Per Day
MLD:	Million Litres per Day
MSW:	Municipal Solid Waste
NMT:	Non-Motorised Transport
NRSC:	National Remote Sensing Centre



Development Plan - 2035

OHT:	Over Head Tank
PAP:	Protected Area Permit
PCO:	Public Call Office
PCU:	Passenger Car Unit
PDS:	Public Distribution System
PDS:	Public Distribution System
PWCA:	Paragliding World Cup Association
REPL:	Rudrabhishek Enterprises Pvt. Ltd.
SADA:	Special Area Development Authority
SHRI:	Shantideva Homeopathic Research Institute.
SLWM:	Solid Liquid Waste Management
STP:	Sewage Treatment Plant
TCPD:	Town and Country Planning Department
TSC:	Total Sanitation Campaign
TVC:	Total Vehicular Count
UFW:	Unaccounted For Water
URDPFI:	Urban and Regional Development Plan Formulation and Implementation.
WBM:	Water Bonded Macadam
WFPR:	Work Force Participation Rate
WHO:	World Health Organization
WTP:	Water Treatment Plant



Chapter 1. INTRODUCTION

Himachal Pradesh is slowly getting urbanised; urbanisation level increasing from 6.99 per cent in 1971 to 10 per cent in 2011. Being a hilly state, Himachal Pradesh is endowed with natural beauty and rich landscape including scenic views of snowcapped mountains, hills, green forests, and deep valleys with beautiful lakes, rivers, springs and waterfalls which attract a large number of tourists from all over the world. Lately there is a spurt in tourists' arrivals in the State, perhaps due to disturbed conditions in Kashmir Valley, which earlier used to be the most preferred tourist destination of India. As a result many urban settlements (and also villages) in the State with tourism potential are experiencing rapid population growth. The unplanned and haphazard growth of these settlements is contributing to environmental degradation and loss of quality of life.

Government of Himachal Pradesh, in order to preempt continuing negative impact of urbanization and ensure planned development of not only its towns but also rural areas with potential for tourism have under the provision of sub-section (3) of Section-1 of Himachal Pradesh Town and Country Planning Act- 1977 constituted 35 Planning Areas and 35 Special Areas. The Government decided to get development plans prepared for each to ensure their planned development. Bir-Billing is one Special Area designated as such under the Act.

Therefore, the Development Plan for Bir-Billing Special Area has been prepared in accordance with Himachal Pradesh Town and Country Planning Act, 1977, as amended till date.

While implementing the Plan, concerned Departments have to ensure that development of urban area is carried out as per the approved Development Plan. To prepare the Development Plan of Bir-Billing Special Area, Town and Country Planning Department has appointed the Rudrabhishek Enterprises Private Limited (REPL), Noida as consultant.



The Development Plan aims at enhancing the economic drivers for the area especially focusing on promotion of tourism and agro based industries and developing infrastructure in the area to give impetus to development of Bir-Billing Special Area as a Global-Tourism node in Himachal Pradesh.



Chapter 2. BIR-BILLING SPECIAL AREA

2.1 INTRODUCTION

Bir-Billing Special Area falls in the Kangra District of Himachal Pradesh. It is located at a distance of about 65 kms South-East of Dharamshala, the 2nd capital of the state at latitude 32°N and longitude 76°E, at an altitude of 1,525 m. The Special Area is famous for paragliding. PWCA (Paragliding World Cup Association) hosted the “First Paragliding World Cup of India” in October 2015 when 150 top ranked paragliding pilots of the world participated along with 500 free flying pilots.

Bir-Billing special area is the gateway to the tribal part of Himachal Pradesh, which is known as Bada Bhangal. A sizable community of Tibetan refugee’s lives in the Tibetan Colony¹ located at Bir. The colony was established in the early 1960s when H.H. Dalai Lama was exiled from Tibet and many of his followers chose to live there.

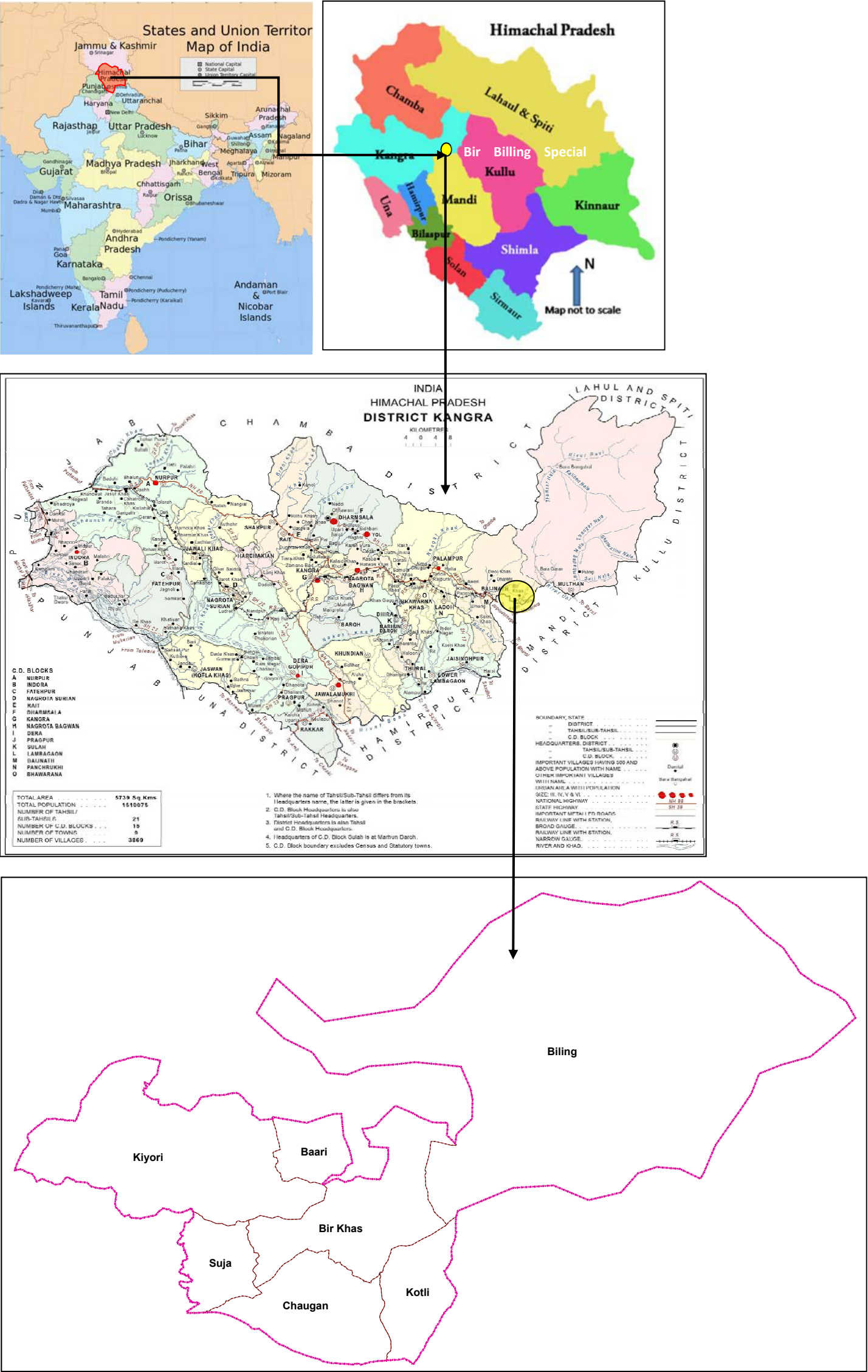
Bir-Billing Special Area was notified on 4th November 2004, under the provisions of the Himachal Pradesh Town and Country Planning Act, 1977.

The Special Area for which the Development Plan has been prepared consists of 7 revenue villages having 2172 Ha area.

¹**The Tibetan Colony:** In 1966 the third NetenChokling (1928-1973), an incarnate Lama of the Nyingma lineage of Tibetan Buddhism, brought his family and a small entourage to Bir. With the help of foreign aid, NetenChokling purchased over 200 acres of land and established a Tibetan settlement where 300 Tibetan families were given land to build houses. At this time Chokling Rinpoche also started building in Bir a new Neten monastery and disciples who had followed him into India formed its first Sangha. When the third Chokling Rinpoche died in 1973, his eldest son, OrgyenTobgyal Rinpoche (b 1951) assumed responsibility for completing his father’s vision. The fourth NetenChokling incarnation was born in 1973 in Bhutan and brought to Bir at a young age where the family of the third Chokling took him under their wings. In 2004 full responsibility for **Pema EwamChögarGyurme Ling Monastery** in Bir was passed to the fourth NetenChokling.



Figure 2-1Location of Bir - Billing Special Area



Source: Maps of India.and REPL Analysis



2.2 Administrative Divisions and Population of Bir-Billing Special Area

Bir- Billing Special Area is administratively divided into 7 revenue villages as shown in Table 2-1 and Map 1.

Table 2-1 Village wise Population and Number of Households in Bir- Billing Special Area, 1991- 2011

S. No.	Name of Revenue Village	Population			Households		
		1991	2001	2011	1991	2001	2011
1	Bari	114	89	71	22	18	17
2	Billing	79	44	261	15	9	48
3	BirKhas	1298	1397	1334	239	300	319
4	Chaugan	1594	2278	2520	291	423	547
5	Keori	560	474	1196	73	103	141
6	Kotli	604	804	1104	113	162	224
7	Suja	331	489	597	53	114	136
	Total	4580	5575	7083	806	1129	1432

Source: Census of India 1991, 2001, and 2011.

As per 2011 census, total population of town is 7,083 persons, comprising of 1,432 households with average household size of 4.94.

Population of the town has steadily grown from 4,580 in 1991 to 7,083 in 2011 – a growth rate of about 55 per cent during twenty years. Chaugan with a population of 2520 persons in 2011 is the largest village in the Special Area.

It may be noticed from Table 1-2 that Billing village has the largest area and minimum population density; reason being hilly terrain and forest cover.

From Map -2, which shows the density distribution in this area, it may be observed that the two southern most villages namely Chaugan and Kotli belong to the highest density range. There the terrain is less steep and the villages are well connected with National Highway-20 (Now NH-154).

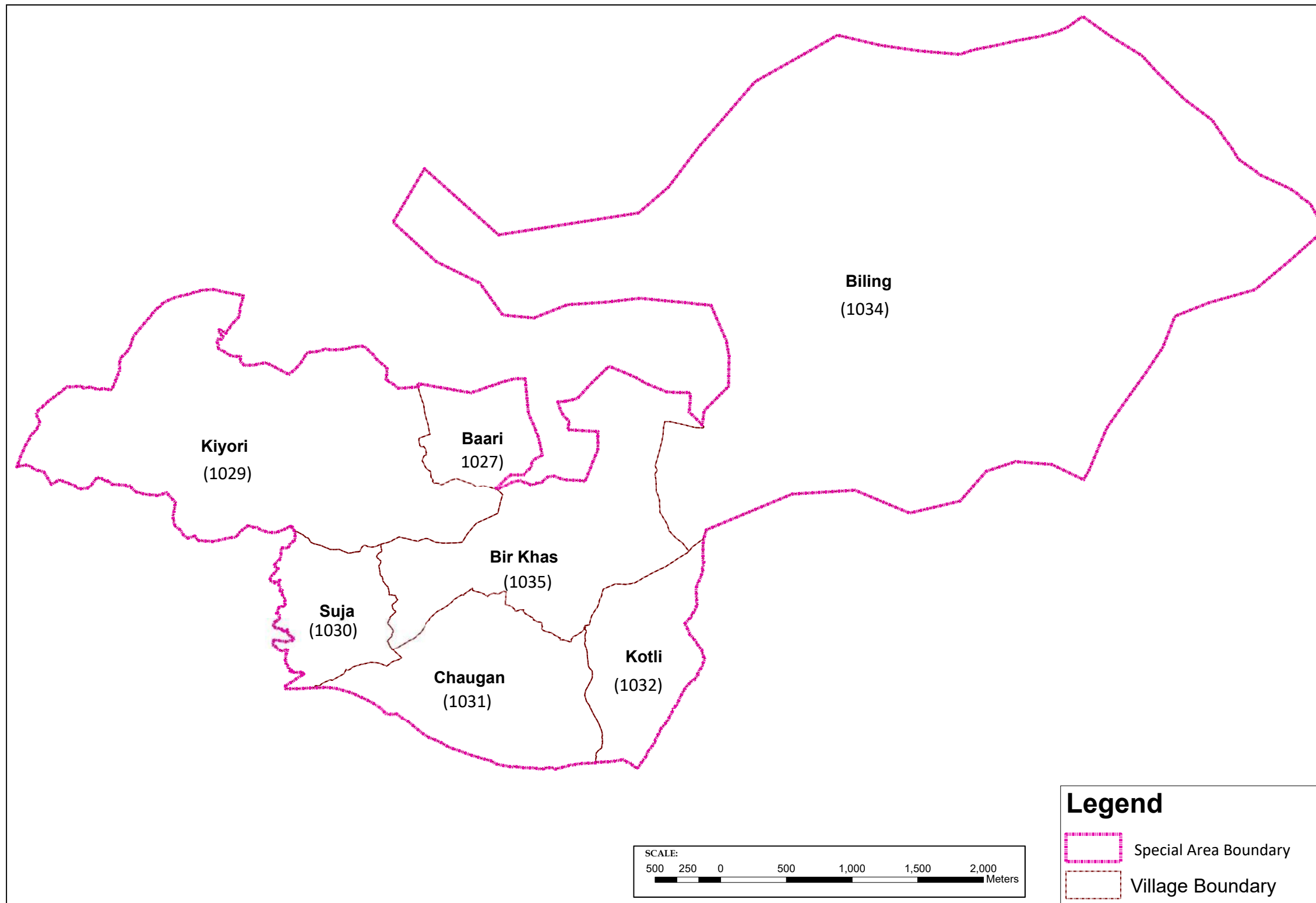
Table 2-2 Village wise Area of the Bir -Billing Special Area

Name of Revenue Village	Area (ha)	Density (pph)
Wari	49	1.45
Billing	1315	0.20
BirKhas	189	7.06
Chaugan	139	18.13
Keori	324	3.69
Kotli	85	12.99
Suja	71	8.41
Total	2172	3.26

Source: As per notification



Map 1 Boundary of Bir- Billing Special Area and Revenue Villages



Source: Notification No. TCP-F (5)-10/2003 dated 04-11-2004(Annexure-1) In the map above, the Revenue Villages are shown within the Special Area Boundary

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Table 2-3 Particulars of Villages in Bir -Billing Special Area

As per Notification				As per Census and DFO Office, Bir Billing			
Name of revenue village	Hadbast No.	Area (Ha)	Population	Name of revenue village	Hadbast No.	Area (Ha)	Population
Wari	1027	49	102	Wari	1036	49	71
Billing	1034	1315	103	Billing	1034	1315	261
Bir Khas	1035	294	1012	BirKhas	1035	189	1334
Chougan	1031	139	306	Chaugan	1031	139	2520
Keyori	1029	323	674	Keori	1029	324	1196
Kotli	1032	85	306	Kotli	1032	85	1104
Suja	1030	71	695	Suja	1030	71	597
Total		2276	3198	Total		2172	7083

Source: Notification No. TCP-F (5)-10/2003 dated 04-11-2004 (Annexure-1) and Information by DFO Bir-Billing.

As shown in Table 2-3, the data regarding names, Hadbast number and population of villages in the Bir-Billing Special Area as per Notification No. TCP-F (5)-10/2003 dated 04-11-2004 (attached as annexure-1) have some discrepancies when compared with the data from Census of India-2001 and 2011 and those provided by the DFO Bir -Billing.

Following are the discrepancies:

As per notification the name of the revenue village against Hadbast no. 1027 is Wari. However, as per Census of India, the name of the village against same Hadbast number is Bhattu Uparla.

Moreover, whereas, as per the notification, the total area of the Bir-Billing Special Area is 2276.0 ha but as per the Census of India and data provided by the DFO office, the total area of Bir-Billing Special Area is 2210.3 ha.

Note: All the analysis has been done on the basis of data provided by DFO office and Census of India.

2.3 Connectivity

Bir- Billing is well connected through road and air with different parts of Himachal Pradesh and other States. Connectivity by different modes is as follows:

2.3.1 Rail

Special Area does not have railway line but nearest broad gauge railway station is in Pathankot which is about 142 km from Bir. Nearest narrow gauge station is at Ahju, barely 3 km. from Bir.

A toy train runs from Pathankot to Joginder Nagar.



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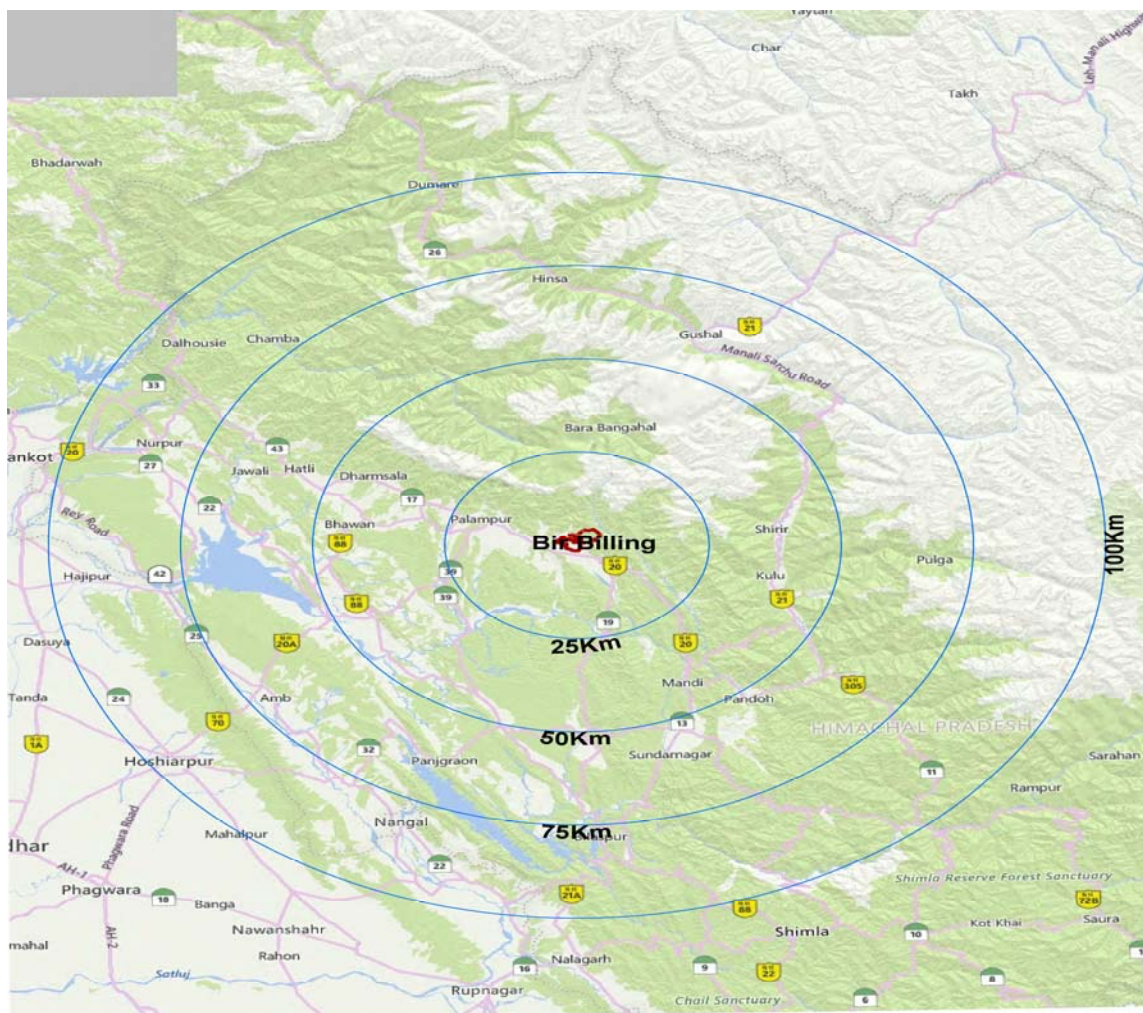
2.3.2 Road

Special Area can be easily accessible through road. Bir- matru road meets at NH-154 near Ahju connecting Dharamshala- Mandi. Regular bus services ply to and from the Bir. They operate on a daily basis, whether day or night, from places like Shimla, Dharamshala, etc.

2.3.3 Air

Special Area can be reached by Gaggal airport, about 68 km from the town. Direct flights operate to and from Delhi and Chandigarh only.

Map 2 Regional Connectivity (Aerial Distance) and Location of Special Area



Chapter 3. DEMOGRAPHY AND SOCIO ECONOMIC PROFILE

3.1 Demographic Profile

Various parameter of demography like Population, Decadal Growth Rate, Household Size, Sex Ratio, Literacy Rate and Economic Base etc. have been studied and analyzed for the Bir-Billing Special Area.

3.1.1 Decadal Population Growth Rate

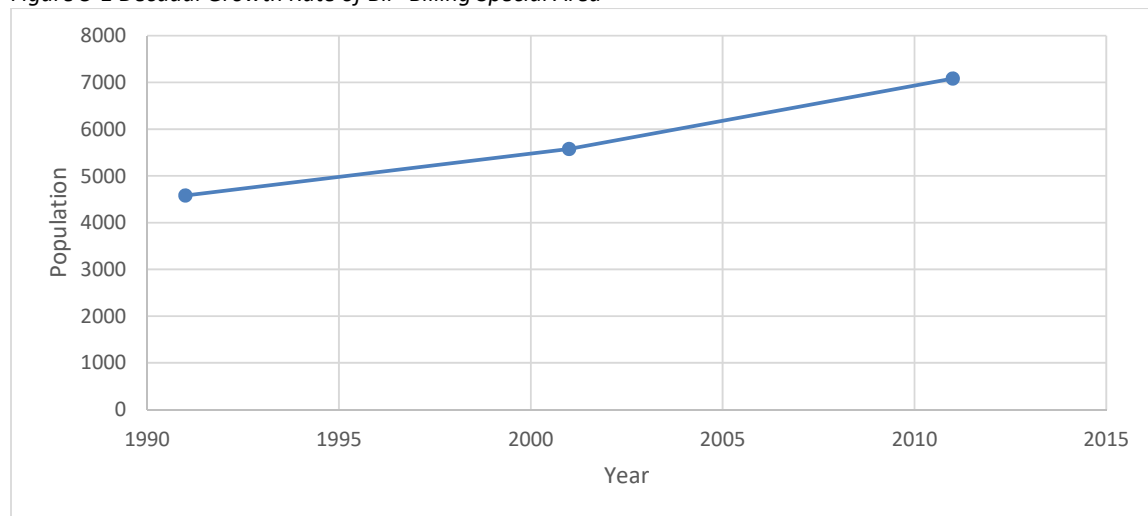
The decadal growth rate of the Bir-Billing Special Area was 22% during 1991-2001 decade, which increased to 27% during 2001-2011 as shown in Table 3-1.

Table 3-1 Decadal Population Growth Rate of Bir-Billing Special Area

Year	Population of the Special Area	Decadal Growth Rate	Variation
1991	4,580	-	-
2001	5,575	22%	995
2011	7,083	27%	1,508

Source: Census of India 1991, 2001, 2011.

Figure 3-1 Decadal Growth Rate of Bir- Billing Special Area



Source: Census of India 2001, 2011.



3.1.2 Sex Ratio

Sex ratio is an important indicator for assessment of social and demographic profile of a given area. As per the 2011 census data, the sex ratio of the Bir-Billing Special Area was 803, which was much lower than the sex ratio of Kangra District i.e. 1,012 as shown in table 2-2.

Table 3-2 Sex Ratio of Bir-Billing Special Area and Kangra District, 2011

Area	Sex Ratio
Bir Billing Special Area	803
Kangra District	1012

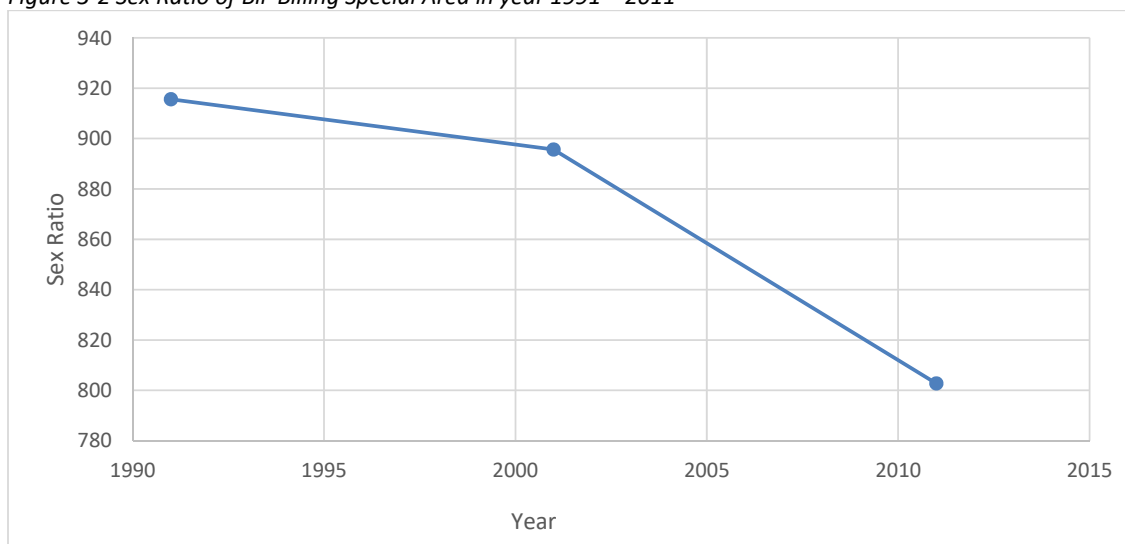
Source: Census of India, 2011.

Table 3-3 Population and Sex Ratio of Bir-Billing Special Area in Year 1991 – 2011.

Year	Population			Sex Ratio
	Male	Female	Total	
1991	2370	2170	4540	916
2001	2941	2634	5575	896
2011	3929	3154	7083	803

Source: Census of India, 2011

Figure 3-2 Sex Ratio of Bir-Billing Special Area in year 1991 – 2011



Source: Census of India, 2011

Development Plan-2035

The data presented in Table 3-3 and Figure 3.2 shows that the sex ratio in the town is decreasing in last three decades from 916 in 1991 to 803 in 2011.

3.1.3 Literacy Rate

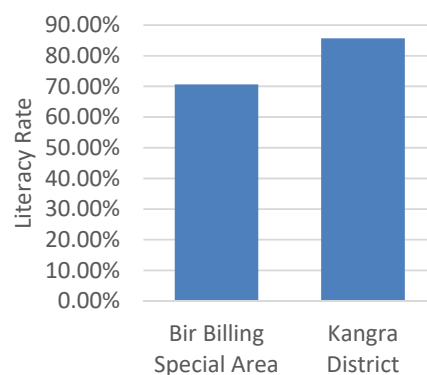
The literacy level represents the quality of life of the population and their accessibility to educational facilities. The literacy rate of town is 70.64%, which is lower than the Kangra district literacy rate of 85.67% (Figure 3.3)

Female literacy rate of 60% is lower than Male Literacy rate of 79% (Table 3-4), which is less than the corresponding national figure of 65% for females and 74.04% in total. This low rate in literacy is due to the backwardness in terms of terrain, harsh climate and lack of schools in the area.

Table 3-4 Male and Female Literacy Rate in Bir-Billing Special Area, 2011

Number of Literates			Literacy Rate (%)	
Male	Female	Total	Male	Female
3101	1903	5004	79	60

Figure 3-3 Literacy Rate in Bir-Billing Special Area and Kangra District, 2011



3.1.4 Work Force Participation

The working population of Bir- Billing Special Area constitutes total population.

Table 3-5 Workforce Participation in Bir-Billing Special Area, 2011

	Workers			Non-Workers
	Main	Marginal	Total	
Number	1368	1392	2760	4323
Percentage	49.5	50.5	38.9	61.1

Source: Census of India, 2011

According to Table 3-5, the main workers and marginal workers of the total working population constitute to 49.5% and 50.5% respectively. Since tourism activities like paragliding, camping, trekking etc. are seasonal in nature; percentage of marginal workers is high. The total dependent population is 61.1 % of the total population.



Development Plan-2035

Table 3-6 Male and Female Workers in Bir-Billing Special Area and Kangra, 2011

Area	Workers		
	Male	Female	Total
Bir- Billing Special Area	1565(56.7%)	1195 (43.3%)	2760(100%)
Kangra District	4,03,756 (60%)	2,71,414(40%)	6,75,170 (100%)

Note: Percentages Given in Brackets (). Source: Census of India, 2011

Out of total workers 56.7 % are Male workers and 43.3 % are Female workers as shown in Table 2-6. It shows that females are actively participating in earning their livelihoods.

Workers Force Participation Rate of 38.9% in Bir-Billing Special Area as per Census 2011 is much lower than state's average WFPR of 45%. However, it is observed that the female participation Rate of 43.3% at the special area level is higher than the district female participation rate of 40%.

Table 3-7 Sector wise categorization of Workers in Bir- Billing Special Area

Sector	Number of Workers			Percentage Distribution
	Main	Marginal	Total	
Primary	299	936	1235	45%
Secondary	46	62	108	4%
Tertiary	1023	394	1417	51%
Overall	1368	1392	2760	100%

Source: Census of India, 2011

The Table 3-7 above shows that the major involvement of workers (51%) is in Tertiary Sectors followed by Primary sector (45%) and Secondary Sector (4%). However, if seen separately, the 75% of Main workers are involved in Tertiary activities and 67% of Marginal workers are involved in Primary sectors. This shows that the Primary sector offer employment seasonally.

3.2 Population Projection

The population projection for 2035 for the town has been calculated considering the decadal growth pattern of both urban and rural areas over census periods. Further, it is noted that population change is the result of different factors such as increase in area, fertility and mortality rates and migration pattern. Different methods such as Linear, Geometrical, Progression and Exponential Curve have been used for population projection. Population growth trends over the last census years have been considered to forecast the population for town for the horizon year



Development Plan-2035

2035. Based on the projected population, requirements for housing and infrastructure (Physical and Social) have been worked out.

Table 3-8 Population of the Bir- Billing Special Area as per Census 2001, 2011.

Year	Population
2001	5575
2011	7083

Source: Census of India 2001 and 2011

Table 3-9 Population Projection by Various Methods for the Horizon Year 2035

Methods of Projection						
	Linear		Geometric Growth		Exponential Curve	
	Population	Growth rate	Population	Growth rate	Population	Growth rate
2011	6084*	-	6933*	-	6950*	-
2021	8644	32%	8808	24%	8829	27%
2035	10830	21%	11952	36%	12021	33%

Source: REPL Analysis

*Note: Projected Population with 2001 Census Data as base.

By projecting the population using various methods as mentioned in the Table 3-9, it is observed that the existing population of 2011 (7,083 persons, as per Census of India, 2011) (Table 3-8) is closest to the population projected by Exponential Curve Method (6,950) (as compared to Linear Method (6084) and Geometric method (6,933 persons)). The adopted method for population projection for year 2035 is the Exponential Method. Therefore, the projected population for the horizon year 2035 is taken as 12,021 which is the population projected by the exponential method.

Being a tourist destination it is assumed that an additional population of about 30% of the resident population will be there in the Special Area as Floating Population. Thus the total Population for which the infrastructure and service have to be designed will be 15,627 say 16,000 (Floating population + Resident Population) for the horizon year 2035.

3.3 Key Issues

- Decreasing Sex Ratio: Sex ratio in the town has been decreasing during the last two decades from 916 in 1991 to 803 in 2011.
- Lower Literacy Rate: The literacy rate of town is 70.64%, which is lower than the district literacy rate of 85.67%.



