



CMCS INSIGHTS · RECONSTRUCTION

Rebuilding Beirut with PMWEB

Two articles written after the August 2020 Beirut port explosion, proposing PMWEB to document the damage to every neighbourhood, building, floor and space, and to manage the cost of rebuilding in three phases with the transparency, accountability and governance that funders require.

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CEO & Chairman, CMCS

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01 Capturing, Documenting, Monitoring and Evaluating the Beirut Explosion Building Damage Assessment

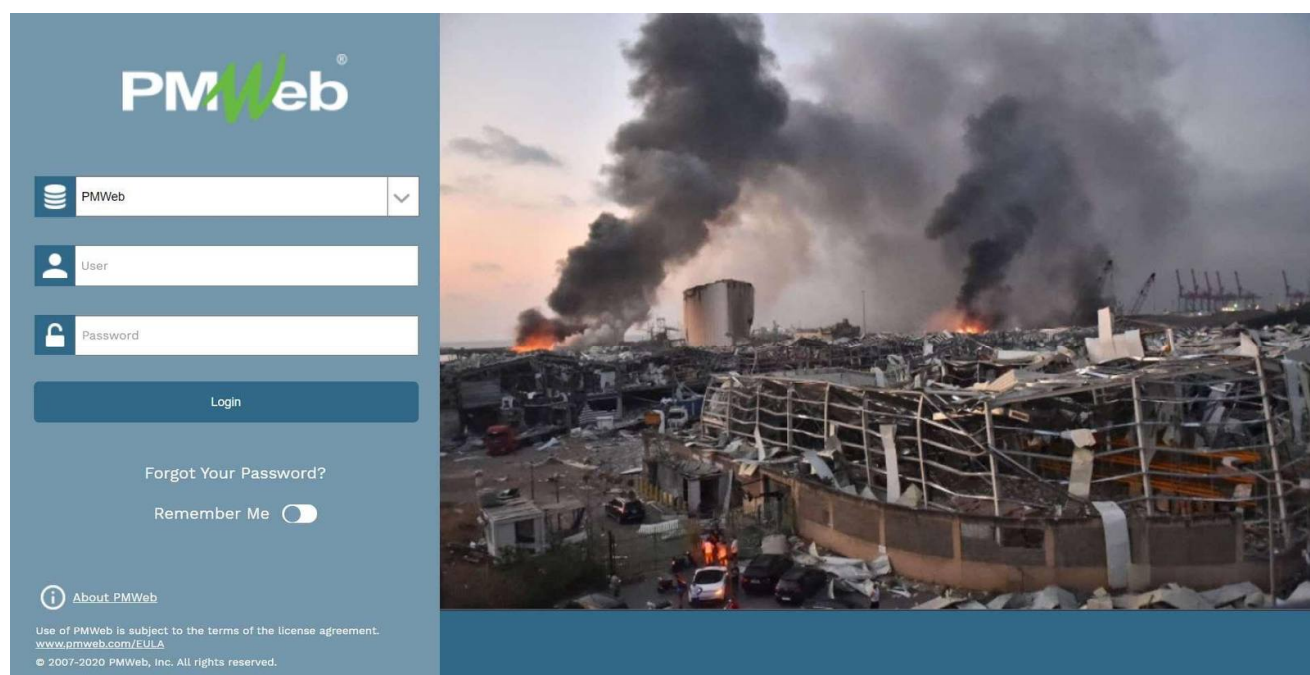
02 Managing, Monitoring and Evaluating the Cost of Rebuilding Beirut with Transparency, Accountability and Governance

Article #283 Capturing, Documenting, Monitoring and Evaluating Beirut Explosion Buildings Damage Assessment

The horrible Beirut Port explosion has caused in addition to the catastrophic death of almost 200 innocent people as well as thousands who were critically injured, hundreds of buildings and thousands of flats that were also damaged if not destroyed in full. Although the call for rebuilding Beirut was immediate and attracted the global support, nevertheless a formal assessment of the damage incurred is needed to establish the right rebuilding strategy.

The damage assessment requires capturing and documenting the damage caused at each neighborhood, building, floor and flat, shop or any type of space. In addition to the damage assessment information that needs to be captured at all those locations, supportive documents, pictures, drawings among others need to be collected and attached to all those assessments.

Although Project Management Information Systems (PMIS) like PMWeb are mainly used to manage the rebuilding programs and associated projects to provide the very much needed transparency, accountability, and governance that all donating agencies are insisting on having before they commence funding the rebuilding effort, PMWeb also comes ready with an asset management module that can be immediately deployed, as is out-of-the-box to document the damage occurred to all locations, buildings, floors and spaces.



To start with, the assets location breakdown structure needs to be created. For example, the first level of the breakdown structure will be the different blocks, zones, sub-zones or neighborhoods that were affected by the Beirut explosion. This could be as an example, Saifi neighborhood 01, Saifi neighborhood 02, Saifi neighborhood 03, Port neighborhood 01, Port neighborhood 02 and so on. The second level will be the buildings within each neighborhood or block such as building 01, 02, 03, etc. The third level will be the floors within each building. For example, this could be the first floor level, second floor level, third floor level and so on. The last level will be the space level and those would be the flats, shops, restaurants, and the common areas within each floor.

(Portfolio) > Assets > Assets > LOCATIONS > 01 - Saifi 01

01 - Saifi 01

MAIN DETAILS SPECIFICATIONS COMPONENTS BUILDINGS FLOORS SPACES PROJECTS WORK ORDER

Program: 001 - Rebuilding of Saifi

Location ID*: 01

Name*: Saifi 01

Location Type: Offices

Operating Project: New York Towers

Component Of:

Component Type:

Service Interval: 0.00

In Service Date: 08-12-2020

Condition:

Condition Date:

Status: Draft

Currency: USD - Dollar (United States of Ameri

Target Budget: \$0.00

Target Revenue: \$0.00

Target Occupancy: 0.00%

Barcode:

Logo:

ADDRESS

Address 1:

Address 2:

City:

State / Zip:

Country:

Phone:

Fax:

Geolocation:

LINEAR DEFINITION

Begin:

End:

Approx. Length: 0.00

Area: 0.00

USER DEFINED FIELDS

Plot No.:

Height Allowed:

GFA in SF: 0.00

Market Valuation in US: 0.00

Market Valuation Date:

For each defined location breakdown structure level, PMWeb allows defining unlimited number of fields to capture additional details for each location, building, level, space and equipment to provide better description of what does it entail or what does it include. Some of those fields are available by default while others can be created using PMWeb specification module where some can be displayed on the main header while others could be displayed on the specification tab. Those user-defined fields could be text, number, currency, date, Boolean as well as the option to have a value selected from a pre-defined list of values. For example, the specification module can be used to quantify the damage caused to buildings by providing the quantities of remedial work to be done for each building system such as glass, aluminum, cladding, etc.

