

Karnataka State Highways Improvement Project

Backend Project Management System USER MANUAL

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1 INTRODUCTION

1.1 PREFACE

This document outlines Backend Bangalore Private Limited Implementation Plan towards successful rollout of Backend Project Management System (PMS).

1.2 ABOUT BACKEND PROJECT MANAGEMENT SYSTEM (PMS).

Backend Project Management System or PMS is a fully integrated centralized web-based enterprise level software solution for infrastructure project management comprising of monitoring daily activities system, mobilising and demobilising staff and equipment management system, planning management system, subcontractor management system, contract administration system, store management system, equipment maintenance system, tools and report generation. PMS helps to manage various infrastructure project resources by integrating all business management functions. PMS helps to integrate all departments and functions across a project into a single web based system that can serve different departments' particular needs thereby helping various departments to easily share information and communicate with each other.

Backend Project Management System is highly scalable and capable of enabling of the application for multi-location sites user access over the internet and capable of integrating with SMS delivery for enabling timely alerting on critical activities of the project and other legacy applications or new modules that may be needed to develop at a later stage. The application is equipped with a strongly encrypted security engine that has been fully optimized and fine-tuned for maximising performance of the application. The application encompasses a highly intuitive user interface and incorporates state-of-the-art design methodologies.

Project Management System application is developed on latest cutting edge technology covering all the functionalities and is capable of integration with Primavera, email exchange server. The application provides a comprehensive set of MIS Reports and graphs both at project level and project portfolio level.

Project Management System modules can also be developed on smart mobiles through Android application.

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1.3 KEY FUNCTIONALITIES

Backend Project Management System covers the following key functionality areas of



1.4 NEED FOR BACKEND PROJECT MANAGEMENT SYSTEM

The key challenges for any organization in the context of project monitoring are

- Obtaining the timely and accurate project progress data from the site.
- Determining the data capture points, granularity of the data and the frequency at which the data needs to be captured.
- Deploying adequate number of skilled manpower having several years of relevant domain expertise and rich experience in handling on-site operations to obtain project data on a real-time basis.

The solution to these issues depends on the complexity of the project as well as the information needs of the organisation. These challenges are resolved considerably by adopting Backend PMS application which helps in strengthening the supervision team with a comprehensive software tool that aids the best practices in the various business processes of infrastructure Project management.



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Backend Project Management System implementation helps in

- Streamlining the business processes of infrastructure project management by bringing in efficiency in the operational areas.
- It provides the realistic, measurable and time benchmarked benefits.
- It facilitates for better management of resources, reducing the cost of operations and thus bringing down the processing mistakes.
- It allows for improved planning at functional and process levels.
- It helps for simultaneous activation of the decision centres because of instant triggers or updates.
- It offers for Business operation transparency between business partners cutting down the execution time of critical business operations.
- It provides efficiency and accountability in the entire project life cycle.

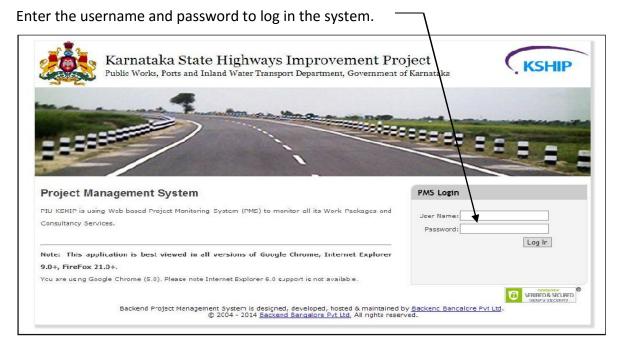


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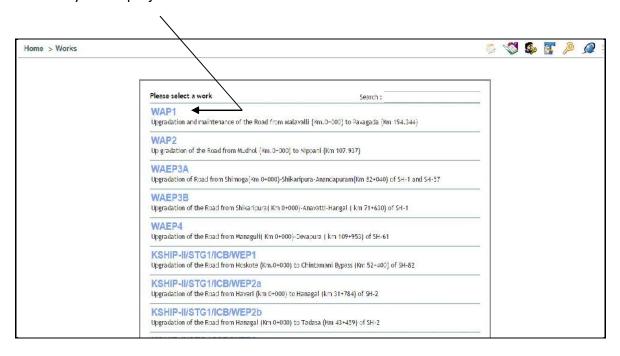
2 NAVIGATIONAL OVERVIEW

The goal in this session is for the members to learn knowhow to manipulate fields and navigate the screens in PMS.

Enter system URL in the browser.



Select any of the projects.



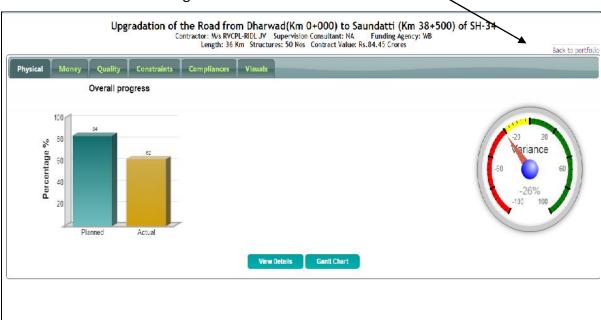


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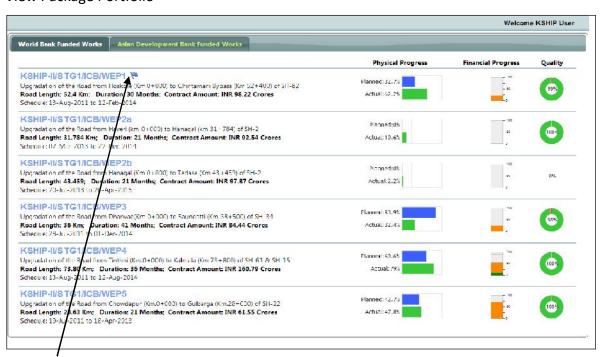
What you can see now is the Dashboard giving details of progress based on different parameters.

Let us first understand different modules that generate this Dashboard.

Click Portfolio on extreme right of this screen.



View Package Portfolio

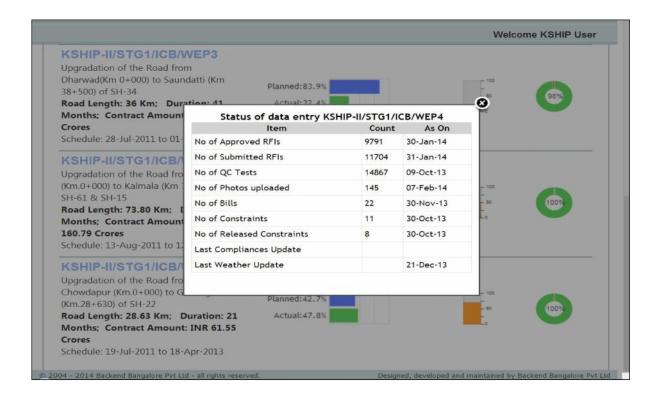


Click to view project Up-To date status



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The next screen shows you all modules in PMS.







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Let us navigate through these modules.

2.1 DATA ENTRY MODULE

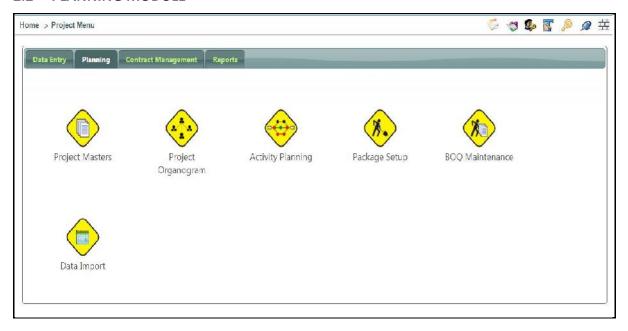


Monitoring module features in entering all the Daily Activities, Quality Control Tests, uploading Project Progress Videos, Approving Daily Entries and Store related Approvals, uploading Progress Photos and status check of Reports.



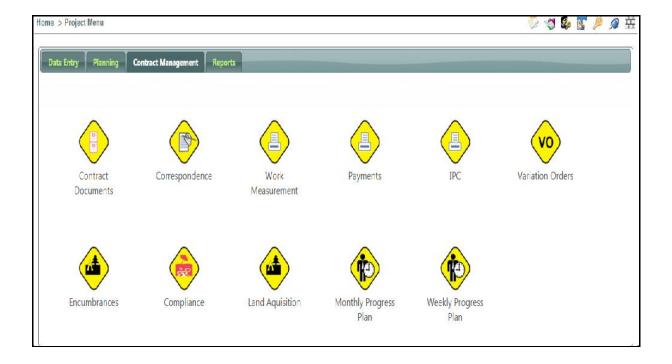
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2.2 PLANNING MODULE



Planning module facilitates in managing Master Tables, Project Activity management, defining Rate Analysis for Project, Project Resource management and managing Project Organization hierarchy.

2.3 CONTRACT ADMINISTRATION MODULE



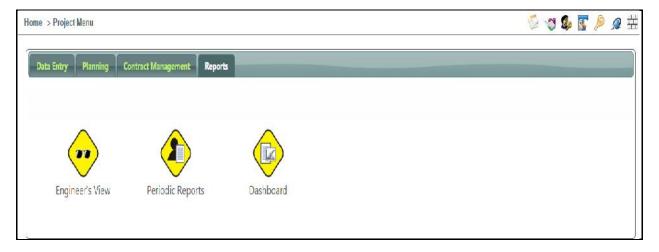




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Contract Administration module features in storing of contract documents, claim management, correspondence management, encumbrance or holds management, bill creation, design issue management as in creating new design issues, variation order management, defining compliance as in traffic, environment and safety compliances, processing registered complaints, assigning complaints to different employees, processing registered instructions and assigning instructions to different employees.

2.4 REPORTS MODULE



Reports module features in generation and viewing engineer's views and engineer's reports.

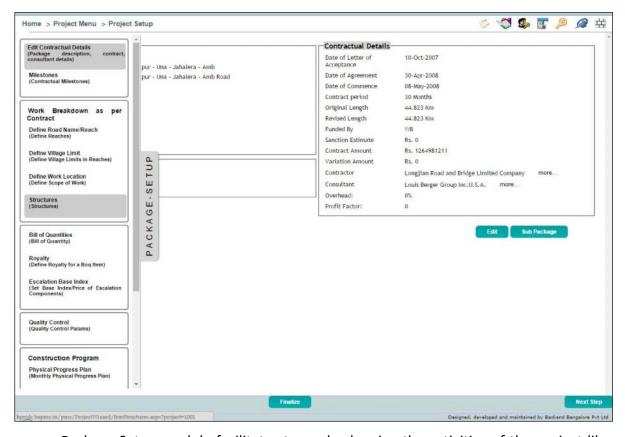


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3 FUNCTIONAL OVERVIEW

In these sessions, the core team is split into groups representing their respective functional departments. Each sub-group is trained on the specific system modules that relate to their department. All identified end users will be trained in the specific functions they are required to work.

3.1 PACKAGE SETUP MODULE



Package Setup module facilitates towards planning the activities of the project like editing project details, BOQ management, defining BOQ, milestone management, area codes management, group codes management, job codes management, defining group codes (work breakdown structure codes), road design management, chainage management, grouping chainages to milestones, grouping chainages to area codes, planning chainage quantities, structures management, group code(work breakdown structure) scheduling, job code scheduling, Project Organization Hierarchy management.

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Contractual Details

Contractual details like package description, total length of the road to be tackled, total cost of the project, Contractor details, consultant details, Agreement date, Starting date, Contract period, Overhead and profit margin can be updated in this module.

Milestone

This module is used to schedule phases in a project. Milestone is started with a start date and end date. The status of milestones can be viewed.

• Chainages in Milestones

This module is used to group chainages by milestones.

Reaches

In this module the actual range of the road work can be defined.

Village Limits

In this module, village details which pass the work reach can be defined.

Work Location

In this module, the work type carried out like Reconstruction or Strengthening etc. in the work reaches with exact chainages along with the width of the road can be defined.

Structures

This module is used to add Structures with structure name, structure code, chainage details for which the structure is associated with, starting point of the structure, drawing number associated with the structure, type of structure and description. Structures can be imported from excel through downloadable excel template.

Manage BOQ

Bill of Quantity Items can be added, edited or deleted in this module. Sections in BOQ can be listed. Advances paid can be defined. BOQ can be uploaded directly through excel using a excel template.



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Group Codes

Group Codes or Work Break down Structure codes is defined with WBS code and description in this module.

Job Codes

Job Codes can be defined in this module. A group of job codes under a section is activated or deactivated. Job Codes can be moved in to any desired group code or work breakdown structure code. Job codes are group to generate stack chart.

• Group Code Schedule

In this module Group Code schedule (Work Breakdown Structure) is done. Schedule can be imported from P3 and MSP. Gantt chart of schedule can be viewed.