- iii. The percentage of marginal workers is higher than the main workers due to seasonal demand of workers for tourism and agricultural operations.
- iv. WFPR of the special area is 38.9%, which is much lower than the state average of 45%.
- v. There is no urban settlement in the town.
- vi. The Special Area lacks in eco-tourism and infrastructure even though it has potential.

3.4 Conclusion:

- i. The Decadal Population Growth Rate has been increasing steady during the last 2 decades, which is a healthy sign and may be result of increasing employment opportunity due to growth of tourism activities in this area.
- ii. Sex Ratio is decreasing which needs to be addressed by increasing educational facilities and incentives for girl child. Schemes for increasing employment opportunities for women may also help in this regard.
- iii. Literacy rate needs to be increased to at-least match with the state literacy rate of 85.67% and hence educational facilities and more so for adult education needs to be provided.
- iv. The Average household size is 4.9 in 2011, which is reduced from 5.6 in 1991. This is an indication of increasing trend towards nuclear families. This may have need for additional housing in the future.
- v. Economy of the area is mostly dependent on tertiary sector (51% of the total working force). The important features of the economy of the region are its forest resources and tourism activities. The number of tourists has increased during the last decade. The tourists interested in adventure sports and activities are attracted to this area.

Chapter 4. HOUSING PROFILE

4.1 Introduction

Housing is a basic need of man and ranks third after food and clothing. The importance of housing was universally accepted from the dawn of history. Housing has been termed as the “Engine of growth for the economy” and has a direct impact on employment and income generation opportunities for a large variety of skilled and unskilled workforce. Creation of new housing stock is also an essential feature of the development strategy for any area to achieve a sustainable growth.

4.2 Overview of Housing Scenario

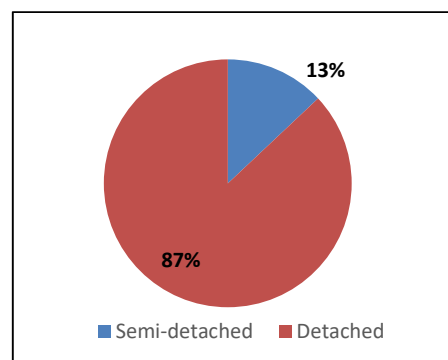
In order to assess the housing condition in the town, housing survey was conducted as a part of the socio-economic survey. Existing status of housing, residential property, typology, availability of sanitary facility etc. where the main factors of data collection for survey purpose 72 HHs that is 5% of the total were selected for socio economic survey. Only residential properties were included in the sample. Some of the key findings of the primary survey are outlined below.

4.3 Primary Survey Findings

Figure 4-1: Type of Residential Properties

4.3.1 Type of Residential Properties

According to the housing survey, it is observed that The Special Area has no group housing units. Survey Shows that the detached housing is more popular (87% HHs) as compared to Semi- Detached Type (13% HHs).

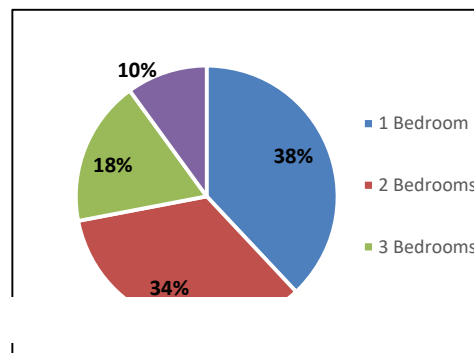


Source: (REPL, Socio-economic Survey, 2016)

4.3.2 Number of Bedrooms in Residential Properties

The survey reveals that large majorities of HHs live in one (38%) and two (34%) Bedroom Houses whereas very small percentage live in three (18%) and four (10%) bedrooms.

Figure 4-2: Number of Bedrooms in HHs

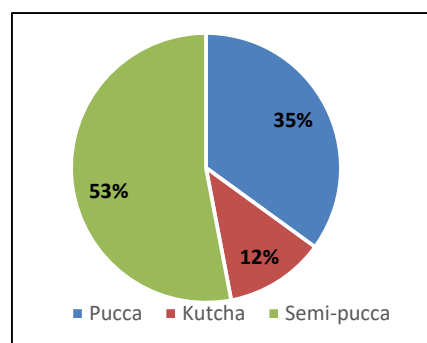


Source: (REPL, Socio-economic Survey, 2016)

4.3.3 Type of Structure of Residential Properties

Majority of the households (88%) have either pucca or semi-pucca houses Figure 4.3. Dwelling units with Kutcha structure are only 12% of total dwelling units.

Figure 4-3: Type of Structure

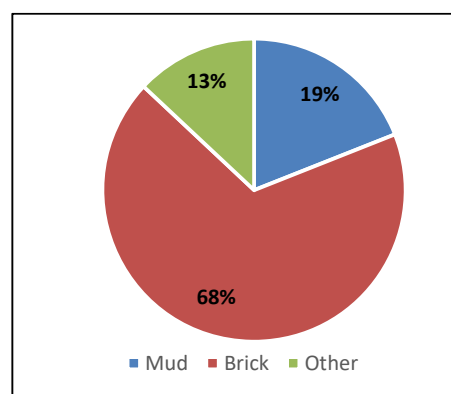


Source: (REPL, Socio-economic Survey, 2016)

4.3.4 Material used for Walls of Residential Properties

Major porportion of HHs living in semi-pucca houses have wall made of bricks (about 68%). Only 19% have walls made of mud. There is a some percentage of about 13% of units that are made of other materials like stone, cement, wood etc.

Figure 4-4: Material of Wall



Source: (REPL, Socio-economic Survey, 2016)

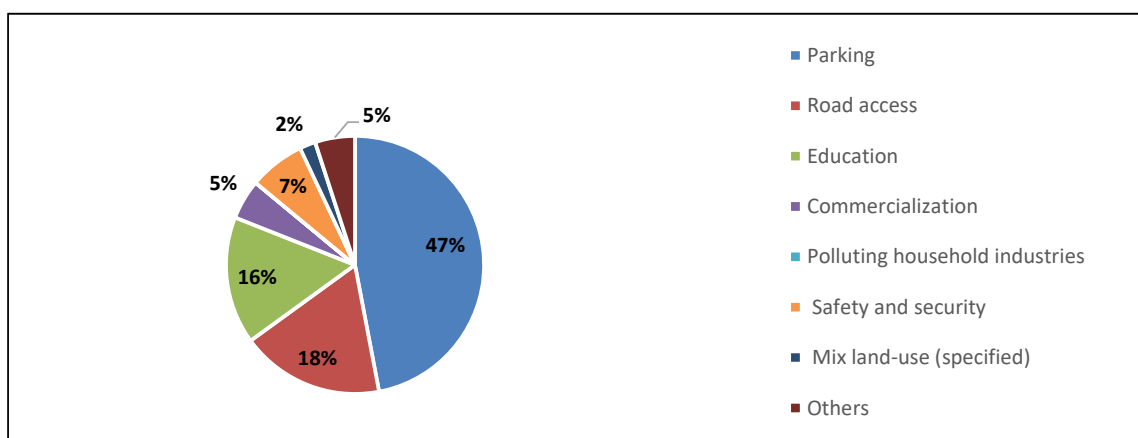
4.3.5 Material used for Roof and Floor of Residential Properties

Majority HHs living in semi-pucca houses have roof made of tiles (about 87%) and asbestos sheet (about 13%). Floor is generally made of cement or tiles.

4.3.6 Problems Faced by Households

Majority of HHs i.e., 47% have parking problem. About 18% have no proper access to road; 16% do not have access to proper education; 5% have problems with commercialization of the surroundings, 7% with safety and security and only 2% have problems with mix-use development.

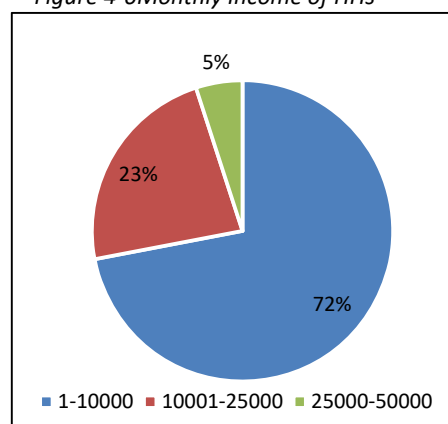
Figure 4-5 Problem Faced by HHs



4.3.7 Monthly Income, Expenditure and Savings`1`

Majority of HHs (72%) has monthly income up to Rs.10,000 and expenditure of Rs.10,000 (87%). Of the remaining households 57% can save UptoRs. 10,000 and 35% upto Rs.20,000.

Figure 4-6 Monthly Income of HHs



Source: (REPL, Socio-economic Survey, 2016)

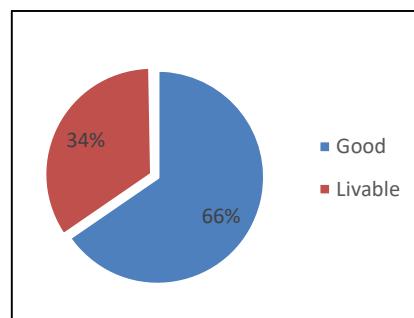
4.4 Census Data in Housing of Bir-Billing

4.4.1 Condition of Census Houses

Out of the total housing stock as per the 2011 census, about 66% are in good condition and 34% are in livable condition.

Source: (Census 2011)

Figure 4-7 Condition of Census Houses

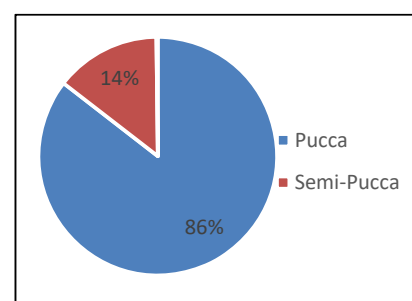


4.4.2 Type of Structure

The condition of the census houses is majorly good. As seen from the chart there are no kutcha structures in the town, i.e., temporary in nature and 86% have pucca and 14% have semi-pucca structures which are structurally safe for human habitation.

Source: (Census 2011)

Figure 4.8: Type of Structure

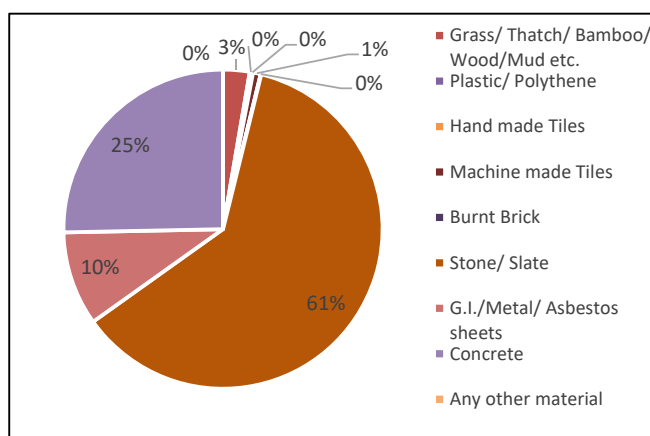


4.4.3 Material of Roof

Majority HHs have stone/ slate and concrete walls also and constitute about 61% and 25%. Remaining have roof made of materials like, tarpoline, wood, slab and others.

Source: (Census 2011)

Figure 4-9 Material of Roof

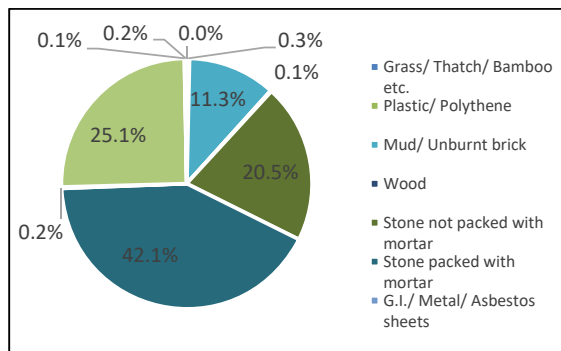


4.4.4 Material of Wall

Majority HHs being pucca in nature have walls made of stone packed with mortar (about 42%). About 25% are made of burnt bricks.

Source: (Census 2011)

Figure 4-10: Material of Wall



4.4.5 Material of Floor

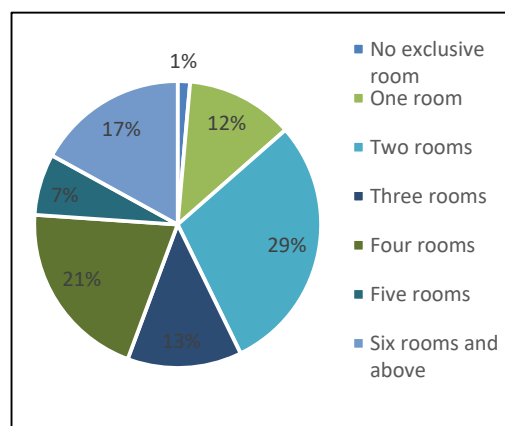
Out of the total census houses present in the area about 48% have floor made of mud and cement.

4.4.6 Number of Dwelling Rooms

Only about 12% census houses have one room dwelling unit. Majority of 29% have two rooms; 13% have three rooms; 20% have four rooms; 7% have five rooms and 17% have more than 6 rooms in the dwelling unit.

Source: (Census 2011)

Figure 4-11: Number of Dwelling Rooms



4.4.7 Toilet Facility

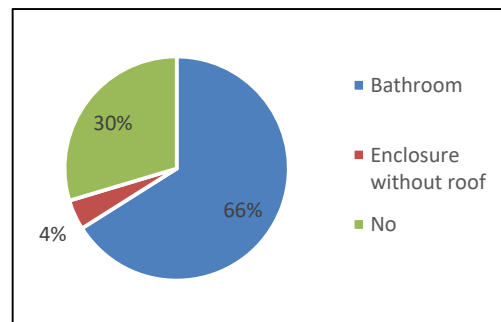
Almost 98% HHs have toilet facility within their premises.

Source: (Census 2011)

4.4.8 Bathing Facility within the Premises

About 66% census houses have proper bathing facility, only 4% have an enclosed space without roof and about 30% do not have bathing facility within the premise.

Figure 4-12 Bathing Facility within the Premises

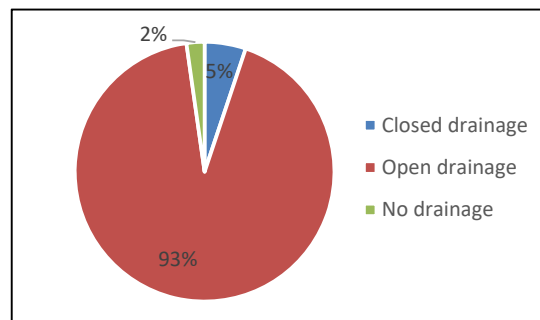


4.4.9 Waste Water outlet Connection

About 5% census houses closed drains, 93% have open drains and about 2% have no drains within the premise.

Source: (Census 2011)

Figure 4-13: Waste Water outlet Connection



4.4.10 Kitchen Facility

Majority of 93% census houses have cooking area inside the house.

4.5 Key issues

- Some of the households are having parking problem.
- There is no sewerage network in Special Area.
- Out of the total surveyed households, 38% houses are having only one bedrooms which is not at par with the standards of housing (standard houses should have two habitable room, kitchen and toilet facility)
- Out of the total surveyed households, 12% houses are kutcha in structure.

4.6 Housing Projections

The survey data analyze above as indicated the declining trend of average household size. Based on the data on Household size for census data for 1991, 2001, 2011 and corresponding Household size of 5.6, 4.9 and 4.9 the household size projected for 2021 is 4.8 and for the year 2035 is 4.7 so using the population estimates for the year 2021 and horizon year 2035 the housing need has been projected. Thus the projected housing need assuming that every household is housed the projected need for housing is 1845 units in 2001 and 2509 in 2035 which means additional number of 413 houses in 2021 and 664more houses in 2035 needs to be constructed (Table 4-1).

The factors taken into consideration for projecting the household numbers are as follows:

- The population projections given in the chapter-3,
- The projected average household size ,
- Considering factors responsible for the population growth trend,

Development Plan-2035

Table 4-1 Household Projection in Bir Billing Special Area.

Year	Population	Households	HH size
1991	4580	816	5.6
2001	5575	1129	4.9
2011	7083	1432	4.9
2021	8856	1845	4.8
2035	11794	2509	4.7

Thus, the projected household numbers for town for the year 2035 are 2509, assuming the household size to be 4.7.

Proposed Housing Interventions:

Initiatives going on like: PMAY (G) have to be geared up in the Area to bridge the gap between the housing need and housing supply for the town.

4.7 Conclusion

It has been observed that in spite of the issues mentioned above, the housing condition in town is generally good and livable. Since the economy of the area is set to improve due to Paragliding becoming a more popular sport activity particularly after the Paragliding World Cup competition held here, it should be expected that the housing condition in the area would become better.



Chapter 5. INFRASTRUCTURE

5.1 Physical and Social Infrastructure

This chapter deals with physical and social infrastructure facilities in the town. Physical infrastructure facilities include utilities such as water supply, sewerage, drainage, solid waste management and power supply. Social Infrastructure includes educational facilities, healthcare facilities and other social infrastructure such as post office, Police Station, Telecommunication, recreational facilities and socio-cultural and public–semi-public facilities etc.

Physical and social infrastructure facilities are an important component of any Development Plan on which the quality of life of the people depends. Therefore, the existing conditions of these facilities and requirements for future population have been discussed in this chapter.

5.2 Social Infrastructure

5.2.1 Existing Medical Facilities

In Bir-Billing Special Area there exist one Primary Health Centre, two Dispensaries, two Veterinary Hospitals, four Family Welfare Centers, two non-governmental medical facilities with an MBBS doctor, two non-governmental medical facilities with medical practitioners and eight medical shops.

Table 5-1 Existing Medical Facilities in Revenue Villages of Bir-Billing Special Area

Name of Revenue Villages	Number of Primary Health Centres	No. of Dispensary	No. of Veterinary Hospitals	No. of Family Welfare Centres	Non-Government Medical Facilities Medical Practitioner with MBBS Degree (Numbers)	Number of Non-Government Medical Facilities Medical Practitioners with no Degree	Number of Medicine Shops	Total
Bari	0	0	0	0	0	0	0	0
Billing	0	0	0	0	0	0	0	0
BirKhas	1	1	1	1	2	2	4	12
Chaugan	0	0	1	1	0	0	0	2
Keori	0	0	0	1	0	0	0	1
Kotli	0	1	0	1	0	0	4	6
Suja	0	0	0	0	0	0	0	0
Total	1	2	2	4	2	2	8	21

Source: Census of India, 2011



Development Plan-2035

It is observed from Table 5-1 that there is uneven distribution of medical facilities in the town, the villages in the northern half of the special area namely; Wari and Billing have no medical facilities and Keori another village in the north has one health facility i.e Family Welfare Centre. Bir Khas Located more or less at the geographical centre of the area has maximum number of medical facility covering the entire range of medical facilities from primary health centre to higher order medical facilities with qualified medical practitioners.



Development Plan-2035

5.2.2 Existing Educational Facilities in Bir-Billing Special Area

Table 5-2 Revenue Village Wise Details of Existing Educational Facilities in Bir-Billing Special Area

Name of Revenue Village	Gov. Pre - Primary School (Nursery/LKG/UKG) (No.)	Private Pre - Primary School (Nursery/LKG/UKG) (No.)	Total Pre-Primary Facility	Govt. Primary School (No.)	Private Primary School (No.)	Total Primary Facility	Gov. Middle School (No.)	Private Middle School (No.)	Total Middle School	Gov. Secondary School (No.)	Private Secondary School (No.)	Total Secondary School	Gov. Senior Secondary School (No.)	Private Senior Secondary School (No.)	Total Senior Secondary School	Total Facilities
Wari	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Billing	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
Birkhas	1	0	1	2	2	4	1	1	2	1	1	2	1	1	2	9
Chaugan	1	1	2	1	1	2	1	1	2	1	1	2	0	0	0	8
Keori	0	0	0	1	0	1	1	0	1	1	0	1	0	0	0	3
Kotli	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	2
Suja	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Total	2	1	3	9	4	13	3	2	5	3	2	5	1	1	2	25

Source: Census of India 2011

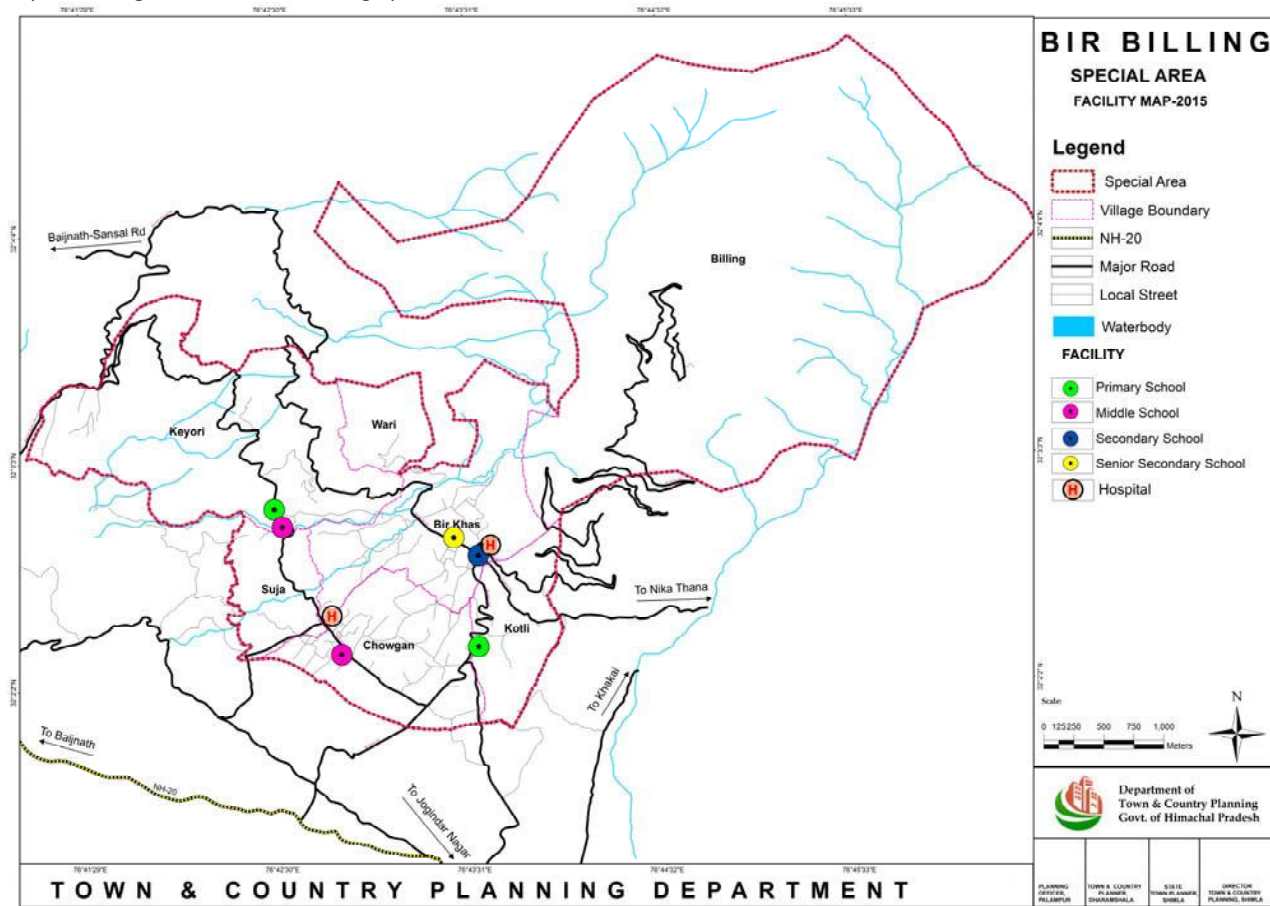
The above Table 5-2 shows that like medical facilities, uneven distribution of educational facilities also is there in the Special Area, three villages namely Billing, Suja and Bari have only primary school facilities where as the central village namely Bir Khas has the full range of educational facilities. There is no college for higher education within the area however there are colleges in the area adjacent to Bir- Billing Special Area. The list of nearest colleges is given in Table 5-3.

Following is the list of the colleges nearest to the town.



Development Plan-2035

Map 3 Existing Facilities in Bir- Billing Special Area



Source: REPL Analysis and Census of India



Town and Country Planning Department,
Government of Himachal Pradesh

Development Plan-2035

Table 5-3 Higher education facilities nearest to Bir Billing Special Area

Pandit Sant Ram Govt. College@ Baijnath	>10Km
NIT College @ Hamirpur (Govt.)	>10Km
Management Institute @ shimla, DharamshalaandPalampur(Private)	>10Km
Govt Polytechnic @ KangraandHamirpur	>10Km
Govt. Vocational Training School/ITI @ Sahpur, Gad andPalampur	>10Km
Government Non Formal Training Centre @ Nagrota	>10Km
Government School For Disabled @ Dharamshala	>10Km
Rajiv Gandhi Government Ayurvedic College @ Paprola	<10Km

Source: Census of India, 2011

From the above table, it is apparent that college level facility is located at more than 10 kms from town.

5.2.3 Projections and Gaps

As per URDPFI guidelines, the gaps and requirements have been worked out for the projected Population.

Table 5-4 Gaps and Requirements of Education and Health Care facilities for Projected Population (Census-2011) as per URDPFI Guidelines

Particulars	Projected Population			
Bir- Billing Special Area	12,021			
Education Facilities	Population per unit facility*	Existing	Required	Gap
Primary School	4000	13	3	-10
Secondary School(10+2)	15000	2	1	-1
Health Care Facilities				
Dispensary	2500	2	5	3
Family Welfare Centre	5000	4	2	-2
Primary Health Centre	20000	1	1	0
Veterinary Centre	1000	2	12	10

Source: URDPFI Guidelines

* as per norm

The Education Facilities in the Area are sufficient to cater to the needs of the existing population in the town. As per URDPFI guidelines, 2014, the requirement of the Primary Schools is 2 only but there are 13 primary schools in the area.



Development Plan-2035

However, the Health Facilities needs to be improved. A total of 3 more Dispensaries and 10 Veterinary Centers are required to cater to the needs of the population in the horizon year 2035.

5.2.4 Other Facilities

Cremation ground exists in Upper Bir area near Dakshin Kali Ashram, Upper Keori area near Ghaornala Road and at Kotli near Billing Road.

5.3 Physical Infrastructure

5.3.1 Water Supply

5.3.1.1 Existing Situation

Within town, tap water is available round the year in all the revenue villages. However, additional source of water supply is through hand pump in Bir Khas, Chaugan and Kotli. There are 3 OHT in Bir. The Main source of water supply in the town is spring source from Fudki Nallah which is about 5 km away from town. Water is stored in PVC and MS tanks. Total storage capacity of water is about 8000 liter. At present water is supplied at a rate of 70 lpcd.

Source: Irrigation and Public Health Department, Bir

Table 5-5 Revenue Village Wise Details of Existing Source of Water Supply in Bir-Billing Special Area

Name of Revenue Village	Tap Water (Treated)	Tap Water (Untreated)	Covered/ Uncovered Well	Hand Pump	Tube Wells/Bore well	River/Canal/ Tank/Pond
Wari	√	-	-	-	-	-
Billing	√	-	-	-	-	-
BirKhas	√	-	-	√	-	-
Chaugan	√	-	-	√	-	-
Keori	√	-	-	-	-	-
Kotli	√	-	-	√	-	-
Suja	√	-	-	-	-	--

Source: Census of India, 2011

5.3.1.2 Gap

For the existing residential population, water is sufficient but during big events like world cup or national cup, shortage of water is faced.



Development Plan-2035

5.3.1.3 Projection of Water Demand

For the Horizon year 2035 the water demand is projected to the order of 2.69 mld at the rate of 135 lpcd for the projected resident population and 135 lpcd for floating population. In addition it is assumed that 15% of water will be in the form of unaccounted flow. So the total demand of water as estimated takes into account the consumption by resident population, floating population and unaccounted flow of water (Table 5-6).

Table 5-6 Projection for Water Demand for Horizon Year 2035

Year	Population			Water Demand (mld)		
	Projected Resident	Floating	Total	Projected	UFW (15%)	Total
2035	12,021	3,979	16,000	2.34	0.35	2.69

Source: URDPFI Guidelines

To meet the existing and future demand during peak season/ time, I&PH department proposed to augment the water supply network from water source at Rajgunda which is about 10 km away from town.

5.3.2 Drainage

There are only open Kuccha drains in the area.

Table 5-7 Revenue Village Wise Details of Existing Drainage Status in Bir-Billing Special Area

Name of Revenue Village	Open Kuccha Drain	Covered Drain	Pucca Drain
Wari	√	-	-
Billing	√	-	-
BirKhas	√	-	-
Chaugan	√	-	-
Keori	√	-	-
Kotli	√	-	-
Suja	√	-	-

Source: Census of India, 2011

5.3.3 Sanitation

Out of the 7 revenue villages in the special area, 4 villages, namely Billing, Bir Khas, Chaugan and Kotli are covered under Total Sanitation Campaign (TSC). However, there is no community complex for general public in the area. No sewerage network exists in the area. Only Septic tank is used for sewage disposal.



Development Plan-2035

Table 5-8 Revenue Village Wise detail of Existing Sanitation Status in Bir-Billing Special Area.

Name of Revenue Village	Area Covered under Total Sanitation Campaign (TSC)	Community Toilet Complex (including Bath) for General Public
Wari	-	-
Billing	√	-
BirKhas	√	-
Chaugan	√	-
Keori	-	-
Kotli	√	-
Suja	-	-

Source: Census of India, 2011

5.3.3.1 Projection for Sewage Generation

For the Horizon year 2035, it is estimated that 2.15 MLD of sewage will be generated; assuming 80% of the water supply will get converted into sewage (Table 5-9).

Table 5-9 Projection for Sewage Generation

Year	Projected water demand (mld)	Projected Sewage Generation at 80% of water supply
2035	2.69	2.15

Source: URDPFI Guidelines

5.3.4 Solid Waste Management System

There is no door-to-door collection as a part of solid waste management in the town.

Table 5-10 Solid Waste Generation in Bir- Billing Special Area

S. No.	Population (2011)	Solid Waste Generation (@300 g/per capita /day) (As per CPHEEO) (MT)
1	7,083	21.25

Source: REPL Analysis

A total of 21.25 MT solid-wastes is being generated per day in the town as per the data available for the year 2011. Presently the solid waste is disposed of by open burning or by dumping it in a pit maintained at individual household level.

5.3.4.1 Projections

Table 5-11 Solid Waste Generation for Horizon year 2035

Year	Projected Population including Floating Population	Solid Waste Generation @ 350 gm/capita/day (MT)
2035	16,000	5.60



Source: URDPFI Guidelines

Assuming a projected rate of 350 gm./capita/day, it is estimated that 5.6MT of solid waste will be generated per day by the Horizon year 2035.

5.3.4.2 Proposed Intervention

It is proposed that a comprehensive Solid Waste Management system shall be designed for the town. Bir-Billing is famous for its natural scenic beauty and clean environment; so special care needs to be taken to maintain the character of the area. A decentralized system of collection and management of waste is proposed for the Special Area. The components of the proposed system are stated below:

Some of the methods that can be used to resolve the problem of waste are:

- (i) Segregation of waste at household level: This may be done by organizing awareness camps at village level.
- (ii) Collection of waste: Door to door collection from Commercial and Residential premises may be done. Segregated waste should not be mixed even during collection.
- (iii) Solid Liquid Waste Management (SLWM) centre: These centres may be opened at a distance of about 4 to 6kms i.e each centre will service an area of about 2-3 km radius from the centre so, that transportation cost will be minimized and waste can be handled in small area.
- (iv) Composting or vermin composting may be preferred method for disposal of organic waste.
- (v) Bio gas plants may be set up at village level that can be used for various purposes.

