

Submittal Review Checklist

		NFPA 13 2016	NFPA 13 2019
201	_____ Architectural plans	IBC 107.2.2	IBC 107.2.2
202	_____ Owner's certificate	4.3, 23.1.4	4.2, 27.1.4
203	_____ Water supply treatment	24.1.5	5.1.5
204	_____ Shop drawings	23.1.3	27.1.3
205	_____ Pipe schedule system	23.7	27.5
206	_____ Hydraulic calculations	23.3	27.4
207	_____ Water supply	23.2	4.6
208	_____ Summary sheet	23.3.5.2	27.4.5.2
209	_____ Graph sheet	23.3.5.3	27.4.5.3
210	_____ Supply analysis	23.3.5.4	27.4.5.4
211	_____ Node analysis	23.3.5.5	27.4.5.5
212	_____ Detailed worksheet	23.3.5.6	27.4.5.6
213	_____ Cut sheets	23.1.4	27.1.4
	_____ Sprinklers		
	_____ Piping		
	_____ Equipment		
	_____ Hangers		
	_____ Seismic bracing		
214	_____ Codes and standards	IBC 107.2.1	IBC 107.2.1
	_____ Codes		
	_____ Standards		
	_____ Other		
215	_____ Use group	IBC 302.1	IBC 302.1
216	_____ Classification of hazards	5.1	4.3
217	_____ Commodity	5.6	20.3
218	_____ System protection area limitation	8.2	4.5

Review Notes:

Design Review Checklist

		NFPA 13 2016	NFPA 13 2019
301	Water demand	11.2.3.1.1	19.3.3.1.1
302	Density/Area curves	Fig 11.2.3.1.1	Fig 19.3.3.1.1
303	Water supply	11.2.3.2.1	19.3.3.2.1
304	Sprinklers	11.2.3.2.2	19.3.3.2.2
305	Quick response decrease	11.2.3.2.3	19.3.3.2.3
306	Sloped ceiling increase	11.2.3.2.4	19.3.3.2.4
307	Dry pipe and dbl interlock increase	11.2.3.2.5	19.3.3.2.5
308	High temperature decrease	11.2.3.2.6	19.3.3.2.6
309	Sum of multiple increases/decreases	11.2.3.2.7	19.3.3.2.8
310	Room design	11.2.3.3	19.3.3.3
311	Opening protection	11.2.3.3.5	19.3.3.3.5
312	Special design area and approaches	11.2.3.4 & 11.3	19.3.3.4 & 19.4
313	Service chutes	11.2.3.4.1	19.3.3.4.1
314	Canopies	11.2.3.4.2	19.3.3.4.2
315	Duct sprinklers	11.2.3.4.3	19.3.3.4.3
316	Residential sprinklers	11.3.1	19.4.1
317	Exposure protection	11.3.2	19.4.2
318	Water curtain	11.3.3	19.4.3
319	Comb. concealed space 4/12 pitch	11.3.4	19.4.3.4
320	Adjacent hazards	11.1.2	19.2.2
321	Hose stream	11.1.6	19.2.6
322	Pipe schedule design	23.7	27.5
323	Water supply	11.2.2.1	19.3.2.1
324	Size of risers	23.7.1.4	27.5.1.4
325	Light hazard	23.7.2	27.5.2
326	Ordinary hazard	23.7.3	27.5.3
327	Special situations & exemptions	8.1.1 & 8.15	9.1.1 & 9.3
328	Concealed spaces	8.15.1.1	9.3.18.1
329	Unsprinklered concealed spaces	8.15.1.2	9.2.1
330	Vertical shafts	8.15.2	9.3.3
331	Stairways	8.15.3	9.3.4
332	Vertical openings	8.15.4	9.3.5
333	Elevators	8.15.5	9.3.6
334	Exterior projections	8.15.7	9.3.20
335	Exterior Soffits, eaves, overhangs	8.15.1.2.18	9.2.1.19
336	Dwelling unit bathrooms & closets	8.15.8	9.2.4
337	Hospital closets	8.15.9	9.2.5

Review Notes:

