

THE ESTIMATOR WHO BUILT THE ESTIMATING ENGINE

CIVIL & STRUCTURAL ENGINEER · BIM SPECIALIST · LEAD ESTIMATOR · CICH 8222

DAVID CHINCHILLA · HONDURAS · UK / GCC / REMOTE US

DAVID CHINCHILLA

From plans and spreadsheet take-offs to a traceable BIM-to-budget system built by the estimator himself.

BIM: Building Information Modeling

CSV: 01 / 12 Separado

CURRENT / ESTIMATING

The full practice, connected.

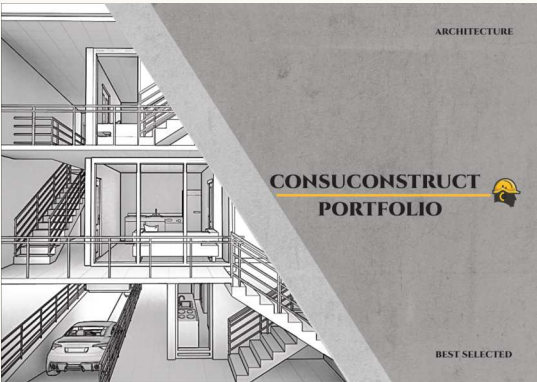
Four adjacent disciplines. One integrated construction workflow.



STRUCTURAL ENGINEERING

ANALYSIS / DESIGN / FIELD EVIDENCE

OPEN >



ARCHITECTURE + BIM

DESIGN / DOCUMENTATION / COORDINATION

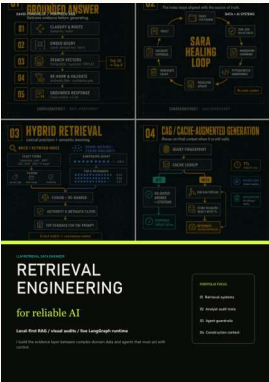
OPEN >



MEP + BIM AUTOMATION

SYSTEMS / CSI / REVIT WORKFLOWS

OPEN >



LLM + RETRIEVAL DATA

RAG / AGENT GUARDRAILS / DATA LINEAGE

OPEN >

VIDEO CASE STUDY

See the system
in motion.

ESTIMATING ENGINE + BIM-TO-BUDGET



WATCH CURRENT PORTFOLIO >

PUBLIC PROFILE
consuconstruct.com/en/about-me

140+

CLIENTS MANAGED END-TO-END

Licensed civil and structural engineer

CICH 8222 · HONDURAS

Founder · Technical Director · Lead Estimator
ConsuConstruct, 2020-present

A CAREER BUILT FROM SITE, QUANTITIES AND COST

ESTIMATING JUDGEMENT FIRST.
SYSTEMS SECOND.

2019	REMOTE SENIOR ESTIMATOR · US MARKET Plan-set take-offs and fully priced schedules of values for US-based general contractors through Backmanage HN, with labor, material and equipment splits.
2020-present	FOUNDER / TECHNICAL DIRECTOR / LEAD ESTIMATOR ConsuConstruct, Honduras. Estimating, design, project delivery and bank-financed budgeting managed as one operating workflow.
12 years	SITE EXPERIENCE The estimating method is grounded in construction sequencing, procurement, productivity and site control - not software alone.

6 BANK FINANCE WORKFLOWS	375 CSI CATALOGUE ITEMS · V1.3	1,145 COST ITEMS · SIX ACTIVE WORKS	7,344 ITEM-TO-RESOURCE LINKS
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Bank-financed budgeting: Davivienda · Banpais · BAHPROVI · Atlantida · Lafise · Ficensa. Active-work dataset also includes 367 unit-rate resources across 90 CSI chapters.

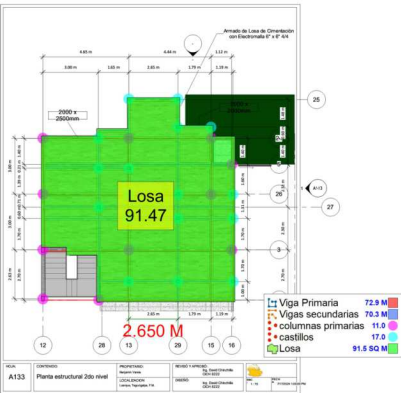
THE OLD WAY WAS DISCIPLINED - AND FRAGMENTED

