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Sacramento County Planning and Environmental Review (PER), in consultation with Sacramento County Building Permits and Inspection (BPI) and members of the North State Building Industry Association has prepared the below response to the Department of Housing and Community Development (HCD) AB 529 Adaptive Reuse Working Group's Request for Information (RFI).

Habitability

The layout of post-war buildings, which consist of the majority of office buildings in California, is not conducive to an easy conversion due to larger lot sizes and floorplate depth. Because of these large floor plate configurations, many units would have minimal to no access to exterior light and air without the required windows and would not be able to achieve the required 8% natural light for interior units nor the 4% outside fresh air ventilation.

To add the necessary interior light-wells to provide more windows and glass line for apartments would likely require extensive additional structural reinforcement to mitigate changes to existing structure, which is very costly and usually infeasible.

Water and Sewer Piping

- Most older buildings do not have the appropriate capacity for the infrastructure necessary for high-density uses, which include residential. Upgrading existing electrical and sewer capacities for building conversions in urban settings may be costs prohibitive and required partnership with local agencies.
- **Domestic Water Supply.** Water demands are based on number and type of plumbing fixtures being supplied. Based on the calculations the existing water supply may or may not be adequate. If a larger water supply is required, it may necessitate a larger supply and meter from the water purveyor supplying the building as well as a new larger building water supply.
- **Hot Water Demands.** Based on a design of a central plant or boiler/water heater room to supply all the residential units may be more efficient and economical than individual water heaters in each unit that also consume useful square footage. The type of appliance to heat the water would depend on recovery rate required for all the units. A hot water recirculating system would also be advantageous so water is not wasted waiting for the hot water to reach the fixture based on distance.
- **Sewer, Drain, Waste and Vent.** Most sewer services are 4" or larger based on the original design of the building. A common system can be used for the entire building including all units similar to an apartment complex. If the sewer line is not large enough to accommodate the reuse arraignments with the sewer department may need to be made to install a larger tap.

- **Gas vs. Electric.** For water heaters, boilers, HVAC systems, gas is more pragmatic and more economical to operate but based on the direction energy is going electric seems to be preferable. This would generally require heat pumps.
- **Materials.** Plastic materials for Drain, Waste, Vent, Water and Gas are more economical to purchase and install.

Energy Infrastructure

While some commercial buildings are equipped with 120/208 volt systems, most are designed with a service providing a voltage of 277/480 3 phase for efficiency, therefore they are metered at this voltage. In most cases these services would have to be changed to accommodate individual metering for residential application at 120/240 single phase. This could also require an additional transformer to boost the 120/208 to 120/240 for the sake of maintaining the designed efficacy of most household appliances. Other challenges may include providing tenants with access to their overcurrent protective devices.

Additional Challenges and Barriers to Adaptive Reuse

1. **Change of Use.** Change of use from office to residential triggers all recent building codes, seismic, ADA and energy codes, including Title 24. This can be the largest cost factor associated with any conversion, even if other items below are not at issue.
2. **Existing Building Conditions.** Uncertainty and unforeseen surprises while reconfiguring existing building elements lead to increase in construction costs in the middle of projects. Many times, as-built drawings of older buildings are not accurate and not complete leading to potential significant pitfalls in permit and inspection process.
3. **Structural.** Most office buildings have large floor plates with numerous large columns, making it challenging to configure apartments without columns in the middle of apartments.
4. **Policy.** Central business districts may have existing restrictions against housing use in adopted CCRs and design guidelines.
5. **Potential Opposition and Historic Designations.** The few historic pre-war buildings that may be most conducive to residential adaptive reuse likely have a historic designation making it difficult to alter building elements required to meet updated building and energy codes.