

Benefit Groups and Action Defs

Replacement of a Culvert



Where to start

Admin > Modeling Config > Benefit Groups

Benefit Groups ▾

[+ Add New Benefit Group](#)

Benefit Group Name ▲	Description	Linked Actions	Active	Sort Order ▲	Child Benefit Groups
<input type="text"/>	<input type="text" value="Culvert"/>	<input type="text"/>	<input type="checkbox"/>		<input type="text"/>
Replacement-Culvert NEW	Replacement-Culvert NEW	Replace Culvert NEW - Network	<input checked="" type="checkbox"/>	200	Link to Child Groups
Rehab Culvert	Rehab Culvert	Rehab Culvert - Network	<input checked="" type="checkbox"/>	9999	Link to Child Groups
Replace Culvert	Replace Culvert	Replace Structure - Network	<input checked="" type="checkbox"/>	9999	Seal Joints Link to Child Groups

Navigation: ⏪ 1 ⏩ Page size: 3 items in 1 pages



4



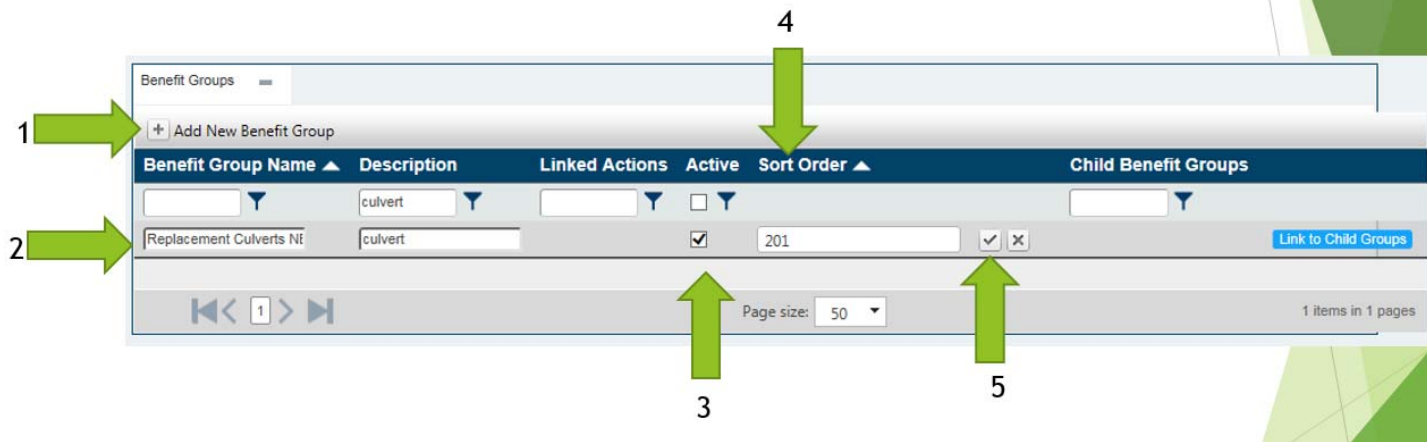
Benefit Groups


+ Add New Benefit Group

Benefit Group Name ▲	Description	Linked Actions	Active	Sort Order ▲	Child Benefit Groups
	culvert		<input type="checkbox"/>		
Replacement Culverts NE	culvert		<input checked="" type="checkbox"/>	201	<input checked="" type="checkbox"/> <input type="checkbox"/> Link to Child Groups

Page size: 50

1 items in 1 pages



- 1) Add a new Benefit Group
- 2) Name you Group (Come up with a naming convention first)
- 3) Making it Active so it can be used in the Action Def's
- 4) Come up with a sort number that works for you (all Culvert in the 200's or all replacements)
- 5) The check box to save ... before you 

Now you can add elements into the type of changes that you are performing.

For complete replacement of an element using the "Replaced Element" is the easiest way.

The screenshot displays a software interface with six data tables, each with a header row and a body containing no records. Each table includes a 'Page size: 20' dropdown and '0 items in 1 pages' text.

