



JOSEPH UNO, CCP, LEED AP BD+C

40+ years in the Hawaii Construction Industry.

J. Uno & Associates is celebrating its 30th Anniversary this year.

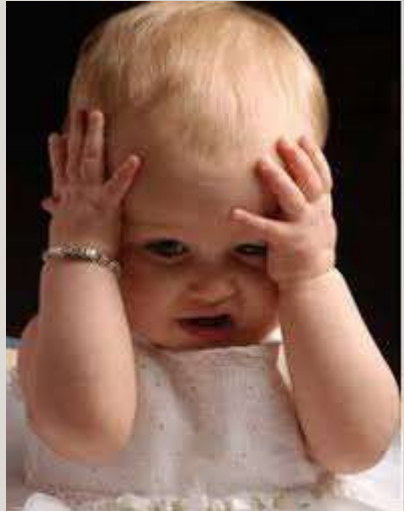
I attained my Certified Cost Professional (CCP) from the Association for the Advancement of Cost Engineering (AACE) in 2016.





APPRAISAL INSTITUTE OF HAWAII

Good Data, Incomplete
Conclusions. Why Area
Cost Factors just don't
seem to work well here





THE PROBLEM

As cost estimators, we consistently see inadequate budgets set by the use of Area Cost Factors applied to National Cost Databases.

- USE OF NATIONAL CONSTRUCTION COST DATABASES WITH AREA COST FACTORS FOR HAWAII PRODUCE INVALID CONCLUSIONS



MY RESEARCH

My Technical Paper,
“Testing the Reliability
and Validity of Area Cost
Factors in Hawaii”





THE SOURCES

I looked into how these National sources develop their factors



2019 Building Construction Costs Book



ENGINEERING NEWS RECORD – MATERIALS

-
- 57 Materials
 - 20 City Average
 - ENR factor is 1.38
 - Hawaii is 2.038.



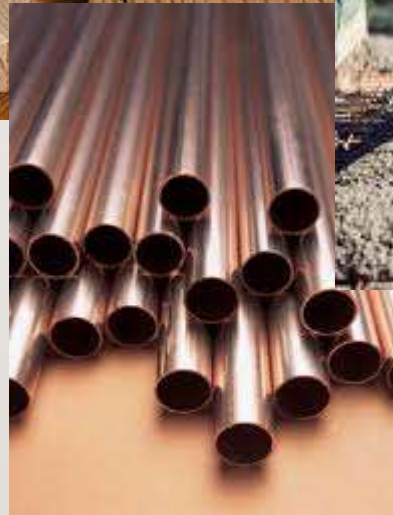
ENGINEERING NEWS RECORD - LABOR

-
- 22 construction trades
 - 20 City Average
 - ENR factor is 1.38
 - Hawaii wages are 1.210



RSMEANS - MATERIALS

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- 65 items R.S. Means Key Materials List.
 - 30 Cities
 - RSMeans Index is 1.250
 - Hawaii factor is 2.026



