



ECONOMIC IMPACT STUDY COMPARISON

For the Draft Countywide Stormwater and Flood Plain Ordinance

DuPage County Stormwater Management

February 7, 2012



Cost Comparison-

6 Implementation Examples

- Six sites selected for comparison
 - ▣ EX. 1: Residential – Single Family Residence-Large lot Teardown
 - ▣ EX. 2: Residential – Single Family Residence Addition
 - ▣ EX. 3: Accessory Structure for a Single Family Residence
 - ▣ EX. 4. Routine Utility Maintenance involving Wetlands
 - ▣ EX. 5. Land Use Change-Residential to Mixed Use Development
 - ▣ EX. 6 Commercial Reconstruction of a Largely Impervious Site

Cost Comparison

- Does this Draft cost more, or less or is it cost neutral
- Compared to current Ordinance, will it take longer to get a permit?
- What new options are available to an applicant based on the draft Ordinance?

Cost Comparison Assumptions

- The site plans and materials utilized for this presentation illustrate hypothetical examples and should not be connected to actual permit submittals
- Identified costs are relative only to the examples discussed

EX. 1 Residential – Single Family Residence (Large Lot Teardown)

- Details of project
 - ▣ Existing home on 4.13 acres
 - ▣ Zone AE floodplain and wetland exist on north side of site
 - ▣ Demolish existing home
 - ▣ Construct new single family residence

EX. 1 Residential – Single Family Residence (Large Lot Teardown)

- Under Existing DCSFPO
 - ▣ No detention required
 - ▣ BMP required including easement
 - ▣ No impacts to floodplain, no floodplain related calculations
 - ▣ No wetland disturbance, wetland delineation required, however no wetland mitigation necessary
 - ▣ No riparian impacts, no calculations necessary
- Under proposed DCSFPO Draft 1
 - ▣ No Detention Required
 - ▣ Since additional Total Impervious Area is less than 2500 sq. ft., BMP not required. Easements and follow-up inspections will not be required.
 - ▣ No impacts to floodplain, no floodplain related calculations
 - ▣ Administrator can review plan and based on information available Possibly waive a wetland delineation: possible cost savings \$2500
 - ▣ No Buffer impact. Nothing required.

EX. 1 Residential – Single Family Residence (Large Lot Teardown)

- Under proposed DCSFPO Draft 1
 - No Detention Required
 - Since additional Total Impervious Area is less than 2500 sq. ft., BMP not required. Easements and follow-up inspections will not be required.
 - No impacts to floodplain, no floodplain related calculations
 - Administrator can review plan and based on information available Possibly waive a wetland delineation: possible cost savings \$2500
 - No Buffer impact. Nothing required.
- Under proposed DCSFPO Draft 2
 - No Detention Required
 - Since additional Total Impervious Area is less than 2500 sq. ft., BMP not required. Easements and follow-up inspections will not be required.
 - No impacts to floodplain, no floodplain related calculations
 - Administrator can review plan and based on information available Possibly waive a wetland delineation: possible cost savings \$2500
 - No Buffer impact. Nothing required.

EX. 1 Residential – Single Family Residence (Large Lot Teardown)

- Summary of changes with new ordinance
 - ... BMP trigger is changed, No BMP or Easement required. Potential savings \$800.
 - ... No changes between Draft 1 and Draft 2.
 - ... Administrator in Partial Waiver Community may opt to not send submittal to County since neither floodplain or wetlands impact. Potential time and review fee cost savings.

EX. 2 Residential – Single Family Residence Addition

- Details of project
 - Existing home on 0.81 acres
 - Zone A Floodplain and wetland buffer exist onsite
 - Construct an expansion to the existing attached garage.

EX. 2 Residential – Single Family Residence Addition

- Under Existing DCSFPO
 - No detention required
 - No BMP required
 - Zone A elevation must be established (NFIP)
 - FEQ Base Flood Elevation (BFE) available for applicant's use
 - No proposed impacts to floodplain, no floodplain calculations necessary
 - Wetland buffer disturbance, wetland submittal required
 - Buffer must be mitigated with native vegetation
 - Riparian impacts proposed, riparian submittal required
 - Riparian impacts must be mitigated at 1:1 ratio
- Under Proposed DCSFPO Draft 1
 - No detention required
 - Less than 2500 sq. ft of TIA added, No BMP required
 - Zone A elevation must be established (NFIP)
 - FEQ Base Flood Elevation (BFE) available for applicant's use
 - No proposed impacts to floodplain, no floodplain calculations necessary
 - Wetland buffer disturbance, wetland submittal required
 - Wetland buffer must be mitigated, but if Buffer is turf grass, no buffer mitigation required.
 - Riparian Concept folded into buffers, no separate "riparian mitigation"

EX. 2 Residential – Single Family Residence Addition

□ Under Proposed DCSFPO Draft 1

- No detention required
- Less than 2500 sq. ft of TIA added, No BMP required
- Zone A elevation must be established (NFIP)
 - FEQ Base Flood Elevation (BFE) available for applicant's use
- No proposed impacts to floodplain, no floodplain calculations necessary
- Wetland buffer disturbance, wetland submittal required
 - Wetland buffer must be mitigated, but if Buffer is turf grass, no buffer mitigation required.
- Riparian Concept folded into buffers, no separate "riparian mitigation"

□ Under Proposed DCSFPO Draft 2

- No detention required
- Less than 2500 sq. ft of TIA added, No BMP required
- Zone A elevation must be established (NFIP)
 - FEQ Base Flood Elevation (BFE) available for applicant's use
- No proposed impacts to floodplain, no floodplain calculations necessary
- Wetland buffer disturbance, wetland submittal required
 - Wetland buffer must be mitigated, but if Buffer is turf grass, no buffer mitigation required.
- Riparian Concept folded into buffers, no separate "riparian mitigation"

EX. 2 Residential – Single Family Residence Addition

- Summary of changes with new ordinance
 - ... No changes between Draft 1 and Draft 2.
 - ... Buffers and Riparian Areas are folded together since they have the same function. Existing Paved areas and turf grass in a buffer do not have to be mitigated if impacted. Small savings in plantings, and no forced change in landscaping from turf grass to Native landscaping. Savings less than \$500.

EX. 3 Accessory Structure for a Single Family Residence

- Details of project
 - ▣ Existing single family residence on 0.67 acres
 - ▣ Zone AE floodplain encroaches on rear of lot
 - ▣ Riparian environment consists of mowed turf grass
 - ▣ Construct new shed within the limits of the regulatory floodplain

EX. 3 Accessory Structure for a Single Family Residence

- Under Existing DCSFPO
 - Detention not required
 - BMP not required
 - Zone AE floodplain fill, submittal required
 - Incremental compensatory storage required at 1.5:1 ratio
 - Lowest usable space of shed must be one (1) foot above BFE
 - If FEQ higher than FEMA BFE, shed must be elevated to FEQ elevation
 - Riparian impacts proposed, riparian submittal required, mitigation ratio 1:1
- Under Existing DCSFPO Draft 1
 - Detention not required
 - BMP not required
 - Allowable at grade, so no floodplain fill required
 - In Buffer, but since existing buffer in this area is lawn, no mitigation required.

EX. 3 Accessory Structure for a Single Family Residence

□ Under Existing DCSFPO Draft 1

- Detention not required
- BMP not required
- Allowable at grade, so no floodplain fill required
- In Buffer, but since existing buffer in this area is lawn, no mitigation required.

□ Under Existing DCSFPO Draft 2

- Detention not required
- BMP not required
- Allowable at grade, so no floodplain fill required
- In Buffer, but since existing buffer in this area is lawn, no mitigation required.

EX. 3 Accessory Structure for a Single Family Residence

- Summary of changes with new ordinance
 - ... Draft 2 would no longer allow this situation to be processed as a letter of permission. However, a general certification is presently being developed to establish the equivalent time savings and permit costs. Possible savings \$1 500 (no change between drafts)
 - ... Shed may be floodproofed instead of elevated so no compensatory storage required. Possible savings \$500
 - ... Recognizes that lawn has low function as a buffer, no mitigation. Possible savings \$200

EX. 4 Routine Utility Work Involving Wetlands

- Details of project
 - Pipeline integrity testing
 - Wetland exists on west side of site
 - Replace pipeline as necessary
 - Restore to preconstruction condition

EX. 4 Routine Utility Work Involving Wetlands

- Under Existing DCSFPO
 - ▣ No detention required
 - ▣ BMP not required
 - ▣ No floodplain submittal required
 - ▣ Wetland disturbance, wetland submittal required
 - Permanent impacts must be mitigated at 1.5:1 ratio, while temporary impacts must be restored to pre-construction conditions
 - Buffer restoration at 1:1 ratio
 - ▣ No riparian submittal required
- Under Proposed DCSFPO Draft 1
 - ▣ No detention required
 - ▣ BMP not required
 - ▣ No floodplain submittal required
 - ▣ Wetland disturbance, wetland submittal required
 - Permanent impacts must be mitigated at 1.5:1 ratio, while temporary impacts must be restored to pre-construction conditions
 - Buffer restoration at 1:1 ratio
 - ▣ No riparian submittal required

