

Exhibit B

In the Matter Of:

GALLERY COMMUNITY Vs. K. HOVNANIAN AT GALLERY

CV2020-008714

STEFEN GUSTAFSON

August 24, 2022



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IN THE SUPERIOR COURT OF THE STATE OF ARIZONA

IN AND FOR THE COUNTY OF MARICOPA

GALLERY COMMUNITY ASSOCIATION, an Arizona non-profit corporation, Case No. CV2020-008714

Plaintiff,

v.

K. HOVNANIAN AT GALLERY, LLC, an Arizona limited liability company;
K. HOVNANIAN ARIZONA OPERATIONS, LLC, an Arizona limited liability company;
K. HOVNANIAN DEVELOPMENTS OF ARIZONA, INC., an Arizona corporation;
K. HOVNANIAN COMPANIES OF ARIZONA, LLC, an Arizona limited liability company;
JOHN DOES I-X AND JANE DOES I-X, WHITE CORPORATIONS I-X; BLACK PARTNERSHIPS I-X; AND GRAY LIMITED LIABILITY COMPANIES I-X,

Defendants.

DEPOSITION OF
STEFEN GUSTAFSON

August 24, 2022

9:05 a.m.

Prepared by: Sandra Marruffo, R.P.R., AZ C.R. 50815

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TRANSCRIPT OF DEPOSITION

* * *

STEFEN GUSTAFSON,

having been first duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

Q. BY MR. HOROWITZ: Could you please state your full name for the record.

A. Stefen Gustafson.

Q. Hi, Stefen. And you've been deposed many times so I'm not going to go through the instructions with you if that's all right.

Would you do me a favor and summarize for me what your -- what your role is on the -- on the case involving the Gallery Community Association.

A. Sure. The -- the quick summary is I am the cost of repair expert. I'm providing cost of repair opinions, essentially estimating the cost to implement the repairs that were recommended by SBSA.

Q. Okay. And you're providing -- let me -- let me find the best way to ask this. Your company is Nautilus Reconstruction Contracting Consultant, correct, or is it Nautilus General Contractors?

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CERTIFICATE OF REPORTER

STATE OF ARIZONA)
) ss:
COUNTY OF MARICOPA)

I, Sandra Marruffo, a Certified Reporter in the State of Arizona, do hereby certify that the foregoing Deposition was taken before me on August 24, 2022, in the County of Maricopa, State of Arizona; that an oath was duly administered to STEFEN GUSTAFSON pursuant to A.R.S. 41-324(B); that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to typewriting; that the transcript is a full, true, and accurate record of the proceedings, all done to the best of my skill and ability; and that the preparation, production, and distribution of the transcript and copies of the transcript comply with the Arizona Revised Statutes and ACJA 7-206(J)(1)(g)(1) and (2).

The witness herein, STEFEN GUSTAFSON, has requested transcript review and signature.

I FURTHER CERTIFY that I am in no way related to any of the parties nor am I in any way interested in the outcome hereof.

IN WITNESS WHEREOF, I have set my hand in my office in the County of Maricopa, State of Arizona, this 6th day of September 2022.

Sandra L. Marruffo

Sandra Marruffo, RPR
AZ C.R. 50815

/S/

For Esquire Deposition Solutions
Registered Reporting Firm No. R1048

Job No. J8561611

Exhibit C



NAUTILUS

Reconstruction
Contracting & Consulting

Preliminary
ESTIMATE OF COSTS

Gallery Community Association
Scottsdale, Arizona

July 23, 2021
(**REVISED** November 08, 2021)

Date July 23, 2021(REVISED November 08, 2021)

Preliminary ESTIMATE OF COSTS		Direct Cost
SUMMARY		
I. STRUCTURAL		
1.0	Compliance with Geotechnical Report (Informational Only)	
2.0	Lateral Force Resisting System (LFRS)	\$ 200,000.00
	Structural Subtotal	\$ 200,000.00
II. CIVIL		
1.0	Grading and Drainage	\$ 25,532.88
2.0	Concrete Flatwork	\$ 32,703.46
	Civil Subtotal	\$ 58,236.34
III. BUILDING ENVELOPE		
1.0	Facade (Exterior Cladding and Sealants) Type 1 - Stucco	\$ 1,336,137.90
2.0	Moisture-Management System (Barriers, Flashings, Drainage, Etc.)	\$ 82,986.99
3.0	Roofing System Type 1 - Spray Polyurethane Foam (SPF)	\$ 168,616.70
4.0	Elevated Decks, Balconies, or Walkways (Included in 2.0B)	
	Building Envelope Subtotal	\$ 1,587,741.59
IV. MISCELLANEOUS		
1.0	Pool Cabana	\$ 8,337.48
2.0	Roof Deck Penthouse Door	\$ 590.00
3.0	Interior Repairs - Resultant Damage	\$ 4,820.00
	Miscellaneous Subtotal	\$ 13,747.48
	Subtotal	\$ 1,859,725.41
	Contingency	10% \$ 185,972.54
	General Conditions	12.5% \$ 255,712.24
	Contractor's Fee	17.5% \$ 402,746.78
	GL Insurance	2% \$ 54,083.14
	Construction Total:	\$ 2,758,240.12
	Professional Fees	12% \$ 330,988.81
	Estimated Market Escalation (2-Year)	7% \$ 193,076.81
	Grand Total:	\$ 3,282,305.74

Date	July 23, 2021(REVISED November 08, 2021)	Preliminary ESTIMATE OF COSTS for Gallery Community Association				
I. STRUCTURAL Repair Description	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes	
	Costs and repairs are based upon SBSA, LLC's, Construction and Design Compliance Report, dated 06/23/2021, and Supplemental Construction and Design Compliance Report, dated 10/14/2021					
1.0 Compliance with Geotechnical Report						
1.	The original geotechnical report presents recommendations for over excavation, soil stabilization, and drainage on the site. Review the original geotechnical report for applicable design and construction recommendations for informational purposes.					
2.0 Lateral Force Resisting System (LFRS)						
2.0A Non-Compliant LFRS						
Loc.	Buildings A-D					
Qty.	100%					
Ext.	All LFRS repairs shall be performed per the braced/ shear wall and hold-down schedule provided on Sheets S3.1 through S3.6 of the Felten structural plans as designed by the Structural EOR.					
Ext.	The as-built construction of the LFRS will be compared with LFRS design on the Felten structural plans as designed by the Structural EOR after the stucco system is removed.					
Ext.	Repair contractor to verify and confirm the extent of repairs to the LFRS.					
1.	For Unit 3111 of Building D, perform the following repairs to the LFRS.					
a.	Remove existing stucco to coordinate with repairs recommended in Sections C.1 and C.2 of engineer's report.				Included in Building Envelope 1.0B	
b.	Where exterior sheathing is identified as missing, install new 3/8-inch minimum-rated sheathing using specified nails spaced to provide minimum shear resistance of 306-plf per the braced/ shear wall schedule.				Included below 2.a.	
c.	Where existing strap is identified as installed incorrectly, remove and replace with new strap per the hold-down schedule. Install according to the manufacturer's installation requirements.				Included below 2.a.	
d.	Reinstall cladding per the repairs recommended in Sections C.1 and C.2 of engineer's report.				Included in Building Envelope 1.0B	

Date	July 23, 2021(REVISED November 08, 20		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
I.	STRUCTURAL		Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
	Repair Description						
	2.	Repair contractor to include 10-percent of the stucco repair costs for use as a contingency for the repairs for the non-compliant LFRS.					Included below 2.a.
	a.	Provide allowance for all structural repairs as described above. Includes removal and reinstallation of windows and door as required to accommodate variations in wall thickness after repairs are performed.	1	al	\$ 200,000.00	\$ 200,000.00	Allowance pending further investigation
			Subtotal			\$ 200,000.00	
					SUBTOTAL	\$ 200,000.00	

Date	July 23, 2021 (REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association			
II. CIVIL	Repair Description	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
Costs and repairs are based upon SBSA, LLC's, Construction and Design Compliance Report, dated 06/23/2021, and Supplemental Construction and Design Compliance Report, dated 10/14/2021						
1.0 Grading and Drainage						
1.0A	Drainage Bounded by Concrete Flatwork					
Loc.	Perform repairs at all locations noted in the Civil Repair Drawings.					
Ext.	Coordinate sidewalks, curbs, and roadway to allow for proper site geometric integration in all new construction.					
1.	A full topographical survey from the curb line to the face of the building will be required due to the limited site elevation difference to enable design to correct the deficient construction.	1	al	\$ 10,000.00	\$ 10,000.00	Allowance
2.	Construct concrete aprons below roof drain terminations.					Included below in 2.a & b.
a.	Where sidewalks exist, remove sidewalk to nearest joint and provide sidewalk chase. (Buildings A and B / 344 SF total)	344	sf	\$ 34.00	\$ 11,696.37	(Per 50 SF / Avg repair area) Skilled Crew @\$175 hour / 6 hours (\$1050); Materials/Disposal/Equipment (\$650); \$1700 / 50 SF = \$34.00 SF
b.	Where no sidewalks are constructed, construct curb cut to allow flow out of bounded area, and re grade unpaved area to drain. (Buildings C and D / 174 SF total)	174	sf	\$ 22.00	\$ 3,836.51	(Per 21 SF / Avg repair area) Skilled and helper @\$110 hour / 3 hours (\$330); Materials/Disposal/Equipment (\$125); \$455 / 21 SF = \$22.00 SF
3.	Place rocks (4- to 6-inch diameter) in concrete aprons.					Included above in 2.a & b.
4.	Adjust existing electrical and irrigation boxes as required.					Included above in 2.a & b.
		Subtotal			\$ 25,532.88	
1.0B	Non-Compliant Management of Concentrated Flows					
Loc.	Perform repairs at all locations noted in the Civil Repair Drawings.					
1.	Same scope of repair as Civil 1.0A					
						Included in Civil 1.0A
2.0 Concrete Flatwork						
2.0A	Non-Compliant Cross-Slope of Sidewalks					
Loc.	Perform repairs at all locations noted in the Civil Repair Drawings.					
Ext.	Coordinate sidewalks, curbs, and roadway to allow for proper site geometric integration in all new construction.					
1.	Remove and replace concrete to the nearest construction/ control joint.	661	sf	\$ 23.00	\$ 15,203.46	(Per 50 SF) Skilled Crew @\$175 hour / 4 hours (\$700); Materials/Disposal/Equipment (\$450); \$1150 / 50 SF = \$23.00 SF
a.	Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.					Included above in 1.
b.	Ensure grading and drainage direct runoff away from flatwork subbase.					Included above in 1.

Date	July 23, 2021 (REVISED November 08, 2021) Preliminary ESTIMATE OF COSTS for Gallery Community Association					
II.	CIVIL Repair Description	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
	c. Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards.					Included above in 1.
	d. At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.					Included above in 1.
2.	In conjunction with the repairs above, provide allowance for retrofitting stair assemblies as required to accommodate new landing height per engineer's specifications.	5	loc	\$ 3,500.00	\$ 17,500.00	Allowance
		Subtotal			\$ 32,703.46	
2.0B	Non-Compliant Longitudinal Slope of Sidewalks					
Loc.	Perform repairs at all locations noted in the Civil Repair Drawings.					
Ext.	Coordinate sidewalks, curbs, and roadway to allow for proper site geometric integration in all new construction.					
1.	Same scope of repair as Civil 2.0A					Included in Civil 2.0A
2.0C	Non-Compliant Landings					
Loc.	Perform repairs at all locations noted in the Civil Repair Drawings.					
Ext.	Coordinate sidewalks, curbs, and roadway to allow for proper site geometric integration in all new construction.					
1.	Same scope of repair as Civil 2.0A					Included in Civil 2.0A
				SUBTOTAL	\$ 58,236.34	

Date	July 23, 2021(REVISED November 08, 21)		Preliminary ESTIMATE OF COSTS for Gallery Community Association			
III.	BUILDING ENVELOPE	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
Repair Description						
Costs and repairs are based upon SBSA, LLC's, Construction and Design Compliance Report, dated 06/23/2021, and Supplemental Construction and Design Compliance Report, dated 10/14/2021						
1.0 Facade (Exterior Cladding and Sealants) Type 1 - Stucco						
1.0A	Missing Weep Mechanism in Stucco					
Loc.	Buildings A-D					
Qty.	100%					
Ext.	Coordinate repair with related stucco and underlying moisture-management repair recommendations as well as all adjacent civil repair recommendations.					
1.	Coordinate with replacement of the WRB and the stucco system as described in Sections C.1.b and C.1.c of engineer's report.					Included in Building Envelope 1.0B
2.	Install new weep mechanisms at the following horizontal terminations.					
a.	At window heads, slider door heads, swing door heads, and garage door heads, terminate the weep casing bead 1/4-inch above sheet metal head flashing.	1,518	lf	\$ 9.50	\$ 14,419.96	(Per 15 LF Install only) Plaster and helper @ \$110 hour / 1 hours (\$110); Materials (\$30): \$140 / 15 LF = \$9.50 LF
b.	At soffits, install weeps per the architectural Detail 4/ AS.03 and manufacturer's requirements.	1,768	lf	\$ 11.00	\$ 19,442.80	(Per 15 LF Install only) Plaster and helper @ \$110 hour / 1 hours (\$110); Materials (\$50): \$160 / 15 LF = \$11.00 LF RU
3.	Shingle-lap WRB with new weep mechanisms.					Included above in 2.b.
	Subtotal				\$ 33,862.76	
1.0B	Non-Compliant WRB for Stucco System					
Scope.	Full removal and replacement of the stucco and the exterior insulation is required to address the non-compliant installation of the WRB for the existing stucco system.					
Loc.	Buildings A-D					
Qty.	100%					
Ext.	Coordinate repair with related stucco and underlying moisture-management repair recommendations as well as all adjacent civil repair recommendations.					
1.	Provide allowance for protection of adjacent surfaces and content manipulation as required.					
a.	3-Plex (Building A)	1	loc	\$ 9,380.00	\$ 9,380.00	24 hours - Building Labor Crew @ \$245 per hour Materials (\$3500)
b.	5-Plex (Buildings B, C and D)	3	loc	\$ 11,400.00	\$ 34,200.00	40 hours - Plasterer and a helper @ \$110 per hour Materials (\$7000)
2.	Provide allowance for removal, staging and reinstallation of wall obstructions including but not limited to signage, light fixtures, utility boxes and window awnings.					
a.	3-Plex (Building A)	1	loc	\$ 6,250.00	\$ 6,250.00	30 hours - Skilled Crew @ \$175 per hour Materials (\$1000)
b.	5-Plex (Buildings B, C and D)	3	loc	\$ 8,500.00	\$ 25,500.00	40 hours - Skilled Crew @ \$175 per hour Materials (\$1500)
3.	Provide allowance for access including scaffolding, lifts, etc.	57,696	sf	\$ 2.50	\$ 144,239.46	

Date	July 23, 2021(REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
III.	BUILDING ENVELOPE		Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
	Repair Description						
	4.	Remove and replace existing stucco assembly per engineer's specifications. Includes hauling and disposal.	57,696	sf	\$ 14.70	\$ 848,128.04	(Per 30 SF typical site conditions including confined, difficult access areas and select demolition where required) Plaster and helper @ \$110 hour / 3 hours (\$330); Materials/Disposal (\$110): \$440 / 30 SF = \$14.70 SF
	a.	Install new WRB per the requirements of ESR-3529 for the existing stucco system.					Included above in 4.
	b.	Ensure that the WRB above is shingle-lapped with the sheet metal flashing.					Included above in 4.
	c.	Repair contractor to estimate using between two layers of Grade D kraft building paper or one layer of Grade D kraft paper with minimum water-resistance rating of 60-minutes or using Tyvek products such as Stucco Wrap or Drain Wrap as specified in Section 3.2.4 and Section 3.2.10 of ESR-3529.					Included above in 4.
	d.	Ensure all WRB terminations shingle-lap with all surrounding rigid and flexible flashings, weeps, and accessories.					Included above in 4.
	e.	Install sheet metal flashings per Section C.2.a of engineer's report.					Included above in 4.
	f.	Install new stucco system to comply with the current requirements of ESR-2359.					Included above in 4.
	g.	Install lath per the stucco manufacturer and ASTM C1063.					Included above in 4.
	5.	Install missing exterior sheathing and straps, as necessary, per the LFRS repairs recommended in Section A.2 of this report.					Included in Structural 2.0
	6.	Install EPS foam boards per repairs recommended in Section C.1.c of engineer's report.					Included above in 4.
	7.	Install control joints at fenestration comers, floor lines, top plate/truss lines, and within the field of the wall to comply with ASTM C1063 and the stucco manufacturer.	10,265	lf	\$ 4.00	\$ 41,059.86	(Per 1000 LF Install only) Plaster Crew @ \$240 hour / 8 hours (\$1920); Materials (\$2000) \$3920 / 1000 LF = \$4.00 LF RU
	8.	Install weep casing beads with 3-1/2-inch vertical legs at all stucco terminations Ensure that the WRB shingle-laps with the new weep casing beads.					Included above in 4.
	9.	Exterior painting	57,696	lf	\$ 2.90	\$ 167,317.78	(Per 1000 SF Prime / Masking / Caulking / Paint 2 coats / 2 colors) Painter Crew \$350 hour / 4 hours (\$1400); Materials (\$1500) \$2900 / 1000 SF = \$2.90 SF
		Subtotal				\$ 1,276,075.15	

Date	July 23, 2021(REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
III.	BUILDING ENVELOPE	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes	
Repair Description							
	1.0C	Non-Compliant EPS Foam Board for Stucco System					
	Scope.	Full removal and replacement of the stucco is required to address the noncompliant installation of the EPS foam board for the existing stucco system.					
	Loc.	Buildings A-D					
	Qty.	100%					
	Ext.	Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.					
	1.	Where installed over solid substrates, remove existing EPS foam board to perform the following repairs.					Included in Building Envelope 1.0B
	a.	Ensure all EPS foam boards have 3/8-inch projecting tongues with compatible grooves at horizontal joints.					Included in Building Envelope 1.0B
	b.	At solid substrates, install new minimum 1/2-inch-thick EPS foam board with vertical grooves spaced at a maximum 12-inches on-center on the back face of the boards.					Included in Building Envelope 1.0B
	c.	The vertical grooves should be a minimum 1/4-inch wide by 1/8-inch deep as required by ESR-3529.					Included in Building Envelope 1.0B
	d.	Where EPS foam board repairs are necessary at open stud framing, use minimum 1-inch-thick EPS boards installed in compliance with ESR-3529.					Included in Building Envelope 1.0B
	2.	As an alternative to EPS foam boards with vertical grooves, flat-faced EPS foam boards may be installed over the solid substrates provided the WRB recommended in Section 3.2.4 of ESR-3529 is used.					Included in Building Envelope 1.0B
	1.0D	Non-Compliant Slope of Horizontal Stucco Surfaces					
	Loc.	Buildings A-D					
	Qty.	100%					
	Ext.	Coordinate repair with related cladding, flashing, and underlying moisture-management recommendations.					
	1.	Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.					Included below in 5.a. & b.
	2.	Remove existing stucco, lath, and building paper as required to perform the repair as described below.					Included in Building Envelope 1.0B
	3.	Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.					Included below in 5.a. & b.
	4.	Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes.					Included below in 5.a. & b.

Date	July 23, 2021(REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
III.	BUILDING ENVELOPE		Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
		Repair Description					
	5.	Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.					Included below in 5.a. & b.
	a.	3-Plex (Building A)	1	al	\$ 7,300.00	\$ 7,300.00	20 hours - Stucco Crew @ \$240 per hour Materials (\$2500)
	b.	5-Plex (Buildings B, C and D)	3	al	\$ 6,300.00	\$ 18,900.00	30 hours - Plasterer and a helper @ \$110 per hour Materials (\$3000)
	6.	Reinstall stucco as described in Repair Section C.1.c.					Included in Building Envelope 1.0B
			Subtotal			\$ 26,200.00	
	1.0E	Deficient Self-Adhered Membrane under Horizontal Stucco System					
	1.	Refer to Repair Section C.1.d of engineer's report.					Included in Building Envelope 1.0B
	1.0D	Missing Control/Movement Joints					
	1.	Refer to Repair Section C.1.b of engineer's report.					Included in Building Envelope 1.0B
	2.0	Moisture-Management System (Barriers, Flashings, Drainage, Etc.)					
	2.0A	Missing Sheet Metal Flashing at Window Head					
	Loc.	Buildings A-D					
	Qty.	100%					
	Ext.	Coordinate repair with related cladding, flashing, and underlying moisture-management recommendations.					
	1.	Where sheet metal flashing is missing at fenestration heads, perform the repair described below.					
	a.	Install new pre-finished sheet metal flashings with 4-inch vertical legs and horizontal legs sloped 10- to 15-degrees as detailed on the architectural plans with hemmed drip edges.	1,518	loc	\$ 13.00	\$ 19,732.57	(Per 10 LF Install only) Plaster and helper @ \$110 hour / 1 hours (\$110): Materials (\$20): \$130 / 10 LF = \$13.00 LF
	b.	Apply sealant at ends of sheet metal flashing to provide end dams.					Included above in 1.a.
	c.	Ensure all flashing joints and comers are sealed.					Included above in 1.a.
	d.	Ensure that the WRB above is shingle-lapped with the sheet metal flashing.					Included above in 1.a.
	2.	Reinstall cladding per manufacturer instructions with a minimum 1/ 4-inch clearance between the bottom of cladding and the back of the sloped sheet metal flashing.					Included in Building Envelope 1.0B
			Subtotal			\$ 19,732.57	

Date	July 23, 2021(REVISED November 08, 21)		Preliminary ESTIMATE OF COSTS for Gallery Community Association			
III.	BUILDING ENVELOPE	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
Repair Description						
2.0B	Non-Compliant Flashing to Stucco Interface					
Scope.	At elevated decks and awnings, remove existing edge flashing and membrane/ coating to allow for stucco repairs described below.					
Loc.	Buildings A-D					
Qty.	100%					
Ext.	Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of this report.					
1.	Remove and reinstall existing railings as required.	456	lf	\$ 15.50	\$ 7,066.51	(Per 25 LF Typical railing) Skilled and helper @\$110 hour / 3 hours (\$330); Materials (\$50): \$380 / 25 LF = \$15.50 LF RU
a.	Railings at 2nd level sliding glass doors.	8	loc	\$ 235.00	\$ 1,880.00	2 hours - Skilled labor & helper @ \$110 per hour Materials (\$15)
2.	In conjunction with stucco repairs, remove and replace existing edge flashing and membrane/coating as required.	456	lf	\$ 22.50	\$ 10,257.84	(Per 25 LF Typical balcony edge) Skilled and helper @\$110 hour / 4 hours (\$440); Materials/Disposal (\$120): \$560 / 25 LF = \$22.50 LF RU
a.	New deck coating and new awning TPO perimeter edge membrane will be required to facilitate the repairs.	2,410	sf	\$ 9.50	\$ 22,893.38	(Per 100 SF Typical balcony area) Skilled and helper @\$110 hour / 5 hours (\$550); Materials (\$400): \$950 / 100 SF = \$9.50 SF
b.	Provide allowance for replacement of substrate as required. (Per location)	18	loc	\$ 345.00	\$ 6,210.00	2 hours - Skilled labor & helper @ \$110 per hour Materials (\$125) Allowance
c.	Ensure the flashing is integrated with the new deck coating and awning TPO membrane.					Included above in 2.
d.	Install new edge flashing at decks per Section C.4.a of this report.					Included above in 2.
3.	Remove and replace stucco as required by the architectural details 12/ A8.03 and 5/ A8.04.					Included in Building Envelope 1.0B
	Subtotal				\$ 48,307.74	
2.0C	Non-Compliant Isolation Joints at Dissimilar Materials					
Loc.	Buildings A-D					
Qty.	100%					
Ext.	Typical locations for repair include joints at fenestrations, penetrations at all cladding types, vertical joints between cladding types, and joints between all cladding types and wood trim, including fascia trim at re-entrant corners.					
1.	At locations where stucco interfaces with dissimilar materials, perform the following repairs.					Stone veneer locations only: Other non-compliant isolation joints covered in Building Envelope 1.0B
a.	Remove and reinstall existing stone veneer as required.	380	lf	\$ 36.25	\$ 13,766.68	(Per 20 LF) Skilled and helper @\$110 hour / 5 hours (\$550); Materials/Disposal (\$175): \$725 / 20 LF = \$36.25 LF
b.	At stucco, provide casing bead at edge of joint.					Included above in 1.a.
c.	The depth to width ratio for the joint should be equal to 2:1.					Included above in 1.a.

Date	July 23, 2021(REVISED November 08, 21)		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
III.	BUILDING ENVELOPE		Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
	Repair Description						
	d.	Install type B backer rod and low-modulus elastomeric sealant to provide compliant butt isolation joint at dissimilar material interfaces with joint widths that are 3/8-inch or greater.					Included above in 1.a.
	e.	Install polyethylene bond breaker tape and low-modulus elastomeric sealant to provide compliant fillet isolation joint at dissimilar material interfaces where the existing space is less than 3/8-inch wide or the dissimilar materials are out of plane.					Included above in 1.a.
	2.	Reinstall cladding as required to address other repair recommendations, providing 3/8- to 1/2-inch-wide gap between dissimilar materials.					Included above in 1.a.
	3.	Following installation of sealant isolation joints at penetrations through the cladding, set surface-mounted objects in continuous sealant against the face of the cladding.					Included in Building Envelope 1.0B
	a.	Where applicable, profile the sealant at the top of the surface-mounted objects to promote drainage over the top flanges.					Included in Building Envelope 1.0B
	4.	At isolation joints at tops of stair walls located between buildings, remove and replace sealant and backer rod; color of sealant to match existing.	2	loc	\$ 590.00	\$ 1,180.00	4 hours - Skilled labor & helper @ \$110 per hour Materials (\$150) 15 LF per location
			Subtotal			\$ 14,946.68	
3.0 Roofing System Type 1 - Spray Polyurethane Foam (SPF)							
3.0A Non-Compliant Slope to Roof Drains							
	Loc.	Repairs to be performed at all roof decks with non-compliant drainage.					
	Qty.	100%					
	1.	Safe off and remove existing HVAC equipment and conduit. Includes reinstallation.					
	a.	3-Plex (Building A)	1	loc	\$ 6,180.00	\$ 6,180.00	12 hours - HVAC Crew @ \$215 per hour Materials (\$3600)
	b.	5-Plex (Buildings B, C and D)	3	loc	\$ 10,300.00	\$ 30,900.00	20 hours - HVAC Crew @ \$215 per hour Materials (\$6000)

Date	July 23, 2021(REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
III.	BUILDING ENVELOPE		Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
	Repair Description						
	2.	Remove and replace membrane and underlying substrates as necessary to perform repairs described below.	14,974	sf	\$ 7.00	\$ 104,820.85	Behmer Roofing
	a.	Provide and install new flashing assembly at perimeter terminations.	2,335	lf	\$ 10.00	\$ 23,346.61	Behmer Roofing
	b.	Remove and replace damaged underlying coverboard and structure, if present. (Estimate 5%)	749	sf	\$ 4.50	\$ 3,369.24	Behmer Roofing
	c.	Install tapered insulation to provide positive drainage (1/4-inch minimum) towards roof drains.					Included above in 1.
	d.	Slope cricket a minimum of 1/4-inch-per-foot along the valley.					Included above in 1.
		Subtotal				\$ 168,616.70	
	3.0B Roof Leaks						
	Loc.	Transition from the SPF roof and perimeter of the roof drain sump.					
	Qty.	All building B units					
	1.	Prepare the existing waterproofing system for installation of reinforcing fabric at transition from the SPF and the perimeter of the roof drain sump at all units of Building B.					Included in 3.0A
	2.	Apply waterproofing coating per manufacturer's instructions.					Included in 3.0A
	3.	At the Unit 3106 AC unit pad, provide a permanent roof repair and coordinate with repairs for C.3a in SBSA's CDC Report.					Included in 3.0A
	4.	At Unit 3104, reinstall front light to electrical box and apply a compliant sealant joint. Coordinate with repairs recommended in SBSA's CDC Report.					Included in 1.0B

Date	July 23, 2021(REVISED November 08, 21)		Preliminary ESTIMATE OF COSTS for Gallery Community Association			
III.	BUILDING ENVELOPE		Repair Quantity	Unit Type	Unit Cost	Direct Cost
	Repair Description					
4.0 Elevated Decks, Balconies, or Walkways						
4.0A	Non-Compliant Slope of Deck					
Loc.	Repairs to be performed at all decks with non-compliant slope and drainage at edge flashing.					
Qty.	Building A: Units 3118, 3122, 3124 Building B: Units 3106, 3110, 3112, 3116 Building C: Units 3113, 3123, 3125, 3127 Building D: Units 3105, 3121, 3125					
Ext.	Coordinate with repairs recommended in engineer's report.					
1.	Remove existing deck edge flashing, membrane, and underlying substrates as necessary to perform repairs described below.					Included in Building Envelope 2.0B
a.	Remove and replace damaged underlying structure, if present.					Included in Building Envelope 2.0B
2.	Provide a notch equivalent to the thickness of the metal flashing and deck coating for a length equal to the horizontal leg of the flashing.					Included in Building Envelope 2.0B
a.	Ensure the notch slopes positively towards the deck edge.					Included in Building Envelope 2.0B
3.	Install new flashing and deck coating flush to the existing deck surface and sloped a minimum of 2-percent to the deck edge.					Included in Building Envelope 2.0B
					SUBTOTAL	\$ 1,587,741.59

Date	July 23, 2021 (REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association			
IV.	MISCELLANEOUS	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
Repair Description						
Costs and repairs are based upon SBSA, LLC's, Construction and Design Compliance Report, dated 06/23/2021, and Supplemental Construction and Design Compliance Report, dated 10/14/2021						
1.0 Pool Cabana						
1.0A	Ceiling Damage					
Ext.	There are areas of the pool cabana ceiling that are cracked and have peeling paint. A previous repair by the original contractor was performed on the ceiling area near the area of the damaged ceiling per the disclosed Nautilus photographs. The standing seam metal roof panels of the cabana are riveted at the overlap with the metal drip edge. At the standing seam metal roof panels and drip edge interface, there are openings and at one location there are no rivets. The openings allow water to enter between the drip edge and roof panels. The disclosed photographs of the previous repair show that the repair does not appear to have addressed the underlying issue that caused the damage.					
Scope.	A) Remove existing rivets at the downhill side of the roof. B) Install sheet metal flashing under the existing standing seam metal roof. Extend the leg of the sheet metal flashing under the standing seam metal panels and under the roof underlayment a minimum of 4-inches. Extend the edge of the sheet metal flashing 1/ 4-inch past the edge of the fascia. Color to match existing roof and sheet metal drip edge. C) Drill a pilot hole through the new sheet metal flashing at the existing rivet holes and apply heat-resistant silicone sealant in the existing rivet holes. D) Attach standing seam metal roof with screws and neoprene washers at the location of the existing rivets. E) Crimp the ends of the standing seam metal roofs. F) Fix damaged drywall ceiling and paint to match.					
Loc.	Common Area / Pool					
Standing Seam Metal Roof						
1.	Remove existing rivets as required	1	loc	\$ 1,250.00	\$ 1,250.00	6 hours - Roofer (2) @ \$150 per hour Materials (\$350)
2.	Install sheet metal flashing and new rivets as required. (Estimated 22 LF)					Included in 1.0 #1
3.	Crimp ends of standing seam roof.					Included in 1.0 #1
Ceilings and Walls						
4.	Provide protection of adjacent finishes and content manipulation as required.					Included in 1.0 #7
5.	Remove and reinstall existing recessed light fixtures.	12	loc	\$ 75.00	\$ 900.00	1 hours - Skilled labor @ \$65 per hour Materials (\$10)
6.	Remove and replace damaged drywall where required. Add blocking where missing.	1	loc	\$ 435.00	\$ 435.00	3 hours - Drywall Installer (2) @ \$120 per hour Materials (\$75)
7.	Seal new drywall and paint entire ceiling to match existing.	283	sf	\$ 3.06	\$ 865.29	(Per 75 SF Prime / Caulk / Paint (2) coats) Painters (2) \$130 hour / 1 hours (\$130); Materials (\$100): \$230 / 75 SF = \$3.06 SF
8.	Remove protection and clean repair area.					Included in 1.0 #7

Date	July 23, 2021 (REVISED November 08, 2021)		Preliminary ESTIMATE OF COSTS for Gallery Community Association				
IV.	MISCELLANEOUS		Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes
	Repair Description						
Fire Feature							
9.	In conjunction with repairs above, remove and replace existing wall finishes as required.		1	al	\$ 740.00	\$ 740.00	4 hours - Skilled labor & helper @ \$110 per hour Materials (\$300)
10.	Furnish and install new hardwired switch control box.		1	al	\$ 590.00	\$ 590.00	3 hours - Electrician and helper @ \$130 per hour Materials (\$200)
11.	Furnish and install new remote system control box. Make up the wire connections from the switch control box to the remote receiver.		1	ls	\$ 1,980.97	\$ 1,980.97	Magic Touch Mechanical: Estimate #32855778
12.	Furnish and install new igniter control box.		1	ls	\$ 1,576.22	\$ 1,576.22	Magic Touch Mechanical: Estimate #17942481
			Subtotal			\$ 8,337.48	
2.0 Roof Deck Penthouse Door							
2.0A	Interior Door Trim Damage						
	Loc. Roof access door / Units 3106 and 3123						
	Qty. (2) Locations						
1.	Apply sealant at door jambs, prep and paint to match existing.		2	loc	\$ 295.00	\$ 590.00	2 hours - Skilled labor & helper @ \$110 per hour Materials (\$75) Includes protection and clean up
			Subtotal			\$ 590.00	
3.0 Interior Repairs - Resultant Damage							
Scope. Perform repairs to damaged interior finishes as required.							
Loc. Where observed (Per SBSA Observation Drawing Set)							
Ext. Repair includes protection and content manipulation as required.							
Building B							
1. Unit 3104							
a.	Upper level / Drywall repair: Water damaged ceiling in back room.		1	al	\$ 555.00	\$ 555.00	4 hours - Drywall Installer (2) @ \$120 per hour Materials (\$75)
b.	Upper level / Drywall repair: Water damaged ceiling vent in hallway.		1	al	\$ 290.00	\$ 290.00	2 hours - Drywall Installer (2) @ \$120 per hour Materials (\$50)
c.	Seal all new drywall and paint wall and ceiling planes as required (2) colors / (2) coats. Includes masking and caulking as required.		1	al	\$ 950.00	\$ 950.00	5 hours - Painters (2) @ \$130 per hour Materials (\$300)
2. Unit 3106							
a.	Upper level / Drywall repair: Water damaged ceiling at bedroom and laundry room.		1	al	\$ 580.00	\$ 580.00	4 hours - Drywall Installer (2) @ \$120 per hour Materials (\$100) Included in 3.0 #2
b.	Swollen interior door jambs and moisture under tile. (Perform in conjunction with 2.0 #1)		1	al	\$ 700.00	\$ 700.00	5 hours - Skilled labor & helper @ \$110 per hour Materials (\$150)
c.	Seal all new drywall and paint wall and ceiling planes as required (2) colors / (2) coats. Includes masking and caulking as required.		1	al	\$ 1,340.00	\$ 1,340.00	8 hours - Painters (2) @ \$130 per hour Materials (\$300)

Date	July 23, 2021 (REVISED November 08, 2021)					Preliminary ESTIMATE OF COSTS for Gallery Community Association	
IV.	MISCELLANEOUS Repair Description	Repair Quantity	Unit Type	Unit Cost	Direct Cost	Notes	
Building C							
7. Unit 3123							
a.	Swollen interior base trim at Penthouse doorway. Includes removal and replacement, and painting as required. (Perform in conjunction with 2.0 #1)	1	al	\$ 405.00	\$ 405.00	3 hours - Skilled labor & helper @ \$110 per hour Materials (\$75)	
		Subtotal			\$ 4,820.00		
				SUBTOTAL	\$ 13,747.48		

Exhibit D

Gallery Condominium Association

v.

K. Hovnanian at Gallery, LLC

BHA # 19-7096

Defense Response Report

August 11, 2021



Prepared By:

Terry Ingo
General Contractor
Bert L. Howe & Associates, Inc.
5415 East La Palma Avenue
Anaheim Hills, California 92807

Prepared For:

Barbara Stansil, Esquire
Wilenchik & Bartness
2810 North Third Street
Phoenix, AZ 85004



Bert L. Howe & Associates, Inc.

Construction Consultants

KHOV00001701

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Project Summary and Task Analysis

I. Scope of Analysis:

Bert L. Howe & Associates, Inc. (BHA) has been retained by K. Hovnanian at Gallery, LLC ("KHov" or "Builder") to respond to allegations of construction defect brought by the Condo Owners Association ("Claimant") of an 18 three-story-unit (four building) residential development constructed by KHov known as The Gallery located in Scottsdale, Arizona ("Project"). BHA understands this project was built between 2016 and 2017.

The Claimant retained SBSA, LLC ("SBSA") as their general construction expert and Nautilus General Contractors, Inc. as their cost to repair expert. BHA is not aware of any other experts retained by Claimant. Each designated plaintiff expert recorded their evaluation and/or repair recommendations in the following reports/statements (Claimant Expert's Reports):

- SBSA "Construction and Design Compliance Report", dated June 23, 2021
- Nautilus "Preliminary Estimate of Costs", dated July 23, 2021

The following report summarizes BHA's responses to the defect allegations and opinions of construction defects as set forth in the Claimant's reports. KHov also retained Peterson Geotechnical Group ("PGG") to offer opinions regarding SBSA's allegations of defective site improvements and opinions associated with soils related issues. PGG prepared a separate report expressing its observations, responses, and opinions.

BHA representatives investigated Claimant claims by evaluating the Claimant expert's reports, analyzing the plans and specifications, reviewing code requirements, conducting visual inspections of the project, and conferring with KHov representatives having knowledge of the project. BHA reserves the right to respond to Claimant expert's rebuttal reports, deposition testimony, and additional information when available. It is BHA's understanding Claimants have an ongoing investigation of roof issues. BHA reserves the right to evaluate any new claims Claimants may put forth and offer or revise its opinions accordingly as new information is disclosed.

II. Documents Reviewed:

BHA has reviewed and utilized the following documents in the preparation of this report.

- Preliminary Estimate of Costs prepared by Nautilus General Contractors, Inc., July 23, 2021
- Construction and Design Compliance Report prepared by SBSA, dated June 23, 2021
- Architectural Drawings by Otak, Inc, dated March 11, 2016 and revised June 8, 2016 and August 2, 2016
- SBSA's inspection and destructive testing photographs and field notes
- Job files of SBSA
- Arizona Registrar of Contractors ("AROC") Workmanship Standards, June 2009
- 2012 International Residential Code
- 2012 International Building Code
- MI Windows and Door Installation Recommendations

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III. Defense Inspection Dates

Defense inspections at the site took place on the following dates:

- October 14, 2019 – Non-Invasive Visual Inspection of unit interiors, building exteriors, and roofs
- October 15, 2019 – Non-Invasive Visual Inspection of unit interiors, building exteriors, and roofs
- October 16, 2019 – Non-Invasive Visual Inspection of unit interiors, building exteriors, and common areas
- March 9, 2021 – Claimant Destructive Testing of building exteriors
- March 10, 2021 – Claimant Destructive Testing of building exteriors
- March 11, 2021 – Claimant Destructive Testing of building exteriors
- July 27, 2021 – Observation of Claimant temporary roof repair

IV. Construction Defect Allegations Analysis

As a basis for analysis, BHA maintains that construction defect claims must be founded on an evaluation of the original constructed components. Any alterations of the original as-built conditions modify the project compromising both the analysis and the significance of alleged defects. Alterations could take the form of intentional modifications, damage by Claimant, failure to maintain, improper maintenance, etc.

In construction, there is seldom a single method to build something. Like other manufacturing industries, construction has guidelines and tolerances to govern the process. Construction documents, building codes, and manufacturer installation recommendations provide those guidelines, however, deviations from those guidelines, in and of themselves, do not constitute a defect. Local industry standards, established by the applicable building code as adopted, interpreted, and enforced by local Building Officials establishes the accepted standards for local construction. When a building component is originally constructed in accordance with local industry standards or approved by the building inspector it cannot be considered defective and repairs are not necessarily warranted. If a building component is performing its intended purpose, it cannot be considered defective, and repairs are not reflexively warranted.

BHA employs a two-part test to determine if a construction defect exists:

- 1) The material deficiency must impair the structural and/or function of the dwelling (or there is a reasonable likelihood impairment will occur if not repaired)
- and
- 2) The impairment is caused by either substandard materials or substandard workmanship.

The Arizona Registrar of Contractors (“AROC”) establishes the workmanship standards for construction in Arizona in its publication titled “The Workmanship Standards for Licensed Contractors”. BHA considers both the industry standards and AROC standards when evaluating an alleged construction defect.

The AROC recognizes that a contractor should not be responsible for repairing building components indefinitely. The AROC establishes a reasonable period for which a contractor is responsible for repairs. The AROC provides a two-year jurisdiction period where an owner can report the issues regarding failed building components to the builder for remedy. There were no AROC complaints filed by the COA or the condo owners, which is indicative of no systemic problem with construction. It’s important to note that repair remedies only apply to construction items installed as part of original construction. Any component that has been modified through owner or COA improvement, neglect or abuse is no longer the responsibility of the contractor to repair as outline by the AROC:

“The contractor should stand behind the product, but the buyer should be responsible for owner-maintenance items. Contractor responsibility under these standards should not extend to items which have been subject to owner neglect, modification or abnormal use.”

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The AROC further establishes the start date for the period for which the contractor is responsible:

“The effective date for the start of coverage of these standards should begin with the close of escrow, when the buyer occupies the structure, or the date of discovery, whichever occurs first or as otherwise noted.”

Regardless of its two-year jurisdiction, the AROC Workmanship Standards are the industry standards for construction in Arizona.

V. Defense Response to Claimant Allegations

SBSA's report alleges defective conditions exist in the building stucco, window installations, decks, and roofs. For many of SBSA's claims, SBSA cites deviations from the construction plans as the reason the condition is defective. The Gallery is a private development. Like any private development, the developer has the right to make design alterations and to make decisions that affect construction costs, schedules, and performance requirements. Also, like any private development, a developer works and coordinates with construction crews and the design team during construction to address site conditions, as-built conditions, and real estate market factors. On any project, it is typical for a value engineering process to take place. It is also typical for additive and deductive change orders to occur as a project is being constructed. A deviation from construction plans, in and of itself, is not a defect. To properly determine a defect exists, the performance of a building component must be considered. SBSA provides little physical evidence any of the alleged conditions have failed to perform their intended purpose.

BHA does acknowledge some of the building components on some of the buildings are not performing and appropriate repairs should be made. BHA does BHA includes its repair recommendations in its evaluation of SBSA's allegations below.

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The list of allegations below are drawn from SBSA "Construction and Design Compliance Report", dated June 23, 2021.

I. STRUCTURAL

1.0 Compliance with Geotechnical Report (Informational Only)

Plaintiff Description:

The original geotechnical report presents recommendations for over excavation, soil stabilization, and drainage on the site. Review the original geotechnical report for applicable design and construction recommendations for informational purposes.

Plaintiff Location:

N/A

Plaintiff Quantity:

N/A

Plaintiff Repair Scope:

N/A

Plaintiff Cost:

N/A

Defense Analysis and Repair Recommendations:

This allegation is being addressed by PGG. See PGG report.

2.0 Lateral Force Resisting System (LFRS)

2.0A Non-Compliant LFRS

Plaintiff Description:

Intrusive examination revealed the framing at Unit 3111 of Building D of the Gallery site was constructed without the proper LFRS that was clearly detailed on structural braced/ shear wall plans.

Plaintiff Location:

Unit 3111

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- All LFRS repairs shall be performed per the braced/ shear wall and holddown schedule provided on Sheets S3.1 through S3.6 of the Felten structural plans as designed by the Structural EOR. Sections C.1 and C.2 of engineer's report. (Included in Building Envelope 1.0B) 2. Repair contractor to include 10-percent of the stucco repair costs for use as a contingency for the repairs for the noncompliant LFRS. (Included below 2.a.). a. Provide allowance for all structural repairs as described above. Includes removal and reinstallation of windows and door as required to accommodate variations in wall thickness after repairs are performed. (1 al) (Allowance pending further investigation)
- For Unit 3111 of Building D, perform the following repairs to the LFRS.
 - Remove existing stucco to coordinate with repairs recommended in Sections C.1 and C.2 of SBSA's report.
 - Repair contractor to verify and confirm the extent of repairs to the LFRS.

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- Where exterior sheathing is identified as missing, install new 3/8-inch minimum-rated sheathing using specified nails spaced to provide minimum shear resistance of 306-plf per the braced/ shear wall schedule.
- Where existing strap is identified as installed incorrectly, remove and replace with new strap per the holddown schedule. Install according to the manufacturer's installation requirements.
- Reinstall cladding per the repairs recommended in Sections C.1 and C.2 of SBSA's report.
- Repair contractor to include 10-percent of the stucco repair costs for use as a contingency for the repairs for the non-compliant LFRS. The as-built construction of the LFRS will be compared with LFRS design on the Felten structural plans as designed by the Structural EOR after the stucco system is removed.

Plaintiff Cost:

\$200,000.00

Defense Analysis and Repair Recommendations:

SBSA asserts the shear panel was missing and a framing strap was not properly fastened at unit 3111 which likely "reduces the structural integrity of the building". SBSA bases this allegation on its observations during its destructive testing of the building envelope at one unit, unit 3111. With this observation at one unit, SBSA extrapolates that all the units at every building have the same condition and require repair. BHA disagrees with SBSA's extrapolation practice.

BHA was present for SBSA's destructive testing at a pot shelf beneath the XOX window unit at unit 3111. The pot shelf overlaps the juncture between the first and second floors. Inspecting inside the pot shelf, BHA documented one framing strap between the first and second floors was buckled slightly. BHA also observed the fasteners were covered by the horizontal framing of the pot shelf. It is unknown to BHA how SBSA determined "fasteners in the CS16 strap connecting the exterior sheathing below the triple panel window were missing" as the fasteners were not exposed. BHA did observe other straps at unit 3111 exposed by SBSA that were completely fastened and secure. In addition, framing inspections were conducted by the local building officials, as well as third-party engineers, and the framing was found to be compliant at every building.

SBSA also removed stucco from on top of the pot shelf and approximately 18" up the wall adjacent to the window unit. BHA documented open framing behind the stucco. BHA also observed a strip of exterior sheathing was installed inside the pot shelf between the first and second floors, as well as at the top of the second-floor wall across the juncture with the third-floor wall.

SBSA claims a defect exists without providing any evidence the omission of some strap fasteners and a single shear panel has compromised the structural integrity of the building. BHA is unaware of any calculations or other analyses SBSA made to support this claim. SBSA simply did not observe what they expected to find and deemed the deficiency a defect. BHA disagrees with SBSA's assumption that a building's structural integrity is automatically compromised by the omission of some fasteners and a portion of a shear panel. Further, unit 3111 is the center unit of a five-plex. For SBSA to not consider the structural integrity of the entire building as a whole and to opine "the non-compliant condition more likely than not reduces the structural integrity of the LFRS, as intended by the Structural Engineer of Record (EOR)" is unreasonable. SBSA does not provide any evidence the structure is not performing. In fact, SBSA removed stucco from several locations and found framing straps in place and properly fastened. BHA disagrees that a technical deficiency, in and of itself, is a defect. No structural repairs are needed.

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II. CIVIL

1.0 Grading and Drainage

1.0 A Drainage Bounded by Concrete Flatwork

Plaintiff Description:

There are unpaved areas next to the buildings at the front elevations where the grading is such that the ground surface is below the concrete flatwork (sidewalks and driveways). This condition creates bounded conditions because the concrete prevents positive drainage away from the foundations.

Plaintiff Location:

Perform repairs at all locations noted in the Civil Repair Drawings.

Plaintiff Quantity:

N/A

Plaintiff Repair Scope:

- Perform repairs at all locations noted in the Civil Repair Drawings.
- Coordinate sidewalks, curbs, and roadway to allow for proper site geometric integration in all new construction. A full topographical survey from the curb line to the face of the building will be required due to the limited site elevation difference to enable design to correct the deficient construction.
- Construct concrete aprons below roof drain terminations. Where sidewalks exist, remove sidewalk to nearest joint and provide sidewalk chase. Where no sidewalks are constructed, construct curb cut to allow flow out of bounded area and regrade unpaved area to drain.
- Place rocks (4- to 6-inch diameter) in concrete aprons.
- Adjust existing electrical and irrigation boxes as required.

Plaintiff Cost:

\$25,532.88

Defense Analysis and Repair Recommendations:

This allegation is being addressed by PGG. See PGG report.

1.0B Non-Compliant Management of Concentrated Flows

Plaintiff Description:

The discharge of roof drainage directly into the undrained areas creates a condition where large quantities of water are able to infiltrate into the bearing soils below the foundations, sidewalks, and driveways.

Plaintiff Location:

Perform repairs at all locations noted in the Civil Repair Drawings.

Plaintiff Quantity:

N/A

Plaintiff Repair Scope:

- Perform repairs at all locations noted in the Civil Repair Drawings.
- Construct concrete aprons below roof drain terminations. Where sidewalks exist, remove sidewalk to nearest joint and provide sidewalk chase. Where no sidewalks are constructed, construct curb cut to allow flow out of bounded area.
- Place rocks (4- to 6-inch diameter) in concrete aprons.
- Adjust existing electrical and irrigation boxes as required.



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Plaintiff Cost:

N/A

Defense Analysis and Repair Recommendations:

This allegation is being addressed by PGG. See PGG report.

2.0 Concrete Flatwork

2.0A Non-Compliant Cross-Slope of Sidewalks

Plaintiff Description:

At some locations on the site, the cross-slopes of the sidewalks exceed 2-percent.

Plaintiff Location:

Perform repairs at all locations noted in the Civil Repair Drawings.

Plaintiff Quantity:

5 locations

Plaintiff Repair Scope:

- Remove and replace concrete as noted in Civil Repair Drawings. Coordinate between asphalt roadway, curb profile, and sidewalks to achieve geometric integration.
- Concrete removal shall be to the nearest construction/ control joint.
- Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.
- Ensure grading and drainage direct runoff away from flatwork subbase.
- Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards.
- At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.

Plaintiff Cost:

\$ 32,703.46

Defense Analysis and Repair Recommendations:

This allegation is being addressed by PGG. See PGG report.

2.0B Non-Compliant Longitudinal Slope of Sidewalks

Plaintiff Description:

The longitudinal slopes of the sidewalks at some locations exceed the maximum allowable. Per ANSI A117.1 guidelines, the maximum allowable slope for a ramp that is part of an accessible route is 8.33-percent, and the slopes measured are excessive. The sidewalks as constructed exceed the allowable maximum slopes for ramps and are non-compliant both as ramps and as sidewalks.

Plaintiff Location:

Perform repairs at all locations noted in the Civil Repair Drawings.

Plaintiff Quantity:

N/A

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Plaintiff Repair Scope:

- Remove and replace concrete as noted in Civil Repair Drawings.
- Concrete removal shall be to the nearest construction/ control joint.
- Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.
- Ensure grading and drainage direct runoff away from flatwork subbase.
- Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards.
- Verify final geometry using topographic survey. If required, construct code compliant stairs at entrances to buildings or at bottoms of existing stairways.
- At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.

Plaintiff Cost:

N/A

Defense Analysis and Repair Recommendations:

This allegation is being addressed by PGG. See PGG report.

2.0C Non-Compliant Landings

Plaintiff Description:

The landings at the bottoms of the stairs were constructed with slopes exceeding the 2.0-percent maximum as shown on the Civil Observation Drawings. These landings do not provide the prescriptive surface required at stairs and ramps to allow for safe usage of the sidewalk.

Plaintiff Location:

Perform repairs at all locations noted in the Civil Repair Drawings.

Plaintiff Quantity:

N/A

Plaintiff Repair Scope:

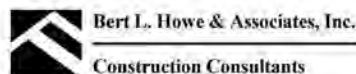
- Remove and replace concrete as noted in Civil Repair Drawings.
- Concrete removal shall be to the nearest construction/ control joint.
- Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.
- Ensure grading and drainage direct runoff away from flatwork subbase.
- Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards. Maximum slope of landings to be 2-percent.
- Verify final geometry using topographic survey. If required, construct code-compliant stairs at entrances to buildings or at bottoms of existing stairways.
- At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.

Plaintiff Cost:

N/A

Defense Analysis and Repair Recommendations:

This allegation is being addressed by PGG. See PGG report.



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III. BUILDING ENVELOPE

1.0 Facade (Exterior Cladding and Sealants) Type 1 – Stucco

1.0A Missing Weep Mechanism in Stucco

Plaintiff Description:

The weep casing beads were missing at fenestration heads, stucco roof pop-outs, and soffit terminations, which violates the architectural drawings, the stucco manufacturer requirements, and the building code requirements.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- Coordinate with replacement of the WRB and the stucco system as described in Sections C.1.b and C.1.c of SBSA's report.
- Install new weep mechanisms at the following horizontal terminations.
- At window heads, slider door heads, swing door heads, and garage door heads, terminate the weep casing bead 1/4-inch above sheet metal head flashing.
- At soffits, install weeps per the architectural Detail 4/ AS.03 and manufacturer's requirements.
- Shingle-lap WRB with new weep mechanisms.
- Coordinate repair with related stucco and underlying moisture-management repair recommendations as well as all adjacent civil repair recommendations.

Plaintiff Cost:

\$33,862.76

Defense Analysis and Repair Recommendations:

SBSA asserts stucco weep mechanisms were omitted at fenestration heads, stucco pop-outs, and at stuccoed soffits. An analysis of SBSA's exemplar photos show SBSA is grouping two different conditions together, missing weep mechanisms at window heads and missing weep mechanisms at wall-to-soffit transitions. SBSA cites construction plan details to support its claim.

BHA was present for SBSA's destructive testing and observed several locations where SBSA removed stucco at window heads. The windows at this project were manufactured by MI Windows and Doors ("MI"). All the window heads exposed by SBSA were flashed according to MI installation guidelines. BHA examined the flashing and WRB tested by SBSA and did not observe any evidence of non-performance. SBSA has not provided any evidence to support this claim other than asserting the construction drawings specified it. BHA maintains that a deviation from the drawings is not, in and of itself, a defect. The project architect clearly states in the "Method of Construction" section of the General Structural Notes:

"The contractor shall be solely responsible for construction means, methods, technique, sequences, and procedure."

The intent of the architect's design is to integrate the stucco system around the window to not allow water to collect on the window head and damage the WRB. SBSA's invasive testing of the window showed the as-constructed condition is meeting the architect's intent and has performed and can be expected to continue to perform. No repairs are needed at the window heads.

As part of SBSA's destructive testing protocol, stucco was removed at several wall-to-soffit transitions. BHA observed some locations with clear evidence the lack of a weep mechanism at the soffit has allowed moisture to accumulate behind the stucco system and deteriorate the WRB. While not every wall-to-soffit

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transition exhibited signs of water damage, the condition is problematic and should be repaired. At large wall-to-soffit locations, remove a 12-inch strip of stucco from the wall and soffit and install weeps integrated with WRB before restoring the stucco system. The repairs should be painted to match the adjacent finishes.

1.0B Non-Compliant WRB for Stucco System

Plaintiff Description:

The applied WRB does not meet the nominal weight, the number of required layers, the water resistance requirements of the applicable building code, and the ESR-3529 report for the Amerimix stucco system specified on the architectural drawings.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- Full removal and replacement of the stucco and the exterior insulation is required to address the non-compliant installation of the WRB for the existing stucco system. Remove existing WRB to perform following repairs.
- Install missing exterior sheathing and straps, as necessary, per the LFRS repairs recommended in Section A.2 of SBSA's report.
- Install sheet metal flashings per Section C.2.a of SBSA's report.
- Ensure that the WRB above is shingle-lapped with the sheet metal flashing.
- Install new WRB per the requirements of ESR-3529 for the existing stucco system.
 - Repair contractor to estimate using between two layers of Grade D kraft building paper or one layer of Grade D kraft paper with minimum water-resistance rating of 60-minutes or using Tyvek products such as Stucco Wrap or Drain Wrap as specified in Section 3.2.4 and Section 3.2.10 of ESR-3529.
- Ensure all WRB terminations shingle-lap with all surrounding rigid and flexible flashings, weeps, and accessories.
- Install EPS foam boards per repairs recommended in Section C.1.c of SBSA's report.
- Install new stucco system to comply with the current requirements of ESR-2359.
- Install lath per the stucco manufacturer and ASTM C1063.
- Install control joints at fenestration comers, floor lines, top plate/truss lines, and within the field of the wall to comply with ASTM C1063 and the stucco manufacturer.
- Install weep casing beads with 3-1/2-inch vertical legs at all stucco terminations Ensure that the WRB shingle-laps with the new weep casing beads.
- Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.

Plaintiff Cost:

\$ 1,255,881.62

Defense Analysis and Repair Recommendations:

As part of SBSA's destructive testing protocol, the stucco system was removed at several locations and the water restive barrier ("WRB") was observed. SBSA observed some locations where one layer of WRB covered the solid OSB shear panel. SBSA asserts two-layers of WRB are required over OSB sheathing or if one layer is used, it must meet the water resistance requirements of the applicable building code and ESR-3529 report. BHA observed SBSA's destructive testing of the stucco and documented the appropriate WRB was installed over open framing which makes up most of the wall construction. At serval locations multiple layers of WRB was installed. BHA also noted, at some locations, a single layer of WRB



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covered strips of OSB sheathing installed at floor-to-floor transitions. BHA observed, at those locations, the OSB did not run the full height of the wall. BHA examined the WRB and OSB at every location exposed and noted none of the OSB and WRB had any stains or other evidence of water damage. SBSA is alleging a technical deficiency at a few locations is a defect that requires the removal and replacement of the entire stucco system at every building. SBSA has not provided any evidence to support its claim that the:

“deficiency in material properties and number of WRB layers impairs the functionality of the stucco system as required in the building codes and the stucco manufacturer's product specifications”.

Except for the wall-to-soffit areas discussed above, the WRB installed at this project is performing. No defect exists and no repairs needed.

BHA strongly disagrees with SBSA's repair protocol. SBSA's repair to remove all the stucco, lath, EPS foam, and WRB at every building and then install new WRB and new stucco system is excessive and unnecessary. However, if the trier of fact determines a widespread repair is needed, all windows and stucco penetrations can be sealed, and the entire existing stucco exterior can be painted with a quality elastomeric paint. This much more reasonable and appropriate repair will create a weatherproof barrier on the exterior of the stucco and address all of SBSA's stucco and fenestration allegations. BHA estimates it will cost less than \$100,000 total to perform this repair at all the buildings.

1.0C Non-Compliant EPS Foam Board for Stucco System

Plaintiff Description:

Intrusive examination revealed that the foam board used at the Gallery site was generally 3/8- to 7/8-inch thick, did not have the required vertical grooves, and was installed tight to the improperly selected WRB.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- Full removal and replacement of the stucco is required to address the non-compliant installation of the EPS foam board for the existing stucco system.
- Where installed over solid substrates, remove existing EPS foam board to perform the following repairs. Also refer to other stucco repairs in this report.
- Ensure all EPS foam boards have 3/8-inch projecting tongues with compatible grooves at horizontal joints.
- At solid substrates, install new minimum 1/2-inch-thick EPS foam board with vertical grooves spaced at a maximum 12-inches on-center on the back face of the boards. The vertical grooves should be a minimum 1/4-inch wide by 1/8-inch deep as required by ESR-3529.
- As an alternative to EPS foam boards with vertical grooves, flat-faced EPS foam boards may be installed over the solid substrates provided the WRB recommended in Section 3.2.4 of ESR-3529 is used.
- Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.
- Where EPS foam board repairs are necessary at open stud framing, use minimum 1-inch-thick EPS boards installed in compliance with ESR-3529.)

Plaintiff Cost:

Included in costs for 1.0B

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Defense Analysis and Repair Recommendations:

SBSA asserts the stucco manufacturer, Amerimix, required EPS foam with vertical grooves be used where the stucco was applied over solid OSB sheathing. SBSA further alleges:

"This non-compliant condition, along with the combination of other construction defects of the stucco system, will more likely than not reduce the integrity of the structural components and the general appearance of the cladding in the foreseeable future."

BHA documented the condition of the EPS foam and WRB at every location SBSA tested and did not observe any damage that would suggest the lack of grooves in EPS foam over short sections of OSB was not performing as well as the EPS foam on the rest of the wall. A technical deficiency, in and of itself, is not a defect. The EPS installed at this project is performing as intended. No defect exists. No repairs needed.

1.0D Non-Compliant Slope of Horizontal Stucco Surfaces

Plaintiff Description:

Stucco roof parapet caps, roof pop-out boxes, and pop-out boxes at front and rear elevations with inadequate slope are present at locations across all buildings.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.
- Remove existing stucco, lath, and building paper as required to perform the repair as described below.
- Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.
- Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes. Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.
- Reinstall stucco as described in Repair Section C.1.c.
- Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.
- Remove existing stucco, lath, and building paper as required to perform the repair as described below.
- Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.
- Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes. Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.
- Reinstall stucco as described in Repair Section C.1.c.

Plaintiff Cost:

\$ 26,200.00



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Defense Analysis and Repair Recommendations:

SBSA asserts the stucco parapet caps and pop-out boxes, commonly referred to in Arizona as "pot shelves", are not properly sloped. SBSA further opines:

"Where stucco slope does not meet industry standards, and combined with the cracks in the stucco, water is allowed to penetrate under the stucco system."

BHA inspected every location where SBSA performed destructive testing at pot shelves and parapet caps and documented the condition of the framing exposed during the testing. None of the framing was stained or showed any evidence of water damage resulting from inadequate slope.

BHA also inspected all the roof parapet caps and observed all had positive slope. BHA did not observe any signs of standing water on top of any of the parapet caps. BHA argues the intent of the designer was prevent water from standing on the parapet caps. It doesn't matter if the slope at one spot of the parapet cap is 1 percent and another spot 6 feet away is 5 percent. What matters is the as-constructed condition is performing as intended. A technical deficiency, in and of itself is not a defect. SBSA has not provided any evidence of non-performance. No defect exists. No repairs are needed.

1.0E Deficient Self-Adhered Membrane under Horizontal Stucco System

Plaintiff Description:

The Xtraflash SAM installed by the contractor failed to self-seal around fastener holes, which allowed water intrusion resulting in damage to the moisture-sensitive building components.

Plaintiff Location:

N/A

Plaintiff Quantity:

N/A

Plaintiff Repair Scope:

- Refer to Repair Section C.1.d of SBSA's report.

Plaintiff Cost:

Included in costs for 1.0B.

Defense Analysis and Repair Recommendations:

SBSA asserts the Self Adhesive Membrane ("SAM") installed on the horizontal surfaces of the parapet caps and pot shelves has failed. SBSA further opines:

"The Xtraflash SAM installed by the contractor failed to self-seal around fastener holes, which allowed water intrusion resulting in damage to the moisture-sensitive building components. As constructed, the stucco surface cracks and the puncture holes in the deficient SAM have and will allow moisture intrusion and do not comply with the weather-resistance requirements of the applicable building code."

BHA inspected every location where SBSA exposed SAM during its destructive testing. SBSA did not perform any water testing at any of the locations. BHA documented the SAM was properly installed. One of the characteristics of the XtraFlash SAM is its ability to "self-heal" which seals any fastener penetration. SBSA has not provided any evidence fastener penetrations have caused the SAM to fail. The SAM, as installed, is performing as intended. No defect exists. No repairs are needed.

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1.0F Missing Control/Movement Joints

Plaintiff Description:

No horizontal control joints were installed at any of the building elevations and no vertical control joints were installed on the front and rear elevations at any of the buildings.

Plaintiff Location:

N/A

Plaintiff Quantity:

N/A

Plaintiff Repair Scope:

- Refer to Repair Section C.1.b of SBSA's report

Plaintiff Cost:

Included in costs for 1.0B.

Defense Analysis and Repair Recommendations:

SBSA asserts stucco control joints are required accessories and are missing. SBSA further opines:

"Failure to install compliant control/ movement joints violates the manufacturer's installation instructions and industry standards, contributing to the cracking throughout the stucco system."

For many of SBSA's stucco allegations, SBSA cites standards that apply to traditional three-coat stucco systems. The stucco system used at this project is a one-coat system. The stucco thickness is half that of three-coat stucco. In addition, the one-coat stucco material has fiberglass or acrylic fibers added to the mix to assist in minimizing cracking. Control joints are installed in concrete or other cementitious materials to try to "control" where expected cracking occurs. While one-coat stucco is a cementitious product and does crack it does not crack the same way three-coat stucco does. Most of typically minor cracking observed in one-coat stucco occurs during the curing process. One-coat stucco does not have an on-going need to control cracking like three-coat stucco does. As such, the use of control joints in a one-coat stucco system is typical used by an architect as a design element. Such is the case at this project. SBSA argues the architect's design intent was to use control joints at every elevation, however, the architect only specified control joints on the side elevation drawings. If the architect wanted to use the same design element on the front elevation it is not unreasonable to assume the front elevation would reflect it. BHA maintains there is no practical need for control joints in a one-coat stucco system. SBSA's has not provided any evidence the lack of control joints has adversely affected the stucco in any way.

All the stucco cracks observed at this project are hairline with none being larger than 1/32 inches wide. The cracking is well within AROC guidelines. The stucco system is performing as intended. No defect exists. No repairs are needed.

2.0 Moisture-Management System (Barriers, Flashings, Drainage, Etc.)

2.0A Missing Sheet Metal Flashing at Window Head

Plaintiff Description:

The sheet metal flashings were generally missing at the fenestration heads.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%



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Plaintiff Repair Scope:

- Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of SBSA's report.
- Where sheet metal flashing is missing at fenestration heads, perform the repair described below.
- Install new pre-finished sheet metal flashings with 4-inch vertical legs and horizontal legs sloped 10- to 15-degrees as detailed on the architectural plans with hemmed drip edges.
- Apply sealant at ends of sheet metal flashing to provide end dams.
- Ensure all flashing joints and comers are sealed.
- Ensure that the WRB above is shingle-lapped with the sheet metal flashing.
- Reinstall cladding per manufacturer instructions with a minimum 1/4-inch clearance between the bottom of cladding and the back of the sloped sheet metal flashing. Gap between the cladding and flashing to remain unsealed.
- Coordinate repair with related cladding and underlying moisture-management repair recommendations.

Plaintiff Cost:

\$ 19,732.57

Defense Analysis and Repair Recommendations:

SBSA asserts the window heads of every window are missing sheet metal flashing as specified in the construction drawings. SBSA further opines:

"The ineffectiveness of the flashing at fenestration heads is further compounded when cladding is installed tight to fenestration heads without a weep mechanism as discussed in Section C.1.a. This allows water to drain directly onto the fenestration frame and accumulate."

As part of SBSA's destructive testing protocol, stucco was removed from the corner of several window heads. SBSA did not perform any water testing at any window units prior to the stucco removal. BHA was present for the testing and documented the condition of the head flashing at each window tested. At every window the head flashing did not show any sign of failure. To support its claim, SBSA cites IRC section R703.8 Flashing:

"R703.8: Flashing. Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at all of the following locations:

1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage..."

SBSA omitted the rest of the section that specifies how the flashing should be installed:

"Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:

1.1. The fenestration manufacturer's installation and flashing instructions..."

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The windows were flashed following the window manufacturers recommendations, which does not require any metal head flashing.

SBSA argues the lack of metal flashing does not comply to the construction drawings. A deviation from a non-structural detail is not a defect. BHA is unaware of any leaks at any of the windows at this project. The performance of the window installation has not been compromised. BHA maintains that intent of the code requirements has been met. No defect exists. No repairs are needed.

2.0B Non-Compliant Flashing to Stucco Interface

Plaintiff Description:

The metal flashing at the perimeter of the decks and cantilevered awnings is inset above the stucco and water drains into the stucco system below.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- At elevated decks and awnings, remove existing edge flashing and membrane/ coating to allow for stucco repairs described below.
- Remove and replace stucco as required by the architectural details 12/ A8.03 and 5/ A8.04, Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of SBSA's report.
- Install new edge flashing at decks per Section C.4.a of SBSA's report. New deck coating and new awning TPO perimeter edge membrane will be required to facilitate the repairs. Ensure the flashing is integrated with the new deck coating and awning TPO membrane.

Plaintiff Cost:

\$ 48,307.74

Defense Analysis and Repair Recommendations:

SBSA asserts some of the balcony decks have edge metal that is buried by the stucco it is designed to cover. BHA agrees the condition is problematic and should be repaired. BHA disagrees with SBSA's excessive repair to remove the stucco and deck coating to access the existing edge metal and to reflash the decks before restoring the finishes. Where deck edge metal is buried in the stucco, extend the edge metal past the stucco face by installing new sheet metal under the existing drip edge. The new sheet metal should have a break to match the existing edge metal and be installed in a continuous bed of silicone sealant and then painted to match. No stucco or deck coating needs to be removed to facilitate this repair.

2.0C Non-Compliant Isolation Joints at Dissimilar Materials

Plaintiff Description:

Interfaces of dissimilar cladding materials with each other, fenestrations, and penetrations were generally installed without a sealant joint and a backer rod. Where installed, the sealant joint width was inadequate.

Plaintiff Location:

Buildings A-D

Plaintiff Quantity:

Qty. 100%

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Plaintiff Repair Scope:

- At locations where stucco interfaces with dissimilar materials, perform the following repairs. Typical locations for repair include joints at fenestrations, penetrations at all cladding types, vertical joints between cladding types, and joints between all cladding types and wood trim, including fascia trim at re-entrant corners.
- Reinstall cladding as required to address other repair recommendations, providing 3/8- to 1/2-inch-wide gap between dissimilar materials. The depth to width ratio for the joint should be equal to 2:1. At stucco, provide casing bead at edge of joint.
- Install type B backer rod and low-modulus elastomeric sealant to provide compliant butt isolation joint at dissimilar material interfaces with joint widths that are 3/8-inch or greater.
- Install polyethylene bond breaker tape and low-modulus elastomeric sealant to provide compliant fillet isolation joint at dissimilar material interfaces where the existing space is less than 3/8-inch wide or the dissimilar materials are out of plane.
- Following installation of sealant isolation joints at penetrations through the cladding, set surface-mounted objects in continuous sealant against the face of the cladding. Where applicable, profile the sealant at the top of the surface-mounted objects to promote drainage over the top flanges.

Plaintiff Cost:

\$ 14,946.68

Defense Analysis and Repair Recommendations:

SBSA asserts isolation joints at junctures between dissimilar materials is missing or is improper. From SBSA exemplar photographs in its report it appears SBSA is alleging this condition exists at windows, sliding glass doors, and stucco penetrations. SBSA does not provide any evidence of damage or non-performance.

BHA inspected the windows and stucco penetrations and did not observe any damage resulting from missing isolation joints. BHA did observe finish cracks along the tops of the adjacent CMU stairways at some buildings. At these stairways, repairs are warranted. At junctures between adjacent entry stairways, remove stucco and existing sealant, add foam backer rod and seal gap with high grade flexible sealant. Touch up paint to match adjacent finishes.

3.0 Roofing System Type 1 - Spray Polyurethane Foam (SPF)

3.0A Non-Compliant Slope to Roof Drains

Plaintiff Description:

The as-built slope measurements along the roof crickets and adjacent to the drains at the units of the buildings have slopes less than required by the project-specific drawings. In some cases, the roof is sloped away from the means of drainage.

Plaintiff Location:

Repairs to be performed at all roof decks with non-compliant drainage.

Plaintiff Quantity:

Qty. 100%

Plaintiff Repair Scope:

- Repairs to be performed at all roof decks with non-compliant drainage.
- Remove and replace membrane and underlying substrates as necessary to perform repairs described below.
- Remove and replace damaged underlying coverboard and structure, if present.
- Install tapered insulation to provide positive drainage (1/4-inch minimum) towards roof drains.
- Slope cricket a minimum of 1/4-inch-per-foot along the valley.



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Plaintiff Cost:

\$ 168,616.70

Defense Analysis and Repair Recommendations:

SBSA asserts the foam roofs are not properly sloped which will allow water to collect on the roof and deteriorate the roof coating. SBSA did not evaluate the roof performance beyond a visual inspection. During its visual inspection SBSA observed:

"The as-built slope measurements along the roof crickets and adjacent to the drains at the units of the buildings have slopes less than required by the project-specific drawings."

While SBSA inspected all the roofs, SBSA does not make any specific roof allegations other than improper slope. SBSA did document some very small areas of ponding. The AROC recognizes ponding on flat roofs is to be expected. The AROC Workmanship Standards states:

"Minor ponding (up to 1/2" deep in small areas equivalent to no more than 1/3 of span) is acceptable providing roof is dry within 48 hours after rainfall."

BHA inspected all the roofs and did not observe any evidence the roofs are not performing. SBSA does note that two homeowners reported roof leaks but SBSA does not opine as to the cause. BHA is unaware if SBSA has performed any water testing on any of the roofs to determine if ponding water exceeds AROC allowable tolerances.

It is important to note that a foam roof needs to be maintained regularly for it to perform properly. BHA did not observe any evidence the roofs have received any maintenance other than minor repairs KHOV made during the PDA period of this litigation.

SBSA has not provided any evidence the roof is not draining properly. No defect exists. No repairs are needed.

4.0 Elevated Decks, Balconies, or Walkways

4.0A Non-Compliant Slope of Deck

Plaintiff Description:

Where access to elevated decks was provided, the slope of the deck at the deck edge was inadequate to promote positive drainage and allows ponding of water.

Plaintiff Location:

Repairs to be performed at all decks with non-compliant slope and drainage at edge flashing.

Plaintiff Quantity:

Building A: Units 3118, 3122, 3124

Building B: Units 3106, 3110, 3112, 3116

Building C: Units 3113, 3123, 3125, 3127

Building D: Units 3105, 3125

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Plaintiff Repair Scope:

- Repairs to be performed at all decks with non-compliant slope and drainage at edge flashing.
- Remove existing deck edge flashing, membrane, and underlying substrates as necessary to perform repairs described below. Remove and replace damaged underlying structure, if present.
- Provide a notch equivalent to the thickness of the metal flashing and deck coating for a length equal to the horizontal leg of the flashing. Ensure the notch slopes positively towards the deck edge.
- Install new flashing and deck coating flush to the existing deck surface and sloped a minimum of 2-percent to the deck edge.
- Coordinate with repairs recommended in this report.

Plaintiff Cost:

Included in costs for 2.0B.

Defense Analysis and Repair Recommendations:

SBSA asserts the private balcony decks are not properly sloped which allows water to pond. SBSA further opines:

"As built, the ponding water that collects on top of the membrane system provides an unsafe condition for residents and will lead to premature deterioration and eventual failure of the waterproofing."

SBSA did not perform any destructive or water testing at any of the balcony decks. SBSA's opinion is limited to its visual inspection of several decks. SBSA does not provide any support to its claim the decks are unsafe or are deteriorating prematurely. BHA inspected every deck made available and did not observe any evidence the decks are not performing. BHA did note some small spots where water had ponded at a few decks, but noted the area was very shallow. The AROC Workmanship Standards regarding flat roofs applies to balcony decks. The guideline states:

"Minor ponding (up to 1/2" deep in small areas equivalent to no more than 1/3 of span) is acceptable providing roof is dry within 48 hours after rainfall."

SBSA has not provided any evidence the private decks are not draining properly. No defect exists. No repairs are needed.

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5.0 Improper Wall & Ceiling Assembly and Fire Feature at Pool

Plaintiff Description:

Not provided by SBSA

Plaintiff Location:

Not provided by SBSA

Plaintiff Quantity:

Not provided by SBSA

Plaintiff Repair Scope:

- Provide allowance for repairs. Repair scope to be determined.

Plaintiff Cost:

\$ 35,000.00

Defense Analysis and Repair Recommendations:

SBSA does not include this allegation in its report, yet Nautilus includes a \$35,000 cost for this condition in its repair estimate. It is unclear to BHA as to what the alleged defect is and, as such, BHA cannot properly evaluate it. BHA reserves the right to offer its opinion once information has been provided that supports this claim. Until then, no repairs are needed.

VI. Analysis of Nautilus' Cost of Repairs Estimate

BHA will be preparing a repair cost estimate that delineates the recommended repair protocols and quantities as outlined in the defense experts' respective reports. BHA's repair cost estimate, which includes appropriate overhead, profit, and contingency, will be Attachment #1 to this report. Based on BHA's experience and knowledge of construction practices, it is BHA's opinion that the costs presented for the work described in the BHA repair cost estimate are consistent with the current construction market conditions. It is BHA's opinion that if bids were solicited to perform the defense scope of repairs, they would be comparable to BHA's estimate amount.

In addition to the defense cost to repair estimate, BHA also evaluated Nautilus's estimate and found costs and fees that are believed to be excessive and/or unnecessary. These costs and fees serve no other purpose than to inflate the estimate total. An example of this is Nautilus' inclusion of "Architectural Professional Fees" calculated as 12% of the construction costs equating to \$331,177. Nautilus applies the 12% Architectural Professional Fees to every single cost item in their estimate, even though not a single cost item in their estimate would require any architectural design services. SBSA's repair recommendations are based on its assertion the original construction plans, manufacturer requirements, and code requirements were not followed. SBSA recommends all the issues be repaired and made compliant with the original plans and requirements. SBSA has not taken issue with the original architectural and engineering plans and does not offer any new repair design requirements. It is not unreasonable to conclude from SBSA's repair recommendations that all the design work has already provided by the original designers, and therefore, no additional design work is needed.

Exhibit E



GALLERY COMMUNITY ASSOCIATION V. K. HOVNANIAN AT GALLERY, INC., ET. AL.

*Scottsdale, AZ
Desert Vista, Inc. (HCCI# 6950-A)*

HCCI INVESTIGATION & PRELIMINARY REPORT

JANUARY 31, 2022



Prepared for:

Shannon Huff, Esq. and Mohamad H. Tokko, Esq.
Rai & Barone, P.C.
3033 N. Central Avenue, Suite 500
Phoenix, AZ 85012

Prepared by:

West Harrington
Harrington Construction Co., Inc.

10470 FOOTHILL BLVD, SUITE 230 • RANCHO CUCAMONGA, CALIFORNIA 91730 • (909) 861-5452 • (800) 977-8288
FAX (909) 861-2871 • EMAIL hcci@hccigroup.com • www.hccigroup.com
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GALLERY COMMUNITY ASSOCIATION V. K. HOVNANIAN AT GALLERY, INC., ET. AL.

*Scottsdale, AZ
Desert Vista, Inc. (HCCI# 6950-A)*

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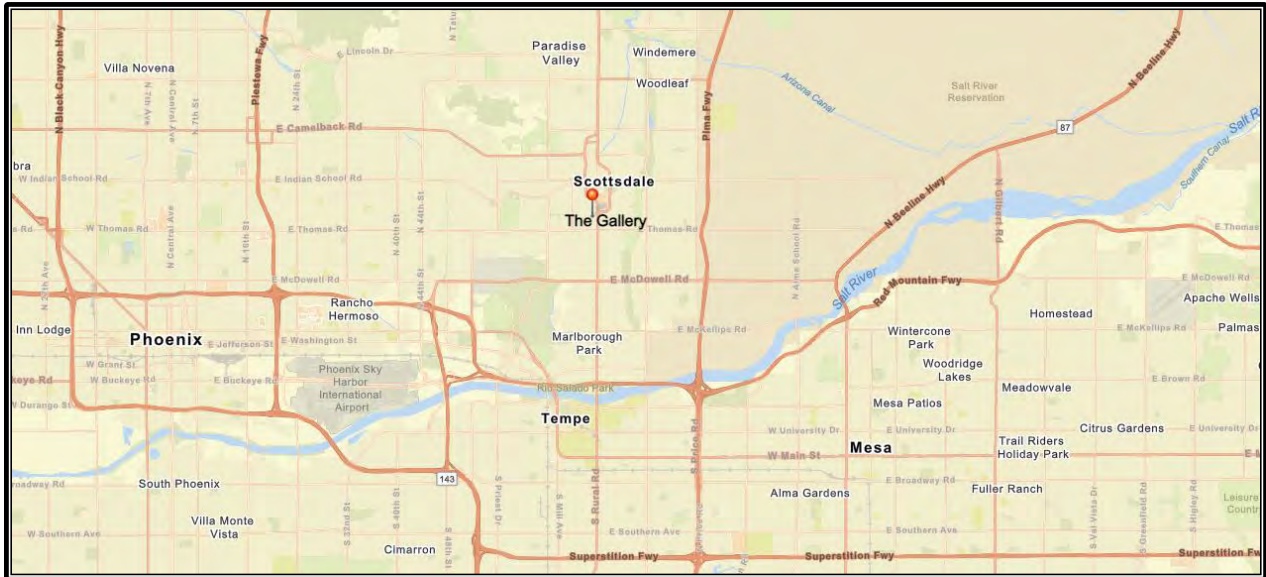
Investigation and Preliminary Report:

GALLERY CONDOMINIUM ASSOCIATION V. K. HOVNANIAN AT GALLERY, LLC, ET AL.

DESERT VISTA, INC.

I. Introduction

The subject project, which was constructed from 2016-2018 under the 2012 IRC, is a residential community located at 3125 N. 71st Street in Scottsdale, Arizona, less than 10 miles northeast of Phoenix Sky Harbor International Airport.



Area map of project location

The Gallery Townhomes development is comprised of four three-story buildings, three five-unit buildings and one three-unit building for a total of 18 units. Buildings are wood-frame construction with exterior stucco system and flat roof.



I. Introduction (Cont.)

Harrington Construction Co., Inc. (“HCCI”) was retained on behalf of Desert Vista, Inc. (“Desert Vista”) to analyze and evaluate the allegations and to provide a cost to repair where indicated. Desert Vista was contracted to install the stucco system on this project.

As of this date, no party has allocated specific defects to Desert Vista. HCCI has responded to those items which are typically attributed to the stucco contractor.

All the opinions expressed herein have been determined with a reasonable degree of scientific certainty. HCCI reserves the right to modify and/or supplement this report as new information becomes available.



II. HCCI Investigation Process

HCCI investigation has included, but has not been limited to, the following components:

1. Visual inspections conducted on November 12, 2021.
2. Review of the following documents:
 - A. *Complaint & Jury Demand*, dated July 27, 2020.
 - B. *Third-Party Complaint*, dated October 6, 2020.
 - C. *LeBlanc Building Co., Inc.'s Initial Disclosure Statement*, dated April 9, 2021.
 - D. *Sargon Masonry Construction, LLC's Initial Disclosure Statement*, dated May 24, 2021.
 - E. *Plaintiff's Initial Disclosure Statement*, dated June 4, 2021.
 - F. *Liberty Constructors' Initial Disclosure Statement*, dated June 4, 2021.
 - G. *Chas Roberts Air Conditioning, Inc.'s Initial Disclosure Statement*, dated June 4, 2021.
 - H. *Gothic Landscaping, Inc.'s Initial Disclosure Statement*, dated June 4, 2021.
 - I. *Defendants'/Third Party Plaintiff's Initial Disclosure Statement*, dated June 16, 2021.
 - J. *Plaintiff's 1st Supplemental Disclosure Statement*, dated June 23, 2021.
 - K. SBSA, LLC, *Construction and Design Compliance Report*, dated June 23, 2021.
 - L. SBSA, LLC, *Civil Repair Drawings*.
 - M. SBSA, LLC, *Defect Matrix*.
 - N. SBSA, LLC, observation photographs.
 - O. SBSA, LLC, *Technical Memorandum*, dated July 22, 2021.
 - P. *Plaintiff's 2nd Supplemental Disclosure Statement*, dated July 23, 2021.
 - Q. Nautilus General Contractor, Inc., *Estimate of Costs*, dated July 23, 2021.



II. HCCI Investigation Process (Cont.)

2. Review of the following documents (Cont.):
 - R. *Plaintiff's 3rd Supplemental Disclosure Statement*, dated August 5, 2021.
 - S. Bert L. Howe & Associates, Inc., *Preliminary Defense Cost of Defense Scope Estimate*, dated August 8, 2021.
 - T. Peterson Geotechnical Group, *Civil and Geotechnical Engineering Evaluation*, dated August 10, 2021.
 - U. *Defendants'/Third Party Plaintiff's 1st Supplemental Disclosure Statement*, dated August 11, 2021.
 - V. Bert L. Howe & Associates, Inc., *Defense Response Report*, dated August 11, 2021.
 - W. Nautilus General Contractor, Inc., observation photographs.
 - X. *Plaintiff's 4th Supplemental Disclosure Statement*, dated August 18, 2021.
 - Y. *Defendants'/Third Party Plaintiff's 2nd Supplemental Disclosure Statement*, dated August 19, 2021.
 - Z. *Plaintiff's 5th Supplemental Disclosure Statement*, dated August 25, 2021.
 - AA. Nautilus General Contractor, Inc., temporary repair photographs.
 - BB. *Plaintiff's 6th Supplemental Disclosure Statement*, dated September 9, 2021.
 - CC. *Plaintiff's 7th Supplemental Disclosure Statement*, dated October 4, 2021.
 - DD. *Plaintiff's 8th Supplemental Disclosure Statement*, dated October 15, 2021.
 - EE. SBSA, LLC, *Supplemental Construction and Design Compliance Report*, dated October 14, 2021.
 - FF. *Plaintiff's 9th Supplemental Disclosure Statement*, dated October 20, 2021.
 - GG. *Desert Vista, Inc.'s Answer to Third-Party Complaint*, dated October 25, 2021.
 - HH. *Plaintiff's 10th Supplemental Disclosure Statement*, dated November 11, 2021.
 - II. Nautilus General Contractor, Inc., *Revised Preliminary Estimate of Costs*, dated November 11, 2021.



II. HCCI Investigation Process (Cont.)

2. Review of the following documents (Cont.):

JJ. *Desert Vista, Inc.'s Initial Disclosure Statement*, dated November 23, 2021.

KK. *Plaintiff's 11th Supplemental Disclosure Statement*, dated December 27, 2021.

LL. *Plaintiff's 12th Supplemental Disclosure Statement*, dated January 6, 2022.

MM. *Renco, LLC dba Renco Roofing Initial Disclosure Statement*, dated June 4, 2021.

NN. Plaintiff Responses to Renco Roofing's Discovery.

OO. K. Hovnanian Arizona Operations LLC's Responses to Plaintiff's Discovery.

PP. K. Hovnanian Arizona Operations LLC's Responses to Renco Roofing's Discovery.

QQ. Desert Vista, Inc., *Work Agreement*, dated July 21, 2016.

RR. Desert Vista, Inc., *Master Subcontract Agreement*, dated March 2, 2010.

SS. *Unit Owner Photographs*.

TT. *City Approved project plans*.

3. Review of the following industry standards:

A. 2012 IRC

B. McGraw-Hill Construction Databook

C. RS Means Residential & Light Commercial Construction Standards

D. NAHB Residential Construction Performance Guidelines

E. David Kent Ballast Handbook of Construction Tolerances

F. 2009 AROC Workmanship Standards for Licensed Contractors



III. HCCI Analysis of Alleged Architectural Defects

Defect C.1.0 A – Missing weep mechanism in stucco.

SBSA Description:

Installation of a weep mechanism or drip edge at horizontal terminations of the stucco at locations where the stucco application is continued onto a horizontal surface, such as a soffit, is required by industry standards. The weep mechanism allows water within the cladding system to exit to the exterior as required by code, and the drip edge component is to allow the water to break from the surface adhesion and fall away from the structure. Sealing, blocking, omitting, or failing to integrate the weep mechanism results in moisture accumulating behind the cladding, promoting the continuous and progressive deterioration of the underlying water-sensitive building components, including the stucco. Generally, the outward signs due to the entrapped water result in stucco cracks and beneath the products result in damages to the interstitial spaces, including rusted fasteners and stained and/ or deteriorated sheathing. All horizontal terminations of the stucco system should incorporate a weep mechanism that is properly integrated with the WRB so that water can travel down the drainage plane and drain to the exterior. Therefore, weep mechanisms are an essential component of the moisture-management system.

The architectural details specify base flashing with weep holes at stucco to window and door head interfaces and reference the stucco manufacturer. The stucco manufacturer requires a weep screed at base of walls, windows, doors, and roofs. The architectural details also specify a minimum 1/4-inch clearance at the stucco soffit to stucco siding interface, with a drainage strip installed per the stucco manufacturer. The architect specified the soffit WRB to be turned up and lapped 6-inches under the wall WRB. Stucco installation details provided in the ESR-3529 require a 1-3/8-inch weep screed shingle-lapped with the wall WRB at foam and solid substrates and 1/2-inch J-weep screed with a solid substrate at roofs. The applicable building codes specify using a 0.019-inch, corrosion-resistant weep screed with a minimum 3-1/2-inch vertical attachment flange shingle-lapped with the WRB to allow drainage of water to the building exterior.

At the Gallery site, the weep casing beads were missing at fenestration heads, stucco roof pop-outs, and soffit terminations, which violates the architectural drawings, the stucco manufacturer requirements, and the building code requirements. This non-compliant condition creates a system which does not drain moisture to the exterior as required by the architectural drawings and stucco manufacturer requirements. Manifestation of resultant damages included stucco cracks, rusted fasteners, deteriorated WRB and stains at sheathing. Weep mechanisms were installed at stucco terminations to roofs, decks, and foundations, indicating the contractor was cognizant of installing weep mechanisms at horizontal terminations in stucco.



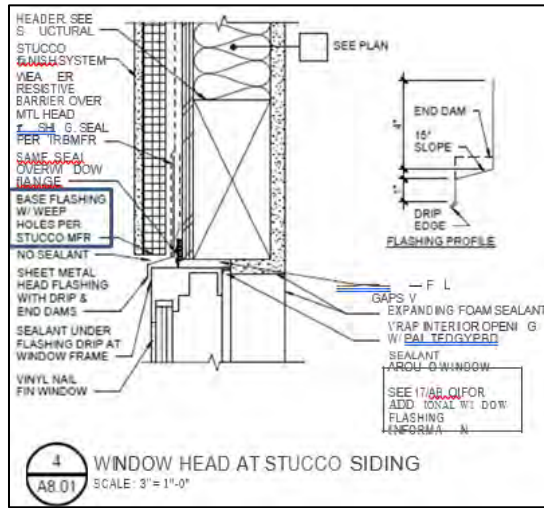
Defect C.1.0 A (Cont.) – Missing weep mechanism in stucco.

SBSA Description (Cont.):

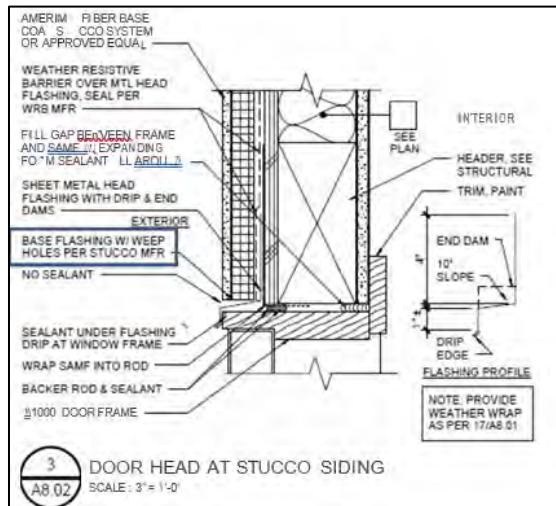
Where weep mechanisms in stucco are missing, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

SBSA Standards:

Otak Inc. “K. Hovnanian Homes, Gallery Townhomes,” revised date August 2, 2016, Sheet A8.01 “Exterior Details,” “4/A8.01 Window Head at Stucco Siding”



Otak Inc. “K. Hovnanian Homes, Gallery Townhomes,” revised date August 2, 2016, Sheet A8.02 “Exterior Details,” “3/A8.02 Door Head at Stucco Siding”

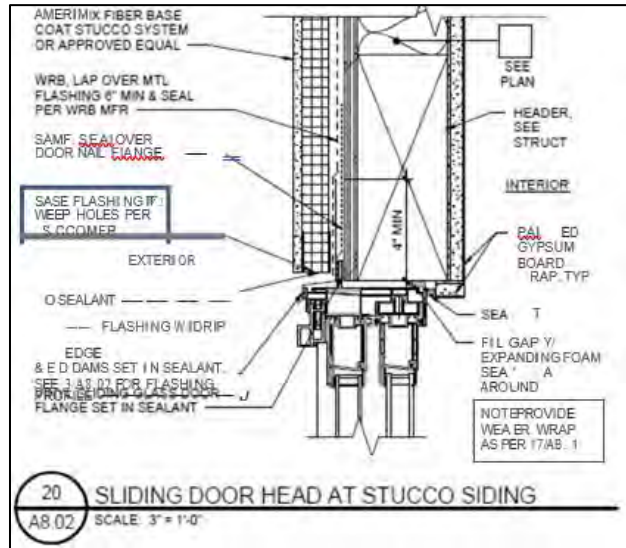




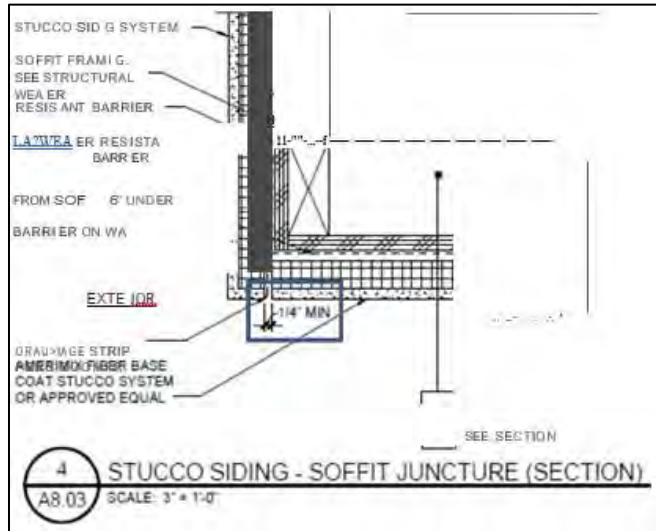
Defect C.1.0 A (Cont.) – Missing weep mechanism in stucco.

SBSA Standards (Cont.):

Otak Inc. “K. Hovnanian Homes, Gallery Townhomes,” revised date August 2, 2016, Sheet A8.02 “Exterior Details,” “20/A8.02 SGD Head at Stucco Siding”



Otak Inc. “K. Hovnanian Homes, Gallery Townhomes,” revised date August 2, 2016, Sheet A8.03 “Exterior Details,” “4/A8.03 Stucco Siding – Soffit Juncture”





Defect C.1.0 A (Cont.) – Missing weep mechanism in stucco.

SBSA Standards (Cont.): ICC Evaluation Service Report (ESR), Evaluation Report ESR-3529 "Evaluation Subject: Amerimix Fiber Base Coat Stucco," reissued February 2017.

SBSA Locations: Weep mechanisms are missing at all soffit, fenestration head, and stucco termination to stucco pop-out box locations across the Gallery site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.

SBSA Repair Recommendations:

- Coordinate with replacement of the WRB and the stucco system as described in Sections C.1.b and C.1.c of SBSA's report.
- Install new weep mechanisms at the following horizontal terminations.
- At window heads, slider door heads, swing door heads, and garage door heads, terminate the weep casing bead 1/4-inch above sheet metal head flashing.
- At soffits, install weeps per the architectural Detail 4/ AS.03 and manufacturer's requirements.
- Shingle-lap WRB with new weep mechanisms.
- Coordinate repair with related stucco and underlying moisture-management repair recommendations as well as all adjacent civil repair recommendations.

SBSA COR: \$33,862.76

BHA Analysis & Repair Recommendations:

SBSA asserts stucco weep mechanisms were omitted at fenestration heads, stucco pop-outs, and at stuccoed soffits. An analysis of SBSA's exemplar photos show SBSA is grouping two different conditions together, missing weep mechanisms at window heads and missing weep mechanisms at wall-to-soffit transitions. SBSA cites construction plan details to support its claim.

BHA was present for SBSA's destructive testing and observed several locations where SBSA removed stucco at window heads. The windows at this project were manufactured by MI Windows and Doors ("MI"). All the window heads exposed by SBSA were flashed according to MI installation guidelines. BHA examined the flashing and WRB tested by SBSA and did not observe any evidence of non-performance. SBSA has not provided any evidence to support this claim other than asserting the construction drawings specified it.



Defect C.1.0 A – Missing weep mechanism in stucco. (Cont.)

BHA Analysis & Repair Recommendations (Cont.):

BHA maintains that a deviation from the drawings is not, in and of itself, a defect. The project architect clearly states in the "Method of Construction" section of the General Structural Notes:

"The contractor shall be solely responsible for construction means, methods, technique, sequences, and procedure."

The intent of the architect's design is to integrate the stucco system around the window to not allow water to collect on the window head and damage the WRB. SBSA's invasive testing of the window showed the as-constructed condition is meeting the architect's intent and has performed and can be expected to continue to perform. No repairs are needed at the window heads.

As part of SBSA's destructive testing protocol, stucco was removed at several wall-to-soffit transitions. BHA observed some locations with clear evidence the lack of a weep mechanism at the soffit has allowed moisture to accumulate behind the stucco system and deteriorate the WRB. While not every wall-to-soffit transition exhibited signs of water damage, the condition is problematic and should be repaired. At large wall-to-soffit locations, remove a 12-inch strip of stucco from the wall and soffit and install weeps integrated with WRB before restoring the stucco system. The repairs should be painted to match the adjacent finishes.

BHA Cost: \$43,496.35

HCCI Response to Defect Allegation:

HCCI observed instances of missing weep mechanisms at the inspections we attended and during our extensive review of plaintiff and developer photographs **(Photo #1)**.



Defect C.1.0 A – Missing weep mechanism in stucco. (Cont.)

HCCI Response to Defect Allegation (Cont.):



Photo #1 (Pltff Photo Disc IT6 Photo 280): Window head exposed during DT.

SBSA has asserted that weep mechanisms prescribed in the project drawings were omitted at fenestration heads, pop-outs and soffits.

Fenestration Heads:

The manner in which Desert Vista terminated their plaster system around windows is consistent with the predominant custom and practice in the Greater Phoenix region. In fact, the windows are specifically manufactured to receive the stucco system *without* additional weeping mechanisms.

The as-built condition is consistent with regional practices and is performing as intended. No modification to the window assemblies associated with Desert Vista's work is required.



Defect C.1.0 A – Missing weep mechanism in stucco. (Cont.)

HCCI Response to Defect Allegation (Cont.):

Pop-Outs and Soffits:

During SBSA’s destructive testing, stucco was removed at a number of wall-to-soffit transitions. At some of these locations, there was evidence of water intrusion (**Photo #2**).



Photo #2 (Pltff Photo Disc ITS Photo 73): Minor staining at exposed framing.

The degree to which this condition exists has not led to anything more than “incidental” water as defined by **ASTM 2128** (*page 1, section 3.2.1*)¹:

“Incidental water [is] unplanned water infiltration that penetrates beyond the primary barrier and the flashing or secondary barrier system, of such limited volume that it can escape or evaporate without causing adverse consequences.”

It is HCCI’s opinion that there is only minimal evidence of water intrusion at the wall to soffit intersections. However, the absence of a weep mechanism may result in damage over the life of the building. Accordingly, HCCI has recommends the installation of a weep mechanism at the large wall to soffit locations. HCCI has independently evaluated the developer expert’s scope and cost of \$59,579.47 associated with this issue and has determined that it is an appropriate scope and cost to repair for this issue.

¹ ASTM 2128 Excerpt



Defect C.1.0 B - Non-complaint WRB for stucco system.

SBSA Description:

The building code, manufacturer specifications, and industry standards require a complete and compliant WRB behind moisture-managed claddings. The architectural drawings specify installation of WRB per section 2510.6 of the IBC. The stucco manufacturer's product evaluation report ESR-3529 specifies installation of WRB per the applicable building codes.

The applicable codes and the ESR-3529 require the WRB with a performance equivalent to two layers of Grade D paper, such that each layer provides a separate continuous plane. An exception to the above stated requirements is if the WRB applied over solid sheathing has a water resistance equal to or greater than that of 60-minute Grade D paper and is separated from the stucco by an intervening, substantially non water-absorbing layer or drainage space.

Intrusive examination revealed that a single layer of WRB was generally installed over open stud framing and solid sheathing. Occasionally, two layers of WRB over framing were identified to have been used. The WRB used at the Gallery site was labeled GMCraft-10 324, Type 1, Grade D, Style 2, ESR 2376. The label indicates that the WRB product used throughout the site is an asphalt-saturated type D building paper that has a nominal finish weight of 3.5-pounds-per-100-square-foot and designed to resist water intrusion for a minimum of 10-minutes when tested according to ASTM D-779. The nominal weight for a number 15 asphalt felt is generally between 7.5- to 12.5- pounds-per-100-square-foot (psf). The WRB manufacturer's product specifications state the GMCraft-10 exceeds 20-minutes of water resistance but does not meet the 60- minute requirement required by the building code and the stucco manufacturer. As constructed, the applied WRB does not meet the nominal weight, the number of required layers, the water resistance requirements of the applicable building code, and the ESR-3529 report for the Amerimix stucco system specified on the architectural drawings. This deficiency in material properties and number of WRB layers impairs the functionality of the stucco system as required in the building codes and the stucco manufacturer's product specifications.

