



83 Registered Post



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE

Central Zoo Authority



F. No. 19-113/92-CZA(140)(Vol. I)(NS) / 7546

DATE: 06.08.2015

To

The Additional Principal Chief Conservator of Forests (D&P) &
Special Officer,
Thrissur Zoological Park,
Pathur (Kerala)

Sub:- Revised Master (layout) Plan of the Thrissur Zoological Park, Kerala and proposed designs for the construction at the Thrissur Zoological Park, Kerala-Reg.

Ref:- Your office letter no. WL3-7551/95, Dt.23.05.2015.

Sir,

This has with reference to the power point presentation delivered by Mr. John Coe, consultant architect on the Revised Master (layout) Plan of Thrissur Zoological Park, Kerala and designs for the proposed construction at the Thrissur Zoological Park, Kerala before the members of the Expert Group on Zoo Designing of the Central Zoo Authority in its 62nd meeting held on 13.07.2015. After detailed deliberation the following observations were made:-

A. Revised Master Layout Plan:

Members on scrutiny of revised layout plan of Thrissur Zoological Park-Wildlife Conservation & Research Centre, Puthur, Kerala, recommended the same for approval.

B. Designs of enclosures:

Members on scrutiny of designs on proposed construction of following enclosures at Thrissur Zoological Park-Wildlife Conservation & Research Centre, Puthur, Kerala, approved the designs given below subject to incorporation of following suggestions:

1. Design of proposed construction of Biodiversity Centre:

- Advised to explore providing more space.
- Suggested to create a tunnel for Porcupine.
- Term 'office' may be replaced with 'Research Centre'.

Contd..

B-1 Wing, 6th Floor, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.

2. Design of proposed construction of enclosure for Mugger Crocodile and Gharial exhibit:

- a) Exhibit provided may be used to house not more than one male and two females.

3. Design of proposed construction of Great Aviary:

4. Design of proposed construction of enclosure for Nilgiri langur:

5. Design of proposed construction of enclosure for Lion tailed macaque:

6. Design of proposed construction of enclosure for Leopard:

- a) Care should be taken to avoid animal getting out of enclosure by care in joining moat and barrier.
b) Kraal corner should be rounded off.
c) Covered exercise yards may be provided elsewhere.
d) From feeding cells, access should be direct to paddock.
e) Suggested to provide one covered and one open kraal.

7. Design of proposed construction of enclosure for Tiger:

- a) Covered excessive yard may be removed.
b) Sharp edges to be removed.

8. Design of proposed construction of enclosure for Asiatic lion:

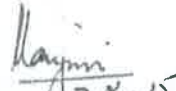
- a) Covered exercise yard may be removed.
b) Sharp edges to be removed.

9. Design of proposed construction of enclosure for Gaur:

(Revised Lay out plan)

The dully signed copies of Great Aviary, Nilgiri langur, Lion tailed macaque and others are enclosed with this letter with a request to submit the amended copies of Biodiversity Centre, enclosure for Mugger Crocodile , Gharial, Leopard, Tiger and Asiatic Lion for its final approval.

Yours faithfully


(Vinod Ranjan)
7.8.13
Member Secretary

Write
Encl: as above

Copy to The Chief Wildlife Warden, Govt. of Kerala for favour of information.

B-1 Wing, 6th Floor, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.



THRISSUR ZOOLOGICAL PARK

Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3

EXHIBIT DESIGNS

DRAWINGS FOR STATUTORY APPROVAL

27th March, 2015

**LION TAILED MACAQUE
EXHIBIT**



EXHIBIT 08_ LION TAILED MACAQUE (*Macaca silenus*)

