

CDPHE - WQCD - Engineering Section DESIGN REVIEW MATRIX

Effective Date: Jul. 1, 2016 - Added lead and copper compliance issues.

COMPLETE DESIGN SUBMITTAL

STREAMLINED SUBMITTAL

SUBMITTAL NOT REQUIRED

\* - PE Required for Community Water Systems Only

++ - Case by Case, usually required

Project Type	CLASSIFICATION New Construction (NC) Substantial Mod (SM) Streamlined (SL) Op & Maint. (OM)	Project Description	PE Req'd?*	BDR COMPONENTS										Plans and Specifications
				Application/ Basic Info	Contamination Sources	Water Quality Data	PFD	Hydraulic Profile	Cap. Eval + Design Calcs.	Monitoring and Sampling Eval.	Geotech. Report	Residuals Plan	Ops Plan	
WTP - New	NC#	New construction of a physical water treatment plant - building, treatment, appurtenances.	Y	X	X	X	X	X	X	X	X	X	X	X
WTP - New	NC#	Adding chlorination to an unchlorinated well (no building, just chlorine feed to a previously approved source)	Y	X	X	X	X	X	X	X	X		X	X
WTP - New	NC#	Adding booster chlorination within Distribution	Y	X	X		X		X				X	X
WTP - Exp.	SM	Increasing "Rated Capacity" of a treatment plant - including modification to any process which could increase capacity - filter upgrades, lamella plates, baffling clearewell, higher capacity pumps, etc.	Y	X		X	X	X	X				X	X
WTP - Exp.	SM#	Addition of a new treatment process to an existing treatment plant (e.g. adding UV, or a PAC system) - no new buildings	Y	X		X++	X	X	X		X		X++	X
WTP - Exp.	SM#	Addition of a new treatment process to an existing treatment plant (e.g. adding UV, or a PAC system) - new buildings	Y	X	X	X++	X	X	X		X	X	X++	X
WTP - Mod.	SM#	Changing the type of primary disinfection process (e.g. gas chlorine to hypochlorite).	Y	X		X	X		X		X			X
WTP - Mod.	SM#	Adding new chemical feed equipment to the treatment plant (e.g. changing from Soda Ash to Sodium Hydroxide).	Y	X		X	X		X		X++			X
WTP - Mod.	SL#	Ceasing to use a treatment process for a regulated contaminant or rule - taking it out of service for 1 year or more.	N	X			X				X			X
WTP - Mod.	SL#	Decommissioning any treatment process permanently - taking it out of service so it cannot be restarted, removing equipment, etc.	N	X			X				X			X
WTP - Mod.	SL	Changing the location of primary disinfection	N	X		X	X		X		X			X
WTP - Mod.	SL	Replacing the media in a granular media filter with different media configuration.	N	X		X		X	X		X			X
WTP - Mod.	SL	Addition of aircour or changing of underdrain system	N	X				X						X
WTP - Mod.	SL#	Changing primary coagulant type - no new equipment needed.	N	X		X			X		X		X	X
WTP - Mod.	OM	Replacing the media in a granular media filter with similar spec'd media.	N											
WTP - Mod.	OM	Adding VFDs to Pumping - No change in capacity	N											
WTP - Mod.	OM	Changing floc aid or filter aid polymer types or ceasing to use them - no new equipment	N											

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WTP - Mod.	OM	Changing chemical feed pumps with similar pumps for same chemical	N											
Tank - New	NC	Addition of a new storage tank	Y	X	X			X	X	X	X		X	X
Tank - Mod.	SM	All changes to tanks effecting venting capacity	Y	X					X					X
Tank - Mod.	SL	Projects including all of the following: relining storage, adding/modifying: hatches, corrosion protection, overflows	N	X										X
Tank - Mod.	OM	Overflows and Vents - Screening or Flapper Valves to Protect Potable Water	N											
Source - New	NC#	Addition of a new groundwater source	Y	X	X	X	X	X	X	X	X			X
Source - New	NC#	Adding new surface water or GWUDI source - direct filtration or bag & cartridge	Y	X		X	X	X						X
Source - Mod.	SM#	Re-drill of a groundwater well	Y	X	X	X	X	X	X	X	X			X
Source - New	SL#	Adding new surface water or GWUDI source - membranes or conventional treatment	N	X		X	X	X						X
Source - Mod.	SL	Modifications to existing intakes, infiltration galleries, GWUDI Wells - direct filtration or bag & cartridge	N	X		X	X	X						X
Source - Mod.	OM	Modifications to existing intakes, infiltration galleries, GWUDI Wells - membranes or conventional treatment	N											
SRF Funded - Any type	NC#	All SRF Funded New Construction and MODIFICATIONS	Y	X	X	X	X	X	X	X	X	X	X	X

# - Pursuant to Regulation 11, Section 11.26(8) - Items marked with this symbol (#) will require an evaluation of lead and copper rule compliance. Refer to Department FAQ for scope of a lead and copper review.

Exempt new source and long term treatment changes are as follows - all other source and treatment changes will be evaluated for lead and copper rule compliance :

- Addition of copper sulfate in the source water
- Addition of powder activated carbon
- Relocation of existing approved chemical (e.g. Permanganate, Chlorine or ClO2)
- Changes of primary coagulant with the same chemical formula (e.g. two different brands of PACl or Alum)
  - Review is required for a change of primary coagulant type – e.g. Aluminum sulfate to Aluminum chloride; Ferric to Alum; etc.
- Changes/Additions of coagulant aid, floc aid, or filter aid (polymers)
- Physical modifications to flocculation or sedimentation
- Changes/modifications to filtration within the same family of filters (e.g. conventional media change out, microfiltration module replacement, etc.)
- Existing GW system reclassified to GWUDI – only adding Bag or Cartridge or micro (ultra) filtration with no coagulant addition
- Sediment removal for groundwater (no coagulant added)
- Physical changes to storage tanks, addition of distribution system storage tanks
- Relocating a surface water source within the same segment (similar water quality excluding GWUDI)

If a lead and copper review is triggered pursuant to Section 11.26(8), water quality data will be required in addition to what is required in Section 1.2.3 of the Design Criteria. Water quality parameters include (can be ranges): pH, temperature, alkalinity, calcium, and calculated LSI values.