City of Newton
Department of Public Works, Engineering
201 E 6th St. • Newton, KS 67114
TEL 316 284-6020

SWCPS – Stormwater Construction Plan Submittal Checklist

Project Name _____ Date _____ New or Expansion (N/E)? _____

Project Acreage _____ Existing Impervious SF _____ Proposed Impervious SF _____ Disturbed Acreage _____

Applicant:
Name _____
Address: _____
Phone: _____
Email: _____

Engineer:
Name: _____
Address: _____
Phone: _____
Email: _____

Construction Plan Review Submittal Package Requirements Applicant shall select all applicable items below and provide with the submittal.			
General Requirements			
☐	1.		Cover letter stating the purpose of the submission, describing site drainage, stormwater management objectives, and how the proposed stormwater management plan will meet the objectives and be implemented.
☐	2.		Written Response to Comments
☐	3.		All projects disturbing 1 acre or more shall be required to file a Notice of Intent (NOI) with Kansas department of Health and Environment (KDHE). Water quality structures or features shall be required per Manual for Construction Site - Best Management Practices (available on the City's Stormwater Management page).
☐	4.		An engineering drainage study will be required for all projects to determine the impact of the proposed development on the existing drainage system and the need for detention. The report shall be submitted to the City with the preliminary plat or prior to any development in previously platted but yet undeveloped areas. The total tributary area (both project and downstream) in the drainage study shall account for a minimum of 10 times the tributary area released from the project site. Post-development flow shall not be greater than pre-development flow.
☐	5.		Water quality treatment is required per the Manual For Post Construction - Best Management Practices (available on the City's Stormwater Management page) for sites with:
	☐	a.	Impervious/Pervious ratios > 1.0
	☐	b.	Sites with hydrologic soil group B soils with Impervious/Pervious ratios > 0.95
	☐	c.	Sites with hydrologic soil group C soils with Impervious/Pervious ratios > 0.40
	☐	d.	Sites with hydrologic soil group D soils with Impervious/Pervious ratios > 0.06
	☐	e.	Sites draining to receiving waters with established TMDL or a sensitive waterbody
☐	6.		Stream Corridor Overlay District Ordinance shall apply within the Minimum Stream Corridor Width as defined as:
	☐	a.	100 feet from edge of Sand Creek bank in both directions

City of Newton
Department of Public Works, Engineering
201 E 6th St. • Newton, KS 67114
TEL 316 284-6020

SWCPS – Stormwater Construction Plan Submittal Checklist

	☐	b.	75 feet from edge of Slate Creek bank in both directions
	☐	c.	75 feet from edge of Mud Creek bank in both directions
	☐	d.	75 feet from edge of Jester Creek bank in both directions
☐	7.	Water Quantity Detention requirements shall apply to all development except:	
	☐	a.	Where downstream flooding is entirely confined within the limits of the 100-year floodplain as defined by the Federal Flood Insurance Study (FIS) current at the time the development is proposed.
	☐	b.	Additions to, improvement and repair of existing single-family and duplex dwellings.
	☐	c.	Remodeling, repair, replacement, and improvement to any existing structure or facility and appurtenances that does not cause an increased area of impervious surface on the site in excess of 10% of that which existed previously.
	☐	d.	Improvements on any site having a gross land area of one acre or less, regardless of land use.
	☐	e.	Construction of any one new single-family or duplex dwelling unit, irrespective of the total area of the site on which the structure is situated.
Drainage Study Requirements			
☐	1.	A contour interval of 1 foot or less is acceptable. All existing topography and the date of the topo survey shall be indicated.	
☐	2.	Bench Marks: At least one (1) bench mark adjacent to or within the proposed development shall be shown with the Mean Sea Level (MSL) Datum/National Geodetic Vertical Datum (NGVD).	
☐	3.	Drainage Site Plan Layout: Plat information including the outline of all lots and blocks, plus all permanent drainage easements and existing/proposed drainage improvements shall be shown. The elevation of the 100-year water surface shall be indicated for all major system drainage easements.	
☐	4.	Provide drainage map showing drainage acres to the drainage features	
	☐	a.	Estimated pipe size (inches).
	☐	b.	Inlet locations.
	☐	c.	Basin and sub-basin boundaries.
☐	5.	Channels: Improved channels shall be indicated on the plan with the following data:	
	☐	a.	Approximate channel slope (percent).
	☐	b.	Estimated bottom width (feet).
	☐	c.	Proposed side slopes.
	☐	d.	Design discharge, Q (CFS).
☐	6.	Detention Areas: All detention facilities as shall be shown on the plan with the following data:	
	☐	a.	Static pool elevation, where applicable.

City of Newton
Department of Public Works, Engineering
201 E 6th St. • Newton, KS 67114
TEL 316 284-6020

SWCPS – Stormwater Construction Plan Submittal Checklist

	☐	b.	Maximum water surface elevations for the 2, 10 and 100-year storms.
	☐	c.	Discharge rates for the 2, 10 and 100-year storms.
	☐	d.	Proposed size and type of control structure.
☐	7.	FEMA Data: The limits of the FEMA floodplain and floodway along with the Base Flood Elevations (BFE) shall be shown where appropriate. Where new development is proposed adjacent to unstudied or non-detailed studied streams, the developer shall submit the appropriate backwater calculations (based on HEC-2), encroachment analysis, and floodway data to be submitted to FEMA for review and approval.	
☐	8.	Minimum Elevations: Minimum structure elevations shall be indicated for each lot adjacent to a dedicated drainage easement on the major drainage system. The minimum elevation shall be the elevation of the lowest point of entry or opening into any habitable structure on that lot.	
☐	9.	Off-Site Drainage: All off-site drainage areas which discharge into the proposed development shall be labeled with the basin size (acres) and the 10 and 100-year peak discharges (CFS).	
☐	10.	Street Grades: Preliminary street grades and elevations at sumps and crests shall be shown on the plan with arrows to indicate direction of drainage flows.	
☐	11.	Stormwater Calculations:	
	☐	**a.**	Support data for all stormwater practice designs, such as inflow/outflow rates, stage/storage data, hydrographs, outlet designs, infiltration rates, water elevations, design output, summary, etc.
	☐	**b.**	Other hydraulic and hydrologic computations critical to the plan/designs.
	☐	**c.**	Signature, Date And Professional Seal: for all Stormwater design management proposals, i.e. calculations, BMP designs, operations/maintenance/budget/asbuilt/inspections/manuals.

