[INSERT PROJECT No.]
[INSERT project name]
[INSERT date]

tech-check architectural I garage

This is a template, so some items will apply to your project, and others won't or will be missing. When using the list, make the changes needed for your project.

Content of the Tech-Check Lists is based on several sources including MASTERSPEC®.

1 GENERAL

☐	**REFERENCE DOCUMENTS** • **DIMENSIONING** - CHECK the "Dimensioning Guidelines - Tilt-ups Projects". • **OTHER CHECK LISTS** – "Building Code" and "Accessibility." • **NOTATION HELP** – "Drawing Notation," "General Notes for Tilt-ups." • Coordinate abbreviations with list in Cover Sheet
☐	**TITLE BLOCK** • Project name and Address. • Owner's legal name and address. (check with Google) • Issue Number, Description (Issue for Bid, Addendum A, etc.) and date of issue. • Additional information such as general contractor, when known and approved by Principal. • Initials in "Drawn By" and "Checked By"; plot date. • Stamp. • Scale, Project Number. • Drawing Title / Drawing Number. • Deltas for Addenda and subsequent Bulletins when applicable.
☐	**ALWAYS DO THIS:** • Number SIMILAR components for clear notation: Stair #1, Stair #2; Storefront #1, Storefront #2, etc. • Designations are the same throughout the set. • Always talk to reps. Confirm capacities, sizes, configuration, availability, use. Send your plans for reviewing when applicable. • If an item is typical and you know it, do not add other labels. Add **UON** only when you know that there is, or probably is, a different condition or materials from the one documented.
☐	**GRAPHICS** • Indicate with dashed lines and label overhead components at building exterior: canopies, awnings, and such. Label them, for example, "CANOPY ABOVE". • Wall and roof openings: Indicate with an "X" and label "OPEN". • "North" arrow in every floor plan – oriented in the same way. • Graphic bars (these are required by some agencies - check). • Indicate areas in Project Site which are not included in the Contract and label: **NIC** ("BY OTHERS" can be confusing, use "NIC" instead.) • Project Site indicated clearly in building plans or site plans if too big.

[INSERT PROJECT No.]
[INSERT project name]
[INSERT date]

☐ **DIMENSIONING**

- Height dimensions are from top of slab (TOC) or top of parapet.
- Horizontal dimensions are to face of structural framing, concrete, and such, except critical dimensions which are to "face of finish".
  - First String: Total building dimension (wall-to-wall), closed string.
  - Second String: Dimensions to structural elements (columns, etc.), closed string.
  - Next Strings: Components in order of importance; tied to the structure to fix them, opened strings. Critical dimensions (exiting, accommodate equipment, and such) are labeled "**CLEAR**".
  - Generally, do not set dimensioning to less than 1/8". Go to 1/16" only when you know it can be done in the field or it can be manufactured to that precision level
- Refer to RMW Standard Dimensioning Guidelines for Architectural Projects. Check that:
  - Dimensions in the elevations and sections are indicated in the same format as in the floor plans.
  - Mayor components are located with a dimension to a column line or edge of slab.
  - Partitions are located and tagged.
  - Doors not in a room corner are located by the dimension to the side of the opening.
  - Openings in horizontal or vertical components are located to "edge of slab", face of concrete, or framing.
  - Use annotations such as "ALIGN" and "XX EQ SPACES" instead of numerical dimensions when applicable. Count carefully!

☐ **COST MANAGEMENT**

- Include a **SUMMARY OF ALTERNATES AND ALLOWANCES** where it is easily found and read.
- **ALTERNATES**
  - Base Bid work is clearly described throughout the set, including in the Schedules and specifications (book or sheet).
  - Alternate work is clearly described, including installation when applicable.
  - The cost of alternate work is calculated by the contractor, and given to the Owner to decide if the alternate work proceeds or not.
- **ALLOWANCES**
  - Allowance work is clearly described with drawings or in writing or both.
  - Allowance type is indicated as Unit Price (cost per area o per unit) or as a Fixed Sum.
  - The allowance amount is fixed by the Owner and the contractor confirms if the allowance is enough.

☐ **CONSISTENCY**

- Terminology is the same throughout.
  - Components are tagged with the same tag throughout the set.
  - Work which is the same has the same tab throughout the set.
- Address only the contractor, no one else, as if he was in front of you: "Do this", "Do that".
- Graphics representing the same item or work are consistent: Size, type, etc., (for example, finishes, types of partitions, and such).

☐ **MOCKUPS**

- If you want mockups, list them and coordinate with the specifier.
- Indicate on the Drawings where do you want the mockups (location and extent), when applicable.

☐	**NO-NOS** • Do not describe building envelope finishes and other elevation information in the floor plans. • Do not use periods in the abbreviations: (UON not U.O.N). • **DO NOT INCLUDE RATED ASSEMBLIES THAT DO NOT HAVE A UL NUMBER (or other number by any other testing agency). NEVER DESIGN YOUR OWN RATED ASSEMBLIES**! • **DO NOT use the UON all the time, use ONLY WHEN NEEDED**. When you use UON you are telling the contractor that somewhere in the documents there is or there might be a condition which is different to the one with the UON tag, so the contractor has to search all the documents for it, so unless this is the case, drop the UON.

2 COVER SHEET and FRONT-END SHEETS

☐	**COORDINATION WITH THE SET** • Coordinate abbreviations used in the set with list in Cover Sheet
☐	**CHECK THAT THIS IS INCLUDED:** • Abbreviations • General notes – check that they are applicable to the project. • Project name and address. • Title 24 notes. • Drawing List. • Project Directory. • Vicinity Map. • Project Information and code data. • Separate permits and deferred submittals. • Project Legend - Graphic symbols used on the project.
☐	**REQUIREMENTS** • Code Analysis and calculations • Calculations (Exiting requirements) and if applicable, fixture requirements. • CALGreen Checklist - Separate Sheet • ADA/ Accessibility Path of Travel Layouts • Accessibility Standard Details (maneuvering clearances, signage, etc.) • Compliance Statements if required by the local Authority Having Jurisdiction
☐	**ACCESSIBILITY** • Accessibility Standard Details (maneuvering clearances, signage, etc.) • Door and wall accessible toilet signs as applicable to the Project. • Exit signage - Route and stairs when applicable • Enlarged bathrooms or toilet plans showing accessibility clearances.
☐	**SIGNAGE** • Accessible signs are applicable to the Project. • Exit signage - Exit route and stairs.

3 SITE PLAN(S). FOR PROJECTS WHERE SITE WORK IS **NOT** INCLUDED

☐	**IMPORTANT!** • In this tech-check list it is assumed that site plans are included **ONLY TO DOCUMENT PATH OF TRAVEL**. If the project work includes other than minor modifications to the path of travel or to other sitework, use the list for "BASIC CORE&SHELL" list to check site plans. • For projects where **parking is in the building where the work will be done**, include the building parking plan to document path or travel.
☐	**PLANS SHOW THESE EXISTING CONDITIONS (AS APPLICABLE)** • Building footprint, main access, secondary access. • Ramps, curb ramps, sidewalks/walkways, steps or stairs: Locations and configurations. • Signage. • Stripping.
☐	**MINOR WORK IF INCLUDED** • Re-stripping. • New sign • Adding or remodeling access ramps.

☐	**TAG EXISTING CONDITIONS AS APPLICABLE**
	• Access to site from point of connection to public road.
	  • Access roads, driveways, turn-arounds, including with and slope.
	  • Location of entrance signage.
	  • Driveways, access, exiting.
	  • Pedestrian traffic.
	  • Accessible path of travel.
	  • Accessible parking signage.
	  • Stripping.
	  • Accessible Details
	  • Site Entry Sign.

4 SITE PLAN(S) FOR PROJECTS WHERE SITE WORK IS INCLUDED

☐	**COORDINATION WITH CONSULTANTS** • Soils report: Read recommendations on soil work, waterproofing, etc. • Building footprint. • Property lines and easements. • Site topography (grading). • Ramps, curb ramps, sidewalks/ walkways, steps or stairs: Locations and configurations. • Parking layout and sloping. • Trees and planting areas. • Utilities. • Exterior lighting. • Signage. • Areas for Contractor's use – IF determined by Owner. • Landscape areas are indicated with footage if required by AHJ. • Utility lines or service points of connection.

☐ **COORDINATION WITH EXISTING CONDITIONS - AS APPLICABLE**

- Building footprint, main access, secondary access.
- Ramps, curb ramps, sidewalks/walkways, steps or stairs: Locations and configurations.
- Signage.
- Stripping.
- Access to site from point of connection to public road.
- Access roads, driveways, turn-arounds, including with and slope.
- Location of entrance signage.
- Driveways, access, exiting.
- Pedestrian traffic.
- Accessible path of travel.
- Accessible parking signage.
- Stripping.
- Accessible Details
- Site Entry Sign.

