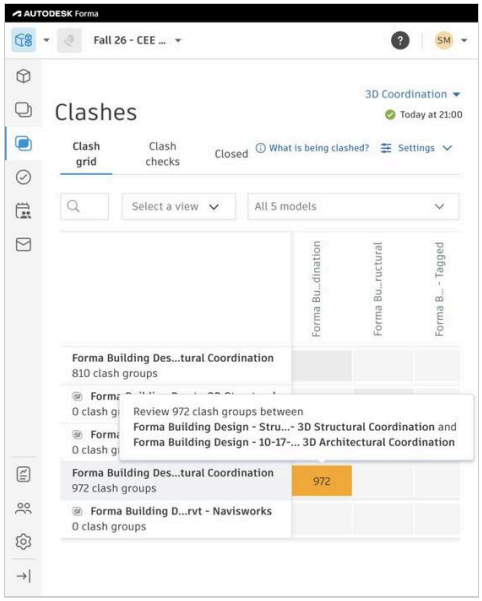
Module 6 – Clash Report (Structure vs. Architecture) · Run 1 + Rev B re-run

Fall 26 – CEE 120A/220A · Coordination space “3D Coordination” (Forma Model Coordination) · Clash run 10/31/2026 21:00 · Models: *Forma Building Design - Structural.rvt – 3D Structural Coordination* (V1) vs *Forma Building Design - 10-17-2026.rvt – 3D Architectural Coordination* (V1). The other three structural views (3D Structural, 3D Structural – Tagged, Navisworks) were switched off for clash because they duplicate the same geometry. The arch link is hidden in all structural clash views.

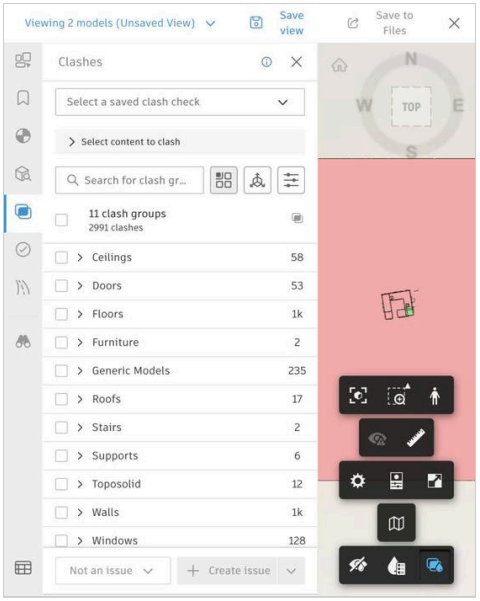
Total clashes	Not an issue	Issues
2,991	**2,539**	**452**
972 clash groups	84.9 %	15.1 % → 5 Forma issues

Run 1 (10/31) – classification

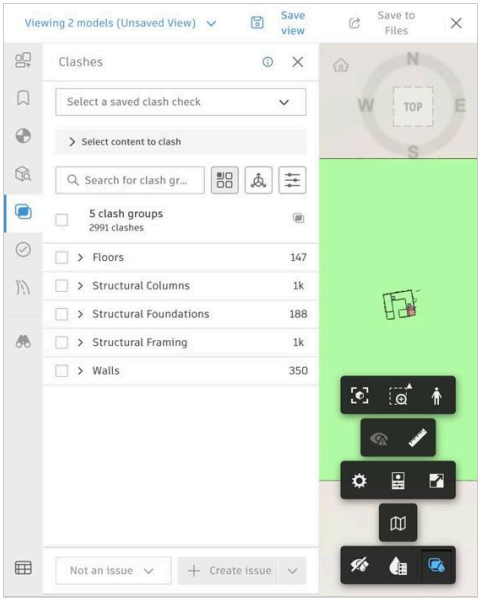
Arch category (Selection A)	Struct elements involved	Clashes	Decision	Reason / action
Floors	slabs, beams, columns, cores	1,131	**Not an issue**	Valid interface – arch floor finishes sit on/around the composite deck & podium slab (“double solid” by design)
Toposolid	footings, slab on grade	12	**Not an issue**	Valid interface – foundations are meant to be in the ground
Roofs	roof framing, cores (+6 ft)	17	**Not an issue**	Valid penetration – cores intentionally extend 6 ft above roof
Furniture	columns	2	**Not an issue**	Item can flex – movable furniture
Walls + Generic Models (columns / beams / slabs / footings)	columns 684, framing 506, floors 138, footings 49	1,377	**Not an issue**	Valid interface – columns embedded in demising walls, walls built to underside of framing / through slabs
Walls + Generic Models vs 8″ concrete cores	core walls	205	**Issue #5**	Arch core/partition walls duplicate the structural cores – arch to delete duplicate core walls and stop partitions at core face
Windows	columns, core walls, edge beams	128	**Issue #3**	Openings cut by structure on grid lines – shift openings off grid / reframe heads
Ceilings	columns 50, core walls 8	58	**Issue #1 → reclassified**	Logged as “framing below ceilings”; a Revit clash matrix showed 0 framing/joist hits – these are columns & cores passing through the ceiling plane (valid penetration). Issue #1 closed as not an issue.
Doors	columns, beams, core walls	53	**Issue #2**	Doors placed on column / core lines – relocate doors or add framed openings
Stairs + Supports	core wall	8	**Issue #4**	Core wall cuts through stair runs – realign stair inside core
Total		**2,991**	**2,539 not an issue · 452 issues (5 Forma issues, type Coordination › Clash, status Open)**	



