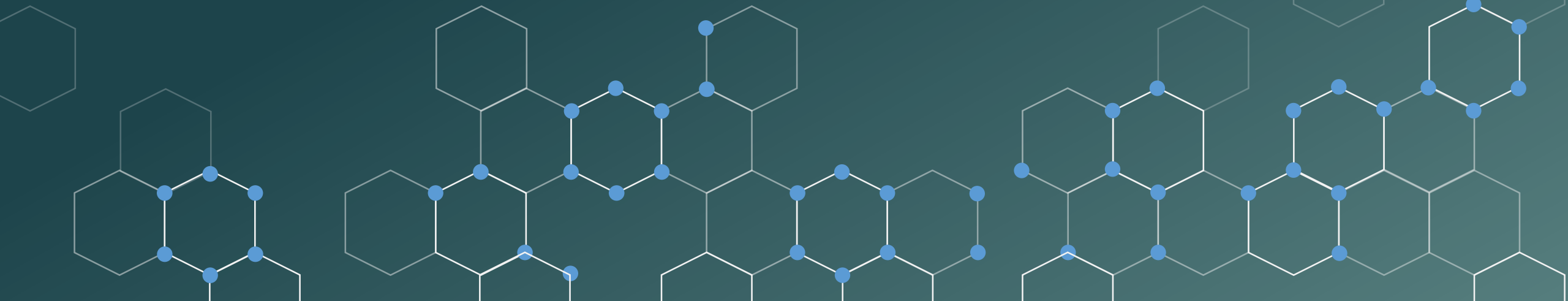
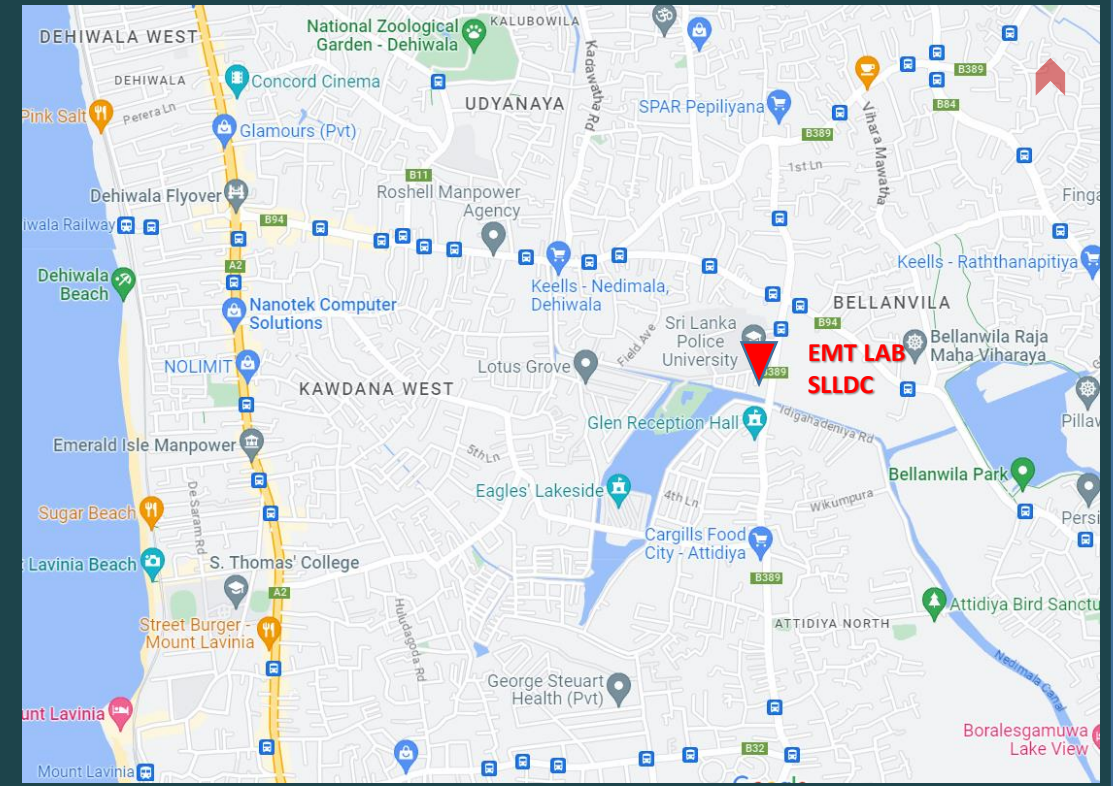