☐ **COORDINATION WITHIN THE SET**

- Where Plans are subdivided into segments due to size or configuration, insert a “KEY PLAN” with “Match Lines” that show the segments (numbered) and where they are in the Set.

☐ **SITE INFORMATION:**

(WHEN POSSIBLE obtain a list of what should be shown in the site plan from the local jurisdiction.)

- Parcel number.
- Access to site from point of connection to public road.
- Access roads, driveways, turn-arounds, including with and slope.
- Property lines:
  - Distance between buildings and property lines.
  - Required fire rating in selected portions of the building due to distance from property lines.
  - Easements, dimensioned, located in plan, and labeled (utilities, right-of-way, etc.)
  - Setbacks.

☐ **SITE CONSTRUCTION**

- Trash enclosure, elevations, plans, and details. Check if the trash enclosures are required to have a roof and drains. (Trash enclosures do not have doors, they have gates).
- Bicycle lockers and racks.
- Accessibility details: Signage, and tactile surfacing.
- Accessible parking stalls plans.
- Access ramps and pipe railings.
- Location of entrance signage.
- Fences and gates located in reference to property lines when applicable.
- References to details are coordinated.

☐ **PARKING:**

- Driveways, access, exiting.
- Pedestrian traffic.
- Parking layout, number of slots, dimensions, flow of traffic, signage.
- Accessible path of travel.
- Parking signage.
- Parking appurtenances.
- Fire hydrants if required by permitting agency.

5 FLOOR PLANS

☐ **COORDINATION WITHIN THE SET, AS APPLICABLE**

- The following key references are indicated and correctly labeled:
  - Building elevations - show arrow perpendicular to elevation ("go around" the building to check) Tag elevations by location (North, South,Southeast)
  - Building sections - end arrows pointing the right way.
- References to building sections.
- References to details are coordinated.
- Stairs are indicated and tagged.
- Elevators are indicated and tagged.

☐ **COORDINATION WITH THE PROJECT TEAM**

- Coordinate with electrical engineer for locations of electrical service to architectural components, including lighting, elevators, etc**.**
- Location of floor, ceiling, and wall mounted electrical components.
- Coordinate dimensions of roof and floor openings with the structural engineer.
- Coordinate location of light fixtures, controls, outlets, etc.

☐ **GRAPHIC INFORMATION AND SHEET NOTATION**

- North Arrow in all floor plans in the same direction.
- NIC areas clearly marked by shading or any other graphic way.
- Move notes and Information describing items located in walls to Elevations.
- Sheet Notes and Key Notes:
  - Review notes to check they all apply to the project.
  - Notes that address the same thing should be repeated exactly (copy-paste) and if possible with the same number throughout. If a note is not used in a sheet, leave the number and write "NOT USED".
  - Check that the terminology is the same as the terminology on the drawings (tags, schedules and notes). BASICALLY CALL THE SAME THING THE SAME WAY THROUGHOUT.
  - Indicate overhead components at building exterior (awnings, roof components, etc) with dash-lines and label, for example: "CANOPY ABOVE".
- Indicate with an "X" and label floor openings "OPEN".
- Parking boxes numbered.
- Direction of slope in slabs indicated.
- Direction of traffic indicated.
- Floor drains indicated.

☐ **NO-NOS**

- Do not DESCRIBE building exterior finishes and other elevation information in the floor plans.

☐ **DOORS**

- All doors tagged; tag doors only in the floor plans, not in the enlarged plans.
- Door tags are coordinated with the Door & Frame Schedule and the Hardware Groups.
- Required clearances at doorways (doors and gates) are correct and labeled.
- Direction of door swing meets code.

☐ **EXITING WIDTHS**

- Required minimum clear exiting widths at stairs are provided or exceeded and labeled as "CLEAR".

☐	**FIRE EXTINGUISHERS** • Typically, in garages, fire extinguishers are mounted on brackets - no cabinets. • Travel distances to nearest fire extinguisher are indicated (max. 75'). • References to drawing and detail number that show accessible mounting heights for cabinets are included.

