APPENDIX B
ENGINEERING REPORT

SUB-APPENDIX B2

APPENDIX B
ENGINEERING REPORT

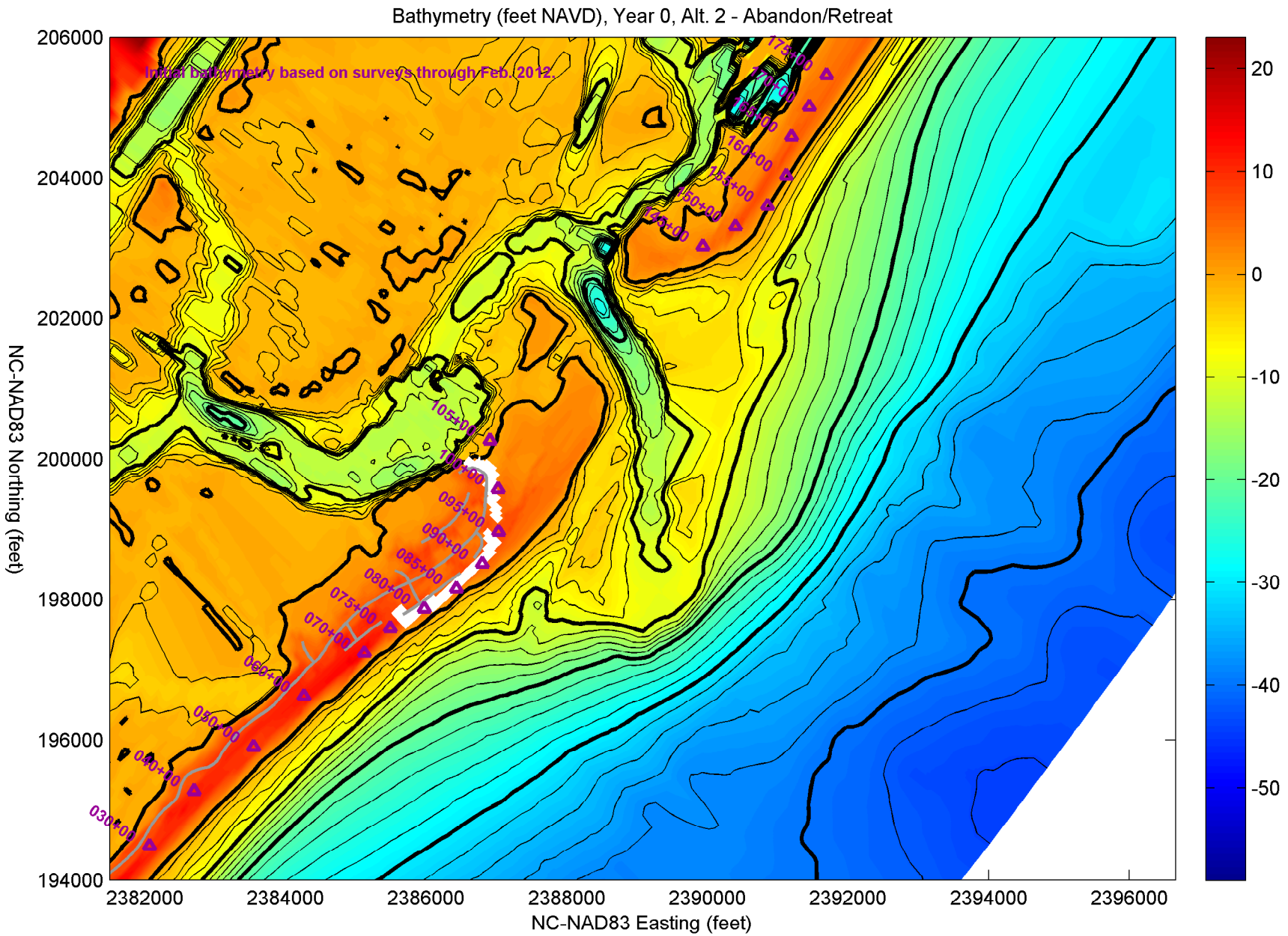
SUB-APPENDIX B2

Sub-Appendix B-2

Delft3D Model Results

Part 2 – Model Results Given Present (Feb.-March 2012) Conditions

Note: The performance of Alternative 5C was not simulated given the 2012 conditions


Bathymetry (feet NAVD), Year 0, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
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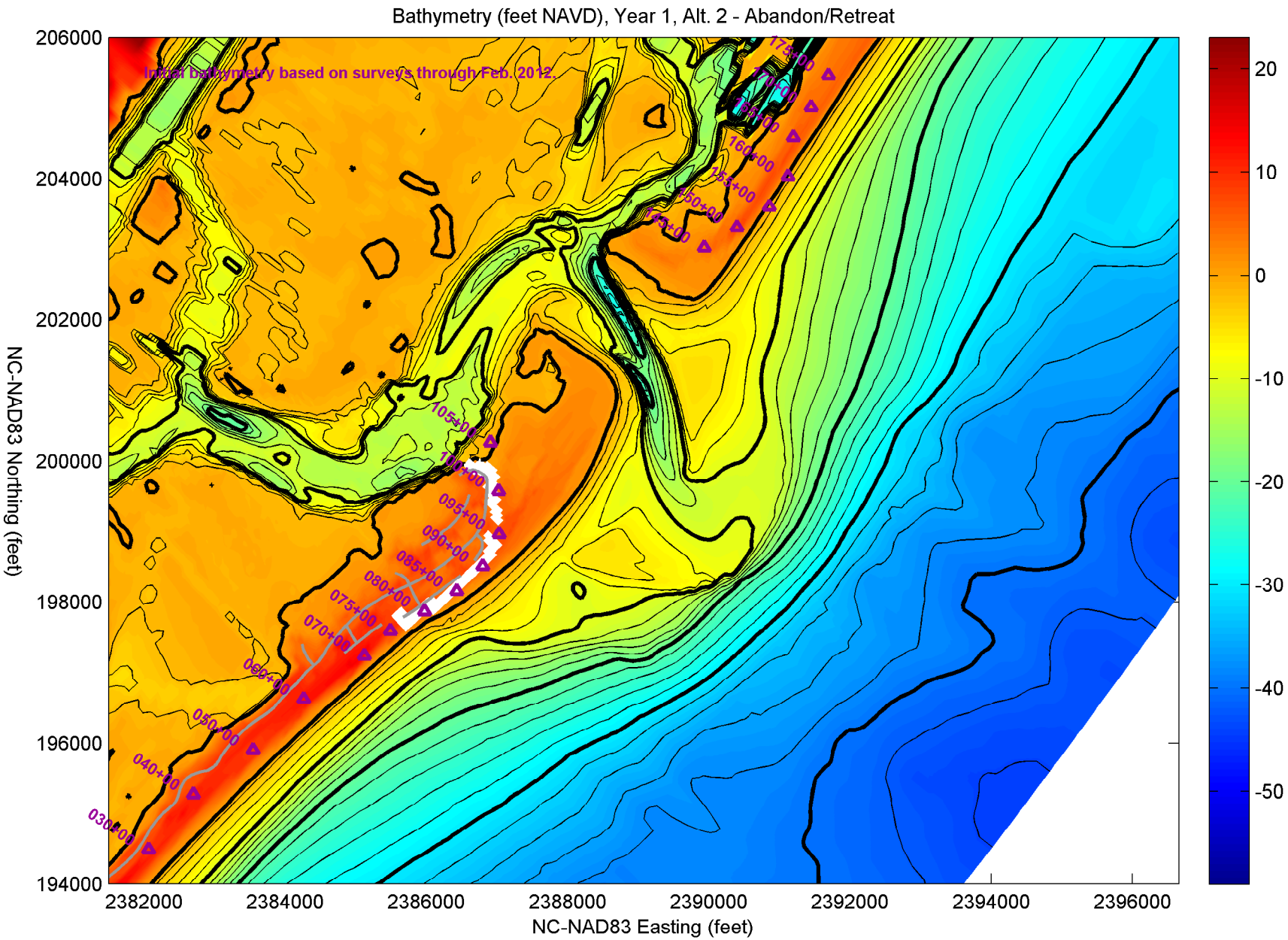
175+00