Haphazardly installed and closely spaced staple and fastener holes facilitate the water intrusion, causing damage and increasing future additional damage. Full-length rusted fasteners and stains on framing indicate damage due to water intrusion where the non-compliant WRB was installed behind stucco. Failure of the moisture management system along with the combination of other construction defects as discussed in this report will continue to direct water onto moisture-sensitive building components.



Defect C.1.0 B (Cont.) - Non-complaint WRB for stucco system.

SBSA Description (Cont.):

Where non-compliant WRB for stucco system exists, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

SBSA Standards:

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A1.01 "Construction Assemblies," states the following: *"IBC 1405.10.1.1 WATER RESISTIVE BARRIERS - Water-Resistive Barriers Shall Be Installed As Required In Section 2510.6"*

ICC Evaluation Service Report (ESR), "Evaluation Report ESR-3529 "Evaluation Subject: Amerimix Fiber Base Coat Stucco," reissued February 2017, Section 3.0, subsection 3.2.

International Code Council, Inc. (ICC), "International Residential Code (IRC)," 2012, Chapter 7 "Wall Covering," Section R703 "Exterior Covering," Subsection R703.6.

International Code Council, Inc. (ICC), "International Building Code (IBC)," 2012, Chapter 25 "Gypsum Board and Plaster," Section 2510.

International Code Council, Inc. (ICC), "International Residential Code (IRC)," 2012, Chapter 7 "Wall Covering," Section R703.

GMC Roofing & Building Paper Products, Inc. (GMC), "GMCraft 10 Minute Weather Resistive Barrier, Product Data," June 2020.

ICC Evaluation Service Report (ESR), "Evaluation Subject: GMCraft 10 Minute, GMCraft 30 Minute, and GMCraft 60 Minute Water-Resistive Barriers, ESR-2376," reissued May 2019.



Defect C.1.0 B (Cont.) - Non-complaint WRB for stucco system.

SBSA Locations: Non-compliant WRB for the stucco system exists at all locations where stucco is applied across the Gallery site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.

SBSA Repair Recommendations:

- Full removal and replacement of the stucco and the exterior insulation is required to address the non-compliant installation of the WRB for the existing stucco system. Remove existing WRB to perform following repairs.
- Install missing exterior sheathing and straps, as necessary, per the LFRS repairs recommended in Section A.2 of SBSA's report.
- Install sheet metal flashings per Section C.2.a of SBSA's report.
- Ensure that the WRB above is shingle-lapped with the sheet metal flashing.
- Install new WRB per the requirements of ESR-3529 for the existing stucco system.
 - Repair contractor to estimate using between two layers of Grade D kraft building paper or one layer of Grade D kraft paper with minimum water-resistance rating of 60-minutes or using Tyvek products such as Stucco Wrap or Drain Wrap as specified in Section 3.2.4 and Section 3.2.1 0 of ESR-3529.
- Ensure all WRB terminations shingle-lap with all surrounding rigid and flexible flashings, weeps, and accessories.
- Install EPS foam boards per repairs recommended in Section C.1.c of SBSA's report.
- Install new stucco system to comply with the current requirements of ESR-2359.
- Install lath per the stucco manufacturer and ASTM C1 063.
- Install control joints at fenestration comers, floor lines, top plate/truss lines, and within the field of the wall to comply with ASTM C1 063 and the stucco manufacturer.
- Install weep casing beads with 3-1/2-inch vertical legs at all stucco terminations Ensure that the WRB shingle-laps with the new weep casing beads.
- Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.

SBSA COR: \$1,276,075.15



Defect C.1.0 B - Non-complaint WRB for stucco system. (Cont.)

BHA Defense Response & Repair Recommendations:

As part of SBSA's destructive testing protocol, the stucco system was removed at several locations and the water restive barrier ("WRB") was observed. SBSA observed some locations where one layer of WRB covered the solid OSB shear panel. SBSA asserts two-layers of WRB are required over OSB sheathing or if one layer is used, it must meet the water resistance requirements of the applicable building code and ESR-3529 report. BHA observed SBSA's destructive testing of the stucco and documented the appropriate WRB was installed over open framing which makes up most of the wall construction. At serval locations multiple layers of WRB was installed. BHA also noted, at some locations, a single layer of WRB covered strips of OSB sheathing installed at floor-to-floor transitions. BHA observed, at those locations, the OSB did not run the full height of the wall. BHA examined the WRB and OSB at every location exposed and noted none of the OSB and WRB had any stains or other evidence of water damage. SBSA is alleging a technical deficiency at a few locations is a defect that requires the removal and replacement of the entire stucco system at every building. SBSA has not provided any evidence to support its claim that the:

"deficiency in material properties and number of WRB layers impairs the functionality of the stucco system as required in the building codes and the stucco manufacturer's product specifications".

Except for the wall-to-soffit areas discussed above, the WRB installed at this project is performing. No defect exists and no repairs needed.

BHA strongly disagrees with SBSA's repair protocol. SBSA's repair to remove all the stucco, lath, EPS foam, and WRB at every building and then install new WRB and new stucco system is excessive and unnecessary. However, if the trier of fact determines a widespread repair is needed, all windows and stucco penetrations can be sealed, and the entire existing stucco exterior can be painted with a quality elastomeric paint. This much more reasonable and appropriate repair will create a weatherproof barrier on the exterior of the stucco and address all of SBSA's stucco and fenestration allegations. BHA estimates it will cost less than \$100,000 total to perform this repair at all the buildings.

BHA COR: \$0.00

HCCI Response to Defect Allegation:

HCCI observed evidence of the use of a single layer of WRB during our extensive review of plaintiff and developer photographs **(Photo #3)**.



Defect C.1.0 B (Cont.) - Non-complaint WRB for stucco system.

HCCI Response to Defect Allegation (Cont.):



Photo #3 (Pltff Photo Disc ITS Photo 178): One layer of WRB over sheathing.

SBSA has asserted that the weather resistive barrier (“WRB”) does not meet the applicable codes and the ESR-3529 for the Amerimix Fiber Base Coat Stucco system utilized on the project.

During SBSA’s destructive testing, stucco was removed at a number of locations and the WRB was inspected. At some locations, there was a single layer of WRB over OSB shear panel. While HCCI agrees that the building code and ESR-3529 prescribe either two-layers of WRB (or 60-minute Grade D paper separated from the stucco by an intervening non-water-absorbing layer or drainage space) there is no evidence that the as-built condition is not performing as intended.

According to the Western Regional Climate Center (www.wrcc.dri.edu), the region near Phoenix, Arizona’s average annual rainfall of 7.32 inches². The very minor levels of precipitation in the Greater Phoenix region do not significantly challenge the stucco system components.

² Western Regional Climate Center Rainfall Data



Defect C.1.0 B (Cont.) - Non-complaint WRB for stucco system.

HCCI Response to Defect Allegation (Cont.):

The degree to which this condition exists has not led to anything more than “incidental” water as defined by **ASTM 2128** (page 1, section 3.2.1):

“Incidental water [is] unplanned water infiltration that penetrates beyond the primary barrier and the flashing or secondary barrier system, of such limited volume that it can escape or evaporate without causing adverse consequences.”

The as-built condition is performing as intended. No repairs are required.

Alternatively, if it is determined that the WRB is in fact allowing water intrusion that results in damage to building components, HCCI recommends the application of an elastomeric paint/coating on weather exposed surfaces. HCCI has performed a Rough Order of Magnitude estimate for this scope of work and has determined that the approximate value is \$100,000.00.



Defect C.1.0 C (Cont.) – Non-compliant EPS foam board for stucco system.

SBSA Description:

The architectural drawings and builder's specifications both specify Amerimix stucco system installed over a 1-inch-thick rigid foam substrate. The architectural drawings and the manufacturer's product specification both refer to ESR-3529. Where the stucco system is installed over open stud framing, the ESR-3529 requires a minimum 1-inch thick EPS foam plastic insulation board with 3/8-inch projecting tongues and compatible grooves for horizontal joints. Where installed over solids substrates such as OSB sheathing, the ESR-3529 requires a minimum 1/2-inch-thick EPS foam plastic insulation board with vertical grooves on the back face (interior side) of the boards. The grooves are required to be a minimum 1/4-inch wide by 1/8-inch deep spaced a maximum of 12-inches to allow efficient drainage of moisture between the EPS foam boards and the WRB. As an alternative to EPS foam boards with vertical grooves, ESR-3529 allows using flat-faced EPS foam boards if Tyvek StuccoWrap® or Tyvek DrainWrap® WRB is installed over the solid substrate.

Intrusive examination revealed that the foam board used at the Gallery site was generally 3/8- to 7/8-inch thick, did not have the required vertical grooves, and was installed tight to the improperly selected WRB. The GMCraft-10 WRB was installed at all buildings and is not recognized by ESR-3529 for application of flat-faced foam boards without vertical grooves. Flat-faced foam boards installed tight to the WRB are non-compliant with the project requirements, prevent a bond break or drainage gap between the stucco system and the WRB, and obstruct drainage of the moisture behind the stucco. Use of non-compliant EPS foam boards in combination with the non compliant WRB type reduces the overall performance of the moisture-management system. Damage included stains on the interior face of the EPS foam boards and full length rusted fasteners where entrapped water overwhelmed the moisture management system. This non-compliant condition, along with the combination of other construction defects of the stucco system, will more likely than not reduce the integrity of the structural components and the general appearance of the cladding in the foreseeable future.

Where non-compliant EPS foam board exists, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

SBSA Standards:

ICC Evaluation Service Report (ESR), Evaluation Report ESR-3529 "Evaluation Subject: Amerimix Fiber Base Coat Stucco," reissued February 2017, Section 3.0.



Defect C.1.0 C (Cont.) – Non-compliant EPS foam board for stucco system.

SBSA Standards (Cont.): ICC Evaluation Service Report (ESR), Evaluation Report ESR-3529 "Evaluation Subject: Amerimix Fiber Base Coat Stucco," reissued February 2017, Section 4.0.

SBSA Locations: Non-compliant EPS foam board installation for stucco exists at locations where stucco is applied over solid substrates across the Gallery site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.

SBSA Repair Recommendations:

- Full removal and replacement of the stucco is required to address the non-compliant installation of the EPS foam board for the existing stucco system.
- Where installed over solid substrates, remove existing EPS foam board to perform the following repairs. Also refer to other stucco repairs in this report.
- Ensure all EPS foam boards have 3/8-inch projecting tongues with compatible grooves at horizontal joints.
- At solid substrates, install new minimum 1/2-inch-thick EPS foam board with vertical grooves spaced at a maximum 12-inches on-center on the back face of the boards. The vertical grooves should be a minimum 1/4-inch wide by 1/8-inch deep as required by ESR-3529.
- As an alternative to EPS foam boards with vertical grooves, flat-faced EPS foam boards may be installed over the solid substrates provided the WRB recommended in Section 3.2.4 of ESR-3529 is used.
- Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.
- Where EPS foam board repairs are necessary at open stud framing, use minimum 1-inch-thick EPS boards installed in compliance with ESR-3529.

SBSA COR: Included in 1.0B.

BHA Defense Response & Repair Recommendations:

SBSA asserts the stucco manufacturer, Amerimix, required EPS foam with vertical grooves be used where the stucco was applied over solid OSB sheathing. SBSA further alleges:

"This non-compliant condition, along with the combination of other construction defects of the stucco system, will more likely than not reduce the integrity of the structural components and the general appearance of the cladding in the foreseeable future."



Defect C.1.0 C (Cont.) – Non-compliant EPS foam board for stucco system.

BHA Defense Response & Repair Recommendations (Cont.):

BHA documented the condition of the EPS foam and WRB at every location SBSA tested and did not observe any damage that would suggest the lack of grooves in EPS foam over short sections of OSB was not performing as well as the EPS foam on the rest of the wall. A technical deficiency, in and of itself, is not a defect. The EPS installed at this project is performing as intended. No defect exists. No repairs needed.

BHA COR: \$0.00

HCCI Response to Defect Allegation:

HCCI observed instances of non-compliant EPS foam board during our extensive review of the available plaintiff and developer photographs (**Photo #4**).



Photo #4 (Pltff Photo Disc IT7 Photo 279): EPS foam board exposed during DT.



Defect C.1.0 C (Cont.) – Non-compliant EPS foam board for stucco system.

HCCI Response to Defect Allegation (Cont.):

SBSA has asserted that the EPS foam board does comply with the requirements of ICC-ES report ESR-3529 for the Amerimix Fiber Base Coat Stucco system utilized on the project.

HCCI did not observe any damage associated with the as-built condition where SBSA exposed the EPS foam.

The as-built condition is performing as intended. No repairs are required.



Defect C.1.0 D – Non-compliant slope of horizontal stucco surfaces.

SBSA Description:

Stucco is water-resistant, not waterproof, and is expected to be permeated by water. Horizontal stucco surfaces with little or no slope can pond or hold water. Water penetrates into the assembly, resulting in damage to the sheathing and other moisture sensitive building products. To reduce the water migration into the moisture-managed system, stucco is required to slope and be waterproofed below in order to effectively shed water off its surface and away from the substrate.

Stucco roof parapet caps, roof pop-out boxes, and pop-out boxes at front and rear elevations with inadequate slope are present at locations across all buildings. The architectural elevations locate stucco pop-out boxes between the garage and first floor level for unit types 30-1210 and 31-1211. For unit type 32-1212, the stucco pop-out boxes are located between the first floor and second floor levels. The architectural drawings specify stucco parapet caps and pop-out boxes to be sloped but provide no further information. Stucco industry standards require a minimum 1:2 slope. Providing slope to stucco surfaces minimizes the absorption of the water through the stucco and into the framed wall components. Waterproofing below the stucco cap should be used regardless of the slope. For further discussion, refer to section C.1.e of this report.

The as-built slope measurements of the stucco parapet walls were constructed with varying slope ranging between 0- to 30-percent, and the stucco pop-out boxes were constructed with varying slope ranging between 5- to 15-percent. At some locations, the stucco was constructed with a slope away from the point of drainage. Also, at some locations the stucco at the roof parapets was sloped to the exterior instead of constructed with the slope inward towards the roof. Where stucco slope does not meet industry standards, and combined with the cracks in the stucco, water is allowed to penetrate under the stucco system.

Where non-compliant slope of stucco at horizontal surfaces exists, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

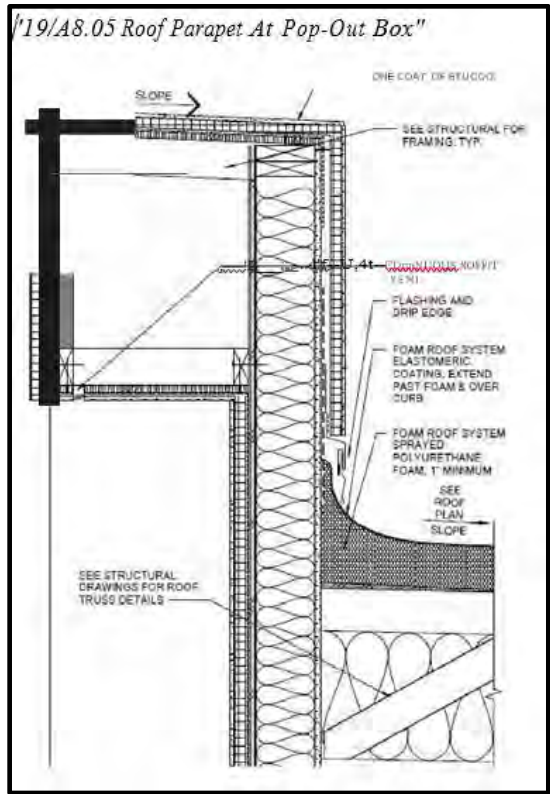
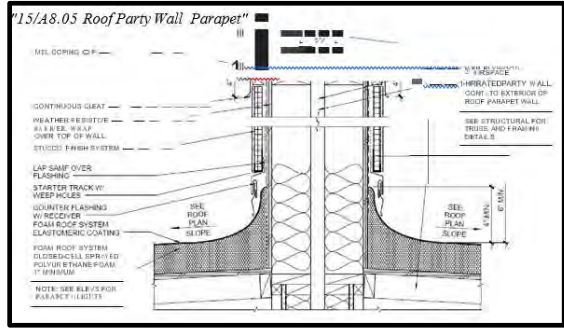
SBSA Standards:

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.05 "Exterior Details"



Defect C.1.0 D (Cont.) – Non-compliant slope of horizontal stucco surfaces.

SBSA Standards (Cont.):



Stucco Manufacturers Association (SMA), prepared by the Northwest Wall and Ceiling Bureau, "Portland Cement Plaster Stucco Resource Guide," Third Edition, 1997.

SBSA Locations:

Non-compliant slope of horizontal stucco surfaces exist at locations across all buildings at the Gallery site.



Defect C.1.0 D (Cont.) – Non-compliant slope of horizontal stucco surfaces.

SBSA Repair Recommendations:

- Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.
- Remove existing stucco, lath, and building paper as required to perform the repair as described below.
- Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.
- Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes.
- Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.
- Reinstall stucco as described in Repair Section C.1.c.
- Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.
- Remove existing stucco, lath, and building paper as required to perform the repair as described below.
- Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.
- Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes.
- Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.
- Reinstall stucco as described in Repair Section C.1.c.

SBSA COR: \$26,200.00

BHA Defense Response & Repair Recommendations:

SBSA asserts the stucco parapet caps and pop-out boxes, commonly referred to in Arizona as "pot shelves", are not properly sloped. SBSA further opines:

"Where stucco slope does not meet industry standards, and combined with the cracks in the stucco, water is allowed to penetrate under the stucco system."



Defect C.1.0 D (Cont.) – Non-compliant slope of horizontal stucco surfaces.

BHA Defense Response & Repair Recommendations (Cont.):

BHA inspected every location where SBSA performed destructive testing at pot shelves and parapet caps and documented the condition of the framing exposed during the testing. None of the framing was stained or showed any evidence of water damage resulting from inadequate slope.

BHA also inspected all the roof parapet caps and observed all had positive slope. BHA did not observe any signs of standing water on top of any of the parapet caps. BHA argues the intent of the designer was prevent water from standing on the parapet caps. It doesn't matter if the slope at one spot of the parapet cap is 1 percent and another spot 6 feet away is 5 percent. What matters is the as-constructed condition is performing as intended. A technical deficiency, in and of itself is not a defect. SBSA has not provided any evidence of non-performance. No defect exists. No repairs are needed.

BHA COR: \$0.00

HCCI Response to Defect Allegation:

HCCI observed instances of improper slope at horizontal stucco surfaces at the inspections we attended and during our extensive review of plaintiff and developer photographs (**Photo #5**).



Defect C.1.0 D (Cont.) – Non-compliant slope of horizontal stucco surfaces.

HCCI Response to Defect Allegation (Cont.):



Photo #5 (Pltff Photo Disc OBS7 Photo 350): Roof parapet wall 0.5% slope.

SBSA asserts that the parapets and pot shelves are not properly sloped and that water is penetrating the stucco system.

HCCI did not observe any damage associated with the as-built condition where SBSA exposed the framing at parapets and pot shelves.

The as-built condition is performing as intended. No repairs are required.



Defect C.1.0 E – Deficient self-adhered membrane under horizontal stucco system.

SBSA Description:

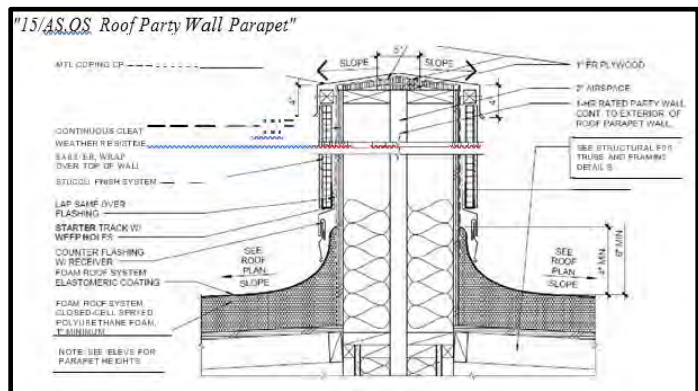
The stucco system was used at horizontal surfaces of parapet walls and pop-out boxes as discussed in section C.1.d. The architectural drawings detail the WRB to be wrapped over the top of the wall and integrated with the WRB on the vertical face of the wall. SAM was detailed to lap over the flashing or weep system at stucco termination. No clear information was shown regarding the extent of the SAM over the WRB.

Cracks at horizontally applied stucco surfaces were documented throughout the Gallery site. At intrusive examinations, the top of the stucco parapet walls and pop-out boxes were covered with Xtraflash SAM under the stucco system. Cracks and puncture holes due to the staples and nails used to attach the stucco system were documented through the SAM. Rusted fasteners and stains on the framing below at some of the intrusive examination locations indicate water intrusion had occurred through the puncture holes in the SAM. The Xtraflash SAM installed by the contractor failed to self-seal around fastener holes, which allowed water intrusion resulting in damage to the moisture-sensitive building components. As constructed, the stucco surface cracks and the puncture holes in the deficient SAM have and will allow moisture intrusion and do not comply with the weather-resistance requirements of the applicable building code.

Where breaches in the SAM applied under horizontal stucco surfaces exist, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

SBSA Standards:

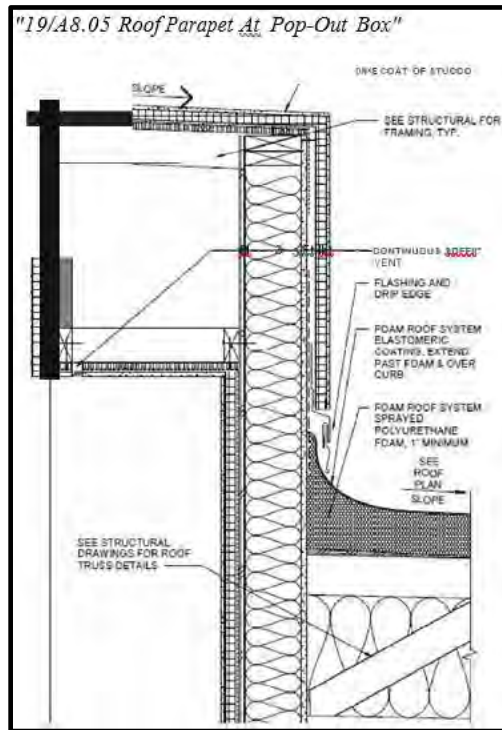
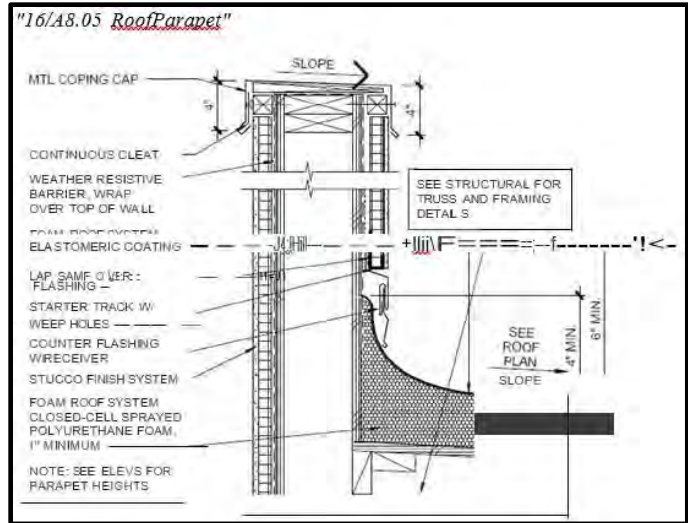
Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.05 "Exterior Details,"





Defect C.1.0 E (Cont.) – Deficient self-adhered membrane under horizontal stucco system.

SBSA Standards (Cont.):



SBSA Locations:

Holes in SAM underneath the horizontal stucco surfaces exist at intrusively tested locations across all buildings at the Gallery site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.



Defect C.1.0 E (Cont.) – Deficient self-adhered membrane under horizontal stucco system.

SBSA Repair Recommendations:

Refer to Repair Section C.1.d of SBSA's report.

SBSA COR: Included in costs for 1.0B.

BHA Defense Response & Repair Recommendations:

SBSA asserts the Self Adhesive Membrane ("SAM") installed on the horizontal surfaces of the parapet caps and pot shelves has failed. SBSA further opines:

"The Xtraflash SAM installed by the contractor failed to self-seal around fastener holes, which allowed water intrusion resulting in damage to the moisture-sensitive building components. As constructed, the stucco surface cracks and the puncture holes in the deficient SAM have and will allow moisture intrusion and do not comply with the weather-resistance requirements of the applicable building code."

BHA inspected every location where SBSA exposed SAM during its destructive testing. SBSA did not perform any water testing at any of the locations. BHA documented the SAM was properly installed. One of the characteristics of the XtraFlash SAM is its ability to "self-heal" which seals any fastener penetration. SBSA has not provided any evidence fastener penetrations have caused the SAM to fail. The SAM, as installed, is performing as intended. No defect exists. No repairs are needed.

BHA COR: \$0.00

HCCI Response to Defect Allegation:

HCCI did not observe evidence of improperly installed self-adhered membrane during our extensive review of plaintiff and developer photographs.

SBSA asserts that the self-adhered membrane ("SAM") was installed without sealing around fastener holes which allowed water intrusion and damage to framing.

SAM is used on horizontal surfaces because of its self-sealing characteristics and it is not typically required that fasteners must be sealed. HCCI did not observe any damage associated with the as-built condition where SBSA exposed the SAM.

The as-built condition is performing as intended. No repairs are required.



Defect C.1.0 F – Missing Control/Movement Joints.

SBSA Description:

In order to control cracking, industry standards require the installation of control or movement joints to limit the impacts of expected internal stresses within the material, especially at areas where high stresses occur. This includes rectangular penetrations through stucco, such as at the corners of fenestrations, as well as changes in plane and floor lines. Moreover, the areas in the field of the wall between stucco control joints are required to be limited to 144-square-feet to maintain a length-to-width ratio of not more than 2.5 to 1 and to not exceed 18-feet between control joints. With one-coat systems, it is recognized that a higher level of crack control will be necessary than with conventional three-coat systems. Either increased systems of movement joints or admixtures in the cementitious products can be utilized to reduce the system's propensity of cracking.

The architectural drawings include typical vertical control joint and typical sealant joint details for stucco. The architectural details specified 3/8- to 1/2-inch-wide sealant joint with backer rod installed in a width to depth ratio of 1:2. The architectural drawings also allowed for an alternate method using 3/8- to 1/2-inch-wide sealant installed over bond breaker tape. The manufacturer's product specification references ASTM C1063 for lath installation. ASTM C1063 requires control joints spaced a maximum 18-feet in each direction or a length to width ratio less than 2.5 to 1.

The architectural elevations do not specifically locate or identify all the control joints. The architectural side elevations of the buildings illustrate continuous vertical control joints at the window to stucco interfaces and specify typical Detail 1/A8.01, which illustrates the Architect's design intent regarding control joint location. Continuous vertical control joints were generally installed at window jambs on side elevations of all buildings. No horizontal control joints were installed at any of the building elevations and no vertical control joints were installed on the front and rear elevations at any of the buildings. Stucco cracks have been identified on all building elevations of the Gallery site. The contractor should have requested additional information regarding the control joints specified on the architectural drawings as well as the manufacturer's lath installation and control joint requirements. Failure to install compliant control/movement joints violates the manufacturer's installation instructions and industry standards, contributing to the cracking throughout the stucco system.

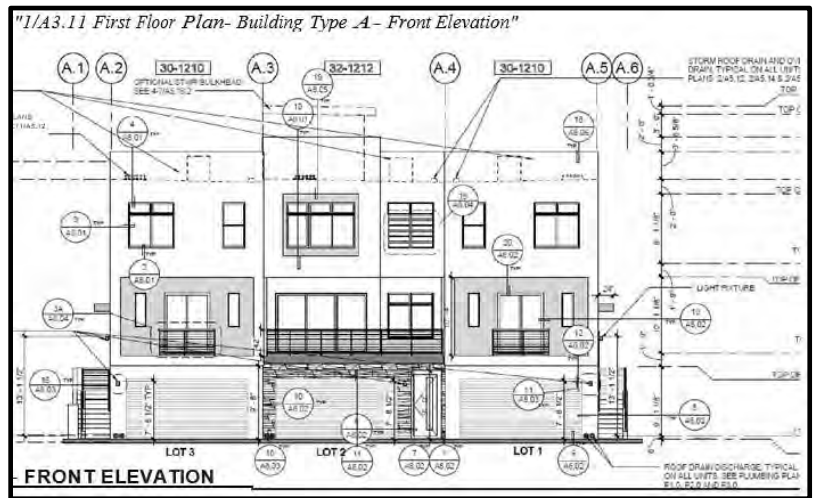
Where non-compliant control/movement joints exist, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.



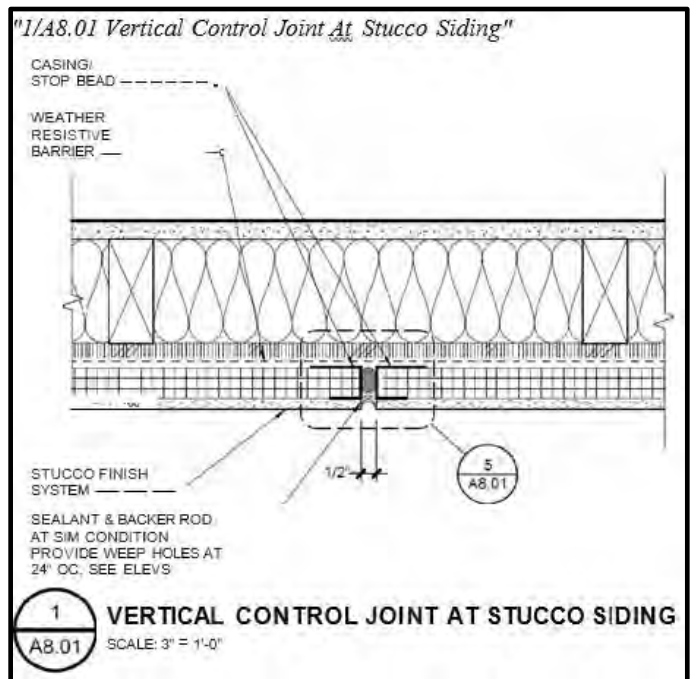
Defect C.1.0 F (Cont.) – Missing Control/Movement Joints.

SBSA Standards:

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A3.11 "Exterior Elevations Building A, 5-Plex, Gallery Site #1," "Elevation Notes."



Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.01 "Exterior Details."





Defect C.1.0 F (Cont.) – Missing Control/Movement Joints.

- SBSA Standards (Cont.):** Amerirnix, "Fiber Base Coat Stucco AMX 750 FBC," Revised June 2016, Section 4.
- American Society of Testing and Materials (ASTM), ASTM C1063-16 "Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster," 2016, Section 7 "Installation," subsection 7.11.
- ICC Evaluation Service Report (ESR), Evaluation Report ESR-3529 "Evaluation Subject: Amerirnix Fiber Base Coat Stucco," reissued February 2017, Section 4.0
- SBSA Locations:** Missing control or movement joints for stucco exists at all building elevations across the Gallery Townhomes site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.
- SBSA Repair Recommendations:**
- Refer to Repair Section C.1.b of SBSA's report.
- SBSA COR:** Included in costs for 1.08.

BHA Defense Response & Repair Recommendations:

SBSA asserts stucco control joints are required accessories and are missing. SBSA further opines:

"Failure to install compliant control/ movement joints violates the manufacturer's installation instructions and industry standards, contributing to the cracking throughout the stucco system."



Defect C.1.0 F (Cont.) – Missing Control/Movement Joints.

BHA Defense Response & Repair Recommendations (Cont.):

For many of SBSA's stucco allegations, SBSA cites standards that apply to traditional three-coat stucco systems. The stucco system used at this project is a one-coat system. The stucco thickness is half that of three-coat stucco. In addition, the one-coat stucco material has fiberglass or acrylic fibers added to the mix to assist in minimizing cracking. Control joints are installed in concrete or other cementitious materials to try to "control" where expected cracking occurs. While one-coat stucco is a cementitious product and does crack it does not crack the same way three-coat stucco does. Most of typically minor cracking observed in one-coat stucco occurs during the curing process. One-coat stucco does not have an ongoing need to control cracking like three-coat stucco does. As such, the use of control joints in a one-coat stucco system is typical used by an architect as a design element. Such is the case at this project. SBSA argues the architect's design intent was to use control joints at every elevation, however, the architect only specified control joints on the side elevation drawings. If the architect wanted to use the same design element on the front elevation it is not unreasonable to assume the front elevation would reflect it. BHA maintains there is no practical need for control joints in a one-coat stucco system. SBSA's has not provided any evidence the lack of control joints has adversely affected the stucco in any way.

All the stucco cracks observed at this project are hairline with none being larger than 1/32 inches wide. The cracking is well within AROC guidelines. The stucco system is performing as intended. No defect exists. No repairs are needed.

BHA COR: \$0.00

HCCI Response to Defect Allegation:

SBSA has asserted that stucco control joints are required and missing and that their absence is contributing to cracking throughout the stucco system.

However, SBSA's report states that:

“The architectural elevations do not specifically locate or identify all the control joints. The architectural side elevations of the buildings illustrate continuous vertical control joints at the window to stucco interfaces and specify typical Detail 1/A8.01, which illustrates the Architect's design intent regarding control joint location.”

Furthermore, the configuration of these buildings does not result in any large, uninterrupted planes of stucco and consequently, would not benefit from the addition of control joints. The cracking that exists is well within industry tolerances.

No repairs associated with Desert Vista are required.



Defect C.2.0 a – Missing Sheet Metal Flashing at Window Head.

SBSA Description:

Sheet metal flashings work in conjunction with the surrounding moisture management system by guiding water away from the WRB and out to the exterior of the facades. Sheet metal flashings are commonly installed at horizontal terminations of facades, including above the foundation line, above fenestrations, above decorative trim, and above lower roofs. Missing or improperly installed sheet metal flashing results in the misdirection of water and prevention of water from exiting the cladding systems.

In order to work as intended, sheet metal flashings need to be installed in a manner that promotes positive drainage and hinders moisture from re-entering the system. This requires shingle-lapped integration with the WRB and the presence of end dams and positive slope (typically 5-degrees). End dams and positive slope direct the water off of the face of the flashing rather than allowing it to pool or run laterally off of the sides back into the assembly. Flashings additionally require unobstructed clearance from claddings.

The architectural details specify 4-inch vertical leg sheet metal flashing with 1-inch drip edge and end dams at door and window heads. The flashings were detailed with 10-degree slope at door heads and 15-degree slope at window heads. The architectural details also required the WRB to be shingle-lapped over sheet metal head flashing and sealant under the drip edge to the fenestration frame. At the Gallery site, the sheet metal flashings were generally missing at the fenestration heads. The ineffectiveness of the flashing at fenestration heads is further compounded when cladding is installed tight to fenestration heads without a weep mechanism as discussed in Section C.1.a. This allows water to drain directly onto the fenestration frame and accumulate. As constructed, the moisture-management system at fenestration heads is non-compliant with the architectural drawings. This non-compliant condition, along with the combination of other construction defects of the stucco system, will more likely than not reduce the functionality of the stucco system and the general appearance of the cladding in the foreseeable future.

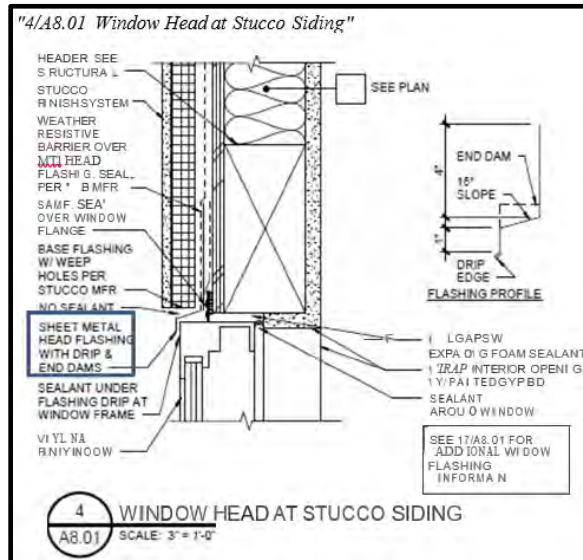
Where non-compliant issue exists, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.



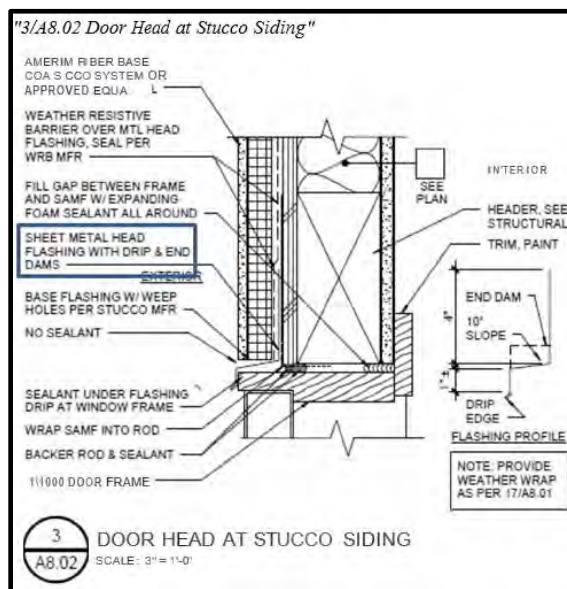
Defect C.2.0 a (Cont.)– Missing Sheet Metal Flashing at Window Head.

SBSA Standards:

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.01 "Exterior Details."



Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.02 "Exterior Details."



International Code Council, Inc. (ICC), "International Building Code (IBC)," 2012, Chapter 14 "Exterior Walls," Section 1405.



Defect C.2.0 a (Cont.)– Missing Sheet Metal Flashing at Window Head.

SBSA Locations: Sheet metal flashings are missing at fenestration head across all buildings at the Gallery site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.

SBSA Repair Recommendations:

- Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of SBSA's report.
- Where sheet metal flashing is missing at fenestration heads, perform the repair described below.
- Install new pre-finished sheet metal flashings with 4-inch vertical legs and horizontal legs sloped 10- to 15-degrees as detailed on the architectural plans with hemmed drip edges.
- Apply sealant at ends of sheet metal flashing to provide end dams.
- Ensure all flashing joints and comers are sealed.
- Ensure that the WRB above is shingle-lapped with the sheet metal flashing.
- Reinstall cladding per manufacturer instructions with a minimum 1/ 4-inch clearance between the bottom of cladding and the back of the sloped sheet metal flashing. Gap between the cladding and flashing to remain unsealed.
- Coordinate repair with related cladding and underlying moisture-management repair recommendations.

SBSA COR: \$19,732.57.

BHA Defense Response & Repair Recommendations:

SBSA asserts the window heads of every window are missing sheet metal flashing as specified in the construction drawings. SBSA further opines:

"The ineffectiveness of the flashing at fenestration heads is further compounded when cladding is installed tight to fenestration heads without a weep mechanism as discussed in Section C.1.a. This allows water to drain directly onto the fenestration frame and accumulate."



Defect C.2.0 a (Cont.)– Missing Sheet Metal Flashing at Window Head.

BHA Defense Response & Repair Recommendations (Cont.):

As part of SBSA's destructive testing protocol, stucco was removed from the corner of several window heads. SBSA did not perform any water testing at any window units prior to the stucco removal. BHA was present for the testing and documented the condition of the head flashing at each window tested. At every window the head flashing did not show any sign of failure. To support its claim, SBSA cites IRC section R703.8 Flashing:

"R703.8: Flashing. Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at all of the following locations:

1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage ... "

SBSA omitted the rest of the section that specifies how the flashing should be installed:

"Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:

1. 1. The fenestration manufacturer's installation and flashing instructions ..."

The windows were flashed following the window manufacturers recommendations, which does not require any metal head flashing.

SBSA argues the lack of metal flashing does not comply to the construction drawings. A deviation from a non-structural detail is not a defect. BHA is unaware of any leaks at any of the windows at this project.



Defect C.2.0 a (Cont.)– Missing Sheet Metal Flashing at Window Head.

BHA Defense Response & Repair Recommendations (Cont.):

The performance of the window installation has not been compromised. BHA maintains that intent of the code requirements has been met. No defect exists. No repairs are needed.

BHA COR: \$0.00

HCCI Response to Defect Allegation:

SBSA has asserted that sheet metal head flashings are missing from window heads.

The manner in which Desert Vista terminated their plaster system at window heads is consistent with the predominant custom and practice in the Greater Phoenix region. In fact, the windows are specifically manufactured to receive the stucco system *without* additional weeping mechanisms.

The as-built condition is consistent with regional practices and is performing as intended. No modification to the window assemblies associated with Desert Vista's work is required.



Defect C.2.0 b – Non-Compliant Flashing to Stucco Interface.

SBSA Description:

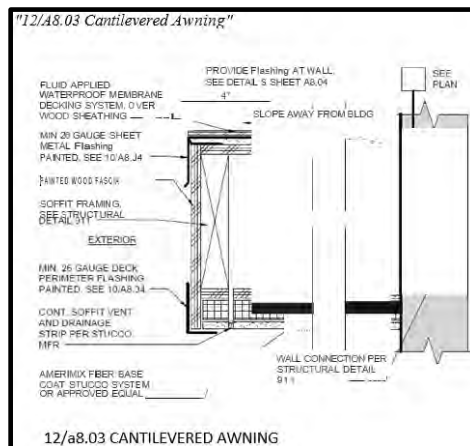
Metal flashing with a drip edge is installed at all deck perimeters and the perimeters of the cantilevered awnings above the end unit side doors to divert water away from the cladding below the flashing. Where the metal flashing and cladding interface is built incorrectly, the flashings cannot perform their intended function to divert water away from the cladding. Water is allowed to penetrate behind the claddings at the metal flashing interface, which results in damage to the underlying building components.

At the Gallery site, the metal flashing at the perimeter of the decks and cantilevered awnings is inset above the stucco and water drains into the stucco system below. The stucco is built out at the deck and cantilevered awning edges, which prevents the stucco from terminating behind the flashing. The architectural details illustrate stucco and wood fascia behind the metal edge flashing with a drip edge at the deck and cantilevered awnings, respectfully. At the as-constructed cantilevered awning edges, stucco was substituted for the painted wood trim. The architect specifies the edge flashing to be installed per the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) and required installation that prevents water from bucking against the cladding. At some locations, the edge flashing is installed over the stucco, which suggests the installer was cognizant of the project specifications. Stains and cracks in the stucco below the edge flashing indicate that water is not diverted away from the stucco.

Where non-compliant flashing to stucco interface exists, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

SBSA Standards:

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.03 "Exterior Details."

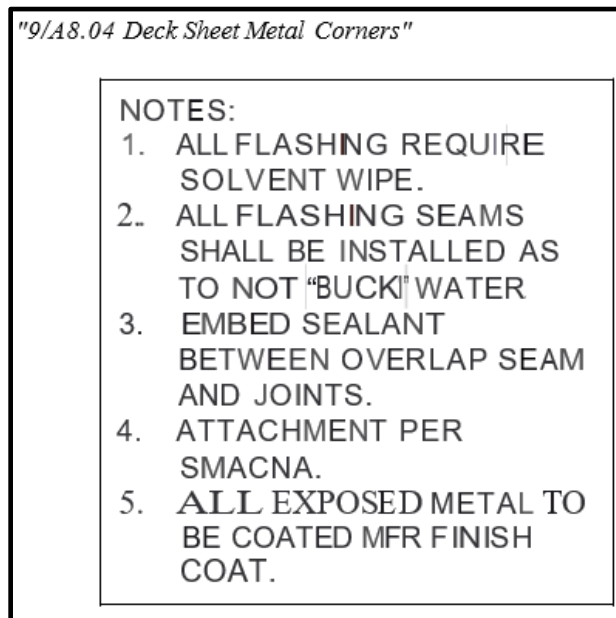
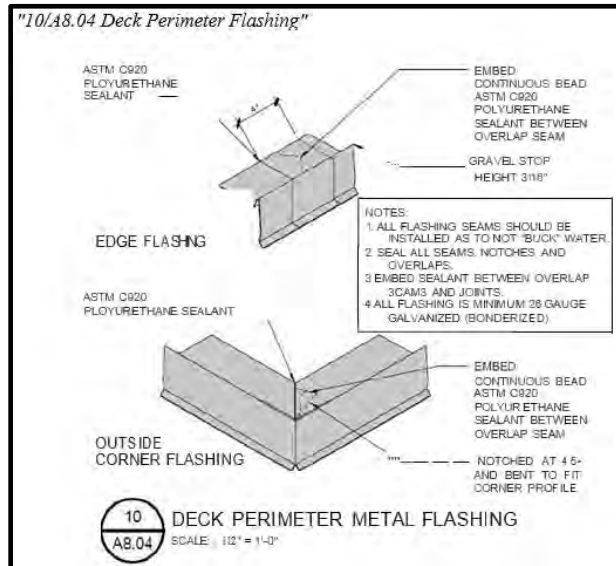




Defect C.2.0 b (Cont.) – Non-Compliant Flashing to Stucco Interface.

SBSA Standards (Cont.):

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.04 "Exterior Details."



Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA), "Residential Sheet Metal Guidelines," First Edition, 2001, Chapter 2 "Decks," subsection 2.2 "Coated Decks," subsection 2.2.1 "Deck to Wall Flashing,"



Defect C.2.0 b (Cont.) – Non-Compliant Flashing to Stucco Interface.

SBSA Locations: Non-compliant sheet metal flashings to stucco interface is present at all buildings at the Gallery site. Refer to the attached Observation Drawings and Defect Matrix for locations and details of findings.

SBSA Repair Recommendations:

- At elevated decks and awnings, remove existing edge flashing and membrane/coating to allow for stucco repairs described below.
- Remove and replace stucco as required by the architectural details 12/ A8.03 and 5/ A8.04. Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of SBSA's report.
- Install new edge flashing at decks per Section C.4.a of SBSA's report. New deck coating and new awning TPO perimeter edge membrane will be required to facilitate the repairs. Ensure the flashing is integrated with the new deck coating and awning TPO membrane.

SBSA COR: \$48,307.74.

BHA Defense Response & Repair Recommendations:

SBSA asserts some of the balcony decks have edge metal that is buried by the stucco it is designed to cover. BHA agrees the condition is problematic and should be repaired. BHA disagrees with SBSA's excessive repair to remove the stucco and deck coating to access the existing edge metal and to reflash the decks before restoring the finishes. Where deck edge metal is buried in the stucco, extend the edge metal past the stucco face by installing new sheet metal under the existing drip edge. The new sheet metal should have a break to match the existing edge metal and be installed in a continuous bed of silicone sealant and then painted to match. No stucco or deck coating needs to be removed to facilitate this repair.

BHA COR: \$4,650.00

HCCI Response to Defect Allegation:

HCCI observed evidence of this condition at the inspections we attended and during our extensive review of plaintiff and developer photographs (**Photo #6**).



Defect C.2.0 b (Cont.) – Non-Compliant Flashing to Stucco Interface.

HCCI Response to Defect Allegation (Cont.):



Photo #6 (Pltff Photo Disc IT7 Photo 182): Deck edge flashing at stucco.

SBSA asserts that the metal flashing at the deck perimeters is inset above the stucco in a non-weather board fashion, draining into the stucco system below.

From a sequencing standpoint, this flashing would have been installed *after* Desert Vista performed their work.

This condition does not relate in any part to the work of Desert Vista. No repairs associated with Desert Vista are required.



Defect C.2.0 c – Non-Compliant Isolation Joints at Dissimilar Materials.

SBSA Description:

The buildings at the Gallery site feature stucco and AMV. These facades types interface with each other and with other materials, including different claddings, window and door frames, and penetrations such as mechanical vents, electrical outlets, and gas pipes. These dissimilar materials have different thermal properties and will expand and contract at different rates.

Material	Thermal Expansion
Aluminum	1.23E-05
Brick	4.00E-06
Concrete Masonry	5.20E-06
Fiber Cement Siding	6.70E-06
Glass	8.00E-06
Mortar	7.30E-06
Rigid Polyvinyl Chloride	4.40E-05
Stucco	6.50E-06
Wood (across grain)	3.00E-05
Wood (perpendicular to)	3.00E-06

Differential movement causes separations or openings between the materials that allow air and water infiltration. Sealant joint design and construction provide the first line of defense against air and water intrusion at the building envelope. Properly sized and constructed sealant joints are required at all of the aforementioned interfaces to properly accommodate movement between dissimilar materials. Backer rod or bond breaker tape is required at isolation joints to prevent three-sided adhesion of the sealant and to allow the sealant to properly accommodate movement between dissimilar materials. Backer rod and bond breaker tape also help to provide the correct sealant profile to accommodate movement without causing excessive stress, which becomes the cause of the sealant joint failure in cohesion (i.e., within the sealant material) or in adhesion (i.e., between the sealant and the substrate).

Proper sealant at joints and penetrations additionally limits uncontrolled air movement through the wall assembly. Not providing protection from air penetration through the wall assembly fails to meet the minimum requirements required by the International Energy Conservation Code (IECC) adopted through the IRC.



Defect C.2.0 c (Cont.) – Non-Compliant Isolation Joints at Dissimilar Materials.

SBSA Description (Cont.):

The architectural drawings reference compliance with the 2012 IECC and provide typical sealant joint details for the Gallery site. Typical isolation joint details include stucco-soffit joint, stucco-AMY juncture, pipe or cable wall penetration in stucco and AMV, and electrical or mechanical mounting in stucco and AMV. The architectural drawings require backer rod and sealant all around the fenestrations and specify using AAMA 2400-10 or the manufacturer's installation instructions for window installation. AAMA-2400-10 references ASTM E2112-07 "Standard Practice for Installation of Exterior Windows, Doors and Skylights," which also discusses joints between fenestrations and the building envelope. Interfaces of dissimilar cladding materials with each other, fenestrations, and penetrations were generally installed without a sealant joint and a backer rod. Where installed, the sealant joint width was inadequate. As a result, cracks and open joints exist between materials, which act as direct paths for water to enter the wall assemblies and overwhelm and damage the underlying components. An exception is at a few locations where windows are isolated with full height vertical control joints on the side elevations of all buildings.

Ultimately, maintenance of sealant joints becomes the responsibility of the Homeowner's Association (HOA) directly after the declarant control ends. Maintenance of properly constructed sealant joints should be the responsibility of the HOA over the life of the property, but improperly constructed joints do not allow for the proper application of the joints or maintenance of the joints; something that was not originally installed cannot be maintained. Furthermore, maintenance of properly installed sealant joints is the responsibility of the declarant until the time of turnover of maintenance responsibilities to the HOA to provide for the effective useful life of the properties. The Association should be funded to properly maintain the joints, typically during paint cycles. Generally, the isolation joints in Arizona are periodically replaced every 5- to 6-years.

Where non-compliant isolation joints at dissimilar materials exist, the as-built condition falls short of the prescriptive requirements of the relevant codes, design, and industry standards and, therefore, the developer, contractor, and subcontractors who performed the work fell below the standard of care.

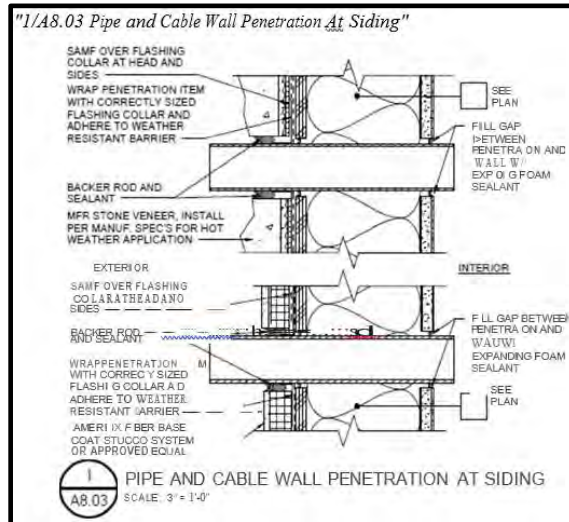
SBSA Standards:

Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.03 "Exterior Details."

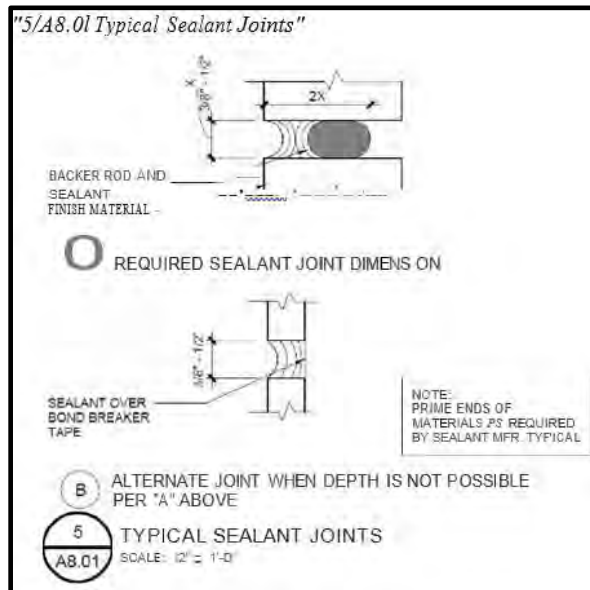


Defect C.2.0 c (Cont.) – Non-Compliant Isolation Joints at Dissimilar Materials.

SBSA Standards (Cont.):



Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.01 "Exterior Details."

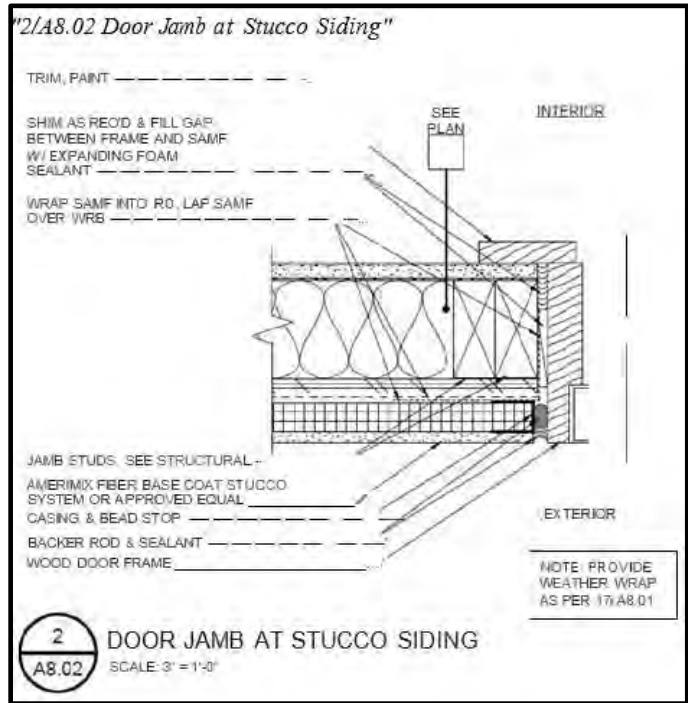


Otak, Inc., "K. Hovnanian Homes, Gallery Townhomes," revised date August 2, 2016, Sheet A8.02 "Exterior Details."



Defect C.2.0 c (Cont.) – Non-Compliant Isolation Joints at Dissimilar Materials.

SBSA Standards (Cont.):



International Code Council, Inc. (ICC), "International Energy Conservation Code (IECC)," 2012, Chapter 4 "Residential Energy Efficiency," Section R402.

American Architectural Manufacturers Association, AAMA 2400-10 "Standard Practice for Installation of Windows with a Mounting Flange in Open Stud Frame Construction for Low Wind/Water Exposure," 2010, Section 2.0; 5.0, 6.0.

American Society of Testing and Materials (ASTM), ASTM E2112-07 "Standard Practice for Installation of Exterior Windows, Doors and Skylights," 2007, Section 5 "Related Issues and Procedures," subsection 5.2 "Joints and Anchorages."

SBSA Locations:

Non-compliant isolation joints at dissimilar materials exist at locations across the Gallery site.



Defect C.2.0 c (Cont.) – Non-Compliant Isolation Joints at Dissimilar Materials.

SBSA Repair Recommendations:

- At locations where stucco interfaces with dissimilar materials, perform the following repairs. Typical locations for repair include joints at fenestrations, penetrations at all cladding types, vertical joints between cladding types, and joints between all cladding types and wood trim, including fascia trim at re-entrant corners.
- Reinstall cladding as required to address other repair recommendations, providing 3/8- to 1/2-inch-wide gap between dissimilar materials. The depth to width ratio for the joint should be equal to 2:1. At stucco, provide casing bead at edge of joint.
- Install type B backer rod and low-modulus elastomeric sealant to provide compliant butt isolation joint at dissimilar material interfaces with joint widths that are 3/8-inch or greater.
- Install polyethylene bond breaker tape and low-modulus elastomeric sealant to provide compliant fillet isolation joint at dissimilar material interfaces where the existing space is less than 3/8-inch wide or the dissimilar materials are out of plane.
- Following installation of sealant isolation joints at penetrations through the cladding, set surface mounted objects in continuous sealant against the face of the cladding. Where applicable, profile the sealant at the top of the surface-mounted objects to promote drainage over the top flanges.

SBSA COR: \$14,946.68.

BHA Defense Response & Repair Recommendations:

SBSA asserts isolation joints at junctures between dissimilar materials is missing or is improper. From SBSA exemplar photographs in its report it appears SBSA is alleging this condition exists at windows, sliding glass doors, and stucco penetrations. SBSA does not provide any evidence of damage or nonperformance.

BHA inspected the windows and stucco penetrations and did not observe any damage resulting from missing isolation joints. BHA did observe finish cracks along the tops of the adjacent CMU stairways at some buildings. At these stairways, repairs are warranted. At junctures between adjacent entry stairways, remove stucco and existing sealant, add foam backer rod and seal gap with high grade flexible sealant. Touch up paint to match adjacent finishes.

BHA COR: \$1,280.00



Defect C.2.0 c (Cont.) – Non-Compliant Isolation Joints at Dissimilar Materials.

HCCI Response to Defect Allegation:

SBSA has asserted that fenestrations and penetrations were installed without backer rod and sealant and where installed, the sealant joint width was inadequate.

The manner in which Desert Vista terminated their plaster system around windows and other penetrations is consistent with the predominant custom and practice in the Greater Phoenix region. In fact, the windows are specifically manufactured such that they do not require that the stucco system terminate into an isolation joint.

The as-built condition is consistent with regional practices and is performing as intended. No modification to the window assemblies, or other penetrations, associated with Desert Vista's work is required.



IV. HCCI Cost Estimate Development

- Preparation of HCCI's Project Site Assessment (**HCCI Appendix I**).
- Review of HCCI site inspection photographs.
- Review of plaintiff expert's site inspection photographs.
- Review of developer expert's site inspection photographs.
- Review of project and case documents.
- Historical pricing from recent projects.
- Unit price cost data from RS Means Residential Cost Data.
- Determination of regional wage rates from United States Department of Labor Bureau of Labor Statistics Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates for Phoenix-Mesa-Scottsdale, AZ.³
- Application of standard markups.

The primary goal of this report is to provide a cost estimate that is reflective of the market costs for this scope of work. The means and methods of accomplishing that work are derived from HCCI's own extensive experience in remedial construction.

West Harrington, President
Harrington Construction Co., Inc.
January 31, 2022

³ U.S. Bureau of Labor Statistics Wage Data



HCCI Appendix I

HCCI Project Site Assessment

Sheet Index:

Sheet No.	Sheet Title
1.0	TITLE SHEET
2.0	REGIONAL VIEW
3.0	COUNTY ASSESSOR MAP
4.0	AERIAL VIEW
5.0	OBLIQUE VIEWS
6.0	HISTORIC AERIAL IMAGERY

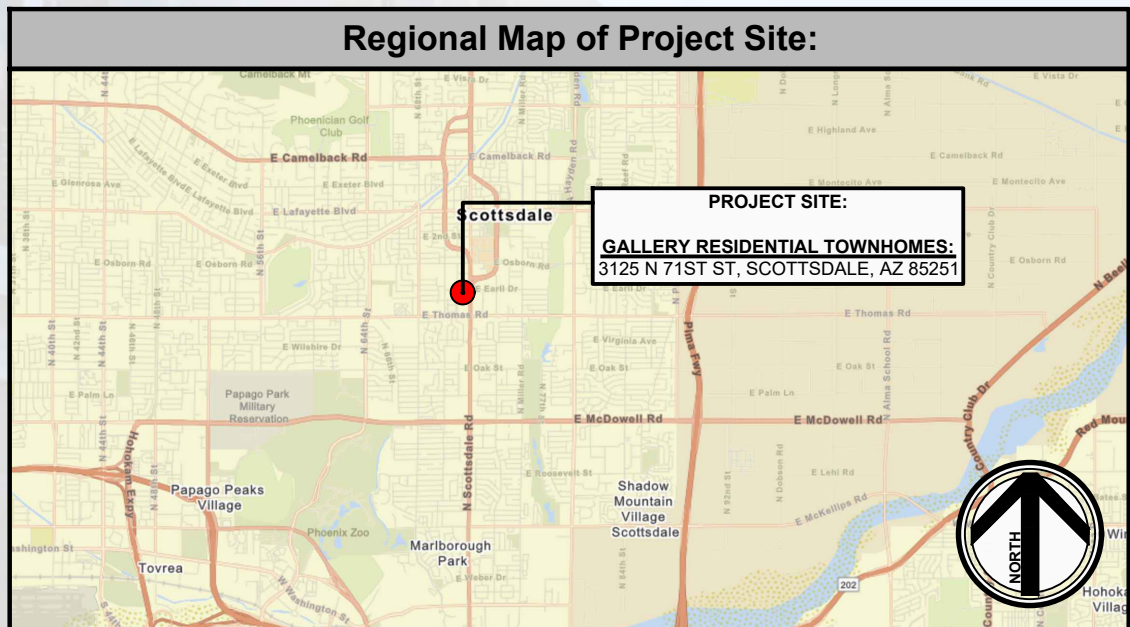
HCCI Project Site Assessment

Gallery Community Association v. K. Hovnanian at Gallery, Inc., et. al.

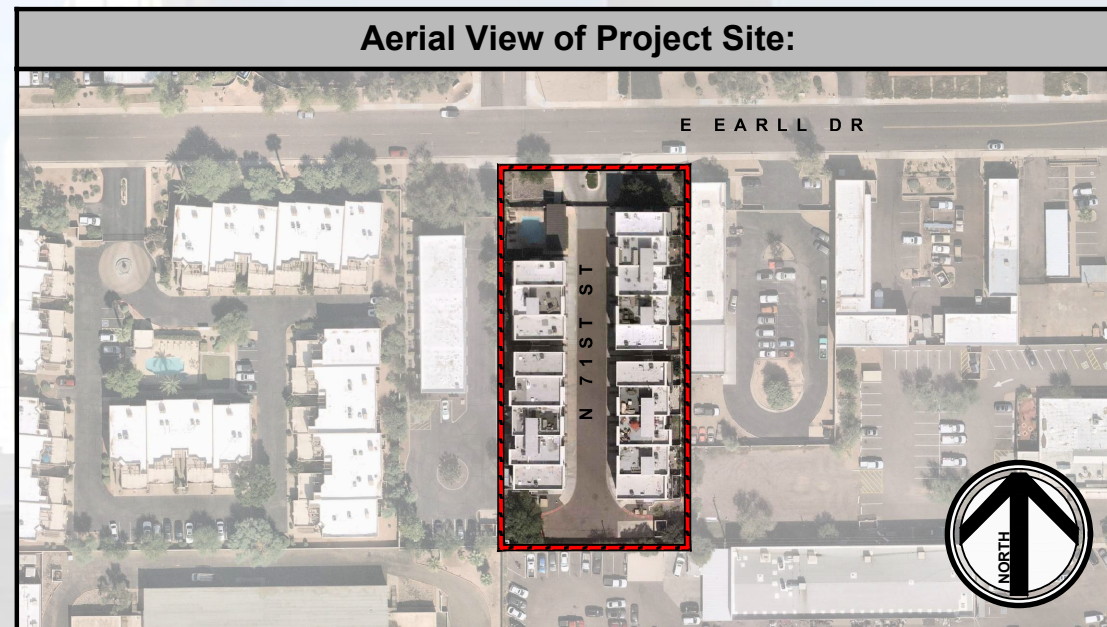
Desert Vista, Inc.

Scottsdale, Maricopa County, Arizona

Regional Map of Project Site:



Aerial View of Project Site:



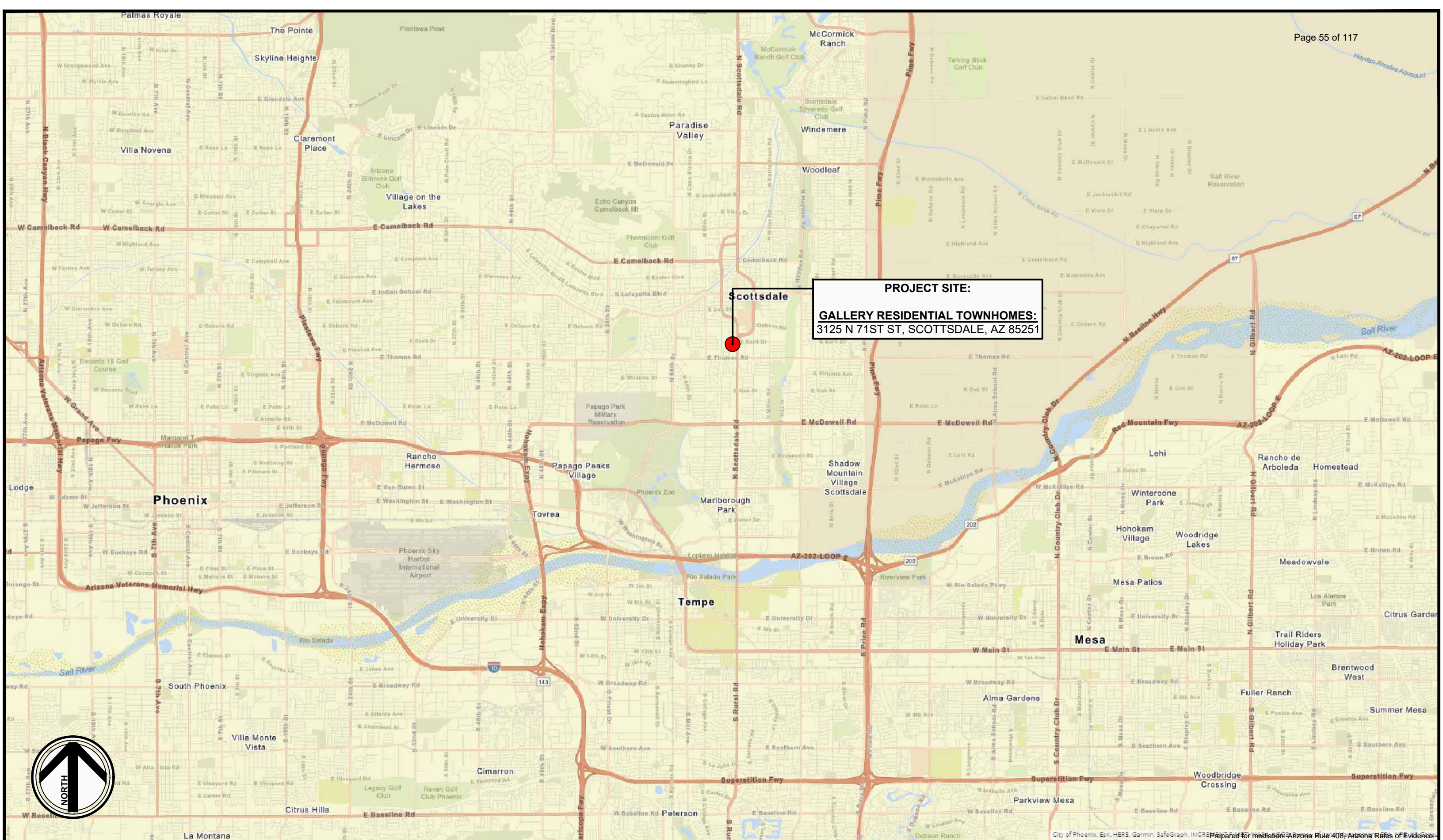
HARRINGTON CONSTRUCTION CO., INC.
 General Contractors • Consultants
 10470 Foothill Blvd, Suite 230, Rancho Cucamonga, CA 91730
 T: (909) 861-5452 • F: (909) 861-2871 • hcci@hccigroup.com

Sheet Title:
Title Sheet

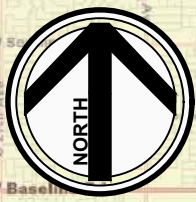
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Gallery Community Association v. K. Hovnanian at Gallery, Inc., et. al.
 3125 N 71st St, Scottsdale, AZ 85251
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Info:
HCCI Case #: 6950-A
Case Name: Gallery
Date: 12/6/21
Scale: As Shown

Sheet No:
1.0
 DV 001071



PROJECT SITE:
GALLERY RESIDENTIAL TOWNHOMES:
 3125 N 71ST ST, SCOTTSDALE, AZ 85251



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Sheet Title:

Regional View

Project Name:

Gallery Community Association v. K. Hovnanian at Gallery, Inc., et al.

3125 N 71st St, Scottsdale, AZ 85251

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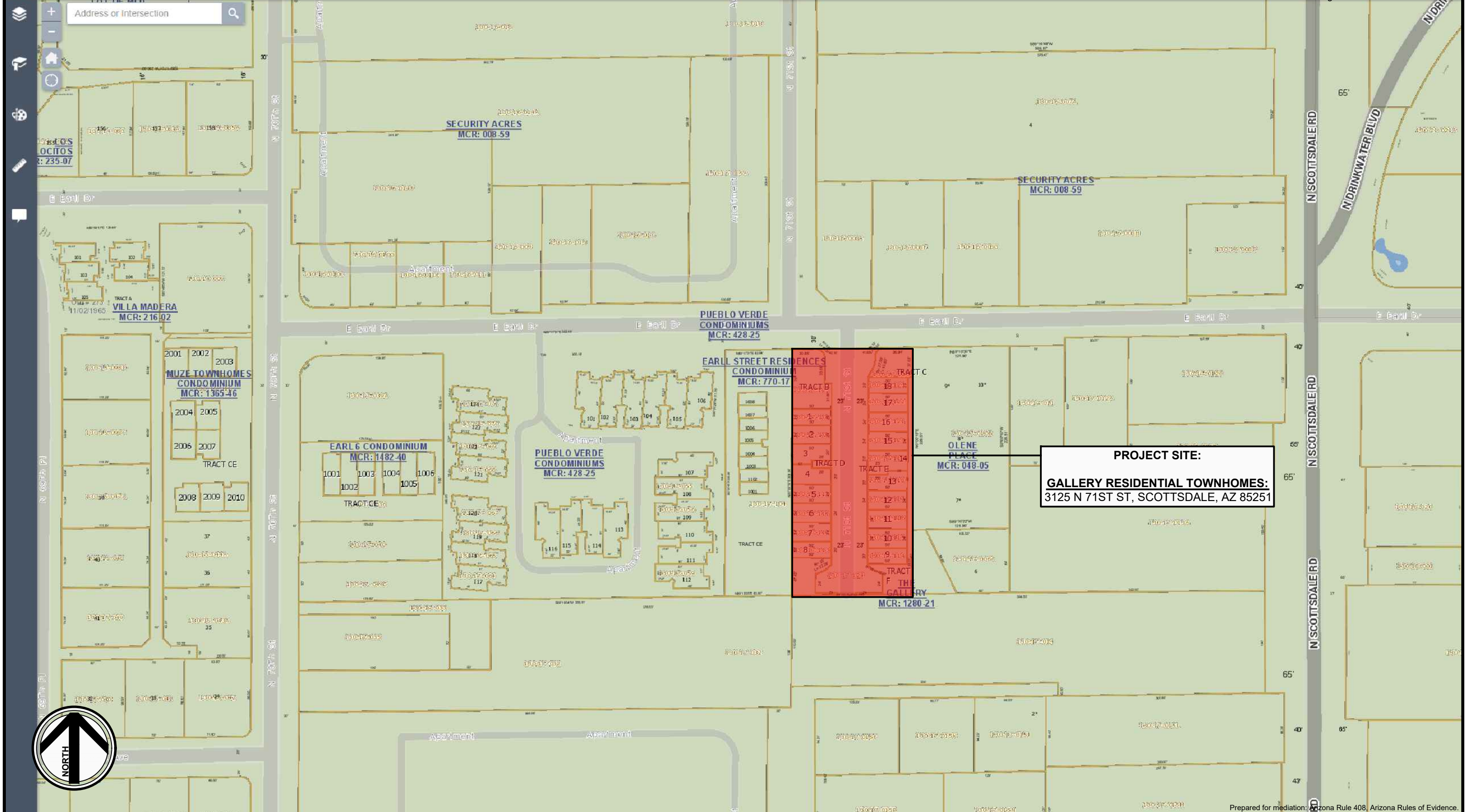
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 Date: 12/6/21
 Scale: As Shown

Sheet No:

2.0

DV001072



PROJECT SITE:
GALLERY RESIDENTIAL TOWNHOMES:
3125 N 71ST ST, SCOTTSDALE, AZ 85251

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Sheet Title:

County Assessor Map

Project Name:

Gallery Community Association v. K. Hovnanian at Gallery, Inc., et. al.

3125 N 71st St, Scottsdale, AZ 85251

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Info:

HCCI Case #: 6950-A
Case Name: Gallery
Date: 12/6/21
Scale: As Shown

Sheet No:

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001073

E EARLL DR

N 71ST ST

PROJECT SITE:
GALLERY RESIDENTIAL TOWNHOMES:
 3125 N 71ST ST, SCOTTSDALE, AZ 85251
 (IMAGE SOURCE: NEARMAP AERIAL IMAGE DATED 10/06/21)



Ved Oct 6 2021

Prepared for mediation: Arizona Rule 408, Arizona Rules of Evidence.

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Sheet Title:

Aerial View

Project Name:

Gallery Community Association v. K. Hovnanian at Gallery, Inc., et. al.

3125 N 71st St, Scottsdale, AZ 85251

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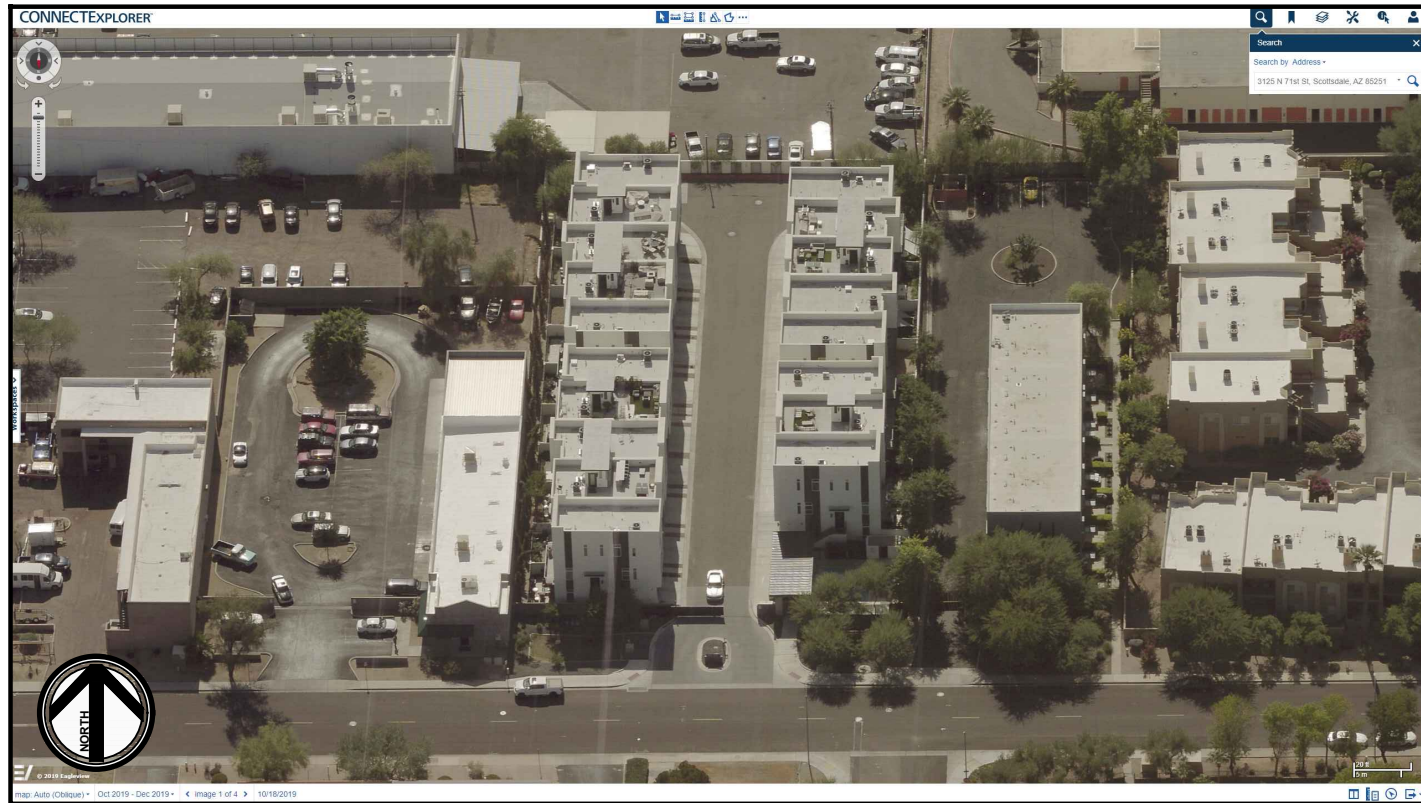
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HCCI Case #: 6950-A
 Case Name: Gallery
 Date: 12/6/21
 Scale: As Shown

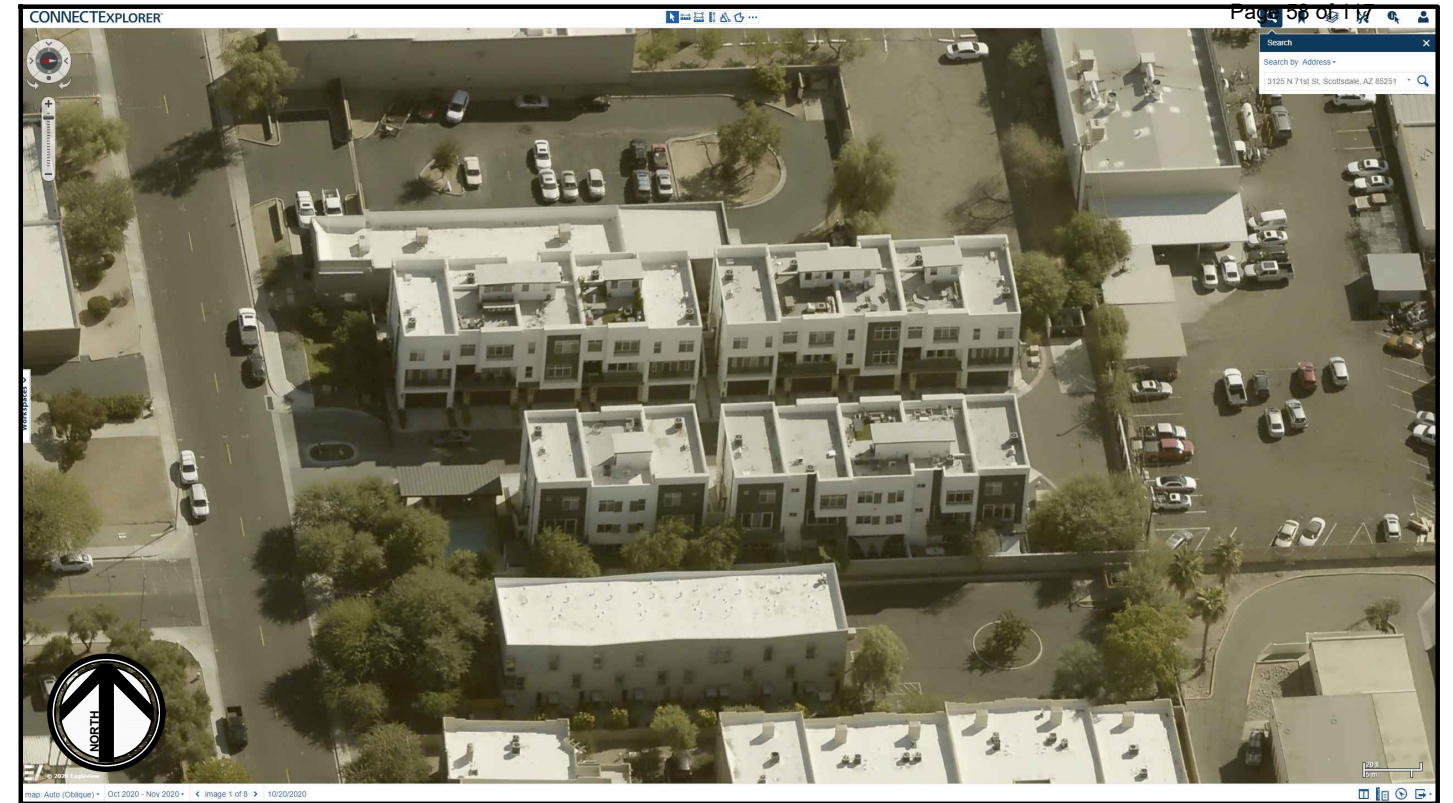
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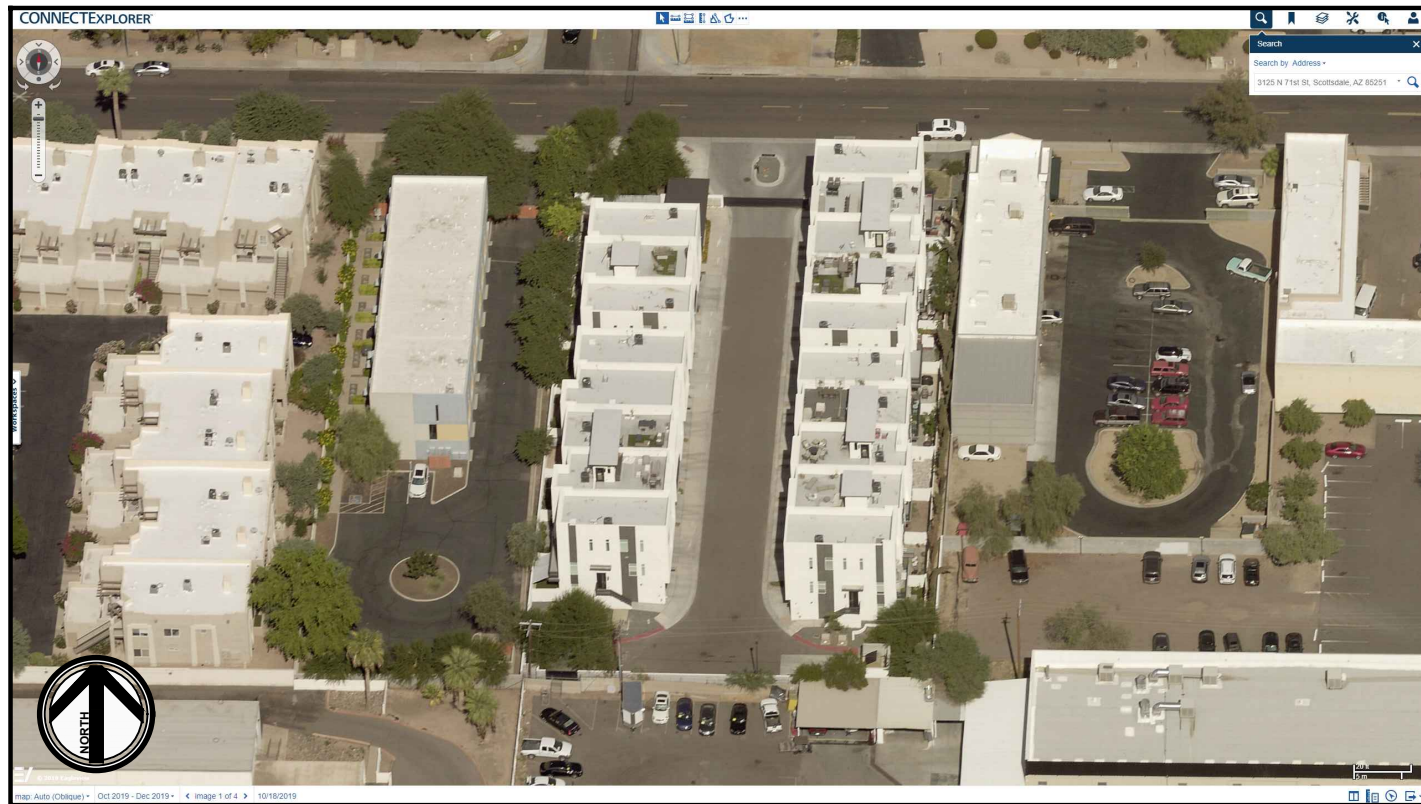
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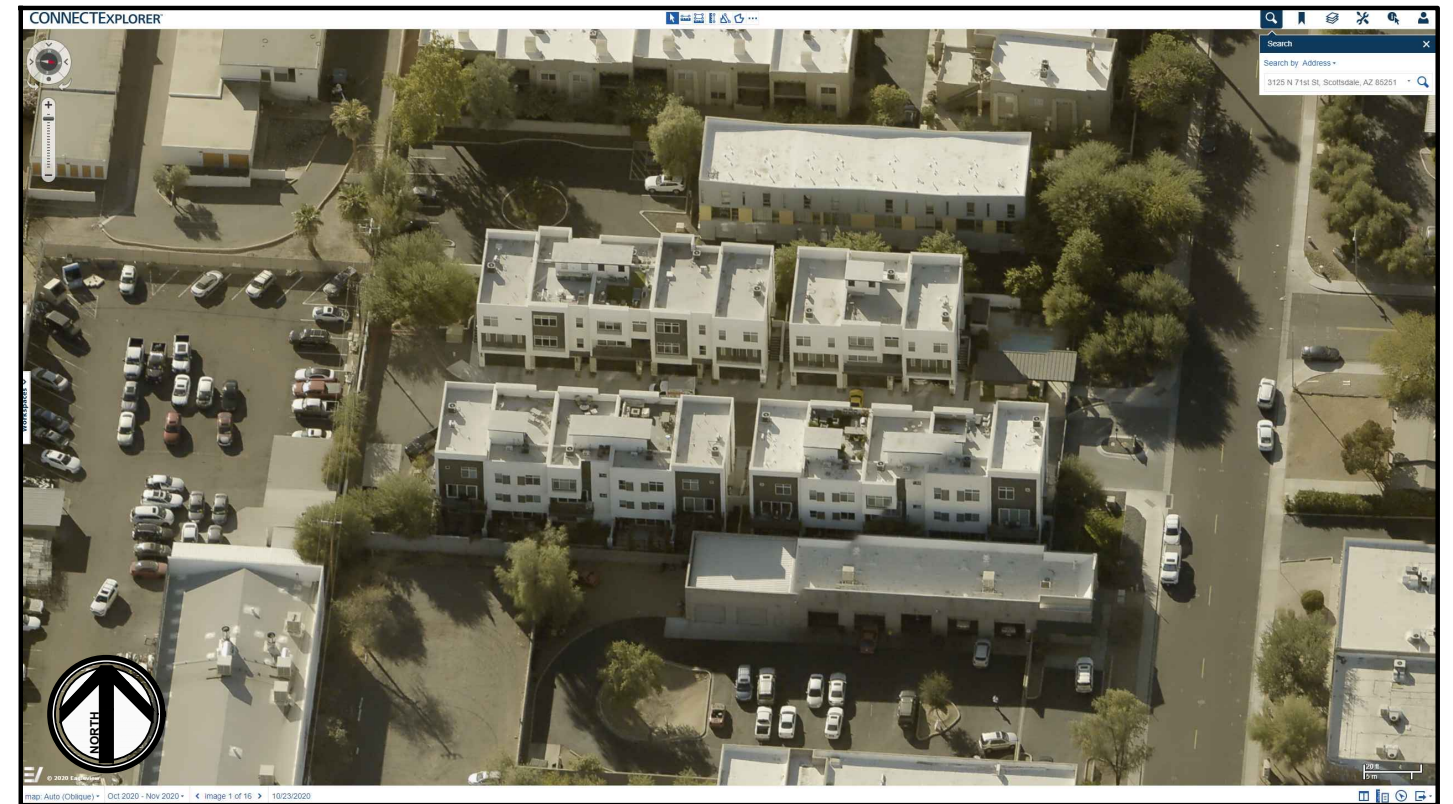
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PHOTO DATE: OCTOBER 18, 2019



2) EAGLEVIEW PICTOMETRY - OBLIQUE IMAGE FACING EAST
PHOTO DATE: OCTOBER 20, 2020



3) EAGLEVIEW PICTOMETRY - OBLIQUE IMAGE FACING NORTH
PHOTO DATE: OCTOBER 18, 2019



4) EAGLEVIEW PICTOMETRY - OBLIQUE IMAGE FACING WEST
PHOTO DATE: OCTOBER 23, 2020

Prepared for mediation: Arizona Rule 408, Arizona Rules of Evidence.

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Sheet Title:
Oblique Views

Project Name:
Gallery Community Association v. K. Hovnanian at Gallery, Inc., et. al.
3125 N 71st St, Scottsdale, AZ 85251
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Case Name: Gallery
Date: 12/6/21
Scale: As Shown

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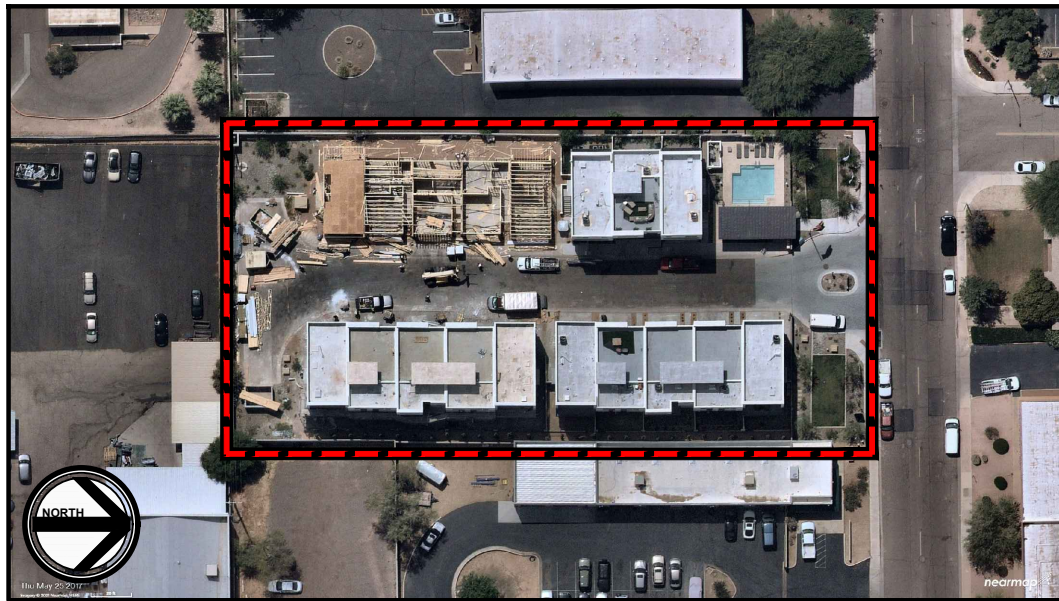
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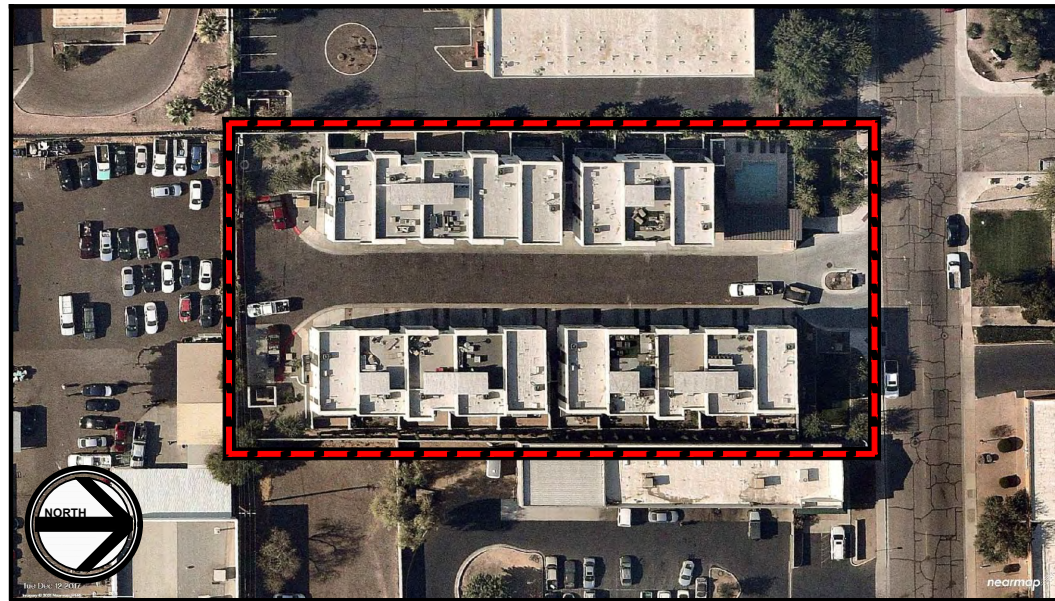
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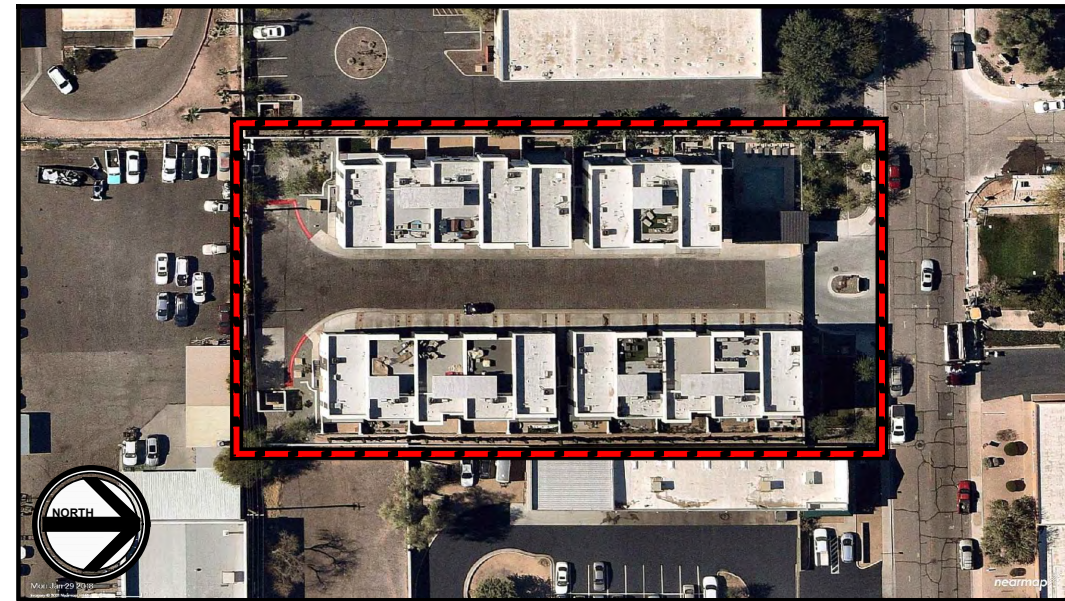
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4) NEARMAP - AERIAL IMAGERY
PHOTO DATE: MAY 25, 2017



5) NEARMAP - AERIAL IMAGERY
PHOTO DATE: DECEMBER 12, 2017



6) NEARMAP - AERIAL IMAGERY
PHOTO DATE: JANUARY 29, 2018

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Sheet Title:

Historic Aerial Imagery

Project Name:

Gallery Community Association v. K. Hovnanian at Gallery, Inc., et. al.

3125 N 71st St, Scottsdale, AZ 85251

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Info:

HCCI Case #: 6950-A
Case Name: Gallery
Date: 12/6/21
Scale: As Shown

Sheet No:

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DV 001076



HCCI Exhibit #1

ASTM 2128 Except



Standard Guide for Evaluating Water Leakage of Building Walls¹

This standard is issued under the fixed designation E 2128; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last approval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide describes methods for determining and evaluating causes of water leakage of exterior walls. For this purpose, water penetration is considered leakage, and therefore problematic, if it exceeds the planned resistance or temporary retention and drainage capacity of the wall, is causing or is likely to cause premature deterioration of a building or its contents, or is adversely affecting the performance of other components. A wall is considered a system including its exterior and interior finishes, fenestration, structural components and components for maintaining the building interior environment.

1.2 Investigative techniques discussed may be intrusive, disruptive or destructive. It is the responsibility of the investigator to establish the limitations of use, to anticipate and advise of the destructive nature of some procedures, and to plan for patching and selective reconstruction as necessary.

1.3 *This practice does not purport to address all of the safety concerns, if any, associated with its use. Establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Awareness of safety and familiarity with safe procedures are particularly important for above-ground operations on the exterior of a building and destructive investigative procedures which typically are associated with the work described in this guide.*

2. Referenced Documents

2.1 ASTM Standards:

- E 331 Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference²
- E 514 Test Method for Water Penetration and Leakage Through Masonry³
- E 547 Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential²
- E 631 Terminology of Building Construction²

¹ This guide is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.55 on Exterior Building Wall Systems.

Current edition approved Oct. 10, 2001. Published January 2002. Originally published as E 2128-01. Last previous edition E 2128-01.

² *Annual Book of ASTM Standards*, Vol 04.11.

³ *Annual Book of ASTM Standards*, Vol 04.05.

E 1105 Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls and Doors by Uniform or Cyclic Static Air Pressure Difference²

2.2 *American Architectural Manufacturers Association (AAMA) Standards:*

- 501.2 Field Check of Metal Storefronts, Curtain Walls and Sloped Glazing Systems for Water Leakage⁴
- 502 Specification for Field Testing of Windows and Sliding Doors⁴
- 503 Specification for Field Testing of Metal Storefronts, Curtain Walls and Sloped Glazing Systems⁴

3. Terminology

3.1 Refer to Terminology E 631.

3.2 *Definitions:*

3.2.1 *incidental water*—unplanned water infiltration that penetrates beyond the primary barrier and the flashing or secondary barrier system, of such limited volume that it can escape or evaporate without causing adverse consequences.

3.2.2 *water absorption*—a process in which a material takes in water through its pores and interstices and retains it wholly without transmission.

3.2.3 *water infiltration*—a process in which water passes through a material or between materials in a system and reaches a space that is not directly or intentionally exposed to the water source.

3.2.4 *water leakage*—water that is uncontrolled, exceeds the resistance, retention or discharge capacity of the system, or causes subsequent damage or premature deterioration.

3.2.5 *water penetration*—a process in which water gains access into a material or system by passing through the surface exposed to the water source.

3.2.6 *water permeation*—a process in which water enters, flows and spreads within and discharges from a material.

4. Significance and Use

4.1 This guide is intended to provide building professionals with a comprehensive methodology for evaluating water leakage through walls. It addresses the performance expectations and service history of a wall, the various components of a wall,

⁴ Available from AAMA, 1827 Walden Office Square, Suite 104, Schaumburg, IL 60173-4268.



HCCI Exhibit #2

Rainfall Data

PHOENIX AIRPORT, AZ

<https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?az6481>

Total of Precipitation (Inches)

File last updated on January 24, 2022

a = 1 day missing, b = 2 days missing, c = 3 days, ..etc.,

z = 26 or more days missing, A = Accumulations present

Long-term means based on columns; thus, the monthly row may not
sum (or average) to the long-term annual value.

MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS : 5

Individual Months not used for annual or monthly statistics if more than 5 days are missing.

Individual Years not used for annual statistics if any month in that year has more than 5 days missing.

YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1933	---- z	---- z	---- z	---- z	---- z	---- z	0.36	0.25	0.65	0.37	0.57	0	2.2 f
1934	0.48	0.91	0.1	0.13	0.11	0.06	0.17	1.65	0.57	0	0.65	2.1	6.93
1935	0.98	2.27	1.17	0.07	0.09	---- z	---- z	---- z	---- z	---- z	---- z	---- z	4.58 g
1936	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	0 l
1937	---- z	0.72	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	0	0.54	1.26 i
1938	0.51	0.68	0.77	0.02	0	0.36	0.08	0.97	0	0	0	1.62	5.01
1939	0.27	0.59	0.11	0.11	0	0	---- z	1.18	4.23	---- z	---- z	---- z	6.49 d
1940	---- z	---- z	0	---- z	0	0	0.33	0.54	1.47	1.05	0.29	3.94	7.62 c
1941	0.97	2.02	3.27 a	2.1	0.81	0	0.79	0.85	1.82	0.52	1.16	1.06	15.37
1942	0.36	0.21	0.22	0.69	0	0	1.14	1.29	0.07	0.6	0	0.29	4.87
1943	0.66	0.06	0.55	0.05	0.01	0.02	0.38	4.91	0.78	0.19	0	1.42	9.03
1944	0.37	2.23	0.99	0.49	0.94	0	0.65	0.07	0.23	0.33	1.12	1.28	8.7
1945	1.01	0.1	---- z	---- z	---- z	---- z	1.31	---- z	---- z	---- z	---- z	---- z	2.42 i
1946	---- z	0.15	0.02	0.02 u	0	0	---- z	---- z	---- z	---- z	---- z	---- z	0.17 h
1947	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	---- z	0.45	0.45 k
1948	0	1.31	0.16	0	0	0.08	0.91	0.41	0	0.6	0	0.68	4.15
1949	1.71	0.12	0.35	0.18	0.09	0.33	0.44	0.48	0.99	0.82	0.31	0.92	6.74
1950	0.41	1.15	0.26	0	0	0.11	0.76	0.37	0.49	0	0.04	0.03	3.62
1951	1.58	0.29	0.44	1.02	0.2	0	1.06	5.56	0.33	0.52	0.73	0.64	12.37
1952	0.56	0.29	2.2	1.94	0	0.06	0.54	1.11	0.23	0	3.04	0.68	10.65
1953	0.23	0.53	0.74	0.02	0.71	0	0.88	0.31	0	0	0.07	0.07	3.56
1954	0.88	0.58	1.22	0.02	0.11	0.02	0.36	0.55	0.44	0.12	0	0.01	4.31
1955	2.41	0.09	0	0	0.02	0.95	4.19	1.8	0	0.13	0.05	0.18	9.82
1956	0.67	0.64	0	0.03	0	0.01	0.92	0.46	0.02	0.06	0	0.01	2.82
1957	1.57	0.21	0.53	0.12	0.43	0.26	0.72	0.85	0	2.66	0.02	0.23	7.6
1958	0.07	1.15	1.94	0.89	0.08	0.05	0.31	0.72	2.25	0.5	0.16	0	8.12
1959	0.23	0.63	0	0.05	0	0	0.45	1.36	0.04	1.75	0.43	3.46	8.4
1960	0.85	0.04	0.57	0	0	0	0.25	0.82	0.12	0.67	0	0.07	3.39
1961	0.23	0.01	0.41	0	0	0	0.4	2.11	0.22	0.08	0.12	0.85	4.43
1962	1.2	0.83	0.5	0	0	0.12	0.1	0.25	0.39	0	0.03	0.48	3.9
1963	0.55	1.16	0.3	0.33	0	0	0.03	2.68	0	1.46	0.73	0	7.24

YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1964	0.22	0.01	0.37	0.1	0	0	0.6	1.29	1.8	0.17	0.35	1.09	6
1965	1.22	0.91	1.39	1.35	0.16	0.91	0.16	0.18	0.6	0.2	0.92	3.19	11.19
1966	0.35	0.95	0.34	0	0	0.22	0.09	2.17	2	0.25	0.38	0.52	7.27
1967	0.25	0	0.43	0.08	0.05	0.47	0.99	0.02	0.13	0.67	1.27	3.98	8.34
1968	0.19	1.2	1.04	0	0	0	1.7	0.59	0	0.35	0.91	0.69	6.67
1969	1.37	0.78	0.56	0.03	0.26	0	0.28	0.14	2.11	0.08	0.65	0.68	6.94
1970	0	0.3	2.26	0	0	0	0.48	1.02	2.85	0.44	0.02	0.26	7.63
1971	0.22	0.35	0	0.13	0	0	0.24	0.99	0.92	0.27	0	0.47	3.59
1972	0	0	0	0	0	1.7	0.72	1.2	0.28	4.4	1.01	1.56	10.87
1973	0.13	1.36	1.69	0.07	0.1	0	1.3	0	0	0	1.36	0	6.01
1974	0.57	0.02	1.37	0.01	0	0	0.84	1.15	1.07	2.12	0.44	0.59	8.18
1975	0.02	0.33	0.63	0.43	0	0	0.38	0	0.82	0.23	0.55	1.12	4.51
1976	0	0.47	0.4	0.67	1.06	0.09	1.48	0.12	1.69	0.7	0.43	0.85	7.96
1977	0.35	0.06	0.27	0.06	0.16	0.1	0.3	0.18	0.53	0.61	0	0.54	3.16
1978	2.33	2.21	2.14	0.2	0	0.01	1.44	1.79	0	0.35	2.3	2.46	15.23
1979	2.16	0.09	1.78	0.02	0.76	0.04	0.34	1.18	0.09	0.09	0.12	0.13	6.8
1980	1.58	2.09	0.86	0.44	0.21	0.03	0.56	0.06	0.13	0.02	0	0.08	6.06
1981	0.71	1.08	0.98	0.2	0.03	0	1.14	0.11	0.18	1.34	0.95	0	6.72
1982	0.81	0.67	1.3	0	0.5	0	0.43	1.97	0.12	0	2.5	1.64	9.94
1983	0.7	1.17	3.17	0.18	0	0	0.38	2.48	2.43	0.71	0.43	1.16	12.81
1984	0.31	0	0	0.91	0.18	0.18	5.15	0.87	3.36	0.31	0.71	2.93	14.91
1985	0.95	0.18	0.46	0.17	0	0	0.98	0.21	1.6	0.92	1.59	0.86	7.92
1986	0.07	1.19	1.58	0.01	0	0.01	1.19	1.27	0.47	0.41	0.03	1.38	7.61
1987	0.67	2.06	0.28	0.09	0.06	0.01	1.08	0.45	0.57	0.47	1.04	1.62	8.4
1988	0.9	0.23	0.17	1.09	0	0.02	0.87	0.63	0	2.38	0.78	0.14	7.21
1989	1.19	0	1.25	0	0	0	0.13	1.11	0.47	0.46	0.14	0.19	4.94
1990	0.8	0.7	0.35	0.17	0.16	0.04	1.05	2.7	1.11	0.04	0.15	0.46	7.73
1991	0.63	0.56	2.05	0	0	0	0.14	0.12	0.81	1.16	1.25	1.63	8.35
1992	1.62	0.9	2.49	0.49	1.05	0.04	2.95	1.3	0.03	0.26	0.03	3.08	14.24
1993	5.22	1.72	1.62	0	0.08	0.01	0	0.55	0.06	1.27	2.79	0.02	13.34
1994	0.13	0.54	1.36	0.09	0.39	0	0.25	0.02	1.74	0.55	0.68	3.03	8.78
1995	1.41	0.34	1.04	0.29	0.09	0	0	3.5	1.08	0	1.75	0.01	9.51
1996	0.24	1.03	0.55	0	0	0	1.04	0.34	0.54	0.37	0.23	0.02	4.36
1997	0.9	0.55	0.01	0.24	0	0	0.17	1.39	0.45	0.07	0.06	0.83	4.67
1998	0.35	2.93	1.31	0.43	0.04	0	1.94	1.05	0.58	1.03	0.19	0.68	10.53
1999	0.01	0.17	0.11	1.13	0	0	2.96	0.92	1.31	0	0	0	6.61
2000	0.01	0	2.98	0	0	0.34	0.28	0.58	0.01	3.17	0.5	0	7.87
2001	1.77	0.86	0.77	1.06	0.02	0.01	0.67	0.46	0	0.02	0.2	0.88	6.72
2002	0.05	0	0.08	0.06	0	0	1.18	0	0.5	0.37	0.42	0.16	2.82
2003	0.57	3.15	0.51	0.17	0	0	0.61	0.51	0.25	0.21	0.65	0.19	6.82
2004	0.82	1.02	1.28	0.9	0	0	0.59	0.36	0.15	0.78	0.52	1.56	7.98
2005	1.85	3.01	0.36	0.12	0	0	0.16	1.21	0.16	0.17	0	0	7.04
2006	0	0	1.56	0	0	0	1.29	1.26	0.78	0.22	0	0.34	5.45
2007	0.49	0.4	0.83	0.21	0	0	0.36	0.31	0.07	0.04	1.25	1.09	5.05
2008	1.58	0.39	0	0	0.45	0	2.15	3.55	0	0	0.49	0.97	9.58

YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
2009	0.15	1.32	0	0.19	0.25	0.02	0.4	0.29	0.16	0	0.01	0.47	3.26
2010	2.43	1.36	1.09	0.04	0	0	1.97	0.38	0.13	0.66	0.01	1.07	9.14
2011	0.04	0.66	0.06	0.27	0.01	0	1.41	0.17	0.02	0.11	0.81	1.1	4.66
2012	0	0	0.25	0.08	0.03	0	0.96	1.45	0.59	0	0.05	0.87	4.28
2013	1.39	0.31	0.85	0.06	0	0	1.77	0.36	0.86	0	2.43	0.39	8.42
2014	0	0	0.99	0	0	0	0.06	1.17	5.11	0.13	0	0.91	8.37
2015	0.81	0.01	0.33	0.18	1.17	0.25	1.13	1.29	0.81	0.71	0.25	0.21	7.15
2016	1.31	0	0	0.51	0.05	0.01	0.89	1.27	0.32	0.2	0.68	0.95	6.19
2017	1.1	1.24	0.06	0	0.01	0	0.89	1.43	0	0	0	0.23	4.96
2018	0.21	0.52	0.04	0	0	0	0.7	1.5	0.43	5.35	0.35	0.19	9.29
2019	0.74	1.79	0.3	0.09	0.1	0	0.17	0.24	0.25	0	1.55	0.7	5.93
2020	0.19	1.34	1.94	0.08	0	0	0.1	0.9	0	0	0	0.45	5
2021	0.68	0	0.37	0.01	0	0.17	1.73	1.54	0.76	0.32	0	1.53	7.11
2022	0.12 h	----- z	----- z	----- z	----- z	----- z	----- z	----- z	----- z	----- z	----- z	----- z	0 l

Period of Record Statistics



MEAN	0.77	0.75	0.8	0.26	0.13	0.09	0.85	1.02	0.71	0.58	0.55	0.87	7.36
S.D.	0.8	0.76	0.79	0.42	0.27	0.24	0.87	1.02	0.96	0.92	0.69	0.94	2.93
SKEW	2.46	1.28	1.21	2.42	2.51	4.63	2.52	2.15	2.34	3.11	1.74	1.62	0.81
MAX	5.22	3.15	3.27	2.1	1.17	1.7	5.15	5.56	5.11	5.35	3.04	3.98	15.37
MIN	0	0	0	0	0	0	0	0	0	0	0	0	2.82
YRS	83	85	84	82	84	83	83	83	83	82	83	84	80



HCCI Exhibit #3

Wage Data

Occupational Employment and Wage Statistics

OEWS  

May 2020 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates

Phoenix-Mesa-Scottsdale, AZ

For metropolitan and nonmetropolitan area definitions used by the OEWS survey, see the [metropolitan and nonmetropolitan area definitions](#) page.

These estimates are calculated with data collected from employers in all industry sectors in Phoenix-Mesa-Scottsdale, AZ, a metropolitan statistical area in Arizona.

Additional information, including the hourly and annual 10th, 25th, 75th, and 90th percentile wages and the employment percent relative standard error, is available in the [downloadable XLS file](#).

[Links to OEWS estimates for other areas and states](#)

Major Occupational Groups in Phoenix-Mesa-Scottsdale, AZ (**Note**--clicking a link will scroll the page to the occupational group):

- 00-0000 [All Occupations](#)
- 11-0000 [Management Occupations](#)
- 13-0000 [Business and Financial Operations Occupations](#)
- 15-0000 [Computer and Mathematical Occupations](#)
- 17-0000 [Architecture and Engineering Occupations](#)
- 19-0000 [Life, Physical, and Social Science Occupations](#)
- 21-0000 [Community and Social Service Occupations](#)
- 23-0000 [Legal Occupations](#)
- 25-0000 [Educational Instruction and Library Occupations](#)
- 27-0000 [Arts, Design, Entertainment, Sports, and Media Occupations](#)
- 29-0000 [Healthcare Practitioners and Technical Occupations](#)
- 31-0000 [Healthcare Support Occupations](#)
- 33-0000 [Protective Service Occupations](#)
- 35-0000 [Food Preparation and Serving Related Occupations](#)
- 37-0000 [Building and Grounds Cleaning and Maintenance Occupations](#)
- 39-0000 [Personal Care and Service Occupations](#)
- 41-0000 [Sales and Related Occupations](#)
- 43-0000 [Office and Administrative Support Occupations](#)
- 45-0000 [Farming, Fishing, and Forestry Occupations](#)
- 47-0000 [Construction and Extraction Occupations](#)
- 49-0000 [Installation, Maintenance, and Repair Occupations](#)
- 51-0000 [Production Occupations](#)
- 53-0000 [Transportation and Material Moving Occupations](#)

To sort this table by a different column, click on the column header

Display records

Text search table:

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
00-0000	All Occupations	total	2,108,810	0.6%	1000.000	1.00	\$19.86	\$26.38	\$54,870	0.8%
11-0000	Management Occupations	major	124,560	1.5%	59.067	1.03	\$50.02	\$57.40	\$119,390	1.0%
11-1011	Chief Executives	detail	2,160	7.1%	1.025	0.70	\$94.31	\$99.18	\$206,290	3.3%
11-1021	General and Operations Managers	detail	38,270	3.2%	18.148	1.08	\$48.09	\$58.07	\$120,780	1.5%
11-1031	Legislators	detail	360	8.1%	0.173	0.47	(4)	(4)	\$49,460	8.0%
11-2011	Advertising and Promotions Managers	detail	(8)	(8)	(8)	(8)	\$47.38	\$65.61	\$136,480	17.7%
11-2021	Marketing Managers	detail	3,880	5.3%	1.838	0.95	\$56.55	\$64.49	\$134,140	3.1%
11-2022	Sales Managers	detail	8,380	5.6%	3.974	1.42	\$55.09	\$62.60	\$130,200	4.6%
11-2030	Public Relations and Fundraising Managers	broad	950	5.9%	0.453	0.78	\$49.19	\$55.83	\$116,120	3.3%
11-3010	Administrative Services and Facilities Managers	broad	6,140	3.8%	2.913	1.32	\$44.58	\$49.53	\$103,020	2.2%
11-3021	Computer and Information Systems Managers	detail	8,440	4.3%	4.003	1.22	\$68.58	\$70.43	\$146,490	1.4%
11-3031	Financial Managers	detail	10,290	3.5%	4.880	1.04	\$58.22	\$64.55	\$134,270	1.5%
11-3051	Industrial Production Managers	detail	2,160	5.4%	1.023	0.79	\$53.02	\$56.52	\$117,560	1.8%
11-3061	Purchasing Managers	detail	1,090	5.6%	0.518	1.02	\$58.49	\$61.23	\$127,360	2.2%
11-3071	Transportation, Storage, and Distribution Managers	detail	2,040	6.0%	0.968	1.02	\$44.53	\$47.97	\$99,770	2.2%

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
11-3111	Compensation and Benefits Managers	detail	220	8.0%	0.107	0.91	\$53.53	\$55.60	\$115,640	2.4%
11-3121	Human Resources Managers	detail	2,470	5.3%	1.169	1.04	\$52.20	\$57.77	\$120,160	1.7%
11-3131	Training and Development Managers	detail	830	5.1%	0.396	1.42	\$46.23	\$49.90	\$103,790	1.9%
11-9013	Farmers, Ranchers, and Other Agricultural Managers	detail	40	29.5%	0.018	0.45	\$38.98	\$40.07	\$83,350	9.0%
11-9021	Construction Managers	detail	4,540	7.9%	2.152	1.05	\$48.63	\$52.82	\$109,860	3.3%
11-9031	Education and Childcare Administrators, Preschool and Daycare	detail	670	11.5%	0.317	0.95	\$19.43	\$22.02	\$45,800	4.2%
11-9032	Education Administrators, Kindergarten through Secondary	detail	2,870	2.6%	1.359	0.72	(4)	(4)	\$85,780	1.9%
11-9033	Education Administrators, Postsecondary	detail	1,780	6.2%	0.843	0.83	\$48.30	\$56.57	\$117,670	5.1%
11-9039	Education Administrators, All Other	detail	170	21.1%	0.082	0.26	\$39.11	\$44.08	\$91,690	7.0%
11-9041	Architectural and Engineering Managers	detail	3,350	6.3%	1.589	1.13	\$73.42	\$76.88	\$159,910	2.5%
11-9051	Food Service Managers	detail	3,050	11.0%	1.448	1.02	\$26.93	\$29.58	\$61,520	3.3%
11-9071	Gambling Managers	detail	80	24.3%	0.037	1.58	(8)	(8)	(8)	(8)
11-9081	Lodging Managers	detail	500	27.1%	0.236	1.03	\$26.33	\$31.85	\$66,240	10.4%
11-9111	Medical and Health Services Managers	detail	5,810	3.7%	2.755	0.95	\$52.00	\$60.98	\$126,850	2.5%
11-9121	Natural Sciences Managers	detail	340	8.6%	0.159	0.29	\$49.99	\$56.21	\$116,920	4.2%
11-9131	Postmasters and Mail Superintendents	detail	40	0.0%	0.019	0.19	\$44.80	\$46.22	\$96,130	2.9%
11-9141	Property, Real Estate, and Community Association Managers	detail	5,290	10.1%	2.507	1.59	\$25.59	\$31.80	\$66,150	7.6%
11-9151	Social and Community Service Managers	detail	1,980	5.0%	0.938	0.84	\$33.30	\$34.88	\$72,540	1.5%
11-9171	Funeral Home Managers	detail	70	34.1%	0.032	0.45	\$30.57	\$32.28	\$67,140	8.7%
11-9198	Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	detail	6,120	3.0%	2.900	0.86	\$54.83	\$58.12	\$120,900	1.2%
13-0000	Business and Financial Operations Occupations	major	148,690	2.1%	70.508	1.17	\$31.10	\$34.32	\$71,370	1.1%
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	detail	(8)	(8)	(8)	(8)	\$29.09	\$42.09	\$87,540	15.5%
13-1020	Buyers and Purchasing Agents	broad	6,720	5.4%	3.185	1.06	\$31.50	\$34.72	\$72,230	1.8%
13-1031	Claims Adjusters, Examiners, and Investigators	detail	12,280	6.6%	5.823	2.82	\$26.00	\$27.83	\$57,880	3.1%
13-1032	Insurance Appraisers, Auto Damage	detail	(8)	(8)	(8)	(8)	\$29.34	\$30.03	\$62,450	2.1%
13-1041	Compliance Officers	detail	5,640	4.1%	2.673	1.14	\$31.13	\$33.32	\$69,310	2.2%
13-1051	Cost Estimators	detail	3,770	6.7%	1.788	1.25	\$34.03	\$35.28	\$73,390	2.6%
13-1071	Human Resources Specialists	detail	11,910	5.0%	5.647	1.21	\$28.01	\$30.99	\$64,470	1.8%
13-1075	Labor Relations Specialists	detail	380	39.0%	0.182	0.36	\$39.50	\$38.87	\$80,840	5.9%
13-1081	Logisticians	detail	2,570	8.1%	1.220	0.92	\$32.78	\$35.73	\$74,320	2.9%
13-1111	Management Analysts	detail	11,510	6.2%	5.460	1.03	\$37.79	\$42.22	\$87,820	4.1%
13-1121	Meeting, Convention, and Event Planners	detail	1,480	16.5%	0.701	0.89	\$24.43	\$28.64	\$59,580	7.9%
13-1131	Fundraisers	detail	1,130	23.1%	0.537	0.91	\$27.19	\$27.27	\$56,720	4.1%
13-1141	Compensation, Benefits, and Job Analysis Specialists	detail	1,870	27.4%	0.884	1.40	\$29.64	\$31.93	\$66,420	1.7%
13-1151	Training and Development Specialists	detail	8,410	4.4%	3.986	1.74	\$26.89	\$29.32	\$60,990	2.1%
13-1161	Market Research Analysts and Marketing Specialists	detail	12,890	6.8%	6.112	1.23	\$28.24	\$31.08	\$64,660	3.1%
13-1198	Project Management Specialists and Business Operations Specialists, All Other	detail	20,210	3.6%	9.584	0.92	\$37.56	\$40.12	\$83,460	1.5%
13-2011	Accountants and Auditors	detail	18,440	4.7%	8.744	0.95	\$33.71	\$36.29	\$75,480	1.9%
13-2020	Property Appraisers and Assessors	broad	820	24.2%	0.390	0.97	\$23.78	\$26.51	\$55,130	1.9%

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
13-2031	Budget Analysts	detail	700	3.9%	0.331	0.93	\$32.18	\$34.26	\$71,260	3.2%
13-2041	Credit Analysts	detail	1,480	13.2%	0.701	1.35	\$28.84	\$34.02	\$70,760	4.2%
13-2052	Personal Financial Advisors	detail	3,530	11.4%	1.672	1.07	\$39.26	\$45.73	\$95,130	6.3%
13-2053	Insurance Underwriters	detail	1,690	9.9%	0.800	1.09	\$34.07	\$36.94	\$76,830	3.3%
13-2061	Financial Examiners	detail	2,370	5.8%	1.125	2.29	\$27.76	\$30.99	\$64,450	5.4%
13-2071	Credit Counselors	detail	1,690	19.5%	0.802	3.63	\$19.33	\$19.71	\$40,990	4.2%
13-2072	Loan Officers	detail	8,650	7.5%	4.101	1.85	\$25.16	\$28.31	\$58,890	4.3%
13-2081	Tax Examiners and Collectors, and Revenue Agents	detail	250	9.7%	0.118	0.31	\$38.96	\$38.84	\$80,790	3.8%
13-2082	Tax Preparers	detail	1,000	37.9%	0.473	1.05	\$21.01	\$26.72	\$55,580	11.0%
13-2098	Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	detail	6,040	7.6%	2.866	0.87	\$36.85	\$39.40	\$81,940	2.4%
15-0000	Computer and Mathematical Occupations	major	81,950	2.8%	38.861	1.18	\$40.78	\$42.49	\$88,380	1.3%
15-1211	Computer Systems Analysts	detail	10,040	7.7%	4.760	1.15	\$43.43	\$44.56	\$92,680	1.3%
15-1212	Information Security Analysts	detail	3,560	9.7%	1.687	1.70	\$48.13	\$49.01	\$101,930	1.8%
15-1221	Computer and Information Research Scientists	detail	50	33.5%	0.023	0.11	\$63.24	\$70.13	\$145,870	9.3%
15-1231	Computer Network Support Specialists	detail	3,540	8.9%	1.680	1.27	\$26.31	\$28.18	\$58,610	2.6%
15-1232	Computer User Support Specialists	detail	15,150	4.5%	7.185	1.57	\$23.10	\$25.78	\$53,630	2.4%
15-1241	Computer Network Architects	detail	3,470	11.7%	1.647	1.44	\$53.07	\$54.33	\$113,010	1.6%
15-1244	Network and Computer Systems Administrators	detail	5,820	5.6%	2.762	1.13	\$39.50	\$42.05	\$87,460	1.4%
15-1245	Database Administrators and Architects	detail	2,140	7.7%	1.013	1.05	\$49.40	\$49.70	\$103,380	2.0%
15-1251	Computer Programmers	detail	1,880	7.5%	0.893	0.70	\$43.25	\$44.18	\$91,890	3.2%
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	detail	26,570	4.6%	12.598	1.19	\$49.03	\$50.61	\$105,270	2.2%
15-1257	Web Developers and Digital Interface Designers	detail	2,510	6.8%	1.192	1.06	\$32.71	\$34.47	\$71,700	5.9%
15-1299	Computer Occupations, All Other	detail	3,870	6.0%	1.834	0.70	\$38.58	\$40.94	\$85,150	1.7%
15-2011	Actuaries	detail	140	18.2%	0.067	0.42	\$48.58	\$51.58	\$107,290	4.5%
15-2031	Operations Research Analysts	detail	1,410	9.1%	0.671	0.97	\$37.04	\$39.51	\$82,170	3.4%
15-2041	Statisticians	detail	430	20.4%	0.205	0.73	\$45.79	\$46.43	\$96,560	2.1%
15-2098	Data Scientists and Mathematical Science Occupations, All Other	detail	1,350	23.9%	0.640	1.49	\$54.03	\$52.40	\$109,000	2.2%
17-0000	Architecture and Engineering Occupations	major	40,890	4.3%	19.390	1.07	\$39.13	\$42.85	\$89,130	2.3%
17-1011	Architects, Except Landscape and Naval	detail	900	27.3%	0.427	0.57	\$39.83	\$39.87	\$82,920	9.3%
17-1012	Landscape Architects	detail	450	35.5%	0.216	1.45	\$29.77	\$32.25	\$67,070	5.2%
17-1021	Cartographers and Photogrammetrists	detail	120	2.5%	0.056	0.62	\$30.76	\$32.39	\$67,370	4.0%
17-1022	Surveyors	detail	700	13.0%	0.334	1.06	\$28.89	\$30.54	\$63,520	4.1%
17-2011	Aerospace Engineers	detail	1,730	24.0%	0.823	1.89	\$59.49	\$62.08	\$129,120	4.6%
17-2031	Bioengineers and Biomedical Engineers	detail	220	10.6%	0.102	0.76	\$43.36	\$46.64	\$97,010	3.8%
17-2041	Chemical Engineers	detail	130	42.5%	0.063	0.34	(8)	(8)	(8)	(8)
17-2051	Civil Engineers	detail	4,270	7.7%	2.027	0.94	\$37.93	\$40.43	\$84,090	3.0%
17-2071	Electrical Engineers	detail	3,400	20.6%	1.614	1.21	\$45.09	\$48.56	\$101,000	2.5%
17-2072	Electronics Engineers, Except Computer	detail	2,470	7.4%	1.170	1.33	\$54.89	\$56.31	\$117,130	2.5%
17-2081	Environmental Engineers	detail	1,000	19.6%	0.476	1.32	\$42.56	\$45.10	\$93,810	5.2%
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	detail	230	7.6%	0.111	0.65	\$39.44	\$43.63	\$90,760	4.8%
17-2112	Industrial Engineers	detail	4,840	3.4%	2.297	1.10	\$46.90	\$48.07	\$99,990	1.8%
17-2131	Materials Engineers	detail	290	13.6%	0.137	0.77	\$53.08	\$52.90	\$110,020	1.6%
17-2141	Mechanical Engineers	detail	3,570	6.6%	1.695	0.80	\$47.77	\$48.58	\$101,040	1.6%
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	detail	220	35.4%	0.104	2.30	\$41.55	\$39.97	\$83,130	3.8%
17-3011	Architectural and Civil Drafters	detail	2,160	9.9%	1.023	1.43	\$28.93	\$29.05	\$60,430	2.4%

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17-3012	Electrical and Electronics Drafters	detail	1,410	21.4%	0.670	4.05	\$29.68	\$30.60	\$63,660	7.6%
17-3013	Mechanical Drafters	detail	650	19.9%	0.307	0.83	\$31.58	\$32.61	\$67,830	3.2%
17-3019	Drafters, All Other	detail	210	24.7%	0.100	1.00	\$23.24	\$25.47	\$52,980	4.6%
17-3021	Aerospace Engineering and Operations Technologists and Technicians	detail	840	47.4%	0.399	4.67	\$29.13	\$30.70	\$63,860	5.0%
17-3022	Civil Engineering Technologists and Technicians	detail	1,270	21.9%	0.604	1.25	\$26.68	\$26.40	\$54,910	2.9%
17-3023	Electrical and Electronic Engineering Technologists and Technicians	detail	2,550	15.1%	1.210	1.46	\$31.56	\$32.14	\$66,840	2.4%
17-3025	Environmental Engineering Technologists and Technicians	detail	250	23.5%	0.116	0.95	\$25.58	\$25.54	\$53,120	3.7%
17-3026	Industrial Engineering Technologists and Technicians	detail	1,130	8.1%	0.535	1.18	\$29.35	\$30.26	\$62,930	2.1%
17-3027	Mechanical Engineering Technologists and Technicians	detail	840	11.5%	0.397	1.39	\$30.06	\$30.71	\$63,880	3.8%
17-3031	Surveying and Mapping Technicians	detail	620	18.5%	0.293	0.76	\$23.19	\$25.14	\$52,280	3.7%
17-3098	Calibration Technologists and Technicians and Engineering Technologists and Technicians, Except Drafters, All Other	detail	1,210	21.8%	0.572	0.86	\$22.73	\$24.68	\$51,330	3.2%
19-0000	Life, Physical, and Social Science Occupations	major	11,200	3.5%	5.309	0.57	\$29.32	\$32.36	\$67,300	1.6%
19-1012	Food Scientists and Technologists	detail	50	6.4%	0.023	0.24	\$31.40	\$35.22	\$73,260	3.4%
19-1013	Soil and Plant Scientists	detail	(8)	(8)	(8)	(8)	\$36.60	\$37.31	\$77,610	4.5%
19-1021	Biochemists and Biophysicists	detail	40	17.2%	0.021	0.09	\$44.53	\$51.00	\$106,080	11.6%
19-1022	Microbiologists	detail	50	29.9%	0.022	0.16	(8)	(8)	(8)	(8)
19-1029	Biological Scientists, All Other	detail	150	14.0%	0.071	0.24	\$40.38	\$42.23	\$87,830	4.7%
19-1031	Conservation Scientists	detail	120	17.5%	0.059	0.37	\$31.50	\$31.82	\$66,200	5.8%
19-1032	Foresters	detail	50	0.0%	0.022	0.33	\$24.30	\$25.71	\$53,480	3.7%
19-1041	Epidemiologists	detail	110	7.1%	0.050	0.93	\$28.56	\$28.18	\$58,620	3.3%
19-1042	Medical Scientists, Except Epidemiologists	detail	710	15.2%	0.339	0.37	\$39.31	\$45.25	\$94,120	5.5%
19-2012	Physicists	detail	40	6.9%	0.021	0.18	(8)	(8)	(8)	(8)
19-2021	Atmospheric and Space Scientists	detail	50	7.5%	0.021	0.29	\$44.59	\$45.79	\$95,250	3.2%
19-2031	Chemists	detail	290	9.3%	0.139	0.23	\$30.91	\$33.32	\$69,300	3.7%
19-2032	Materials Scientists	detail	50	12.2%	0.024	0.49	\$43.23	\$45.15	\$93,910	3.7%
19-2041	Environmental Scientists and Specialists, Including Health	detail	870	9.3%	0.411	0.68	\$28.23	\$30.80	\$64,070	3.9%
19-2042	Geoscientists, Except Hydrologists and Geographers	detail	180	26.2%	0.087	0.43	\$38.21	\$40.05	\$83,310	4.3%
19-2043	Hydrologists	detail	110	0.9%	0.052	1.16	\$35.46	\$37.26	\$77,510	1.9%
19-2099	Physical Scientists, All Other	detail	90	0.0%	0.044	0.32	\$69.28	\$66.37	\$138,050	1.7%
19-3011	Economists	detail	100	9.2%	0.048	0.38	\$38.81	\$41.33	\$85,960	3.0%
19-3022	Survey Researchers	detail	120	32.3%	0.057	0.77	\$30.19	\$29.73	\$61,830	9.6%
19-3031	Clinical, Counseling, and School Psychologists	detail	1,860	10.9%	0.882	1.10	\$33.68	\$33.29	\$69,240	3.8%
19-3039	Psychologists, All Other	detail	120	12.1%	0.058	0.54	\$49.99	\$46.27	\$96,240	3.0%
19-3051	Urban and Regional Planners	detail	480	6.2%	0.226	0.82	\$34.50	\$35.89	\$74,660	1.8%
19-3091	Anthropologists and Archeologists	detail	200	29.4%	0.095	1.84	\$28.40	\$30.43	\$63,300	4.1%
19-3092	Geographers	detail	30	0.0%	0.016	1.54	\$32.05	\$33.87	\$70,450	4.0%
19-3094	Political Scientists	detail	50	32.3%	0.023	0.54	\$46.77	\$48.01	\$99,860	7.0%
19-3099	Social Scientists and Related Workers, All Other	detail	120	0.8%	0.058	0.23	\$41.45	\$41.75	\$86,840	2.8%
19-4010	Agricultural and Food Science Technicians	broad	170	35.7%	0.079	0.50	\$20.63	\$21.20	\$44,090	4.2%
19-4021	Biological Technicians	detail	590	16.9%	0.278	0.48	\$20.90	\$21.66	\$45,060	1.4%
19-4031	Chemical Technicians	detail	240	13.6%	0.115	0.25	\$22.25	\$24.06	\$50,050	5.7%
19-4042	Environmental Science and Protection Technicians, Including Health	detail	530	28.8%	0.253	1.10	\$22.14	\$21.83	\$45,400	3.3%
19-4045	Geological and Hydrologic Technicians	detail	220	32.7%	0.103	0.92	\$18.53	\$20.66	\$42,980	4.7%

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19-4061	Social Science Research Assistants	detail	640	6.8%	0.303	1.19	\$21.12	\$22.57	\$46,950	2.8%
19-4071	Forest and Conservation Technicians	detail	120	2.2%	0.058	0.27	\$18.42	\$20.63	\$42,900	3.1%
19-4092	Forensic Science Technicians	detail	470	0.3%	0.221	1.85	\$29.56	\$31.24	\$64,980	2.1%
19-4099	Life, Physical, and Social Science Technicians, All Other	detail	290	24.5%	0.137	0.31	\$20.39	\$23.84	\$49,580	10.2%
19-5011	Occupational Health and Safety Specialists	detail	1,370	7.1%	0.649	0.94	\$34.21	\$35.39	\$73,610	2.2%
19-5012	Occupational Health and Safety Technicians	detail	160	28.4%	0.078	0.52	\$20.24	\$22.45	\$46,700	3.6%
21-0000	Community and Social Service Occupations	major	32,070	3.2%	15.207	0.95	\$21.66	\$23.11	\$48,060	1.6%
21-1012	Educational, Guidance, and Career Counselors and Advisors	detail	6,440	8.2%	3.056	1.45	\$25.19	\$25.67	\$53,400	2.1%
21-1013	Marriage and Family Therapists	detail	440	16.4%	0.208	0.47	\$23.48	\$25.11	\$52,230	11.2%
21-1015	Rehabilitation Counselors	detail	1,580	18.3%	0.751	1.04	\$16.79	\$17.08	\$35,520	2.2%
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	detail	4,450	5.9%	2.112	1.00	\$22.32	\$23.06	\$47,970	1.9%
21-1019	Counselors, All Other	detail	220	1.3%	0.107	0.54	\$19.95	\$21.53	\$44,780	2.2%
21-1021	Child, Family, and School Social Workers	detail	4,930	3.8%	2.338	0.99	\$20.41	\$21.43	\$44,580	1.9%
21-1022	Healthcare Social Workers	detail	2,530	12.1%	1.201	0.95	\$28.91	\$29.63	\$61,630	3.1%
21-1023	Mental Health and Substance Abuse Social Workers	detail	2,460	6.1%	1.167	1.39	\$18.86	\$20.33	\$42,290	2.0%
21-1029	Social Workers, All Other	detail	690	5.5%	0.329	0.76	\$27.52	\$28.60	\$59,480	6.9%
21-1091	Health Education Specialists	detail	1,110	17.3%	0.524	1.26	\$21.90	\$24.58	\$51,130	3.4%
21-1093	Social and Human Service Assistants	detail	4,330	6.6%	2.053	0.71	\$17.06	\$17.78	\$36,980	1.4%
21-1094	Community Health Workers	detail	650	15.3%	0.307	0.73	\$21.81	\$23.13	\$48,100	2.4%
21-1099	Community and Social Service Specialists, All Other	detail	330	19.3%	0.155	0.25	\$19.83	\$21.81	\$45,370	7.1%
21-2011	Clergy	detail	270	9.7%	0.130	0.35	\$27.52	\$27.82	\$57,860	2.2%
21-2021	Directors, Religious Activities and Education	detail	110	13.5%	0.054	0.38	\$20.82	\$23.59	\$49,070	5.4%
23-0000	Legal Occupations	major	16,300	5.0%	7.730	0.93	\$34.64	\$46.99	\$97,750	4.6%
23-1011	Lawyers	detail	7,670	9.2%	3.636	0.77	\$55.61	\$68.90	\$143,300	6.1%
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	detail	190	0.2%	0.092	0.88	\$45.43	\$46.17	\$96,040	5.6%
23-1022	Arbitrators, Mediators, and Conciliators	detail	150	7.0%	0.073	1.75	(8)	(8)	(8)	(8)
23-1023	Judges, Magistrate Judges, and Magistrates	detail	430	1.4%	0.204	0.99	\$63.34	\$53.87	\$112,050	6.2%
23-2011	Paralegals and Legal Assistants	detail	5,920	9.3%	2.806	1.17	\$25.87	\$25.98	\$54,040	3.2%
23-2093	Title Examiners, Abstractors, and Searchers	detail	1,120	21.4%	0.531	1.34	\$23.68	\$24.53	\$51,030	6.5%
23-2099	Legal Support Workers, All Other	detail	250	3.0%	0.117	0.36	\$27.84	\$32.04	\$66,630	2.7%
25-0000	Educational Instruction and Library Occupations	major	102,870	3.1%	48.782	0.80	\$21.93	\$23.84	\$49,580	3.5%
25-1011	Business Teachers, Postsecondary	detail	1,160	1.9%	0.552	0.96	(4)	(4)	\$80,690	12.6%
25-1021	Computer Science Teachers, Postsecondary	detail	740	10.2%	0.349	1.51	(4)	(4)	\$89,780	10.4%
25-1022	Mathematical Science Teachers, Postsecondary	detail	990	0.3%	0.471	1.32	(4)	(4)	\$66,590	6.9%
25-1041	Agricultural Sciences Teachers, Postsecondary	detail	40	0.0%	0.020	0.32	(4)	(4)	\$77,320	13.1%
25-1042	Biological Science Teachers, Postsecondary	detail	700	4.7%	0.332	0.90	(4)	(4)	\$79,130	9.8%
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	detail	120	0.0%	0.059	0.70	(4)	(4)	\$102,320	3.7%
25-1052	Chemistry Teachers, Postsecondary	detail	500	0.3%	0.237	1.53	(4)	(4)	\$68,860	8.8%
25-1054	Physics Teachers, Postsecondary	detail	70	0.0%	0.033	0.34	(8)	(8)	(8)	(8)

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25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	detail	250	0.0%	0.117	1.64	(8)	(8)	(8)	(8)
25-1063	Economics Teachers, Postsecondary	detail	120	0.0%	0.056	0.60	(8)	(8)	(8)	(8)
25-1065	Political Science Teachers, Postsecondary	detail	100	0.0%	0.048	0.44	(8)	(8)	(8)	(8)
25-1067	Sociology Teachers, Postsecondary	detail	130	0.0%	0.062	0.64	(8)	(8)	(8)	(8)
25-1069	Social Sciences Teachers, Postsecondary, All Other	detail	730	5.3%	0.345	2.73	(4)	(4)	\$62,790	5.0%
25-1071	Health Specialties Teachers, Postsecondary	detail	1,520	0.5%	0.719	0.50	(4)	(4)	\$127,020	19.8%
25-1072	Nursing Instructors and Teachers, Postsecondary	detail	1,180	6.4%	0.561	1.28	(4)	(4)	\$71,460	6.0%
25-1081	Education Teachers, Postsecondary	detail	850	2.3%	0.403	0.97	(4)	(4)	\$69,130	4.5%
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	detail	370	0.3%	0.177	1.76	(4)	(4)	\$60,740	4.3%
25-1113	Social Work Teachers, Postsecondary	detail	520	0.2%	0.247	2.53	(4)	(4)	\$71,520	5.8%
25-1121	Art, Drama, and Music Teachers, Postsecondary	detail	(8)	(8)	(8)	(8)	(4)	(4)	\$64,110	3.7%
25-1122	Communications Teachers, Postsecondary	detail	(8)	(8)	(8)	(8)	(4)	(4)	\$64,070	4.6%
25-1123	English Language and Literature Teachers, Postsecondary	detail	970	6.5%	0.462	0.99	(4)	(4)	\$62,680	4.2%
25-1124	Foreign Language and Literature Teachers, Postsecondary	detail	340	0.4%	0.160	0.98	(4)	(4)	\$63,500	4.6%
25-1125	History Teachers, Postsecondary	detail	50	0.0%	0.026	0.18	(8)	(8)	(8)	(8)
25-1192	Family and Consumer Sciences Teachers, Postsecondary	detail	50	2.8%	0.025	1.53	(4)	(4)	\$60,780	5.3%
25-1194	Career/Technical Education Teachers, Postsecondary	detail	1,560	13.0%	0.738	0.97	\$23.66	\$25.32	\$52,670	4.4%
25-2011	Preschool Teachers, Except Special Education	detail	5,620	8.6%	2.663	1.00	\$14.36	\$16.17	\$33,630	3.5%
25-2012	Kindergarten Teachers, Except Special Education	detail	2,470	4.4%	1.172	1.36	(4)	(4)	\$48,260	2.4%
25-2021	Elementary School Teachers, Except Special Education	detail	16,260	3.2%	7.711	0.79	(4)	(4)	\$49,850	2.6%
25-2022	Middle School Teachers, Except Special and Career/Technical Education	detail	7,670	7.1%	3.639	0.84	(4)	(4)	\$48,170	2.2%
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	detail	11,410	2.9%	5.410	0.76	(4)	(4)	\$56,530	2.4%
25-2032	Career/Technical Education Teachers, Secondary School	detail	680	6.5%	0.324	0.61	(4)	(4)	\$59,130	2.0%
25-2051	Special Education Teachers, Preschool	detail	340	11.9%	0.163	1.12	(4)	(4)	\$50,740	1.8%
25-2052	Special Education Teachers, Kindergarten and Elementary School	detail	2,560	3.5%	1.216	0.88	(4)	(4)	\$49,650	3.1%
25-2057	Special Education Teachers, Middle School	detail	1,120	4.2%	0.533	0.93	(4)	(4)	\$48,420	3.7%
25-2058	Special Education Teachers, Secondary School	detail	1,300	8.9%	0.618	0.60	(4)	(4)	\$55,520	2.4%
25-2059	Special Education Teachers, All Other	detail	90	17.6%	0.045	0.19	(4)	(4)	\$63,030	4.8%
25-3011	Adult Basic Education, Adult Secondary Education, and English as a Second Language Instructors	detail	370	7.7%	0.175	0.57	\$23.51	\$24.13	\$50,190	3.1%
25-3021	Self-Enrichment Teachers	detail	1,670	14.3%	0.791	0.49	\$22.67	\$24.49	\$50,940	8.6%
25-3031	Substitute Teachers, Short-Term	detail	5,940	37.2%	2.817	0.77	\$14.00	\$14.43	\$30,010	3.3%
25-3097	Tutors and Teachers and Instructors, All Other	detail	3,800	12.2%	1.801	0.81	(4)	(4)	\$40,630	4.8%
25-4011	Archivists	detail	(8)	(8)	(8)	(8)	\$19.08	\$21.07	\$43,830	9.5%
25-4012	Curators	detail	120	24.2%	0.058	0.69	\$28.29	\$28.02	\$58,270	4.9%

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25-4013	Museum Technicians and Conservators	detail	110	4.2%	0.053	0.62	\$18.37	\$19.56	\$40,690	2.0%
25-4022	Librarians and Media Collections Specialists	detail	940	4.0%	0.444	0.46	\$27.02	\$27.55	\$57,300	2.1%
25-4031	Library Technicians	detail	620	6.2%	0.294	0.46	\$15.71	\$16.86	\$35,070	2.5%
25-9031	Instructional Coordinators	detail	2,400	10.8%	1.138	0.90	\$29.15	\$29.76	\$61,900	1.8%
25-9045	Teaching Assistants, Except Postsecondary	detail	16,470	4.5%	7.809	0.85	(4)	(4)	\$28,450	1.0%
25-9099	Educational Instruction and Library Workers, All Other	detail	350	18.4%	0.168	0.16	\$15.25	\$18.05	\$37,540	4.6%
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	major	24,290	6.8%	11.516	0.86	\$22.62	\$26.99	\$56,130	2.4%
27-1011	Art Directors	detail	350	13.5%	0.164	0.56	\$39.35	\$40.50	\$84,250	2.9%
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	detail	140	24.7%	0.064	0.80	\$16.36	\$18.26	\$37,990	7.0%
27-1021	Commercial and Industrial Designers	detail	260	10.2%	0.126	0.58	\$44.69	\$46.34	\$96,390	5.6%
27-1022	Fashion Designers	detail	60	49.2%	0.026	0.17	\$23.58	\$24.86	\$51,710	12.4%
27-1023	Floral Designers	detail	210	36.7%	0.097	0.37	\$16.86	\$16.37	\$34,040	4.3%
27-1024	Graphic Designers	detail	2,350	9.9%	1.112	0.77	\$25.92	\$30.40	\$63,240	7.4%
27-1025	Interior Designers	detail	880	36.0%	0.417	0.98	\$27.97	\$31.14	\$64,780	10.5%
27-1026	Merchandise Displayers and Window Trimmers	detail	2,610	15.1%	1.239	1.28	\$14.60	\$16.29	\$33,890	2.5%
27-1027	Set and Exhibit Designers	detail	100	36.9%	0.046	0.58	\$26.95	\$25.94	\$53,950	4.1%
27-2011	Actors	detail	190	44.4%	0.089	0.28	\$14.39	\$17.66	(4)	14.8%
27-2012	Producers and Directors	detail	910	35.4%	0.429	0.50	\$28.49	\$33.55	\$69,780	3.9%
27-2021	Athletes and Sports Competitors	detail	770	13.5%	0.367	6.09	(4)	(4)	\$38,880	6.8%
27-2022	Coaches and Scouts	detail	2,990	11.2%	1.419	0.95	(4)	(4)	\$46,890	5.5%
27-2023	Umpires, Referees, and Other Sports Officials	detail	660	25.7%	0.315	2.64	(4)	(4)	\$43,360	10.6%
27-2042	Musicians and Singers	detail	370	31.1%	0.178	0.71	(8)	(8)	(8)	(8)
27-2090	Miscellaneous Entertainers and Performers, Sports and Related Workers	broad	(8)	(8)	(8)	(8)	\$18.16	\$23.51	(4)	13.6%
27-3011	Broadcast Announcers and Radio Disc Jockeys	detail	220	25.9%	0.106	0.54	\$19.23	\$31.99	\$66,550	18.6%
27-3023	News Analysts, Reporters, and Journalists	detail	470	21.7%	0.224	0.75	\$26.06	\$33.22	\$69,090	9.1%
27-3031	Public Relations Specialists	detail	3,200	8.3%	1.518	0.86	\$28.84	\$32.86	\$68,340	4.5%
27-3041	Editors	detail	700	20.4%	0.332	0.49	\$28.86	\$33.65	\$69,990	2.8%
27-3042	Technical Writers	detail	490	10.3%	0.233	0.66	\$36.99	\$38.58	\$80,250	2.7%
27-3043	Writers and Authors	detail	330	19.9%	0.154	0.48	\$23.47	\$27.33	\$56,850	7.6%
27-3091	Interpreters and Translators	detail	(8)	(8)	(8)	(8)	\$22.44	\$24.67	\$51,320	3.4%
27-3099	Media and Communication Workers, All Other	detail	100	48.0%	0.046	0.31	\$30.66	\$35.17	\$73,160	3.9%
27-4011	Audio and Video Technicians	detail	800	17.2%	0.378	0.84	\$18.15	\$20.99	\$43,650	4.7%
27-4012	Broadcast Technicians	detail	230	30.6%	0.110	0.59	\$22.48	\$23.92	\$49,750	6.8%
27-4014	Sound Engineering Technicians	detail	120	34.4%	0.055	0.70	\$25.96	\$25.76	\$53,580	6.4%
27-4021	Photographers	detail	550	25.7%	0.260	0.87	\$15.92	\$18.82	\$39,150	6.7%
27-4031	Camera Operators, Television, Video, and Film	detail	440	42.7%	0.207	1.42	\$23.76	\$25.38	\$52,800	8.4%
27-4032	Film and Video Editors	detail	260	29.0%	0.125	0.77	\$33.43	\$33.77	\$70,240	13.8%
27-4098	Lighting Technicians and Media and Communication Equipment Workers, All Other	detail	70	12.8%	0.031	0.20	\$35.60	\$38.38	\$79,830	7.9%
29-0000	Healthcare Practitioners and Technical Occupations	major	123,710	2.6%	58.663	0.95	\$36.20	\$43.61	\$90,720	3.6%
29-1011	Chiropractors	detail	530	9.8%	0.252	1.01	\$37.60	\$37.79	\$78,600	9.1%
29-1021	Dentists, General	detail	1,420	16.6%	0.675	0.98	\$83.52	\$97.79	\$203,410	9.6%
29-1031	Dietitians and Nutritionists	detail	1,090	10.4%	0.515	1.08	\$28.69	\$29.14	\$60,610	3.3%
29-1041	Optometrists	detail	590	20.1%	0.279	1.06	\$53.21	\$47.55	\$98,900	12.0%
29-1051	Pharmacists	detail	6,460	9.5%	3.061	1.35	\$60.40	\$58.32	\$121,300	1.9%
29-1071	Physician Assistants	detail	2,020	13.5%	0.957	1.06	\$54.92	\$53.77	\$111,840	1.9%
29-1081	Podiatrists	detail	190	28.1%	0.091	1.31	\$61.38	\$75.27	\$156,570	13.1%
29-1122	Occupational Therapists	detail	1,640	18.6%	0.776	0.85	\$46.70	\$50.22	\$104,450	5.0%
29-1123	Physical Therapists	detail	2,740	7.6%	1.300	0.82	\$43.44	\$44.20	\$91,940	1.4%