• Job Code Schedule

In this module Job Code Schedule is done. Schedule can be imported from P3 and MSP. Preceding activities are also mapped. Gantt chart of schedule can be viewed.

Royalty

In this module the Royalty rates and factor of each BoQ items can be defined.

• Escalation Base Index

In this module the escalation base index/price of selected items can be defined.

Construction Program

In this module, Monthly physical progress plan, Weekly & Monthly financial progress plan, Monthly Quantity-wise plan can be updated.



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3.2 MONITORING MODULE



This module features in entering all the Daily Activities as in RFI entries, uploading Project Progress Videos, uploading Progress Photos and Quality Control test details.

Works Progress

All the Daily activities as in RFI, Quality Control Test, Photos and Weather Log are entered in Daily Entries.

Physical

The physical work progress of the project is monitored through RFI entries. Entered RFI are approved.

Financial

The Financial work progress of the project is monitored through approved billing.



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Visuals

Progress Photos of Project are uploaded with Section details, Milestone details, Area Code details, Chainage details; Image Name, Distance, Unit, Place and Date are added and viewed here. Further filtering of Progress Photos can be done using the above parameters.

Progress Videos

Progress Videos of Project are uploaded with Section details, Chainage details; Video Date, Distance and Place are added and viewed.

Approvals

This module features in approvals of All Daily Entries as per assigned user rights.

3.3 QUALITY CONTROL MODULE

This module features in defining the quality test types and entering the number of tests conducted against the number of tests that have passed.

Test Types

In this module the different test types are entered with job name, test frequency, total BOQ quantity for the particular job code. The test name, test standard, minimum number of tests to be conducted is defined for pavement and structures.

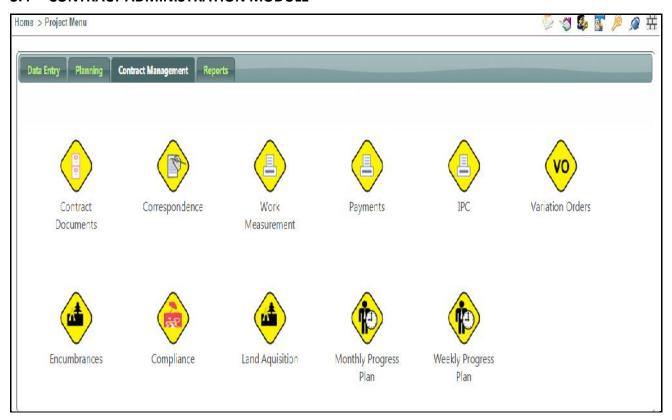
Test Clearance

This module allows capturing Quality Control Tests details for Pavements and Structures under various Test Types and Test Names. Test Standard, Frequency of Tests, Total Quantity of Tests, Quantity of Tests done and Quantity of Tests done in Current Month are mapped.



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3.4 CONTRACT ADMINISTRATION MODULE



This module features in storing of contract documents, claim management, correspondence management, encumbrance or holds management, bill creation, design issue management as in creating new design issues, variation order management, defining compliance as in environment, health and safety compliances.

Contract Documents

This module is used to store contract documents. Documents can be stored in a folder structure and it can be searched using document number, title, description, from date and to date.

Work Measurement

This module is used to generate the IPC bills.



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IPC

This module consists a list of all IPC generated.

Payments

This module is used to add the IPC payment details.

Variation Orders

In this module additional quantity can be added or the existing BOQ item can be modified. Correspondence can be added while preparing a variation order. Existing variation orders can be filtered using a date filter option.

Correspondences

In this module incoming and outgoing correspondence are traced. Correspondence can be sent with file attachment to employees. Correspondence can be searched with correspondence number, subject and description.

Claims

In this module the claim for extension of time is prepared if there is a change in the project schedule because of a constraint or if there is additional quantity added to the BOQ. Correspondence can be added while preparing a claim.

Compliances

In this module the traffic, environment and safety compliances with compliances required as per guidelines/specifications, compliances actual provided at site as per specification and ratings are entered. Compliances are filtered using area code and month.

Encumbrances

In this module the constraints list can be viewed. Constraints can be filtered in terms of constraints type, milestone, area code and chainage. New constraints can be added. Constraints with Type, Total Quantum, Total



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Released and Remaining Quantum are maintained here. Constraints quantum can be released here and Quantum Release History is maintained.

• Land Acquisition

In this module the Land acquisition status along with the chainages and sides of the road can be updated.

3.5 REPORTING MODULE



This module features in generation and viewing engineer's reports.

• Engineers Reports

In this module the user can generate a list of reports namely:

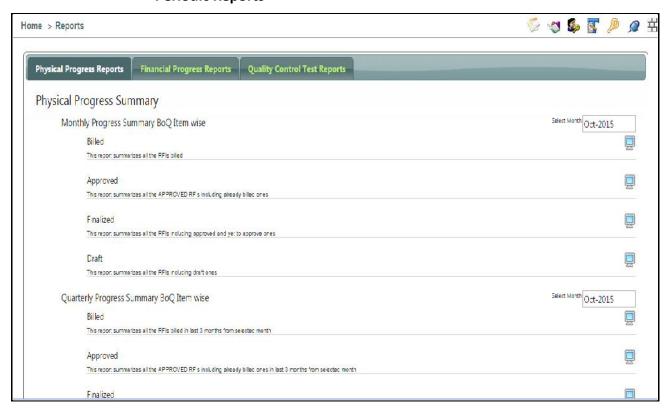
Work Progress reports
 RFI Details
 Progress Details
 Daily Progress
 Structure Progress
 Structure Visuals



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- Financial Progress reports List of Bills
- Holds
 Encumbrance
 Design Issues
- Compliance Reports
 Health Safety
 Environmental
- Quality Control Tests
 Pavements
 Structures
- Miscellaneous Reports
 Bill of Quantity
 Variation Order
 Claims
 Photos
- Weather Details

Periodic Reports

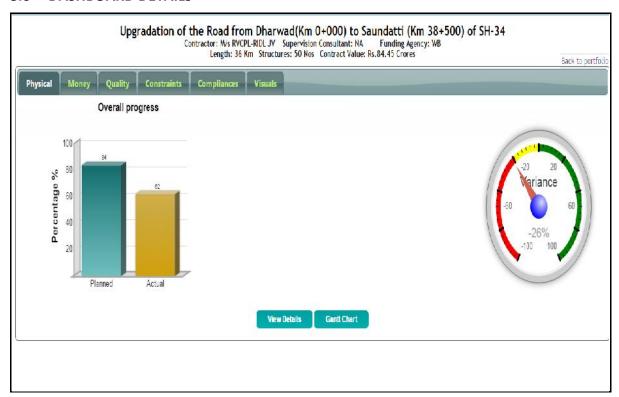


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In this module user can generate following reports in excel or pdf format

- Physical Progress Reports
- Financial Progress Reports
- Quality Control Test Reports

3.6 DASHBOARD DETAILS



Dashboard summarizes the Project giving a view of Project Physical position (Time), Financial Position (Money), Earned Value Analysis, Budget, Resources, Quality, Constraints, Compliance and Visuals.

Time

- Overall Project Physical Progress is shown in terms of Planned and Actual Achieved.
- Milestone Progress is shown in terms of delay forecast in days.
- Schedule Variance is shown.
- Strip map and Structure progress visuals are shown.
- Milestone wise Physical Progress is shown in terms of Actual and Planned

- Area Wise Physical Progress is shown in terms of Actual and Planned
- Major Activity Group Wise Physical Progress is shown in terms of Actual and Planned
- Activity Progress is shown Section Wise, Job Code wise in terms of BOQ Quantity, Planned Quantity and Quantity Done
- Gantt chart can be viewed.

Money

- Overall Billing Progress is shown in terms of Planned and Actual
- Cost Variance is shown
- Milestone wise Financial Progress is shown in terms of Actual and Planned
- Yearly-wise, Quarterly-wise and Monthly-wise Financial Progress is shown in terms of Actual and Planned
- Cash Flow details is shown

Quality

- Overall Quality in terms of Percentage Passed and Failed is shown.
- Areas wise Quality is shown
- Total tests Conducted, Passed and Failed is shown
- Item wise test results is shown
- Non-conformance analysis can be done

Constraints

- Total Pending Constraints are shown
- Constraints are shown with Constraint Type, Total Quantum, Quantum Released and Quantum Pending.
- Quantum Release History is maintained

Compliance

• Environment Health and Safety compliance are shown

Project Visuals

Project Progress photos are shown



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4 HANDS ON WORKING ON PMS SYSTEM

In this session the end users shall be trained to feed in actual project data in the system. Backend Project Management System Manual shall be part of this training.

Enter system URL in the browser.



Note: Before logging into the system, please check whether the browser is up to date or not. If not update the browser than proceed for login.



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Select any of the work packages



Note: Based on the roles, relevant work packages will be listed.

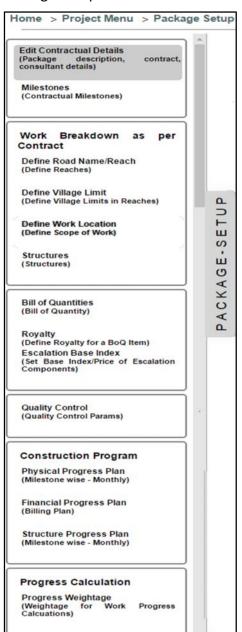


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4.1 PACKAGE SETUP

Package details like Contractual details, Milestones, Road Name/Reach, Village Limits, Work Location, Structures, BoQ, Royalty, Escalation Base Index, Standard QC Test Names and Types and Construction program

Package Setup Menu Screen







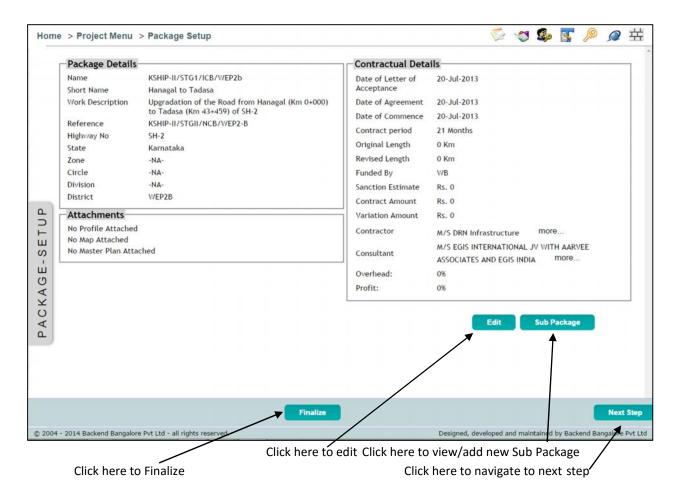
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4.1.1 Contractual Details

Background: In this module, the contractual details like Package name, description, Length, Highway No, Contract Amount, Contract period, Agreement date, Actual Start date, Contractor details, Consultant details and Sub packages details (if any).

Step by Step Procedure to update Contractual details:

Step 1: Package Setup is available under "Planning" tab under "Project Menu"



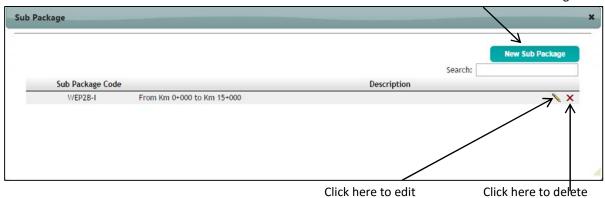


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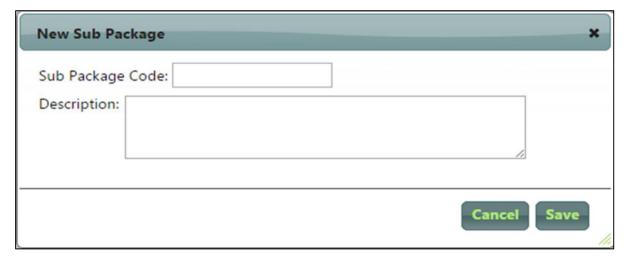
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Step 2: To add New Sub Package (If any) Click on "Sub Package"

Click here to add New Sub Package



Enter the required details and click on "Save" to make a new entry



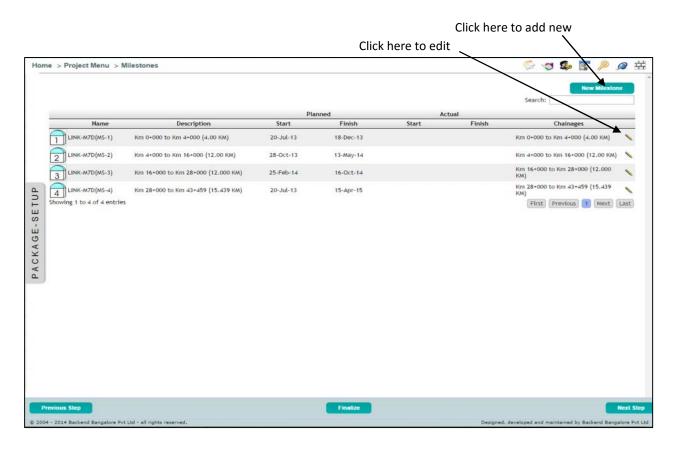


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4.1.2 Milestones

This module is used to schedule phases in a project. Milestone is started with a start date and end date. The status of milestones can be set.