	A	B	C	D	E	F	G	H	I	J	K
1	Keynote	Type Mark	Keynote Description	Unidad	Cantidad	MO Unitario	MA Unitario	Unitario Matriz	Costo Directo	Cost	Total
2	Division 00										
3	00 31 16	ANT-01	Elaboración de Presupuesto Preliminar del Proyecto	m2	0	HNL	-	HNL	83.33	HNL	100.00
4	00 52 52	ANT-02	Anteproyecto Modelo BIM y Planos Arquitectónicos	m2	0	HNL	-	HNL	83.33	HNL	100.00
5	00 54 36	ANT-03	Renderización Virtual del Proyecto	m2	0	HNL	-	HNL	83.33	HNL	100.00
6	División 01										
7	01 31 13	GRL-01	Coordinación y Gestión del Proyecto	mes	6	HNL	-	HNL	28,000.00	HNL	33,600.00
8	01 32 00	GRL-02	Documentación del Progreso Documentación del Progreso	mes	6	HNL	-	HNL	16,800.00	HNL	20,160.00
9	01 35 00	GRL-03	Procedimientos Especiales de Seguridad	global	1	HNL	-	HNL	8,500.00	HNL	10,200.00
10	01 45 23.1	GRL-04	Servicios de Ensayo en Laboratorio (Resistencia del Suelo)	pza	0	HNL	-	HNL	16,000.00	HNL	19,200.00
11	01 45 29	GRL-05	Servicios de Ensayo en Laboratorio (Resistencia del Concreto)	unidad	1	HNL	-	HNL	9,800.00	HNL	11,760.00
12	01 51 13	GRL-06	Instalación Eléctrica Provisional	global	1	HNL	-	HNL	3,500.00	HNL	4,200.00
13	01 51 36	GRL-07	Instalación de Caja de registro y Contador de Agua	global	1	HNL	-	HNL	2,122.84	HNL	2,547.41
14	01 54 23	GRL-08	Alquiler de Andamios Metálicos	m2	215	HNL	-	HNL	325.00	HNL	83,850.00
15	01 56 26	GRL-09	Suministro e Instalación de Malla de Seguridad Naranja	m2	86	HNL	15.00	HNL	39.63	HNL	65.56
16	01 71 23.16	GRL-10	Levantamiento Topográfico con Curvas de Nivel	m2	500	HNL	-	HNL	13.00	HNL	15.60
17	01 71 33	GRL-11	Suministro e Instalación de Lámina de Zinc para Bodega	pza	1	HNL	120.00	HNL	9,061.00	HNL	11,017.20
18	01 71 33.1	GRL-12	Suministro e Instalación de Protección Perimetral con Lámina Zinc	mL	0	HNL	120.00	HNL	260.34	HNL	456.41
19	01 74 19	GRL-13	Movimiento de Desperdicios al Punto de Carga	m3	50	HNL	100.00	HNL	605.00	HNL	726.00
20	01 74 23	GRL-14	Limpieza General	mes	4	HNL	12,000.00	HNL	993.28	HNL	15,591.94
21	01 78 23	GRL-15	Datos de Operación y Mantenimiento	glb	1	HNL	-	HNL	60,000.00	HNL	72,000.00
22	División 02										
23	02 21 13	PRM01	Suministro e Instalación de Niveletas de Madera para Trazado	m2	210	HNL	130.00	HNL	123.50	HNL	304.20
24	02 21 13.1	PRM02	Trazado y Marcado de Obra	m	90	HNL	22.50	HNL	16.36	HNL	46.63
25	02 32 00	PRM03	Tratamientos del Suelo (Impermeabilización)	m2	0	HNL	130.00	HNL	300.00	HNL	516.00

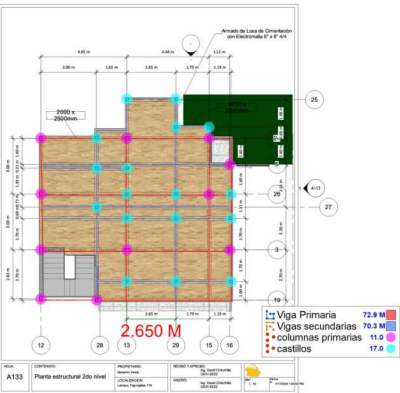
THE METHOD CAME BEFORE THE PLATFORM.

The original workflow was disciplined but fragmented: read drawings, quantify manually, price labour and materials in Excel, then reconcile every change by hand.

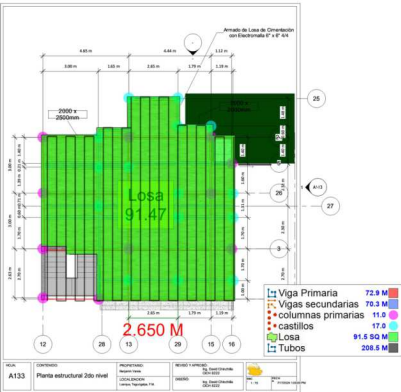
That foundation exposed the real problem: quantities, cost items, resources and revisions needed a common traceable structure.



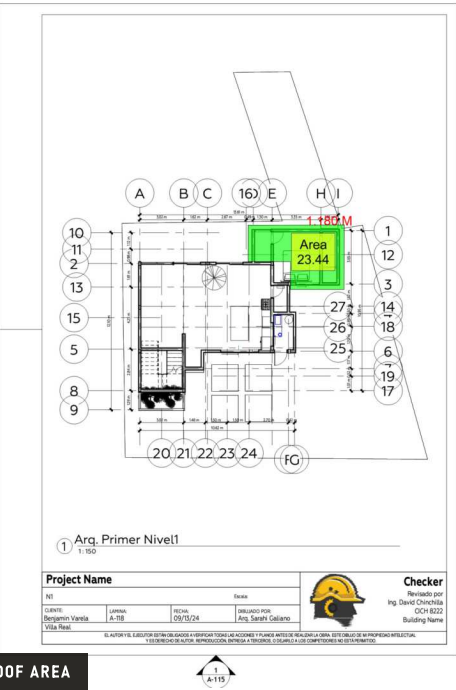
SLAB AREA



COLUMNS + FRAMING



BEAMS + TUBES



ROOF AREA

ONE IDENTIFIER. ONE CHAIN.