EX. 4 Routine Utility Work Involving Wetlands

- Under Proposed DCSFPO Draft 1
 - ▣ No detention required
 - ▣ BMP not required
 - ▣ No floodplain submittal required
 - ▣ Wetland disturbance, wetland submittal required
 - Permanent impacts must be mitigated at 1.5:1 ratio, while temporary impacts must be restored to pre-construction conditions
 - Buffer restoration at 1:1 ratio
 - ▣ No riparian submittal required
- Under Proposed DCSFPO Draft 2
 - ▣ No detention required
 - ▣ BMP not required
 - ▣ No floodplain submittal required
 - ▣ Wetland disturbance, wetland submittal required
 - Permanent impacts must be mitigated at 1.5:1 ratio, while temporary impacts must be restored to pre-construction conditions
 - Buffer restoration at 1:1 ratio
 - ▣ No riparian submittal required

EX. 4 Routine Utility Work involving Wetlands

- Summary of changes with new ordinance
 - ... No change between Draft 1 and Draft 2. Therefore, neutral on technical requirements.
 - ... A General Certification is being proposed for these types of routine projects which will save both permitting time and costs to prepare applications. Potential savings of \$3500 plus possible savings in review fees.
 - ... Temporary wetland impacts are now formally recognized by the Ordinance as not requiring “mitigation” (1.5:1) if they can be restored.

EX. 5 Land Use Change-Residential to Mixed Use Development

- Details of project
 - ▣ Multiple existing residential homes on 12.46 acres
 - ▣ Zone AE floodplain (base flood elevation defined) and wetland exist onsite
 - ▣ Demolish existing homes
 - ▣ Construct new buildings, detention, compensatory storage for floodplain fill, parking, sidewalks

EX. 5 Land Use Change-Residential to Mixed Use Development

- Under Existing DCSFPO
 - Detention required for disturbed area
 - BMP required for disturbed area
 - Zone AE floodplain fill, submittal required
 - Incremental compensatory storage required at 1.5:1 ratio
 - FEQ BFE available and used for flood protection elevation if higher than FEMA elevation
- Under Proposed DCSFPO Draft 1
 - Detention required for disturbed area-volume required reduced by credit for volume control BMP
 - BMP required for Impervious surfaces, including volume control BMP
 - Zone AE floodplain fill, submittal required
 - Incremental compensatory storage required at 1.5:1 ratio, placement of increment flexible
 - FEQ BFE available and used for flood protection elevation if higher than FEMA elevation

EX. 5 Land Use Change-Residential to Mixed Use Development

- Under Proposed DCSFPO Draft 1
 - Detention required for disturbed area-volume required reduced by credit for volume control BMP
 - BMP required for Impervious surfaces, including volume control BMP
 - Zone AE floodplain fill, submittal required
 - Incremental compensatory storage required at 1.5:1 ratio, placement of increment flexible
 - FEQ BFE available and used for flood protection elevation if higher than FEMA elevation
- Under Proposed DCSFPO Draft 2
 - Detention required for disturbed area-volume required reduced by credit for volume control BMP
 - BMP required for Impervious surfaces, including volume control BMP
 - Zone AE floodplain fill, submittal required
 - Incremental compensatory storage required at 1.5:1 ratio, placement of increment flexible
 - If FEQ BFE available will be used for flood protection elevation if higher than FEMA elevation

EX. 5 Land Use Change-Residential to Mixed Use Development

- Under Existing DCSFPO
 - Wetland disturbance, wetland submittal required
 - Practicable alternatives analysis required
 - Wetland mitigated at 1.5:1 (Fee-in-lieu)
 - Riparian impacts proposed, riparian submittal required
 - Riparian impacts must be mitigated at 1:1 ratio
- Under Proposed DCSFPO Draft 1
 - Wetland disturbance, wetland submittal required
 - Practicable alternatives analysis required
 - Wetland mitigated at 1.5:1 (Fee-in-lieu)
 - Buffer mitigation not applicable for lawn and existing impervious surfaces.

EX. 5 Land Use Change-Residential to Mixed Use Development

- Under Proposed DCSFPO Draft 1
 - Wetland disturbance, wetland submittal required
 - Practicable alternatives analysis required
 - Wetland mitigated at 1.5:1 (Fee-in-lieu)
 - Buffer mitigation not applicable for lawn and existing impervious surfaces.
- Under Proposed DCSFPO Draft 2
 - Wetland disturbance, wetland submittal required
 - Practicable alternatives analysis required
 - Wetland mitigated at 1.5:1 (Fee-in-lieu)
 - Buffer mitigation not applicable for lawn and existing impervious surfaces.

