

Sub: Construction Management System- Circular-11
Ref: Guidelines for Road & Bridge sector for the works to be taken up under RUSDIP.

Road & Bridge sector is one of the most important sectors for urban infrastructure. The development / growth of a city depend on its transport network system. Due to economic reform & growth of population in recent years, the existing road network is inadequate to sustain the economic development as well as the demand of the people. Besides the above, the mix mode of city traffic creates congestion in junction & important places and roadside parking, pedestrian movement, bus stand etc. also create problem in traffic movement. Due to the above reasons, the important crossings/junctions/ places are congested frequently in peak hours. To relieve the present/future traffic pressure as well as maintained the economic development, the improvement of the existing roads/junctions, provision of new road/ bridges/flyover/ROB and other improvement like parking, bus bay, footpath etc are necessary as per their merits.

The proposals for improvement of the Road & Bridge will therefore have to be tailored to be within the limitations of the funds available for the sector in the town with a priority to the construction of bridges and the most beneficial and cost effective proposals have to be prepared after interaction with the line agency and the local city level authorities. The proposals may follow the following general guide lines:

Road Network Planning/Traffic Master Plan

1. The Road & Bridge works should be properly integrated with the ongoing schemes / sub-project of urban environment improvement project (i.e. Water supply, Sewerage, Drainage etc.) under RUSDIP. The detailed Project report shall be prepared as per the IRC Guidelines.
2. The existing road network system of the city should be taken into account for preparation of traffic master plan for 30years design period i.e. year 2041 and accordingly the proposed improvement scheme shall be planned. The following activities have to be worked out for preparation of traffic master plan.
 - ✓ Mid block traffic survey for different roads including parking survey, pedestrian survey
 - ✓ Traffic survey in junctions including pedestrian movement
 - ✓ Analysis of traffic survey data
 - ✓ Fixation of Planning Horizon
 - ✓ Collection of important features, socio economic data, right of way etc.
 - ✓ Proposed traffic planning of the city to avoid traffic congestion in peak hours including safety of traffic, provision of parking, safe movement of pedestrian & slow moving vehicles etc.
 - ✓ Any development/expansion plan, tourism etc. shall also be taken into consideration for preparation of traffic master plan

- ✓ Projection of proposed traffic
 - ✓ Improvement schemes i.e. new road, widening of existing road, signaling system, parking facilities, footpath, foot over bridge, Sub-way, ROB, RUB, Bridges etc have to be finalized in line with the traffic master plan.
 - ✓ Proposed improvement schemes shall be limited to existing right of way or minimum acquisition.
 - ✓ Preparation of guidelines for passing of utilities considering the minimum damage/ obstruction of road for lying of new utilities & maintenance of utilities.
3. The Socio- Economic structure of the city shall be taken into consideration for future prospects of the city as well as needs for development.
 4. Based on Traffic & Socio-Economic analysis, the priority list of improvement scheme shall be prepared to suit the traffic master plan.
 5. From the above priority list of improvement scheme, the different works shall be phased for 10/20/30 years for smooth traffic flow as well as minimum environmental hazards.
 6. Immediate improvement scheme shall be selected to implement as per their merits and budgetary allocation. The proposed improvement scheme shall be integrated with proposed works under RUSDIP.
 7. Based on selection criteria for works under RUSDIP after studying their feasibility, RUSDIP intends to take up the works of ROB/RUB/high level Bridges as the priority to this sector. In RUSDIP, it is proposed that only very important / priority roads should be considered in accordance to tentative allocation/identified list of works of the town. In general, the construction of road shall be started after completion of works related to sewerage, drainage, water supply etc. for the stretches of the road. As and when roads getting damaged due to sewerage works; road restoration in complete width should be taken under the sewerage packages; whereas, for water supply works the road restoration may be limited to the width of excavation only.