- Changed Elements:** Columns: Element, Parent, Grandparent, Origin State, CS1, CS2, CS3, CS4.
- Removed Elements:** Columns: Element, Parent, Grandparent.
- Replaced Elements:** Columns: Orig. Element, Orig. Parent, New Element, Percent Replaced.
- Created Protecting Systems:** Columns: Element, Parent, Percent Coverage.
- Fields:** Columns: Table Name, Column Name, New Value, Increment.
- Risks-to reduce risk, use negative values:** Columns: Assessment Name, New Value, Increment.

If you are not using a type of change, close or minimize them to make it easier to work

Admin > Modeling Config > Benefit Groups

Benefit Groups

+ Add New Benefit Group

Benefit Group Name	Description	Linked Actions	Active	Sort Order	Child Benefit Groups
Replacement Culverts NEW	culvert		<input checked="" type="checkbox"/>	201	Link to Child Groups

Page size: 50 1 items in 1 pages

Replacement Culverts NEW - Changed Elements

Replacement Culverts NEW - Removed Elements

Replacement Culverts NEW - Replaced Elements

+ Add new record

Orig. Element	Orig. Parent	New Element	Percent Replaced
No records to display.			

Page size: 20 0 items in 1 pages

Replacement Culverts NEW - Created Protecting Systems

Replacement Culverts NEW - Fields

Replacement Culverts NEW - Risks- to reduce risk, use negative values



Orig. Element	Orig. Parent	New Element	Percent Replaced
(245) Pre Concrete Culvert	None	45) Pre Concrete Culvert	100

No records to display.

Page: 20 0 items in 1 pages



Replacing one element (1) with the same element (2)

Different Element

culvert - Replaced Elements

+ Add new record

Orig. Element	Orig. Parent	New Element	Percent Replaced	
(244) Masonry Culvert	None	45) Pre Concrete Culvert	100	✓ ✕
245 Pre Concrete Culvert	None	245 Pre Concrete Culvert	100	✎ ✕

Page size: 20 1 items in 1 pages

Replace element 244 with element 245

Custom Elements

- Wingwall
- (8245) Stone Masonry Wingwall
- (8246) Stone Masonry Return Wall
- (8247) Return Wall Other
- (8248) Wingwall Other
- (8305) Asphaltic Joint Material
- (8306) Sliding Plate Joints
- (8307) Bridge Joint Other
- (8316) Isolation Bearing
- (8335) Guardrail, Vehicular
- (8336) Conc Bridge Parapet
- (8366) Rip Rap
- (8367) Slope Blocks
- (8368) Graffiti
- (8370) Steel Diaphragms
- (8371) Conc Diaphragms
- (8374) Loose or Missing Bolts

culvert - Replaced Elements

+ Add new record

Orig. Element	Orig. Parent		Percent Replaced		
(8245) Stone Masonry W	None	14) R/C Culvert Wingwall		<input type="checkbox"/>	<input type="checkbox"/>
245 Pre Concrete Culvert	None	245 Pre Concrete Culvert	100	<input type="checkbox"/>	<input type="checkbox"/>
244 Masonry Culvert	None	245 Pre Concrete Culvert	100	<input type="checkbox"/>	<input type="checkbox"/>

Page size: 20 2 items in 1 pages



Replacement-Culvert NEW - Replaced Elements

+ Add new record

Orig. Element	Orig. Parent	New Element	Percent Replaced		
240 Steel Culvert	None	245 Pre Concrete Culvert	100		
241 Re Conc Culvert	None	245 Pre Concrete Culvert	100		
243 Other Culvert	None	245 Pre Concrete Culvert	100		
245 Pre Concrete Culvert	None	245 Pre Concrete Culvert	100		
8212 R/C Headwall	None	8212 R/C Headwall	100		
8510 Wearing Surfaces Arch -Culvert	None	8510 Wearing Surfaces Arch -Culvert	100		
8245 Stone Masonry Wingwall	None	8244 R/C Culvert Wingwall	100		
8246 Stone Masonry Return Wall	None	8213 R/C Return Wall	100		
242 Timber Culvert	None	245 Pre Concrete Culvert	100		
244 Masonry Culvert	None	245 Pre Concrete Culvert	100		
8244 R/C Culvert Wingwall	None	8244 R/C Culvert Wingwall	100		

⏪ 1 ⏩



Page size: 20

11 items in 1 pages

Change a field to show an non-element improvement

culvert - Fields

+ Add new record

Table Name ▲	Column Name ▲	New Value	Increment
inspevnt	scourcrit	8	 

Page size: 20

1 items in 1 pages

Action Def.... Or what you put in a Program

Coming up with a naming convention

Admin > Modeling Config > Action Defs

Action Defs

Search [Search](#)