(Portfolio) > Assets > Assets > BUILDINGS > 00002 - 106

00002 - 106

MAIN SPECIFICATIONS COMPONENTS FLOORS SPACES WORK ORDERS EQUIPMENT NOTES ATTACHMENTS (11)

Location*:

Building ID*:

Name*:

Building Type: Residential

Operating Project: MD1 - Medawar Zone 01

Component Of:

Component Type:

Service Interval: 0.00

In Service Date:

Condition: No Significant Damage

Condition Date: 08-11-2020

Status: Draft

Barcode:

ADDRESS

Address 1:

Address 2:

City: Beirut

State / Zip:

Country: Lebanon

Phone:

Fax:

Geolocation: Wayne County, NY, USA

LINEAR DEFINITION

Begin:

End:

Approx. Length: 0.00

Area: 0.00

LEASING

Gross Area: 0.00

Rentable: 0.00

Usable: 0.00

USER DEFINED FIELDS

Glass in M2: 0.00

Aluminum and Glass in M2: 1,200.00

Sliding Doors in M2: 0.00

Balconies in M2: 0.00

Cladding in M2: 350.00

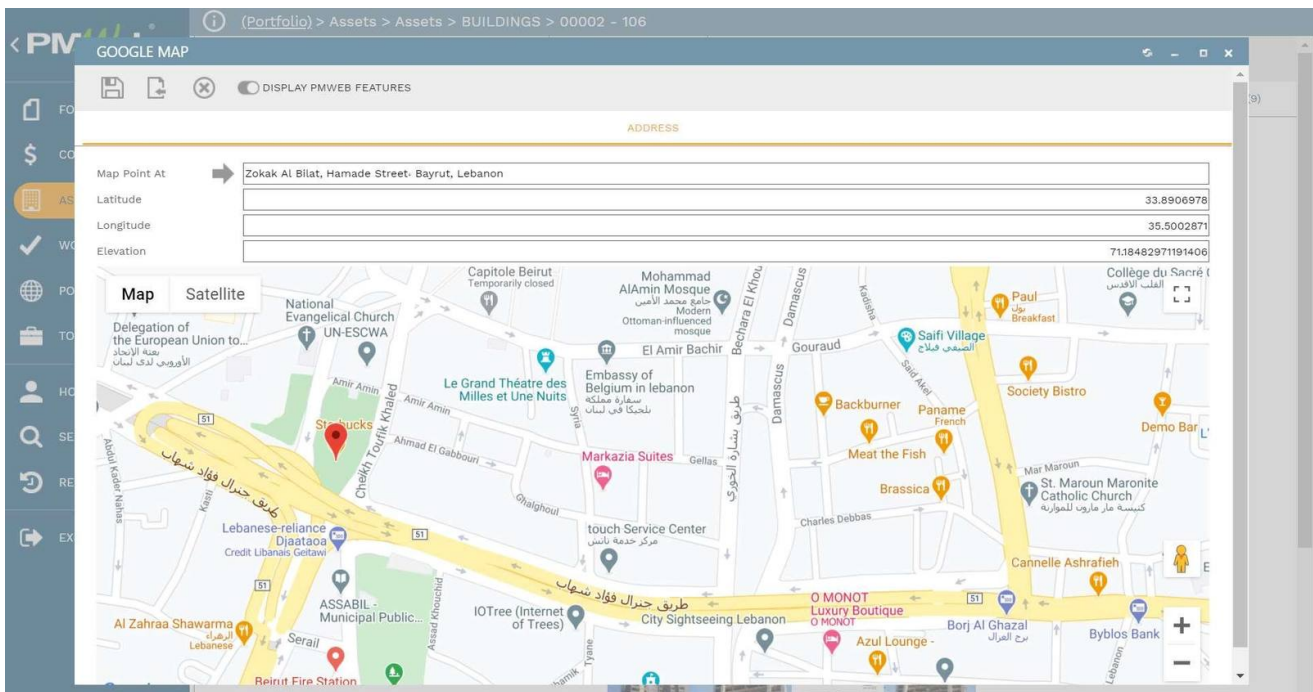
External Walls in M2: 0.00

Roofing in M2: 0.00

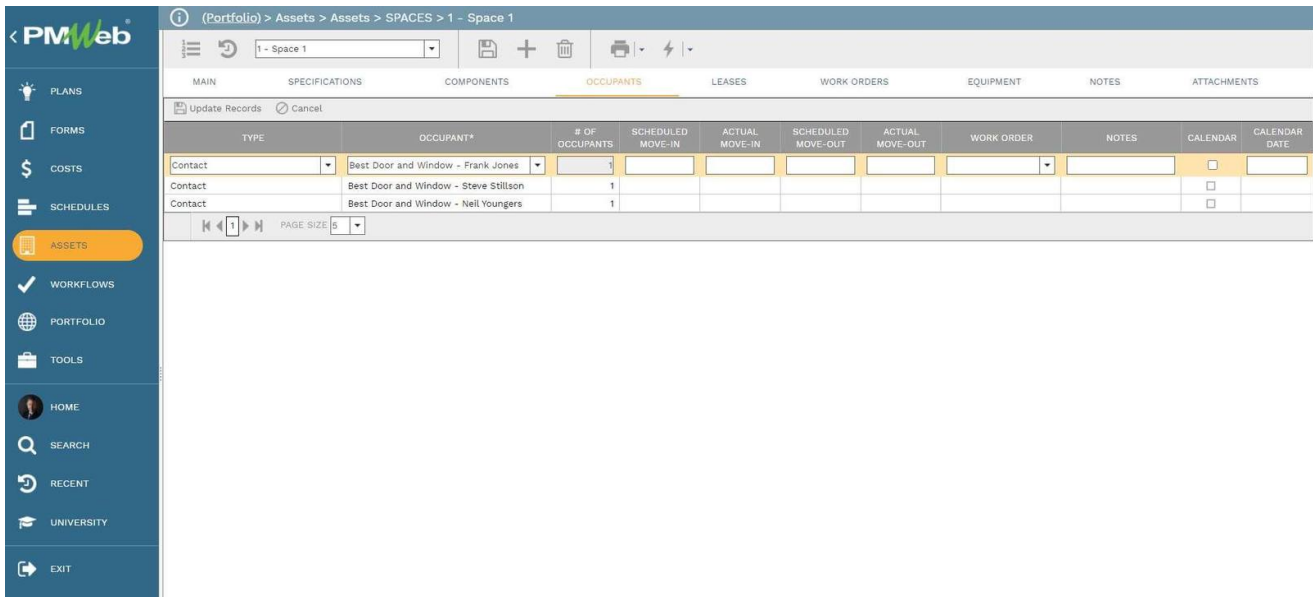
Wood and Glass in M2: 0.00

Wood in M2: 0.00

To improve the identification of locations, buildings as well as levels, PMWeb allows adding the GIS attributes to those levels which would include the longitude, latitude and elevation values. This will allow visualizing those locations and buildings on a map as one of the reports that will be used to report on the different damage assessment carried out by the project team. In addition, this allows associating the assessment information captured in PMWeb with spatial information applications like ESRI.



In addition, PMWeb allows adding the details of all occupants at each identified space using PMWeb Companies module. There is the option of grouping occupants as tents and owners or detail them to include all families as well as members of each family if this level of detail is needed. This will enable tagging those occupants to their relevant space that they were living at. PMWeb also allows defining the planned actual move in dates for those occupants to their relevant spaces.



If required PMWeb also allows adding and assigning all equipment assets to the building, floor or space that they were located at when the explosion has happened. Those could include for example elevators, HVAC equipment and units, cars and vans among many others. There is no limit to the number of equipment assets that can be captured in PMWeb as well as the details of those captured assets.

PMWeb (Portfolio) > Assets > Assets > EQUIPMENT > 92 - Generator Set Cummins 2500 kW (diesel)

Generator Set Cummins 2500 kW (di)

MAIN SPECIFICATIONS MOVES COMPONENTS LOG WORK ORDERS COST WORKSHEET NOTES ATTACHMENTS (1)

Installed equipment ID* 92

Name* Generator Set Cummins 2500 kW (diesel)

Current Factory* Corporate Office/Main Lodge/Ground

Component Of

Installed equipment Type Generator

Ownership

Function Status

Condition

Condition Date

In Service Date

Status Approved

Received Date

Vendor

Manufacturer

Manufacturer #

Serial #

Lot #

Item

Price \$0.00

Warranty Expires

Component Type

Geolocation

Barcode

PREDICTIVE MAINTENANCE

Track Use By hour Or By Days

Service Interval 0.00

Last Service 0.00

Service Due 0.00

Current Usage 0.00

Life Remaining 0.00

% Remaining 100.00%

LINEAR DEFINITION

Begin

End

Length 0.00

Area 0.00

DIRECTION

USER DEFINED FIELDS

Check In

Check Out

Retired

Since the different identified locations and buildings would become part of the anticipated Beirut Rebuilding initiative and which will include specific programs for each neighborhood, PMWeb program module will be used to create those programs and associate them with their relevant locations. When the Beirut rebuilding programs effort commence, projects within each location will be created so the can be managed and delivered.

PMWeb (Portfolio) > Assets > Assets > LOCATIONS > 01 - Saifi 01

01 - Saifi 01

MAIN DETAILS SPECIFICATIONS COMPONENTS BUILDINGS FLOORS SPACES PROJECTS WORK ORDERS EQUIPMENT NOTES ATTACHMENTS (3)

Program 001 - Rebuilding of Saifi

Location ID* 001 - Rebuilding of Saifi

Name* 002 - Rebuilding of Port

Location Type 003 - Rebuilding of Achrafieh

Operating Project

Component Of

Component Type

Service Interval

In Service Date

Condition

Condition Date

Status

Currency USD - Dollar (United States of Amer)

Target Budget \$0.00

Target Revenue \$0.00

Target Occupancy 0.00%

Barcode

Logo

ADDRESS

Address 1

Address 2

City

State / Zip

Country

Phone

Fax

Geolocation

LINEAR DEFINITION

Begin

End

Approx. Length 0.00

Area 0.00

DIRECTION

USER DEFINED FIELDS

Plot No.