Design Criteria and materials

Road Work: - In order to have uniform policy for roads and streets following guidelines are issued:

8. The Specifications for road works are based on the current Indian Roads Congress Specifications and recommended codes of practice, and ministry of Roads Transport and highways as per IRC specifications.
9. Roads shall be planned for full width of Right of Way (ROW) available. In general, space for utility services / utility corridor may be identified separately in accordance to the future requirements so that the obstruction of road & damage of the pavement shall not be occurred in future. If separate space for utility is not available, a suitable planning for passing of utilities has to be prepared for laying of new utilities & maintenance of utilities.
10. In general, the road pavement is designed for 20 years design period. However, to minimize the initial cost, 10-15 years design period may be adopted for design of road pavement and overlay of BC & DBM for every 5 years shall be recommended for remaining design period. For this case, cost effective study shall be carried out for all cases with proper analysis. In absence of actual traffic growth by suitable method, the annual growth rate of traffic may be adopted as 7.5 percent.

- 11 The reconnaissance survey of the existing roads should be carried out. All available information of the existing road i.e. year of construction, sub grade CBR, soil characteristics pavement composition and specifications, traffic, pavement performance, overlay history, climatic conditions, location of underground & overground utilities etc. should also be collected from field visit and line agency i.e. from PWD, PHED, ULB's etc.
- 12 Land Acquisition plan for approved improvement proposal shall be prepared based on collected revenue map & information.
- 13 Normally median should not be less than 1.2 m except critical locations and this should usually be unpaved in four or more than four lane carriageway except specific cases due to the width of the right of way limitation.
- 14 Flexible pavement for new roads should be designed in accordance with IRC: 37-2001. Strengthening requirements either by method provided in IRC: 37-2001 or the Benkelman Beam Deflection Technique described in IRC: 81-2001. For the purpose of structural design only the number of commercial vehicle of weight of 3 tones or more and their axle loading is considered. Profile correction should be avoided as far as possible. If it is not possible to avoid then it should be taken bare minimum.
17. Effort should be made to have useful cost effective designs. Quality of works is more dependent on adhering to design parameters during construction rather than higher design specification.
- 18 BC and DBM layers should be bare minimum and it should be designed with the provision of overlay in future. Bitumen of Grade 60/70 or Crumb Rubber Modified (CRM) shall be used for all bituminous work except for mastic asphalt for which 85/25 Grade of Bitumen or CRM shall be used.

Rigid pavement should be proposed where carriageway comes in submerges and low lying area. The design shall be done in accordance with IRC Standard No. 58.

The following geometric Standard for roads and culverts shall be adopted:

Sl. No.	Design Parameters	For NH		For SH & City road
		2-lane road	4-lane road	
1.	Design Speed (kmpH)	80-100	80-100	60-80
2.	Right of Way (m)	30-60	60	20-60
3.	Width of Carriageway (m)	2x3.5		3.5m x no. of lanes
4.	Width of Paved Shoulder(m)	1.5		As per requirement of project (Min 1.0)
	Width of Unpaved Shoulder(m)	1.5	1.5	1.0
6.	Width of service Road (m)	7.5 to 5.5	7.5 to 5.5	7.5 to 5.5
	Median Width (m)		4.5 to 1.2	4.5 to 0.6
	Minimum width of footpath in meter	1.5	1.5	1.5
9.	Width of roadside parking (m)	No provision		3.0 to 2.5
10.	Width of Bus bay (m)	4.5	4.5	
11.	Camber (%)	2.0-2.5	2.0-2.5	
12.	Sight distance	Intermediate Sight Distance	Stopping Sight distance	Intermediate/ Stopping Sight distance
13.	Maximum Super elevation (%)	5.0	5.0	4.0
14.	Minimum Radius (m)	265	265	150
15.	Minimum turning radius (m) at junction	12	15	10

16.	Length of Transition Curve (m)	Max of $0.0215V^3/(CR)$ or the rate of change of super-elevation 1 in 150.		
17.	Extra width (m)	As per table 12 & clause 10.6 of IRC:86		
18.	Vertical gradient in general (%)	2.5	2.5	2.5
19.	Maximum vertical gradient (%)	3.33	3.33	4.0
20.	Minimum Length of Vertical Curve (m)	60	60	60
21.	Kerb height (m)	0.225	0.225	0.225
22.	Lateral Clearance (m)	0.5-1.0	0.5-1.0	0.5-1.0

Note: In general, above parameters shall be applicable for new alignment. However, the above design standard may be modified suitably considering ground reality / space constraint prior to approval of RUSDIP / concerned department. In case of proposals for cement concrete roads under the slum areas or narrow width lanes, which are not subjected to regular heavy traffic may be kept with 100 mm thick M20 grade concrete finished surface on 100 mm thick M10 grade concrete.

