| | | Position (Title) Responsible for Managing and Implementing Sub | | Data Systems | Level of | | kep t. with Primary Responsibility | Cross Departmental Coordination (Department) | Inner Departmental Coordination (Group/ Division) | Individuals with Notable | | | |
|---|---|--|---|------------------------------|--|--|---------------------------------------|--|---|--|---|--|---|
| Function Maintain Conveyance Systems | Sub Function Inspect and Maintain Open Channel Banks and Bottoms | Function SW Supervisors, note: Inspection done by OC, maintenance by SW | Studied AW - PW MOU | Utilized Spreadsheet | Existing 80% of earthen channels (61 miles) and 100% of concrete channels (9 miles) | Target 80% of earthen channels (61 miles) and 100% of concrete channels (9 miles) | AW-OPS UDFCD | <u> </u> | OPS Compliance | Superintendent (Joe McCleary), Environmental Inspection Coordinator (Geoff Rabinowitz) | Needs Further Study | Known Gaps | Notes See UDFCD Meeting Notes, See Also Stream Management Plan, and Sedimentation Items Below |
| | Inspect & Maintain Public Conduits | SW Superintendent and SW Supervisors | AW - PW MOU AW Ops Plan 2013 | | not defined | not defined | AW-OPS | N/A | Stormwater Infrastructure CCTV and Manned Entry inspections, AW Engineering | Stormwater Superintendent (Joe McCleary) | ☐ Functioning as Needed ☑ Needs Improvement ☐ Needs Further Study | inspecting these should be standardized (note that inspection is | CMP assessment completed, RCP assessment starts Nov 2014 and continues into future if funding approved |
| | Maintain Inlets and Flap Gates | SW Supervisors | AW-PW MOU, AW Ops Plan 2013 | | Inlets when needed, flap gates quarterly | Same | AW-OPS | | | Stormwater Superintendent (Joe McCleary) | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Maintain Curbs, Gutters, and Sidewalks | Manager of Public Works Operations (Chris | AW - PW MOU | | | | PW-STREETS | | | Manager of Public Works Operations | Needs Improvement | | |
| | and Sidewalks Repair Crosspans and Inlet Transitions | DW Design Engineer | AW - PW MOU | tracked on PW spreadsheet | as needed and when budget permits | | OPS PW-STREETS OPS | PW | N/A | (Raul Griego) and | Functioning as Needed | Cross pans need to be added to the MOU | PW coordinates replacements, SW provides funding; coordinated with pavement improvement operations |
| | Maintain Chase Drains | SW & Streets Supervisors | AW - PW MOU | map books | as needed | | PW-STREETS OPS | PW | N/A | Manager of Public Works Operations (Chris Carnahan), Stormwater Superintendent (Joe | Functioning as Needed Needs Improvement Needs Further Study | | SW responsibility if drains to a SW asset, otherwise PW responsibility |
| | Repair and Clean Inlet Boxes | SW Superintendent and SW Supervisors | AW-PW MOU, AW Ops Plan 2013 | | when inspections identify need | same | AW-OPS | PW | N/A | Superintendent (Joe | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Clean Trash From Inlet Grates in Street | Streets responsibility as identified in MOU | A147 DUV. 14011 | | y need | | PW-STREETS | N/A | N/A | Manager of Public Works Operations (Chris Carnahan) | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Clean Culverts and Pipe Outlets in Ditches | SW supervisors | AW - PW MOU | | not defined | | AW-OPS | PW | N/A | Stormwater Superintendent (Joe McCleary) | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | Need to add to the infor data a list of outfalls that require cleaning | |
| | Repair Roadside Ditch Riprap, Including Excavating Sediment and Debris | | AW - PW MOU | | As-needed | | AW-OPS | PW- STREETS | N/A | Stormwater Superintendent (Joe McCleary) | Functioning as Needed Needs Improvement Needs Further Study | Need to update MOU with additional clarification to define who is responsible for roadside ditches; Need tour to review field conditions | |
