

MASONRY, STONE, & CONCRETE

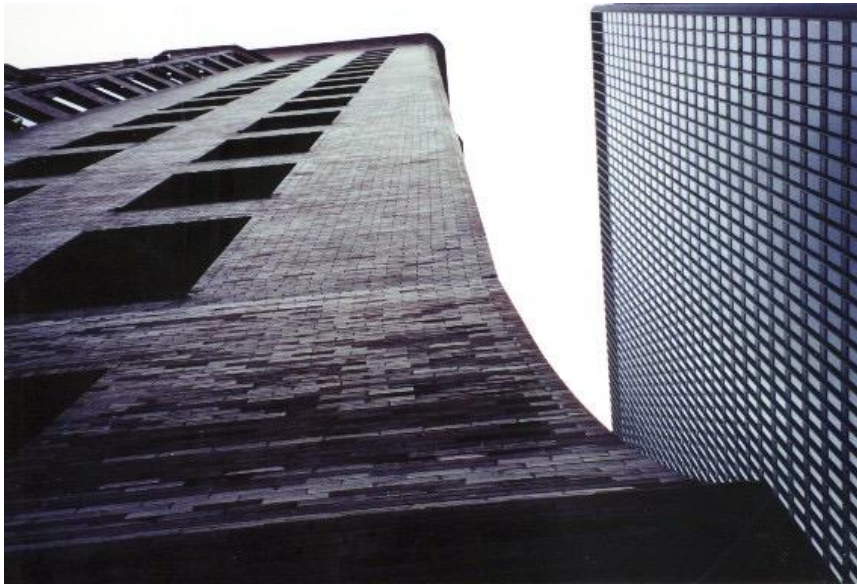
PART 4 – BLOCK

Joseph T Wunderlich PhD



Daniel H. Burnham & John Welborn Root
Monadnock Building
Chicago 1891

One of the last exterior load-bearing-
masonry skyscrapers



Also an internal iron frame structure



- **CMU** (Concrete Masonry Units) – i.e., Concrete Blocks



Masonry, Stone, and Concrete

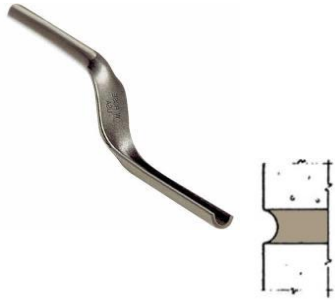
- ❑ **CMU** (Concrete Masonry Units)
- ❑ Use **LINE BLOCKS** to keep each **COURSE** of CMU's **LEVEL** and **FLUSH** as wall is built



CMU

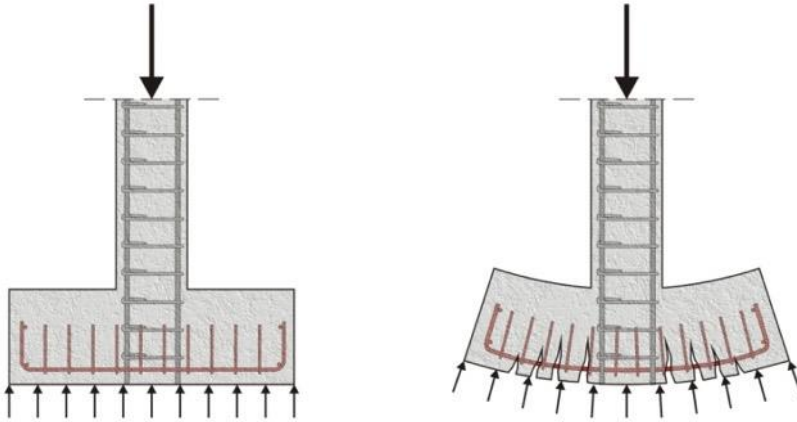


■ MORTAR



Wunderlich Pennsylvania Residence
Joseph John Wunderlich in Photo

- **“BUTTRESSED”** 1877 Farmhouse with **REINFORCED MASONRY**
- also ensured new structure added minimal load to old



