

**100% Design Cost Estimate for Excavation and Offsite Disposal IRM  
Stormwater, Catch Basin, and Outfall Area  
Former AFP-51 Greece, NY**

**CONCEPTUAL COST ESTIMATE SUMMARY**

**Excavation and Offsite Disposal**

<b>Site:</b> Former Air Force Plant, Septic Systems Area <b>Location:</b> Greece, New York <b>Phase:</b> 100% RD - Stormwater System / CB-1 and Outfall Area <b>Base Year:</b> 2016 <b>Date:</b> April 29, 2016	<b>Description:</b> Excavation and offsite disposal of infrastructure and impacted surface soil within the catch basin CB-1 area and outfall as an interim remedial measure, followed by post-excavation sampling, backfill and restoration, and replacement of the system.
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Item No.	Description	Quantity	Unit	Unit Cost	Total	Notes
<b>Estimated Costs:</b>						
<b>1</b>	<b>Site Survey</b>					
1.1	Topographic Survey / GIS flagging of boundaries and historic sample points	1	LS	\$ 4,500	\$ 4,500	
	<b>Sub-Total</b>				<b>\$ 4,500</b>	
<b>2</b>	<b>Site Mobilization/Demobilization</b>					
2.1	Coordination/Permitting/Submittals (by Contractor)	1	LS	\$ 20,000	\$ 20,000	
2.2	Trailer with utilities, sanitary facilities	2	mo	\$ 2,000	\$ 4,000	
2.3	Decontamination Station	1	LS	\$ 5,000	\$ 5,000	Portable decontamination pad/truck tire wash
	<b>Sub-Total</b>				<b>\$ 29,000</b>	
<b>3</b>	<b>Health and Safety</b>					
3.1	Perimeter Air Monitoring	3	Week	\$ 1,200	\$ 3,600	Tripod station with Dust and PID monitors
3.2	H&S Monitoring	3	Week	\$ 300	\$ 900	Meters for monitoring work zone
3.3	PPE and Field Supplies	1	LS	\$ 5,000	\$ 5,000	
	<b>Sub-Total</b>				<b>\$ 9,500</b>	
<b>4</b>	<b>Site Preparation</b>					
4.1	Stabilized construction entrance to work area	1	LS	\$ 3,000	\$ 3,000	
4.2	Site Clearing around SW Outfall area	1	Day	\$ 3,000	\$ 3,000	
4.3	Temporary Security Fence	450	LF	\$ 25	\$ 11,250	for equipment only
4.4	Place and Maintain E&S Controls	1	LS	\$ 5,000	\$ 5,000	
4.5	Protection of infrastructure (CB-2, SW pipe not designated for removal)	1	LS	\$ 7,500	\$ 7,500	includes some perimeter silt fencing
4.6	Soil and Waste Staging Areas	1	LS	\$ 8,000	\$ 8,000	including considerations for dewatering of staged soil.
4.7	Temporary Stormwater and Water Treatment Facility	1	LS	\$ 20,000	\$ 20,000	handle storm water during excavation/replacement
	<b>Sub-Total</b>				<b>\$ 57,750</b>	

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**Excavation and Offsite Disposal**

<b>Site:</b>	Former Air Force Plant, Septic Systems Area	<b>Description:</b>	Excavation and offsite disposal of infrastructure and impacted surface soil within the catch basin CB-1 area and outfall as an interim remedial measure, followed by post-excavation sampling, backfill and restoration, and replacement of the system.
<b>Location:</b>	Greece, New York		
<b>Phase:</b>	100% RD - Stormwater System / CB-1 and Outfall Area		
<b>Base Year:</b>	2016		
<b>Date:</b>	April 29, 2016		