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29-1124	Radiation Therapists	detail	190	26.7%	0.089	0.71	\$44.82	\$45.87	\$95,420	1.9%
29-1125	Recreational Therapists	detail	180	20.9%	0.087	0.60	\$22.49	\$24.18	\$50,300	3.9%
29-1126	Respiratory Therapists	detail	2,360	6.5%	1.119	1.18	\$29.18	\$29.54	\$61,440	1.2%
29-1127	Speech-Language Pathologists	detail	2,040	13.0%	0.966	0.91	\$39.77	\$38.12	\$79,280	4.7%
29-1128	Exercise Physiologists	detail	80	11.4%	0.039	0.74	\$24.45	\$25.52	\$53,080	2.1%
29-1129	Therapists, All Other	detail	60	16.4%	0.027	0.32	\$28.82	\$32.09	\$66,750	5.3%
29-1131	Veterinarians	detail	900	20.5%	0.429	0.81	\$48.24	\$49.35	\$102,660	4.6%
29-1141	Registered Nurses	detail	38,380	4.1%	18.201	0.85	\$38.75	\$39.13	\$81,390	1.0%
29-1151	Nurse Anesthetists	detail	70	14.3%	0.033	0.11	\$86.49	\$84.45	\$175,650	3.9%
29-1161	Nurse Midwives	detail	60	32.5%	0.031	0.60	\$51.54	\$52.86	\$109,950	2.4%
29-1171	Nurse Practitioners	detail	3,430	14.0%	1.626	1.07	\$55.35	\$55.93	\$116,330	2.8%
29-1181	Audiologists	detail	80	7.3%	0.037	0.39	\$36.86	\$36.59	\$76,110	2.3%
29-1211	Anesthesiologists	detail	(8)	(8)	(8)	(8)	(5)	\$128.09	\$266,440	16.9%
29-1215	Family Medicine Physicians	detail	1,990	18.0%	0.944	1.33	(5)	\$105.79	\$220,040	11.9%
29-1216	General Internal Medicine Physicians	detail	310	37.9%	0.145	0.40	(5)	\$117.69	\$244,800	9.1%
29-1221	Pediatricians, General	detail	650	10.3%	0.306	1.55	\$95.03	\$98.47	\$204,820	9.8%
29-1223	Psychiatrists	detail	250	22.5%	0.120	0.65	(5)	\$119.64	\$248,840	6.6%
29-1228	Physicians, All Other; and Ophthalmologists, Except Pediatric	detail	6,710	26.6%	3.184	1.18	(5)	\$117.44	\$244,270	7.2%
29-1248	Surgeons, Except Ophthalmologists	detail	900	30.6%	0.427	1.57	(5)	(5)	(5)	8.4%
29-1292	Dental Hygienists	detail	2,920	13.0%	1.387	0.99	\$40.95	\$40.67	\$84,600	2.4%
29-1298	Acupuncturists and Healthcare Diagnosing or Treating Practitioners, All Other	detail	230	24.9%	0.111	0.43	\$34.01	\$37.55	\$78,110	5.9%
29-2010	Clinical Laboratory Technologists and Technicians	broad	6,800	3.8%	3.223	1.37	\$21.68	\$24.23	\$50,410	3.7%
29-2031	Cardiovascular Technologists and Technicians	detail	410	4.1%	0.193	0.48	\$26.86	\$27.78	\$57,780	2.5%
29-2032	Diagnostic Medical Sonographers	detail	1,400	7.9%	0.662	1.25	\$42.41	\$41.06	\$85,400	2.1%
29-2033	Nuclear Medicine Technologists	detail	230	7.6%	0.110	0.87	\$42.26	\$41.78	\$86,900	1.2%
29-2034	Radiologic Technologists and Technicians	detail	3,700	10.6%	1.756	1.18	\$30.66	\$30.58	\$63,610	1.8%
29-2035	Magnetic Resonance Imaging Technologists	detail	850	14.0%	0.405	1.43	\$37.88	\$37.49	\$77,980	1.5%
29-2040	Emergency Medical Technicians and Paramedics	broad	2,550	9.2%	1.208	0.65	\$15.97	\$17.35	\$36,080	1.8%
29-2051	Dietetic Technicians	detail	650	5.6%	0.307	1.61	\$13.95	\$15.05	\$31,290	1.8%
29-2052	Pharmacy Technicians	detail	6,740	8.8%	3.196	1.07	\$17.45	\$17.76	\$36,940	1.7%
29-2053	Psychiatric Technicians	detail	3,100	11.3%	1.470	2.40	\$16.45	\$16.50	\$34,320	1.7%
29-2055	Surgical Technologists	detail	1,610	17.3%	0.763	0.99	\$26.12	\$25.72	\$53,490	2.1%
29-2056	Veterinary Technologists and Technicians	detail	1,850	24.2%	0.877	1.11	\$17.66	\$17.85	\$37,120	2.8%
29-2057	Ophthalmic Medical Technicians	detail	1,380	23.0%	0.657	1.52	\$15.60	\$16.38	\$34,080	3.9%
29-2061	Licensed Practical and Licensed Vocational Nurses	detail	4,920	7.9%	2.333	0.48	\$27.37	\$27.24	\$56,650	1.7%
29-2081	Opticians, Dispensing	detail	740	13.9%	0.353	0.72	\$19.75	\$20.55	\$42,740	3.7%
29-2091	Orthotists and Prosthetists	detail	330	18.0%	0.156	2.27	\$28.67	\$32.96	\$68,570	5.8%
29-2092	Hearing Aid Specialists	detail	(8)	(8)	(8)	(8)	\$27.20	\$26.89	\$55,930	4.2%
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	detail	5,070	10.5%	2.402	1.05	\$20.01	\$22.09	\$45,950	2.3%
29-9091	Athletic Trainers	detail	530	31.3%	0.250	1.27	(4)	(4)	\$51,360	3.7%
29-9098	Health Information Technologists, Medical Registrars, Surgical Assistants, and Healthcare Practitioners and Technical Workers, All Other	detail	1,130	18.2%	0.538	0.98	\$23.55	\$29.26	\$60,860	10.7%
31-0000	Healthcare Support Occupations	major	97,190	4.1%	46.087	1.00	\$14.25	\$15.57	\$32,390	1.0%
31-1120	Home Health and Personal Care Aides	broad	54,120	7.0%	25.665	1.11	\$12.73	\$13.34	\$27,760	0.8%
31-1131	Nursing Assistants	detail	9,480	5.1%	4.494	0.46	\$16.63	\$16.56	\$34,440	1.0%
31-1132	Orderlies	detail	390	4.2%	0.187	0.60	\$13.43	\$14.07	\$29,270	1.6%

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31-2011	Occupational Therapy Assistants	detail	860	21.3%	0.407	1.32	\$33.53	\$31.42	\$65,350	6.9%
31-2021	Physical Therapist Assistants	detail	2,280	10.6%	1.083	1.62	\$17.82	\$21.47	\$44,660	5.2%
31-2022	Physical Therapist Aides	detail	550	21.2%	0.261	0.79	\$14.03	\$14.51	\$30,180	1.6%
31-9011	Massage Therapists	detail	2,190	18.7%	1.039	1.70	\$20.80	\$22.30	\$46,380	3.6%
31-9091	Dental Assistants	detail	5,680	8.2%	2.694	1.20	\$21.02	\$20.38	\$42,380	2.9%
31-9092	Medical Assistants	detail	14,770	8.7%	7.004	1.37	\$17.42	\$17.37	\$36,130	0.9%
31-9093	Medical Equipment Preparers	detail	850	9.9%	0.401	0.98	\$18.63	\$19.42	\$40,390	2.8%
31-9094	Medical Transcriptionists	detail	1,180	49.3%	0.561	1.57	\$14.54	\$16.13	\$33,560	4.0%
31-9095	Pharmacy Aides	detail	570	38.4%	0.272	0.97	\$17.78	\$19.17	\$39,870	12.6%
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	detail	1,820	20.1%	0.862	1.21	\$15.70	\$15.84	\$32,940	2.5%
31-9097	Phlebotomists	detail	930	10.4%	0.443	0.48	\$16.89	\$16.90	\$35,160	1.4%
31-9099	Healthcare Support Workers, All Other	detail	1,490	21.6%	0.704	1.01	\$19.27	\$21.70	\$45,140	5.7%
33-0000	Protective Service Occupations	major	51,810	2.0%	24.568	1.02	\$19.43	\$23.00	\$47,840	4.7%
33-1011	First-Line Supervisors of Correctional Officers	detail	970	0.8%	0.460	1.20	\$26.70	\$29.56	\$61,480	3.5%
33-1012	First-Line Supervisors of Police and Detectives	detail	1,770	1.4%	0.840	0.95	\$51.61	\$51.58	\$107,280	2.1%
33-1021	First-Line Supervisors of Firefighting and Prevention Workers	detail	1,140	2.2%	0.541	1.09	\$38.97	\$39.96	\$83,120	2.4%
33-1090	Miscellaneous First-Line Supervisors, Protective Service Workers	broad	970	7.2%	0.458	0.81	\$26.30	\$27.33	\$56,840	3.4%
33-2011	Firefighters	detail	3,540	4.5%	1.678	0.75	\$26.40	\$25.39	\$52,820	2.0%
33-2021	Fire Inspectors and Investigators	detail	100	1.6%	0.047	0.47	\$33.80	\$33.13	\$68,910	2.0%
33-3011	Bailiffs	detail	200	0.0%	0.094	0.72	\$16.60	\$17.65	\$36,710	4.4%
33-3021	Detectives and Criminal Investigators	detail	1,380	0.9%	0.657	0.86	\$43.30	\$41.90	\$87,160	6.5%
33-3051	Police and Sheriff's Patrol Officers	detail	7,350	0.7%	3.487	0.74	\$35.47	\$34.93	\$72,660	2.0%
33-9011	Animal Control Workers	detail	110	16.8%	0.050	0.60	\$18.91	\$19.67	\$40,910	3.4%
33-9021	Private Detectives and Investigators	detail	310	22.9%	0.147	0.63	\$19.37	\$23.91	\$49,730	9.9%
33-9031	Gambling Surveillance Officers and Gambling Investigators	detail	120	36.4%	0.055	0.91	\$16.18	\$20.12	\$41,850	10.3%
33-9032	Security Guards	detail	19,830	3.8%	9.404	1.24	\$14.39	\$15.32	\$31,860	1.6%
33-9091	Crossing Guards and Flaggers	detail	1,190	25.2%	0.566	0.93	\$12.43	\$13.00	\$27,040	1.7%
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	detail	2,060	18.5%	0.979	1.20	\$12.69	\$13.29	\$27,650	2.6%
33-9093	Transportation Security Screeners	detail	930	0.0%	0.441	1.31	\$20.19	\$20.69	\$43,030	(8)
33-9098	School Bus Monitors and Protective Service Workers, All Other	detail	1,830	11.2%	0.867	0.84	\$14.08	\$17.08	\$35,520	2.8%
35-0000	Food Preparation and Serving Related Occupations	major	169,990	1.7%	80.609	1.00	\$13.01	\$15.32	\$31,860	1.2%
35-1011	Chefs and Head Cooks	detail	1,390	13.1%	0.661	0.91	\$25.52	\$26.70	\$55,540	2.5%
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	detail	14,090	5.8%	6.682	1.04	\$16.53	\$18.39	\$38,240	2.0%
35-2011	Cooks, Fast Food	detail	19,040	17.8%	9.029	2.31	\$12.16	\$12.51	\$26,020	1.1%
35-2012	Cooks, Institution and Cafeteria	detail	5,220	8.1%	2.477	0.89	\$14.56	\$15.17	\$31,560	1.8%
35-2014	Cooks, Restaurant	detail	20,710	9.7%	9.821	1.23	\$13.97	\$14.46	\$30,070	1.9%
35-2015	Cooks, Short Order	detail	3,270	32.1%	1.549	1.75	\$12.91	\$14.22	\$29,590	5.1%
35-2019	Cooks, All Other	detail	40	49.8%	0.021	0.15	\$18.41	\$20.99	\$43,660	4.6%
35-2021	Food Preparation Workers	detail	9,940	10.2%	4.713	0.83	\$12.77	\$13.67	\$28,430	1.1%
35-3011	Bartenders	detail	7,140	13.8%	3.388	0.97	\$17.98	\$20.85	\$43,370	6.6%
35-3023	Fast Food and Counter Workers	detail	36,010	6.8%	17.074	0.69	\$12.43	\$13.06	\$27,160	1.0%
35-3031	Waiters and Waitresses	detail	29,260	5.4%	13.876	0.99	\$16.80	\$19.03	\$39,590	3.1%
35-3041	Food Servers, Nonrestaurant	detail	3,680	11.5%	1.747	0.95	\$13.37	\$15.68	\$32,610	3.5%
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	detail	6,670	8.4%	3.163	1.17	\$12.56	\$14.02	\$29,160	2.2%
35-9021	Dishwashers	detail	6,530	7.6%	3.095	1.09	\$12.54	\$13.02	\$27,070	0.9%

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	detail	6,690	10.7%	3.173	1.39	\$12.43	\$13.62	\$28,320	2.0%
35-9099	Food Preparation and Serving Related Workers, All Other	detail	300	35.6%	0.143	0.29	\$13.30	\$13.94	\$29,000	2.8%
37-0000	Building and Grounds Cleaning and Maintenance Occupations	major	56,950	2.8%	27.008	0.92	\$14.06	\$15.26	\$31,740	1.1%
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	detail	1,840	18.5%	0.875	0.86	\$18.91	\$21.00	\$43,670	5.2%
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	detail	2,470	10.2%	1.173	1.57	\$21.09	\$22.37	\$46,520	3.2%
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	detail	25,730	4.9%	12.200	0.85	\$13.62	\$14.73	\$30,640	1.7%
37-2012	Maids and Housekeeping Cleaners	detail	7,530	6.3%	3.570	0.62	\$12.57	\$13.30	\$27,670	1.0%
37-2021	Pest Control Workers	detail	1,300	20.5%	0.619	1.08	\$17.87	\$18.34	\$38,150	3.3%
37-3011	Landscaping and Groundskeeping Workers	detail	17,450	5.9%	8.276	1.32	\$14.27	\$14.91	\$31,010	1.0%
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	detail	450	47.9%	0.213	1.24	\$17.89	\$18.26	\$37,980	3.6%
37-3013	Tree Trimmers and Pruners	detail	100	26.7%	0.046	0.12	\$17.26	\$17.59	\$36,590	6.7%
37-3019	Grounds Maintenance Workers, All Other	detail	70	43.4%	0.034	0.34	\$22.30	\$22.37	\$46,530	4.6%
39-0000	Personal Care and Service Occupations	major	41,720	5.0%	19.785	1.02	\$13.59	\$16.28	\$33,870	1.8%
39-1013	First-Line Supervisors of Gambling Services Workers	detail	400	41.2%	0.188	1.37	\$21.06	\$22.25	\$46,290	2.5%
39-1098	First-Line Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services	detail	2,580	6.2%	1.223	0.97	\$19.28	\$21.14	\$43,980	2.6%
39-2011	Animal Trainers	detail	(8)	(8)	(8)	(8)	\$15.71	\$15.10	\$31,410	3.4%
39-2021	Animal Caretakers	detail	2,800	12.4%	1.328	0.95	\$13.37	\$15.20	\$31,620	3.3%
39-3011	Gambling Dealers	detail	1,420	32.9%	0.672	1.39	(8)	(8)	(8)	(8)
39-3012	Gambling and Sports Book Writers and Runners	detail	90	23.7%	0.041	0.75	(8)	(8)	(8)	(8)
39-3019	Gambling Service Workers, All Other	detail	170	35.4%	0.081	1.31	\$14.33	\$15.90	\$33,070	2.0%
39-3031	Ushers, Lobby Attendants, and Ticket Takers	detail	880	19.5%	0.418	0.61	\$12.45	\$13.15	\$27,360	1.8%
39-3091	Amusement and Recreation Attendants	detail	3,220	13.2%	1.528	0.86	\$12.31	\$13.64	\$28,380	2.1%
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	detail	170	15.6%	0.081	0.97	\$14.07	\$14.68	\$30,540	1.8%
39-4011	Embalmers	detail	50	35.0%	0.023	0.82	\$25.76	\$21.75	\$45,250	28.4%
39-4021	Funeral Attendants	detail	110	39.0%	0.053	0.23	\$16.83	\$16.53	\$34,390	4.7%
39-4031	Morticians, Undertakers, and Funeral Arrangers	detail	180	29.2%	0.084	0.48	\$25.22	\$32.87	\$68,360	20.2%
39-5012	Hairdressers, Hairstylists, and Cosmetologists	detail	7,250	19.2%	3.438	1.58	\$12.97	\$16.74	\$34,820	5.5%
39-5092	Manicurists and Pedicurists	detail	1,160	26.9%	0.549	1.05	\$12.71	\$15.80	\$32,870	8.3%
39-5094	Skincare Specialists	detail	1,550	22.6%	0.734	2.19	\$16.40	\$18.33	\$38,120	7.1%
39-6011	Baggage Porters and Bellhops	detail	540	17.3%	0.257	1.26	\$13.53	\$14.32	\$29,780	1.4%
39-6012	Concierges	detail	500	24.8%	0.237	0.89	\$14.56	\$15.38	\$31,990	1.9%
39-7010	Tour and Travel Guides	broad	450	34.5%	0.215	0.79	\$14.26	\$15.18	\$31,580	3.6%
39-9011	Childcare Workers	detail	5,900	10.3%	2.796	0.79	\$12.84	\$14.04	\$29,210	3.6%
39-9031	Exercise Trainers and Group Fitness Instructors	detail	3,970	13.4%	1.883	1.06	\$15.88	\$21.28	\$44,270	7.7%
39-9032	Recreation Workers	detail	6,070	5.5%	2.877	1.23	\$13.18	\$14.72	\$30,610	1.2%
39-9041	Residential Advisors	detail	890	13.5%	0.423	0.57	\$16.88	\$17.16	\$35,700	2.2%
39-9098	Crematory Operators and Personal Care and Service Workers, All Other	detail	580	20.5%	0.277	0.63	\$12.54	\$13.70	\$28,500	4.4%
41-0000	Sales and Related Occupations	major	202,050	2.0%	95.814	1.02	\$15.44	\$22.56	\$46,920	2.0%
41-1011	First-Line Supervisors of Retail Sales Workers	detail	14,080	4.5%	6.675	0.87	\$19.18	\$21.54	\$44,800	1.6%

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41-1012	First-Line Supervisors of Non-Retail Sales Workers	detail	3,060	10.3%	1.453	0.84	\$33.13	\$34.98	\$72,750	3.4%
41-2011	Cashiers	detail	41,060	10.2%	19.472	0.81	\$12.63	\$13.39	\$27,850	0.8%
41-2012	Gambling Change Persons and Booth Cashiers	detail	250	26.2%	0.117	1.16	(8)	(8)	(8)	(8)
41-2021	Counter and Rental Clerks	detail	3,950	11.3%	1.875	0.71	\$15.32	\$20.29	\$42,200	7.3%
41-2022	Parts Salespersons	detail	3,790	9.5%	1.797	0.98	\$14.50	\$17.68	\$36,770	8.6%
41-2031	Retail Salespersons	detail	56,470	6.3%	26.778	1.02	\$12.91	\$15.31	\$31,840	2.1%
41-3011	Advertising Sales Agents	detail	1,420	13.9%	0.673	0.85	\$29.22	\$31.01	\$64,500	5.8%
41-3021	Insurance Sales Agents	detail	5,830	8.1%	2.767	0.94	\$26.19	\$33.79	\$70,280	7.9%
41-3031	Securities, Commodities, and Financial Services Sales Agents	detail	8,250	6.9%	3.910	1.24	\$23.94	\$30.85	\$64,160	5.3%
41-3041	Travel Agents	detail	1,670	6.1%	0.792	2.00	\$25.41	\$26.75	\$55,630	4.3%
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	detail	23,570	5.4%	11.179	1.59	\$27.84	\$33.57	\$69,830	3.6%
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	detail	5,590	11.0%	2.653	1.28	\$41.36	\$45.74	\$95,130	6.0%
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	detail	18,370	5.7%	8.713	0.95	\$29.18	\$33.83	\$70,370	2.5%
41-9011	Demonstrators and Product Promoters	detail	1,640	25.4%	0.777	1.54	\$15.31	\$19.54	\$40,650	9.7%
41-9021	Real Estate Brokers	detail	1,940	19.2%	0.918	2.86	\$33.46	\$39.02	\$81,160	13.3%
41-9022	Real Estate Sales Agents	detail	4,050	9.6%	1.920	1.58	\$18.34	\$25.87	\$53,820	11.0%
41-9031	Sales Engineers	detail	880	15.4%	0.418	0.91	\$60.81	\$67.35	\$140,090	14.3%
41-9041	Telemarketers	detail	4,340	13.5%	2.057	2.43	\$14.23	\$16.21	\$33,710	3.3%
41-9099	Sales and Related Workers, All Other	detail	(8)	(8)	(8)	(8)	\$14.45	\$18.14	\$37,730	6.1%
43-0000	Office and Administrative Support Occupations	major	322,150	1.3%	152.764	1.15	\$18.56	\$20.25	\$42,120	0.6%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	detail	25,030	3.0%	11.870	1.16	\$27.87	\$29.32	\$60,980	1.2%
43-2011	Switchboard Operators, Including Answering Service	detail	230	10.4%	0.108	0.25	\$14.97	\$15.32	\$31,870	1.7%
43-2021	Telephone Operators	detail	40	31.1%	0.020	0.59	\$16.17	\$16.14	\$33,560	4.0%
43-2099	Communications Equipment Operators, All Other	detail	(8)	(8)	(8)	(8)	\$17.97	\$19.49	\$40,550	2.4%
43-3011	Bill and Account Collectors	detail	8,130	9.7%	3.854	2.41	\$18.06	\$18.71	\$38,920	1.7%
43-3021	Billing and Posting Clerks	detail	8,920	8.3%	4.231	1.32	\$18.70	\$19.37	\$40,290	1.0%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	detail	20,510	4.4%	9.726	0.94	\$20.86	\$21.58	\$44,880	1.2%
43-3041	Gambling Cage Workers	detail	440	34.4%	0.210	2.77	(8)	(8)	(8)	(8)
43-3051	Payroll and Timekeeping Clerks	detail	2,600	11.2%	1.232	1.28	\$22.24	\$22.54	\$46,880	1.9%
43-3061	Procurement Clerks	detail	1,460	7.9%	0.694	1.58	\$22.32	\$22.47	\$46,730	2.0%
43-3071	Tellers	detail	4,710	13.9%	2.234	0.73	\$17.19	\$17.51	\$36,420	3.4%
43-3099	Financial Clerks, All Other	detail	380	10.0%	0.180	0.82	\$22.01	\$22.40	\$46,590	2.3%
43-4021	Correspondence Clerks	detail	80	28.1%	0.040	0.91	\$21.64	\$22.54	\$46,890	5.4%
43-4031	Court, Municipal, and License Clerks	detail	1,340	1.4%	0.635	0.57	\$19.11	\$20.11	\$41,830	2.3%
43-4041	Credit Authorizers, Checkers, and Clerks	detail	720	21.3%	0.339	1.92	\$23.03	\$23.14	\$48,140	2.5%
43-4051	Customer Service Representatives	detail	84,900	3.0%	40.258	1.98	\$17.34	\$18.18	\$37,810	0.9%
43-4061	Eligibility Interviewers, Government Programs	detail	2,000	3.6%	0.950	0.95	\$16.41	\$18.45	\$38,370	4.1%
43-4071	File Clerks	detail	1,650	9.4%	0.780	1.19	\$16.77	\$17.35	\$36,090	1.6%
43-4081	Hotel, Motel, and Resort Desk Clerks	detail	2,700	6.3%	1.281	0.80	\$12.71	\$13.48	\$28,040	1.7%
43-4111	Interviewers, Except Eligibility and Loan	detail	1,420	7.6%	0.671	0.54	\$17.46	\$17.51	\$36,410	3.2%
43-4121	Library Assistants, Clerical	detail	810	2.5%	0.385	0.63	\$14.59	\$15.39	\$32,020	1.5%
43-4131	Loan Interviewers and Clerks	detail	6,200	7.3%	2.939	2.00	\$21.17	\$21.45	\$44,610	2.1%
43-4151	Order Clerks	detail	1,250	18.3%	0.591	0.69	\$15.78	\$16.44	\$34,190	2.9%

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43-4161	Human Resources Assistants, Except Payroll and Timekeeping	detail	1,870	7.6%	0.887	1.14	\$20.64	\$21.10	\$43,880	1.3%
43-4171	Receptionists and Information Clerks	detail	14,490	6.0%	6.871	0.99	\$15.35	\$16.05	\$33,380	1.8%
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	detail	3,120	22.7%	1.478	1.87	\$19.27	\$22.27	\$46,330	5.3%
43-4199	Information and Record Clerks, All Other	detail	2,610	4.5%	1.239	1.16	\$18.58	\$20.43	\$42,500	2.0%
43-5011	Cargo and Freight Agents	detail	1,400	38.2%	0.664	0.96	\$19.81	\$20.26	\$42,140	4.3%
43-5021	Couriers and Messengers	detail	620	22.2%	0.295	0.58	\$14.82	\$15.33	\$31,880	2.2%
43-5031	Public Safety Telecommunicators	detail	1,430	19.8%	0.680	1.01	\$21.28	\$22.20	\$46,180	4.3%
43-5032	Dispatchers, Except Police, Fire, and Ambulance	detail	3,030	6.2%	1.439	1.06	\$17.46	\$18.91	\$39,340	2.4%
43-5041	Meter Readers, Utilities	detail	540	26.3%	0.257	1.35	\$25.81	\$26.25	\$54,600	4.6%
43-5051	Postal Service Clerks	detail	600	0.0%	0.285	0.46	\$30.28	\$26.14	\$54,380	3.5%
43-5052	Postal Service Mail Carriers	detail	3,700	0.0%	1.755	0.73	\$26.22	\$26.14	\$54,380	2.9%
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	detail	1,320	0.0%	0.625	0.83	\$25.07	\$24.77	\$51,520	3.7%
43-5061	Production, Planning, and Expediting Clerks	detail	6,380	4.8%	3.026	1.16	\$22.44	\$23.97	\$49,860	1.4%
43-5071	Shipping, Receiving, and Inventory Clerks	detail	9,180	5.8%	4.354	0.83	\$16.92	\$17.73	\$36,870	1.3%
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	detail	380	20.9%	0.179	0.43	\$18.24	\$18.27	\$38,000	3.6%
43-6011	Executive Secretaries and Executive Administrative Assistants	detail	5,270	6.0%	2.499	0.69	\$29.43	\$30.02	\$62,450	1.2%
43-6012	Legal Secretaries and Administrative Assistants	detail	2,830	16.8%	1.342	1.16	\$22.99	\$25.69	\$53,440	9.5%
43-6013	Medical Secretaries and Administrative Assistants	detail	12,490	5.5%	5.924	1.38	\$18.05	\$18.49	\$38,450	1.1%
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	detail	28,550	4.0%	13.539	1.02	\$18.17	\$18.93	\$39,380	0.8%
43-9021	Data Entry Keyers	detail	3,700	19.8%	1.754	1.61	\$16.65	\$17.42	\$36,230	2.3%
43-9022	Word Processors and Typists	detail	200	11.5%	0.094	0.30	\$20.87	\$20.99	\$43,670	3.3%
43-9031	Desktop Publishers	detail	50	22.8%	0.023	0.45	(8)	(8)	(8)	(8)
43-9041	Insurance Claims and Policy Processing Clerks	detail	5,580	8.5%	2.644	1.53	\$19.44	\$21.28	\$44,270	2.0%
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	detail	760	15.5%	0.362	0.63	\$14.24	\$14.94	\$31,080	1.4%
43-9061	Office Clerks, General	detail	33,140	3.6%	15.713	0.78	\$18.52	\$20.25	\$42,130	1.3%
43-9071	Office Machine Operators, Except Computer	detail	660	15.4%	0.311	1.06	\$16.32	\$16.71	\$34,760	2.7%
43-9081	Proofreaders and Copy Markers	detail	(8)	(8)	(8)	(8)	\$17.44	\$17.53	\$36,460	4.3%
43-9111	Statistical Assistants	detail	360	3.3%	0.173	2.58	\$16.56	\$18.70	\$38,890	4.7%
43-9199	Office and Administrative Support Workers, All Other	detail	1,380	16.4%	0.655	0.52	\$20.50	\$21.29	\$44,270	1.6%
45-0000	Farming, Fishing, and Forestry Occupations	major	3,200	16.2%	1.516	0.44	\$14.58	\$15.90	\$33,070	2.1%
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	detail	200	18.6%	0.093	0.57	\$24.42	\$26.62	\$55,370	5.1%
45-2011	Agricultural Inspectors	detail	60	5.0%	0.027	0.28	\$18.44	\$19.93	\$41,450	2.4%
45-2091	Agricultural Equipment Operators	detail	70	31.2%	0.031	0.15	\$16.94	\$17.03	\$35,420	4.1%
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	detail	2,650	18.7%	1.258	0.60	\$14.10	\$14.94	\$31,080	2.4%
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	detail	180	9.3%	0.084	0.32	\$14.86	\$15.43	\$32,100	4.1%
45-2099	Agricultural Workers, All Other	detail	30	43.2%	0.015	0.33	\$22.89	\$22.80	\$47,430	3.8%
47-0000	Construction and Extraction Occupations	major	103,640	2.4%	49.144	1.15	\$22.61	\$24.10	\$50,120	1.1%
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	detail	12,490	5.5%	5.923	1.34	\$33.74	\$34.97	\$72,740	2.5%
47-2021	Brickmasons and Blockmasons	detail	560	20.9%	0.263	0.61	\$23.71	\$23.82	\$49,540	2.9%
47-2022	Stonemasons	detail	(8)	(8)	(8)	(8)	\$12.55	\$13.47	\$28,010	3.4%
47-2031	Carpenters	detail	11,900	9.3%	5.645	1.12	\$22.87	\$23.50	\$48,890	2.1%

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47-2041	Carpet Installers	detail	90	47.1%	0.040	0.24	\$21.40	\$23.84	\$49,600	5.5%
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	detail	(8)	(8)	(8)	(8)	\$24.34	\$26.47	\$55,050	8.0%
47-2044	Tile and Stone Setters	detail	920	31.9%	0.435	1.59	\$21.85	\$21.54	\$44,810	4.6%
47-2051	Cement Masons and Concrete Finishers	detail	5,780	10.6%	2.741	1.95	\$22.09	\$22.13	\$46,030	1.4%
47-2061	Construction Laborers	detail	16,790	6.1%	7.963	1.14	\$18.30	\$19.60	\$40,770	2.1%
47-2071	Paving, Surfacing, and Tamping Equipment Operators	detail	770	38.3%	0.366	1.14	\$18.95	\$19.51	\$40,590	5.7%
47-2073	Operating Engineers and Other Construction Equipment Operators	detail	6,340	8.4%	3.006	1.04	\$23.42	\$23.61	\$49,110	1.8%
47-2081	Drywall and Ceiling Tile Installers	detail	2,910	13.3%	1.379	1.92	\$21.39	\$21.86	\$45,460	3.2%
47-2082	Tapers	detail	340	30.3%	0.163	1.39	\$25.29	\$25.65	\$53,360	3.9%
47-2111	Electricians	detail	10,840	7.9%	5.141	1.09	\$23.55	\$23.86	\$49,620	2.9%
47-2121	Glaziers	detail	2,270	21.3%	1.075	2.86	\$21.62	\$22.83	\$47,490	3.6%
47-2131	Insulation Workers, Floor, Ceiling, and Wall	detail	(8)	(8)	(8)	(8)	\$27.57	\$27.10	\$56,370	11.9%
47-2132	Insulation Workers, Mechanical	detail	380	49.0%	0.181	0.91	\$27.61	\$26.53	\$55,180	3.7%
47-2141	Painters, Construction and Maintenance	detail	4,120	18.3%	1.954	1.25	\$19.36	\$20.40	\$42,430	4.3%
47-2151	Pipelayers	detail	970	21.3%	0.459	1.88	\$22.42	\$23.00	\$47,840	2.8%
47-2152	Plumbers, Pipefitters, and Steamfitters	detail	7,360	7.9%	3.491	1.16	\$24.22	\$25.87	\$53,810	3.0%
47-2161	Plasterers and Stucco Masons	detail	1,770	22.7%	0.839	4.63	\$22.12	\$24.08	\$50,080	5.2%
47-2171	Reinforcing Iron and Rebar Workers	detail	50	47.0%	0.025	0.19	\$25.46	\$25.15	\$52,320	3.5%
47-2181	Roofers	detail	2,120	19.1%	1.003	1.08	\$19.43	\$19.57	\$40,710	5.2%
47-2211	Sheet Metal Workers	detail	2,160	23.0%	1.023	1.11	\$23.52	\$23.98	\$49,880	2.8%
47-2221	Structural Iron and Steel Workers	detail	1,540	19.8%	0.731	1.42	\$23.14	\$24.13	\$50,180	4.1%
47-2231	Solar Photovoltaic Installers	detail	170	27.6%	0.082	1.00	\$23.55	\$23.87	\$49,650	6.3%
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	detail	250	47.4%	0.118	0.76	\$17.51	\$17.33	\$36,050	3.6%
47-3012	Helpers--Carpenters	detail	400	31.1%	0.190	0.85	\$17.95	\$18.48	\$38,430	3.8%
47-3013	Helpers--Electricians	detail	580	33.1%	0.276	0.52	\$17.23	\$18.10	\$37,650	6.2%
47-3014	Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons	detail	360	37.2%	0.168	2.47	\$16.76	\$17.39	\$36,180	5.1%
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	detail	760	26.1%	0.360	0.90	\$16.54	\$16.92	\$35,190	6.3%
47-3016	Helpers--Roofers	detail	310	48.0%	0.147	2.43	(8)	(8)	(8)	(8)
47-3019	Helpers, Construction Trades, All Other	detail	450	31.1%	0.212	1.06	\$18.04	\$19.04	\$39,600	5.9%
47-4011	Construction and Building Inspectors	detail	2,100	11.2%	0.993	1.21	\$30.01	\$30.37	\$63,170	2.8%
47-4021	Elevator and Escalator Installers and Repairers	detail	370	17.5%	0.177	1.00	\$43.87	\$40.69	\$84,640	3.3%
47-4031	Fence Erectors	detail	(8)	(8)	(8)	(8)	\$19.53	\$19.32	\$40,190	2.9%
47-4041	Hazardous Materials Removal Workers	detail	320	40.2%	0.152	0.48	\$18.05	\$19.00	\$39,520	4.1%
47-4051	Highway Maintenance Workers	detail	670	27.9%	0.319	0.30	\$21.73	\$22.11	\$45,990	2.0%
47-4061	Rail-Track Laying and Maintenance Equipment Operators	detail	(8)	(8)	(8)	(8)	\$26.83	\$26.86	\$55,870	7.3%
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	detail	170	49.8%	0.082	0.38	\$19.13	\$19.55	\$40,670	3.5%
47-4090	Miscellaneous Construction and Related Workers	broad	730	43.4%	0.344	1.49	\$17.72	\$19.12	\$39,770	3.3%
47-5022	Excavating and Loading Machine and Dragline Operators, Surface Mining	detail	(8)	(8)	(8)	(8)	\$24.19	\$24.54	\$51,050	3.6%
47-5041	Continuous Mining Machine Operators	detail	450	37.4%	0.214	1.99	\$24.43	\$24.56	\$51,070	6.3%
47-5081	Helpers--Extraction Workers	detail	500	30.6%	0.237	2.59	\$20.32	\$20.36	\$42,350	10.1%
47-5097	Earth Drillers, Except Oil and Gas; and Explosives Workers, Ordnance Handling Experts, and Blasters	detail	460	24.5%	0.220	1.36	\$27.44	\$28.44	\$59,160	6.0%

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
49-0000	Installation, Maintenance, and Repair Occupations	major	82,850	2.9%	39.289	1.00	\$22.71	\$24.55	\$51,060	1.1%
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	detail	8,130	5.4%	3.856	1.13	\$31.77	\$33.53	\$69,730	1.6%
49-2011	Computer, Automated Teller, and Office Machine Repairers	detail	1,400	20.0%	0.666	1.01	\$19.42	\$20.24	\$42,100	2.6%
49-2021	Radio, Cellular, and Tower Equipment Installers and Repairers	detail	200	31.6%	0.096	1.01	\$27.01	\$29.33	\$61,000	7.9%
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	detail	3,550	21.3%	1.683	1.23	\$23.78	\$24.99	\$51,970	6.2%
49-2091	Avionics Technicians	detail	420	33.0%	0.199	1.29	\$28.92	\$29.37	\$61,090	4.2%
49-2092	Electric Motor, Power Tool, and Related Repairers	detail	820	39.4%	0.390	3.53	\$22.65	\$22.59	\$46,980	5.5%
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	detail	90	27.7%	0.042	0.56	\$23.54	\$25.51	\$53,070	10.9%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	detail	580	19.9%	0.276	0.70	\$24.65	\$27.34	\$56,870	5.6%
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	detail	190	37.9%	0.090	0.54	\$44.05	\$42.49	\$88,370	3.8%
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	detail	(8)	(8)	(8)	(8)	\$25.14	\$31.37	\$65,260	14.6%
49-2097	Audiovisual Equipment Installers and Repairers	detail	1,420	21.3%	0.675	3.65	\$24.44	\$25.83	\$53,730	8.8%
49-2098	Security and Fire Alarm Systems Installers	detail	2,150	18.0%	1.019	2.06	\$26.59	\$26.64	\$55,410	2.6%
49-3011	Aircraft Mechanics and Service Technicians	detail	3,030	8.4%	1.439	1.56	\$34.52	\$35.16	\$73,120	3.8%
49-3021	Automotive Body and Related Repairers	detail	2,060	18.5%	0.978	0.99	\$21.85	\$23.40	\$48,680	4.4%
49-3022	Automotive Glass Installers and Repairers	detail	240	44.7%	0.115	0.86	\$13.39	\$15.26	\$31,750	6.5%
49-3023	Automotive Service Technicians and Mechanics	detail	10,110	8.2%	4.796	1.08	\$20.08	\$22.21	\$46,200	2.3%
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	detail	2,450	14.9%	1.163	0.64	\$23.43	\$24.02	\$49,950	1.5%
49-3041	Farm Equipment Mechanics and Service Technicians	detail	190	38.0%	0.091	0.36	\$24.05	\$23.90	\$49,710	5.0%
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	detail	2,770	14.5%	1.311	1.24	\$26.11	\$26.61	\$55,350	1.5%
49-3051	Motorboat Mechanics and Service Technicians	detail	(8)	(8)	(8)	(8)	\$29.04	\$27.62	\$57,440	10.7%
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	detail	360	11.3%	0.169	0.75	\$21.39	\$21.25	\$44,190	3.7%
49-3092	Recreational Vehicle Service Technicians	detail	380	13.3%	0.179	1.65	\$17.50	\$20.57	\$42,790	7.4%
49-3093	Tire Repairers and Changers	detail	970	37.1%	0.459	0.65	\$13.81	\$15.69	\$32,630	5.3%
49-9011	Mechanical Door Repairers	detail	150	30.7%	0.072	0.44	\$27.51	\$27.09	\$56,350	6.8%
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	detail	(8)	(8)	(8)	(8)	\$32.96	\$28.85	\$60,010	3.8%
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	detail	7,860	7.3%	3.728	1.51	\$22.69	\$24.07	\$50,070	2.2%
49-9031	Home Appliance Repairers	detail	300	21.2%	0.140	0.71	\$27.23	\$30.61	\$63,660	10.4%
49-9041	Industrial Machinery Mechanics	detail	3,010	11.9%	1.428	0.51	\$26.03	\$26.40	\$54,920	2.3%
49-9043	Maintenance Workers, Machinery	detail	830	18.5%	0.396	0.84	\$28.35	\$28.10	\$58,450	2.6%
49-9044	Millwrights	detail	280	35.7%	0.135	0.42	\$36.30	\$33.88	\$70,460	3.8%
49-9051	Electrical Power-Line Installers and Repairers	detail	670	7.1%	0.316	0.38	\$31.93	\$33.74	\$70,180	8.4%
49-9052	Telecommunications Line Installers and Repairers	detail	820	32.0%	0.391	0.44	\$22.92	\$23.74	\$49,370	3.3%
49-9061	Camera and Photographic Equipment Repairers	detail	90	26.6%	0.043	1.80	\$22.19	\$22.23	\$46,230	4.6%
49-9062	Medical Equipment Repairers	detail	520	28.8%	0.248	0.71	\$21.57	\$24.55	\$51,070	5.4%

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
49-9063	Musical Instrument Repairers and Tuners	detail	170	44.5%	0.079	1.55	\$16.97	\$17.80	\$37,020	3.2%
49-9069	Precision Instrument and Equipment Repairers, All Other	detail	70	0.0%	0.032	0.44	\$18.38	\$21.68	\$45,090	2.6%
49-9071	Maintenance and Repair Workers, General	detail	20,790	4.3%	9.861	1.01	\$19.03	\$20.64	\$42,940	1.2%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	detail	400	12.4%	0.191	1.06	\$22.07	\$21.17	\$44,030	6.9%
49-9094	Locksmiths and Safe Repairers	detail	(8)	(8)	(8)	(8)	\$18.28	\$18.66	\$38,810	4.4%
49-9096	Riggers	detail	100	43.1%	0.047	0.30	\$30.99	\$30.71	\$63,880	7.7%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	detail	1,430	12.2%	0.679	1.03	\$17.22	\$17.73	\$36,870	2.0%
49-9099	Installation, Maintenance, and Repair Workers, All Other	detail	1,730	18.0%	0.820	0.76	\$24.96	\$25.10	\$52,210	5.2%
51-0000	Production Occupations	major	82,870	2.2%	39.296	0.64	\$17.80	\$20.03	\$41,660	1.4%
51-1011	First-Line Supervisors of Production and Operating Workers	detail	5,470	4.8%	2.595	0.60	\$30.26	\$32.38	\$67,360	1.4%
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	detail	810	15.1%	0.385	1.39	\$21.64	\$22.87	\$47,580	6.5%
51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	detail	4,210	10.6%	1.994	0.98	\$17.85	\$19.19	\$39,910	2.6%
51-2031	Engine and Other Machine Assemblers	detail	(8)	(8)	(8)	(8)	\$18.45	\$19.68	\$40,940	5.9%
51-2041	Structural Metal Fabricators and Fitters	detail	1,020	13.4%	0.486	0.97	\$17.54	\$19.10	\$39,730	4.3%
51-2090	Miscellaneous Assemblers and Fabricators	broad	14,620	6.1%	6.934	0.77	\$15.01	\$16.13	\$33,550	1.4%
51-3011	Bakers	detail	2,010	11.6%	0.952	0.78	\$14.40	\$15.62	\$32,490	2.0%
51-3021	Butchers and Meat Cutters	detail	1,110	12.7%	0.524	0.51	\$18.16	\$18.23	\$37,910	2.7%
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	detail	740	16.3%	0.352	0.33	\$14.56	\$15.50	\$32,240	5.4%
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	detail	170	44.2%	0.081	0.59	\$19.28	\$19.94	\$41,470	6.5%
51-3092	Food Batchmakers	detail	750	16.6%	0.355	0.32	\$16.41	\$16.76	\$34,860	4.1%
51-3093	Food Cooking Machine Operators and Tenders	detail	90	30.7%	0.040	0.21	\$15.54	\$15.61	\$32,480	3.9%
51-3099	Food Processing Workers, All Other	detail	310	47.0%	0.149	0.50	\$13.53	\$16.93	\$35,210	5.0%
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	detail	510	39.6%	0.240	0.48	\$18.02	\$18.08	\$37,610	4.3%
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	detail	40	17.8%	0.021	0.21	\$16.90	\$16.58	\$34,480	3.4%
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	detail	110	29.4%	0.053	0.21	\$15.32	\$17.10	\$35,560	5.2%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	detail	710	15.8%	0.339	0.26	\$16.92	\$18.00	\$37,430	3.7%
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	detail	(8)	(8)	(8)	(8)	\$14.12	\$14.53	\$30,230	6.2%
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	detail	550	28.4%	0.262	0.52	\$17.16	\$18.15	\$37,760	4.8%
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	detail	(8)	(8)	(8)	(8)	\$24.08	\$23.51	\$48,900	5.4%
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	detail	30	34.9%	0.015	0.13	\$23.04	\$22.42	\$46,630	9.2%
51-4041	Machinists	detail	3,020	11.6%	1.432	0.55	\$23.61	\$24.00	\$49,920	3.3%
51-4051	Metal-Refining Furnace Operators and Tenders	detail	(8)	(8)	(8)	(8)	\$20.70	\$20.71	\$43,080	6.7%
51-4052	Pourers and Casters, Metal	detail	(8)	(8)	(8)	(8)	\$18.16	\$18.02	\$37,480	5.0%

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51-4071	Foundry Mold and Coremakers	detail	120	5.8%	0.055	0.47	\$15.50	\$16.24	\$33,770	4.4%
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	detail	1,220	15.3%	0.576	0.52	\$16.47	\$19.12	\$39,770	3.6%
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	detail	910	17.2%	0.433	0.45	\$17.06	\$17.66	\$36,730	2.8%
51-4111	Tool and Die Makers	detail	240	24.7%	0.115	0.26	\$27.74	\$26.84	\$55,820	4.5%
51-4121	Welders, Cutters, Solderers, and Brazers	detail	4,060	12.3%	1.925	0.67	\$21.72	\$22.47	\$46,740	2.0%
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	detail	210	38.7%	0.101	0.42	\$20.86	\$21.12	\$43,940	4.7%
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	detail	70	46.4%	0.032	0.27	\$15.76	\$16.44	\$34,200	2.7%
51-4193	Plating Machine Setters, Operators, and Tenders, Metal and Plastic	detail	380	20.3%	0.180	0.65	\$14.97	\$16.03	\$33,340	4.0%
51-4199	Metal Workers and Plastic Workers, All Other	detail	70	8.7%	0.031	0.21	(8)	(8)	(8)	(8)
51-5111	Prepress Technicians and Workers	detail	160	19.4%	0.074	0.37	\$20.92	\$20.70	\$43,050	3.9%
51-5112	Printing Press Operators	detail	2,240	10.9%	1.064	0.92	\$17.46	\$18.47	\$38,420	2.3%
51-5113	Print Binding and Finishing Workers	detail	(8)	(8)	(8)	(8)	\$14.76	\$16.18	\$33,650	6.6%
51-6011	Laundry and Dry-Cleaning Workers	detail	2,260	11.1%	1.074	0.83	\$13.06	\$13.62	\$28,320	1.5%
51-6021	Pressers, Textile, Garment, and Related Materials	detail	750	31.3%	0.355	1.54	\$12.20	\$12.62	\$26,240	2.1%
51-6031	Sewing Machine Operators	detail	1,470	15.4%	0.696	0.83	\$14.52	\$15.31	\$31,840	2.1%
51-6052	Tailors, Dressmakers, and Custom Sewers	detail	150	32.6%	0.070	0.47	\$22.07	\$21.65	\$45,030	8.2%
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	detail	250	21.6%	0.116	1.28	\$12.70	\$13.94	\$28,990	4.8%
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	detail	(8)	(8)	(8)	(8)	\$19.32	\$23.16	\$48,180	5.3%
51-6093	Upholsterers	detail	240	42.6%	0.112	0.59	\$17.22	\$18.03	\$37,500	5.9%
51-7011	Cabinetmakers and Bench Carpenters	detail	1,010	24.1%	0.479	0.71	\$19.56	\$21.65	\$45,020	7.6%
51-7021	Furniture Finishers	detail	240	17.8%	0.116	1.03	\$15.41	\$17.01	\$35,390	6.3%
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	detail	180	25.8%	0.085	0.25	\$16.45	\$16.68	\$34,690	2.3%
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	detail	1,070	21.0%	0.506	0.94	\$14.74	\$15.95	\$33,180	6.5%
51-8012	Power Distributors and Dispatchers	detail	60	22.1%	0.029	0.41	\$46.11	\$45.99	\$95,650	5.0%
51-8013	Power Plant Operators	detail	(8)	(8)	(8)	(8)	\$41.55	\$39.94	\$83,070	3.8%
51-8021	Stationary Engineers and Boiler Operators	detail	80	34.8%	0.040	0.19	\$28.23	\$27.97	\$58,180	2.5%
51-8031	Water and Wastewater Treatment Plant and System Operators	detail	1,370	10.0%	0.651	0.76	\$26.21	\$26.02	\$54,110	1.7%
51-8092	Gas Plant Operators	detail	(8)	(8)	(8)	(8)	\$35.53	\$34.21	\$71,160	5.7%
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	detail	(8)	(8)	(8)	(8)	\$26.01	\$25.40	\$52,840	6.0%
51-9011	Chemical Equipment Operators and Tenders	detail	490	32.4%	0.233	0.35	\$21.15	\$20.87	\$43,420	4.9%
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	detail	380	17.8%	0.181	0.53	\$19.82	\$21.19	\$44,070	4.0%
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	detail	120	23.0%	0.056	0.24	\$18.70	\$20.18	\$41,970	5.2%
51-9022	Grinding and Polishing Workers, Hand	detail	370	17.8%	0.175	1.01	\$16.56	\$17.08	\$35,530	2.9%

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51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	detail	1,100	8.7%	0.522	0.63	\$16.50	\$17.30	\$35,990	3.0%
51-9031	Cutters and Trimmers, Hand	detail	40	24.2%	0.021	0.37	\$15.47	\$16.09	\$33,480	5.8%
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	detail	610	14.1%	0.287	0.76	\$16.19	\$17.68	\$36,760	4.4%
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	detail	470	27.7%	0.223	0.49	\$15.79	\$17.34	\$36,070	5.9%
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	detail	(8)	(8)	(8)	(8)	\$18.48	\$18.98	\$39,470	3.5%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	detail	6,310	5.9%	2.993	0.76	\$19.54	\$21.22	\$44,130	1.3%
51-9071	Jewelers and Precious Stone and Metal Workers	detail	110	31.0%	0.052	0.39	\$15.44	\$16.28	\$33,860	5.8%
51-9081	Dental Laboratory Technicians	detail	190	18.9%	0.092	0.41	\$23.27	\$24.19	\$50,310	2.6%
51-9082	Medical Appliance Technicians	detail	360	16.9%	0.170	1.73	\$19.21	\$20.67	\$43,000	3.9%
51-9083	Ophthalmic Laboratory Technicians	detail	290	5.0%	0.136	0.73	\$19.11	\$20.60	\$42,860	4.9%
51-9111	Packaging and Filling Machine Operators and Tenders	detail	3,150	9.8%	1.495	0.56	\$14.94	\$15.76	\$32,790	1.7%
51-9123	Painting, Coating, and Decorating Workers	detail	40	45.6%	0.018	0.22	\$17.43	\$18.00	\$37,450	9.0%
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	detail	1,670	16.0%	0.791	0.80	\$18.05	\$19.60	\$40,760	2.9%
51-9141	Semiconductor Processing Technicians	detail	3,410	1.3%	1.615	7.23	\$30.56	\$30.33	\$63,080	3.0%
51-9151	Photographic Process Workers and Processing Machine Operators	detail	70	19.4%	0.035	0.55	\$20.47	\$20.75	\$43,160	5.5%
51-9161	Computer Numerically Controlled Tool Operators	detail	1,240	12.8%	0.586	0.55	\$19.26	\$20.04	\$41,690	7.6%
51-9162	Computer Numerically Controlled Tool Programmers	detail	240	12.1%	0.116	0.63	\$29.93	\$30.24	\$62,900	2.6%
51-9191	Adhesive Bonding Machine Operators and Tenders	detail	30	34.5%	0.015	0.17	\$15.34	\$15.72	\$32,700	7.4%
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	detail	150	15.5%	0.071	0.71	\$17.51	\$17.91	\$37,260	2.7%
51-9194	Etchers and Engravers	detail	50	31.5%	0.024	0.36	\$15.30	\$16.70	\$34,730	6.2%
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	detail	540	28.3%	0.257	0.86	\$17.19	\$17.39	\$36,180	5.3%
51-9196	Paper Goods Machine Setters, Operators, and Tenders	detail	(8)	(8)	(8)	(8)	\$17.87	\$18.19	\$37,830	2.6%
51-9198	Helpers--Production Workers	detail	1,410	13.5%	0.670	0.39	\$14.71	\$15.29	\$31,800	1.9%
51-9199	Production Workers, All Other	detail	1,280	19.8%	0.607	0.43	\$16.07	\$17.46	\$36,320	2.4%
53-0000	Transportation and Material Moving Occupations	major	187,860	2.7%	89.085	1.02	\$15.99	\$19.06	\$39,640	2.5%
53-1041	Aircraft Cargo Handling Supervisors	detail	170	30.1%	0.080	1.11	\$19.36	\$23.95	\$49,810	6.9%
53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	detail	8,090	8.2%	3.834	1.12	\$26.40	\$27.31	\$56,810	2.2%
53-2011	Airline Pilots, Copilots, and Flight Engineers	detail	1,810	12.9%	0.858	1.43	(4)	(4)	\$165,910	17.9%
53-2012	Commercial Pilots	detail	640	24.7%	0.302	1.13	(4)	(4)	\$93,850	7.8%
53-2022	Airfield Operations Specialists	detail	90	4.0%	0.045	0.59	\$34.58	\$31.37	\$65,240	3.1%
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	detail	190	46.1%	0.091	0.90	\$15.91	\$17.89	\$37,210	9.5%
53-3031	Driver/Sales Workers	detail	5,730	24.3%	2.716	0.90	\$12.53	\$14.88	\$30,940	4.2%
53-3032	Heavy and Tractor-Trailer Truck Drivers	detail	20,830	5.8%	9.878	0.76	\$22.97	\$23.93	\$49,780	1.8%
53-3033	Light Truck Drivers	detail	13,900	6.7%	6.592	0.99	\$17.57	\$19.25	\$40,050	3.4%
53-3052	Bus Drivers, Transit and Intercity	detail	2,880	9.1%	1.366	1.17	\$22.14	\$22.95	\$47,740	2.1%
53-3058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	detail	7,710	6.8%	3.654	0.85	\$15.15	\$17.21	\$35,790	8.2%
53-3099	Motor Vehicle Operators, All Other	detail	490	30.2%	0.234	0.63	(8)	(8)	(8)	(8)

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
53-6021	Parking Attendants	detail	3,860	38.5%	1.832	2.06	\$13.34	\$13.87	\$28,840	2.3%
53-6031	Automotive and Watercraft Service Attendants	detail	1,290	11.6%	0.613	0.76	\$14.13	\$15.08	\$31,370	2.3%
53-6041	Traffic Technicians	detail	(8)	(8)	(8)	(8)	\$28.13	\$29.12	\$60,560	1.2%
53-6051	Transportation Inspectors	detail	400	5.4%	0.188	0.95	\$31.13	\$37.18	\$77,340	14.2%
53-6061	Passenger Attendants	detail	50	24.0%	0.025	0.15	\$12.54	\$13.17	\$27,390	2.9%
53-6098	Aircraft Service Attendants and Transportation Workers, All Other	detail	330	27.9%	0.155	0.64	\$14.63	\$21.74	\$45,220	15.7%
53-7011	Conveyor Operators and Tenders	detail	140	11.9%	0.065	0.39	\$15.21	\$16.42	\$34,160	6.6%
53-7021	Crane and Tower Operators	detail	(8)	(8)	(8)	(8)	\$34.96	\$33.78	\$70,260	6.5%
53-7051	Industrial Truck and Tractor Operators	detail	9,730	12.9%	4.612	1.00	\$17.91	\$18.76	\$39,030	2.0%
53-7061	Cleaners of Vehicles and Equipment	detail	5,920	8.5%	2.807	1.14	\$12.66	\$13.77	\$28,650	1.2%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	detail	47,420	4.8%	22.486	1.12	\$14.86	\$16.33	\$33,960	1.1%
53-7063	Machine Feeders and Offbearers	detail	360	42.4%	0.170	0.37	\$15.32	\$16.33	\$33,970	2.6%
53-7064	Packers and Packagers, Hand	detail	8,410	7.4%	3.988	0.93	\$12.86	\$14.13	\$29,390	1.2%
53-7065	Stockers and Order Fillers	detail	40,140	15.5%	19.035	1.20	\$14.52	\$16.23	\$33,770	5.0%
53-7072	Pump Operators, Except Wellhead Pumps	detail	(8)	(8)	(8)	(8)	\$27.69	\$30.65	\$63,740	5.6%
53-7081	Refuse and Recyclable Material Collectors	detail	2,120	24.9%	1.004	1.16	\$18.91	\$19.97	\$41,540	3.1%
53-7199	Material Moving Workers, All Other	detail	110	35.3%	0.053	0.28	\$14.99	\$16.60	\$34,530	3.8%

Showing 1 to 672 of 672 entries

[About May 2020 National, State, Metropolitan, and Nonmetropolitan Area Occupational Employment and Wage Estimates](#)

(1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

(2) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly wage published, the annual wage has been directly calculated from the reported survey data.

