TDCP
TOURISM DEVELOPMENT CORPORATION OF PUNJAB

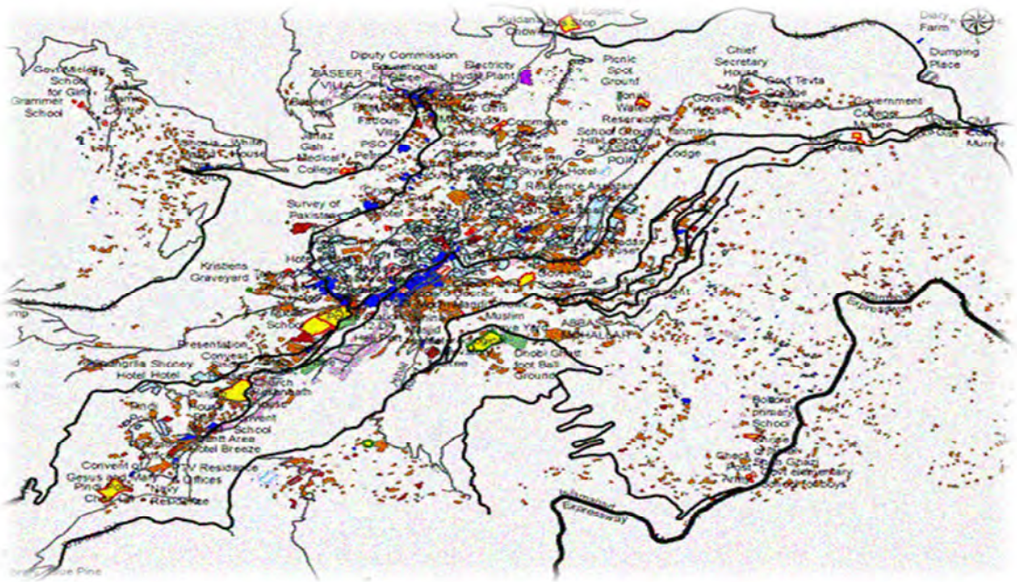
MASTER PLAN TO DEVELOP MURREE A POLLUTION FREE TOURIST TOWN 2031

JUNE, 2013

SECTOR ACTION PLANS

Volume 3







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ACRONYMS & ABBREVIATIONs:

ADB	Asian Development Bank
BCR	Benefit Cost Ratio
BFSR	Build Finance Share revenue
BOO	Build Own Operate
BOOT	Built Own Operate Transfer
BOT	Built Operate Transfer
BRT	Bus Rapid Transit
BTO	Build Transfer Operate
C & W	Communication & Works Department
CBD	Central Business District
CCB	Citizen Community Board
CDG	City District Government
CNG	Compressed Natural Gas
DCO	District Coordination Officer
DDO	Deputy District Officer
DDO	Drawing and Disbursing Officer
DFID	Department for International Development
DG	Director General
DO	District Officer
DOC	District Officer Coordination
DOP	District Officer Planning
DRTA	District Road Transport Authority
EDO	Executive District Officer
EPI	Environmental Performance Index
EPD	Environmental Protection Department
ESRI	Developers of ARC GIS Software
EOBI	Employees Old Age Benefit Institutions
F&P	Finance & Planning
GIS	Geographical Information System
GPS	Global Positioning System
GoPB.	Government of Punjab
GoP.	Government of Pakistan
HP&EP	Housing Physical & Environmental Planning Department
HOV	High Occupancy Vehicle
IUCN	International Union for Conservation of Nature & Natural Resources
KPK	Khyber Pukhtoon Khawa
LG&CD	Local Government & Community Development
LRT	Light Rail System
MD	Managing Director
MIS	Management Information Systems
MIT	Murree Improvement Trust
MKDA	Murree Kahuta Development Authority
MKR	Murree Kohala Road
MoE	Ministry of Environment

MoT	Ministry of Tourism
MS	Municipal Service
MSC	Murree Steering Committee
MTDF	Medium Term Development Framework
MOV	Medium Occupancy Vehicle
MVA	Motor Vehicles Act
MVO	Motor Vehicles Ordinance
MVR	Motor Vehicles Rules
MVT	Motor Vehicle Tax
NHA	National Highway Authority
NHSO	National Highways Safety Ordinance
P&D	Planning and Development
PCU	Passenger Car Unit
PEPA	Pakistan Environmental Protection Agency
PHE	Public Health Engineering Department
PHATA	Punjab Housing and Town Planning Agency
PLGO	Punjab Local Government Ordinance
PPA	Pakistan Participatory Poverty Assessment
PPP	Public Private Partnership
PRTB	Punjab Road Transport Board
PTDC	Pakistan Tourism Development Corporation
PTA	Provincial Transport Authority
ROT	Rehabilitate Operate Transfer
ROW	Right of Way
SOV	Single Occupancy Vehicle
SP	Spatial Planning
SPV	Special Purpose vehicle
SWM	Solid Waste Management
TEPA	Traffic Engineering Planning Agency
TDCP	Tourism Development Corporation Punjab
TMA	Town Municipal Administration / Tehsil Municipal Administration
TOR	Terms of References
TOD	Transit Oriented Development
TPU	Transport Planning Unit
UC	Union Council
UIPT	Urban Immovable Property Tax
PUU	Punjab Urban Unit
UN	United Nations
UNEP	United Nations Environment Program
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agency
WTo	World Tourism Organization
WWF	Worlwide Fund for Nature

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CHAPTER 1: PATHWAY TO IMPLEMENTATION; SECTOR ACTION PLANS

1.1 THE GOAL:

Promoting tourism in Murree by developing "an eco-friendly urban tourism niche" to sustain rich ecological and exquisite scenic characteristics of the town and improving the livelihoods of local population along with conservation of natural resources

1.2 THE GUIDING PRINCIPLES:

- To maintain and enhance existing tourism activities / facilities / development and make tourism an instrument for generating employment, alleviating poverty and increasing foreign exchange earnings, by addressing the core issues.
- To incorporate environmental dimension into planning of development activities on a hill station with due considerations to the future projections.
- To regulate development activities in a way to minimize unnecessary adverse impacts on the natural landscapes, surrounding areas and the environment i.e. nurturing the pristine hills.
- To facilitate the local population to get employment in tourism and tourism related business, by engaging local manpower in development and promoting the techniques of local craftsmanship.
- To improve the existing built environment by applying the knowledge of visual design elements, thus giving the place a character of its own.
- To improve levels of visitors' satisfaction in the Murree region, by transforming it from a nostalgic Murree to the gifted Murree i.e. bring back the original charms.
- To enhance and conserve the region's natural; heritage and cultural assets so as to make the region diversified in attractions and take the benefit of avoiding visitors' congestion on the Mall Road only.
- To encourage productivity of the local crafts and small industries, by proposing flower, local crafts and other hawker's items displayed at properly planned but economically feasible ways. This would eliminate the street congestion made by hawkers.
- To enhance coordination between public & private sectors and upgrade resources to ensure desired standards of quality services.
- To plan to cater/accommodate increasing number of domestic and foreign tourists by channelizing traffic without disturbing the natural beauty and tranquility of the area.
- To make use of the feasible urban design strategies to attain the target of developing leisure areas with a desired level of spaciousness, accessibility and visual pleasantness.

- To tackle spatial inefficiencies so as to avoid long travelling distances and times which negatively impact the area and cause urban densification with more efficient public transportation

1.3 STRATEGIC DIRECTIONS:

1. Promoting eco-tourism by developing "an eco-friendly urban tourism niche" with a "pragmatic policy vision" to appropriate rich ecological, cultural, heritage and inherent exquisite scenic characteristics of the town.
2. Planning for the residential / commercial, leisure, heritage and green precincts while catering for the needs of permanent / transient residents as well as biodiversity, in an environmentally sustainable manner.

1.4 KEY FOCUS AREAS FOR ACTION:

Sustainable Land use Planning	Sustainable Tourism	Transport Planning	Infrastructure Development	Sustainable Environmental Planning	Urban Design
Disaster Risk-Resilient Land Use Planning	Promoting Eco-tourism	Demand Management	Promoting green infrastructure	Solid Waste Management	Improving façade's and visual hierachy
Exploring Growth Opportunities along Corridors	Tourism Marketing & Promotion	Transportation System Management	Support rainwater harvesting	Water resource management	Visual harmony and Oneness
Geology Supported Land Use Development	Standards & Accreditations	Walkability	Strengthening of TMA	Environmental Pollution Control	Reducing Cluttered Vision
Built Heritage Conservation	Tourist Information System	Multi Modal Mobility Option	Equitable Supply	Conservation of flora/fauna	Improving Street Furniture
Urban Regeneration	Public Facilities / Tourism Infrastructure	Parking Demand Management	Improving Quality of Services	Forest Conservation in Murree	Harmonized Thematic Development
Land Use Growth Policies Complementing Tourism/ Economy	Facilitating Investment: Public & Private	Freight Movements & Terminals	Enhacing Efficiency through fair pricing	Control of Soil Erosion and Land sliding	Historic Conservation
Environmentally Sustainable Land Use Planning	Exploring Livelihood Opportunities in Tourism Industry	Enhancing Efficiency through Right of Ways Protection & Rehabilitation	Ensuring Conservation	Biodiversity Conservation	Restoring Lost Visual Assets of the towns

1.5 WHY ACTION PLANNING?

An important issue concerning this Master Plan is how it will be implemented after it is approved, notified and adopted. For effective implementation of the goals and policies of this Master Plan, it is imperative to identify the types of actions actually required. It would be also useful to determine the priority and timing of the actions so the appropriate resources may be allocated.

1.6 IMPLEMENTATION STRATEGY:

To ensure effective implementation of the Plan, three types of actions are suggested.

- *Regulatory support*
- *Policy formulation*
- *Identification of specific schemes/projects*

Regulatory Support:

Any plan cannot achieve its targets without effective regulatory reforms which prepare a suitable ground and provide legal support for the process of Plan implementation. For effective realization of the Plan, all regulations concerning urban and tourism development, natural resource management and municipal services will need to be consistent with the policies and strategies recommended by the Plan. For this purpose, all departments/organizations in Murree will be expected to review and improve their regulations and rules to achieve these goals. For example, the Plan recommends the introduction of new mixed-use zoning regions. It is quite different from the City's existing urban zones and it will need a major change in existing land use byelaws. In general, it is suggested that revisions in rules and regulations should occur immediately after the formal approval of the Plan. However, these changes may be implemented in phases where necessary.

Policy Formulation:

To achieve the targets of the Plan, different policy decisions will be required by the Plan Implementation Committee (PIC) and its sub-ordinate bodies/departments. The PIC will regularly monitor the implementation of the Plan and will continually suggest policy proposals to further improve the process of implementation of the Plan. It will also make policies to remove any hurdles or bottlenecks appearing in the implementation process. The concerned departments/agencies will make decisions regarding development proposals. It is however recommended that all policies should be made in accordance with the framework suggested by the Plan.

Programs:

The Master Plan provides a frame work for identification of new schemes/projects necessary to achieve the targets of the Plan in different sectors. These programs and projects have different levels of priority according to the concerned issues. These programs will start at different times and their durations are also variable. Some programs will involve only one or two departments whereas some will require input from multiple agencies.

Summary of Key Strategies:

This Environmental Action Plan is responsive to the Master Plan Environmental Strategic Directions and will help to drive and implement environmental sustainability initiatives across different sectors. This Summary of Priority Actions is intended to focus the Master Plan's efforts on actions that should be taken as soon as possible to ensure that future decisions are aligned with the policies contained in this Plan. Several of the priority actions highlighted below are already underway or are anticipated to be underway shortly following the adoption of the Plan. Priority Actions should be reviewed and updated periodically to reflect the City's accomplishments, available resources, and potential shifts in policy direction.

The following table describes the key areas of environmental management and relevant strategies mentioned in the Master Plan.

1.7 ACTION PLAN MATRIX:

The Action Plan Matrix provides a detailed list of the actions needed to implement the Plan, by chapter. The matrix indicates the type of actions that will be required to implement the policies, and the priority of the actions to be initiated. City staff and planning officials will need to update this matrix on an annual basis, or as necessary, to keep the responsibilities and actions current.

The Action "Type" column lists four possible categories of actions:

R – Regulatory, requiring amendments to the City's development regulations.
PD – Policy Decisions, to be implemented during day-to-day policy decisions by staff, Planning Commission, and the Board of Supervisors.
PR – Programs, to be implemented by new or ongoing programs needed to carry out the goals of the Plan.
P- Projects

The "Priority" column lists four possible time frames for implementing actions:

E-Emergent Priority actions are to be implemented with adoption of the Plan or soon thereafter.
S-Short Priority , to be initiated as soon as possible and completed within one to two years after Plan adoption.
M-Medium Priority, to be completed within three to five years after Plan adoption.
L-Long are actions that occur continually throughout plan period.

Basis of Cost Estimates:

The basis of cost estimates in this document is experience gained from similar kind of projects executed elsewhere in Pakistan and some international practices done in the areas sharing the same socio-economic base and physical characteristics. These are just the tentative estimates (not design based) and are subject to realization on actual implementation and designing of individual components. All the prices are based on year 2011 for estimation.

1.7.1-ACTION PLAN FOR ENVIRONMENTAL MANAGEMENT:

ENV-1 SOLID WASTE MANAGEMENT

Implementation of a municipal waste management system in Murree that maximizes cost effective and environmental outcomes. It is based on the strategy/policies as mentioned in the Master Plan by engaging all relevant participants in solid waste management including solid waste generators, public sector agencies, private sector and the informal sector in an integrated manner. The key processes associated with ISWM include waste segregation, efficient collection, secondary collection/transfer and disposal. It also focuses on reduction in the solid waste stream and recovery of useful materials through 3R concept (reuse, recycle and recovery).

STRATEGY/ACTION (relevant policy)	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSIBILITY	FINANCING SOURCE
Segregation/Storage of Waste					
Banning of open dumping of solid waste or in vacant plots/water drains alongwith fine impostion.	R/PD	E/S	TMA/EPD	TMA	--
Compulsory provision of marhed waste bin both for organic/inorganic (15-20 lit) for the temporary storage of domestic waste for each house (approx 4500 households) and larger bins (100-150 lits) for multi-storey buildings. Special biodegradable plastic bags will be provided to each house for storage of waste which will be placed in bin.	PR/PD	E/S	TMA	TMA	TMA by collection of fees / taxation
Use of Large containers (100-150 lit matching with the transportation system of TMA) for storage of waste by hotels/restaurants.	PR	S/M	TMA	TMA	TMA by collection of fees / taxation
In vegetable market/slaughter house, introduction of covered large size containers (4-5 cu.m) for the storage of waste and the shopkeepers will be charged for this service	PD/PR	S	TMA	TMA	TMA by collection of fees / taxation
Mandatory use of color coded bins for the storage of clinical waste from Hospitals/clinics and clinical laboratories according to the regulations of EPA and health department.	R/PD	S	TMA/Health/EPD	EPD/TMA	TMA
For removal of garden waste such	PR	M	TMA	TMA	TMA

as grass cutting, fallen tree branches, large plastic/jute bags will be used and these will be shifted by TMA or private contractor to the composting site on weekly basis.					
Gradual introduction of separate storage of organic and inorganic waste by homes/shops and hotels etc	R/PD	M	TMA	TMA	TMA
Collection of waste					
Collection of waste directly from homes and shops by mid sized waste truck (5 cu. m capacity) in specific areas with already notified schedule. The crew of the truck will include one driver and 3-4 waste-lifters who will shift the waste from each home/building into the truck. All waste collecting workers will be provided with protective clothing, gloves and training in safety and hygiene. Three (5cu. M.) waste trucks will be used (each truck can cater upto 350-400 homes in a single round).	PR	S	TMA	TMA	TMA by collection of fees / taxation
The collection of waste will be scheduled as on daily basis for a home/building in low density areas (MIT colony, Lower Jhika Galli, Kashmiri Bazaar, Bansra galli, Chitta Mor) during high-tourist pressure months (June-September & December-January) and on alternate days in low-tourist pressure months.	PR	S	TMA	TMA	TMA by collection of fees / taxation
In busy commercial areas such as Mall Road, Lower Mall, Sunny Bank, Jhika galli, Kuldana etc, waste will be collected by covered pickups (Suzuki, Hundai Shehzore; One ton capacity) at least twice a day (before opening of shops in morning and at night).	PR	S	TMA	TMA	TMA by collection of fees / taxation

FULL-COST RECOVERY Collection of waste from hotels. The hotels will be encouraged to segregate their waste at source by using large size bio-degradable plastic bags.	R/PD	M	TMA	TMA	TMA by collection of fees / taxation
Collection of waste from vegetable/fruit market and transportation by closed-transfer-vehicles (hydraulic pick up 1.5 ton).	PR/P	S	TMA	TMA	TMA by collection of fees / taxation
The waste from slaughter house and poultry market will be collected in a scientific manner (in closed container vehicles) and it should not be mixed with municipal waste. It will be disposed off in an adequate manner such as by incineration or by using different parts (skins/bones) for relevant industries.	PR/R	S	TMA/livestock	TMA/Livestock	TMA by collection of fees / taxation
Sweeping of streets and roads					
Regular daily sweeping of all public roads and streets having houses, shops or other commercial activity on one or both sides of the road.	R/PD	S	TMA	TMA	TMA
Each sweeper will be equipped with proper uniform, long handled broom, metal tray and metal plate, handcart with 4-6 removable containers or wheel barrows. The sweepers will be allotted fixed lengths of roads/streets for sweeping according to housing density or commercial activity. The following rough guidelines may be considered while allocating workload to sweepers during peak tourist season. 1. *Roads in High density area (Mall road, Caurt road, Lower Mall,*	PR	S/M	TMA	TMA	TMA/CDG

Kuldana-Sunny Bank road, Kashmir Point) 300 to 400 running meters (RMT) of road length, *2. Roads/streets in medium density area= 400-600 meters (Kashmiri bazar, Upper Jhika road)* *3. Roads in low density area = 650 to 750 running meters (Lower Jhika road, MIT colony etc)*					
For open areas, each sweeper may be assigned 2500-3000 sq. foot of open space for sweeping per day.	P	S	TMA	TMA	TMA
In the Mall and Lower mall, Kashmir point and at Pindi point, mechanical sweeping will be introduced. Road cleaning vehicles (Road vacuum sweeping Machine, at least two in number) will be used.	P	S	TMA	TMA	Taxation by TMA
The existing facilities to clear roads during snow fall will be further improved by providing necessary equipment, vehicles and manpower.	PR	S	TMA/Highway	TMA/Highway	TMA / Highway
Provision of Litter Bins					
In busy areas such as Mall, Lower Mall, Pindi Point, Kashmir Point, JhikaGalli and Sunny Bank, Kuadana etc liter bins (30-40 lit) will be placed at a distance of 25-50 meters. In other areas, the distance between bins will range from 100-200 meters according to the need. These bins will be of modern design to prevent wetting of waste in case of rain.	P	S	TMA	TMA	TMA
To minimize the cost of procurement and placement of these bins, TMA Murree will enter	PR	S	TMA	TMA	Private sector / TMA

into an agreement with a private firm for procurement and placement of bins. The sponsoring firm may be allowed to put its name on bins as sponsor or it may be allowed to use these bins for publicity for a specific period.					
Establishment of temporary waste storage/transfer stations for storage of solid waste collected from homes/shops or from public bins for subsequent transportation. These transfer stations will be established in Dhobi Ghat, Sunny Bank, Bansra Galli, Lower Jhika galli, Kashmir point. (as shown in map)	PR	S/M	TMA	TMA	TMA/CDG
In highly congested areas such as Mall and Lower Mall, where there is shortage of space for large containers, small vehicles such as pickups with covered containers (1 ton capacity) will be used for direct collection of waste. These vehicles will stay at specific points for waste collection and be rotated with specific time intervals.	PR	S	TMA	TMA	TMA by charging fee / tax
Transportation of waste					
The transport of waste will coincide with the collection and storage system in Murree. To avoid spillage of waste and health hazards to workers, manual handling of waste will be replaced in a phased manner, with direct lifting/emptying of containers by hydraulic systems or direct loading into transport vehicles.	R/PD	M	TMA	TMA	GoPb / CDG / TMA
The frequency of transportation will be planned according to the load of waste production in the area. • *Containers which are*	P/PR	S	TMA	TMA	GoPb / TMA / CDG

required to be cleared more than once a day (e.g; Sunny bank, Kuldana, Kashmir/Pindi points) • *Containers which are required to be cleared once a day (e.g; Lower Jhikagalli road, MIT colony etc)* • *Containers to be cleared on alternate days (Minor roads)* • *Containers which take longer time to fill and need clearance twice a week (along walking treks, parks)* For collection of waste from these containers, arm roll trucks (5 cu m) will be used.					
For Final Collection of Waste (from the Temporary storage depots to the disposal station), Bulk Refuse Carriers (dumpers) will be employed (two 8 cu m).	PR	S	TMA	TMA/CDG	GoPb / CDG
Establishment of properly equipped workshop with trained manpower and adequate facilities for repair/maintenance of vehicles for waste collection and transportation	PR	M	TMA	TMA	TMA / GoPb / CDG
Solid Waste Treatment/Disposal *(E.1.12)*					
An integrated solid waste treatment/material recovery facility will be established (preferably along N-75 after careful site assessment) with the help of private sector. This complex should include: ➢ *Office* ➢ *Data collection and research section* ➢ *Space for vehicles, and*	P/PR	S/M	TMA	TMA	GoPb

➢ *Area for composting/bio-methanation and recycling units.* • The following criteria should be followed for the selection of site for ISWT plant; ➢ *At least 500 m from a populated settlement,* ➢ *200-300 m from highway,* ➢ *At least 500m from a protected area,* ➢ *At least 300 m from wetland, public park or reserved forest; and* ➢ *At least 500 m from water supply source.*					
For biodegradable organic waste, composting and bio-methanation are commonly used options. Composting unit needs relatively large areas whereas bio-gas unit occupies smaller area; an important issue in Murree. Another option for treatment of organic waste is **Plasma Thermal Gasification** (*a new, non-incineration thermal process which uses extremely high temperatures to completely decompose input waste material, thereby providing substantially less contamination of all environments. Plasma gasification can achieve a very high rate of volume and weight reductions with shredded MSW).* It can also dispose bio-medical waste also. It has high environmental value regarding reduction in waste and very low green house gas emissions but it is expensive in economic and	PR/P	S/M	TMA / Public Health	TMA / Public Health	GoPb / P&D

technological terms. However, by considering the unique nature of ecosystems and environment in Murree, it can be considered as a viable option. To make it economically more feasible, this facility may be used for disposal of bio-medical waste from Rawalpindi/Islamabad.					
In order to create awareness among public to cultivate better civic sense, TMA/TDCP/Health Department will hold seminars, put up hoarding boards at various public places, distribute informative leaflets and celebrate Clean & Green Murree Week etc. *(E.1.16)*	PR/P	S/M	TMA / TDCP / Health Department	TMA	TMA
In addition to publicity and education campaigns, TMA will develop and implement a system of fines/penalties for non-compliance of its SWM policies/rules for individual and commercial sections.*(E.1.14)*	R	S	TMA	TMA	TMA

ENV-2 SANITATION

Development of a sanitation system in Murree that is socially, environmentally and economically sustainable and effectively managed to maintain adequate standards of Public Health and Environment. 100% coverage of the sanitation facilities (sewerage system, rainwater management, public toilets) to all parts of Murree. This service should be developed and managed in such a manner that all domestic and commercial sewerage water is disposed into piped drains and then into sewers which discharge it into treatment facility. This facility should be established outside Murree to treat sewage according to national standards before its final release into streams and drains.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSIBILITY	FINANCING SOURCE
Waste Water (Sewerage) Management					
Progressive development of separate networks for disposal/reuse of rain water and isolated safe handling of sewerage water *(E.2.5)*	PR	M/L	TMA	TMA	GoPb / P&D

Establishment of 2-3 primary sewerage treatment plants to receive/treat sewage from: ➢ One for MIT colony/Lower Jhika Galli road ➢ One for Kuldana/main city centre/sunny bank (near Chitta Mor) *(E.2.8)*	PR/P	S/M	TMA / PHED	TMA	GoPb / P&D
TMA will develop, communicate and enforce byelaws for monitoring and regulation of on-site sanitation and regulation of sewage disposal. *(E.2.9)*	R	S	TMA	TMA	TMA
Cleaning of Drains *(E.2.6)*					
Regular cleaning of drains/nullahs to avoid clogging of drains by solid waste tipping,	PD/P	S/M	TMA / PHED	TMA / PHED	Taxation by TMA
The shallow surface drains (upto 1meter depth) will be cleaned by sanitary workers manually but for deeper drains, drain cleaning vehicles will be used.	PR	S	TMA	TMA	TMA / P&D / GoPb
Quick removal of the silt/material collected after cleaning of drains to avoid nuisance.	PR	S	TMA / PHED	TMA / PHED	TMA
Public Toilets *(E.2.7)*					
Implementation of a plan to provide public toilets at all points with high tourist population and commercial activity	PR	S	TMA	TMA	Charging fee from users
Provision of public toilets in all areas to achieve a target standard (access within every 500 m along main roads and commercial centers).	P/PR	S	TMA	TMA	Charging fee from users
Construction of 20 public toilet blocks with 200 toilet seats (for male & female) at Mall road, Lower Mall, Caurt road, Sunny Bank, Kahsmir/Pindi points,	P	E	TMA	TMA	Charging fee from users

Kuldana & Jhika Galli .					

ENV 3.POLLUTION CONTROL

The main objectives of this plan are to protect the clean and fresh air of Murree from various threats such as vehicular emissions, burning of fossil fuels etc; Monitor the changes in air quality of Murree with increase in traffic volume and climate change impacts and suggest measures for mitigation of problems of air and noise pollution in future.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSIBILITY	FINANCING SOURCE
Air Pollution Control					
Establishment of a centre to monitor parameters of air quality (NOx, SO_2, PM_{10}, O_3, Benzene, CO, CO_2, Heavy metals) and noise levels in Murree on permanent basis *(E.3.5)*	PR	M	TMA/EPD	TMA/EPD	P&D / GoPb
Procurement and installation of permanent air quality analyzers at busy intersections such as Bus stand, Sunny bank, Kuladana, JhikaGalli, Mall road and Lower Topa. (*E.3.5)*	PR/P	M/L	EPD/TMA	TMA/EPD	GoPb
Regular checking of public and private vehicles for their emissions and vehicles emitting pollutants above permissible levels will be fined or charged. It will provide incentives to local residents and tourists to use fuel-efficient vehicles.	R/PR	L	EPD/Traffic Police	EPD	--
Promotion of use of public transport instead of individual vehicles, *(E.3.1 & E.3.2)*	R/PR	M/L	Transport/TMA	TMA	P&D / GoPb
Greening of roads and avenues in Murree with trees/plants to offset the pressure of green house gas emissions and other air pollutants.	R/PR	S/M	Highway/TMA	Forest	GoPb

ENV 4. Conservation of Biodiversity

The action plan mainly aims atmaintenance and enhancement of the biodiversity and ecological health of Murree region. It emphasizes on conservationofecosystems of the region essential for the life support system; Preservation of biological resources of Murree; Restoration of ecological damage caused by human interaction andCreation of awareness among the people and educating them on the far reaching implications of ecological degradation and securing their active participation for the conservation

schemes.					
STRATEGY/ACTION	**TYPE**	**PRIORITY**	**IMPLEMENTATION RESPONSIBILITY**	**O & M RESPONSIBILITY**	**FINANCING SOURCE**
Habitat diversity assessment and evaluation *(E.4.3)*					
Preparation a register of habitats (size, distribution, composition, increasing/decreasing) such as aquatic, grassland, forest, ecological corridors	PR	M	Forest / Wildlife / NGO	Forest/Wildlife	GoPb / NGOS
Development of a project for categorization of uniqueness of local habitats on three levels; *international, national and regional.*	P	S	Forest/NGO	Forest/Wildlife	GoPb / NGO
Conservation of Ecosystems *(E.4.2)*					
Documentation and preservation of plant communities in lower altitude habitats (*Acacia modesta near Tret & Kathar; Oleaferroguinea on north facing slopes)* and on higher altitudes(*Pinus roxburghii & Pinus wallichiana* on highest places; Bhurban & Patriata)	PR/P	L	Forest	Forest	GoPb
Program for protection of grasses preferred for fodder (*Poa pratensis*, *Agrostis nervosa*, *Bromus* spp., *Chrysopogon gryllus*, *Arthraxon prionoides*, and *Festuca gigantean)*	PR	S/M	Agriculture/ Forest	Agriculture	GoPb
Launching of a research plan to investigate impacts of climate change on local flora and fauna as some plants (e.g; *Dodonaea viscosa*) are encroaching on hot and dry places	PR/P	L	Wildlife/Forest/ Agriculture	Wildlife/Forest	GoPb
Initiation of a program to regular monitor and conserve fauna of Murree by documenting different groups of animals and their preferred habitats	PR	S/M	Wildlife	Wildlife	GoPb

Conservation of species *(E.4.5)*					
Continuous monitoring of populations of wildlife animals (bears, jackals, civet, panther, grey goral, barking deer, jungle cat and civet etc) will be carried out using comprehensive biological methods throughout Murree region	P/PR	M/L	Wildlife	Wildlife	Wildlife
A project for *in-situ* conservation of threatened animals such as serotine, barking deer, flying squirrel, Musc shrew, Panther, grey goral, Kasmir hill fox etc will be launched on long term basis *(E.4.8)*	P	L	Wildlife/Forest	Wildlife	GoPb
Launching of a program for Conservation of birds (resident & migratory) in the region	PR/P	M	Wildlife/NGO	Wildlife	GoPb
Up-gradation of Murree Wildlife park at Bansra Galli to a regional bio-diversity centre by addition of herbarium, green house, seed bank, tissue culture facility, aviary, nursery, aquarium and ecological field studies section.	PR/P	M/L	Wildlife	Wildlife	GoPb / charging visitors
Establishment of forest/nature reserve at Bhurban and Patriata to promote conservation efforts in the region	P/PR	M/L	Forest/Wildlife	Forest/Wildlife	GoPb
A conservation project for the restoration of diminishing plant communities and species (medicinal plants, edible mushrooms, *Populus ciliata, Aesculus indica*) will be launched *(E.4.6)*	P	M	Forest/ Agriculture	Forest	GoPb
Information, awareness and education					
TDCP/FOREST/Wildlife Deptt will celebrate Forest and biodiversity Conservation Week in Murree on yearly basis to create awareness	P/PR	M	TDCP/Forest/ Wildlife	TDCP/Forest/ Wildlife	GoPb

among tourists and general public about natural beauty and biological wealth of the area and its protection *(E.4.8)*					
Introduction of capacity building programs for staff of forest/wildlife departments and other public functionaries to enable them to understand and tackle conservation issues of the area *(E.4.9)*	P/PR	S/M	Wildlife/NGO	Wildlife	GoPb
Development of education and advocacy programs of rural populations to resolve human-wildlife conflicts in rural areas	P/PR	M/L	Wildlife / Education	Wildlife	GoPb

[ENV 5]. Conservation of Forests

The forests of Murree have high importance value regarding their uniqueness, role in tourist attraction, provision of habitats for local flora and fauna and maintaining the hydrological potential of the area. This action plan has following objectives:

- *Careful management of local forests to preserve diverse indigenous flora and fauna*
- *Restoration of previously disturbed forest sections by reforestation*
- *Improve habitat connectivity between fragmented forest areas*
- *Achievement of a balance between forest conservation and livelihood of the local inhabitants*
- *Maintenance of landscape character of the forests to enhance their role in tourism and enjoyment in this rapidly growing tourist station.*

Monitoring and mitigation of future threats and opportunities for local forests such as land use changes, increased anthropogenic pressures and climate change etc.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSIBILITY	FINANCING SOURCE
Protection of Existing Forest Resources					
Strengthen forest department by increasing number of trained personnel for effective patrolling and protection of existing forests from illegal cutting, encroachment.	PD/PR	S/M	Forest	Forest	GoPb
Improvement of the current inventory and monitoring system by preparing detailed inventory of critical forest areas (e.g; shrinking moist temperate forest at Patriata) and assessing changes in forest cover at five year intervals *(E.5.11)*	PD/PR	M/L	Forest	Forest	Forest

Protection/forest conservation on private lands through incentives to landowners *(E.5.5)*	PD/PR	S/M	Forest / Agriculture	Forest	GoPb
Forest Depptt will launch a program to protect forest trees from pests/diseases/fires *(E.5.3)*	P/PR	E/S	Forest	Forest	GoPb
Restoration of Depleted Forest Cover *(E.5.4 & E.5.8)*					
Forest Department will launch a reforestation program (at least 100 ha/year planted and maintained) to restore deforested areas using indigenous tree species; *Pinus spp, Cedrus*, *Olea ferruginaea etc*	P	M/L	Forest	Forest	Forest
Full scale implementation and monitoring of Forest Department, current working Plan (1995-2023) for Coniferous forests of Murree and Kahuta.	PR	M	Forest	Forest	Forest
Provision of free seeds/saplings of trees to students, farmers and social organizations for planting of trees along roads (N-75; MKR, Rural roads) and water channels, field boundaries where gaps are present. Plantation will include mixture of conifers and broad leaved trees; Pinus on higher elevations with cooler habitat conditions and broad-leaved trees (*Olea*, *Acacia modesta, Dodonea, Willow, Populus*) on lower altitudes. In addition, palatable fodder grass species will be planted to control soil erosion.	P/PR	M/L	Forest	Forest	GoPb
Research/Human Resource Development *(E.5.10 & E.5.11)*					
Preparation of a research plan to investigate impacts of climate change on local forests as some plants (e.g; *Dodonaea viscosa; Acacia modesta*) are dominating on dry and open places	PR	M/L	Forest	Forest	GoPb
Establishment of representative,	PR/P	L	Forest	Forest	GoPb

protected forest areas for each forest type (Sub-tropical deciduous, Dry temperate, Moist temperate) and its monitoring for long time changes					
Monitoring of threats to local forests from invasive plants	PR/P	M/L	Forest	Forest	GoPb
Regular campaigns/programs for creating awareness among communities/tourists about conservation of forests will be organized (celebration of forest week, distribution of literature among tourists about forest resources & their role in eco-tourism, development of linkages between forest department, local hotel industry, NGOs, academia, politicians and farmers).	PR	S/M	Forest/Wildlife/ NGOs/TDCP	FOREST	GoPb
Strengthening of forest department in terms of additional man power, vehicles, equipment for research and fire control (jeeps, tractors, firefighting equipment, fencing material, equipment for study of forests)	PR	L	FOREST	GoPb	GoPb

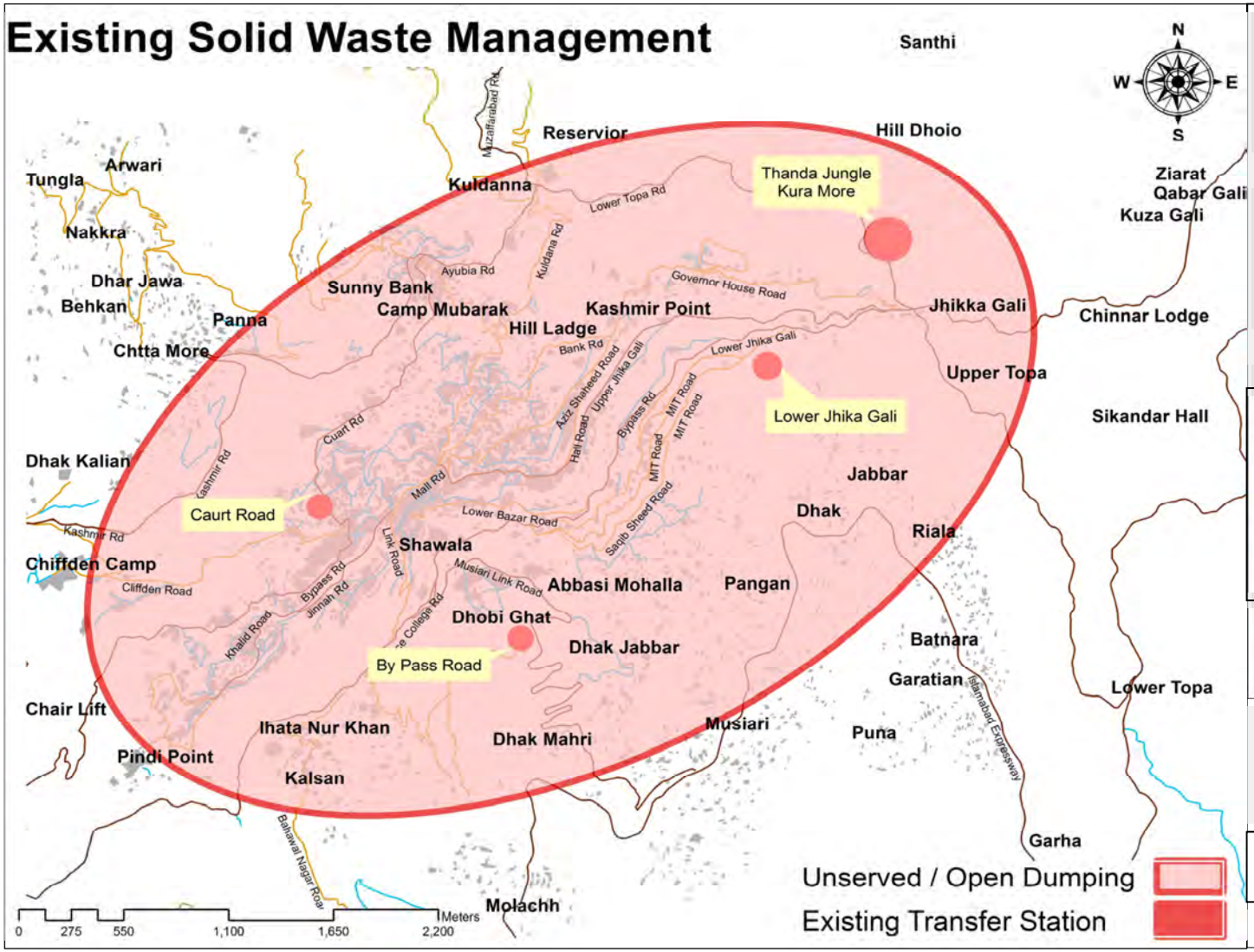
ENV 6. Soil Erosion and land sliding

Removal of vegetation cover and water runoff are main causes of loss of soil resources of Murree. Protection of plant cover, crops and management of runoff water are perquisites for soil conservation.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSIBILITY	FINANCING SOURCE
Implementation of agri-extension plan to promote terracing of crop fields to decrease the impact of runoff water on soils *(E. 6.2)*	PR	E/S	Agriculture	Agriculture	GoPb
Plantation of newly developed/bare areas with mixtures of grass (*Lolium, Poa, Cynodon*) and legume (*Trifolium*) species for provision of rapid plant cover *(E. 6.1 & 6.3)*	P/PR	E/S	Highway / Agriculture	Highways / Agriculture	GoPb
On slopes and erosion-prone areas, soil binding plant species will be planted (Alnus, grasses) on priority basis	PR	S	Forest / Agriculture	Forest / Agriculture	

Costs of Projects under Environmental Planning Component

1.	Upgradation of Bansra Galli wildlife park	PKR 100 Million
2.	Wild Animal rescue and rehabilitation centre	PKR 150 Million
3.	Ex situ breeding centre and wildlife conservation area at Bhurban / Patriata	PKR 150 Million
4.	Awareness raising/education/training program	PKR 10 Million
5.	Murree Forest Research Institute	PKR 200 Million
6.	Ethno-botanical garden	PKR 50 Million
7.	Enhancing Forest Department's fire fighting capacity	PKR 300 Million
8.	Development of an integrated Solid Waste Managmenet System (in pahses in short term on yearly basis)	PKR 250 Million



Note: These plans represent themes to be refined in further planning. Land uses, street patterns, and exact alignments in all areas are conceptual / Indicative, and to be subjected to any kind of detailed evaluation and confirmation. Under no circumstances should these plans / illustrations are construed as final representations /directives for specific sites or areas.