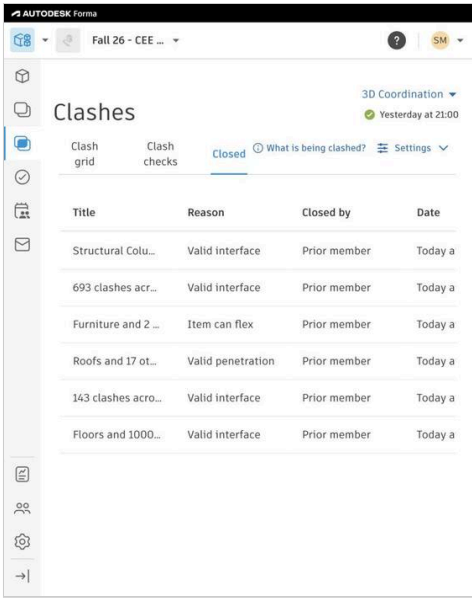
1 · Clash grid after the first run (972 groups Structure × Architecture; duplicate structural views turned off)



2 · Clashes grouped by architectural category



3 · Same clashes grouped by structural category

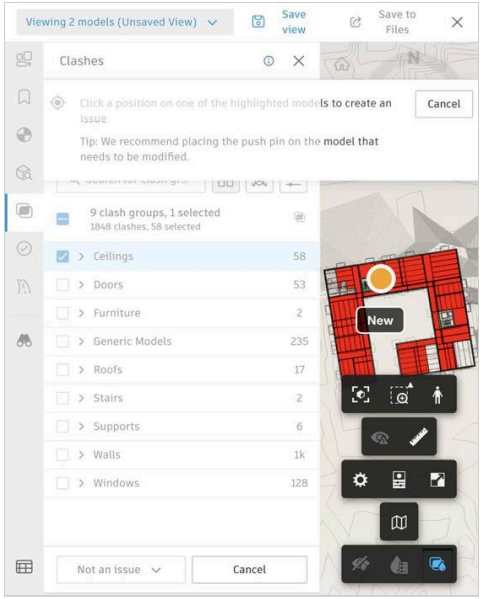


4 · Closed tab – “Not an issue” classifications with reasons

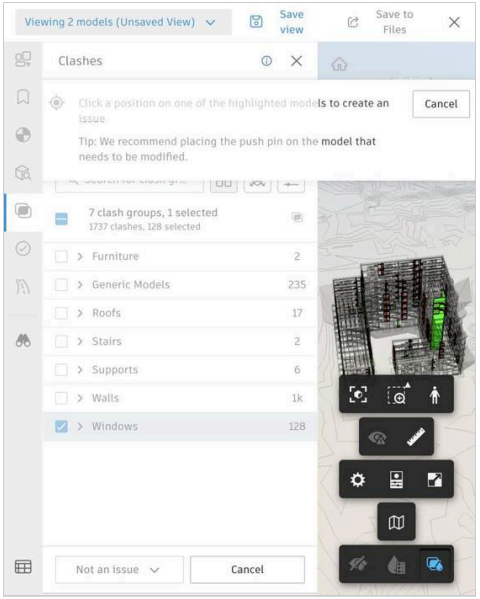
Run 1 issues created in Forma (Coordination › Clash) – status after Rev B