Bathymetry (feet NAVD), Year 1, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
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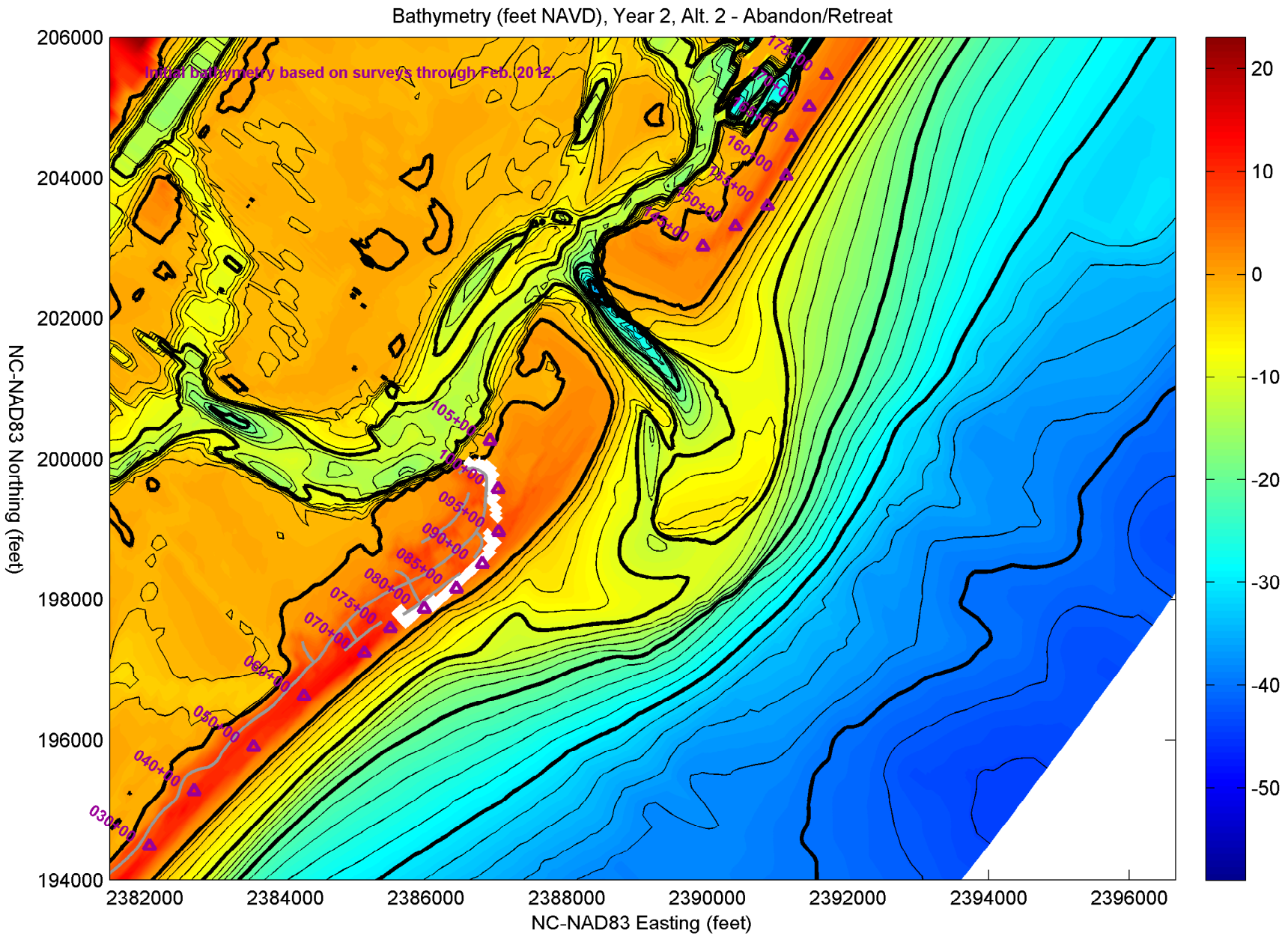
Bathymetry (feet NAVD), Year 2, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
206000
204000
202000
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196000
194000
NC-NAD83 Northing (feet)
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2384000
2386000
2388000
2390000
2392000
2394000
2396000
NC-NAD83 Easting (feet)
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-10
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-30
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-50
175+00
170+00
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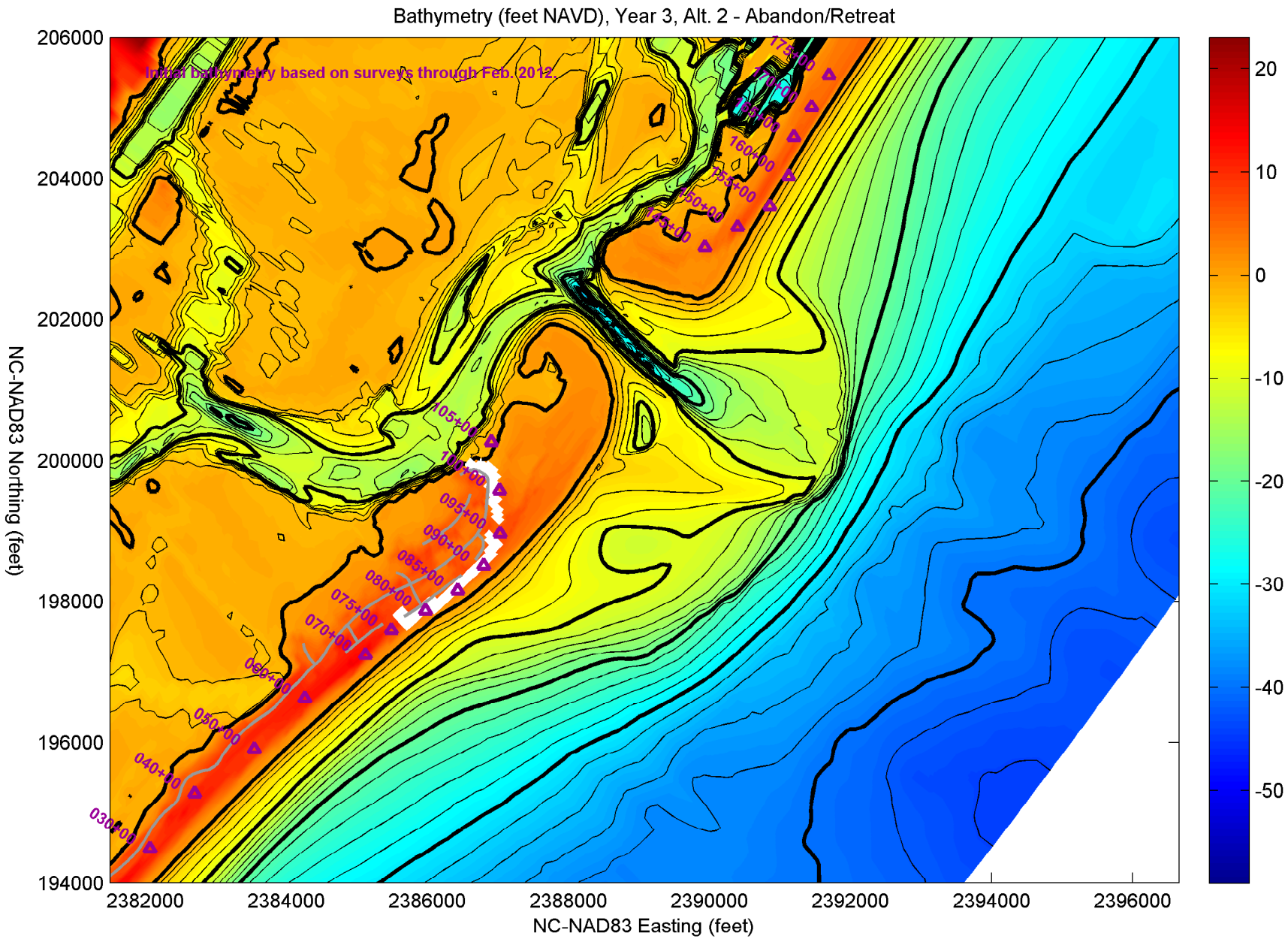
Bathymetry (feet NAVD), Year 3, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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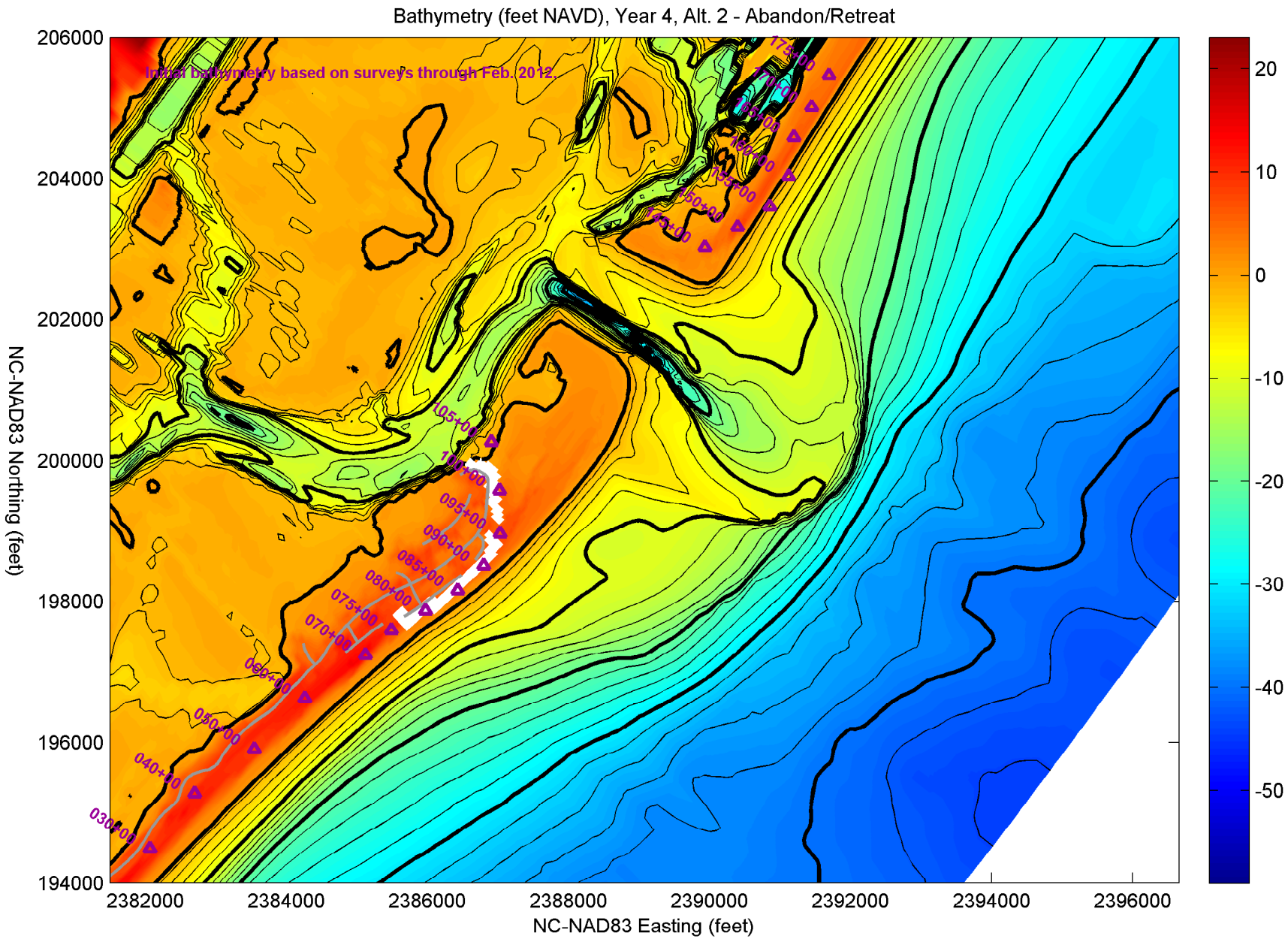
Bathymetry (feet NAVD), Year 4, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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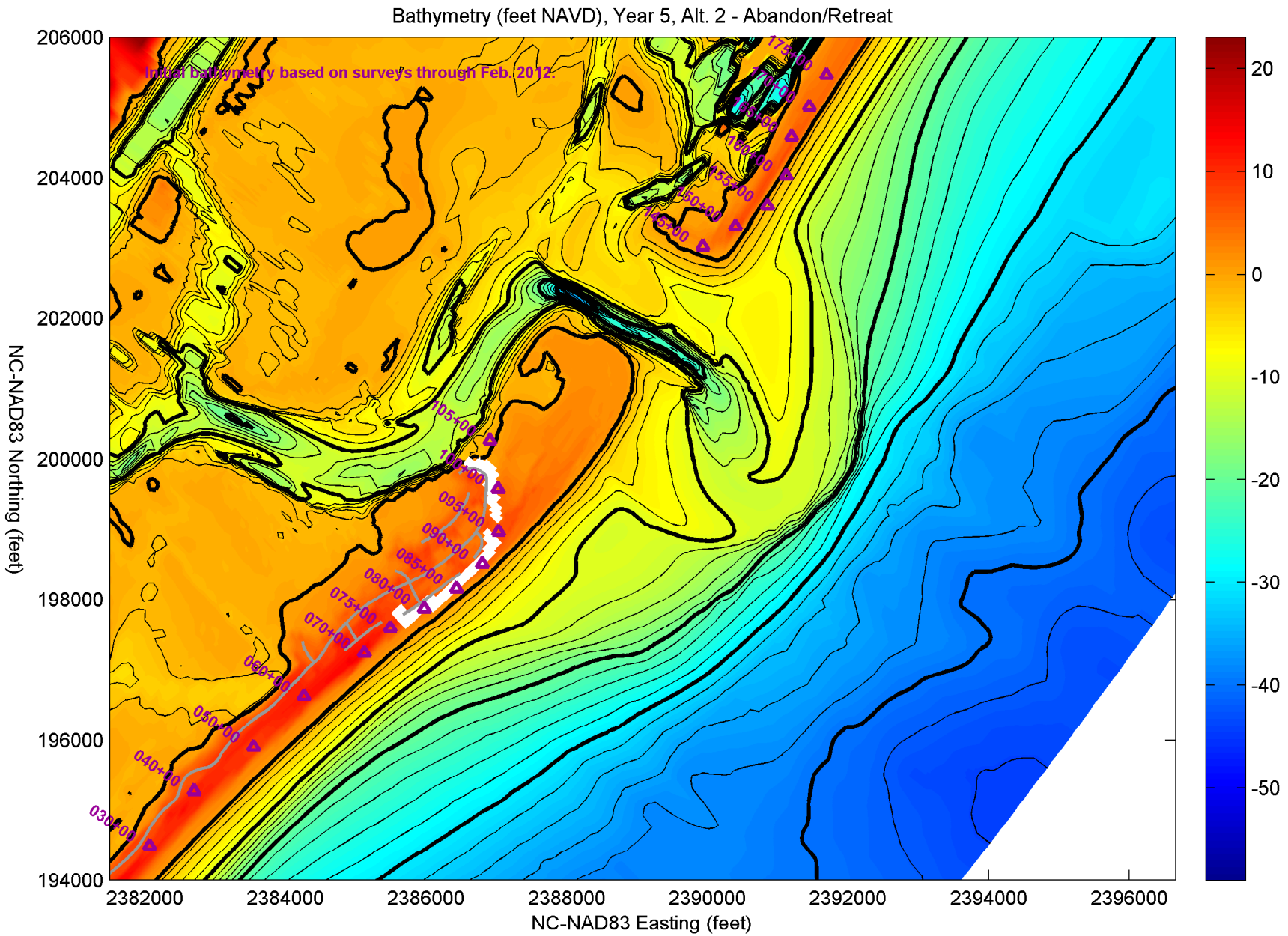
Bathymetry (feet NAVD), Year 5, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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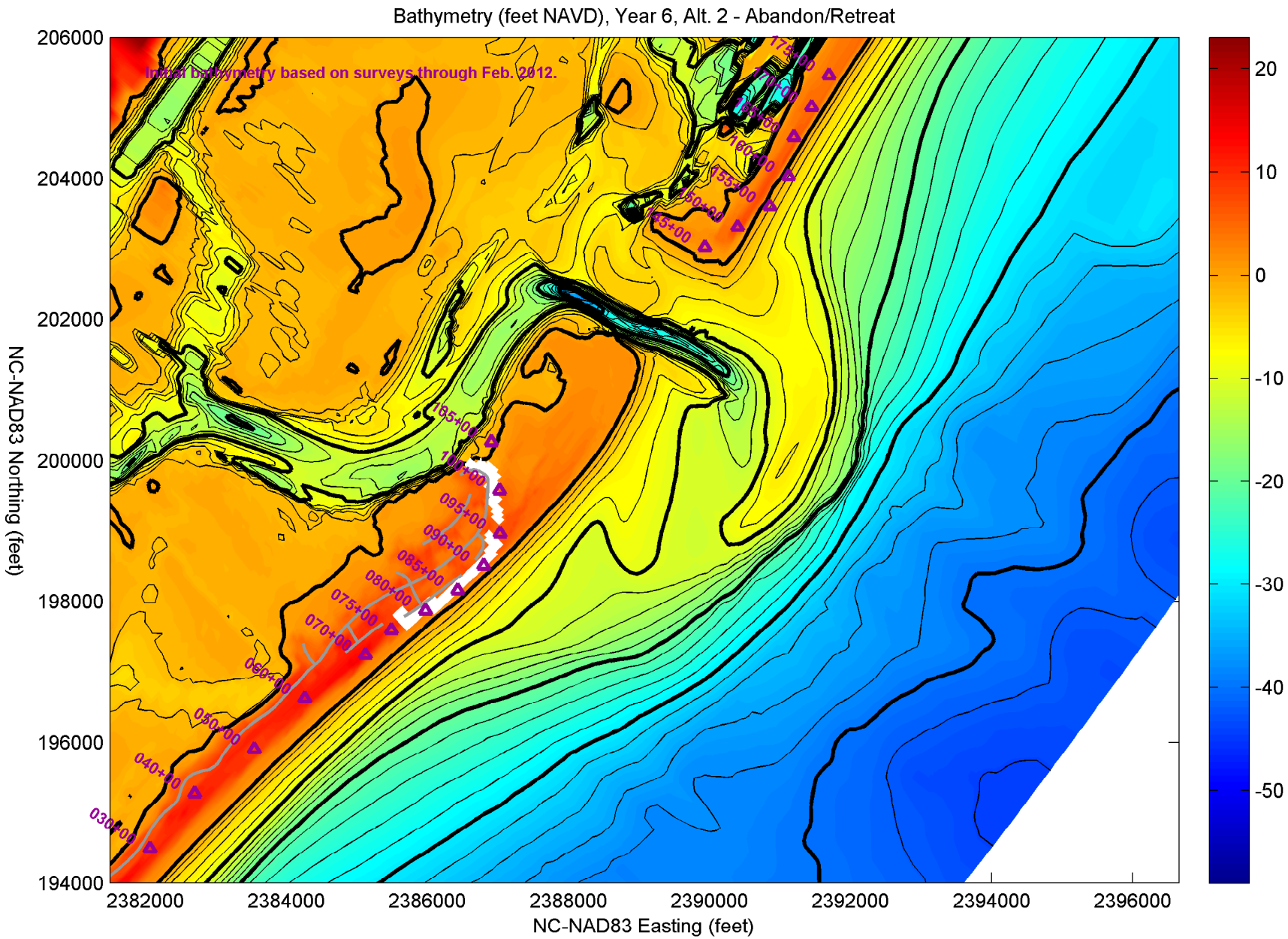
Bathymetry (feet NAVD), Year 6, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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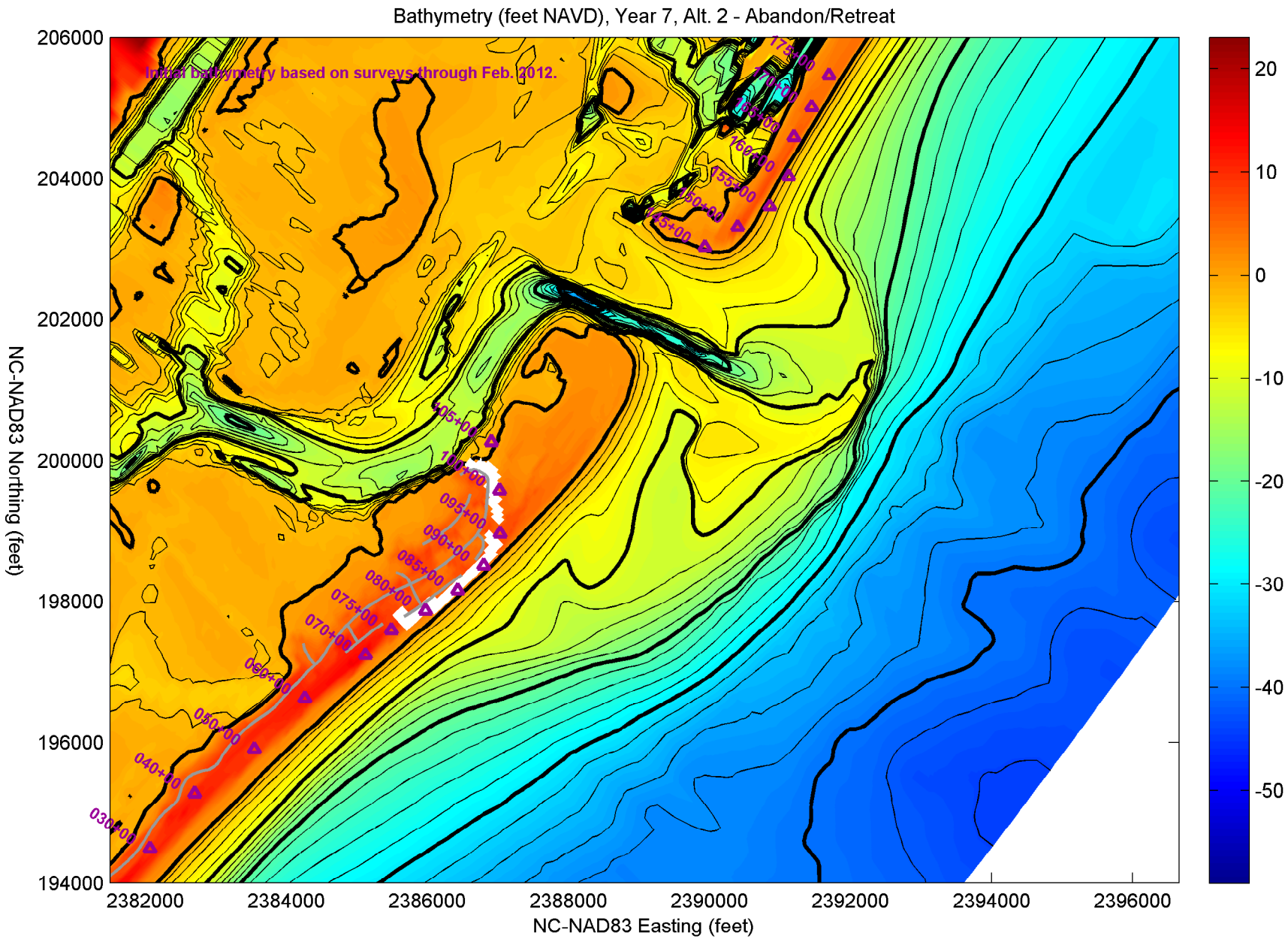