Hydraulic Review Checklist

	NFPA 13 2016	NFPA 13 2019
401 _____ Working plans	23.1	27.1
402 _____ Summary sheet analysis	23.3.5.2	27.4.5.2
403 _____ General information	23.3.5.2	27.4.5.2
404 _____ Contractor, technician, name	23.3.5.2	27.4.5.2
405 _____ Type, use, hazard, commodity	23.3.5.2	27.4.5.2
406 _____ System configuration		
407 _____ Remote design area(s)	23.4.4.7	27.2.4.7
408 _____ System design		
409 _____ Type: wet, dry, single, dbl, preaction, deluge		
410 _____ Dry/preaction system volume	A.7.2.3	A.8.2.3
411 _____ Design area (square feet)		
412 _____ Density		Fig 19.3.3.1.1
413 _____ Area per sprinkler		
414 _____ Total water		
415 _____ Graph sheet analysis	23.3.5.3	27.4.5.3
416 _____ Supply analysis	23.3.5.4	27.4.5.4
417 _____ Node analysis	23.3.5.5	27.4.5.5
418 _____ Worksheet analysis	23.3.5.6	27.4.5.6
419 _____ Node tags	23.3.5.6	27.4.5.6
420 _____ Pressure	23.4.2.1.1	27.2.2.1.1
421 _____ K-factor	T 6.2.3.1	T 7.2.2.1
422 _____ Flow		
423 _____ Pipe diameters	T A.6.3.2	T A.16.3.2
424 _____ Pipe lengths	23.4.3	27.2.3
425 _____ Equivalent pipe length for fittings	23.4.3	27.2.3
426 _____ Sprig and drop lengths	23.4.3	27.2.3
427 _____ C-factor	T 23.4.4.8.1	T 27.2.4.8.1
428 _____ Equipment friction losses	23.4.4.8	27.2.4.8
429 _____ Hose stream and Duration	T 11.2.3.1.2	19.3.3.1.2
430 _____ Calculation path	23.4.1.6	27.2.1.6
431 _____ Graph sheet	23.3.5.3	27.4.5.3

Review Notes:

Systems Review Checklist

		NFPA 13 2016	NFPA 13 2019
501	Listings	6.1.1	7.1.1
502	Pipe and fittings	6.3, 6.4	7.3, 7.4
503	Fire department connection (also Step 803)		
504	Installation	8.17.2.2	16.12.2
505	Size	8.17.2.3	16.12.4
506	Arrangements	8.17.2.4	16.12.5
507	System attachments	6.8.3 - 6.8.5	16.11.1 - 16.11.9
508	Waterflow alarms	8.17.1	16.11.2
509	Gauge connection	8.17.3	16.13
510	Hangers	9.1	17.1
511	Trapeze	9.1.1.7	17.3
512	Rods	9.1.2	17.2.1
513	Fasteners(concrete)(steel)(wood)	9.1.3,9.1.4,9.1.5	7.2.2, 17.2.3, 17.2.4
514	Hanger spacing	9.2.2, 9.2.4	17.4.2, 17.4.4
515	Unsupported lengths	9.2.3.4	17.4.3.4
516	Unsupporte armover lengths	9.2.3.5	17.4.3.5
517	Seismic bracing	9.3	18.1
518	Flexible couplings	9.3.2	18.2
519	Separation assembly	9.3.3	18.3
520	Clearance criteria	9.3.4	18.4
521	Sway bracing	9.3.5	18.5
522	Lateral bracing	9.3.5.5	18.5.5
523	Longitudinal bracing	9.3.5.6	18.5.6
524	Riser bracing	9.3.5.8	18.5.8
525	Fasteners	9.3.5.12	18.5.12
526	Restraints	9.3.6	18.6
527	Wet pipe systems	7.1	8.1
528	Pressure gauges	7.1.1	8.1.1
529	Relief valves	7.1.2	8.1.2
530	Drainage	8.16.2.2	16.10.2
531	Inspectors test	8.17.4.1	16.14.1
532	(Dry)(Preaction) pipe systems		
533	Pitch	8.16.2.3	16.10.3
534	Pressure gauges	7.2.1, 7.3.1.3	8.2.1, 8.3.1.3
535	Sprinklers	7.2.2, 7.3.2.5	8.2.2, 8.3.2.5
536	Releasing devices	7.3.1.6	8.3.1.6
537	Size/volume	7.2.3, 7.3.2.2	8.2.3, 8.3.2.2
538	Quick opening devices	7.2.4	8.2.4
539	Air pressure and supply	7.2.6	8.2.6
540	Inspectors test	8.17.4.2	16.14.2
541	Deluge system	7.3	8.3
542	Pressure gauges	7.3.1.3	8.3.1.3
543	Releasing devices	7.3.1.6	8.3.1.6

