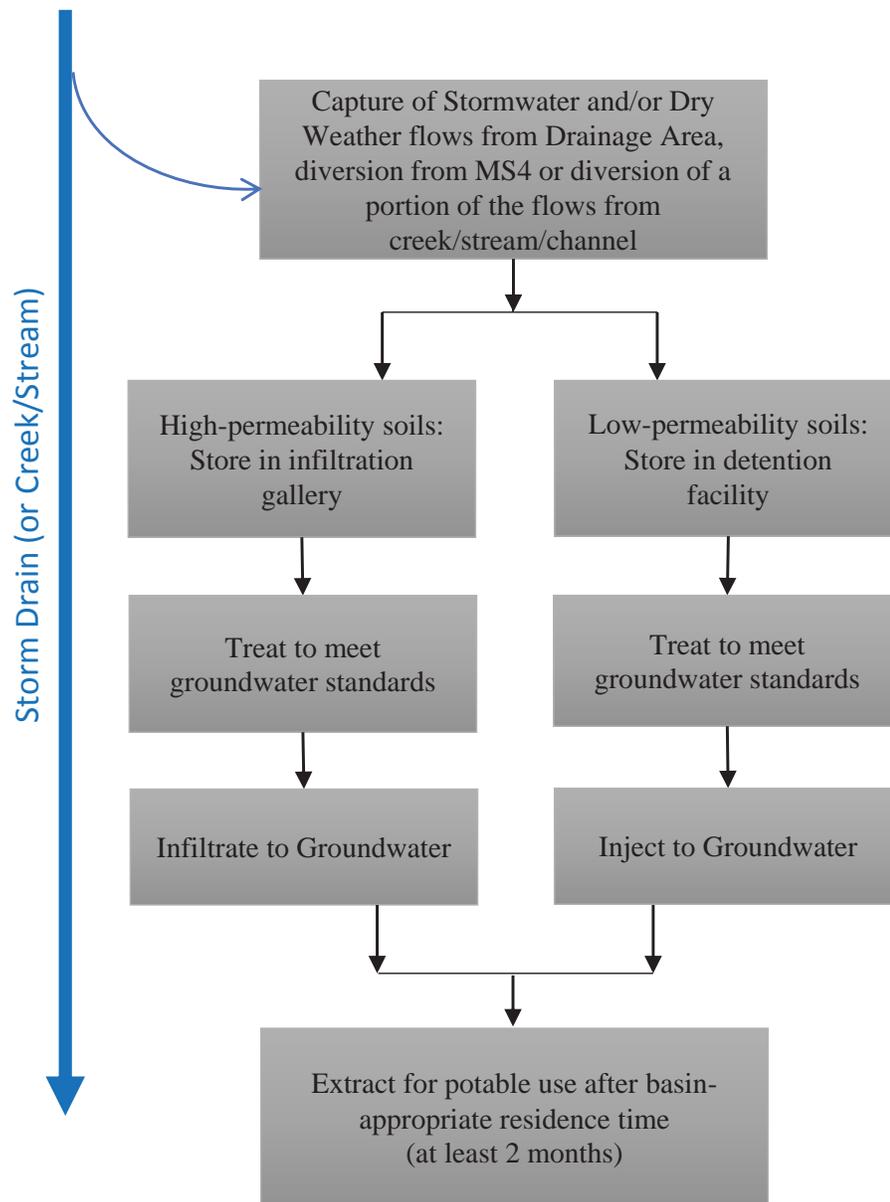# APPENDIX A
Process Diagrams for Stormwater Use Alternatives

Stormwater Use Alternative A
Direct Discharge to Designated Groundwater Aquifer and Extraction for Potable Use

Storm Drain (or Creek/Stream)

Capture of Stormwater and/or Dry Weather flows from Drainage Area, diversion from MS4 or diversion of a portion of the flows from creek/stream/channel

