

STUDY OF INNER ROADS CONSTRUCTION IN KMTP

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ABSTRACT

Kakatiya super material park is advanced by Telangana State Industrial Infrastructure Corporation Limited (TSIIC), a Government of Telangana Undertaking an area over of 1190 section of land at Shayampet Village of Geesugonda Mandal and Chintalapalli town of Sangem Mandal, Warangal, Telangana. Telangana is one of the biggest makers of long staple cotton While Warangal is one of the biggest cotton advertise yards, much known for its gifted laborers and memorable nearness of Textile segment activities. A detail study has been carried out on inner roads in kakatiya textile park and has presented in this review work.

Keywords: Kakatiya mega textile park

1.0.INTRODUCTION

Kakatiya super material park is situated to the edges of the Warangal. It is almost 20 to 30 KM far from the Warangal. According to proposition of design of streets two primary courses coming to interface the KMTP site one from proposed ORR (OUTER RING ROAD) from west heading site which might be around 6 path street and other from N-E side of the site from Narsmpet-warangal principle street from Gangadevapalli area and these are real courses to approach the KMTP site. There are inward streets in the site for associating the each piece of the site. From the site a noteworthy street going through the inside piece of the KMPT site which is around 4 path and furthermore two minor streets around 2 paths coming either side of the principle street and furthermore other interfacing streets.

1.1. ROUTE MAPS



Fig 1 : Route map of kakatiya textile park

The surroundings of the site are in Shayampet town of Geesugonda mandal and Chintalapalli town of Sangem Mandal, Warangal Rural Dist. Telangana State and the directions 17° 34' 29" N and 78° 41' 37" E and is 0.6 km E of Chintalapalli town; 0.7 km N of Shayampet town; 0.5 km W of Venkatapuram town and 0.6 km S of Sangem Taluk. The project is around 21 m from Warangal town. It can be reached very well by street by means of Mahabubabad - Warangal Road and Narsampet Road - Warangal Road which likewise connects Khammam, Kothagudem and Bhadrachalam. The entrance to the site from Warangal has a great street network. This street is a two-path parkway with separated carriageway at certain segments and without a partitioned carriage route at few stretches. From the Narsampet-Warangal Road, a committed access street to the site is proposed from Gangadevipalli; likewise conceiving dependent ROB over the railroad line. Railway network is from Kazipet (26 km) and Warangal (14.1 km) are two noteworthy stations which give access to the site. They are regulated under the purview of the Secunderabad railroad division of South Central Railway zone. The Warangal-Khammam railroad line goes through the Project site. This line is associated with Vijayawada; the nearest railroad station being Vanchanagiri and Chintalapalli around 8 traveler trains goes through this course and stops Vanchanagiri and Chintalapalli on an every day basis. Hyderabad International Airport (Shamshabad) 100 km S-W. There is likewise a proposition for an Airport in Warangal at Mamnoon, around 9 km from Warangal City.

2.0 METHODOLOGY

2.1 DESIGN OF ROADSROAD ALIGNMENT:



Fig 2: Leveling on road

The arrangement is the course of the road characterized as a progression of even digressions and curves. Each bend has a span and a few points that have facilitates that portray precisely where that bend is situated on the earth the arrangement is characterized by positioning which alludes to the separation on a level plane between the characterizing points. Typically the arrangement pursues the inside line of the road. The vertical arrangement pursues the even arrangement however is alluding to whether you are going up a slope or peak of a bend or hang (depressed spot).

