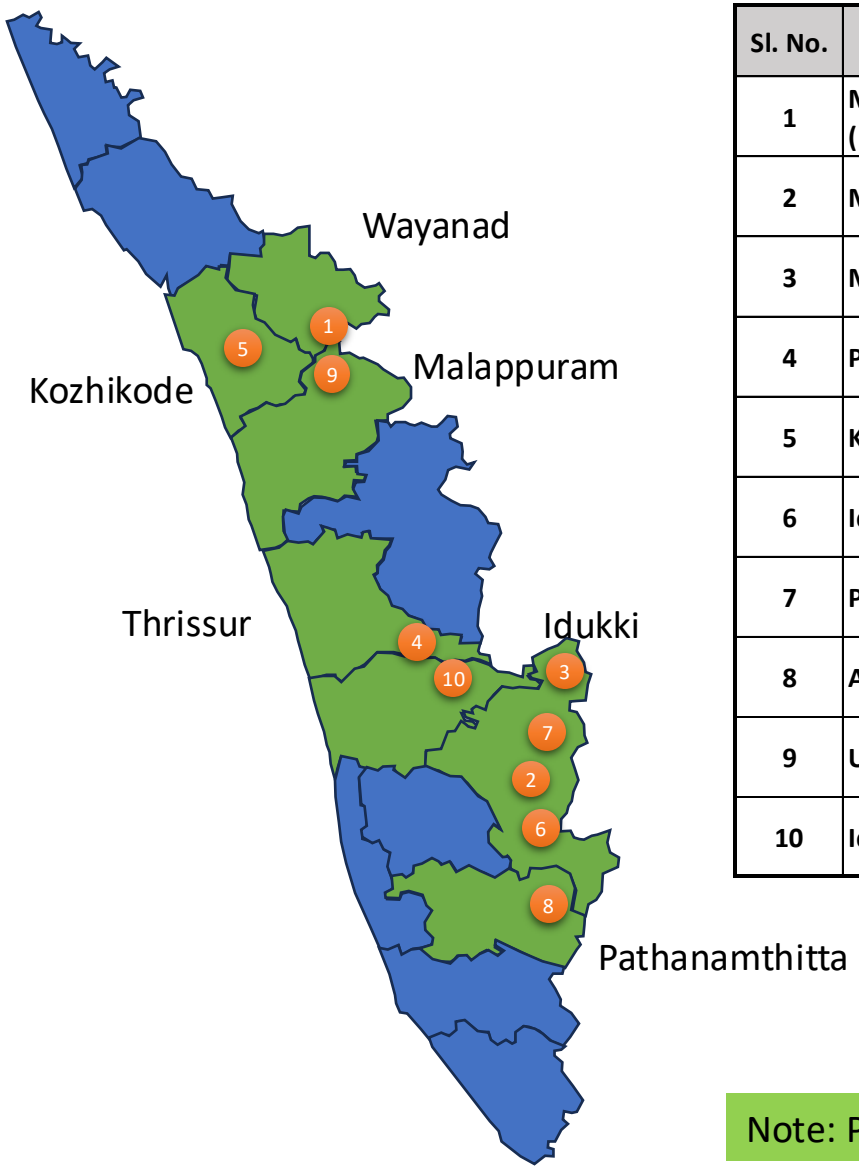
PUMPED STORAGE PROJECTS

Identified PSP Sites



Sl. No.	Scheme	District	MW	Head (m)	Generation Hrs	Upper Pool	Lower Pool	Land Req. (Ha)	Forest (Ha)
1	**Manjapara (Karapuzha)**	Wayanad	30	147	05:00	Manjappara Quarry	Karapuzha	11 Ha	Nil
2	**Mudirapuzha**	Idukki	100	140	06:00	Ponmudi	Mudirapuzha	32 Ha	Nil
3	**Marayoor**	Idukki	160	250	05:00	Kovilkadavu	Chinnar	45 Ha	27 Ha
4	**Poringal**	Thrissur	100	155	06:00	Poringalkuth	Pokalappara	82 Ha	82 Ha
5	**Kakkayam**	Kozhikode	800	700	06:00	Kakkayam	Peruvannamuzhi	15 Ha	6 Ha
6	**Idukki**	Idukki	700	562	06:00	Idukki	Nachar	67 Ha	17 Ha
7	**Pallivasal**	Idukki	600	445	06:00	Pallivasal	Kunjithanni	83 Ha	Nil
8	**Amruth Pampa**	Pathanamthitta	300	400	05:00	Kakki	Kayal	29 Ha	29 Ha
9	**Upper Chaliyar**	Malappuram	360	600	06:00	Alakapuri	Arunapuzha	44 Ha	25 Ha
10	**Idamalayar**	Ernakulam	180	194	04:00	Anaikayam thodu	Idamalayar	85 Ha	85 Ha