High-permeability soils: Store in infiltration gallery

Low-permeability soils: Store in detention facility

Treat to meet groundwater standards

Treat to meet groundwater standards

Infiltrate to Groundwater

Inject to Groundwater

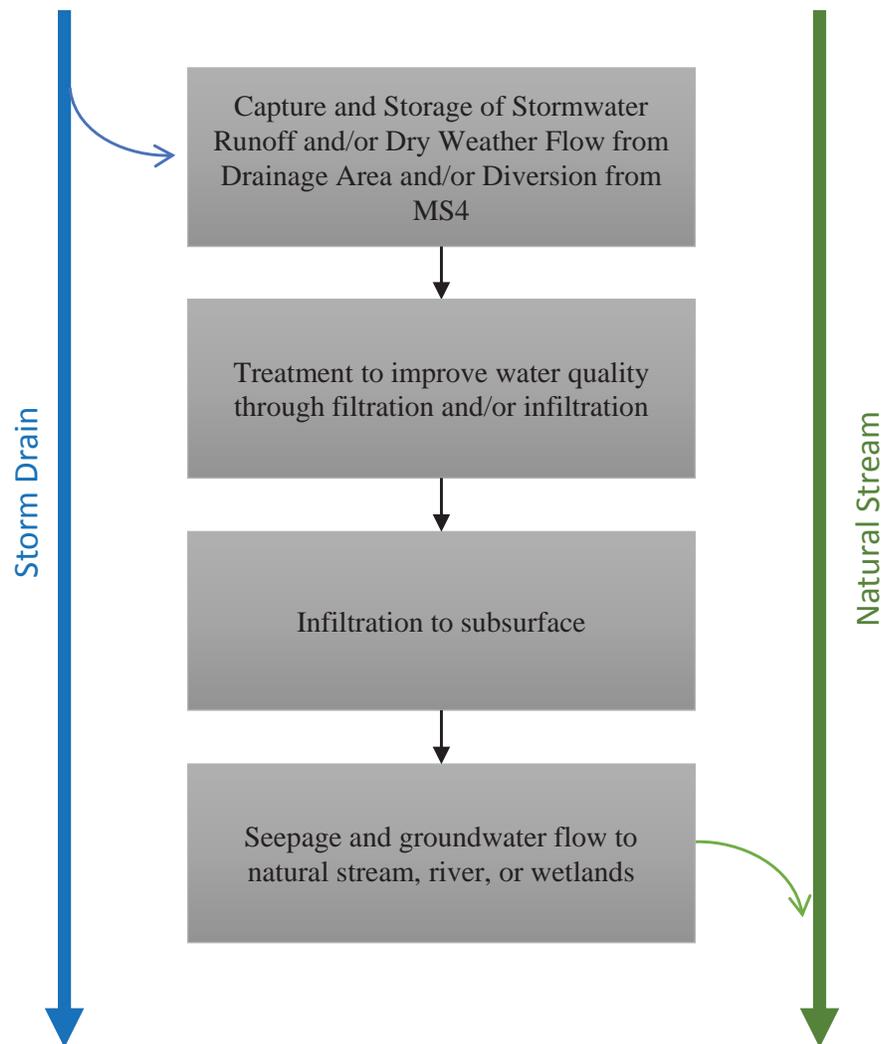Extract for potable use after basin-appropriate residence time (at least 2 months)

Figure A1
Process Diagram for Stormwater Use Alternative A

ESA

Stormwater Use Alternative B
Water Quality Project with Infiltration to groundwater to reestablish natural hydrology and, by extension, to restore biological beneficial uses

Storm Drain

Natural Stream

Capture and Storage of Stormwater Runoff and/or Dry Weather Flow from Drainage Area and/or Diversion from MS4