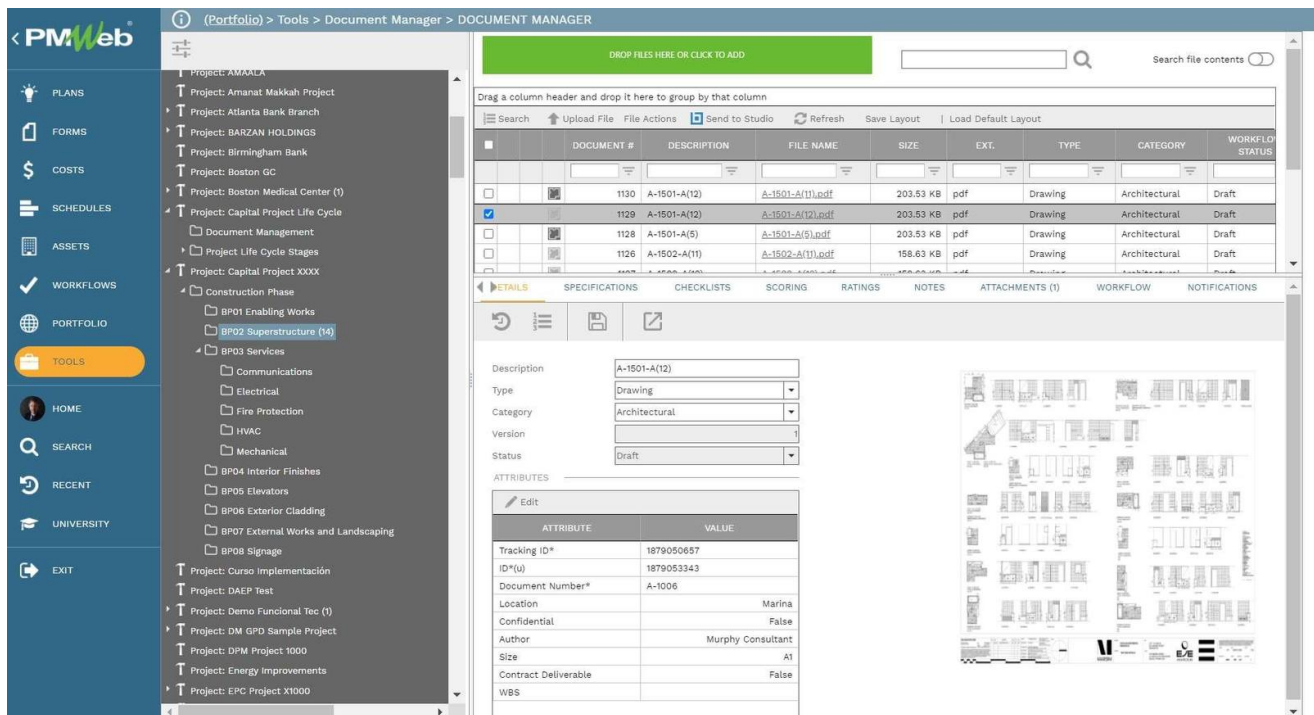
Height Allowed

GFA in SF 0.00

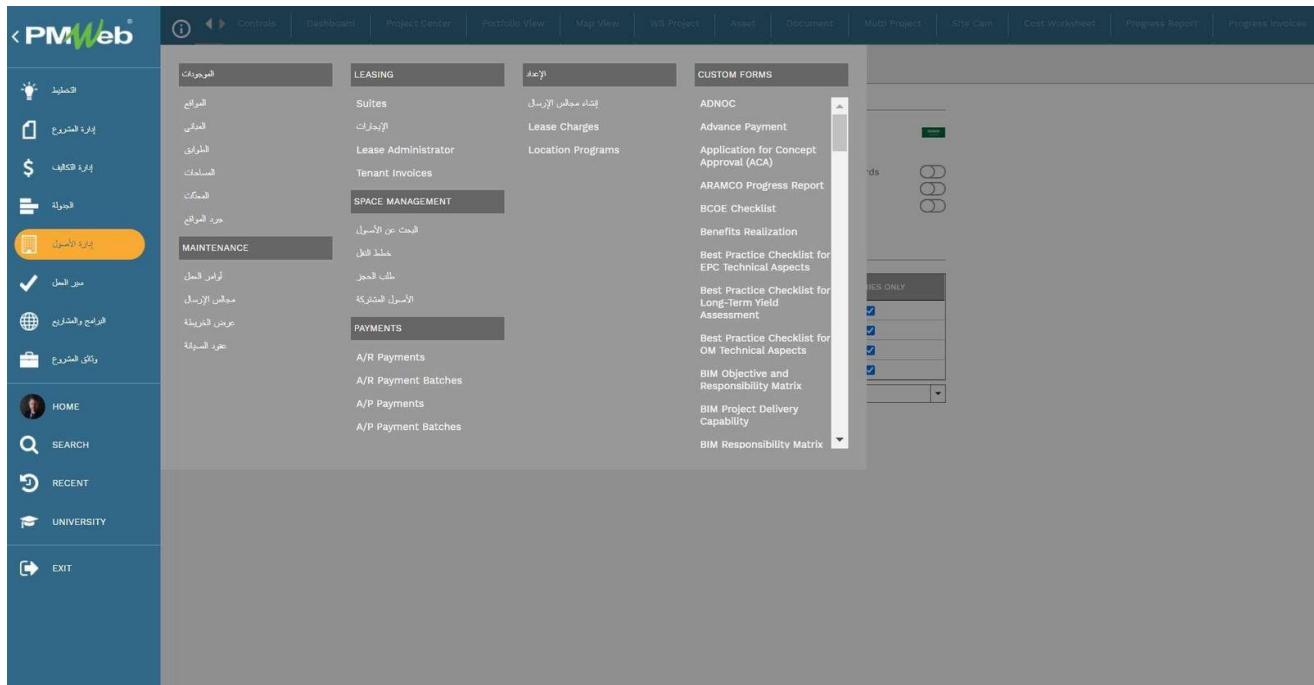
Market valuation In US 0.00

Market Valuation Date

PMWeb document management repository will be used to create the folders and subfolders that will match the locations breakdown structure levels. The first folder level will be the program name and then under each program it will be followed by the location, building, level and space folders. Under each folder, the related assessment documents and reports, pictures, drawings and other documents will be uploaded and stored so they can be attached to their relevant PMWeb record.



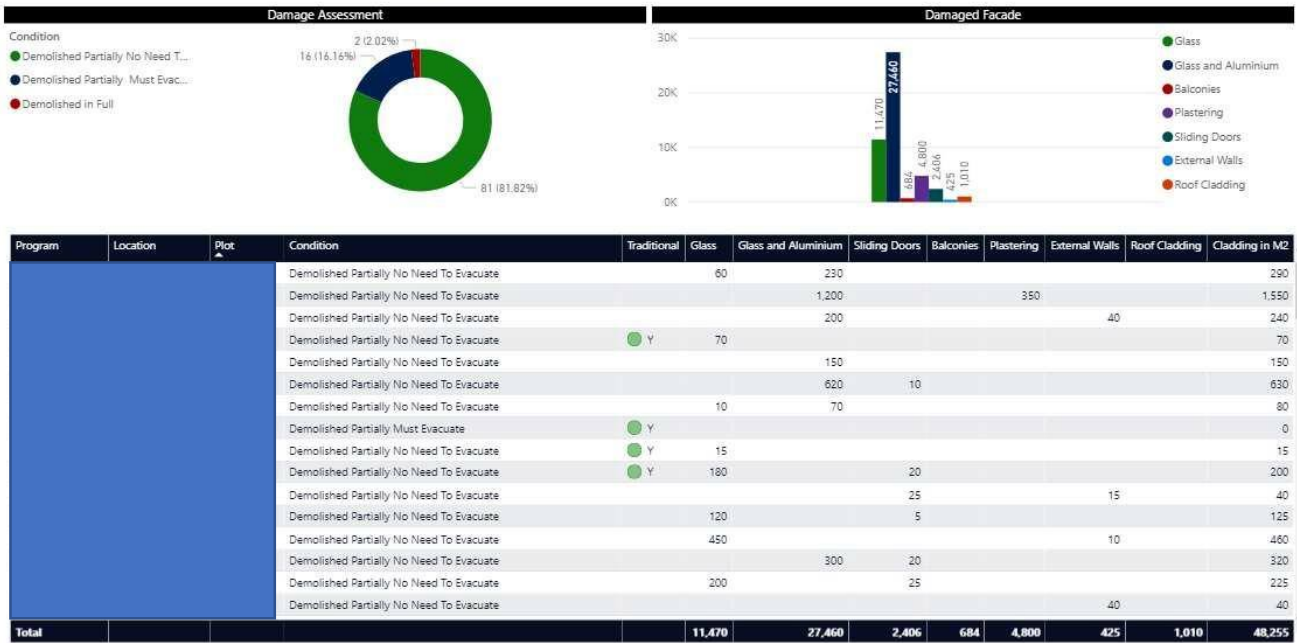
Since PMWeb is 100% web-enabled platform, zero-footprint with responsive user interface, PMWeb can be accessed anywhere, anytime, using any smart device and using any browser with the option to change the user interface language to any desired language, say Arabic instead of English. Of course access rights and other user permissions need to be created in accordance with the clients own data security requirements.



The data captured in PMWeb will become available to be reported on in any desired form and format to fulfill the reporting requirements of the organization. This real-time single version of the truth reporting can be shared with entities that will be authorized by the organization to monitor and evaluate the damage assessment effort.

Beirut Blast Damage Assessment Report

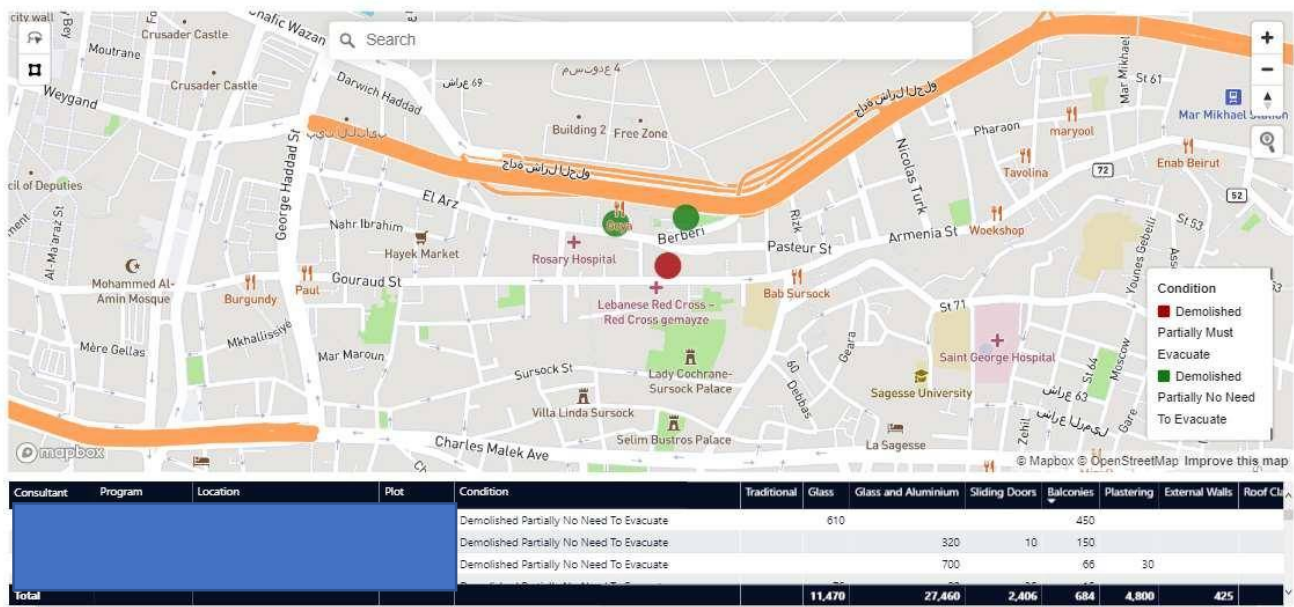
Location: ☐ Medawar Zone 01
Program: ☐ Rebuild Medawar