THE CSI CODE FOLLOWS THE WORK.

A cost item is no longer an isolated row. Its CSI identifier connects model evidence, measured quantity, resource breakdown, programme and export.

- 01

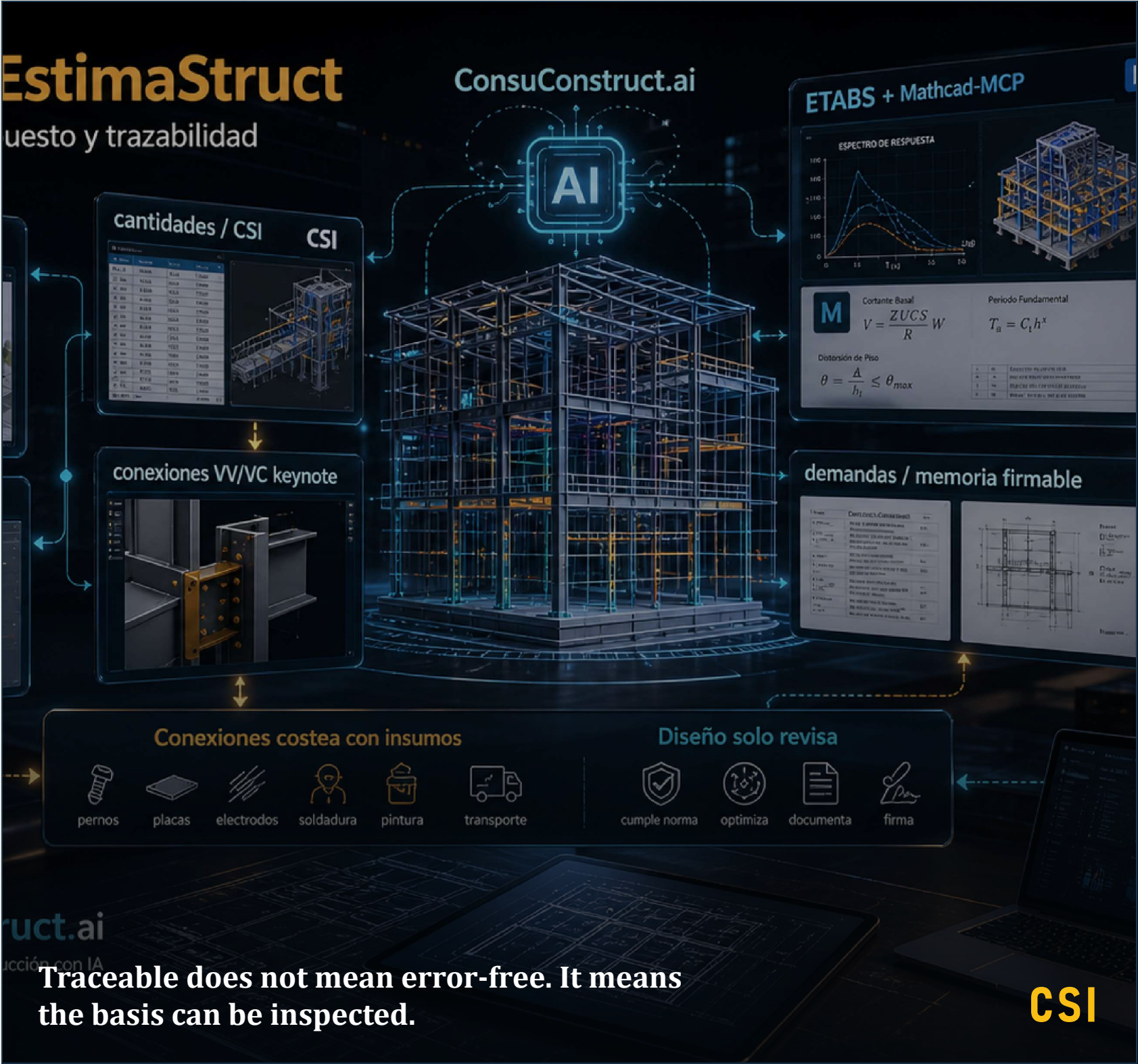
MODEL KEYNOTE
The object carries a CSI identifier.
- 02

TAKE-OFF
The schedule exposes the measured quantity.
- 03

ESTIMATE ITEM
The same CSI reference selects the cost record.
- 04

RESOURCES + PROGRAMME
Yield, cost and crew logic stay attached.
- 05

EXPORT
XLSX, bank PDF and Gantt retain the same lineage.