Item No.	Description	Quantity	Unit	Unit Cost	Total	Notes
<b>5</b>	<b>Excavation, Off-site Disposal and Restoration</b>					
5.1	Mob of Construction Equipment	1	LS	\$ 10,000	\$ 10,000	
5.2	Excavation of catch basin CB-1 and piping	8	Day	\$ 6,500	\$ 52,000	Typical Daily Rate for Equipment and Field Crew
5.3	Removal and disposal of catch basin liquid contents	1	LS	\$ 2,000	\$ 2,000	
5.4	Removal and disposal of catch basin solids contents	1	LS	\$ 400	\$ 400	
5.5	Water Supply / Pressure washer	5,000	Gallons	\$ 0.50	\$ 2,500	Decontamination; pipe flushing
5.6	Pipe removal (18" sanitary); cut / clean and prep for disposal	790	CY	\$ 50	\$ 39,500	Includes flushing of sections of pipe during removal; collecting washwaters; cutting total 721 ft of 18-inch concrete pipe and staging prior to disposal. Excavation depth for 371 ft of pipe from CB2 to CB1 assumed to be 5 feet bgs. and for 350 ft of pipe from CB-1 to outfall assumed to be 7.5 feet bgs. Width of excavation for pipe runs assumed to be 5 feet.
5.7	Soil Excavation	2,000	CY	\$ 25	\$ 50,000	Excavate impacted soil from CB-1, pipe trenches, misc debris area and outfall area. Includes 20% contingency on excavation quantities estimated for the CB-1 system / outfall area (1,593 cy).
5.8	Dewatering during excavation	1	LS	\$ 20,000	\$ 20,000	
5.9	Treatment of water, decon water, and wash water (assumed preferred over Loading/transport/dispose excavation)	30,000	Gallons	\$ 0.25	\$ 7,500	
5.10	Load out prep (soil)	2,300	CY	\$ 15	\$ 34,500	Loading of trucks for off-site disposal, or staging soils for possible on-site reuse. Includes 15% contingency on excavation quantities estimated for the CB-1 system / outfall area to account for moisture.
5.11	Transportation & Disposal (Non-haz soil)	4,000	Ton	\$ 65	\$ 260,000	Disposal as non-hazardous material at Class D site. Includes Waste Classification sampling. No reuse of soil assumed.
5.12	Transportation & Disposal (Haz soil)	400	Ton	\$ 150	\$ 60,000	Assumed 10% Disposal as hazardous material. Includes Waste Classification sampling.
5.13	Transportation & Disposal (scrap metal, piping)	150	Ton	\$ 65	\$ 9,750	Anticipated to be encountered within the pipe trench between CB-2 and CB-1
5.14	Transportation & Disposal (concrete and CB-1 components)	70	Ton	\$ 65	\$ 4,550	Anticipated to be encountered within the pipe trench between CB-2 and CB-1; CB-1 and abandoned pipe; and pipe trench between CB-1 and outfall
5.15	Backfill	2,000	CY	\$ 28	\$ 56,000	Importing certified clean fill, includes placement, hauling, compaction
5.16	Compaction / Grading	5,000	SF	\$ 3.50	\$ 17,500	12" lifts, mechanical compaction east of wood line; grading in wooded area.
5.17	Topsoil	200	Ton	\$ 40.00	\$ 8,000	6" Topsoil over select areas (assumed to encompass 5,000 s.f.)
5.18	Backfill Source Sampling	3	EA	\$ 750	\$ 2,250	PCBs/Pesticides, VOCs, SVOCs, metals analysis, every 1,000 cy
5.19	Post Excavation Sampling	10	EA	\$ 1,150	\$ 11,500	End point sampling per DER-10; includes labor and analytical
5.20	Waste Characterization Sampling	10	EA	\$ 1,150	\$ 11,500	includes foundation water if encountered and soil, chip samples; labor and analytical
5.21	Decon Water Storage, Characterization (for on-site treatment)	1	LS	\$ 2,000	\$ 2,000	
5.22	Post-excavation Surveying	1	LS	\$ 2,000	\$ 2,000	
5.23	Installation of new catch basin	1	LS	\$ 15,000	\$ 15,000	
5.24	Installation and connection of new piping	720	LF	\$ 25	\$ 18,000	material and installation of 720 LF of piping
5.25	Locate and abandon floor drains	1	LS	\$ 2,000	\$ 2,000	
5.26	Startup testing of water treatment system	1	LS	\$ 3,000	\$ 3,000	
5.27	Surface Restoration / seeding	100	SY	\$ 5	\$ 500	assumes planting of shrubs and trees
5.28	Demobilization	1	LS	\$ 10,000	\$ 10,000	
	<b>Sub-Total</b>				<b>\$ 711,950</b>	

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**CONCEPTUAL COST ESTIMATE SUMMARY**