Treatment to improve water quality through filtration and/or infiltration

Infiltration to subsurface

Seepage and groundwater flow to natural stream, river, or wetlands
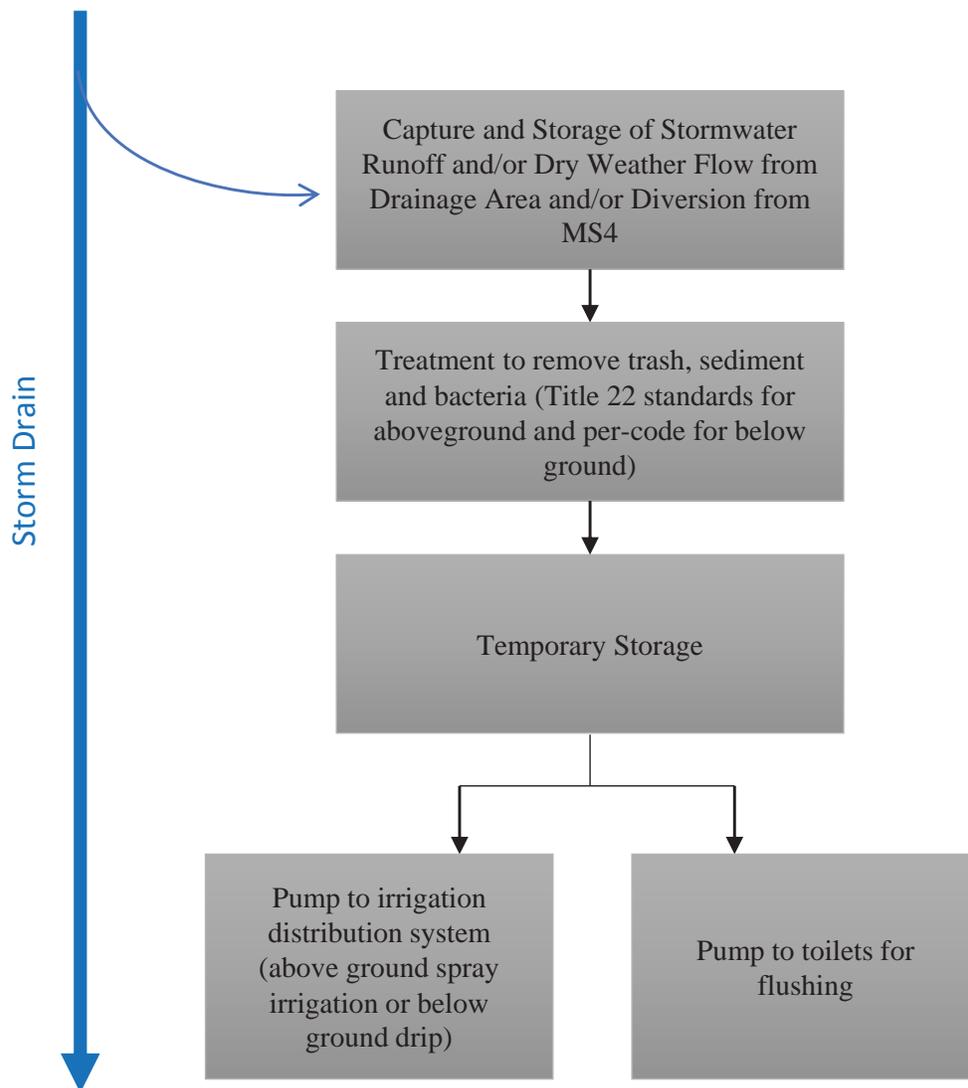
D40075.20

SWCUFS

Figure A2
Process Diagram for Stormwater Use Alternative B

ESA

Stormwater Use Alternative C
Irrigation to be used on site or at nearby parks, golf courses, or recreational areas on public parcels

Storm Drain

Capture and Storage of Stormwater Runoff and/or Dry Weather Flow from Drainage Area and/or Diversion from MS4

Treatment to remove trash, sediment and bacteria (Title 22 standards for aboveground and per-code for below ground)