EX. 5 Land Use Change-Residential to Mixed Use Development

- Summary of changes with new ordinance
 - ... No change between Draft 1 and Draft 2
 - ... Volume Control BMP required, but cost offset by reduced detention volume and reduced design requirement for BMPs overall. Cost neutral.
 - ... Floodplain Compensatory Storage placement is more flexible, only two increments specified at 1:1 and extra 0.5:1 volume anywhere below BFE. Cost savings.
 - ... No Separate Riparian analysis and mitigation required, Time savings.

EX. 6 Commercial Reconstruction of a Largely Impervious Site

- Details of project
 - Existing non-residential lot on 1.01 acres
 - Zone AE floodplain encroaches onsite by elevation
 - Demolish existing building
 - Construct new building, detention, compensatory storage, parking, sidewalks

EX. 6 Commercial Reconstruction of a Largely Impervious Site

- Under Existing DCSFPO
 - Detention required for 2 year 24 hour event (not 100 year)
 - BMP required
 - Zone AE floodplain fill, submittal required
 - Incremental compensatory storage required at 1.5:1 ratio
- Under Proposed DCSFPO Draft 1
 - Detention not required since Impervious area reduced 5%
 - Additional BMP not required (recognizes reduction in impervious surface)
 - Zone AE floodplain fill, submittal required
 - Compensatory storage required at 1:1 ratio, area filled is a closed depression

EX. 6 Commercial Reconstruction of a Largely Impervious Site

- Under Proposed DCSFPO Draft 1
 - Detention not required since Impervious area reduced 5%
 - Additional BMP not required (recognizes reduction in impervious surface)
 - Zone AE floodplain fill, submittal required
 - Compensatory storage required at 1:1 ratio, area filled is a closed depression
- Under Proposed DCSFPO Draft 2
 - Detention not required since Impervious area reduced 5%
 - No BMP required (recognizes reduction in impervious surface)
 - Zone AE floodplain fill, submittal required
 - Compensatory storage required at 1:1 ratio, area filled is a closed depression

EX. 6 Commercial Reconstruction of a Largely Impervious Site

- Under Existing DCSFPO
 - ▣ Riparian impacts proposed, riparian submittal required but no mitigation necessary (impervious to impervious)
 - ▣ No wetland
- Under Proposed DCSFPO Draft 1
 - ▣ Floodplain area considered Buffer, but no mitigation required for previously existing areas
 - ▣ No wetland

EX. 6 Commercial Reconstruction of a Largely Impervious Site

- Under Proposed DCSFPO Draft 1
 - ▣ Floodplain area considered Buffer, but no mitigation required for previously existing areas
 - ▣ No wetland
- Under Proposed DCSFPO Draft 2
 - ▣ Floodplain area considered Buffer, but no mitigation required for previously existing areas
 - ▣ No wetland

EX. 6 Commercial Reconstruction of a Largely Impervious Site

- Summary of changes with new ordinance
 - ... No change between Draft 1 and Draft 2.
 - ... Fully recognizes the stormwater Benefits of reducing Impervious surfaces. Not providing detention saves \$54,000.
 - ... Floodplain Fill Ratio reduction for depressions saves \$9000 in Construction alone.

Cost Comparison

Summary of Cost Comparison Examples: Existing vs. Proposed DCSFPO

		Residential		Utility	Land use Change	Redevelopment
	EX. 1 Large Lot Teardown	EX.2 Addition	EX. 3 Accessory Structure	EX. 4 Maintenance with Wetlands	EX. 5 Residential to Mixed Use	EX 6 Teardown
Time Savings	Possible	Yes	Significant	Significant	Yes	Possible
Cost Savings	Yes	Yes	Significant	Yes	Neutral-minor	Significant

There were no changes between Draft 1 and Draft 2 for the relative costs identified within the above table. The presentation given to Stormwater Committee on January 17, 2012 regarding the comments received during the second Public Comment period identified a request from DMMC pertaining to a sliding scale for wetland mitigation. This request would only affect the Land Use Example 5 above. Although there would be a slight cost and time savings associated with the permitting requirements, the additional cost of the sliding scale wetland mitigation would greatly outweigh any cost savings. None of the other topics identified in the January 17th presentation appear to affect any costs above.



ECONOMIC IMPACT STUDY COMPARISON

<http://ec.dupageco.org/StormWaterUpdate/>

Questions???