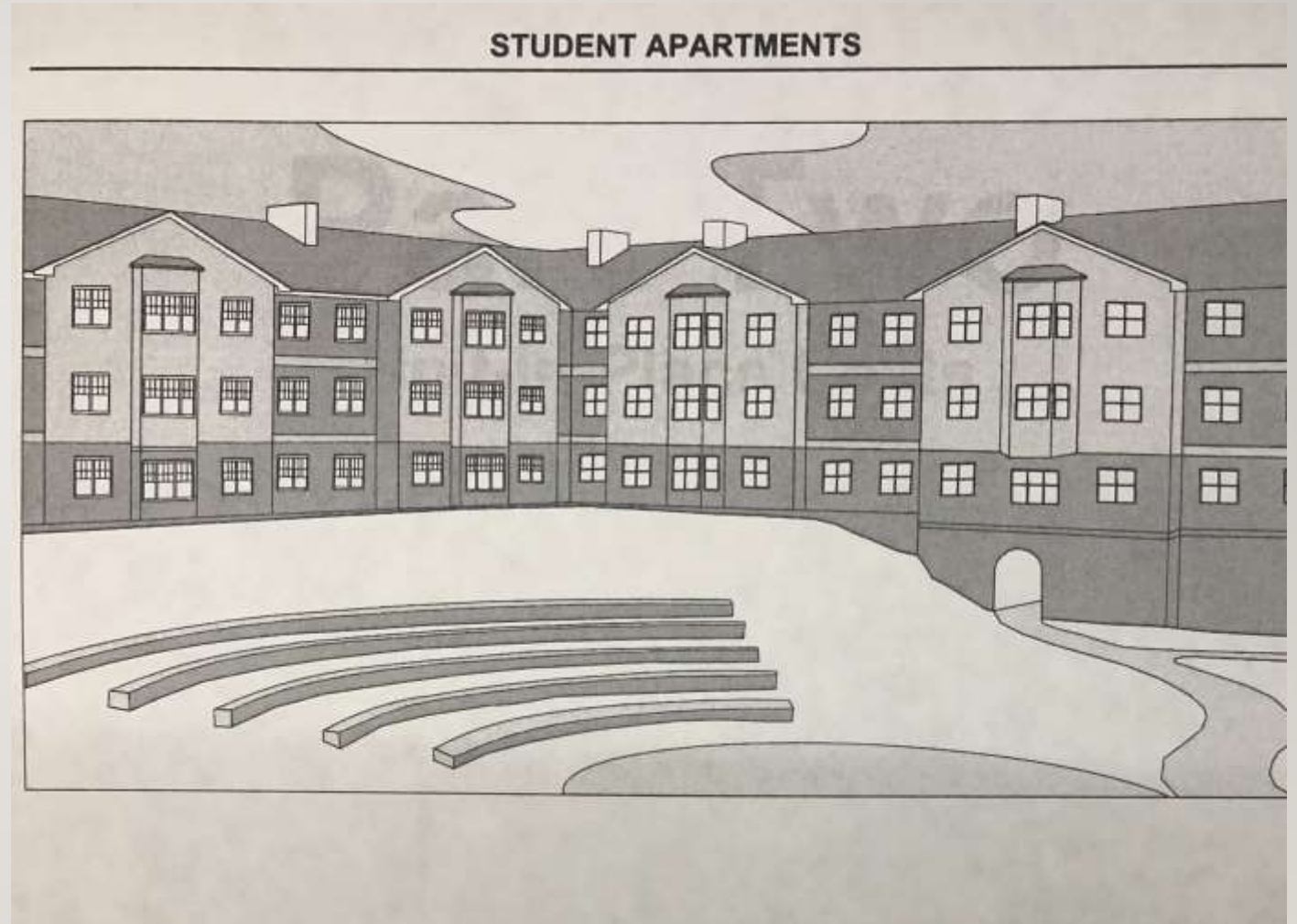
RSMEANS - LABOR

- 18 Construction Trades
- 30 cities
- RSMeans City Cost Index for Labor is 1.197.
- Hawaii factor is 1.254



STUDENT HOUSING – FROM “ARCHITECT’S SQUARE FOOT COST BOOK – 2015”

- Maryland \$93.51/s.f.
- ENR factor is 1.38
- Adjusted to Hawaii =
\$129.04/s.f..