A. Usage of Plastic Waste

A Government order in November 2015 has made it mandatory for all road developers in the country to use waste plastic, along with bituminous mixes, for road construction. This is to help overcome the growing problem of plastic waste disposal in India as suggested by Prof.Rajagopalan Vasudevan popularly known as the 'Plastic Man' of India. Since snow and rain affect town, roads using plastic will be more durable and will require less maintenance.



Development Plan-2035

The above process shall take care of domestic and commercial waste that is in general, non-hazardous. To dispose 5.60 MT of waste by 2035, the concerned authority will identify disposal site, which will be an Integrated Solid Liquid Waste Management Site.

B. Disposal of Waste

Waste after treatment must be disposed in a manner that does not create environmental pollution and public nuisance. The MSW Rule 2000 defines waste disposal as an activity, which involves “final disposal of municipal solid wastes in terms of the specified measures to prevent contamination of ground-water, surface water and ambient air quality”.

The landfill design shall be aimed to minimize the following:

- The ingress of water into the landfill,
- The production of leachate, its subsequent outflow and uncontrolled dispersions into surrounding aquatic environment.

5.3.5 Transportation Facility

Bir- Billing is connected through Bir- Matru road, which meets NH 154 (Mandi- Pathankot) near Ahju. Village roads are present in 7 revenue villages. Bus Service (Public and/or Private), which is most important form of public transport, is only in 3 villages. Wari village does not have any transportation facility. Therefore there is need for all villages to have access to public transport facilities. Existing and proposed transport network is shown in map 4.

5.3.6 Road Linkage

The Special Area has black topped (Pucca) road in all the revenue villages under its jurisdiction except Wari Village. Road connectivity in various villages are shown below (Table 5-12).

Table 5-12 Revenue Village Wise Detail of Existing Road Linkage Status in Bir-Billing Special Area

Name Of Revenue Village	National Highway	State Highway	Major District Road	Other District Road	Black Topped (pucca) Road	Gravel (kuchha) Roads	Water Bound Macadam (WBM)	All Weather Road	Foot path
Wari	-	-	-	-	-	-	-	-	√
Billing	-	-	-	√	√	√	√	√	√
Birkhas	-	√	√	√	√	√	√	√	√
Chaugan	-	√	√	√	√	√	√	√	√
Keori	-	√	-	-	√	-	-	-	√



Development Plan-2035

Kotli	-	√	√	√	√	√	√	√	√
Suja	-	√	-	-	√	-	-	-	√

Source: Census of India, 2011

5.3.7 Power Supply

The power supply is available for 24 hrs for domestic, agriculture, commercial and all users in all the villages falling in Bir-Billing Special Area as shown below (Table 5-13).

Table 5-13 Revenue Village Wise Detail of Existing Power Supply Facility in Bir-Billing Special Area

Name of Revenue Village	Power Supply For Domestic Use (24 hrs)	Power Supply For Agriculture Use (24 hrs)	Power Supply For Commercial Use (24 hrs)	Power Supply For All Users (24 hrs)
Wari	√	√	√	√
Billing	√	√	√	√
BirKhas	√	√	√	√
Chaugan	√	√	√	√
Keori	√	√	√	√
Kotli	√	√	√	√
Suja	√	√	√	√

Source: Census of India, 2011

Projection:

Table 5-14 Power Consumption in Bir-Billing Special Area

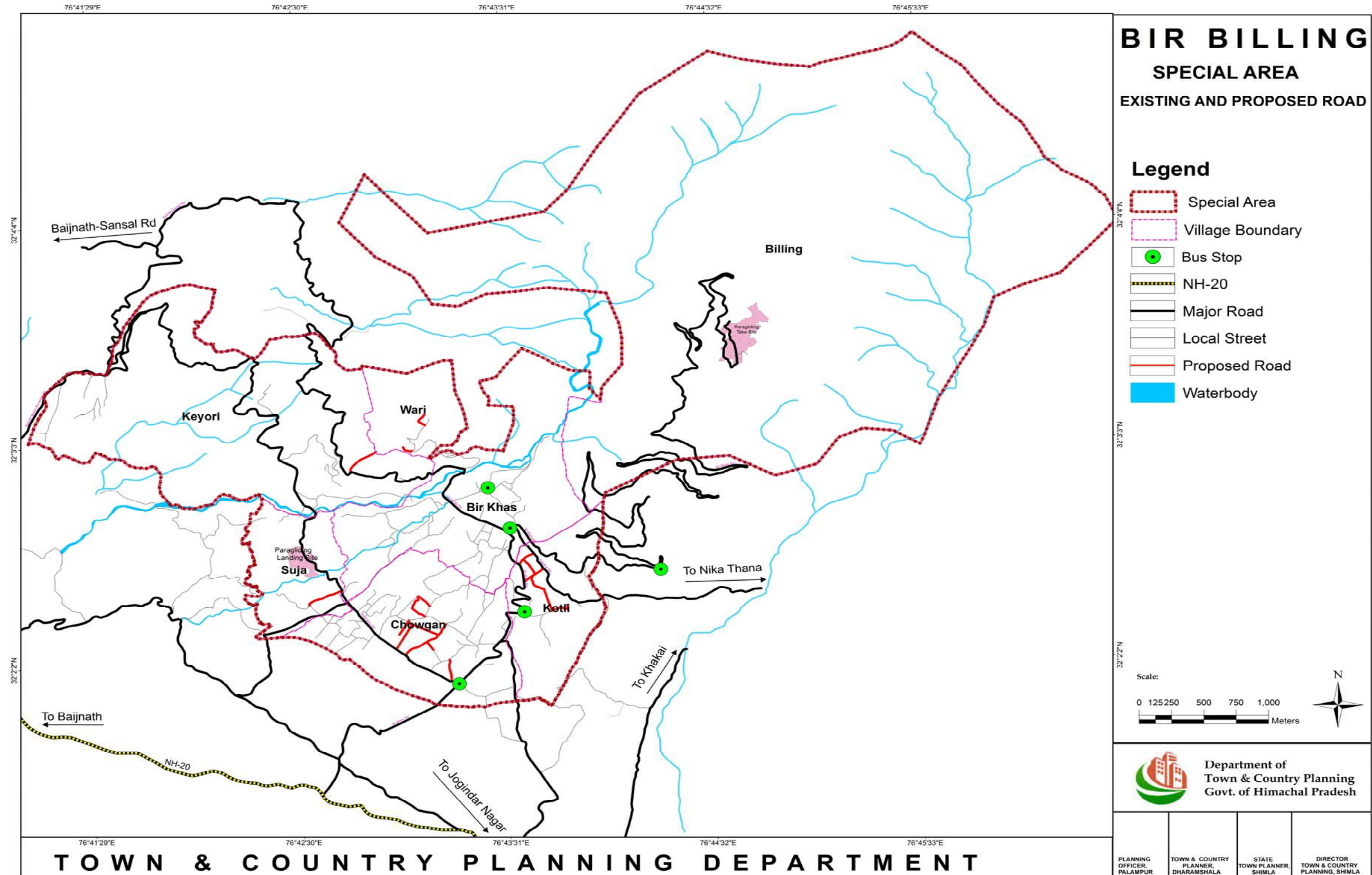
Area	Population - 2035	Consumption per Day	
		Per capita (KWH)	Total (MWH)
Bir Billing Special Area	16000	5	80

Source: URDPFI guidelines

By 2035, it is projected that the power consumption for the area by 2035 will be 80 MWH.



Map 4 Existing and Proposed Transport Network



Source: REPL Analysis



5.3.8 Banking Facility

Bir-Billing Special Area has banking facility only in Bir-Khas revenue village (Table 5-15).

Table 5-15 Revenue Village Wise Detail of Existing Banking Facility in Bir-Billing Special Area

Name of revenue Village	Commercial Bank	Cooperative Bank	Agricultural Credit Societies
Wari	-	-	-
Billing	-	-	-
BirKhas	√	√	√
Chaugan	-	-	-
Keori	-	-	-
Kotli	-	-	-
Suja	-	-	-

Source: Census of India, 2011

5.3.9 Market Facilities

The Public Distribution System (PDS) shops exist in all the revenue villages except Wari and Billing as shown in table 5-16.

Table 5-16 Revenue Village Wise Detail of Existing Market Facility in Bir-Billing Special Area

Name of revenue Village	Public Distribution System (PDS) Shop	Mandis/Regular Market	Weekly Haat	Nutritional Centres-ICDS
Wari	-	√	-	-
Billing	-	-	-	-
BirKhas	√	-	-	-
Chaugan	√	√	-	√
Keori	√	√	-	-
Kotli	√	√	-	-
Suja	√	√	-	-

Source: Census of India, 2011

In Special Area, commercial area mostly exists in Bir and Chowgan settlements.

5.3.10 Anganwari and Community Centre Facility

The nutritional centres and ASHA exist in all the revenue villages of the special area. Anganwari exists in 4 villages (Wari, Billing, Chaugan and Suja) and Community Centre exists in 4 villages (Wari, Chaugan, Keori and Kotli). There are 5 Anganwari in Bir.

Table 5-17 Revenue Village Wise Detail of Existing Anganwari and Community Centre Facility in Bir-Billing Special Area

Name of revenue Village	Nutritional Centres-Anganwari Centre	Nutritional Centres-Others	Accredited Social Health Activist (ASHA)	Community Centre with/without TV
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Development Plan-2035

Wari	√	√	√	√
Billing	√	√	√	-
BirKhas	-	√	√	-
Chaugan	√	√	√	√
Keori	-	√	√	√
Kotli	-	√	√	√
Suja	√	√	√	-

Source: Census of India, 2011

5.3.11 Recreational Facility

Only recreational facility available in the Special Area is sports field that is available in five villages namely, Wari, Bir Khas, Chaugan, Keori and Kotli as shown in table 5-18. Recreational facilities like recreation centre and cinema hall are absent in the entire Special Area.

Table 5-18 Revenue Village Wise Detail of Existing Recreational Facility in Bir-Billing Special Area

Name of Revenue Village	Sports Field	Sports Club/Recreation Centre	Cinema/Video Hall
Wari	√	-	-
Billing	-	-	-
Bir Khas	√	-	-
Chaugan	√	-	-
Keori	√	-	-
Kotli	√	-	-
Suja	-	-	-

Source: Census of India, 2011

5.3.12 Communication Facilities

Like other facilities as in Section 5.2.1 and 5.2.2 communication facilities are also unevenly spread in the special area. Out of 7 revenue villages in the Bir-Billing Special Area (Table 5-12), all the villages except Wari and Billing have landline telephone connectivity. However the mobile coverage is available only in 3 villages (Bir Khas, Chaugan and Kotli).

Table 5-19 Revenue Village Wise Details of Existing Communication Facilities in Bir-Billing Special Area

Name of Revenue Village	Telephone (landlines)	Public Call Office /Mobile (PCO)	Mobile Phone Coverage	Internet Cafes / Common Service Centre (CSC)	Private Courier Facility
Wari	-	-	-	-	-
Billing	-	-	-	-	-
BirKhas	√	√	√	√	√
Chaugan	√	√	√	√	√



Development Plan-2035

Keori	√	-	-	-	-
Kotli	√	√	√	-	√
Suja	√	√	-	-	-

Source: Census of India, 2011

Internet cafe facility is available only in Bir Khas and Chaugan and Private Courier Service facility is available in Bir khas, Chaugan and Kotli only. In fact villages Wari and Billing have no communication facility.

5.4 Key issues

- For higher education facilities, children are dependent on facilities available at nearby towns like Baijnath, Palampur and Dharamshala.
- The health care facilities need to be improved, as there is gap of 3 dispensaries and 10 veterinary Centers for the projected population.
- Sewerage network does not exist in town.
- Solid waste management system does not exist.
- Recreational facilities are lacking in the area for the resident population.

5.5 Conclusion

Provision of social and physical infrastructure facilities in the town has been analyzed, it emerges that there are 21 medical facilities of different hierarchy and 27 educational facilities with 1 medical college at Paprola within a distance of about 15 km. So, by providing 10 additional Veterinary Centres, the existing medical and educational facilities will be able to cater the needs of projected population by 2035. Tapped water supply and Kuccha open drains exist in the area. There will be requirement of 2.69 mld of water supply to serve the needs of projected population by 2035. Similarly a sewerage network will be required to collect, treat and dispose off 2.15 mld of sewage that will be generated by 2035. Generation of solid waste by 2035 will be 5.60 MT. The power supply requirement has been projected to be in the order of 80 MWH by the year 2035.



Chapter 6. TRAFFIC AND TRANSPORTATION

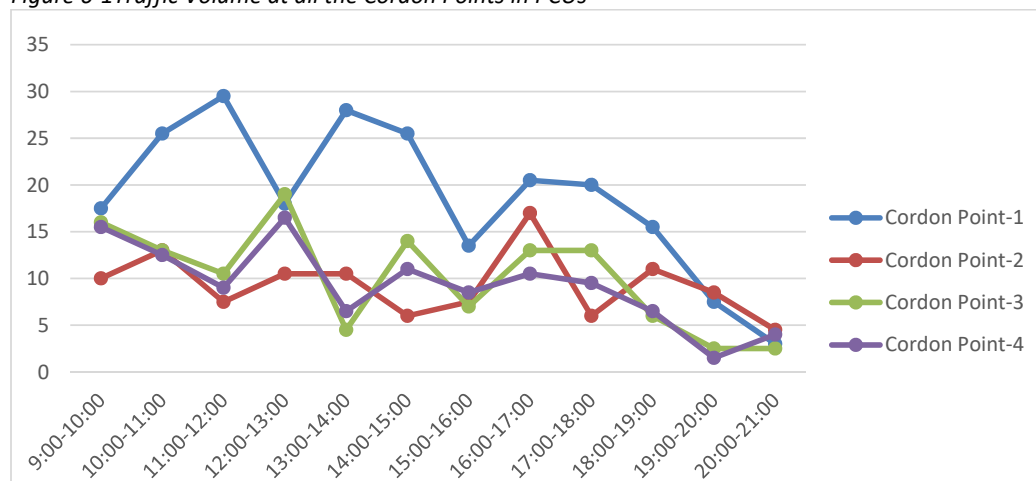
Bir- Billing is accessible through Bir- Matru road, which connects to NH 154 (Mandi-Pathankot) near Ahju. The existing parking is done in Mela ground at Bir. One Government parking is also there near Landing site at Bir.

In order to gauge the traffic load on the road network a classified traffic volume count survey was done in January 2016, on the major roads serving the town. The aim was to determine the classified traffic for at least a period of 12 hours on both sides of the cordon point. Cordon points were carefully selected to include exit points from the Special Area through which outside traffic enters and leaves the town. The major classification was done to measure passenger, goods and Non- Motorized Transport vehicles in the town. In total 3 inner cordon points were taken up in the survey.

6.1 Existing Volume Survey

Traffic survey was conducted for town in January 2016. Total volume at Cordon Point 1 (Near Colonel Resort, Chaugan) in 12 hours was 231 PCUs, at Cordon Point 2 (Near Tea Garden, near Chaugan) was at 112 PCUs and at Cordon point 3(Near Primary school Kyori Village) the total volume was 121 and 112.5 PCUs at Cordon point-4 (Ajaypal Temple). An average of hourly traffic volume at Cordon Point 1 was 19.25 PCU, at Cordon Point 2 was 9.3 PCU, at Cordon point-3 was 10.08 PCU and at Cordon point-4 was 9.75.

Figure 6-1 Traffic Volume at all the Cordon Points in PCUs

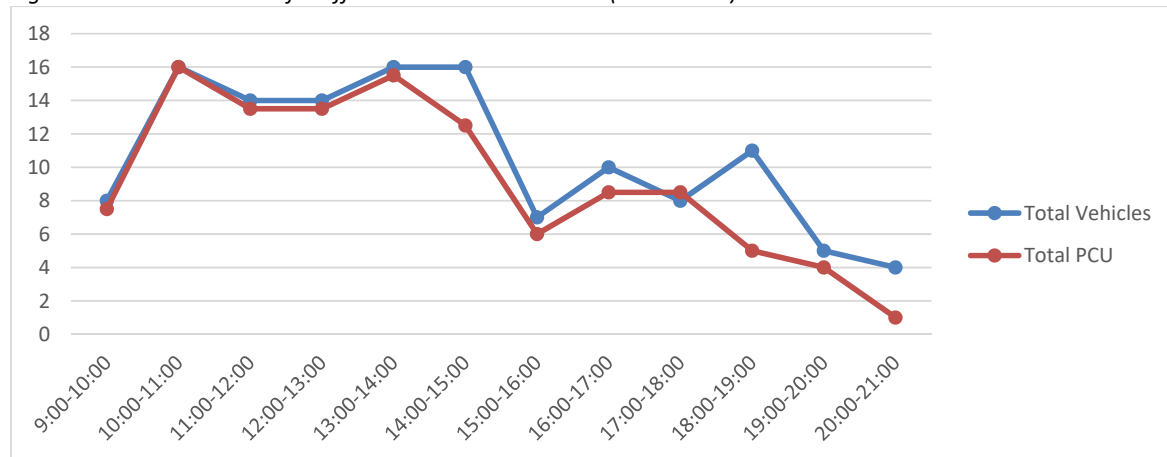


Source: REPL Analysis



Inner Cordon point 1: Near Colonel Resort, Chaugan (Direction-1: From Bir to Bir Khas)

Figure 6-2 Characteristics of Traffic in Inner Cordon Point 1 (Direction-1)

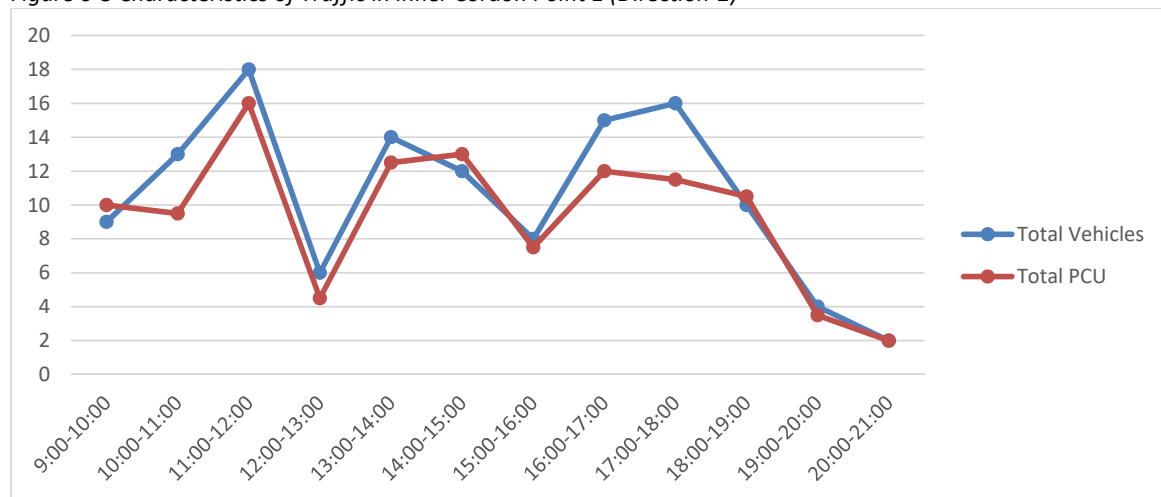


Source: REPL Analysis of Primary survey

The cordon point 1 (Direction 1: Bir to Bir Khas) has a peak hour between 1:00-2:00 pm.

Inner Cordon point 1: Near Colonel Resort, Chaugan (Direction-2: From Bir Khas to Bir)

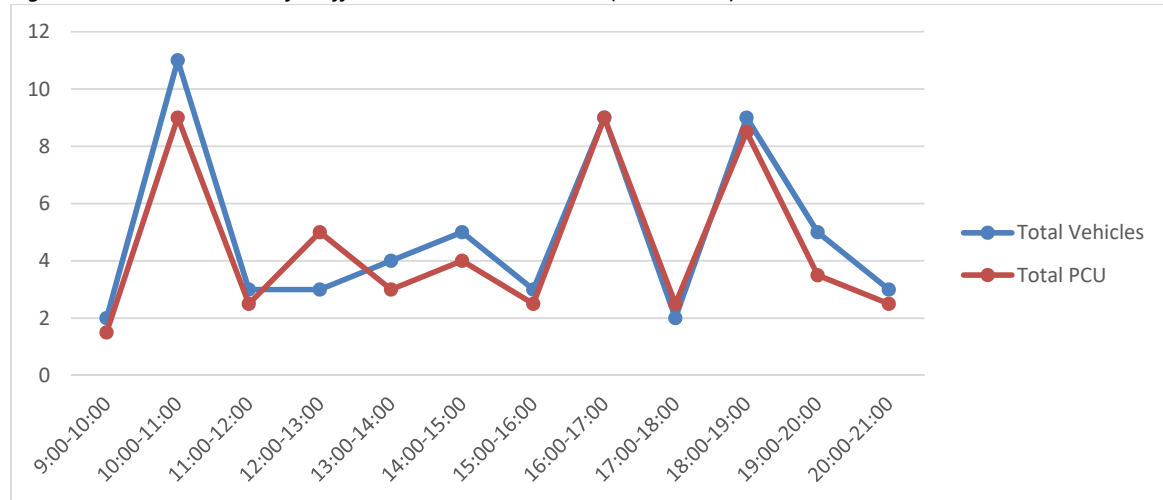
Figure 6-3 Characteristics of Traffic in Inner Cordon Point 1 (Direction-2)



The cordon point 1 (Direction 2: Bir Khas to Bir) has a peak hour between 2:00-3:00 pm.

Inner Cordon point 2: Tea Garden, near Chaugan (Direction-1: From Sukha baag to Bir Khas)

Figure 6-4 Characteristics of Traffic in Inner Cordon Point 2 (Direction-1)



The cordon point 2(Direction 1: Sukha baag to Bir Khas) has a peak hour between 10:00-11:00 am and 04:00-05:00 pm.

Inner Cordon point 2: Tea Garden, near Chaugan (Direction-2: From Bir Khas to Sukha baag)

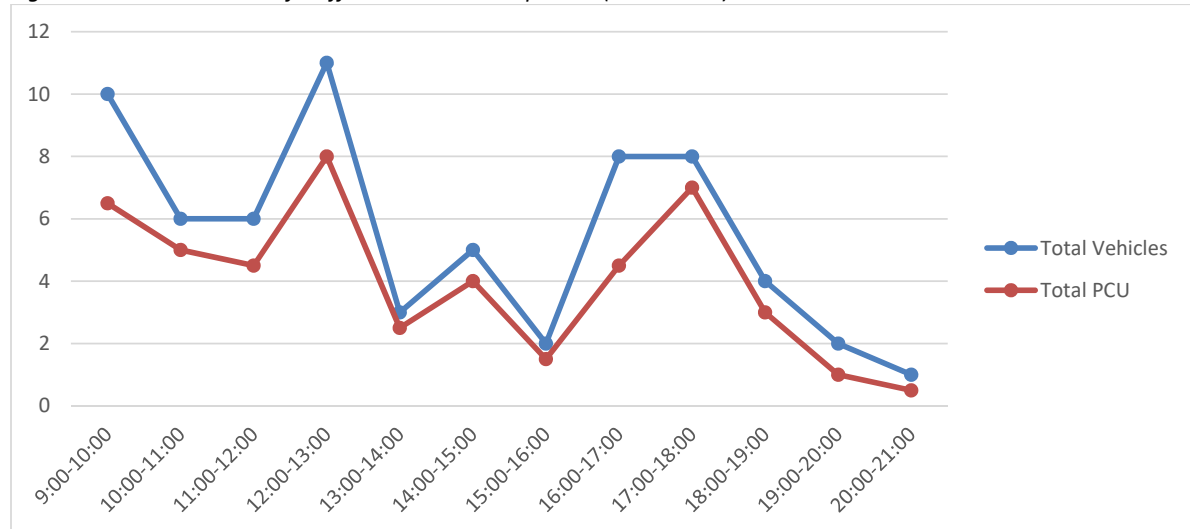
Figure 6-5 Characteristics of traffic in inner cordon point 2 (Direction-2)



The cordon point 2(Direction 2: Bir Khas to Sukha baag) has a peak hour between 09:00-10:00 am.

Inner Cordon point 3: Near Primary school Kyori Village (Direction-1: From Bhattu to Sansal)

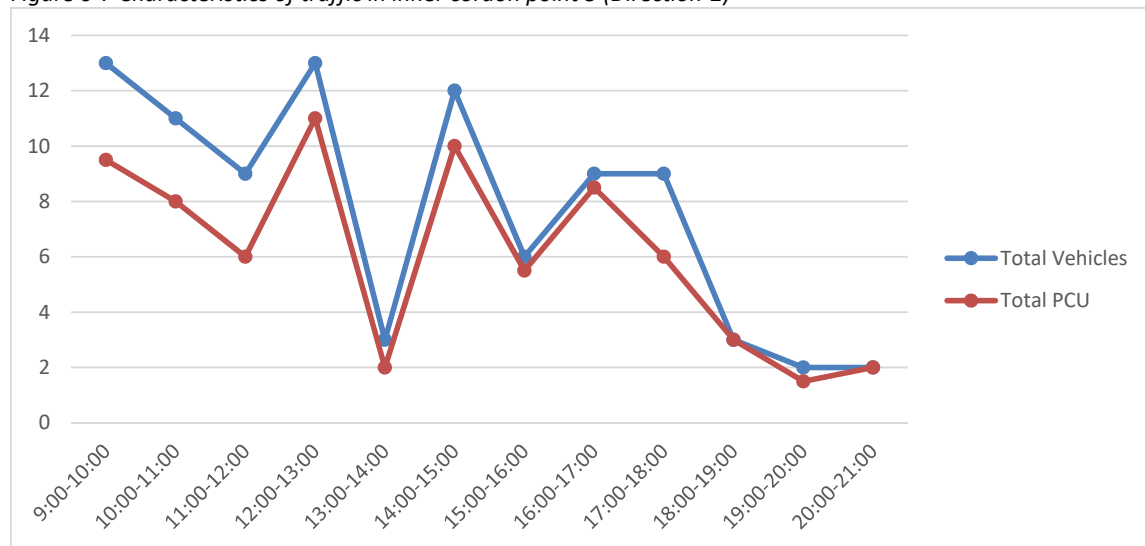
Figure 6-6 Characteristics of traffic in inner cordon point 3 (Direction-1)



The cordon point 3(Direction 1: Bhattu to Sansal) has a peak hour between 12:00-01:00 pm.

Inner Cordon point 3: Near Primary school Kyori Village (Direction-2: From Sansal to Bhattu)

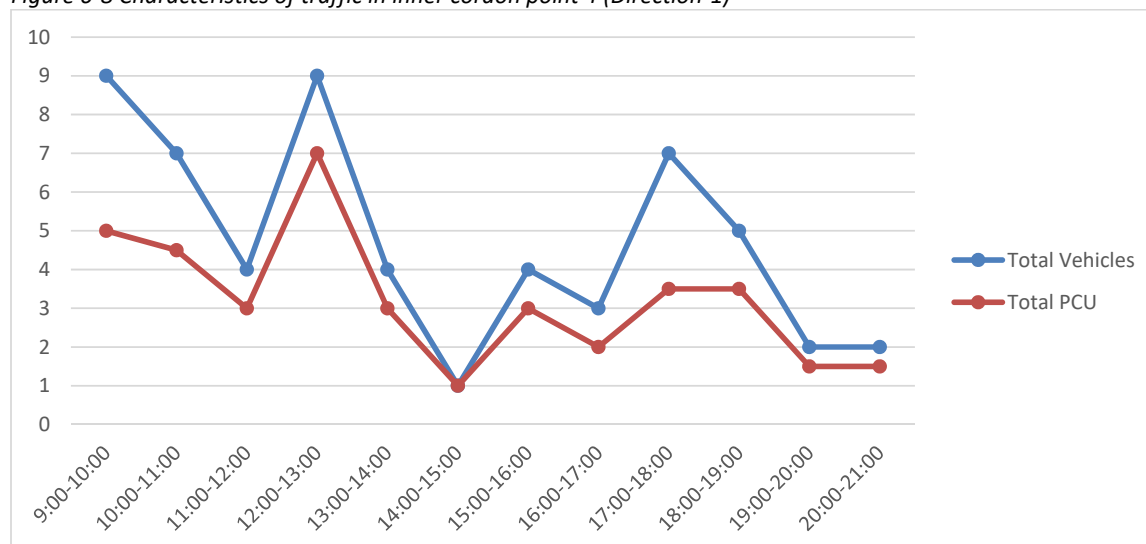
Figure 6-7 Characteristics of traffic in inner cordon point 3 (Direction-2)



The cordon point 3 (Direction 2: Bhattu to Sansal) has a peak hour between 12:00-01:00 pm.

Inner Cordon point 4: Ajaypal Temple (Direction-1: From Bhattu to Bir Khas)

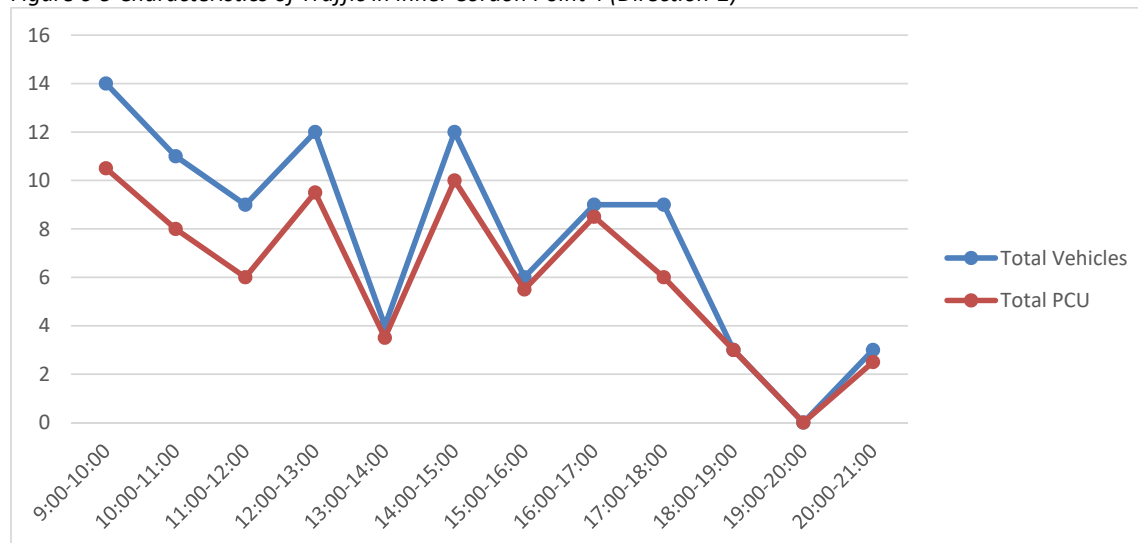
Figure 6-8 Characteristics of traffic in inner cordon point 4 (Direction-1)



The cordon point 4(Direction 1: Bhattu to Bir Khas) has a peak hour between 12:00-01:00 pm.

Inner Cordon point 4: Ajaypal Temple(Direction-2: From BirKhas to Bhattu)

Figure 6-9 Characteristics of Traffic in Inner Cordon Point 4 (Direction-2)



The cordon point 4(Direction 2: Bhattu to Bir Khas) has a peak hour between 09:00-10:00 am.