Existing Reservoir

Partially Existing

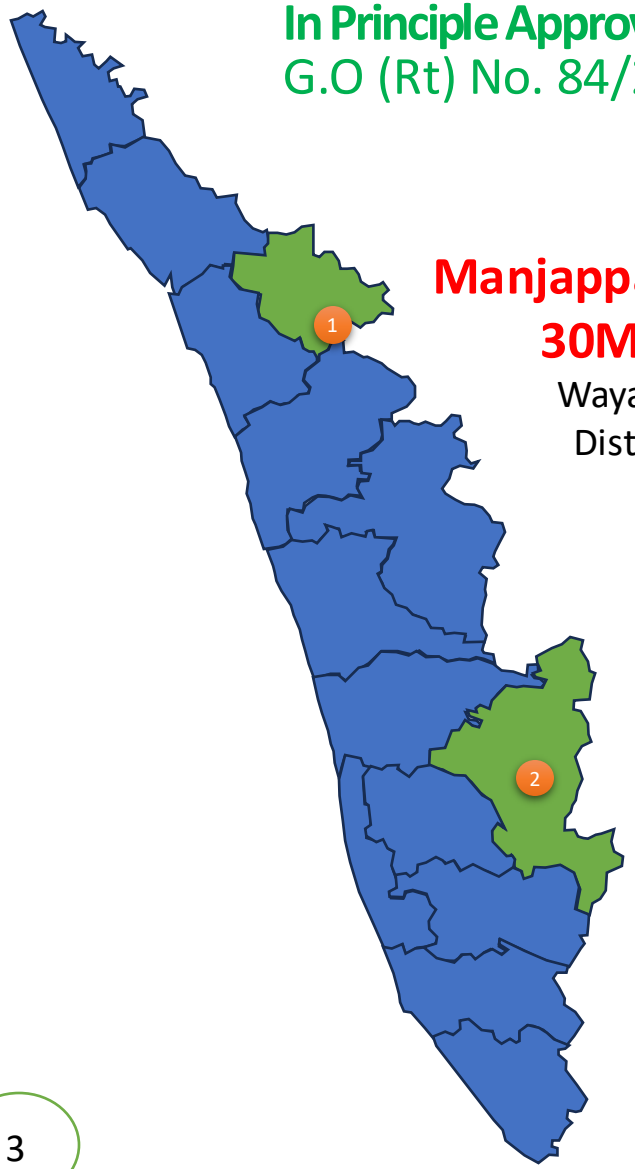
Proposed Reservoir

Note: PSP idetntification is a continuous iteration process and the list will be updated frequently

PSP Implementation – Phase 1

In Principle Approval from Government

G.O (Rt) No. 84/2024 POWER Dated, Thiruvananthapuram 20-05-2024



Manjappara PSP
30MW
Wayanad
District





No Forest Land



180 Crore

Dec 2031

Mudirapuzha
PSP 100MW
Idukki District





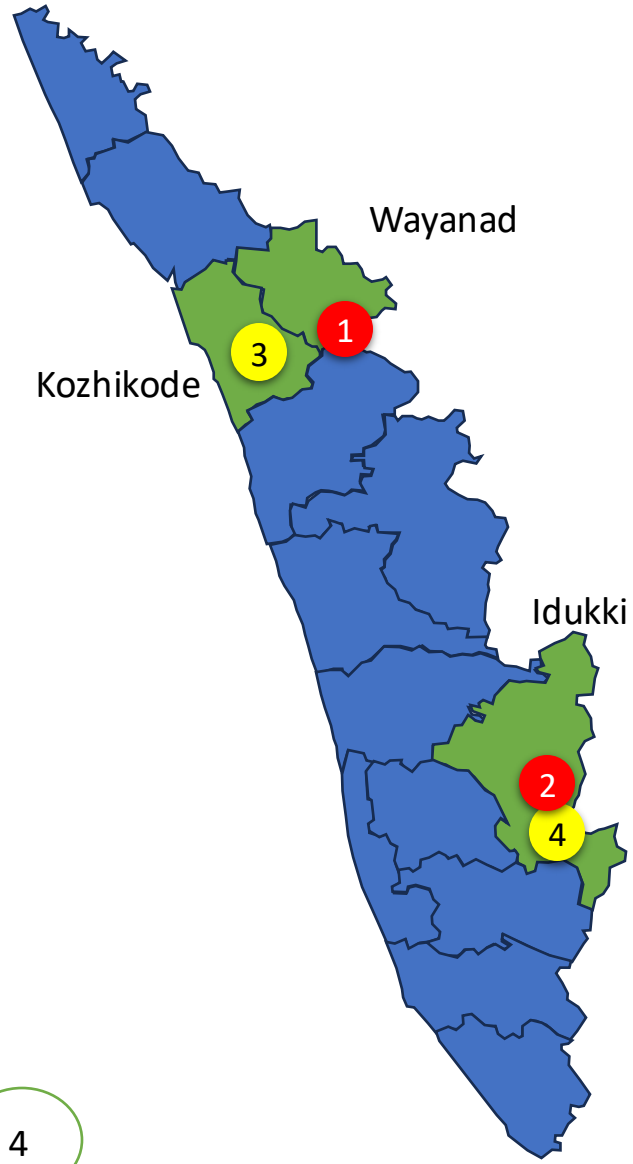
No Forest Land



573 Crore

Dec 2032

First Phase & Second Phase Implementation



	Name of PSP	Cost	Land	Status
PHASE – 1 130 MW	**Manjappara PSP, Wayanad** 30MW@ 5 hr backup 1	180 Cr	Irrigation dept. land, Private land & Revenue land	Inception Report In Principle Approval from Government
	Mudirapuzha PSP, Idukki 100MW@ 6 hr backup 2	573 Cr	KSEBL land, Private land & Revenue land	Inception Report In Principle Approval from Government

	Name of PSP	Cost	Land	Status
	Kakkayam PSP, Kozhikode 800MW@ 6 hr backup 3	3400 Cr	(KSEB land + Irrigation dept. land + Private land) 10 Ha Forest land 3.50 Ha	Inception Report Intake area in Malabar wild life sanctuary draft notification
	Idukki PSP, Idukki 700MW@ 6 hr backup 4	3083 Cr	Non Forest 50.07 Ha Forest land 16.93 Ha	PFR by THDCIL