**ENGINEERING MATERIALS TESTING LABORATORY**  
**SRI LANKA LAND DEVELOPMENT CORPORATION**





## ENGINEERING MATERIALS TESTING LABORATORY SRI LANKA LAND DEVELOPMENT CORPORATION

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# ENGINEERING MATERIALS TESTING LABORATORY

THE EMT LABORATORY IS A SERVICE PROVIDER WHICH PROVIDES TESTING SERVICES FOR THE CONSTRUCTION MATERIALS (AGGREGATE, SOIL, CONCRETE), WATER, WASTEWATER, SLUDGE, SEDIMENTS ETC..., ESTABLISHED UNDER THE RESEARCH AND DESIGN DIVISION OF SRI LANKA LAND DEVELOPMENT CORPORATION IN 1983 FOR THE INTERNAL TESTING AND ANALYSES. LATER IT WAS OPENED FOR THE EXTERNAL CLIENTS IN 1986 BY UNDERTAKING TESTING AND ANALYSES FROM NHDA PROJECTS.

IN 1998, DANDO 2000 PERCUSSION DRILLING MACHINE WAS PURCHASED AND THE BOREHOLE INVESTIGATIONS WERE STARTED SINCE THEN. LATER IN 2012, A ROTARY DRILLING MACHINE WAS ADDED AND THE BOREHOLE INVESTIGATIONS WERE TAKEN TO THE NEXT LEVEL. FURTHER IN 2019, AN ICP-MS INSTRUMENT, WHICH USES A STATE OF ART TECHNOLOGY TO MEASURE THE HEAVY METAL CONTENT OF LIQUIDS, WAS RECEIVED FROM METRO COLOMBO URBAN DEVELOPMENT PROJECT (MCUDP), MAKING THE SLLDC IS ONE OF THE FEW HOLDERS OF SUCH INSTRUMENT IN SRI LANKA. THE TOTAL AMOUNT FOR THE INSTRUMENTS RECEIVED FOR THE EMT LABORATORY FROM MCUDP EXCEEDED RS. 80 MN.

# EMT LAB



## OUR TEAM

OUR E.M.T. LABORATORY COMPRISES OF ENGINEERS, CHEMIST, EMT OFFICERS, LABORATORY TECHNICIANS, OPERATOR ETC. THE EMT LABORATORY REPORTS TO BOTH DEPUTY GENERAL MANAGER AND ASSISTANT GENERAL MANAGER OF RESEARCH AND DESIGN DIVISION OF SLLDC.

## THE GOAL . .

BE THE LEADER IN SRI LANKA PROVIDING ENGINEERING MATERIALS AND ENVIRONMENTAL TESTING SERVICES IN ACCORDANCE WITH INTERNATIONALLY ACCEPTED ISO/IEC 17025 STANDARD.



## KEY ROLE

THE FACILITIES AT THE PHYSICAL LABORATORY, ENABLE OUR TEAM OF EXPERTS TO PERFORM THE NECESSARY TESTS AND ANALYSES ON SOIL, CONCRETE, AGGREGATES. APART FROM THAT OUR CHEMICAL LABORATORY CARRIES OUT NECESSARY CHEMICAL TESTING AND ANALYSES FOR WATER, SOIL AND AGGREGATES. FURTHER, THE DRILLING TEAM PERFORMS THE NECESSARY BOREHOLE INVESTIGATIONS REQUIRED BY THE DESIGN ENGINEERS.