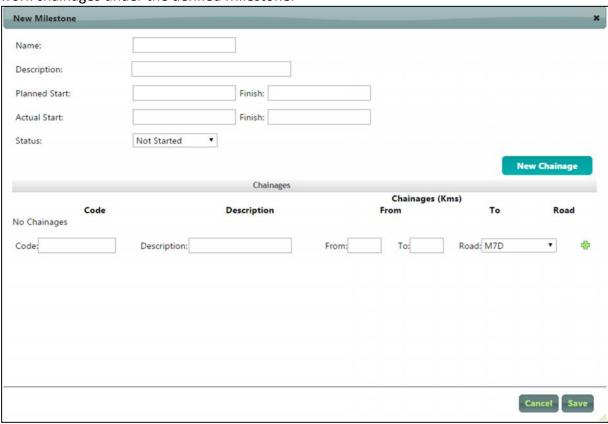


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Adding new Milestone screen

Add milestone details as shown in the below screen. Click on New Chainage to add the work chainages under the defined Milestone.





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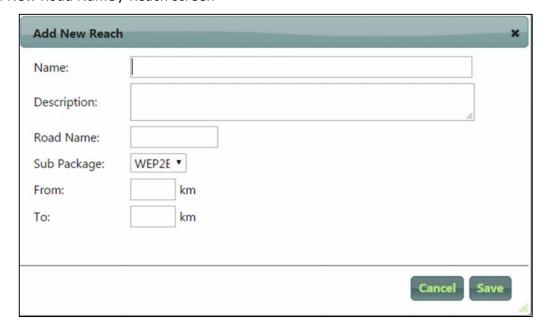
4.1.3 Define Road Name/Reach

In this module the actual range of the road work can be defined

Click here to add new Reach



Add New Road Name / Reach screen

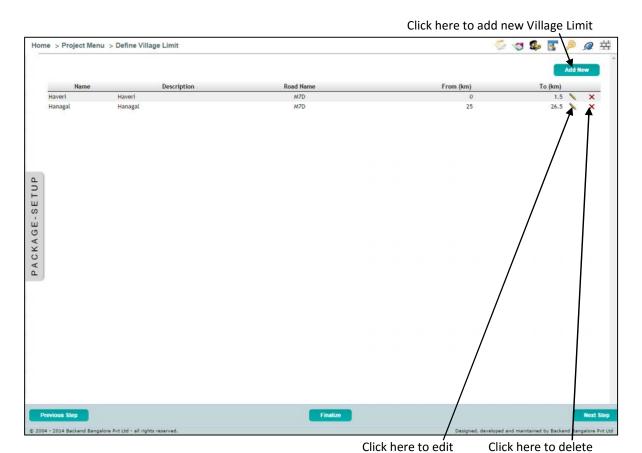




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4.1.4 Define Village Limits

The list of village passing by the work reach / road name can be defined in this module.



Adding New Village screen



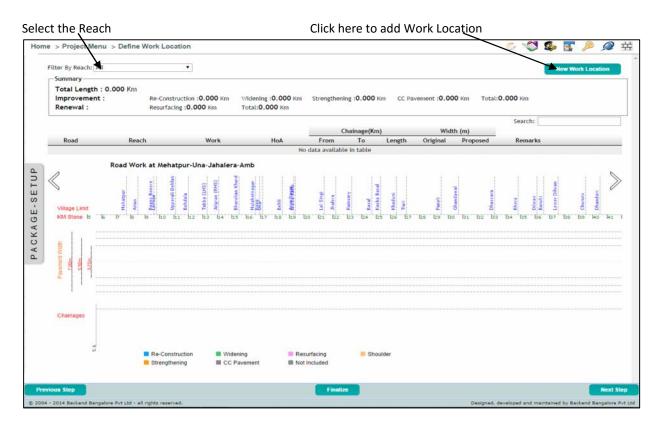




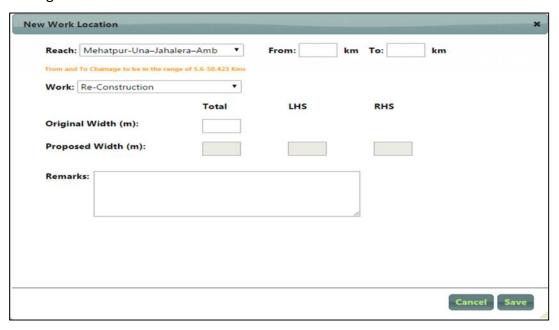
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4.1.5 Define Work Location

In this module, exact work locations are defined with Reach, From and To chainages, Work Type and Width of the road.



Adding Work Location Screen



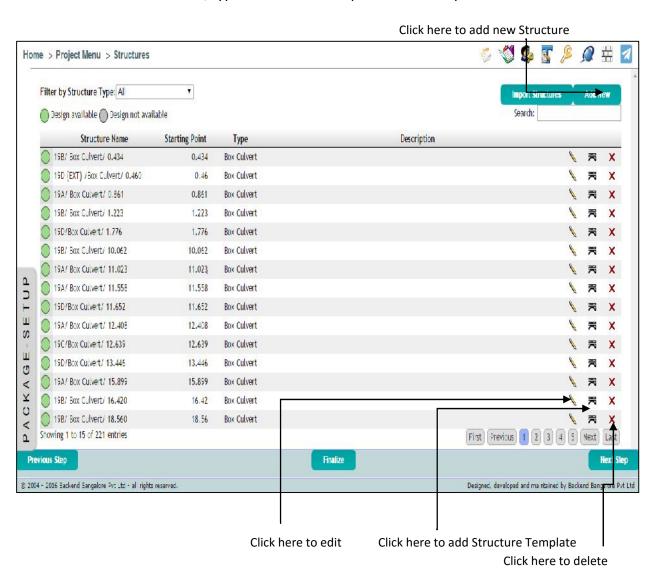




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4.1.6 Structures

This module is used to add Structures with structure name, structure code, chainage details for which the structure is associated with, starting point of the structure, drawing number associated with the structure, type of structure template and description.





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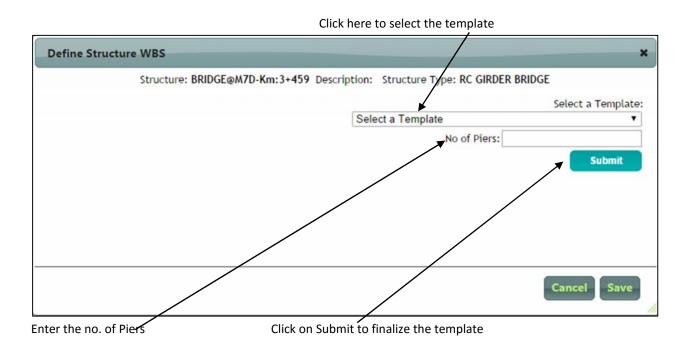
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Add New Structure Screen



Add structure template screen

Step 1: Click on add structure template to add the template

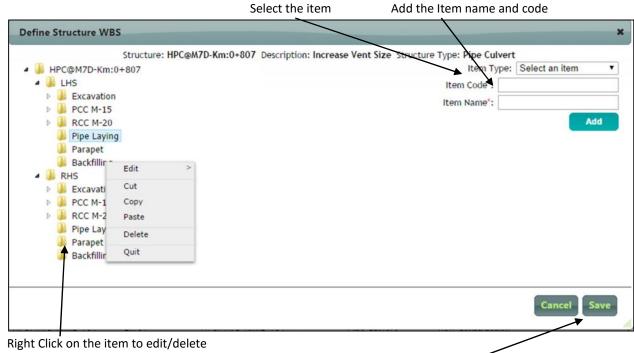




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Step 2: If required, add / delete additional items associated with the structure



Click on "Save" to save the changes made

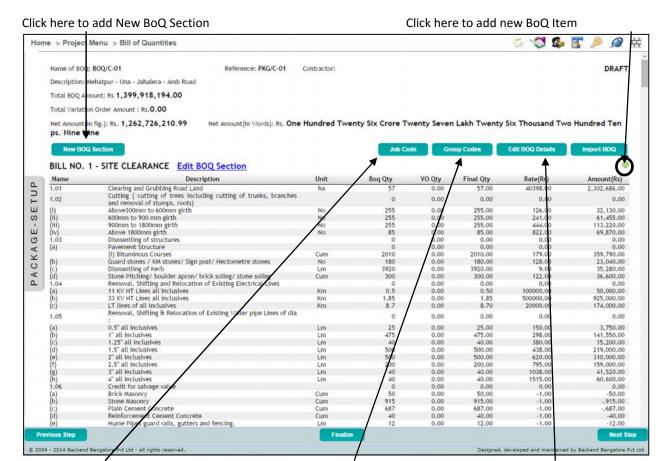


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4.1.7 Bill of Quantities /BoQ

Bill of Quantity Items can be added, edited or deleted in this module. Sections in BOQ can be listed. Advances paid can be defined. BOQ can be uploaded directly through excel using a excel template.

Also Group code can be imported from the masters. All BoQ Items can be associated with Job Codes.



Click here to import Group Code

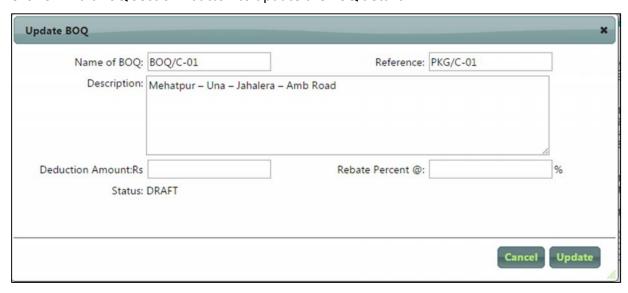
Click here to edit BoQ Details



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Step 1: Edit/ Update the BoQ Details

Click on "Edit BoQ Section" button to update the BoQ details



Step 2: Import Group Code from master Click on "Group Code" button

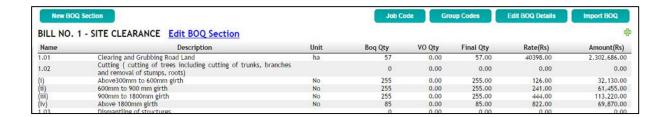
Click here to add new Group Code Click here to Import from master Work Type : All Search: Serial No. Group Code Work Type Description × C&G C&G in Roadworks PAVEMENT Earth\/ork-Excavation EarthWork-Excavation in RoadWorks PAVEMENT Embankment EarthWork-Embankment in RoadWorks PAVEMENT × Sub-Grade Sub-Grade PAVEMENT GSB GSB PAVEMENT V/MM PAVEMENT Tack Coat Tack Coat PAVEMENT PAVEMENT Prime Coat Prime Coat DBM DBM PAVEMENT BC: PAVEMENT 11 MSS MSS PAVEMENT Kerb Kerb PAVEMENT 12 13 Shoulder Shoulder PAVEMENT Drainage PAVEMENT 17 General General MISC DayWorks Day Works MISC Demolition Demolition of Existing structure MISC 23 Traffic signs, markings & other road appurtenances Signages MISC Safety in road construction zone 25 Safety MISC Implementation of Environmental Mar Plan 26 Environment MISC X 1001 Foundation-Excavation Foundation-Excavation STRUCTURE 1002 PCC PCC STRUCTURE Foundation/Raft & V/alls STRUCTURE Foundation-Walls 1003 Head Walls-Backfilling Head Walls and Backfilling STRUCTURE 1004 RCC Super Structure(Slab) 1006 Pipe Laying Showing 1 to 26 of 26 entries Pipe Laying STRUCTURE



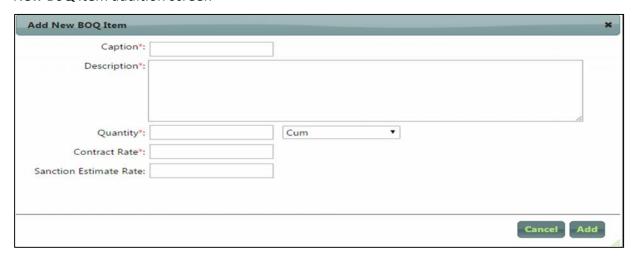
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Step 3: Create a New BoQ Section and add the list of BoQ Items belonging to this section