6 REFLECTED CEILING PLANS

☐	**COORDINATION WITH THE DESIGN TEAM** • Items such as motors, projection screens and overhead coiling grilles or coiling doors concealed in the ceiling space do not conflict with Structural or MEP (if there are included in the Project team) elements and that required clearances are provided. • Location of electrical and mechanical items.
☐	**CEILINGS** • Schedule: Products including tiles or panels and suspension system. • "Heavy Duty" type for all. • Areas without ceilings are marked 'NO CEILING' or 'OPEN TO STRUCTURE ABOVE'. • Location of overhead equipment or other items is coordinated. • Layout does not include tiles or panels smaller than ½ a unit or are cut in a way they cannot be suspended. • Extent of each new ceiling is shown. • Ceiling and Soffit heights indicated; 9'-0" AFF, UON. • Light fixtures • Layout of ceiling grids. • Ceiling-mounted items, such as screens, air supply diffusers, return air grilles, exit signs, operable partitions, overhead doors, etc.
☐	**COORDINATION WITH FF&E:** • Access to items such as light switches, outlets, thermostats, access panels, electrical panels and similar items are not blocked by fixed furniture.

7 BUILDING ELEVATIONS

☐	**NO-NOS** • Do not indicate building envelope finishes and other elevation information in the floor plans. • DO NOT describe materials in the elevation tags, just identify them (GL1, GL2, etc.). Describe materials in the Exterior Finishes Schedules in the Elevations sheets.
☐	**AN EXAMPLE OF A SCHEDULE OF EXTERIOR FINISHES IS AT THE END OF THIS DOCUMENT.**
☐	**COORDINATION WITH THE DESIGN TEAM** • Structural components. • Exterior levels.

☐	**DIMENSIONING AT ELEVATIONS**
	• Horizontal Dimensions:
	  • First dimension: Exterior wall to exterior wall – match floor plans.
	  • Second dimension: Column lines.
	• Vertical Dimensions:
	  • Heights: To top of concrete, top of parapet.
	  • Heights of canopies, and other appurtenances.
	• Openings: To face of opening (framing or concrete) except if critical. For items included in a schedule, such as doors, etc., dimension only to locate the item in the opening.

☐	**INDICATE:** • Sections at least in two directions. • Gridlines. • If possible, indicate items in the front plane with one line weight and items in the back planes with a lighter line weight. • Materials tagged on all sides of the building by type (for example, GL1, GL2, and included as such in the Exterior Finish Schedule. • One section for every type of exterior wall arranged in the sheet in order. • Materials tagged. • References to details coordinated. • Door elevations and types are coordinated with the door schedule.

8 BUILDING SECTIONS

☐	**COORDINATION WITH THE DESIGN TEAM** • Structural components. • Exterior levels.
☐	• Sections at least in two directions. • Grid lines. • One section for every type of exterior wall arranged in the sheet in order. • Grid lines. • Heights to top of parapet and top of sheathing, building clear height, and top of openings. • Materials tagged. • References to details are correct.

9 ENLARGED PLANS

☐	**BEFORE YOU ENLARGE A PLAN, MAKE SURE IT IS NECESSARY!**
☐	**COORDINATION WITHIN THE SET** • References to floor plans are the correct. • References in elevations to details are correct.

10 BUILDING DETAILS - GENERAL

☐	**COORDINATION IN THE SHEET** • As much as possible keep details of the same family together. • Check that in details that include the same assembly, the assembly is shown in the same way (size of door frames, type of floor slab, etc.) • Check that items in the details are tagged the same (“overhead deck” is always “overhead deck”, “coating” is always “coating”, etc.
☐	**GRAPHICS** • Details are grouped by families. • Graphic representation of items is consistent. • Terminology is consistent and correct.

10 DETAILS – CONCRETE AND MASONRY

☐	**ARCHITECTURAL CONCRETE** • Locations and the extent of cast-in-place architectural concrete. Distinguish from structural concrete or concrete not to be considered as cast-in-place architectural concrete. • Details clearly defining sizes, shapes, and dimensions of cast-in-place architectural concrete sections. • Details of special formed patterns and textures. • Location and the extent of each type of exposed architectural concrete finish. • Locations and patterns of exposed form tie holes. Include the diameter of tie cone. • Locations, the extent, and finishes of associated formed surfaces not requiring cast-in-place architectural concrete finishes. • Locations and details of chamfers. • Locations and details of contraction and construction joints. • Locations and details of inserts, built-in frames, openings, and items where work of other trades will be attached to or supported by formwork. • Locations of mockups.
☐	**PRECAST ARCHITECTURAL CONCRETE** Basis of Design Manufacturer: Clark Pacific. • Layout of the framing system. Show the relative location of various precast concrete units, floor elevations, openings, column centers and offsets, and dimensions. • Locations and types of finishes. Include thin brick and stone facings. • Details of connections and joints. Show anchorage devices, other embedded items, and grouting. • Details of openings. • Fire-resistance-rated construction and joint-filling requirements.

