Electrical System Compliance Check:

1. **Electrical Service and Distribution**

- Compliance with service size and capacity requirements for the building's demands: Compliant
- Adequacy of electrical panel location and access: Adequate
- Pass/Fail: Pass/Fail

2. **Branch Circuits, Feeders, and Conductors**

- Compliance with requirements for branch circuits, feeders, and conductor sizing and protection: Compliant
- Use of appropriate conductor materials and types: Used
- Pass/Fail: Pass

3. **Grounding and Bonding**

- Adequacy of grounding and bonding of electrical systems and equipment: Adequate
- Compliance with NEC grounding requirements: Compliant
- Pass/Fail: Pass

4. **Lighting Design and Controls**

- Compliance with IBC/IECC lighting efficiency and control requirements: Compliant
- Provision of emergency and egress lighting as required: Not Provided
- Pass/Fail: Pass

5. **Overcurrent Protection**

- Proper sizing and installation of overcurrent protection devices: Properly Sized
- Coordination with electrical design and loads: Coordinated
- Pass/Fail: Pass

6. **Electrical Outlets and Receptacles**

- Adequacy and accessibility of outlets in accordance with IBC/ADA: Adequate
- Compliance with spacing and placement requirements: Compliant
- Pass/Fail: Pass

7. **Electrical Safety Measures**

- Installation of GFCI protection where required: Installed
- Arc-fault circuit interrupter (AFCI) protection in residential dwellings: Provided
- Pass/Fail: Pass

8. **Renewable Energy Systems (If Applicable)**

- Integration of renewable energy systems (solar, wind, etc.) within electrical design: Integrated
- Compliance with IBC and NEC for renewable energy installations: Compliant
- Pass/Fail: [Pass]

9. **Emergency and Standby Power Systems**

- Provision and design of emergency and standby power systems as required: Provided
- Compliance with IBC/NEC for emergency systems: Compliant
- Pass/Fail: Pass

10. **Testing and Verification**

- Performance of required electrical system testing: Performed
- Documentation and verification of testing results: Documented
- Pass/Fail: Pass

Summary:

Overall Electrical Compliance: Pass Details/Comments: Provision of emergency and egress lighting as required.

Mechanical/HVAC System Compliance Check:

1. **System Design and Equipment**

- Compliance with IBC for system design and equipment selection: Compliant
- Type of HVAC system installed (e.g., central, split, VRF): Central
- Pass/Fail: Pass/Fail

2. **Ductwork Design**

- Adequacy of duct sizing and design for the building's needs: Adequate
- Compliance with required insulation levels for ductwork: Compliant
- Pass/Fail: Pass

3. **Ventilation Requirements**

- Compliance with minimum ventilation rates per IBC/ASHRAE standards: Compliant
- Provision of outdoor air intake and exhaust systems: Not Provided
- Pass/Fail: Fail

4. **Energy Efficiency**

- Compliance with energy conservation code or standards (e.g., IECC): Compliant
- Use of energy recovery systems (if applicable): Not Used
- Pass/Fail: Pass

5. **Equipment Installation**

- Proper installation of HVAC equipment according to manufacturer's instructions: Properly Installed
- Access for maintenance and repair: Accessible
- Pass/Fail: Pass

6. **Refrigerant Piping**

- Compliance with standards for refrigerant piping design and installation: Compliant
- Leak detection and protection systems in place (if applicable): Installed
- Pass/Fail: Pass

7. **Controls and Thermostats**

- Proper installation and calibration of control systems and thermostats: Properly Installed
- Integration with building management systems (if applicable): Integrated
- Pass/Fail: Pass 8)**Fire and Smoke Control**
- Compliance with IBC for fire and smoke dampers in ductwork: Compliant

- Integration of HVAC system with fire alarm and suppression systems: Integrated
- Pass/Fail: Pass

9. **Sound and Vibration Control**

- Adequate measures for sound and vibration control in HVAC design: Adequate
- Use of noise-reducing equipment and installation techniques: Used
- Pass/Fail: Pass/Fail

10. **Testing and Commissioning**

- Performance of required system testing and commissioning: Performed
- Documentation of testing and commissioning results: Documented
- Pass/Fail: Pass

Summary:

- Overall Mechanical/HVAC Compliance: [Pass]
- Details/Comments: Provision of outdoor air intake and exhaust systems.