- 21 Thermo-plastic paints should be used for road marking.
- 22 Roadside drain should be designed as per IRC Standard. The intensity of rainfall should be taken from the realistic past data. The design calculation for the intensity should be furnished in details along with adopted design procedure.
- 23 Shifting of utility services should be avoided as far as possible. In case it is not avoidable then effort should be made to minimize the cost by taking minimum required shifting of utilities.
- 24 Environment & Social impact assessment shall be done to minimize environment & social hazards.
- 25 Spacing of street light should be designed in accordance to the required width to be illuminated and accordingly capacity of luminaries and height of poles should be decided. Dark patches shall not be seen on the road surface.

Railway over Bridge and Bridges: In order to have uniform policy for ROB & Bridges following guidelines are issued:

26. The Railway over Bridge should be constructed on the busiest Level crossings and the existing level crossing shall be closed after construction of the same. Traffic management plan should be prepared in consultation with local authorities, so that during construction period traffic may not be disturbed.
27. Proper sub soil investigation should be done in advance before preparation of Bid Documents. The investigation for the foundation should be got done and enclosed and clear recommendations of the SBC for the type of foundation proposed should be given. Geo-technical investigation works for ROB & Bridges shall be carried out for computing the type and depth of foundations. The copy of this report should be enclosed with the bid document. In accordance to MORTH clause 1102 considering details of geotechnical sub-surface explorations described in Section 2400, at least one Bore hole should be made at every Pier Location. However it may be judiciously considered that in case where pile foundation are proposed in ROB, bore hole should be made on the both side location of Railway piers, abutment & intermediate location and if the data found in detail investigation differs abnormally, than one bore should be made at every pier location. In case of river bridges, at least one Bore hole should be made at every Pier Location.
28. In general, the minimum design period for ROB & Bridges is 50 years.

29. The proposed alignment should be thoroughly studied and the availability of land should be ensured for the complete proposal by detailing and earmarking the land acquisition, utility shifting etc. along with likely cost on to these.
30. Proper investigation should be made for Utility Shifting in consultation with line agencies like BSNL, RSEB, PHED, UIT/ Local bodies, Railways etc for the existing utilities to be shifted coming in the alignment of ROB. The actual site analysis should be incorporated in BOQ so that work may be completed without delay in shifting utilities.
31. The levels should generally follow the absolute levels by picking up the reference level from Survey of India Bench Mark or some other established bench mark. The levels should also be checked with base maps being prepared under RUSDIP.
32. The following geometric Standard shall be adopted for ROB/RUB/Bridges shall be adopted

Sl. No.	Design Parameters	For NH		For SH & City road
		2-lane road	4-lane road	
	Design Speed (kmpH)	80-100	80-100	60-80
2.	Right of Way (m)	30-60	60	20-60
3.	Width of Carriageway (m)	7.5	2x7.5	7.5
4.	Width of service Road (m)	7.5 to 5.5	7.5 to 5.5	7.5 to 5.5
5.	Median Width (m)		4.5 to 1.2	
6.	Minimum width of footpath (m)	1.5	1.5	1.5
7.	Camber (%)	2.0-2.5	2.0-2.5	2.0-2.5
8.	Sight distance	Intermediate Sight Distance	Stopping Sight distance	Intermediate/ Stopping Sight distance
9.	Maximum Super elevation (%)	4.0	4.0	4.0
10	Minimum Radius (m)		265	265
	Minimum turning radius (m) at junction		12	15
12.	Length of Transition Curve (m)	Max of $0.0215V^3/(CR)$ or the rate of change of super-elevation 1 in 150.		
3.	Extra width (m)	As per table 12 & clause 10.6 of IRC:86		
	Vertical gradient in general (%)	2.5	2.5	2.5
15.	Maximum vertical gradient (%)	5.0	5.0	5.0
16.	Minimum Length of Vertical Curve (m)	60	60	60
17.	Kerb height (m)	0.225	0.225	0.225
	Lateral Clearance (m)	0.5-1.0		0.5-1.0
	Vertical Clearance (m)			
	Vehicular crossing	5.5	5.5	5.5
	Pedestrian/cycle crossing		2.5	2.5
	ROB	Minimum 6.825m (to be finalized after discussion with concerned railway Chief Engineer)		
20.	Min. width of RCC crash barrier(m)	0.45	0.45	
21.	Min. Height of RCC crash barrier(m) excluding steel railing	0.85	0.85	
22.	Min. width of RCC Railing (m)	0.25	0.25	0.25
23.	Min. Height of RCC Railing (m)	1.1	1.1	

Note: However, the above design standard may be modified suitably considering ground reality/ space constraint prior to approval of RUSDIP / concerned department i.e. Railway, PWD etc.

33. GAD Approval: - Detailed drawing of proposed ROB with L-Section, details of bore hole, certificate of closure of level crossing from local administration should be submitted to DRM Railway, so that necessary approval from Railway may not be delayed. Vertical clearance over Railway track should be minimum 6.825 M from the soffit level of the central span or as specified by railways for the tracks where double track containers proposed.
34. Vertical curves: - Railway span deck & skew correction slab may be kept on summit curves for a design speed of 80 Km/hr. as difference of level between mid span & support is very less and this shall be maintained by wearing course. Minimum 60m long valley curves shall be introduced at the meeting point with the existing road on either ends.
35. Traffic Circulation Plan for ROB/RUB shall be prepared before finalization of ROB/ RUB scheme and the same shall be approved by RUSDIP in consultation with the local authorities like, PWD, Municipality, Traffic police etc.
36. Minimum width of service road shall be 5.5 meter. Minimum 1.5m raised footpath shall be provided at property end. The Utility & road side drain shall be proposed below raised footpath for the constraint stretches.
37. In general, 1 in 40 vertical gradient shall be used for design of approaches. Due to various constraints, the above gradient may be limited to 1 in 20 for city portion as per IRC special publication-23.
38. The work of Reinforced Earth retaining walls should be proposed in approaches to ROBs shall be carried out as per Clause 3100 of MoRTH "Specifications for Road & Bridge Works" (Fourth Revision). Specific requirement of 'fill material' as stipulated under clause 3103, which shall be strictly met with. The reinforcing element shall be either galvanized steel strips or Geo grids conforming to clause 3100 of MORTH Specification (Fourth Revision). The design and drawings of reinforced Earth Retaining Walls shall be submitted by the contracting agency for approval of Engineer in Charge.
39. More emphasis should be given to provide minimum no. of Expansion joints, two or three slabs should be made continued.
40. Height of Pedestal shall be finalized maintaining sufficient gaps between pier cap & superstructure for replacement of bearing in future.
41. For individual span length 20-25m, PSC voided slab superstructure shall be adopted with galvanized steel spiral void former (610 mm outer dia) for the formation for voids. The void formers, being light in weight, shall be reliably anchored against uplift during concreting. Suitable vents will be left in the voids to drain out water from inside the voids. Minimum tube thickness of spiral lock seam tubes shall be 0.80 mm. Low relaxation strand as per IS: 14268 shall be used as pre-stressing steel.
42. For individual span length above 25m, PSC precast Girder with RCC deck or PSC Box Girder shall be adopted. Preferable Grade of concrete for different components of the ROB/Bridges should be as follows.

• PCC	-	M – 15
• Piles / Pile caps	-	M – 35
• Pier / Pier caps	-	M – 35
• Superstructure & pedestals	-	M – 45
• Approach slabs	-	M – 30
• Friction slabs, Crash Barriers, RCC Railing, Kerbs	-	M – 30
43. Clear Cover for different components of the ROB/Bridges should be as follows.

• Piles / Pile caps	-	75mm
• Pier / Pier caps including pedestals	-	50mm

- Superstructure - 40mm
 - Approach slabs - 50mm
 - Friction slabs, Crash Barriers, RCC Railing, Kerbs - 50mm
44. Top of the pile cap shall be kept at 500mm below the ground level.
45. The work pertaining to sub structures and superstructures shall conform to guideline given under Clauses 2200 and 2300 respectively of MORTH Specification (Fourth Revision). Requirement of structural concrete shall conform to Clause 1700.
46. Steel Reinforcement (un-tensioned): Only TMT steel reinforcement (un-tensioned) conforming to clause 1600 of MORTH specification from original billet manufactures shall be used for all the component of ROB.
Structural Steel: Fe 410B as per IS: 2062
47. Materials: Materials for structures shall conform to Clause 1000 of MORTH Specifications (Fourth Revision).
- i. Diameter of pile for ROB and Bridges shall be 1.0m and 1.2m respectively. Whereas, depth of pile cap for ROB and Bridges shall be 1.5m and 1.8m respectively.
 - ii. Non destructive integrity testing may be carried before laying pile caps. However, vertical & lateral load test must be conducted to verify the capacity of pile.
 - iii. Detail Hydraulic Study shall be carried out to finalize discharge, width of waterway, velocity, scour depth, afflux, free board etc. Besides the above, past hydraulic data shall be collected from concerned authorities. Based on hydraulic study type of foundation, span arrangement, deck level etc shall be finalized.
 - iv. For bridges, immediate approaches shall be pitched by stone pitching with suitable depth of curtain wall. Flooring/apron shall be finalized after detailed hydraulic study.
 - v. Bearing shall be either Elastomeric type or POT cum PTFE type.
 - vi. In general, 25mm mastic over 40mm Bituminous Concrete shall be used as wearing course. Bituminous layers shall be laid by paver finisher.
 - vii. Strip seal expansion joints shall be fixed in position before laying of BC on deck. Mastic asphalt layer shall be laid there after.
48. Design of ROB/Bridges: The designs of ROB/bridges should be got approved from the competent authority like MNIT/IIT well before the award of the work. The drawings of Railway portion if any shall be submitted in advance stage to Railway so that delay may be minimized. The Temporary Staging drawing of Railway portion and work program of railway portion casting speed restriction period traffic block should be submitted well in advance so that delay in getting approval from railway may be minimized.
49. Bitumen of Grade 60/70 or Crumb Rubber Modified (CRM) shall be used for all bituminous work except for mastic asphalt for which CRM or 85/25 Grade of Bitumen shall be used.
50. Drainage spouts shall be galvanized only after complete fabrication. GI pipe 150 mm dia of class – B (as per relevant IS code) shall only be used for drainage of water collected by spouts.
51. Use of hydraulic rotary rig for piling work shall be mandatory.
52. Controlled concrete of required grade shall be produced in an automatic batching plant of 15 cum / hr (min) capacity and transported to site of work through transit mixers. A suitable casting yard shall be established by the contractor for manufacture of pre-cast girders required for viaduct spans.

Lifting of girders shall be carried out through predetermined location on the girder.

53 Thermoplastic paint conforming to MORTH specification CL: 803 shall be used.

54 For WMM all the material used shall be crusher broken.

55 Use of mechanical Grader for construction of embankment, sub-grade & sub-base shall be mandatory.

Traffic signs, Bollards, Hazard markers, Raised pavement markers shall conform to relevant IRC specification and provision should be kept in BOQ.

Culverts: - In order to have uniform policy for culverts following guidelines are issued:

57. Proper sub soil investigation should be done in advance before preparation of Bid Documents. The investigation for the foundation should be got done and enclosed and clear recommendations of the SBC for the type of foundation proposed should be given. At least one Bore hole should be made at any abutment location. The copy of this report should be enclosed with the tender document. The contractor shall verify the subsoil investigation report at the site before bidding the tender.

58. The levels should generally follow the absolute levels by picking up the reference level from Survey of India Bench Mark or some other established bench mark. The levels should also be checked with base maps being prepared under RUSDIP.

59. In general, the minimum design period for culverts is 50 years.

60. In general, RCC Box (single/multiple cell) with curtain wall of sufficient depth shall be adopted for new/ extension of culverts. Box shall be placed over Bed level. For small drainage, pipe culvert with 900mm (min) diameter NP-4 Pipe shall be provided.

61. The work pertaining to sub structures and superstructures shall conform to guideline given under Clauses 2200 and 2300 respectively of MORTH Specification (Fourth Revision). Requirement of structural concrete shall conform to Clause 1700.

Steel Reinforcement (un-tensioned): Only TMT steel reinforcement (un-tensioned) conforming to clause 1600 of MORTH specification from original billet manufactures shall be used for all the component of culverts.

Materials: Materials for structures shall conform to Clause 1000 of MORTH Specifications (Fourth Revision).

62. Preferable Grade of concrete for different components of the ROB should be as follows.

• PCC	-	M – 15
• Foundation	-	M – 30
• Substructure	-	M - 30
• Superstructure	-	M – 30
• Approach slabs, Crash Barriers, RCC-Railing, Kerbs	-	M – 30

63. Clear Cover for different components of the ROB/Bridges should be as follows.

• Fondation	-	50mm
• Substructure	-	50mm
• Superstructure	-	50mm
• Approach slabs, Friction slabs, Crash Barriers, RCC-Railing, Kerbs	-	50mm

64. Use of mechanical Grader for construction of embankment, sub-grade and sub-base shall be mandatory. For WMM all the material used shall be crusher broken.
Bituminous layers shall be laid by paver finisher. Bitumen of Grade 60/70 or CRM shall be used for all bituminous work.
66. Thermoplastic paint conforming to MORTH specification CL: 803 shall be used.
67. Traffic signs, Bollards, Hazard markers, Raised pavement markers shall conform to relevant IRC specification and provision should be kept in BOQ.

Inspection and Testing

68. Third party inspection should be made for Bearings, R.E walls Strips, Expansion joints, H.T.S Strands, Electrical Cables etc.
Categories of inspection and test for various materials/equipments have to be clearly identified and mentioned in the bid document (technical specifications). Inspection category must be classified as follow;
Category A: The Drawing has to be approved by the Engineer before manufacturing and Testing. The material has to be inspected by the Engineer or by an Inspecting agency approved by the Engineer at the manufacturer's premise before packing and dispatching.
Category B: The drawings of the Equipment have to be submitted and to be approved by the Engineer prior to manufacture. The material has to be tested by the manufacturer and the manufacturer's test certificates are to be submitted and approved by the Engineer before dispatching of the Equipment.
Category C: The material may be manufactured as per standard and delivered to the site.

General

69. Inventory by the line agency are to be transferred on digital base maps of the town with GIS layer.
70. The standard bidding documents should be understood very clearly and ensure required details (i.e. special conditions of the Contract, Technical specifications, drawings and BOQ items including preamble to BOQ etc.) in the bid document for the particular sub-project, harmony in the documents need to be examined by the DSC/IPIU /IPMC/ in charge packages in PMU.
71. The estimates should be reflective of the present market prices and should be based on the current SOR for RUIDP and the market prices for items not included there.
72. Safety aspects needs to be attended in the design of the system and included in BOQ properly – Excavation in deep trenches, barricading, execution and maintenance at heights over the ground.

Design Report Format:

73. The report should consist two parts:
 - a. **City status report**
 - b. **Sub-project specific report**
74. The city status report should contain at least the following chapters:
 1. Index
 2. Salient Features – Topography, Hydrology, Geology etc.
 3. Introduction –details of ongoing & future plans.

