

AMARAVATI DEEP DIVE WORKSHOP

14, 15 DECEMBER 2017

THE GATEWAY HOTEL, VIJAYAWADA

Liveability | Economic Powerhouse
Infrastructure | Governance



AMARAVATI CONSTRUCTION MANAGEMENT STRATEGY



- Agenda
- The Panel
- Introduction - Infrastructure Works
- Introduction - Buildings Works
- Raw Materials Demand for Next 6 Years
- Panel Discussion



Amaravati Construction Management Strategy

- The main agenda is to discuss on the challenges anticipated in the execution of the proposed development works in Amaravati Capital City.
- The best practices and Risk Mitigation Measures to avoid the conflict among different works and ensure quality, time & Safety in the execution of the works.



Construction Management is critical to complete the project on time while at the same time yielding good quality, within the defined budget. The target is to derive a strategy towards smooth construction process with minimized impact on people and environment.



Sikander Jain, MD, CH2M

Over 20-year experience in infrastructure development across all sectors, with a focus on major development programmes, including greenfield developments.



Kamesh Rao, CEO, GMR Airport Developers Limited

Over 34 years of varied experience in the field of Infrastructure across the globe- Luxury hotels, Universities, Car plants, Roads and now Airports.



Krishna Nistala, Founder, i2R Consulting Pvt. Ltd

Over 25 years of experience in large infrastructure projects, including his tenure with Egis as Global Director of Urban sector.



Manish Chheda, MD Auctus Advisors

Over 18+ years of global consulting experience across range of geographies, focused on long term strategic support to CEOs of conglomerates and governments



K.J. Ramnadh, Regional Head, Project Management Group, CBRE

Over 22 years of experience in construction management and project management for large buildings projects.



Bharatt Raaj, HSE Lead – India, CH2M

Chartered Health Safety & Environmental (HSE) professional with extensive industry experience to design, develop & deliver HSE solutions of over 17 years.



Introduction - Infrastructure Development



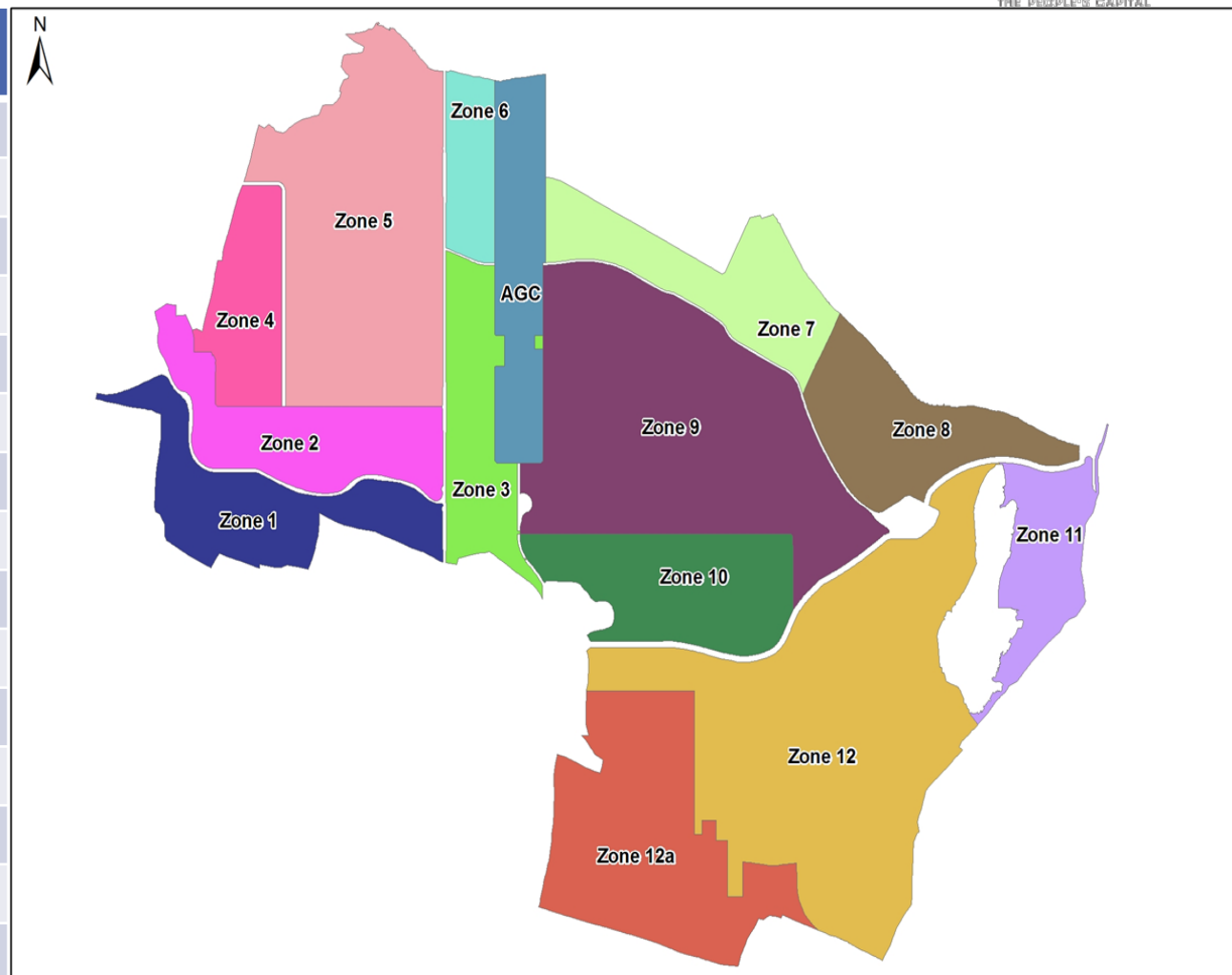
- In pursuance of developing the capital city region, APCRDA has decided to prepare of an area of 217 sq. km with a Smart Integrated Infrastructure, encompassing the Capital City which also includes the development of Tier-I Infrastructure (Trunk Infrastructure) and Tier-II infrastructure for 17000 acres of returnable lands under Land Pooling Scheme.
- The smart infrastructure plans will have individual elements, such as, Transportation, Water Supply, Waste Water Disposal, Storm Water, Municipal Solid Waste Disposal Systems, Power, City Gas, District Cooling, ICT Infrastructure, Safety & Security, Disaster Management, seamlessly integrated into a command and control structure for each of them.