CONSULTANTS:

Pakistan Environmental Planning & Architectural Consultants

Planning
Architecture
Engineering Design
Environmental Studies
4th DIMENSION CONSULTING
www. 4thdimensionpk.com

CLIENT:

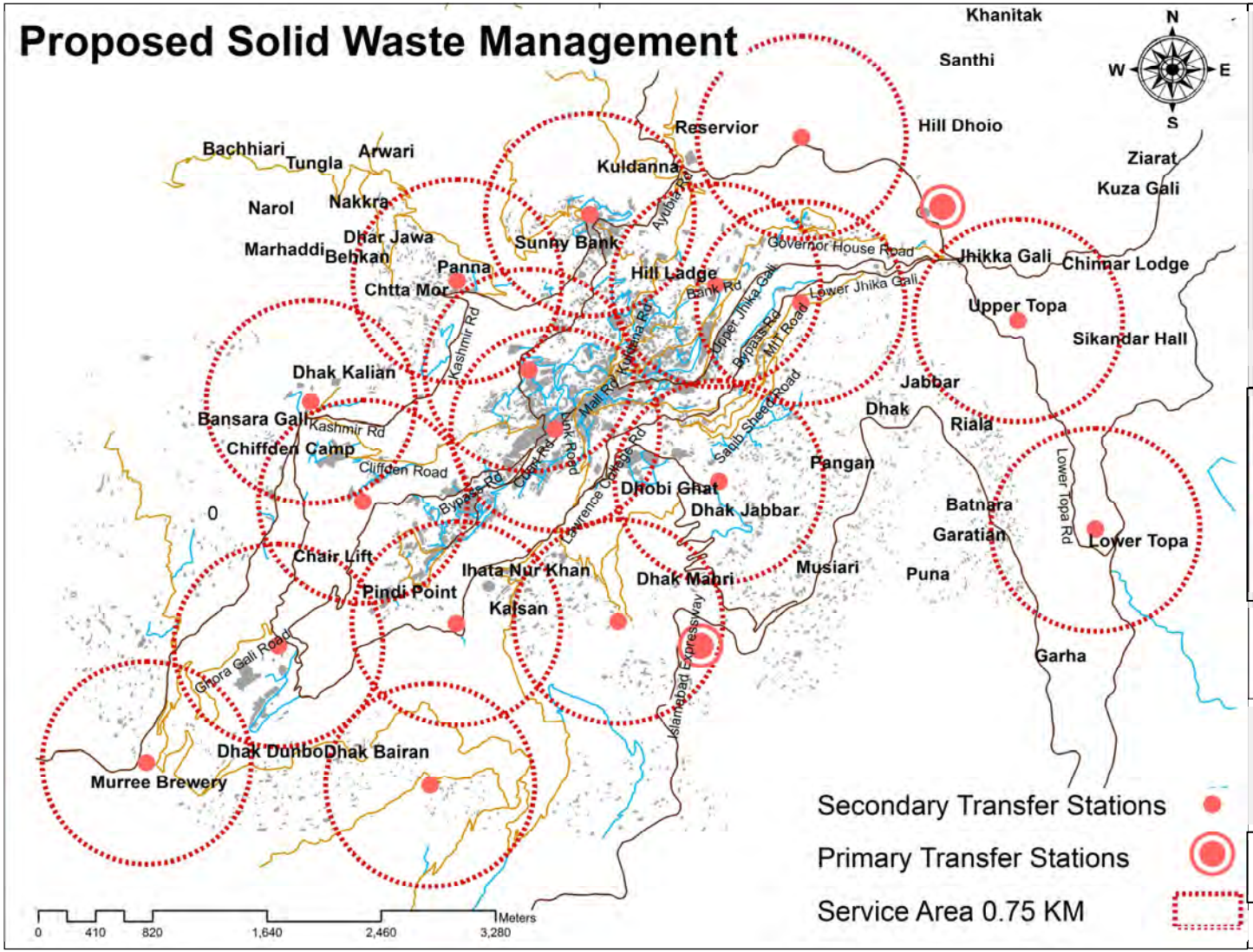
TDCP
TOURISM DEVELOPMENT CORPORATION OF PUNJAB

PROJECT:

MASTER PLAN TO DEVELOP MURREE A POLLUTION FREE TOURIST TOWN

EXISTING SOLID WASTE MANAGEMENT

SHEET # SCALE:



Note: These plans represent themes to be refined in further planning. Land uses, street patterns, and exact alignments in all areas are conceptual / Indicative, and to be subjected to any kind of detailed evaluation and confirmation. Under no circumstances should these plans / illustrations are construed as final representations /directives for specific sites or areas.

CONSULTANTS:

PEPAC Pakistan Environmental Planning & Architectural Consultants

Planning Architecture Engineering Design Environmental Studies
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TDCP
TOURISM DEVELOPMENT CORPORATION OF PUNJAB

PROJECT:

MASTER PLAN TO DEVELOP MURREE A POLLUTION FREE TOURIST TOWN

PROPOSED SOLID WASTE MANAGEMENT

SHEET #

1.7.2 ACTION PLAN FOR SUSTAINABLE LANDUSE PLANNING

[SLP-1] Disaster Risk-Resilient Land Use Planning

Developing a hierarchy of planning principles and decision making processes in high risk areas as identified in early sections of the report and further as TMA is expected to identify. Further Prohibiting certain types of new development including schools, child care centers, and health care facilities on already identified high disaster prone sites; and Declaration of risk areas on the basis of micro zonation studies that arise due to geophysical characteristics; The capacity of TMA Murree should be enhanced in terms of disaster preparedness and mitigation in coordination with PDMA.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Declaration of hazard zones (both for built up & Open area) as unsuitable for construction/urban activities as identified in the Main Report Volume1. • These zones should only be used as urban Gardens/open parks in case of open/vacant land or in proposed precincts development. • For built up areas special building regulations/design specifications to be adopted. • Comprehensive Disaster Risk Preparedness, Remediation and Mitigation Plan should be devised considering PDMA, NDMA and UN guidelines against earthquakes, flash floods, fires (Urban & Forest), riots, road accidents, land sliding, excessive snow loading event and compromised law & order. • Prohibition on certain types of new public use development including schools, child care centers, and health care facilities on already identified high disaster prone sites • Establishment of Local Safety Commission/Board engaging community and stakeholders at TMA Level • incorporation of Building Code of Pakistan Seismic Provisions 2007, before granting planning permission/ sanctioning building plan at TMA Murree level	R	S	CDG/TMA/ Punjab Urban Unit /PDMA/ Punjab Emergency Services	TMA	TMA

• Enhancement of the capacity of TMA and line departments in terms of mitigation and disaster preparedness					
2-Construction / up-gradation of Emergency Response & Relief Centers on selected areas such as Jhika Galli, Sunny Bank, MIT Colony & Bansra Galli, these include, • RESCUE 1122 centers • Model Police Station & 15 services • Fire Service center • Municipal Services Centre • Tourist Information Centre • Trauma Center in THQ Murree	P	S/M	TMA / CDG / Police / C&W / P&D / Health Dept.	TMA	GoPb./TMA

[SLP-2] Exploring Growth Opportunities / Corridors

The policy objectively focuses to direct future growth complemented with essential infrastructure to already developed areas [though in a sporadic manner] wherever possible and should continue to minimize disturbance to the natural environment thus containing the unnecessary spread of development across the landscape

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSIBILITY	FINANCING
1-Linking Bhurban – Aliyot growth corridor to Murree through up-gradation of Alyot-N75 2.9 km long link and facilitating infrastructure development to support proposed Up class residential facilities in Bhurban, aimed to house the high-end tourism services.	P	S	CDG/Highway Dept/TMA	TMA/Provincial Highways	GoPb.
2- Declaration & notification for the development of new mixed use PRECINCTS and initiate/promote onsite physical development alongwith; A- Appropriation/enforcement of building regulations as suggested in the main report. B. Appropriation of site development/ neighborhood development standards as numerically in the main report. These proposed precincts include primarily; • MIT Colony, Lawrance Road/Ihata Noor Kahn, Chitta Mor, Dhobi Ghat/Shawala, Bansra Galli, , Kashmiri Mohallah and Murre Brewery & Nambal village vicinity (See Land Use Proposal Map in main report VOL 2).	R	S	CDG/TMA/ Punjab Urban Unit/Consultants	TMA/CDG	CDG/TMA
3-Arrangements to lay infrastructure to Initiate commercial development in the proposed precincts on priority to off load urban core along with allied infrastructure	P	S	TMA	TMA	CDG/TMA

as proposed in precinct development section.					
4-Initiation of necessary institutional arrangements to cluster/consolidate all the three parts of cantonment at one place in the long run, with due consultation with the ministry of defence, in order to restore the original characteristic of this part	R	S/M	Ministry of Defence/CDG/ TMA		

[SLP-3] Emergent Management Planning Early Short Term:
Management of emergent issues in the urban core should embrace and be achieved within plan early short term (preferably in early first year of plan adoption)

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Implementation of certain actions described below to address emergent issues in the urban core on priority basis. • Encroachment identification, registration, removal and sustained control. • Devising detailed internal space standards for structures housing residential, hospitality and retail business and their internal sub-uses • Declaration of Nambal, Missiari and Ghora Galli as Urban UCs in addition to the existing one Urban UC. • Enhancing Efficiency and Mobility by inducting/rehabilitation of weather protected walkways along all arteries • Encouraging pedestrian movements through construction of vertical climbs on suitable points as identified in main text. • Declaration / development of parking facilities as identified in transportation proposals • Identify, register and compound illegally converted land uses; • Declaring the Mall, Caurt, Hall Road and Bank Road a year round pedestrianized zone • Relaxing ban for renovation/ maintenance of structures. • Traffic management planning. • Up-gradation of dilapidated Infrastructure	R/P	E/S	CDG/Urban Unit/TMA	TMA	TMA
2-Notification of roads proposed primarily	E/S	R	CDG/TMA	TMA	TMA

for FREEZING commercialization and/or conversion to the commercial uses with or without structural changes include: (Note: This does not infer that ongoing existing commercial activity is being proposed to be suspended/banned, however, the Master Plan strategic framework redirects any further commercialization to proposed areas/precincts) • The Mall and its surrounding. • Lower Bazar • Pindi Point • Kashmir Point • Bank Road • Imitiaz Shaheed Road • Hall Road • Kuldana Road • Upper & Lower Jhika Galli Roads • Along and around Jhika Galli, Kuldana, GPO, Sunny Bank Intersections • Khalid Road • Jinnah Road (Prohibited commercial uses include Shops, Markets, and Covered Shopping Malls, Workshops, Street Vending, Strip of Shops, Hotels, Food Facilities and Restaurants. However, tourist support facilities like TICs, Paid parking, IT centers, rental lodges having parking space and accommodating not more than two family accommodations per floor may be treated as permissible conforming concerned byelaws may be treated as permissible.)					
3-Reassessment of TMA leased properties and review for market based lease to improve the financial capacity of TMA	E/S	R	TMA	TMA	TMA
4-Leasing out fine collection for encroachment/building control operation to some private sector operator.	E/S	S/M	TMA	TMA	TMA
5-Necessary regulatory and management controls for the protection and long term control for right of ways	R	E/S	TMA/ Highways Dept.	TMA	TMA
6-Standardization for façade design at every level from kiosks to hotels and lodges.	P	S/M/L	TMA / TDCP/UU	TMA	TMA
7-Implementing urban design strategies / plans as recommended in the main report. (It will bring sense of places with the help	R/P	Med Long	TMA/Consultant /PPP	TMA	TMA

of private sector promotional investments)					
8-Standardization of practice for building and construction industry by implanting appropriate standards (such as ISO 9000+) to building regulations for the Murree.	**R**	S/M	TMA/ Urban Unit/PSQCA	TMA	TMA
9-Identifying/registering illegally converted land uses and further compounding them to generate revenues	R	S/M	TMA	TMA	TMA
10-Assessment of available land parcels under public holding for converting them to Parking	S	E/S	TMA	TMA	TMA
11-Encroachment removal and recovery of ROWs around Mall Road, Caurt Road, Bank Road, Kashmir Point and Pindi Point	R	S/M	TMA	TMA	TMA
12-Removal of non-conforming Kiosks/Stalls reinstallation of standardized structures on permissible sites.	R/P	E/S	TMA	TMA	TMA
13-Assessing incomplete structures for converting them to defined permissible uses	R/P	E/S	TMA	TMA	TMA
14-Creating visual vents on Mall Road by eliminating illegal structures wherever found as per TMA's registers.	R/P	E/S	TMA	TMA	TMA
15-Capacity enhancement of TMA by inducting following staff; 1- One TO (P&C) Town planner and 4 assistant Town Planners. (Each assistant town planners should be further assisted by four building inspectors. Each assistant town planners are proposed to monitor building control and development controls independently in 3 urban & rural UCs). 2-Environmentalist for Waste Management Issues 3-GIS/IT Manager with support staff 4-Tourism Specialist 5-Architect / Urban Designer 6-Forest Specialist 7-Structural Engineer 8-Geologist / Seismic Expert 9-Community Development Expert 10-Transportation Planner 11-Water Management Specialist 12-Expert to explore Public-Private Partnerships 13-Planning Law Expert 14-Estate Manager with support staff	R/PR	E	TMA/ Management Consultant	TMA/ Management Consultant	TMA
16-Re-modeling and reconstruction of Tehsil and Municipal Administration	P	S	TMA / CDG / P&D /	TMA / CDG / P&D /	TMA / CDG /

Center, having • Offices, conference room, public library, e-center and auditorium on First Floor • Reservation of all space on Ground Floor for Municipal Services Center and official/visitor Parking) at existing site GPO Chowk.			C&W /Consultant	C&W /Consultant	GoPb
[**SLP-4] Geology Supported Land Use Development** Master Plan proposes land use planning to equally respect Murree's fragile geology in an integrated and sustainable manner.					
STRATEGY/ACTION	**TYPE**	**TERM**	**IMPLEMENTATION**	**O & M RESPONSILITY**	**FINANCING**
1-Exercising land use controls on conservation of agricultural / urban forest land. • Prohibition on Forest land for any future land use conversion except extension of declared precincts and limited number of walking tracks, nature lodges and supporting facilities even built by using indigenous materials like stones, wooden logs. • Prohibition of land use conversion on agricultural except the supporting development facilities;	R	S/M	TMA/Forest	TMA/Forest	TMA
2-Establishment of a comprehensive Terrain/Geology, Slope Classification and landslide vulnerability based Zoning System in TMA Murree, by conducting micro zonation studies.	S/R	E/M	TMA/SOP/ Geology Dept/PDMA	TMA/SOP/ Geology Dept	TMA
3-Apply Height Zoning/restriction for new development as per terrain / slope classification/ micro zonation.	R	E/S	TMA	TMA	TMA
4-Maintenance of long-term slope stability includes • Monitoring of the newly permitted sites • Make sure that cuts and fills are properly engineered and appropriate for the contours of the land./ • The quality of grading and landscaping needed to prepare sites for development • Application of bio engineering techniques to safeguard slopes against failure. •	R/P	MS/M	TMA	TMA	TMA

[SLP-5] Built Heritage Conservation:

Heritage places are social, environmental and economic assets that play an important role in defining a community's character and attracting tourism especially international tourists. They help us to understand the events and people that shaped the present, and through their preservation, demonstrate how we value the past.

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Establishment and notification of a local Heritage Conservation Commission / Committee comprising of members from • Government Departments • NGOs / CBOs • Business community and declaration of heritage buildings and structures on the basis of criteria devised by local heritage conservation board and such structures may be treated as historically important building conforming all the set values.	R	E/S	CDG / TMA / NGO	CDG/TMA/ NGO	TMA
2-Development of archive for heritage and archeologically significant buildings through enlistment and field surveys.	S/R/ P	S/M	CDG/TMA	CDG/TMA	TMA
3-Strict enforcement on maintaining early street patterns, building facades in the historical precinct i.e. Mall Road, Lower Bazar areas. However, change of land use is suggested compatible to the existing development	S/R	S	TMA	TMA	TMA
4-Provision of Tax incentives for investments in preservation projects for the private sector.	R	S	TMA/PPP	TMA	TMA
5-Declaration and Rehabilitation of heritage sites such as Murree Brewery to promote heritage tourism • Relocating plan of FWO Batching Plant, operating right inside the building remains. The mechanical vibrations and vehicular movements are highly dangerous for the structural safety of the historic remains. • Local population is also contributing to its deterioration by unplugging the pitch-stones they use for construction of their houses etc.	R/P	S/M	TMA/ TDCP / Archaeology Dept.	TMA/ TDCP / Archaeology Dept.	TMA/ TDCP /Archaeology Dept.
6-Declaration of Mall Road as an historical and cultural urban hub. • Any proposed development along Mall road should be compatible	R	E/S	TMA/CDG	TMA/TDCP	TMA

to the existing land use with façade and exterior treatment in conformance to some urban design theme. • Revitalization of this precinct is advised using urban design techniques.					

[SLP-6] Urban Regeneration Strategies:

Urban regeneration is a modernistic land use planning tool which focuses on socio-economic and physical revitalization of blighted areas of the city. This regeneration tier has also been supported in Punjab Land Use (Classification, Reclassification and Redevelopment) Rules, 2009 as Redevelopment. It also helps in heritage conservation.

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Formation of detailed urban regeneration plan employing urban design modalities for Shawala, Lower Bazar, Misiari, Caurt Road and Kasmiri Mohala.	S	S/M	TMA /Consultant	TMA	GoPb.
2-Implementation of urban regeneration projects for selected historical buildings which need façade improvement besides conservation in • Shawala, Missiari, Lower Bazar, Caurt Road, Pindi Point and Mall Road of Murree	S/R/P	M/L	TMA /Consultant	TMA	TMA
3-Urban regeneration treatment to Murree Brewery Estate • Conversion of site into a Heritage Theme Park with sufficient parking facilities, restaurants, public toilets, an Art and Craft Display Centre etc. • Restoration of the Murree Brewery building in its original shape • Usage options of reuse for restored / conserved building include a Youth Hostel for Scouts Camp, an exotic hotel accommodation, a traditional European style restaurant etc. to name a few.	S/P	M/L	PPP/TDCP/TMA /CDG	PPP/TDCP /TMA	PPP/TDCP /TMA/CDG

[SLP-7] Land Use Growth Policies Complementing Tourism Economy

Tourism economy is mainly dependent on activities concentrated in urban core. The land use development control should be implemented wisely in such a way to enhance productivity of local tourism economy. It has been envisaged globally that strict landuse development regulations often prove adversely to the local economy. The implementation of proposed strategies should not discourage the economic sector investments and the users.

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Campaigns to attract investments in tourism support Infrastructure	R/PR	S/M	TDCP/TMA	TMA/TDCP	TMA/TDCP
2-Construction of state-of-the-art hospital	S/P	M	TDCP/TMA	TDCP/TMA	GoPb

to promote medical tourism.					
3-Imposition of tourism levy to support local development.	R	S/M/L	IRS	IRS	TMA
4-Provision of missing public / tourist infrastructure like weather protected walkways, rest/sit areas for elderly, vertical climbs / links to promote walkability, public lavatories and children attractions.	P	S/M	TDCP/TMA	TDCP/TMA	TDCP/TMA

[SLP-8] Land Use Planning & Urban Security

Tourist security should be a prime focus of any policies made for Murree, for this the consultants propose;

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Installation of security surveillance network at important public places and spaces in urban core It includes: • Installation of CCTV network, • Community policing, • Linking all hospitality facilities to central security network, • Uploading tourist's database to central system through interactive data links to ensure security of guests against criminals.	P	E/S	TMA / Police/ Community	TMA / Police	TMA/TDCP
2-Desig/installation of Tourism infrastructure in such a way to enhance physical security of elderly tourists against slippery events during rain and snow fall.	S/P	E/S	TMA/TDCP	TMA/TDCP	TMA/TDCP

[SLP-9] Environmentally Sustainable Land Use Planning:

To control environmental degradation in existing landuse structure of the town, for such purposes a comprehensive environmental management / monitoring plan should be exercised across the board. This plan should embrace air quality, waste generation, reduction, recycling and treatment options, water resource and use management and energy efficiency. This plan should be made an integral part of TMAs building bye laws.

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Preparation and enforcement of comprehensive environmental management / monitoring plan to control environmental degradation in the existing land use structure of the town.	S/R	S/M	TMA/ Urban Unit / Forest Dept./EPD	TMA/EPD	TMA/EPD
2-All proposed development from the developer side will furnish the; • Project based EIAs as per EPD's laws (as per declaration of Murree an environmentally	R	S/M/L	TMA/CDG /EPD	TMA/EPD	TMA/EPD

protected area) • Environmental monitoring and management plans (EMMP) for both construction and operation phases.					
3-Initiating campaigns to reduce environmental stresses in Murree and also to promote resource and energy efficiency through • Media • Arranging workshops • Occasional promotional walks • Involving local and tourist communities (This will support the vision of devising policies for both the Place & People.)	PR	E/S/M/L	TMA/EPD/CBO/ NGO	TMA	TMA/EPD/ CBO/NGO
4-Delineating, declaring and conserving Urban Green Precincts (Urban Forests) in additions to the already notified forests in Murree as suggested in land use proposals and initiating projects to promote nature lodging and trekking in these precincts MAP	R	S/M	TMA / Punjab Urban Unit/FOREST	TMA/FOREST	TMA/FOR EST
5-Promoting/achieving energy efficiency through public facilitation and building bye-laws and gradually imposing fines on inefficient structure and energy use	PR/P	S/M/L	TMA /EPD	TMA /EPD	TMA /EPD
6-Engaging professional horticulture firm for Promoting Urban Gardening, it will help in enhancing nature and food security.	S/PR	E/M/L	TMA /Horticulture	TMA /Horticulture	TMA /Horticult ure
7-Imposition and collection of fine on removal of green cover/tree/plant cutting for any non-permitted development.	R	S/M/L	TMA/EPD	TMA/EPD	TMA/EPD
8-Development of a local business model/standardization with the help of environmental management consultants for the promotion of Green Economy.	S/PR/R	Med Long	EPD/TMA/CDG	EPD/TMA/ CDG	EPD/TMA/ CDG

[SLP-10] GIS for Urban Management

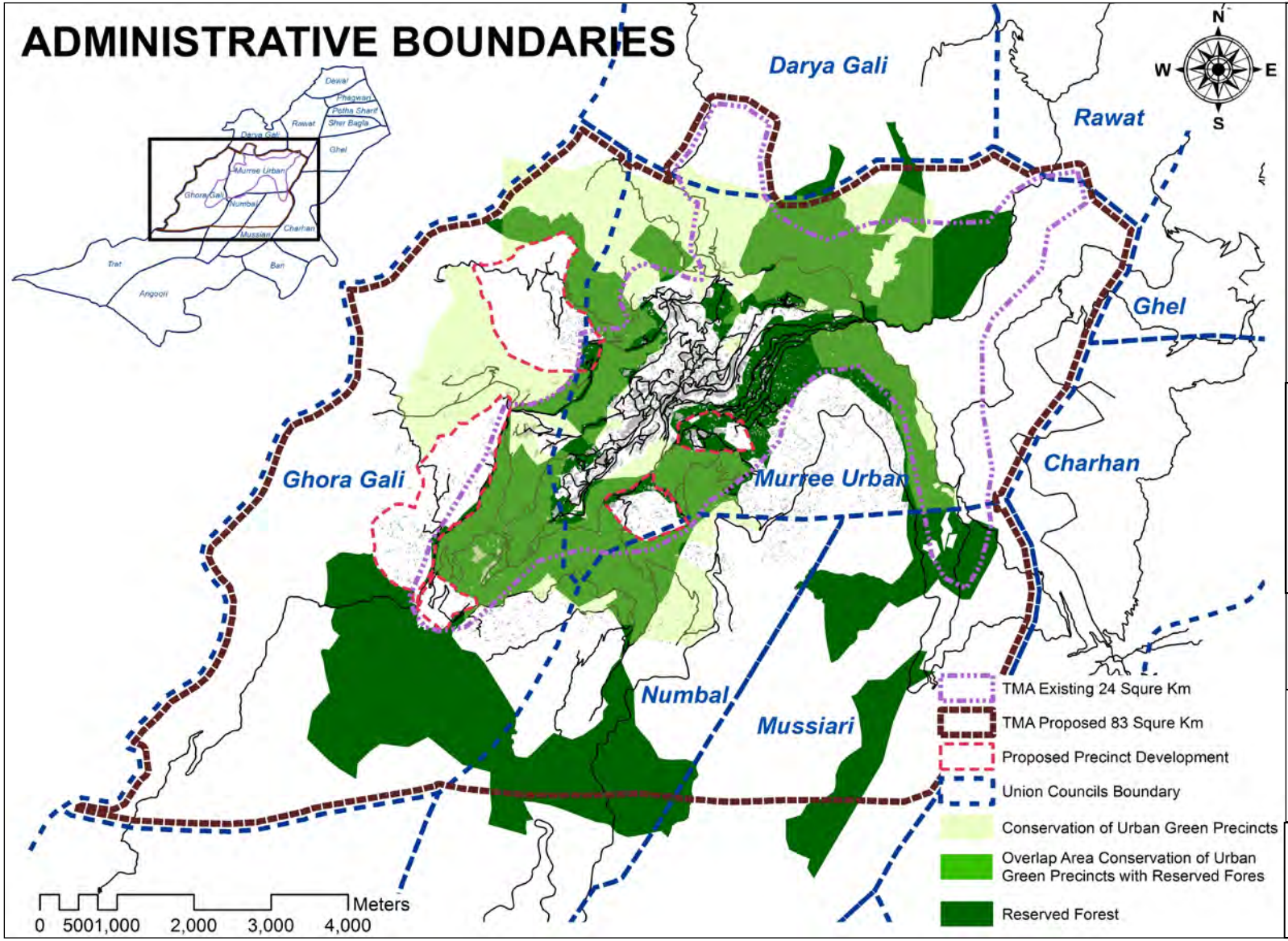
Consultants have developed a comprehensive landuse GIS for urban core, it is expected from TMA to make best use of this exercise over time to manage landuse development in the area, further enhancing it to an interactive GIS on the web and also as a change detection tool. This system may be enhanced to incorporate development of a land ownership cadaster, information on land use ownership, utilities, topography, water and other resources.

STRATEGY/ACTION	TYPE	TERM	IMPLEMENTATION	O & M RESPONSILITY	FINANCING
1-Necessary in house arrangements by TMA for up keep and optimum Utilization of the	P	S/L	TMA/Urban Unit	TMA	TMA

GIS developed for Murree in future for the purposes identified in the main report.					
2-Enhancement of the GIS system to incorporate the development of the following information. • Land ownership cadastre • Information on land use ownership, • Utilities • Topography • Water and other resources.	S/PR/ R	S/M/L	TMA/ Punjab Urban Unit	TMA/ Punjab Urban Unit	TMA
3-Software system development for property / municipal taxation and linking it to GIS	S/PR/ P	S	TMA	TMA	TMA
4-Usage of GIS provided for urban management • Updating GIS on yearly basis to assist TMA as a sprawl and urban structure change detection tool.	PR/P	S/M/L	TMA	TMA	TMA

Costs of Projects under Land Use Planning Component

1. Preparation of Disaster Risk Preparedness, Remediation and Mitigation Plan PKR 20 Million
2. Construction of RESCUE 1122 centers x 3 PKR 60 Million
3. Model Police Station & 15 services PKR 100 Million
4. Design & Construction of Municipal Services Complex PKR 300 Million
5. Tourist Information Centre PKR 30 Million
6. Hiring of a Management Consultant / Institutional Development Consultant for Capacity Building of TMA Murree for Plan Implementation PKR 10 Million
7. Installation of security surveillance network at important public places PKR 10 Million
8. Procurement of GIS/RS workstations / equipment and softwares for urban management PKR 30 Million



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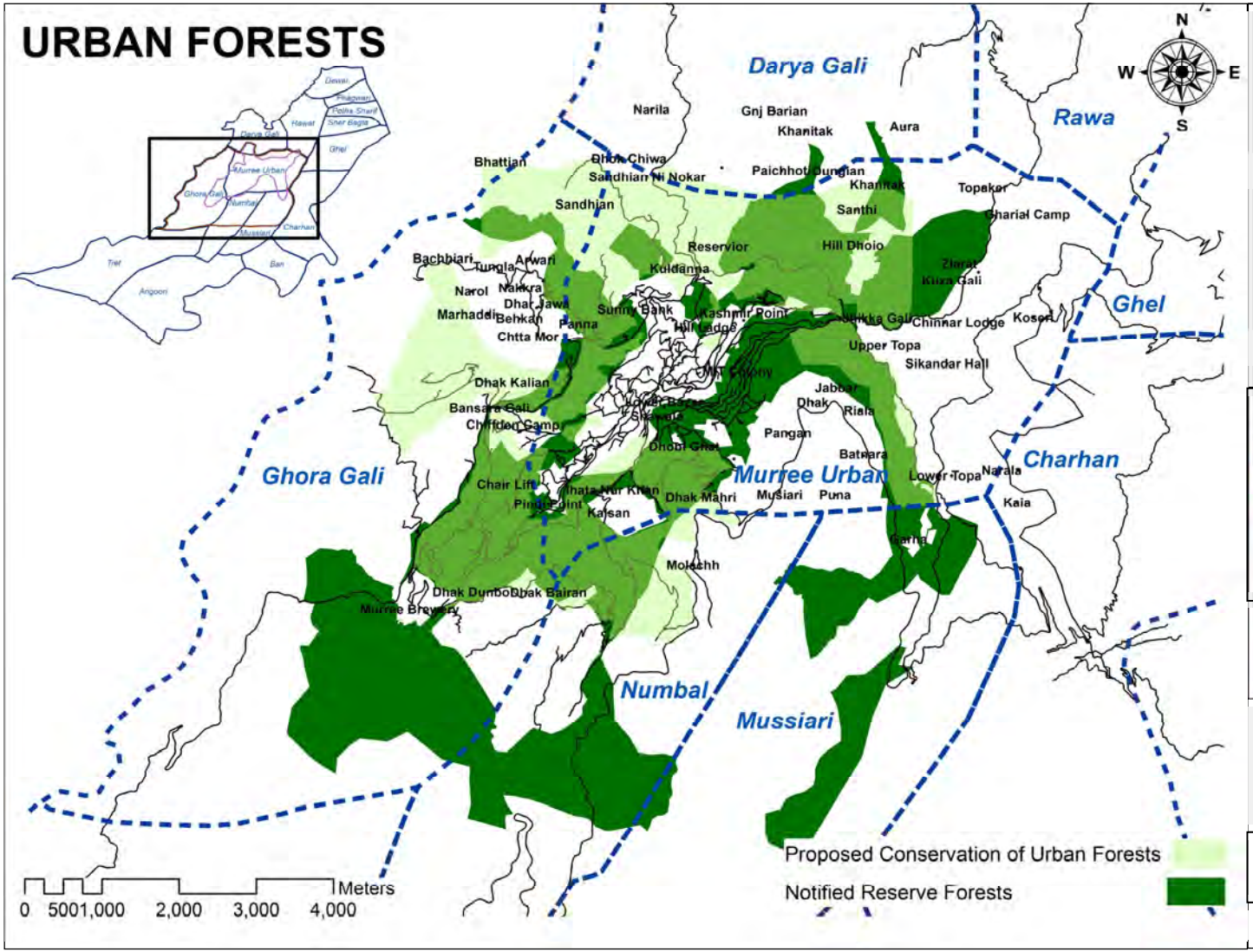
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ADMINISTRATIVE BOUNDARIES



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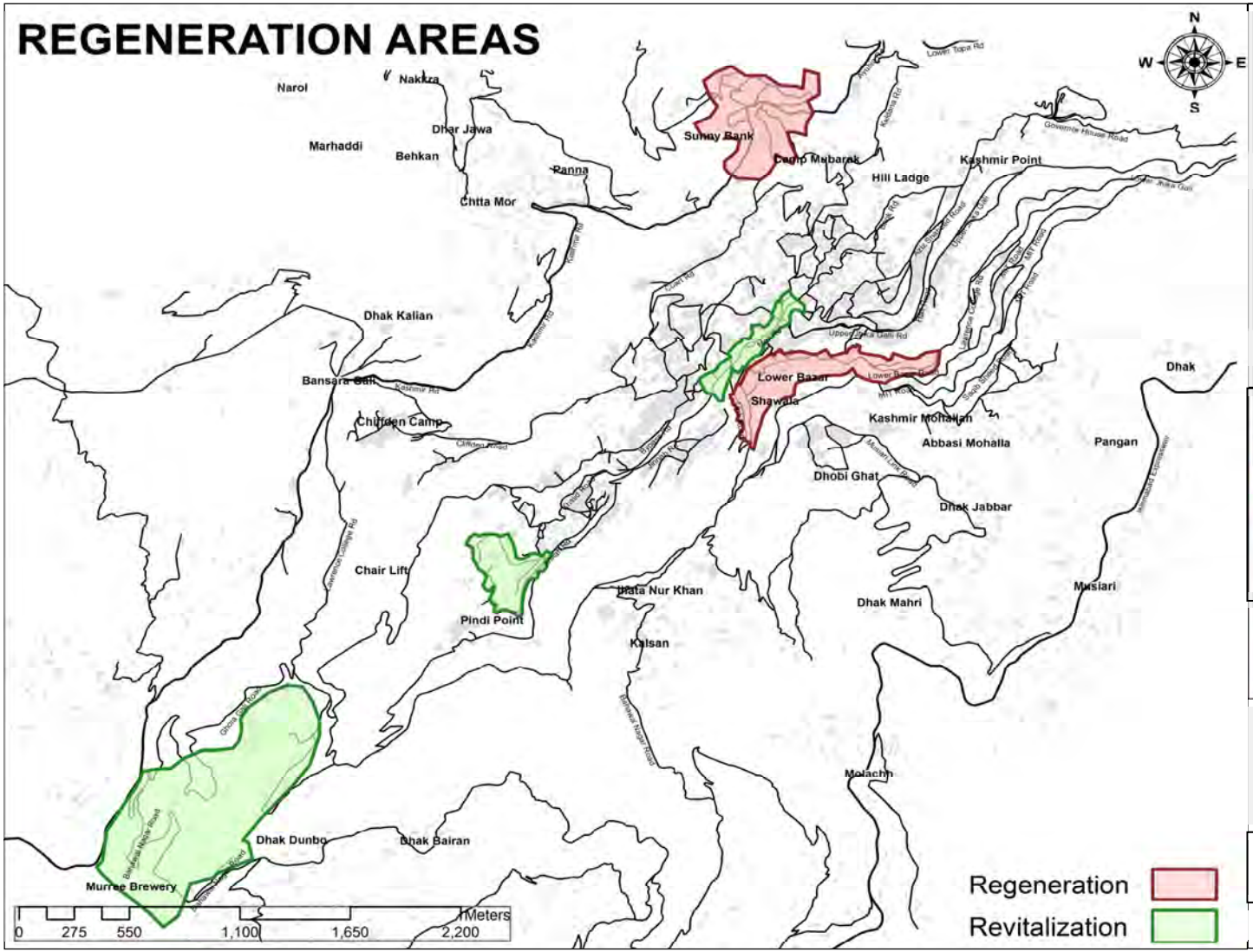
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URBAN FORESTS

SHEET #



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REGENERATION AREAS

SHEET #

1.7.3 ACTION PLAN FOR TRANSPORTATION MANAGEMENT:

[T-1] Transportation Demand Management (TDM)

Management measures can reduce transportation infrastructure demands, congestion and pollution by minimizing the dependence on personal travel modes (cars & Jeeps) and encouraging people to change travel mode at outskirt parking lots.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Design & construction of 12 open terraced parking facilities at • MIT, Dhobi Ghatt, N75-Byepass Intersection, Bansra Galli and Chitta Mor, Jhika Galli, Bye pass-Dhobi Ghatt, Lower Topa, Murree Brewery and Mass Car Park at Satra Meel as identified in the plan.	PP	S	TMA/Traffic Police/RTA	TMA	CDG/ TMA
2- Installation of infrastructure facilities and provision of parking incentives on outskirt, • Construction of proper weather friendly sheds, sun shades for waiting areas. • Reduce or exempted car parking fee in new facilities • Security provision • Clean environment • Display of board for the incentive and disincentive for parking along route and at important junctions/points.	PP	S	CDG	Traffic Police / TMA	CDG/ TMA
3-Imposition of special metered tax during peak hours between 11am – 3pm (Winter season) & 11 am – 7pm (summer season) on personal car users on city tour.	PD	S	TMA	Traffic Police/TMA	TMA
4-Usage of print & electronic media to promote walkability and sustainability agendas	PR	S	TMA/ NGO	TDCP/TMA/ NGO	TMA/ TDCP

