

Topic	Description
BIM	A 3D jig with easting, northing and elevation coordinates is an effected way to document complex design geometry.
BIM	Using Navisworks with sub-contractor's modeled information is a useful way to resolve complex issues in a complex design geometry. I think we could leverage this more in design.
BIM	It's imperative to have a BIM kickoff meeting and BIM execution plan at the beginning of a project. You can't undo the basic of things later in the process.
Design	Sureboard framing is a metal framed shearwall system and has major design implications. Coordinate this construction just as you would a concrete shear wall, verifying openings with your structural engineer and maintain level of fire protection required.
Design	Topping Slabs require a lot of design coordination with structural and interiors. Thin (<3") concrete pour backs are difficult to keep flat and impossible to keep from cracking. Detail discussions with the GC regarding sequencing is important as well. Usually framing goes in well before any topping slab. Think about bottom of rated wall details, door frames and floor transition details. Also, control joints in your topping slab are required to translate through tile/stone as a control joint according to TCNA.
Design	Stainless Steel Panel Size Limitation and edge conditions are max max max 5ft, with most manufacture's limiting their coil widths at 48". Be aware that is coil width. If you want any return on the edges, you panel size must be decreased.
Design	Doors should never be as tall as the ceiling. This goes back to tolerances. Ceilings of which have their own. But then there are also ceiling mounted devices that can occur within the door swing. Know the gaps you're designing. We never like crashing different materials into each other, and for good reason. But envision what that gap you're designing really looks like. 2-7" from ceiling to wall is too much with MEP flying over. ¾" at top of column is too much when you have steel and it is fireproofed. 2" of wood floor expansion... a) push back on this b) felt never looks finished and just collects dirt.
Design	Continuous handrail / draft curtain glass. Really think about how you detail this at the floor/plenum space. What happens when someone cleans this glass and drips go down past the floor.
Design	High gloss metal panels. No matter how flat of a metal panel you can get, the 90% gloss black is the most unforgiving material to work with. Every .1mm of deformation shows.
Design	Roller window shades with a triangular shape can be done, but they don't offer enough tension along the hypotenuse of the triangle to be effective.
Design	Individually supported guardrail panels that are not interconnected, either by handrail or top cap, have challenges aligning in plane. This goes for AESS plate and glass.

- Design Cladding door with interior finish materials is problematic. It can be done on a non-rated door with the correct door hardware and a finish of minimal thickness ($<1/2"$).
- Design Pay particular attention to the accessibility code in unique areas; locker rooms, showers, single user toilet rooms, drinking fountains.

Design Build Systems. We lose a lot of design control when we delegate design. Elements from Specific exterior cladding to fire protection systems can turn out not as anticipated.

- Technical Flooring transitions with large wood floor expansion requirements. Felt is a good option to fill gaps around edges of the building, but get dirty and are difficult to clean. Metal angles are a good option too. At thresholds an expansion joint-like cover should be discussed.

- Technical Cane detection. There are many options out there for cane detection, but it has to be continuous and it has to be detectable. Fixed furniture is a good option. Platforms are frowned upon because they can be perceived as a step. The code gives no minimum height for cane detection. We pushed the boundaries and got down to 4". We pushed further at the exterior and design pucks at 12" oc (using the post mounted sign argument in our favor) with the addition of a paving surface texture change. It came out nice.

- Technical All garage floors, whether exterior or interior need drains and adequate slope to drains (design for $3/16"$ per ft slope).

- Technical All roofs need adequate slope to drains. $1/4"$ per foot minimum. Parapets need to be of adequate height to allow termination of roof membrane. Roofing either terminates horizontally with a gravel stop or vertically with a termination bar. 10" membrane turn up is minimum (that's from top of cover board; so take into account sheathing, insulation and glue thicknesses!). You can ask for a manufacturer letter for as little as 8", but we shouldn't be designing to that.
- Technical Sloped walls do not allow you to use the OH detail reference. If you have sloping exterior walls that you are detailing, always draw both sides.

- Technical Construction Tolerances are a big deal in the field. Read your spec and always account for construction tolerances. Steel: $\pm 1"$ Concrete: $\pm 2"$ Gyp board $\pm 1/8" + 1/8"$ for tape and mud. Then there are pieces of structure we don't account for: Knife plates, sandwich plate extensions for welds, bolts and nuts. Look at the corresponding structural details and draw it in our architectural detail. If structural doesn't have a detail, ask for one.

- Technical Entry door coordination: operator, access control, egress and all glass entrances require complete coordination of Architecture, Electrical, Access Control and Door Hardware. As architects our job is to explain to our consultants how the door is designed to function, and our consultants job is to get each piece talking to each other in the correct manner in order for door to function as designed. This usually takes a few tries, but the architect must review each piece of equipment. This includes specified door hardware, cutsheets, wiring diagrams and power and control inputs/outputs. Do not expect this to be done by the GC.

Technical Extruded aluminum base at gypsum board walls require a super flat gyp wall. The extruded base will be straight as an arrow, but the wall may not, resulting in unsightly and variable gaps. This can be fix by some sealant in the field, but it's not an ideal solution.

Technical Continuous lighting and diffuser lengths. We need to nail these. Most of which can be field verified, but the VIF needs to be noted in the documents along with the design intent ("full length run of diffusers here...")

Technical Grating coordination needs to be nailed with civil/landscape. Architecture drownings should think through the various grades where the building hits the ground.

Technical Be sensitive of available device colors. Not one size (color) fits all. Most Fire/Life Safety devices are UL listed an cannot be painted without a lot of \$\$ changing hands.

Technical Protection of finished work. This is a requirement in our spec. We need to hold the contractor accountable.

Technical 1 ½" door frames minimum for UL rating. Also the minimum if you want to use concealed hinges.

Technical Light wall washers need to be moved away from walls with rough finish (e.g., stone)

Technical All glass door undercuts should be a minimum of 1/4", especially critical at wood floors. Wood floors move side to side, but also up and down. Stepping on the wood plank adjacent to an all glass tempered door will shatter the door if the undercut is too small.

Technical Interior glass panel attachment detail was changed in construction from being cleated to the wall to being structural siliconed to the wall. Structural silicone is more forgiving during install and results are executed as expected instead of misaligned.

Technical CMU head of wall details are often ugly, but we developed a good (non-rated) detail to use instead.

Technical Steel exposed to moisture should be galvanized. This goes for structural members as well.

Technical General building maintenance needs to be coordinated in design. Ladders, alternating tread devices, façade maintenance, roof access, equipment access, access panels...

Technical Linear diffusers need to be spec'd and drawn with the correct flange dimensions that are coordinated with the actual location of the diffuser (in gypsum ceiling field, at ceiling wall intersection, at tile /grid intersection)

Technical Interior metal framing needs to account for floor to floor heights and openings through framing. Show structural steel when openings or spans are larger than can be accommodated by the metal framing. Use your structural engineer to help determine the limits of the wall types we are utilizing.

Technical Dryer exhaust ducts cannot have fire smoke dampers. Provide rated construction directly to exterior and do not exceed length of duct as specified by the dryer manufacturer. Make sure to specify a lint trap as well.

Technical Hot fluid applied waterproofing manufacturer's wont let you terminate on the horizontal. You must terminate HFA vertically 4".

Technical Louvers are pre-tested and rated per the manufacturer's spec sheet. You cannot slope or angle louver blades and still get the specified AMCA performance.