	Name	Description	Notes	Order	Network Level	Bridge Replace	Required Minimum Cost	Action Type	Active	
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	\$ <input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	Add
	Drain-Cln/Clr Dck Drain/Dwnspout	Drainage-Clean/Clear Deck Drains/Downspouts	-1	78	<input type="checkbox"/>	<input type="checkbox"/>		<input type="text"/>	<input checked="" type="checkbox"/>	X

Name and fill-in all of the information

Admin > Modeling Config > Action Defs

Action Defs

Search [Search](#)

Name	Description	Notes	Order	Network Level	Bridge Replace	Required Minimum Cost	Action Type	Active	
<input type="text" value="Replacement-Culverts"/>	<input type="text" value="Replacement-Culverts all parts"/>	<input type="text" value="Not Bridges"/>	<input type="text" value="201"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	\$ <input type="text"/>	<input type="text" value="Network"/>	<input checked="" type="checkbox"/>	Add

Associated Benefit Groups for Action Replacement-Culverts

Metric English

Benefit Groups	
Please Select	<input type="button" value="Add"/>
Replacement-Culvert NEW	<input type="button" value="X"/>

Overriding Direct Cost (overrides unit-costs)

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$	sq.ft

Unit Costs

ID	Element Name	Cost Per Unit	Unit	?	
240	Steel Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
241	Re Conc Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
242	Timber Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
244	Masonry Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
245	Pre Concrete Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
300	Strip Seal Exp Joint (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8212	R/C Headwall (Replace)	\$	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8213	R/C Return Wall (Replace)	\$	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8244	R/C Culvert Wingwall (Replace)	\$	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8426	Concrete median barrier (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8510	Wearing Surfaces Arch -Culvert (Replace)	\$	sq.ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Indirect Cost

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	Please Select

Deferment Rules

Action Name	Deferment Interval (Years)	
Please Select		<input type="button" value="Add"/>
No records		



Associated Benefit Groups for Action Replacement-Culverts

Metric English

Benefit Groups	
Please Select	<input type="button" value="Add"/>
Replacement-Culvert NEW	<input type="button" value="X"/>

Overriding Direct Cost (overrides unit-costs)

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$	sq.ft

Unit Costs

ID	Element Name	Cost Per Unit	Unit	?	
240	Steel Culvert (Replace)	\$ 14000	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
241	Re Conc Culvert (Replace)	\$ 75	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
242	Timber Culvert (Replace)	\$ 75	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
244	Masonry Culvert (Replace)	\$ 100	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
245	Pre Concrete Culvert (Replace)	\$ 100	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
300	Strip Seal Exp Joint (Replace)	\$ 50	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$ 75	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$ 75	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8212	R/C Headwall (Replace)	\$ 300	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8213	R/C Return Wall (Replace)	\$ 300	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8244	R/C Culvert Wingwall (Replace)	\$ 300	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8426	Concrete median barrier (Replace)	\$ 200	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8510	Wearing Surfaces Arch -Culvert (Replace)	\$ 200	sq.ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Indirect Cost

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	Please Select

Deferment Rules

Action Name	Deferment Interval (Years)	
Please Select		<input type="button" value="Add"/>
No records		



Associated Benefit Groups for Action Replacement-Culverts

Metric English

Benefit Groups

Please Select

Replacement-Culvert NEW

Overriding Direct Cost (overrides unit-costs)

Enabled	Field Name	Cost Per Unit	Unit
<input checked="" type="checkbox"/>	Deck Area	\$ 400	sq.ft

Unit Costs

ID	Element Name	Cost Per Unit	Unit	?	
240	Steel Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
241	Re Conc Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
242	Timber Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
244	Masonry Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
245	Pre Concrete Culvert (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
300	Strip Seal Exp Joint (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8212	R/C Headwall (Replace)	\$	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8213	R/C Return Wall (Replace)	\$	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8244	R/C Culvert Wingwall (Replace)	\$	(LF)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8426	Concrete median barrier (Replace)	\$	ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8510	Wearing Surfaces Arch -Culvert (Replace)	\$	sq.ft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Indirect Cost

Enabled	Component	Estimation Method
<input type="checkbox"/>	Total Indirect Cost	Please Select