#	Title	Clashes	Pinned on	Status 11/1
1	Steel framing drops below arch ceilings – lower ceilings or shallower framing	58	Arch model	**Closed – not an issue (columns through ceilings)**
2	Columns / beams / core walls through door openings – relocate doors or frame	53	Structural model	**Closed – resolved by Rev B**
3	Columns / core walls / edge beams cut into windows – shift openings off grid	128	Structural model	**Closed – resolved by Rev B**
4	Core wall cuts through stair runs & supports – realign stair to core	8	Arch model	**Closed – resolved by Rev B**
5	8″ concrete cores overlap arch core & partition walls – remove duplicate walls	205	Structural model	**Open – architect to delete duplicate core walls**

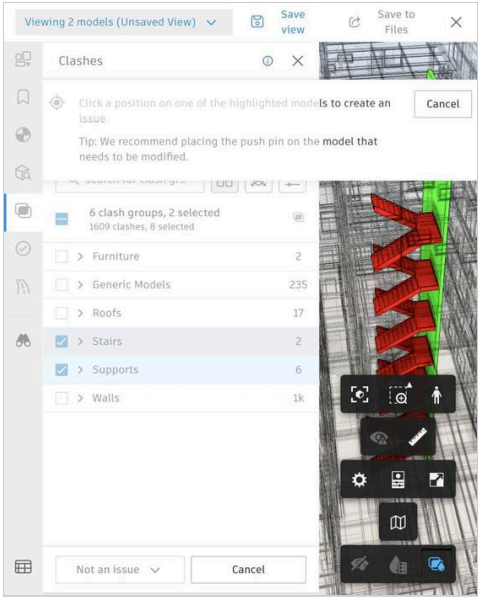
The full issue sheets (thumbnails, descriptions, placement) are in the companion report *M6 Clash Issues Report – Structural vs Architectural* (Forma Reports › Issue detail template), saved to Project Files › Module 6.



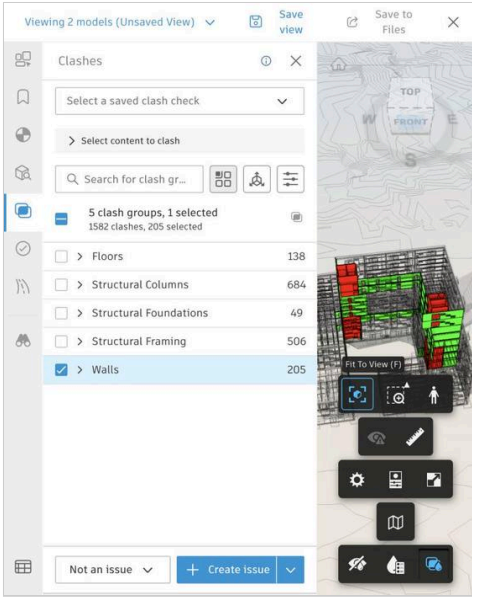
Issue 1 – ceilings (red) vs framing



Issue 3 – windows (red) vs columns / cores (green)



Issue 4 – stair (red) cut by core wall (green)