Temporary Storage

Pump to irrigation distribution system (above ground spray irrigation or below ground drip)
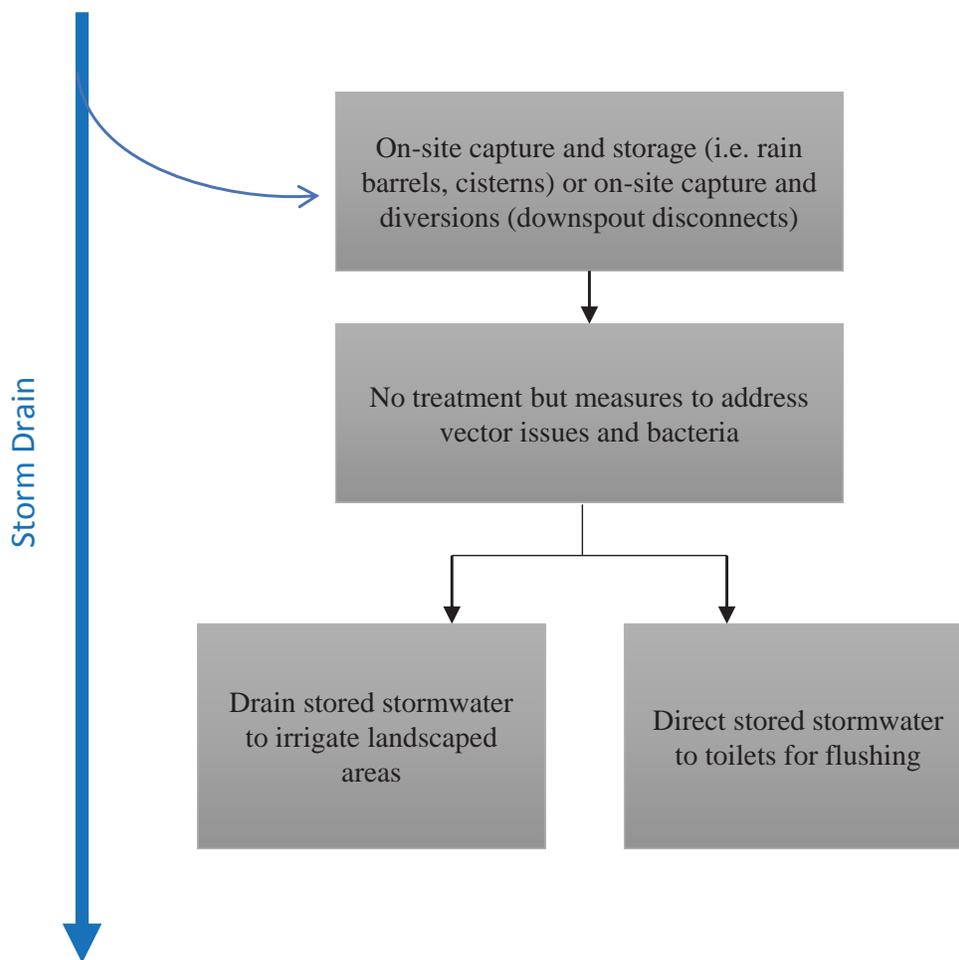
Pump to toilets for flushing

D40075.20

Figure A3
Process Diagram for Stormwater Use Alternative C

ESA

Stormwater Use Alternative D
Small-scale on-site (public or private) use for irrigation and other private use on private parcels

Storm Drain

On-site capture and storage (i.e. rain barrels, cisterns) or on-site capture and diversions (downspout disconnects)

No treatment but measures to address vector issues and bacteria

Drain stored stormwater to irrigate landscaped areas

Direct stored stormwater to toilets for flushing
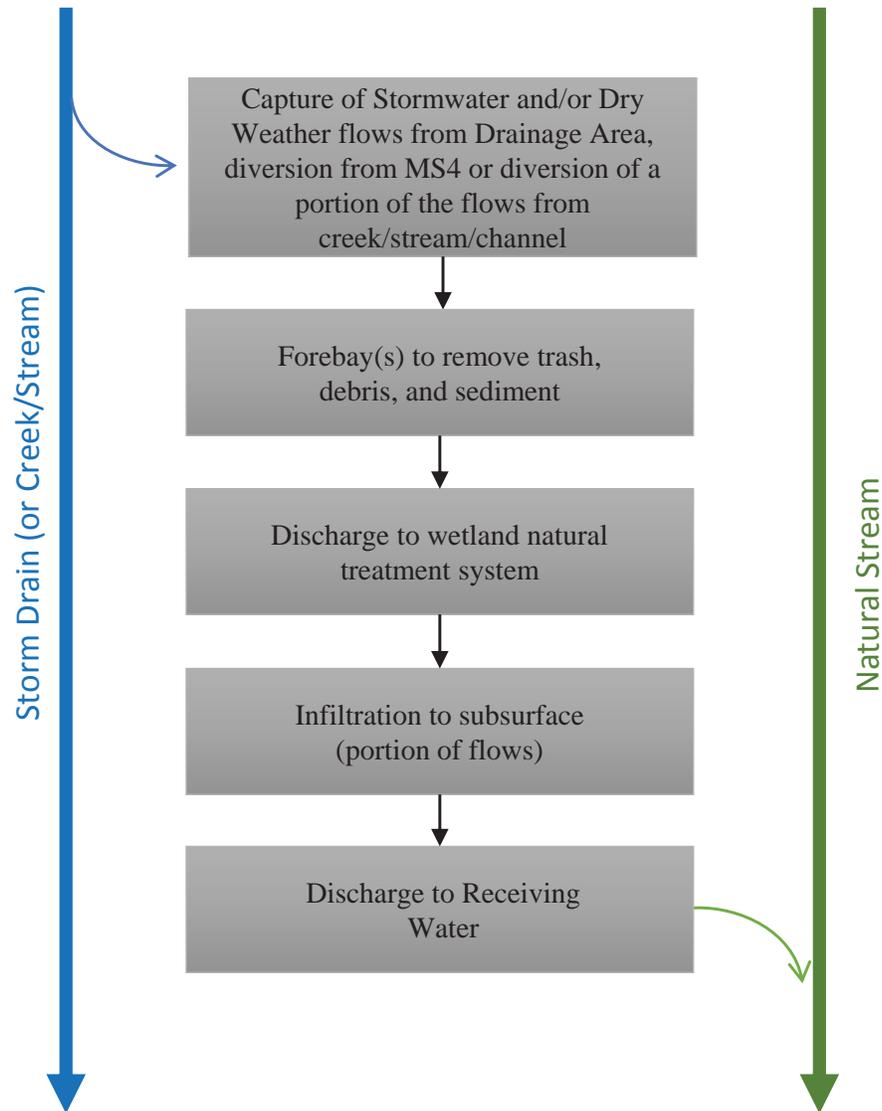
D40075.20