New BoQ Item addition screen

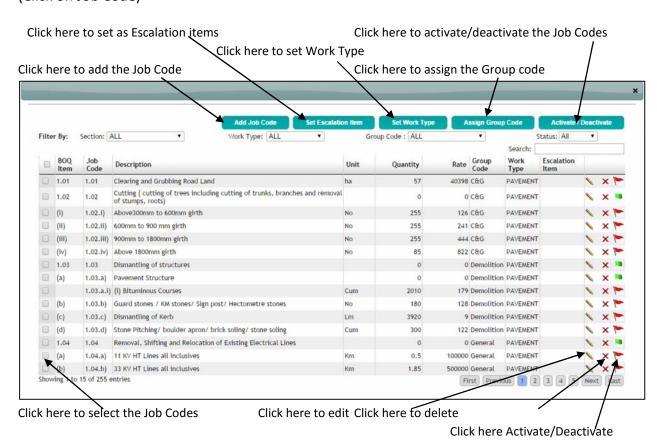




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Step 4: After creating the BoQ Sections and adding the items of the relevant sections. Now add the BoQ Items into the Job Code. (Click on Job Code)

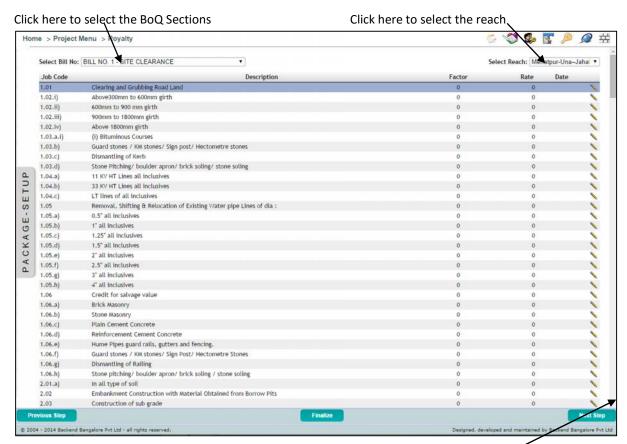




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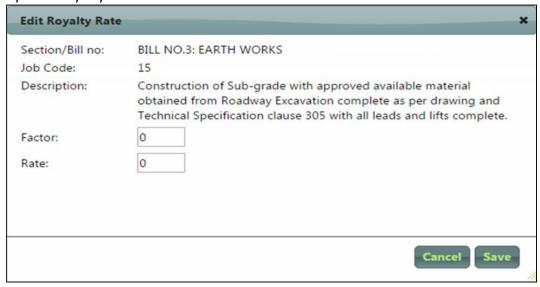
4.1.8 Royalty

In this module, royalty factor and rate can be updated for all BoQ Items



Click here to update the Royalty Factor and rate

Update Royalty rate screen



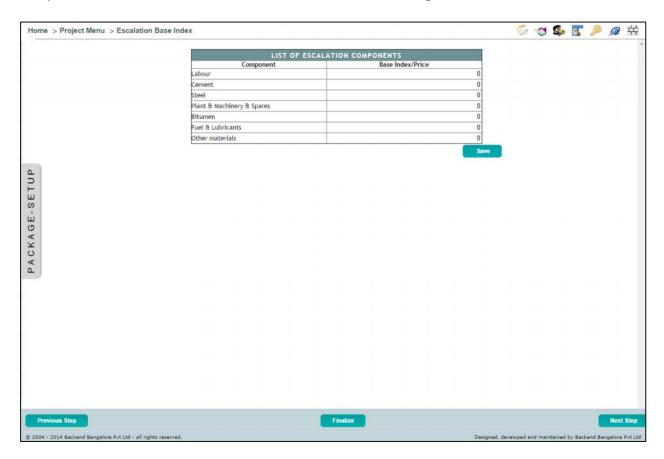




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4.1.9 Escalation Base Index

In this module, the base index values of the escalation components can be updated. These components base index values are defined at the time of the agreement.







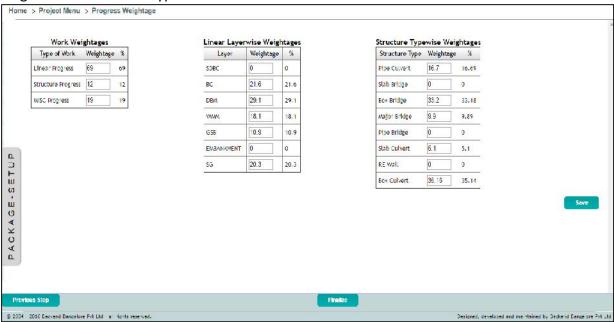
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4.1.10 Construction Program

In this module, construction activities like monthly physical progress, weekly and monthly financial progress, monthly quantity wise progress and monthly structure wise progress can be planned.

• Weightage for Work Progress Calculations

In this module, Weightages can be given Linear wise, Structure wise, and Miscellaneous wise. All the three contributes overall progress of the work package, further weightages can be given for each work type.



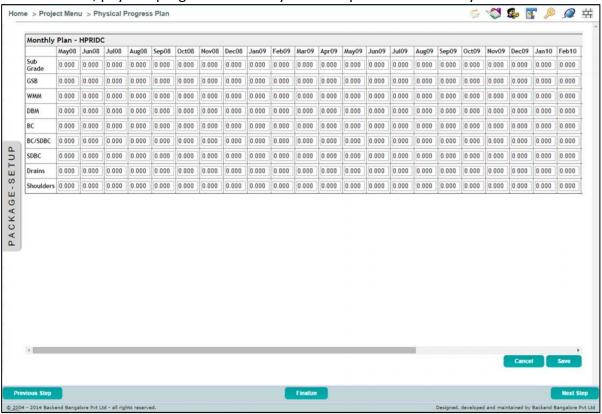


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• Monthly Physical Progress plan

In this module, physical progress of each layer can be planned in monthly wise

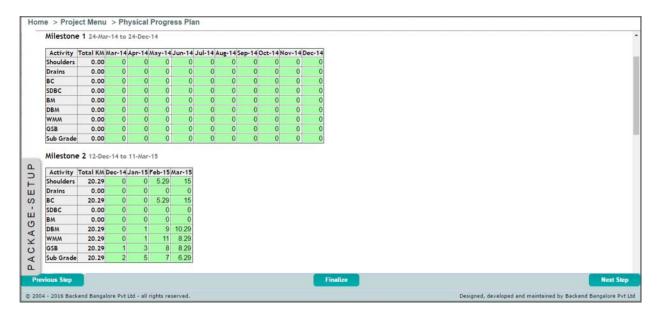




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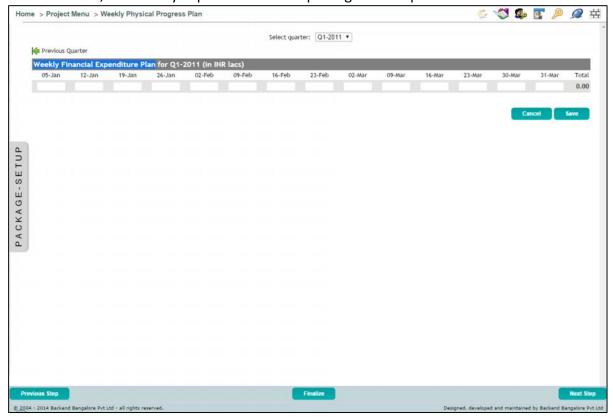
• Milestone wise Monthly Physical Progress plan

In this module, physical progress of each layer can be planned in monthly wise



• Weekly Financial Expenditure Plan

In this module, the weekly expenditure of the package can be planned

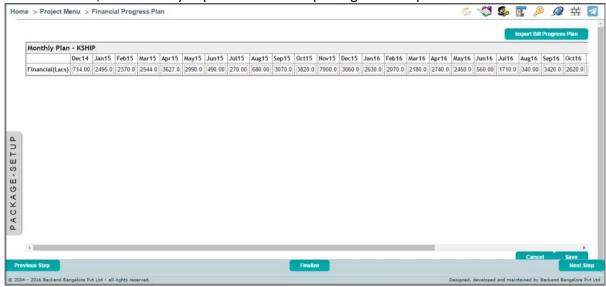




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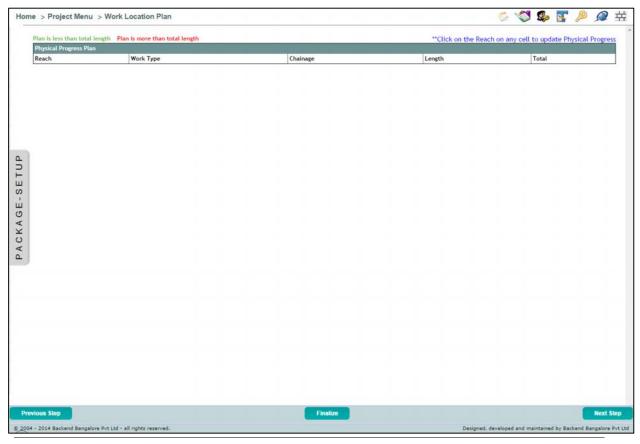
• Monthly Financial Expenditure Plan

In this module, the monthly expenditure of the package can be planned



Work Location Plan

In this module, each work location layer wise progress can be planned in terms of Kms can be planned.



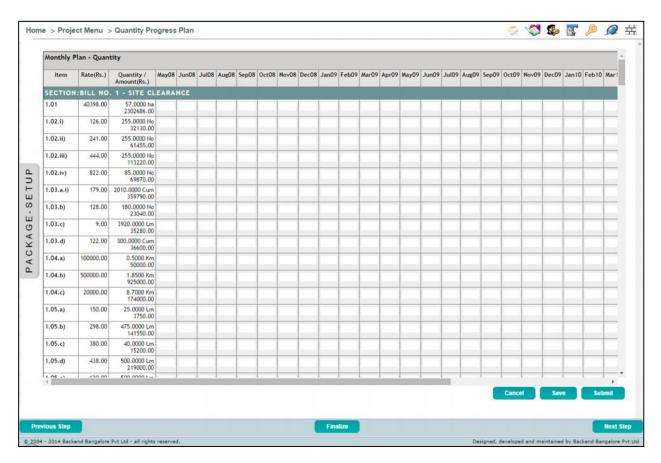


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• Quantity Progress plan

In this module, BoQ items wise quantity plan can be done on monthly basis.



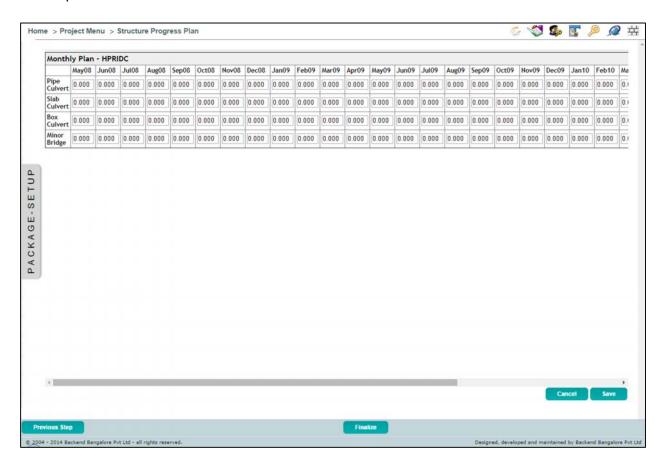


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• Structure Progress plan

In this module, monthly wise the number of structure which are needed to be constructed can be planned here.

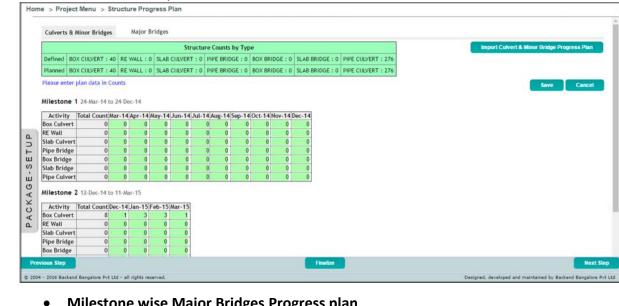




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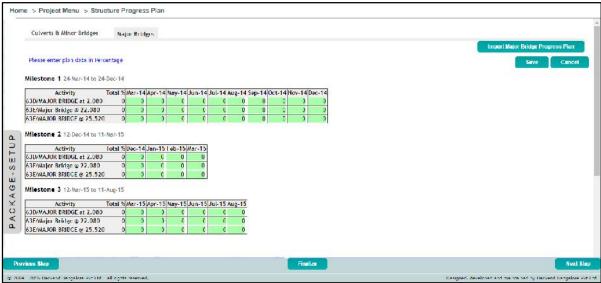
Milestone wise Culverts & Minor Bridges Progress plan

In this module, monthly wise the number of Culverts & Minor Bridges which are needed to be constructed can be planned here.