**Excavation and Offsite Disposal**

<p><b>Site:</b> Former Air Force Plant, Septic Systems Area  <b>Location:</b> Greece, New York  <b>Phase:</b> 100% RD - Stormwater System / CB-1 and Outfall Area  <b>Base Year:</b> 2016  <b>Date:</b> April 29, 2016</p>	<p><b>Description:</b> Excavation and offsite disposal of infrastructure and impacted surface soil within the catch basin CB-1 area and outfall as an interim remedial measure, followed by post-excavation sampling, backfill and restoration, and replacement of the system.</p>
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Item No.	Description	Quantity	Unit	Unit Cost	Total	Notes
<b>6</b>	<b>Reporting</b>					
	Contractor Reports (As built and Construction Completion Report)					
6.1		1	LS	\$ 25,000	\$ 25,000	Does not include Site Management Plan or FER
	<b>Sub-Total</b>				<b>\$ 25,000</b>	
	<b>Sub-Total - Estimated Costs</b>				<b>\$ 837,700</b>	Sub-Total All Construction Costs.
	Contingency	15%			\$ 125,655	10% scope + 5% bid
	<b>Sub-Total</b>				<b>\$ 963,355</b>	
	<b>Project Management</b>	2%			\$ 19,267	
	<b>Construction Management / Inspections</b>	4%			\$ 38,534	
	<b>Total Estimated Construction Costs:</b>				<b>\$1,021,160</b>	

**100% Design Cost Estimate for Excavation and Offsite Disposal IRM  
Former Septic System/Leachfield Area  
Former AFP-51 Greece, NY**

**CONCEPTUAL COST ESTIMATE SUMMARY**

**Excavation and Offsite Disposal**

<b>Site:</b> Former Air Force Plant, Septic Systems Area <b>Location:</b> Greece, New York <b>Phase:</b> 100% RD - Former Septic System / Leachfield Area <b>Base Year:</b> 2016 <b>Date:</b> April 29, 2016	<b>Description:</b> Excavation and offsite disposal of infrastructure and impacted surface soil within the septic tank and leach field area as an interim remedial measure, followed by post-excavation sampling, backfill and restoration.
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Item No.	Description	Quantity	Unit	Unit Cost	Total	Notes
<b>Estimated Costs:</b>						
<b>1</b>	<b>Site Survey</b>					
1.1	Topographic Survey / GIS flagging of boundaries and historic sample points	1	LS	\$ 7,500	\$ 7,500	
	<b>Sub-Total</b>				<b>\$ 7,500</b>	
<b>2</b>	<b>Site Mobilization/Demobilization</b>					
2.1	Coordination/Permitting/Submittals (by Contractor)	1	LS	\$ 25,000	\$ 25,000	
2.2	Trailer with utilities, sanitary facilities	2	mo	\$ 2,000	\$ 4,000	
2.2	Decontamination Station	1	LS	\$ 5,000	\$ 5,000	Portable decontamination pad/truck tire wash
	<b>Sub-Total</b>				<b>\$ 34,000</b>	
<b>3</b>	<b>Health and Safety</b>					
3.1	Perimeter Air Monitoring	3	Week	\$ 1,200	\$ 3,600	Tripod station with Dust and PID monitors
3.2	H&S Monitoring	3	Week	\$ 300	\$ 900	Meters for monitoring work zone
3.3	PPE and Field Supplies	1	LS	\$ 5,000	\$ 5,000	
	<b>Sub-Total</b>				<b>\$ 9,500</b>	
<b>4</b>	<b>Site Preparation</b>					
4.1	Stabilized construction entrance to work area	1	LS	\$ 3,000	\$ 3,000	
4.2	Site Clearing within Leach Field	3	Day	\$ 4,000	\$ 12,000	includes protection of select trees and monitoring wells
4.3	Temporary Security Fence	450	LF	\$ 25	\$ 11,250	
4.4	Place and Maintain E&S Controls	1	LS	\$ 5,000	\$ 5,000	
4.5	Protection of infrastructure	1	LS	\$ 10,000	\$ 10,000	includes some perimeter silt fencing
4.5	Soil and Waste Staging Areas	1	LS	\$ 8,000	\$ 8,000	including considerations for dewatering of staged soil.
4.6	Temporary Stormwater and Water Treatment Facility	1	LS	\$ 35,000	\$ 35,000	handle storm water during excavation/replacement
	<b>Sub-Total</b>				<b>\$ 84,250</b>	

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**Excavation and Offsite Disposal**

<b>Site:</b>	Former Air Force Plant, Septic Systems Area	<b>Description:</b>	Excavation and offsite disposal of infrastructure and impacted surface soil within the septic tank and leach field area as an interim remedial measure, followed by post-excavation sampling, backfill and restoration.
<b>Location:</b>	Greece, New York		
<b>Phase:</b>	100% RD - Former Septic System / Leachfield Area		
<b>Base Year:</b>	2016		
<b>Date:</b>	April 29, 2016		