PROPOSED COLLECTION PLAN	MALE	FEMALE	TOTAL
	2	4	6
AREA STATEMENT			
EXHIBIT AREA STANDARDS (as per CZA rules)	500 sqm PER PAIR	100 sqm PER ADDITIONAL ANIMAL	REQUIRED TOTAL 900 sqm
PROPOSED AREAS			
EXHIBIT AREA	1510 sqm		
MOAT AREA	589 sqm (Front moat 175sqm, Rear trench 414 sqm)		
OFF-EXHIBIT HOLDING AREA	556 sqm (Kraal building 163 sqm, Exercise yard 393 sqm)		
BARRIER DETAILS PROPOSED			
FRONT BARRIER	U SHAPED DRY MOAT OF WIDTH 5M AND DEPTH 4M	ALL BARRIERS PROPOSED ARE AS PER CZA STANDARDS	
REAR AND SIDE BARRIER	CHAINLINK FENCE 5M HEIGHT WITH INCLINED STEEL PLATE OF 1M WIDTH. (The fence is kept out of visitor view by placing it in a depression)		
OTHER DETAILS	ADDITIONAL OVER HANG FENCE WITH TWO STRANDS OF HOT WIRE BELOW THE SLANTING PORTION (for all barriers)		
ENRICHMENT DETAILS			
EXHIBIT AREA	DEAD TREE, SWAY BRANCHES, ROPES, PLATFORMS etc		
KRAAL AREA	BRANCHES HUNG FROM ROOF FRAME, ROPES etc		

INTRODUCTION:

The Lion Tailed Macaque exhibit is located in the North eastern portion of the Zoo on a South West facing slope. The exhibit has an area of 1510 sqm on a sloping terrain. The Visitor path stretches all along the width of the exhibit with three pockets for animal viewing. There are two Viewing Shelters (each 56 sqm) with provision for closer viewing through glass.

BARRIER DETAILS:

- **FRONT BARRIER:** The exhibit has a U shaped DRY MOAT along the front boundary aligned parallel to the Visitor path. The moat has a width of 5m and a depth of 4m with an overhang fence with HOT WIRE.
- **REAR BARRIER:** The rear barrier is a Fence of height 5m (lower 2m of chain link mesh and upper 3m made of GI steel plate) with inclined steel plate of 1m height. The fence is hidden (from visitor viewing) by keeping it sunken in a moat like trench.
- The STAND OFF BARRIER of 110cm height along the edge of the Animal Viewing pockets controls public access to the moat. It continues between the Viewing areas as a hidden fence of 100cm height in the vegetation. A minimum width 1.5m of hedge planting separates the moat from the Standoff barrier.

ANIMAL EXHIBIT AREA:

- The Lion Tailed Macaque exhibit area has an approximate width of 50 m and depth of 30m. The exhibit has a gentle rolling terrain that follows the original land profile.
- The front portion has perching rocks and is slightly elevated from the Animal viewing pockets. Further behind, there are dead tree branches and concrete tree stumps for the monkeys to climb on.
- Existing trees in the exhibit, which area out of the 9m clearance from the barriers, are retained.

OFF EXHIBIT ANIMAL HOLDING AREA:

- The Off exhibit Animal Holding area contains a Kraal building (163 sqm) and an Exercise Yard (393 sqm).
- The Kraal (Night Shelter) has 9 cubicles each of min. size 2.3m x 1.5m x 2.5m height. All cubicles have floor drains. A Keeper Room (20 sqm) and a Keeper Aisle of 2.5m provides food and other services to the animals.
- An Isolation Area and attached cubicle provide shelter to sick / injured / convalescing animals.
- The Exercise Yard partially has an Overhead Mesh with a minimum height of 5m at all places. There is direct connection from the cubicles to the exhibit as well as to the exercise yard.

EXHIBIT ENRICHMENT ASPECTS:

- By providing a variety of substrates, levels and complexities in the exhibit, the animals get to move around, exercise and enjoy appropriate social groups in the zoo. Artificial trees, Rocks, Sway Branches, ropes, ladders and platforms provide a range of experiences and encourage activities among captive animals.
- Off exhibit holding areas are also enhanced with such elements.

SERVICE ASPECTS:

- Both the Exhibit area and the Off exhibit Animal Holding area are provided with adequate Service access from the Service road. They have Service Gates with a 3m wide service road connection that allows entry of Service vehicles into the exhibit if required.
- The entry/ exit gates for animals to / from the exhibit have provision for Keeper control and operation from Service areas.
- The Keeper / Utility Room has provision for Storage, Kitchenette, sink and refrigerator.



THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:
DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:
LION TAILED MACAQUE

DRAWING TITLE:
LOCATION PLAN

DRAWING NO:	DATE:	REVISION:
DPR/S3/LTM/01	27.03.2015	

SCALE:
1:1500 (A1), 1:3000 (A3)

- LEGEND:**
- VISITOR PATH
 - TRAM / SERVICE ROAD
 - ORIENTATION CENTRE
 - EXHIBITS**
 - 1. BIODIVERSITY CENTRE
 - 2. MUGGER CROCODILE AND GHARIAL
 - 3. GREAT AVIARY
 - 4. DEER 1
 - 5. DEER 2
 - 6. DEER 3
 - 7. NILGIRI LANGUR
 - 8. LION TAILED MACAQUE
 - 9. LEOPARD
 - 10. TIGER
 - 11. ASIATIC LION
 - 12. INDIAN GAUR

CONSULTANTS:
Jon Coe Design - Idea Design Consortium

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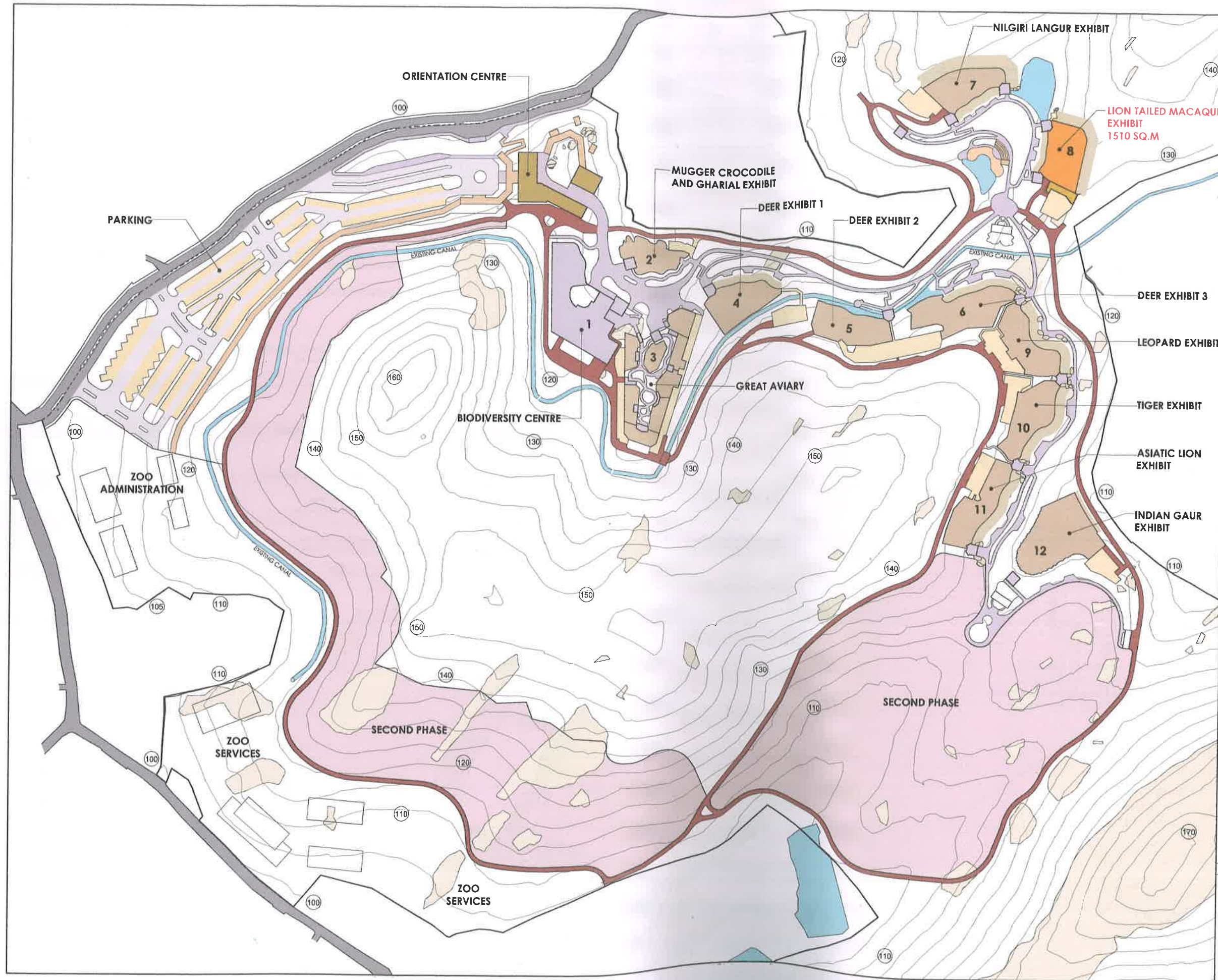
Chitra Billey, B Arch, MEA, AISOLA
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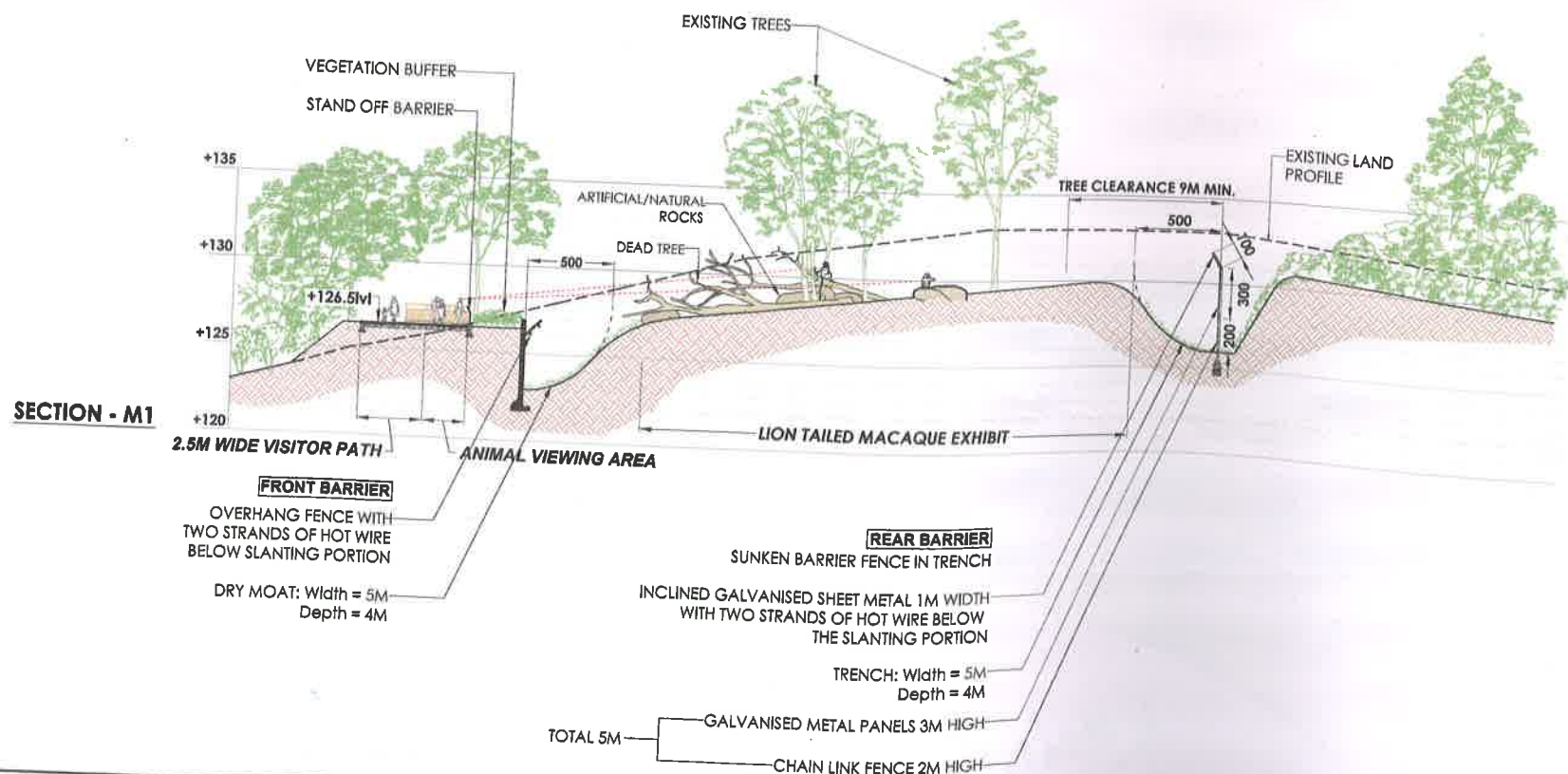
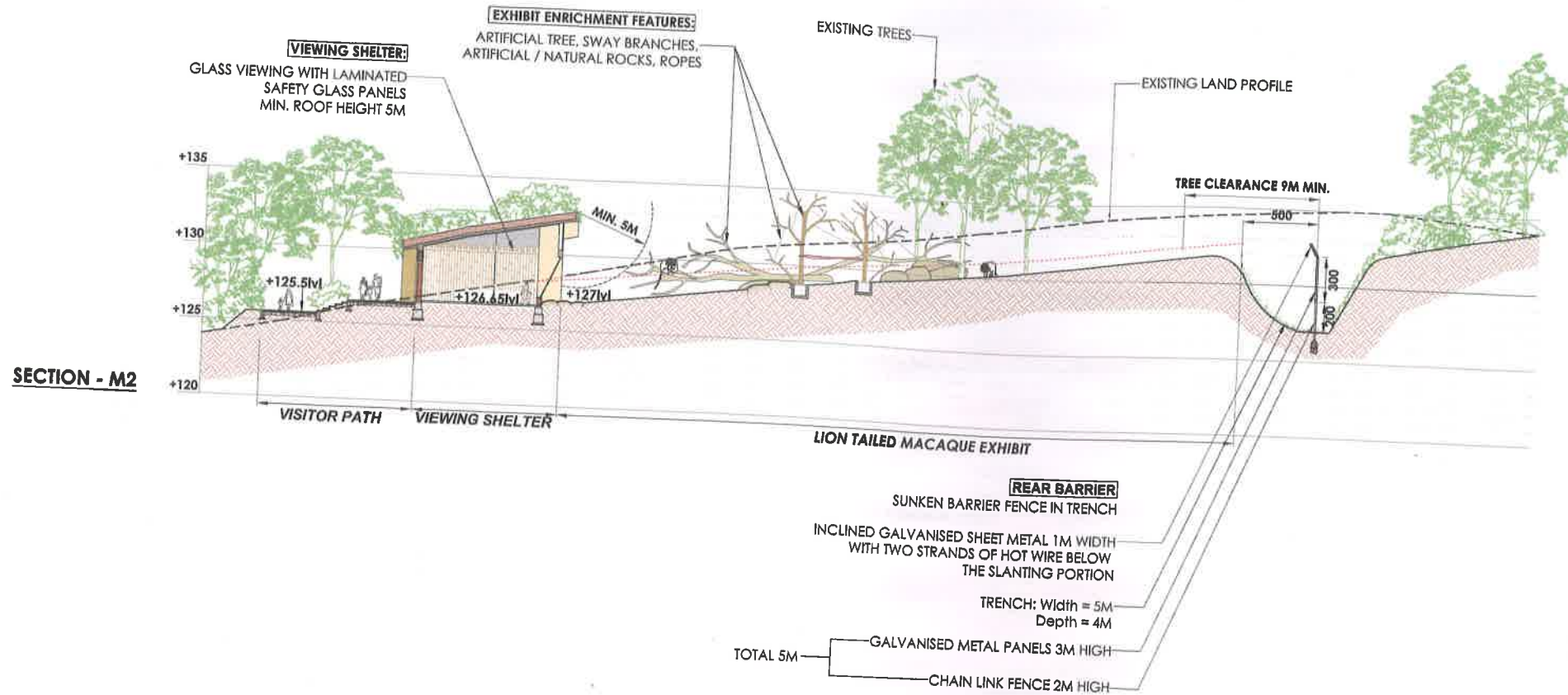
Felix Varkeykunj, M Tech
Spoton Engineering Software Services, Ernakulam

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KERALA FOREST DEPARTMENT
GOVERNMENT OF KERALA
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KERALA, INDIA



(Handwritten signature and initials)
C.S. Yalakkal



THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

LION TAILED MACAQUE

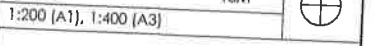
DRAWING TITLE:

EXHIBIT SECTIONS

DRAWING NO: DATE: REVISION:

DPR/S3/LTM/04 27.03.2015

SCALE:



1:200 [A1], 1:400 [A3]

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THRISSUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

LION TAILED MACAQUE

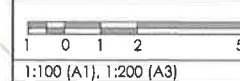
DRAWING TITLE:

KRAAL PLAN

DRAWING NO: DATE: REVISION:

DPR/S3/LTM/05 27.03.2015

SCALE:



LEGEND:

- (126) EXISTING CONTOUR LEVEL
- +127 PROPOSED LEVEL
- OVERHEAD MESH
- SECTION NAME
- PROPOSED PLANTING
- FENCE

COLLECTION PLAN:

MALE	FEMALE	TOTAL
2	4	6

AREA STATEMENT:

KRAAL BUILDING	163 Sq.m
EXERCISE YARD	393 Sq.m

CONSULTANTS:

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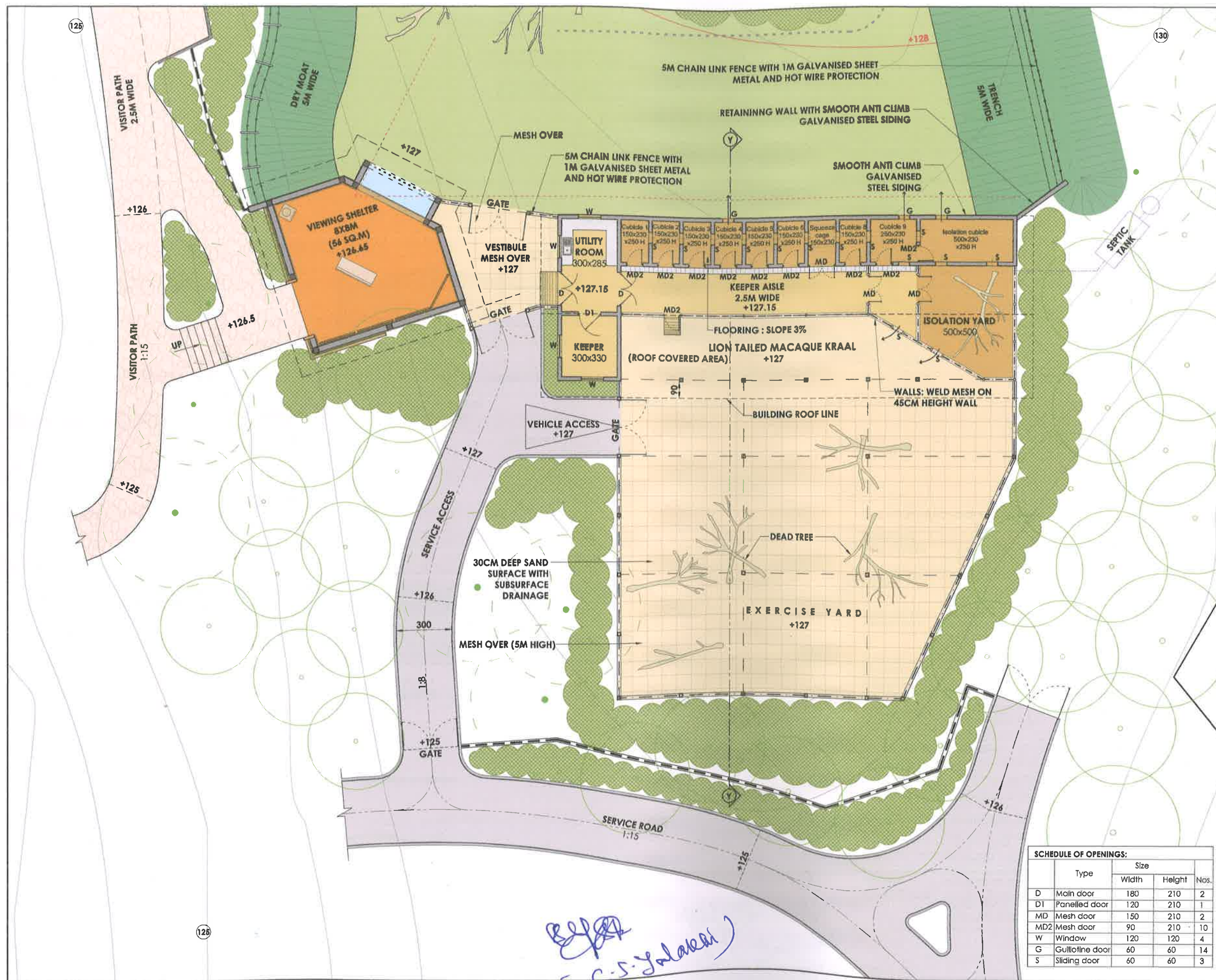
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SCHEDULE OF OPENINGS:

Type	Size		Nos.
	Width	Height	
D Main door	180	210	2
D1 Panelled door	120	210	1
MD Mesh door	150	210	2
MD2 Mesh door	90	210	10
W Window	120	120	4
G Guillotine door	60	60	14
S Sliding door	60	60	3

Handwritten signature and name: C.S. Jalakar



THRIKKUR ZOOLOGICAL PARK
Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

LION TAILED MACAQUE

DRAWING TITLE:

KRAAL SECTION AND ELEVATIONS

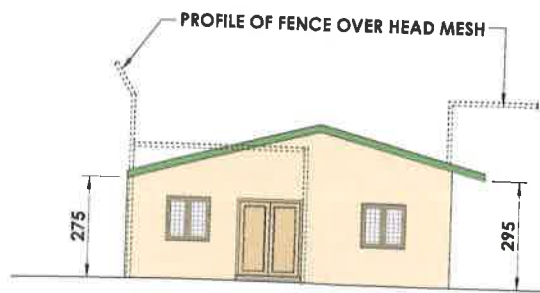
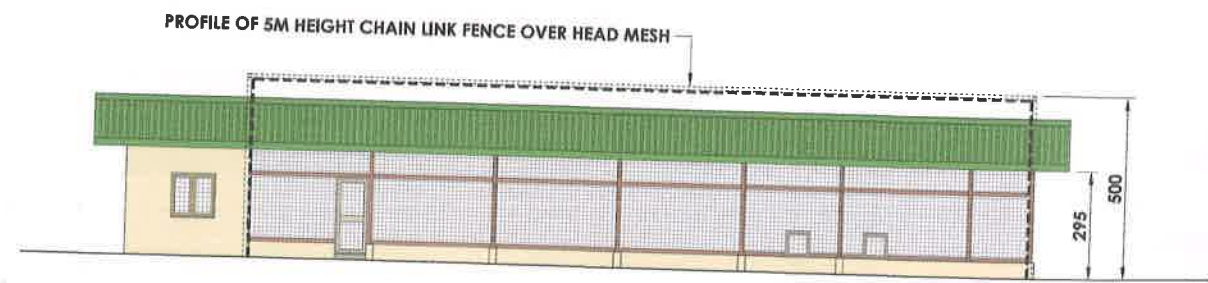
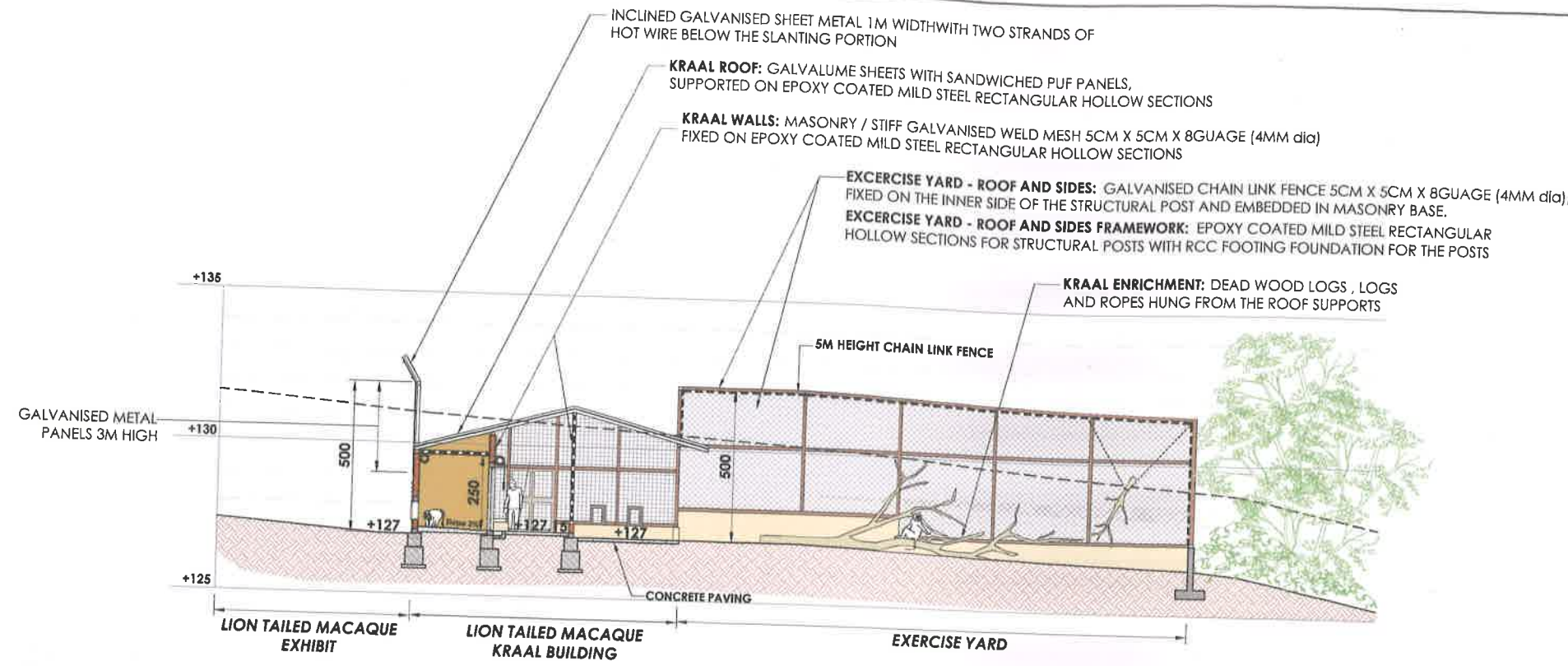
DRAWING NO: DATE: REVISION:

DPR/S3/LTM/06 27.03.2015

SCALE:

1 0 1 2 5M

1:100 (A1), 1:200 (A3)



LION TAILED MACAQUE EXHIBIT AREA	
EXHIBIT AREA	1510 SQ.M.
FRONT BARRIER	U SHAPED DRY MOAT 5M WIDTH, 4M DEPTH AND INCLINED OVERHANG FENCE WITH 2 STRANDS OF HOT WIRE
REAR AND SIDE BARRIER	5M HT FENCE (LOWER 2M HT PORTION: CHAIN LINK 5CM X 5CM BG AND UPPER 3M HT PORTION: STEEL PLATE) WITH ADDITIONAL 1M HT INCLINED STEEL PLATE AND HOT WIRE
CHAIN LINK MESH FIXING DETAILS	CHAIN LINK FENCE SHALL BE PLACED ON THE INNER SIDE OF THE STRUCTURAL POST AND SHALL BE EMBEDDED IN THE MASONRY BASE SLOPED BOTH WAYS TO PREVENT ACCUMULATION OF WATER AND URINE.
OTHER RULES FOLLOWED	THERE SHALL BE NO TREES OR BRANCHES IN THE EXHIBIT WITHIN 9M FROM THE LINE OF THE BARRIER.
ENRICHMENT FEATURES	DEAD WOOD LOGS, ROPES, LADDERS, ARTIFICIAL ROCK WORK ETC
SERVICE ACCESS	ACCESS FOR SERVICE VEHICLES INTO THE EXHIBIT THROUGH A SERVICE GATE
OFF EXHIBIT HOLDING AREAS	
TOTAL AREA	556 SQ.M.
EXERCISE YARD	393 SQ.M. (MESH ON TOP)
KRAAL BUILDING	143 SQ.M. (TOP COVERED, CHAIN LINK FENCE ENCLOSURE OF MIN HEIGHT 5M)
FEEDING CUBICLES	9 NUMBERS, EACH OF MIN. SIZE 1.5M X 2.3M X 2.5M HEIGHT
ISOLATION AREA	ONE CUBICLE AND AN ISOLATION YARD (27 SQM) FOR SICK / INJURED ANIMALS
ACCESS	THE CUBICLES SHALL DIRECTLY OPEN IN TO THE EXHIBIT AREA
ENRICHMENT FEATURES	DEAD WOOD LOGS AND BRANCHES HUNG FROM ROOF SUPPORTS, ROPES, ARTIFICIAL ROCK WORK ETC
SERVICE ACCESS	ACCESS FOR SERVICE VEHICLES INTO THE KRAAL THROUGH A SERVICE GATE (3M WIDE), KEEPER ROOM (9.9 SQM), UTILITY ROOM (8.55 SQM) AND KEEPER AISLE (2.5M WIDE)

(Handwritten signature: S. Yalakkal)

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Wildlife Conservation & Research Centre, Puthur

DPR - STAGE 3:

DRAWINGS FOR STATUTORY APPROVAL

EXHIBIT NAME:

LION TAILED MACAQUE

DRAWING TITLE:

TYPICAL DETAILS - VIEWING SHELTER AND STAND OFF BARRIER

DRAWING NO: DATE: REVISION:

DPR/S3/LTM/07 27.03.2015

SCALE:



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