INTEGRATED COACHING MAINTENANCE CONCEPT

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TRANSPORT ORGANISATION

Motto

Quality Service

Maximize Quantity

At Minimum Cost

FOR ANY DECISION/DEVELOPMENT

To be taken into Consideration

Quality

Quantity

Cost

INTEGRATED COACHING MAINTENANCE CONCEPT

Why should the Present System needs to be changed

To increase the Productivity of Manpower

To reduce the Maintenance Time

To improve the Reliability

To reduce the Detachment of Coaches

INTEGRATED COACHING MAINTENANCE CONCEPT

- Integration of All the Maintenance Activities
  - Mechanical
  - Electrical
- Standardization of
  - Layout
  - Infrastructure – Mech & Elect
  - Tools and Plants – Mech & Elect
  - Service Rooms
  - Other Facilities – Mech & Elect

INTEGRATED COACHING MAINTENANCE CONCEPT

- Present System of Coaching Depot
  - Pitline
    - Due to Catwalk Construction
      - Long Construction Time
      - Uneconomical
      - Open to Sky

INTEGRATED COACHING MAINTENANCE CONCEPT

- Proposed System of Coaching Depot
  - Pitline
    - Oneside or No Catwalk with
      - Easy to Construct – On Steel Pillar
      - Economical
      - Expeditious Completion

- DMRC Coach on Pillar Design Pitline

INTEGRATED COACHING MAINTENANCE CONCEPT

By providing comfort and security

Covered Shed of Maintenance Bay

With Boundary Wall for security of Manpower and Rake

Will increase the Productivity of Manpower

INTEGRATED COACHING MAINTENANCE CONCEPT

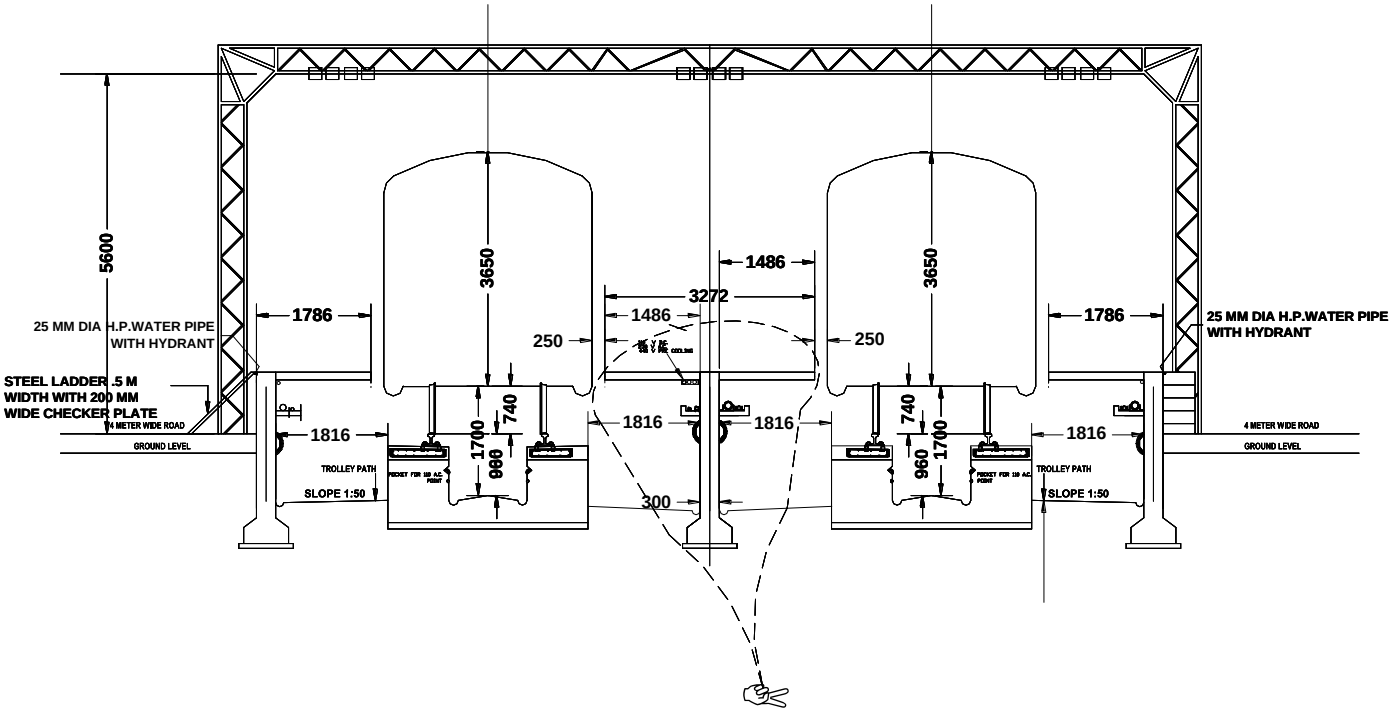
- Present System of Coaching Depot
  - Pitline
    - Bothside Catwalk
      - Clumsy Layout
      - Restricted Daylight
      - Cross Movement Restricted