☐	**CMU** Basis of Design Manufacturer: Basalite. • Extent of each type and thickness of concrete unit masonry. • Extent of each fire-resistance rating if any, and identification of fire-resistance design designation or equivalent thickness. • Location and detail of each type of movement joint. Show isolation joints between masonry and concrete and between masonry and steel framing if any. S • Locations, types, and details of items, such as anchors, ties, inserts, lintels, flashings, and reglets, to be built into masonry. • Details of special masonry features, such as chases, recesses, and openings for other work, if known. • Joint thickness and coursing heights if critical. • Joint profiles if other-than-specified concave tooling. • Pattern bonds for exposed surfaces if other-than-specified running bond.

12 DETAILS - METALS AND RAILINGS

☐	**METAL FABRICATIONS** • Extent of each fabricated item. Include plans, elevations, and details as applicable. • Name of each item. Coordinate with Specification terminology. • Metal types and finishes if more than one. Coordinate with Specification terminology. • Metal thicknesses and other dimensional data not specified, or exceptions to default sizes. • Profiles and details. Include cutouts, returns, reveals, edge finishing, stiffeners, jointing, and anchoring.
☐	**PIPE AND TUBE RAILINGS** • Locations and the extent of railings with adequately dimensioned plans and details. • Material sizes and types. • Finishes: Galvanized for exteriors. • Locations of removable railing sections, if any. • Railing details at bends and returns, handrail bracket design and connections, and connections of railings to building structure. • Infil panels type.
☐	**DECORATIVE METAL RAILINGS (INCLUDES CABLE RAILINGS)** • Locations and extent of railings, dimensioned and detailed. • Material sizes and types. • Location of each metal and finish if more than one. • Locations of removable units if any. • Details of guard construction and spacing of elements. • Anchorage and connection details. • Locations of expansion joints if any. • Railing details at bends and returns, handrail bracket design and connections, and connections of railings to building structure.

13 DETAILS - LADDERS AND STAIRS

☐	**LADDERS** • YOU NEED A LADDER AT EACH PENTHOUSE to access the penthouse roof. • DO NOT detail ladders: Ladders have strict OSHA requirements so are pre-manufactured. O'Keeffe's. Is the basis of design product. Choose a ladder model - call for recommendations if unsure - and insert cut sheet in the drawings. http://okeeffes.com/
☐	**STAIRS - CODE COMPLIANCE** • Landing and adjacent doors: Accessibility clearance. • Plan, elevations, and sections: Widths. • Projections on the width. • Headroom clearances. • Tread size and configuration. • Handrails configuration and heights. • Handrails extensions at top and bottom of stairs. • Space under stairs is open.
☐	**METAL PAN STAIRS (THESE ARE OUR STANDARD PRE-MANUFACTURED FIRE STAIRS)** Basis of Design Manufacturer: American Stair. • Extent of metal pan stairs. Include plans, elevations, and details. Indicate types of metal pan stairs if more than one type. • Extent of railings. Include plans, elevations, and details. If railings are included with preassembled stairs and railing configuration is specified in this Section, do not show details that limit the manufacturer's construction methods unnecessarily. • Profiles of treads and risers. • Types of treads and landings if more than one type. • Types of nosings. Include profiles and dimensions. • Finishes: Primed for field painting for interiors; galvanized for exteriors. • Supporting construction and methods of attachment. • Elements of fire-resistive construction enclosing the stairs.
☐	**METAL GRATING STAIRS (THESE ARE OUR STANDARD PRE-MANUFACTURED UTILITARIAN STAIRS)** Basis of Design Manufacturer: American Stair. • Extent of metal grating stairs. Include plans, elevations, and details. Indicate types of metal grating stairs if more than one type. • Extent of railings. Include plans, elevations, and details. • Profiles of treads and risers. • Types of treads and landings if more than one type. • Types of nosings. Include profiles and dimensions. • Finishes: Primed for field painting for interiors; galvanized for exteriors. • Supporting construction and methods of attachment. • Elements of fire-resistive construction enclosing the stairs.