4. Executive summary for suggestive measures to mitigate deficiencies / long term solutions and list of proposed works in totality.
 5. Phasing of the proposed works in line with allocations under RUSDIP for fulfilling its goal matrix and indicators. Identification of works to be taken up by the concerned line agency. Define role of RUSDIP/ PWD/ others to meet out the deficiencies.
75. The sub-project specific report should contain at least the following chapters:
- (a) Index
 - (b) Introduction - Analysis of Priority for RUSDIP
 - (c) Detail analysis of the sub-project specific requirement and justification.
 - (d) Sub-project specific present level of indicators and indicators after execution of the project covering:

General:

 - ✓ Increase in traffic volume
 - ✓ reduction in fuel costs,
 - ✓ Corresponding health benefits
 - ✓ Reduction in time
 - ✓ Reduction in vehicle maintenance cost
 - ✓ Safety of traffic & pedestrian
 - (e) **Technical Report containing** - Narrative of the various design aspect, parameters, alternatives and conclusions – highlighting special features; Work Program; Operation and Maintenance; Benefits expected from the investment.
 - (f) **Bidding document** - Incorporation of Scope of work, special conditions of contract, Technical specifications, Tender & Detailed Construction Drawings, Estimate & Bill of quantities and preamble to BOQ etc. in Standard Bidding document.
 - (g) **Operation and maintenance** - Expectations from the line agency (personal requirement / cost requirement), Expectations from the contracting firm.
 - (h) **Execution Methodology** - Sequence of execution, tentative work plan, interface with other works, Quality Assurance and Quality Control, Safety aspect during execution.
 - (i) **Time line for completion of sub-project.**
 - (j) **Likely Impact after the completion of sub-project under RUSDIP** - No. of beneficiaries/ colonies covered/ % of total city area; direct / indirect cost savings and social impacts.
 - (k) Linkage of existing and proposed work on base maps prepared by RUSDIP (Availability of plans/ details of existing system)
 - (l) **Sub - project Issues**
 - i **Status of land** availability / Land acquisition for structures to be constructed,
 - ii **Interdepartmental issues** with Forest for tree cutting & planting, Railways for central span and works through railway land, National Highways for road cutting / crossings and Bridges, Removal of encroachment and their resettlement.
 - iii **Time line for clearance** from concerned department
 - iv **Shifting of under ground utilities** (sub-project wise) - Details of concerned department, Mode of shifting, Clearance from line agency, Likely impact of shifting

- v Deposit works to be executed by other departments for execution of the sub-project.

This circular should be abided by all the members of IPMU, IPIU, IPMC and DSC.


(Karni Singh Rathore)
Project Director

Dated: 15.3.2008

F3 (106) (32)/RUSDIP/PMU/CMS/2007/20189-230

Copy to following for information and necessary action:

1. Addl. PD -I & II/ FA/ SE (D-I)/ Dy. PD (T)/ Dy. PD (Adm.)/ SE (WW)/ SE(R&B)/ SE (Mon) / PO (all)/ Sr. AO / All APOs / AAO/ PA to PD PMU, RUIDP, Jaipur.
2. SE PIU, Ajmer, Bikaner, Kota, Jaipur, Jodhpur and Udaipur.
3. Executive Engineer/APO's, IPIU, RUSDIP (Concerned), Alwar, Baran-Chhabra, Barmer, Bharatpur, Bundi, Chittorgarh, Churu, Dhaulpur, Jaisalmer, Jhalawar-Jhalarapatan, Karauli, Nagaur, Rajsamand, Sawai Madhopur and Sikar
4. Team Leader IPMC/ Team Leader CTA Consultant, RUSDIP.
5. Team Leader, RUSDIP, DSC-I, Bharatpur, DSC-II, Nagaur, DSC-III, Jhalawar, RUSDIP.
6. DSC-I, Alwar/ Dholpur/ Karauli/ Sawai Madhopur, DSC-II, Churu/ Jaisalmer/ Barmer/ Sikar and DSC-III, Chittorgarh/ / Rajsamand/ Bundi/ Baran, RUSDIP.
7. ACP, PMU, RUIDP, Jaipur to send by e-mail and put up the Guidelines on the website.


Dy. Project Director (T)