INTEGRATED COACHING MAINTENANCE CONCEPT

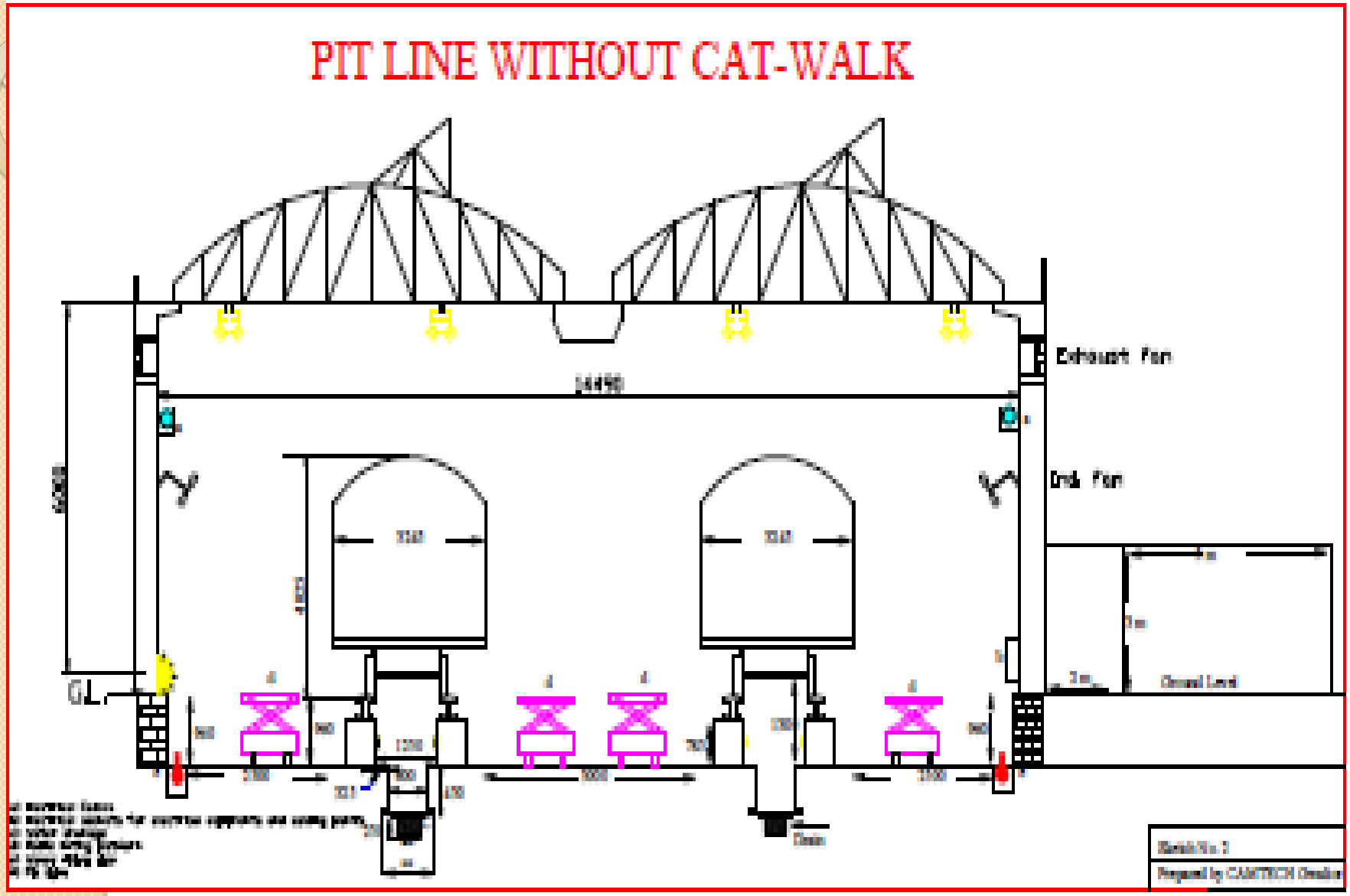
- Proposed System of Coaching Depot
  - Pitline
    - Oneside or No Catwalk
      - Less Clumsy Layout
      - Ease of Material Handling
      - Easy movement of Staff
      - Ample Daylight