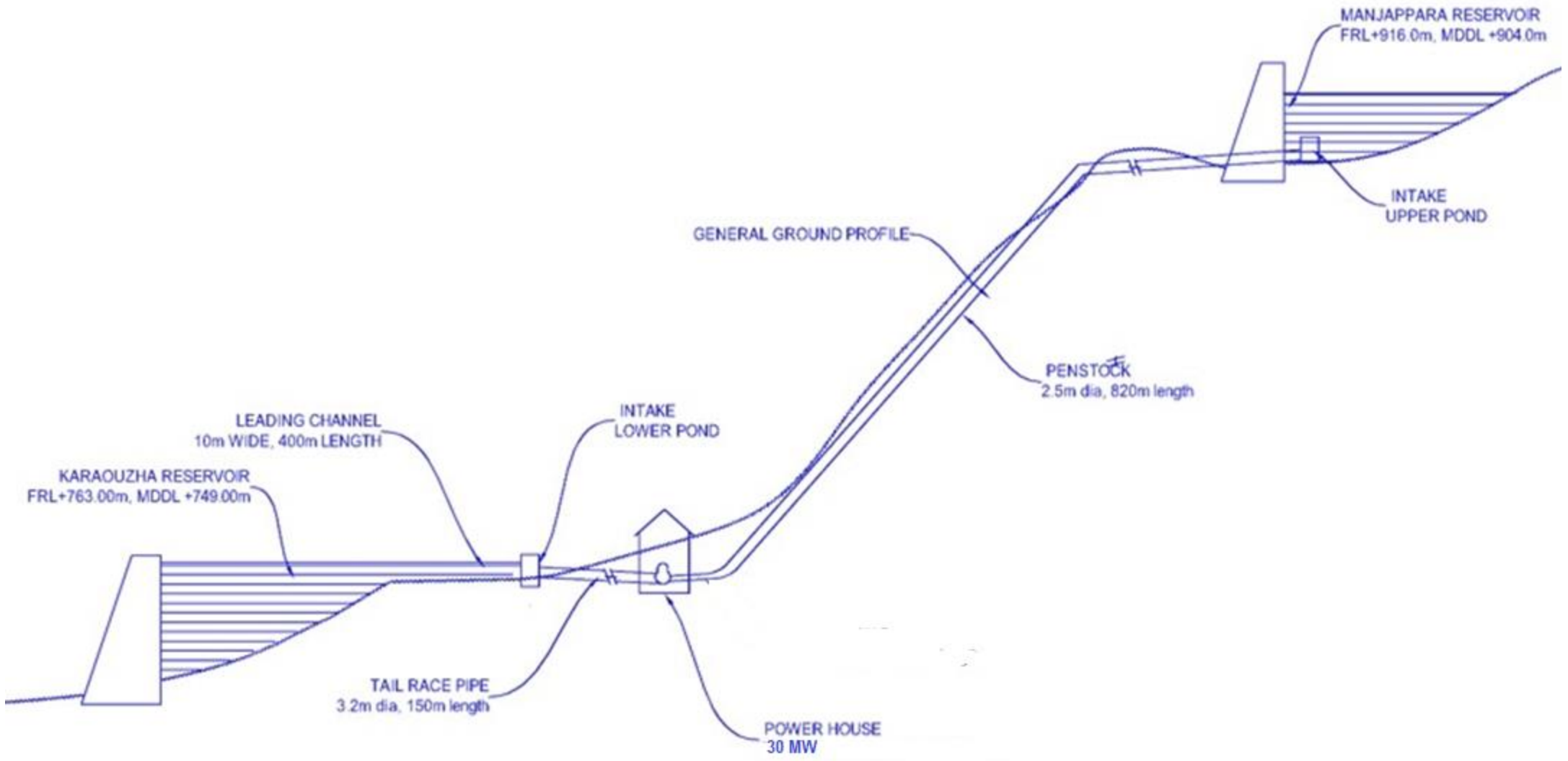

MANJAPPARA PSP 30MW

Salient Features of Manjappara PSP

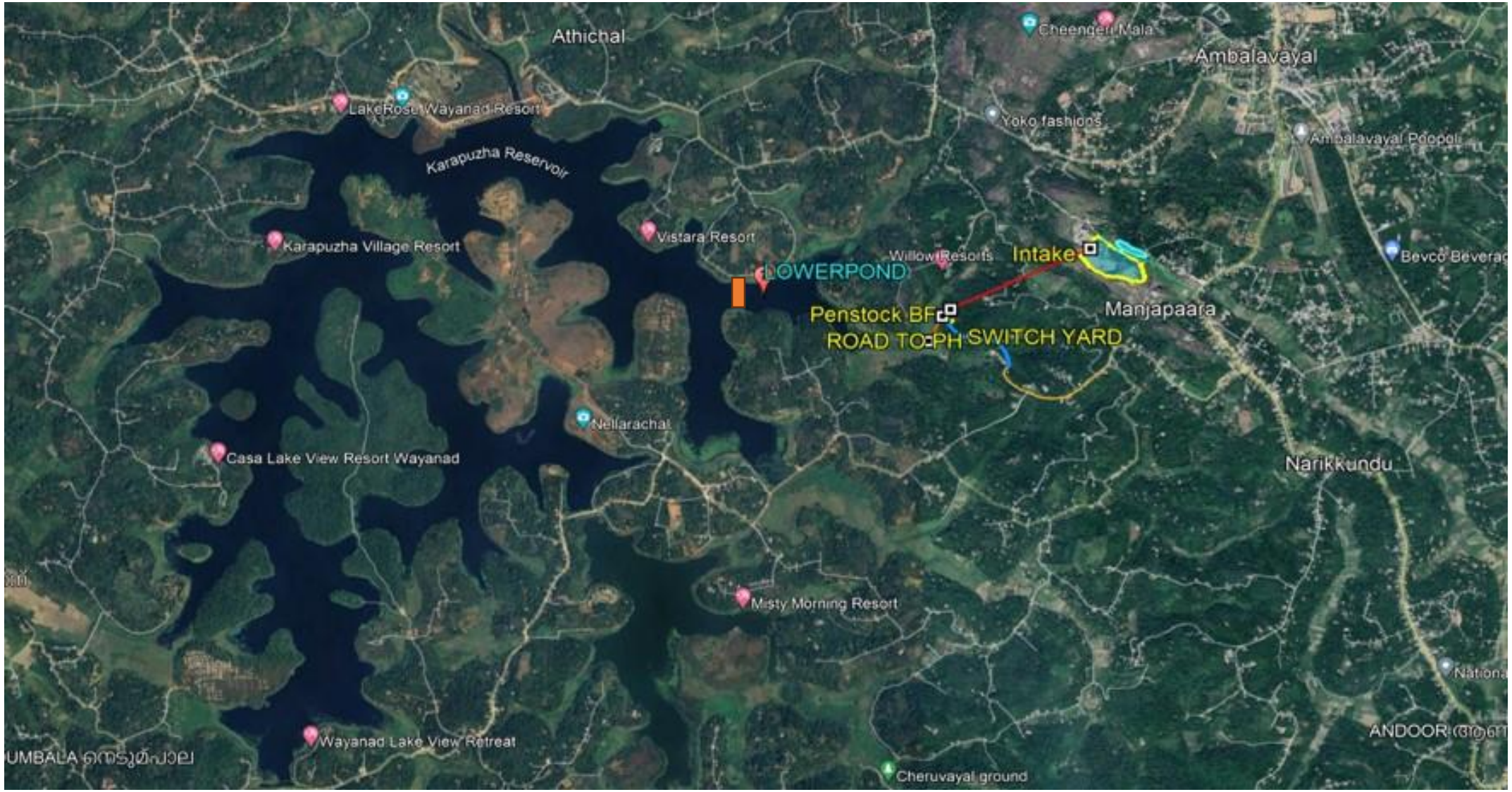
Name of Project	MANJAPPARA PSP
Installed Capacity	30 MW
Type of PSP	Off-Stream Open Loop
River	Karapuzha of Panamaram river in Kabani basin
District / Taluk	Wayanad / Vythiri
Location	Ambalavayal
Rated Head	147 m
Rated Discharge	12.17 Cumecs
Upper Pool (Proposed)	**Manjappara Quarry (abandoned)**
Dam	21m height, 127m length
FRL / MDDL	+916.00 / +904.00
Live Storage	0.44 MCM
Lower Pool (Existing)	**Karappuzha Reservoir**
Dam	28m height, 760m length
FRL / MDDL	+763.00 / +749.00
Live Storage	72.00 MCM

Main Components	
Upper Dam	Concrete Gravity
Upper & Lower Intake	Deffuser Type
Penstock	Surface Penstock
Length & Diameter	820m long / 2.50m dia
Power House	Surface Power House, Pit Type
Type of pump turbine	Vertical Riversible Francis Turbine
Tail Race Pipe	150m long, 3.20m dia
Leading Channel	400m long to Karapuzha reservoir
Daily Generation	5:00 hrs
Daily Pumping	6:40 hrs
Land	
Revenue Land	5.60 Ha
Private Land	4.40 Ha
Irrigation Dept. Land	1.00 Ha
Forest Land	Nil
Total Land	11.0 Ha