2.1. ROAD LEVELS:

Road levels The levels are taken in road laying is for the most part helpful to keep up the road surface to required level and plane for road development and there ought to be appropriate arrangement will be laid in a legitimate manner and which ought to according to as conceivable straight and there ought to be least number of obstructions and clear way is available. To keep up the road surface level and ensure the geology of the territory ought to be leveled in a legitimate manner there is a necessity of cutting and filling of earth work road and required review maps and data are taken from study of india before a proposition of new road arrangement and furthermore past information about that site. There are 2-kinds of roads are going through the site as indicated by given arrangement they are 4-path road (1 no.s) - chainage: (0 - 3255) m 2-path road (2 no.s) - chainage: (0 - 495) m According to the site map data the task is encompassed by the SRSP waterway and railroad line going through the focal point of the site and there is a proposition ROB from road coming outside from site and there is an associating road from the proposed ORR Warangal to extend site and the site likewise closer to the airport connectivity. The nitty gritty guide of undertaking site is appeared as follows.

2.2. SITE MAP THE GROUND (GSB) LEVELS OF 4-LANE ROAD TOP RL'S

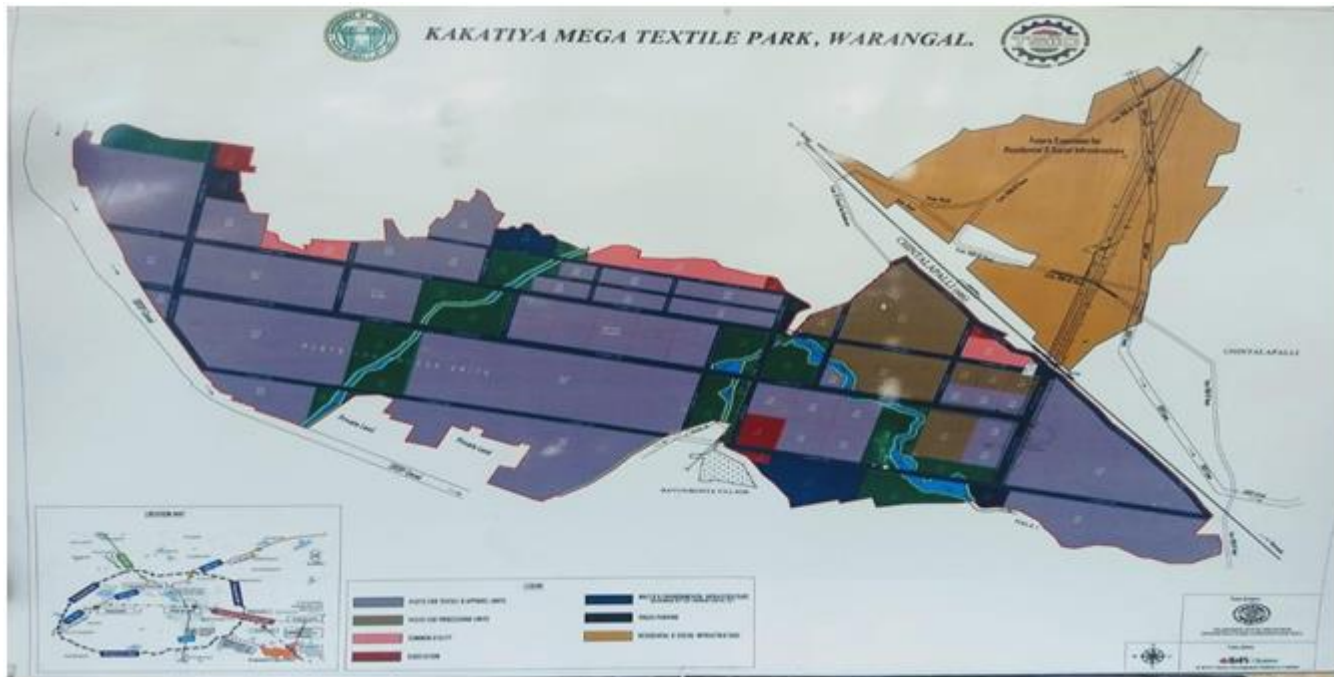


Fig 3 : Site map

TABLE 1: Leveling readings

CHAINAGE	PCL	11.8	CAMBER
240			
255	248.760	248.465	-2.5
270	248.770	248.475	-2.5
285	248.780	248.485	-2.5
300	248.790	248.495	-2.5
315	248.800	248.505	-2.5
330	248.810	248.515	-2.5
345	248.820	248.525	-2.5
360	248.830	248.535	-2.5
375	248.840	248.545	-2.5
390	248.850	248.555	-2.5
405	248.860	248.565	-2.5