Will Increase the Productivity of Manpow

Existing System of Maintenance bay

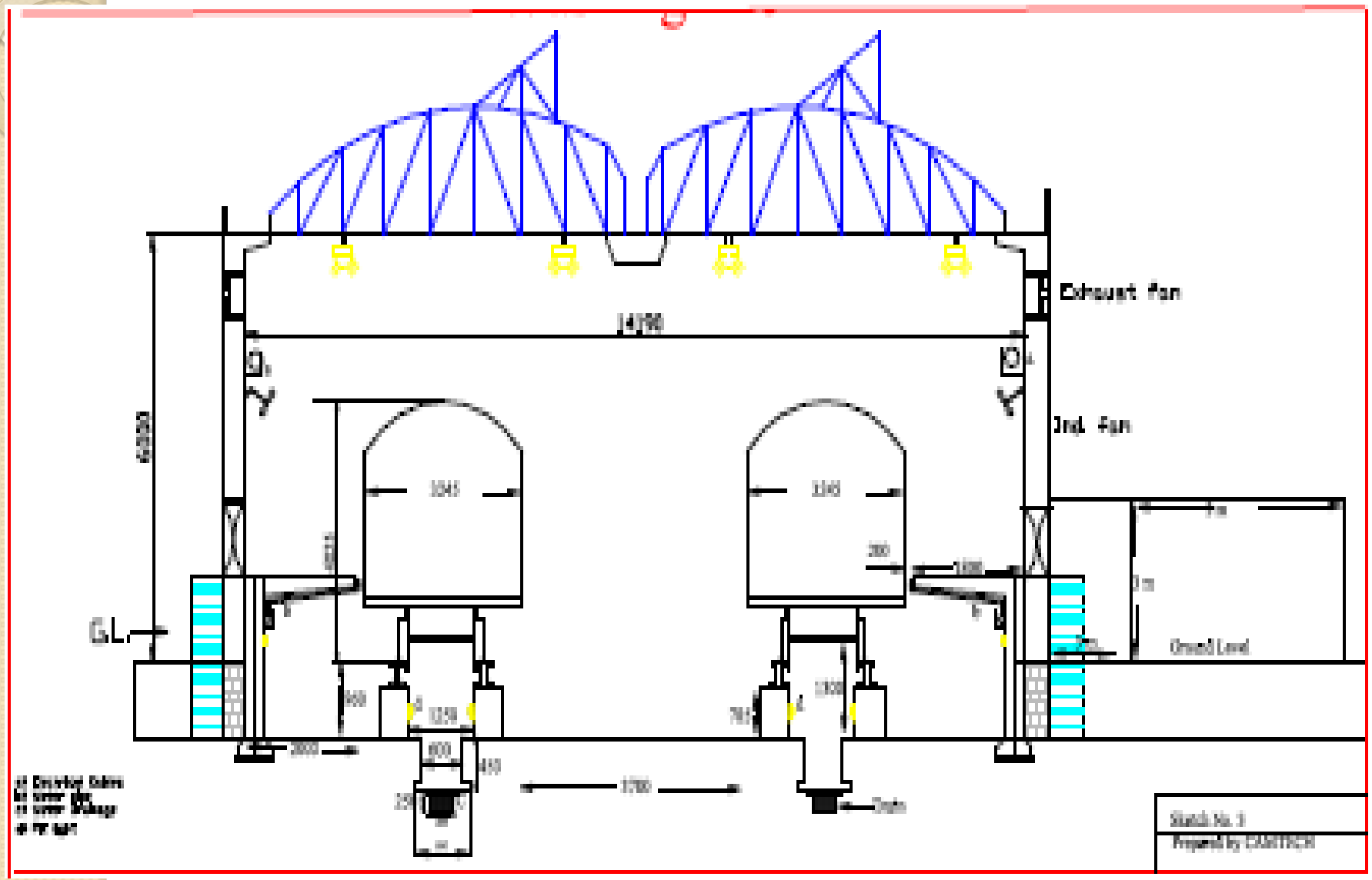


Pitline without catwalk with Twin Depth Pit



Mobile Lifting Platform

Pitline with One side catwalk with Twin Depth Pit



INTEGRATED COACHING MAINTENANCE CONCEPT

- Proposed System of Coaching Depot
  - Pitline - Oneside or No Catwalk
    - Attention to
      - Window Glass
      - Destination Board
      - Coach Indication Board
      - Linen Supply
        - With Help of Mobile Lifting Platform
    - Watering Pipeline/Water Pipeline
    - for Inside Cleaning - ???