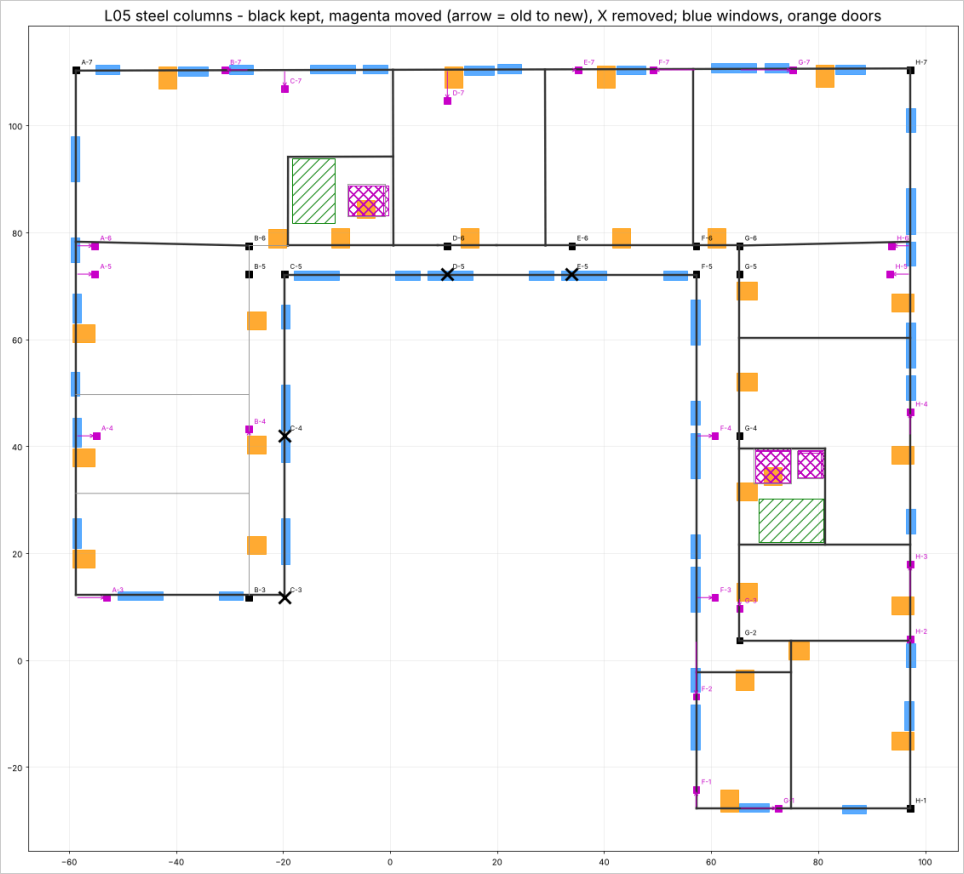
Issue 5 – structural cores (red) vs arch walls (green)

Rev B – the structure moved, not the façade

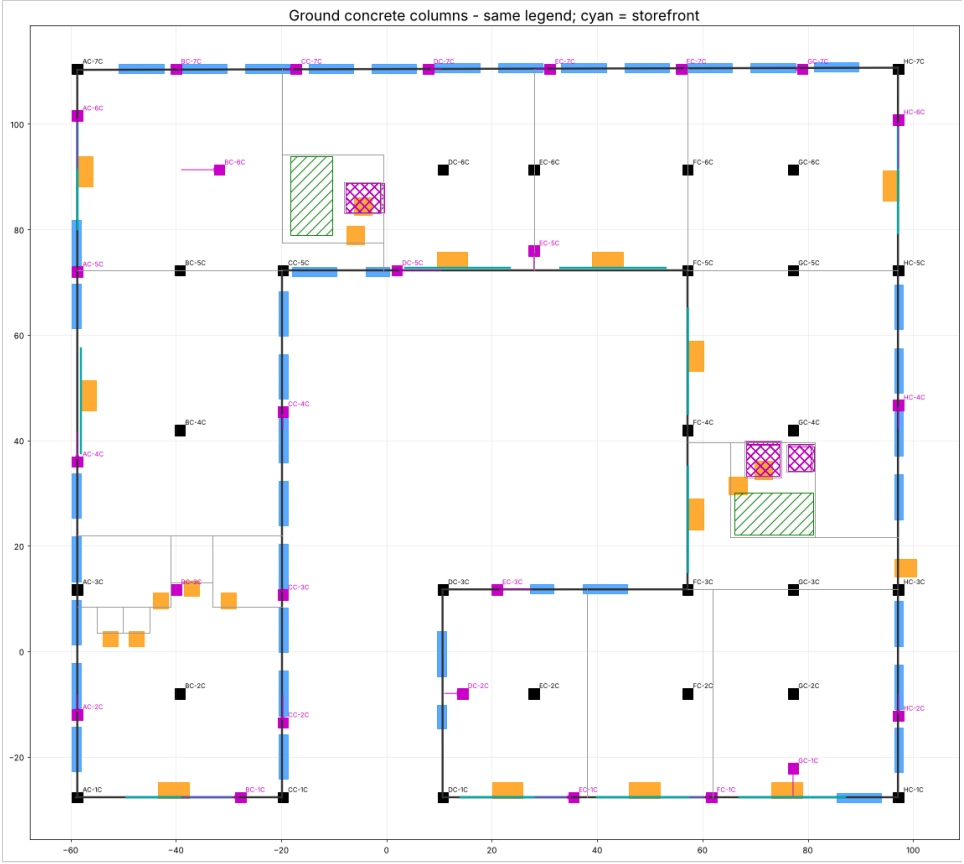
Run 1 showed 145 of 318 column pieces standing in windows, balcony doors or storefront mullions because the grid sat on the façade and demising lines. Moving the openings would have redesigned every elevation, so the structural model was revised (Rev B, synced & published 11/1). Every window, door (incl. swing), storefront, stair, elevator and shaft was exported from the arch link and treated as a no-go zone through the full height of each column stack; each stack then took the least disruptive option, solved per façade line so edge spans stay ≤ 38 ft:

Move	Steel stacks	Concrete stacks	How the load path works
Kept (already clear)	21	27	unchanged
Slid along façade into a solid pier clear on every floor	13	21	edge-beam end moved to the new column; 9 edge beams lengthened past 30 ft upsized to W18x55
Set back 3–8 ft inboard	8	3	perpendicular girder now runs over the column and cantilevers to the slab edge, carrying the façade beam
Removed – cantilevered from corridor-wall column 5–8 ft behind	6	0	courtyard C-line (corridor glazing) + D-5, E-3, E-5; corridor beams cantilever from columns hidden in the corridor wall
Slid along grid into a partition / off a unit door	5	2	collinear beams re-pointed; cross beams frame into the girder
Total	**53**	**53**	**52 stacks moved (median 3.75 ft, max 11.5 ft), 6 removed; 26 footings moved with their columns; Rev C: the 3 pads beside the cores (GC-4C, CC-5C, DC-5C) merged with the core wall footings into two 36 in core mats**

Load path checks: every steel column still lands on a podium beam or concrete column – 4 new podium transfer beams were added where one was missing (A-6, B-4, C-7, H-6) plus one to carry an existing transfer beam end at the north core. All 426 affected beam ends were re-pointed with joins locked, and a support check found no beam end left unsupported. The cantilevered podium girder at GC-1C was kept 24x30 so its soffit clears the 12 ft storefront head. **Cores:** east core wall moved 3 in clear of the stair; 24 openings cut in core walls at the architect’s doors and stair windows. **Verification:** a re-export from Revit shows **0 of 290 columns** touching a window, door, stair, shaft or elevator.



5 · L05 – kept (black), moved (magenta, arrow old→new), removed (X)

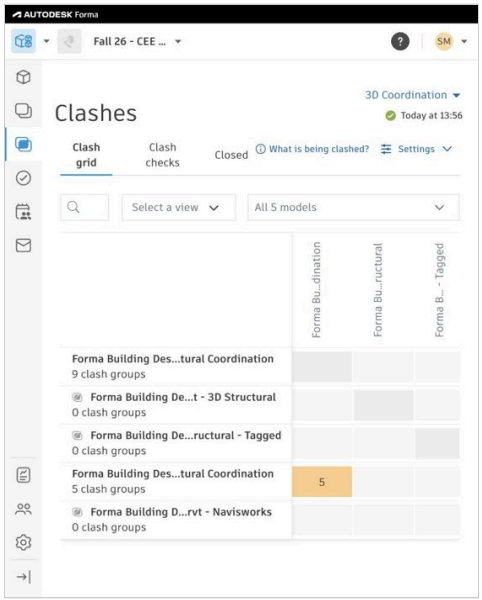


6 · Ground podium columns between storefront panels

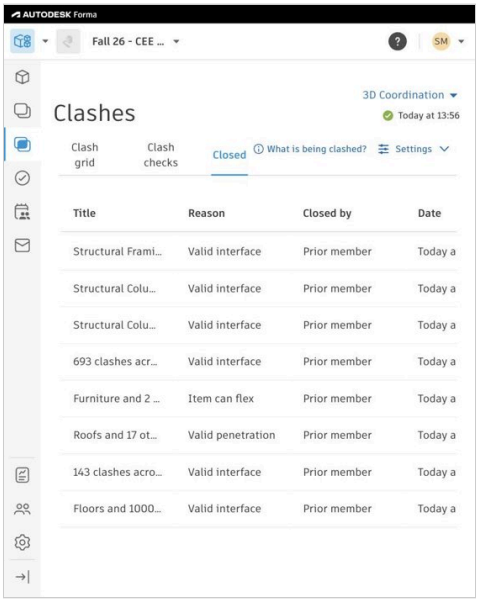
Run 2 (11/1, structural V2) – results

New clashes	Not an issue	Still open
366	**354**	**12**
after the 2,539 run-1 “not an issue” clashes stay closed	columns 38 / framing 316 – valid interface	arch duplicate core walls → Issue #5