■ BUTTRESSED and **UNDERPINNED**



MASONRY COPING: LIMESTONE, CAST STONE, CALCIUM SILICATE, OR PRECAST CONCRETE; OVERHANG MASONRY WALL 1½" MIN.; SLOPED TOP

S.S. DOWEL W/ SEALANT AROUND PENETRATIONS THROUGH FLASHING

SEALANT & BACKER ROD, BOTH SIDES OF WALL CAP

GROUT OR MORTAR FILL FOR DOWEL ANCHORAGE AND FLASHING SUPPORT

MESH TO RETAIN GROUT OR MORTAR FILL

SEE DETAIL 01.030.0811 FOR WALL CAP JOINT OPTIONS

S.S. FLASHING DRIP, BOTH SIDES OF CAP

1/8" SAW-CUT DRIP, BOTH SIDES OF WALL CAP

SEALANT BELOW DRIP, OPT. (NOT SHOWN)

HORIZONTAL JOINT REINFORCEMENT

MASONRY WALL CAP SINGLE WYTHE CMU

DETAIL 02.010.0801

REV. 11/04/08

International Masonry Institute



MASONRY
DETAILING
SERIES

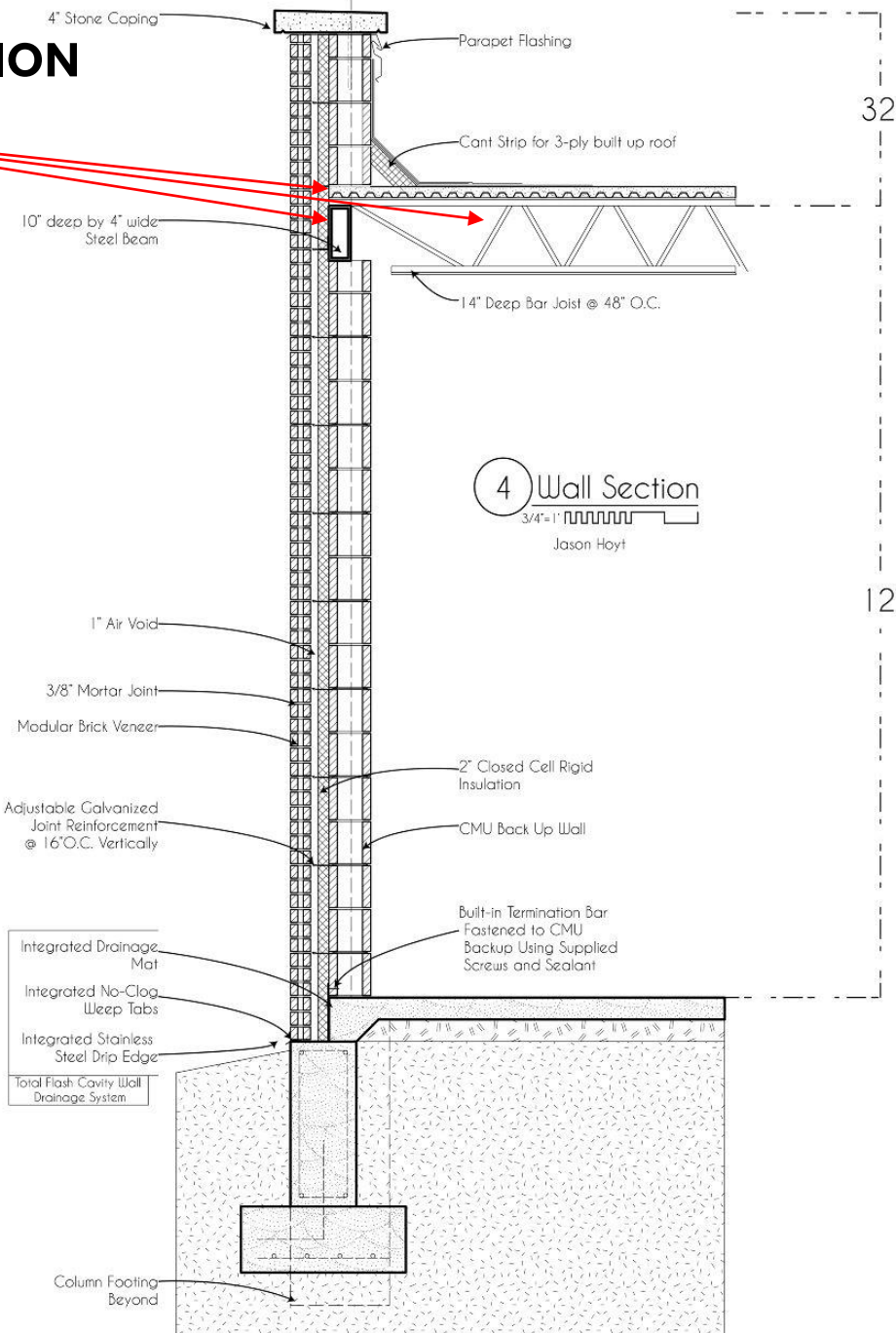
800-IMI-0988 www.imiweb.org

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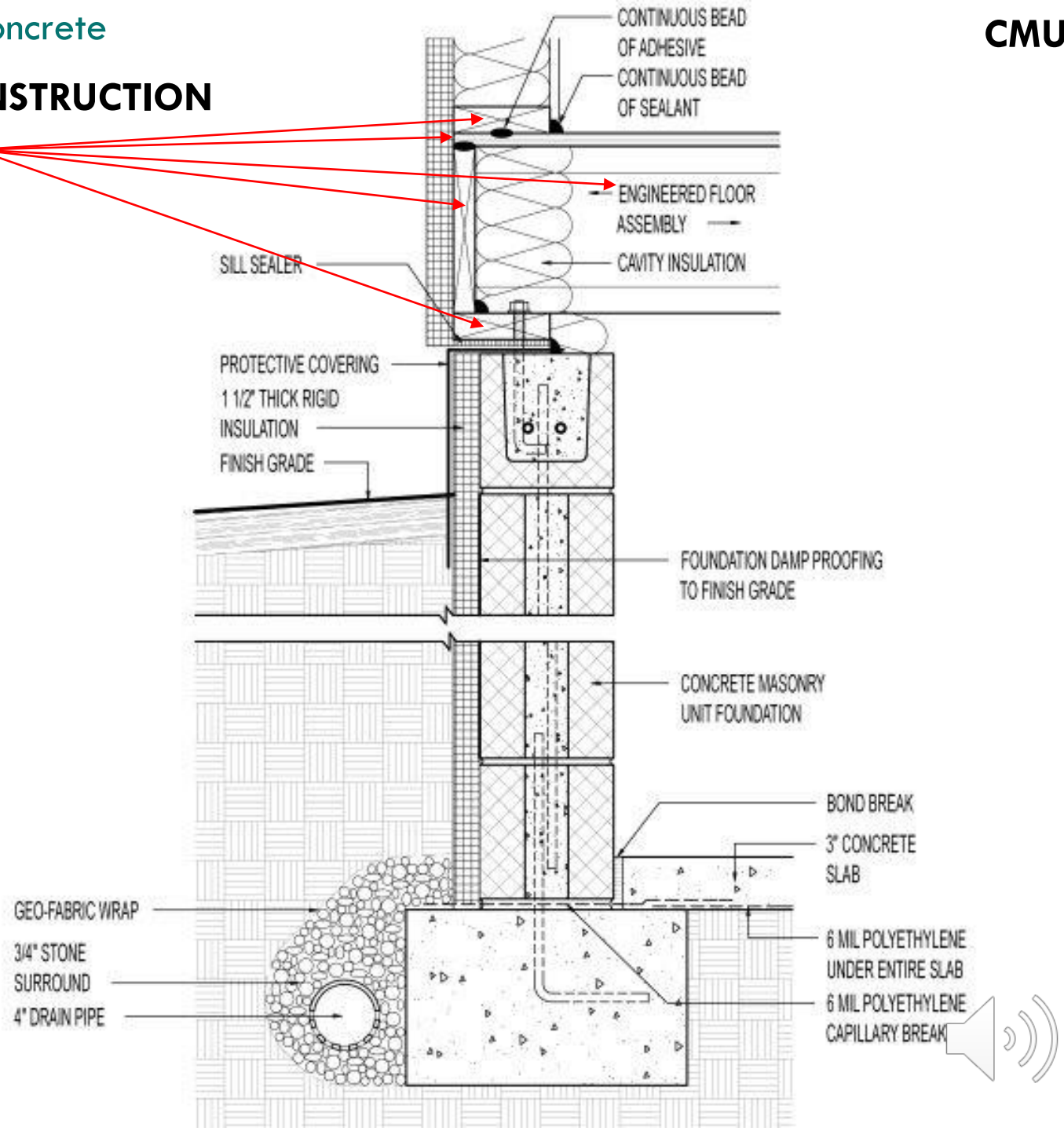
COMMERCIAL CONSTRUCTION