[T-2] Transportation System Management

Transportation System Management refers to strategies that can be implemented to make more efficient use of existing infrastructure like right of ways/intersections through improved management and operation. Management strategies focused on optimizing the use existing infrastructure, for example, adjusting traffic control in time to maximize efficiency.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Implementation of a comprehensive Transportation System Management Program through • Efficient use of existing infrastructure (like right of ways/intersections through improved management and operation) • Implementation of laws by optimizing the existing infrastructure, for example, adjusting traffic control in time to maximize efficiency.	PR	S/ M	CDG/Road Dept.	Traffic Police /TMA/Road Dept.	CDG
2-Regular maintenance of all primary, secondary and tertiary road network as proposed.	PR	S	TMA / Roads Dept.	Roads Dept/ TMA	Road Dept/ TMA
3-Design and construction of all tertiary roads as identified and walkways along all roads in Murree.	P	M/ L	TMA	TMA	TMA
4-Re-surfacing of primary and secondary road network as identified.	P	M/ L	TMA	Roads Dept/TMA	Road Dept/ TMA
5-Soil stabilization along all right of ways to prevent slope failures • Using proposed bio-engineering techniques on priority basis.	P	M/ L	TMA / Roads Dept.	Roads Dept/TMA	Road Dept/TMA
6-Rehabilitation of Jesus & Marry Road, Khalid Road, Bypass Road etc.)	P	M/ L	TMA	TMA/Road Dept	TMA
7-Introducing regulation like traffic laws, community / traffic policing, fines, flow regulations and management practice through geometry • Establishment of an efficient mobile / onsite fine collection support for the transient population • Proper installation of Signage, signals, way-finding system and road marking.	PD	M/ L	CDG/Road dept/Urban Unit	Traffic police	CDG/Road dept
8-Adoption of parallel strategies to deal with enormous escalating patterns in peak hours • Widening • Augmenting walkways • Extension of existing infrastructure to the extent geology permits	PD	M/ L	Road Dept/TMA	TMA	Road Dept / TMA
9-Installation of safety fences/grills on	P	S	TMA	TMA	Road

slope side of every road.					Dept./TMA
10-Designing/ installation of : • Illuminated signage • Guide maps/Way finders • Signals on all roads / intersections. (It includes walk/don't walk signals as well on all intersections)	P	S	RTA/TDCP	Traffic Police/TDCP	TDCP/ RTA
11-Redesigning and improvement of intersections with respect to geometry • Jhika Galli, Chitta Mor, Sunni Bank, Kuldana, Bye pass-N 75 intersections on priority	PP	S	RTA/ Roads dept.	TMA/Roads dept.	CDG
12-Construction of Alliyot-Bhurban link	PP	S	Road dept. /TMA	Roads dept.	Roads dept.
13-Establishment of **Snow Removal Services** unit in TMA Murree with standardized facilities and equipments such as snow plowing, salting, and shoveling machines etc.	PP	S/ M L	Roads dept. /TMA	Roads dept.	CDG

[T-3] Walkability

Murree infrastructure generally does not support pedestrian movement. Walkways, footpaths, walk able precincts are a neglected phenomenon. Tourists are forced to commute by vehicles; pedestrian safety on roads is not insured at all.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Strong implementation of the Master plan regarding new proposed development/redevelopment for walking facilities. through • Providing safe, user friendly, weather sensitive, direct and attractive pedestrian access between public sidewalks and building entrances. • Especially in the areas like the Mall, Caurt Road, Imtiaz Shaheed Road and Bank Road.	PP	M/ L	CDG/TDCP	TMA	CDG
2-Improvement of exiting treks and augment new as proposed.	PP	S	TMA/TDCP	TMA	TDCP/TMA
3-Construction/ Provision of all-weather walkways. • Surfaces provided should reduce slippage in rain and snow. • Covered walkways are advised.	PP	S	TMA/TDCP	TMA	TDCP/TMA
4-Augmenting ancillary walkways along all primary, secondary and tertiary roads	PP	S	TMA/TDCP	TMA	Roads Dept/TMA
5-Declaring congested areas to be	R	S	TMA/TDCP	Traffic	

pedestrian zones. • The Mall, Caurt Road, Bank Road, Hall Road and all new proposed suburban commercial development year round pedestrian zones.		M		Police/ TMA	
6-Initiating Programs to support walking through promotion and education initiatives. • Starting campaign regarding health and environmental benefits of walking and cost comparison of the private and public travel choices • Addressing the issues such as personal security; safe behavior by vehicle drivers, cyclists and pedestrians;	P	S	NGO/TDCP	NGO/TDCP	TDCP / NGO
7-Preparation of a Pedestrian Plan within one year of plan adoption • Identification of discontinuities in the pedestrian network, • Devising guidelines and standards for pedestrian facilities and circulation • Develop a network implementation strategy • Guiding the TMA in the development and implementation of new programs and facilities to encourage tourists to walk and to reduce their dependence on the automobile.	PP	S	Urban Unit/ TDCP/CDG	TMA	CDG
8-Rehabilitation and constructions of vertical climbing links between major urban arteries as proposed. it will help in : • Enhancing walkability • Reducing looped travel distances.	PP	S	TDCP/TMA	TMA	TDCP/ TMA

[T-4] Multi Modal Mobility Option

The Murree town must have a variety of inter-connected transportation choices as alternatives to the personal automobile (transit, jitneys, medium sized eco-friendly modes like vans /mini-buses having capacities not more than 12-15 persons, bicycle and pedestrian pathways). This layered system should form a functional and efficient network measured by the total number of person trips**.** Land use planning and development must integrate with the provision of multi-modal transportation network linking highways / outer arteries to the outskirt parking facilities

ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Provision of multi-modal transportation network through linking inner city arteries to the 12 Nos outskirt parking facilities around Jhika Galli, Dhobi Ghat Bansra Galli, Jhika galli, Satra Meel and further to urban core/inter city roads. This also includes extension of public transport network throughout the Murree Tehsil and settlements along two major routes MKR and N 75.	PR	M/ L	CDG/Transport Deptt.	Road dept./Traffic Police	CDG
2-Construction of intra-city mass transit terminals for medium occupancy vehicles • Provision of transit station at Murree Brewery, Laurence College Road, Pindi Point, Bansra Galli, Link Road, Dhobi Ghat, Chitta Mor, Sunny Bank, Kuldana, MIT Colony, Lower Topa, N75 Byepass Road, GPO Chowk, Bank Road and Ihata Noor Khan proposed sites. • Installation of allied infrastructural facilities at all transit station, like waiting sheds, water cooler, ticketing facility • Provision of 80 Nos (having 12 passenger capacity) vans with atleast 10 mins headway distance in peak hours in phase one (especially designed for tourist's point of view and for hilly area like, transparent body material along with adjusting seat direction so that it become easy to view the area during travel) (it will help in TOD model Transportation**)**	PP	S	TMA/RTA	TMA/RTA	GoPb.
3-Integration of transportation alternatives automobiles • transit, jitneys, medium sized eco-friendly modes like vans /mini-buses, ropeway system, bicycle and pedestrian pathways.	PP	M	TDCP/PPP	PPP/RTA	PPP/ TDCP
4-Plan and initiation of inter-city service between RawalPindi/Islamabad and Murree for carrying more passengers with respect to space especially in peak season with headway time of 30 mins. This service shall	PP	M/ L	RTA/CDG	PPP/TDCP	PPP/ TDCP

also connect Murree with R Pindi via Satra Meel Mass Car Park with the Murree.					
5-Establishment of inter-city service • Initiating bus service from Lahore, Multan, Gujranwala, Peshawar, Sargodaha, Faisalabad and Rawalpindi.	PP	M/ L	TDCP / RTA /PPP	PPP/	PPP/ TDCP
6-Construction of Murree GBS and its up gradation with respect to mass commuting service. • Ticketing counters will be on ground floor and passenger waiting lounges and allied facilities on first floor. • Construction of bus parking bays, car parking, parking for intra-city transit vehicles. [If this service generates 36 trips (after every 30 minutes for 18 hours a day) with 40 passengers per trip, it is expected to carry 1440 tourists to Murree each day and thus replacing 480 cars.]	PP	M/ L	TMA/PPP	TMA	TMA
7-Inviting local and international transport operators (fulfilling certain pre-qualification criteria) and those could be facilitated on other proposed transit terminal site. • On N75-Bypass Road intersection. [This solution will help in reducing SOVs like cars in the long run**.**	PP	M/ L	RTA	PPP	PPP
8-Commencement of Online public facilitation and information system for route planning at tourist end. (It will help in transportation demand management and also for the tourism point of view)	PP	S	TDCP/TMA	Traffic Police/TDCP	TDCP/ TMA

[T-5] Parking Demand Management

Parking in Murree has been the most concerned issue over the years with growing number of vehicles. Public parking facility is again a rare opportunity one could seek. Out of 266 hotels in Murree, only 69 have their own in-house parking of only 1471 spaces, while studies show that in a single peak day 4360 cars parked overnight, where they have been parked? Obviously on / along roads. Most parking in Murree Town is done ON STREET these days.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Identification of the rise in parking demand on regular periodic basis and studying demand variations / sensitiveness to regulation impositions and strategic revisions	M	S/ M/ L	CDG		
2-Designing and construction of vital infrastructure on identified parking potential sites in close proximity to the outer junctions • Jhika Galli, Bye pass road, Bansra Galli, Sunny Bank etc.	PP	M/ L	TMA/TDCP	TMA	TMA
3-Strict enforcement on provision of mandatory parking spaces in commercial / residential/ lodging structures • As it accumulates another parking space for around 35000 car spaces.	M	S/ M/ L	TMA	TMA	
4-Designing/construction of open terraced parking facilities at • Bypass Road, Dhobi Ghatt, Missiari, Bansra Galli, Chitta Mor, MIT Scheme, Murree Brewery and Ghora Galli, Satra Meel and other sites identified in proposal.	PP	M/ L	TDCP/TMA/ Roads dept.	TMA	TMA/ TDCP
5-Installation of parking meters in all new proposed parking facilities, see parking facility plan.	PP	S	RTA	Traffic Police	RTA
6-Converting TMA / Govt. Institutions owned properties located in the central core to parking where feasible. (For the time TOD and walkability takes over) • Ground can be used for charged parking whereas First floor may be allocated for already intended uses. • TMA's central office at GPO chowk may be taken as a pilot project.	PP	M/ L	P&D / CDG	TMA/PPP	CDG/ TMA
7-Identification of other public sector owned un-built parcels available within the urban core for their conversion to the open terraced parking lots without tempering geology.	PP	M/ L	TMA / P&D / CDG	TMA	CDG/ TMA
8-Management of peak hour demands through • Timed parking • Priority / peak commuting/parking pricing • Off peak incentives.	M	S	TMA/ Roads dept	Traffic Police	Roads dept

9-Curb on street parking through • Imposing fines • Encouraging Parkers to park at outskirts terraced facilities as identified. (These facilities shall be initiated parallel to the development of walkways.)	M	S	TDCP/TMA	Traffic Police/TMA	
10-Redevelopment / redesigning of existing parking lots for plan short term till public transport system get operationalized and replace SOVs. (This will help for Increasing the potential of existing lots)	PP	M/ L	TMA / P&D / CDG	TMA/PPP	PPP/ CDG
11-Imposing an equitable / uniform parking charge policy after Identification and registration of existing parking stock (as it is envisaged that hospitality owners tend to reduce parking charges to attract more customers)	PD	S	TMA	Traffic police	
[T-6] Freight Movements & Terminals					
STRATEGY/ACTION	**TYPE**	**PRIORITY**	**IMPLEMENTATION RESPONSIBILITY**	**O & M RESPONSILITY**	**FINANCING SOURCE**
1-Restricting heavy freight truck traffic movement in urban core • Bansra Galli-Lawrence college/bypass section), (However small and medium sized transit vehicle shall be allowed to deliver goods at off-peak night hours only.)	PD	S	TMA	Traffic Police	
2-En-routing of N75 for freight movement to AJK. (it will reduce the impact on core urban arteries)	PD	S	RTA/	Traffic Police	
3-Provision of Terminal / parking facility along with other allied infrastructure to the freight traffic on outskirts. (It will minimize the environmental and congestion impacts on urban core on proposed sites at N75-Byepass intersection)	PP	M/ L	RTA/CDG/TMA	TMA/CDG	CDG
4-Designing/construction of freight terminal with allied facilities on Kashmir Road near Bansra Gali and N75 Expressway near Missiari Bypass link Site.	PP	M/ L	CDG	TMA/PPP	CDG

[T-7] Intercity Transit Terminals

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Provision of adequate vehicles parking bays (for Buses, Mini Buses, Vans and Taxis),at existing GBS, Bansra Galli and N 75 Bye Pass. • Construction of waiting areas, food and services areas and other allied facilities at existing GBS Other proposed sites as shown in maps. (It will help in Facilitation of all inter-city traffic, vehicles / passenger movements)	PP	S	TMA/CDG	TMA	CDG/ TMA

[T-8] Enhancing Efficiency Through Right Of Ways Protection & Rehabilitation

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Maintenance and protection of right of ways against; • Physical damages caused by routine traffic operation • Damages caused by natural hazards like snowfall, rainfall/ land sliding • On-street parking (it will help in Enhancing efficiency of Transportation System)	PP	S	TMA/Road Dept	Road Dept/TMA	Road Dept/ TMA
2-Strict enforcement on protecting right of ways against physical encroachments like kiosk, stalls, building extensions beyond legal boundaries • Induction of Regulation for compounding such developments which restricts smooth flow of vehicles. • Continuous monitoring plan	PD/ R	S/ M/ L	TMA/Road dept	TMA	TMA/Road dept
3-Re-surfacing of Primary and Secondary Road network	PP	M/ L	High ways dept	Road dept	Road dept
4-Repairing / re-surfacing of roads / streets within the urban core as identified sections in map • It will enhance mobility and accessibility especially in Pindi Point, Shawala, Imtiaz Shaheed Road, Khalid Road, Jesus & Merry Road, Bye Pass and Lower bazaar	PP	S	TMA	TMA/Road dept	TMA

• Rehabilitation of Jesus & Marry Road, Khalid Road, Bypass Road etc.)					

[T-9] Ropeway System & Elevated Cable Cars

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Detailed design/planning for installetion eco-friendly ropeway systems, cable cars and allied projects (Already evaluated as feasible in the past and further identified in this report and it will Provide Leisure and shuttling purposes without any environmental impacts, These shall extend to the Mall decalred as primary walkable zone from Bansra Galli, Chitta Mor, Ihata Noor Khan / Dhobi Ghat, Jhika Galli parking sites)	PR	S	TMA / TDCP	TDCP/TMA/ PPP	TDCP/TMA/PPP
2-Installation of ropeway system to facilitate and lift outskirt parkers to central core. Total 6 Nos • Dhobi Ghat / Misiari to Qasab Market, Bansra Galli-Pindi Point, Dhobi Ghat-Pindi Point, Chita Mor-Caurt Road, Lower Topa-Patriata and Jhika Galli-Kashmir Point.	PP	S	TDCP/Roads dept	TDCP/TMA	TDCP/ TMA
3-Regular maintenance / up gradation of already installed facilities at, • Pindi Point & Patriata should be done on regular basis. (It will ensure commuter's physical safety against mechanical failures.)	PP	S	TDCP	TDCP/PPP	TDCP

Project Costs for Sustainable Transportation

Note: The cost for identified roads in existing urban core for resurfacing / improvement is based on approximate estimation and is subject to realization on the prevailing time of project implementation. The cost estimates for the future proposed precincts has not been considered in this component and shall be based upon subsequent detailed planning.

1. **Resurfacing/ Repairing/ Rehabilitation of Roads**
   - i) Re-surfacing of of primary and secondary road network with walkways — PKR 420 Million
   - ii) Reconstruction of all tertiary roads — PKR 3000 Million
   - iii) Construction of 2 Lane Alliyot-Bhurban (Alyot-N75 link) — PKR 100 Million
   - iv) Soil stabilization along all right of ways — PKR 40 Million

2. **Intersection Improvement**
   - i) Redesigning and physical improvement of intersections at Jheeka Galli, Chitta Mor, Sunni Bank, Kuldana intersections including land acquisition [1] — PKR 300 Million

3. **Signals/signs installation**
   - i) Designing/ installation of illuminated signage/ Guide Maps — PKR 18 Million
   - ii) Designing/ installation of traffic and pedestrian signals on all roads / intersections — PKR 200 Million

4. **Reconstruction / Rehabilitation of Vertical Climbing / Existing Tracks / walkways**
   - i) Improvement of existing tracks — PKR 100 Million
   - ii) Rehabilitation and constructions of 25 vertical climbing links between major urban arteries (without land acquisition) — PKR 12 Million

5. **Intra-City mass transit Facility**
   - i) Construction of 12 transit stations — PKR 60 Million
   - ii) Induction of 80 Eco-friendly Medium sized vans transit modes (having capacity not more than 12-15 passengers) — PKR 600 Million

[1] Reference: JICA - Lahore Urban Transport Master Plan 2011

6. Upgrading / Reconstruction of GBS and Freight Terminal

i) Construction of Ticketing counters, waiting lounges and parking bays along allied facilities at existing GBS PKR 400 Million

ii) Designing/construction of freight terminal with allied facilities on Expressway near Missiari Bypass link PKR 300 Million