### THE KEY FUNCTIONS OF EMT LABORATORY ARE :

- CONTINUOUS MONITORING OF WASHED AND SIEVED OFFSHORE SAND PRODUCED BY SLLDC AS PER SLS 1397:2010 STANDARD.
- CONTINUOUS MONITORING OF THE WATER BODIES (EG: BEIRA LAKE, BOLGODA LAKE, DIYAWANNA LAKE ETC.) OF THE RAMSAR CITY OF COLOMBO.
- PROVIDING TEST DATA FOR RESEARCHES WHICH ARE CARRIED OUT BY RESEARCH AND DESIGN DIVISION, WETLAND MANAGEMENT DIVISION AND SPECIAL PROJECTS DIVISION OF SLLDC.
- UNDERTAKING GEOTECHNICAL INVESTIGATIONS AND TESTING SERVICES FOR THE GEOTECHNICAL DESIGNS CARRIED OUT BY THE INTERNAL DIVISIONS SUCH AS RESEARCH AND DESIGN, AND SPECIAL PROJECTS DIVISION AND ALSO FOR EXTERNAL CLIENTS.
- PROVIDING OTHER TESTING SERVICES (BOTH IN-SITU AND IN-LABORATORY) FOR SOIL, AGGREGATE, CONCRETE, ROCK, CONSTRUCTION PRODUCTS (EG: INTERLOCKING PAVING BLOCKS, EARTH BRICKS, CURBS, MASONRY BLOCKS ETC.), WATER, WASTEWATER, SEDIMENTS, COMPOST ETC. HANDED OVER BY BOTH INTERNAL AND EXTERNAL CLIENTS.
- ACTING AS THE MANUFACTURER'S LABORATORY OF "LAND RECLAMATION AND DEVELOPMENT COMPANY LIMITED" (REDECO), OUR OWN SUBSIDIARY COMPANY WHICH MANUFACTURES CEMENT BLOCKS AS PER SLS 855 STANDARD.
- PROVIDING DATA AND/OR TESTING SERVICES FOR THE RESEARCHES CARRIED OUT BY LOCAL UNIVERSITIES.

# MATERIALS TESTING INSTRUMENTS AND EQUIPMENT



# LIST OF TESTING SERVICES

## BOREHOLE INVESTIGATIONS

ROTARY/WASH BORING TECHNIQUE WITH ROCK CORE DRILLING  
HAND AUGURING  
STANDARD PENETRATION TESTING  
UNDISTURBED SOIL SAMPLING (THIN WALL AND PISTON SAMPLING)

## SOIL

- CLASSIFICATION TESTS (SIEVE ANALYSIS/ATTERBERG LIMITS/HYDROMETER)
- COMPACTION TESTS (STANDARD/MODIFIED PROCTOR COMPACTION)
- IN-SITU DENSITY TESTS
- PH
- WATER SOLUBLE CHLORIDE CONTENT
- WATER SOLUBLE SULFATE CONTENT
- TRIAXIAL SHEAR TEST (UU)

## AGGREGATES

- CLASSIFICATION TESTS (PARTICLE SIZE DISTRIBUTION)
- PHYSICAL PROPERTIES (BULK DENSITY/SPECIFIC GRAVITY/ABSORPTION)
- MECHANICAL PROPERTIES (AIV)
- SHELL CONTENT OF FINE AGGREGATES
- WATER SOLUBLE CHLORIDE CONTENT OF FINE AGGREGATES