Schematic Section



Scheme Layout in Satellite Image



Gantt Chart

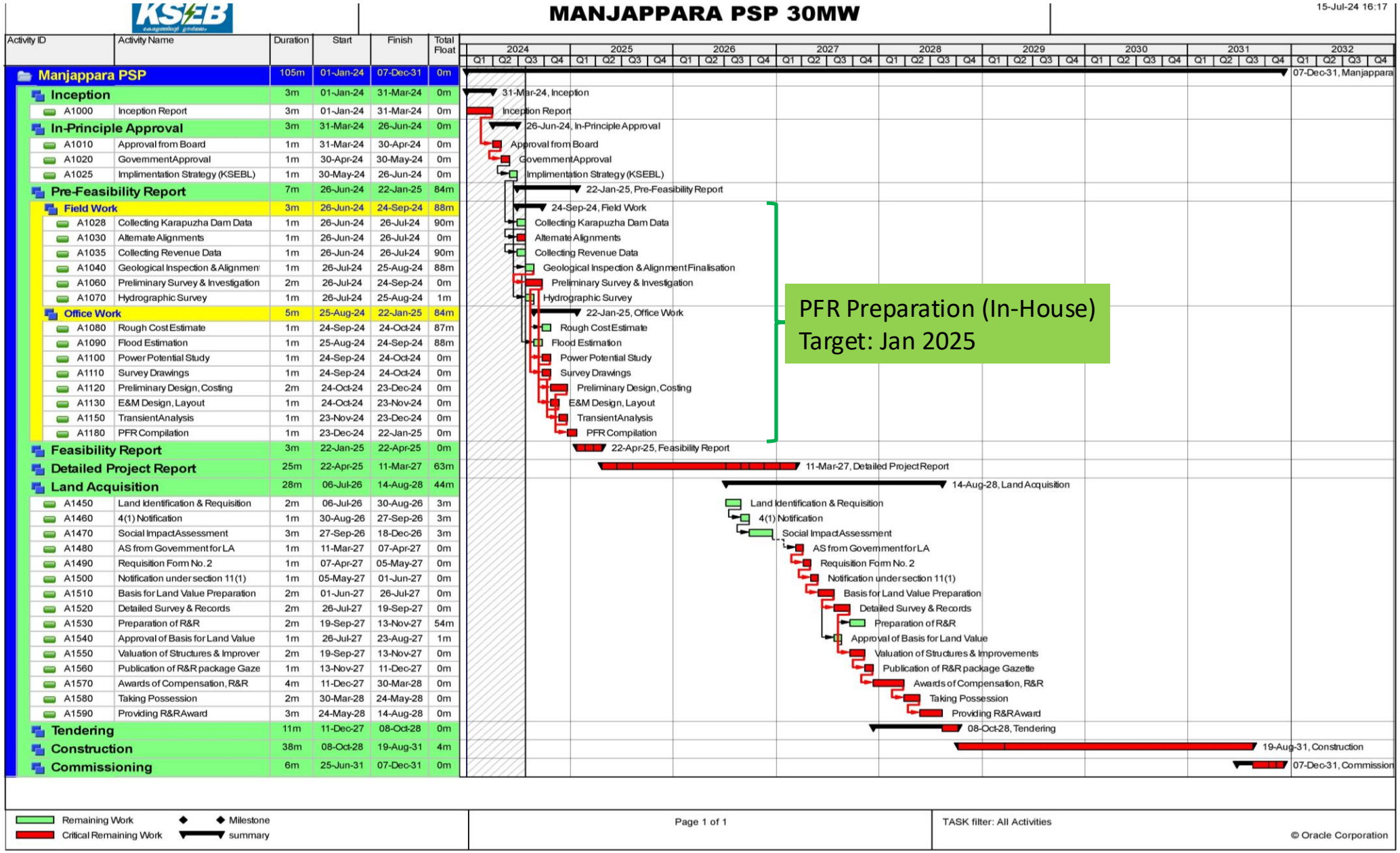
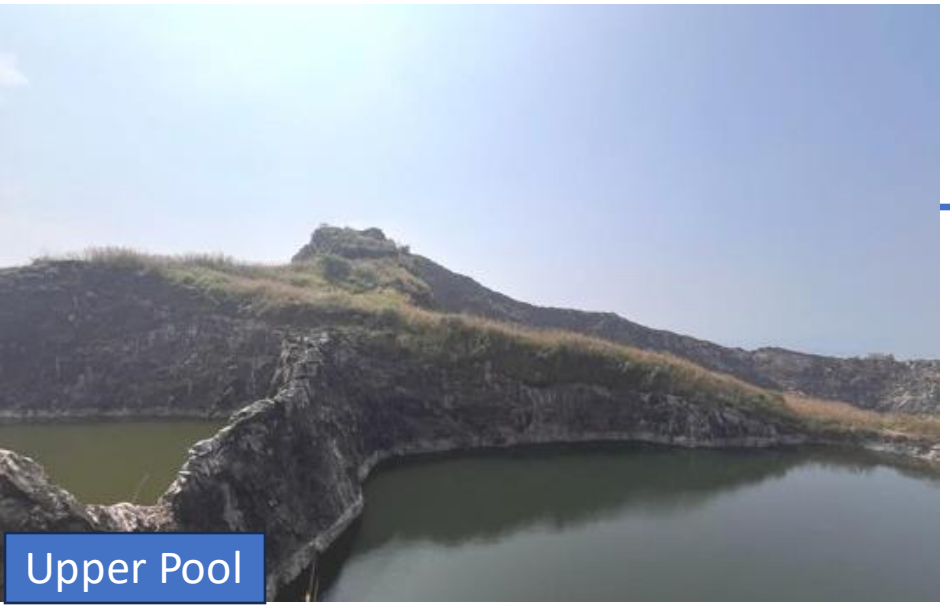

MANJAPPARA PSP 30MW
15-Jul-24 16:17
Activity ID
Activity Name
Duration
Start
Finish
Total Float
2024
2025
2026
2027
2028
2029
2030
2031
2032
Q1 Q2 Q3 Q4
Manjappara PSP 105m 01-Jan-24 07-Dec-31 0m
Inception 3m 01-Jan-24 31-Mar-24 0m
A1000 Inception Report 3m 01-Jan-24 31-Mar-24 0m
In-Principle Approval 3m 31-Mar-24 26-Jun-24 0m
A1010 Approval from Board 1m 31-Mar-24 30-Apr-24 0m
A1020 GovernmentApproval 1m 30-Apr-24 30-May-24 0m
A1025 Implimentation Strategy (KSEBL) 1m 30-May-24 26-Jun-24 0m
Pre-Feasibility Report 7m 26-Jun-24 22-Jan-25 84m
Field Work 3m 26-Jun-24 24-Sep-24 88m
A1028 Collecting Karapuzha Dam Data 1m 26-Jun-24 26-Jul-24 90m
A1030 Alternate Alignments 1m 26-Jun-24 26-Jul-24 0m
A1035 Collecting Revenue Data 1m 26-Jun-24 26-Jul-24 90m
A1040 Geological Inspection & Alignmen 1m 26-Jul-24 25-Aug-24 88m
A1060 Preliminary Survey & Investigation 2m 26-Jul-24 24-Sep-24 0m
A1070 Hydrographic Survey 1m 26-Jul-24 25-Aug-24 1m
Office Work 5m 25-Aug-24 22-Jan-25 84m
A1080 Rough Cost Estimate 1m 24-Sep-24 24-Oct-24 87m
A1090 Flood Estimation 1m 25-Aug-24 24-Sep-24 88m
A1100 Power Potential Study 1m 24-Sep-24 24-Oct-24 0m
A1110 Survey Drawings 1m 24-Sep-24 24-Oct-24 0m
A1120 Preliminary Design, Costing 2m 24-Oct-24 23-Dec-24 0m
A1130 E&M Design, Layout 1m 24-Oct-24 23-Nov-24 0m
A1150 TransientAnalysis 1m 23-Nov-24 23-Dec-24 0m
A1180 PFR Compilation 1m 23-Dec-24 22-Jan-25 0m
Feasibility Report 3m 22-Jan-25 22-Apr-25 0m
Detailed Project Report 25m 22-Apr-25 11-Mar-27 63m
Land Acquisition 28m 06-Jul-26 14-Aug-28 44m
A1450 Land Identification & Requisition 2m 06-Jul-26 30-Aug-26 3m
A1460 4(1) Notification 1m 30-Aug-26 27-Sep-26 3m
A1470 Social ImpactAssessment 3m 27-Sep-26 18-Dec-26 3m
A1480 AS from Government for LA 1m 11-Mar-27 07-Apr-27 0m
A1490 Requisition Form No. 2 1m 07-Apr-27 05-May-27 0m