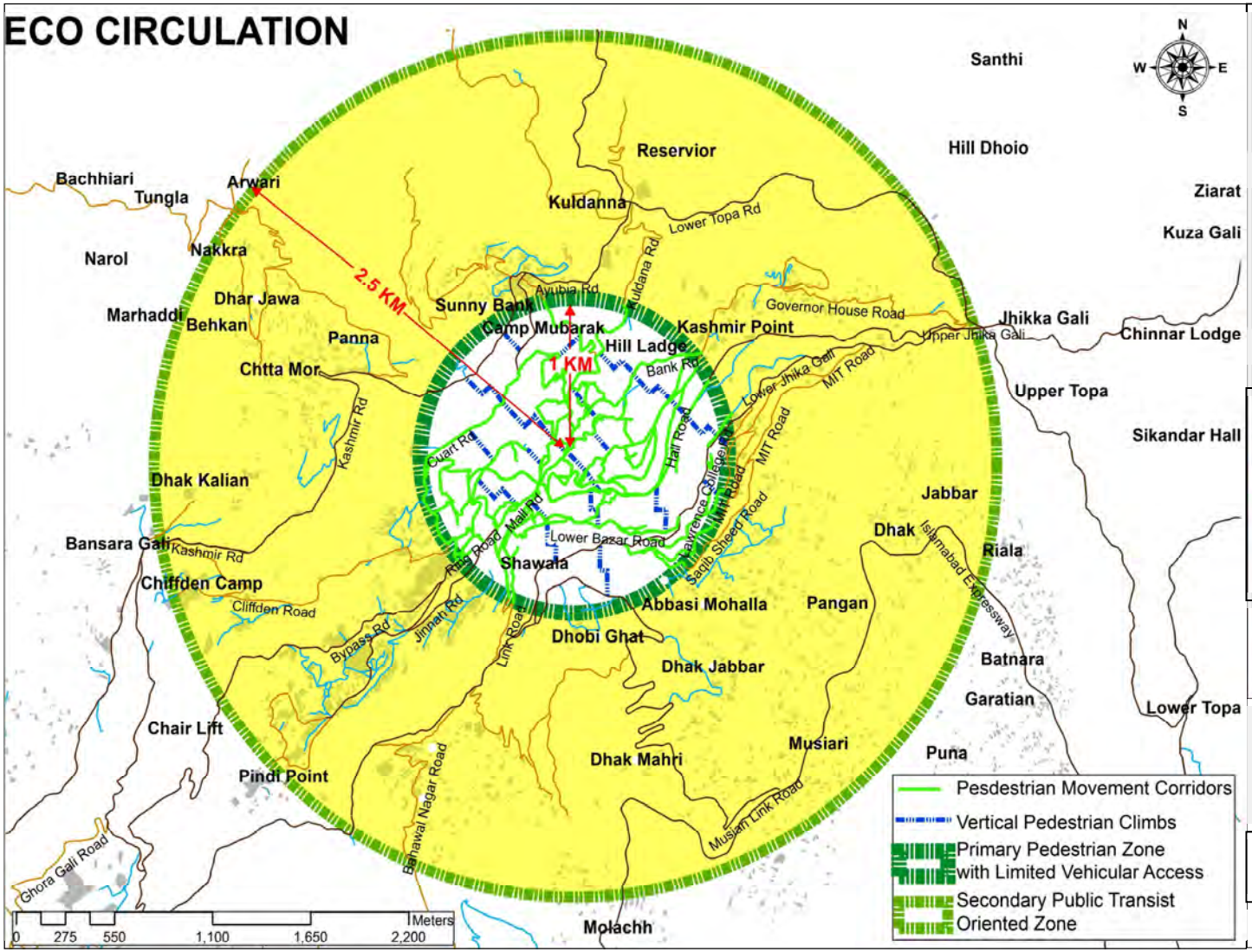
7. Ropeway Facility

i) Installation of 5 new ropeway system on identified sites PKR 9000 Million

8. Designing/construction of Parking Facility

i) Open terraced parking facilities at identified parking location N/A

ii) Redevelopment / redesigning of existing parking lots N/A



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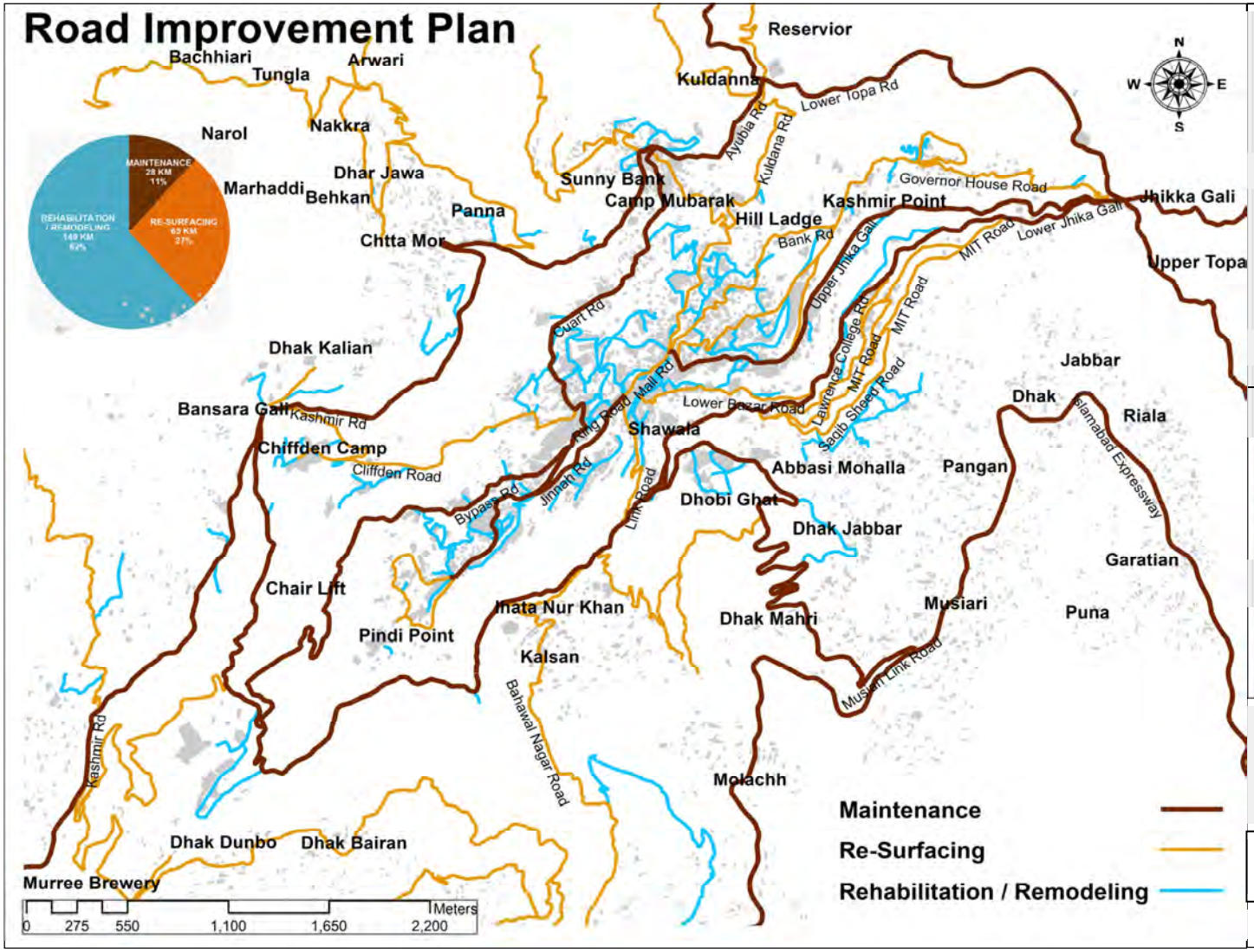
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ECO CIRCULATION

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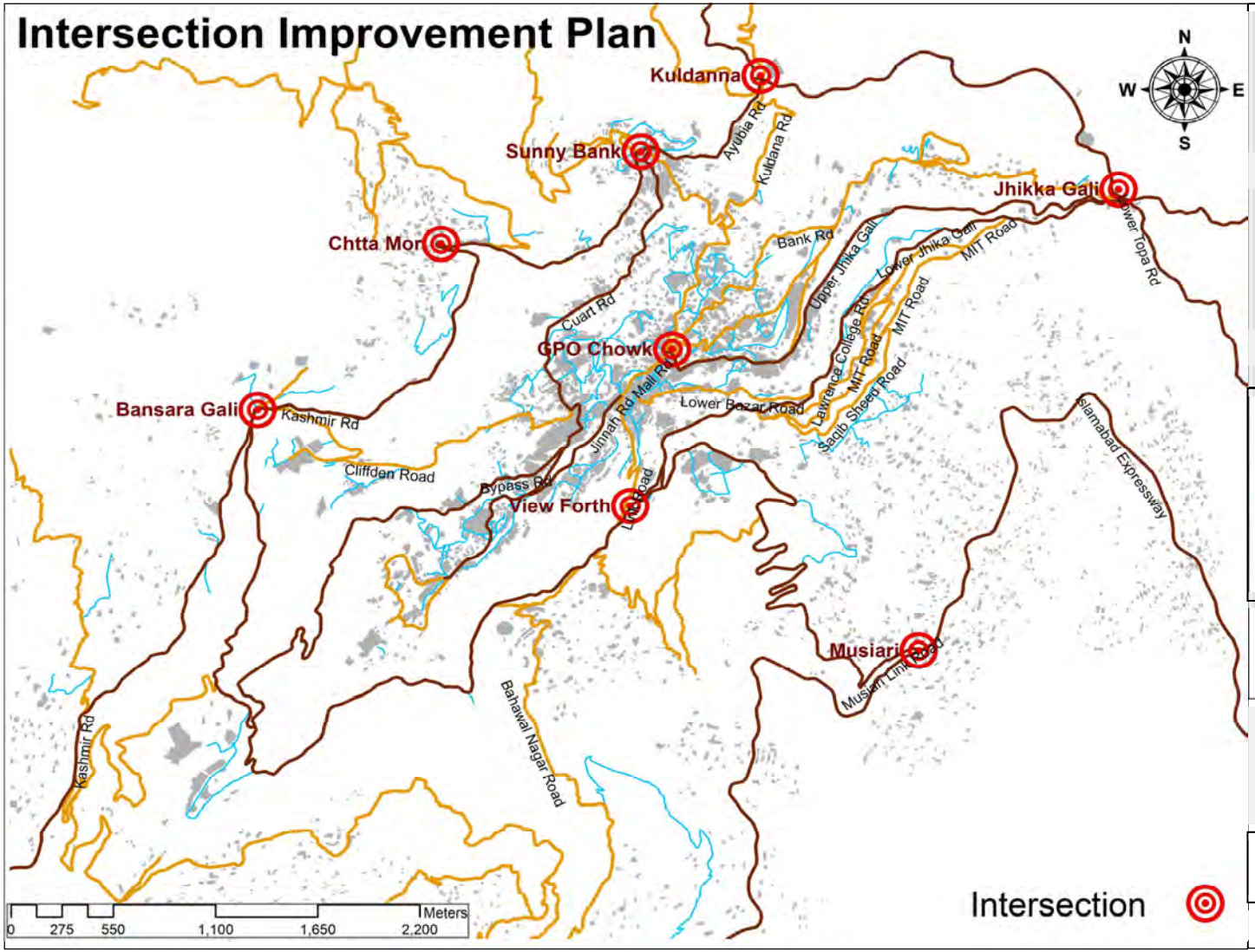
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ROAD IMPROVEMENT PLAN

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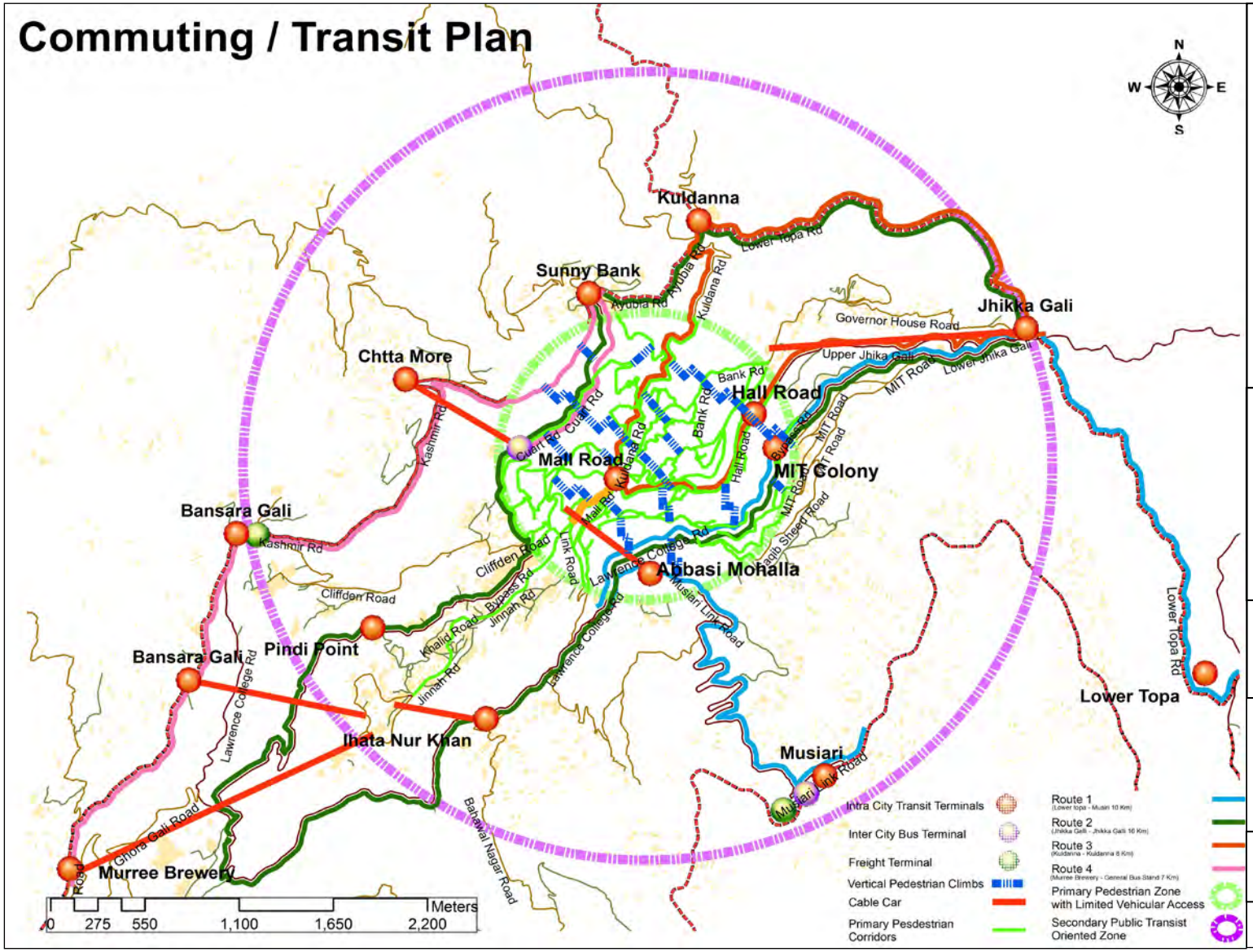
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INTERSECTION IMPROVEMENT PLAN

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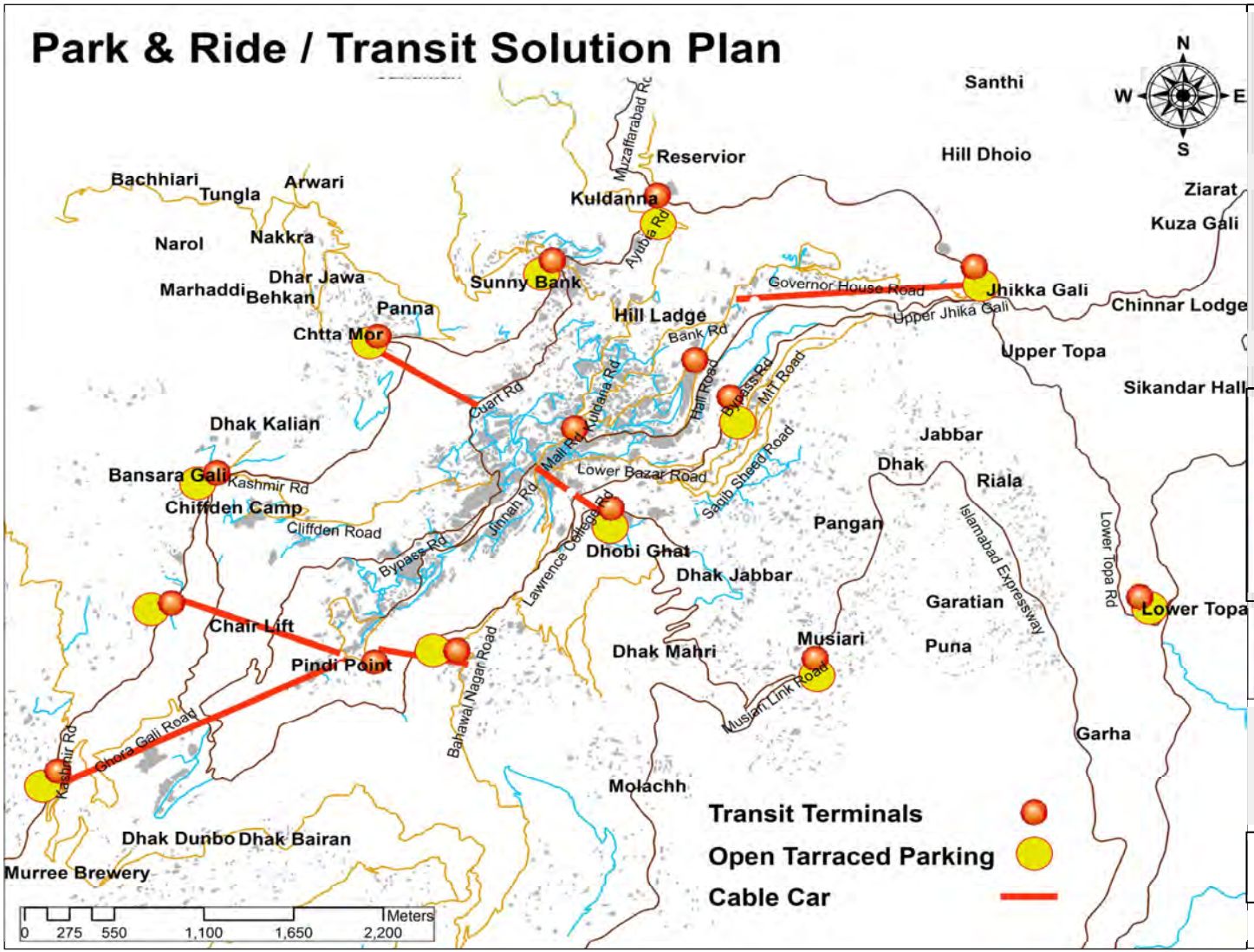
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COMMUTING / TRANSIT PLAN

SHEET #



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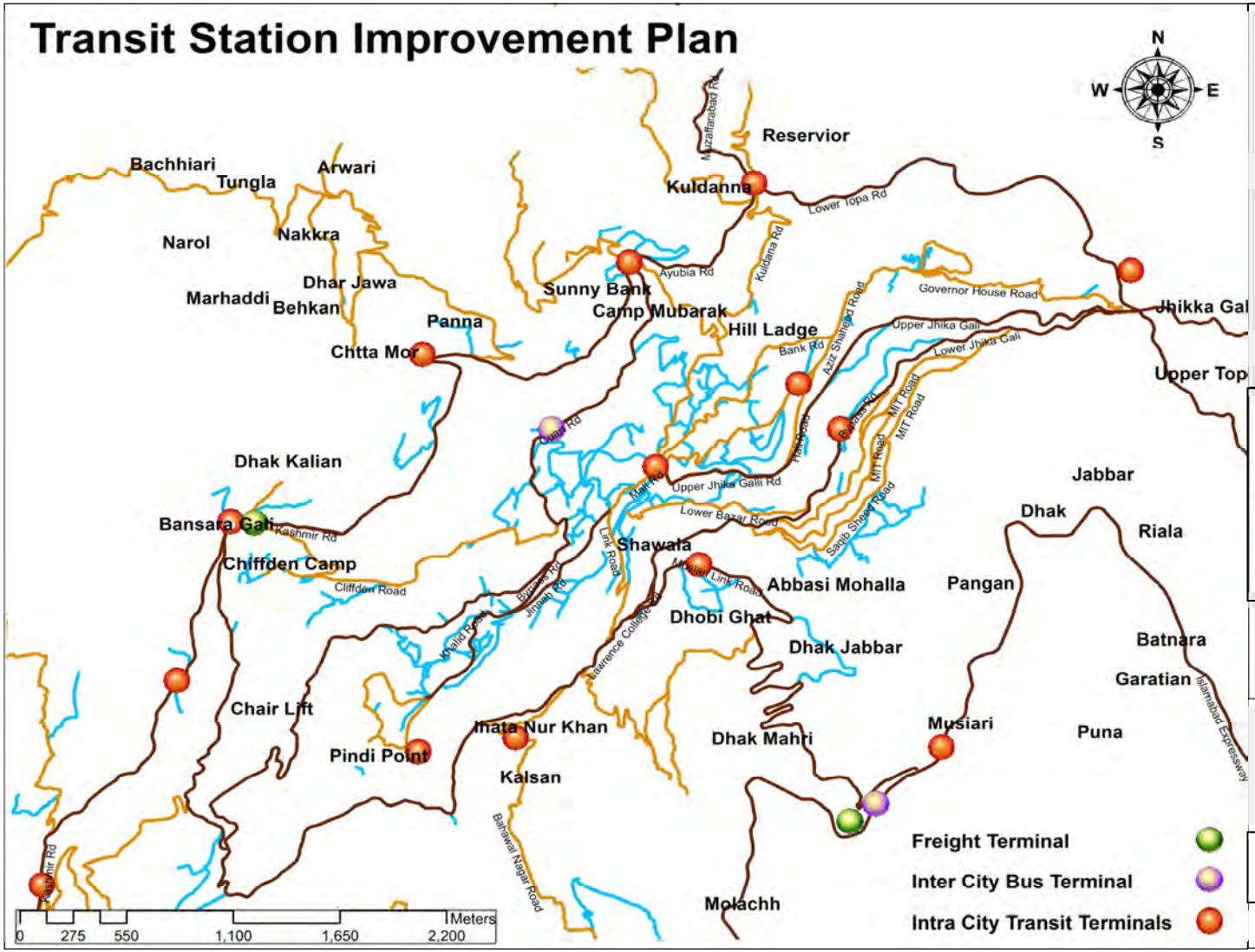
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PARK & RIDE / TRANSIT SOLUTION