| | Maintain Private Conduits | Private Owner | AW - PW MOU | | | | Private Owner | N/A | N/A | | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | Need better process of establishing which conduits are City responsibility. Need to inform property owners of their responsibilities - (Joe M): GIS info often incorrect and private assets are identified as COA | Possibly by providing ownership field in GIS or other programs |
| | Maintain Bridge Components | | AW - PW MOU | | | | PW-STREETS OPS | | | Engineer (Bill McCormick), Manager of Public Works Operations (Chris Carnahan) | Functioning as Needed Needs Improvement Needs Further Study | are identified as COA | |
| | Maintain Channels Under Bridges | SW superintendent and SW supervisors | AW - PW MOU | Infor | as needed | | AW-OPS | PW | N/A | Superintendent (Joe | Needs Further Study | | SW activities coordinated with PW engineering |
| | Maintain Manholes in Streets | Manager of Water Operations and Maintenance (Tom Ries) | AW - PW MOU, & AW IP 2012 | Infor | as needed | | AW-T&D | N/A | AW-OPS | Stormwater Superintendent (Joe McCleary) and Water T&D Superintendent (Gary Edwards) | ■ Needs Improvement ■ Needs Further Study | | AW pays for or performs adjustment on water valves and manholes. AW pays part of inspections for util repairs |
| | Provide Snow Removal on Public Property | SW supervisors and other AW supervisors | AW - PW MOU, AW IP 2012 | Infor | as needed | | PW STREETS OPS, AW-OPS | PW | numerous | Manager of Public Works Operations (Chris Carnahan), Stormwater Superintendent (Joe McCleary) | Needs Improvement | Needs to be re-evaluated. | AW provides approx 40% of equipment and workforce to assist in snow removal. Parks provides snow removal on trails. See Aurora Water Snow Removal Policy. |
| | Provide Snow Removal on SW Property | SW supervisors Manager of Public Works Operations (Chris | Snow Plan | Infor | as needed | | AW-OPS | | | Stormwater Superintendent (Joe McCleary) PW Streets manages | i <u></u> | | Street sweeping with be fully funded by AW wastewater fund due to water |
| | Maintain Drainage Easements and ROW | Carnahan) SW supervisors | AW-PW MOU, AW Ops Plan | Infor | maintain 2x per year | same | AW-OPS | | N/A | Stormwater Superintendent (Joe | Needs Further Study Functioning as | | quality requirements |
| | Initially Certify Private MS4 Permit Ponds (post | | 2015 | | When constructed | | AW | PW | Regulatory | McCleary) PW Engineering, AW Engineering | Functioning as Needed Needs Improvement Needs Further Study | | See flowchart for ponding certifications - Note, this item is also shown on the Regulatory FM. |
| Maintain Detention and | construction) Annually Certify Private MS4 Permit Ponds | Environmental Inspection Coordinator (Geoff Rabinowitz) | | | Annually | | AW | | Regulatory | | Functioning as Needed Needs Improvement Needs Further Study | | Note: This item is also shown on the Regulatory Function Matrix |
| Water Quality Control Features and Erosion Control | Maintain Public Detention Facilities | SW superintendent and SW supervisors | 2015 | Infor | Monthly | same | AW | no | no | | Functioning as Needed Needs Improvement Needs Further Study | SW staff receiving training about operation and maintenance required for permanent BMPs thru CSU SW Center | |
| Erosion Control | Prioritize Pond Maintenance Activities and Schedule Work | SW supervisors | Stormwater Organizational Chart, Meetings, AW OPS Plan 2015 | Spreadsheet, Infor | | | AW | | Regulatory, if MS4 | | ✓ Functioning as Needed ✓ Needs Improvement ✓ Needs Further Study | | |
| | Maintenance of Private Ponds | Private Owner | | | | | | | | Environmental Inspection Coordinator (Geoff Rabinowitz) | ☐ Needs Improvement ☐ Needs Further Study | Various gaps exist relative to private pond maintenance - owners don't know what their responsibilities are, inspection intervals have not been set, GIS system doesn't include all ponds and ownerships, and City Code doesn't include language providing for citation and fining owners for unmaintained facilities. | built after 2008 but is silent with respect to ponds built prior to that date. |
| | Inspect and Document Maintenance Needs Annually | SW superintendent and SW supervisors | Stormwater Organizational Chart, Meetings, AW OPS Plan 2015 | Spreadsheet | continual | | AW | | Regulatory, if MS4 | | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | | (IV): Ensure that there aren't duplicates re: pond maintenance issues between this and the other FM's. |
| | | | | | | | | | | | | | |

| | | Position (Title) Responsible for Managing and Implementing Sub | Where | Data Systems | | | t. with Primary sonsibility | is Departmental rdination partment) | er Departmental rdination sup/Division) | Individuals with Notable | | | |
|---|---|--|---|-------------------------|-----|-----|--------------------------------|---|---|---|---|--|--|
| | Develop O&M Plan for Each Stream Corridor | SW Superintendent and SW Supervisors | Integrated Stream Management Plan (ISMP) | | | | AW | UDFCD, PROS | N/A | Stormwater Superintendent (Joe McCleary) | Functioning as Needed Needs Improvement Needs Further Study | The integrated Stream Management Plan stops short of identifying tasks to be performed and assigning responsibilities | Development of the O&M Plans for the ISMP were in Progress as of 2012 Progress needs to be updated |
| Manage Stream Corridors (it may make more sense to alternative and the sense to alternative and the sense to alternative and the sense to are encountered) | Develop Pest Control- Plans for Each Stream- Corridor | | ISMP | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Davelop Tree Mitigation Plans for Each Corridor | | ISMP, AW Ops- Plan 2013 | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Develop Wetlands- Management Plan for- Each Corridor | | ISMP | | | | | | | | Needs Improvement Needs Further Study | Need to add a layer for identified and mapped wetlands within the GIS system if it does not exist. A citywide wetlands survey may be warranted if it has not been completed. | |
| | Develop Vegetation Plan for Each Corridor | | ISMP | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Develop Wildlife- Management Plan for Each Corridor | | ISMP | | | | | | | | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | | |
| | Develop Woody- Management Plan | | ISMP | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Execute O&M Plan Tasks for Each Stream Corridor | | ISMP | | | | AW OPS | UDFCD, PROS | N/A | Stormwater Superintendent (Joe | Functioning as Needed Needs Improvement Needs Further Study | | Specific tasks need to be identified from the ISMP and information |
| | Execute Pest Control- Tasks for Each Stream | | ISMP | | | | | | | McCleary) | Functioning as Needed Needs Improvement | | provided in columns to the left |
| | Corridor Execute Tree Mitigation- | | | | | | | | | | Needs Further Study Functioning as Needed Needs Improvement | | _ |
| | Tasks for Each Corridor Execute Wetlands | | ISMP | | | | | | | | ☐ Needs Further Study ☐ Functioning as Needed | | |
| | Management Tasks for Each Corridor | | ISMP | | | | | | | | Needs Improvement Needs Further Study Functioning as Needed | | |
| | Execute Vegetation- Tasks for Each Corridor | | ISMP | | | | | | | | Needs Improvement Needs Further Study | | |
| | Execute Wildlife- Management Tasks for- Each Corridor | | ISMP | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Execute Woody Management Tasks for | | ISMP | | | | | | | | Functioning as Needed Needs Improvement | | н |
| | Fach Corridor Provide Spill Response Training | Environmental Permitting Manager (Sean Lieske) | Spill Response Information | | | | AW | | | Environmental Inspection Coordinator (Geoff Rabinowitz) | ■ Needs Further Study ■ Functioning as Needed ■ Needs Improvement ■ Needs Further Study | | (IV): This section needs to be checked with Sean L. and Geoff R spill response is a Regulatory function primarily as well, part of MS4 permit - |