In addition, other reports or dashboards can be created to display the location of the buildings that were subject to the damage assessment. Projects could have different color indicators to indicate the damage assessment status which could be completely damaged, partially damaged but must be evacuated or partially damaged but there is no need to evacuate the residents.

Beirut Blast Damage Assessment Building Status by Location

Location: ☐ Medawar Zone 01
Condition: ☐ Demolished in Full
☐ Demolished Partially Must Evacuate
☐ Demolished Partially No Need To Evacuate



About the Author

Bassam Samman, PMP, PSP, EVP, GPM is a Senior Project Management Consultant with 40-year service record providing project management, project controls services and project management information system to over than 200 projects with a total value in excess of US \$100 Billion. Those projects included Commercial, Residential, Education and Healthcare Buildings and Infrastructure, Entertainment, Hospitality and Shopping Malls, Oil and Gas Plants and Refineries, Telecommunication and Information Technology projects. He is thoroughly experienced in complete project management including project management control systems, computerized project control software, claims analysis/prevention, risk analysis/management (contingency planning), design, supervision, training and business development.



Bassam is a frequent speaker in topics relating to Project Management, Strategic Project Management and Project Management Personal Skills. Over the past 40 years he has lectured at more than 350 events and courses at different locations in the Middle East, North Africa, Europe and South America. He has written more than 300 articles on project management and project management information systems that were featured in international and regional magazines and newspapers. He is a co-founder of the Project Management Institute- Arabian Gulf Chapter (PMI-AGC) and has served on its board of directors for more than 6 years. He is a certified Project Management Professional (PMP) from the Project Management Institute (PMI), a certified Planning and Scheduling Professional (PSP) and Earned Value Professional (EVP) from the American Association of Cost Engineers (AACE) and Green Project Management (GPM).

Bassam holds a Masters in Engineering Administration (Construction Management) with Faculty Commendation, George Washington University, Washington, D.C., USA, Bachelor in Civil Engineering – Kuwait University, Kuwait and has attended many executive management programs at Harvard Business School, Boston, USA and London Business School, London, UK.

Article #284 Managing, Monitoring, Evaluating the Cost of Rebuilding Beirut while Providing the Very Much Needed Transparency, Accountability and Governance

No one can doubt the urgent need to rebuild the damaged City of Beirut. Nevertheless, there's a major issue of miss trust between the international and regional governments as well as agencies who are keen to fund the rebuilding effort and the Lebanese government due to the lack of needed transparency, accountability and governance when it comes to spending those rebuilding funds.

Therefore there will be a need to establish independent entities to oversight the rebuilding of Beirut and the spending of funds allocated for this effort. It is envisaged that the rebuilding effort of Beirut will be done in three phases, immediate, short-term and long-term. The immediate phase which needs to be completed before the end of October 2020 will focus on providing immediate shelter for families and residents of the damaged apartments and who have no other option to reside. In addition, it would include shops, restaurants and other businesses that is needed to make those neighborhoods livable.

The short-term phase will focus on the rebuilding effort for buildings that although they were damaged by the explosion but they are stable and structurally safe. The short-term phase will also include urgent infrastructure services that need to be completed to support the living and business activities in those neighborhoods. The short-term phase should be completed by the end of April 2021. The third phase is the long-term phase which will include rebuilding completely damage buildings that need to be demolished because they are structurally unsafe. The long-term phase will also include major infrastructure and utilities projects that need to be undertaken to improve the living standard of all areas that were damaged or affected by the Beirut Explosion. The long term phase on site activities could commence after the completion of the short term phase to allow for the design and contracts procurement activities needed for those projects.

Ensuring transparency, accountability and governance for the immediate phase might be challenging as the rebuilding effort needs to be rushed and no one can afford to delay this effort. Therefore, work orders that will be based on time and material will be the procurement method to be used during the immediate phase. For the short-term phase, projects with remeasured contracts will be the proposed procurement method to cater for the absence of completed contract documents. On the other hand, projects for the long-term phase should be based on fixed lump sum price contracts.

Using a project management information systems (PMIS) like PMWeb, the programs, projects, contracts and work orders needed for the three phases of the rebuilding of Beirut can be managed in a transparent, accountable and governed format. It will also ensure providing stakeholders with real-time single version of truth monitoring, evaluating and reporting of every single financial transaction for program, project, contract and work orders. In addition and as detailed in the last article, PMWeb will be also used to capture, document and report on the damage caused to neighborhoods, buildings, floors, spaces and equipment assets in the shattered Beirut.

For the immediate phase, PMWeb work order module will be used to manage all rush fixing work that need to be completed. Nevertheless, before using this module and to reduce the risk of pricing manipulation, PMWeb items module will be used to identify and capture the detail of all building work items needed for the rebuilding effort for both immediate and short term phases. Those would include work items such as fixing glass, windows, doors, bathroom fixtures, electrical fittings among many others. The rate for those items will be based on all inclusive rate that covers material cost, delivery charges and installation workmanship charges. PMWeb allows importing those work items list using Microsoft XLS to expedite the process of having such a list.

(Portfolio) > Plans > Setup > ITEMS > 67 - Remove Existing Windows

PMWeb

67 - Remove Existing Windows

MAIN SPECIFICATIONS CHECKLIST PURCHASE HISTORY NOTES ATTACHMENTS (1)

Item ID* 67

Description* Remove Existing Windows

Item Group* 002020-Demolition

Type

Category

Manufacturer

Manufacturer's #

BIM ID

INVENTORY

Reorder Point 0.00

Inventory UOM

TAGS

PMWeb Barcode

Mfr's Barcode

ESTIMATING

UOM each

Cost 200.00

Use Unit Price When Estimating

Submittal Item

Procurement Item

Cost Updated

PURCHASE HISTORY

Lowest \$0.00

Highest \$0.00

Median \$0.00

Average \$0.00

DEFAULTS

Template

Phase

Location

Cost Code

Cost Type

Company

Bid Category

PURCHASING

UOM

Price 0.00

Conversion 0.00

Unit Price 0.00

Price Updated

COMPONENT

Component Type

Quantity UOM

Service Interval Usage 0.00

Service By Days

Service Interval Days 0.00

Lateral Offset 0.00

Lateral Offset UOM

Vertical Offset 0.00

Vertical Offset UOM

Radial Offset 0.00

PMWeb Work order module will be used to document all immediate phase rush rebuilding jobs. Work orders will be issued for each location, building, floor, space or equipment asset that need to be rectified. For each work order, details of the scope of work and other needed fields will be provided to have better clarity on what needs to be done. Each work order will include all work items which will be captured from the predefined work item list and for which it will become the basis for establishing the cost of each work order. The automatically calculated cost of each work order will become the basis for authorizing and making payment for completed and approved work. Each work order can be attached with upload pictures of the completed works as well as all supportive documents for the completed work.