<T04Wall Material Takeoff>

A	B	C	D	E	F	G	H
Material: Keynote	Material: Name	Material: Area	Assembly Code	Assembly Descriptio	Type Mark	Base Constraint	Top Constr
09 91 13.1	CC-BaseSW	15 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 23.2	CC-PinturaSW	15 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	15 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00	CC-Tablayeso	15 m²	B2010100		SF-01	Terraza 1	No conectada
06 86 13	CC-WPCInt	15 m²	B2010100		SF-01	Terraza 1	No conectada
07 61 13.4	CC-R14	15 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	15 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	11 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.7	CC-Vynil	11 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	21 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 13.1	CC-BaseSW	18 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 23.2	CC-PinturaSW	18 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	18 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00	CC-Tablayeso	18 m²	B2010100		SF-01	Terraza 1	No conectada
06 86 13	CC-WPCInt	18 m²	B2010100		SF-01	Terraza 1	No conectada
07 61 13.4	CC-R14	18 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	18 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 13.1	CC-BaseSW	4 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 23.2	CC-PinturaSW	4 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00	CC-Tablayeso	2 m²	B2010100		SF-01	Terraza 1	No conectada
07 61 13.4	CC-R14	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 13.1	CC-BaseSW	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 23.2	CC-PinturaSW	2 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00	CC-Tablayeso	2 m²	B2010100		SF-01	Terraza 1	No conectada
07 42 33	CC-WPC ext	2 m²	B2010100		SF-01	Terraza 1	No conectada
07 61 13.4	CC-R14	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 13.1	CC-BaseSW	2 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 23.2	CC-PinturaSW	2 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	1 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00	CC-Tablayeso	1 m²	B2010100		SF-01	Terraza 1	No conectada
07 61 13.4	CC-R14	1 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	1 m²	B2010100		SF-01	Terraza 1	No conectada
04 26 00.1	CC-Bloque4	6 m²	BW01		STR-05	Terraza 2	Hasta nivel: T
04 26 00.1	CC-Bloque4	2 m²	BW01		STR-05	Terraza 2	Hasta nivel: T
04 26 00.1	CC-Bloque4	4 m²	BW01		STR-05	Terraza 2	No conectada
04 26 00.1	CC-Bloque4	1 m²	BW01		STR-05	Terraza 2	No conectada
09 91 13.1	CC-BaseSW	12 m²	B2010100		SF-01	Terraza 1	No conectada
09 91 23.2	CC-PinturaSW	12 m²	B2010100		SF-01	Terraza 1	No conectada
05 31 33	CC-Steel Framing	12 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00	CC-Tablayeso	12 m²	B2010100		SF-01	Terraza 1	No conectada
06 86 13	CC-WPCInt	12 m²	B2010100		SF-01	Terraza 1	No conectada
07 61 13.4	CC-R14	12 m²	B2010100		SF-01	Terraza 1	No conectada
09 29 00.6	CC-Plycem	12 m²	B2010100		SF-01	Terraza 1	No conectada
04 26 00.1	CC-Bloque4	13 m²	BW01		STR-05	Terraza 1	No conectada

REVIT MATERIAL TAKE-OFF: CSI KEYNOTES, MATERIAL NAMES, MEASURED AREAS, ASSEMBLY CODES AND TYPE MARKS.

SOURCE QUANTITIES

READ BEFORE PRICED.

Quantities are read from Revit schedules and then mapped to estimate items. The visible schedule is the source evidence; the mapping is what makes the hand-off auditable.

- **CSI keynote** identifies the work classification.
- **Measured area** remains visible next to the material.
- **Assembly code + Type Mark** provide model context.

EVIDENCE BOUNDARY

Live CC-141 Revit schedule evidence. It is not presented here as a completed project.

STRUCTURAL MEMBERS

AUDIT QUANTITY BEFORE COST.

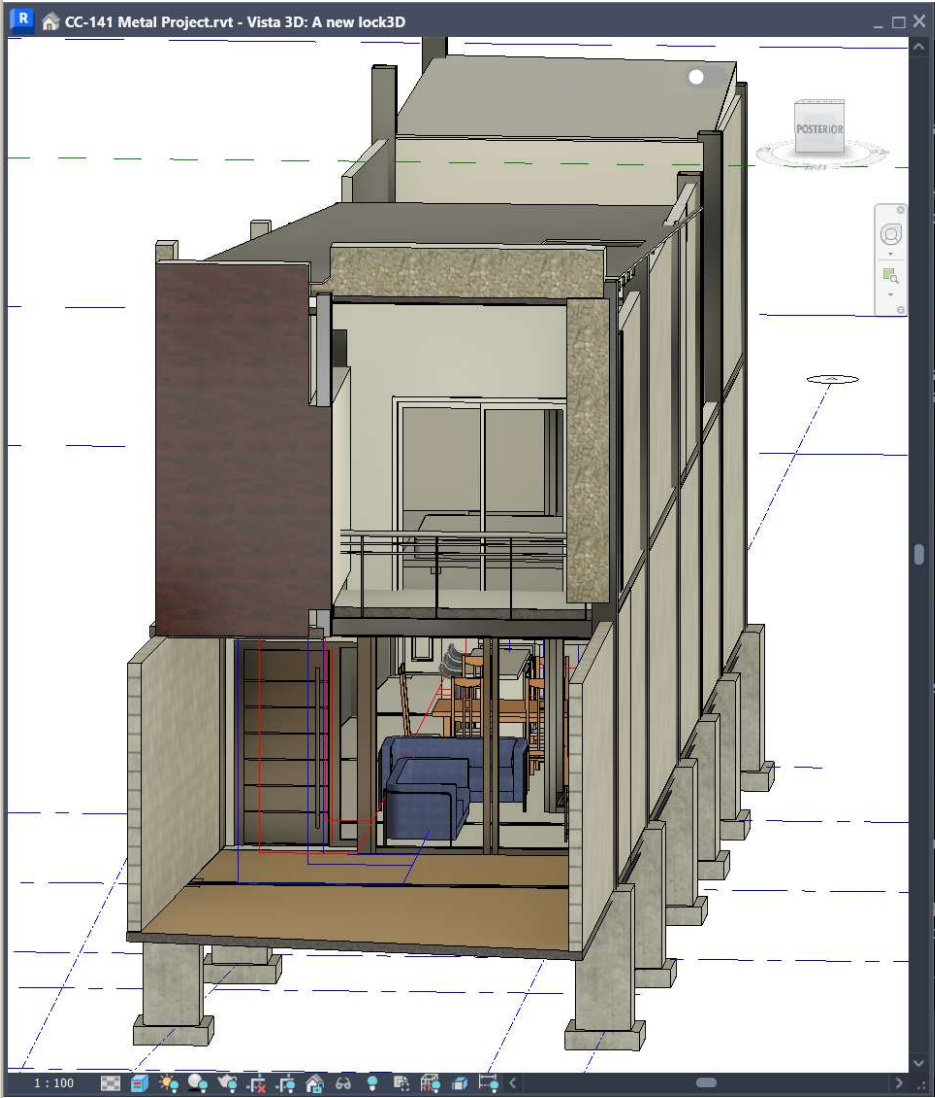
Member types, CSI keynotes, assembly classification, Type Marks and measured lengths remain visible in the schedule before any price is applied.

- **Type** keeps the section identity explicit.
- **Length** is measured at member level.
- **Keynote** establishes the estimating route.

KEY MESSAGE

Model data makes the quantity auditable before it is priced.
Live CC-141 schedule evidence; not represented as a completed project.

CC-141 Metal Project.rvt - Vista 3D: A new lock3D



CC-141 Metal Project.rvt - Tabla de planificación: 10Vigas

<10Vigas>					
A	B	C	D	E	F
Keynote	Type	Length	Assembly Code	Assembly Descriptio	Type Mark
05 10 00.2	VA1 W6X12 (W150	4.39 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	4.64 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	12.46 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	4.39 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	12.42 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	3.95 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	3.69 m	B10	Superstructure	
05 10 00.1	VA3 W8X18 (W200	3.50 m	B10	Superstructure	
05 31 23	Canaleta Galvaniza	3.76 m			MA-304
05 31 23	Canaleta Galvaniza	3.81 m			MA-304
05 31 23	Canaleta Galvaniza	3.86 m			MA-304
05 31 23	Canaleta Galvaniza	3.91 m			MA-304
05 31 23	Canaleta Galvaniza	3.96 m			MA-304
05 31 23	Canaleta Galvaniza	4.01 m			MA-304
05 31 23	Canaleta Galvaniza	4.06 m			MA-304
05 31 23	Canaleta Galvaniza	4.11 m			MA-304
05 31 23	Canaleta Galvaniza	4.16 m			MA-304
05 31 23	Canaleta Galvaniza	4.21 m			MA-304
05 31 23	Canaleta Galvaniza	4.25 m			MA-304
05 31 23	Canaleta Galvaniza	4.30 m			MA-304
05 31 23	Canaleta Galvaniza	4.35 m			MA-304
05 31 23	Canaleta Galvaniza	4.40 m			MA-304
05 31 23	Canaleta Galvaniza	4.45 m			MA-304
05 31 23	Canaleta Galvaniza	4.50 m			MA-304
05 31 23	Canaleta Galvaniza	4.55 m			MA-304
05 31 23	Canaleta Galvaniza	1.64 m			MA-304
05 31 23	Canaleta Galvaniza	1.69 m			MA-304
05 10 00.2	VA4 W10X22 (W250	3.23 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	18.90 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	4.55 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	18.69 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	3.50 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	3.69 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	3.95 m	B10	Superstructure	
05 10 00.2	VA4 W10X22 (W250	4.24 m	B10	Superstructure	
05 31 23	Canaleta Galvaniza	3.48 m			MA-304
05 31 23	Canaleta Galvaniza	3.44 m			MA-304
05 31 23	Canaleta Galvaniza	3.39 m			MA-304
05 31 23	Canaleta Galvaniza	3.34 m			MA-304
05 31 23	Canaleta Galvaniza	3.29 m			MA-304

REVIT STRUCTURAL-STEEL SCHEDULE: MEMBER TYPES, CSI KEYNOTES, ASSEMBLY CLASSIFICATION, TYPE MARKS AND MEASURED LENGTHS.

COST ITEMS GROUPED BY CSI CHAPTER

ONE PROJECT. EVERY COST LAYER
VISIBLE.