Milestone wise Major Bridges Progress plan

In this module, monthly wise the Percentage of Major Bridges can be planned here. (enter plan data in Percentage)



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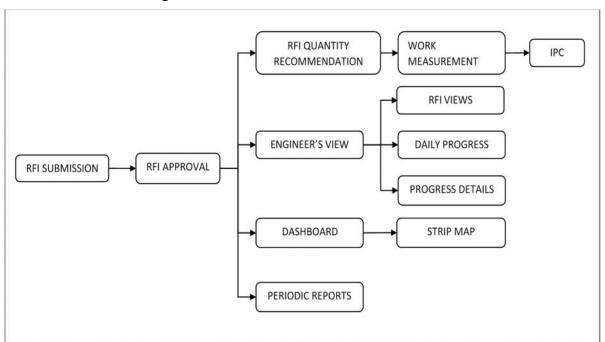
4.2 DAILY DATA ENTRIES

This module allows users to enter daily activities, approve daily entries, Quality tests, Upload Progress Photos, Weather Log, Physical and Structure Progress update.

4.2.1 RFI Entries

Background: Request for Inspection or RFI is a process where the quantity and quality of the work carried out will be certified/approved. Generally, RFI's are raised/submitted by the contractors and the inspection is carried out by the Department Engineers or by the Resident Engineer of the concerned Consultants team.

RFI Entries data flow diagram



In PMS, RFI entries are done in two steps

- 1. RFI Submission
- 2. RFI Approval
- 3. Measurement



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1. RFI Submission

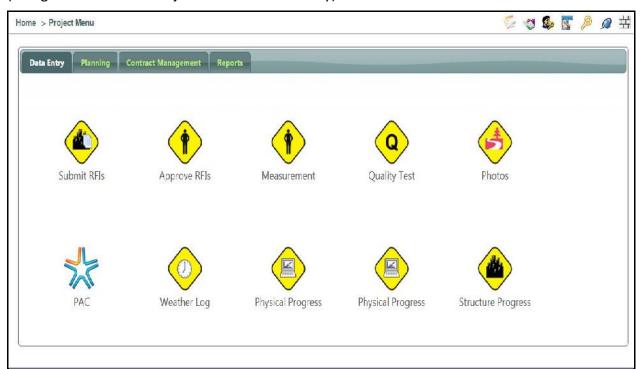
Background: RFI submission is either done by the Contractor or by the Consultants who are the work site.

Prerequisite data required for RFI Submission

- Reach / Road Name
- Chainages (From & To)
- Details of BoQ Items
- Structure Chainages

Step by step procedure of RFI Submission

Step 1: In *Data Entry* tab, click on *Submitted RFI's* to enter a new RFI (Navigation: Home \rightarrow Project Menu \rightarrow Data Entry)

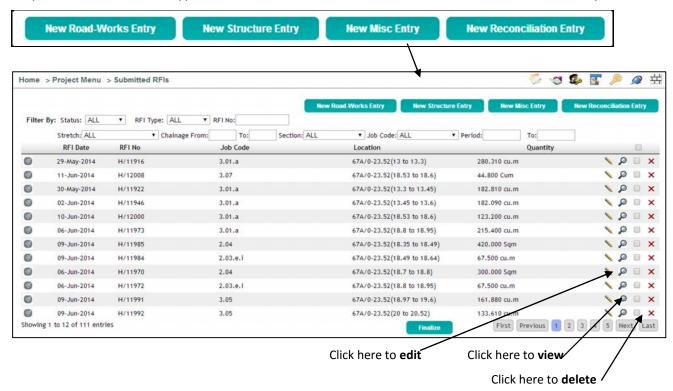




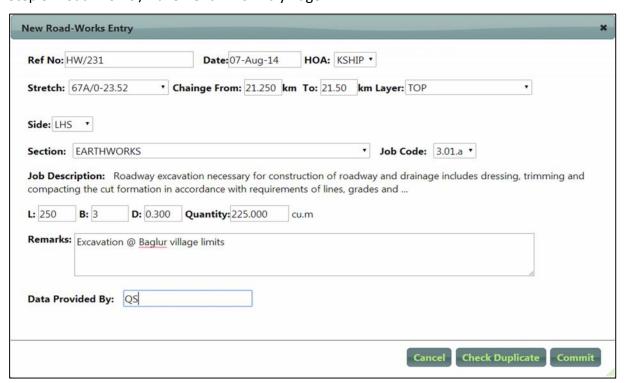
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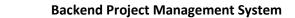
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Step 2: Based on the RFI type click on the button as mentioned below to make an RFI entry.



Step 3: Road Works / Pavement RFI's Entry Page

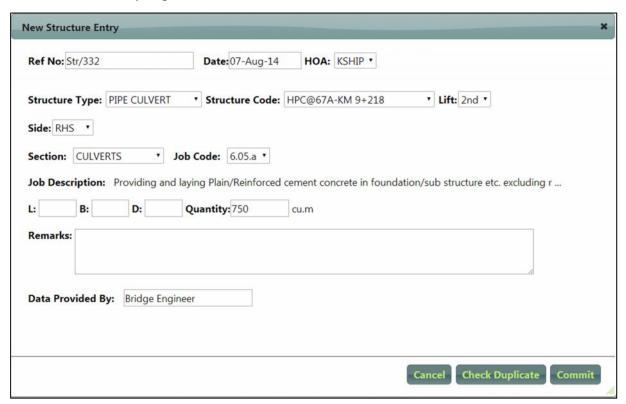




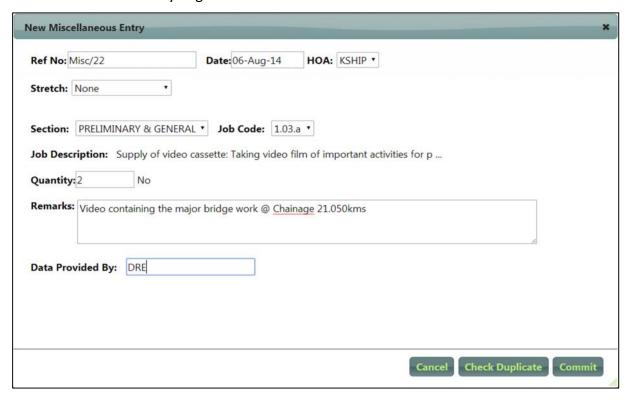


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Structure RFI's Entry Page



Miscellaneous RFI's Entry Page





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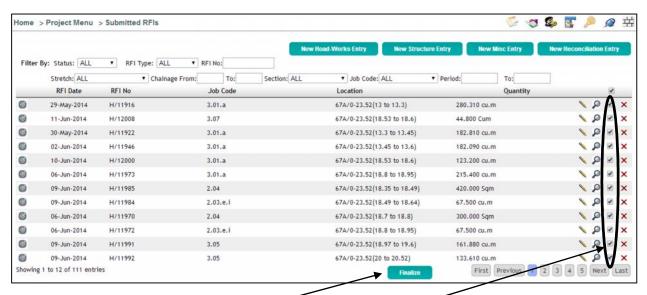
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Reconciliation RFI's Entry Page

New Reconciliation Entry					
Ref No: RC/334	Date: 06-Aug-14	HOA: KSHIP *			
Stretch: 67B/0-23.9 ▼					
Section: BASE AND SURFACE COU	JRSES (Bituminous)	▼ Jo	b Code: 5.03 •		
Job Description: Providing and lay	ving Dense Bituminous	Macadam course grad	ling 2 of Table 500-10	using paving bitumen com	plying to
Quantity: 200 cu.m					
Remarks: Excess quantity is being d	leducted				
Data Provided By: QS					
				Cancel Check Dupli	icate Commit

Step 4: RFI Finalization / Submission

After entering an RFI, select the required RFI's and click on *Finalize* button. Now the RFI will be available for the final approval



Select the RFIs which are needed to be finalized

Click to finalize the selected RFI



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2. RFI Approval

Background: RFI's which are submitted/finalized will be available for the approval. Usually RFI approval or rejection is done by the Department Engineers or by the concerned Consultants people at the work site. Once the RFI is approved, it will be available for the Work Measurement/IPC (Billing).

Step by Step procedure for RFI approval

Step 1: In Data Entry tab, click on Approved RFI's to enter a new RFI

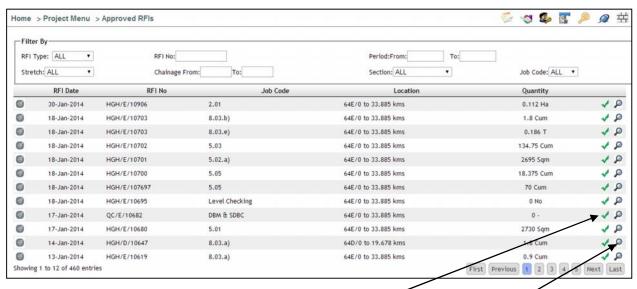






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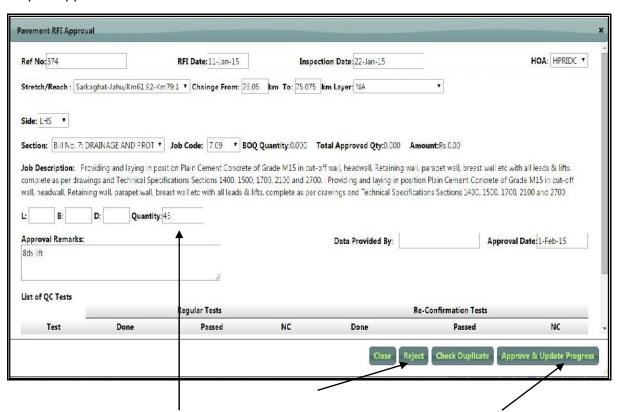
Step 2: Approve / Reject the RFI quantity



Click here to approve the RFI

Click here to view the RFI

Step 3: Approval Screen



Enter the final approval quantity

Click here to reject the RFI

Click here to approve the RFI



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Note: Once the RFI is approved, this will be available for the quantity recommendation in Measurement. We can also attach photos, attachments and quality test for that particular RFI.

3. Measurement

Background: RFI's which are Approved will be available for the approval in Measurements. Usually RFI approval or rejection is done by the Department Engineers or by the concerned Consultants people at the work site. Once the RFI is approved, it will be available for the Measurement.

Step by Step procedure for Measurement

Step 1: In Data Entry tab, click on Measurement



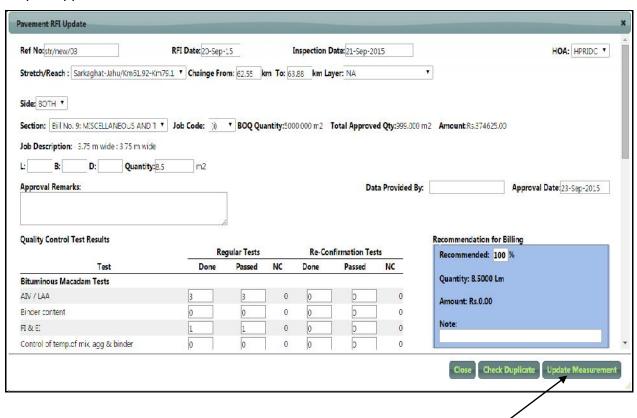


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Step 2: Update Measurement in approved RFIs



Step 3: Approval Screen





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Click here to approve the RFI

Note: Once the RFI is approved, this will be available for the quantity recommendation and later for Work Measurement. We can also attach photos, attachments and quality test for that particular RFI.

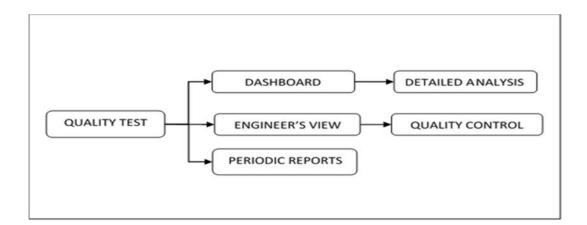
By default, recommended quantity will be displayed as 100%. The recommended quantity will be available for the current IPC generated. Remaining quantity will be available for the next IPC.

RFI list with Approved quantity, Recommended Quantity (in %) and Billed Quantity (in %) will be available in the Approved RFI section until the RFI is 100% recommended and billed.

4.2.2 Quality Control Test Entries

Background: Quality Control Test or QC Test are carried out based on the MoRTH specifications or as per standards defined. Usually tests are carried out in presences of Department Engineers or Resident Engineers of the Consultants. The tests which are conducted at the site or lab or at plant can be update in the PMS.