(Portfolio) > Assets > Assets > LOCATIONS > CORP-001 - Corporate Office

PMWeb

CORP-001 - Corporate Office

MAIN DETAILS SPECIFICATIONS COMPONENTS BUILDINGS FLOORS SPACES PROJECTS WORK ORDERS EQUIPMENT NOTES (1) ATTACHMENTS (5)

Program

Location ID* CORP-001

Name* Corporate Office

Location Type

Operating Project

Component Of

Component Type

Service Interval 0.00

In Service Date

Condition

Condition Date

Status Approved

Currency USD - Dollar (United States of America)

Target Budget \$0.00

Target Revenue \$0.00

Target Occupancy 0.00%

Barcode

Logo

ADDRESS

Address 1 901 Timberline Drive

Address 2

City Lake Buena Vista

State / Zip AL

Country USA

Phone

Fax

Geolocation Orlando, FL

LINEAR DEFINITION

Begin

End

Approx. Length 0.00

Area 0.00

DIRECTION

USER DEFINED FIELDS

Plot No.

Height Allowed

GFA in SF 0.00

Market Valuation in US 0.00

Market Valuation

Date

For short and long-term phases, projects will be added to manage the rebuilding effort. Those projects will be associated with the locations and programs identified in the damage assessment phase. For each created project, details including scope of work, key stakeholders name, planned start and completion dates, estimated budget, GIS attributes among many others will be added.

PMWeb (Portfolio) > Portfolio > Portfolio > PROJECTS > RV50104 - Boston Medical Center

MAIN SPECIFICATIONS LOCATIONS PHASES WBS USERS COMPANIES CONTACTS CHECKLISTS (9) PAYMENTS CLAUSES NOTES (3) ATTACHMENTS (4)

Program 0003 - Commercial

Project ID* RV50104

Name* Boston Medical Center

Location BLDG00A2 - Hospital

Project Status Completed

Project Type New Construction

Category Gerencia

Status Approved

Date

Currency USD - Dollar (United States of America)

PBS (Portfolio)

Program WBS

Target Budget \$0.00

Target Revenue \$0.00

Target Duration 0

Target Start

Target Finish

Percent Complete 0.00%

Scope

Linked Assets 0

Logo

Address

Address 1 Calle 1

Address 2

City Bogota

State / ZIP MA 02118

Country Colombia

Phone (617) 638-8000

Fax

TAGS

Latitude 4.706849527805106

Longitude -74.12017442129513

Elevation 2550.0546875

Google Address a 105a-99, CL 72 #105a-1, Bogotá, Colombia

PERSONNEL

Client UNIVERSAL - Universal Corporation

GC WTC - W. Turner Construction

Architect WWG - Wagner & Williams

Executive Steve Watson

Manager Dominique Pedrosa

Superintendent Mark Waters

Commitment Company WTC - W. Turner Construction

Owner UNIVERSAL - Universal Corporation

USER DEFINED FIELDS

Plot No.

Station No.

Design Phase

Delivery Method

Building Permit

Project Source

Project Type

Official Request ☐

Is It Confidential ☐

End User - Qatar ☐

Emiri Armed Forces ☐

PMWeb
Plan Build Operate™

Contacts that will be released during the short-term phase projects will be mainly based on remeasured unit price contracts. PMWeb commitment module will be used to capture the details of those contracts. Similar to work orders, those contracts will include work items that were already predefined in PMWeb items module. Those all inclusive rates will become the basis for authorizing and paying contractors for completed and approved works.

PMWeb (Portfolio) > Costs > Contracts > COMMITMENTS > 002 - GMP Contract

MAIN ADJUSTMENTS SPECIFICATIONS CLAUSES (3) CHANGE ORDERS PROGRESS INVOICES PAYMENTS NOTES ATTACHMENTS (46) NOTIFICATIONS

Project* RV50104 - Boston Medical Center

ID* 002

Company Boston Contractors

Description GMP Contract

Type Contract

Category

Reference

Status / Revision Approved

Date 09-23-2011

Effective Date 09-30-2011

Days 730.00

Procurement #

Paid in Full ☐

BILLING

Billing Terms

Retention on Services 10.00%

Retention on Stored Materials 10.00%

☒ DO NOT ALLOW OVERBILLING

☐ ALLOW OVERBILLING

☐ Up to 0.00% of revised value

☐ Up to 0.00% of line item

RECAP

	COSTS	DAYS
Original Value	\$7,135,000.00	730.00
Approved Changes	\$70,000.00	0.00
Revised Value	\$7,205,000.00	730.00
Billed	\$3,338,500.00	
Retained	\$333,850.00	
Balance Due	\$3,004,650.00	
Payments Applied	\$0.00	
Open Balance	\$3,004,650.00	
Unbilled	\$3,866,500.00	
Pending Changes	\$0.00	0.00
Projected Value	\$7,205,000.00	730.00

DELIVERY

Due Date 09-23-2011

Scheduled Delivery Date 09-23-2011

Ship Via

Ship To

Drag a column header and drop it here to group by that column

LINE #	ITEM	DESCRIPTION	UOM	QUANTITY	UNIT COST	EXT. COST	TOTAL COST	COST CODE	FUNDING	NOTES
1		General Conditions		2.00	\$100,000.00	\$200,000.00	\$200,000.00	02-010002	\$0.00	

On weekly basis, PMWeb production module also known as joint measurement report module will be used to quantify the completed works within each week by the contractors. All supportive documents need to be attached and a workflow can be added to formalize the review and approval process of the joint measurement report.

PMWeb (Portfolio) > Costs > Invoices > PRODUCTION > 002 - JMR 010

HBS Baker Library / 1 - Jul 12 2020

MAIN SPECIFICATIONS CLAUSES NOTES ATTACHMENTS (1) NOTIFICATIONS

Project* U-200 - HBS Baker Library
Record #* 002
Description JMR 010
Production #
Contract
Commitment CON-002 - JPK Finishes - All finishes -
Company JPK Finishes
Status / Revision Draft 0
Date 07-12-2020

From Date 07-12-2020
To Date 07-18-2020
Period 2009-Jul.
Type
Category
Reference
Post To Cost Ledger

Drag a column header and drop it here to group by that column

Edit Add Delete Refresh Link Change Orders Export To Excel Layouts

LINE #	ATTACHMENT	DATE	COST CODE	DESCRIPTION	UOM	SCHEDULED QUANTITY	CURRENT QUANTITY	RATE	TOTAL	TOTAL QUANTITY	NOTES	REQ. CODE
1	(0)	07-12-2020	03-03100	Design & install all finishes		1	0.00	\$250,000.00	\$0.00	0.00		
						1.00	0.00	\$250,000.00	\$0.00	0.00		

PAGE SIZE 20

The approved quantities in the joint measurement report will become the basis for issuing the monthly progress invoice and capture the details of the actual payment made against the approved progress invoice. The progress invoice will keep track of work completed and payment made at the end of each month.