A1500 Notification under section 11(1) 1m 05-May-27 01-Jun-27 0m
A1510 Basis for Land Value Preparation 2m 01-Jun-27 26-Jul-27 0m
A1520 Detailed Survey & Records 2m 26-Jul-27 19-Sep-27 0m
A1530 Preparation of R&R 2m 19-Sep-27 13-Nov-27 54m
A1540 Approval of Basis for Land Value 1m 26-Jul-27 23-Aug-27 1m
A1550 Valuation of Structures & Improver 2m 19-Sep-27 13-Nov-27 0m
A1560 Publication of R&R package Gaze 1m 13-Nov-27 11-Dec-27 0m
A1570 Awards of Compensation, R&R 4m 11-Dec-27 30-Mar-28 0m
A1580 Taking Possession 2m 30-Mar-28 24-May-28 0m
A1590 Providing R&RAward 3m 24-May-28 14-Aug-28 0m
Tendering 11m 11-Dec-27 08-Oct-28 0m
Construction 38m 08-Oct-28 19-Aug-31 4m
Commissioning 6m 25-Jun-31 07-Dec-31 0m
07-Dec-31, Manjappara
31-Mar-24, Inception
Inception Report
26-Jun-24, In-Principle Approval
Approval from Board
GovernmentApproval
Implimentation Strategy (KSEBL)
22-Jan-25, Pre-Feasibility Report
24-Sep-24, Field Work
Collecting Karapuzha Dam Data
Alternate Alignments
Collecting Revenue Data
Geological Inspection & Alignment Finalisation
Preliminary Survey & Investigation
Hydrographic Survey
22-Jan-25, Office Work
Rough Cost Estimate
Flood Estimation
Power Potential Study
Survey Drawings
Preliminary Design, Costing
E&M Design, Layout
TransientAnalysis
PFR Compilation
22-Apr-25, Feasibility Report
11-Mar-27, Detailed Project Report
14-Aug-28, Land Acquisition
Land Identification & Requisition
4(1) Notification
Social ImpactAssessment
AS from Government for LA
Requisition Form No. 2
Notification under section 11(1)
Basis for Land Value Preparation
Detailed Survey & Records
Preparation of R&R
Approval of Basis for Land Value
Valuation of Structures & Improvements
Publication of R&R package Gazette
Awards of Compensation, R&R
Taking Possession
Providing R&RAward
08-Oct-28, Tendering
19-Aug-31, Construction
07-Dec-31, Commission
PFR Preparation (In-House)
Target: Jan 2025
Remaining Work
Critical Remaining Work
Milestone
summary
Page 1 of 1
TASK filter: All Activities
© Oracle Corporation