QC Test data flow in PMS



Prerequisite data required for QC test entry

- Reach / Road Name
- Standard Test names
- Standard test types
- Structures with chainages





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Step by Step procedure for QC Test entry

Step 1: In Data Entry tab, click on Quality Test to make an entry

(Navigation: Home → Project Menu → Data Entry)



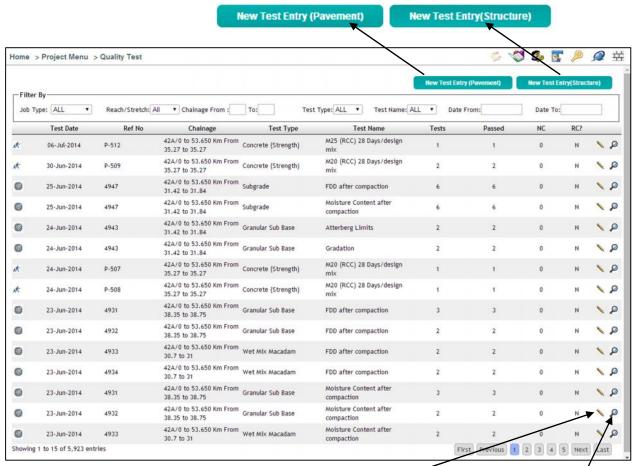


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Step 2: Click on "New Test Entry (Pavement)" to enter QC test data done for Pavement/Road Works

Click on "New Test Entry (Structure)" to enter QC test data done for Structure Works



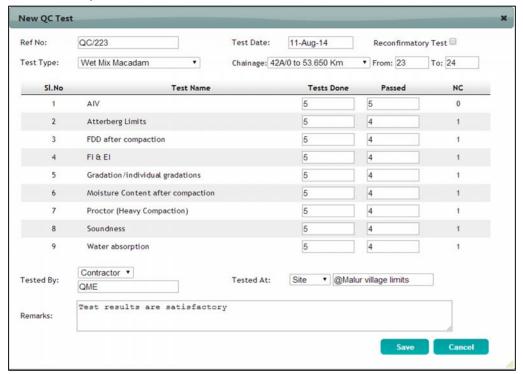
Click here to edit

Click here to view

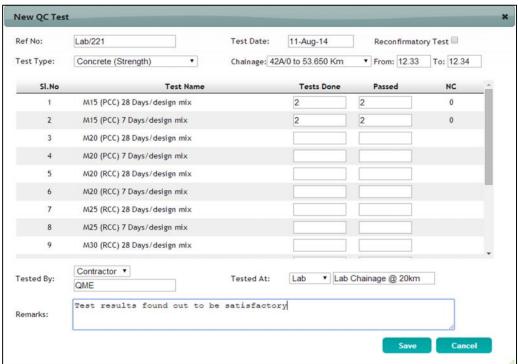


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QC Test entry screen for Pavement/Road Works



QC Test entry screen for Structure Works

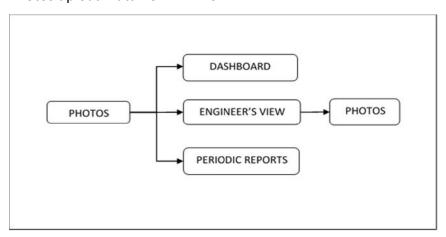


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4.2.3 Photos

Background: In this module, pictures taken at site, lab, plant or any work related photos can be uploaded in the PMS.

Photos upload Data flow in PMS

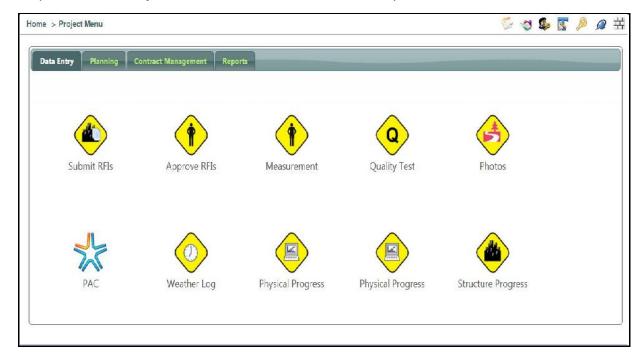


Prerequisite data required for Photo upload

- Reach / Road Name
- Structures with chainages
- Work Type

Step by Step procedure for Photo uploads

Step 1: In *Data Entry* tab, click on *Photos* to make an entry





Click here to view the uploaded photos

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Step 2: Click here to select the photos to be displayed on the dashboard



Step 3: Click on Photo Upload button to upload the photos



Click on *Attach file* to add the photos, fill the relevant details of the photo and click on *Upload* to complete the photo upload.

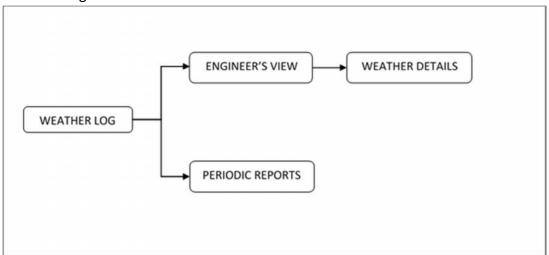


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4.2.4 Weather Log

Background: In this module daily weather parameters like Temperature, Rainfall or Snowfall details can be updated. If there is delay in the work due to Rainfall or snowfall can be updated along with how many work hours affected for that day.

Weather Log data flow in PMS

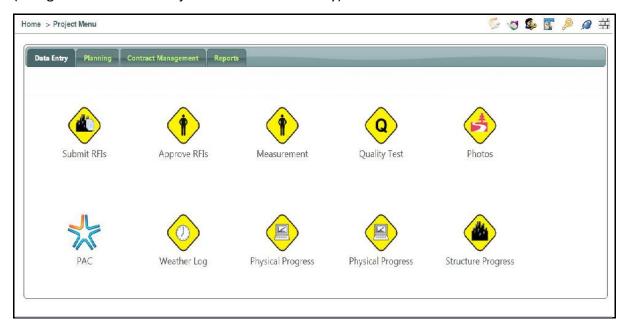


Prerequisite data required for Weather log entry

Reach/Road Name

Step by Step procedure for Weather Log entry

Step 1: In "Data Entry" tab, Click on "Weather Log" to make an entry (Navigation: Home → Project Menu → Data Entry)

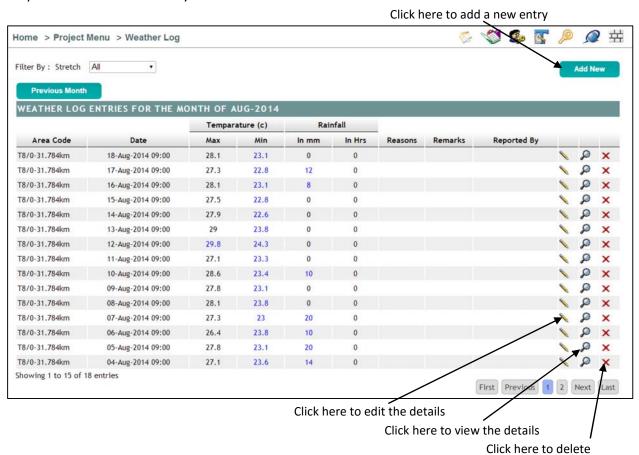




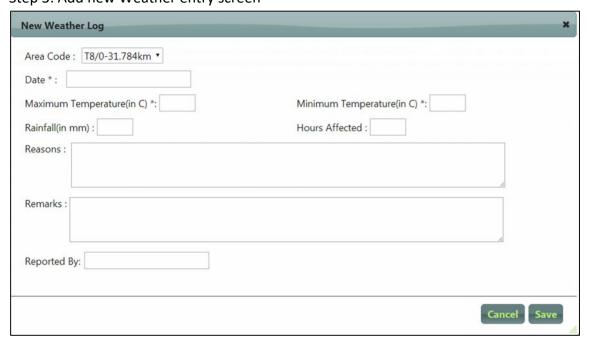
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Step 2: List of weather entry screen



Step 3: Add new Weather entry screen



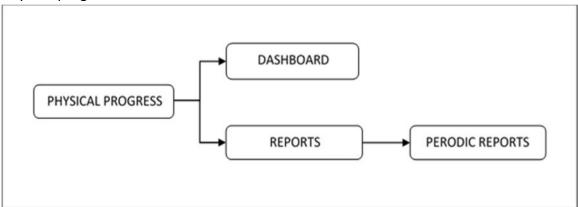


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4.2.5 Physical Progress

Background: Day to day layer-wise physical progress can be updated here.

Physical progress data flow in PMS



Prerequisite data required for Physical Progress update

- Reach/Road Name
- Scope of Work
- Road Layers

Step by Step procedure for Physical progress update

Step 1: In "Data Entry" tab, Click on "Physical Progress" to make an entry (Navigation: Home → Project Menu → Data Entry)





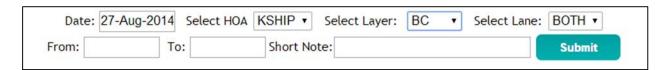
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Step 2: Select the reach/road name for which physical progress to be updated



Click here to update the Physical progress

Step 2: Click on "Update Physical Progress"

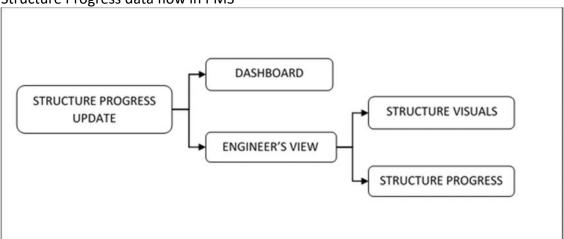


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4.2.6 Structure Progress

Background: As and when the major activities are carried out for the major structures, same can be updated in the PMS.

Structure Progress data flow in PMS



Prerequisite data required for Structure progress update

- Structure Type
- Structure Chainage
- No of Vents/Piers/Rows
- Foundation Type

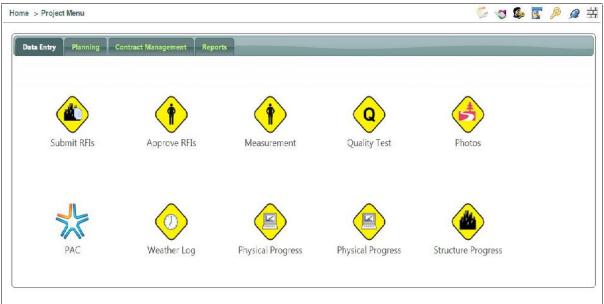


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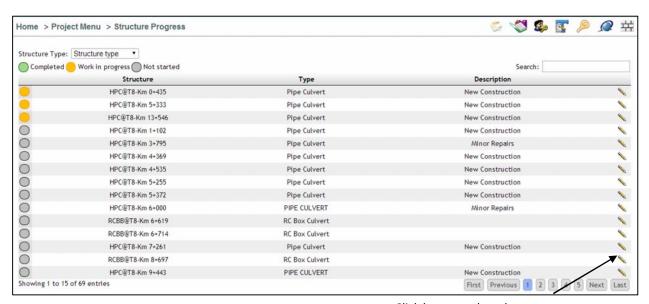
Step by Step procedure for Structure Progress update

Step 1: In "Data Entry" tab, Click on "Structure Progress" to make an entry

(Navigation: Home → Project Menu → Data Entry)



Step 2: Select the structure for which progress needed to be updated



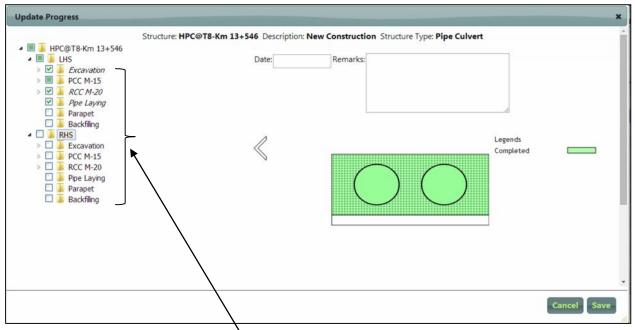
Click here to select the structure





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Step 3: Update the structure work activities that are completed



Select the major work activities listed which are needed to be updated.

Note: Once the activity is selected and saved. Later the same activity cannot be unselected.

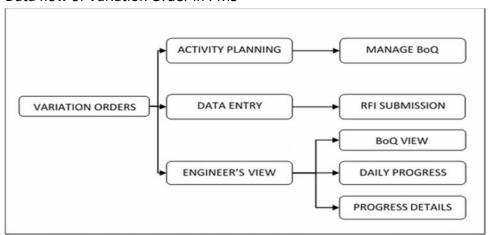
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4.3 CONTRACT MANAGEMENT

4.3.1 Variation Order

Background: In this module, change in the BoQ Item quantity or in the rate can be updated in the PMS.