Table 6-1 Peak hour Traffic Volume at Different Locations

PCU	Cordon Point-1	Cordon Point-2	Cordon Point-3	Cordon Point-4
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Development Plan-2035

Time	Direction-1	Direction-2	Direction-1	Direction-2	Direction-1	Direction-2	Direction-1	Direction-2
9:00-10:00	7.5	10	1.5	8.5	6.5	9.5	5	10.5
10:00-11:00	16	9.5	9	4	5	8	4.5	8
11:00-12:00	13.5	16	2.5	5	4.5	6	3	6
12:00-13:00	13.5	4.5	5	5.5	8	11	7	9.5
13:00-14:00	15.5	12.5	3	7.5	2.5	2	3	3.5
14:00-15:00	12.5	13	4	2	4	10	1	10
15:00-16:00	6	7.5	2.5	5	1.5	5.5	3	5.5
16:00-17:00	8.5	12	9	8	4.5	8.5	2	8.5

Source: REPL Analysis

6.1.1 Capacity of Main Road

The major access road (Sant Ram Road) is having average carriageway of 5.5 m. Traffic Volume Count (TVC) done at the 4 cordon point's exhibit different characteristics. IRC Code – IRC: SP: 48-1998 is used to establish the capacity of the road at these four locations, as shown in table below.

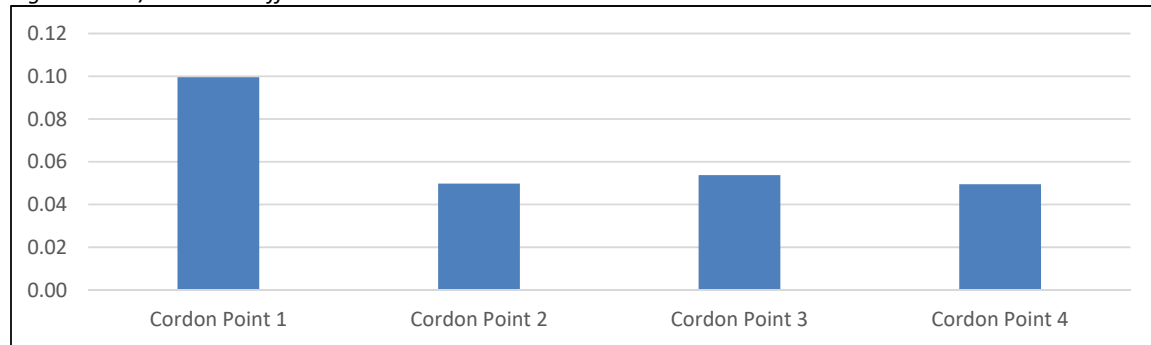
Table 6-2 Capacity of the Roads taken in Bir-Billing Area

	Cordon Point-1	Cordon Point-2	Cordon Point -3	Cordon Point-4
Average/ Hr	18.7	9.3	10.08	9.29
Average volume/day	448.0	224.0	242.0	223.0
Capacity/day	4500	4500	4500	4500
V/C Ratio	0.10	0.05	0.05	0.05

Source: REPL Analysis based on IRC: SP: 48-1998 and Traffic Volume Count Survey, 2016



Figure 6-10V/C ratio at different location

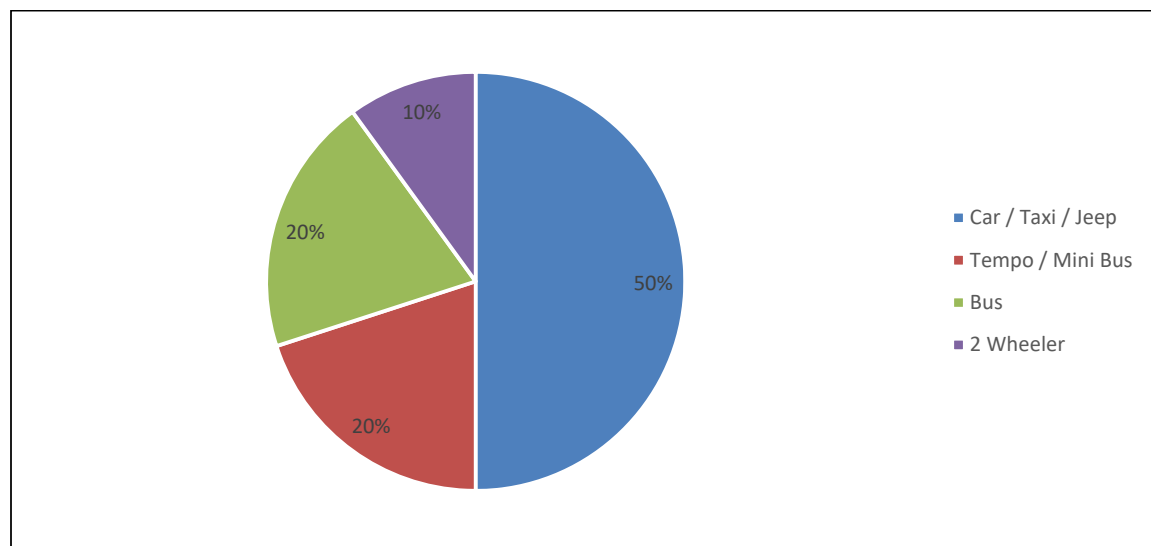


Source: REPL Analysis based on IRC:SP:48-1998 and Traffic Volume Count Survey, 2016

6.2 Origin – Destination Survey

Origin Destination Survey, primarily done to understand travel characteristics of commuters in an area. It was conducted for the Bir- Billing area in January 2016 near village Chaugan between 8:00 to 17:00 hrs.

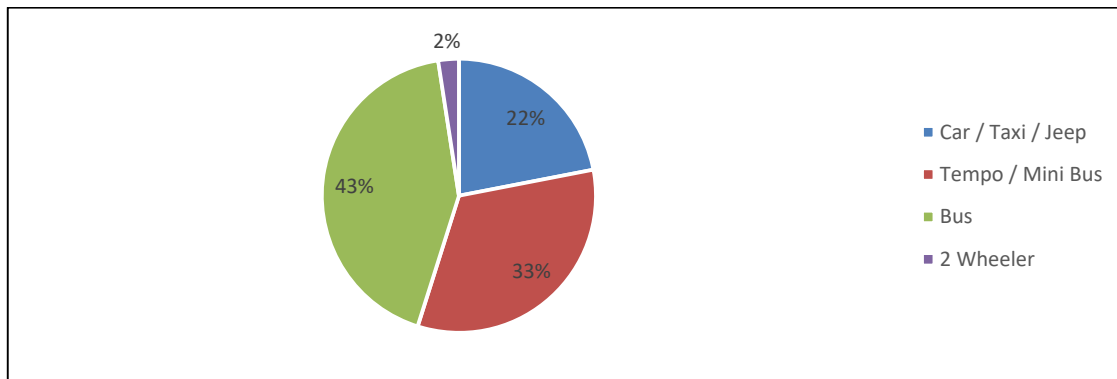
Figure 6-11 Vehicle Trip by Mode



Source: REPL Analysis of Primary survey

It is observed from the figure above that cars followed by Bus and Two Wheelers make maximum vehicle trips.

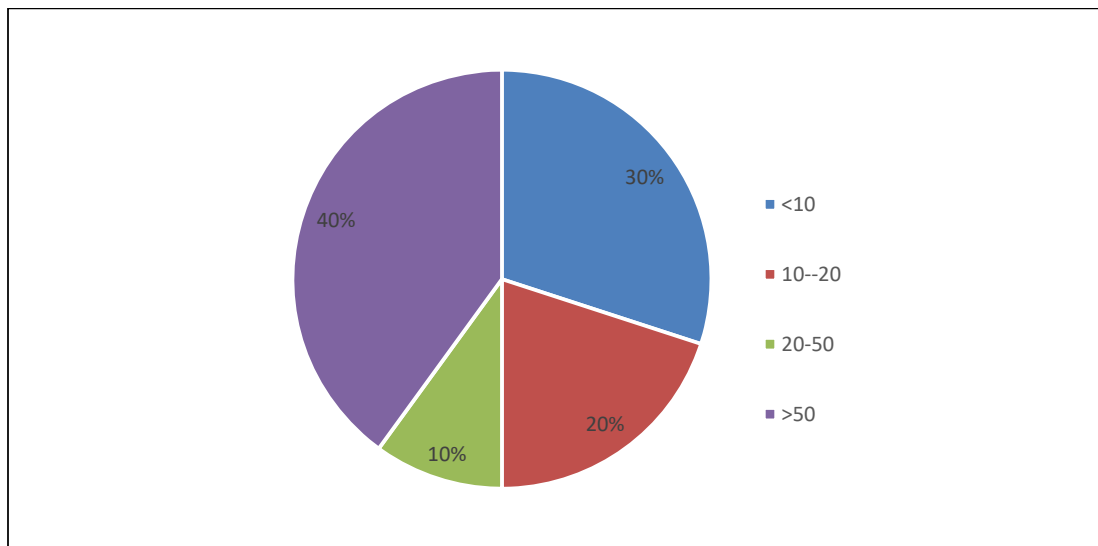
Figure 6-12 Passenger Trip by mode



Source: REPL Analysis of Primary survey

It is observed from the figure above that although the maximum number of vehicle trips is by cars but maximum passenger trips are by Bus.

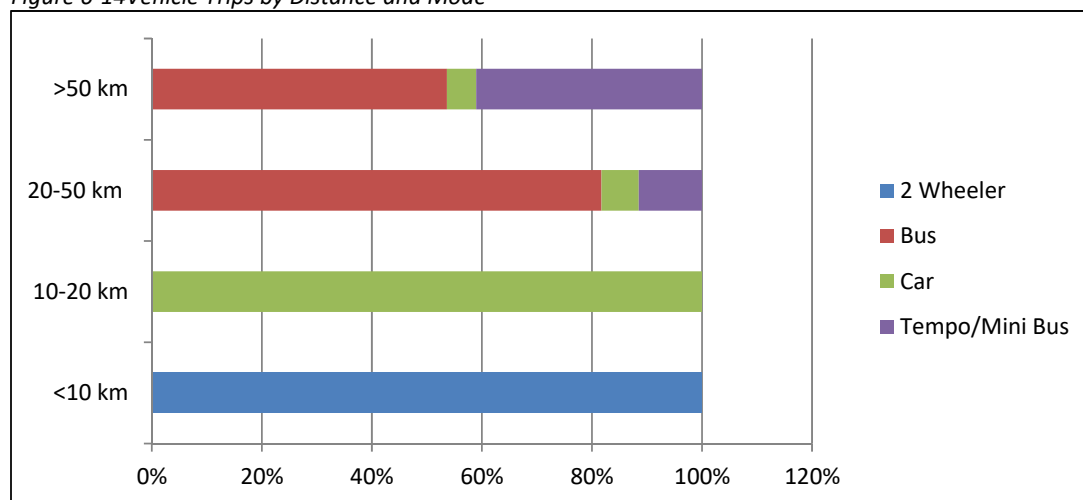
Figure 6-13 Vehicle Trip by Distance



Source: REPL Analysis of Primary survey

From the figure above it may be deciphered that maximum (around 40%) of the total passenger trips are of less than 50 km.

Figure 6-14 Vehicle Trips by Distance and Mode



Source: REPL Analysis of Primary survey

It is observed that of all the trips of range within 20 to 50 km and more than 50 km, 81% and 54% passenger trips respectively are made by bus. This emphasizes the importance of good public transport connectivity especially in hilly areas. For length less than 10 km is made by 2-wheelers in this area. 30% of vehicle-trips are less than 20 km in length, of which 10% are 20-50 km while 40% are more than 50 km in length. This indicates dependence of Bir-Billing on nearby urban areas as well as large of tourism-related passenger trips. Although most of the vehicle-trips of more than 50 km length are made by car, most people travel by buses.

6.3 Issues

- Given the concern of hill roads, absence of safety measures like girders pose a serious threat. Within the settlements, roads are sufficient in width but need to be managed at the time of any activity attracting the tourist inflow, which create congestion at some time. There is also lack of any pedestrian movement facility on any of the roads in the town.
- Areas that are prone to accidents may be because of narrow road between Bir to Billing, driver's carelessness like high speed and drink-drive case etc.
- There is a problem of parking near Tibetan colony at Chaugan. The existing parking is done in Mela ground at Bir.

- iv. No road side infrastructure is present in the area except for Street Lights on the roads from Chaugan to Bir and Chaugan to Bir Bazar and few signboards are also present which has been put by tourism and PWD .The Road side infrastructure is to be upgraded as per standard norms and standards.

6.4 Proposals

The Transport system of a town needs supporting infrastructure to function smoothly. This includes appropriate capacity augmentation, geometric improvement, public facilities like Public transport terminals and halts, parking, public convenience, illumination, information dissipation etc. The facilitation of these support systems is a time consuming process and once augmented they need to be backed by policy framework. The transport system of Bir-Billing is to be developed as a smart mix of Traffic Management Technique, Infrastructure and Geometric Improvements along with policy formulations.

There is proposal of widening of road connecting Bir to Billing by PWD. Other village roads are sufficient to cater the population.

6.4.1 Traffic Management Techniques

The traffic management techniques are generally advisable for all hierarchy of towns but implemented with segmental need. Broadly these techniques can be classified into effective carriageway improvement techniques and behavioral improvement techniques. Following are the general solutions advised as traffic management techniques –

- Prohibiting on-street parking of vehicles and simultaneously developing off-street parking.
- Improving Traffic Discipline such as proper lane use and correct overtaking through signage, education and publicity, which is all the more important in hilly areas.
- Reduction in roadside friction through control of abutting land-use, access and roadside commercial activity.
- Provision of adequate facilities for pedestrian and cyclists.
- Banning certain conflictive movements at major intersections, specifically during peak hours and at dangerous turns.



- Imposing restriction upon movement of heavy vehicles during selected periods, specifically peak hours.

6.4.2 Other Suggested Measures and Policies

In addition to specific strategies some other support measures and policy are needed which are proposed as under:

- i. A regular awareness program for Traffic discipline with the help of advertisement, special drives, Traffic Weeks, Incentives to law abiding citizens etc. need to be promoted in settlements in general and corridor in particular.
- ii. Effective enforcement policy needs to be evolved so as to ensure no encroachments of the right of way by informal activities, illegal parking, etc.

Chapter 7. TOURISM

It is interesting to note that district Kangra had a tourist inflow of about 23.3 lakh persons in the year 2014 whereas the total population of the district is 15 lakhs only. The economic base of Bir –Billing is tourism. So it is essential to study the tourist attraction points and initiatives taken by the State and the Central Government to promote tourism and tourist inflow into the area. The Bir-Billing Special area is a destination for adventure tourism and meditation studies.

7.1 Initiatives by Himachal Pradesh Government

The initiatives by Himachal Pradesh Government to promote tourism in the State are discussed below.

7.1.1 Tourists Circuits

Himachal Pradesh Tourism Development Corporation has divided the state into four tourist's circuits. These circuits pass through different terrains and elevations leading to great enjoyment for the tourists who undertake these circuits. These circuits are:

- a) Dhauldhara Circuit (Dalhousie, Dharamshala, and Palampur),
- b) Beas Circuit (Mandi, Kullu and Manali),
- c) Tribal Circuit (Sarhan, Sangla and Nako) and
- d) Sutlej Circuit (Shimla, Solan and Paonta Sahib).

There are multiple tour options available for each of the circuits providing several choices to the tourists. The Bir-Billing Special Area falls in the Dhauldhara circuit. The various tourism spots of Kangra have been demarcated in the map below.



Figure 7-1 Dhauladhar Circuit in 4 circuits of Himachal Pradesh



Development Plan-2035

Map 5 Tourists spots in Kangra District



Reference: http://www.agisac.gov.in/tourgis/Google_Tourism.aspx



7.1.2 Tourism Policy

The Department of Tourism and Civil Aviation has prepared a forward looking tourism policy of Himachal Pradesh in 2005. It showcased the importance of tourism to the state economy and identified several thrust areas to promote tourism in the state. The salient features are:

7.1.3 Home Stay Scheme:

This scheme was launched in 2008 by Himachal Pradesh government with an aim to provide clean, comfortable and affordable supplementary accommodation to tourists in rural areas in the vicinity of famous tourist destinations when hotels and guesthouses are rare packed to capacity. A very large percentage of tourists prefer to stay in small affordable accommodations in clean homely environment. A total of 891 rooms in 332 units were registered as Home Stay units by February 2011.

7.2 Tourist attraction in the Kangra District

- Shri Chamunda Nandi Keshwer Dham Temple.
- Shri Brijeshwari Temple.
- Shri Jawalamukhi Temple.
- Maa Baglamukhi Temple
- Kangra Fort.
- Baijnath Temple.
- Mahakal Temple.
- Shobha Singh Art Gallery.
- Masroor Rock Temple.
- MaharanaPratapSagar Sanctuary.

7.3 Major areas of attraction in Bir- Billing Special Area

Table 7-1 Major Tourist Destination in Bir- Billing Special Area

S. No.	Purpose	Destination
1	Paragliding	Bir(Landing site), Billing(Take off site)
2	Learning	Deer Park Institute and Dharmalaya
3	Meditation	Deer Park, Dharmalaya and Ghornala

Source: REPL Analysis

Development Plan-2035

Table 7-2 Tourist Destination with Road Typology and Distances from Bir

S. No.	Location	Distance from Bir (km)	Road Typology	Road Width (Metre)
1	Billing	14	Pucca	6
2	Sherabbling	8	Pucca	6
3	Barot	55	Pucca	6
4	Shobha Singh Art Gallery	23	Pucca	6
5	Rajgundha	30	Pucca	6

Source: Primary Survey by REPL.

From the primary Tourism survey above table has been generated of the tourist destination with the condition of Road and road width along with the distance from Bir.

7.3.1 Paragliding

Bir-Billing is regarded by international paragliding groups as the second best site in the world for paragliding (after Lake Como in Italy). The launch point is at approximately 2400 m (7874 feet) in the meadow on the top of a ridge at Billing (14 km north of Bir), and the landing area is in the fields at the western edge of the Tibetan Colony in Chowgan.

PWCA (Paragliding World Cup Association) conducted the Pre-World Cup in 2013. After positive feedback from pilots around the world, PWCA decided to hold the World Cup here.

Finally, the First Ever Paragliding World Cup kicked off at Bir-Billing in India on 23rd October, 2015. The Airports Authority of India (AAI), a public sector body that overlooks India's civil aviation infrastructure, was the main sponsor of the prestigious competition. The opening ceremony was held at Sherbaling Monastery, one of Asia's largest monasteries.

About 130 of the best paragliders, including those in World's Top-5, from over 40 countries participated in the championship in the paragliding world cup 2015.





7.3.2 Learning

- a) Deer Park Institute and Dharmalaya Institute both offer periodic classes and seminars on a variety of topics including philosophy, meditation, health, ecology, and more. Accommodation is available at both centres (for programme participants only).
- b) Dharmalaya also offers hands-on service-learning programmes in green building, organic gardening, and other aspects of sustainable living.
- c) Shanti deva Homeopathic Research Institute (SHRI) occasionally offers programmes in homeopathy and healthy living.



7.3.3 Meditation

- a) Dharmalaya Institute hosts weekly group meditations (usually March-May and Oct-Dec) following the curriculum of Mingyur Rinpoche's Tergar Meditation Community.
- b) Both Deer Park and Dharmalaya also offer periodic meditation courses and retreats.
- c) There is a Sikh centre for silent meditation retreats in Ghornala.

Figure 7-2 Dharmalya Institute



7.3.4 Sightseeing

- a) **Bir Tea Factory** is a longstanding Bir cooperative, which offers tours for those interested in the process of tea production. It is situated just at the bottom (southern, downhill) end of the main Bir Bazaar.
- b) **Chokling Monastery** is the seat of Neten Chokling Rinpoche, a prominent reincarnate lama in the Nyingma tradition of Tibetan Buddhism. The imposing stupa in front of the monastery and the grand statue of Padmasambhava in the main hall are the main attractions for casual visitors.

Figure 7-3 Chokling Monastery Temple, Bir



- c) **Palyul Chökhörling Monastery** has an unusual and well-executed collection of white-on-black tantric murals in its main assembly hall. It is located on the north side of Chowgan Road, just east of the central intersection of the Tibetan Colony.
- d) The various privately owned **tea gardens** of Chowgan are scenic spots for a leisurely stroll.
- e) Further afield in Baijnath; the 800-year-old **Shiva temple** is also an attraction for the tourist.

Figure 7-4 Tea garden of Chowgan



7.3.5 Accommodation

There are 9 registered hotels and 19 registered home stays in Special Area which are sufficient in general. But during world cups or national cups separate arrangements have been made by the local administration. The greater Bir area offers a range of accommodation options. They are as follows:

- **Bir proper** (Upper Bir)
- **Tibetan Colony** (at the west end of Chowgan village, down the hill to the south of Bir proper)
- **Chowgan** (the part of Chowgan village east of the Tibetan Colony, straddling the main, north-south Bir Road)
- **Ghornala** (a beautiful, tranquil, forested village just a few kilo metres west of Bir)

7.3.5.1 Hotels/Guesthouses in Bir Proper (Upper Bir)

- **Bhawani Guest House:** A quiet place at the west end of Upper Bir with a 'homely environment'. It has nine comfortable rooms with attached bathrooms and '24-hour hot water'.
- **Family homestays (with private rooms) and long-term rentals.**

7.3.5.2 Hotels/Guesthouses in Bir Tibetan Colony

NOTE: Foreigners (anyone other than Indians, Tibetans, Nepalis, and Bhutanese) wishing to stay overnight in the Bir Tibetan Colony will need to apply for a Protected Area Permit (PAP) from the Indian Government.

- **Chokling Guesthouse:** Near Chokling Monastery there are sixteen pleasant rooms facing the impressive stupa of the monastery with attached bathrooms and solar-heated showers. Restaurant serves decent Tibetan food (and veg sushi).
- **Dzongsar Guesthouse:** An eight-room guesthouse near Deer Park.
- **Emaho Guesthouse:**
- **Green Guest House and Hygienic Restaurant:** Just down the road from Deer Park Institute.
- **Palden Guest house:**
- **Hotel Surya Classic:**

7.3.5.3 Hotels/Guesthouses in East Chowgan

- **Bir Resort Hotel**
- **Colonel's Resort:** The most upscale accommodation option in Chowgan, set amid tea gardens.
- **Sangrai Guesthouse:** Nice, small, family-run place tucked off the main Colony Road amidst tea gardens.

7.3.5.4 In Ghornala Village (on the western outskirts of Upper Bir)

- **Dharmalaya Institute:** Perched on a hillside with breathtaking views of Bir and the surrounding mountains and valley with lodging options (**available for volunteers and programme participants only**)

7.3.6 Volunteering

The Dharmalaya Institute offers volunteer and service-learning opportunities for short- and long-term visitors. Activities include green building (traditional adobe and bamboo eco-construction), organic farming, tree planting and trail building, etc.

7.3.7 Walking: Day Hikes and Longer Treks in the Bir Area

Following are the few trek routes in the Bir Billing area that attracts the tourists.



Development Plan-2035

- a) **Chowgan tea gardens:** A leisurely stroll through the gently sloping tea gardens of Chowgan.
- b) **Chowgan-Ganed walk:** lovely village scenery on the walk heading northeast to Ganed.
- c) **Upper Bir river walk:** River upstream through the forest to the river pools and waterfalls above Upper Bir.
- d) **SherabLing:** A delightful and mostly reasonably level walk through the forest from Chowgan or Lower Bir to Sherabling monastery in Upper Bhattu.
- e) **Dharmalaya:** Walk either from Upper Bir (starting where the road crosses the river at the west end of the village) or from the paragliders' landing field at the west end of Chowgan, and walk through the forest to the Dharmalaya Institute on Dhanaari Hill in Ghornala.
- f) **Longer treks:** The hot springs in the next valley, north of Ghornala, as well as to Bara Banghal, Manali, and even further into Zaskar and Ladakh.

7.4 Existing and Anticipated Tourist Inflow

Table 7-3 Tourism Inflow in District-Kangra in the year 2014

S.No.	District	Total Population	Total Tourist
1	Kangra	15,10,075	23,33,367
2	Percentage	100%	155%

Source: Tourism and Civil Aviation Department, Himachal Pradesh, 2014

It is interesting to note that the total tourist inflow in Kangra District is 155% of the total population of the district as shown in the table above. Taking the same percentage of tourism inflow for the special area Bir-Billing it is anticipated that the tourist inflow for the year 2035 will be **18,281**.

Table 7-4 Indian and Foreign Tourists Inflow in District-Kangra in the year 2014

Sr. No.	District	Indian Tourist	Foreign Tourist	Total Tourist
1	Kangra	22,30,888	1,02,479	23,33,367
2	Percentage	96%	4%	100%

Source: Tourism and Civil Aviation Department, Himachal Pradesh, 2014

Out of total tourist Inflow in the district around 96% are domestic tourists and 4% are foreign tourists.



7.5 Proposals for Tourism Development

7.5.1 Development Control Measures for Areas around Takeoff and Landing Sites

Keeping in view the increasing popularity of para-gliding which is the main tourist resource in Bir Billing special area measures are proposed to protect and preserve the areas around take off site in billing and landing site in Bir.

For necessary development control measures at para no 11.4.3.

7.5.2 Road Widening

The road connecting the Takeoff site at Billing and landing site in Bir is presently too narrow and Currently work of widening is going on upto 12mtr with 7mtr carriageway from Bir (Check post) to Billing (Take Off site) by PWD, HP.

7.5.3 Forest Based Recreation

Forest based recreation such as nature trails, picnic spots; camping grounds need to be suitably proposed. Some of the existing forest areas may be opened for picnic and camping activities for general public with necessary restrictions.

7.5.4 Protection of Monuments and Environment in Planning Area

There are many big monasteries of monumental character in the Special Area. These need to be protected from getting degraded and encroached. Environmentally sensitive areas like forests and water bodies must be preserved and strict measures to be imposed in the Special Area for this propose.

7.5.5 Artisans Village cum-Vocational Training Centre

Towards promoting local handicrafts, handloom and other allied functions, where talented artisans from all over region can perform and village cum vocational centre to be developed. Besides, a cultural centre needs to be developed to promote the regional folk dance and other cultural activities.

7.5.6 Formation of Volunteer Network for Identified Sites

Many famous treks lie in Bir-Billing Special Area, which are difficult to be monitored all the time. Sometimes people get lost during trekking. To overcome this problem, the department of tourism and district administration should mobilize a volunteer network with the help of



local people, stakeholders and institutions for the task of monitoring and facilitation of the visitors. Tour operators and other infrastructure providing institutions must work closely with this volunteer network to identify and resolve the issues.

7.5.7 Tourism Branding and Promotion

Government of Himachal Pradesh is promoting the state tourism through television advertisement and other media but it can be advertised more on a larger scale so that more people can participate and witness the festivals and fairs to be held there as a part of promotional activities every year.

7.5.8 Improvement in Infrastructure

Street markings, hoardings and boards should be put on various landmarks, streets and entry points in the town so that the people coming to the town are better informed. Such design intervention will also give an aesthetic appeal to the settlement.

Chapter 8. ENVIRONMENT AND DISASTER MANAGEMENT

8.1 Introduction

Environment plays a crucial role in establishing the path for future development. Environmental concerns of both natural as well as built environment, not only need to be conserved but also protected from various natural hazards. Bir-Billing is endowed with various ecologically sensitive natural features such as rivers, hill slopes and forest areas. Hence, planning for this area needs to be taken up in an environmentally sustainable pattern aiming at urban development, which is in sync with its environment.

Overlooking of environmental issues in an area generally increases the disaster risk. Disasters result from the combination of hazard, vulnerability and insufficient capacity or measures to reduce the potential chances of risk.

8.2 Environment

8.2.1 Geology and hydrogeology of the study area

The Hydro geological frame work of Kangra district is essentially controlled by the geological setting, distribution of rainfall, snow fall, which facilitates circulation and movement of water through inter-connected primary and secondary porosity of the rocks constituting the aquifers. Based on the geological diversities and relative ground water potentialities of different geological formations, the district can broadly be divided into two Hydro geological units.

8.2.1.1 Fissured formations

These formations consist of schist, quartzite, slates, phyllites, limestones, granites, gneisses, sandstones, conglomerates and shales. These rocks are generally massive and consolidated, devoid of primary porosity and permeability's. Secondary porosity and permeability has developed due to the tectonic activities along the fractured joints and fault zones. Weathered zone rarely form an aquifer because of less thickness of the weathered mantle.

The ground water in such areas is discharged through the springs in the topographically favourable areas. The thrust zones (Main boundary Fault/Palampur Thrust) and other faults at lower topography are the important areas for ground water development.



8.2.1.2 Porous formations

Quaternary sediments as fluvio-glacial and fluvatile deposits occur as valley fill deposits, overlying the older rocks. Morainic and fluvio-glacial deposits are distributed in Kangra Palampur valley and in the higher altitude areas, while fluvatile deposits occur either along Beas River or its tributaries in low altitude areas.

8.2.2 Soil

Five types of soils are observed in the district, they are: - 1. Histosols (Snow field, Peaty and Saline Peaty), 2. Ultisols (Brown red and yellow), 3. Alfisols (Sub Mountain), 4. Ardisols (Grey Brown), 5. Entisols (Younger alluvium).

8.2.3 Forest

Kangra district is having 5739 Sq.km area under forest in the year 2013, out of which 310 Sq.km is having very dense forest, 1221 Sq. km is having moderate dense forest and 533 Sq. km is having open forest. So far as the Bir –Billing Special area is concern, only 0.17 Sq.km area is under forest cover.

8.2.4 Ground water resources

Precipitation is the principal source of Ground water recharge to aquifer systems in the district. The return flow from the irrigation systems like tube well irrigation, surface water lift irrigation, kuhl irrigation are the main sources of ground water recharge. Inflow seepage from khads, rivers, and water reservoirs (Pong Dam) also contribute to the ground water reserves. In the district, all the major irrigation and drinking water supplies depend on the tube wells, and dug wells, in addition to various water supply schemes based on rivers / nallas.

Central Ground Water Board (CGWB) monitors 28 hydrograph stations for ground water regime monitoring, under its National Network. It was observed that in pre-monsoon (May 2012), the depth to water level range was from 1.56 to 15.44 m below ground level and in post monsoon (November 2012), from 0.48 to 12.30 m below ground level.

