

Alternatives Cost Analysis*Projected Costs Summary Table**EE/CA - Caneel Bay Resort Site*

| | Alternative 2 | |
|------------------------------------|---|--------------------------------|
| | Remove and dispose of ACM Debris | |
| | Undiscounted | Net Present Value (NPV) |
| Projected Capital Cost | \$ 382,000 | \$ 388,000 |
| <i>Capital Scope Contingency</i> | <i>\$ 57,000</i> | <i>\$ 58,000</i> |
| <i>Capital Bid Contingency</i> | <i>\$ 57,000</i> | <i>\$ 58,000</i> |
| Projected Remediation Total | \$ 496,000 | \$ 504,000 |

1.1. Alternative 2 - Remove and dispose of ACM Debris

Detailed Cost Projection

EE/CA - Caneel Bay Resort Site

| | |
|--------------------|-------|
| Present Value Year | 2022 |
| Start Year | 2023 |
| Discount Rate | -1.6% |

March 15, 2022 Discount Rates for OMB Circular No. A-94 (5-yr real rate)

| Task | Quant. | Unit | Occurrence | Daily Output | Estimated Duration (d) | Unit Cost | Mark-up | Total Projected Cost | Total Projected Cost - Net Present Value | Net Present Value Calculations | | | | | | Notes/Source | |
|--|--------|------|------------|--------------|------------------------|-----------|---------|----------------------|--|--------------------------------|---------------------------|---------------------------------|------------|----------|----------------------------------|--------------|-------------------------------|
| | | | | | | | | | | Cost Type (F/A) | Recurrence Frequency (yr) | Eff. Rate for Recurrence Period | Start Year | Duration | Start-Year Value of Annual Costs | | |
| Remediation Capital Total | | | | | | | | \$ 381,798 | \$ 388,007 | | | | | | | | |
| Capital Scope Contingency | 15% | | | | | | | \$ 57,270 | \$ 58,201 | | | | | | | | EPA 540-R-00-002, Section 5.4 |
| Capital Bid Contingency | 15% | | | | | | | \$ 57,270 | \$ 58,201 | | | | | | | | EPA 540-R-00-002, Section 5.4 |
| Remediation Total + Contingencies | | | | | | | | \$ 496,338 | \$ 504,409 | | | | | | | | |

1 Professional/Technical Services Capital Costs

| | | | | | | | | | | \$ 76,360 | \$ 77,601 | | | | | | | |
|--|----|--|--|--|--|--|--|--|--|-----------|-----------|--|--|--|--|--|--|---|
| Professional/Technical Services Capital Costs | | | | | | | | | | \$ 76,360 | \$ 77,601 | | | | | | | |
| Professional/Technical Services | | | | | | | | | | | | | | | | | | |
| Project Management | 5% | | | | | | | | | \$ 15,272 | \$ 15,520 | | | | | | | EPA 540-R-00-002, Exhibit 5-8. Includes planning, reporting, community relations, bid/contract administration, permitting. |
| Remedial Design | 8% | | | | | | | | | \$ 24,435 | \$ 24,832 | | | | | | | EPA 540-R-00-002, Exhibit 5-8. Includes pre-design collection & analysis of field data, engineering survey, design analysis, plans, specification, cost estimating, scheduling. |
| Customs/Expediting | 6% | | | | | | | | | \$ 18,326 | \$ 18,624 | | | | | | | Contractor experience |
| Construction Management | 6% | | | | | | | | | \$ 18,326 | \$ 18,624 | | | | | | | EPA 540-R-00-002, Exhibit 5-8. Includes submittal review, design modifications, construction oversight, engineering survey, O&M manual preparation, QC/QA, record drawings. |

