### Justification For Locating the Purvanchal Expressway Greenfield Alignment of UPEIDA Project in the Forest Land and Details of Alternatives Examined.

The Selection of Proposed Alignment out of Three Alternatives was based on Technoeconomic consideration and the forest area involved in all three alignments. The SEIAA UP has also provided the environmental clearance for the proposed alignment (Alternative-III), however, the KML files of three alternatives with forest area calculation have been submitted along with Proposal.

Three alternatives were examined for finalization of alignment of Purvanchal Expressway Greenfield Project. The Salient features of all the three alternative alignments are given bellow.

#### Alternative I

Alternative-I starts from Km 0+000 village Chandsarai, district Lucknow and end at Km 344+471 village Bharauli, District Ballia and is 344.471Km long. The project Alignment is traversing through agriculture land, highly densely populated habitation and bigger stretch of Protected and Reserve forest land. The alignment is passing through Reserve forest land From Km 56.+800 to Km 57+817, Km 59+100 to Km 59+442 and Km 69+980 to Km 71+263. The Alignment requires major structures like Major Bridge at 11 Places. The project involves acquisition of land throughout the alignment. The alignment is passing through the various towns/villages which require demolition of large number of major structures at various locations. The protected and reserve forest land area required to be diverted are 10.7546 and 31.7000 hectares respectively. The estimated cost of the project for this alternative is Rs. 27731.40 Cr. without Varanasi link

#### Alternative II

Alternative II starts from Km0+000village Chandsarai, district Lucknowand end at Km 344+102 village Bharauli, District Ballia and is 344.102 Km long. The project Alignment is traversing through agriculture land, highly densely populated habitation and bigger stretch is passing through Protected and Reserve forest land. The alignment is passing through Reserve forest land From Km 65+400 to Km 66+258 and Km 73+400 to Km 74+417. The Alignment requires major structures like Major Bridge at 8 Places. The project involves acquisition of land throughout the alignment. The alignment is passing through the various towns/villages which require demolition of large number of major structures at various locations. The protected and reserve forest land area required to be diverted are 9.6840 and 22.5000 hectares respectively. The estimated cost of the project for this alternative is Rs. 27513.09 Cr. without Varanasi Link.

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# **Alternative III**

Alternative III the proposed alignment starts from Km(-) 0+456 Village Chand Sarai District Lucknow and ends at Km 340+400 Village Haidariya District Ghazipur with Varanasi Link of 12+450 Km in length is 353+274 Km Long. The project Alignment is traversing through mainly agriculture land with least populated habitation and shortest stretch is passing through protected and reserve forest land. The alignment is passing through Reserve forest land From Km 76+725 to Km 77+350 and Km 234+950 to Km 235+125. The Alignment requires major structures like Major Bridge at 8 Places. The project involves acquisition of land throughout the alignment. The alignment is passing through various towns/villages which require demolition of least number of major structures at various locations. The protected and reserve forest area required to be diverted are 8.4165 and 9.1549hectares respectively, which is least, compare to Alternative I and Alternative II. The estimated cost of the project for this alternative is Rs.22254.36 Cr. with Varanasi link.

## Comparison Statement of alternatives

S.No	Description of Alignment	Alternative I	Alternative II	Alternative III  Green Field	
1	Location	Green Field	Green Field		
2	Length	344.471 Km	344.102 Km	340.400 Km (Varanasi Link 12.450) Total Length= 353.274 Km	
3	Major Structure				
	a) ROB	7	7	8 (one Additional ROB in Varanasi Link)	
	b) Major Bridge	10	8		
	c) Interchanges	5	5	5	
4	Land Acquisition	Yes	Yes	Yes	
5	Forest Area				
	A) Protected Forest Land	10.7546	9.6840	8.4165	
	B) Reserve Forest Land	31.7000	22.5000	9.1549	
	Total Forest Area	42.4546	32.184	17.5714	
6	Structure Demolition	Very High	High	Very Less	
7	Cost	Rs. 27731.40 Cr.	Rs 27513.09 Cr.	Rs 22254.36 Cr.	

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The Merits and de-merits of three alternatives are tabulated bellow.

Criteria	Alternative I		Alternative II		Alternative III	
	Merits De-Merits		Merits De-Merits		Merits	De-Merits
Length	Length is reasonable		Length is less			Length is more
Cost		Cost is more		Cost is reasonable	Cost is less	
Structure Demolition		Very Huge demolition of Structures		Huge demolition of Structures	Less demolition of Structures	
Forest Area (Protected and Reserve)		Very high forest Area		High forest Area	Less forest Area	
Land Acquisition		Cost of LA is very high		Cost of LA is high	Cost of LA is reasonable	

In the view of above merits and De-Merits and especially area of forest land being minimum, Alternative-III alignment is considered appropriate and has been accordingly selected.

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