8.3 Natural Hazards

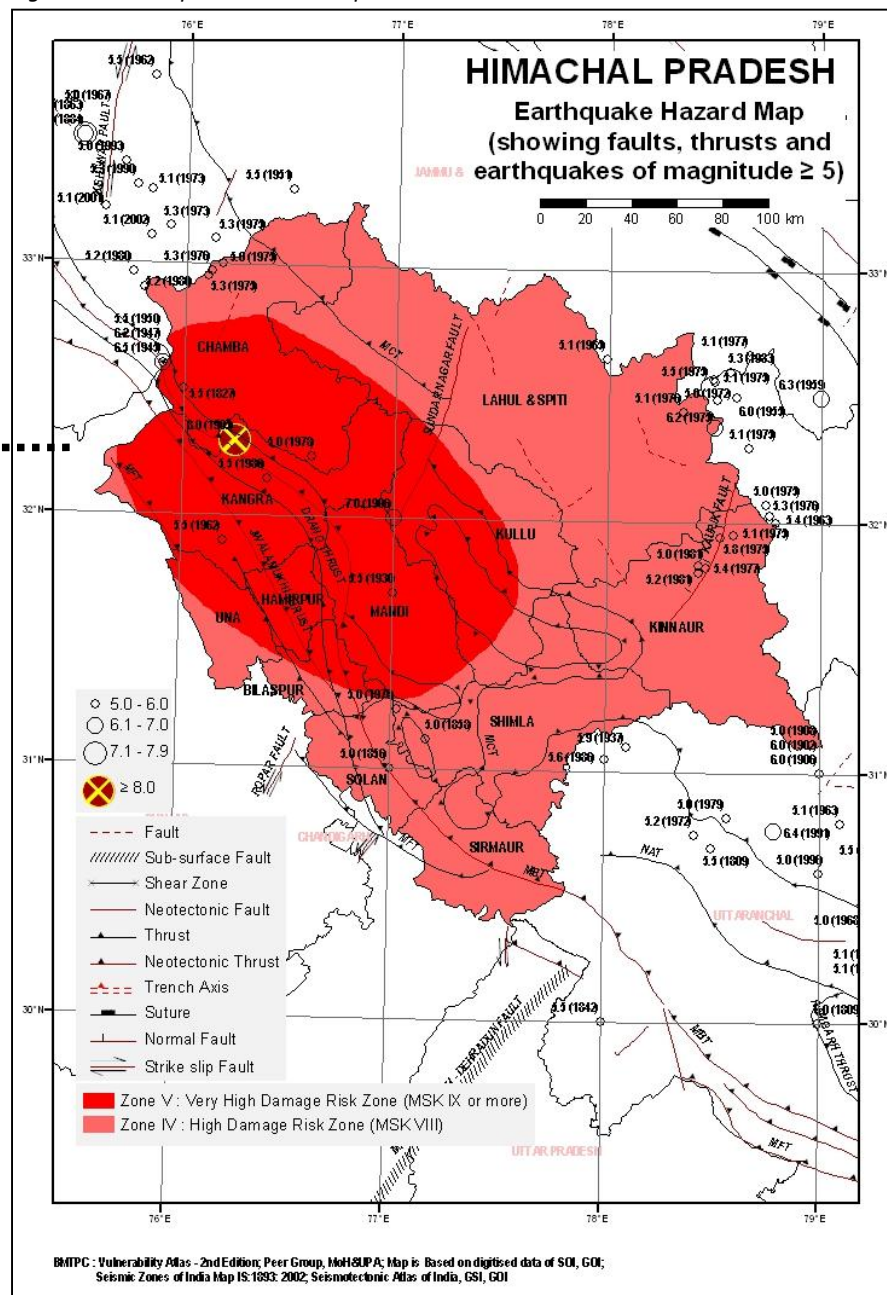
District Kangra is prone to various hazards both natural and man-made. In the District the geological hazard, mainly earthquakes, landslides and soil erosion are most critical, the flash flood, cloud burst, drought and forest fire is also hydro metrological hazard.

The road accident, wind storm, epidemic and domestic fire could also occur but cause damage locally only.

8.3.1 Earthquake

The whole district is prone to severe earthquake hazard. It has been subjected in 1905 to one of the giant earthquakes recorded in seismic history of India having a Magnitude of 8.0 on the open ended Richter Scale in which 20,000 persons had lost their lives, the town of Kangra were razed to the ground and no-government functionary there was left alive even to report the happenings to higher authorities. It had shaken area of more than 416000 Sq. Km in and around the present Himachal Pradesh. Other most damaging earthquakes of the Kangra region include that of 1968, 1978, and 1986 and district has been shaken every year by earthquake having a magnitude of 4 and above on the Richter scale. As per the BIS seismic zoning figure 98.6% area of Kangra including Bir Billing special area is liable to the severest design intensity of MSK IX.

Figure 8-1 Earthquake Hazard Map



Source: District Disaster Management Plan, Kangra

8.3.2 Landslides

The hills and mountains of District Kangra are liable to suffer landslides during monsoons and also in high intensity earthquake. The vulnerability of the geologically young and not so stable steep slopes in various Dholadhar, Chamba Dhar ranges, has been increasing at a rapid rate in the recent decades



Development Plan-2035

due to inappropriate human activity like deforestation, road cutting, terracing and changes in agricultural crops requiring more intense watering etc.

8.3.3 Cloud Burst

Most of the part of district Kangra is hilly and it is prone to Cloud burst and build floods in local water channel during rainy season. Main affected tehsils are Palampur, Baijnath, and upper region of Shahpur, Multhan etc.

8.3.4 Wind Storm

Wind storm is regular phenomena in entire district during summer season. Wind imparts both hilly and plain of the district. No major loss has been reported or recorded in this district on account of windstorm.

8.4 Man-Made Hazards

8.4.1 Forest Fire

District is having 4 forest divisions. Mostly Forest fire occurs in summer period from April to June. The forest fires destroy the existing vegetation, killing plants, numerous insects, small animals and reptiles essential for balancing the eco-system. The ash content increases the acidic nature of the soil, thereby leading to soil erosion. Continuous fires in fact make the grass coarser. Relatively, forest fires destroy the natural binding of rocks, leading later to landslides in the area. The major reason for the forest fire is hot summers and large number of pine trees plantation.

8.4.2 Road Accidents

Main reason of road accident is high frequency of vehicles on major roads because it is connected to tourist places in entire district. Congested link road and reckless driving in the district also lead to road accidents in this reason. The road accidents are frequent mostly of vehicles coming from other states that carry passengers in trucks in ties and occasionally accidents take place. Para and hang-gliding also take place and case of snakebites and electrocution are also reported from here and there.

8.5 Risk Vulnerability

A lot of wood is used in the house construction in the district hence the houses are also vulnerable to fire. Steep slopes in the district would result into landslides and block the arteries of the district resulting in delay in emergency response.



Overall vulnerability of the entire district is very high. To overcome this situation, District Disaster Management Authority, Kangra has suggested various response plans for different type of disasters. For further details, building byelaws will be adhered.

8.6 Key issues

- The area is prone to earthquake.
- Most of the part of district Kangra is hilly and it is prone to Cloud burst and build floods in local water channel during rainy season. Mostly Forest fire occurs in summer period from April to June. The major reason for the forest fire is hot summers and large number of pine trees plantation.
- A lot of wood is used in the house construction in the district hence the houses are also vulnerable to fire hazard resulting due to earthquake shaking.
- Steep slopes in the district would result into landslides and block the arteries of the district resulting in delay in emergency response.

8.7 Environmental and Disaster Management Proposals

Environment and disaster risk for a given area are intrinsically linked. Many of the disasters occur due to combination of natural hazard and vulnerability. This Development Plan tries to reduce vulnerability by inhibiting dense concentration of population, conservation of forests and environmentally sensitive Development Control Regulations. This can help in minimizing the disaster risk, which exists in the area due to presence of natural hazards. This approach can be categorized as a pre-disaster approach, where instead of solely focusing on acting after disaster has occurred, steps are proposed before the event to minimize its ill effects.

8.7.1 Proposals

Proposals to mitigate disaster risk are detailed in District Disaster Management Plan, but its integration with spatial proposals is under the purview of Development Plan. The following are proposed to conserve the environment as well as to minimize disaster risk.

- Delineation of undeveloped zone – This zone, which comprises of forest in the Planning Area, covers more than 80 % of the area. Construction shall not be allowed in this zone, except for temporary structures subject to conditions specified in the Development Control Regulations and only with special permission.
- Construction on slopes more than 45° shall not be allowed.



Development Plan-2035

- New building permission shall only be given to buildings incorporating earthquake-resistant designs.
- The examination of the structural safety of the buildings should be done by an expert in earthquake Engineering.
- Adequate distance from Khad/Nallahs.



Chapter 9. EXISTING LAND USE

This chapter deals with components of use of land such as existing spatial growth trends, and existing land use along with the future proposals for the horizon year 2035.

9.1 Introduction

Existing land use map was prepared by interpretation of the satellite imagery with ground verification in the year 2016. In an initiative for preparing GIS enabled base map of the Bir Billing Special Area, Government of Himachal Pradesh had procured a Base Map from NRSC which has been verified by ground-truth and a final base map has been prepared by incorporating deviations in existing land use as observed through ground-truth. The final base map so prepared has been used for preparing existing land use map and for framing the future proposals.

9.2 Existing Land Use in Bir-Billing Special Area - 2016

Bir- Billing Special Area comprises of 7 revenue villages namely i.e Wari, Billing, Bir, Chaugan, Keyori, Kotli and Suja. Though the entire Special Area extends over 2086.22 ha, but the settlements are developed over only on 109.23 ha, the rest of the area around 1977.00 ha constituting the natural ecological area such as forests, water bodies and currently undeveloped agricultural/ open land. The existing land use analysis of the Special Area is given below in table 9-1.

Table 9-1 Existing Land use –Bir- Billing Special Area, 2016 (After LU Validation)

LAND USE	Area(Ha)	Percentage of Land to Particular Land
Developed (A)		
Residential	60.29	55.2
Commercial	4.54	4.16
Mixed Use	1.22	1.12
Public and Semi-Public	13.85	12.68
Industrial	1.05	0.96
Recreational	15.16	13.88
Transportation	13.11	12.00
Total (A)	109.23	100.00
Undeveloped (B)		
Water Bodies	8.65	0.44
Agriculture and Open Area	307.13	15.54
Forest	1648.88	83.40



Development Plan-2035

Tea Garden	3.03	0.15
Roads in Undeveloped Area	9.30	0.47
Total (B)	1977.00	100.00
Total (A+B)	2086.22	

Source: (Land Use Validation- REPL, 2016)

From the above table, it is evident that 94.76% of the total land is undeveloped and only 5.24% of the land is developed. Developed area has been further sub-divided in to the following categories. Existing land use (ELU) is shown in Annexure 2 and ELU superimposed on sajra is shown in Annexure 3.

9.2.1 Residential

As per the physical survey and land use validation, 60.29 hectare of land is used for residential purpose to accommodate the population of Special Area. Total residential area is 55.20 % of the developed area. Bir, Chaugan, Keyori and Kotli have more residential area as they cater more population compared to other three villages. Tibetan colony is the main residential colony in Chaugan.

9.2.2 Commercial

Commercial development has grown mainly in Chaugan and Bir Khas due to main settlement and tourist activities. Being a world famous paragliding tourist destination, most of the commercial activities are related to retail shops and hotels. Total area within the commercial use is 4.54 hectare that is 4.16 % of the developed area.

9.2.3 Industrial

There are few industries in the Special Area that covers an area of 1.05 hectare Bir Co-operative tea factory is the major landmark in this area.

Figure 9-1 Bir Co-Operative Tea Factory Ltd.



Source: Land use validation survey by REPL team



Development Plan-2035

9.2.4 Public and Semi-Public

About 13.85 hectare of land is under the public and semi-public use, which is 12.68 % of total developed land. Public and semi-public land use combination of government/ semi-government offices, health, education, utility and social and cultural facilities. From religious point of view Chaugan villages has famous monastery e.g. Choukling and Tsering.

Figure 9-2 Primary School, Bir and Monastery in Chaugan



Source: Landuse validation survey by REPL team

9.2.5 Recreational

As per URDPFI guidelines, organized recreational/ green space for a city should lie between 15 to 18 percent. Bir-Billing is a famous paragliding centre for the adventure loving people. Many national and International events had been successfully organized in the area. The total area under this category is 15.16 hectare which is 13.88 % of the developed area. Paragliding takeoffs and landing site, holy fair ground and Bir Horticulture Park are the main attraction points for the local and international tourists.

There are few open pockets present in between developed areas, which are part of developed land. Predominant land uses are marked in Development Plan therefore; small open patches are part of recreational, agricultural and other predominant uses.



Figure 9-3 Paragliding Landing Site, Suja and Takeoff site in Billing



Source: Land use validation survey by REPL team

9.2.6 Transport and Communication

A total of 13.11 hectare land is under transport and communication use that is 12.00 % of developed land. This sector consists of roads and parking. Roads in undeveloped area consist of 9.30 hectare which is 0.47 % of the total undeveloped land. Roads in undeveloped area are those roads that are only connecting two areas/ habitats like road from Bir to Billing.

Figure 9-4 Parking near Paragliding landing site



Source: Land use validation survey by REPL team

9.2.7 Agriculture and Tea Garden

Total of 307.13 hectare land is under agriculture use that is 15.54 % of the undeveloped land. There are few pockets of tea gardens, which spread over 3.03 hectare (as per Existing Land use map) of land in Special Area.

Figure 9-5 Tea Gardens, Suja



Source: Land-use validation survey by REPL team

Actual area of Tea gardens will be as per the revenue record.

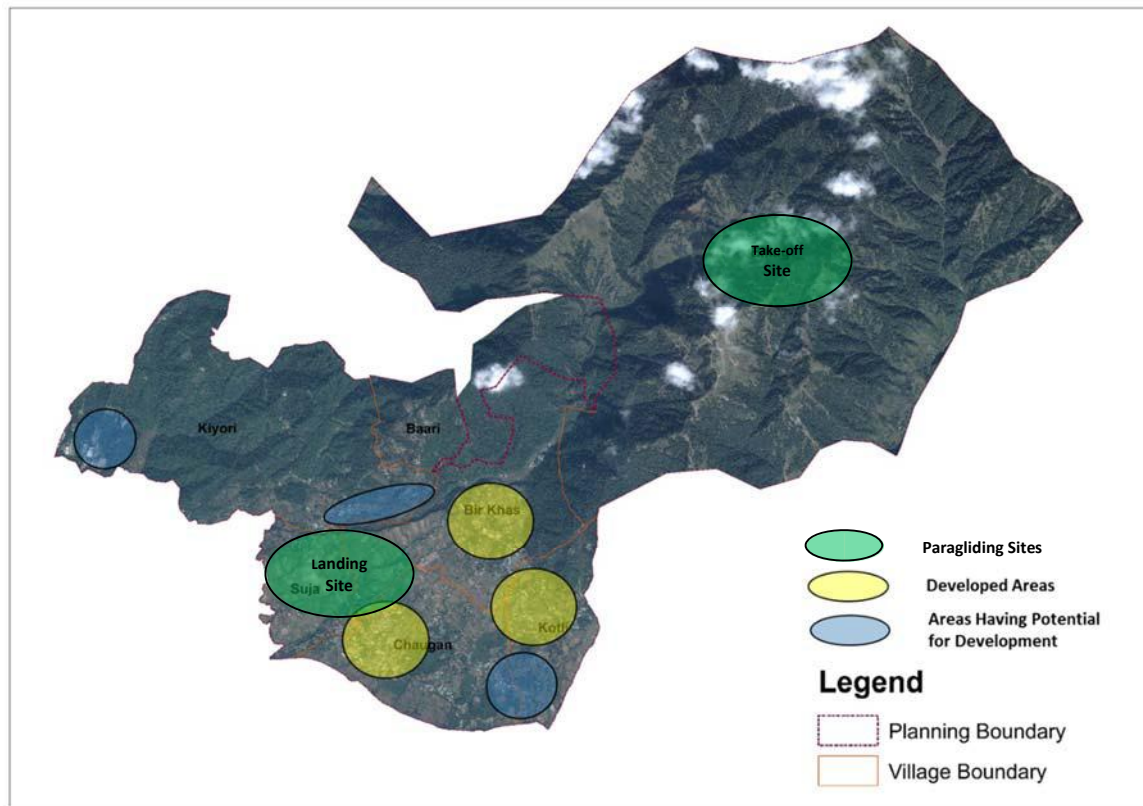
9.2.8 Ecologically Sensitive Area

Ecologically rich areas like forest, water bodies present In Special Area, which constitute 1657.53 hectare of land. This area covers 84 % of the undeveloped land. In water bodies, there are two major nallahs that are located in east and West of the paragliding landing site and flows from North to South in Special Area.

9.3 Growth Direction

The growth of Special Area is limited due to presence of forest area in North and West. Elevation of the area is also high towards the North. Availability of land is analysed regarding growth potential and it is found that there is scope for growth along the major access road and some other roads. All the major development in the area can be seen in Bir, Chaugan and Kotli.

Map 6 Spatial Growth in Special Area



Source: REPL Survey

Billing village is having steep slopes and forest land; therefore, scope for development in North Eastern part of Special Area is very less. Some necessary facilities may come up in this area to facilitate the Paragliders, tourists and concerned offices.

South Western area is mainly developed due to gentle slope and good accessibility. In future, development will take place in this part of the Special Area. Any new development should be restricted in proposed new extended Paragliding Landing and Take-off Zones so that the new development will not hamper the activities of paragliders.

9.4 Proposed Land Use- 2035

The scope of Development Plan is limited to the broad planning and allocation of land for various uses such as residential, commercial, industrial, institutional, public and semi-public etc. It proposes land use plan for successful functioning of the Special Area. Planning of transportation facilities shall be aimed at safe and better traffic circulation system. Conservation of natural resources such as water body, forest, etc. shall be taken on a priority

Development Plan-2035

basis. The development plan is supported by a set of zoning and sub-division regulations for controlled development in each zone. Therefore, Development Plan is important instrument for regulating and guiding development of the area over a period of time and contribute to planned development. As such, the Development Plan comprises of the following components:

1. Proposed Land use Plan
2. Development Control Regulations (DCR's)

9.4.1 Land Requirement

Land is a scarce resource, on which entire infrastructure and human settlement is created. Before proceeding to prepare Land use plan, optimum utilization of land is to be worked out on the basis of need assessment of the projected population, prevailing, envisaged trends, norms and standards as per URDPFI Guidelines.

Bir-Billing Special Area falls in hilly region and also the adventure tourism based area therefore, norms taken for calculating land use are based on norms prescribed for hilly region as well as tourism city in URDPFI guidelines (Para 5.5.4.3). Land Use structure for Heritage/ Religious/ Tourism City as provided is shown in table below:

Table 9-2 Land use structure for Heritage/ Religious/ Tourism City

S. No.	Land use Category	% of Developed Land
1	Residential	35- 40
2	Commercial	5-7
3	Industrial	4-5
4	Public and Semi- Public	10-12
5	Transport and Communication	12-14
6	Recreational and Water bodies	10-12
7	Special Areas ((including heritage and religious areas)	7-10
	Total	100

Source: URDPFI Guidelines

Table 9-3 Land use structure for Hill Towns

S. No.	Land use Category	Percentage of Developed Area in Small Towns
1	Residential	50-55
2	Commercial	2- 3
3	Industrial	3- 4
4	Public and Semi- Public	8- 10



Development Plan-2035

5	Recreational	15- 18
6	Transport and Communication	5-6
	Ecological	Balance

Source: URDPFI Guidelines

Considering the above tables 9.2 and 9.3 proposed land use structure has been worked out. Areas with slope less than 30° are generally stable and suitable for development, whereas land with slope between 30°- 45° should be developed with appropriate technology. Areas with more than 45° slope should not be used for construction purpose. The planning of Special Area is done considering the mix of hill town and tourism town.

Additional land requirement has been calculated based on the land required for projected population by keeping the proposed density of 75 pph as prescribed for small hill towns in URDPFI Guidelines (Para 5.3.1). As the availability of developable land is limited in Special Area, therefore higher permissible density has been proposed in Development Plan.

Table 9-4 Proposed Land use Distribution- Special Area 2035

Land Categories	Use	Hill Towns	Tourism Towns	Percentage Taken	Additional Area Requirement (in ha)	% Additional Area in comparison to Existing Area	Proposed Area in hectares	Percentage Proposed
Developed Area (A)								
Residential		50-55	35-40	52	21.67	35.94	81.96	50
Commercial		2-3	5-7	6	4.91	108.63	9.45	6
Mixed Use		-	-	2	1.93	158.20	3.15	2
Public & Semi-Public		8-10	10-12	12	5.06	35.53	18.91	12
Industrial		3-4	4-5	3	3.68	350.47	4.73	3
Recreational		15-18	10-12	15	13.38	55.93	28.54	17
Transportation		5-6	12-14	10	2.65	20.21	15.76	10
Total (A)				100.00	53.28		162.50	100.00
Undeveloped Area (B)								
Water Bodies							8.65	0.45
Agriculture and Open Area							254.28	13.18
No construction Zone							34.49	1.79
Forest							1619.71	83.98
Tea Garden							3.03	0.16



Development Plan-2035

Roads in Undeveloped Area						9.30	0.48
Total (C)						1928.61	100.00
Total Area (A+B)						2091.11	

Source: REPL Analysis

9.4.2 Proposed Land Use

During the course of planning the Special Area, issues that emerged were clarified with field office, prior to conceptualizing the final plan for Bir-Billing. The proposed land use plan for Bir- Billing Special Area has been prepared for the year 2035. The proposed land use is shown in Map 11 comprising of the Special Area. The description of proposed land use distribution is as follows:

9.4.2.1 Residential

The Residential area has been proposed as per URDPFI guidelines to cater to the projected population in the development plan area for the year 2035. An area of 81.96 hectare has kept for residential purpose, which is 50 % of the total proposed developed area. The new areas are proposed around the major growth centres i.e. Chaugan, Kotli and Bir Khas.

9.4.2.2 Commercial

An area of 9.45 hectare which is 6 % of the developed area has been proposed for commercial establishments. Proposed percentage for commercial use is slightly more than the norms prescribed in URDPFI guidelines to take care of commercial spending's of the tourists in Bir-Billing. New commercial pockets have been proposed in Chaugan, Kotli and Bir Khas as these areas serve both the residents and tourists. The commercial facilities will mainly consist of retail shops, hotels, restaurants and shops selling goods required by tourists.

9.4.2.3 Mixed Use

The mixed land use is proposed along major roads in Chaugan and Bir. Total of 3.15 hectare (2% of the developed area) is proposed under this category. Mixed use will have a mix of various activities.



Development Plan-2035

9.4.2.4 Public and Semi Public

Public and semi-public facilities play an important role in the development of an area. This category contains the land for government offices, health and education facilities, and social and cultural activities. An area of around 18.91 hectare (12% of developed area) has been proposed to provide the facilities for the projected population.

9.4.2.5 Industrial

Keeping in view the Primary activity of agriculture is Tea Garden and House hold industries an area of 4.73 hectare (3 % of developed area) has been proposed under industrial use in the Special Area.

9.4.2.6 Recreational

In Bir-Billing there is lack of space for the recreational activities e.g. organized green space/ park as mentioned in the existing land use analysis. Therefore, an area of 23.64 hectare has been proposed under this category, which is 17 % of the total proposed developed area. This land has been reserved for playgrounds, multipurpose ground, parks and gardens to serve the local and tourist population.

9.4.2.7 Transportation

A total of 15.76 hectare of land has been proposed under the Transportation use, which is 10 % of the proposed developed areas. Parking is a major requirement in Special Area as number of tourists visit Bir- Billing every year. Therefore, parking sites are proposed in Chaugan, Kotli and Bir Khas.

9.4.2.8 Undeveloped Areas

Landing & Takeoff zones have been proposed around existing take-off and landing sites for paragliding to restrict development incompatible uses in order to preserve, conserve and protect these sites for smooth & safe paragliding activity. However, development of these sites for paragliders will be subject to acquisition of land by the State Government.

Green buffers of 5 m and 3 m have been proposed along major khads and nallahs respectively. Undeveloped areas include agricultural lands, tea gardens, forests, water bodies and roads, which are outside the developed land but joining the two habitats or areas. A total of 1928.61



Development Plan-2035

hectare that is 92.23 % land of the Special Area is undeveloped. Due to the presence of large special forest area of 1619.71 hectare, the percentage of undeveloped land is quite high.



Chapter 10. Plan Implementation and resource mobilization

The three main resources for planning and development are money, manpower and land. Among all the three resources, land availability is limited and hence it must be utilized judiciously so that it helps in achieving a high level of economic efficiency.

Both land and money are limited resources of Government; hence private sector should be duly recognized and appropriately mobilized for investment in development depending upon the potential of the area. Proper mix of public and private sector resources is an impending need for the spatial and efficient implementation of public infrastructure programme.

For the development and rapid implementation of Development Plan, such policies will be framed which will help in meeting the envisioned target in minimum required time. Development proposals, which will be self-sufficient, of public interest and resource generating, will be encouraged.

To achieve the above-envisaged proposal, points to be considered are as follows:

- i. Phasing and prioritization of development activities.
- ii. For major proposals according to phasing, land should be identified and acquired on priority.
- iii. Upcoming schemes/ proposals in private sector shall be marked and private resources shall be invited.
- iv. For solving the problem of land acquisition, town planning scheme and transferrable development right shall be adopted.
- v. To overcome the problem of encroachment, strict action should be taken and special cell should be made.

10.1 Resource Mobilization and Implementation Framework

For implementing various envisaged policies and proposals, coordination among different responsible agencies and availability of fund with them is necessary. For increasing the resource availability with the local bodies, charges will be applied as per the usage of infrastructure facilities availed by the individual. This will help in achieving and completion of

large infrastructure projects such as development of roads, construction of sewage treatment plant etc.

10.1.1 Resource Mobilization

Funds for development activities shall be available with local bodies through following sources:

- i. Special Area Debentures
- ii. Increase in users charges as per investment
- iii. Regular and effective collection of user charges
- iv. External development tax and betterment tax
- v. Transferable Development Rights (TDRs)

The cost of residential development including road network, sewerage, drainage, electrification, parks, open spaces, parking, local convenient shopping etc., is to be borne by the land owners either themselves in respect of their land holdings or by way of land pooling and reconstitution mechanism in respect of small irregular holdings of different owners. The benefits likely to occur by way of sale of plots by virtue of enhancement of land values due to planned efforts would be more than sufficient to meet with the cost of development. On the basis of demarcation of plots, in view of duly approved land pooling and reconstitution scheme by the Director, Town and Country Planning Department, Himachal Pradesh, the landowner may get advance from the likely purchasers for development purposes.

10.1.2 Implementation Strategy

Implementation of plan can be effective only when it is monitored and reviewed time to time. While executing or implementing the project, it needs to be monitored regularly for seeing its effects. Monitoring will help in responding to the emerging socio- economic forces and check the unorganized development, alter the policies and proposals as per the actual demand of the time, effect of other neighbouring ongoing projects and completion of projects as scheduled.

For effective and efficient monitoring of plan, separate and Dedicated Monitoring Unit shall be formed, which will be responsible for overall monitoring and implementation of the plan.



10.2 Phasing and Prioritization of Development

The phasing of the development schemes is done to address the most important issues on priority. The phasing will also help in avoiding the exhaustive use of the resources and help in judicious and efficient resource utilization. Prioritization of development is very important concern for proper implementation of various proposals. Some of the projects that can be taken on priority are:

- i. Already identified projects like construction of new Water Treatment Plans and Sewerage Treatment plants will be taken on priority in consultation with Irrigation and Public Health Department for the betterment of Special Area.
- ii. Management of solid waste is a serious concern to overcome the problem of solid waste; it is proposed to develop the solid waste management project for Bir Billing Special Area on priority basis in consultation with Gram Panchayat.
- iii. The sewer line needs to be laid which would help in minimizing the degradation of water resources. (Nallahs and Khads).
- iv. Encroachments should be removed and proper fencing should be done after delineation of such spaces.
- v. Seeing the present scenario in Planning Area, many residential areas have come up in the last few years and many are ready to come. Hence new residential areas shall be developed according to the demand and infrastructure facilities shall be laid in priority according to their requirement.
- vi. Redevelopment of old congested areas and areas lack in basic infrastructure facilities.
- vii. Paragliding Landing & Takeoff zones area subjected to acquisition of land by the government for the conservation, preservation and protection of these zones for future.
- viii. Introduction of public transit operations, intelligent traffic management system, improvement of roads and streets and provision of adequate parking especially near tourist spots.

- ix. Provision of adequate facilities near tourist areas and subsequently in entire Planning Area.

10.3 Costing

Various concerned departments who will arrange funds according to the detailed estimated prepared by them will implement those projects. Costing will be done phase wise as worked out by the concerned department.

Chapter 11. ZONING AND SUB-DIVISION REGULATIONS

The regulations have been formulated keeping in mind the character of each zone along with their relevant activity mix. The use related guidelines detail the permissible, restricted and non-permissible activities in each zone.

11.1 Land Use Designated

There shall be 7 land use categories divided into use Zones as given below:

Table 11-1: Land Use categories divided into Use Zones

LEGEND			
S.No	Land use	Activities Permitted	Code
1	Residential	Residential, Shop, Kiosks, AttaChaki, Canteen/Foodcourt, Petrol –Diesel Pump, Bank, Telecommunication Centre, Guest house, Hostel, Orphanage , School, Creche, Old age home, R&D Centre, Marriage hall, Health Centre, Health club, Meditation Centre, OHT, Electric Sub Station, Parking, Parks/Play ground.	R
2	Commercial	Professional /personal/Agent office, Bank, Commerce/ Trading office, Guest house, Boarding house, Day care cente, Vocational institute , Post office, Police/Fire station, Libary, Healthcentre, Health club, Dance/music/art centre, Banquet hall, OHT, Electric Sub Station, Parking, Parks/Play ground, Garage.	C
3	Mixed use	Mix of two or more land uses which are not obnoxious in nature	MU
4	Public- Semi Public	Administrative Offices, Institutional, Public Utilities/ Services/ Tele Communication centre , Grouping Housing ,Retail shop, Repair shop, Vending booth, Kiosks, Food court, Petrol-Diesel Pump, Multiplex, Guest House,Hostel, Boarding house, Jail, OHT, Electric Sub Station, Parking, Parks/Play ground , Garage, Swimming pool.	PS
5	Transportation	Roads/Bus Stand/Parking Space/Taxi Stand, Repair Shop, Vending booth, Coal/wood Selling area, Building material market, Cold storage, Hotel, Serviced apartment, Food Court, Govt-semi Govt office, Police Line/Station , Telecommunication Centre, Guest House, Night Shelter, OHT, Parks/Play ground.	T
6	Recreational	Park/ Garden/ Zoo/ Playground, Residential, Retail shop, Vending booth, Kiosks, Food Court, Govt-Semi office, Telecommunication Centre, Guest House, Night shelter, Police post/station, Firestation, Library, Health Club, Dance/Music centre, Meditation centre, Soical /Welfare	P



		centre, OHT/Water works, Electric Sub- Station, Parking, Bus stand/Rain shelter.	
7	Agriculture/ Non Built-up/Open land	Agricultural fields/ Farms/ Orchard/ Plant Nursery/ Social Forestry, Residential/Group Housing, Retail shop, Wholesale market, Coal/wood Selling area, Vegetable/Fruit market, Cold Storage, Petrol-Diesel Pump, Gas Godown, Sugar/Rice/Floor mill, Milk Collection Centre, School, Health Centre, STP, OHT/water works, Compost plant, Tele communication tower, Religious, Golf/racecourse, Recreational club/Swimming pool, Botanical /Zoological garden, Shooting range.	NB

For each zones, besides the activities permitted, there will be certain activities/utilities which shall be prohibited or conditionally permitted as per the criteria stated below:

Uses Permitted

Activities/ utilities which are ancillary to the Main Land Use are planned and permitted.

A. Conditionally Permitted

Activities/ utilities planned and permitted under certain terms and conditions. The terms and conditions are as follows:

1. Residential area on the upper floors except the ground floor
2. 5 percent of the total planning area (maximum 5 percent of the total planning area)
3. On minimum 5m road
4. On minimum 6m road
5. On minimum 9m road
6. On minimum 12m road
7. On minimum 9m road for maximum up to 20 bed health facility

All the above seven listed conditions may be over ruled on special ground/ under special circumstances by the Director, Town and Country Planning Department.

B. Specially Permitted

These activities will be planned or permitted after specific permission of the Authority keeping in view the infrastructure and their environmental impact on the surrounding area etc. i.e. on the basis of the merits and demerits each case. The required terms and conditions are further exemplified in the zoning matrix (Table 10-2).

C. Uses Prohibited



Development Plan-2035

These activities will not be permitted in the designated Land Use Zone.

The details of regulations regarding uses permitted, permitted conditionally, specially permitted and uses prohibited are stated through the index table below and Land Use Matrix (Table 10-2).