12.0 Construction Plan Requirements

12.1 Scope:
This section governs the preparation of plans for stormwaters system construction projects.

12.2 General:
The plans shall include all information necessary to build and check the design of the storm drain systems. The plans shall be arranged as required by the City Engineer. Standard details of the city may be included by reference. Plans shall be sealed by the registered Professional Engineer and shall be submitted to the City Engineer for review and approval.

12.3 Scale:
Plans shall be drawn at the following minimum scales. Larger scales may be needed to clearly present the design. Bar scales shall be shown on each sheet for each scale.
Plan: 1-inch=50 feet
Profile:
Vertical: 1-inch = 5 feet
Horizontal: 1-inch = 50 feet

Drainage Area Map:
On-site: 1-inch =200 feet
Off-site 1-inch = 1,000 feet

Structural Plans:1/4-inch = 1 foot

Graphic Drawings: Varies

City of Newton
Department of Public Works, Engineering
201 E 6th St. • Newton, KS 67114
TEL 316 284-6020

SWCPS – Stormwater Construction Plan Submittal Checklist

12.4 Required Information:		
A.		**Drainage Area Map:**
☐	1.	Ridge line of the area tributary to each principal element of the system
☐	2.	The area in acres
☐	3.	The runoff coefficient “C” or curve number “CN” for each area, as applicable.
B.		**Plan View**
☐	1.	Location/Vicinity Map
☐	2.	North arrow, graphic scale, drafting version date, legend and professional seal
☐	3.	Proposed improvements: roads, buildings, parking areas, grassed landscaped, and natural areas.
☐	4.	Delineation of current FEMA Flood boundaries
☐	5.	Ties to permanent reference point for each system located outside of the street right-of-way
☐	6.	Identification and location of each pipe. Culvert, inlet, structure, and existing utility affecting construction.
☐	7.	Right-of-way, property, and drainage easement lines.
☐	8.	Existing man-made and natural topographic features, such as buildings fences, trees, channels, ponds, streams, etc., and all existing and proposed utilities.
☐	9.	Locations of test borings
☐	10.	Existing and finish grade contours at intervals of 1.0 feet or less in elevation or equivalent detail indicating existing and finish grades and slopes
☐	11.	A uniform set of symbols subject to approval by the City Engineer.
☐	12.	The centerline of open channels within 50 feet of an enclosed drainage system and showing the direction of flow.
C.		**Profile View**
☐	1.	Existing and finished surface grade along the centerline of pipe except street centerline may be used when construction includes street construction.
☐	2.	Length, size and slope of each line or channel segment. Slope shall be expressed in percent
☐	3.	Headwater elevation at the inlet end of each culvert
☐	4.	Flow line (invert elevation in and out) at each structure.
☐	5.	Each existing utility line crossing the alignment shall be properly located and identified as to type, size and material.
☐	6.	Test borings

City of Newton
Department of Public Works, Engineering
201 E 6th St. • Newton, KS 67114
TEL 316 284-6020

SWCPS – Stormwater Construction Plan Submittal Checklist

☐	7.	All station and invert elevations of manholes, junction boxes, inlets, or other structures.
☐	8.	The profile shall show existing grade above the centerline as dashed line and proposed finish grades by solid lines. It shall also show the flow line of any drainage channel, either improved or unimproved, within 50 feet on either side of the centerline. Each line shall be properly identified. The proposed storm sewer shall be shown as double solid lines properly showing the top of the pipe.
☐	9.	All manholes, inlets, or other structures shall be shown and labeled with appropriate "Standard Drawing" designation.
D.		**Design Information**
☐	1.	Tributary area in acres.
☐	2.	Design discharge and capacity in cubic feet per second.
☐	3.	Runoff coefficient "C" or curve number "CN", design storm return frequency (when Rational method is used for design) and Manning's "n" value.
☐	4.	Discharge velocity at design flow
☐	5.	Hydraulic grade line.
☐	6.	Type and grade of material (gage, class, etc.).
E.		**Long Term BMP Plan**
☐	1.	Location and type of all proposed stormwater management structures *(grass swale, wet/dry detention basin, filtering/infiltration basin, bioretention, etc.).*
☐	2.	Legend with hatching indicating Existing Onsite Impervious Treated, Proposed Onsite Impervious Treated, Existing Offsite Impervious Treated, Existing Onsite Impervious Untreated, and Proposed Onsite Impervious Untreated. Indicate Square Feet of each hatching category.
☐	3.	Table with impervious calculations - existing and proposed impervious surfaces: roads, well lots, recreation sites, single family residences, etc.
☐	4.	Details as required for proposed stormwater management structures
☐	5.	Operation, Inspection, & Maintenance Procedures
Schedules which indicate all variable dimension and elevations covered by standards or "typical" drawings shall be shown on plans. All design details for nonstandard structures shall be indicated on the plans. A minimum of one plan view and one sectional view shall be shown on the plans for each structure. Additional views may be required. However, the grade, type, size and location of the bars shall be clearly indicated on the plans		

Applicant Signature: _____

Date: _____