INTEGRATED COACHING MAINTENANCE CONCEPT

Present System of Coaching Depot

Pitline

Single depth Centre Pit of 960 mm

Staff have to bent in moving

During Examination

INTEGRATED COACHING MAINTENANCE CONCEPT

Proposed System - Pitline Centre Pit

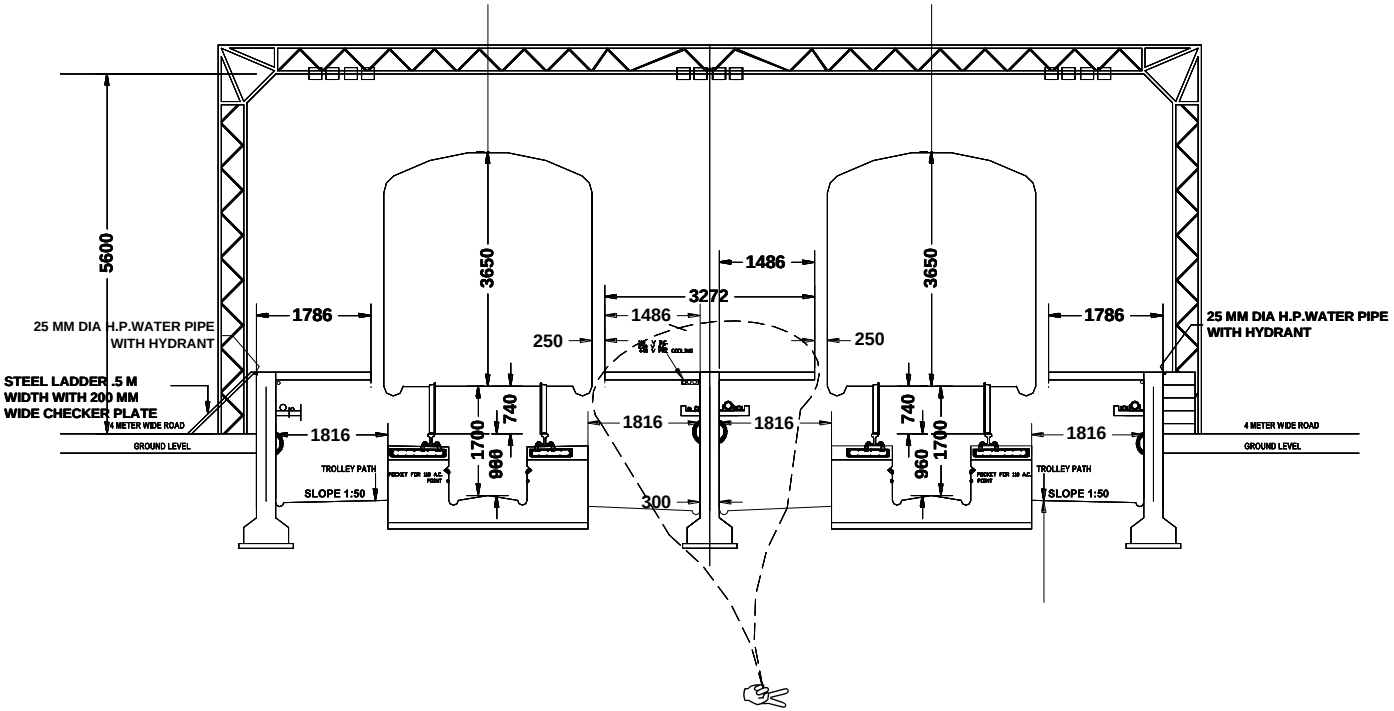
Twin depth Pit