INDEX			
Use Permitted	P.	Specially Permitted**	SP
Conditionally Permitted*	1 to 7	Uses prohibited***	NP

* Refer point A

** Refer point B

*** Refer point C

Table 11-2 Zoning Matrix

S. No.	Land Use	Residential	Commercial	Mixed Use	PSP	Transportation	Recreational	Agriculture/ Non Built Up Land/ open space
	Activities	1	2	3	4	5	6	7
1	Residential							
	Residential House / Plot	P.	NP	1	NP	NP	3	P.
	Group Housing	P.	NP	P.	2	NP	NP	SP
2	Commercial							
	Retail shop	4	P.	P.	P.	NP	SP	SP
	Repair shop	4	P.	P.	4	P.	NP	NP
	Vending booth	4	P.	P.	P.	SP	SP	NP
	Showroom	NP	P.	P.	NP	NP	NP	NP
	Weekly Market	4	P.	P.	NP	NP	SP	SP
	Convenience shopping centre	4	4	4	P.	NP	NP	NP
	Local/ Sector level Shopping centre	4	4	4	NP	NP	NP	NP
	Shopping Mall	NP	5	5	NP	NP	NP	NP
	Informal Commercial Unit (Kiosk)	3	P.	P.	SP	NP	SP	NP
	Wholesale Market/ Mandi	NP	P.	SP	NP	NP	NP	SP
	Confectionary / Atta Chakki	3	P.	P.	NP	NP	NP	NP



Development Plan-2035

S. No	Land Use	Residential	Commercial	Mixed Use	PSP	Transportation	Recreational	Agriculture/ Non Built Up Land/ open space
	Activities	1	2	3	4	5	6	7
	Coal / Wood Selling Area	NP	P.	P.	NP	P.	NP	SP
	Building Material Market	NP	NP	NP	NP	P.	NP	NP
	Vegetable / Fruit Market	NP	P.	P.	NP	NP	NP	SP
	Cold Storage	NP	NP	SP	NP	SP	NP	SP
	Hotel	NP	4	P.	NP	SP	NP	NP
	Serviced Apartment	P.	SP	P.	SP	SP	NP	NP
	Restaurant / Canteen / Food Court	5	P.	P.	P.	P.	P.	NP
	Petrol/ Diesel/ Gas Filling Station	6	SP	P.	6	NP	NP	4
	Gas Godown	NP	NP	SP	NP	NP	NP	SP
	Cinema/ Multiplex	NP	5	5	SP	NP	NP	NP
3	Industrial							
	Small/ Light Industry	NP	NP	4	NP	NP	NP	NP
	Sugar Mill, Rice rollers / Flour Mill	NP	NP	NP	NP	NP	NP	SP
	Milk Pasteurization and collection centre	NP	NP	NP	NP	NP	NP	SP
4	Offices							
	Govt. / Semi Govt. / Public Undertaking/ Local Body Office	4	NP	P.	P.	P.	SP	NP
	Professional/ Personal/ Agent Office	P.	P.	P.	P.	P.	NP	NP
	Bank	SP	4	P.	P.	P.	NP	NP
	Commerce / Trading Offices	4	P.	P.	P.	P.	NP	NP
	Labour Welfare Centre	NP	NP	SP	P.	P.	NP	NP
	P.A.C. / Police Lines	NP	NP	SP	P.	SP	NP	NP
	Satellite/Wireless/ Telecommunication Centre	SP	NP	SP	P.	SP	P.	NP



Development Plan-2035

S. No	Land Use	Residential	Commercial	Mixed Use	PSP	Transportation	Recreational	Agriculture/ Non Built Up Land/ open space
	Activities	1	2	3	4	5	6	7
5	Public Semi Public							
	Guest House/ Lodging	SP	SP	P.	P.	P.	P.	NP
	Boarding House / Night Shelter	3	SP	P.	SP	P.	P.	NP
	Hostel	3	NP	P.	SP	NP	NP	NP
	Reformatory and Orphanage	SP	NP	P.	NP	NP	NP	NP
	School for mentally/ Physically Challenged Persons	3	NP	SP	SP	NP	NP	NP
	Jail	NP	NP	NP	SP	NP	NP	NP
	Creche& Day care centre	P.	SP	P.	4	NP	NP	NP
	Old age home	P.	NP	P.	NP	NP	NP	NP
	Primary Educational Institutions	3	NP	SP	SP	NP	NP	SP
	Senior Secondary School	5	NP	SP	SP	NP	NP	NP
	Vocational Institute	5	3	P.	P.	NP	NP	NP
	Post office	3	P.	P.	P.	NP	NP	NP
	Telephone, Radio and Television Office / Centre	NP	NP	P.	SP	NP	NP	NP
	Police Station / Police Post / Fire Station	4	P.	P.	P.	P.	P.	NP
	Library	3	P.	P.	P.	NP	P.	NP
	R & D Centre	SP	NP	P.	P.	NP	NP	NP
	Health Centre/ Family Welfare Centre/Dispensary	P.	P.	P.	P.	NP	NP	SP
	Hospital	NP	NP	SP	7	NP	NP	NP
	Nursing Home	6	NP	P.	7	NP	NP	NP
	Clinical Lab / Diagnostic Centre	NP	NP	P.	NP	NP	NP	NP
	Health Club/ Gymnasium	P.	SP	P.	SP	NP	P.	NP



Development Plan-2035

S. No.	Land Use	Residential	Commercial	Mixed Use	PSP	Transportation	Recreational	Agriculture/ Non Built Up Land/ open space
	Activities	1	2	3	4	5	6	7
	Dance/ Music/ Art Centre	3	3	P.	NP	NP	P.	NP
	Yoga/ Meditation Centre	3	NP	P.	NP	NP	P.	NP
	Banquet Hall/ Barat Ghar	SP	SP	4	SP	NP	NP	NP
	Socio-cultural Centre	5	5	4	SP	NP	P.	NP
	Social Welfare Centre	NP	NP	P.	P.	NP	P.	NP
	Cremation/ Burial ground/ Crematorium	NP	NP	NP	P.	NP	NP	NP
6	Utilities							
	Sewerage Treatment Plant / Sanitary Landfill Site	NP	NP	NP	SP	NP	NP	SP
	Tube well/ Over head tank/ Electric sub-station	P.	P.	P.	P.	P.	P.	P.
	Water Works	NP	NP	SP	NP	P.	P.	SP
	Compost Plant	NP	NP	NP	NP	NP	NP	SP
	Slaughter House	NP	NP	NP	NP	NP	NP	NP
	Cellular / Mobile Tower	SP	SP	SP	SP	NP	SP	SP
7	Transportation							
	Open parking	P.	P.	P.	P.	P.	SP	NP
	Taxi/ Auto / Rickshaw stand	P.	P.	P.	P.	3	3	NP
	Bus Stand/ Shelter	4	P.	4	P.	P.	P.	NP
	Bus Terminal	NP	NP	5	NP	P.	NP	NP
	Motor Garage/ Service Garage/ Workshop	NP	P.	P.	SP	4	NP	NP
	Loading / Unloading Platform	NP	NP	P.	NP	4	NP	NP
	Weighing Bridge	NP	NP	5	NP	P.	NP	NP
8	Parks and Recreation							
	Parks/ Playgrounds	P.	P.	P.	P.	P.	P.	P.



Development Plan-2035

S. No	Land Use	Residential	Commercial	Mixed Use	PSP	Transportation	Recreational	Agriculture/ Non Built Up Land/ open space
	Activities	1	2	3	4	5	6	7
	Multipurpose open spaces (Ramlila Ground/ Exhibition/ Circus etc.)	NP	NP	SP	SP	NP	P.	NP
	Golf / Race course	NP	NP	SP	NP	NP	P.	SP
	Stadium / Sports training centre	NP	NP	NP	NP	NP	P.	NP
	Amusement Park	NP	SP	SP	SP	NP	P.	NP
	Recreational Club / Swimming pool	4	SP	SP	SP	NP	P.	SP
	Botanical/ Zoological garden, Bird sanctuary, Aquarium	NP	NP	P.	NP	NP	P.	SP
	Shooting Range	NP	NP	NP	NP	NP	P.	SP
8	Agriculture							
	Orchard/ Plant Nursery/ Social Forestry	P.	P.	P.	P.	P.	P.	P.
	Farm House	NP	NP	NP	NP	NP	NP	2
	Dairy farm	NP	NP	NP	NP	NP	NP	P.
	Poultry farm	NP	NP	NP	NP	NP	NP	P.
	Agricultural equipment workshop/ service centre	NP	NP	P.	NP	SP	NP	SP
	Dhobi Ghat	NP	NP	NP	NP	NP	NP	P.
Note: In the event of an activity in land use not specifically mentioned in the table above and the activity restricted/ not permitted in land uses mentioned above may be provided at the discretion of the Competent Authority, keeping in view the requirement, general benefit of public as well as Town design.								

11.2 Development Control Regulations (DCR)

Regulations/Building Bye Laws are legal tools used to regulate coverage, height, architectural design and construction aspects of buildings so as to achieve orderly development of an area. They are mandatory in nature and serve to protect buildings against fire, earth quake, noise, structural failures and other hazards. Regulations/Building Bye Laws help to avoid encroachments and protect the right of way.



Development Plan-2035

All mandatory Master Plan/ Development Control Regulations regarding use, coverage, FAR, set-backs, open spaces, height, number of storeys, number of dwelling units, parking standards etc., for various categories of buildings, including modifications therein, made from time to time, shall be applicable mutatis-mutandis in these Building Regulations. All amendments/ modifications made in these Regulations will automatically be included as part of these Regulations.

11.3 Jurisdiction of Regulations

These Regulations shall apply to the sub-division of land and building activities in the Special Area. The detail of Revenue villages falling in Special Area is as under:-

S. No.	Name of Revenue Villages	Area in Ha.
1	Bari	49
2	Billing	1315
3	BirKhas	189
4	Chaugan	139
5	Keori	324
6	Kotli	85
7	Suja	71
	Total	2172

11.4 Applicability of Regulations

These Regulations shall be applicable to all building activities and be read in conjunction with the Himachal Pradesh Town and Country Planning Act, 1977 and the Himachal Pradesh Town and Country Planning Rules, 2014 as amended from time to time and shall be applicable for a period for which this Development Plan has been prepared, after which these shall be reviewed. Till such time the reviewed Regulations are notified, these will continue to be in force.

11.4.1 Part Construction

In case of part construction, where the whole or part of a building is demolished or altered or re-constructed, except where otherwise specifically stipulated, these Regulations shall apply only to the extent of the work involved.



11.4.2 Re-construction

The re-construction in whole or part of a building which has ceased to operate due to fire, natural collapse or demolition having been declared unsafe, or which is likely to be demolished, as the case may be, these Regulations shall apply.

11.4.3 Existing approved buildings

Nothing in these Regulations shall require the removal, alteration or abandonment, nor prevent continuance of the lawfully established use or occupancy of an existing approved building unless, in the opinion of the Competent Authority, such a building is unsafe or constitutes a hazard to the safety of adjacent property or to the occupants of the building itself.

11.5 Development Permission

Development or re-development shall carry out including sub-division on any plot or land (not forming part of any approved layout plan or scheme) after obtaining approval for the layout plan from the Competent Authority only.

11.5.1 Building Permission

Any person intending to erect, re-erect or make addition/ alterations in any building or cause the same to be done shall first obtain appropriate building permission for each such building from the Competent Authority.

The following items of works are exempted from the above Regulation:

- (i) Plastering/cladding and patch repairs, except for the Heritage Buildings where Heritage Conservation Committee's permission is required.
- (ii) Re-roofing or renewal of roof including roof of intermediate floor at the same height.
- (iii) Flooring and re- flooring.
- (iv) Opening windows, ventilators and doors opening within the owners plot.
- (v) Rehabilitation/repair of fallen bricks, stones, pillars, beams etc.
- (vi) Construction or re- construction of sunshade not more than 0.45 Metre in width within one's own land and not overhanging over a public street.
- (vii) Construction or re-construction of parapet and also construction or reconstruction of boundary walls as permissible under Bye Laws.
- (viii) White washing, painting etc. including erection of false ceiling in any floor at the permissible clear height provided the false ceiling in no way can be put to use as a loft /mezzanine floor etc.
- (ix) Reconstruction of portions of buildings damaged by storm, rains, fire, earthquake or any



- other natural calamity to the same extent as existed prior to the damage as per sanctioned plan, provided the use conforms to provisions of Development Plan.
- (x) Erection or re-erection of internal partitions provided the same are within the preview of the Bye-laws.
 - (xi) For erection of Lifts in existing buildings unless it does not affect the free movement.
 - (xii) Change/ Installation/ re-arranging/ relocating of fixtures or equipment without hindering other's property/ public property shall be permitted.
 - (xiii) Landscaping
 - (xiv) Toilet/Washroom, Security Room, up to a maximum area of 9.00 M² only (permitted within setback area, provided it does not obstruct fire vehicles movement) in plot more than 3000 M².
 - (xv) A Porta cabin up to 4.50 M² permitted within setback area, provided it does not obstruct fire vehicles movement.

11.6 Grant, Refusal and Deemed to be sanctioned

If within the time limit stipulated in the Himachal Pradesh Town and Country Planning Act, 1977 as amended from time to time for various categories of buildings specified therein or the Competent Authority fails to intimate in writing to the person, who has applied for permission of its refusal or sanction or any intimation, the application with its plans and statements shall be deemed to have been sanctioned;

Provided that the fact is immediately brought to the notice of the Competent Authority in writing by the person; and

Subject to the conditions mentioned in these Bye-laws, nothing shall be constructed to authorize any person to do anything in contravention or against the terms of lease or titles of the land or against any other Regulations, Bye-laws or Ordinance operating on the site of the work.

In case the Competent Authority rejects the application due to any reasons, the applicant can re-submit the building plan along with fees and with compliances.

11.7 Already permitted buildings

Building permission issued by the Competent Authority before these Regulations come in to effect and where construction is in progress and has not been completed within the specified period from the date of such permission, the said permission shall be deemed to be valid and shall only be eligible for re-validation there under. Accordingly, where the validity of permission has expired, such construction shall be governed by the provisions of these



Regulations. If the validity of permission has not expired and construction has not being started such applicants may revise the layout plan as per these regulations.

11.8 Procedure for obtaining Permission

11.8.1 Application and Fee

The application for development of land to be undertaken on behalf of the Union or State Government under Section 28 and under Section 29 by a Local Authority or any Authority specially constituted under the Himachal Pradesh Town and Country Planning Act, 1977 as amended from time to time shall be accompanied by such documents as prescribed under Rule- 14 of the Himachal Pradesh Town and Country Planning Rules, 2014. The application for development of land to be undertaken under Section 30 by any person not being the Union or State Government, Local Authority or any Authority specially constituted under the Himachal Pradesh Town and Country Planning Act, 1977 shall be in such form along with the Specifications Sheet and Schedule attached with these forms and containing such documents and with such fee as prescribed under Rule 16 of the Himachal Pradesh Town and Country Planning Rules, 2014. All the applications shall be made online.









11.8.2 Documents Required

Apart from above, the applicant shall furnish the following additional documents namely:

- (i) Location Plan in the Scale of 1:1000, showing North direction indicating the land in question, main approach roads, important physical features of the locality/area, important public buildings like School, Hospital, Cinema, Petrol Pump, existing land uses /building uses surrounding the land.
- (ii) Site Plan in the scale of 1:200, showing North direction indicating the proposed site, approach road, adjoining buildings, the existing drainage and sewerage showing the built up and open area clearly. Site must tally with the shape and dimensions of plot shown in the Tatima or as per actual at site duly verified by the competent authority.
- (iii) Building plan, showing elevation and section in the scale of 1:100. The architectural drawings duly signed by the applicant and licensed/registered Architect/ Planner/ Engineer/ Draftsman along with his/ her address and Registration number.
- (iv) Recommended notation for colouring of plans: The site and building plans shall be coloured as specified in the table given below. Where items of work are not identified, the colouring notation used shall be indexed.



Table
Colouring of Plans

Sr. No.	Item	Site/ Building Plan
1.	Plot lines	Yellow 
2.	Road/ Street/ Path	Black 
3.	Proposed building line	Red 
4.	Existing work (Outline)	Green 
5.	Work proposed to be demolished	Orange 
6.	Sewerage	Dark Brown 
7.	Water Supply/ RWH System	Cyan 
8.	Drainage	Dark Blue 

- (v) A copy of Treasury Challan Form/ receipt vide which requisite fee has been deposited shall be uploaded online after approval of the case in principle by the department.
 - (vi) Ownership documents, i.e. latest original Jamabandi.
 - (vii) Latest original Tatima showing Khasra number of land in question, adjoining Khasra numbers from all sides of plot and approach path with dimensions.
 - (viii) In the Site Plan, the distance of electricity line, from development as per Indian Electricity Rules, in case any electricity line is passing over or nearby the proposed site be shown.
 - (ix) A certificate from the Nagar Panchayat or Gram Panchayat or Development Authority or Local Authority, as the case may be, shall be enclosed to claim compensatory benefit in support of taking over the land surrendered for development in public interest such as road or path and designating it as Public Street/ infrastructure shall be submitted. The land surrendered for development of Public Street/ infrastructure shall be registered by the Revenue Authority. Provided further that the applicant shall be compensated by allowing additional Floor Area Ratio (FAR) in lieu of surrendering the land for public purpose. The extra FAR shall not exceed the area surrendered for public purpose.
- Important-** Total plot area will also include the area surrendered for path so that applicant gets compensation in form of FAR for any land surrendered in public interest.
- (x) The Structural Stability Certificate shall be submitted by the applicant on submission of planning permission case and at the time of completion of structure duly signed by the registered Structural Engineer, including soil investigation report and structural design basis report as per provisions for safety against natural hazard.

11.9 General Regulations

The following general regulations shall apply to all development activities in each of the land use zones in the left out area:-

- i. No building or other structure shall be erected, re-erected or materially altered without the permission of the competent authority.
- ii. No yard or plot existing at the time of coming into force of these regulations shall be reduced in dimension or area below the minimum requirement set forth herein. The yards or plots created after the effective date of these requirements shall meet at least the minimum requirements established by these regulations. All the plots registered prior to coming into force of these regulations shall be treated as plots irrespective of their size subject to the condition that 3.00 m wide path abutting one side of the plot will be the basic requirement. If 3.00 m wide path is not available at site in newly developed area and if it is less in width then the owner shall surrender the remaining land from his plot to make the path as 3.00 m wide. The construction would be allowed on hereditary owned smaller plots and the regulations for maintaining minimum plot size/area shall not be insisted on such hereditary owned smaller plots.
- iii. The height of a building shall further be related to the width of abutting path:

For path less than 3.0 M and non-vehicular	- 10 Meters
For path less than 3.0 M but vehicular	- 13 Meters
For path between 3.0 M to 5.0 M	- 18 Meters
- iv. The building height shall be the vertical distance measured:-
 - In the case of flat roofs from the plinth level to the highest point of the building.
 - In case of pitched roofs from the plinth level to the highest point up to the point where the external surface of the outer wall intersects the finished surface of the sloping roof.
 - In the case of gables facing the road midpoint between the eaves level and the ridge. Where plinth level is the finished floor level of the floor just above the existing natural ground level.
- v. The following structures shall not be considered in regulating the height of the building:



- Roof tanks and their supports not exceeding 2.00 Meter in height.
 - Mechanical, electrical, HVAC, lift rooms and similar service equipment.
 - Staircase mummy not exceeding 3.00 Meter in height.
 - Architectural features serving no other function except that of decoration, chimneys, poles, parapet and other projections not used for human habitation, may extend beyond the prescribed height limits, not exceeding 1.50 Metre in height, unless the aggregate area of such structures exceeds 1/3rd of the roof area of the building on which these are erected.
 - Solar panels installed on the roof.
 - These height regulations shall not apply to the structures housing main seat of Deity /Sanctum / Sanctorum which are part of religious buildings e.g. Temples, Mosques, Gurudwaras, Churches, etc. provided it is so designed and approved by the Competent Authority. The height restrictions shall apply to the ancillary structures like dharamshala, sarai etc.
- vi. Maximum acceptable slope for development shall be 45 degrees.
- vii. Maximum height of plinth level shall be 4.00 Meters.
- viii. Area zoned for public and semi-public uses and parks and open spaces shall not be built upon or used for any purpose other than parks, play grounds and recreation. These may, however, with the prior permission of the competent authority be permitted temporarily for a period not exceeding 30 days to be used for public entertainment purposes and shall be removed at the end of the period and shall in no case be permanently erected.
- ix. The existing non-conforming uses of land and buildings, if continued after coming into force of this Development Plan, shall not be allowed in contravention of provisions of Section-26 of the Himachal Pradesh Town and Country Planning Act, 1977.
- x. Normally the cutting of the natural profile shall not exceed more than 3.50 Meter. However, in extraordinary cases where hill cut or excavation is more than 3.50 meter site development plan/Cross section showing retaining/breast wall etc. would be prepared by the Structural Engineer.
- xi. No wall fence and hedge along any yard or plot shall exceed 1.50 m in height.



- xii.** On a corner plot bounded by a vehicular road in any land use zone, nothing shall be erected, placed, planted or allowed to grow in such a manner so as to materially impede the vision to avoid accidents and for smooth running of vehicular traffic.
- xiii.** No planning permission for development shall be granted unless the road/path on which land/plot abuts is properly demarcated and developed.
- xiv.** Drainage shall be regulated strictly according to natural profile of land with a view to prevent landslides, soil erosion and to maintain sanitation.
- xv.** In case of petrol filling station, the layout plan/ norms of the Indian Oil Corporation (IOC) shall be adopted. However, on National Highways and State Highways the front setback shall be kept as 8.00 m from acquired width of the Highway or as mandate of HPPWD. If the rear and side setbacks are not mentioned in the layout plan of IOC, the sides and rear setbacks shall be 2.00 m minimum.
- xvi.** Minimum building width of 5.00 metre be ensured without insisting on setbacks on smaller plots.
- xvii.** In case of irregular plot or in case of site constraints, uniformity of setbacks shall not be insisted. In such case the competent authority would consider the maximum coverage or minimum open area while approving such cases.
- xviii.** There would be mixed land use in Development Plan as per matrix, however, such uses which are obnoxious, hazardous or industries emanating pollution would not be allowed. Hence, this will not attract any change of landuse in the entire Special Area.
- xix.** All commercial/ public and semi-public buildings above 15 meter height shall have the provision of elevator.
- xx.** Minimum front set back from the line of controlled width of Highways and other Himachal Pradesh Public Works Department's scheduled roads falling within the Planning Area or Special Area limits (excluding the land, included in the inhabited sites of an village as entered and demarcated in the Revenue record or on sites in notified Municipal area that are already built up) shall be 3.00 M. Minimum front setback for non-scheduled roads and Municipal roads shall be 3.00 M.



- xxi.** Maximum width of path/road abutting one side of plot shall be 3 m in case the plot is located on existing or proposed roads/path having following Right of Way (ROWs), the front setback shall be left as under:-

Sr. No.	Proposed Right of Way (m)	Front Setback (m) from Acquired line of road
1	18	8.00
2	15	5.00
3	12	5.00
4	09	3.00
5	07	3.00
6	05	3.00

- xxii.** Construction other than as is permissible under the Himachal Pradesh Road Side Control Act, 1972 would not be allowed on the controlled width of National Highway Authority of India (NHAI) or Himachal Pradesh Public Works Department (HPPWD).
- xxiii.** In open area of permissible setbacks (other than controlled width) small temple, porch, garage, detached toilet/ store, septic tanks, other services/stairs would be permissible.
- xxiv.** Sky view impression on the ground should be such that nothing including projections and appendages such as AC outdoor units/sign boards etc. should project on the streets/roads/other's land.
- xxv.** Water, sludge and sewage should also not trickle on the streets or roads. Septic Tank and provision to lay our sewerage service line or connecting with the existing sewerage lines shall be mandatory.
- xxvi.** Every building should have a clear means of access from a street or road. The competent authority may require the provisions of an access lane or access road within the site of any new building. Where for the purpose of this Regulation, it is necessary to determine the width of any road or street, the same shall be determined by the competent authority.
- xxvii.** Minimum size of different parts of a building shall be as under: -

S.No.	Description of Space	Particulars	Min Area/ Width Required
a	Habitable room	Minimum floor area	9. 50 Sqm.
		Minimum width	2.40 m
b.	Kitchen	Minimum floor area	4.50 Sqm.
		Minimum width	1.80 m



c.	Bath Room	Minimum floor area	1.80 Sqm.
		Minimum width	1.20 m
d.	Water Closet	Minimum floor area	1.10 Sqm.
		Minimum width	0.90 m
e.	Toilet	Minimum floor area	2.30 Sqm.
		Minimum width	1.20 m
f.	Corridor	(i) For residential	
		Minimum width	1.00 m
		(ii) For other uses	
		Minimum width	1.20 m
g.	Stair	(i) For residential	
		Minimum width	1.00 m
		(ii) For Hotel/ Flats/ Hostel/ Group Housing/Educational Institutions like school. College et.	
		Minimum width	1.50 m
		(iii) Hospital/Auditorium/Theatre/Cinema Hall	
		Minimum width	2.00 m
h.	Width of treads without nosing	For residential	25 Cm minimum for internal staircase
		For other uses	30 Cm minimum for internal staircase
i.	Height of riser	For residential	19 Cm maximum (15 Nos. maximum in a flight)
		For other uses	15 Cm maximum (15 Nos. steps maximum in a flight)
j.	Spiral staircase	In commercial building of 3 or more storeys, provision of spiral staircase not less than 1.50 M dia with adequate head height shall be permissible, as fire escape in addition to regular staircase.	
k.	Openings	For sufficient air and light, the windows and ventilators provided should have minimum area equivalent to 1/6th of the floor area.	
l.	Balcony projection	1.20 m wide balcony completely open at two sides with restriction up to 50% of building frontage, where minimum front setback is 3.00 M shall be permissible. Roof slab/ chhajja projection over door/ window opening shall be upto 1.00 m. over 3.00 m. setbacks on all sides. However, it will be limited upto 0.45 m. on the setbacks less than 3.00 m. on all sides.	

xxviii. The habitable basement and attic/mezzanine floor shall be counted as an independent storey.

xxix. The Apartments and Colonies shall be dealt with as per Regulations contained in Appendix-7 of HPTCP Rules 2014.

xxx. Though minimum area of plot has been defined in Regulation, yet the plots allotted by the Central or State Government under various Social Housing Schemes including Gandhi Kutir Yojana, Indira AwasYojana, Rajiv Awas Yojana, Affordable Housing Schemes, launched by the Central or State Government, may be considered and permission



accorded in relaxation of Regulations. However, the minimum area of plot for the persons belonging to the Economically Weaker Sections and Low Income Groups of society should not be less than 45 M² and 80 M² respectively.

xxxi. The following shall not be included in covered area of FAR calculations:

- Machine room for lift on top floor as required for the lift machine installation.
- Rockery, lift/lift well, escalator well and well structures, plant nursery, water pool at any level (if uncovered), platform around a tree, water tank, fountain, bench, chabutra with open top and/or unenclosed sided by walls, open ramps, compound wall, gate, slide swing door, fire staircase, fire towers, refuse area, fire control room, overhead water tank or top of building/open shafts, cooling towers.
- Mumty over staircase on top floor maximum 3.00 M height.
- Watch and ward cabins of total area not more than 4.50 sqm. and 6.00 sqm. with W/C each at entry and exit, within the property line having plot area not less than 500 sqm. and front setback not less than 5.00 m.
- Entrance porch, canopies, pergolas, sunshade elements and balconies.
- Plinth steps.
- Area of all staircase(s), Fire Exit(s).
- Service floor having services like HV AC(Heating, Ventilation and Air Conditioning), MEP installation, Janitor rooms, AHU Room, Electric room, LT room, CCTV room, laundry, Meter Room with HT/LT panel, DG Room, AC Plant room, CCTV room/ Control room, Fire control room or any other similar services shall be considered free from FAR.
- Building service shafts like electrical shafts, communication shafts, fire shafts MRP and HVAC shall not be counted in FAR.
- Common toilets served by a public corridor shall be free from FAR.

xxxii. Parking floor shall not be counted in FAR. However, twin parking floors shall also be excluded from FAR in Public & Semi- public and commercial buildings. Maximum height



of parking floor shall be 3.00 Meters for residential use and 4.00 Metres for other uses. Shear walls shall be constructed on all the three sides of parking floor, so that it does not behave as a soft storey. In case, space as per requirement for parking is available in open, over and above the setbacks, condition of parking floor shall not be insisted. Fee for parking floor(s) shall have to be payable in all cases.

- xxxiii.** Every room used or intended to be used for the purpose of an office or for habitation in any building shall have a height of minimum 2.75 Meters. The chimneys, elevators, poles, tanks and other projections not used for human occupancy may extend above the prescribed height limits. The cornices and window sills may also project into any required Set Backs.
- xxxiv.** The outer facade of the building should be in conformity to the Hill Architecture.
- xxxv.** Sloping roof shall be mandatory which may be CGI, GI sheet or slate roof with fascia. The roof shall be painted with post office red or forest green or natural roofing material such as slates. Height of sloping roof zero at eaves and maximum 2.75 Meters at centre shall be permissible. The Dormer at suitable distance on either side of the roof shall be permissible subject to the condition that the ridge of Dormer shall be below the ridge line of main roof. Roof top @ 12 M² per 1 Kilo Watt peak (KWp) shall be used for Solar Photo voltaic (PV) installations.
- xxxvi.** Construction in terraces shall be allowed to have a provision of storeys as permissible subject to fulfillment of FAR provision.
- xxxvii.** 1/3rd area of the top floor shall be permissible as open terrace.
- xxxviii.** The applicants shall not be insisted for submission of No Objection Certificate (NOC) from National Highway Authority of India (NHAI) or Himachal Pradesh Public Works Department (HPPWD) authorities. However, applicant will submit his layout plan with clearly demarcated acquired and controlled width etc.
- xxxix.** Distance from Electric Lines :- The distance in accordance with the Central Electricity Authority (Measures Relating to Safety and Electric Supply) regulations, 2010 as amended



from time to time and as defined in National Building Code of India, 2016 is to be provided between the building and overhead electric supply line as under :-

Clearances from Electric Supply Lines

Sr. No.	Type of Supply Line	Vertical Clearance	Horizontal Clearance
1.	Voltage lines and service lines not exceeding 650V	2.50 Metre	1.20 Metre
2.	High voltage lines above 650 Volts and including 11,000 Volts	3.70 Metre upto and including 33KV	1.20 Metre
3.	High voltage lines above 11,000 Volts and upto and including 33,000 Volts	3.70 Metre	2.00 Metre
4.	Extra high voltage lines additional 33,000 Volts	3.70 Metre plus 0.30 Metre for every additional 33,000 Volts or part thereof	2.00 Metre plus 0.30 Metre for every additional 33,000 Volts or part thereof

- xi.** Building shall not be put to use prior to issue of Completion Certificate by the competent authority.
- xli.** Issuance of No Objection Certificate (NOC) for water supply and electricity connections shall be as under:-
 - a) Temporary at plinth level.
 - b) Permanent on completion of dwelling unit/floor/whole of the building.
- xlii.** Any subsequent deviations made in the building constructed after getting the plan approved and after grant of No Objection Certificate (NOC) issued by the Department shall entail the entire building unauthorized and NOC so issued shall be withdrawn and the services shall be disconnected.
- xliii.** No construction shall be allowed within a radius of 5.00 m from the Forest/Green belt boundary and within a radius of 2.00 m from an existing tree. The distance shall be measured from the circumference of the tree.
- xliv.** Reconstruction shall be permissible on old lines. The plinth area and number of storeys shall remain the same as existing before reconstruction. Any addition, if required, shall be



allowed to the extent of 20% of existing built up area of ground floor subject to fulfillment of other planning regulations.