Bathymetry (feet NAVD), Year 7, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
206000
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NC-NAD83 Northing (feet)
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NC-NAD83 Easting (feet)
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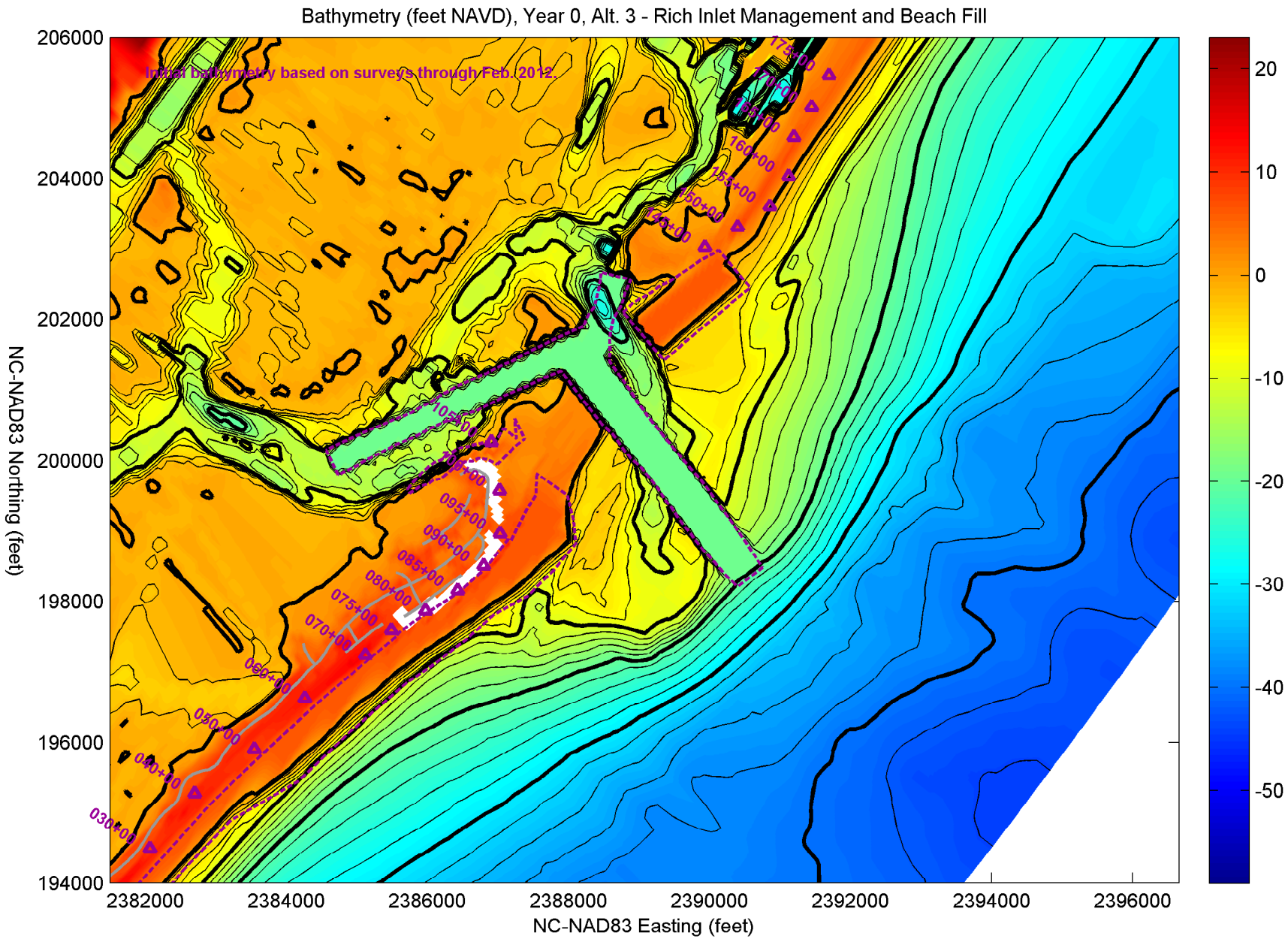
Bathymetry (feet NAVD), Year 0, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
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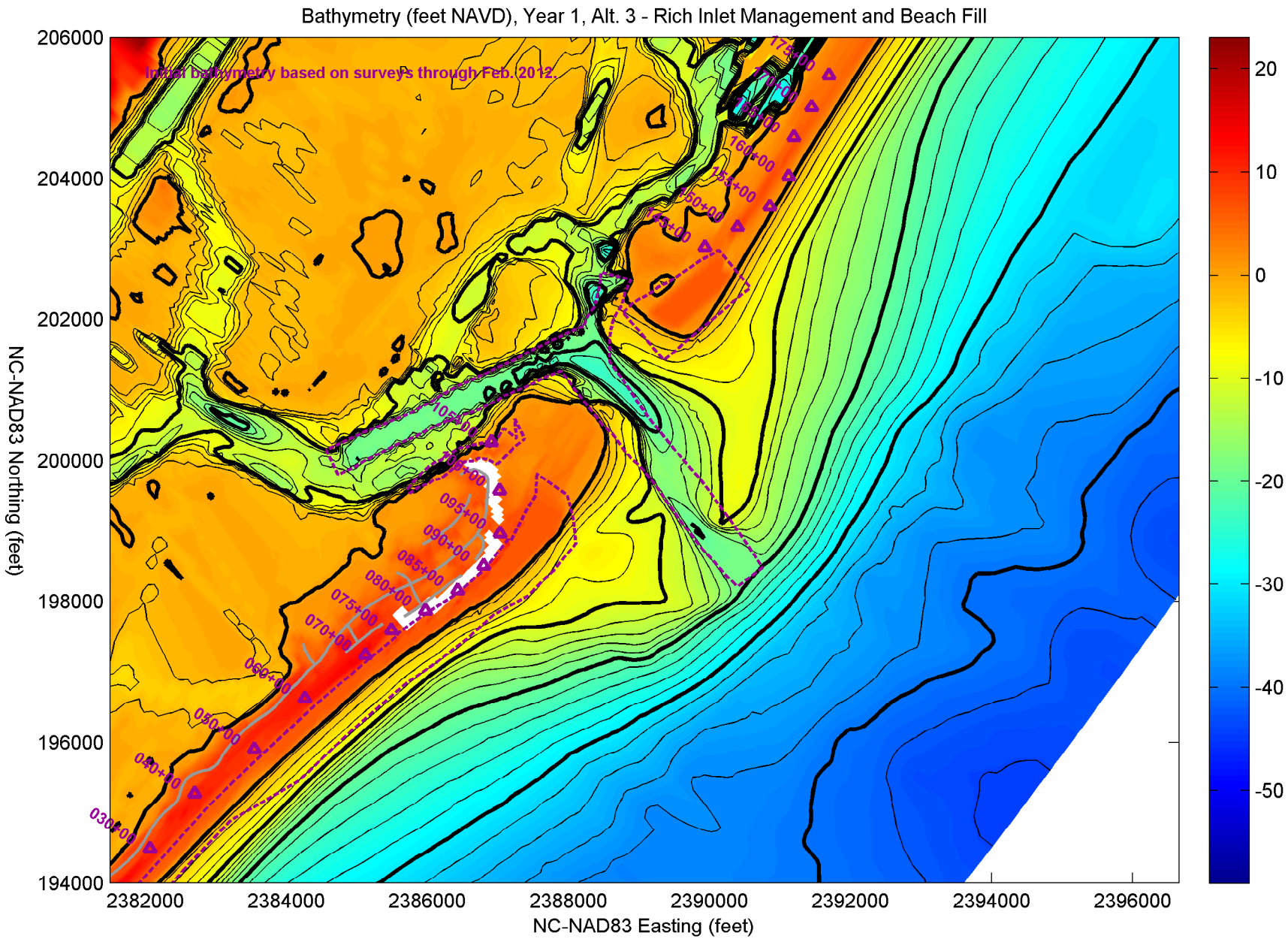
Bathymetry (feet NAVD), Year 1, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
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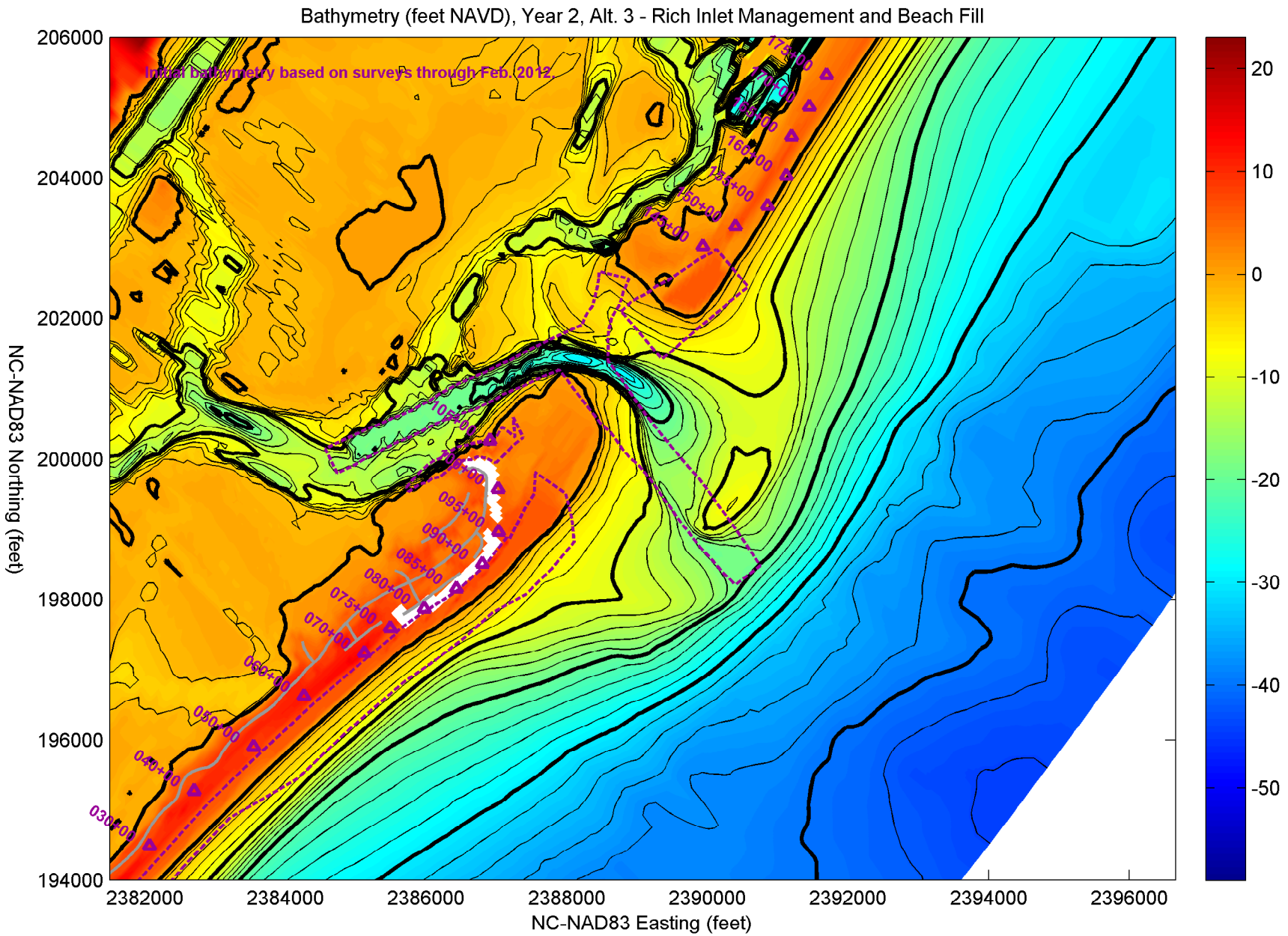
Bathymetry (feet NAVD), Year 2, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
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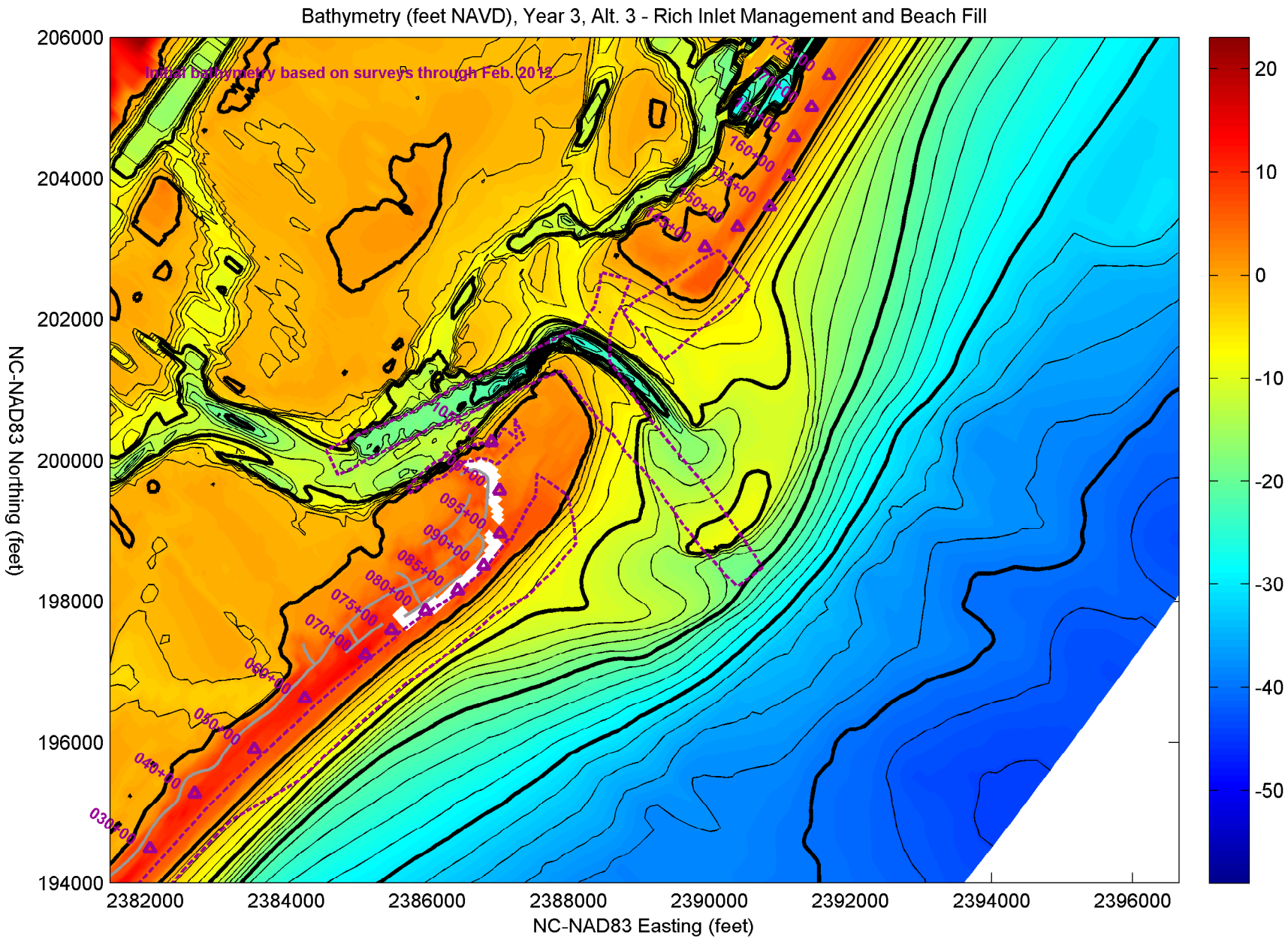
Bathymetry (feet NAVD), Year 3, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
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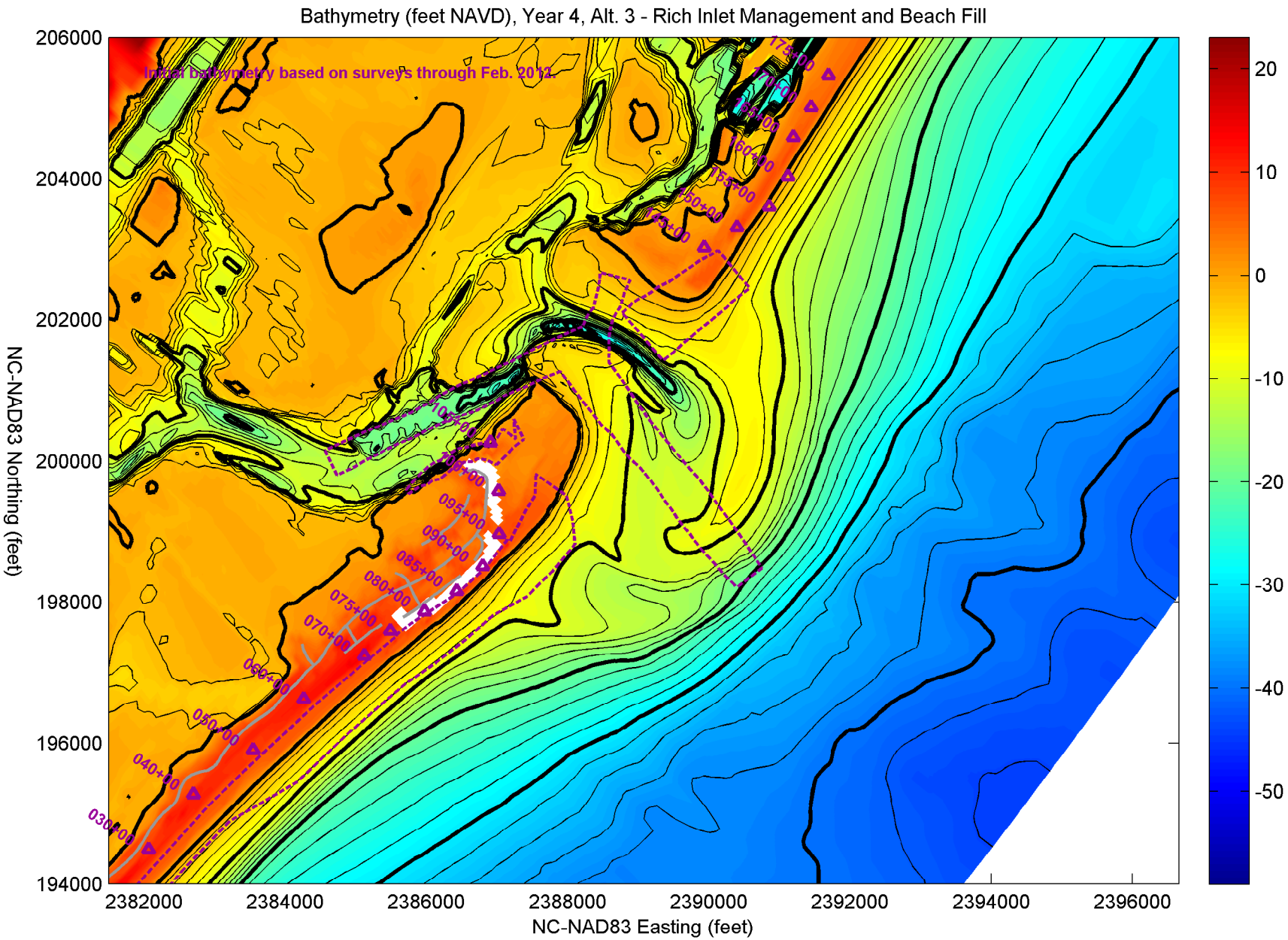
Bathymetry (feet NAVD), Year 4, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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202000
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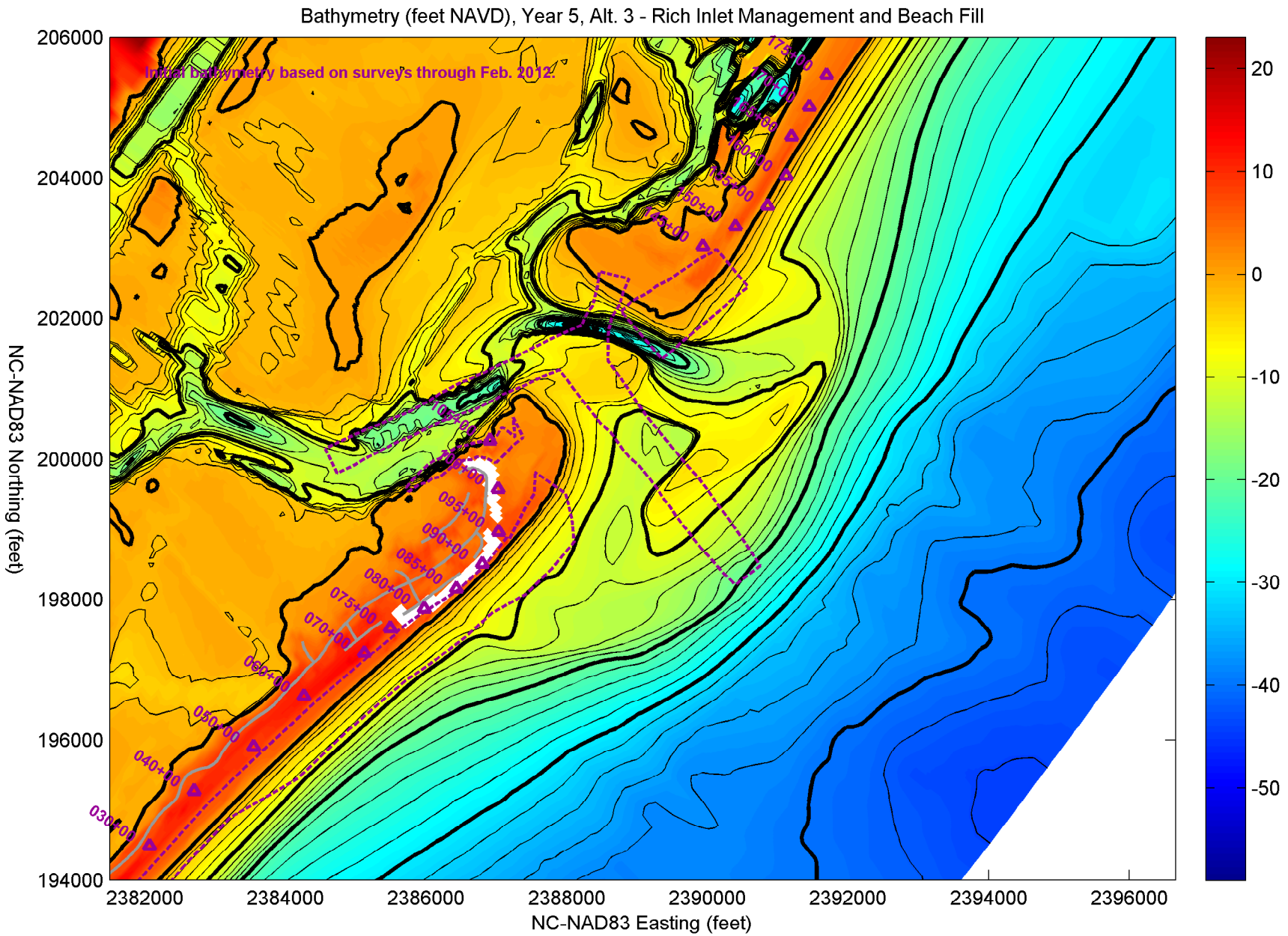
Bathymetry (feet NAVD), Year 5, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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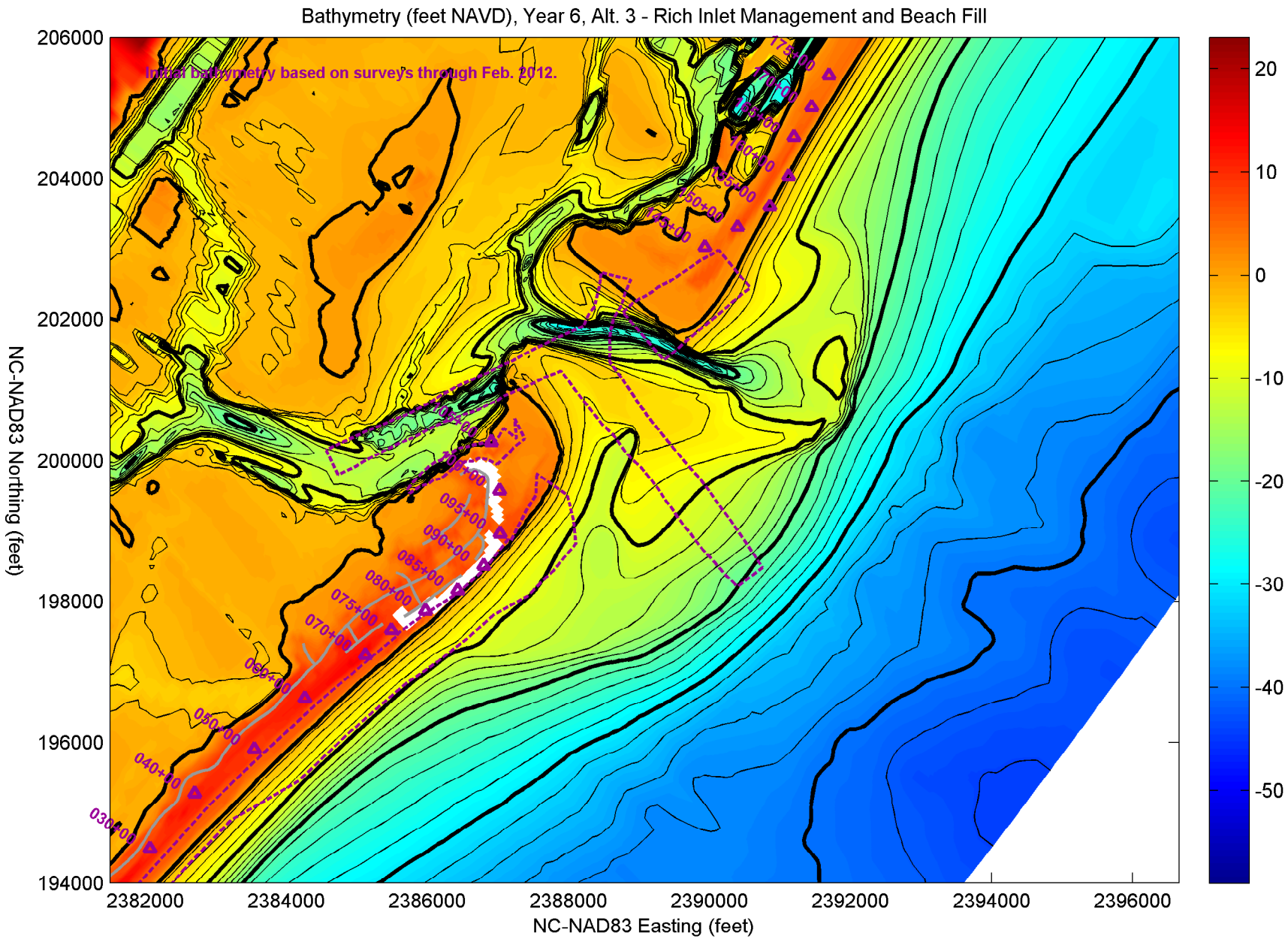