SWCUFS

Figure A4
Process Diagram for Stormwater Use Alternative D

ESA

Stormwater Use Alternative E
Flow-through to sustain vegetation in natural treatment system (wetland treatment) and/or restoration sites

Storm Drain (or Creek/Stream)

Natural Stream

Capture of Stormwater and/or Dry Weather flows from Drainage Area, diversion from MS4 or diversion of a portion of the flows from creek/stream/channel

Forebay(s) to remove trash, debris, and sediment

Discharge to wetland natural treatment system

Infiltration to subsurface (portion of flows)

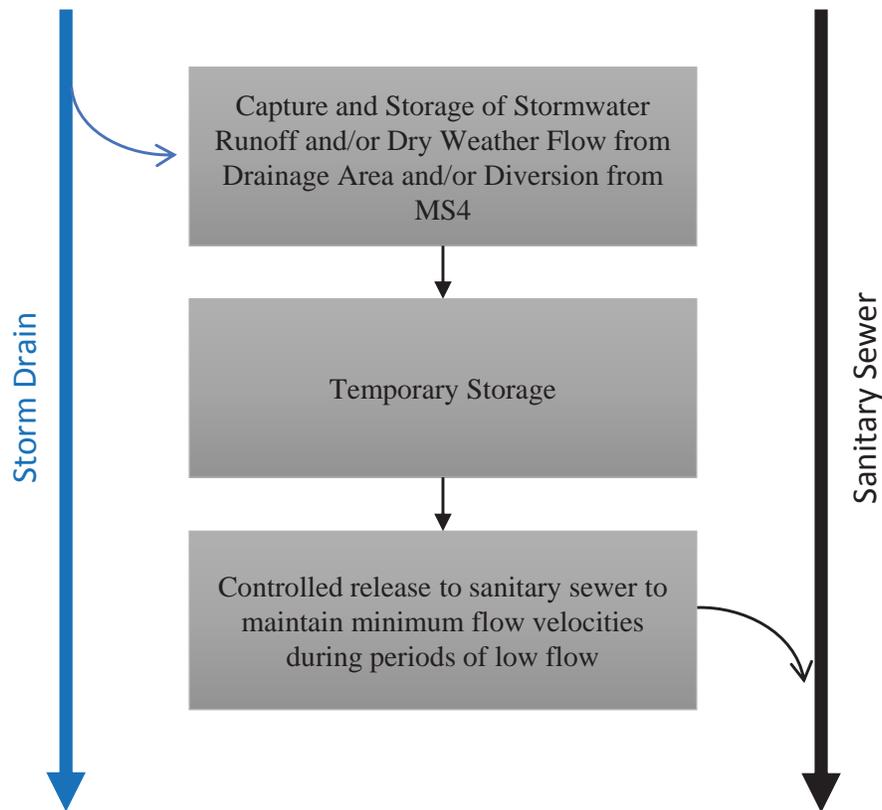Discharge to Receiving Water

SWCUFS

Figure A5
Process Diagram for Stormwater Use Alternative E

ESA

Stormwater Use Alternative F
Controlled discharge to waste water treatment plants for solids management during low flows