(3) The relative standard error (RSE) is a measure of the reliability of a survey statistic. The smaller the relative standard error, the more precise the estimate.

(4) Wages for some occupations that do not generally work year-round, full time, are reported either as hourly wages or annual salaries depending on how they are typically paid.

(5) This wage is equal to or greater than \$100.00 per hour or \$208,000 per year.

(8) Estimates not released.

(9) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

State estimates for [Arizona](#)

Arizona's metropolitan and nonmetropolitan area estimates:

- [Flagstaff, AZ](#)
- [Lake Havasu City-Kingman, AZ](#)
- Phoenix-Mesa-Scottsdale, AZ
- [Prescott, AZ](#)
- [Sierra Vista-Douglas, AZ](#)
- [Tucson, AZ](#)
- [Yuma, AZ](#)
- [Arizona nonmetropolitan area](#)

[May 2020 National Occupational Employment and Wage Estimates](#)

[May 2020 State Occupational Employment and Wage Estimates](#)

[May 2020 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates](#)

[May 2020 National Industry-Specific Occupational Employment and Wage Estimates](#)

[Technical notes](#)

Last Modified Date: March 31, 2021

U.S. BUREAU OF LABOR STATISTICS Division of Occupational Employment and Wage Statistics PSB Suite 2135 2 Massachusetts Avenue
NE Washington, DC 20212-0001

Telephone:1-202-691-6569_ www.bls.gov/OES [Contact OEWS](#)



HCCI Exhibit #4

West Harrington Curriculum Vitae



Curriculum Vitae
WEST HARRINGTON

EDUCATION

California State Polytechnic University, Pomona, CA
1994 – 1995

Antioch University, Baltimore, MD
1977 - 1979

PROFESSIONAL LICENSES

State of California
Licensed General Contractor
California License Number 463572

State of Nevada
Licensed General Building Contractor
Nevada License Number 50832

State of Arizona
Licensed General Contractor
Arizona License Number 246394
2008 – 2018
Arizona License Number 320129
2018

State of Washington
Licensed General Contractor
Washington License Number CC HARRICC889CW

Aurora, Colorado
Licensed Commercial Building Contractor
Aurora, CO License Number 2017 1347019 00 CL

Aurora, Colorado
Licensed Roofing Contractor
Aurora, CO License Number 2017 1389478 00 CL



PROFESSIONAL AFFILIATIONS

American Society for Testing and Materials (ASTM)

Committee Member:

D08 Roofing and Waterproofing

E06 Performance of Buildings

E34 Occupational Health and Safety

National Roofing Contractors Association (NRCA)

Industry Member

Construction Specifications Institute (C.S.I.)

Industry Member

United Brotherhood of Carpenters and Joiners of America

Journeyman Carpenter (Inactive Status)

International Code Council

F-14 National Standard Roofing Contractor

EXPERIENCE

1985-PRESENT

HARRINGTON CONSTRUCTION CO., INC., Rancho Cucamonga, CA

President of general contracting business, which specializes in public works, commercial building and insurance reconstruction/completion projects. Oversee and direct all daily business operations, including estimating and accounting functions. Supervise and direct superintendents in the field. Completion contractor or construction manager for defaulted construction projects on numerous projects.

Forensic construction consultant to insurance companies, attorneys, architects, public and private owners in construction defects litigation and personal injury cases. Provide expert services including cost-to-repair estimates and analysis and testimony regarding the standard of care for general contractors, subcontractor trades and property owners.

Project experience includes single-family homes, apartments, condominiums, commercial and public works projects.



EXPERIENCE (CONTINUED)

1997-DECEMBER 2002

HARRINGTON EDWARDS & ASSOCIATES CONSULTANTS, INC., *Diamond Bar, CA*

President responsible for business development and management. Provide consulting and project management services primarily to the solid waste industry.

1981-1985

HAYWARD CONSTRUCTION CO., *Monrovia, CA*

Project superintendent, responsible for scheduling, coordinating and supervising all trades on public works and commercial projects. Participated in bidding process, evaluating job site conditions, estimating material and labor costs, soliciting and negotiating subcontractors' and suppliers' bids. Secured bonding requirements. Assisted in negotiation and preparation of proposals for negotiated contracts. Project experiences included: Hospitals, public schools, clean room, robotics laboratory, post offices, fire stations, office buildings, jails, universities, multiple-unit housing, military barracks and computer rooms. Project manager/superintendent in the completion of numerous defaulted public works construction projects for various sureties.

1979-1981

CARPENTERS LOCAL 789, *Pasadena, CA*

Journeyman carpenter and carpenter foreman in the construction of public buildings, single-family and multiple housing units and medical facilities. Project layout, supervision and direction of excavation, rebar placement, form work, concrete placement and finishing, structural steel erection, structural masonry construction and wood framing.

1976-1979

UNITED STATES FOREST SERVICE, *Mendocino National Forest, CA*

Carpenter in the construction and maintenance of Forest Service facilities throughout the Mendocino National Forest. Also participated in engineering projects, including bridge work, slope stabilization, fire break construction and road maintenance, construction and repair.



HCCI Exhibit #5

Schedule of Rates



SCHEDULE OF RATES FOR CONSULTING SERVICES

CONSULTING, ESTIMATING, RESEARCH AND INSPECTIONS

Consultant.....\$225.00/hr.

All field services are billable portal to portal.

COURTROOM AND DEPOSITION TESTIMONY

Expert Witness Services.....\$550.00/hr.

ADDITIONAL COSTS

Photographs \$0.50/ea.
Mileage \$0.575/mi.



HCCI Exhibit #6

West Harrington Testimony Matrices

California Trial Testimony						
#	Case #	Case Caption	County	Law Firm	Client	Date
1	168-C	Forman v. Forecast Homes	Los Angeles	Sage Consulting	Forecast Homes	12/1995
2	532-C	Lewis-Jorge v. Pomona U.S.D.	Los Angeles	Booth, Mitchel & Strange	Lewis-Jorge	09/1999
3	654-C	Stanley Berhans v. Shane Scott	Orange	Bonetati & Associates	Shane Scott	01/19/00
7	812-C	Blaylock v. The Stratham Group	San Bernardino	Booth, Mitchel & Strange	R.C.E. Plastering	10/05/00
5	1058-C	McClelland v. Monroe Tractor SVC	Orange	James R. Traut / Eric V. Traut	James R. Traut	11/01/01
8	1146-C	Layton v. Fairway Village	Orange	Murtaugh Miller Meyer & Nelson LLP	Layton	02/18/02
6	1180-C	(Tyberg) 79 Beverly Pk. Lane LLC v. Pool Cover Specialist	Los Angeles	Murchison & Cumming	Gleason Interior	03/15/02
9	1189-C	Gottfurcht v. American Motorists Insurance Co.	Los Angeles	Booth, Mitchel & Strange	American Motorists	03/29/02
4	1315-C	Yanez v. Sulley-Miller Contracting	Los Angeles	Koeller, Nebeker, Carison & Haluck, LLP	Matt Construction	08/15/02
10	1395-C	Clarendon v. Integrated Sign Associates	Los Angeles	Prindle, Decker & Amaro, LLP	Integrated Sign	12/19/02
11	1083-C	El Escorial v. Santa Barbara	Santa Barabara	Dale, Braden & Hinchcliffe	D.L.C. Plastering	12/2003
12	1861-C	Torres v. Savala Equipment Co., Inc.	Los Angeles	Morris, Polich & Purdy	Griffith	10/04/04
13	2711-C	Delgado v. Verdugo	Los Angeles	Selman-Breitman	Verdugo & Associates	09/10/07
14	2597-C	Canada v. Department of Water & Power, et al.	Los Angeles	Wood, Smith, Henning & Berman	Merco Construction Engineers	09/17/07
15	2319-C	Zaino v. Stager	Orange	Bonetati & Associates	DiAngelo Construction	09/28/07
16	3168-C	Smith v. Comel Development	San Diego	Green & Hall	Weatherite Corp.	10/15/08
17	2736-C	Cave Productions v. John Hugo	Los Angeles	Murchison & Cumming	Lane Productions	02/17/09
18	3544-C	Robert Berry v. R.J. Noble, et al	Orange	Traut Firm	Berry	10/08/09
19	3305-C	Church v. Mikolasko	Los Angeles	Murtaugh, Meyer, Nelson & Treglia	Kenneth Nelson Construction	11/17/09
20	3447-C	Covenant Builders v. Newman	San Diego	Murtaugh, Meyer, Nelson & Treglia	Covenant Builders	03/18/10
21	3602-C	Siegel v. Patel	Orange	Brady, Vorwerck, Ryder & Caspino	Patel	04/15/10
22	3590-C	AV Builder v. Laguna Village Owners' Association	Orange	Murtaugh, Meyer, Nelson & Treglia	Pulaski Arita Olsson	06/09/10
23	3941-C	Sigmund v. Wilshire Selby	Los Angeles	Murphy, Pearson, Bradley & Feeney	Wilshire Selby Towers West HOA	01/03/11
24	4143-C	Davidson v. Chadwick	Los Angeles	Murtaugh, Meyer, Nelson & Treglia LLP	Norman Davidson	02/28/12
25	4218-C	Slayton v. Ruscha	Los Angeles	Montelone & McCory	Edward Ruscha	12/03/12
26	4730-C	Graff v. Alex & Polina Blyumkin as Trustees; Newform Construction	Los Angeles	Murchison & Cumming	Blyumkin and Newform Construction	03/05/14
27	3176-C	TDIC v. Buon Gusto Ristorante	Los Angeles	Watkins & Letofsky, LLP	TDIC	07/29/14
28	4394-C	Mulitz v. Building Dreams Construction, Inc.	Los Angeles	Archer Norris	LA Stucco	08/14/14
29	4865-C	Regalado v. Callaghan, et al.	Riverside	Wood, Smith, Henning & Berman	Jeffrey Callaghan	10/15/14
30	4577-C	Fuess v. Fling / DLK Development v. Fling	Los Angeles	Feldman & Associates	dba: Framing Specialists DLK Development (GC)	02/04/15

California Trial Testimony						
#	Case #	Case Caption	County	Law Firm	Client	Date
31	5109-C	Wheel Solutions, Inc. v. DCO Beach Walk, LLC	Orange	Archer Norris	DCO Beach Walk, LLC	10/01/15
32	5504-C	Braganza v. Pulte (Carriage Place I/II, Commons I) - Murrieta	Riverside	Letofsky-McClain	CBR Electric	10/12/16
33	4944-C	Munro v. Tiara Imperial Apartments Association, et al. (TIA)	Long Beach	Grant, Genovese & Baratta, LLP	TIA	07/10/17
34	5672-C	Silverline Construction, Inc. v. Coyle/Reno (JUDICIAL REFERENCE)	San Jose	Murtaugh, Meyer, Nelson & Treglia LLP	Silverline Construction, Inc.	10/25/17
35	6354-C	Heather Anthony v. Denise Gilbert, et al.	Riverside	Letofsky-McClain	Larry Methvin Installations, Inc. and Nexus Builders	04/22/19
36	6092-C	Metropolitan Industries, Inc. v. Special Services for Groups, Inc., et al.	Los Angeles	Selman-Breitman	U-Bon aka U-B Contractors	06/18/19
37	6396-C	Tesoro Refining & Marketing Company LLC v. Rickley/Roit (JURY TRIAL)	Los Angeles	Buchalter	Tesoro Refining & Marketing Company LLC	09/10/19
38	6450-C	KPRS Construction Services, Inc. v. Allied Subcontractors	Orange	Mokri, Vanis & Jones, LLP	Allied Subcontractors	09/12/19
39	6396-C	Tesoro Refining & Marketing Company LLC v. Rickley/Roit (BENCH TRIAL)	Los Angeles	Buchalter	Tesoro Refining & Marketing Company LLC	10/02/19
40	6409-C	Cornejo v. Serrato; U.S. Bank	San Bernardino	Trachtman & Trachtman	U.S. Bank National Association	11/07/19
41	6396-C	Tesoro Refining & Marketing Company LLC v. Rickley/Roit (JURY TRIAL)	Los Angeles	Buchalter	Tesoro Refining & Marketing Company LLC	07/27/21
42	6543-C	PS Business Parks, L.P. v. George Shimizu, et al.	Orange County	Friedenthal, Heffernan & Brown, LLP	Michael Chislock	08/02/21
43	6744-C	Neman, et al. v. State Farm General Ins. Co.	Los Angeles	Cozen O'Connor	State Farm General Ins. Co.	08/26/21
44	6794-C	Gardner v. CP IV G8, LLC, et al.	Los Angeles	Tharpe & Howell	CP IV G8, LLC, et al.	09/03/21

Nevada Trial Testimony						
#	Case #	Case Caption	County	Law Firm	Client	Date
1	1489-N	Olen Res. v. Robt. v. Jones - Eagle Trace	Clark	Helm & Helm	First Premier Drywall	09/2003
2	1970-N	Signature Custom Homes v. MS Concrete	Clark	Springel & Fink	MS Concrete	10/09/06
3	3336-N	Kitec Fitting Litigation	Clark	Parker, Nelson & Associates	Sharp Plumbing	01/30/09
4	4689-N	Johnson v. Olympic Square Shopping Center, et al.	Clark	Ray Lego & Associates	Apollo International, Inc.; John & Kiliopi Georgis	02/25/15
5	4300-N	Sandstone Condominium HOA v. Sandstone Condominiums in Mesquite, NV, LLC et al. (EVIDENTIARY HEARING)	Clark	Bremer, Whyte, Brown & O'Meara	Centennial Drywall Systems	04/15/15

Arizona Trial Testimony						
#	Case #	Case Caption	County	Law Firm	Client	Date
1	3622-A	Ramsey v. Construction Management Group 3	Maricopa	Rai & Barone	Construction Management Group 3	07/19/10
2	3842-A	Alamosa Ranch, LLC v. Antimite Arizona, Inc.	Pima	Lewis Brisbois Bisgaard & Smith LLP	SOS Exterminating	05/01/12
3	3268-A	Sirrah Enterprises v. Wunderlich, et al.	Yavapai	Bremer, Whyte, Brown & O'Meara	Sirrah Enterprises, LLC	06/04/14

Colorado Trial Testimony						
#	Case #	Case Caption	County	Law Firm	Client	Date
1	4955-CO	Counts, et al. v. Ironbridge Homes, LLC	Garfield	Wood, Smith, Henning & Berman	LB Rose Ranch, LLC	07/13/15

California Binding Arbitration Testimony

#	Case #	Case Caption	County	Retained By	Client / Insured	Date
1	925-C	Price v. The Coast	Orange	Gray, York, & Duffy	The Coast HOA	
2	1034-C	Levine v. Medina	Los Angeles	Murtaugh Miller Meyer & Nelson	Medina	03/26/02
3	975-C	Vera Townhomes v. Chsley Construction	San Bernardino	Murtaugh Miller Meyer & Nelson	Chesley Construction	
4	1358-C	Community of Christ	Los Angeles	Murtaugh Miller Meyer & Nelson	Community of Christ	07/07/04
5	1892-C	Renard v. Houck Construction	Los Angeles	Leon A. Victor & Associates	Houck Construction	02/05/05
6	2357-C	Aphessetche v. Nicholas Builders	Los Angeles	Prindle, Decker & Amaro	Orange West Scaffolding	12/12/05
7	2157-C	Amoroso v. Navigator	Los Angeles	Selvin, Wraith & Halman	PMC Concrete Finishes	12/13/05
8	1995-C	Halfon v. Inglewood Investment	Los Angeles	Law Offices of Maureen O'Hara	Zoe Papayians	12/15/05
9	3284-C	Mishra v. Armstrong Associates	Santa Barbara	Archer-Norris	Jerry Cox Construction	11/06/08
10	2941-C	August Construction v. Brent Engineering	Los Angeles	Callahan & Blaine	Brent Engineering	02/05/09
11	3619-C	Woo (Thomasson) v. Standard Pacific Corp.	San Bernardino	Green & Hall	Standard Pacific	02/08/10
12	3903-C	Tidus v. Hohmann	Orange	Murtaugh, Meyer, Nelson & Treglia LLP	David Hohmann	04/18/11
13	3540-C	East Los Angeles Community College	Los Angeles	Feldman & Associates	Morillo Construction, Inc.	02/07/12
14	4831-C	Toledo v. Pinnacle	Orange	Archer-Norris	Aquatic Co. fka Lasco Bathware, Inc.	01/20/15
15	5376-C	817 Alfred Community Assoc., Inc. v. SUP Alfred 18, LLC; Sycamore Urban Properties, LLC	Orange	Wood, Smith, Henning & Berman, LLP	SUP Alfred 18, LLC; Sycamore Urban Properties, LLC	05/23/16
16	5541-C	R&R Construction v. Roski	Los Angeles	Feldman & Associates	R&R Construction	9/07/16 9/09/16
17	5621-C	Basec Structures, Inc. v. 211 La Brea, LLC	Los Angeles	Manatt, Phelps & Phillips, LLP	211 La Brea, LLC	11/09/16
18	5578-C	L.A. Construction and Design, Inc. v. EHG Alpha US, LLC	Los Angeles	Jeffrey & Grosfeld	L.A. Construction and Design, Inc.	12/14/16
19	5704-C	Brownstein v. Tufeld Corporation	Los Angeles	Kincaid & Associates	Beverly Hills Gateway, L.P., Promenade Gateway, L.P.	11/01/17
20	5830-C	Gilbert Enterprises, Inc. v. Homme	Los Angeles	The Green Law Group	Gilbert Enterprises, Inc.	05/03/18
21	6180-C	Lifetech Resources, LLC v. Anderson Construction, Inc.	Los Angeles	The Green Law Group	Anderson Construction, Inc.	10/14/20 10/15/20

Arizona Binding Arbitration Testimony

#	Case #	Case Caption	County	Retained By	Client / Insured	Date
1	3356-A	Amezcuca v. D.R. Horton	Maricopa	Rai & Barone	Swiss Plastering	02/12/10
2	3885-A	Kerby Estates v. Continental Homes II	Maricopa	Rai & Barone	Palo Verde Plastering	08/14/12
3	3932-A	Kerby Estates v. Continental Homes II	Maricopa	Rai & Barone	Swiss Plastering	08/14/12
4	4036-A	Embrey v. Loma Vista Development Company	Maricopa	Rai & Barone	Burrows Concrete	02/02/15
5	5279-A	Kukora v. Blandford Homes	Maricopa	Bauman, Loewe, Witt & Maxwell	Headlee Roofing, Inc.	02/01/16

#	Case #	Case Caption	County	Retained By	Client / Insured	Date of Deposition
1	168-HC	Peters/Anderson v. Brighton C	Orange	Murtaugh Miller Meyer & Nelson	Wilson Framing	11/30/98
2	631-C	Rancho Sierra HOA v. Robert V. Jones Corp.	Clark	Bremer, Whyte, Brown & O'Meara	Owens Plastering	1998
3	600-C	Brentwood @ Kiowa HOA v. Brentwood Partners, et al	Los Angeles	Selman Breitman		1998
4	533-C	Foxgate v. Bramalea/Strom Drywall	Los Angeles	Murchison & Cumming	Efco Corp.	1998
5	601-C	Kilroy v. Hughes	Los Angeles	Brady, Vorwerck & Ryder	Sierra Fireproofing	1998
6	153-HC	Kortlander v. California Fair Plan	Los Angeles	Bottum & Feliton	California Fair Plan	1998
7	536-C	PGA West Res. v Sunrise Desert Part. C	San Bernardino	Stewart, Dimmick, Marshall & Zell		04/09/99
8	535-C	Majia v. Forecast Homes C	Orange	Brady, Vorwerck & Ryder	Vallejo Concrete	08/11/99
9	134-HC	Lewis Jorge v. PUSD/Vejar	Los Angeles		Lewis George Construction	1999
10	1089-C	Queen Anne/LAUSD	Los Angeles	Booth, Mitchell & Strange	Lewis George Construction	1999
11	522-C	Revere Financial v. Ginsburg	Los Angeles	Cummings & White	Ginsburg	1999
12	556-C	Summit Pointe II v. Newcrest Development	Los Angeles	Murchison & Cumming	Newcrest Development	1999
13	114-HC	Bouab v. TIG	Orange	Bottum & Feliton/Sage		1999
14	133-HC	Brown v. Brighton	Orange	Sage/Murtaugh, Meyer, Nelson & Treglia	Wilson Framing	1999
15	501-C	Faysal v. Huggins Sheet Metal, et al.	Orange	Waters, McCluskey & Boehle	Huggins Sheet Metal	1999
16	853-C	Friedman v. Kaufman & Broad	Orange	Cooksey, Howard, Martin & Toolen	Norm's Sheet Metal	1999
17	541-C	Rock Springs Vista 3 v. JA Black Constr. C	Clark	Thorndal, Armstrong, etc./SAGE	Iovino Masonry	06/21/00
18	645-C	Pacific Legends Green Valley v. Pacific Properties	Clark	Ryder & Caspino	B & B Framing	08/09/00
19	669-C	Magellan Acacia Prk Ltd v. Temecula 320 LPC	Orange	Bremer, Whyte, Brown & O'Meara, LLP	Sports Tech Group, Inc. dba Surfacing Tech Group	2000
20	567-C	Marinescu v. County of Orange	Orange	Ford, Walker, Haggerty & Behar		2000
21	509-C	Spitz/Auslander v. Brighton	Orange	Murtaugh, Meyer, Nelson & Treglia	Wilson Framing	2000
22	654-C	Stanley Berhans v. Shane Scott	Orange	Bonetati & Associates		2000
23	1166-C	Windwards HOA v. John Laing Homes	Orange	Booth, Mitchell & Strange	Coast Tile Plastics	2000
24	151-HC	Yee v. Telikos Corp, et al.	Orange	Murtaugh, Meyer, Nelson & Treglia	Telikos Corp	2000
25	512-C	Harbour Island v. Shamrock Voss	Ventura	Murtaugh, Meyer, Nelson & Treglia		2000
26	651-C	Echo Glen HOA v. Robert V. Jones	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	Owens Plastering	01/15/01
27	856-C	Hathaway Dinwiddie Constr. v. United Airlines, Inc.	Los Angeles	Paul, Hastings, Janofsky & Walker	United Airlines	01/18/01

#	Case #	Case Caption	County	Retained By	Client / Insured	Date of Deposition
28	831-C	Elias v. Acacia Construction C	Orange	James R. Traut / Eric V. Traut	Mario Elias	02/06/01
29	816-C	Lankershim v. Carreon Villa Apartments	Los Angeles	Stutz, Gallagher, Artiano, Shinoff & Holtz	Matich Corp.	02/21/01
30	697-C	Opulence v. Picerne Construction	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	AR Ornamental	02/23/01
31	876-C	Stanley Behrens v. Shane J. Scott, et al.	Orange	Murchison & Cumming	Shane Scott	03/07/01
32	625-C	Borhani v. Bramalea	Orange	Ivan K. Stevenson	Bramalea	03/28/01
33	561-C	Elan HOA v. Picerne Development	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	AR Ornamental	03/29/01
34	626-C	Gagliardi v. Duarte	Orange	Matsui Consulting Group		05/02/01
35	926-C	Bhaumik v. Tiller	Orange	James R. Traut / Eric V. Traut	Tiller Constructors	05/14/01
36	913-N	Elan HOA v. Picerne Construc.	Clark	Bremer, Whyte, Brown & O'Meara, LLP	Alpine Insulation	05/16/01
37	538-C	Labdon v. The Fieldstone Co. C	Orange	Murtaugh Miller Meyer & Nelson LLP	M&R Wood Products	05/17/01
38	756-C	Labdon v. The Fieldstone Co.	Los Angeles	Brady, Vorwerck & Ryder	James Mock, Inc.	05/22/01
39	695-C	Souvenir HOA v. Charter Realty	Clark	Bremer, Whyte, Brown & O'Meara	Bronco Construction	05/23/01
40	670-C	Catalina Plaza HOA v. Anastasi Construction Co.	Los Angeles	Brady, Vorwerck & Ryder	Anastasi Construction	06/11/01
41	750-N	Resort Villas HOA v. Robert V. Jones	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	AR Ornamental Iron	06/15/01
42	724-C	Ireland v. Barratt	Los Angeles	Brady, Vorwerck, Ryder & Caspino	Sierra Fireplace	06/25/01
43	700-C	Mandel v. Brighton Homes	Los Angeles	Brady, Vorwerck, Ryder & Caspino	Sierra Fireplace	06/25/01
44	723-C	Melton v. Barratt	Los Angeles	Brady, Vorwerck, Ryder & Caspino	Sierra Fireplace	06/25/01
45	676-C	Ironwood Condo v. Robert Jones	Clark	Bremer, Whyte, Brown & O'Meara	Owens Plastering	07/13/01
46	676-C	Ironwood Condo v. Robert Jones C	Clark	Bremer, Whyte, Brown & O'Meara, LLP	Owens Plastering	07/13/01
47	699-C	Ali v. Woodcrest	Los Angeles	Brady, Vorwerck, Ryder & Caspino	Cal-Russ Construction	09/06/01
48	597-C	Admirals Point	Clark			09/10/01
49	644-C	Pacific Legends West HOA v. Pacific Prop.	Clark	Ryder & Caspino	B & B Framing	09/27/01
50	718-N	Colorado Bay Club v. Capital Pacific	Clark	Ryder & Caspino	1st Better Builders	10/09/01
51	721-C	Rupport v. Scanlon		Murchison & Cumming	Vista Plastering	10/16/01
52	711-N	Verde Viejo v. Diversified Dev. - Iovino	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	Iovino Masonry	10/22/01
53	712-N	Verde Viejo v. Diversified Dev. - AR Ornamental	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	AR Ornamental	10/23/01
54	736-N	Las Hadas HOA v. Durable Homes/Capital Pacific Homes C	Clark	Bremer, Whyte, Brown & O'Meara, LLP	Huntsman Plastering	11/15/01
55	940-C	TIG Insurance Co. v. Gary Smolker	Los Angeles	Prindle, Decker & Amaro	Home Savings Termite Co.	11/20/01
56	975-C	Vera Townhomes v. Chelsey Construction	San Bernardino	Murtaugh, Meyer, Nelson & Treglia	Chelsey Construction	12/06/01
57	870-C	Fountains Senior Prop. of CA v. Birtcher Constr.	Orange	O'Connor, Packer & Dunivan	Rob Guth Construction	12/13/01

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58	810-C	Madokoro v. Monarch Builders	Los Angeles	Morris, Pulich & Purdy	Monarch Builders	01/21/02
59	605-C	Ridgeview v. Deznan	Clark	Sage	Deznan	01/23/02
60	1034-C	Levine v. Medina	Los Angeles	Murtaugh, Meyer, Nelson & Treglia	Medina	02/12/02
61	912-N	Spanish Gardens v. Tiberti-Blood	Clark	Helm & Associates	Nevada Gypsum Floors	02/14/02
62	866-N	Duritsa v. Beazer Homes Holding Corp.	Clark	Helm v. Helm	Vegas General	03/07/02
63	1141-C	Pacific Custom Pools v Scottsdale Ins., Co.	Los Angeles	Selman-Breitman	Scottsdale Insurance	03/08/02
64	1146-C	Layton v. Fairway Village	Orange	Murtaugh Miller Meyer & Nelson	Layton	04/10/02
65	967-N	Winchester Maint. Corp. v. Warmington Lake Mead Assoc.	Clark	Hutchison & Steffen	Sunstate Landscape & Lawn, Inc.	04/22/02
66	1110-N	Elan HOA v. Picerne Construc.	Clark	Helm & Helm	KFX	04/30/02
67	823-N	Winchester Maint. Corp v. Warmington Lake Mead Associates	Clark	Bremer, Whyte, Brown & O'Meara	Gary G. Day Construction Inc.	05/01/02
68	824-N	South Bay Condo HOA v. GT Construction Inc.	Clark	Bremer, Whyte, Brown & O'Meara	R.W. Stucco	05/06/02
69	1193-C	KB Brown Construction v. Don McClusky Plastering	Los Angeles	Early, Maslach & Rudnicki	Don McClusky Plastering	05/13/02
70	735-C	Laing v. Ontario Homes	Los Angeles	Cummings & White	Tri-County Framers	05/14/02
71	1091-C	Laing v. Ontario Homes	Los Angeles	Brady, Vorwerck & Ryder	Selectile	05/23/02
72	903-C	Windwards HOA v. John Laing Homes	Orange	Law Offices of William I. Chopak	Reliable Interiors	06/18/02
73	1223-C	Saucerman (Cook) v. SV Partnership	Los Angeles	Andrews & Rhodes	Bottom Dollar Construction	06/20/02
74	1189-C	Gottfurcht v. American Motorists Insurance Co.	Los Angeles	Booth, Mitchel & Strange	Jack Knight DBA K&S Corp.	07/02/02
75	1127-C	Cardona v. LH Venture No. 1, et al.	Orange	Kring & Brown	Schetne Drywall	07/03/02
76	1606-N	Woods v. WCB Investments, Inc.	Clark	Law Offices of William C. Turner & Assoc.	Quality One Marble & Granite	09/03/02
77	1315-C	Yanez v. Sulley-Miller Contracting, et al.	Los Angeles	Koeller, Nebeker, Carlson & Haluck	Matt Construction	09/24/02
78	812-C	Blaylock v. The Stratham Group	San Bernardino	Booth, Mitchel & Strange		10/11/02
79	815-N	Alcantara v. Palm Gardens Ltd.	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	CEDCO, Inc.	10/14/02
80	925-C	Price v. The Coast	Orange	Gray, York & Duffy	The Coast HOA	10/22/02
81	959-N	Eising v. Santa Fe Village One Ltd.	Clark	Bremer, Whyte, Brown & O'Meara, LLP	Pratte Development Co.	10/28/02
82	1083-C	El Escorial v. Santa Barbara	Santa Barabara	Dale, Braden & Hinchcliffe	D.L.C. Plastering	12/10/02
83	1183-C	Lincoln v. Olympia & Chase	Los Angeles	Morris, Polich & Purdy	Leppert Engineer Co.	01/09/03
84	1111-N	Nelson (Ovations) v. Terra West Development	Clark	Bremer, Whyte, Brown & O'Meara, LLP	Sunstate Landscape & Lawn Inc.	01/28/03
85	1288-N	Capital Pacific Homes v. Champion Masonry	Clark	Hutchison & Steffen	Champion Masonry	01/29/03
86	1395-C	Clarendon v. Integrated Sign Associates	Los Angeles	Prindle, Decker & Amaro	Integrated Sign Assoc.	01/31/03
87	948-N	Canyon Willow Pecos v. Torino Construction	Clark	Lyles & Hawley	Centennial Drywall	03/04/03
88	1216-C	Pacifico v. Construction Technicians	Orange	Borton, Petrini & Conron	Greenscapes Installation	03/07/03
89	934-N	Patricia & Guy Maillaro v. Pacific Southwest Development, et al.	Clark	Bremer, Whyte, Brown & O'Meara, LLP	Buckroff Masonry	03/20/03
90	1158-C	Spile v. Toll Bros	Los Angeles	Selman-Breitman	Toll Bros.	03/27/03
91	879-C	Hendry, et al. v. 396 Investment Company, et al.	Orange	Breidenbach, Buckley, Huchting & Hamblet	Standard Concrete Products, Inc.	03/28/03
92	745-N	Canyon Willow v. Torino Construction	Clark	Hanlon & Associates	Martinez Masonry	04/01/03
93	1426-N	Canyon Willow v. Torino Construction	Clark	Springel & Fink	Drywall Unlimited	04/15/03

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94	1378-N	Peccole Ranch HOA v. Peccole Ranch Partnership	Clark	Tharpe & Howell	Bill Young's Masonry	05/07/03
95	1226-C	Ivan v. City of Anaheim	Orange	James R. Traut/ Eric V. Traut	Ivan	06/17/03
96	1121-N	Culbertson v. Capital Pacific Homes, et al.	Clark	Law Offices of Melissa P. Harris	Marv Black Masonry	07/07/03
97	1154-N	Sahara Mountain v. Las Brisas	Clark	Thagard & Brown	Nevada Gypsum Floors	07/07/03
98	1316-N	Culbertson v. Capital Pacific Homes, et al.	Clark	Law Offices of Cisneros & Associates	Pacific Stucco, Inc.	07/08/03
99	1211-N	Culbertson v. Capital Pacific Homes, et al.	Clark	Law Offices of Michael R. Merritt	Road Runner Drywall	07/21/03
100	1554-N	Sahara Mountain v. Las Brisas	Clark	Thagard & Brown	Nevada Gypsum Floors	07/21/03
101	1507-C	701 Ocean Ave. Condo Assoc. v. Edward Properties, Inc.	Los Angeles	Murchison & Cumming	Brad Knapp Construction	08/15/03
102	1489-N	Olen Res. v. Robt. V. Jones - Eagle Trace	Clark	Helm & Associates	1st Premier Drywall	08/19/03
103	1526-C	Ottenstein, Adam S. v. City of Long Beach, et al.		Law Offices of John P. Donovan	Sully Miller Contracting Co.	08/21/03
104	1292-N	Raintree West HOA v. Falcon Homes	Clark	Helm & Associates	Gary G. Day Construction Inc.	09/03/03
105	1626-C	Hayward v. LAUSD	Los Angeles	Monteleone & McCrory	Hayward Construction	09/23/03
106	979-N	Pacific Legends East v. Pacific Homes	Clark	Thorndal, Armstrong, Delk, Balkenbush & Eisinger	AR Ornamental	10/01/03
107	1322-C	Bullon v. 396 Investment Co.	Orange	Brady, Vorwerck, Ryder & Caspino	Mock Concrete, Inc.	10/13/03
108	1674-C	HNTB Design/Build v. Linclon Santa Monica	Los Angeles	The Rodarti Group	Lincoln Santa Monica	10/27/03
109	1534-N	Pacific Legends East HOA v. Pacific Properties	Clark	Bremer, Whyte, Brown & O'Meara	Centurion Security Systems, Inc.	11/05/03
110	801-N	Pacific Legends East v. Pacific Homes	Clark	Bremer, Whyte, Brown & O'Meara	B&B Framing	11/05/03
111	1060-N	Chambers v. Landis Development	Clark	Bremer, Whyte, Brown & O'Meara	Performance Plastering	11/10/03
112	1680-N	Palermo HOA v. Kimball Hill Homes	Clark	Bremer, Whyte, Brown & O'Meara	Milgard Manufacturing	11/10/03
113	878-N	Palermo HOA v. Kimball Hill Homes	Clark	Tharpe & Howell	Road Runner Drywall	11/10/03
114	1448-C	Tarbet v. State Farm	San Diego	Robie & Matthai	State Farm	02/05/04
115	1230-C	Bergstrom v. John Dear, et al.	Orange	Bonetati, Sasaki, Kincaid & Kincaid	Bergstrom Construction	03/29/04
116	1210-C	Los Altos Trust/Jacques Gendreau v. Birtcher Construction	Los Angeles	Law Offices of Linda M. Libertucci	Custom Metal Fabricators, Inc.	04/02/04
117	1749-N	Sun City Summerlin Development (Silver) v. Del Webb	Clark	Helm & Associates	MS Concrete	04/29/04
118	1799-N	Newport Townhomes Owner's Association v. Newport Townhomes, LP, et al.	Clark	Law Offices of Cisneros & Associates	Dan Bradley Glass Shop	04/30/04
119	1326-C	Castron v. Fieldstone Pacific Ltd. Partners	Orange	Andrews & Rhodes	Standard Concrete Products, Inc.	06/21/04
120	1878-N	Wilborn v. D.R. Horton	Clark	Springel & Fink	M & M Construction	07/28/04
121	1441-C	Laskey v. Blvd. Development, et al.	Orange	Murtaugh Miller Meyer & Nelson	Shelly Imperial & Everett C. Reid dba Specialty Construction	08/02/04
122	1825-C	Dorus v. Barratt American Inc., et al.	Los Angeles	Law Offices of Aaron B. Booth	Rancho Framing	08/31/04
123	1627-N	Terrasanta COA. v. Frey Development	Clark	Bennion & Clayson	WTW Enterprises	09/07/04
124	1924-C	Bell, Michael v. Friess Company Builders, Inc., et al.	Orange	Lewis, Brisbois, Bisgaard & Smith	Friess Company Builders, Inc.	09/09/04

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125	1861-C	Torres v. Savala Equipment	Los Angeles	Morris, Polich & Purdy	Griffith Co.	09/10/04
126	1726-C	Buzzerio v. Kaufman & Broad Home	Los Angeles	Borton, Petrini & Conron	Corbin Custom Tile, Inc.	09/29/04
127	1346-N	Afong v. Falcon Homes, Inc.	Clark	Bremer, Whyte, Brown & O'Meara	Sierra Fireplace	11/23/04
128	1993-C	Criswell, Timothy v. Pinnacle Construction	Orange	Bonetati, Sasaki, Kincaid & Kincaid	Pinnacle Construction	11/24/04
129	1616-N	Pueblo @ Santa Fe v. Pueblo LLC	Clark	Hutchison & Steffen	Sparks Plastering & Drywall	11/29/04
130	1966-C	California Renaissance v. Boyce Bates	Orange	Murtaugh, Meyer, Nelson & Treglia		11/30/04
131	2028-C	Allstate v. Crown Plumbing	Orange	Bonetati, Sasaki, Kincaid & Kincaid	Rodeo Homes	12/27/04
132	1758-A	Power v. Jackson	Maricopa	Rai & Barone	Superior Drywall	02/11/05
133	747-N	Legacy Legends v. Pacific Properties	Clark	Bremer, Whyte, Brown & O'Meara	Nevada Gypsum Floors, Inc.	02/12/05
134	1771-C	Valbuena v. CR Shelton Construction	San Bernardino	Murtaugh, Meyer, Nelson & Treglia		02/23/05
135	1616-N	Pueblo @ Santa Fe v. Pueblo LLC	Clark	Hutchison & Steffen	Sparks Plastering & Drywall	03/09/05
136	1729-C	Portofino v. Van Daele Development	San Bernardino	Borton, Petrini & Conron	Riverside Landscape & Irrigation, Inc.	04/28/05
137	1032-N	Carlisle v. Pardee Construction	Clark	Bremer, Whyte, Brown & O'Meara	Bronco Construction	05/05/05
138	1714-N	Scottsdale Valley v. Templeton Development	Clark	Law Offices of Melissa P. Harris	Bill Tieman Painting & Drywall	05/26/05
139	1954-N	Villa Pacifica HOA v. Distinctive Homes	Clark	Springle & Fink	BelAir Plastering	06/10/05
140	1703-N	Olen Residential Realty Corp. (Durango Canyon Apts.) v. Addison Construction	Clark	Law Offices of Cisneros & Associates	Imperial Iron	07/25/05
141	1918-A	Mirage Park Resort Casitas HOA v. Mirage Homes, LLC, et al.	Maricopa	Bremer, Whyte, Brown & O'Meara	Marlam Industries	08/03/05
142	2065-A	Mirage Park Resort Casitas HOA v. Mirage Homes, LLC, et al.	Maricopa	Bremer, Whyte, Brown & O'Meara	Genesis Fireplace Protection, Inc.	08/03/05
143	2210-C	Griffen Dayton-Sloat v. K. Hovnanian Forecast Homes	San Bernardino	Lewis, Brisbois, Bisgaard & Smith	B.G. Israel Construction, Inc.	08/15/05
144	2081-N	Canyon Willow Tropicana v. Canyon Willow Tropicana, LLC	Clark	Helm & Associates	Gerald Stewart Concrete (Fed.)	08/17/05
145	2105-N	Canyon Willow Tropicana v. Torino Construction	Clark	Fredrickson, Mazeika & Grant, LLP	Kukurin Concrete, Inc.	08/17/05
146	1358-C	Community of Christ v. Austin Jones	Los Angeles	Murtaugh, Meyer, Nelson & Treglia	Community of Christ	08/23/05
147	1648-C	Carmelo v. US Homes Corporation, et al.		Crawford Technical Services	Flinn Construction	09/08/05
148	2157-C	Amoroso v. Navigator	Los Angeles	Selvin - Wraith - Halman	PMC Concrete Finishes	09/13/05
149	1834-N	Cernuto, et al. v. Sutton Corporation		Brady, Vorwerck, Ryder & Caspino	Framecon, Inc.	09/26/05
150	2261-C	Escobar v. USC	Los Angeles	Reback, McAndrews & Kjar	USC	09/29/05
151	1739-C	Chen v. Ridgemoor Partners, L.P.	Los Angeles	Wood, Smith, Henning & Berman	Catellus Residential Ridgemoor, Inc.	10/26/05
152	1697-C	Brame v. Curtis Development	Orange	Wood, Smith, Henning & Berman	Curtis Development	11/02/05
153	1963-A	Harmon, et al. v. Beazer Homes Arizona, Inc.	Maricopa	Bremer, Whyte, Brown & O'Meara	A&G Construction	11/18/05

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154	2053-A	Tapadero at DC Ranch COA v. Edmunds-Toll Construction	Maricopa	Bremer, Whyte, Brown & O'Meara	LeBlanc Building Co., Inc.	01/06/06
155	2277-N	Cheyenne Hills at Southfork v. Westgate Properties	Clark	Bremer, Whyte, Brown & O'Meara	Magnum Air	01/16/06
156	2179-A	Hoffman, et al. v. Shea Homes, et al.		Bremer, Whyte, Brown & O'Meara	Sharp Drywall	01/27/06
157	2151-N	Madrid Estates (Galper) v. Rhodes Design & Development	Clark	Helm & Associates	CEDCO, Inc.	05/22/06
158	2398-C	Abuqartoumy v. Modern Roofing	Orange	Prindle, Decker & Amaro	Modern Roofing, Inc.	05/24/06
159	1735-N	Sun City Macdonald Ranch v. Del Webb	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development Co.	06/01/06
160	2208-N	Northshore Reflections HOA v. Pulte Homes	Clark	Emerson & Manke	Hirschi Masonry	06/09/06
161	2245-A	Canelaria v. UDC Homes Construction	Maricopa	Rai & Barone	Valley Wide Plastering	06/12/06
162	2321-N	Altair HOA v. Allen Group (Finisterre)	Clark	Bremer, Whyte, Brown & O'Meara	Hutchins Drywall	07/06/06
163	2451-N	Galleria Villa Condominium v. Gray Castle Land, Inc.	Clark	Bremer, Whyte, Brown & O'Meara	Dan Bradley Glass Shop	10/06/06
164	2575-N	Westgate Properties	Clark	Helm & Associates	Diamond Construction	10/06/06
165	2033-C	Chin v. Centex	Orange	Borton, Petrini & Conron	Corbin Custom Tile, Inc.	10/18/06
166	1694-C	Pouk v. Taylor Woodrow Homes	San Diego	Koenig Jacobsen	Leighton & Associates	04/11/07
167	2645-N	Villagio Community Assoc. v. Highland Development	Clark	McCormick Barstow	T & R Paint and Drywall	04/18/07
168	2479-N	Villagio Community Assoc. v. Highland Development	Clark	Cuenther & Castronova	Nevada State Plastering	04/18/07
169	2237-C	Carlsbad Pacific Resort c. Koll Construction	San Diego	Selman-Breitman	Cal West Enterprises	05/21/07
170	2217-A	Amukamara v. Forecast Residential Sales	Maricopa	Bremer, Whyte, Brown & O'Meara, LLP	Red Mountain Development Co.	06/07/07
171	2576-A	Dancy v. Ryland Homes	Maricopa	Bremer, Whyte, Brown & O'Meara, LLP	Palo Verde Plastering	06/07/07
172	2711-C	Delgado v. Verdugo	Los Angeles	Selman-Breitman	Verdugo & Associates	06/13/07
173	2553-C	Benjy v. EGL	Orange	Koenig Jacobsen	Environmental Geotechnology Laboratory, Inc.	07/12/07
174	2848-C	Abrams v. Kleinfelder	Los Angeles	Meyers-McConnell	Kleinfelder	07/16/07
175	2735-N	Fiesta Maintenance v. Warmington-Nevada, Inc.	Clark	Helm & Associates	Champion Drywall	07/23/07
176	2794-N	Fiesta Maintenance v. Warmington-Nevada, Inc.	Clark	Bremer Whyte Brown & O'Meara, LLP	Guy Evans	07/23/07
177	2737-C	Bristman v. Western Trucking	Orange	McClellan Law Firm	Bristman	09/24/07
178	2421-A	Astragal Condo v. Astragal, LLC	Maricopa	Rai & Barone	Diversified Drywall	12/06/07
179	1992-N	Sun City Summerlin Development v. Del Webb	Clark	Helm & Associates	CEDCO, Inc.	02/12/08