Deferment Rules

Action Name	Deferment Interval (Years)	
Please Select		<input type="button" value="Add"/>
No records		



Associated Benefit Groups for Action Replacement-Culverts

Metric English

Benefit Groups	
Please Select	<input type="button" value="Add"/>
Replace Culvert	<input type="button" value="X"/>



Overriding Direct Cost (overrides unit-costs) -

Enabled	Field Name	Cost Per Unit	Unit
<input checked="" type="checkbox"/>	Deck Area	\$ 400	sq.ft

Unit Costs +

Indirect Cost -

Enabled	Component	Estimation Method
<input checked="" type="checkbox"/>	Total Indirect Cost	Please Select

Deferment Rules -

Action Name	Deferment Interval (Years)	
Please Select		<input type="button" value="Add"/>

No records

Associated Benefit Groups for Action Replacement-Culverts

Metric English

Benefit Groups	
Please Select	<input type="button" value="Add"/>
Replace Culvert	<input checked="" type="checkbox"/>
Replace Joint Seals	<input checked="" type="checkbox"/>

Overriding Direct Cost (overrides unit-costs) -

Enabled	Field Name	Cost Per Unit	Unit
<input type="checkbox"/>	Deck Area	\$ 400	sq.ft

Unit Costs -

ID	Element Name	Cost Per Unit	Unit	?
240	Steel Culvert (Replace)	\$ 14000	ft	<input checked="" type="checkbox"/>
241	Re Conc Culvert (Replace)	\$ 75	ft	<input checked="" type="checkbox"/>
242	Timber Culvert (Replace)	\$ 75	ft	<input checked="" type="checkbox"/>
244	Masonry Culvert (Replace)	\$ 100	ft	<input checked="" type="checkbox"/>
245	Pre Concrete Culvert (Replace)	\$ 100	ft	<input checked="" type="checkbox"/>
300	Strip Seal Exp Joint (Replace)	\$	ft	<input checked="" type="checkbox"/>
301	Pourable Joint Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>
302	Compressn Joint Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>
303	Assem Jnt With Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>
304	Open Expansion Joint (Replace)	\$	ft	<input checked="" type="checkbox"/>
305	Assem Jnt Wthut Seal (Replace)	\$	ft	<input checked="" type="checkbox"/>
306	Other Joint (Replace)	\$	ft	<input checked="" type="checkbox"/>
8212	R/C Headwall (Replace)	\$ 300	(LF)	<input checked="" type="checkbox"/>
8213	R/C Return Wall (Replace)	\$ 300	(LF)	<input checked="" type="checkbox"/>
8244	R/C Culvert Wingwall (Replace)	\$ 300	(LF)	<input checked="" type="checkbox"/>
8305	Asphaltic Joint Material (Replace)	\$	(LF)	<input checked="" type="checkbox"/>
8426	Concrete median barrier (Replace)	\$ 200	ft	<input checked="" type="checkbox"/>
8510	Wearing Surfaces Arch -Culvert (Replace)	\$ 200	sq.ft	<input checked="" type="checkbox"/>

Indirect Cost +

Deferment Rules -

Action Name	Deferment Interval (Years)
Please Select	
No records	



- Please Select
- Bridge Washing
- Chipping of loose Concrete
- Clean and Paint Rebar
- Posting Signage
- Sidewalk Settlement work
- Under Deck Shoring
- Repair Washout
- Bearing Pedestal Repair
- Slope Paving Repair
- Substructure-Conc. Prot.Coat
- Bearings-Clean Assemblies/Paint
- Bearings-Install Auxiliary
- Bearings-Rehabilitation
- Bearings-Replace
- Bearings-Reset
- Joints-Clean
- Joints-Rehabilitate
- Joints-Repair
- Joints-Replace
- Deck - Extend Deck over Backwall
- Dck-Ptch spls->Dck-Repr(Pothole)
- Deck-Place Overlay
- Drill Arrest Holes
- Deck-Rehab
- Deck-Repair (Potholes)
- Deck-Repair Sidewalk
- Deck-Replace
- Deck-Resurface
- Deck-Seal

Deferment Rules

Action Name	Deferment Interval (Years)	
Please Select		Add
No records		

From here I would be off
to use this in a network
policy

*But that is another topic
for another time*