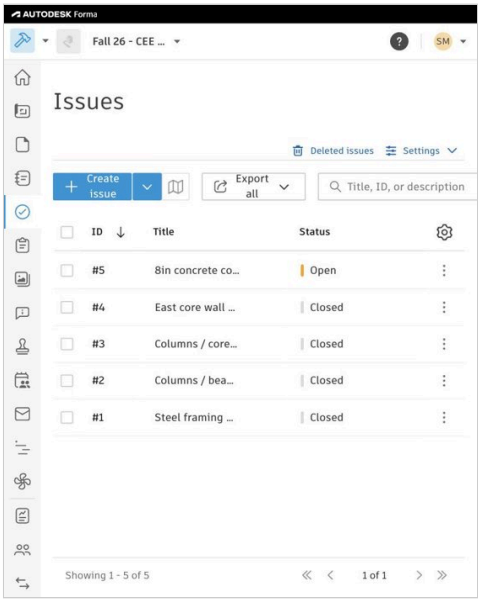
Structural category	Architectural elements hit	Clashes	Decision
Structural Columns	partition walls the relocated columns now sit in (16), ceilings (8), floors (3), balcony railing ends (4, <¼ in contact at façade), furniture (3), top rails (4)	38	**Not an issue – valid interface**
Structural Framing	beams on top of partitions (309), floor build-up (5), storefront head at GC-1C (1 – fixed by keeping the girder 30 in deep), door frame below finished floor over new C-7 transfer beam (1)	316	**Not an issue – valid interface**
Walls (8 in cores)	arch Concrete 8/10 in core walls and partitions duplicating the cores, ceilings	12	**Open – Issue #5**
Windows / doors / stairs / curtain mullions vs columns & cores		**0**	**Issues #2, #3, #4 closed**



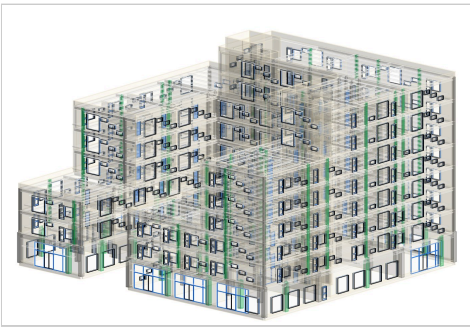
7 · Clash grid after Run 2 and classification (5 open groups = Issue #5 walls)



8 · Closed tab – Run 2 groups closed as valid interface



9 · Forma issues – #1–#4 closed with comments, #5 open



10 · Revit “Clash Review – Columns vs Façade”: relocated columns (green) in the piers

Run 3 (11/3, structural V8 – Rev C core mats) – results

Structural element	Architectural elements hit	Clashes	Decision
MAT-E, 36 in core mat under the east core and GC-4C (top EL −0′-6″)	8 in slab on grade 380032; second 6 in slab 380323 modeled under it at −0′-10″ to −1′-4″	2	**Not an issue – valid interface**
MAT-W, 36 in core mat under the west core, CC-5C and DC-5C (top EL −0′-6″)	both ground slabs, 8 in concrete stem walls on the courtyard line (380705/380706), toposolid	5	**Not an issue – valid interface**
Core walls vs the architect's duplicate core walls		12	**Still open – Issue #5**

The first V7 run had the mats' tops at ground level, cutting into the slab on grade. Dropping them 6 in (V8) puts them at the same top of footing as every isolated pad, so they meet the ground floor exactly as the pads already did in Runs 1–2. Those contacts were classified the same way. The architect's second slab 380323 sits under their own slab on grade and touches every footing; they should confirm whether it is a duplicate. After Run 3 the grid is back to 5 open groups (12 clashes), all under Issue #5.