Bathymetry (feet NAVD), Year 6, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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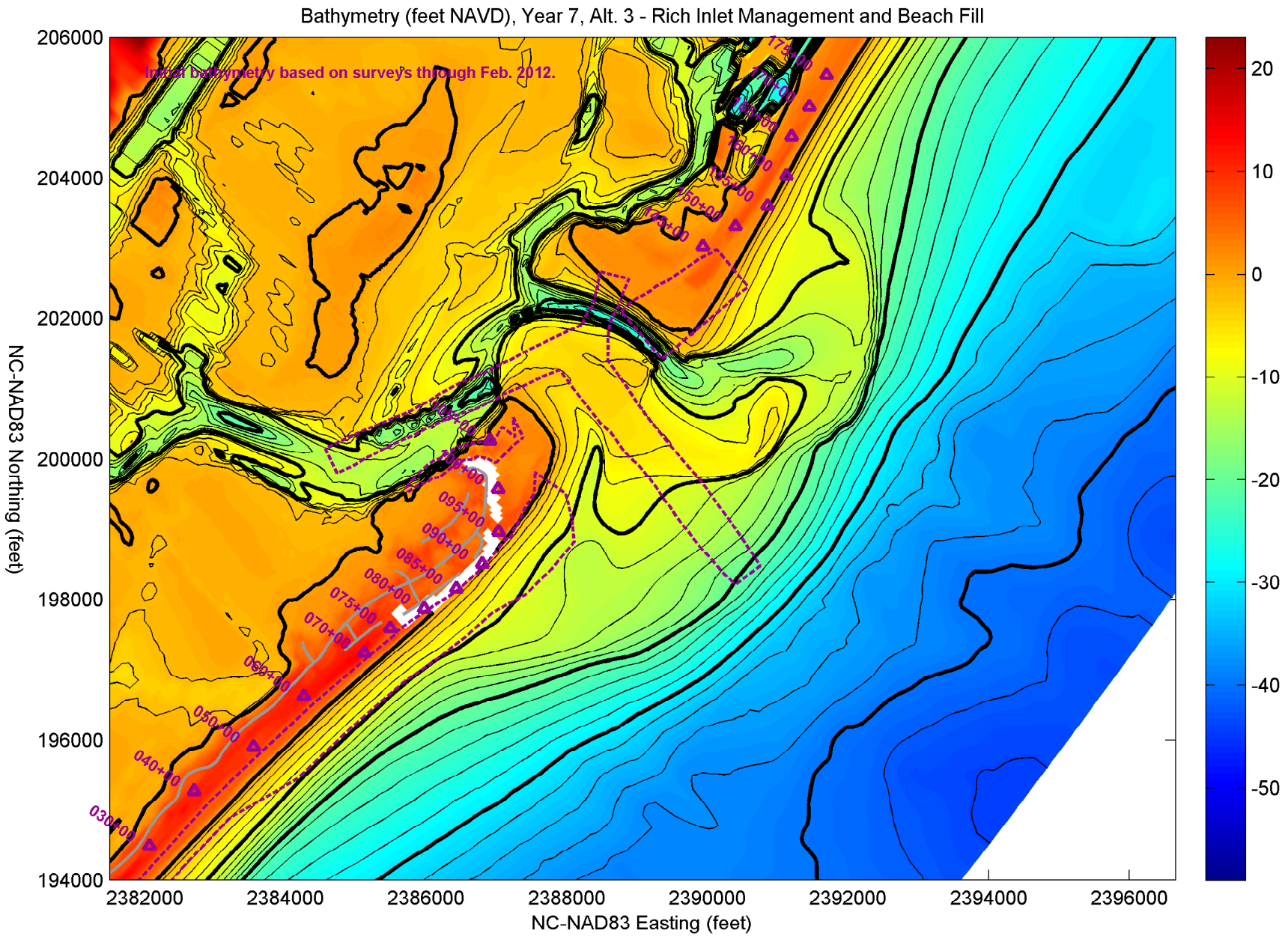
Bathymetry (feet NAVD), Year 7, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
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194000
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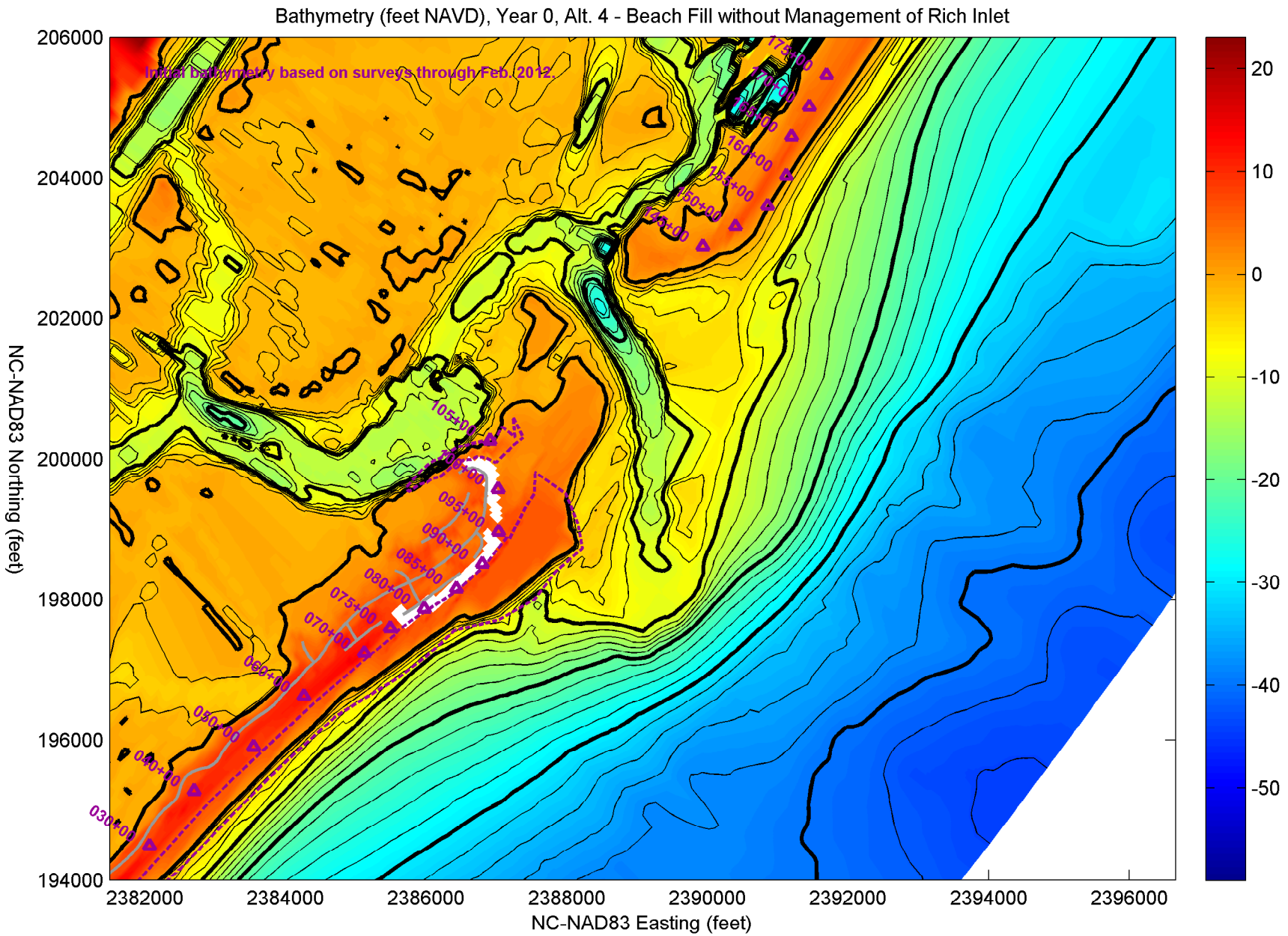
Bathymetry (feet NAVD), Year 0, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
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200000
198000
196000
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2382000
2384000
2386000
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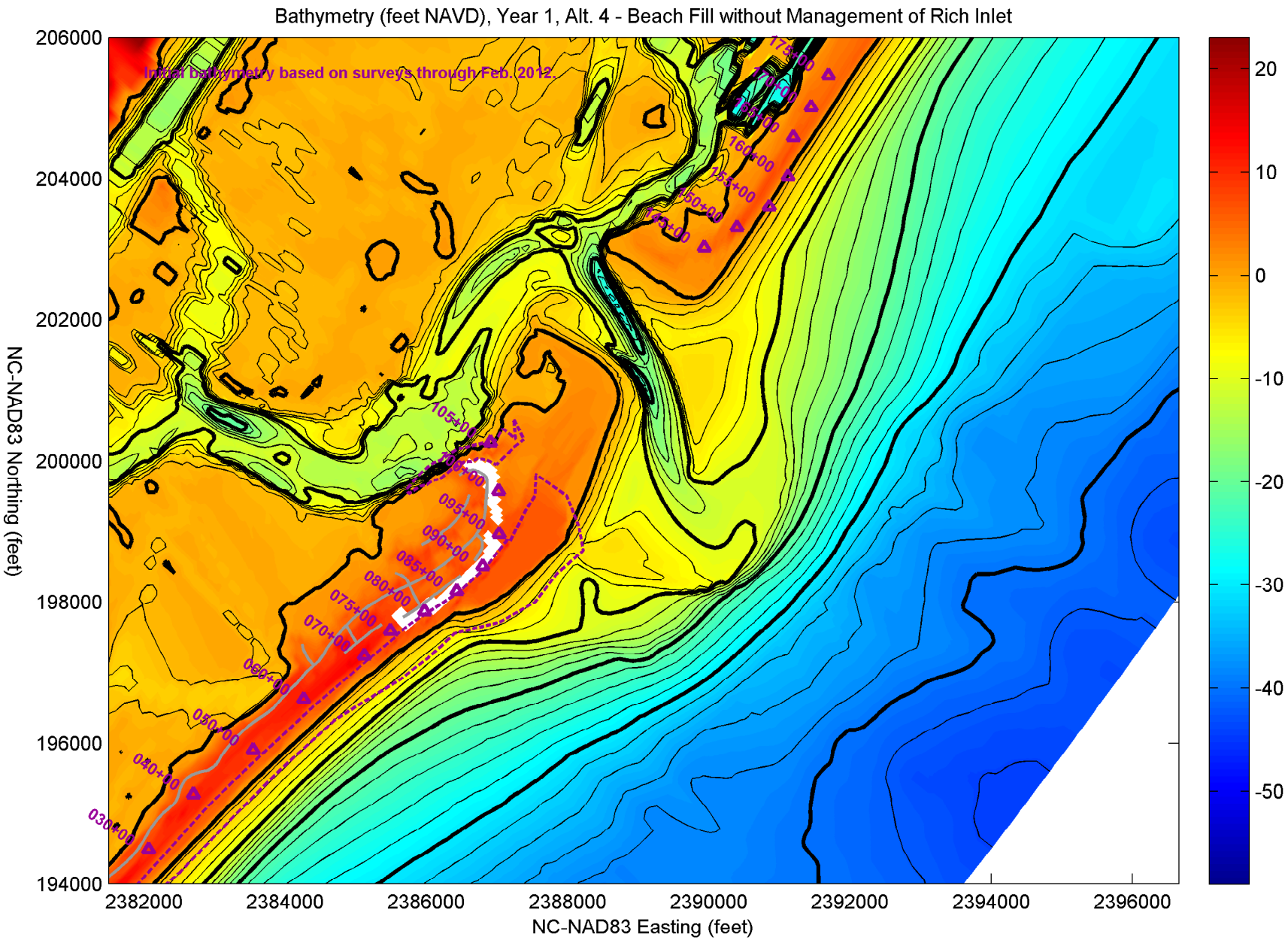
Bathymetry (feet NAVD), Year 1, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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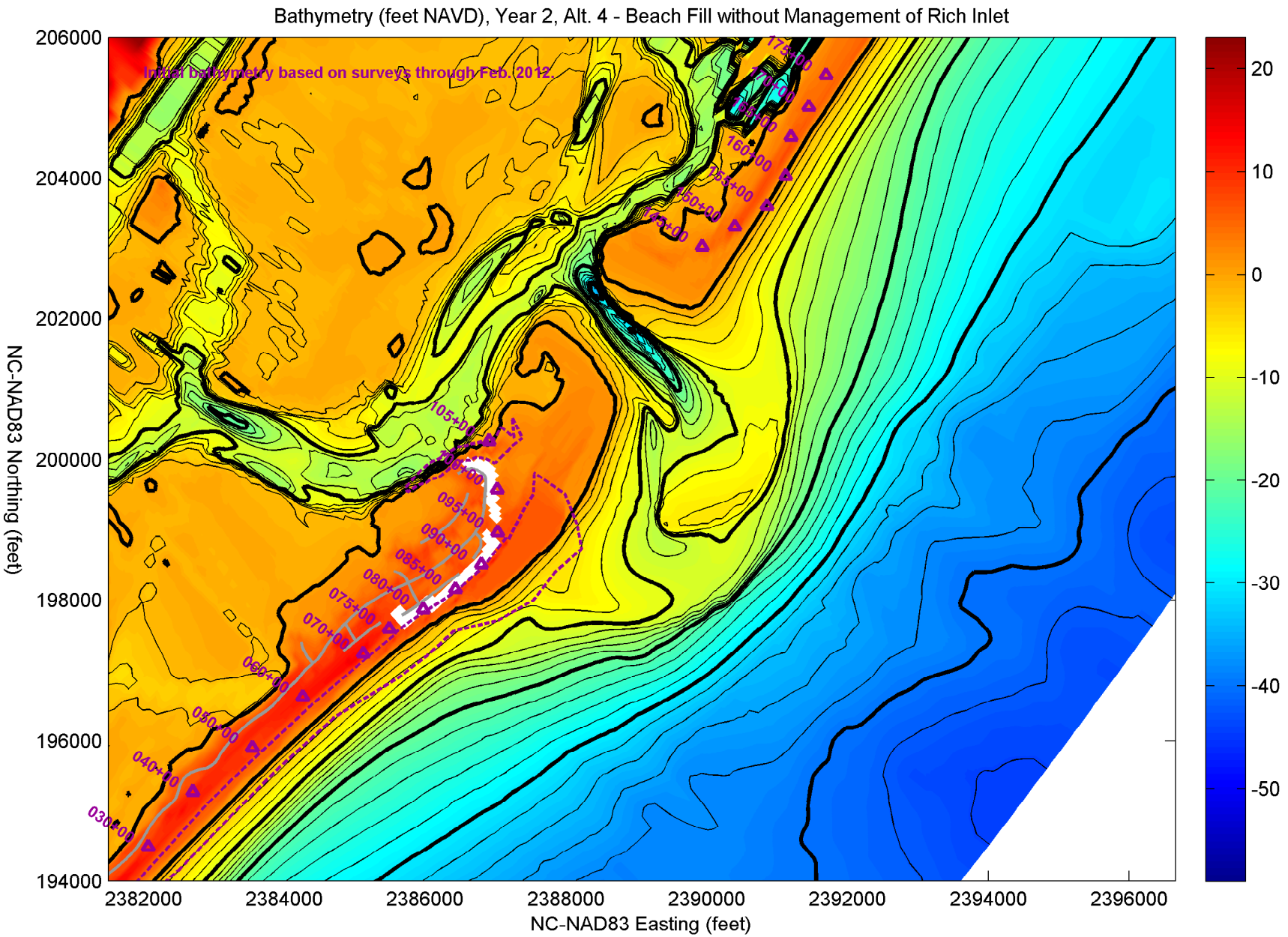
Bathymetry (feet NAVD), Year 2, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
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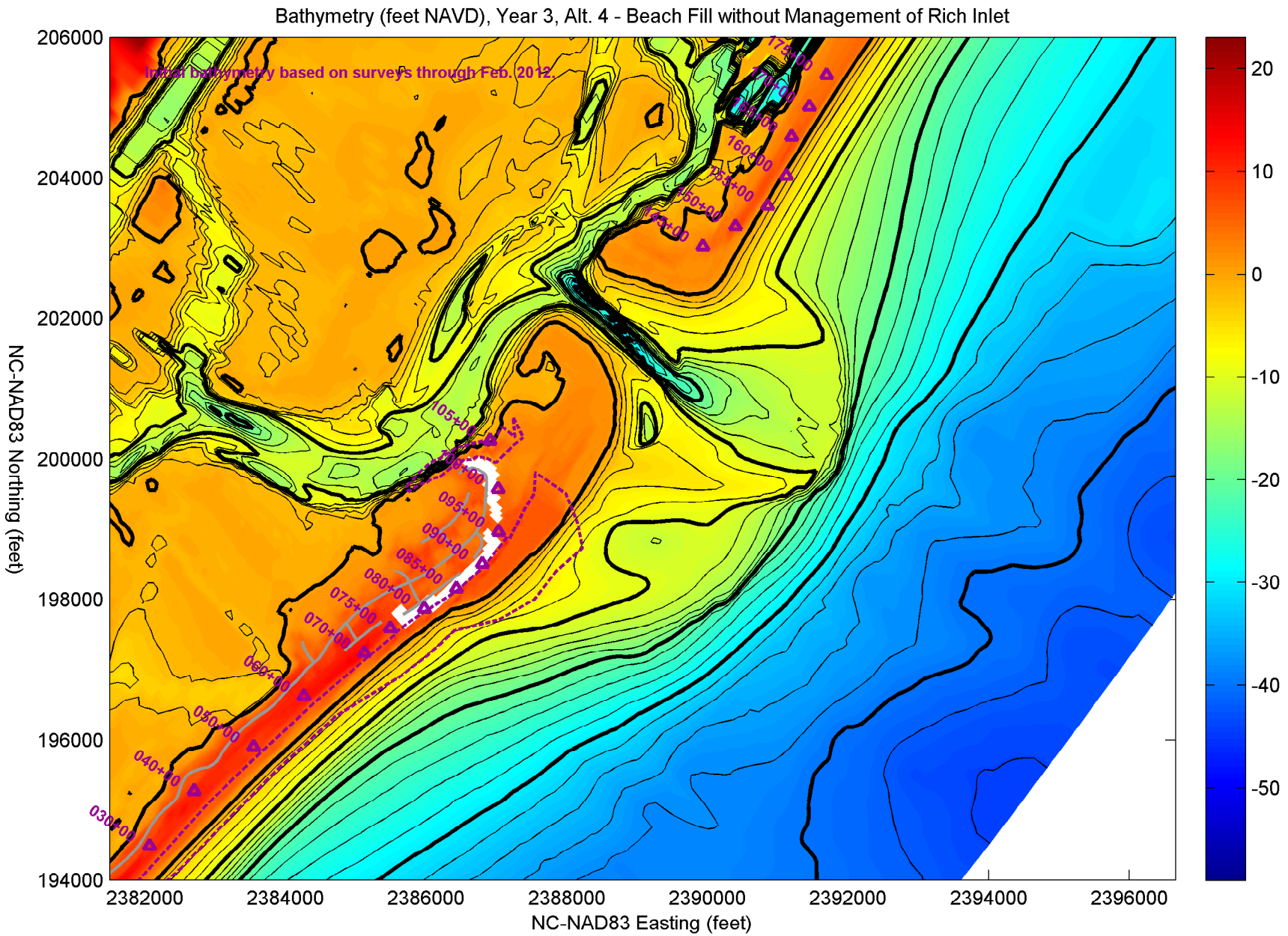
Bathymetry (feet NAVD), Year 3, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
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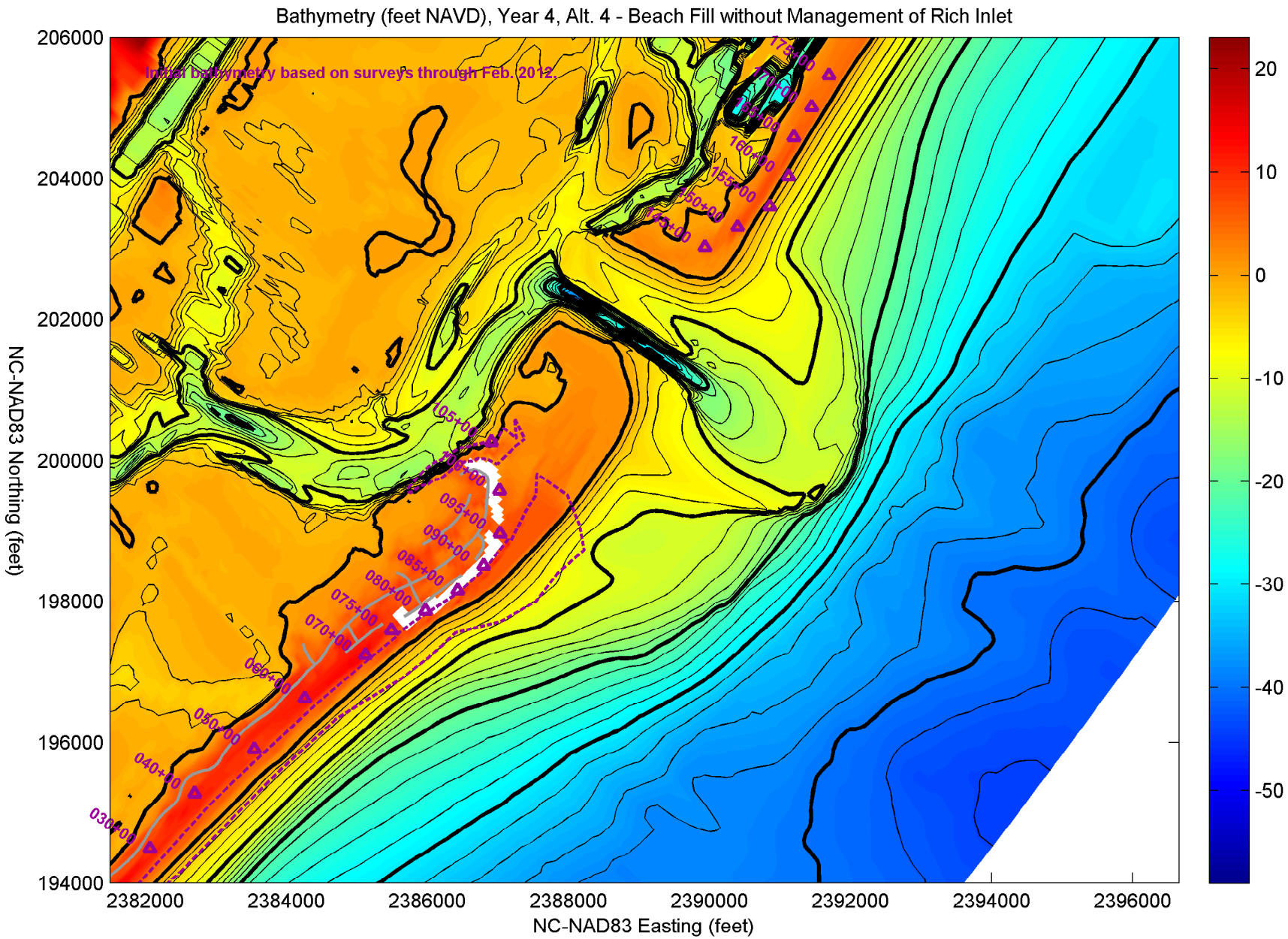
Bathymetry (feet NAVD), Year 4, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
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075+00
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060+00
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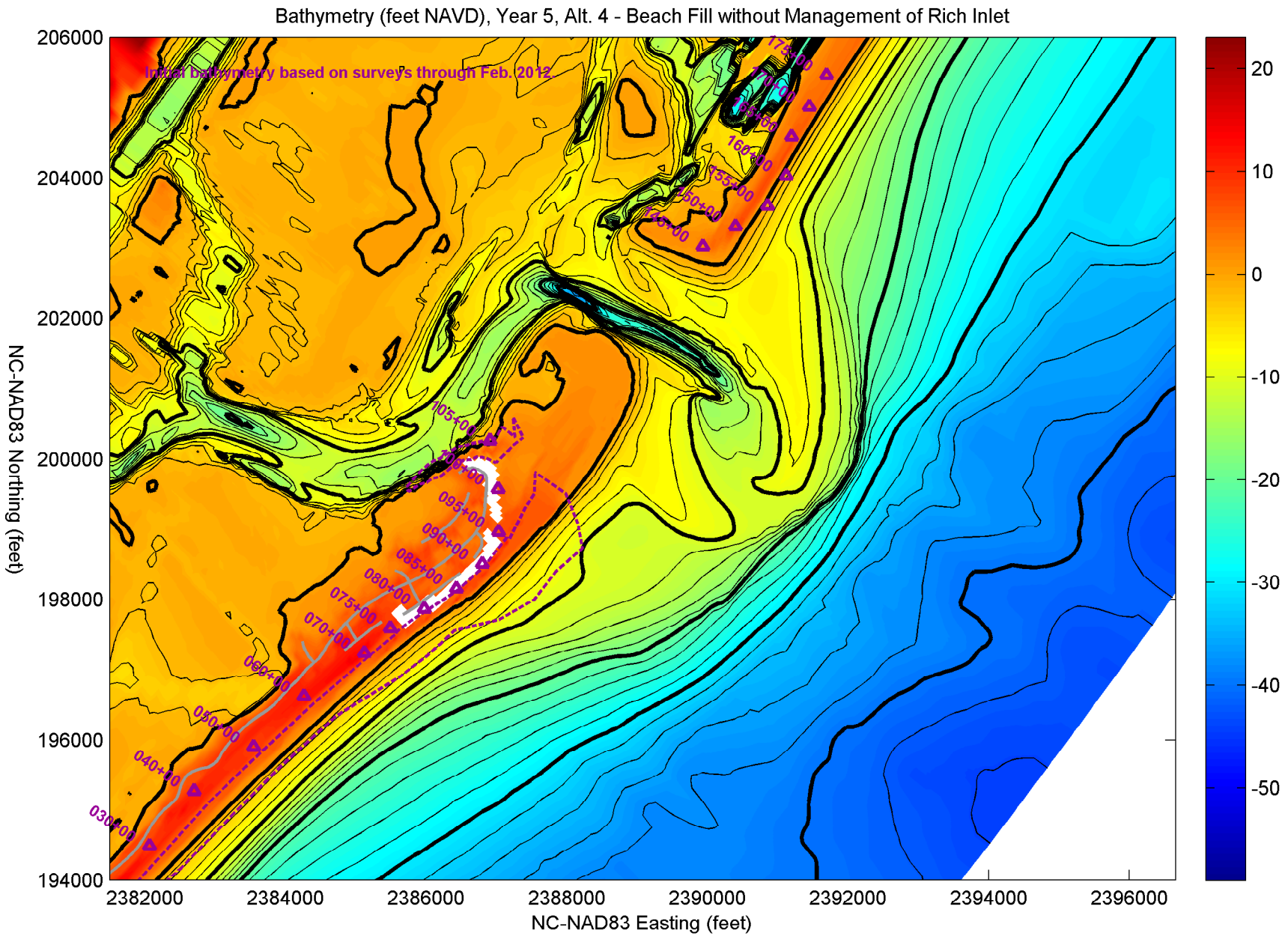
030+00