HNL 903,830.54

VISIBLE PROJECT TOTAL

351

RESOURCES

16

LABOUR CREWS

EstimaStruct

by ConsuConstruct.com

Costo Directo:
HNL 903,830.54

Sobrecosto:
HNL 0.00

Total: HNL
903,830.54

SC: 0.0%

Update

Desarrollador

Menu

Viewer 3D

Schedule

MCP

Export

Modules

+ New Project

ES

PROJECTS

Apartmento Valle de Angeles

Apartmento Valle de Angeles

HNL 903,830.54

Databases

INSUMOS (351)

MANO DE OBRA (16)

Type Mark

Labor

Audit

Mano de Obra: HNL 219,073.96

Insumos: HNL 684,756.58

Total: HNL 903,830.54

CSI	DESCRIPCIÓN	UD	CANTIDAD	MANO DE ...	INSUMOS	COSTO DIRECTO	PRECIO UNITAR...	TOTAL
00 — PRELIMINARES Y CONTRATOS 0.00								
00 01 00	Prueba hidráulica de redes de agua potable (global por...	global	—	750.00	0.00	750.00	750.00	—
00 02 00	Prueba eléctrica (continuidad, aislamiento, puesta a tier...	global	—	700.00	0.00	700.00	700.00	—
00 03 00	Puesta en marcha de equipos HVAC y bombeo	global	—	600.00	0.00	600.00	600.00	—
00 04 00	Permiso de construcción municipal (valor en base a área)	global	—	0.00	0.00	0.00	0.00	—
00 05 00	Derechos de conexión (agua, luz, alcantarillado)	global	—	0.00	0.00	0.00	0.00	—
00 06 00	Porcentaje de imprevistos (5% del costo directo)	global	—	0.00	0.00	0.00	0.00	—
00 07 00	Utilidad del contratista (15% sobre subtotal + imprevist...	global	—	0.00	0.00	0.00	0.00	—
00 08 00	Reserva por inflación durante ejecución (3% sobre total)	global	—	0.00	0.00	0.00	0.00	—
00 31 16	Elaboración de Presupuesto Preliminar del Proyecto	m2	—	0.00	83.33	83.33	83.33	—
00 52 52	Anteproyecto Modelo BIM y Planos Arquitectónicos	m2	—	0.00	83.33	83.33	83.33	—
00 54 36	Renderización Virtual del Proyecto	m2	—	0.00	83.33	83.33	83.33	—
01 — REQUERIMIENTOS GENERALES 2,122.84								
01 31 13	Coordinación y Gestión del Proyecto	mes	—	0.00	28,000.00	28,000.00	28,000.00	—
01 32 00	Documentación del Progreso Documentación del Prog...	mes	—	0.00	16,800.00	16,800.00	16,800.00	—
01 35 00	Procedimientos Especiales de Seguridad	global	—	0.00	8,500.00	8,500.00	8,500.00	—
01 45 23.1	Servicios de Ensayo en Laboratorio (Resistencia del Sue...	pza	—	0.00	16,000.00	16,000.00	16,000.00	—
01 45 29	Servicios de Ensayo en Laboratorio (Resistencia del Co...	unidad	—	0.00	9,800.00	9,800.00	9,800.00	—
01 51 13	Instalación Eléctrica Provisional	global	—	0.00	3,500.00	3,500.00	3,500.00	—
01 51 36	Instalacion de Caja de registro y Contador de Agua	global	1.00	0.00	2,122.84	2,122.84	2,122.84	2,122.84
01 54 23	Alquiler de Andamios Metálicos	m2	—	0.00	325.00	325.00	325.00	—
01 56 26	Suministro e Instalación de Malla de Seguridad Naranja	m2	—	15.00	39.38	54.38	54.38	—
01 71 23.16	Levantamiento Topográfico con Curvas de Nivel	m2	—	0.00	13.00	13.00	13.00	—
01 71 33	Suministro e Instalación de Lámina de Zinc para Bodeqa	pza	—	120.00	9,061.00	9,181.00	9,181.00	—

Visible evidence: Apartmento Valle de Angeles production screen, CSI chapters and item-level labour/resource fields.

Project-specific values shown because they are explicitly approved in the portfolio brief.

NOT A NUMBER TYPED INTO A CELL

A RATE HAS ANATOMY.

A unit rate is a resource-level record: yield, unit cost, labour and project quantity.

Direct cost = labour + materials + matrix

INSPECTABLE COST STRUCTURE

- **Yield** expresses resource consumption per estimate unit.
- **Unit cost** records the cost basis of each resource.
- **Quantity** scales the unit price to the cost item total.

ESTIMATOR CONTROL

The breakdown exposes assumptions for review; it does not replace judgement about scope, waste, productivity or procurement.

EstimaStruct
by ConsuConstruct.com

Costo Directo:
HNL 903,830.54

Sobrecosto:
HNL 0.00

Total: HNL
903,830.54

SC: 0.0%

Update

Desarrollador

Menu

Viewer
3D

Schedule

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Export

Modules

+ New Project

ES

PROJECTS

Apartmento Valle de Angeles

Apartmento Valle de Angeles
HNL 903,830.54

INSUMOS (351)

MANO DE OBRA (16)