Typically **STEEL**



RESIDENTIAL CONSTRUCTION

Typically WOOD



▣ **European version of U.S.A. CMU**



JT and Joseph John Wunderlich in Mons Belgium 2014

▣ European version of U.S.A. CMU





BUBBLE



BROMO



CLEAR



DIAMOND



ICEBERG



OCEAN VIEW



PRISTAL



QUADRA



WAVE











Masonry, Stone, and Concrete

■ Building Block by Block

- Using a Game for fun
- And to **rapidly prototype Architecture**
- Watch [VIDEO](#)

Models of Etown College Hackman Apartments built **BLOCK** by **BLOCK** in 2 hours:

by Dr. Wunderlich's 16 students in **FYS** course "Scientific Modeling for Sport" on Ricky Sturz Server.

(emerging Etown student research on small-scale [CrowdSourcing](#))

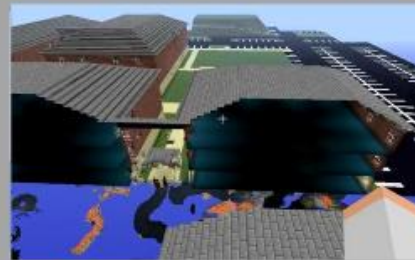
[VIDEO](#)



Real



Virtual



See [more videos](#)



Masonry, Stone, and Concrete

Building Block by Block

- Using a Game for fun
- And rapidly prototype architecture
- Watch more [VIDEO'S](#)

Read related publications

- In [LONDON](#) and [JAPAN](#)
and Presentations ([London](#), [Japan](#))

Elizabethtown College Architectural Servers

TSOJIN SERVER IP:174.54.14.202

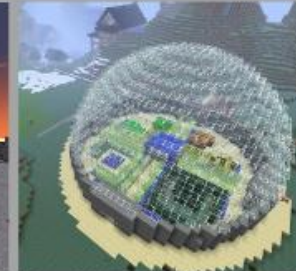


Including FYSworld for Etown College Freshmen

EARNED TSOJIN RANKS: Guest, Member [Builder](#), [Architect](#), [Master](#), [Admin](#), [Grandmaster](#)



Robie House by Joseph (USA)
[VIDEO](#)



Four GREEN Towns in FYSworld
[VIDEO](#) [VIDEO](#) [VIDEO](#) [VIDEO](#)



DigitalDesignWorld EGR332 Digital Circuit

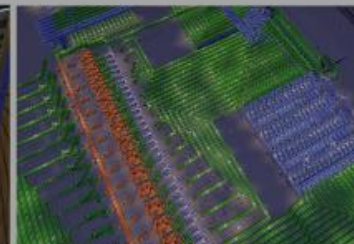
RICKY STURZ SERVER IP:199.188.100.104:25575



FYS Team-Build of Etown Housing
[VIDEO](#)



*Ricky's new Etown Field House design,
and FYS Team-Build of Masters Center*
[VIDEO](#)



RedstoneWorld EGR332 Digital Circuit

NEWS (2012): United Nations uses Minecraft for Sustainable Design (it's)

Read more here:

<http://www.unhabitat.org/categories.asp?catid=9>
<http://informedinfrastructure.com/1775/un-habitat-taps-minecraft-for-urban-development/>
<http://www.learninggamesnetwork.org/mojang-un-block-by-block/>