- xliv.** The provision for Rain Harvesting Tank shall be proposed in the plan @20 litre per sqm. of the roof top area for those buildings having roof top area more than 200 sqm.
- xlvi.** Construction on sandwiched vacant plots falling within built up areas shall be permissible as per existing building line irrespective of the width of path/road abutting the site, provided existing buildings are authorized.
- xlvii.** In the proposals for 3 and more dwelling units on plots of more than 200.00 Sqm. an adequate fire safety measures, provisions of an additional fire escape stair case and rain water harvesting shall be made.
- xlviii.** The construction shall be allowed at distance of 3.00 Metre and 5.00 Metre from Nallah and Khud respectively.
- xliv.** Construction of cellar shall not be counted as a storey and should be constructed within the prescribed setbacks and prescribed building lines and subject to maximum coverage on floor i.e. entrance floor and may be put for following uses:-
 - Storage of household or other goods of ordinarily combustible material; Minimum width of path/road abutting one side of plot shall be 5.00 M.
 - Strong rooms, bank cellars etc;
 - Air conditioning equipment and other machines used for services and utilities of the building; and parking spaces.

The cellar shall have following requirements:-

- All the walls shall be kept dead and below the natural ground level except the portion kept for ventilation purpose;
- Every cellar shall be, in every part, at least 2.40 M in height from the floor to the underside of the roof slab or ceiling;



- Adequate ventilation shall be provided for the cellar and any deficiency in ventilation requirements may be met by providing mechanical ventilation in the form of blowers, exhaust fans and air conditioning system etc;
 - The minimum height of the ceiling of any cellar shall be 0.90 M and the maximum 1.20 M above the average surrounding ground level;
 - Adequate arrangements shall be made such that surface drainage does not enter the cellar;
 - The walls and floors of the cellar shall be watertight and be so designed that the effects of the surrounding soil and moisture if any, are taken into account in design and adequate damp proofing treatment is given;
 - The access to the cellar shall be separate from the main and alternative staircase providing access and exit from higher floor. Where the staircase is continuous in the case of buildings served by more than one staircase, the same shall be enclosed type, serving as a fire separation from the cellar floor and higher floors. Open ramps shall be permitted, if they are constructed within the building line subject to the provision of clause (v) above;
 - In case partition in the cellars is allowed by the Authority, no compartment shall be less than 50.00 M² in area and each compartment shall have proper ventilation provision and the cellar partition shall however, conform to the norms laid down by the Fire Services; and
 - In no circumstances, construction of Toilet, Bath, and Kitchen etc. shall be allowed in the cellar.
- I.** Minimum permissible distance between two Blocks constructed on a plot shall be 5.00 m.
- ii.** Every development proposal shall have explicit mention of sewage disposal.
- iii.** No permission shall be granted in areas notified by the Archaeological Survey of India as protected monuments or areas, without prior clearance from the competent authority as prescribed for the purpose.

- lii. Structural Stability Certificate should be submitted along with the project drawings and report for obtaining building permission. The structure should be vetted by a qualified structural engineer having experience of building designs in hilly and earthquake sensitive areas.
- liv. No development permission shall be granted on the land having “Forest” classification in the revenue record until and unless specific clearance is granted by the competent authority i.e. Forest Department. However, the recreational activities shall be allowed after mandatory permission from the competent authority.

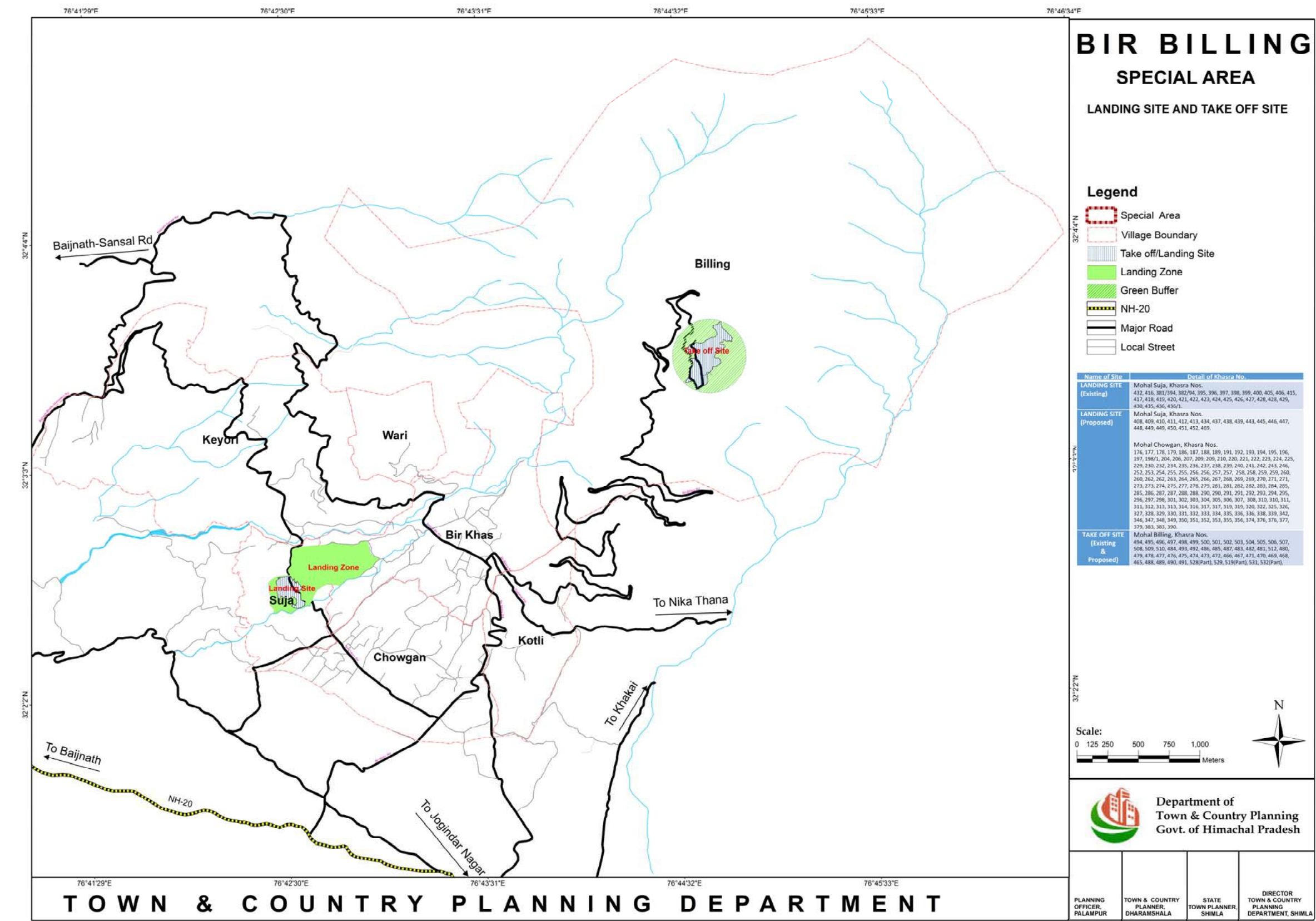
11.9.1 Regulations for Landing and Take Off Sites (No Construction Zone)

There are defined sites for take-off at Billing and landing at Bir for paragliding. There is take off zone marked at 300 m radius from the take-off point at Billing. Similarly, an area marked on proposed land use map as landing zone where no- construction/ addition alteration shall be allowed in this zone. Khasra numbers identified for landing site, and take- off sites are mentioned in Annexure 3. No construction zone is subject to acquisition of land by the State Government.

Provision of utilities maybe specially permitted in these zones by the concerned authorities. Landing and Takeoff zone are marked on Map 7.

Draft Development Plan for Bir Billing Special Area

Map 7 Take off and Landing Sites



Source: Sub-Divisional TCP Department, Palampur.



11.10 Sub-Division of Land Regulations

- i. The Sub-Division of land into plots amounts to 'Development' under the Himachal Pradesh Town and Country Planning Act, 1977; as such no person will sub-divide the land unless permitted by the competent authority.
- ii. Similarly, no Registrar or the Sub-Registrar will register any deed or documents of any sub-division of land, unless the sub-division of land is duly approved by the competent authority, as provided under Section 16 of the Himachal Pradesh Town and Country Planning Act, 1977 and the Sub-Division of Land Regulations as prescribed herein.
- iii. The application for sub-division of land shall be submitted as per the procedure provided under Para 11.8. These shall be kept in view while permitting sub-division of land.
- iv. The sub-division of land shall be permitted in accordance with natural profile/topography as shown on the contoured map along with drainage of land, access, road orientation, wind direction and other environmental requirements and according to prescribed Land Use in the Development Plan. Natural flora and fauna shall be preserved. Unless site conditions prohibit, plots shall be permitted at right angle to the road with proper shape and dimension, so that optimum use of the land is ensured.
- v. Development proposal for a part of land or khasra no. shall be considered. However, proposal for complete land holding/khasra No. shall be submitted even if planning permission is required for part of the land provided further that atleast one ROW of adequate width in view of total area of complete land holding/khasra No. shall have to be proposed to ensure access for balance area in conformity to Para 11.9.
- vi. The development of land shall not be permitted in area where basic services like paved roads, water supply, drainage, sewerage disposal, electricity, street lighting etc. do not exists or unless the applicant undertakes that these services shall be provided at his own cost.

i	Minimum width of pedestrian links to smaller cluster of plots, not exceeding 5 in number.	3.00 M.
ii	Minimum width of vehicular access, if number of plots is above 5.	5.00 M (with cul-de-sac) at the end.

Development Plan-2035

iii	Minimum area for open/green space for the scheme having more than 5 plots	10%
iv	Minimum area for soak pit etc. (irrespective of number of plots).	5% of the scheme area/ Individual septic tank and soak pit can be proposed in each plot also.
v	Orientation of the plots shall be provided in such a manner so as to be in conformity with the integration of existing plots/infrastructure, wind direction, natural flow of surface drainage to allow un-obstructed rain water discharge.	–
vi	Layout of plots shall be governed by easy access having acceptable grades minimum 1 in 15 and which may not obstruct view or vista.	–

- vii. The minimum width of road for sub-division shall be 7.00 m. However, in view of geographical constraints, width of road/ path may be relaxed to 3.00 m for maximum plot upto 5 in number. The minimum width of path/ road abutting one side of plot shall be 5.00 m to cluster of plots from 6 to 10 in number. For group of plots between 11 to 20 in number (2000 to 4000 Sqm.) on one particular access, the minimum vehicular access shall be 7.00 m wide. In case of plots exceeding 20 in number (more than 4000 Sqm.) the minimum width of road of road shall be 9.00 m.
- viii. In case of plots or land abutting the existing or proposed roads/paths, width of the same shall be increased to meet with the requirements of this Development Plan.
- ix. Average slope gradient for regional roads shall have to be 1:20 However, local roads in town may be allowed with slope gradient up to 1:10 and additional width of carriageway shall be provided on curves for ensuring smooth flow of vehicular traffic, which may not obstruct view or vista.
- x. Minimum area of plot for detached house shall not be less than 150 Sqm.
- xi. Semi-detached house construction shall be allowed on plots upto max. 250 Sqm and row housing on plots upto 120 Sqm. Subject to maximum number of such plots do not exceed 8 in row after with a gap of 7.00 m. shall be left. Although minimum size of plot for construction in a row with two common walls, has been kept as 90 Sqm., yet in exceptional circumstances, considering economic/site conditions the minimum size of



plots in a row, with two common walls, up to 60 Sqm. for houses may be allowed so as to provide smallest possible residential construction in a planned manner for the benefit of economically weaker sections of the society.

- xii. The plots allotted by the Government under Gandhi Kutir Yojna, Indira Awas Yojna, Economically Weaker Section (EWS) Schemes etc. may be considered and permission accorded in relaxation to regulations to accommodate the target groups.
- xiii. The minimum area for open or green space in a Scheme having more than 5 plots (1000.00 Sqm) shall be 10% of the scheme area. Where a sub-division of land involving plots exceeding 10 in number (2000 Sqm) by individual colonizer or any society is proposed, the provisions of parks or tot-lots and open spaces shall be made on a centre suitable location in the scheme. Such parks cannot be built upon and sold in any manner in future. Provision shall also have to be made for education, medical, firefighting, religious, socio-cultural and other community facilities, based on actual requirements, in the cases of sub-division of land in accordance with prescribed norms and standards. The ownership of such land shall be transferred/ surrendered to the Development Authority or Local Authority for its development and future maintenance. In case, basic educational facilities are available within walkable distance, reservation of area shall not be mandatory.
- xiv. While carving out the plots, orientation of the plots shall be provided in such a manner, so as to be in conformity with the integration of existing plots, infrastructure, wind direction and natural flow of surface drainage to allow un-obstructed rain water discharge.
- xv. Minimum area for septic tank and soak pit irrespective of number of plots shall be 5% of the scheme area. However, the same can also be proposed within boundary of each plot.
- xvi. Provision for rain water harvesting for surface run off other than that of structures shall have to be ensured to ease the water supply problem.
- xvii. Provision for decomposition of biodegradable waste shall have to be made in accordance with requirements of particular sub-division of land by earmarking space at suitable location.



11.11 Regulations for Each Land Use Zone

The following Regulations shall apply to each of the Land Use Zones as specified below: -

11.11.1 Residential Zone

The General Regulation as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

The plot area, maximum coverage, setbacks and maximum Floor Area Ratio (FAR) shall be as under:-

Sr. No.	Description and Minimum Plot Area	Minimum Set Backs (in Metre)				Maximum Floor Area Ratio	Maximum Height in Metres*
		Front	Left	Right	Rear		
1	2	3	4	5	6	7	9
1.	Detached Houses						
	(i) 150 M ² to 250 M ²	3.00	1.50	1.50	1.50	1.75	18.00
	(ii) Above 250 M ² to 500 M ²	3.00	2.00	2.00	2.00	1.75	18.00
	(iii) Above 500 M ²	5.00	3.00	3.00	2.00	1.75	18.00
2.	Semi-detached Houses with common wall on one side						
	Upto 120 M ²	2.00	1.50	-	1.50	1.75	18.00
	Above 120 M ² to 250 M ²	2.00	1.75	-	1.50	1.75	18.00
3.	Row Houses with common wall on two sides						
	90 M ² to 120 M ²	2.00	Nil	Nil	1.50	1.75	15.00

Notes:

- i. Maximum width of path/road abutting one side of plot shall be 3.00 m. In case the plot is located on existing or proposed roads/path having following Right of Ways, the front set back shall be left as under:-
- ii. No projections and opening shall be provided on the sides of common wall, in case of row housing and semi- detached housing. However, the owner of the plots of either side shall have an option to construct a common wall.



11.11.2 Commercial Zone

The General Regulation as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

The minimum Plot Area, minimum Set Backs and maximum Floor Area Ratio (FAR) for the construction in this zone shall be as under:-

Sr. No.	Description and Minimum Plot Area	Minimum Set Backs (in Metre)				Maximum Floor Area Ratio	Maximum Height in Metres*
		Front	Left	Right	Rear		
1	2	3	4	5	6	7	8
1.	Booths upto 10 M ²	1.00	Nil	Nil	Nil	-	4.00
2.	Shops						
	(i) Above 10 M ² to 30 M ²	2.00	Nil	Nil	1.00	-	6.00
	(ii) Above 30 M ² to 100 M ²	2.00	Nil	Nil	1.00	1.75	9.00
		3.00	Nil	Nil	1.50	1.75	12.00
	(iii) Above 100 M ² to 250 M ²	4.00	1.50	1.50	2.00	1.75	15.00
	(iv) Above 250 M ² to 500 M ²						
3.	Shopping Complex						
	(i) 500 M ² to 1500 M ²	5.00	3.00	3.00	3.00	1.75	18.00
	(ii) Above 1500 M ² to 4000 M ²	10.00	5.00	5.00	5.00	1.75	18.00
		12.00	7.50	7.50	6.00	1.50	18.00
	(iii) Above 4000 M ²						
	Parking						
	(i) 500 M ² to 1500 M ²	= 1.50 ECS per 100 M ² of built up area					
	(ii) 1500 M ² to 4000 M ²	= 2.00 ECS per 100 M ² of built up area					
	(iii) Above 4000 M ²	= 3.00 ECS per 100 M ² of built up area					
4.	Tourism Unit						
	(i) 250 M ² to 500 M ²	3.00	2.00	2.00	2.00	1.75	18.00
	(ii) Above 500 M ² to 1500 M ²	5.00	4.00	4.00	3.00	1.50	18.00
		7.50	5.00	5.00	4.00	1.50	18.00
	(iii) Above 1500 M ²						
	Parking						
	(i) 250 M ² to 500 M ²	= 1.00 ECS per 100 M ² of built up area.					
	(ii) Above 500 M ² to 1500 M ²	= 1.50 ECS per 100 M ² of built up area.					
	(iii) Above 1500 M ²	= 2.00 ECS per 100 M ² of built up area.					
	(iv) Tourism Units, can be known by the name of Hotel or Guest House or Eco-Tourism or by any other name.						
	(v) In existing built up areas like Bazaars, the building line can be maintained.						

Development Plan-2035

5.	Cinema / Cineplex 4000 M ² and above	15.00	7.50	7.50	6.00	1.50	18.00
	Parking (i) 3.00 ECS per 100 M ² of built up area (ii) Other Regulations as per Cinematography Act shall also apply.						
6.	Multiplexes 4000 M ² and above	15.00	9.00	9.00	9.00	1.50	18.00
	Parking (i) Permissible within the complex. (ii) Parking space to be provided within Multiplex @ 3 ECS for every 100 M ² of built up area. (iii) Other Regulations as per Cinematography Act shall also apply. (iv) Multiplex complex shall mean an integrated entertainment and shopping centre/ complex having at least 2 Cinema Halls. The minimum area on which this use shall be permitted should not be less than 4000 M ² . Apart from Cinema Halls, the Multiplexes may also have Restaurant, Fast Food, Outlet, Pubs, Health Spas/ Centers, Hotels and other Re-creational activities. The shopping center may have Retail Outlet, Video Games, Parlours, Bowling Alleys, Health Centers, Shopping Malls, Office space.						
	Note:- 1.00 ECS (Equivalent Car Space) shall mean as under:- (i) For parking in open = 23 M ² (ii) For parking in stilts or ground floor = 28 M ² (iii) For parking in basement floor = 32 M ²						
7.	Multi-level parking						18.00
	(i) 500 M ² to 1500 M ²	5.00	3.00	3.00	3.00	1.75	18.00
	(ii) Above 1500 M ² to 4000 M ²	10.00	5.00	5.00	5.00	1.75	18.00
	(iii) Above 4000 M ²	12.00	7.50	7.50	6.00	1.50	

***Note.—The Maximum height of building further be depicted by the General Regulation clause No 2.**

The Hotels/Guest Houses shall be permitted provided following regulations:-

1. The proposed Guest Houses/Hotels must have a vehicular access at least with a width of not less than 3.00 M.
2. Each suit shall have an attached independent toilet.
3. If a commercial building/plot abuts on two or more streets (path/road building/ plot shall be deemed for the purpose of this regulation to phase upon the street (path/road) that has greater width.



4. Maximum width of path/road abutting one side of plot shall be 3 meters.

11.11.3 Industrial Zone

The General Regulation as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

Type of Industry, minimum Plot Area, minimum Set Backs, maximum Floor Area Ratio(FAR) and maximum height of building:-

Sr. No.	Type of Industry and Minimum Plot Area	Minimum Set Back in Metres				Maximum FAR	Maximum Height in Metres from Mean Sea Level above 1000M
		Front	Left	Right	Rear		
1.	2.	3.	4.	5.	6.	7.	9.
1.	Small Scale Industries 250 M ² to 500 M ²	3.00	2.00	2.00	2.00	1.75	12.00
2.	Service/ Light scale Industries Above 500 M ² to 1000 M ²	5.00	2.00	2.00	3.00	1.50	12.00
3.	Medium Scale Industries Above 1000 M ² to 5000 M ²	10.00	5.00	5.00	5.00	1.25	15.00
4.	Large and Heavy Scale Industries Above 5000 M ²	15.00	7.50	7.50	7.50	1.00	15.00

Note:-

1. Service area required for pharmaceutical units or such type of Industries under requirement of Goods Manufacturing Practice (G.M.P) shall not be included for calculation of FAR, provided it is only used for utilities and services but not in any case for production.
2. For ancillary uses like security post/room shall be allowed in setback area i.e. one wall shared with the boundary wall and shall be counted in the FAR.
3. Minimum width of path/road abutting one side of plot shall be 3.00 M for small scale industries and 5.00 M for others.



11.11.4 Public and Semi Public Zone

The General Regulation as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

i. Minimum area of plot

The minimum area of plot shall depend on the specific requirements; however it should not be less than 150.00 Sqm.

ii. Maximum number of storeys

For public and semi-public buildings, maximum number of storeys shall be 4+1 mandatory parking floor. The short fall in parking, if any, shall be met out in open area, over land above the setbacks.

iii. Maximum height of building.

The maximum height of public and semi-public buildings shall be 18.80 m (including 2.50 m maximum height of sloping roof and 2.70 m height of compulsory for parking floor).

The maximum coverage, setbacks and FAR shall be as under:-

Sr. No.	Description	Maximum coverage	Minimum Setback (m)				Maximum FAR
			Front	Left	Right	Rear	
1.	Educational Buildings	40%	8.00	2.50	2.50	2.50	2.00
2.	Police Station, Fire Station Buildings	40%	8.00	2.50	2.50	2.50	2.00
3.	Medical Buildings	40%	8.00	2.50	2.50	2.50	2.00
4.	Community Hall	40%	8.00	2.50	2.50	2.50	2.00
5.	Library/Religious Buildings	40%	8.00	2.50	2.50	2.50	2.00
6.	Government-Semi Government Offices Buildings	40%	8.00	2.50	2.50	2.50	2.00

Note: -

- (i) Up to 50% of open area shall be utilized for open parking and rest shall be landscaped.
- (ii) Minimum width of path/road abutting one side of plot shall be 5.00 m.



- (iii) In case of petrol/diesel filling stations, the layout plan/norms prescribed for setbacks etc. by the Indian Oil Corporation (IOC) shall be adopted. However, on National Highway and State Highways the front setback shall be kept 8.00 m If rear and side setbacks are not mentioned on the layout plan of (IOC), then the sides and rear setbacks shall be kept as 2.00 m
- (iv) In the case of godowns for Liquefied Petroleum Gas (LPG) cylinders. The norms as prescribed by the Oil and Natural Gas Commission (ONGC) shall be adopted. However, on National Highway and State Highways the front setback shall be kept 8.00 m from acquired width of the Highway. If the rear and side setbacks are not mentioned on the layout plan of (ONGC), then the side and rear setbacks shall be kept as 2.00 m
- (v) In case of existing institutional buildings, Government and Semi-Government Office buildings in Zones, other than this Zone, the permission on special grounds may be given by the Competent Authority, to construct such institutional buildings according to the requirements and Regulations of that particular Zone.
- (vi) Every plot should have minimum vehicular access of 5.00 m

11.11.5 Traffic and Transportation

The General Regulation as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

- i. In case of construction of any building incidental to traffic and transportation use, such as, convenient shopping, hotel/ dhabas, ware-housing, waiting hall, etc. the Regulations as applicable to Commercial Zone shall also be applicable to this Zone.

11.12 Risk Based Classification of Buildings

In order to mitigate any disasters, risk based buildings have been classified in three categories namely,-

- i. High Risk Buildings
- ii. Moderate Risk Buildings
- iii. Low Risk Buildings

Risk Based Classification of Buildings



Development Plan-2035

Sr. No.	Risk	Buildings	Planning Permission Time *
1	2	3	4
1.	Residential Buildings		
(a)	High	Group Housing Schemes, above 3 Storey buildings, buildings on slopes more than 30°, any building raised on landfill, reclaimed land, buildings 2.00 M above the Highest Flood Level (HFL) upto a distance of 10.00 Metre, buildings with communication towers and buildings falling under the corridor of HT/LT lines.	Within 60 days.
(b)	Moderate	All 2-3 storey buildings, buildings on slopes above 15° and upto 30°.	Within 30 days.
(c)	Low	Single Storey Buildings Constructed On Slope Less than 15°.	Within 20 days.
2.	Commercial Buildings		
(a)	High	Commercial Shopping Complexes, Multiplexes, Tourism Units, Marriage palaces, Automobile Showrooms, any building raised on landfill, reclaimed land, buildings within the minimum setback from HFL as prescribed in respective DPs, buildings with communication towers and buildings falling under the corridor of HT/LT lines.	Within 60 days.
(b)	Moderate	Double storey shops	Within 30 days.
(c)	Low	Single storey shops	Within 20 days.
3.	Industrial Buildings		
(a)	High	Buildings above two storeys, any building above 10 meters height, any building raised on landfill, reclaimed land, buildings within the minimum setback from HFL as prescribed in respective DPs, buildings with communication towers and buildings falling under the corridor of HT/LT lines.	Within 60 days.
(b)	Low	Single storey buildings of 10 meters or less than 10 meters height.	Within 20 days.
4.	Public and Semi-Public		
(a)	High	All buildings except for the buildings mentioned under Low Risk category	Within 60 days.
(b)	Low	Toilets, rain shelters, pump houses and crematoriums.	Within 20 days.
5.	Mixed Land Use Buildings		
(a)	High	All buildings.	Within 60 days.

- As amended from time to time by the State Govt.

Note:-



- (i) The High Risk category of constructions will be supervised by the Registered Private Professionals and the Structural Safety Certificate & Design will be submitted by the Registered Structural Engineers.
- (ii) The Moderate Risk and Low Risk Category buildings would be given fast track approval.

11.13 Other Regulations

Regulations for Solar Passive Building Design, for Development of Barrier Free Environment for the Persons with Disabilities in Public and Semi Public Building & Re-creational Areas within the limits of Economic Capacity, for collection of Rain Water Harvesting, for Development of Apartments and Colonies in Real Estate Projects and for Installation for Communication Towers shall be as prescribed in the Himachal Pradesh Town and Country Planning Rules, 2014.

11.14 Fire and Life safety

The provisions of fire and life safety as enshrined in the National Building Code of India, 2016 shall be applicable to buildings having height of 15.00 Meter or above and having floor area more than 500 M² on any one or more floors and in case of Institutional Buildings it shall be applicable to the buildings having height of 9.00 Meter and above.

11.15 Relaxations

In the public interest and in the interest of town design or any other material consideration the Competent Authority may relax minimum size of plot, setbacks and Floor Area Ratio (FAR). The decision of the Competent Authority shall be final.

11.16 Parks and Open Spaces

The General Regulations as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

In case of construction of any building incidental to parks and open spaces use, such as, public toilets, fast food kiosks, stadium, sports room etc. the Regulations as applicable to the Public and Semi-Public Zone as envisaged under Regulation 11.11.4 shall also be applicable to this Zone.

11.17 Agriculture

The General Regulation as laid down under para 11.9 shall be kept in view while permitting any development in this Zone.

- i. Sub-Division of land in this Zone shall be allowed only for agriculture purposes and for the purposes incidental to agriculture use.
- ii. The predominant land use will remain agriculture. However, mixed land use shall be permitted on special grounds by the competent authority.

11.18 Regulations for Landing and Take- Off Sites (No Construction Zone)

There are defined sites for take-off at Billing and landing at Bir for paragliding. There is take off zone marked at 300 m radius from the take-off point at Billing. Similarly, an area marked on proposed land use map as landing zone where no- construction/ addition alteration shall be allowed in this zone. Khasra numbers identified for landing site, and take- off sites are mentioned in Annexure- 1. No construction zone is subject to acquisition of land by the State Government.

Provision of utilities may be specially permitted in these zones by the concerned authorities. Landing and Takeoff sites are marked on Map-7.

11.19 Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines.

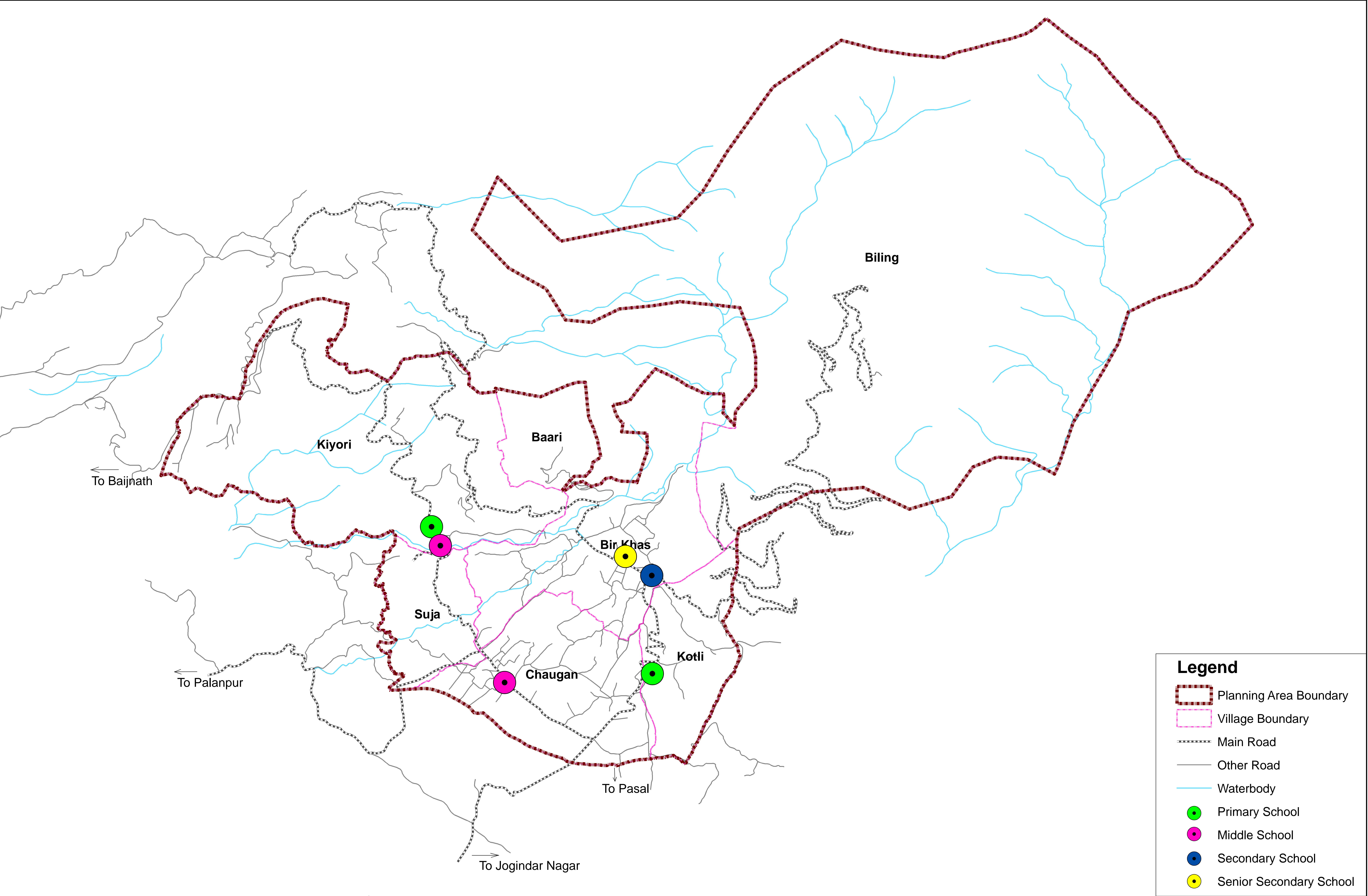
In case of any clarification with reference to any provision or if there is no any specific provision, the provisions as envisaged in the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, 2015 of the Government of India or the National Building Code, 2016 of India shall have to be adhered to.