Type Mark

Labor

Audit

Mano de Obra: HNL 219,073.96

Insumos: HNL 684,756.58

Total: HNL 903,830.54

CSI	DESCRIPCIÓN	UD	CANTIDAD	MANO DE ...	INSUMOS	COSTO DIRECTO	PRECIO UNITAR...	TOTAL
03 31 00.18	Viga 3Ux4Ucm	mL	—	565.00	2,587.65	3,152.65	3,152.65	—
03 31 00.19	Armado, Encofrado y Fundido de Solera S4 de 25x25c...	m2	—	351.00	648.65	999.65	999.65	—
03 31 00.20	Pedestal P1 de 40x40 4#4+#3@20cm Para C1 y C9 Z1 c...	mL	—	1,022.50	5,755.86	6,778.36	6,778.36	—
03 31 00.21	Pedestal P2 de 50x50 4#5+#3@20cm Para C2 o C10 y ...	mL	—	1,452.50	6,301.70	7,754.20	7,754.20	—
03 31 00.22	Pedestal P3 de 60x60 4#6+#4@20cm Para C3 y C4 y Z2...	mL	—	1,920.00	7,035.53	8,955.53	8,955.53	—
03 31 00.23	Pedestal P4 de 70x70 4#6+#4@15cm Para C3 y C4 y Z2...	mL	—	1,920.00	8,898.69	10,818.69	10,818.69	—
03 31 00.24	Pedestal P5 de 30x30 4#3 + #2@20cm para C6 W6x16 ...	mL	5.00	789.00	6,317.49	7,106.49	7,106.49	35,532.45
03 31 00.25	PEDESTAL P6 35x35 4#4+#3@20cm de 35x35 PARA CO...	mL	—	1,099.00	5,468.04	6,567.04	6,567.04	—
03 31 00.27	Pedestal P7 de 40x40cm 4#4 + #2@20cm para C8 con ...	mL	—	1,317.50	6,801.70	8,119.20	8,119.20	—
03 31 01.1	Armado y Fundición de Refuerzo en CC-2 Tipo U dde 0...	m2	—	400.50	614.60	1,015.10	1,015.10	—
03 31 01.2	Cimiento Corrido	m2	—	232.50	241.75	474.25	474.25	—

03 31 00.24

P-5

Pedestal P5 de 30x30 4#3 + #2@20cm para C6 W6x16 con J-Bolts 3/4" y Plantilla

×

Detail

UNIT	LABOR	RESOURCES	BASE COST	UNIT PRICE	QUANTITY	TOTAL
mL	789.00	6,317.49	7,106.49	7,106.49	5.00	HNL 35,532.45

All: 7,106.49 | MA: 6,317.49 | MO: 789.00

#	CODE	DESCRIPTION	UNIT	YIELD	UNIT COST	TOTAL
INSUMOS						
1	FL-001	FL-001 Flete al Sitio (Aprox)	viaje	0.0400	1,500.00	60.00
2	HER-00	HER-00 Herramienta Manual (Menor)	(%)mo	0.0500	10.00	0.50
3	MA-001	MA-001 Cemento Portland	saco	0.9000	230.00	207.00
4	MA-002	MA-002 Arena	m3	0.0540	910.00	49.14
5	MA-004	MA-004 Clavos de 2"	lb	0.0000	20.00	0.00
6	MA-006	MA-006 Alambre de Amarre	lb	0.3000	30.00	9.00