Bathymetry (feet NAVD), Year 5, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
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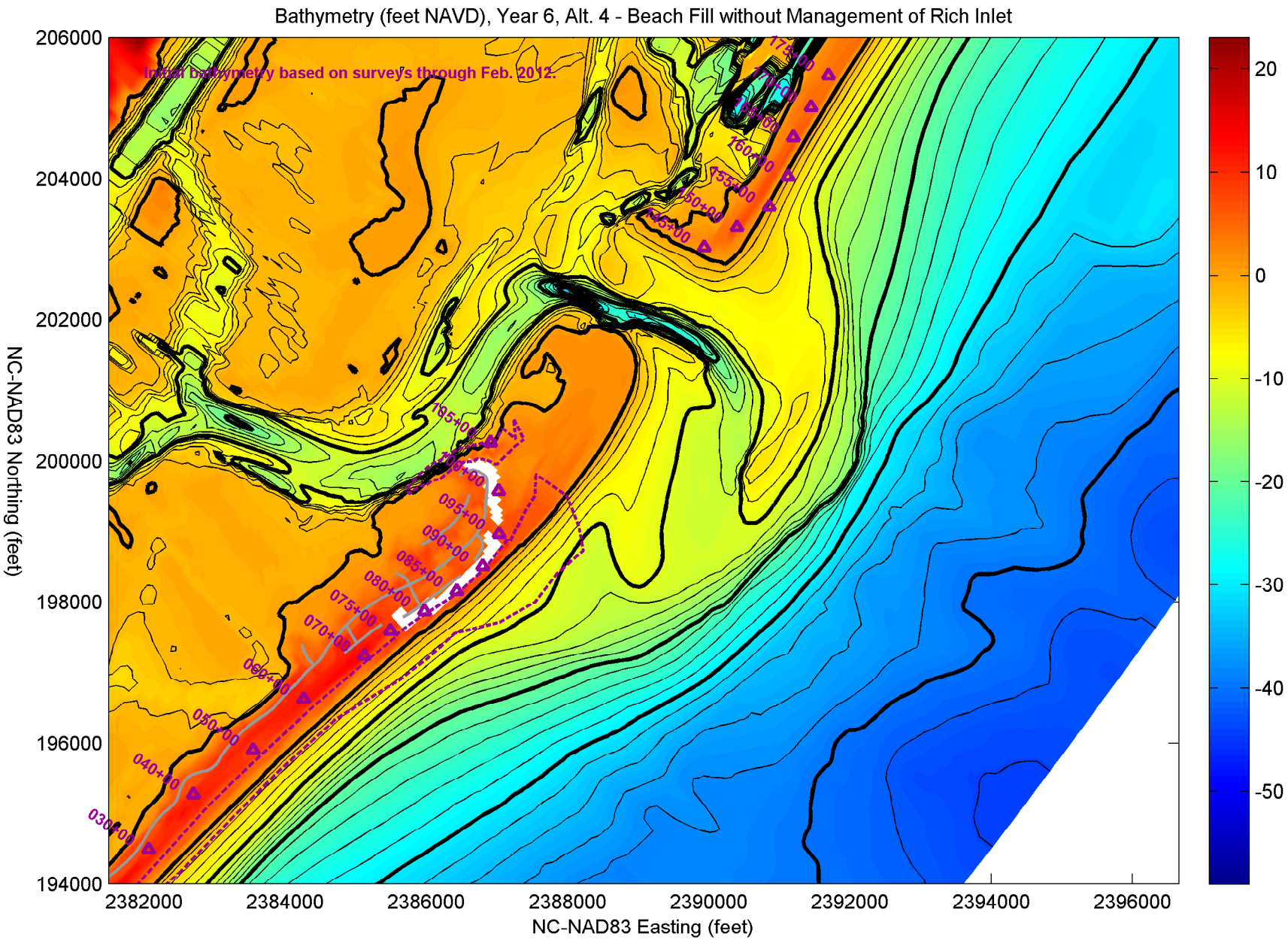
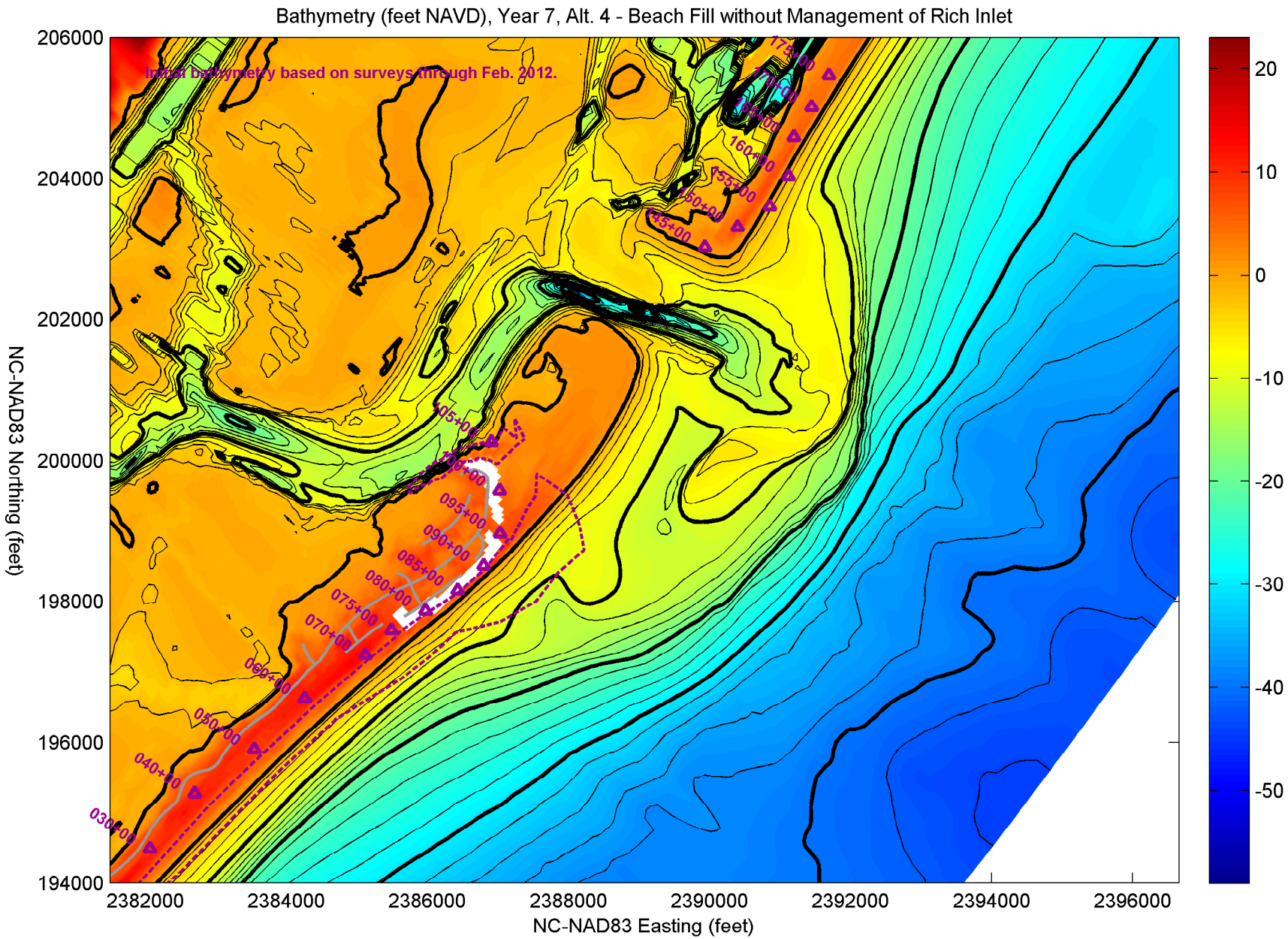
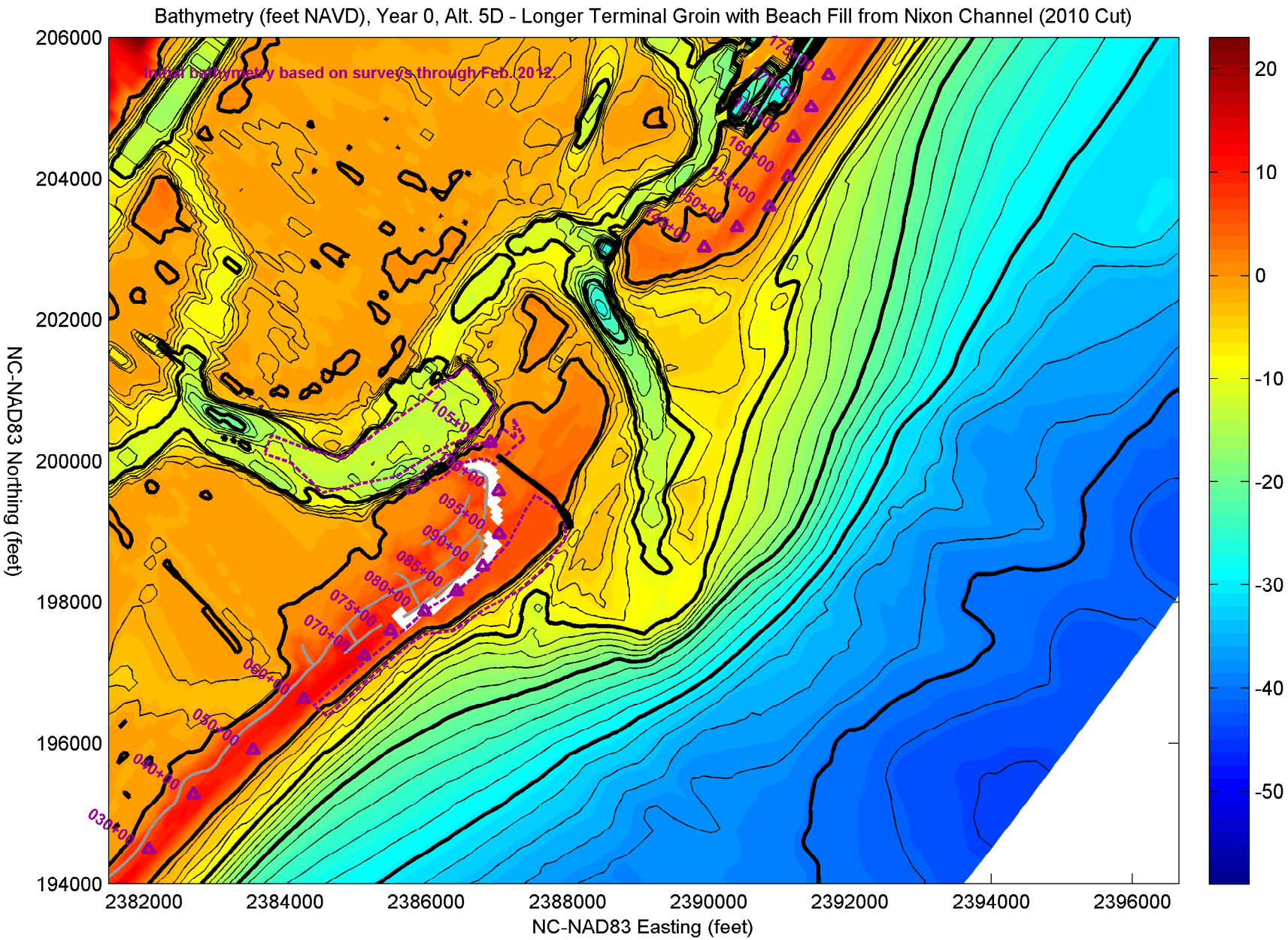
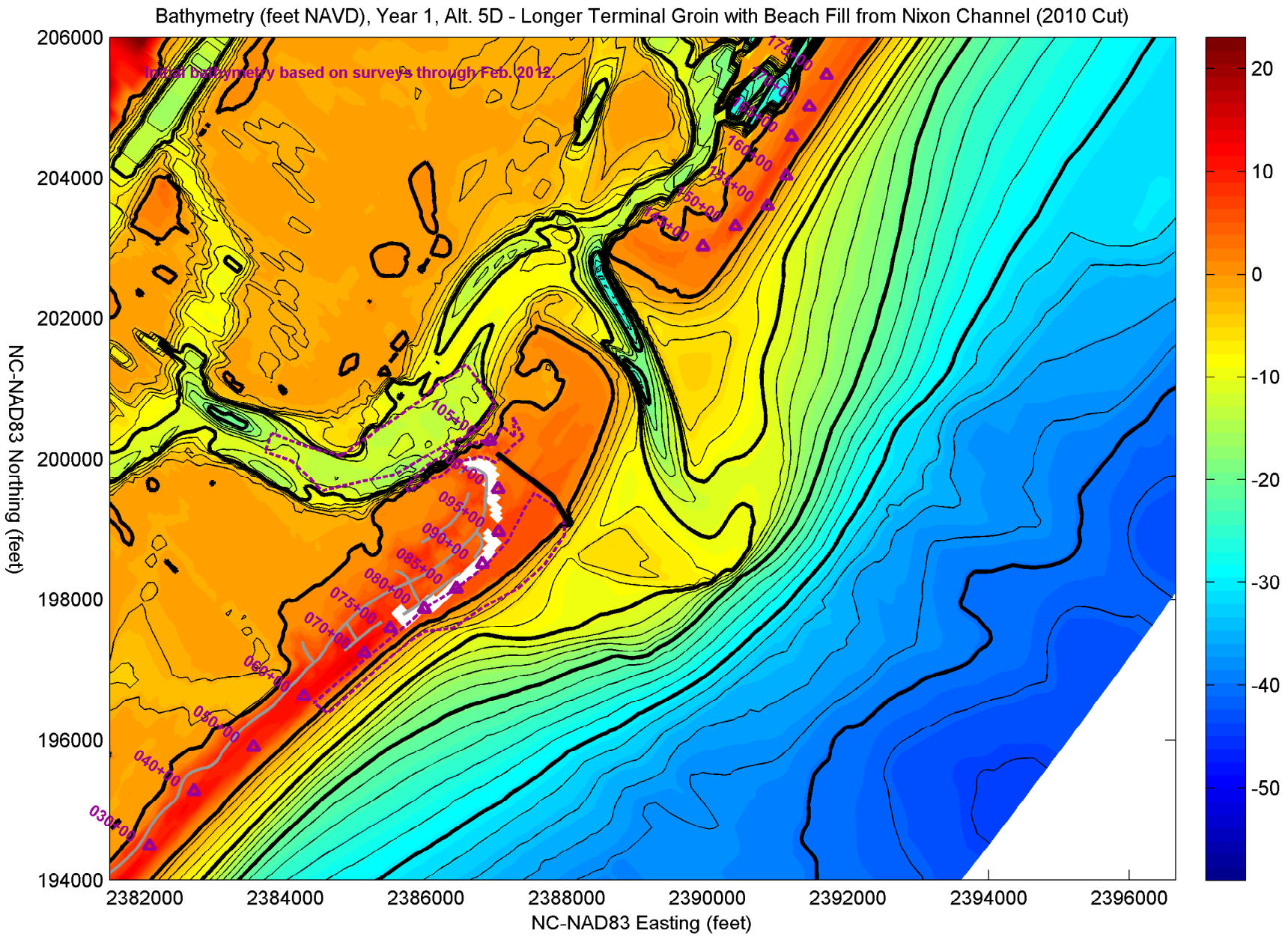
080+00
075+00
070+00
060+00
050+00
040+00
030+00