14 DETAILS - WATER AND AIR INTRUSION PROTECTION

☐ **BENTONITE WATERPROOFING (ELEVATOR PITS ARE ALWAYS WATERPROOFED)**

Basis of Design Product: Bentonite by Tremco (sheet-applied).

- Locations and details of bentonite waterproofing.
- Connections to or coordination with flashings, expansion joints, waterstops, transitions to other types of waterproofing, and other elements of the substrate and waterproofing systems.
- Locations and details of protection-course applications if any.
- Locations and details of subsoil drainage systems.
- Unusual provisions recommended by the manufacturer.
- Insulation coordination details if any.
- At elevator pits show access ladder.

☐ **TRAFFIC COATINGS**

Basis of Design Manufacturer: Dex-O-Tex.

- Locations and extent of traffic coatings for each type.
- Details at deck-to-wall and deck-to-curb terminations.
- Details and flashings at drains and other waterways.
- Details of coating terminations at the edges of expansion and seismic joints.
- Details of preparation, treatment, joint sealants, and bond breaking at substrate joints and cracks.
- Details to control upward hydrostatic pressure of slabs-on-grade that receive traffic coatings, such as a vapor barrier and drainage aggregate.
- Layout of pavement markings.

15 DETAILS - ROOF

☐ **ROOF PENTHOUSES**

- Parapet showing coping and transition to roof.
- Roof drain.
- Downspout
- Scooper at roof, including scupper box and flashing box.

☐ **POLYVINYL-CHLORIDE (PVC) ROOFING AND THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING**

Basis of Design Product: PVC roofing by Johns Manville

- Flashing at terminations of roofing.
- Details of roof drains and scuppers.
- Access ladders to access penthouses roofs.
- Assemblies:
  - INSULATED - Over steel deck: Base board / Board Insulation / Roof membrane
  - NOT INSULATED - Over steel deck: Base board / Roof membrane

16 DETAILS - FIRE PROTECTION

☐ **APPLIED FIREPROOFING**

- Locations and extent of fireproofing. **DO NOT indicate thickness unless YOU GET THEM FROM THE MANUFACTURER'S TECHNICAL REPRESENTATIVE.**
- Schedule or details indicating UL-design designations or designations of another testing and inspecting agency for each assembly if required for permitting.
- Locations of restrained beams if designated by the structural engineer.
- Finishes (texture and paint) required for fireproofing exposed to view are indicated - this includes exposed under deck fireproofing. COORDINATE WITH FIREPROOFING MANUFACTURER.
- Locations and types of auxiliary materials required.
- Details of fireproofing assemblies using metal lath and lathing accessories, if any.
- Details of construction that encloses or covers fireproofing. Coordinate with fireproofing thickness.
- Details of penetrations through fireproofing showing coordination with firestopping.

☐ **INTUMESCENT FIREPROOFING**

MAKE ABSOLUTELY SURE YOU ARE WORKING WITH INTUMESCENT FIREPROOFING AND NOT INTUMESCENT PAINT". STICK WITH "ALBI" TO MAKE SURE YOU HAVE THE RIGHT PRODUCT.

- Locations and extent of fireproofing. **DO NOT indicate thickness unless YOU GET THEM FROM THE MANUFACTURER'S TECHNICAL REPRESENTATIVE.**
- Finishes required for fireproofing exposed to view are indicated. COORDINATE WITH FIREPROOFING MANUFACTURER.
- Schedule or details indicating UL-design designations or designations of another testing and inspecting agency for each assembly if required for permitting.
- Locations and types of auxiliary materials required.
- Locations and extent of mockups.

☐ **PENETRATION FIRESTOPPING - THIS IS FOR PENETRATIONS (HOLES) IN RATED ASSEMBLIES**

- Most of the locations of fireproofing in the project are only known at the time of construction. A few we can identify at the time of documenting the project (for example, electrical boxes in rated partitions) and those are in the Detail library. At the time of construction, a licensed subcontractor will make an inventory of the penetrations and should submit a schedule with the selected assemblies for each case. We only acknowledge that the inventory was made and received by us; we DO NOT REVIEW IT for accuracy or completeness.
- If you are adding a detail because of permitting authority requires it, MAKE SURE that the assembly was tested by UL or another testing agency. If you cannot find one, call either TREMCO or HILTI.
- **NEVER NEVER NEVER** design your own firestopping assembly.