SHEET #



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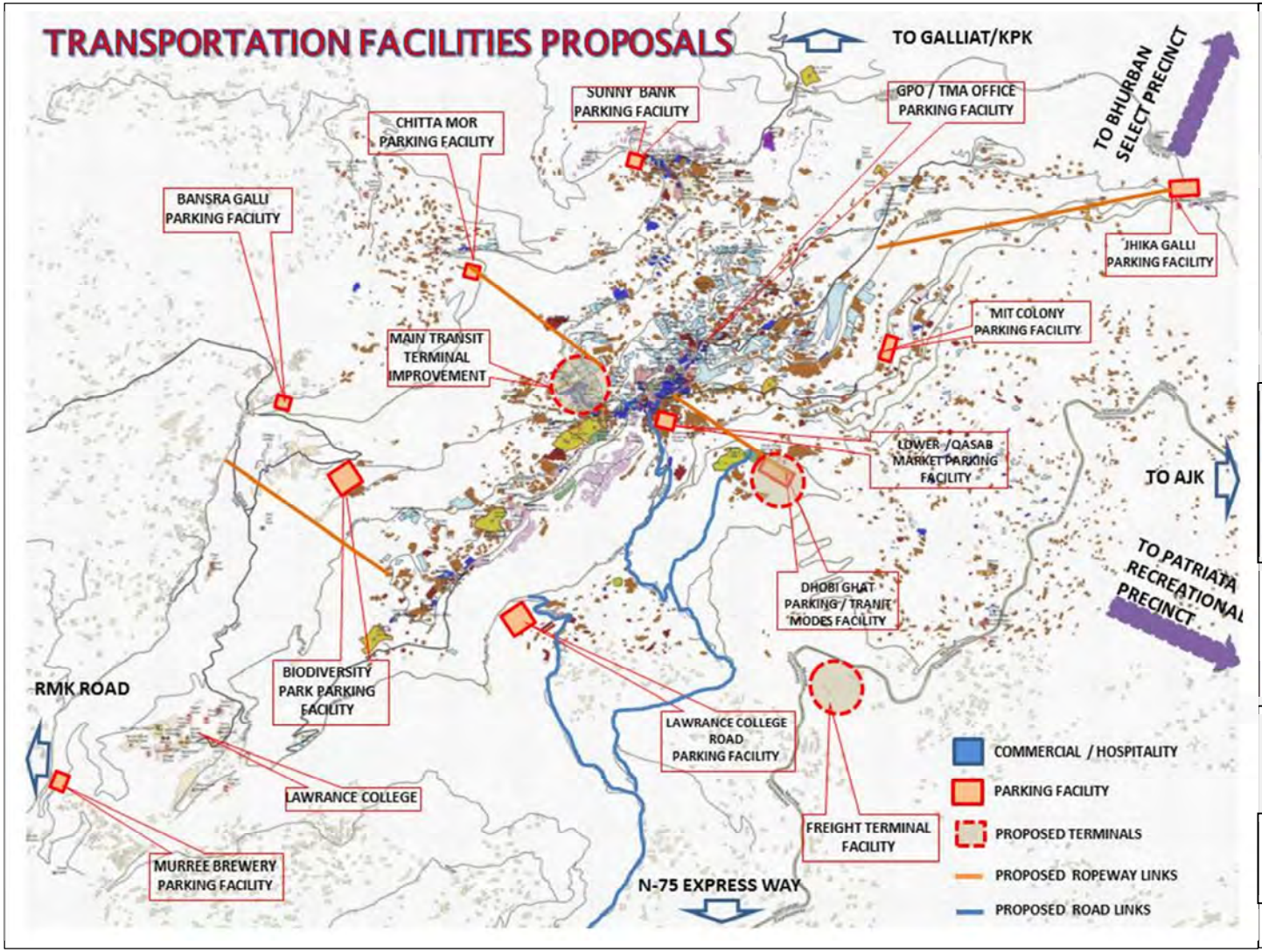
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MASTER PLAN TO DEVELOP MURREE A POLLUTION FREE TOURIST TOWN

TRANSIT STATION IMPROVEMENT PLAN

SHEET #



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TRANSPORTATION PROPOSALS

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1.7.4 ACTION PLAN FOR TOURISM MANAGEMENT:

[ST-1] Environmentally Sustainable Tourism Product Development: The Eco-Tourism
Promotion of environmentally sustainable tourism product development in Murree that results in making Murree an environmentally compliant and tourist friendly town. Thus the touristic activities will be environmentally responsible.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Development of Nature Education and Interpretation Centers in Murree • Development of a demonstration center in Murree at Bansra Gali with allied facilities such as video library, Cineplex, books, and special guides for eco-tourism for practical explanation	PP	M	TDCP	TDCP	
2-Projects that will enhance environmentally sustainable tourism product development in Murree: • Nature Lodging • Biodiversity Watching • Camping Grounds • Walking Trails • Development of Adventure Tourism Projects i) Extreme games arena (Bhurban) ii) Upgradation of Hiking & walking Trails iii) Horse & Pony Riding (Bhurban) iv) Cineplex at Bansra Gali & Bhurban	PP	M	TDCP	TDCP	
3-Community Awareness & Outreach through • Incorporating the concepts of sustainable eco-tourism and actions to protect the nature in primary and high school education curricula • Reinforcing the concept of sustainable eco-tourism through establishment of eco-tourism clubs in schools. • Mass community awareness programme for encouraging responsible tourism in Murree	PR	M	TDCP	TDCP	

[ST-2] Tourism Marketing & Promotion

The tourism marketing and promotion aims to address and improve the issues from customer point of view like visitors complain, quality, value for money etc.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
1-Improving image of the town by • Inviting local, national and international media to promote Murree as pollution free tourist town documenting the history of Murree and its potentials • Annual events such as melas, festivals, competitions, awareness campaigns etc. • Launching of Brand Murree Product	PR	S / M / L	TDCP	TDCP	
• Annual Photography Competition for Sharing Murree's Tourism History & Unique Experiences	PR	M	TDCP	TDCP	
• Establishment and launching of a complete up-to-date Murree Tourism Portal (website)	PR	M	TDCP	TDCP	
• Construction / development of Army Museum at Pindi Point	PR	M	TDCP	TDCP	
• Announcement of Murree Hotel / Restaurant of the Month Nomination Competition to increase the tourists' value for money concept	PR	M / L	TDCP / LG	TDCP / LG	
• Development of Murree Tourism Documentary / Commercial Ads in National & International Electronic Media to attract International Tourists	PR	M / L	TDCP / LG	TDCP / LG	
[ST-3] Standards & Accreditations Developing a system of standards and quality assurance through standardization and accreditations with clearly identifiable measurement indicators / criteria linked to the sustainable tourism concept.					
• Accreditation of Shops, Restaurants & Hotels • Accreditation of Public Transport Services • Price Control	PR	S / M / L	TDCP / LG	TDCP / LG	
[ST-4] Tourist Information System (TIS) Development of a web-based interactive Tourist Information System for potential tourists to guide and supply up-to-date and comprehensive information that a tourist is interested to know about.					
• Development and launch of a comprehensive Tourist Information System (Web Portal)	PP	S	TDCP	TDCP	
[ST-5] Public Facilities / Tourism Infrastructure Provision and development of various Tourism Infrastructure / Public Facilities that enhance the touristic environment of Murree pleasant.					

• Installation of back-lit self-tour signage (information/directions / "you are here") of size (4ft height x 2ft width with 2.5 ft pole height) along road side at major tourist points such as Kashmir Point, Pindi Point, Jhika Gali Chowk etc.	PP	M / L	TDCP / LG	TDCP / LG	
• Installation of Murree Tourist Guide-Maps Posts at Motorway Toll Plaza, Jhika Galli, Kashmir Point, Pindi Point, Bhurban and Kuldana Chowk	PP	M / L	TDCP / LG	TDCP / LG	
• Installation of WiFi Towers in Murree for relaying free Internet WiFi at prominent tourist locations such as Kashmir Point, Pindi Point, Mall Road, Lower Topa, Jhika Galli, Murree Bus Terminal.	PP	M / L	TDCP / LG	TDCP / LG	
• Construction of public toilets at Kashmir Point, Pindi Point, Mall Road, Lower Topa, Jhika Galli, Murree Bus Terminal and in longer term at other tourist locations.	PP	M / L	TDCP / LG	TDCP / LG	
• Installation of drinking water points at Kashmir Point, Pindi Point, Mall Road, Lower Topa, Jhika Galli, and Murree Bus Terminal and in longer term at other tourist locations.	PP	M/ L	TDCP / LG	TDCP / LG	
• Provision of facilities for disables at all tourist locations	PP	M / L	TDCP / LG	TDCP / LG	
• Pedestrianization of the Lower Bazaar area	PP	M / L	TDCP / LG	TDCP / LG	
• Installation of Pedestrian Signals at Jhika Galli Intersection, Kuldana Chowk and Cantt. Gate Intersection	PP	M / L	TDCP / LG	TDCP / LG	
• Installation of Solar street lighting and PV panels at Government Buildings (TMA Office, Rescue 1122, Police 15 and TIC at Mall Road)	PP	M / L	TDCP / LG	TDCP / LG	
• Improvement & Upgrading of Hiking Treks in Murree with Street Furniture (Lighting, Benches, Rain Sheds, Drinking Water Points, Public Toilets etc.)	PP	M / L	TDCP / LG	TDCP / LG	
[ST-6] Facilitating Investment: Public & Private Public and private sector can invest largely in tourism infrastructure and tourism facilities besides promotion and marketing. However, TDCP should act as a facilitator in identifying, capitalizing and nurturing such investments.					
• Introducing sector specific investment incentives for existing projects owned by Government bodies and new projects with PPP modalities	PR	S/ M	TDCP	TDCP	PPP

• Design/Construction of state of the art medical facility at already designated site (Dog Center Vicinity) between Sunny Bank and Kuldana Chowk to promote medical tourism.	PP	M / L	TDCP / LG	TDCP / LG	PPP

[ST-7] Exploring Livelihood Opportunities in Tourism Industry Programmes that foster local population's skill development, capacity building and enabling them to have livelihood opportunities from the local tourism industry.					
• Establishment of a School of Tourism & Hospitality Management / Aliyot Tourism Training Institute in Aliyot/Bhurban.	PP	M / L	TDCP	TDCP	PPP
• Initiation of Degree & diploma level programmes related to tourism and hotel management in existing Murree Post Graduate College	PP	M / L	TDCP / Edu Dept.	Edu / TDCP	
• Establishment of a Craft Training School in the existing Murree Post Graduate College	PP	M / L	TDCP / Edu Dept.	TDCP / Edu / Social Welfare	
• Induction of locals (quota basis) in tourism industry.	Reg	M/ L	TDCP / Labour Dept.	TDCP / Labour Dept.	
• Imposition of tourism levy	Reg	M / L	TDCP / LG	TDCP / LG	
• Promotion of local handi-craft industry	PR	M / L	TDCP / LG / YASAT Dept.	TDCP / LG / YASAT Dept.	
• Arrangement of financial assistance (soft credits / micro credits) to the local business community through financial institutions	PR	M / L	TDCP / LG / YASAT Dept.	TDCP / LG / YASAT Dept.	

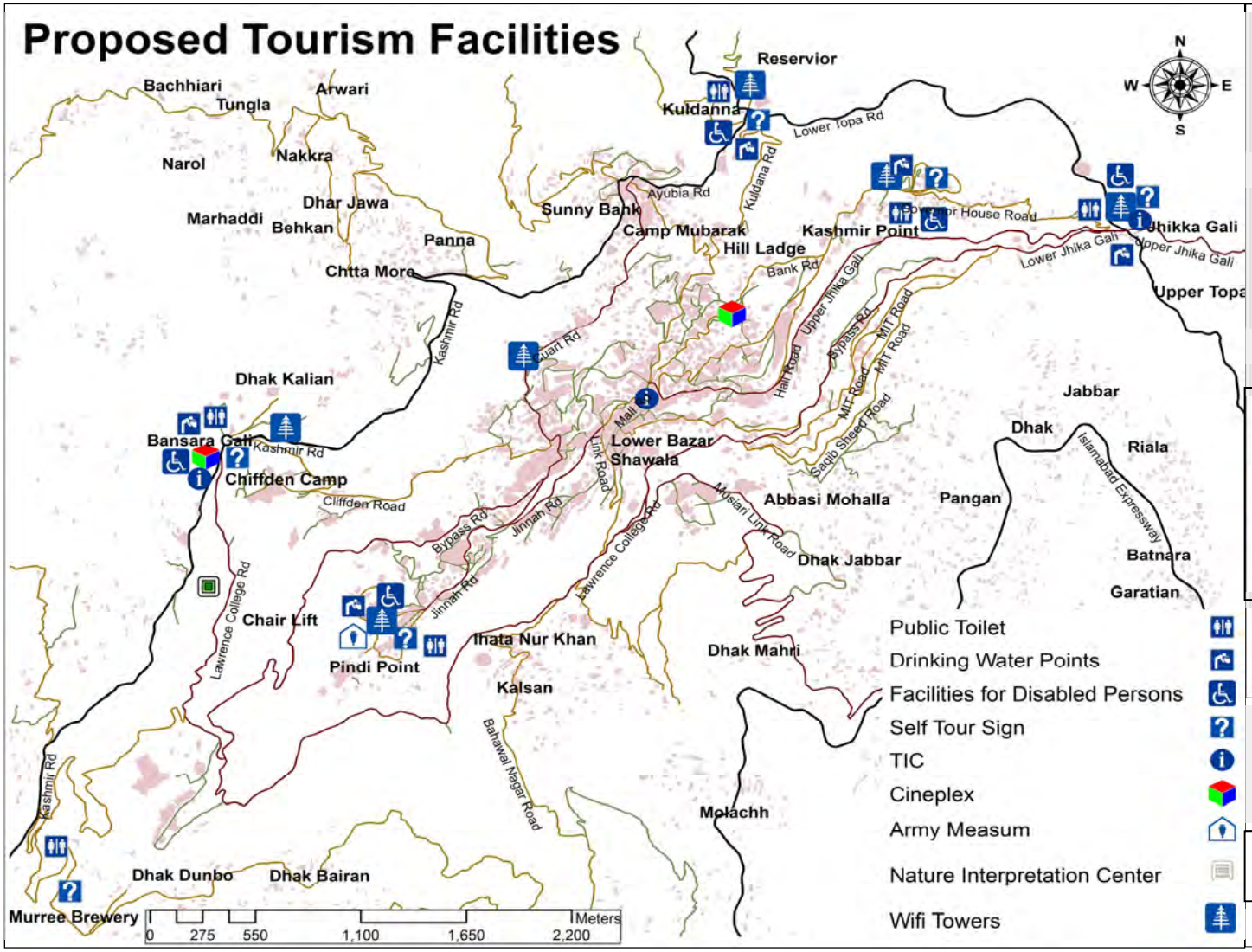
Project Costs for Sustainable Tourism Development

1. Development of Nature Education and Interpretation Center in Murree at Bansra Gali with allied facilities PKR 110 Million
2. Various Environmentally Sustainable Tourism Product Development Projects in Murree PKR 40 Million
3. Cineplex (100 seats capacity) at Bansra Gali & Bhurban PKR 200 Million
4. Improving image of the town by Media Campaigns and Annual Tourism Events PKR 20 Million
5. Annual Photography Competition for Sharing Murree's Tourism History & Unique Experiences PKR 3 Million
6. Establishment of a complete up-to-date Murree Tourism Portal (website) PKR 3 Million
7. Construction / development of Murree Museum at Pindi Point PKR 100 Million
8. Announcement of Murree Hotel / Restaurant of the Month Nomination Competition PKR 3 Million
9. Development of Murree Tourism Documentary PKR 4 Million
10. Accreditation of Shops, Restaurants & Hotels, Public Transport Services PKR. 10 Million
11. Development of a comprehensive Tourist Information System (Web Portal) PKR 5 Million
12. Installation of WiFi Towers in PKR 50 Million
13. Construction of public toilets and drinking water points PKR 40 Million
14. Improvement & Upgrading of Hiking Treks in Murree PKR 30 Million

15. Design/Construction of state of the art medical facility PKR 1000 Million

16. Establishment of a Tourism & Hospitality Management in Aliyot/Bhurban. PKR 100 Million

17. Establishment of a Craft Training School in the existing Murree Post Graduate College PKR 30 Million



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PROPOSED TOURISM FACILITIES

SHEET #

1.7.5 ACTION PLAN FOR INFRASTRUCURE DEVELOPMENT:

[I-1-16] Infrastructure Planning

Plan envisages Murree to grow in an efficient & sustainable manner. To achieve the objectives set out in this Plan, It is essential that land use planning and infrastructure policies be "pulling & complementing" in the same direction. It further aims to promote/ensure sustainable, secure and efficient supply, transportation and use of services such as water supply, sewage, electricity, gas, telecommunication and surveillance running through this infrastructure net throughout the Murree town.

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
A-FRESH WATER & RAIN WATER: 1-Improving efficiency of existing supply sources of water at Harrow River, Donga Galli, Khani Tak, Shawala and Masoot schemes by replacing existing pumping stations by energy efficient system in first phase and ultimately going for solar powered solution wherever possible. It will help reduce TMAs financial burden of electricity cost significantly.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
2-Review and revival of River Jhelum water supply scheme also be considered, to cut its huge operational pumping costs, it is also recommended that it should only be operationalized during the peak (June-August) months.	PD	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
3-Up gradation, cleaning and maintenance of water storage tanks at Donga Galli, Ayubia, Kashmir point and Pindi Point on regular basis to ensure quality supply throughout the year. This also includes disinfection procedures. Cleaning/maintenance are proposed to be done on quarterly basis.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
4-Immediate replacement of all existing worn out exposed water supply GI lines. This includes burying all the water supply lines under suitable sub soil depths wherever possible & where space/terrain does not allow, suitable above the ground (aerial) laying pattern arrangements conforming international standards should be followed to ensure safety, efficiency and aesthetics. It will also ensure safety of lines against physical/weathering damages and avoiding visual nuisance as well. This is also proposed that all connections should be metered and time supplied. To enhance water	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	

consumption incremental metering and rates are advised to be introduced.					
5-Adding water supply infrastructure especially water lines to all the areas which have been left out of service particularly in Missiari, Jhika Galli, Chitta Mor, Bansra Galli, and Bansra Galli in emergent term.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
6-Revising tariffs and adopting a fair pricing mechanism (a cost based reverse pricing on incremental basis) for water supply to reduce inadequacies between commercial abuse and residential use.	M	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
7-Water usage guidelines to local as well as transient population to promote water usage efficiency and conservation at large.	M	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
8-Design and construction of isolated runoff drains under walkways along all roads in Murree urban as proposed in the main text, these channels should be linked to the recharge bore wells (design & construction by TMA) proposed at average distance of 200-300 meters, further additional runoff water being left after recharging of wells should be collected in downhill storage/collection/primary treatment facilities (to be constructed at appropriate places as shown in the map). This water is recommended to be re-used again after appropriate treatment for both irrigation and domestic uses.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
9-Incorporate rain water harvesting regulation in building bye laws and should be adopted at each level in Murree TMA area. Every building shall have an underground water storage tank having minimum capacity of meeting all building residents water needs for 3 days. These tanks shall be connected to roof runoff drains/spouts after having met environmentally safe design guidelines/specifications.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
10-Stabilizing beds of runoff drains (these include **Dhak Kass, Kalian Kass, Dungian Wala Kass, Nala Kass, Dhak Wala Kass, Zinda Kass, Thanda Kass, Ghutta Kass & Gandda Kass)** by adopting such techniques to facilitate even recharge and restricting bulk penetration of runoff water as it has been found out that bulk penetration is a prime cause of strata/slope failure.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	