Introduction - Infrastructure Development



Zones	Zone area in Acres	LPS area in Acres
Zone 1	2144.4	1023.46
Zone 2	2085.5	1288.51
Zone 3	2138.99	1105.06
Zone 4	1358.43	843.67
Zone 5	5174.53	3075.67
Zone 6	1768.72	830.34
Zone 7	2303.38	1388.50
Zone 8	2123.18	670.36
Zone 9	6902.19	4641.18
Zone 10	2356.47	1429.88
Zone 11	1316.63	82.72
Zone 12	7837.90	1293.43
Zone 12a	3859.99	924.64
Others	12276.27	0
Total	53646.58	18597.42



The Infrastructure development will be for 18597.42 acres out of which road development alone will be 9644.77 acres



Introduction - Infrastructure Development



Volume of Works to be executed under Infrastructure Development:

- **Roads:** The total length of roads to be developed in the Amaravati capital city is 1325 Kms.

ROW	Length in km
LPS Infrastructure (25/17/15.6/12 M ROW)	1257.78
Trunk Infrastructure (60/50 M ROW)	179.48
Total Road Length	1437.26 Kms

- **Portable Water Supply:**

Total Length of Water Supply pipes to be laid in 3 years (Trunk & LPS)	2348 Kms
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- **Sewerage System:**

Design Year	Sewage Generation (MLD) including Infiltration
2050	Ultimate 611.50
2035 (Current Development)	305 MLD
Total Length of Sewer network to be developed in 3 years	970 Kms



Introduction - Infrastructure Development



Volume of Works to be executed under Infrastructure Development:

- **Power & ICT:**

Particulars	Power Demand (MW)
Grand total	2706
Total Length of Power & ICT ducts to be laid in 3 years	17371 Kms

- **Storm Water Network:**

Total Length of Storm water network to be developed in 3 years (Trunk & LPS)	1858 Kms
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Introduction - Building Development



- The proposed buildings to be constructed in next 6 years in Amaravati Government Complex area and other private developments envisaged is approx. **22 million Sqft**.
- Currently works have been awarded for about **8.45 million Sqft** of Multi storied housing project and these projects are currently under mobilization stage.

