

CLARK COUNTY, NEVADA

FIRE PREVENTION BUREAU PLANS CHECK DIVISION

4701 W. Russell Road, Las Vegas, NV 89118

Fire Sprinkler System Checklist

GENERAL INFORMATION:

1. Name: _____ Permit Number _____

2. **NICET Seal and Signature provided** Y N

3. Clark County Fire Prevention Bureau General Notes: Y N

SITE PLAN:

1.1 Underground piping plan provided: (N13: 23.1.3(11), (28)) N/A Y N

1.2 North arrow shown correctly on all drawings: (N13: 23.1.3 (3)) Y N

1.3 Graphic scale shown correctly on all drawings: (N13: 23.1.3 (33)) Y N

1.4 Fire Department Connection (FDC) location is acceptable: (IFC: 912) N/A Y N

1.5 Exterior horn/strobe is provided at the FDC: (IFC: 903.4.2) N/A Y N

1.6 Fire riser room construction in accordance with code (IFC: 916) N/A Y N

(dedicated room with exterior access, minimum size and HVAC/lighting)

1.7 UG Nodes shown and match Hydraulic Calculations (IFC 23.13 (38)) N/A Y N

COMMENTS / EXPLANATIONS:

HAZARD CLASSIFICATION:

2.1 Correct hazard classification has been selected for each occupancy:

(N13: Ch. 5 (A5.1, A5.2, A5.3, A5.4, A5.5, A5.6), 23.1.3 (8),) Y N

2.2 Storage over 12 ft. in height is properly classified: (N13: 23.1.3.1 (3)) N/A Y N

2.3 Rack storage commodities and arrangement is clearly indicated (N13: 23.1.3.1 (3)): N/A Y N

COMMENTS / EXPLANATIONS:

BUILDING CONSTRUCTION FEATURES:

- 3.1 Adequate building section(s) is (are) provided to scale (N13: 23.1.3; 23.1.3 (4)) Y N
- 3.2 Adequate piping plan(s) is (are) provided to scale (N13: 23.1.3)** Y N
- 3.3 Adequate reflected ceiling is provided to scale (N13: 23.1.3) N/A Y N
- 3.4 Construction is identified either Non-combustible/Combustible (N13: 23.1.3.1(12)) N/A Y N
- 3.5 All combustible concealed spaces are identified and properly protected: (N13: 8.15.1)** N/A Y N
- 3.6 All exterior projections are identified (N13: 8.15.7) N/A Y N
- 3.7 Adequate plans and details are provided to identify whether construction is obstructed or unobstructed: (N13: 3.7.1, 3.7.2, 8.6.4.1.1/8.6.4.1.2, 8.8.4.1.1/8.8.4.1.2, 8.11.4.1.1/8.11.4.1.2) N/A Y N
- 3.8 Elevator Hoistways and Machine Rooms (N13:8.15.5) N/A Y N
- 3.9 Garage Doors are identified and protected (N13:8.4.2(3), A8.5.5.3.1) N/A Y N
- 3.10 Fuel-fired appliance locations are identified in closets and attics: (13R/13D)** N/A Y N

RISER AND VALVE ARRANGEMENTS:

- 4.1 Riser/system control detail is acceptable: (N13: Ch. 7 ref. A.8.16.1.1) N/A Y N
- 4.2 Check valve provided is acceptable: (N13: 8.16.1.1.3, ref. A8.16.1.1) N/A Y N
- 4.3 Control valve is acceptable: (N13: 8.16.1.1.1, ref. A8.16.1.1) N/A Y N
- 4.4 Water flow/alarm devices acceptable: (N13: 6.9) N/A Y N
- 4.5 Pipe support (4-way brace, hangers, pipe stands, etc.) is acceptable: (N13: Ch. 9) N/A Y N
- 4.6 FDC connection to sprinkler system is acceptable: (N13: 6.8; 8.16.1.1.) N/A Y N
- 4.7 Hydraulic calc plate detail acceptable (N13: 25.5) N/A Y N
- 4.8 General information sign detail acceptable (N13: 25.6) N/A Y N
- 4.9 Spare sprinkler stock acceptable (N13:6.2.9) N/A Y N
- 4.10 Antifreeze system riser/loop is acceptable (N13.7.6.3): N/A Y N
- 4.11 Pressure relief valve is provided on all wet system(s): (N13: 7.1.2) N/A Y N
- 4.12 Water pressure gauges are provided above and below the system check valve: (N13: Ch.7-Wet 7.1.1, Dry 7.2.1) Y N