11-All the runoff drains/kass are to be connected to primary treatment facilities (method and design of such facilities shall be done by TMA). This treated runoff is further proposed to be supplied back to inhabitants in Murree urban after suitable treatment.	PP	S / M / L	TMA/Murree Water Board	TMA / Murree Water Board	
B-SEWAGE WATER: 1-Design and construction of a comprehensive integrated system for the collection of sewage water from every building parcel is to be initiated on top priority throughout the Murree urban area.	PP	S / M / L	TMA	TMA	
2-Design and construction of primary level treatment facility at RKM and N75 (Map). • Treated volume further may be supplied to rural inhabitants downstream to irrigate their agriculture holdings. This is the most pressing issue as most of the channelized runoff / sewage bulks get its ways into sub soil strata and aggravating land sliding / slope failure issues and also pollutes downwards water stream.	PP	S / M / L	TMA	TMA	
3-Disconnect storm drains from the sewer system. Regulatory measures should be taken on open disposal of sewerage of any form and type. The polluter should be heavily fined.	PP	S / M / L	TMA	TMA	
4-Every household is desired to construct septic tanks if not connected to the sewerage network.	PP	S / M / L	TMA	TMA	
5-Consideration must be paid for the network coverage connection and future provision (plan and design) for the new proposed Development Precincts.	PD	S / M / L	TMA	TMA	
C-GAS INSTALLATIONS: 1-It was evident from field studies that in many localities the gas lines are laid above ground thus posing health and environmental hazards. The Sui gas network should be laid underground to avoid any mishap and to make the town's image secure.	PP	S / M / L	TMA / SNGPL	TMA	
2-TMA in collaboration with SNGPL should survey the installed network and where some leakage points exists, its proper insulation of the network is proposed.	PP	S / M / L	TMA / SNGPL	TMA	

3-The areas which are not under-service should be provided with gas supply.	PP	S / M / L	TMA / SNGPL	TMA	
4-The GI pipes installed for supply of gas are not suitable in Murree; they should be replaced with proper material.	PP	S / M / L	TMA / SNGPL	TMA	
5-Due to shortage in gas supplies, TMA Murree in collaboration with SNGPL should do a mass communication plan for general awareness raising campaign for energy conservation.	PR	S / M / L	TMA / SNGPL	TMA	
6-Consideration must be paid for the network coverage connection and future provision (plan and design) for the new proposed Development Precincts.	PD	S / M / L	TMA	TMA	
D-TELECOMMUNICATION: 1-Murree urban area should be covered with WiFi Hotspots on commercial basis.	PP	S / M / L	TMA / TDCP / PTCL	TMA / TDCP / PTCL	PPP
2-The communication network wires (electricity cables etc.) should be put underground.	PP	S / M / L	TMA / PTCL / WAPDA	TMA / TDCP / PTCL	PPP
3-Mobile network service congestion should be solved in peak hours.	M	S / M / L	PTA	PTA	
4-Consideration must be paid for the network coverage connection and future provision (plan and design) for the new proposed Development Precincts.	PD	S / M / L	TMA	TMA	
E-ELECTRICITY: 1-The installed IESCO external electrification network is poor; it should be gradually upgraded and preferably go underground.	M	S / M / L	IESCO / TMA	IESCO / TMA	
2-Electricity Meters should be visually protected.	PP	S / M / L	IESCO / TMA	IESCO / TMA	
3-Human scale solar powered street lamp posts should be installed in conformance with the urban design on the Mall road, Kashmir Point and Pindi Point.	PP	S / M / L	IESCO / TMA	IESCO / TMA	
4-Consideration must be paid for the network coverage connection and future Grid station provision (plan and design) for the new proposed Development Precincts.	PD	S / M / L	TMA	TMA	

F-SOCIAL INFRASTRUCTURE: 1-Buiding used by most of the public services in Murree (social infrastructure) such as hospital, schools, public offices and other services are in poor condition. Most of these buildings were badly hit during 2005 earth quake. It is suggested that all such building should be thoroughly investigated/surveyed by TMA to ensure structural stability on immediate basis.	S/P R	E/S/M	TMA/PDMA/ BUIDINGS	TMA	TMA/Dept Responsible
2-Health, safety guideline should be made an integral part of building regulations and enforced on priority basis.	S/P R	S/M	TMA	TMA	TMA/Dept Responsible
3-Dilapidated structures should be demolished and reconstructed through special grants from concerned deparments.	S/P R/P	E/S	TMA	TMA	TMA/Dept Responsible
4-All building should follow emergency safety and rescue procedures specially building serving for public gatherings.	PR	E/S	TMA/PDMA	TMA	TMA/Dept Responsible
5-All new planned social infrastructure facilities in proposed development precincts should be constructed considering engineering standards for hazard risk areas.	PR	S/M	TMA	TMA	TMA/Dept Responsible

Project Costs for Infrastructure Development

A. Water:

1. Water Source Improvement and rehabilitation PKR 1000 Million
2. Up gradation, cleaning and maintenance of water storage tanks PKR 50 M
3. Piped Water Supply Infrastructure Improvement PKR 200 Million
4. Future Network expansion of water supply to new proposed development precincts PKR 200 Million
5. Installation of Metered Water Bills System PKR 100 Million
6. Construction of isolated runoff drains under walkways linked to water recharge bores PKR 200 Million
7. Stabilizing beds of runoff drains PKR 200 Million
8. Connection of runoff drains/Kass to the Primary Treatment Facilities PKR 200 Million
9. Rain Water Harvesting Tanks (Voluntary Action by bounded by legal requirements.) N/A

B. Sewage Water

1. Development of an Integrated Sewerage System in whole Murree PKR 500 Million
2. Primary and secondary waste water treatment plant (1 MGPD to 1.25 MGPD) x 3 nos. PKR 3600 Million
3. Construction of separate runoff drains under walkways PKR 200 Million
4. Future Network expansion of Sewerage System to new proposed development precincts PKR 400 Million

C. Sui Gas Installations

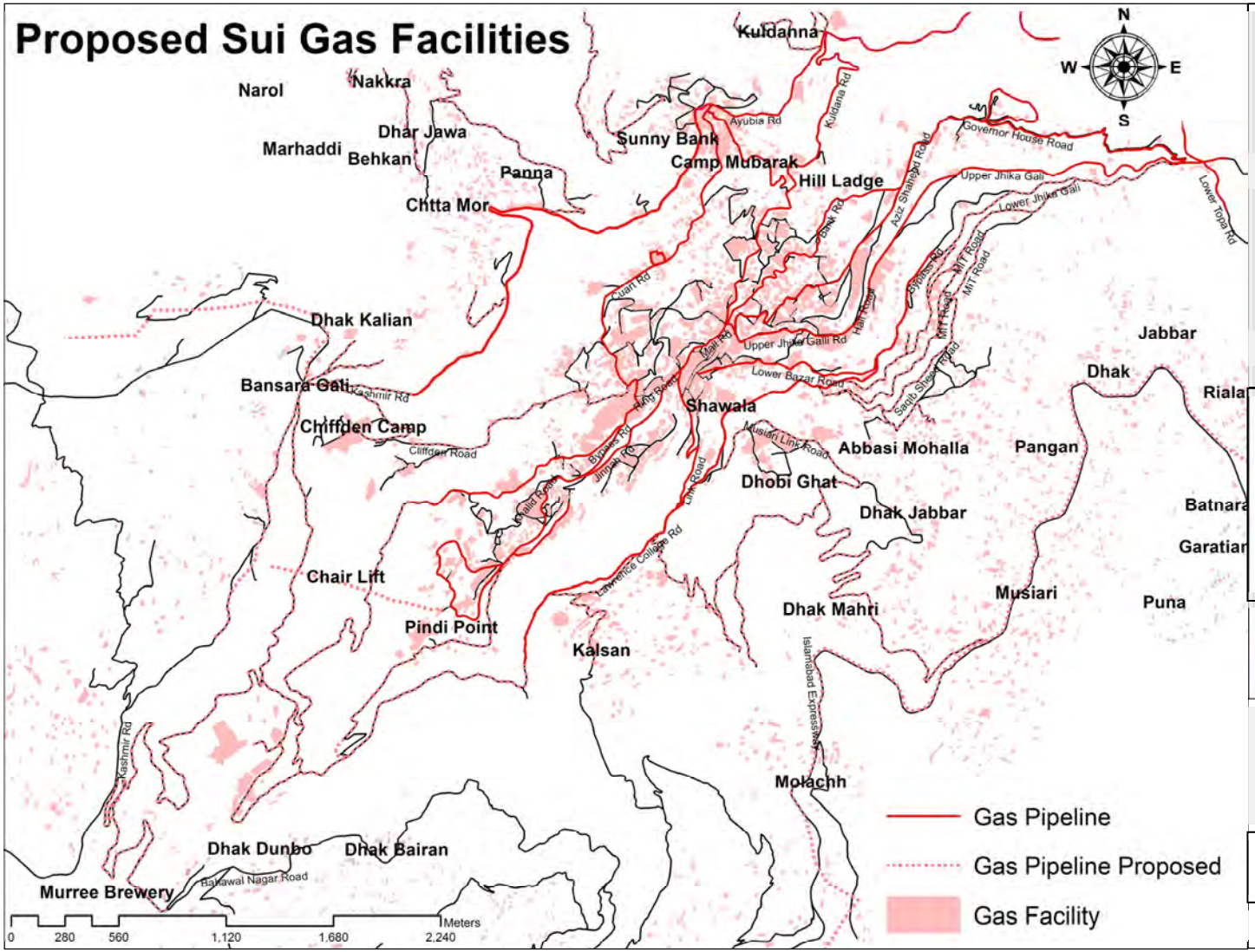
1. Undergrounding of sui gas pipelines PKR 300 Million
2. Future Network expansion of Sui gas to new proposed development precincts PKR 500 Million

D. Telecommunication

1. Coverage of Murree Urban Area with WiFi Hotspots PKR 100 Million
2. Undergrounding of communication wires PKR 200 Million
3. Future Network expansion of telecommunication system to new proposed development precincts PKR 500 Million

E. Electricity

1. Upgradation of existing External Electrification (includes all HT, LT, Main and Distribution Network) for existing Murree Urban — PKR 4 Billion
2. Underground External Electrification (includes all HT, LT, Main Grid to support 125 Mw expected demand and distribution Network) for Proposed Precinct Development (872 acres) — PKR 5 Billion
3. Visual/weather protection of electricity meters — PKR 20 Million
4. Installation of solar street lighting — PKR 15 Million



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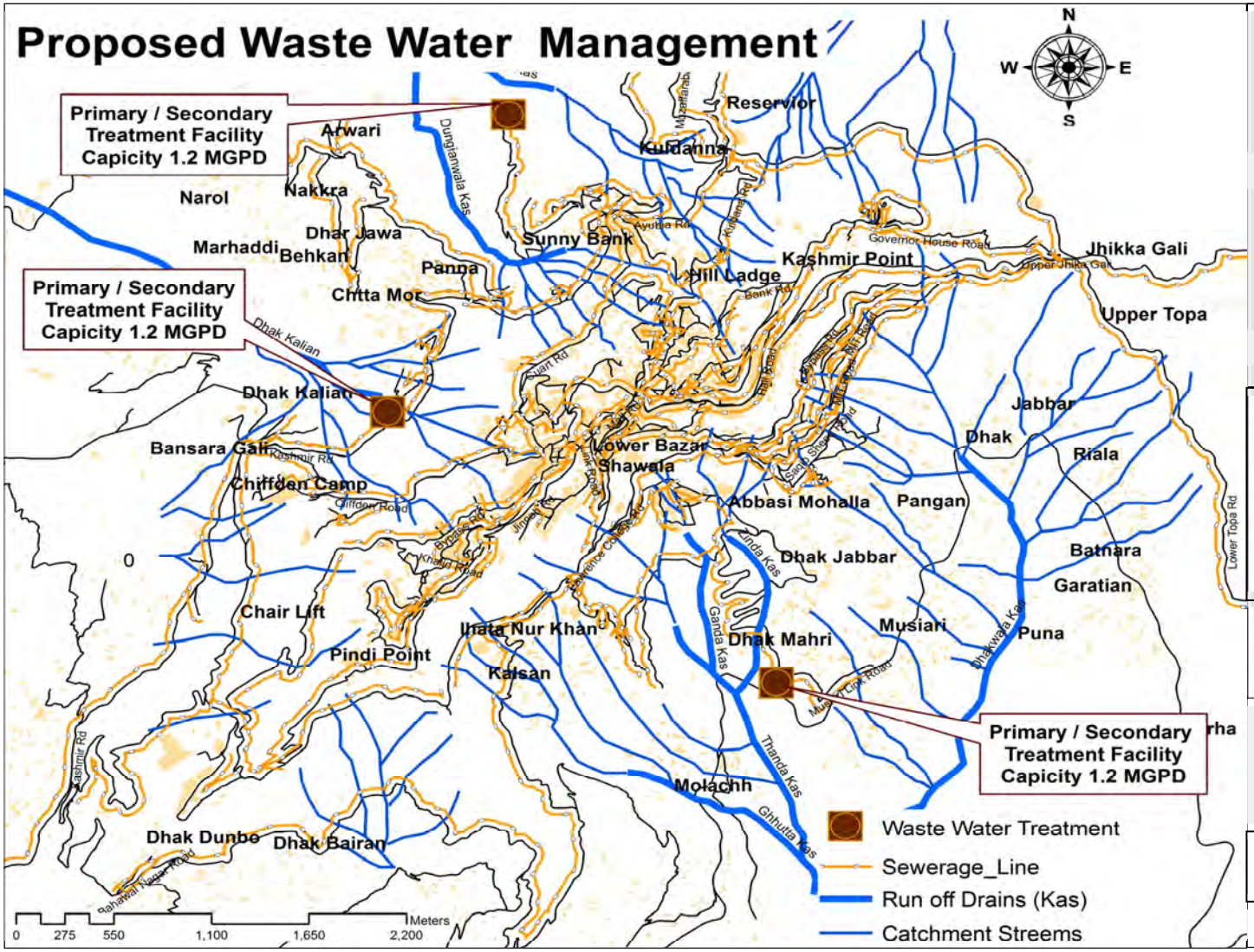
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PROPOSED SUI-GAS MANAGEMENT

SHEET #



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PROPOSED WASTE WATER MANAGEMENT

SHEET #

1.7.6 ACTION PLAN FOR URBAN DESIGN IMPLEMENTATION:

Urban Design and Conservation:
If Murree needs to retain its character as a sustainable tourist town, it is highly imperative to build Murree as having identifiable neighbourhoods, unique architecture, aesthetically pleasing public places and vistas, identifiable landmarks and focal points, and a human element established by compatible scales of development and on-going public stewardship through Urban Design. Urban design is an interlocking relationship among urban planning, infrastructure development and day to day management of the town affairs. Following actions describe the need to have urban design projects for Murree:

STRATEGY/ACTION	TYPE	PRIORITY	IMPLEMENTATION RESPONSIBILITY	O & M RESPONSILITY	FINANCING SOURCE
• Urban Revitalization of Mall Road	PP	S	TMA / TDCP	TMA	TMA
• Façade improvement of the buildings at Mall Road, Bank Road, Caurt Road, Kashmir Point and Pindi Point with unique independent themes.	PP	S / M	TDCP	TDCP	TMA
• Theme Colorization of Building Roofs, facades, logos/signs in Murree (Pilot Projects – The Mall)	PP	S / M	TDCP / TMA	TMA	TMA
• Design & Erection of a Site Memoir at Pindi Point and Kashmir Point (Based on a Design Competition)	PP	S / M	TDCP / TMA	TMA	TMA
• Enhancing the value of Tourist Sites by adding tourist street furniture at Pindi Point, Kashmir Point, Jhika Galli, Mall Road, Kuldana Chowk, Bansra Galli and Murree Brewery	PP	S / M	TDCP / TMA	TDCP	TMA
• Adding Wall-Murals and Public Street Art / Painting Artistic Values / Façade Regeneration to add value throughout Murree	PP	S / M	TDCP / TMA	TMA	TMA
• Green Urbanism Initiative at Pindi Point, Kashmir Point, Jhika Galli, Mall Road, Kuldana Chowk, Bansra Galli and Murree Brewery by adding natural elements like trees, flower-beds etc.	PP	S / M / L	TDCP / TMA	TMA	TMA
• Making Road Sections into Thematic Flooring Tiles at different intervals with certain color themes to enhance road surprises and eliminating monotony throughout Murree	PP	S / M / L	TDCP / TMA	TMA	TMA
• Enhancing Street Visualization through a mix of themed Lighting at Pindi Point, Kashmir Point, Jhika Galli,	PP	S / M / L	TMA / TDCP	TMA	TMA

and Mall Road from GPO Chowk to Cantt. Limits, Kuldana Chowk, Bansra Galli and Murree Brewery					
• Adding Sculptures at different locations (Pindi Point, Kashmir Point, Jhika Galli, GPO Chowk) in Murree	PP	M	TMA / TDCP	TMA	TMA
• Advertisement control to reduce visual clutter throughout Murree	PP	S	TMA / TDCP	TMA	TMA
• Conservation of Historical Buildings in Murree like Churches, Schools, and old Masjids as listed in proposals.	PP	M / L	TMA / TDCP	TMA	TMA
• Conservation and Reuse of Murree Brewery Building / Site as a mixed use Theme Park with allied facilities	PP	M / L	TMA / TDCP	TMA	TMA
• Development of a Murree Cultural Center (a mixed-use commercial-cum-cultural node) at Amphitheatre on Bank Road.	PP	M / L	TMA / TDCP	TMA	TMA
• Urban Regeneration of Shawala, Lower Bazaar and Kashmiri Mohala	PP	S / M	TMA / TDCP	TMA	TMA
• Urban Regeneration of Lower bazaar: Walking Through Time – Murree from 1860 to 2031 (Architectural Design Competition for an Emporium at Lower Bazaar)	PP	S / M / L	TMA / TDCP	TMA	TMA
• Design & Construction of a "Grand Stand/Multipurpose Sports Ground/Sports Garden" near Bansra Galli Chowk.	PP	M	TMA / TDCP	TMA	TMA
• Inclusion of Urban Design parameters in Building Regulations	M	S / M / L	TMA / CDG	TMA	TMA
• Theme Colorization of Building Roofs in Murree (Pilot Projects – Lower Bazaar, Shawala, Qassab Market)	PP	S / M / L	TMA / CDG	TMA	TMA
• Design & Construction of a Punjab Concert & Culture Center (a mixed-use commercial-cum-cultural node)	PR	M / L	TMA / TDCP	TMA	TMA
• Conservation and Reuse of Murree Brewery Building / Site as a mixed use Theme Park with allied facilities	PP	M / L	TMA / CDG / YASAT / TDCP	TMA / TDCP	PPP
• Adding trees and green infrastructure at eroding slopes throughout Murree	PP	S / M / L	TMA / TDCP	TMA / TDCP	TMA

Project Costs for Urban Design Implementation

1. Urban Regeneration of Shawala and Kashmiri Mohala PKR 1500 Million
2. Urban Regeneration of Lower bazaar: Walking Through Time Murree from 1860 to 2031 PKR 30 Million
3. Urban Revitalization of Mall Road PKR 25 Million
4. Façade improvement of the buildings PKR 35 Million
5. Design & Erection of a Site Memoir at Pindi Point and Kashmir Point PKR 10 Million
6. Adding Wall-Murals and Public Street Art / Painting Artistic Values PKR 10 Million
7. Theme Colorization of Building Roofs, signs in Murree (Pilot Projects – The Mall) PKR 30 Million
8. Thematic Flooring Tiles at different Road Sections PKR 10 Million
9. Street Visualization through themed Lighting at Pindi Point, Kashmir Point etc. PKR 10 Million
10. Adding Sculptures at different locations (Pindi Point, Kashmir Point etc. PKR 10 Million
11. Conservation of Historical Buildings in Murree as listed in proposals PKR 30 Million
12. Conservation and Reuse of Murree Brewery Site as a mixed use Theme Park with allied facilities PKR 100 Million
13. Development of a Murree Cultural Center on Bank Road PKR 30 Million
14. Design & Construction of a "Grand Stand/Multipurpose Sports Ground/Sports Garden" near Bansra Galli Chowk PKR 50 Million