| Provide Spill Response | Respond to Spills in Accordance with Response Plan | Environmental Permitting Manager (Sean Lieske) | Spill Response Information | | | | AW | | | Environmental Inspection Coordinator (Geoff Rabinowitz) and Operations | Functioning as Needed | | move there? |
| Activities | Provide Spill Record Keeping | Environmental Permitting Manager (Sean Lieske) | Spill Response Information | | | | AW | | | Compliance Staff | Needs Further Study Functioning as Needed Needs Improvement Needs Further Study | | |
| | Meet Safety | All SW Staff | Spill Response | | | | AW | | | | Functioning as Needed Needs Improvement | | |
| | Requirements Update Spill Response | Environmental Permitting Manager | Information | | | | AW | | | Environmental Inspection | Needs Further Study Functioning as Needed Needs Improvement | | |
| Provide Sediment | Prioritize and Schedule Channel Inspections | (Sean Lieske) Environmental Inspection Coordinator (Geoff Rabinowitz) and Stormwater Superintendent (Joe McCleary) | Sediment Management Plan (SMP), 2010 | | N/A | N/A | AW | N/A | ос | Coordinator (Geoff Rabinowitz) Environmental Inspection Coordinator (Geoff Rabinowitz) and Stormwater Superintendent (Joe McCleary) | Needs Further Study Functioning as Needed Needs Improvement Needs Further Study | | 30% or greater blockage of culverts initiates inclusion on list for cleaning |
| Management in Drainage Channels | Provide Channel Inspections at Given Interval | Environmental Inspection Coordinator (Geoff Rabinowitz) | SMP 2010 | | | | AW | N/A | ос | Environmental Inspection Coordinator (Geoff Rabinowitz) and Stormwater Superintendent (Joe | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | | (JM): Geoff R. needs to be consulted for any additional details of this sub- function (i.e. LOS). |
| | Document Channel Inspection Results | OC Staff, Environmental Inspection Coordinator (Geoff Rabinowitz), Stormwater Superintendent (Joe McCleary) | SMP 2010 | SW Excel spreadsheet | | | AW | N/A | oc | McCleary) Stormwater Superintendent (Joe McCleary) and OC Staff | Functioning as Needed Needs Improvement Needs Further Study | | (JM): Stormwater Ops developing a PDF inspection report form. |
| | Provide a Periodic Risk Assessment of Flooding due to Aggradation | Stormwater Superintendent (Joe McCleary) and Floodplain Manager (Kevin Wegener) | SMP 2010 | | | | AW | PW | AW Engineering | Associate City Engineer (Bill McCormick), Stormwater Superintendent (Joe McCleary), and Engineering Services Manager (Vacant) | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | (JV): There needs to be some discussion of the gaps related to this function in the Tech Memo. | (JM): This is a floodplain management function? |
| | Survey Aggradation Areas | Stormwater Superintendent (Joe McCleary) and Engineering Services Manager (Vacant) | SMP 2010 | | | | AW | PW Survey | AW Engineering | Stormwater Superintendent (Joe McCleary) and Engineering Services Manager (Vacant) | ☑ Needs Improvement ☐ Needs Further Study | The City needs a stronger method for assessing vegetation and degradation/aggradation in channels, as well as a method for documenting planned and modeled vegetation for each channel. | |
| | Prioritize and Schedule Sediment Removal Projects | Stormwater Superintendent (Joe McCleary), Planning Services Manager (Sarah Young) | | | | | AW | PW | AW Engineering | Stormwater Superintendent (Joe McCleary), Associate City Engineer (Bill McCormick) | Needs Improvement Needs Further Study Functioning as Needed | Additional information is needed to develop future plans, activities have been scaled down to small sediment removal projects vs large sediment removal projects due to permitting issues. | |
| | | | | | | | | | | | Needs Improvement Needs Further Study | | |

Operations and Maintenance Joe McCleary, Stormwater Superintendent