Storm Drain

Sanitary Sewer

Capture and Storage of Stormwater Runoff and/or Dry Weather Flow from Drainage Area and/or Diversion from MS4

Temporary Storage

Controlled release to sanitary sewer to maintain minimum flow velocities during periods of low flow
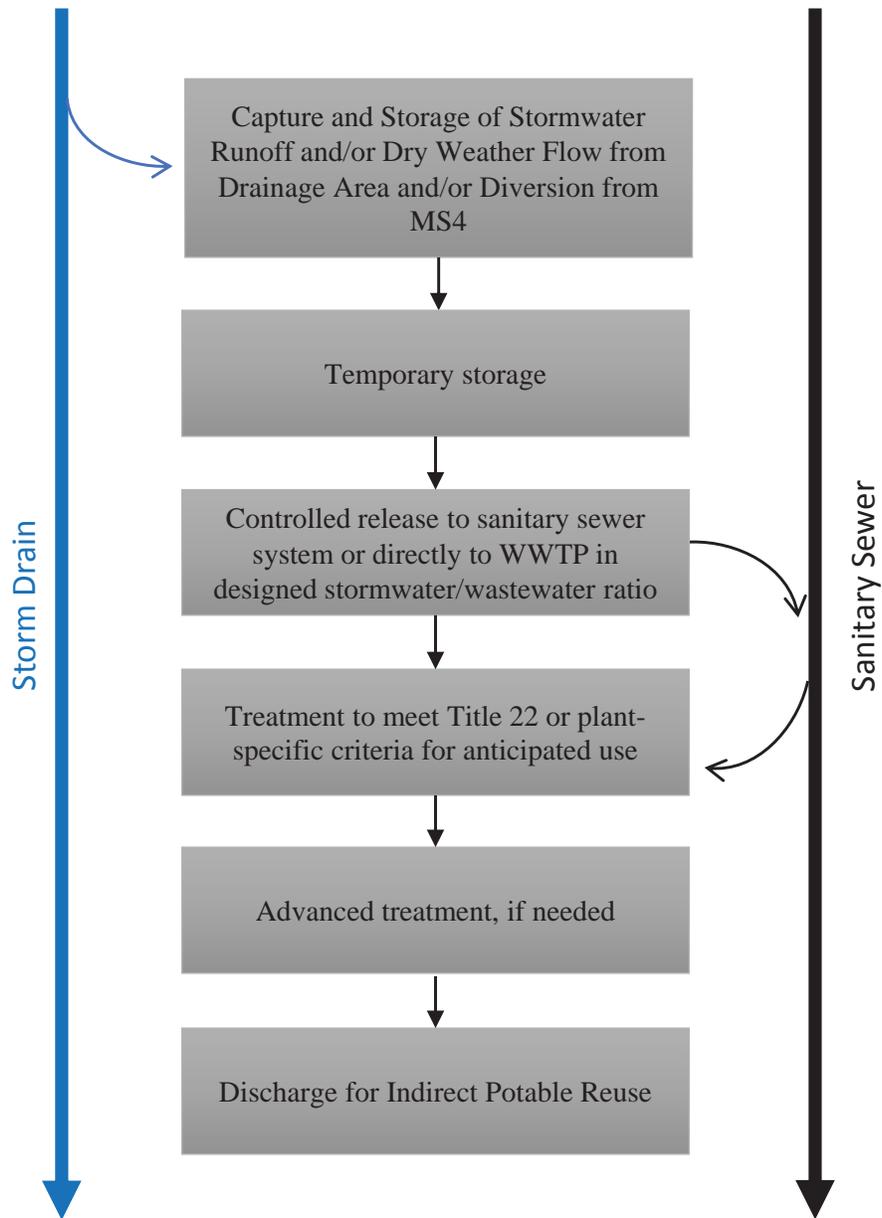
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SWCUFS

Figure A6
Process Diagram for Stormwater Use Alternative F

ESA

Stormwater Use Alternative G
Controlled discharge to waste water treatment plants for indirect potable use

Storm Drain

Sanitary Sewer

Capture and Storage of Stormwater Runoff and/or Dry Weather Flow from Drainage Area and/or Diversion from MS4

Temporary storage

Controlled release to sanitary sewer system or directly to WWTP in designed stormwater/wastewater ratio