Now examination staff can
move inside pit without bending
Size 600mm X 450mm inside pit

This Pit also serve as Drainage

Will increase the Productivity of Manpower

Existing System of Maintenance bay



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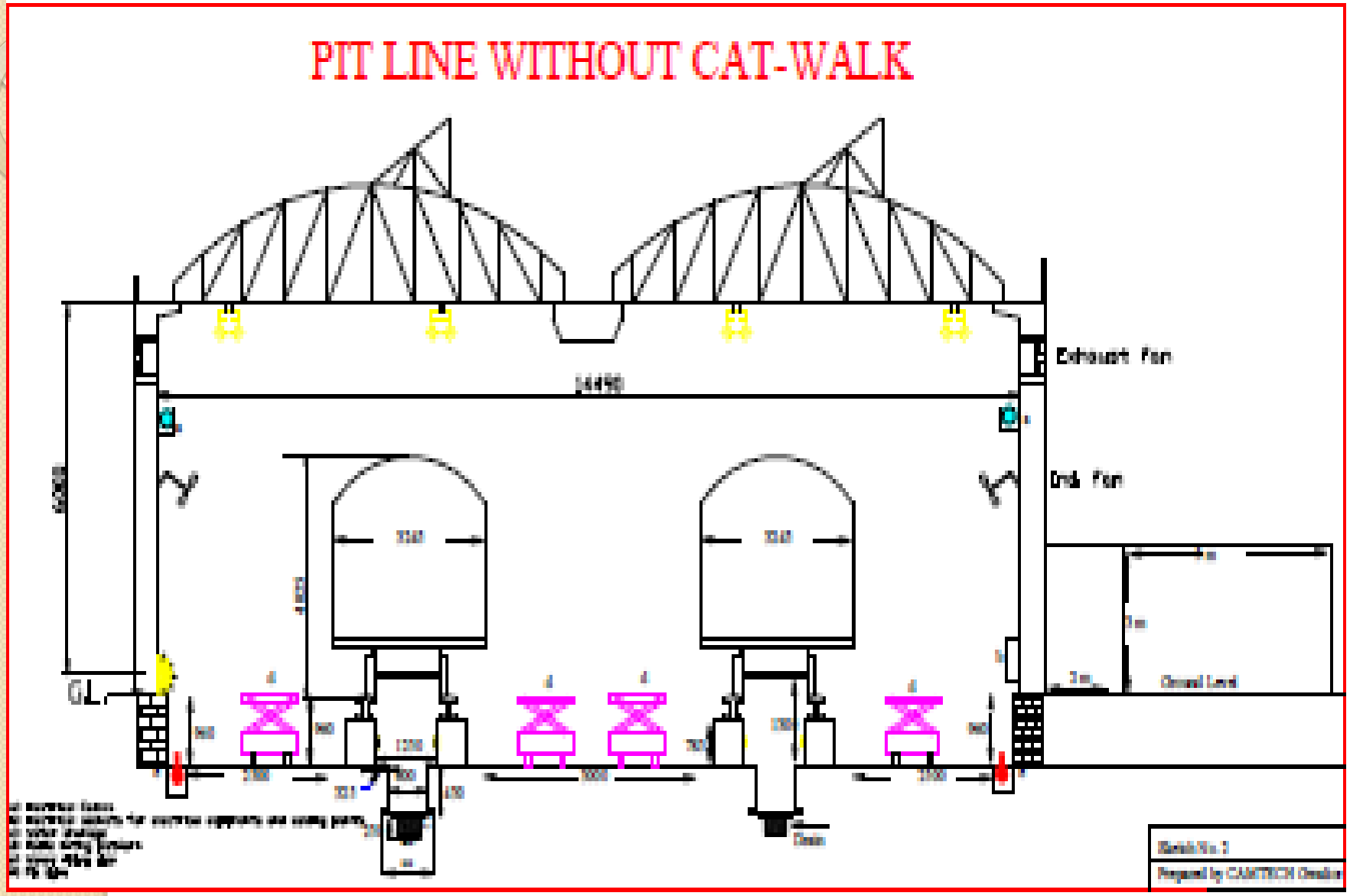