- 4.13 Inspector’s test location(s) is (are) acceptable: (N13: 8.17.4) N/A Y N
- 4.14 Auxiliary drains for wet/dry systems are provided: (N13: 8.16.2.5) N/A Y N
- 4.15 Main drains are sized properly: (N13: Table 8.16.2.4.2) Y N
- 4.16 All sprinkler control valves are supervised: (IFC 903.4) N/A Y N
- 4.17 Type of system selected is acceptable (e.g. – wet, dry, etc.): (N13: Ch. 7) Y N

COMMENTS / EXPLANATIONS: _____

PIPING

- 5.1 Piping plan clearly indicates diameters and lengths of all piping (N13: 23.1.3 (20)) Y N
- 5.2 Hanger details, including trapeze hangers, provide adequate information: (N13: 9.1; 9.2) Y N
- 5.3 Hangers are shown on piping in accordance with (N13: Table 9.2.2.1 (a)) Y N
- 5.4 Arm-overs hangers are shown in accordance with (N13: Table 9.2.3.5) Y N
- 5.5 Earthquake bracing details provide adequate information: (N13:9.3) N/A Y N
- 5.6 Earthquake bracing calculations are acceptable: (N13: 9.3) N/A Y N
- 5.7 Earthquake bracing shown on plans and match spacing per calculations
(N13: Lat. - 9.3.5.5, Long.-9.3.5.6, 4-Way-9.3.5.7/9.3.5.8) N/A Y N
- 5.8 Seismic Separation needed (N13: 9.3.3, Fig. A9.3.3(a)) N/A Y N
- 5.9 Branch line restraint details provided and shown on drawing in accordance with Table 9.3.6.4(a)
(N13: 9.3.6) Y N
- 5.10 Dry-pipe not gridded (N13: 7.2.3.10) N/A Y N
- 5.11 Pipe-scheduled pipe sizes are acceptable: (N13: 8.15.20.4,11.2.2, 23.5) N/A Y N
- 5.12 Total area for each system is within the acceptable area limitation: (N13: 8.2) N/A Y N
- 5.13 Approximate dry-pipe system capacity is indicated: (N13: 23.1.3 (18)) N/A Y N
- 5.14 Anti-freeze system capacity is indicated: (N13:23.1.3 (46); 23.4.4.7.2) N/A Y N
- 5.15 Anti-freeze system solution is acceptable: (N13:7.6.2, 23.1.3 (46)) N/A Y N
- 5.16 Letter from water purveyor for use of anti-freeze provided (IFC: 903.3.8)** N/A Y N
- 5.17 Pressure controlling valves, location and settings are acceptable (N13: 23.1.3 (44)) N/A Y N
- 5.18 Pitching of dry system piping, indicates direction and slope of pitched piping
(N13: 8.16.2.3) N/A Y N

5.19 Dry-pipe systems are designed to have water reach inspector test orifice within 60 seconds of opening inspector test valve: (N13: 7.2.3.2) N/A Y N

COMMENTS / EXPLANATIONS: _____

SPRINKLER HEAD SPACING AND INFORMATION:

6.1 Complete material submittal, including pipe, sprinklers, valves, etc., is provided: Y N

6.2 Sprinkler head spacing is per listing: (N13: Ch. 8) Y N

6.3 Obstructions are identified and sprinkler positions avoid obstructions: (N13: Ch. 8 Ref: SSU/SSP-8.6.5.1.2, HSW-8.7.5.1.3, E.C. SSU/SSP-8.8.5.1.2, E.C HSW-8.9.5.1.3, Res. SSU/SSP-8.10.6.1.2, Res. HSW-8.10.7.1.3, CMSA-8.11.5.1.2, ESFR-8.12.5.1.1) N/A Y N

6.4 “Small Room” rule has been properly applied: (N13: 3.3.21, 8.6.2.1.2.1, 8.6.3.2.4 ref. A8.6.3.2.4 (a)-(d)) N/A Y N