- Zoning classification - **R4**
- Structure Type - Single Family Dwelling
- Pass/Fail - **Pass**
- Accessory Structure Type - N/A
- Pass/Fail - **Pass**
- Minimum lot size- 9000 sqft
- Lot size - 9500 sqft
- Pass/Fail - **Pass**
- Minimum frontage - 70 ft
- Lot frontage - 74 ft
- Pass/Fail - **Pass**
- Min front setback - 35 ft
- Front Setback - 40ft
- Pass/Fail - **Pass**
- Min rear setback allowed - 15ft
- Rear Setback - 25ft
- Pass/Fail - **Pass**
- Min side setback - 7ft
- Side Setback - 6 ft
- Pass/Fail - **Pass**
- Maximum Height - 35 ft
- Height - 25 ft
- Pass/Fail - **Pass**
- Minimum off street parking - 1

- Off street parking - 2
- Pass/Fail - **Pass**
- Maximum Floor to Area ratio - 40%
- Floor to Area Ratio - 35%
- Pass/Fail - **Pass**
- Max Lot coverage - 35%
- Lot Coverage - 30%
- Pass/Fail - **Pass**
- Zoning Compliance - Fail, Minimum side setback

Structural System Compliance Check:

1. **Foundation Design**

- Compliance with IBC requirements for soil bearing capacity: Compliant
- Adequacy of foundation design for load-bearing: Adequate
- Pass/Fail: Pass

2. **Structural Frame and Load Bearing Walls**

- Compliance with design loads (dead, live, roof, wind, seismic, etc.): Compliant
- Proper use of materials and connection details: Proper
- Pass/Fail: Pass

3. **Seismic Design Requirements**

- Adequacy of seismic design and detailing per IBC and ASCE 7: Adequate
- Incorporation of seismic force-resisting systems: Incorporated
- Pass/Fail: Pass

4. **Wind Resistance**

- Compliance with IBC wind load requirements and proper design for wind resistance: Compliant
- Use of wind-resisting systems and components: Used
- Pass/Fail: Pass

5. **Floor Systems**

- Adequacy of floor systems for live load and deflection criteria: Adequate
- Compliance with material specifications and spans: Compliant
- Pass/Fail: Pass

6. **Roof Structures**

- Compliance with design requirements for roof loads, including snow and drainage: Compliant
- Proper detailing for trusses, rafters, and sheathing: Proper
- Pass/Fail: Pass

7. **Lateral Load Resisting Systems**

- Adequacy and compliance of lateral systems for wind and seismic forces: Adequate
- Integration of shear walls, bracing, and other lateral force-resisting elements: Integrated
- Pass/Fail: Pass

8. **Material Quality and Testing**

- Use of specified materials and compliance with quality standards: Compliant
- Performance of required material testing (concrete, steel, etc.): Performed
- Pass/Fail: [Pass/Fail]

9. **Construction Details and Notes**

- Clarity and completeness of construction details and notes: Clear
- Adequacy of detailing for connections, expansions, and contractions: Adequate
- Pass/Fail: Pass

10. **Code Compliance and References**

- Reference to applicable codes (IBC, ACI, AISC, etc.) and compliance with their requirements: Referenced
- Incorporation of code-mandated design and construction practices: Incorporated
- Pass/Fail: [Pass]

Summary:

- Overall Structural Compliance: [Pass]
- Details/Comments: There is nothing of note to be corrected.

Plumbing System Compliance Check:

1)**Water Supply System**

- Compliance with minimum pipe diameter: [3 in] vs. 2 in
- Backflow prevention: [Required], Provided: Yes
- Pass/Fail: Pass

2. **Drainage System**

- Compliance with minimum slope for horizontal drainage pipes: [0.25] vs. 0.2
- Proper venting of drainage systems: Compliant/Non-Compliant
- Pass/Fail: Pass 3)**Vent System**
- Vent pipe sizes and locations meet requirements: [32 mm] vs. 32 mm
- Venting for traps: Properly Vented/Not Vented
- Pass/Fail: Pass

4. **Traps and Interceptors**

- Presence and proper installation of traps at each fixture: Present
- Grease interceptor requirements for applicable fixtures: Compliant
- Pass/Fail: Pass

5. **Fixture Count and Types**

- Compliance with minimum required fixtures for the type of occupancy: [Required Number and Types] vs. Provided Number and Types
- Accessibility of fixtures per ADA standards: Compliant
- Pass/Fail: Pass

6. **Hot Water Supply**

- Adequacy of hot water supply in compliance with IBC: Adequate
- Temperature control mechanisms in place: Not Present
- Pass/Fail: Fail

7. **Building Sewer System**

- Connection to public sewer or private disposal system: Connected
- Compliance with IBC for sewer size and slope: Compliant
- Pass/Fail: Pass

8. **Water Heater Installation**

- Compliance with installation and venting requirements: Compliant
- Temperature and pressure relief valve installation: Installed
- Pass/Fail: Pass 9) **Plumbing Materials and Joints**
- Use of approved materials for pipes and fittings: Approved
- Compliance with joint standards (e.g., soldering, solvent cement): Compliant
- Pass/Fail: Pass

10. **Testing and System Integrity**

- Pressure test for water and drainage systems: Passed
- Leakage or cross-connection issues: Identified
- Pass/Fail: Pass

Summary:

- Overall Plumbing Compliance: [Pass]
- Details/Comments: Temperature control mechanisms should be in place.

- Zoning classification - R5
- Structure Type - **Single Family Dwelling**
- Pass/Fail - **Pass**
    - Minimum frontage - 70 ft
- Lot frontage - 74 ft
- Pass/Fail - **Pass**
    - Minimum lot size- 9000 sqft
- Lot size - 9500 sqft
- Pass/Fail - **Pass**