Sr. No.	Landuse	Description	BUA (SqMt)	BUA (SqFt)
1	Civic Institutions	Legislative Assembly & Council - Legislature	111,483	1,200,000
2		High Court	167,224	1,800,000
Sub-total			278,707	3,000,000
3	Office	HOD & Secretariat	469,208	5,050,550
Sub-total			469,208	5,050,550
4	Supporting Activities	MICE, F&B, Retail, Recreation activities	92,902	1,000,000
5		Social Amenities (School, Health Centre, Community Centre)	2,415	26,000
Sub-total			95,318	1,026,000
6	Govt. Residential	Governor/ Raj Bhavan	27,871	300,000
7		Chief Minister's Residence	3,716	40,000
8		Minister, Speaker, Deputy Speaker, Chief Justice, Judges, Chief Secretary, DGP, AIS Bungalows	89,092	959,000
9		MLA & MLC, AIS, Gazetted officer, Non Gazetted Officers Quarters (Multi-Storeyed Houses)	785,682	8,457,078
10		Government of India- Residential Quarters	125,418	1,350,000
Sub-total			1,031,780	11,106,078
11	Other Mixed Use	International Missions/Consulates, International Cultural Centers, United Nations Related Organizations etc	83,612	900,000
		Grand-total	1,958,624	21,082,628



Raw Material Demand for Next 6 Years



Sr. No.	Infrastructure / Development	Gravel /Selected Earth in CUM	Hard Granite Metal in CUM	Sand in CUM
1	Building Works	18,749,000	9,219,000	3,885,000
2	Trunk Infrastructure	14,847,000	12,096,000	11,230,000
3	Infrastructure in LPS Layouts	5,580,000	8,900,000	5,675,000
	Total Demand	39,176,000	30,215,000	20,790,000



Resource Requirement for Next 6 Years



Sr. No.	Development	Labour Requirement Peak	Staff Requirement
1	Building Works	11,000	1100
2	Infrastructure Works	10,000	1400
	Total Demand	21,000	2500



Plant & Machinery Requirement for Next 6 Years



Sr. No.	Infrastructure / Development	Batching Plant			Transit Mixers
		MC 30	MC 55	MC 70	
		MC 30	MC 55	MC 70	No's
1	Building Works	6 No's	0	5 No's	106
2	Trunk Infrastructure	2 No's	6 No's	7 No's	203
3	Infrastructure in LPS Layouts	5 No's	3 No's	8 No's	207
	Total	13 No's	9 No's	20 No's	516



Status of Construction



Development	Packages	Contractor	Timeline
TRUNK INFRASTRUCTURE	Seed Access Road	NCC	12 Months
	Package 1	NCC	15 Months
	Package 2	BSR Infra	15 Months
	Package 3	BSPCL	15 Months
	Package 4	BSPCL	15 Months
	Package 5	To be	
	Package 6	To be	
	Package 7	To be	
	Package 8	Mega Engineering	15 Months
	Package 9	BSR	15 Months
	Package 10	NCC	15 Months
	Package 11	L&T	15 Months
	Package 12	Mega	15 Months
	Package 13	NCC	15 Months
	Package 14	NCC	15 Months
	Package 15	To be	
Total Number of Contractors – 5 Contractor onboard & 4 yet to come			



Status of Construction



Development	Packages	Contractor	Timeline
LPS INFRASTRUCTURE	Zone 1	Mega Engineering	36 Months
	Zone 2	BSR Infra	36 Months
	Zone 3	NCC	36 Months
	Zone 4	To be	36 Months
	Zone 5	To be	36 Months
	Zone 6	To be	36 Months
	Zone 7	L&T	36 Months
	Zone 8	To be	36 Months
	Zone 9	To be	36 Months
	Zone 10	L&T	36 Months
	Zone 11	To be	36 Months
	Zone 12	To be	36 Months
	Zone 12a	To be	36 Months
Total Number of Contractors – 4 Contractor on board & 8 yet to come			



Status of Construction



Development	Packages	Contractor	Timeline
Building Works	MLA & AIS Multi Storied	NCC	15 Months
	NGO Multi Storied	L&T	15 Months
	Gazetted Housing Multi Storied	SPCL	15 Months
	Bungalows	To be	15 Months
	Legislative Assembly	To be	24 Months
	High Court	To be	24 Months
	HOD & Secretariat	To be	24 Months
Total Number of Contractors – 3 Contractor on board & 4 yet to come			

Total Number of Contractors on Board – 12 Contractors & 16 Contractors yet to come.



Targeted Questions



- Coordination among various contractors and mechanism to avoid delays
- Ensure enforcement of worker welfare standards and minimizing occupational accident
- Minimise the impact of construction activities on local residents
- Minimise dust & noise pollution, and optimize protection of ground water and soil erosion

Panel Discussion and Recommendations



Thank You