INTEGRATED COACHING MAINTENANCE CONCEPT

Present System of Coaching Depot

- Pitline – Bothside Catwalk
  - Outside Body Washing
    - Spillage of Water at Examination Area Causing Hindrance with the Undergear Examination
    - Considerable Time Required for Manual Cleaning

INTEGRATED COACHING MAINTENANCE CONCEPT

Automatic Coach Washing Plant

Outside Body Cleaning

In moving condition

Reduce the Coach washing time

Reduction in Water Spillage

At Work Area - Clean

Less Hindrance with Maintenance

Will reduce the Maintenance Time

INTEGRATED COACHING MAINTENANCE CONCEPT

Proposed System

Water Recycling Plant

For Conservation of Water

Need of the Hour

Environment Concern

Will reduce the Environment Hazard

Automatic Coach Washing Plant

Automatic Coach Washing Plant

Automatic Coach Washing Plant

Automatic Coach Washing Plant

INTEGRATED COACHING MAINTENANCE CONCEPT

Automatic Wheel Diagnostic System

To improve reliability

In light of reduction

in maintenance time

On line monitoring of wheel profile

On line Crack detection

On line detection of Flat Place

Will reduce the Maintenance Time

And improve the Reliability

Automatic Wheel Diagnostic System

INTEGRATED COACHING MAINTENANCE CONCEPT

Every Detachment of Coach
Requires time and effort

All effort to reduce detachment

<u>Under Floor Lifting Plant</u>
For Changing the Wheel in Position
Without detaching the Coach

Will reduce the Detachment of Coaches

INTEGRATED COACHING MAINTENANCE CONCEPT

Portable Wheel Profiling Machine

For Profiling of Wheel in Position

Without detaching the Coach

Will reduce the Detachment of Coaches

INTEGRATED COACHING MAINTENANCE CONCEPT

To make Environment Clean

Bio-toilets, ZDTS, Vacuum Toilets

Getting installed increasingly

Waste Removal System

Needs to be installed to handle

Such Waste

Will make Environment Clean

INTEGRATED COACHING MAINTENANCE CONCEPT

Other Facilities

- Pliable Concrete Road
- Concrete Flooring
- Service Rooms
- Proper Illumination