Data flow of Variation Order in PMS



Prerequisite data required for Variation Order

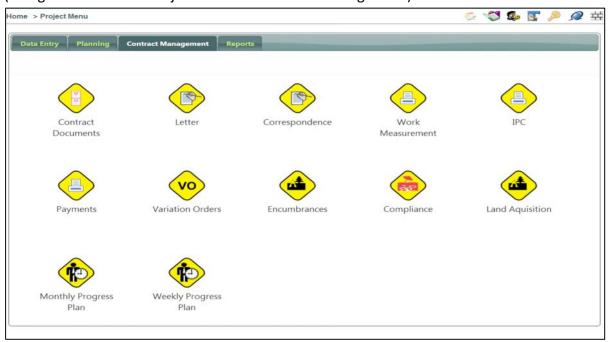
- BoQ
- Milestone



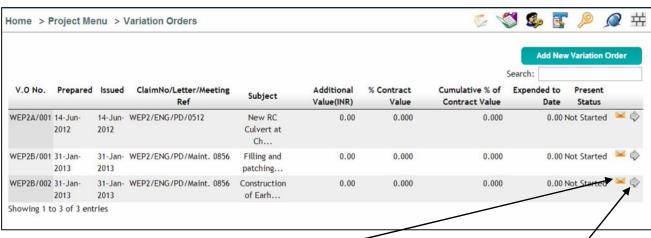
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Step by Step procedure for adding Variation Order

Step 1: In "Contract Management" tab, Click on "Variation Orders" to make an entry (Navigation: Home → Project Menu → Contract Management)



Step 2: Click on Add New Variation Order



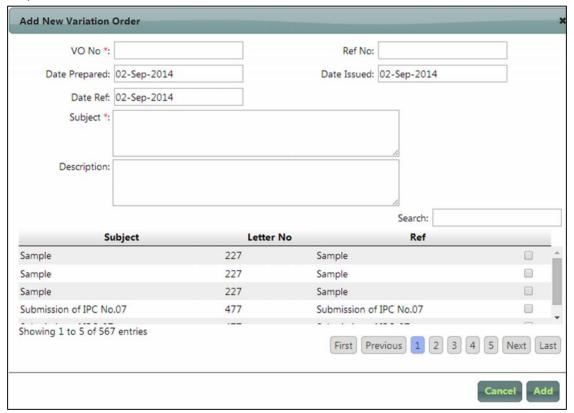
Click here to View the VO details

Click here to view the attached VO correspondence (if attached)

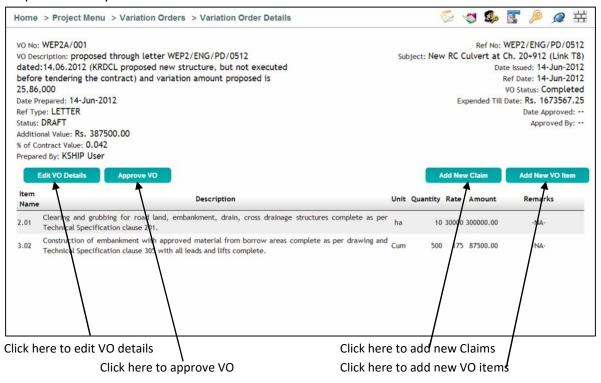


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Step 3: Add the VO details and click on "Add" to add new VO



Step 4: VO entry screen

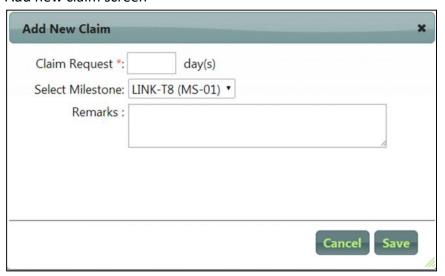






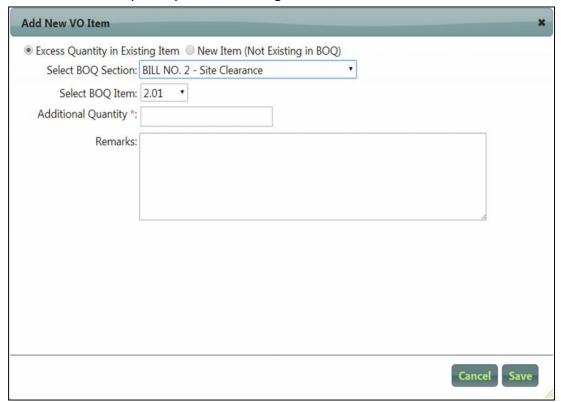
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Add new claim screen



Add new VO item screen

To add the excess quantity for the existing BoQ Item



Note: Existing BoQ Item with new rates to be added as new item



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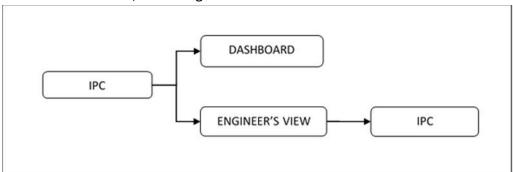
To add new BoQ item with new rates

Excess Quantity in Existing Item New Item	(Not Existing in BOQ)	
Select BOQ Section: BILL NO.1 - Prelin	minary & General	
Item No *: Description:		
Quantity *:		
Contract Rate *:	Amount : Rs 0.00	
Sanction Estimate Rate:	Amount : Rs 0.00	
Remarks:		
	- 68	

4.3.2 Work Measurement

Background: This module is used create work measurement with recommended RFI quantities.

Work Measurement/IPC Billing data flow in PMS



Prerequisite data required for IPC Billing

- Approved RFI with Recommended quantities
- Royalty factor and rate
- Escalation base index and current index price

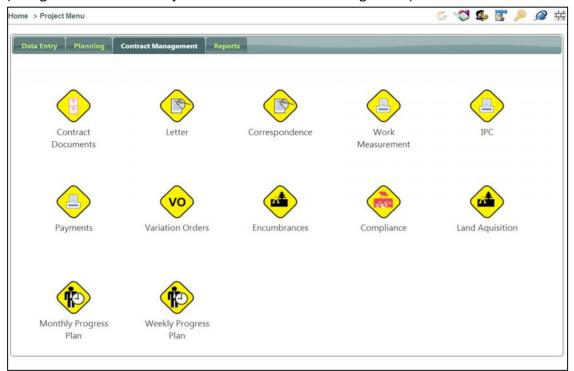
Step by Step Procedure for creating Work Measurment/IPC

Step 1: In "Contract Management" tab, Click on "Variation Orders" to make an entry



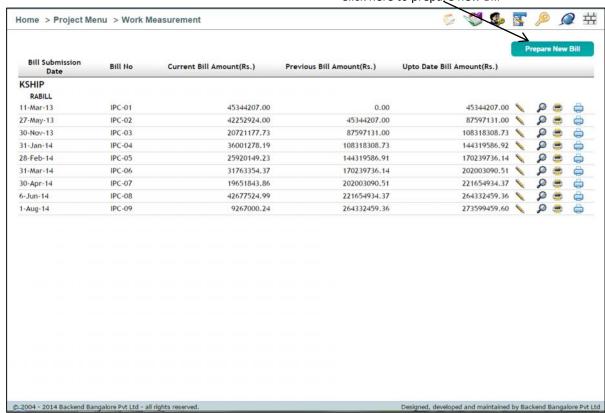
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(Navigation: Home → Project Menu → Contract Management)



Step 2: List of Work Measurement created

Click here to prepare new Bill

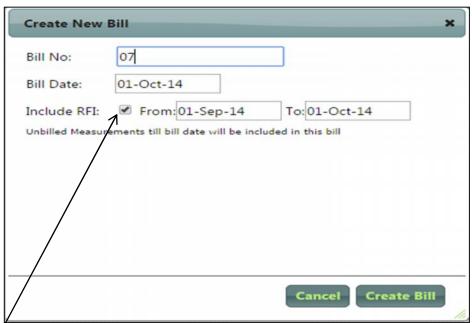






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Creating new Bill screen



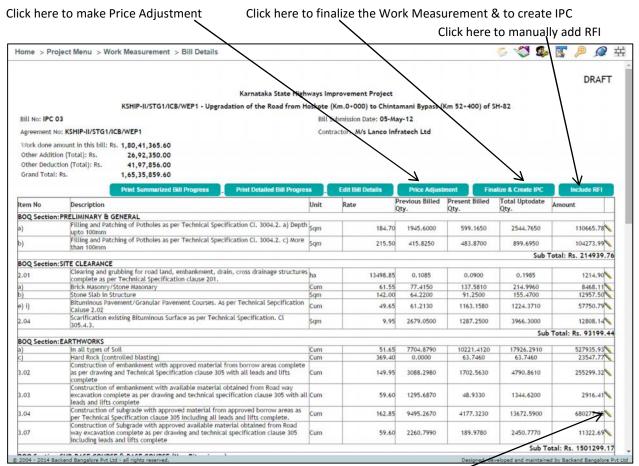
Select to include all approved RFI's for the entered duration



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Step 3: The created bill will be in draft, so any addition or deduction or Price adjustment can be done.



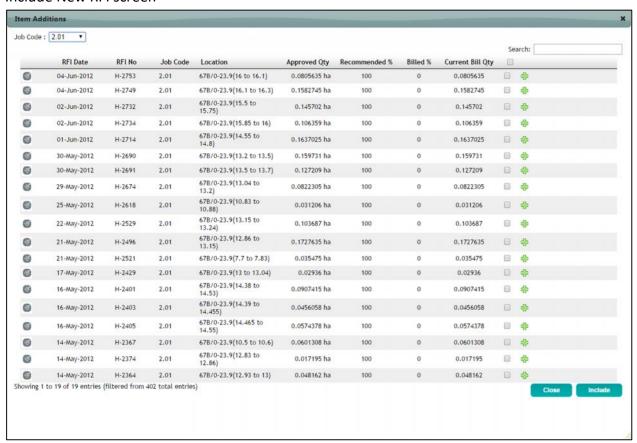
Click here to include/remove RFI of a specific BoQ Item



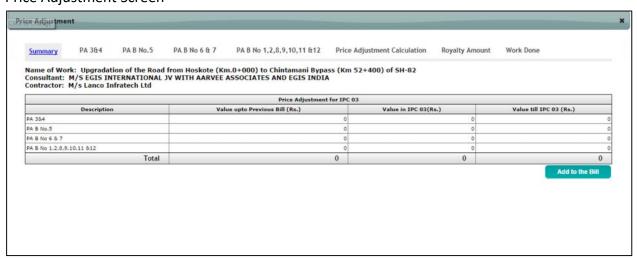
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Include New RFI screen



Price Adjustment Screen



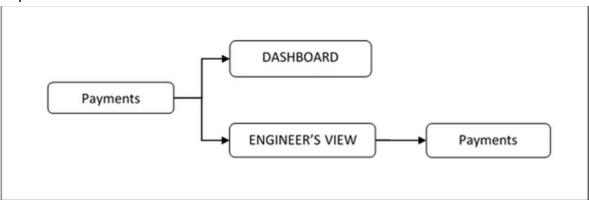


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4.3.3 Payments

Background: This module is used to add the IPC payment details.

Payments data flow in PMS

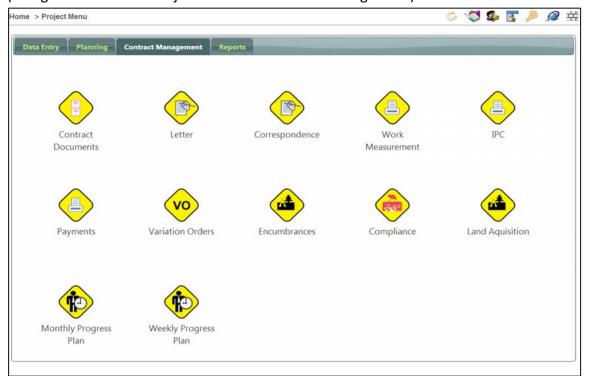


Prerequisite data required for Payments

Finalized IPC

Step by step procedure

Step 1: In "Contract Management" tab, Click on "Payments" to make an entry (Navigation: Home → Project Menu → Contract Management)



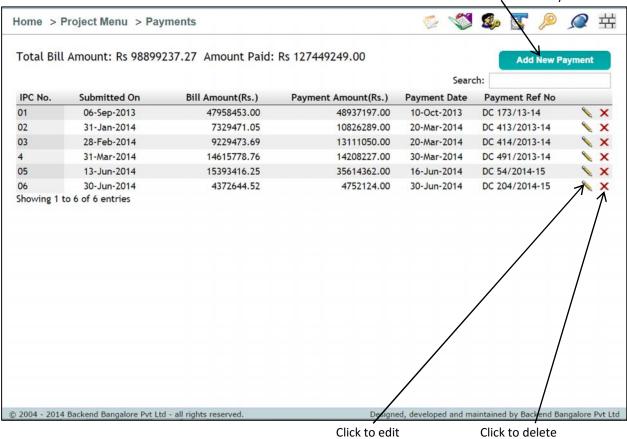


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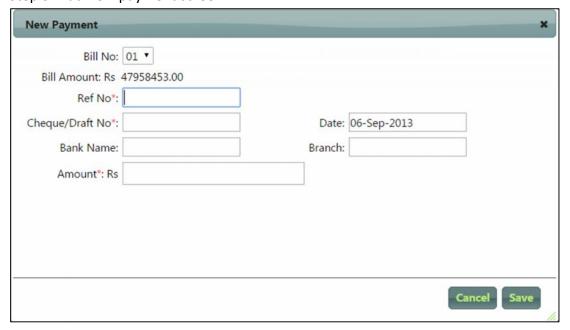
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Step 2: List of Payment screen

Click here to add new Payment



Step 3: Add new payment screen



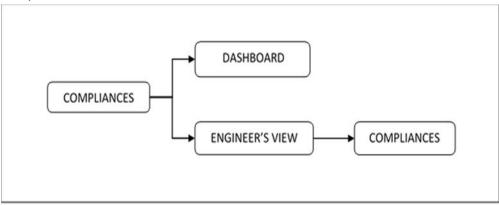


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4.3.4 Compliances

Background: This module is used to rate the measures taken by the contractor on the traffic safety and environment issues. Here the rating is record on the monthly basis.