☐ **JOINT FIRESTOPPING - THIS IS FOR JOINTS IN RATED ASSEMBLIES (EDGE OF SLAB, HEAD OF RATED PARTITIONS, FOR EXAMPLE**

- Locations and fire-resistance ratings of joint firestopping are identified. Coordinate with fire-resistance ratings of constructions in which fire-resistive joints are located. In architectural projects, **ALWAYS TALK TO THE MANUFACTURER (TREMCO OR HILTI)** and get the appropriate assembly from them. For interior partitions, if the detail is not in the Detail Library, look in the manufacturers website for tested assemblies or call the manufacturer.
- **DO NOT EVER DESIGN YOUR OWN ASSEMBLY**. If the manufacturer hasn't tested an assembly exactly like yours, they can give you an "engineering judgement".
- Make sure you work with actual joint widths. Coordinate with maximum widths allowed for selected fire-resistive joint systems.
- Details of perimeter fire-resistive joint systems. Show relationships to curtain-wall assemblies, spandrels, and adjoining floor assemblies.

17 DETAILS - SEALANTS AND JOINT COVERS

☐ **JOINT SEALANTS**

- Extent of each type of joint sealant required. Identify the different types of sealants using the terminology in the sealant schedule at the end of the section.
- Dimensions and details of typical joint conditions. Include each form of tooled joint configuration, locations where more than one is required, and the location of each if it cannot be described in this Section.
- Colors required for each type of joint sealant, if more than one color is required.
- Locations for pre-construction and field quality-control adhesion testing.
- Coordinate with mockups specified in other Sections that contain joint sealants.

☐ **EXTERIOR EXPANSION JOINT COVER ASSEMBLIES**

- Locations and types of expansion joint cover assemblies. Include adequately dimensioned plans, sections, and details.
- Detail of joint corners.
- Joint size, movement capability, and the type of movement (thermal, wind sway, or seismic) for each expansion joint.
- IF REQUIRED FOR CLARITY - Three-dimensional illustration showing where expansion joint cover assemblies make transition of planes or change direction.
- Material types.
- Types of finish materials to be applied to expansion joint cover assemblies, if any.
- Continuity between floor, wall, and ceiling expansion joint cover assemblies.
- Locations and fire-resistance ratings of fire-rated expansion joint cover assemblies. Include UL designations.
- Drainage of moisture-barrier gutters and connections to plumbing if any.

18 DETAILS - OPENINGS

☐ **COORDINATION WITHIN THE SET**

- All doors types are tagged and tags are the same throughout.
- Coordinate with the Door Schedule, Hardware Groups, and elevations of door types.

☐ **COORDINATE WITH FLOOR PLANS, ELEVATIONS, DOOR SCHEDULE AND DOOR/FRAME ELEVATIONS**

- Tag of each door opening on plans and in a door and frame schedule.
- Hardware group for each door, tag with the door and in the Door Schedule.
- Hand of each door and degree of swing.
- Size, exposure, special clearances, and so forth, for each door
- Special characteristics of doors. Include fire-protection rating, sound rating, and radiation protection requirements.
- Special sill, head, joint, lite, louver, or meeting stile conditions affecting type, size, installation, or clearance of door hardware units.
- Mounting locations if different from those specified or indicated in referenced standards.

☐ **HOLLOW METAL DOORS AND FRAMES**

- Locations and elevations of aluminum frames. Clearly delineate between aluminum framing systems and other aluminum framing system applications such as interior aluminum framed doors, and glazed partitions.
- Fire ratings for aluminum frames (check ratings availability with manufacturer).
- Finish for interiors : Shop primed to be field painted. Note color.
- Finish for exteriors: Galvanized to be field painted. Note color.
- Glass type(s) and thicknesses if not specified or scheduled.
- Anchorage and support system.

19 DETAILS - EXTERIOR FINISHES

☐ **STUCCO AT PENTHOUSES**

- Locations and the extent of each type of cement plasterwork required.
- Details of exterior cement plaster, weather-resistant barriers installed over sheathing, sealant at V-grooves and other locations, flashing, and methods of draining water that gets behind plaster to the exterior.
- Ratings and requirements for fire-resistance-rated assemblies. Include design designations from a qualified testing agency or other means of establishing requirements acceptable to authorities having jurisdiction.
- Location of the following:
  - Insulation, thermal and acoustical.
  - Control and expansion joints (12 feet horizontally and 12 feet vertically).
  - Accessories.
  - Where cement plaster is used as a bed for tile or manufactured stone.
- Mockups if any.