| | | Position (Title) Responsible for Managing and Implementing Sub | Where | Data Systems | Level of | Service | t. with Primary Jonsi bility | is Departmental rdination partment) | er Departmental rdination rup/Division) | Individuals with Notable | | | |
|---|---|--|---------------------|-----------------|--|--|--|---|---|---|---|---|--|
| Provide Other Maintenance Activities | Provide Fall Protection | Stormwater Superintendent (Joe McCleary) and Stormwater Supervisors | | | | | AW | PW, PROS | N/A | Stormwater Superintendent (Joe McCleary) | Needs Improvement Needs Further Study | (JM): 30" drop within 30' of trail/sidewalk/etc. | |
| | Provide Graffiti Removal on Channels and Structures | Stormwater Superintendent (Joe McCleary) and Stormwater Supervisors | AW Ops Plan 2013 | | 2x per week if needed | 2x per week if needed | AW | APD, PROS | N/A | Stormwater Superintendent (Joe McCleary) | ✓ Functioning as Needed Needs Improvement Needs Further Study | | |
| | Install and Maintain Gates and Fences | Stormwater Superintendent (Joe McCleary) and Stormwater Supervisors | AW Ops Plan 2013 | | As-Needed | As-Needed | AW | PROS | N/A | Stormwater Superintendent (Joe McCleary) | | | |
| | Provide a Periodic Risk- Assessment of Flooding- due to Aggradation | | AW Ops Plan 2013 | | | | | | | | ■ Functioning as Needed ■ Needs Improvement ■ Needs Further Study | | (JV/JM): This is a duplicate. |
| | | | | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | | | | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | | | | | | | | | | | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Levee System Certification | Stormwater Superintendent (Joe McCleary) | AW Ops Plan 2013 | | | | AW Supply Division's Dam Insp. Group | N/A | AW Engineering | Stormwater Superintendent (Joe McCleary), Engineering Services Manager (Vacant) | ☑ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | | Recertification of Sand Creek Levee required in 2020 activities related to recert should start in 2017 |
| Critical | Dam Maintenance for 3 Dam structures | Stormwater Superintendent (Joe McCleary) and Stormwater Supervisors | AW Ops Plan 2013 | | Monthly and after significant rain events | Monthly and after significant rain events | COA Stormwater Division | N/A | N/A | Stormwater Superintendent (Joe McCleary) | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | | (JV): Specify the '3 Dam Structures' (Southshore, Jewell, & Expo?) |
| Infrastructure Maintenance, Flap Gate & Erosion Control Maintenance | Flap Gate Maintenance for 11 Flap Gates | Stormwater Superintendent (Joe McCleary) and Stormwater Supervisors | AW Ops Plan 2013 | | Quarterly | Quarterly | COA Stormwater Division | N/A | N/A | Stormwater Superintendent (Joe McCleary) | ☐ Functioning as Needed ☐ Needs Improvement ☐ Needs Further Study | | |
| | Aurora-Owned Dam and Levee Inspection | Stormwater Superintendent (Joe McCleary) | | | Annually | Annually | AW | State | AW SOS: Cully | Stormwater Superintendent (Joe McCleary) | Functioning as Needed Needs Improvement Needs Further Study | | |
| | Erosion Control for Maintenance Activities | Stormwater Superintendent (Joe McCleary) | AW Ops Plan 2013 | | As-Needed | As-Needed | COA Stormwater Division | N/A | N/A | McCleary) | Functioning as Needed Needs Improvement Needs Further Study | | (JV): This is redundant with earlie erosion-control sub-function? |
| | Kelly Rd. Dam Inspections & Maintenance | Stormwater Superintendent (Joe McCleary) and Stormwater Supervisors | AW Ops Plan 2013 | Infor | Monthly and Annual Inspections | | COA SW | State, USACE | USACE, UDFCD, Lowry | Stormwater Superintendent (Joe McCleary), Water Maintenance Supervisor (Mike Earnest) | Functioning as Needed Needs Improvement Needs Further Study | | (JM): New sub-function since COA sponsor, not owner of Kelly Rd (Low is) so handled differently. |

Gaps Identified:

Per Phase 1 Study, Increase efficiency in inspections
Per Phase 1 Increase efficiency in data management
The City may want to consider combining several of the guidance documents sited herein