Compliances data flow in PMS



Prerequisite data required for Compliances

Reach/Road Name

Step by Step procedure to enter the Compliances ratings

Step 1: In "Contract Management" tab, Click on "Compliance" to make an entry

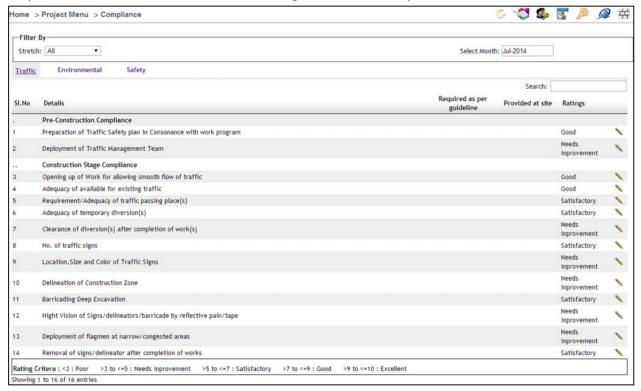




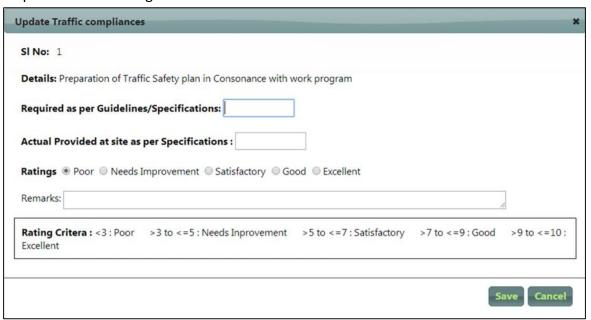
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Step 2: Select the month for which the ratings needed to be updated



Step 3: Enter the ratings



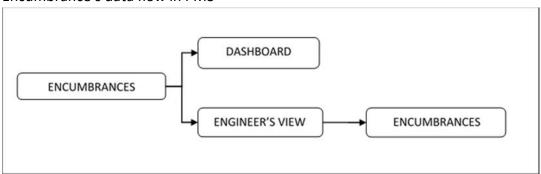


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4.3.5 Encumbrances/Constraints

Background: In this module the constraints list can be viewed. Constraints can be filtered in terms of constraints type, milestone, area code and chainage. New constraints can be added. Constraints with Type, Total Quantum, Total Released and Remaining Quantum are maintained here. Constraints quantum can be released here and Quantum Release History is maintained.

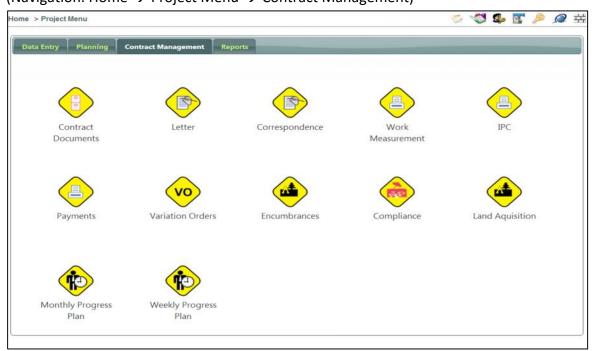
Encumbrance's data flow in PMS



Prerequisite data required for Encumbrances Road Name/Reach

Step by Step procedure to enter the encumbrances

Step 1: In "Contract Management" tab, Click on "Encumbrances" to make an entry (Navigation: Home → Project Menu → Contract Management)



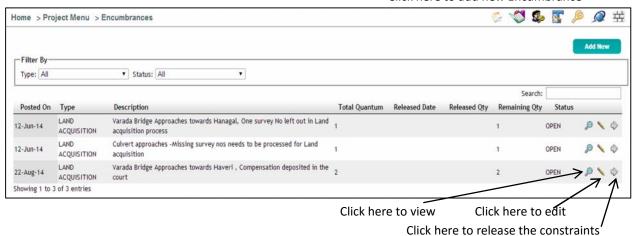


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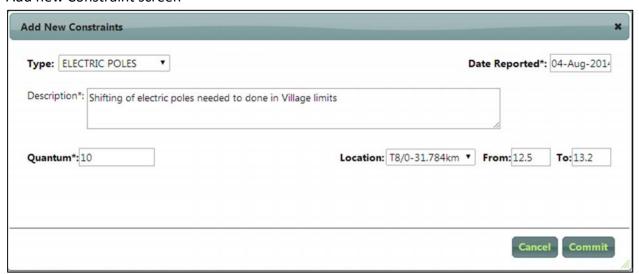
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Step 2: List of Encumbrances screen

Click here to add new Encumbrance



Add new Constraint screen



Release Constraint Screen



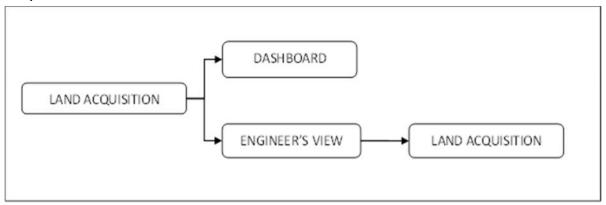


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4.3.6 Land Acquisition (LAQ)

Background: In this module the LAQ list can be viewed. Chainages with any LAQ issues can be recorded in the system.

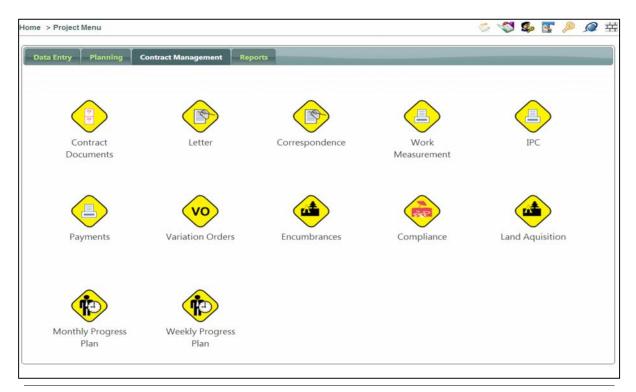
LAQ data flow in PMS



Prerequisite data required for Land Acquisition Road Name/Reach

Step by Step procedure

Step 1: In "Contract Management" tab, Click on "Land Acquisition" to make an entry (Navigation: Home → Project Menu → Contract Management)



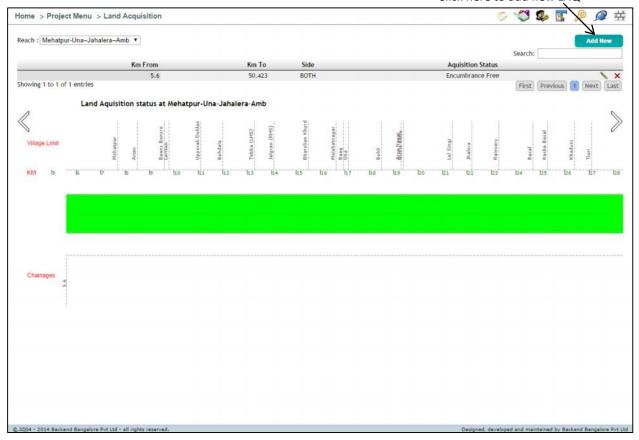


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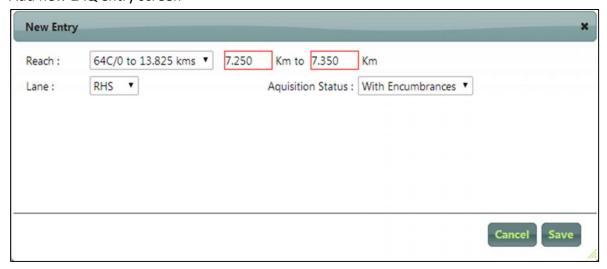
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Step 2: Land Acquisition list screen

Click here to add new LAQ



Add new LAQ entry screen







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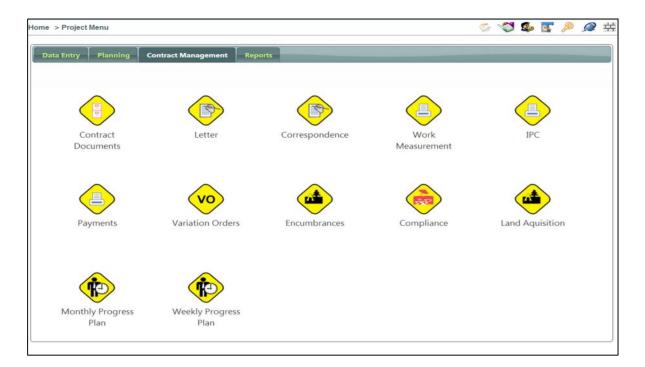
4.3.7 Correspondence

Background: In this module incoming and outgoing correspondence are traced. Correspondence can be sent with file attachment to employees. Correspondence can be searched with correspondence number, subject and description.

Step by Step procedure for adding new Correspondence

Step 1: In "Contract Management" tab, Click on "Correspondence" to make an entry

(Navigation: Home → Project Menu → Contract Management)

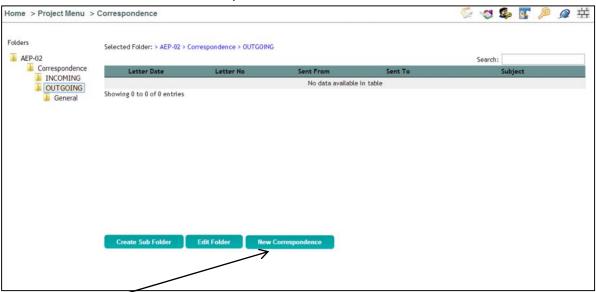




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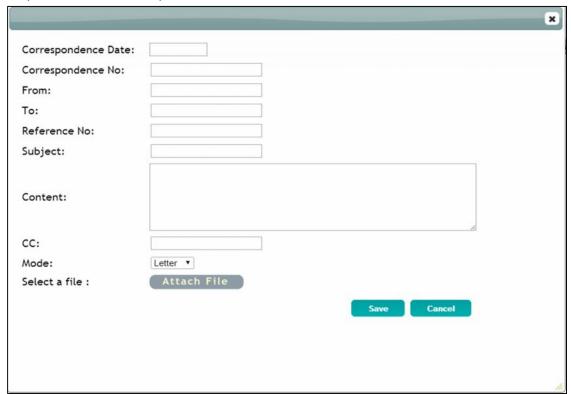
Step 2: List of Correspondence screen

Select the relevant folder to add the correspondence



Click here to add new Correspondence

Step 3: Add new Correspondence screen





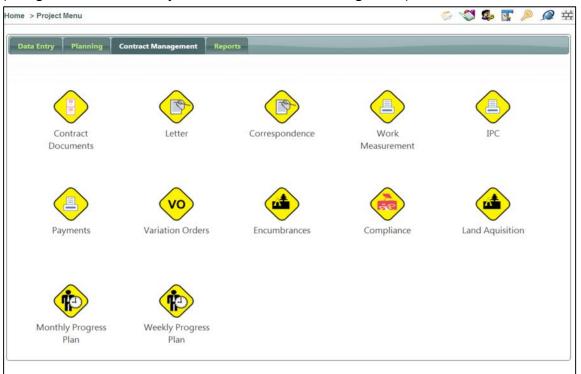
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4.3.8 Contract Documents

Background: This module is used to store contract documents. Documents can be stored in a folder structure and it can be searched using document number, title, description, from date and to date.

Step by Step procedure to add Contract Documents

Step 1: In "Contract Management" tab, Click on "Contract Documents" to make an entry (Navigation: Home → Project Menu → Contract Management)

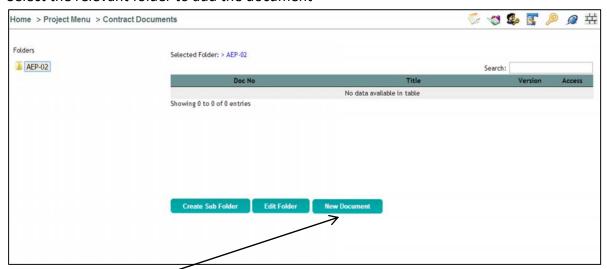




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Step 2: List of Contract Documents screen Select the relevant folder to add the document



Click here to add new Contract document

Step 3: Add new Contract document screen