20 DETAILS - SHAFT WALLS

☐ **SHAFT WALLS**

- Extent of each gypsum board shaft wall assembly. Tag is the same throughout,
- Design designations of a qualified testing agency that has determined the fire-resistance rating of the assembly.
- Locations and thicknesses of gypsum board or other finish panels, and the number of layers applied to the room or shaft side of the assembly for each application.
- Control joints location or include in sheet note.
- Locations requiring sound attenuation blankets or other acoustical treatment. Indicate the location of STC-rated assemblies.
- Locations of sprayed fire-resistive materials. Show details of shaft wall assemblies terminating at surfaces protected by sprayed fire-resistive material.
- Locations of building structure and other penetrations in gypsum board shaft wall assemblies.
- For elevator hoistways, locations of door frames, electrical boxes, elevator call buttons, elevator floor indicators, and similar items. Indicate details of door head and jamb framing.
- Locations of fixtures and handrails requiring supplementary framing or blocking.

21 DETAILS - ELEVATORS

☐ **HYDRAULIC ELEVATORS**

- COORDINATE the following with consultants:
  - Standby power to fused disconnect switches (or circuit breakers) for each elevator that must be able to operate on standby power. Include connections from auxiliary contacts in the transfer switch to elevator controllers.
  - Dedicated 120-V circuit in the machine room for each elevator controller.
  - Lighting, switches, and power outlets (120 V) in each machine room and elevator pit.
  - Fire-detection and -alarm system connections to elevator controllers.
  - Security-system (access-control) connections to elevator controllers.
  - Connections for the traveling cable on the electrical and communication Drawings, including the following:
    - 120-V power supply for car lighting and fan.
    - Telephone or intercom.
    - Firefighters' two-way telephone communication service.
    - Other services as appropriate (e.g., Muzak, security system, and closed-circuit television)
  - Heating, ventilation, and cooling of machine rooms on HVAC Drawings. Ensure that cooling is provided to maintain an adequate working temperature for microprocessor controls.
  - Sprinkler coverage of the machine room and shaft on fire sprinkler Drawings if required. NFPA 13 no longer requires sprinklers at the top of noncombustible shafts for passenger elevators that comply with ASME A17.1/CSA B44 and does not require sprinklers at the bottom of noncombustible shafts if combustible hydraulic fluids are not used. ASME A17.1/CSA B44 requires that the power be automatically disconnected to the affected elevator before or on applying water.
- Cab finishes: Coordinate with manufacturer’s representative for custom finishes.
- Railing at back wall as required

Finishes of controls in elevator cab and at hoistway walls.

22 SITE WORK

☐ **CHAIN LINK FENCES AND GATES**

- Locations of chain-link fences and gates and their relationship to structures and property lines.
- Coordinate with known underground utilities, landscape irrigation systems, or structures that could interfere with or be damaged by fencing installation.
- Plan layout and the extent of fence lines, terminal posts, and gates. Indicate chain-link fence types and locations if more than one type.
- Height of chain-link fence fabric.
- Line post size, type, and spacing and gate framework components.
- Diameters and depths of post footings. Indicate locations of pipe sleeves or voids in concrete for posts, and attachment of fence to other construction.
- Locations of rails and tension wires if other than standard top, intermediate, or bottom positions.
- Gate and leaf size. Indicate swing direction and required clearances. Show details of electric isolation for gate if any. For roller gates with bottom wheels show roller track installation or roller pad.
- Locations and identifications of gate-operating system devices. Indicate equipment base/pad and footing details, including reinforcements, mounting details, and required operating clearances for components of gate-operating system.
- Layout and sensitivity zone or pattern of each loop detection device.
- Locations of privacy slats and colors. Indicate each type if more than one.
- Extent and the arrangement of barbed wire and barbed tape at fence and at gates, if any.
- Barbed wire extension arms and the number of wires or coils if not specified.

- Location or notes for special fencing requirements, such as anti-lighting devices.

23 EXTERIOR FINISHES SCHEDULE

EXTERIOR FINISHES SCHEDULE SAMPLE

- Materials are grouped by types (all glass types, etc).
- Tags in the elevation are the same as in the Exterior Finishes Schedule.

These are examples to illustrate nomenclature and listing; products named are also examples.

CONCRETE PANELS:

- FRONT Face Finish: Troweled.
- BACK Face Finish: Smooth, as cast.
- Concrete Coating: Elastomeric, colors [insert].
- Product: [TEX-COTE®] [insert]

END OF TECH-CHECK GARAGE LIST