Practice: 558 - Roof Runoff Structure

Scenario # 1 Roof Gutter

Scenario Description: **Actual Scenario # 1** **New York**

A roof runoff structure, consisting of gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313),Roofs and Covers (367), Composting Facility (317), Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Practice Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Practice Situation:

A gutter, downspout, and a separate outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 200 ft serviced with gutter, four downspouts, and appurtances. Use underground outlet or other associated practice to carry water beyond end of downspout.

Scenario Feature Measure:

Linear Length of gutter and downspout

Scenario Typical Size:	260	Linear Feet	Tot Unit Cost	$10.13

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Gutter, Aluminum, Small	200	Foot	$2.92	$584.00
Materials	Downspout, Aluminum, Small	60	Foot	$3.18	$190.80
Labor	General Labor	72	Hour	$23.16	$1,667.52
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
				Total Cost:	$2,632.51

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$7.59	EQIP-HU	$9.11
WHIP	$0.00	WHIP-HU	$0.00

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Scenario # 2 **Roof Gutter with Fascia**

Scenario Description: **Actual Scenario # 2** **New York**

A roof runoff structure, consisting of gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317), Roofs and Covers (367),Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Practice Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Practice Situation:

A gutter, downspout, and a separate outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 200 ft serviced with gutter, four downspouts, and appurtances. New 2' x8" facia board needed for proper attachement . Use underground outlet or other associated practice to carry water beyond end of downspout. Payment based on measured length of installed gutters and downspouts.

Scenario Feature Measure:

Linear Length of gutter w/fascia and downspout

Scenario Typical Size:	260	Foot	Tot Unit Cost	$14.12

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Downspout, Aluminum, Small	60	Foot	$3.18	$190.80
Materials	Gutter, Aluminum, Small	200	Foot	$2.92	$584.00
Materials	Dimension Lumber, untreated, rot	267	Board Foot	$1.81	$483.27
Labor	General Labor	96	Hour	$23.16	$2,223.36
Mobilization	Mobilization, small equipment	1	Each	$190.19	$190.19
				Total Cost:	$3,671.62

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$10.59	EQIP-HU	$12.71
WHIP	$0.00	WHIP-HU	$0.00

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Scenario # 3 Concrete Curb

Scenario Description: **Actual Scenario # 3** **New York**

A roof runoff structure, consisting of a concrete curb or parabolic channel installed on existing impervious surface or the ground with appropriate outlet facilities. Environmental/design considerations, for example – snow loads, or a building without proper structural support needed for gutters dictate the use of an on-ground concrete curb. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects the environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Roofs and Covers (367), Composting Facility (317), Heavy Use Area Protection (561), Underground Outlet (620), and Diversion (362).

Before Practice Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Practice Situation:

A concrete curb or parabolic channel and outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Concrete curb (8" high) on a 2' wide slab extending the length of a 200' roof with additional length (5') for stable outlet.

Scenario Feature Measure:

Linear Length of Curb

Scenario Typical Size:	205	Linear Feet	Tot Unit Cost	$22.52

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Graded	8	Cubic yard	$30.22	$241.76
Equip./Install.	Concrete, CIP, slab on grade,	7	Cubic yard	$221.81	$1,552.67
Equip./Install.	Hauling, bulk, highway truck	130	Cubic Yard Mile	$0.36	$46.80
Equip./Install.	Demolition, concrete	5	Cubic Yard	$19.15	$95.75
Equip./Install.	Excavation, Common Earth, side	8	Cubic yard	$2.48	$19.84
Equip./Install.	Concrete, CIP, formed reinforced	4	Cubic yard	$477.12	$1,908.48
Labor	General Labor	8	Hour	$23.16	$185.28
Mobilization	Mobilization, medium equipment	2	Each	$282.78	$565.56
				Total Cost:	$4,616.14

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$16.89	EQIP-HU	$20.27
WHIP	$0.00	WHIP-HU	$0.00

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Scenario # 4 Trench Drain

Scenario Description: **Actual Scenario # 4** **New York**

A roof runoff structure, consisting of a trench filled with rock, with a polyethylene, corrugated, perforated drain tile installed in trench bottom. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Environmental/design considerations, for example – snow loads, or a building without proper structural support needed for gutters dictate the use of a trench drain. Facilitates waste management and protects the environment by minimizing clean water additions to waste systems and addresses water quality concerns. Associated practices include Waste Storage Facility (313), Composting Facility (317) ,Roofs and Covers (367), Heavy Use Area Protection (561), Underground Outlet (620), and Diversion (362).

Before Practice Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Practice Situation:

A 2' deep by 3' wide by 200 long deep rock filled, tile drained trench. Trench system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. If discharge point needs to be elsewhere use additional applicable practice.

Scenario Feature Measure:

Linear Length Drain

Scenario Typical Size:	200	Linear Feet	Tot Unit Cost	$13.04

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, HDPE, 4", PCPT, Single Wall	220	Foot	$0.45	$99.00
Materials	Aggregate, Gravel, Graded	44	Cubic yard	$30.22	$1,329.68
Equip./Install.	Geotextile, woven	222	Square Yard	$2.48	$550.56
Equip./Install.	Excavation, Common Earth, side	44	Cubic yard	$2.48	$109.12
Labor	General Labor	6	Hour	$23.16	$138.96
Mobilization	Mobilization, small equipment	2	Each	$190.19	$380.38
				Total Cost:	$2,607.70

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$9.78	EQIP-HU	$11.73
WHIP	$0.00	WHIP-HU	$0.00

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Scenario # 5 Stone Infiltration Sump

Scenario Description: **Actual Scenario # 5** **New York**

A roof runoff structure, consisting of a square hole lined with geotextile and filled with rock and covered with soil. Used to redirect roof runoff for gound water recharge and reduce surface flow into streams. Reduces erosion and helps improve water quality.

Associated practices include Waste Storage Facility (313), Agrichemical Handling Facility (309), Composting Facility (317), Roofs and Covers (367), Heavy Use Area Protection (561), Underground Outlet (620), and Diversion (362) Critical Area Seeding (342)

Before Practice Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Practice Situation:

Two, 6' x6' x 8' deep holes were dug and lined with geotextile and filled to within 1.5' of suface. The remaining surface filled with soil. Each has a 10' of 4" pipe coming from a downspout or underground outlet into this sump and 10 ' of 4" overflow pipe is also included. Payment includes all work and piping. Seeding will be done by others when site work done. Sumps located away from downspouts and good outlets will require additional piping under Underground Outlet (620)

Scenario Feature Measure:

Each stone infiltration sump

Scenario Typical Size:	2	Each	Tot Unit Cost	$1,096.48

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Graded	16	Cubic yard	$30.22	$483.52
Materials	Pipe, PVC, 4", SCH 40	40	Foot	$3.96	$158.40
Equip./Install.	Geotextile, woven	30	Square Yard	$2.48	$74.40
Equip./Install.	Backhoe, 80 HP	8	Hour	$61.42	$491.36
Labor	Skilled Labor	8	Hour	$39.82	$318.56
Labor	Equipment Operators, Heavy	8	Hour	$36.55	$292.40
Labor	Supervisor or Manager	2	Hour	$45.77	$91.54
Mobilization	Mobilization, medium equipment	1	Each	$282.78	$282.78
				Total Cost:	$2,192.96

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$822.36	EQIP-HU	$986.83
WHIP	$0.00	WHIP-HU	$0.00