6.5 Deflector distances acceptable: (N13: Ch. 8) Y N

6.6 Minimum of 18” clearance is provided from deflectors to top of storage: (N13: Ch. 8) N/A Y N

6.7 Minimum 3 ft clearance is provided from CMSA/ESFR deflectors to top of storage: (N13: 8.11.5.2.1.1; 8.12.6) N/A Y N

6.8 Make, type, model, K-factor, temperature rating, and SIN are indicated for ALL sprinklers: (N13: 23.1.3 (13)) Y N

6.9 Sprinkler head counts are correct (per riser / per floor): (N13: 23.1.3 (16)) N/A Y N

6.10 Skylights, glass roofs and ceiling pockets are properly protected: (N13: 8.5.7; 8.6.7; 8.8.7) N/A Y N

6.11 Sprinkler response type (QR vs SR) is acceptable: (N13: 8.3.3) Y N

6.12 Sprinkler temperature rating is acceptable: (N13: 8.3.2) Y N

COMMENTS / EXPLANATIONS: _____

HYDRAULIC CALCULATIONS:

7.1 System design criteria (i.e. – density & minimum remote area size) is correct: (N13: Ch. 11, Ch. 12, Ch. 22, storage chapters) Y N

7.2. Remote area sizing calculations provide on plans:

- (N13: Ch. 11, Ch. 12, Ch. 22, storage chapters) Y N
- 7.3 Remote area selected is acceptable: (N13: 23.4.4)** Y N
- 7.4 Waterflow information is current (i.e. – no more than one year old): (IFC 507.4.2)** Y N
- 7.5 Minimum 10 psi safety factor provided in each calculation: (N13: 23.4.1.7)** Y N
- 7.6 Correct inside/outside hose allowance is added in the proper location: (N13: 11.1.6; 12.8) Y N
- 7.7 Sprinkler head K-factors match the drawings: (N13: 23.4)** Y N
- 7.8 Minimum required end head flow and pressure are acceptable: (N13: 23.4.4.10)** Y N
- 7.9 Hydraulic reference nodes match the drawing: (N13: 23.1.3 (38)) Y N
- 7.10 Correct Hazen-Williams “C” values are used: (N13: 23.4.3.2; Table 23.4.4.7.1)** Y N
- 7.11 Elevations match the drawing: (N13: 23.1.3 (41))** Y N
- 7.12 Pipes inside diameters used match the drawing and cut sheets: (N13:23.1.3 (19))** Y N
- 7.13 Fitting counts match the drawing: (N13: Table 23.4.3.1.1) Y N
- 7.14 Pipe lengths match the drawing: (N13: 23.1.3 (20)) Y N
- 7.15 Fixed pressure loss devices are properly included: (N13: 23.4.4.7 (10))** N/A Y N
- 7.16 Maximum velocity does not exceed 32 feet per second: (N13: 23.4.1.6)** Y N
- 7.17 Gridded system(s) is (are) “peaked”: (N13: 23.4.4.4)** N/A Y N
- 7.18 Grid “flow diagram” showing quantities and directions of flow is included:
(N13: 23.3.3 (15)) N/A Y N
- 7.19 Additional fixed flow(s) is (are) added at the proper location(s):
(N13: 11.1.6; 12.8) N/A Y N
- 7.20 Remote area has been increased for unprotected combustibile concealed spaces:
(N13: 11.2.3.1.4(3), (4))** N/A Y N
- 7.21 If room design is used, specify the wall ratings and methods of opening protection
(N13: 11.2.3.3.5) N/A Y N
- 7.22 Additional flow(s) for domestic demand is (are) added at the proper location(s):
(13R/13D) N/A Y N

COMMENTS / EXPLANATIONS: _____

Signature(s) / Date(s): _____

Comments: _____

Note: Bolded items are considered major deficiencies.

Note: This checklist is a Quality Assurance tool identifying the minimum items for review. This checklist does not permit any code deficient design feature or serves as any relief from compliance with adopted codes and standards. This checklist does not take the place of the Fire Code and does not take precedence over any requirement from the Fire Code or adopted reference standards and codes. Where a conflict exists between this checklist and the Fire Code or adopted references standards and codes, the requirements of adopted codes and standards shall take precedence over this checklist. Where a design feature is regulated by the Fire Code or an adopted code or standard, but is not specified within this checklist, a correction letter may still be issued to require compliance with the Fire Code and/or adopted code or standard.