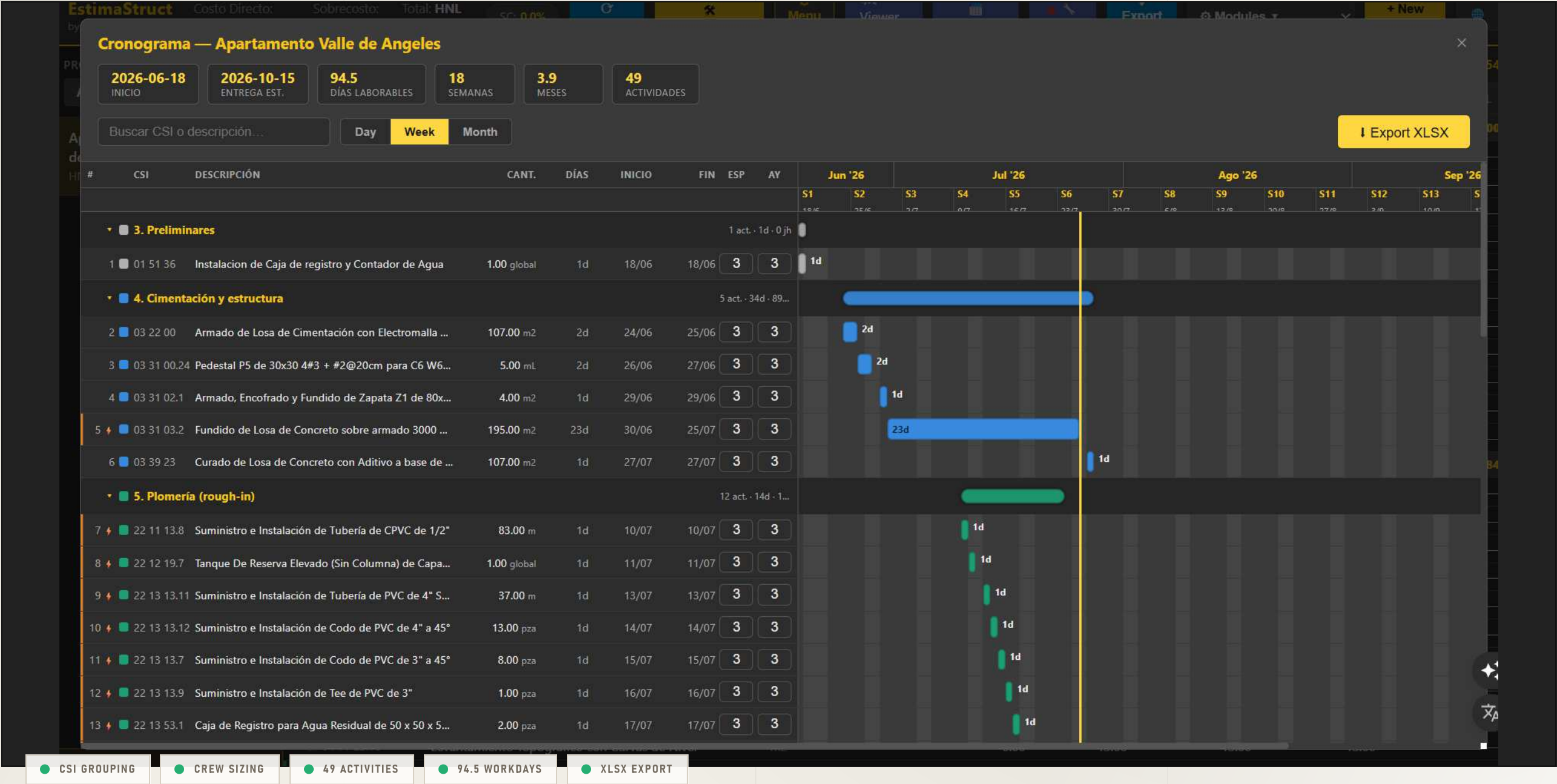
Databases

SELECTED COST ITEM: LABOUR, RESOURCES, BASE COST, UNIT PRICE, QUANTITY AND TOTAL REMAIN CONNECTED.

49 ACTIVITIES · 94.5 WORKDAYS

QUANTITY AND PRODUCTIVITY DRIVE DURATION.

The schedule is derived from the same data that prices the work.



1. Costo base

costo_base = MO + MA + sub-matrices OPUS. Ningún router debe recalcularlo en paralelo.

costo_base

Costo base de la partida

services/pricing.py:50-53 calc_base0

CÁLC

FÓRMULA

costo_base = costo_mo + costo_ma + unitario_matriz

SUSTITUCIÓN

costo_base = 100.0000 + 200.0000 + 0.0000 = 300.0000

RESULTADO

= 300.00 HNL/unidad

costo_base = MO + MA + sub-matrices OPUS. Fuente única del sistema — ningún router debe recalcularlo en paralelo (ADR-003).

2. Precio unitario

El sobre costo es el único markup que hoy mueve el precio — administración/utilidad/imprevistos/IVA de config_presupuesto son campos muertos (no los lee ningún cálculo).

PU

Precio unitario de venta

services/pricing.py:68-71 precio_unitario0

RESULT

FÓRMULA

$$PU = costo_base \left(1 + \frac{\text{sobre costo \%}}{100} \right)$$

SUSTITUCIÓN

PU = 300.0000 × (1 + 20/100) = 360.0000

RESULTADO

= 360.00 HNL/unidad

Sobre costo = markup del negocio. Nota de arquitectura: config_presupuesto también tiene administracion/utilidad/imprevistos/iva, pero NINGÚN cálculo los lee hoy — son campos muertos (ver docs/auditoria_formulas_mapa_estructura.md 50).

3. Total

cantidad × PU = lo que aparece en la fila de la partida.

total

Total de la partida

services/pricing.py:74-81 recalculard_partida0 [solo la fórmula — este endpoint NO escribe la partida]

RESULT

FÓRMULA

total = cantidad × PU

SUSTITUCIÓN

total = 1 × 360.0000 = 360.0000

RESULTADO

= 360.00 HNL

cantidad × precio unitario = monto que va a la fila del presupuesto. Este endpoint lee y narra; nunca invoca recalculard_partida (que persiste).

AUDITABILITY OVER AUTOMATION THEATRE

SHOW THE BASIS.
SHOW THE
SUBSTITUTION.
SHOW THE RESULT.

*Base cost = labour + materials +
matrix*

COST FOUNDATION

Unit price = base cost × markup

COMMERCIAL PRICE LOGIC

Total = quantity × unit price

PROJECT AMOUNT

TRACEABLE, NOT INFALLIBLE.

The calculation view makes the formula path inspectable. It supports review and approval; it does not promise error-free estimating.

CALCULATION BASIS · VISIBLE

10 / 12



DAVID CHINCHILLA · CICH 8222

I did not replace estimating judgement with software. **I encoded the estimating workflow** so quantities, prices, programme and approvals stay connected.

SENIOR ESTIMATOR

QUANTITY SURVEYOR

BIM COST MANAGER

DIGITAL CONSTRUCTION LEAD

Ing. David Chinchilla

CIVIL & STRUCTURAL ENGINEER · BIM SPECIALIST · REVIT DEVELOPER · LEAD ESTIMATOR

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