Bathymetry (feet NAVD), Year 6, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
030+00
040+00
050+00
060+00
070+00
075+00
080+00
085+00
090+00
095+00
100+00
105+00
145+00
150+00
155+00
160+00
165+00
170+00
175+00


Bathymetry (feet NAVD), Year 7, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
030+00
040+00
050+00
060+00
070+00
075+00
080+00
085+00
090+00
095+00
100+00
105+00
145+00
150+00
155+00
160+00
165+00
170+00
175+00


Bathymetry (feet NAVD), Year 0, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
030+00
040+00
050+00
060+00
070+00
075+00
080+00
085+00
090+00
095+00
100+00
105+00
150+00
155+00
160+00
165+00
170+00
175+00


Bathymetry (feet NAVD), Year 1, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
030+00
040+00
050+00
060+00
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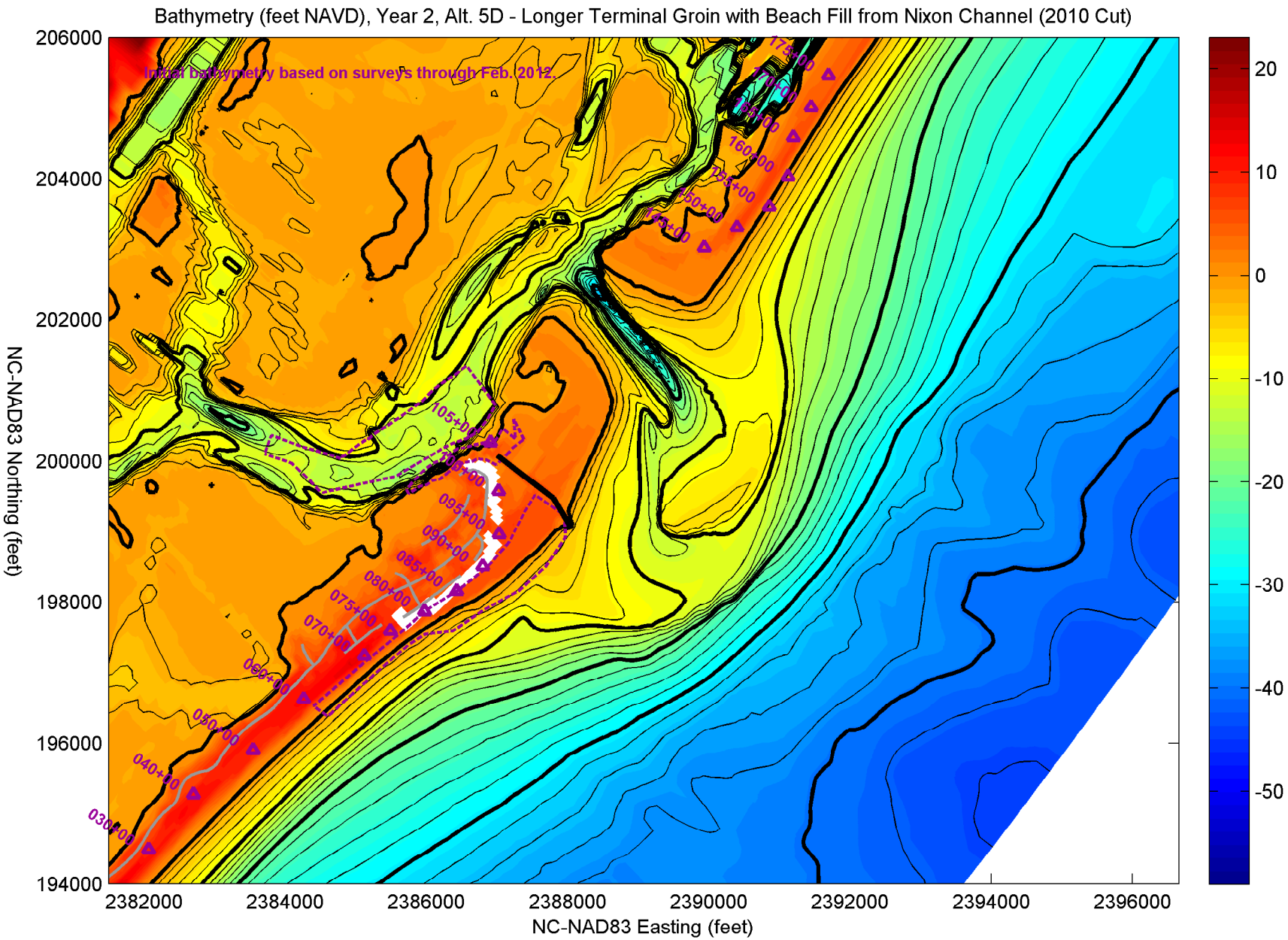
150+00
155+00
160+00
165+00
170+00
175+00


Bathymetry (feet NAVD), Year 2, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
030+00
040+00
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105+00
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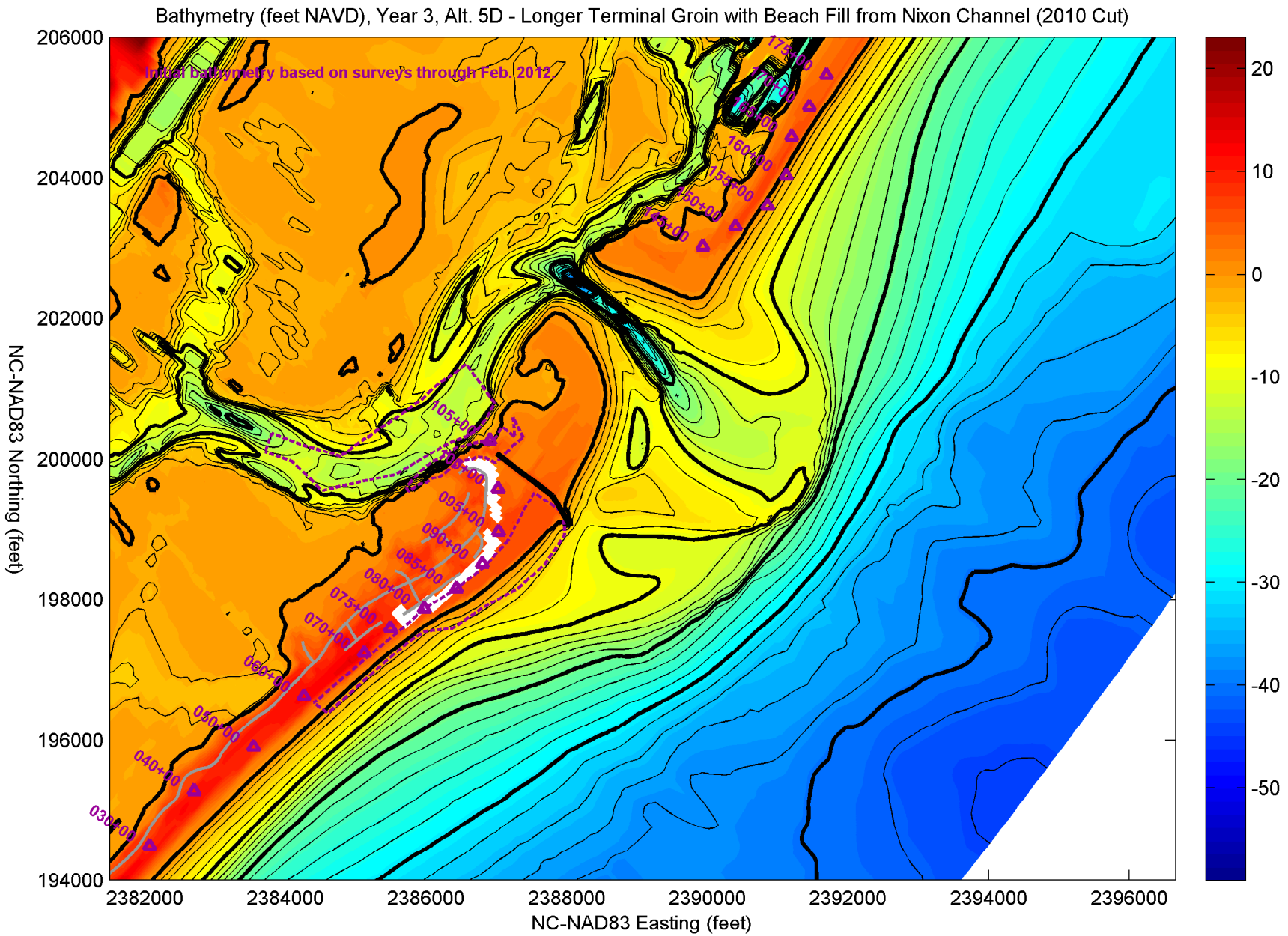
155+00
160+00
165+00
170+00
175+00


