9.1 RECOMMENDATION

Based on the detailed laboratory observations, the following recommendations are made:

i) Since the addition of 6% chiseled truck tyre rubber chips shows higher ultimate strength and behaved very much close to the conventional concrete. Hence this can be used for structural applications.

ii) The addition of 6% shredded rubber crumbs and 6% of both truck tyre chips and rubber crumbs decreases the ultimate strength, it is recommended to use for non structural elements such as floor slabs, floor ribs, underground slabs etc.

iii) The durability of tyre rubber aggregate concrete found increasing because the voids of concrete filled with inert rubber particles and reduce the permeability which increases the resistance against the aggressive solutions.

iv) Rubber reinforced concrete provides considerable decrease in ultimate strength and show good deflection and ductility. Hence it is stated that the beams made of rubber strips as reinforcements can be used for sill level beams, lintel beams
and plinth level beams for compound walls etc. Such beams can also be used in vehicle sheds where the roof is inaccessible.

v) The potential applications of incorporating rubber aggregates in concrete hollow blocks are successful in producing blocks which meets the required strength characteristics. The mix design and production process can be further optimized to allow the use of larger quantities of rubber aggregates.

vi) The utilization of waste tyre rubber in concrete construction protects stockpiling, incineration and land filling can prevent environmental hazards. This alternative use of waste tyre rubber prevents the destruction of non-renewable sources such as river sand, rocks, etc.

9.2 SUGGESTIONS FOR FUTURE WORK

i) The thesis studies the M20, M25 and M30 grade TRAC up to 10% replacement by weigh batching. Further the study can be extended both with increase in grade and replacement with the preferable use of admixture to improve the bond strength when desired to choose higher grades of concrete.

ii) In this study we used rubber as reinforcement in tensile zone. It is suggested to use the rubber reinforcement strips as additional reinforcement for further study.

iii) The study of rubber reinforced concrete can be extended to change the size of the rubber strips in tensile zone.

iv) Investigation for the feasibility of producing rubber based concrete block on a commercial basis and investigate the
potential for enhanced thermal efficiency and sound insulation.

v) Further work will be undertaken to develop a suitable mix design procedure specifically for TRAC. It is hoped that this can be done in conjunction with the development of lower cost rubber aggregates which are acceptable for use in TRAC mixes. This will assist in the development of least-cost technology options for the manufacture for TRAC products.

vi) The durability of TRAC will also be the subject of further investigation. Further work will be undertaken to investigate other durability issues such as corrosion and vibration resistance.