## FRESH CONCRETE

- SLUMP TEST

## HARDENED CONCRETE

- COMPRESSIVE STRENGTH
- SCHMIDT HAMMER TEST

## CEMENT BLOCKS

- COMPRESSIVE STRENGTH
- VOLUME OF CAVITIES, DENSITY AND NET AREA OF BLOCKS
- WATER ABSORPTION

## COMMON BURNT CLAY BUILDING BRICKS

- COMPRESSIVE STRENGTH
- WATER ABSORPTION

## WATER / WASTEWATER

- DISSOLVE OXYGEN , BIOLOGICAL OXYGEN DEMAND
- CHEMICAL OXYGEN DEMAND , TOTAL HARDNESS ( $\text{CaCO}_3$ )
- SULPHATE ( $\text{SO}_4$ ) , IRON (FE) , FLUORIDE (F)
- COLOUR
- TDS
- TEMPERATURE
- PH
- CONDUCTIVITY
- TURBIDITY
- SALINITY
- AMMONIA ( $\text{NH}_3$ ) , PHOSPHATE ( $\text{PO}_4$ ) , NITRITE ( $\text{NO}_2$ ) , NITRATE ( $\text{NO}_3$ ) , CHLORIDE
- HEAVY METAL CONTENT

PLEASE REFER OUR WEBSITE  
<https://www.landdevelopment.lk/testing-of-engineering-materials/>  
FOR MORE INFORMATION ON TESTING SERVICES PROVIDED BY THE  
EMT LABORATORY.

## SEVERAL PROJECTS INVOLVED :

- PROPOSED BUILDING FOR URBAN FACILITATING CENTRE AT BELIATTA
- PROPOSED DIKOWITA BRIDGE & FLOOD GATES
- TOWN CENTER DEVELOPMENT PROJECT AT EHELIYAGODA
- PROPOSED DEVELOPMENT PROJECT OF KAWANTHISSA WEWA AT EMBILIPITIYA
- MEMORIAL PARK AT SRI JAYAWARDHANAPURA, KOTTE
- RECTIFICATION WORKS OF REHABILITATION OF MORAGODA ELA MAIN CANAL AND TEMPLE BYPASSING ROAD.
- PROPOSED NEW BUILDING AT PRISON HEADQUARTERS
- GROUND IMPROVEMENT WORK AT PROPOSED MULTIMODAL CENTER AT MAKUMBURA
- METRO COLOMBO URBAN DEVELOPMENT PROJECT
  - FLOOD MITIGATION MEASURES AND WATER FRONT MANAGEMENT
  - KOLONNAWA CANAL DIVERSION
  - IMPROVEMENTS TO MADIWELA EAST DIVERSION – PART 01
  - IMPROVEMENTS TO MADIWELA EAST DIVERSION SCHEME – STAGE III
  - PROPOSED CONSTRUCTION OF ST. SEBASTIAN SOUTH NEW DIVERSION
  - FLOOD MITIGATION AND WATER FRONT MANAGEMENT
- MADIWELA SOUTH DIVERSION PROJECT (OPTION II)
- SHIFTING OF MANNING MARKET TO PELIYAGODA
- OLIYAMULLA STORMWATER DRAINAGE AND ENVIRONMENT IMPROVEMENT PROJECT
- WERAS GANGA STORM WATER DRAINAGE AND ENVIRONMENT IMPROVEMENT PROJECT
- PROPOSED DEVELOPMENT OF RANAKKAWEVA AT KOTUGODA, MINUWANGODA
- PROPOSED DEVELOPMENT OF IIHS MULTIVERSITY PROJECT AT KERAWARALAPITIYA
- WETLAND ENCROACHMENTS PREVENTION PROJECT – GOTHATUWA
- LAND DEVELOPMENT PROJECT FOR PROPOSED BUS DEPOT AT KEGALLE
- PROPOSED STEEL STAGE AT DIYATHA UYANA
- PROPOSED FOOD COURT AT KATUBEDDA
- PROPOSED DATA STORING CENTER AT KIRIMANDALA MAWATHA

### MAIN EXTERNAL CLIENTS

- ❖ BORALESGAMUWA URBAN COUNCIL.
- ❖ KADUWELA MUNICIPAL COUNCIL
- ❖ KADUWELA DIVISIONAL SECRETARIAT
- ❖ MAHARAGAMA URBAN COUNCIL
- ❖ MANAMPERI ENGINEERING (PVT) LTD.
- ❖ SACHINDRA HOLDINGS