Development Plan-2035

Annexure 1 Detail of Khasra Nos. for Landing and Take-off sites (Existing & Proposed)

Sr. No.	Name of Site	Detail of Khasra No.	Remarks
1.	LANDING SITE (Existing)	Mohal Suja, Khasra Nos. 432, 416, 381/394, 382/94, 395, 396, 397, 398, 399, 400, 405, 406, 415, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 428, 429, 430, 435, 436, 436/1.	Already Acquired.
	LANDING SITE (Proposed)	Mohal Suja, Khasra Nos. 408, 409, 410, 411, 412, 413, 434, 437, 438, 439, 443, 445, 446, 447, 448, 449, 449, 450, 451, 452, 469. Mohal Chowgan, Khasra Nos. 176, 177, 178, 179, 186, 187, 188, 189, 191, 192, 193, 194, 195, 196, 197, 198/1, 204, 206, 207, 209, 209, 210, 220, 221, 222, 223, 224, 225, 229, 230, 232, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 246, 252, 253, 254, 255, 255, 256, 256, 257, 257, 258, 258, 259, 259, 260, 260, 262, 262, 263, 264, 265, 266, 267, 268, 269, 269, 270, 271, 271, 273, 273, 274, 275, 277, 278, 279, 281, 281, 282, 282, 283, 284, 285, 285, 286, 287, 287, 288, 288, 290, 290, 291, 291, 292, 293, 294, 295, 296, 297, 298, 301, 302, 303, 304, 305, 306, 307, 308, 310, 310, 311, 311, 312, 313, 313, 314, 316, 317, 317, 319, 319, 320, 322, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 336, 338, 339, 342, 346, 347, 348, 349, 350, 351, 352, 353, 355, 356, 374, 376, 376, 377, 379, 383, 383, 390.	Subject to acquisition of land by the State Government.
2.	TAKE OFF SITE (Existing & Proposed)	Mohal Billing, Khasra Nos. 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 484, 493, 492, 486, 485, 487, 483, 482, 481, 512, 480, 479, 478, 477, 476, 475, 474, 473, 472, 466, 467, 471, 470, 469, 468, 465, 488, 489, 490, 491, 528(Part), 529, 519(Part), 531, 532(Part),	Subject to acquisition of land by the State Government.





Legend

Planning Area Boundary

Village Boundary

Main Road

Other Road

Waterbody

Primary School

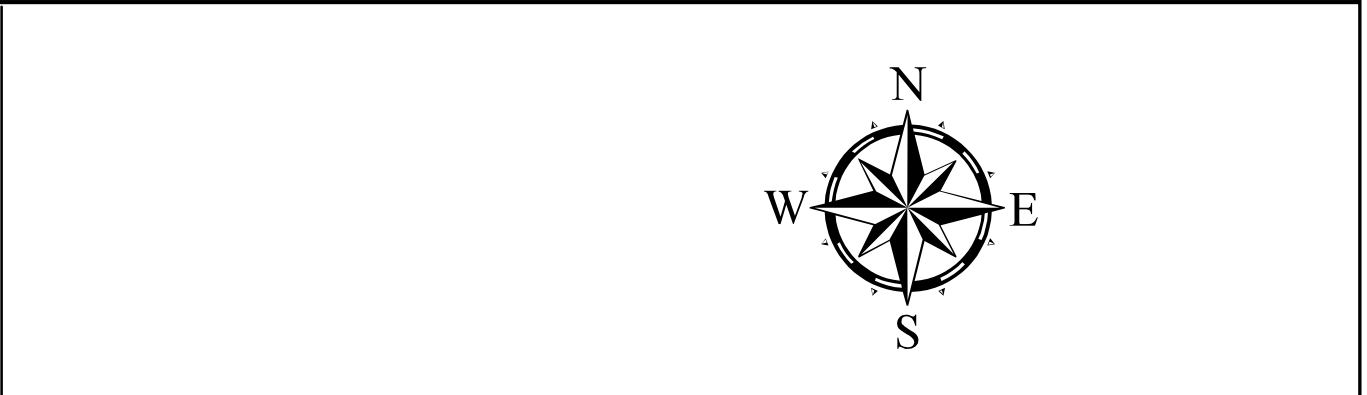
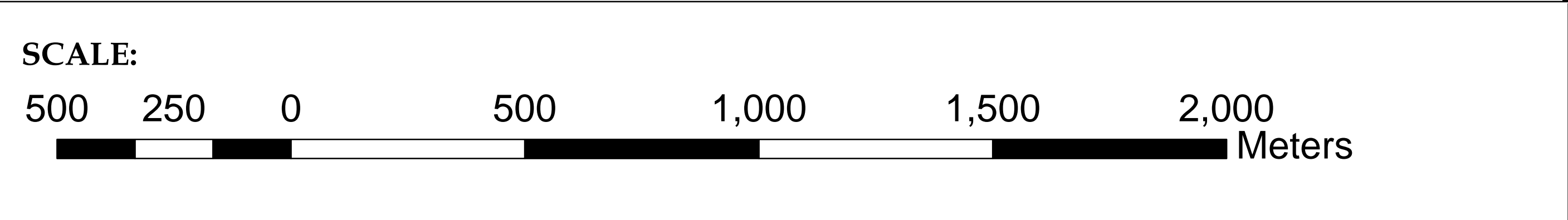
Middle School

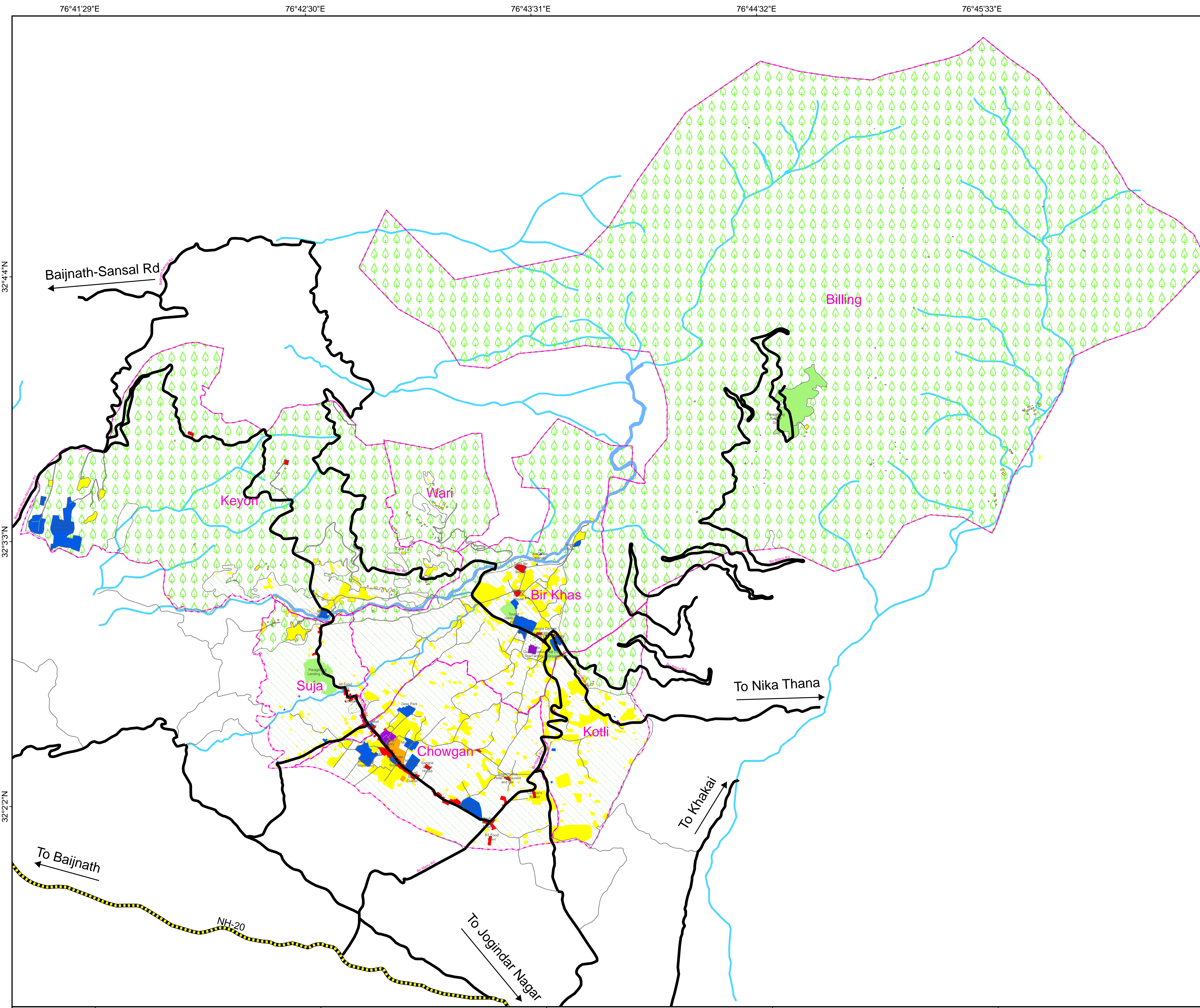
Secondary School

Senior Secondary School

PROJECT NAME:
DEVELOPMENT PLAN FOR BIR BILLING SPECIAL AREA 2035

DRAWING TITLE :
EDUCATION FACILITY 2016





BIR BILLING

SPECIAL AREA

EXISTING LAND USE-2016

Legend

Developed

- Residential
- Commercial
- Mixed Landuse
- Public Semi-Public
- Industrial
- Recreational

Undeveloped

- Agriculture
- Forest
- Tea Garden
- Waterbody

Transportation

- NH-20
- Major Road
- Local Street

Boundary

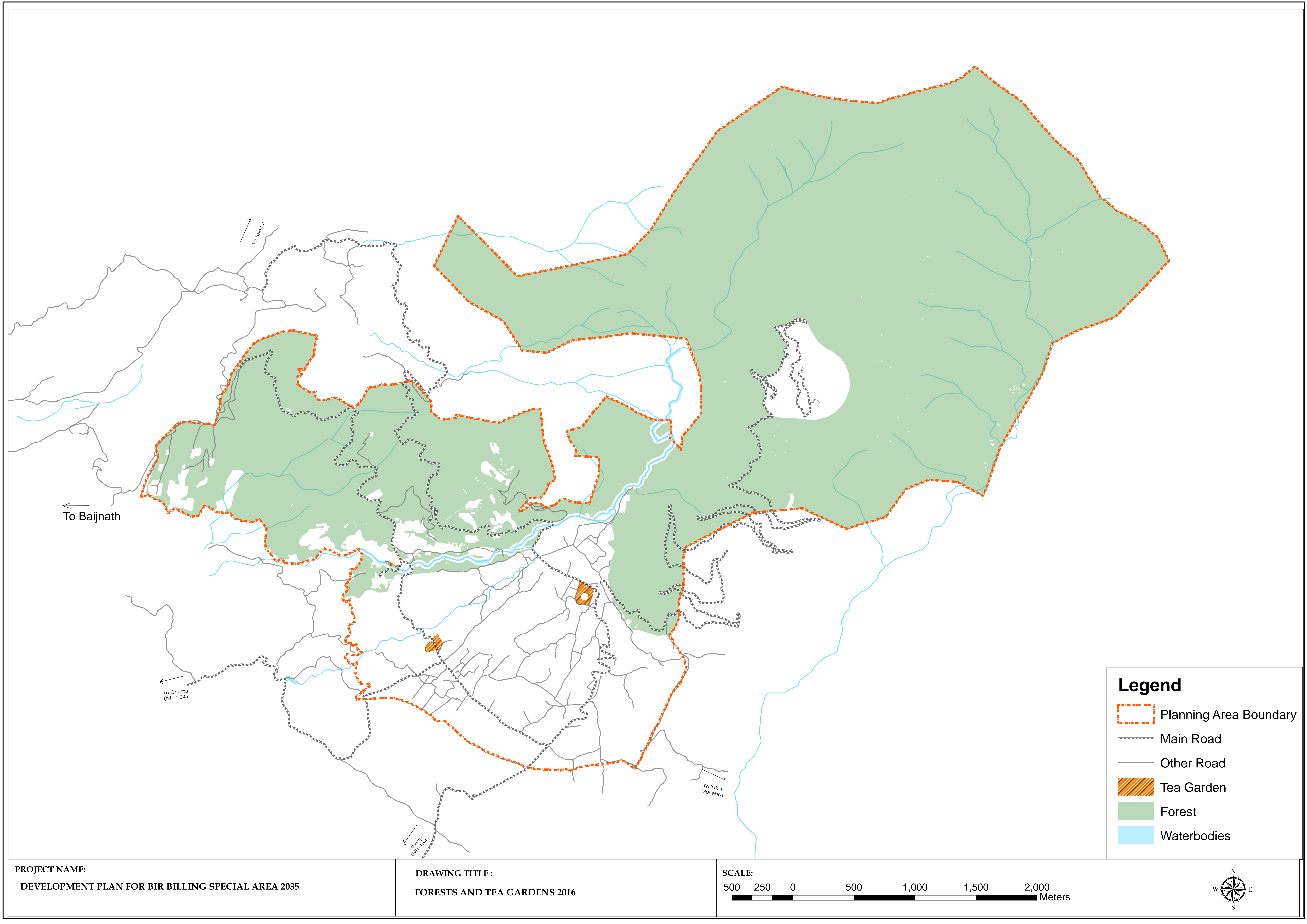
- Special Planning Area
- Village Boundary

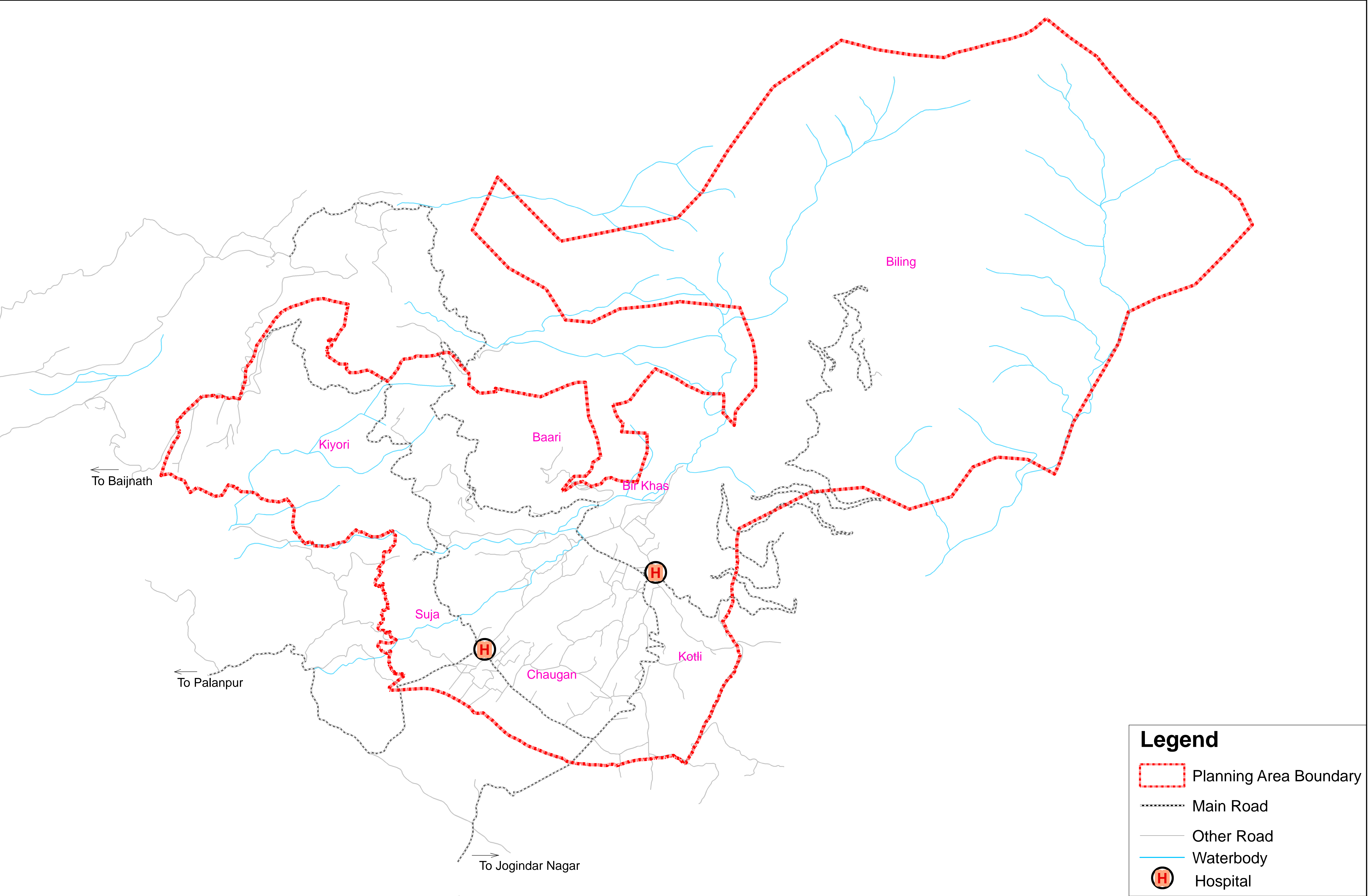
Scale:

0 125 250 500 750 1,000 Meters

Department of
Town & Country Planning
Govt. of Himachal Pradesh

PLANNING OFFICER, PALAMPUR	TOWN & COUNTRY PLANNER, DHARAMSHALA	STATE TOWN PLANNER, SHIMLA	DIRECTOR TOWN & COUNTRY PLANNING, SHIMLA
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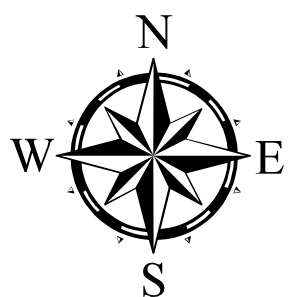


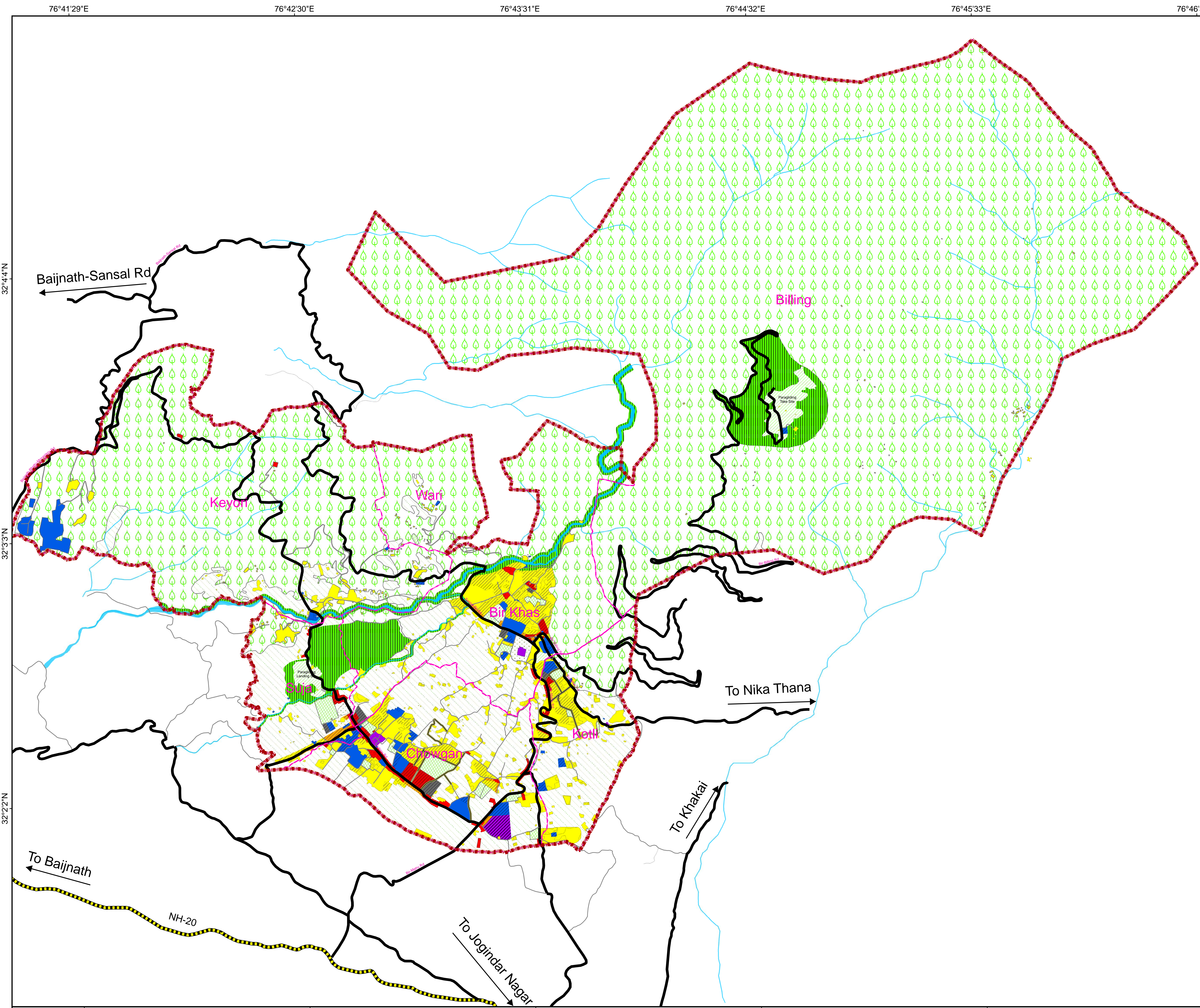


PROJECT NAME:
DEVELOPMENT PLAN FOR BIR BILLING SPECIAL AREA 2035

DRAWING TITLE :
HEALTH FACILITY 2016

SCALE:
500 250 0 500 1,000 1,500 2,000 Meters





BIR BILLING

SPECIAL AREA

PROPOSED LAND USE: 2035

Legend

Existing Land Use

- Residential
- Commercial
- Industrial
- Mixed Use
- Public Semi-Public
- Recreational
- Utility
- Agriculture
- Tea Garden
- Forest
- Waterbodies

Proposed Land Use

- Residential
- Commercial
- Industrial
- Mixed Use
- Public Semi-Public
- Recreational
- Utility
- Proposed Roads
- Parking
- Environment Sensitive Areas/ Paragliding Zone

Transportation

- NH-20
- Major Road
- Local Street
- Proposed Road

Boundary

- Planning Area
- Village Boundary

Scale: 0 125 250 500 750 1,000 Meters

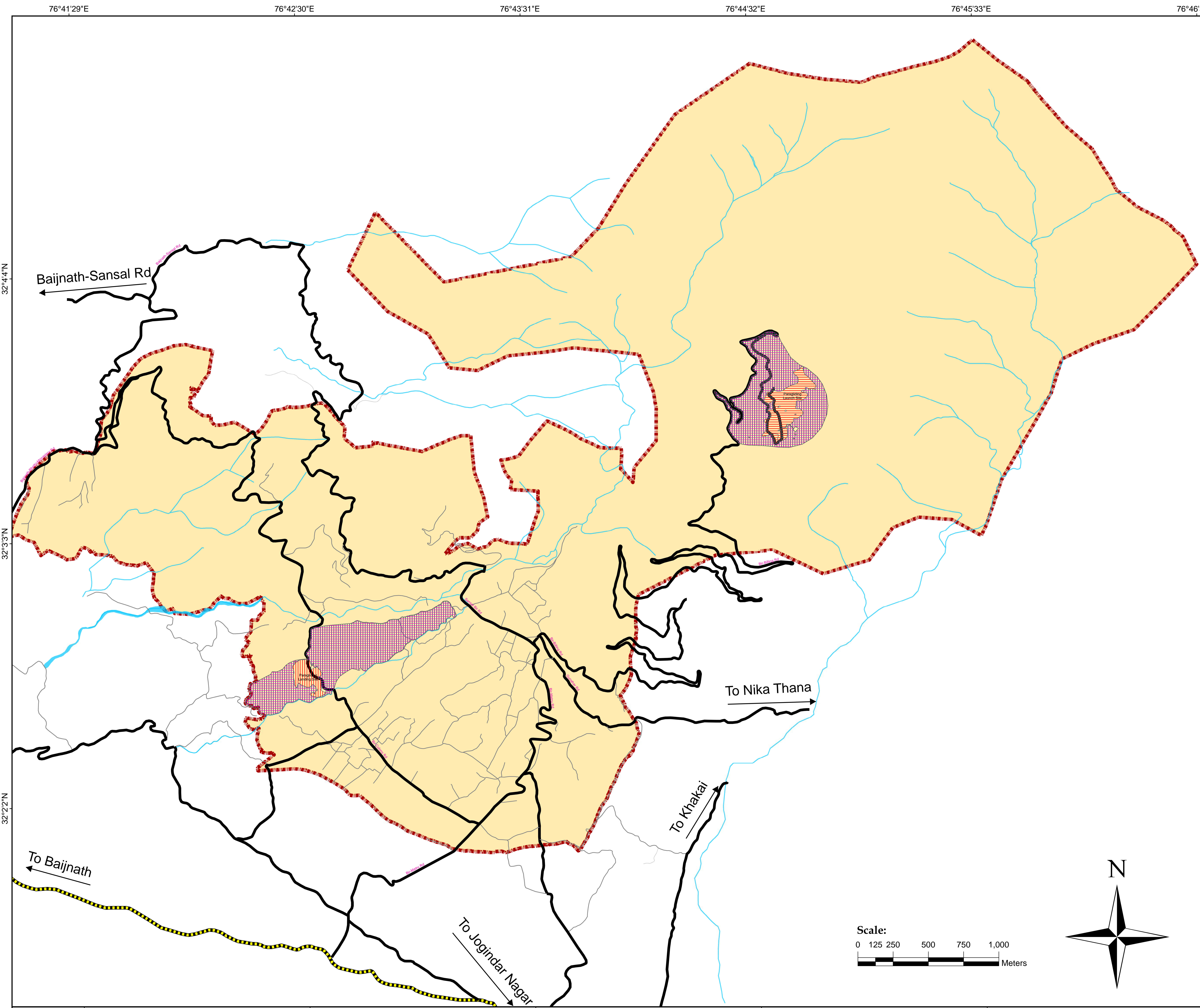
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PLANNING OFFICER,
PALAMPUR

TOWN & COUNTRY PLANNER,
DHARAMSHALA

STATE TOWN PLANNER,
SHIMLA

DIRECTOR
TOWN & COUNTRY PLANNING
DEPARTMENT, SHIMLA




BIR BILLING

SPECIAL AREA

PROPOSED LAND USE: 2035

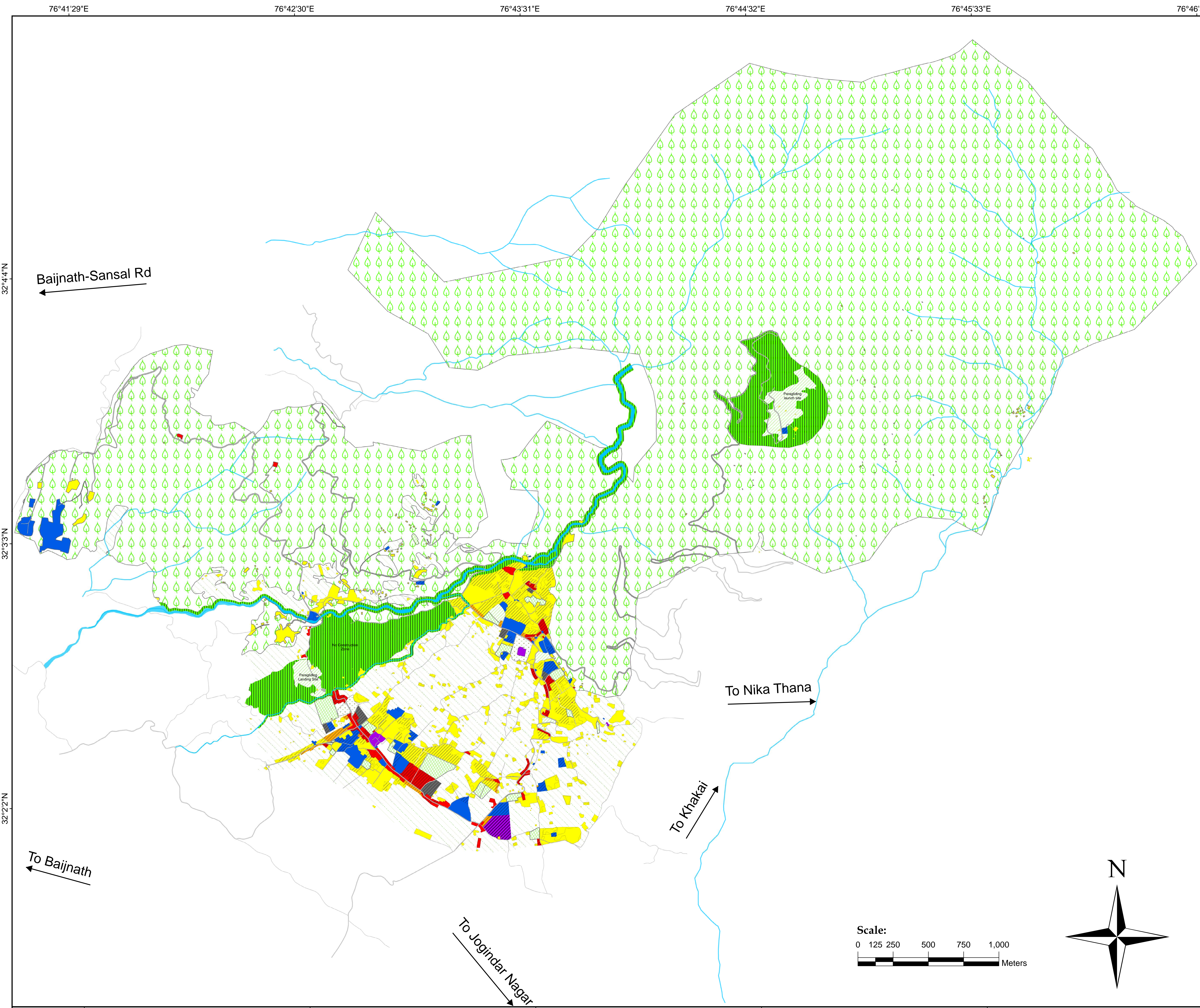
- Legend**
- Paragliding Landing Site
 - No Construction Zone
 - Paragliding Landing Site
 - Sub Arterial Road
 - Major Road
 - Local Street
 - Waterbody
 - Special Planning Area

Scale: 0 125 250 500 750 1,000 Meters



Department of
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Govt. of Himachal Pradesh

ASSIST TOWN PLANNER, DHARAMSHALA	TOWN & COUNTRY PLANNER, DHARAMSHALA	STATE TOWN PLANNER, SHIMLA	DIRECTOR TOWN & COUNTRY PLANNING DEPARTMENT, SHIMLA
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BIR BILLING

SPECIAL AREA

PROPOSED LAND USE: 2035

Legend

Existing Land Use

- Residential
- Commercial
- Industrial
- Mixed Use
- Public Semi-Public
- Recreational
- Utility
- Roads
- Agriculture
- Tea Garden
- Forest
- Waterbodies

Proposed Land Use

- Residential
- Commercial
- Industrial
- Mixed Use
- Public Semi-Public
- Recreational
- Utility
- Proposed Roads
- Parking
- Environment Sensitive Areas/
No Construction Zone

Transportation

- Sub Arterial Road
- Major Road
- Local Street
- Proposed Road

Boundary

- Planning Area
- Village Boundary



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