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180	2201-N	Sun City Summerlin Development v. Del Webb	Clark	Helm & Associates	Apple Masonry	02/12/08
181	2355-N	Sun City Summerlin Development v. Del Webb	Clark	Bremer, Whyte, Brown & O'Meara	Golf Links Limited	02/12/08
182	2661-N	Sun City Summerlin Development v. Del Webb	Clark	Springel & Fink	Pete King	02/12/08
183	2544-C	Pulte Home Corp. v. Signs & Pinnick, Inc.	Orange	Ulich & Terry	Sign & Pinnick	03/14/08
184	2726-N	Amber Ridge v. Highland	Clark	Thagard & Brown	MPC Contracting	06/13/08
185	2919-C	Ketterling v. J & S Excavating, Inc.	Los Angeles	Sweeney, Mason, Wilson & Bosomworth	J & S Excavating	06/27/08
186	2867-C	Abatti-Harlow v. Wildflower North	San Diego	Selman-Breitman	Southern Building & Concrete	07/18/08
187	3065-N	Molina, et al. v. Celebrate Homes, et al.	Clark	Bremer, Whyte, Brown & O'Meara	Continental Landscape & Sprinkler Co., Inc.	07/24/08
188	2999-C	Jacobsen v. Ziccardi	Orange	Haight, Brown & Bonesteel	Ziccardi	08/01/08
189	3223-C	Clifford Palmer v. Kajima Construction	Los Angeles	Meyers-McConnell	Kajima Construction	10/02/08
190	2790-C	Spencer v. KB Homes	San Diego	Timothy N. Thompson Law Offices	North Orange Coast Painting	10/03/08
191	2152-N	Tara Villas HOA v. Falcon Homes, Inc.	Clark	Helm & Associates	Performance Plastering	10/27/08
192	2951-N	Yoshida v. Vinyl Installations, Inc.	Clark	Helm & Associates	Yoshida v. Vinyl Installations, Inc.	11/13/08
193	2886-N	Chateau Nouveau Condo v. Chateau Flamingo	Clark	Bremer, Whyte, Brown & O'Meara	Norpac Construction	11/13/08
194	3285-A	Sycamore Hills Estates	Maricopa	Rai & Barone	AV Excavation	12/15/08
195	3212-C	Vogel v. O'Donovan	Los Angeles	Grant, Genovese & Baratta	CERC & Craig Emil-Louis Bordon	01/05/09
196	2941-C	August Construction v. Brent Engineering	Los Angeles	Callahan & Blaine	Brent Engineering	01/21/09
197	3099-C	Skyrise Construction v. Les Young & Associates	Los Angeles	Wood, Smith, Henning & Berman	Skyrise Construction	02/11/09
198	3298-N	Kitec Fitting Litigation	Clark	Helm & Associates	D.R. Bowles Plumbing	02/12/09
199	3334-N	Kitec Fitting Litigation	Clark	Parker, Nelson & Associates	Classic Plumbing	02/12/09
200	3335-N	Kitec Fitting Litigation	Clark	Parker, Nelson & Associates	Rite Way Plumbing	02/12/09
201	3336-N	Kitec Fitting Litigation	Clark	Parker, Nelson & Associates	Sharp Plumbing	02/12/09
202	3380-C	Rovira v. Tralor-Kemper JV	Los Angeles	The Bell Firm	---	02/27/09
203	3406-C	Acceptance Insurance v. Century Surety	Los Angeles	Jampol, Zimet, Skane & Wilcox	Acceptance Insurance	03/27/09
204	2582-C	Steinberg v. Taylor Woodrow Homes	Orange	Weil & Drage	KTGY Group	03/30/09
205	3422-C	Ingels v. One Tractor Doze It All	San Diego	Koenig & Jacobsen	The Soils Company	04/22/09
206	3211-N	Farias v. Stanpark Construction	Clark	Bremer, Whyte, Brown & O'Meara	Landscape Services	04/24/09
207	3202-C	Archstone-Smith Opertating Trust v. Western National Construction	Orange	Murtaugh, Meyer, Nelson & Treglia	Architects Orange	04/27/09
208	3162-N	Farias v. Stanpark Construction	Clark	Bremer, Whyte, Brown & O'Meara	R.W. Stucco	05/19/09
209	2209-N	Seven Hills Master Community Assoc.	Clark	Helm & Associates	CEDCO, Inc. / CEDCO Iron, Inc.	05/26/09
210	3039-A	Anderson v. Forecast/KB Home	Maricopa	Rai & Barone	Metric Roofing	05/29/09
211	3070-C	Sacramento Hotel Partners, LLC v. Swinerton Builders	Sacramento	Bremer, Whyte, Brown & O'Meara	GJH Rebar	06/22/09
212	3205-N	Cagle v. Pulte Homes	Clark	Helm & Associates	M&M Construction	07/09/09

#	Case #	Case Caption	County	Retained By	Client / Insured	Date of Deposition
213	3453-C	Wright v. Metropolitan Life	Orange	Osman & Associates	Metropolitan Life Insurance	07/20/09
214	2893-C	TDIC v. Langner Security	Los Angeles	Pegasus Claims Services	The Dentist, Inc. Company	07/24/09
215	3270-C	Del Mar Terrace, Inc. v. Nevis Homes LLC	Los Angeles	Selman-Breitman	SYBD Construction	08/29/09
216	3394-N	Girton v. Silverwing	Washoe	Erickson Thorpe	Diversified Painting	09/17/09
217	3390-C	Malcolm Drilling v. Clark Construction	Los Angeles	Koeller, Nebeker, Carlson & Haluck	Clark Construction	09/21/09
218	3544-C	Robert Berry v. R.J. Noble, et al	Orange	Traut Firm	Berry	09/22/09
219	3562-C	BWA Financial v. PCL Construction	San Diego	Springel & Fink	Action Glass & Mirror	10/19/09
220	3573-N	Westpark Associates, LLC.v. Westpark Owners Association	Clark	Bremer, Whyte, Brown & O'Meara	RAMM	10/30/09
221	3356-A	Estrella Park v. D.R. Horton	Maricopa	Rai & Barone	Swiss Plastering	11/09/09
222	3552-C	Rubalcava v. Budimir	Los Angeles	Selman-Breitman	Budimir	12/11/09
223	3108-C	Murray v. Vincent M. DeVico, et al.	Los Angeles	Archer-Norris	O'Rourke Construction, Inc.	12/21/09
224	3395-N	Pahor v. Red Rock Homes	Clark	Stutz, Artiano, Shinoff & Holtz	KB Framers	12/28/09
225	3396-N	Pahor v. Red Rock Homes	Clark	Stutz, Artiano, Shinoff & Holtz	K&K Door & Trim	12/28/09
226	3448-N	Pahor v. Red Rock Homes	Clark	Stutz, Artiano, Shinoff & Holtz	Adams Bros	12/28/09
227	3647-N	Pahor v. Red Rock Homes	Clark	Hansen Rasmussen	Bobby Stephens Masonry	12/28/09
228	3246-N	Bowers v. Southwest Homes, et al.	Clark	Hurtik & Manke	Westcor Construction	12/30/09
229	3447-C	Covenant Builders v. Newman	San Diego	Murtaugh, Meyer, Nelson & Treglia	Covenant Builders	02/15/10
230	3268-A	Sirrah Enterprises v. Wunderlich, et al.	Maricopa	Bremer, Whyte, Brown & O'Meara	Sirrah Enterprises, LLC	02/17/10
231	3185-N	Starfire Condominium Owners Association v. Deznan Contractors, Inc.	Clark	Thagard, Reiss & Brown	Wright Painting & Drywall	02/24/10
232	3371-C	Arroyo v. Frontier Homes	Orange	Letofsky-McClain	Campbell Concrete	03/03/10
233	3622-A	Ramsey v. Construction Management Group 3	Maricopa	Rai & Barone	Construction Management Group 3	03/23/10
234	3590-C	AV Builder v. Laguna Village Owners' Association	San Diego	Murtaugh, Meyer, Nelson & Treglia	Pulaski Arita Olsson DBA PAO	03/24/10
235	3325-N	Chateau Versailles Condo Assoc. v. Pacific Contractors (Chateau Alexander)	Clark	Bremer, Whyte, Brown & O'Meara	VEG Landscaping Corp.	04/26/10
236	3266-N	Chateau Versailles Condo Assoc. v. Pacific Contractors (Chateau Alexander)	Clark	Bremer, Whyte, Brown & O'Meara	Framing Bros. Inc.	04/26/10
237	3553-N	Coronado Ranch Street v. American West Homes	Clark	Hansen Rasmussen	Bobby Stephens Masonry	05/03/10
238	3275-N	Turtle Creek HOA v. Centex Homes	Clark	Helm & Associates	All Seasons Glass	05/05/10
239	3204-N	Chateau Versailles Condo Assoc. v. Pacific Contractors (Chateau Alexander)	Clark	Stutz, Artiano, Shinoff & Holtz	Norpac Construction	05/19/10
240	3421-N	Kasly Family Revokable Trust v. Distinctive General Contracting	Clark	Carraway & Associates	Deck Systems Nevada	05/26/10
241	3664-C	Ortiz v. Southern California Edison	Los Angeles	Murphy, Pearson, Bradley & Feeney	RL Clotworthy Construction	05/28/10
242	3586-C	Gregory v. City of Los Angeles	Los Angeles	Braden, Hinchcliffe & Hawley	MCM Construction	06/17/10
243	3587-C	Gellis v. City of Los Angeles	Los Angeles	Braden, Hinchcliffe & Hawley	MCM Construction	06/17/10

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244	3681-C	Wess v. City of Los Angeles	Los Angeles	Braden, Hinchcliffe & Hawley	MCM Construction	06/17/10
245	3682-C	Vartapetova v. City of Los Angeles	Los Angeles	Braden, Hinchcliffe & Hawley	MCM Construction	06/17/10
246	3807-N	Kitec Fitting Litigation	Clark	Parker, Nelson & Associates	Pyramid Plumbing	10/08/10
247	3688-N	Afusia v. Phillips	Clark	Brown, Bonn & Friedman	Pacificap Construction Services, LLC	10/27/10
248	3499-C	Arriola v. Sepulveda	Los Angeles	Murtaugh, Meyer, Nelson & Treglia	George Adams, Jr.	10/28/10
249	3498-N	Latigo v. Oxbow Construction	Clark	Brown, Bonn & Friedman	RW Stucco	11/08/10
250	3454-N	Barbarino v. D.R. Horton	Clark	Helm & Associates	Gary G. Day Construction	11/12/10
251	3634-A	Bradbury; Lumberjack Hill Apt v. CVS	Maricopa	Rai & Barone	Central Valley Specialty	12/08/10
252	3349-C	Archibald v. K. Hovnanian	Orange	Letofsky-McClain	Campbell Concrete	12/09/10
253	3802-A	Cachet at Las Sendas COA v. SCLS, et al.	Maricopa	Rai & Barone	Metric Roofing	12/20/10
254	3881-A	Cachet at Las Sendas COA v. SCLS, et al.	Maricopa	Rai & Barone	Energy Efficient Windows & Doors	12/20/10
255	3848-C	Morris v. Steven Ehrlich Architects, et al. (Bernards Brothers)	Orange	Letofsky - McClain	Bernards Brothers, Inc.	01/18/11
256	3585-C	Aguilar v. Victoria Place	San Diego	Selman-Breitman	CR Schreiber	02/09/11
257	3903-C	Tidus v. Hohmann	Orange	Murtaugh, Meyer, Nelson & Treglia LLP	David Hohmann	03/02/11
258	3814-A	Cosgrove Residence v. WTM Construction	Maricopa	Rai & Barone	ANM Enterprise	03/14/11
259	3815-A	Cosgrove Residence v. WTM Construction	Maricopa	Rai & Barone	Canyon State Lathe & Plaster	03/14/11
260	3979-C	Gutierrez v. R.D. Olson	Orange	Koeller, Nebeker, Carlson, Haluck	R.D. Olson	03/31/11
261	3542-N	Allen (Siena) v. Sun Colony Summerlin	Clark	Stutz, Artiano, Shinoff & Holtz	Adams Bros	06/03/11
262	2886-N	Chateau Nouveau Condo v. Chateau Flamingo	Clark	Bremer, Whyte, Brown & O'Meara	Norpac Construction	06/08/11
263	3948-N	Chateau Nouveau Condominium Unit-Owner's Association v. Chateau Flamingo LLC	Clark	Lincoln, Gustafson & Cercos	Viega	07/22/11
264	3885-A	Kerby Estates v. Continental Homes II	Maricopa	Rai & Barone	Palo Verde Plastering	08/15/11
265	3932-A	Kerby Estates v. Continental Homes II	Maricopa	Rai & Barone	Swiss Plastering & Interiors	08/15/11
266	2816-N	Fisher/Trigger/Stott (Sun City Anthem) v. Del Webb	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development	08/31/11
267	3566-N	Fisher (Sun City Anthem) v. Del Webb Communities	Clark	Helm & Associates	CEDCO	08/31/11
268	4122-C	Garcia v. Maya	Orange	Koeller, Nebeker, Carlson, Haluck	Maya Steel Fabricators	09/08/11
269	4004-A	Hancock v. Arizona Plumbing	Maricopa	Rai & Barone	Arizona Plumbing	09/09/11
270	4107-C	FFIC (Schack) v. CA Perez	Orange	Wood, Smith, Henning & Berman	Franke Consumer Products	09/13/11
271	3978-N	Desert Pine Villas HOA v. Desert Pines Associates, LLC	Clark	Sinkeldam	KFX Building Products	10/06/11
272	3502-N	Desert Pine Villas HOA v. Desert Pines Associates, LLC	Clark	Bremer, Whyte, Brown & O'Meara	Nevada Landscape Corp., Inc.	10/06/11
273	3234-N	Sun City Anthem(Common Area) Community Association	Clark	Helm & Associates	CEDCO, Inc.	11/03/11
274	3812-C	Halpern v. Good	Orange	Archer-Norris	The Goods	11/09/11
275	3300-N	Arndt (Mitchell) v. D.R. Horton, Inc.	Clark	Bremer, Whyte, Brown & O'Meara	Bel-Air Plastering, Inc.	11/11/11

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276	3781-A	Aguilar v. KB Homes (Arizona Groves / Greenway Parc)	Maricopa	Rai & Barone	Palo Verde Plastering	12/14/11
277	3850-C	Barrientos v. McMillin Cielo Azul, LLC	San Diego	Selman Breitman	C.R. Schreiber Construction	12/20/11
278	4055-C	Barrientos v. McMillin Cielo Azul, LLC	San Diego	Letofsky - McClain	Wilkinson Fine Grading	12/20/11
279	4056-C	Barrientos v. McMillin Cielo Azul, LLC	San Diego	Letofsky - McClain	West Coast Landscaping	12/20/11
280	3540-C	East Los Angeles Community College	Los Angeles	Feldman & Associates	Morillo Construction, Inc.	01/11/12
281	3900-N	Sure Steel v. Virgin Valley Ventures	Clark	Stutz, Artiano, Shinoff & Holtz	Sunroc Corporation	01/16/12
282	3441-C	Campbell v. K. Hovnanian Forecast Homes	Los Angeles	Bremer, Whyte, Brown & O'Meara	Stucco Contractors, Inc.	01/01/12
283	4143-C	Davidson v. Chadwick	Los Angeles	Murtaugh, Meyer, Nelson & Treglia LLP	Norman Davidson	02/06/12
284	3515-N	Southern Nevada Paving v. Turnberry Sub, LLC	Clark	Bremer, Whyte, Brown & O'Meara	Sage Construction	02/29/12
285	4174-N	Bransky (Whisper Creek) v. WL Homes LLC dba John Laing Home	Clark	Bremer, Whyte, Brown & O'Meara	M&M Construction	03/16/12
286	3872-N	McClintock v. Del Webb	Clark	Stutz, Artiano, Shinoff & Holtz	Adams Bros	03/29/12
287	3842-A	Alamosa Ranch, LLC v. Antimite Arizona, Inc. dba SOS Exterminating	Pima	Lewis Brisbois Bisgaard & Smith LLP	SOS Exterminating	04/05/12
288	4079-A	Travelers Insurance v. Native Tucson Builders	Maricopa	Rai & Barone	Native Tucson Builders	04/10/12
289	3752-C	Athens Services v. Hertlein Industries	Orange	Archer-Norris	Athens Services	04/19/12
290	4262-C	Pavon v. Glaeser Builders	Orange	Koeller, Nebeker, Carlson, Haluck	Glaeser Management	04/30/12
291	3926-A	Hambro v. Royal Homes & Associates	Maricopa	Rai & Barone	Diversified Roofing	06/14/12
292	3904-A	Silverbell 290 v. Scott Homes Multifamily, Inc.	Pima	Rai & Barone	Littleton Roofing	07/09/12
293	3991-A	Richmond American Homes v. 3-G Construction (Saguaro Canyon)	Maricopa	Bremer, Whyte, Brown & O'Meara	Schuck & Sons	07/10/12
294	3997-A	Richmond American Homes v. 3-G Construction (Saguaro Canyon)	Maricopa	Rai & Barone	Diversified Roofing	07/10/12
295	4274-A	Richmond American Homes v. 3-G Construction (Saguaro Canyon)	Maricopa	Rai & Barone	Roof Rite	07/10/12
296	4275-A	Richmond American Homes v. 3-G Construction (Saguaro Canyon)	Maricopa	Rai & Barone	Sun Master Masonry	07/10/12
297	4218-C	Slayton v. Ruscha	Los Angeles	Montelone & McCory	Edward Ruscha	07/17/12
298	3902-C	Famosa v. Pacific Century Homes	Imperial	Burch & Cracchiolo	C.R. Schreiber Construction	08/06/12
299	4287-N	Jacobson v. Del Webb	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development	08/30/12
300	4097-N	Big-D Construction Corp v. Take It For Granite Too	Clark	Lewis Brisbois Bisgaard & Smith LLP	Take It For Granite Too	09/05/12
301	4203-C	Seabridge Market Place v. Moorefield Construction, Inc.	Ventura	Archer-Norris	Seabridge Market Place	11/06/12
302	4260-C	Morehouse v. Law Steel	San Berdardino	Koenig & Jacobsen	Southern California Conference of 7th Day Adventists	11/09/12
303	4037-C	Alem v. Owens	Orange	Murtaugh, Meyer, Nelson & Treglia LLP	Halton Corporation	11/21/12
304	4353-A	Smith v. City of Phoenix	Maricopa	Rai & Barone	Artesa Holdings LLC and Artesa Homeowners Association	11/28/12

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305	3931-N	Blackhawk HOA v. Centennial	Maricopa	Lincoln, Gustafson & Cercos	Nelstar & Associates	01/15/13
306	4467-N	Arvie v. Beazer	Clark	Bremer, Whyte, Brown & O'Meara	Coast West Plumbing	02/15/13
307	4523-C	Coto Valley Office Complex, LLC v. Coto de Caza Community Association	Orange	Lewis Brisbois Bisgaard & Smith LLP	Coto De Caza Community Association	02/27/13
308	4022-C	Aberle v. Brookfield	Riverside	Liedle, Getty & Wilson	Campbell Concrete	03/04/13
309	3790-N	Marlin II v. Bentar Development	Clark	Lewis Brisbois Bisgaard & Smith LLP	Rafael Construction	03/19/13
310	4127-N	Evers v. Fairway Pointe	Clark	Hawkins Melendrez	Bronco Construction	03/28/13
311	3790-N	Marlin III v. Bentar Development	Clark	Lewis Brisbois Bisgaard & Smith LLP	Rafael Construction	04/12/13
312	4404-C	Lansberg v. Dorff	San Bernardino	Green & Hall	Lake Arrowhead Building Company	04/25/13
313	4269-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	F. Rodgers Insulation Residential, Inc.	07/18/13
314	4270-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Keenan, Hopkins, Suder & Stowell Contractors, Inc.	07/18/13
315	4271-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Sierra Glass & Mirror	07/18/13
316	4357-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Ebhard Southwest	07/18/13
317	4382-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Conti Electric	07/18/13
318	4383-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Desert Plumbing & Heating	07/18/13
319	4384-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Glasswall Construction	07/18/13
320	4385-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Hammond Caulking	07/18/13
321	4386-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Pahor Mechanical Contractors	07/18/13
322	4477-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Henri Specialties	07/18/13
323	4478-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	M. Marble	07/18/13
324	4479-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Henderson Masonry	07/18/13
325	4480-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Door & Hardware Management	07/18/13
326	4481-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Builders Unlimited	07/18/13
327	4482-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Skanska USA Building	07/18/13
328	4512-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Mechanical Insulation Specialists, Inc.	07/18/13
329	4513-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	North Star Fire Protection	07/18/13
330	4514-N	Turnberry Towers East HOA v. Turnberry Towers LP	Clark	Bremer, Whyte, Brown & O'Meara	Winair, Inc.	07/18/13
331	3762-N	Arrow Creek Village (Pierce/Hartman) v. Granite Pointe Associates	Clark	Helm & Associates	Groves Fischer	07/22/13
332	3563-N	Hundert v. Silverwing	Clark	Erickson Thorpe	Diversified Painting	07/22/13
333	4290-N	Sandoval v. D.R. Horton	Clark	Bremer, Whyte, Brown & O'Meara	Quality Wood Products	09/05/13
334	4149-N	McDowell (Montagne Marron) v. Beazer	Clark	Stutz Artiano Shinoff & Holtz	D&K Drywall	09/19/13

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335	4625-C	Mekhail v. Dal-Tile	Los Angeles	Koeller, Nebeker, Carlson & Haluck	Garfield Developments, Ltd. / Karney Management Co.	09/20/13
336	3953-N	Weiss v. Del Webb	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development	09/25/13
337	4638-C	Walter v. The Kroger Co., Inc., et al.	Orange	Bonetati & Kincaid	Lyn/Mar Company	09/26/13
338	4380-A	Montage COA v. Montecito Investment Company, LLC (Gray Construction)	Maricopa	Rai & Barone	Structures, Inc.	10/02/13
339	4445-A	Montage COA v. Montecito Investment Company, LLC (Gray Construction)	Maricopa	Rai & Barone	America Roofing	10/02/13
340	4249-C	Connor v. Centex Homes	San Diego	Letofsky-McClain	South Coast Equipment	11/04/13
341	3603-A	Oasis @ Magic Ranch	Maricopa	Rai & Barone	Daley Roofing	11/13/13
342	3604-A	Oasis @ Magic Ranch	Maricopa	Rai & Barone	Tucker Plumbing	11/13/13
343	3614-A	Oasis @ Magic Ranch	Maricopa	Rai & Barone	Swiss Plastering	11/13/13
344	3962-A	Oasis @ Magic Ranch	Maricopa	Rai & Barone	Diversified Roofing	11/13/13
345	4561-A	Oasis @ Magic Ranch	Maricopa	Welsh Law Group	Brewer Enterprises	11/13/13
346	4363-A	Porter Bros., Inc. (Spectrum Professional Village) v. Allstate Utility Construction, et al.	Maricopa	Rai & Barone	Custom Design Masonry	11/19/13
347	4364-A	Porter Bros., Inc. (Spectrum Professional Village) v. Allstate Utility Construction, et al.	Maricopa	Rai & Barone	San Tan Arizona Roofing	11/19/13
348	4089-N	Hass (Anderson) v. Bivins Construction (Eagle View)	Clark	Bremer, Whyte, Brown & O'Meara	GMS Concrete	12/10/13
349	4429-N	Hass (Anderson) v. Bivins Construction (Eagle View)	Clark	Wolfe & Wyman	Pioneer Plumbing	12/10/13
350	4557-N	D&J Family Trust v. Palm Canyon	Clark	Lewis Brisbois Bisgaard & Smith LLP	L&C Lath & Plastering dba Southern Nevada Stucco	12/18/13
351	4645-A	Powell v. Auto-Owners Insurance Company	Maricopa	Graif Barrett & Matura, P.C.	Auto-Owners Insurance Company	01/08/14
352	4730-C	Graff v. Alex & Polina Blyumkin as Trustees; Newform Construction	Los Angeles	Murchison & Cumming	Blyumkin and Newform	01/13/14
353	4392-N	IANEV, LLC v. Pirates Cove, LLC	Clark	Murchison & Cumming	Pirates Cove, LLC	01/14/14
354	4724-C	Bray v. Marciano, et al.	Orange	Wood, Smith, Henning & Berman	Finton Construction, Inc. and Timothy Smick	01/23/14
355	3704-N	Anthem Country Club HOA v. Terravita Homes Construction	Clark	The Marks Law Group	CEDCO	02/11/14
356	4648-A	Gallifant Cellars, LLC v Historic Palace Saloon	Maricopa	The Law Office of Daniel Beatty	Gallifant Cellars	03/12/14
357	4461-C	Freiter/Echafai v. Brookfield	Orange	Law Office of Kevin Pegan	Clarke Masonry	03/14/14
358	4314-N	Layman v. Beazer Homes Holdings Corp.	Clark	Brown, Bonn & Friedman	Wright Painting and Drywall	03/20/14
359	4466-N	Layman v. Beazer Homes Holdings Corp.	Clark	Lewis Brisbois Bisgaard & Smith	Desert Plastering	03/20/14
360	3176-C	TDIC v. Buon Gusto Ristorante	Orange	Watkins & Letofsky	The Dentist, Inc. Company	05/09/14
361	4779-N	Besanson v. V-Ditch Construction, Inc.	Orange	Bonetati & Kincaid	V-Ditch Construction, Inc.	06/09/14
362	4821-C	Loffarelli v. Encino Spa East HOA, et al.	Los Angeles	Murchison & Cumming	Mackey Construction	06/25/14
363	4826-C	Aubrey v. KB Home	Riverside	Archer Norris	Aquatic Co. fka Lasco Bathware, Inc.	06/30/14
364	4394-C	Mulitz v. Building Dreams Construction, Inc.	Los Angeles	Archer Norris	LA Stucco	07/24/14
365	4855-C	Moreno v. PCC La Jolla Palm	San Diego	Archer Norris	Aquatic Co. fka Lasco Bathware, Inc.	07/25/14

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366	4848-C	Chang v. KB Home	San Diego	Archer Norris	Aquatic Co. fka Lasco Bathware, Inc.	07/25/14
367	4865-C	Regalado v. Callaghan, et al.	Riverside	Wood, Smith, Henning & Berman	Jeffrey Callaghan	08/25/14
368	4099-C	Chang v. KB Home	San Diego	Letofsky-McClain	South Coast Equipment	08/27/14
369	3938-N	Silverstone v. PN II (Kowalczyk/Amaral) v. PNII, Inc. dba Pulte Homes	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development	11/10/14
370	4953-C	Vicente v. Heffesse	San Bernardino	Bonetati & Kincaid	Joseph Heffesse and LA Properties	11/21/14
371	4530-N	Houck v. PN II	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Concrete Construction, LLC	12/10/14
372	4847-A	Villas Northern Townhouse Association v. Cotton Commercial USA, Inc.	Maricopa	Springel & Fink, LLP	Cotton Commercial USA and Diversified Roofing Corp.	01/09/15
373	4866-N	Coghlan v. California Traditions, Inc.	Clark	Bremer, Whyte, Brown & O'Meara	Esslin Construction	02/09/15
374	3786-N	Sandstone Condominium HOA v. Sandstone Condominiums in Mesquite, NV, LLC et al.	Clark	Bremer, Whyte, Brown & O'Meara	Pride Construction	02/20/15
375	4030-N	Sandstone Condominium HOA v. Sandstone Condominiums in Mesquite, NV, LLC et al.	Clark	Helm & Associates	Redwall	02/20/15
376	4300-N	Sandstone Condominium HOA v. Sandstone Condominiums in Mesquite, NV, LLC et al.	Clark	Bremer, Whyte, Brown & O'Meara	Centennial Drywall Systems	02/20/15
377	4608-N	Western Tile & Marble v. Custom Building Products, Inc.	Clark	Lewis, Brisbois, Bisgaard & Smith	Custom Building Products, Inc.	02/24/15
378	3638-N	Cottonwood on Alexander HOA v. Chartered Development Corp.	Clark	Bremer, Whyte, Brown & O'Meara	Plaster Restoration Systems	02/27/15
379	3674-N	Cottonwood on Alexander HOA v. Chartered Development Corp.	Clark	Bremer, Whyte, Brown & O'Meara	GMS Concrete	02/27/15
380	4842-N	Cottonwood on Alexander HOA v. Chartered Development Corp.	Clark	Resnick & Lewis	SWF Foundations	02/27/15
381	4822-A	Grabowska v. Meritage Homes of Arizona, Inc.	Maricopa	Springel & Fink, LLP	Roadrunner Drywall	05/06/15
382	4841-A	Grabowska v. Meritage Homes of Arizona, Inc.	Maricopa	Rai & Barone	Empire Plastering	05/06/15
383	5027-A	Grabowska v. Meritage Homes of Arizona, Inc.	Maricopa	Russell & Associates	Heritage Interiors, Inc.	05/06/15
384	5028-A	Grabowska v. Meritage Homes of Arizona, Inc.	Maricopa	Rai & Barone	Sharp Drywall	05/06/15
385	4559-C	Irvine Apartments v. Western National Construction	Orange	Letofsky - McClain	AMPAM Parks Mechanical, Inc.	05/13/15
386	4867-A	Kilman, et al. v. Centex Homes	Maricopa	Lewis, Brisbois, Bisgaard & Smith	Kennington Plastering Nevada	05/22/15
387	5118-C	Adams v. Newport Crest Homeowners Association	Los Angeles	Grant, Genovese & Baratta, LLP	Newport Crest Homeowners Association	06/02/15
388	5108-C	Garcia v. Southern California Edison, et al.	Los Angeles	Tharpe & Howell, LLP	Tri-Gen Engineering, Inc. and Kenneth Yturalde	06/03/15
389	4959-N	Jackson v. Beazer Homes	Maricopa	Lewis, Brisbois, Bisgaard & Smith	Kennington Plastering Nevada	06/18/15
390	5062-C	Beckford v. KB Home Coastal, Inc.	Orange	Archer Norris	Aquatic Co. fka Lasco Bathware, Inc.	07/01/15
391	4528-N	Saria v. KB Home Nevada	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development Company, Inc.	07/09/15
392	5037-N	Saria v. KB Home Nevada	Clark	Ray Lego & Associates	K&K Door & Trim	07/09/15
393	5109-C	Wheel Solutions, Inc. v. DCO Beach Walk, LLC	Orange	Archer Norris	DCO Beach Walk, LLC	07/15/15

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394	5146-C	Scottsdale Indemnity v. Fitch Plastering	Orange	Selman-Breitman	Scottsdale Indemnity	08/05/15
395	4774-N	Eng v. Palm Canyon Development	Clark	Murchison & Cumming	Acrylic Tank Manufacturing	08/21/15
396	4774-N	Eng v. Palm Canyon Development	Clark	Murchison & Cumming	Acrylic Tank Manufacturing	08/26/15
397	3892-N	View of Black Mountain v. Beazer Homes	Clark	Bremer, Whyte, Brown & O'Meara	Desert Plastering	08/27/15
398	4801-N	La Posada Homeowners Assoc. v. Brussel Consulting Services	Clark	Castronova Law Offices, PC	Brussel Consulting Services	08/28/15
399	4720-N	Gonzalez v. KB Home (Bella Terra)	Clark	Lewis, Brisbois, Bisgaard & Smith	Harrison Landscape	09/28/15
400	4734-N	Adolph v. Beazer Homes	Clark	Bremer, Whyte, Brown & O'Meara	GMS Concrete	09/28/15
401	5096-N	Adolph v. Beazer Homes	Clark	Lewis, Brisbois, Bisgaard & Smith	Kennington Plastering Nevada	09/28/15
402	4985-N	Bedrosian v. Distinctive Homes	Clark	Brown, Bonn & Friedman	Drywall Systems, Inc.	10/15/15
403	5082-CO	Broomfield CO Senior Living Owner v. R.G. Brinkmann Company	Broomfield	White & Steele	Kleinfelder, Inc.	11/05/15
404	5226-N	Liu v. Christopher Homes	Clark	Chiu & Ferris	Nelstar & Associates, Inc.	11/24/15
405	4727-C	Garner v. Citibank	Orange	Koeller, Nebeker, Carlson & Haluck	Citibank, N.A. I Glendale Federal Bank	12/10/15
406	5214-C	The Geweke Family Partnership v. S.D. Deacon Corp of California	Sacramento	Clausen Miller	Reliable Louvers	01/14/16
407	5224-C	Picazzo v. C.W. Driver, Inc.	Los Angeles	Bullard, Brown & Beal	Anderson & Howard Electric Company	01/18/16
408	5363-C	Drinkard v. KB Home	Riverside	Letofsky - McClain	South Coasts Equipment	02/15/16
409	5100-N	KMK, LLC v. Fourteen Rings, LLC	Clark	Lewis, Brisbois, Bisgaard & Smith	Northwestern, Inc.	02/23/16
410	5227-N	Lopez v. Maya dba Avante Homes	Clark	Parker, Nelson & Associates	Vegas General	03/25/16
411	5228-N	Lopez v. Maya dba Avante Homes	Clark	Parker, Nelson & Associates	KB Framers	03/25/16
412	5119-N	Lopez v. Maya dba Avante Homes	Clark	Bremer, Whyte, Brown & O'Meara	Landaco Landscaping & Grading	03/25/16
413	5160-C	Chelbab v. George Jue Manuf. Co., dba Paramount Metal & Supply Company, et al.	San Bernardino	Wood, Smith, Henning & Berman	George Jue Manuf. Co., dba Paramount Metal & Supply	04/21/16
414	4992-N	Palms Place, LLC v. Kittrell Garlock & Associates, et al.	Clark	Helm & Associates	Bombard Mechanical	04/27/16
415	5529-C	Lopez v. Memos Scaffolding Norwalk, Inc.	San Bernardino	Taylor-Anderson	Stone Roofing	05/25/16
416	5139-C	Lopez v. SCE	Orange	Friedenthal, Heffernan & Klein, LLP	ARB, Inc.	05/27/16
417	5542-C	Manzano v. Hensel Phelps Construction Co., et al.	Los Angeles	Yoka & Smith, LLP	Hensel Phelps Construction Co., et al.	06/01/16
418	4544-N	Southeast Loft District Association v. Familian Development Group	Clark	Springel & Fink, LLP	All Trades Concrete Construction	06/23/16
419	5306-A	Nesbitt v. Pulte	Maricopa	Jones, Skelton & Hochuli, P.L.C.	Sharico Enterprises	06/24/16
420	5541-C	R&R Construction v. Roski	Los Angeles	Feldman & Associates	R&R Construction	07/05/16
421	5168-C	Robinson v. Gutierrez	San Bernardino	Traut Law Firm	Robinson	07/22/16
422	5352-C	Dietz v. Andelin	Orange	Grant, Genovese & Baratta, LLP	Andelin	07/26/16
423	5277-C	Frick v. KB Home	Riverside	Letofsky - McClain	South Coasts Equipment	08/16/16
424	5578-C	L.A. Construction and Design v. EHG Alpha US, LLC	Los Angeles	Jeffery & Grosfeld	L.A. Construction and Design	09/12/16

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425	5509-C	Niotta v. ACR Builders	Orange	Yoka & Smith, LLP	ACR Builders	09/13/16
426	5504-C	Braganza v. Pulte (Carriage Place I/II, Commons I) - Murrieta	San Bernardino	Letofsky-McClain	CBR Electric	10/12/16
427	5652-C	Cal-City Construction, Inc. v. People Coordinated Services of Southern California, Inc.	Los Angeles	Feldman & Associates	Cal-City Construction	11/04/16
428	5208-C	Wuest v. KB Home Coastal, Inc., et al.	San Diego	Letofsky - McClain	South Coasts Equipment	11/14/16
429	4545-N	Atkins v. Del Webb	Clark	Bremer, Whyte, Brown & O'Meara	Pratte Development	12/12/16
430	5580-C	Wilder v. The Goodyear Tire & Rubber Company	San Diego	Yukevich Cavanaugh	Santee-Mission Plaza, LLC	01/04/17
431	4908-N	Bard v. Meritage Homes of Nevada	Clark	Resnick & Louis, P.C.	Adams Bros. Interiors	01/10/17
432	5023-N	One Queensridge Place HOA v. Perini Building Company, et al.	Clark	Grant & Associates	Prestige Roofing	1/26/17 1/27/17
433	5120-N	One Queensridge Place HOA v. Perini Building Company, et al.	Clark	Grant & Associates	T. Brothers Tile	1/26/17 1/27/17
434	5121-N	One Queensridge Place HOA v. Perini Building Company, et al.	Clark	Luh & Associates	Azteca Steel	1/26/17 1/27/17
435	5122-N	One Queensridge Place HOA v. Perini Building Company, et al.	Clark	Luh & Associates	Pools by Grube	1/26/17 1/27/17
436	5444-N	One Queensridge Place HOA v. Perini Building Company, et al.	Clark	Grant & Associates	Cima Construction	1/26/17 1/27/17
437	5197-C	Boyce v. Pulte Homes	Orange	Letofsky-McClain	Quad County Windows & Doors	02/03/17
438	5564-A	Lauritzen v. Woodside Homes Sales AZ, LLC	Maricopa	Rai & Barone	Bell Concrete	02/15/17
439	4944-C	Munro v. Tiara Imperial Apartments Association, et al.	Orange	Grant, Genovese & Baratta, LLP	Tiara Imperial Apartments Association, et al.	02/28/17
440	5313-N	Belfor USA Group, Inc. v. Seneca Insurance Company	San Diego	Fox Johns Lazar Pekin & Wexler, APC	U.S. Bank	03/01/17
441	4790-N	Crutcher v. Beazer Homes Holdings Corp.	Clark	Lewis Brisbois Bisgaard & Smith	Desert Plastering	03/06/17
442	4687-N	Hackett v. Centex Homes	Clark	Bremer Whyte Brown & O'Meara, LLP	Continental Landscape	03/06/17
443	5442-N	Hackett v. Centex Homes	Clark	Lewis Brisbois Bisgaard & Smith	Kennington Plastering	03/06/17
444	5686-C	Vincent v. Dinho	Los Angeles	Murchison & Cumming	Dinho	03/14/17
445	5345-C	Bragg v. Pinnacle (The Crossings) - Corona	Orange	Letofsky-McClain	Rancho Framing, Inc.	06/13/17
446	5751-C	Greenlea Residence	Riverside	Brown & Brown	James and Debra Greenlea	06/14/17
447	4944-C	Munro v. Tiara Imperial Apartments Association, et al.	Riverside	Grant, Genovese & Baratta, LLP	Tiara Imperial Apartments Association, et al.	06/20/17
448	5286-N	Shioji v. PNII (Violetto)	Clark	Bremer Whyte Brown & O'Meara, LLP	Pratte Building Systems	06/28/17
449	5887-C	Flenniken v. City of Fountain Valley, et al.	Orange	Hosp, Gilbert & Bergsten	City of Fountain Valley, Fountain Valley Pony Baseball	06/30/17
450	5575-C	Commercial Industrial Building Owners Alliance, Inc. dba CIBA v. San Francisco Unified School District	San Francisco	CP Law Group	CIBA	07/05/17
451	5657-N	Burke Construction Group, Inc. v. Southern Nevada Regional Housing Authority (SNRHA), et al. (Perry Plaza - Lubertha Johnson Estates)	Clark	Parker Nelson & Associates	SNRHA	07/31/17
452	5672-C	Silverline Construction, Inc. v. Coyle/Reno	Orange	Murtaugh Meyer Nelson & Treglia	Silverline Construction	09/19/17

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453	5705-C	Neshat v. All-Pro Remodeling, Inc.	San Bernardino	Morey & Upton, LLP Panish Shea & Boyle, LLP	Neshat	09/20/17
454	4756-N	Alstatt, et al. v. Centex Homes	Clark	Bremer Whyte Brown & O'Meara, LLP	K&D Construction	10/18/17
455	5031-C	Alstatt, et al. v. Centex Homes	Clark	Grant & Associates	Desert Plastering	10/18/17
456	5619-C	Garcia, et al. v. Rudolph & Sletten, et al.	San Bernardino	Wait & Hufnagel	Rudolph & Sletten, et al.	10/30/17
457	4028-N	High Noon at Arlington Ranch HOA v. D.R. Horton, et al.	Clark	Wolfe & Wyman, LLP	Deck Systems Nevada	11/06/17
458	4610-N	High Noon at Arlington Ranch HOA v. D.R. Horton, et al.	Clark	Brown, Bonn & Friedman, LLP	National Builders	11/06/17
459	5861-C	Page v. Vista Oceano La Mesa Venture	Santa Barbara	Mokri, Vanis & Jones, LLP	Vista Oceano La Mesa Venture	01/05/18
460	5818-N	Tutor Saliba v. Continental	Clark	Parker, Nelson & Associates	Ferguson Fire & Fabrication	01/09/18
461	5830-C	Gilbert Enterprises v. Homme	Los Angeles	The Green Law Group, LLP	Gilbert Enterprises	01/15/18
462	5980-N	Park v. Meritage Homes of Nevada, Inc.	Clark	Brown, Bonn & Friedman, LLP	Westcor Construction	02/07/18
463	5745-C	Derby v. Pulte	Contra Costa	Letofsky-McClain	SelectBuild	03/19/18
464	6094-N	Alstatt, et al. v. Centex Homes	Clark	Bremer, Whyte, Brown & O'Meara	Hutchins Drywall, Inc.	03/22/18
465	5364-N	Carducci v. Centex Homes	Clark	Brown, Bonn & Friedman	Drywall Systems	03/22/18
466	5789-N	Carducci v. Centex Homes	Clark	Brown, Bonn & Friedman	Southwest Iron	03/22/18
467	5979-N	Carducci v. Centex Homes	Clark	Bremer, Whyte, Brown & O'Meara	Continental Landscape	03/22/18
468	5628-C	Chang v. VCC Construction	Los Angeles	Friedenthal, Heffernan & Brown, LLP	VCC Construction	03/23/18
469	5902-C	Frank v. Pulte Homes	Orange	Letofsky-McClain	TWF Construction	04/02/18
470	4854-N	Ballesteros v. Centex	Clark	Lewis Brisbois Bisgaard & Smith	Kennington Plastering	05/08/18
471	5833-N	Brownawell v. Centex Homes	Clark	Resnick & Louis	Norpac Construction	05/08/18
472	5922-N	Wigwam Ranch Square HOA v. D.R. Horton, Inc.	Clark	Grant & Associates	Integrity Wall Systems	06/04/18
473	6043-N	Chiang, et al. v. D.R. Horton, Inc.	Clark	Bremer, Whyte, Brown & O'Meara	Executive Plastering	06/04/18
474	6012-N	JFB Trust v. D.R. Horton	Clark	Lewis Brisbois Bisgaard & Smith	Summit Drywall & Paint	06/05/18
475	5903-C	Borrego Solar Systems, Inc./Catlin Specialty Insurance Company v. Campbell Certified, Inc., et al.	Marin	Trachtman & Trachtman	Bergelectric, Corp.	07/20/18
476	4976-N	First Light at Old Vegas Ranch HOA v. D.R. Horton, Inc., et al.	Clark	Wolfe & Wyman	Quality Wood Products	08/07/18
477	6083-N	Chateau de Lumiere, LLC v. Las Vegas Custom Building Concepts, Inc.	Clark	Bremer, Whyte, Brown & O'Meara	Las Vegas Custom Building Concepts, Inc.	09/05/18
478	6154-C	Piemonte v. Donald T. Sterling	Los Angeles	Grant, Genovese & Baratta, LLP	Sterling Family Trust	09/06/18
479	6092-C	Metropolitan Industries, Inc. v. Special Services for Groups, Inc., et al.	Los Angeles	Selman Breitman	U-Bon aka U-B Contractors	10/09/18
480	6167-C	Hampton v. Huntington Beach Unified School District	Orange	Kubota & Craig	Dorothea Hampton	10/12/18
481	6234-C	Palm v. First Lutheran Church	Los Angeles	Pettit Kohn	First Lutheran Church	11/20/18
482	6149-C	Patel v. K.J. Woods Construction, Inc.	San Francisco	Law Offices of John A. Hauser	K.J. Woods Construction Co.	11/27/18

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483	6295-C	Taddeo-Bates v. Ifran Khan	Los Angeles	Gates, Gonter, Guy, Proudfoot & Muench	Villa San Remo HOA	01/02/19
484	6211-N	Sun City Anthem Community Association, Inc. v. Del Webb Communities, Inc.	Clark	Selman Breitman	L&R Integrity	02/07/19
485	6212-N	Sun City Anthem Community Association, Inc. v. Del Webb Communities, Inc.	Clark	Selman Breitman Bremer, Whyte, Brown & O'Meara	Sky Design Concepts	02/07/19
486	6172-C	Mallcraft, Inc. v. Glendale Community College District	Los Angeles	Hunt Ortmann	Mallcraft, Inc.	02/11/19
487	6172-C	Mallcraft, Inc. v. Glendale Community College District	Los Angeles	Hunt Ortmann	Mallcraft, Inc.	02/14/19
488	5848-C	T-12 Three, LLC v. Turner Construction Company, et al. (The Hard Rock Hotel)	Orange	Wolfe & Wyman	Afdon Contracting	03/13/19
489	6354-C	Heather Anthony v. Denise Gilbert, et al. (Biltmore Colony Condos)	Riverside	Letofsky-McClain	Larry Methvin Installations	03/19/19
490	6338-C	Netka v. Yagmai Vida/Kyas Trust, R.T. Abbott Construction, Inc.	Los Angeles	Law Office of Jillisa O'Brien	R.T. Abbott Construction, Inc.	03/25/19
491	5955-C	Sparks, et al. v. CalAtlantic Group, Inc.	Riverside	Plante Lebovic, LLP	CalAtlantic Group, Inc.	04/25/19
492	5944-A	QIP Tucson Office I, LLC v. Sundt Construction, Inc.	Pima	Coblentz Patch Duffy & Bass LLP	QIP Tucson Office I, LLC;	05/22/19
493	6292-C	State Farm General Insurance Co. v. Gelb	Santa Barbara	Clark Hill	Gelb	06/05/19
494	6317-C	Cerneka, et al. v. Russell No. 8 Santa Monica Properties, LLC	Los Angeles	Buchalter	Russell No. 8 Santa Monica Properties, LLC	07/11/19
495	6396-C	Tesoro Refining & Marketing Company LLC v. Rickley/Roit	Los Angeles	Buchalter	Tesoro Refining & Marketing Company LLC	07/12/19
496	6450-C	KPRS Construction Services, Inc. v. Allied Subcontractors	Orange	Mokri, Vanis & Jones, LLP	Allied Subcontractors	08/13/19
497	6298-C	Park v. First Gramercy Realty	Orange	Law Offices of John A. Hauser	First Gramercy Realty, LLC and First Wilshire Realty, LLC	09/13/19
498	6485-C	Howard v. Bowe Construction, et al. (Pleasant Valley State Prison)	San Bernardino	Wood Smith Henning & Berman	Jacobs Project Management Co.	10/02/19
499	6409-C	Cornejo v. Serrato; U.S. Bank	Los Angeles	Trachtman & Trachtman	U.S. Bank National Association	10/22/19
500	5071-N	Henning v. D.R. Horton	Clark	Helm & Associates	Gilmore Construction	10/23/19
501	6417-N	Henning v. D.R. Horton	Clark	Bremer, Whyte, Brown & O'Meara	SelectBuild Nevada	10/23/19
502	6427-N	Henning v. D.R. Horton	Clark	Bremer, Whyte, Brown & O'Meara	Red Rose Roofing	10/23/19
503	6479-C	Miller v. BPO Elks Lodge, et al.	Los Angeles	Murchison & Cumming	BPO Elks Lodge	11/20/19
504	6201-A	Nationwide Mutual Insurance Company v. Silverton Contractors, Inc.	Maricopa	Bauman, Loewe, Witt, & Maxwell	Nationwide Mutual Insurance Company	11/25/19
505	5869-C	Chernick v. Safeco Insurance Company, et al.	Los Angeles	Murchison & Cumming	Two Eleven Spalding Condo Association	02/12/20
506	6344-C	Franco / AWI v. Rodriguez Brothers Engineering, Inc.	Los Angeles	Yee & Associates	Rodriguez Brothers Engineering, Inc.	02/19/20
507	6449-C	Thieriot v. Dynamic Architectural, et al.	Marin County	Lincoln, Gustafson & Cercos LLP	Lusardi Construction	05/04/20
508	6180-C	Lifetech Resources, LLC v. Anderson Construction, Inc.	Los Angeles	The Green Law Group	Anderson Construction, Inc.	06/01/20
509	6678-C	Ross v. Ressler	Orange County	Gates, Gonter, Guy, Proudfoot & Muench	Barron E. Ressler	08/11/20

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510	6693-C	Gastelo v. Brookfield Properties Management, Inc.; Brookfield Los Angeles Builders, Inc.	Orange County	Wood Smith Henning & Berman	Brookfield Properties Management, Inc.; Brookfield Los Angeles Builders, Inc.	08/14/20
511	6744-C	Neman, et al. v. State Farm General Ins. Co.	Los Angeles	Cozen O'Conner	State Farm	11/30/20
512	6538-C	Ignatuk v. Besnos	Los Angeles	Jeffery & Grosfeld	Horizon Construction & Remodeling, Inc.	02/25/21
513	6623-N	Paluch v. Harko, LLC dba Harbor Island Apartments	Clark County	Tyson & Mendes	Harbor Island Apartments	03/02/21
514	6394-C	C.W. Driver, Inc. v. 18131 Ventura Boulevard LLC	Los Angeles	Cooksey Toolen Gage Duffy & Woog	Commercial Group	03/05/21
515	6794-C	Gardner v. CP IV G8, LLC, et al.	Los Angeles	Tharpe & Howell, LLP	CP IV G8, LLC; Greystar Real Estate Partners, LLC	03/25/21
516	5812-C	Bernards Builders, Inc. v. Plaza La Reina	Los Angeles	Hunt Ortmann	Plaza La Reina	5/05/21 5/06/21
517	6543-C	PS Business Parks, L.P. v. George Shimizu, et al.	Orange County	Friedenthal, Heffernan & Brown, LLP	Michael Chislock	05/19/21
518	6653-A	Density Investments v. Timber Peaks Construction LLC	Maricopa	Rai & Barone	Timber Peaks Construction LLC	07/07/21
519	6509-C	Cabinet Installation Masters, Inc. v. Ruth and Michael Miniaci	Los Angeles	Plumtree & Associates/ Haffner Law Group	Isam Maaytah Corporation, Inc. dba Cabinet Installation Masters	07/09/21
520	6820-C	Carr v. City of Dana Point	Orange County	Kubota & Craig	Carr	08/23/21