Positioning Review

2013 NFPA 13 2016 NFPA 13		Standard Upright/ Pendent 8.6	Sidewall 8.7	Extended Coverage Upright/ Pendent 8.8	Extended Coverage Sidewall 8.9	Residential 8.10	CMSA 8.11	ESFR 8.12
		A	B	C	D	E	F	G
601	Area of coverage 8.X.2.2					8.10.2.1		
602	Distance of sprinklers 8.X.3.1							
603	Maximum distance from walls 8.X.3.2							
604	Minimum distance from walls 8.X.3.3					8.10.4.6		
605	Below ceiling 8.X.4							
606	Obstruction less than 18 inches 8.X.5.2					8.10.6.2	<36" wide	
607	Obstruction greater than 18 inches 8.X.5.3					8.10.6.3	>24" wide	
608	Clearance to storage 8.X.6					8.5.6		
609	Skylights 8.5.7							
610	Ceiling pockets 8.X.7		NA		NA	8.10.8	NA	NA

Positioning Review

9

2019 NFPA 13		Standard Upright/ Pendent	Sidewall	Extended Upright/ Pendent	Extended Coverage Sidewall	Residential	CMSA	ESFR
		A	B	C	D	E	F	G
601	Area of coverage	10.2.4	10.3.3	11.2.2	11.3.3	12.1.6.1	13.2.5	14.2.8
602	Distance of sprinklers	10.2.5.1	10.3.4.1	11.2.3.1	11.3.4.1	12.1.7.1	13.2.6.1	14.2.9.1
603	Maximum distance from walls	10.2.5.2	10.3.4.2	11.2.3.2	11.3.4.2	12.1.7.2	13.2.6.2	14.2.9.2
604	Minimum distance from walls	10.2.5.3	10.3.4.3	11.2.3.3	11.3.4.3	12.1.7.3	13.2.6.3	14.2.9.3
605	Below ceiling	10.2.6.1	10.3.5.1	11.2.4.1	11.3.5.1	12.1.8	13.2.7.1	14.2.10.1
606	Obstruction less than 18 inches	10.2.7.2	10.3.6.2	11.2.5.2	11.3.6.2	P:12.1.10.2 S:12.1.11.2	13.2.8.2	14.2.11
607	Obstruction greater than 18 inches	10.2.7.3	10.3.6.3	11.2.5.3	11.3.6.3	P:12.1.10.3 S:12.1.11.3	13.2.8.3	
608	Clearance to storage	10.2.8	10.3.7	11.2.6	11.3.7	NA	13.2.9	14.2.12
609	Skylights	9.3.16	9.3.16	9.3.16	9.3.16	9.3.16	9.3.16	9.3.16
610	Ceiling pockets	10.2.9	NA	11.2.8	NA	12.1.12	NA	NA

701 _____ Piping materials
702 _____ Depth of cover
703 _____ Damage protection
704 _____ Method of joint restraint

NFPA 13 2016	NFPA 13 2019
10.1	6.1
10.4	6.4
10.4	6.4
10.6	6.6

Review Notes:

	NFPA: 2016 2019	IBC/IFC 2015-2018
801 _____ Architectural plans		
802 _____ Tradeups(NPFA 13)(NPFA 13R)		
803 _____ Fire Department Connection Location		912.2
804 _____ Access		912.4
805 _____ Clear space and Protection		912.4.2
806 _____ Riser and fire pump rooms		901.8 / 901.4.6
807 _____ Sufficient working clearance		901.8 / 901.4.6
808 _____ Clearance around electrical equip.	70: 110-26	
809 _____ Fire pump suction flange	20: 4.15	
810 _____ Equipment removal and path		901.8 / 901.4.6
811 _____ Unobstructed path		901.8 / 901.4.6
812 _____ Fire pump room ratings		913
813 _____ Openings and penetration protec.		913
814 _____ Fire pump room pre-planning	20: 4.3.1	
815 _____ Room temperature		913
816 _____ Location of dry pipe valve	2016: 7.2.5.1 2019: 8.2.5.1	
817 _____ Location of preaction / deluge	2016: 7.3.1.8.2 2019: 8.3.1.8.2	
818 _____ IBC areas w/fire detection		903.3.1.1.1
819 _____ 13R Balconies, decks, patios		903.3.1.2.1
820 _____ High rise		
821 _____ Water supply for over 420 feet		403.3.2
822 _____ Secondary water		403.3.3
823 _____ Floor Control Valves	2016: 8.2.4 2019: 16.9.11	403.2.1/903.4.4
824 _____ Hose thread compatibility		903.3.6
825 _____ Supervision		903.4
826 _____ Monitoring		903.4.1
827 _____ Exterior alarm		903.4.2
828 _____ Backflow prevention		IPC: T 608.1

Review Notes: