

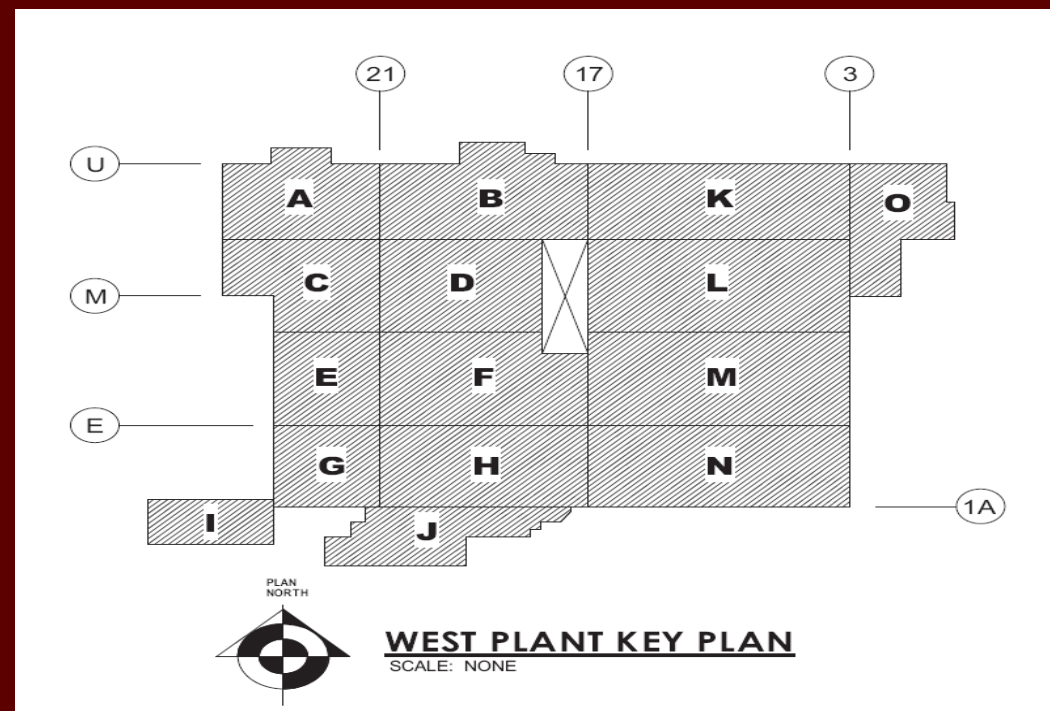
# West Fuala Plant Expansion

Abu Dhabi, PA



## GENERAL BUILDING INFORMATION

Building name: West Plant expansion  
Location: Abu Dhabi, PA  
Building Occupant Name: Fuala Factory  
Occupancy Type: S-1, F-1, B, A-2, A-3  
Size: Existing – 208,237 SF, Addition – 350,545SF  
Number of stories: 3 total, 1 basement and 2 above grade.  
Construction Dates: Sept 2010 – March 2012  
Deliver Method: Design-Build with Guaranteed Maximum Price  
Cost: GMP = Withheld by Owner



## ARCHITECTURE

The New West Plant is a factory of three floors as follows:

Basement: production, storage and delivery.

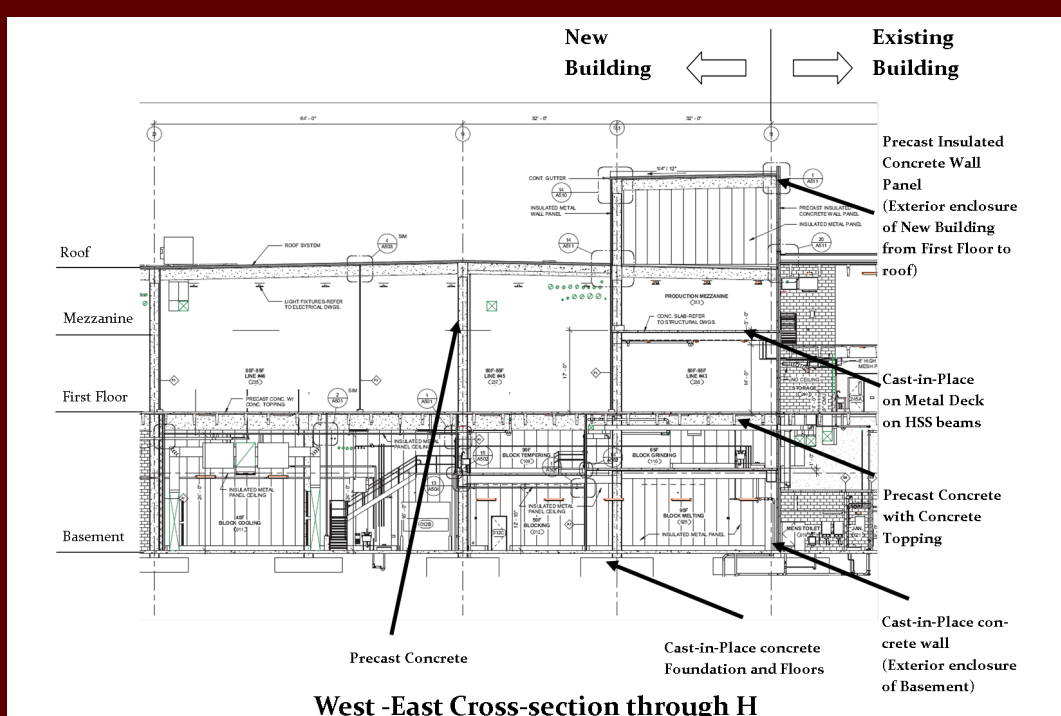
First Floor : Offices, Storage, Manufacturing and Production.

Second Floor: Production, Office use and a Fitness center.

The floors are also separated into 15 sections, from A – J, each having a specific function in the new plant where areas K-O would be the old plant.

It is basically broken down into 3 sections; Left, center, right. Right is the old factory which currently running at 24 hours a day, 7 days a week.

The center and left part are the new west expansions and they are as follows: The First floor includes both center and left extensions; mezzanine would only include the center section; and the basement would include the lower part of both new sections which is ¼ the actual size.

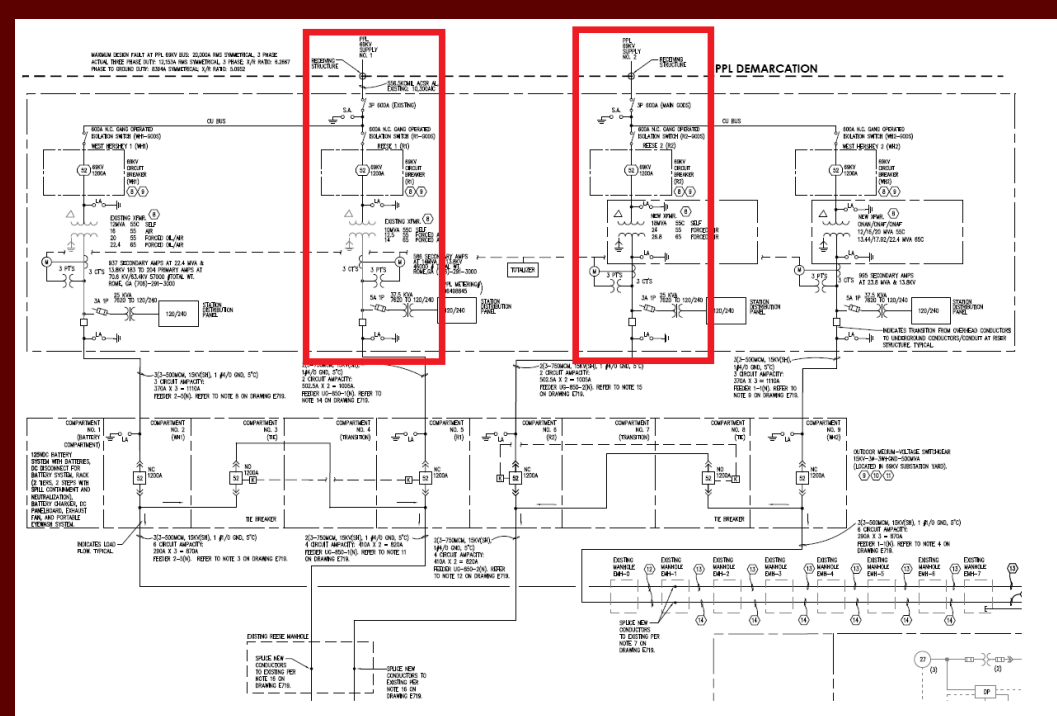


## BUILDING STRUCTURE

- ◊ Basement Enclosure: Cast-in-Place S.O.G. & Exterior Walls.
- ◊ Basement Interior Walls: CMU Walls or Metal Panel.
- ◊ Basement Ceiling : Precast Concrete T-Beams as a roof with Cast-in-Place Concrete.
- ◊ First Floor : Precast exterior walls, Precast interior columns
- ◊ Roof: Precast T-Beams & EPDM with insulation.
- ◊ The Mezzanine: Metal deck on HSS beams connected to the Exterior Precast Walls.

## MECHANICAL

- ◊ 32 VAV reheat units serving the entire west plant providing air at 180F.
- ◊ The reheat system ranges from 150 CFM up to 2400 CFM.
- ◊ The Cooling systems will be placed on the roof and will supply air at 42 F.
- ◊ There are 13 air handling units placed on the roof



## ELECTRICAL / LIGHTING

- ◊ New Utility building: 69KV feeder along
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- ◊ Total fed into Plant: 1200 Amps (600 from each)
- ◊ The 2 service entrances (Highlighted red box above) will be feeding 4 substations through distribution panels running a 3phase (4-wire) 277/480V circuit.
- ◊ In addition, each substation will have 2 backup generators running at 450KW – 562.5KVA.
- ◊ Main luminaire used: T8 florescent lighting all over.
- ◊ 2 back generators at each of the 4 substations that will activate upon loss of power.

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<http://www.engr.psu.edu/ae/thesis/portfolios/2012/JMA5163/index.html>