Bathymetry (feet NAVD), Year 3, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
175+00
170+00
165+00
160+00
155+00
150+00
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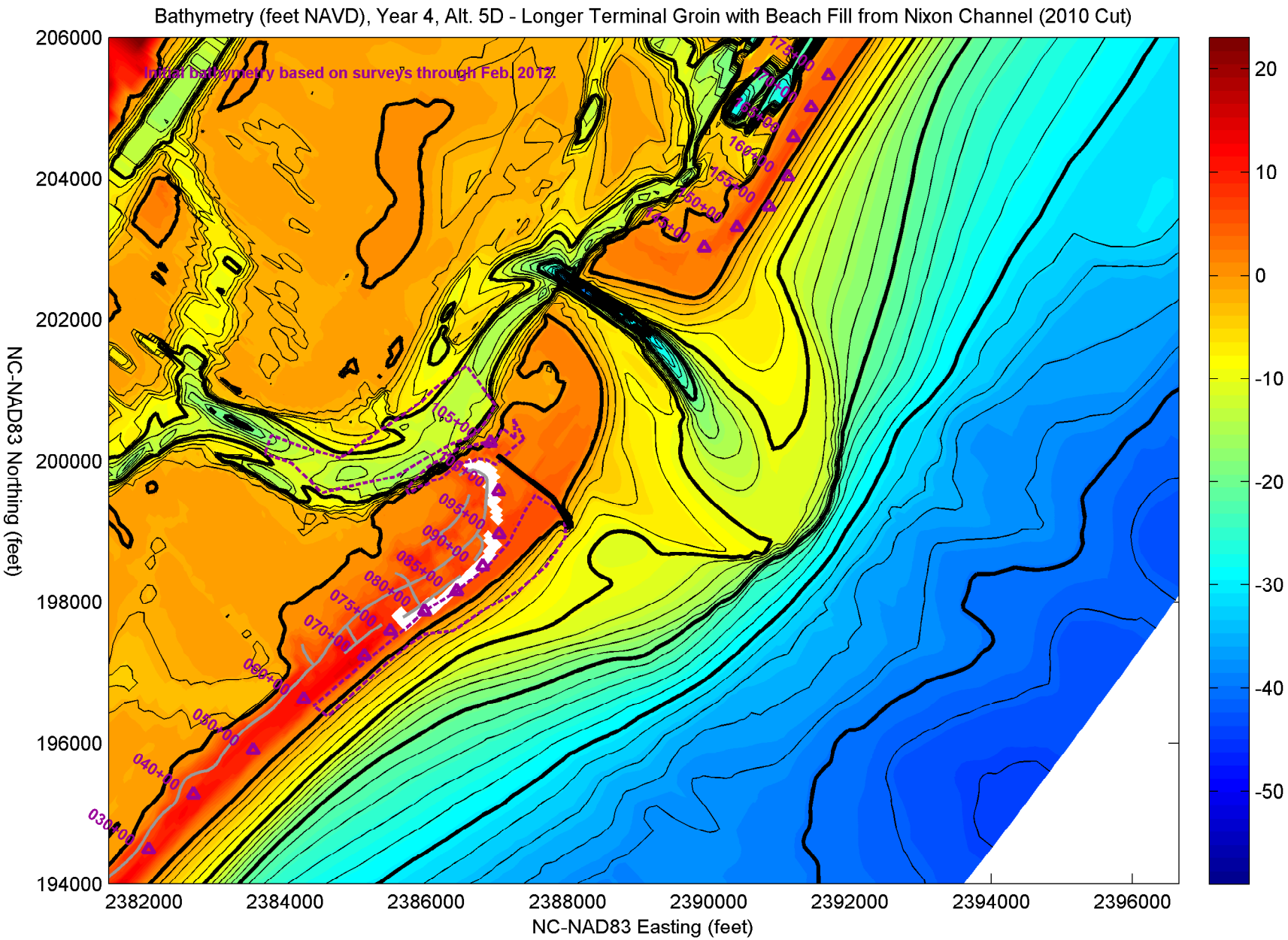
Bathymetry (feet NAVD), Year 4, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
-20
-30
-40
-50
030+00
040+00
050+00
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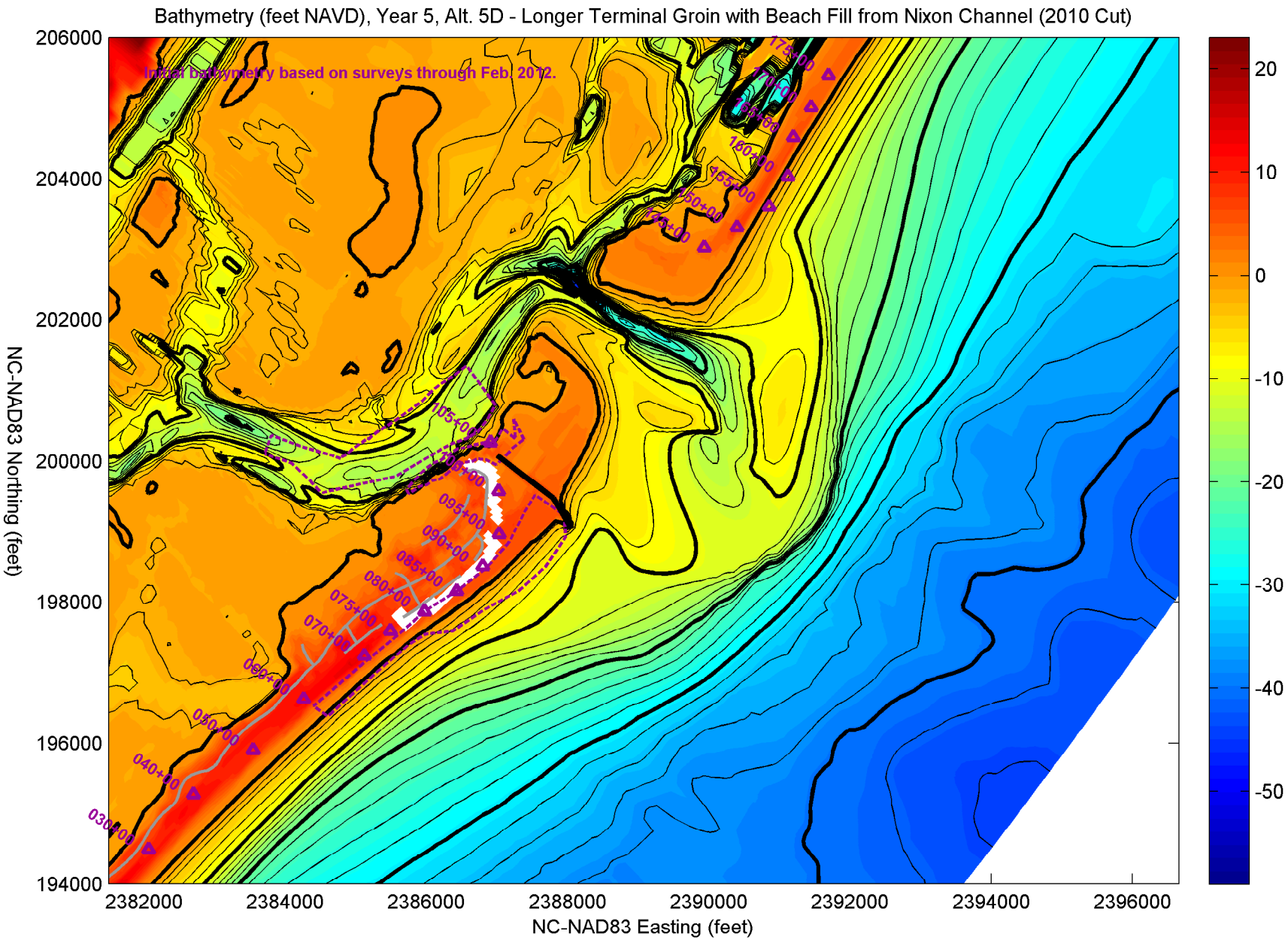
155+00
160+00
165+00
170+00
175+00


Bathymetry (feet NAVD), Year 5, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
0
-10
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-30
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-50
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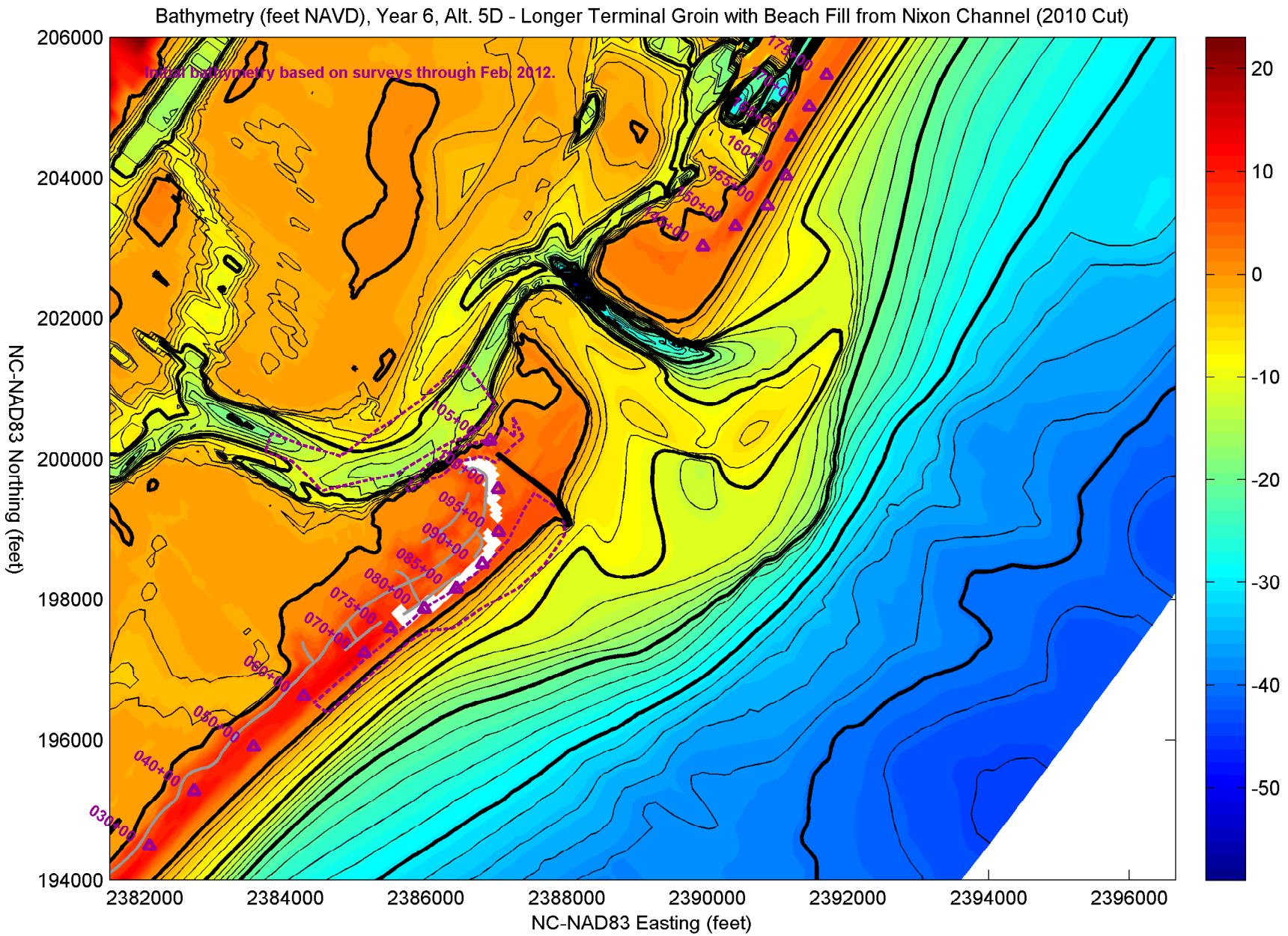
150+00
155+00
160+00
170+00
175+00


Bathymetry (feet NAVD), Year 6, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
20
10
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-10
-20
-30
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-50
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040+00
050+00
060+00
070+00
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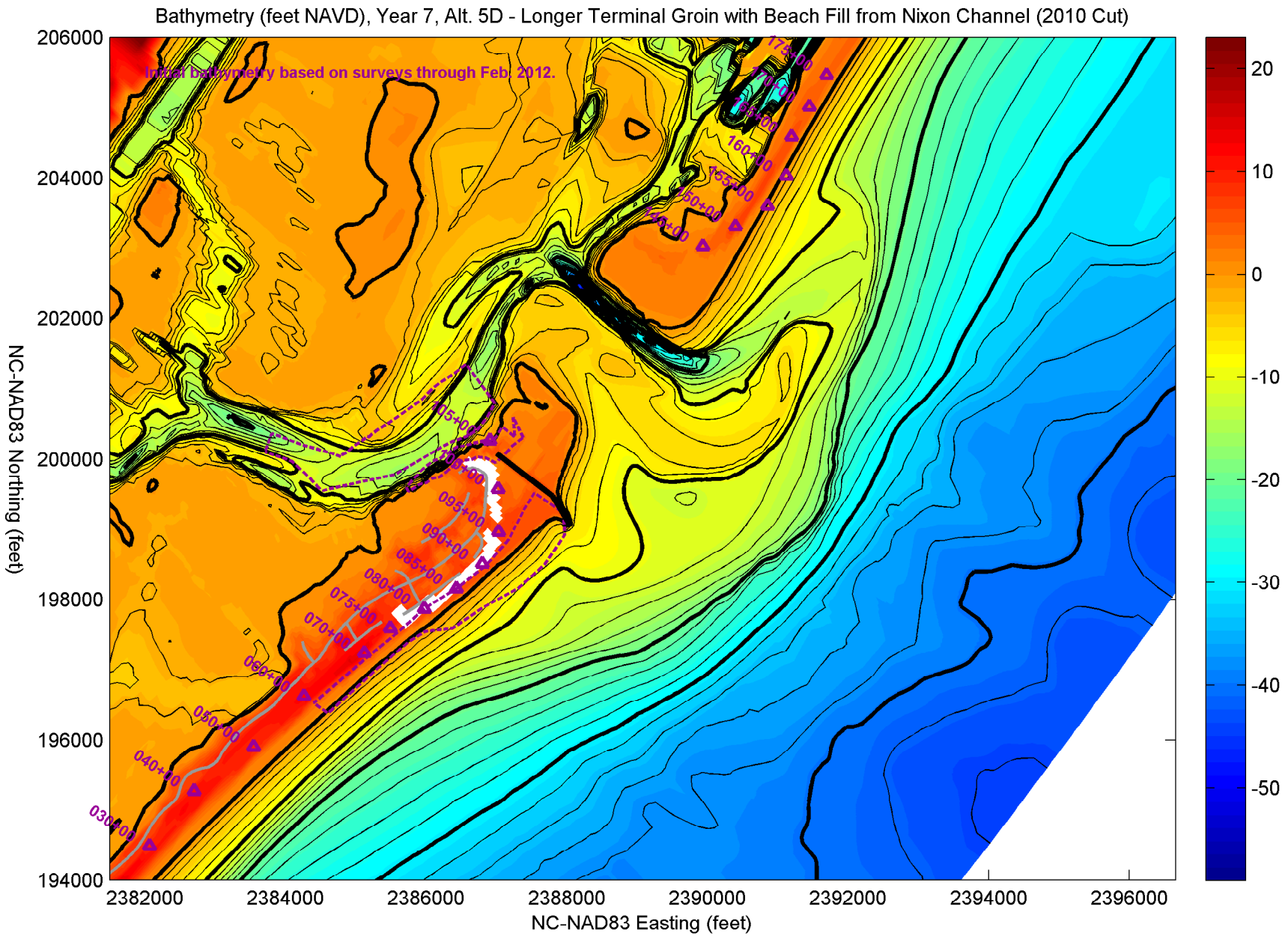
080+00
085+00
090+00
095+00
100+00
105+00
150+00
155+00
160+00
170+00
175+00