Photo Gallery


Upper Pool


Preliminary Survey



Quarries



Lower Pool


Leading Channel

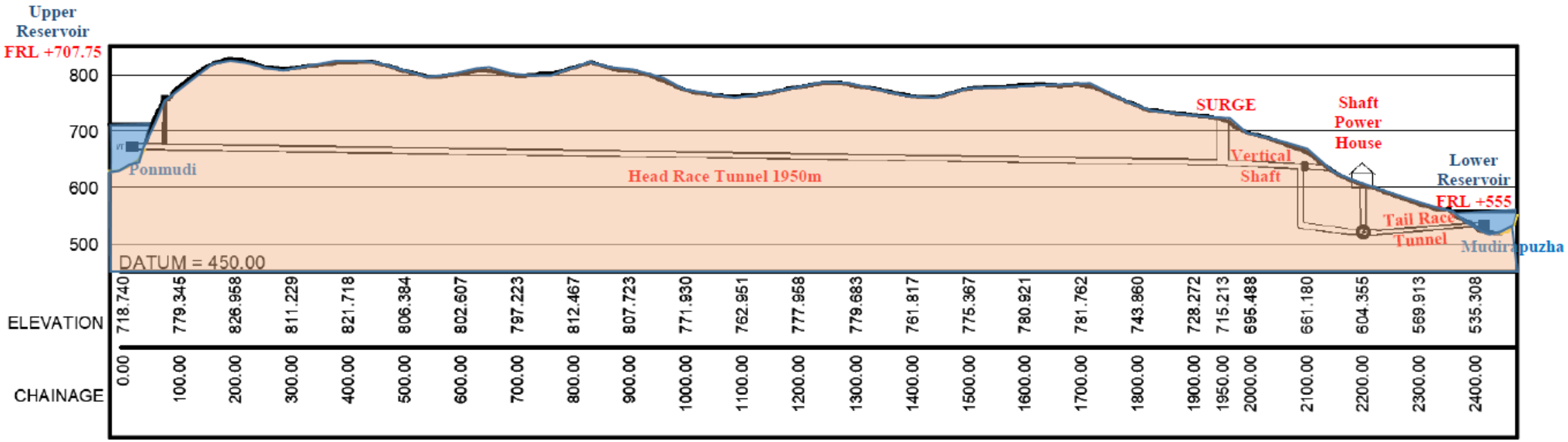

MUDIRAPUZHA PSP 100MW

Salient Features of Mudirapuzha PSP

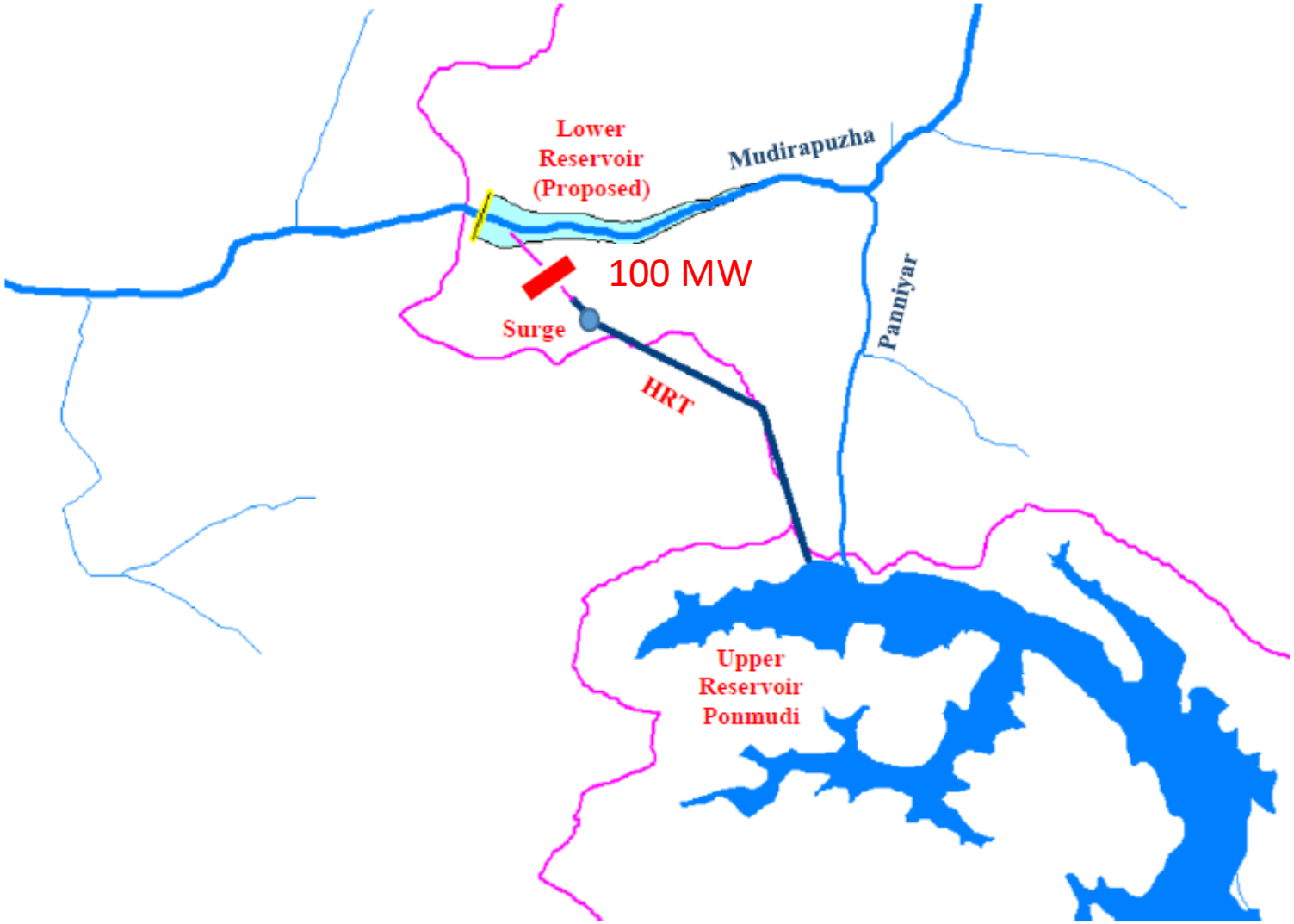
Name of Scheme	MUDIRAPUZHA PSP
Installed Capacity	100 MW
Type of PSP	On-Stream
River	Panniar – Mudirapuzhayar in Periyar Basin
District / Taluk	Idukki / Udumbanchola & Konnathadi
Location	Vellathooval
Rated Head	140 m
Rated Discharge	84.00 Cumecs
Upper Pool (Existing)	**Ponmudi Reservoir**
FRL / MDDL	+707.75 / +680.00
Live Storage	47.40 MCM
Lower Pool (Proposed)	**Mudirapuzha Dam**
Dam	47m height, 250m at FRL
FRL / MDDL	+555.00 / +535.00
Live Storage	2.17 MCM
Submergence area	19.60 ha

Main Components	
Lower Dam	Concrete Gravity with Gated Spillway
Upper & Lower Intake, Control Shaft, Trash Rack etc.	
Head Race Tunnel	1950m long, 5.20m dia, concrete lined
Surge Tank	45m deep, 16.50m dia
Pressure Shaft	300m long, 4.65m dia, Steel lined
Feeder Pipes	2nos, 50m long, 3.50m dia
Power House	Under Ground, Shaft Type
Type of pump turbine	Vertical Riversible Francis Turbine
Tail Race Tunnel	2nos 175m long 3.70m dia
Daily Generation	6:00 hrs
Daily Pumping	7:16 hrs
Land	
Revenue / Private Land	18.50 Ha
River Purambok	10.00 Ha
Forest Land	Nil
Total Land	28.50 Ha