PMWeb (Portfolio) > Costs > Invoices > PROGRESS INVOICES > 6 - Progress Invoice #6

002 - Boston Medical Center - Boston

MAIN ADJUSTMENTS SPECIFICATIONS CHECKLISTS PAYMENTS CLAUSES NOTES ATTACHMENTS (1) WORKFLOW (1/4) NOTIFICATIONS

Project* RV50104 - Boston Medical Center
Commitment* 002 - GMP Contract
Company Boston Contractors
Description Progress Invoice #6
Reference
Invoice # 6
Record #* 6
Status Submitted 0
Date 09-27-2011

Cost Period June 11
Category
Paid in Full
RECAP
Original Value \$7,135,000.00
Approved Changes \$70,000.00
Revised Value \$7,205,000.00
Invoiced \$2,957,250.00
Retained \$295,725.00
Earned Less Retainage \$2,661,525.00
Less Prior Invoices \$1,835,325.00
Current Payment Due \$826,200.00
Unapplied Payments Available \$0.00
Payments Applied \$0.00
Open Balance \$826,200.00
Bal. To Finish(Incl. Retainage) \$4,543,475.00

USER DEFINED FIELDS
Interest Rate 0.00
Notification Due To Engineer Delay
Actual Notification Date (Engineer)
Notification Due To Employer Delay
Actual Notification Date (Employer)
Actual Issued by Engineer

ONLINE INVOICE
Invoice Date 09-27-2011
Billing Terms
Invoice Due 09-27-2011
Invoice Type
Contact
Comment

Print Lien Waiver Signed Waiver Attached

Drag a column header and drop it here to group by that column

Refresh Layouts

LINE #	COST CODE	DESCRIPTION	SCHEDULED VALUE	PRIOR INVOICES	CURRENT INVOICE	TOTAL THIS INVOICE	TOTAL INVOICED	% COMPLETE	BALANCE TO INVOICE	TOTAL RETAINED	CURRENT TOTAL DUE
1	02-010002	General Conditions	\$415,000.00	\$186,750.00	\$41,500.00	\$41,500.00	\$228,250.00	55.00%	\$186,750.00	\$22,825.00	\$37,350.00
2	02-020000	Existing Conditions	\$1,000,000.00	\$700,000.00	\$200,000.00	\$200,000.00	\$900,000.00	90.00%	\$100,000.00	\$90,000.00	\$180,000.00
3	02-030000	Concrete	\$850,000.00	\$510,000.00	\$255,000.00	\$255,000.00	\$765,000.00	90.00%	\$85,000.00	\$76,500.00	\$229,500.00
4	02-050000	Metals	\$825,000.00	\$412,500.00	\$82,500.00	\$82,500.00	\$495,000.00	60.00%	\$330,000.00	\$49,500.00	\$74,250.00

For the long-term phase projects, lump sum price contracts will be used. Monthly progress invoices will be used by contractors to submit the details of completed works similar to the short term phase contracts. This will become the basis for making the payment for approved progress invoices for which the details also need to be captured. For lump sum contracts, there is also a need to manage all change orders, pending, approved and disputed. PMWeb change order module will be used to manage issuance, review, approve or reject process for those changes.

PMWeb (Portfolio) > Costs > Change Management > COMMITMENT COS > 001 - Office Modifications

001 - Boston Medical Center - Office

PLANS FORMS COSTS SCHEDULES ASSETS WORKFLOWS PORTFOLIO TOOLS HOME SEARCH RECENT UNIVERSITY EXIT

Project*: RV50104 - Boston Medical Center Cause: Unforeseen Conditions
 Commitment*: 002 - Boston Contractors - GMP Contra Requested By: ***
 Company: Boston Contractors Assigned To: ***
 Commitment Type: Subcontract Change Order Date: 09-30-2011
 Record #: 001 Effective Date: 09-30-2011
 Description: Office Modifications Days: 0.00
 Post As: Revised Scope RECAP
 Status / Revision: Approved 0
 Date: 09-27-2011
 Change Request: Phase 1
 Category: Phase 1
 Reference:

Original Value: \$7,135,000.00 COSTS 730.00 DAYS
 Prior Approved Changes: \$0.00 0.00
 Prior Revised Value: \$7,135,000.00 730.00
 Total of This Change: \$70,000.00 0.00
 Contract to This Change: \$7,205,000.00 730.00

Drag a column header and drop it here to group by that column

Edit Add Add Items Link CE Link Change Request(s) Delete Refresh Use Units Layouts

LINE #	DESCRIPTION	AMOUNT REQUESTED	AMOUNT APPROVED	COST CODE	COST PERIOD	NOTES
1	Painting	\$30,000.00	\$30,000.00	02-099000		
2	Carpentry	\$40,000.00	\$40,000.00	02-061000		
		\$70,000.00	\$70,000.00			

PAGE SIZE: 20

Details of all payments made against work orders, progress invoices, miscellaneous invoices, timesheets for the project management and other professional services team managing the rebuilding effort will be captured in PMWeb database. In addition, details of all awarded contracts and changes to those contracts will be also captured in PMWeb. This trust-worthy, editable and traceable data will become available to be reported on using PMWeb. The real-time single version of the truth reporting can be designed in the desired form and format.

PMWeb (Portfolio) > Costs > Budgets > COST WORKSHEETS

Worksheet: RV50104 - Boston Medical Center Approved & Pending Period From: All* Period To: All* Currency: USD - Dollar (United States of America) Project Default: ☐