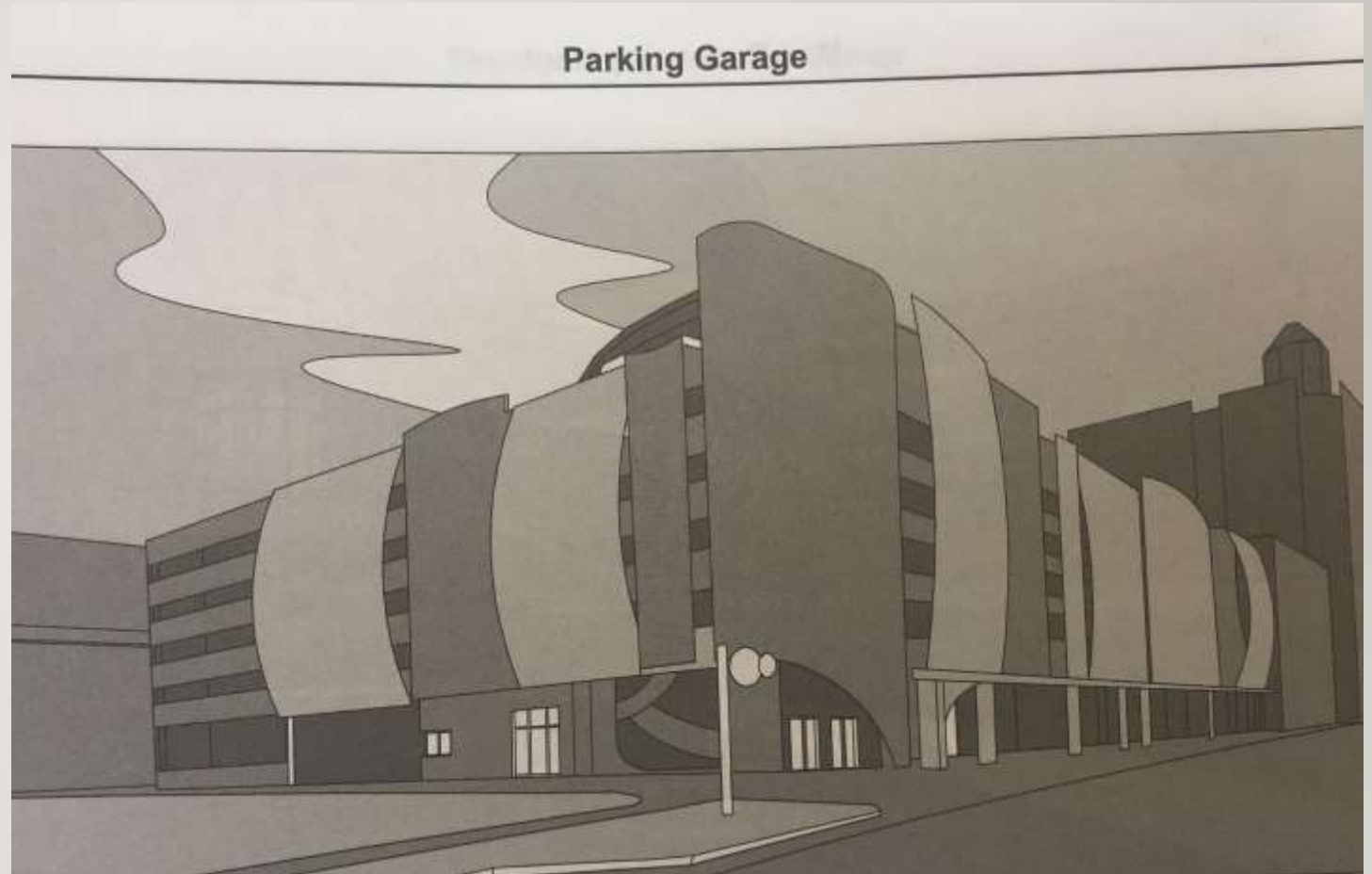
UH HILO STUDENT HOUSING - 2013

-
- UH Hilo for
\$232.31/s.f.
 - $\$232.31 / \$93.51 =$
2.48



ENR SQUARE FOOT COST BOOK - 2015

-
- \$41.47/s.f..
 - ENR factor is 1.38
 - Adjusted to Hawaii would be \$57.23/s.f..