Treatment to meet Title 22 or plant-specific criteria for anticipated use

Advanced treatment, if needed

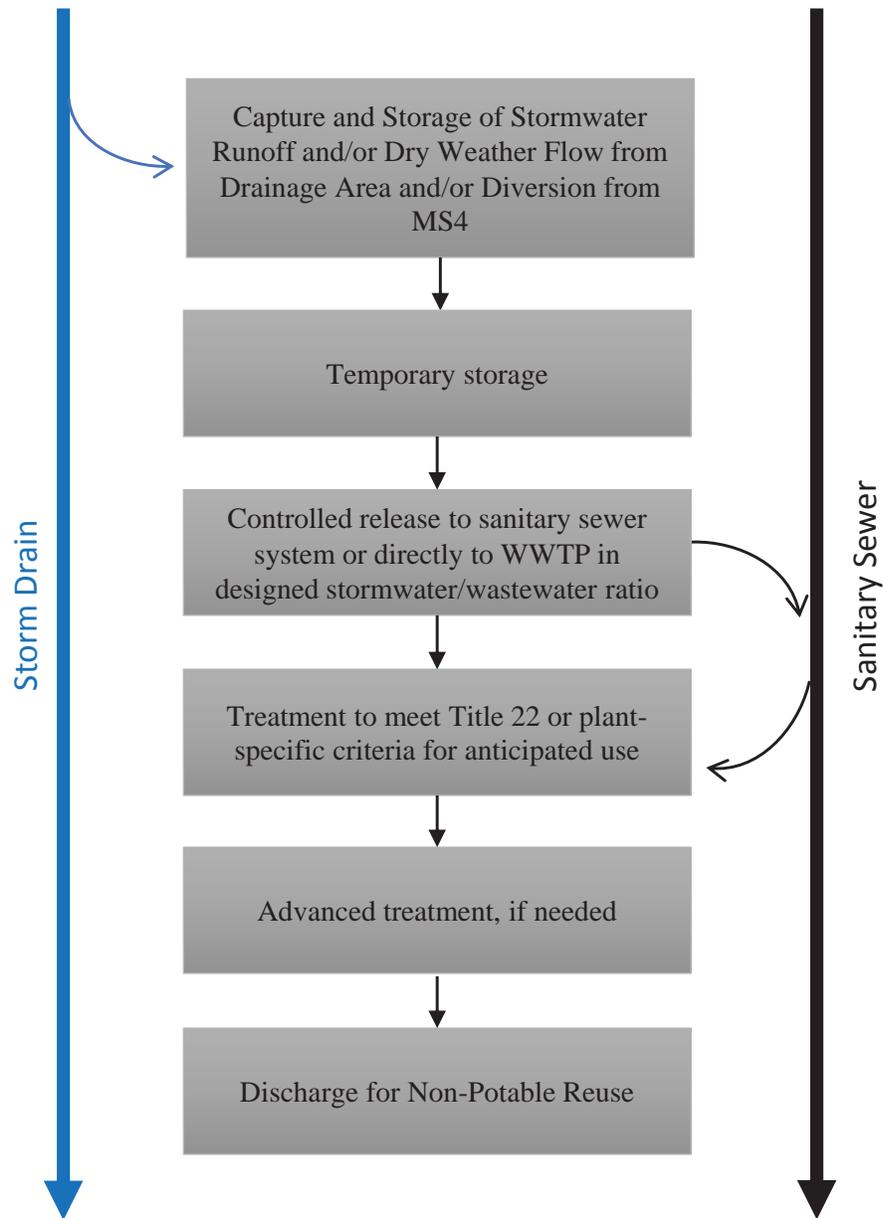Discharge for Indirect Potable Reuse

SWCUFS

Figure A7
Process Diagram for Stormwater Use Alternative G

ESA

Stormwater Use Alternative H
Controlled discharge to waste water treatment plants for recycled water use

Storm Drain

Sanitary Sewer

Capture and Storage of Stormwater Runoff and/or Dry Weather Flow from Drainage Area and/or Diversion from MS4

Temporary storage

Controlled release to sanitary sewer system or directly to WWTP in designed stormwater/wastewater ratio

Treatment to meet Title 22 or plant-specific criteria for anticipated use

Advanced treatment, if needed

Discharge for Non-Potable Reuse

SWCUFS

Figure A8
Process Diagram for Stormwater Use Alternative H

ESA