Schematic Section



Scheme Layout

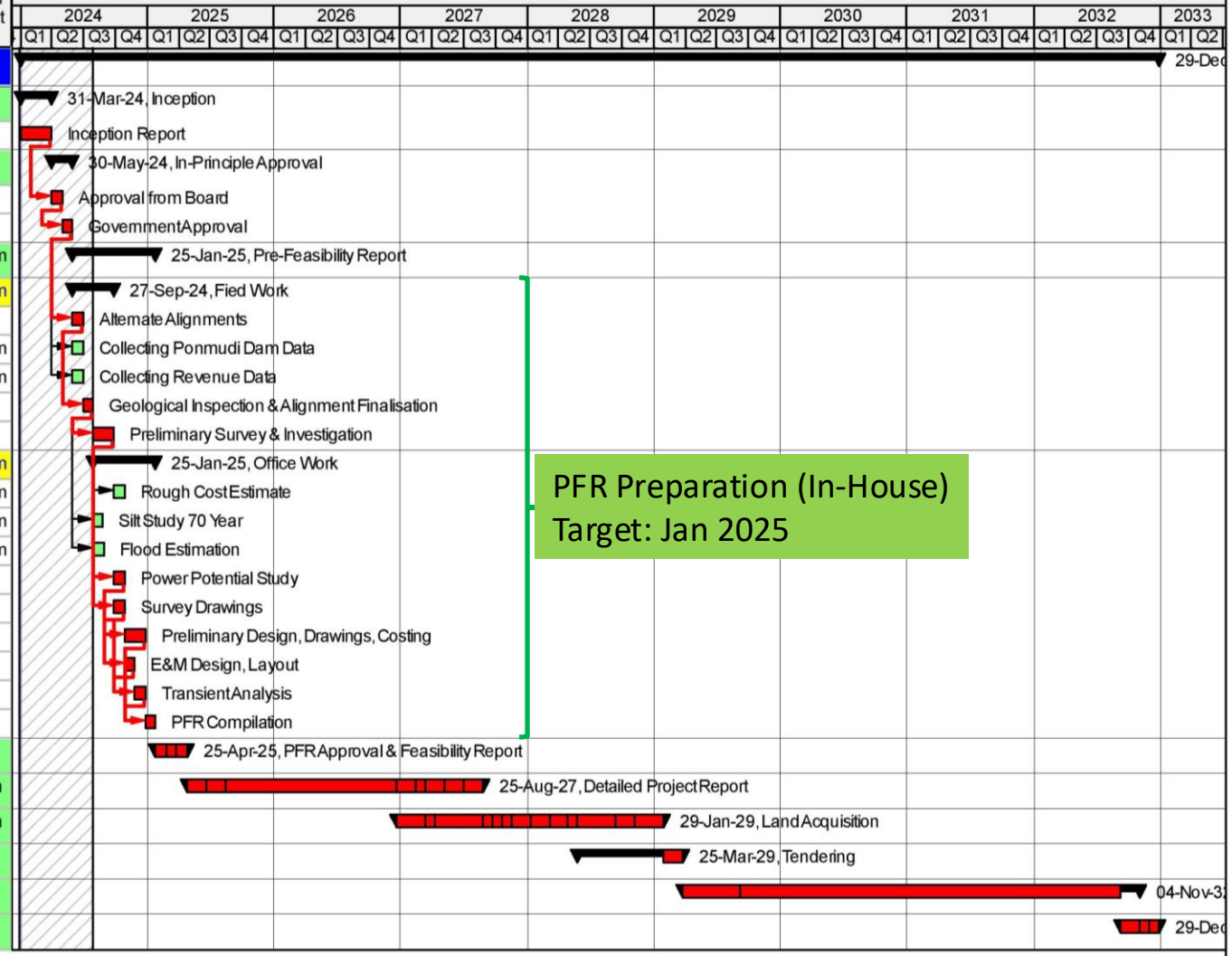


Gantt Chart

MUDIRAPUZHA PSP 100MW

16-Jul-24 18:37

Activity ID	Activity Name	Duration	Start	Finish	Total Float
Mudirapuzha PSP		119m	01-Jan-24	29-Dec-32	0m
Inception		3m	01-Jan-24	31-Mar-24	0m
A1000	Inception Report	3m	01-Jan-24	31-Mar-24	0m
In-Principle Approval		2m	31-Mar-24	30-May-24	0m
A1010	Approval from Board	1m	31-Mar-24	30-Apr-24	0m
A1020	GovernmentApproval	1m	30-Apr-24	30-May-24	0m
Pre-Feasibility Report		9m	30-May-24	25-Jan-25	105m
Fied Work		4m	30-May-24	27-Sep-24	101m
A1030	Alternate Alignments	1m	30-May-24	29-Jun-24	0m
A1032	Collecting Ponmudi Dam Data	1m	30-May-24	29-Jun-24	104m
A1035	Collecting Revenue Data	1m	30-May-24	29-Jun-24	104m
A1040	Geological Inspection & Alignmen	1m	29-Jun-24	29-Jul-24	0m
A1060	Preliminary Survey & Investigation	2m	29-Jul-24	27-Sep-24	0m
Office Work		7m	29-Jul-24	25-Jan-25	105m
A1080	Rough Cost Estimate	1m	27-Sep-24	27-Oct-24	100m
A1085	Silt Study 70 Year	1m	29-Jul-24	25-Aug-24	111m
A1090	Flood Estimation	1m	29-Jul-24	28-Aug-24	102m
A1100	Power Potential Study	1m	27-Sep-24	27-Oct-24	0m
A1110	Survey Drawings	1m	27-Sep-24	27-Oct-24	0m
A1120	Preliminary Design, Drawings, Cos	2m	27-Oct-24	26-Dec-24	0m
A1130	E&M Design, Layout	1m	27-Oct-24	26-Nov-24	0m
A1150	TransientAnalysis	1m	26-Nov-24	26-Dec-24	0m
A1180	PFR Compilation	1m	26-Dec-24	25-Jan-25	0m
PFR Approval & Feasibility Repo		3m	25-Jan-25	25-Apr-25	0m
Detailed Project Report		31m	25-Apr-25	25-Aug-27	71m
Land Acquisition		28m	21-Dec-26	29-Jan-29	52m
Tendering		11m	26-May-28	25-Mar-29	0m
Construction		48m	25-Mar-29	04-Nov-32	2m
Commissioning		4m	10-Sep-32	29-Dec-32	0m



Remaining Work
Critical Remaining Work
Milestone
summary

Page 1 of 1

TASK filter: All Activities

© Oracle Corporation

Photo Gallery



Upper Reservoir: Ponmudi



Preliminary Survey



Tunnel Route



Lower Dam Location



Existing Control Shaft of Panniar HEP

Thank you