

CASCADE POINT FERRY TERMINAL - ALTERNATIVES DECISION MATRIX

Category	Decision Factors		Marine Alternative Scoring												Definition of Criteria				
	Criteria	Weight %	Alternative 1			Alternative 2			Alternative 3			Alternative 4							
			Input Score	Normalized Score	Weighted Score	Input Score	Normalized Score	Weighted Score	Input Score	Normalized Score	Weighted Score	Input Score	Normalized Score	Weighted Score					
Cost	1	Construction Cost	30.0%	1.10	0.91	0.27	1.03	0.97	0.29	1.02	0.98	0.29	1.00	1.00	0.30	ROM estimated construction cost \$ amount (ratio to lowest cost)			
	2	Permitting Costs	1.0%	2.00	1.00	0.01	2.00	1.00	0.01	2.00	1.00	0.01	2.00	1.00	0.01	Costs to develop construction permits and potential mitigation costs. 1 = Low 2 = Neutral 3 = High			
	3	Phase 1 Construction Costs	9.0%	1.00	1.00	0.09	2.69	0.37	0.03	1.00	1.00	0.09	1.44	0.70	0.06	ROM estimated Phase 1 construction cost \$ amount (ratio to lowest cost)			
	4	Vessel Berth Orientation	11.0%	3.00	0.33	0.04	3.00	0.33	0.04	1.00	1.00	0.11	2.00	0.50	0.06	1 = Port side stern berth (preferred berth orientation by AMHS staff) 2 = Side berth (port or starboard, port side preferred by AMHS staff) 3 = Starboard side stern berth (least preferred by AMHS staff)			
Operations	5	Wind and Wave Exposure w/ Breakwater	4.0%	2.00	1.00	0.04	2.00	1.00	0.04	2.00	1.00	0.04	2.00	1.00	0.04	Exposure to wind and wave conditions that may limit operations. 1 = Minimal exposure 2 = Moderate exposure 3 = Exposed			
	6	Facility Operability	10.0%	1.00	1.00	0.10	1.00	1.00	0.10	1.00	1.00	0.10	1.00	1.00	0.10	Wind and wave effects on seasonal operability if construction is phased without breakwater operations. 1 = Function as homeport (potential year-round operations) 2 = Summer seasonal service only (with some weather interruptions) 3 = Limited seasonal service			
	7	Site Use and Safety	3.0%	2.00	0.50	0.02	2.00	0.50	0.02	1.00	1.00	0.03	1.00	1.00	0.03	Potential operational conflicts with Goldbelt Operations. 1 = Minimal conflict potential 2 = Some conflict potential 3 = Significant conflict potential			
	8	Security	1.0%	2.00	0.50	0.01	2.00	0.50	0.01	1.00	1.00	0.01	1.00	1.00	0.01	Does securing the AMHS facility with fencing and gates impact other Stakeholder's operations? 1 = Minimal conflict potential 2 = Some conflict potential 3 = Significant conflict potential			
	9	AMHS Operational Preference	10.0%	3.00	0.33	0.03	3.00	0.33	0.03	1.00	1.00	0.10	2.00	0.50	0.05	Is this a preferred operational alternative for AMHS? 1 = Preferred operation 2 = Neutral operation 3 = Not practical for operation			
	10	Impacts to Upland Area	1.0%	2.00	1.00	0.01	2.00	1.00	0.01	2.00	1.00	0.01	3.00	0.67	0.01	Does the alternative effect the upland area onsite? 1 = Minimal impact 2 = Neutral impact 3 = Most impact			
	11	Dredging Volume	1.0%	1.58	0.63	0.01	2.15	0.46	0.00	2.08	0.48	0.005	1.00	1.00	0.01	ROM dredge quantity estimate ratio to smallest estimated volume			
	12	Impacts to Cascade Creek	1.0%	2.00	1.00	0.01	2.00	1.00	0.01	2.00	1.00	0.01	2.00	1.00	0.01	Does the alternative conflict with Cascade Creek? 1 = No impact 2 = Some impacts			
Expansion	13	Phased Construction Potential	3.0%	1.00	1.00	0.03	2.00	0.50	0.02	1.00	1.00	0.03	1.00	1.00	0.03	Can the construction be phased. 1 = Yes 2 = No			
	14	Stakeholder Future Use of the Site	5.0%	2.00	0.50	0.03	2.00	0.50	0.03	2.00	0.50	0.03	1.00	1.00	0.05	Does the Layout allow for Stakeholder expansion? 1 = Minimal conflict potential 2 = Some conflict potential 3 = Significant conflict potential			
	15	Operational Risk	5.0%	3.00	0.67	0.03	3.00	0.67	0.03	2.00	1.00	0.05	2.00	1.00	0.05	berthing layout, and loading/unloading operations. 1 = Low 2 = Moderate 3 = High			
Risk	16	Project Schedule	3.0%	3.00	0.67	0.02	3.00	0.67	0.02	2.00	1.00	0.03	2.00	1.00	0.03	Risk to project schedule. 1 = Low 2 = Moderate 3 = High 4 = Very high			
	17	Overall Constructability Risk	2.0%	4.00	0.75	0.02	4.00	0.75	0.02	3.00	1.00	0.02	3.00	1.00	0.02	Risk of cost or schedule inflation due to unknown/ undetermined variables at the time of this analysis. 1 = Low 2 = Moderate 3 = High 4 = Very high			
			100.0%	Overall Scores*			75.36				69.76				96.41				86.43

Instructions	Key
In the yellow colored boxes, input scores for each option and criteria according to the scoring system defined in the "Definition of Criteria" column. All other cells update automatically.	Input score here
	Highest scored option
	Lowest scored option

Highest Scoring Alternative:	Alternative 3								
Score Summary by Category									
Major Category	Total Weight	Alternative 1 Score*	Alternative 1 Rank	Alternative 2 Score*	Alternative 2 Rank	Alternative 3 Score*	Alternative 3 Rank	Alternative 4 Score*	Alternative 4 Rank
Cost	40.0%	37.40	2	33.47	4	39.43	1	37.26	3
Operation	42.0%	25.63	3	25.46	4	41.48	1	31.17	2
Expansion	8.0%	5.50	2	4.00	4	5.50	2	8.00	1
Risk	10.0%	6.83	3	6.83	3	10.00	1	10.00	1
Totals	100.0%	75.4	3	69.8	4	96.4	1	86.4	2

*Note matrix scores multiplied by 100 for clarity.