Will make Working Area Tidy And Ease in Maintenance

INTEGRATED COACHING MAINTENANCE CONCEPT

To Summarize

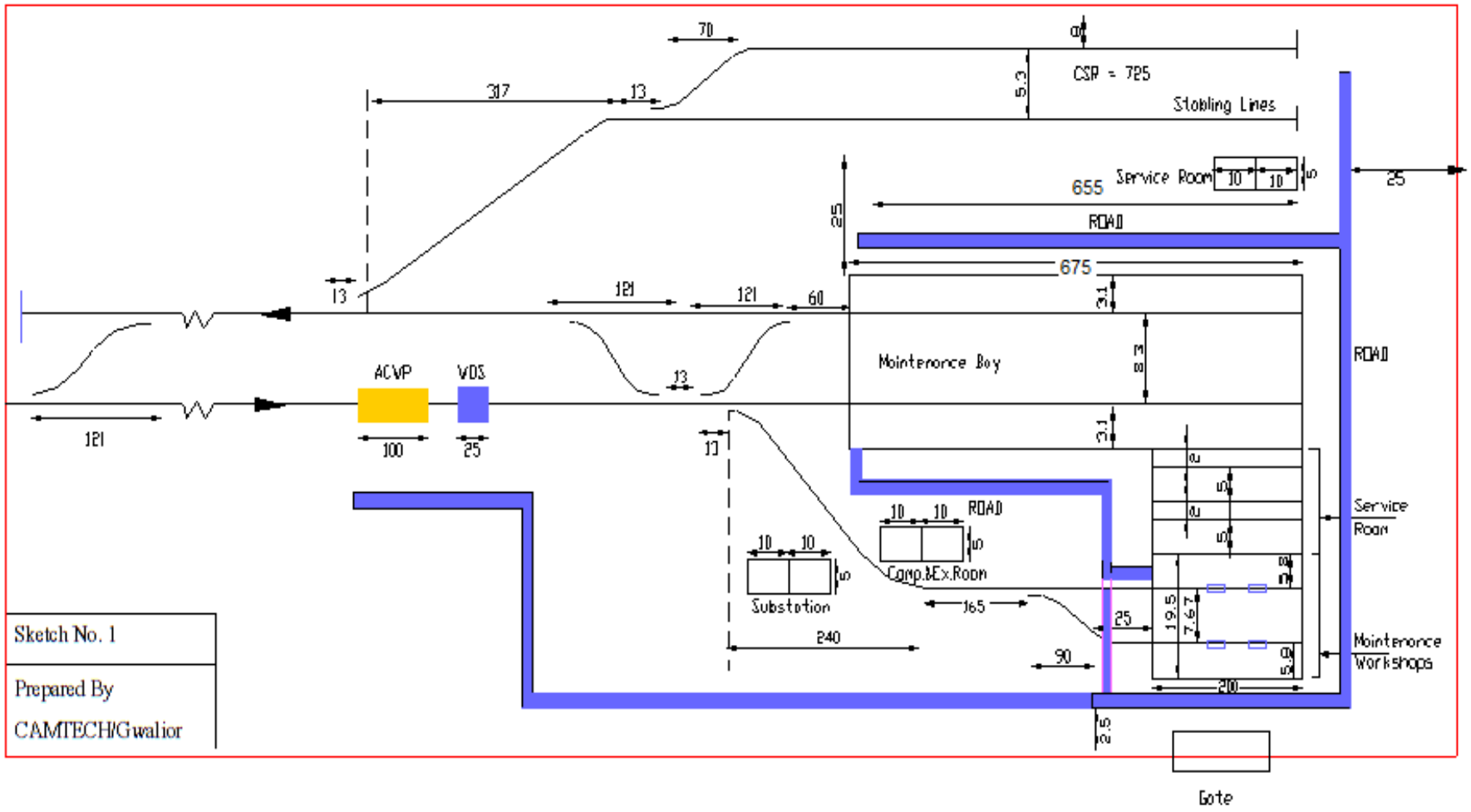
Facilities Required in Coaching Depot

- Auto Coach Washing Plant
- Wheel Diagnostic System
- Maintenance Bay Pitline
- Maintenance Bay Sickline
- Service Rooms
- Shunting Neck
- Stabling Line