2 Remedy Construction

| | | | | | | | | | | \$ 305,439 | \$ 310,405 | | | | | | | |
|---|--|---------------------------|-----------|---|-----|------|-------------|---|-----------|------------|------------|---|--------|---|---|--|--|--|
| Contractor Costs | | | | | | | | | | \$ 305,439 | \$ 310,405 | | | | | | | |
| Contractor - Excavation/ ACM remov | | Estimated Duration | | | | | | | | | | | | | | | | |
| | | 22.3 | d | | | | | | | | | | | | | | | |
| Mob/Demob Front end loader (FEL), Excavator | Mobilization, Equipment hauled on 40-ton capacity towed trailer | 4 | ea | 1 | NA | NA | \$ 1,029.17 | 1 | \$ 4,117 | \$ 4,184 | F | 1 | -1.60% | 1 | 1 | | | RSMMeans 2022, 015436501500 x 1.63 (DoD Area Cost Factor for VI) + \$150 for barge. |
| Clearing and grubbing | Remove medium trees up to 12" diameter, cut and chip for access | 10 | acre | 1 | 0.7 | 14.3 | \$ 5,163.80 | 1 | \$ 51,638 | \$ 52,478 | F | 1 | -1.60% | 1 | 1 | | | RSMMeans 2022, 311110100200 x 1.63 (DoD Area Cost Factor for VI) |
| Excavator, FEL | Excavating, Bulk, FEL, Open Site, 700 HP, 150' Haul, common earth | 160 | CY | 1 | 20 | 8 | \$ 6.19 | 1 | \$ 991 | \$ 1,007 | F | 1 | -1.60% | 1 | 1 | | | Daily Ouput Limited by loading to containers for transportation to US continental landfill (Assumes ten 20 CY containers) Rate based on RSMMeans 2022, 312316466040 x 1.63 (DoD Area Cost Factor for VI) |
| Excavation, soil on-Site transport/stockpiling, & loading on trucks | Excavating, Bulk Bank Measure, Common Earth Piled, Front end loader, wheel mounted, 5 CY | 160 | CY | 1 | 800 | NA | \$ 2.20 | 1 | \$ 352 | \$ 358 | F | 1 | -1.60% | 1 | 1 | | | RSMMeans 2022, 312316421650 x 1.63 (DoD Area Cost Factor for VI) |
| Dust Control | Dust Control, Light | 8 | day | 1 | NA | 8 | \$ 1,668.68 | 1 | \$ 13,349 | \$ 13,567 | F | 1 | -1.60% | 1 | 1 | | | RSMMeans 2022, 312323202500 x 1.63 (DoD Area Cost Factor for VI) |
| Truck Liners | Disposable plastic truck liners, per load | 10 | Container | 1 | NA | NA | \$ 25.00 | 1 | \$ 250 | \$ 254 | F | 1 | -1.60% | 1 | 1 | | | Commerical cost |
| ACM Hauling off island | 40' container, up to 20 CY and 40,000 lbs, transport to St. John | 8 | Container | 1 | NA | NA | \$ 2,500.00 | 1 | \$ 20,000 | \$ 20,325 | F | 1 | -1.60% | 1 | 1 | | | Estimate provided by On-Site Environmental, based on recent costs |
| ACM Hauling St. Thomas to FL | 40' container, up to 20 CY and 40,000 lbs, transport to Florida | 8 | Container | 1 | NA | NA | \$ 6,347.50 | 1 | \$ 50,780 | \$ 51,606 | F | 1 | -1.60% | 1 | 1 | | | Estimate provided by On-Site Environmental, based on recent costs |
| ACM hauling from port to WM landfill | 40' container, up to 20 CY and 40,000 lbs, transport to WM landfill | 8 | Container | 1 | NA | NA | \$ 3,500.00 | 1 | \$ 28,000 | \$ 28,455 | F | 1 | -1.60% | 1 | 1 | | | Estimate provided by On-Site Environmental, based on recent costs |
| ACM disposal WM landfill Florida | Off-Site Disposal of ACM at Florida landfill | 8 | Container | 1 | NA | NA | \$ 6,975.00 | 1 | \$ 55,800 | \$ 56,707 | F | 1 | -1.60% | 1 | 1 | | | Estimate provided by On-Site Environmental, based on recent costs |
| Decontamination | Pressure Washer 5 gpm, 3000 psi, Incl. Hourly Oper. Cost | 2 | week | 1 | NA | NA | \$ 728.61 | 1 | \$ 1,166 | \$ 1,185 | F | 1 | -1.60% | 1 | 1 | | | RSMMeans 2022, 015433405450 x 1.63 (DoD Area Cost Factor for VI) |
| Washwater disposal | Transport and disposal of waste wash water drums | 1 | drum | 1 | NA | NA | \$ 5,000.00 | 1 | \$ 5,000 | \$ 5,081 | F | 1 | -1.60% | 1 | 1 | | | Lump sum estimate, 1 drum, shipped with other waste |
| Asbestos air monitoring | DustTrak II perimeter monitor rental and labor, sample shipping and analysis | 8 | day | 1 | NA | 8 | \$ 3,026.16 | 1 | \$ 24,209 | \$ 24,603 | F | 1 | -1.60% | 1 | 1 | | | Equipment rental and labor |
| Travel and per diem | Travel to/from island (1 RT flight per week), daily transportation, crew of 5 | 4 | flights | 5 | NA | NA | \$ 400.00 | 1 | \$ 8,914 | \$ 9,059 | F | 1 | -1.60% | 1 | 1 | | | Average flight costs from Puerto Rico |
| Per diem, accomodations | Per diem and accomodations, crew of 5 | 23 | day | 5 | NA | NA | \$ 353.00 | 1 | \$ 40,040 | \$ 40,691 | F | 1 | -1.60% | 1 | 1 | | | Reference 5.2, Travel Rates |
| Contractor - Seeding | | Estimated Duration | | | | | | | | | | | | | | | | |
| | | 0.4 | d | | | | | | | | | | | | | | | |
| Seeding | Hand sowing + native seed mix | 2 | acre | 1 | 5 | 0.4 | \$ 416.00 | 1 | \$ 832 | \$ 846 | F | 1 | -1.60% | 1 | 1 | | | \$200 for seed mix and 1 day of labor |