Item No.	Description	Quantity	Unit	Unit Cost	Total	Notes
<b>5</b>	<b>Excavation, Off-site Disposal and Restoration</b>					
5.1	Mob of Construction Equipment	1	LS	\$ 12,000	\$ 12,000	
5.2	Excavation of septic tank and piping	7	Day	\$ 6,500	\$ 45,500	Typical Daily Rate for Equipment and Field Crew
5.3	Removal and disposal of septic tank liquid contents	1	LS	\$ 500	\$ 500	
5.4	Removal and disposal of septic tank solids contents	1	LS	\$ 400	\$ 400	
5.5	Water Supply / Pressure washer	3,000	Gallons	\$ 0.50	\$ 1,500	Decontamination; pipe flushing
						Includes flushing of sections of pipe during removal; collecting washwaters; cutting and staging pipe prior to disposal. 464 ft of 12-inch sanitary; 314 ft of 8-inch clay tile. Soil removal along pipe runs assumed to be 5 ft wide x 6 ft deep for 12" pipe and 2 ft wide x 5 ft deep for 8" pipe.
5.6	Pipe removal (12" sanitary; 8" clay tile); cut / clean and prep for disposal	620	CY	\$ 50	\$ 31,000	
						Excavate impacted soil from septic tank and leach field, and two pipe runs. Includes 15% contingency on excavation quantities estimated for the septic system (110 cy) and leachfield area (1,275 cy).
5.7	Soil Excavation	2,300	CY	\$ 25	\$ 57,500	
5.8	Dewatering during excavation	1	LS	\$ 20,000	\$ 20,000	
						Treatment of water, decon water, and wash water (assumed preferred over Loading/transport/dispose excavation)
5.9		30,000	Gallons	\$ 0.25	\$ 7,500	
						Loading of trucks for off-site disposal, or staging soils for possible on-site reuse. Includes 15% contingency on excavation quantities estimated for the septic system / leachfield area.
5.10	Load out prep (soil)	2,645	CY	\$ 15	\$ 39,675	
5.11	Transportation & Disposal (soil + piping and septic tank)	6,000	Ton	\$ 65	\$ 390,000	Disposal as non-hazardous material at Class D site. Includes Waste Classification sampling.
5.12	Backfill	2,000	CY	\$ 28	\$ 56,000	Importing certified clean fill, includes placement, hauling, compaction
5.13	Compaction / Grading	10,000	SF	\$ 3.50	\$ 35,000	12" lifts, mechanical compaction east of wood line; grading in wooded area.
5.14	Topsoil	300	Ton	\$ 40	\$ 12,000	6" Topsoil over select areas (assumed to encompass 10,000 s.f.)
5.15	Backfill Source Sampling	4	EA	\$ 750	\$ 3,000	PCBs/Pesticides, VOCs, SVOCs, metals analysis, every 1,000 cy
5.16	Post Excavation Sampling	20	EA	\$ 1,150	\$ 23,000	End point sampling per DER-10; includes labor and analytical
5.17	Waste Characterization Sampling	10	EA	\$ 1,150	\$ 11,500	includes foundation water if encountered and soil, chip samples; labor and analytical
5.18	Decon Water Storage, Characterization (for on-site treatment)	1	LS	\$ 2,000	\$ 2,000	
5.19	Post-excavation Surveying	1	LS	\$ 3,000	\$ 3,000	
5.20	Startup testing of water treatment system	1	LS	\$ 3,000	\$ 3,000	
5.21	Surface Restoration / seeding	2,500	SY	\$ 7	\$ 17,500	assumes planting of shrubs and trees
5.22	Demobilization	1	LS	\$ 20,000	\$ 20,000	
	<b>Sub-Total</b>				<b>\$ 791,575</b>	

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Item No.	Description	Quantity	Unit	Unit Cost	Total	Notes
<b>6</b>	<b>Reporting</b>					
6.1	Contractor Reports (As builds and Construction Completion Report)	1	LS	\$ 25,000	\$ 25,000	Does not include Site Management Plan or FER
	<b>Sub-Total</b>				<b>\$ 25,000</b>	
	<b>Sub-Total - Estimated Costs</b>				<b>\$ 951,825</b>	Sub-Total All Construction Costs.
	Contingency	15%			\$ 142,774	10% scope + 5% bid
	<b>Sub-Total</b>				<b>\$ 1,094,599</b>	
	<b>Project Management</b>	2%			\$ 21,892	
	<b>Construction Management / Inspections</b>	4%			\$ 43,784	
	<b>Total Estimated Construction Costs:</b>				<b>\$1,160,270</b>	