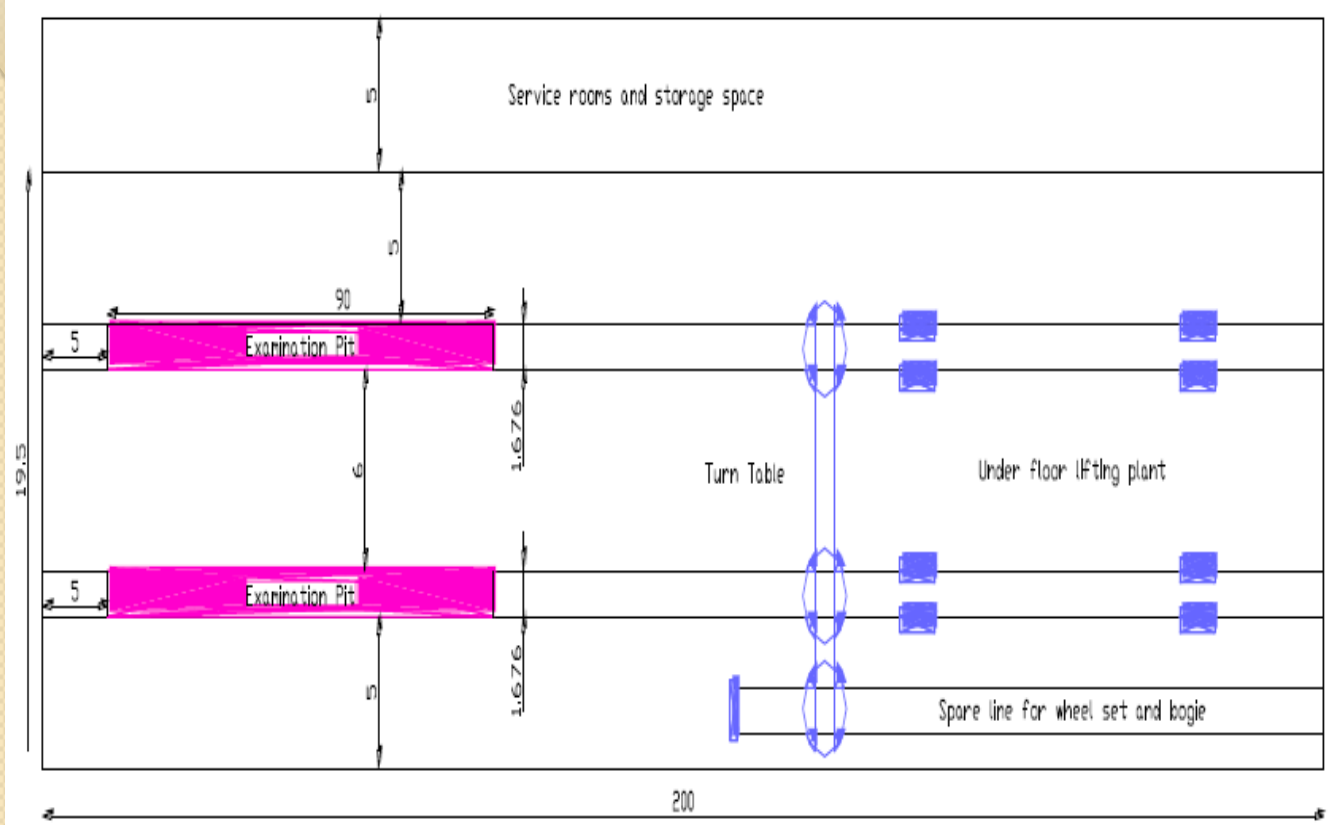
INTEGRATED COACHING MAINTENANCE CONCEPT

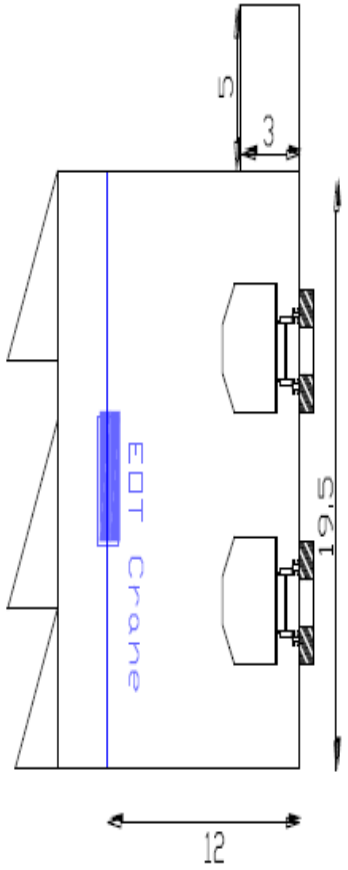
To Summarize

- Sequence of Operation - Coaching Depot
  - Train Entering Depot
  - Outside Washing at ACWP
  - Wheel Defect Detection at WDS
  - Placement of Rake at Pitline
  - Pulling to Shunting Neck
  - Going Out of Coaching Depot



Layout of Integrated Coaching Complex





Maintenance Sickline

End View