SCHOFIELD BARRACKS PARKING STRUCTURE - 2017

-
- Built in 2016-17 for \$29,330,000
 - \$134.60/s.f..
 - $\$134.60/\$41.47 = 3.25.$





REPLACEMENT COST ESTIMATES

- We quantify building elements
- Price using Current and Historical Cost Data,

		Quantity	Unit	Unit Price	Subtotal	Quantity	Unit	Unit Price	Subtotal
1 CIVIL/ SITEWORK									
	Sitework/Utilities	0.48	AC	\$720,000.00	\$345,600				
	Landscape & Hardscape	1	LS	\$12,000.00	\$12,000				
2 SUBSTRUCTURE									
	Concrete Foundations	945	CY	\$975.00	\$921,375				
	Concrete Slab On Grade	19088	SF	\$12.50	\$238,600				
3 SUPERSTRUCTURE									
	Concrete Structural Slabs, Floors	19088	SF	\$48.00	\$916,224				
	Concrete Structural Slab, Roof	19088	SF	\$42.00	\$801,696				
	Concrete Exterior Walls	35200	SF	\$40.50	\$1,425,600				
	Exit Stairs, Complete	1	FLT	\$12,500.00	\$12,500				
4 EXTERIOR ENCLOSURE									
	Roofing, Insulation & Sheetmetal	19088	SF	\$26.50	\$505,832				
	Storefronts, Glass & Glazing	2040	SF	\$78.00	\$159,120				
	Exterior Service/Exit Doors	6	EA	\$2,850.00	\$17,100				
	Roll Up Service Door	2	EA	\$12,500.00	\$25,000				
5 INTERIOR CONSTRUCTION									
	Millwork & Carg								
	Subtotal,								
INTERIOR FINISHES									
	Floor & Base Fir								
	Restroom Finish								
	Ceiling Finishes								
	Interior Painting								
	Subtotal,								
VERTICAL TRANSPORT									
	Elevator, 3 Stop								
	Elevator, 4 Stop								
	Subtotal,								
MECHANICAL									
	Air Conditioning & Ventilation	49,680	asf	\$38.00	\$1,887,840	\$38.00	\$1,887,840		
	Plumbing	72	fixt	\$7,200.00	\$518,400	\$7,200.00	\$518,400		
	Fire Sprinkler	49,680	asf	\$10.20	\$506,736	\$10.20	\$506,736		
	Subtotal,	49,680	asf			\$58.63	\$2,912,976		
ELECTRICAL									
	Electrical Distribution	49,680	asf	\$9.00	\$447,120	\$9.00	\$447,120		
	Power & Lighting	49,680	asf	\$18.50	\$919,080	\$18.50	\$919,080		
	Fire Alarm	49,680	asf	\$6.50	\$322,920	\$6.50	\$322,920		
	Telecom, Data & Security Infrastructure	49,680	asf	\$4.20	\$208,656	\$4.20	\$208,656		
	Subtotal,	49,680	asf			\$38.20	\$1,897,776		



COMPARISONS

COMPARISON OF OUR
REPLACEMENT COST
ESTIMATES FOUND A
DIFFERENCE OF
\$50,000,000!!!

2018 Building Values	\$/SF	J. Uno Replacement Cost	J. Uno \$/SF
\$3,375,906	\$168.80	\$9,783,000	\$489.15
\$12,991,953	\$166.78	\$29,058,000	\$373.02
\$5,996,287	\$166.56	\$10,914,000	\$303.17
\$6,995,667	\$166.56	\$10,701,000	\$254.79
\$8,312,191	\$159.85	\$27,162,000	\$522.35
\$37,672,004	\$165.30	\$87,618,000	\$384.46



CONCLUSIONS

Q&A

- While National Databases and their Location Adjustment Factors are **Reliable** (producing consistent results), they are not necessarily **Valid**.
- This is important because, along with *Income* and *Sales*, **Cost** is the third leg of the appraisal methodology.
- Use of Replacement Cost Estimates may provide more accurate and valid cost data.