Group1: Add Export To Excel

#	GROUP1	COST CODE	BUDGET DESCRPT	ORIGINAL PROJ	PROJECT BUDG	ANTICIPATED B	ORIGINAL COM	COMMITMENTS	ANTICIPATED C	VARIANCE	ACTUAL COSTS	NON-COMMIT	NON-COMMIT	ACTUAL COSTS
Group1: 00 - Sales														
00	00-000000	Sales		\$12,000,000.00	\$0.00	\$12,000,000.00	\$0.00	\$0.00	\$0.00	\$12,000,000.00	\$0.00	\$0.00	\$0.00	\$0.00
Group1: 01 - Land Costs														
01	01-000001	Land Acquisition		\$1,200,000.00	\$0.00	\$1,200,000.00	\$0.00	\$0.00	\$0.00	\$1,200,000.00	\$1,200,000.00	\$0.00	\$1,200,000.00	\$0.00
01	01-000002	Land Permits and F		\$430,000.00	\$0.00	\$430,000.00	\$0.00	\$0.00	\$0.00	\$430,000.00	\$430,000.00	\$0.00	\$430,000.00	\$0.00
Group1: 02 - Hard Costs														
02	02-010002	General Conditions		\$197,500.00	\$0.00	\$197,500.00	\$200,000.00	\$0.00	\$200,000.00	\$-2,500.00	\$228,610.00	\$360.00	\$0.00	\$360.00
02	02-020000	Existing Conditions		\$1100,000.00	\$30,000.00	\$1,130,000.00	\$90,000.00	\$0.00	\$90,000.00	\$1,040,000.00	\$900,360.00	\$360.00	\$0.00	\$360.00
02	02-030000	Concrete		\$875,000.00	\$212,400.00	\$1,087,400.00	\$3,943,060.00	\$45,000.00	\$3,987,060.00	\$-2,899,660.00	\$820,200.00	\$0.00	\$0.00	\$0.00
02	02-050000	Metals		\$850,000.00	\$0.00	\$850,000.00	\$825,100.00	\$25,000.00	\$850,100.00	\$-100.00	\$495,000.00	\$0.00	\$0.00	\$0.00
02	02-061000	Rough Carpentry		\$122,500.00	\$75,000.00	\$197,500.00	\$165,000.00	\$40,000.00	\$205,000.00	\$-7,500.00	\$99,000.00	\$0.00	\$0.00	\$0.00
02	02-071000	Dampproofing and		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
02	02-080000	Openings		\$0.00	\$10,000.00	\$10,000.00	\$1,500.00	\$0.00	\$1,500.00	\$8,500.00	\$100.00	\$0.00	\$0.00	\$0.00
02	02-099000	Painting and Coatir		\$300,000.00	\$0.00	\$300,000.00	\$250,000.00	\$30,000.00	\$280,000.00	\$20,000.00	\$212,500.00	\$0.00	\$0.00	\$0.00
02	02-142000	Elevators		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
02	02-210000	Fire Suppression		\$450,000.00	\$0.00	\$450,000.00	\$425,000.00	\$0.00	\$425,000.00	\$25,000.00	\$318,750.00	\$0.00	\$0.00	\$0.00
02	02-220000	Plumbing		\$415,000.00	\$0.00	\$415,000.00	\$408,000.00	\$0.00	\$408,000.00	\$7,000.00	\$222,100.00	\$2,100.00	\$0.00	\$2,100.00
02	02-230000	HVAC		\$410,000.00	\$0.00	\$410,000.00	\$634,000.00	\$0.00	\$634,000.00	\$-224,000.00	\$100,600.00	\$600.00	\$0.00	\$600.00
02	02-260000	Electrical		\$52,000,000.00	\$0.00	\$52,000,000.00	\$560,330.00	\$0.00	\$560,330.00	\$51,439,670.00	\$0.00	\$0.00	\$0.00	\$0.00
02	02-310000	Earthwork		\$530,000.00	\$10,000.00	\$540,000.00	\$489,000.00	\$10,000.00	\$499,000.00	\$50,000.00	\$60.00	\$0.00	\$0.00	\$0.00
Group1: 03 - Soft Costs														
				\$7,250,000.00	\$37,400.00	\$7,587,400.00	\$7,980,990.00	\$150,000.00	\$8,130,990.00	\$49,456,410.00	\$3,497,280.00	\$3,420.00	\$0.00	\$3,420.00

Of course, there are also many other out-of-the-box ready to use reports and logs that provides detail of the different transactions executed for every project management process managed in PMWeb. Those could be list of work orders, list of awarded contracts, progress invoices, change orders, actual payments made among many other.

ROCARC - Rockwell Architects										
Project	Record #	Description	Date	Original	Approved CO	Pending CO	Revised	Invoiced	Balance	Retained
Original Commitment										
Boston Medical Center	001	Design Services	09-23-2011	\$493,000.00	\$12,555.00	\$0.00	\$505,555.00	\$468,350.00	\$37,205.00	\$0.00
Change Orders										
	001	Design Changes	09-27-2011		\$12,555.00					
	Total Changes				\$12,555.00					
Invoices										
	1	Invoice 1						\$147,900.00		\$0.00
	2	Invoice 2	03-05-2018					\$54,514.20		\$0.00
	3	Invoice 3	03-05-2018					\$65,598.00		\$0.00
	4	Invoice 4	03-05-2018					\$64,090.00		\$0.00
	5	Invoice 5	03-05-2018					\$69,518.80		\$0.00
	6	Invoice 6	03-05-2018					\$66,729.00		\$0.00
	7	Invoice 7	08-13-2019					\$0.00		\$0.00
	Total Invoices							\$468,350.00		
BOSTON - Boston Contractors										
Project	Record #	Description	Date	Original	Approved CO	Pending CO	Revised	Invoiced	Balance	Retained
Original Commitment										
Boston Medical Center	002	GMP Contract	09-23-2011	\$5,435,000.00	\$70,000.00	\$0.00	\$5,505,000.00	\$3,338,500.00	\$2,166,500.00	\$333,850.00
Change Orders										
	001	Office Modifications	09-30-2011		\$70,000.00					
	Total Changes				\$70,000.00					
Invoices										
	1	Invoice 1						\$41,500.00		\$4,150.00
	2	Invoice 2	09-27-2011					\$41,500.00		\$8,300.00
	3	Invoice 3	09-27-2011					\$426,500.00		\$50,950.00
	4	Invoice 4	09-27-2011					\$488,200.00		\$99,770.00
	5	Invoice 5	09-27-2011					\$1,041,550.00		\$203,925.00
	6	Invoice 6	09-27-2011					\$918,000.00		\$295,725.00
	7	Invoice 7	04-11-2016					\$0.00		\$295,725.00
	8	Invoice 8	04-11-2016					\$381,250.00		\$333,850.00
	Total Invoices							\$3,338,500.00		

About the Author

Bassam Samman, PMP, PSP, EVP, GPM is a Senior Project Management Consultant with 40-year service record providing project management, project controls services and project management information system to over than 200 projects with a total value in excess of US \$100 Billion. Those projects included Commercial, Residential, Education and Healthcare Buildings and Infrastructure, Entertainment, Hospitality and Shopping Malls, Oil and Gas Plants and Refineries, Telecommunication and Information Technology projects. He is thoroughly experienced in complete project management including project management control systems, computerized project control software, claims analysis/prevention, risk analysis/management (contingency planning), design, supervision, training and business development.



Bassam is a frequent speaker in topics relating to Project Management, Strategic Project Management and Project Management Personal Skills. Over the past 40 years he has lectured at more than 350 events and courses at different locations in the Middle East, North Africa, Europe and South America. He has written more than 300 articles on project management and project management information systems that were featured in international and regional magazines and newspapers. He is a co-founder of the Project Management Institute- Arabian Gulf Chapter (PMI-AGC) and has served on its board of directors for more than 6 years. He is a certified Project Management Professional (PMP) from the Project Management Institute (PMI), a certified Planning and Scheduling Professional (PSP) and Earned Value Professional (EVP) from the American Association of Cost Engineers (AACE) and Green Project Management (GPM).

Bassam holds a Masters in Engineering Administration (Construction Management) with Faculty Commendation, George Washington University, Washington, D.C., USA, Bachelor in Civil Engineering – Kuwait University, Kuwait and has attended many executive management programs at Harvard Business School, Boston, USA and London Business School, London, UK.