Notes

- RSMMeans unit rates adopted from RSMMeans 2022 Heavy Construction cost database, National Average. Rates include contractor overhead and profit.
- CY = Cubic Yard

2.0 Remediation Schedule*Alternatives Cost Evaluation**EE/CA - Caneel Bay Resort Site*

| Year | Remedy Construction | Annual Inspection/ Repairs |
|--------------|----------------------------|-----------------------------------|
| 1 | x | |
| Count | 1 | 0 |

3.0 Alternatives Areas & Volumes*Alternatives Cost Evaluation**EE/CA - Caneel Bay Resort Site***Global Parameters**

| Parameter | Value | Unit | Notes/Source |
|--|-------|-------------|--|
| Assumed Material Bulk Density | 1 | ton/CY | Generic estimate, includes roofing materials and some soil |
| Area for Clearing | 2 | Ac | Roofing and building debris = 2 ac |
| Material Volume - Non-friable asbestos | 160 | CY | ACM debris + 1 inch of soil |
| Area for revegetation | 2 | Ac | |
| Area for revegetation | 87.1 | Thousand SF | |

4.0 Technical/Professional Labor Rates*Alternatives Cost Evaluation**EE/CA - Caneel Bay Resort Site*

| Position | Rate |
|--|-------------|
| Practice Area Leader | 291.25 |
| Site Civil Engineer Specialist Level 8 | 248.1 |
| Site Civil Engineer Specialist Level 6 | 199.68 |
| Site Civil Engineer Specialist Level 3 | 90.77 |
| Environmental Scientist Level 7 | 150.99 |
| Environmental Scientist Level 3 | 73.67 |
| Project Assistant Level 3 | 66.56 |
| CADD Civil Engineer Specialist | 90.77 |

5.0 References

Alternatives Cost Evaluation

EE/CA - Caneel Bay Resort Site

EPA 540-R-00-002

<https://semspub.epa.gov/work/HQ/174890.pdf>

Accessed: 2021-04-22

| Exhibit 5-6 | |
|---|------------------------------|
| Example FS-Level Scope Contingency Percentages | |
| Remedial Technology | Scope Contingency (%) |
| Soil Excavation | 15-55 |
| Groundwater Treatment (Multiple) | 15-35 |
| On-Site Incineration | 15-35 |
| Extraction Wells | 10-30 |
| Vertical Barriers | 10-30 |
| Synthetic Cap | 10-20 |
| Sludge Stabilization | 10-20 |
| Off-Site Disposal | 5-15 |
| Off-Site Incineration | 5-15 |
| Drum Processing | 5-15 |
| Bulk Liquid Processing | 5-15 |
| Groundwater Treatment (Single) | 5-10 |
| Clay Cap | 5-10 |
| Surface Grading/Diking | 5-10 |
| Revegetation | 5-10 |

| Exhibit 5-8 | | | | | |
|--|------------------------|--------------------------|------------------------|-----------------------|-----------------------|
| Example Percentages for Professional/Technical Services Capital Costs | | | | | |
| Capital Cost Element | < \$100K (%) | \$100K-\$500K (%) | \$500K-\$2M (%) | \$2M-\$10M (%) | > \$10M (%) |
| Project Management | 10 | 8 | 6 | 5 | 5 |
| Remedial Design | 20 | 15 | 12 | 8 | 6 |
| Construction Management | 15 | 10 | 8 | 6 | 6 |

5.1 References

Alternatives Cost Evaluation

EE/CA - Caneel Bay Resort Site

Rates

[OCONUS and OVERSEAS Per Diem Rates: Query Results \(dod.mil\)](#)

[Per Diem Rates Query \(dod.mil\)](#)

Accessed: 2022-06-20

* All rates are in US Dollars

| Locality | Seasons (Beg-End) | Maximum Lodging | Local Meals | Proportional Meals | Local Incidental | Footnote | Footnote Rate | Maximum Per Diem | Effective Date |
|------------|-------------------|-----------------|-------------|--------------------|------------------|----------|---------------|------------------|----------------|
| ST. CROIX | 04/15-12/14 | 247 | 96 | 56 | 24 | | | 367 | 04/01/2022 |
| ST. CROIX | 12/15-04/14 | 299 | 96 | 56 | 24 | | | 419 | 04/01/2022 |
| ST. JOHN | 05/01-12/03 | 170 | 98 | 57 | 25 | | | 293 | 04/01/2022 |
| ST. JOHN | 12/04-04/30 | 230 | 98 | 57 | 25 | | | 353 | 04/01/2022 |
| ST. THOMAS | 04/15-12/15 | 249 | 95 | 56 | 23 | | | 367 | 04/01/2022 |
| ST. THOMAS | 12/16-04/14 | 339 | 95 | 56 | 23 | | | 457 | 04/01/2022 |

*Use the OTHER rate if neither the CITY, PLACE, ISLAND, nor MILITARY INSTALLATION is listed.