420	248.870	248.575	-2.5
435	248.880	248.585	-2.5
450	248.890	248.595	-2.5
465	248.900	248.605	-2.5
480	248.910	248.615	-2.5
495	248.920	248.625	-2.5
510	248.930	248.635	-2.5
525	248.940	248.645	-2.5
540	248.950	248.655	-2.5
555	248.960	248.665	-2.5
570	248.970	248.675	-2.5
585	248.980	248.685	-2.5
600	248.990	248.695	-2.5
615	249.000	248.705	-2.5
630	249.010	248.715	-2.5

645	249.020	248.725	-2.5
660	249.030	248.735	-2.5
675	249.040	248.745	-2.5
690	249.079	248.784	-2.5
705	249.118	248.823	-2.5
720	249.157	248.862	-2.5
735	249.196	248.901	-2.5
750	249.235	248.940	-2.5
765	249.274	248.979	-2.5
780	249.313	249.018	-2.5
795	249.352	249.057	-2.5
810	249.391	249.096	-2.5
825	249.430	249.135	-2.5
840	249.470	249.175	-2.5
855	249.600	249.305	-2.5
870	249.730	249.435	-2.5
885	249.810	249.515	-2.5
900	249.890	249.595	-2.5
915	250.036	249.741	-2.5
930	250.182	249.887	-2.5
945	250.328	250.033	-2.5
960	250.474	250.179	-2.5
975	250.620	250.325	-2.5
990	250.770	250.475	-2.5
1005	250.900	250.605	-2.5
1020	251.030	250.735	-2.5
1035	251.160	250.865	-2.5
1050	251.290	250.995	-2.5
1065	251.370	251.075	-2.5
1080	251.460	251.165	-2.5
1095	251.540	251.245	-2.5
1110	251.630	251.335	-2.5
1125	251.710	251.415	-2.5
1140	251.800	251.505	-2.5
1155	251.880	251.585	-2.5
1170	251.970	251.675	-2.5
1185	252.050	251.755	-2.5
1200	252.140	251.845	-2.5
1215	252.220	251.925	-2.5
1230	252.310	252.015	-2.5
1245	252.390	252.095	-2.5
1260	252.480	252.185	-2.5
1275	252.570	252.275	-2.5
1290	252.650	252.355	-2.5
1305	252.740	252.445	-2.5
1320	252.820	252.525	-2.5
1335	252.910	252.615	-2.5
1350	252.990	252.695	-2.5
1365	253.080	252.785	-2.5
1380	253.090	252.795	-2.5
1395	253.100	252.805	-2.5
1410	253.110	252.815	-2.5
1425	253.120	252.825	-2.5
1440	253.130	252.835	-2.5
1455	253.140	252.845	-2.5

1470	253.150	252.845	-2.5
1485	253.160	252.855	-2.5
1500	253.170	252.865	-2.5
1515	253.180	252.875	-2.5
1530	253.190	252.885	-2.5
1545	253.200	252.895	-2.5
1560	253.210	252.905	-2.5
1575	253.220	252.915	-2.5
1590	253.230	252.925	-2.5
1605	253.240	252.935	-2.5
1620	253.250	252.945	-2.5
1635	253.260	252.955	-2.5
1650	253.270	252.965	-2.5
1665	253.280	252.975	-2.5
1680	253.290	252.985	-2.5
1695	253.300	252.995	-2.5
1710	253.310	253.005	-2.5
1725	253.320	253.015	-2.5
1740	253.330	253.025	-2.5
1755	253.340	253.035	-2.5
1770	253.350	253.045	-2.5
1785	253.360	253.055	-2.5
1800	253.370	253.065	-2.5
1815	253.380	253.075	-2.5
1830	253.390	253.085	-2.5
1845	253.400	253.095	-2.5
1860	253.410	253.105	-2.5
1875	253.420	253.115	-2.5
1890	253.430	253.125	-2.5
1905	253.440	253.135	-2.5
1920	253.450	253.145	-2.5
1935	253.460	253.155	-2.5
1950	253.470	253.165	-2.5
1965	253.480	253.175	-2.5
1980	253.480	253.185	-2.5
1995	253.490	253.195	-2.5
2010	253.500	253.205	-2.5
2025	253.510	253.215	-2.5
2040	253.520	253.225	-2.5
2055	253.530	253.235	-2.5
2070	253.540	253.245	-2.5
2085	253.550	253.255	-2.5
2100	253.560	253.265	-2.5
2115	253.570	253.275	-2.5
2130	253.580	253.285	-2.5
2145	253.590	253.295	-2.5
2160	253.600	253.305	-2.5
2175	253.610	253.315	-2.5
2190	253.620	253.325	-2.5
2205	253.630	253.335	-2.5
2220	253.640	253.345	-2.5
2235	253.650	253.355	-2.5
2250	253.660	253.365	-2.5

TABLE 2: THE TEXTILE PARK TWO LANE ROAD SG TOP RL

CHAINAGE	PCL	6	CAMBER
0	251.260	251.110	-2.5
15	251.060	250.910	-2.5
30	250.860	250.710	-2.5
45	250.660	250.510	-2.5
60	250.460	250.310	-2.5
75	250.260	250.110	-2.5
90	250.060	249.910	-2.5
105	249.860	249.710	-2.5
120	249.825	249.675	-2.5
135	249.790	249.640	-2.5
150	249.755	249.605	-2.5
165	249.720	249.570	-2.5
180	249.685	249.535	-2.5
195	249.650	249.500	-2.5
210	249.615	249.455	-2.5
225	249.580	249.430	-2.5
240	249.545	249.395	-2.5
255	249.510	249.360	-2.5
270	249.475	249.325	-2.5
285	249.440	249.290	-2.5
300	249.405	249.255	-2.5
315	249.370	249.220	-2.5
330	249.335	249.185	-2.5
345	249.300	249.150	-2.5
360	249.284	249.134	-2.5
375	249.268	249.118	-2.5
390	249.252	249.102	-2.5
405	249.236	249.086	-2.5
420	249.230	249.070	-2.5
435	249.170	249.054	-2.5
450	249.137	249.038	-2.5
465	249.104	249.022	-2.5
480	249.071	249.006	-2.5
495	249.038	248.990	-2.5

3.0. ROAD PROFILE

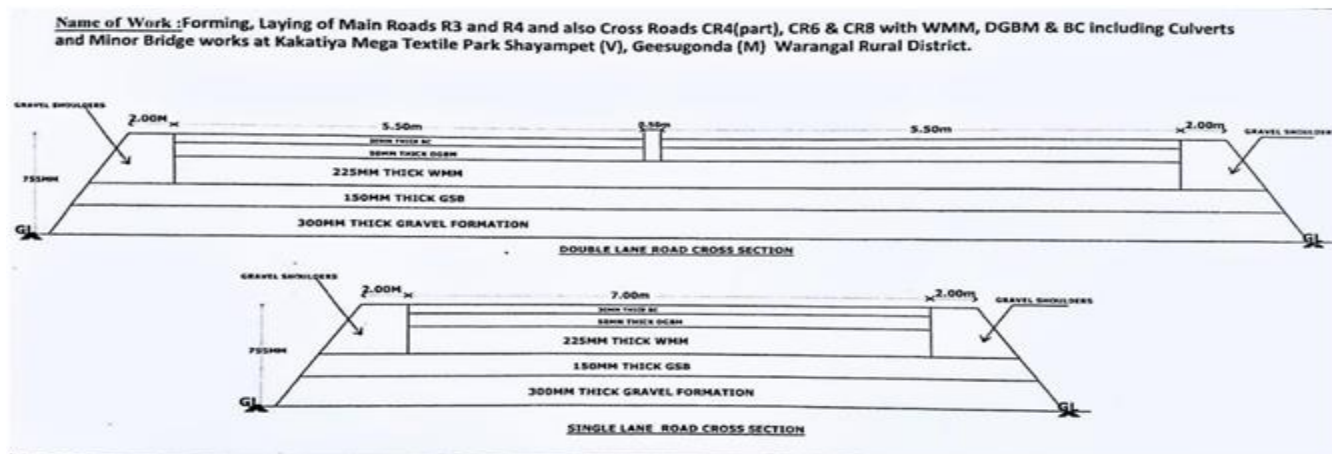


Fig 4: Road profile

There are 4-major layers are present in the road profile system. They are mainly Sub-grade, Sub-base (GSB), Base course (WMM), Surface course (DBM, BC)

CROSS DRAINAGE WORKS :

Structures for cross drainage should be constructed simultaneously after giving proper layout for the durability of the road and all weather access. Minimum earthen cushion (500mm) over the pipe for its safety should be ensured. For side walls (of RR masonry) of culvert/ causeway, plastering is not required, pointing is sufficient. On top of the side walls, capping should be made for the durability of the culvert/ causeway (preferably in cc).

Culverts : In General 2-3 culverts may be required per KM length road depending on the topography.

Types of culverts : Pipe Culverts, RCC slab culvert on masonry or PCC Abutment, RCC Box culvert, Vented Causeway, Submersible bridge.

Design of Culverts: Maximum Flood discharge to be calculated using empirical formulae. Dicken's formula: $Q = CM^{3/4}$ Where $Q = m^3/sec$, $M =$ catchment area in sq.m, $C =$ Constant – 11-14 where annual rainfall is 60-120cm, 14-19 when annual rainfall is more than 120cm, Western Ghats – 22 adopted.

Ryve's Formula : $Q = CM^{2/3}$ or $3/4$ Where $Q = m^3/sec$, $M =$ catchment area in sq.m, $C =$ Constant – 6.8 for areas within 25kms of coast, 8.5 for areas between 25-160 kms of coast, 10 for limited areas near hills.

Slope area method: $Q = AVA$ is mean cross sectional area of flow (to be measured across the stream), V is velocity of flow $V = 1/n(R^{2/3}S^{1/2})$, $V =$ velocity in m/sec, R is Hydraulic mean depth in m, S is slope of bed, n is coefficient of Rugosity depends upon surface and type of natural stream.

Foundations: To be decided based on scour depth. $D = 0.473(Q/Ks)^{1/3}$, D is depth, Q is design discharge, K is silt factor, Maximum scour depth $2D$ for piers, $1.27D$ from abutments.

RCC Box culvert



Fig 6: Cross drainage work

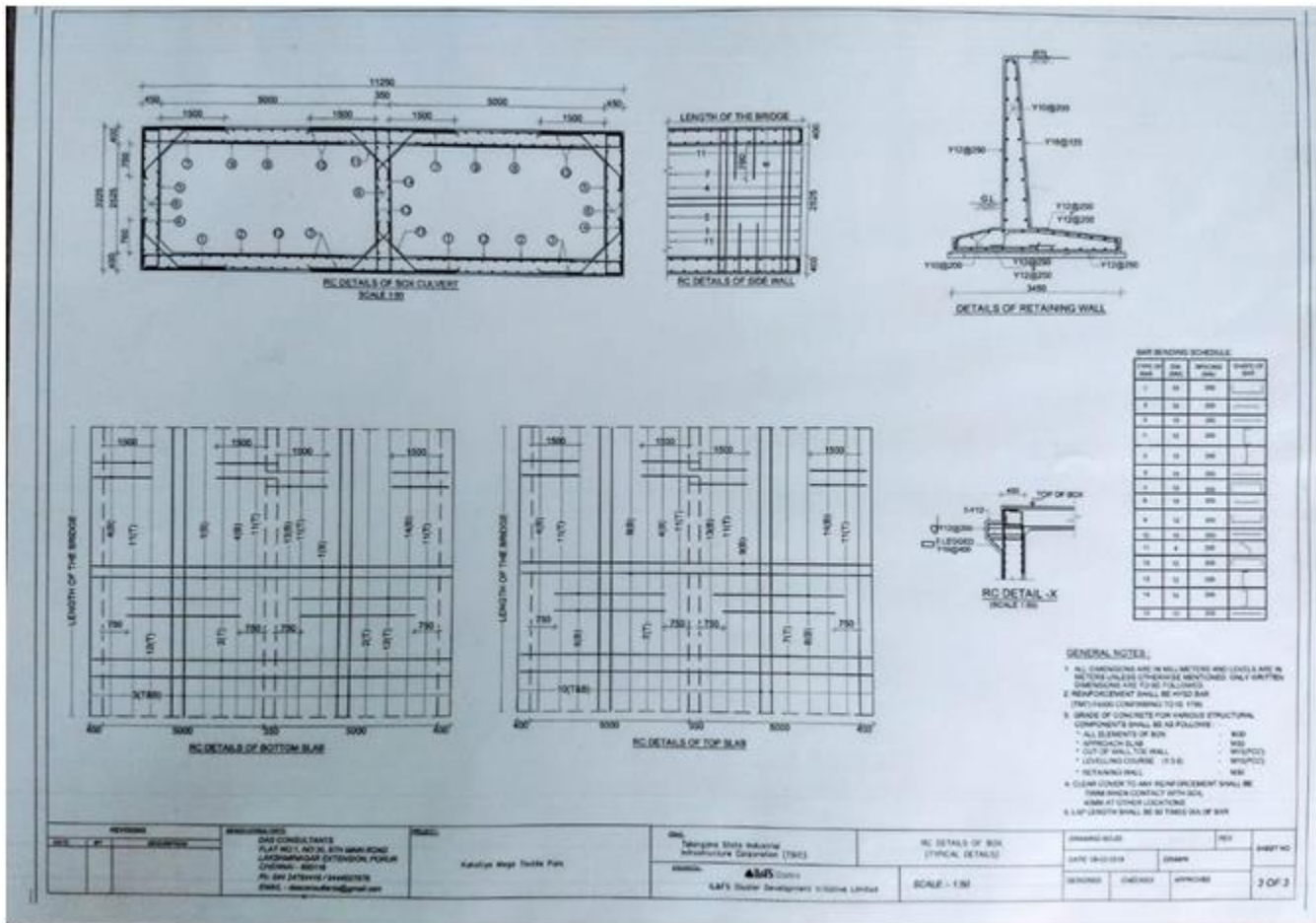


Fig 7: Plan for proposed road

4.0 SUMMARY

Aggregates influence, to a great extent, the load transfer capability of pavements. Hence it is essential that they should be thoroughly tested before using for construction. Not only that aggregates should be strong and durable, they should also possess proper shape and size to make the pavement act monolithically. Aggregates are tested for strength, toughness, hardness, shape, and water absorption.

5.0 CONCLUSION:

The KMP going to be world class number one textile industry in India. It will straightforwardly and in a roundabout way going to give a work around 1-2 lakhs people. The improvement of KMP would contribute colossally to destitution mitigation, support business openings and would help in bringing back weavers who moved to different states looking for livelihood. Roads assume a significant job in interfacing individuals everywhere throughout the world. It likewise gives its significant commitment to the financial development of a country. The appropriate Estimation and plans are important before beginning a project. The arrangement of road ought to be as straight as could be allowed and interfacing most extreme number of spot on its way. Perfect compaction is ought to be done in getting high quality and durability. Levels are taken as for the B.M given by the review of India. Earth work amounts are in m³/sec.

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