Bathymetry (feet NAVD), Year 7, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
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030+00
040+00
050+00
060+00
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105+00
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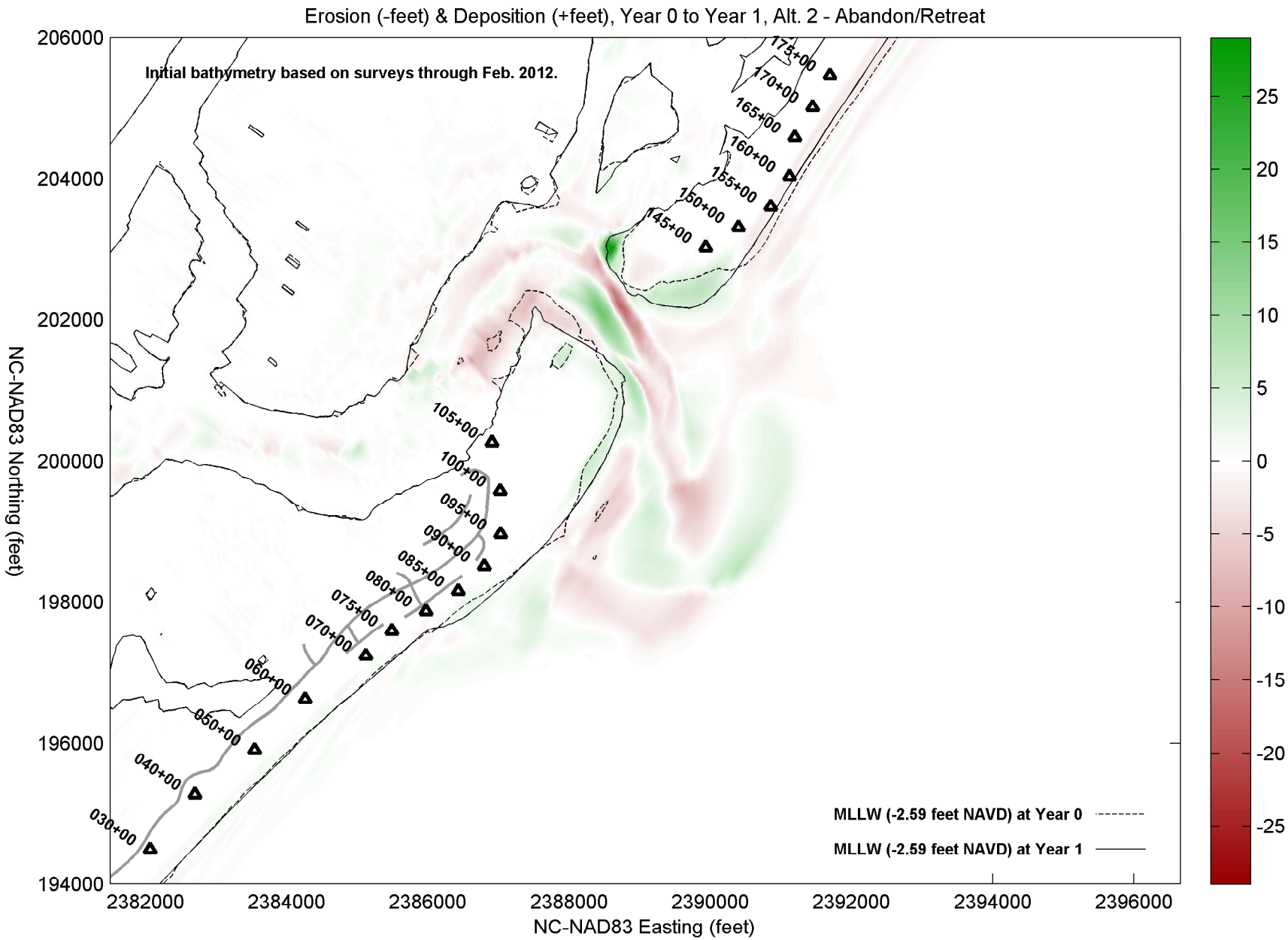
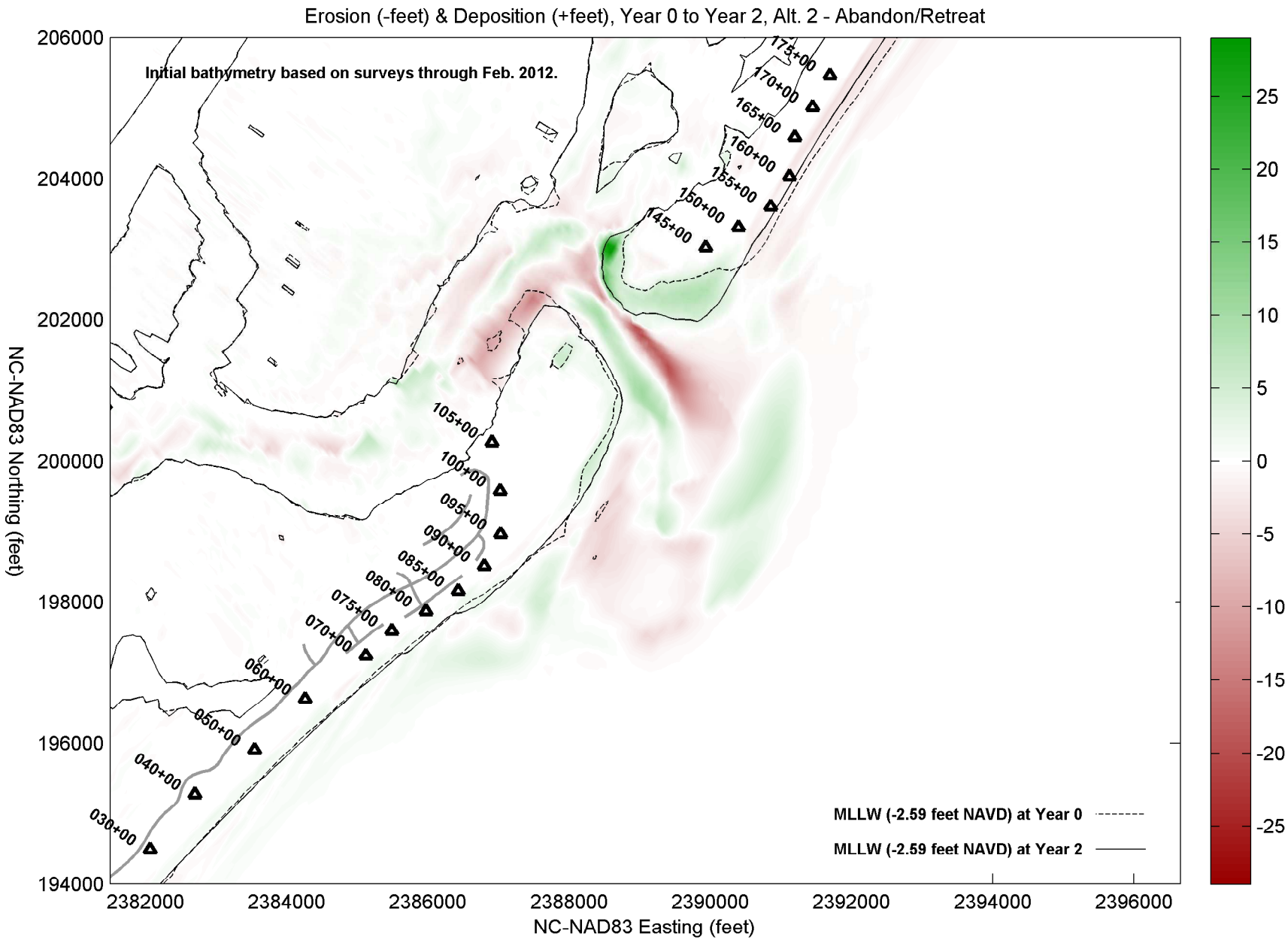
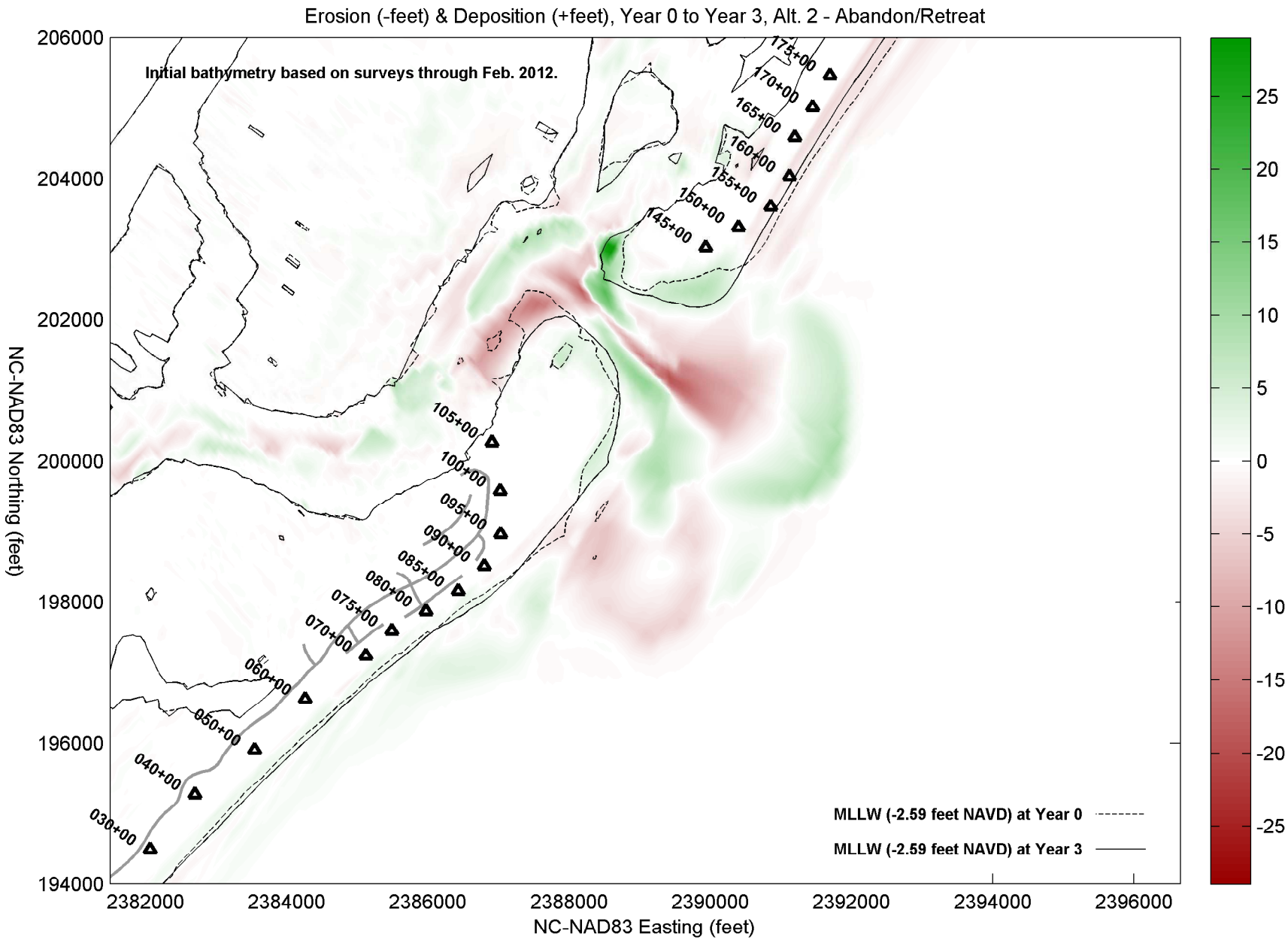
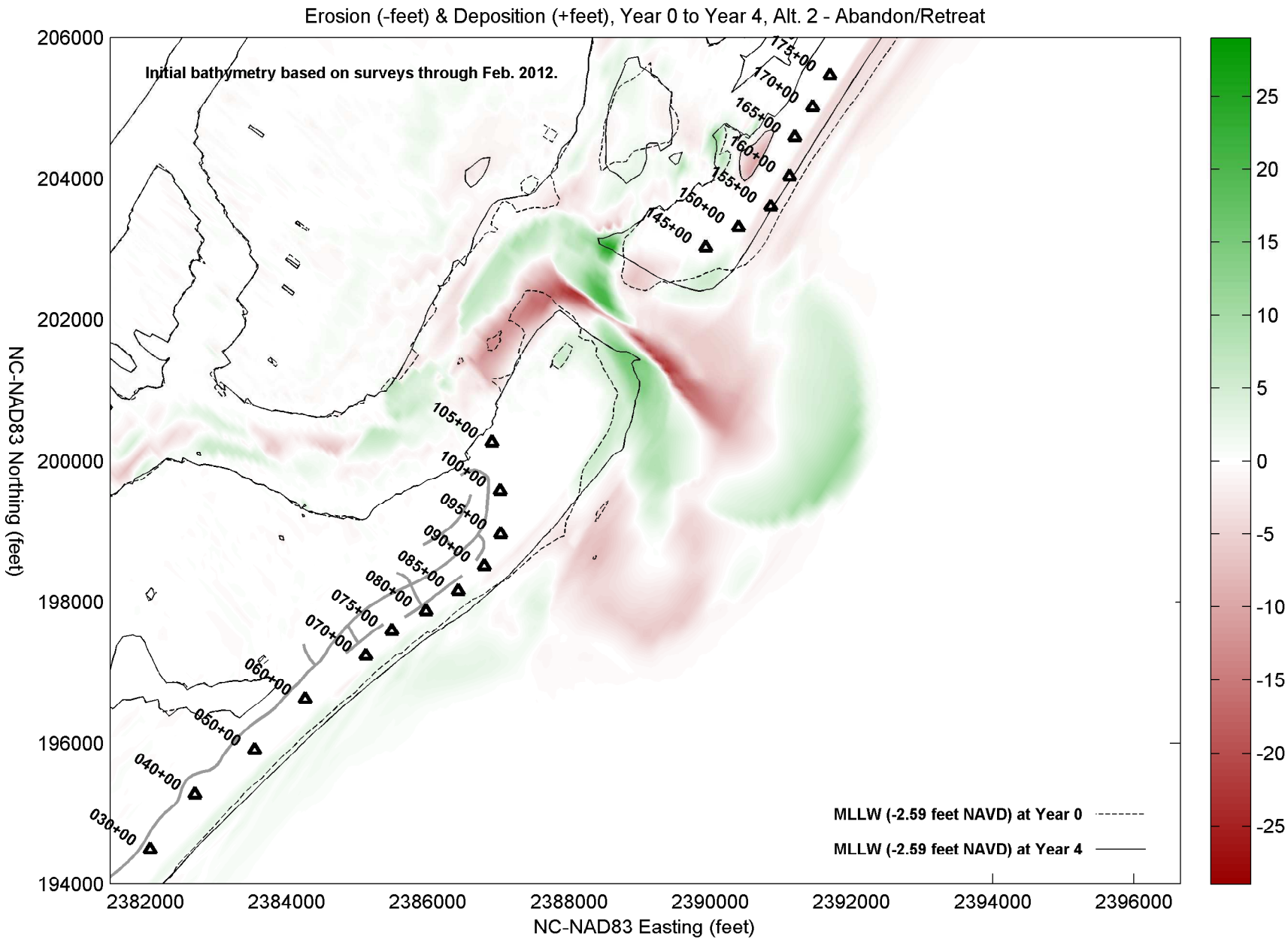
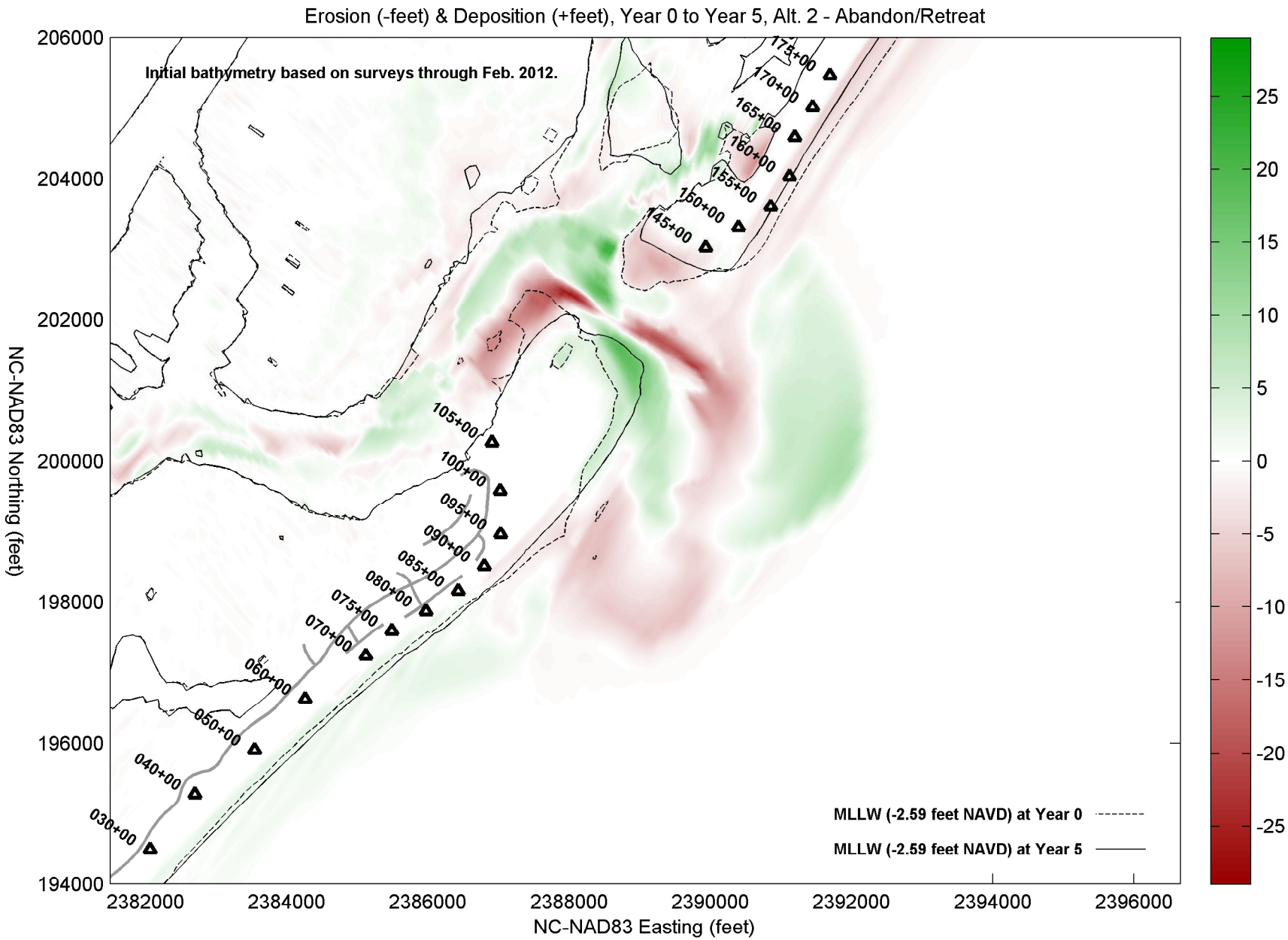
155+00
160+00
165+00
170+00
175+00

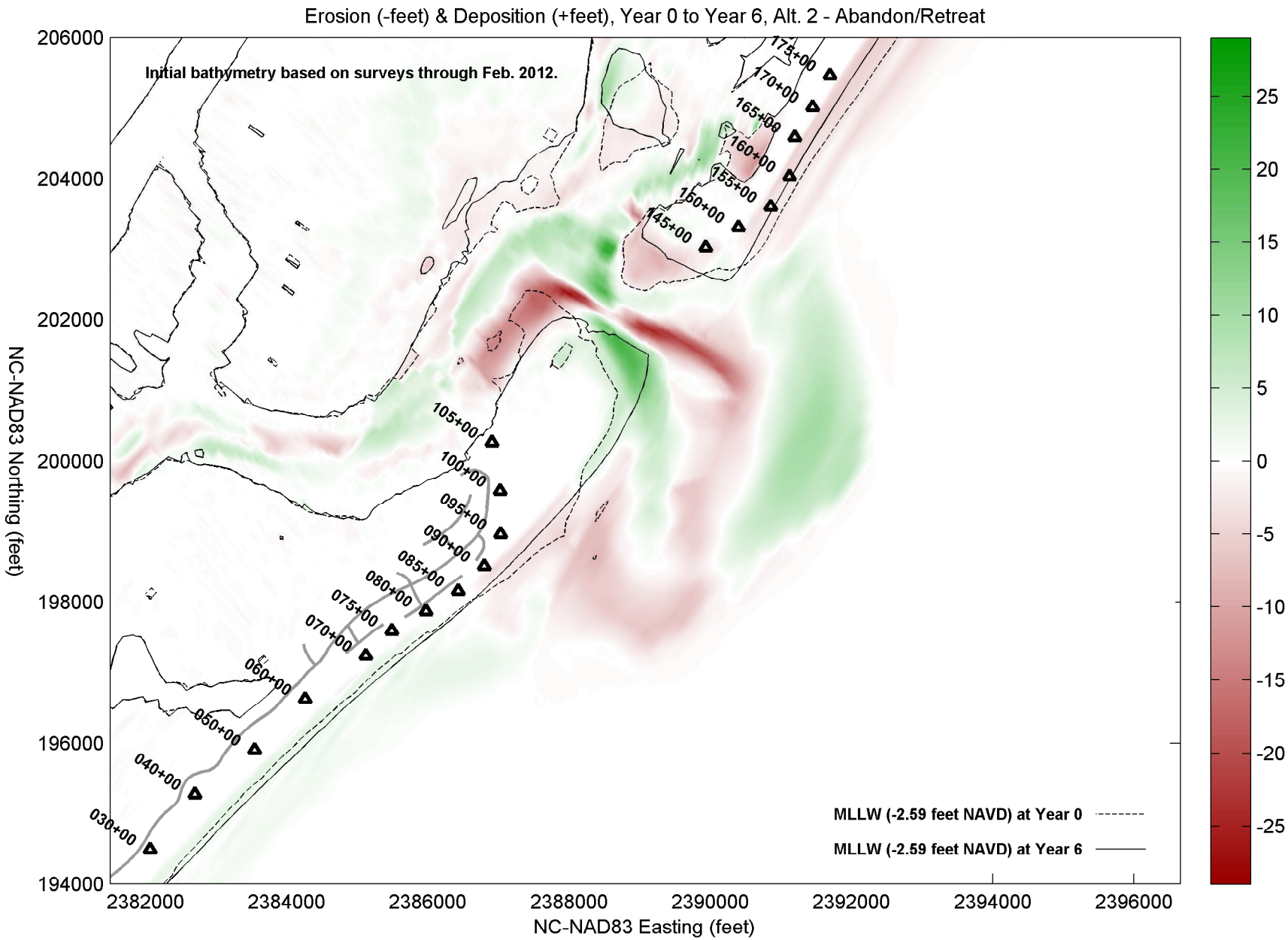

Erosion (-feet) & Deposition (+feet), Year 0 to Year 1, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 1
25
20
15
10
5
0
-5
-10
-15
-20
-25

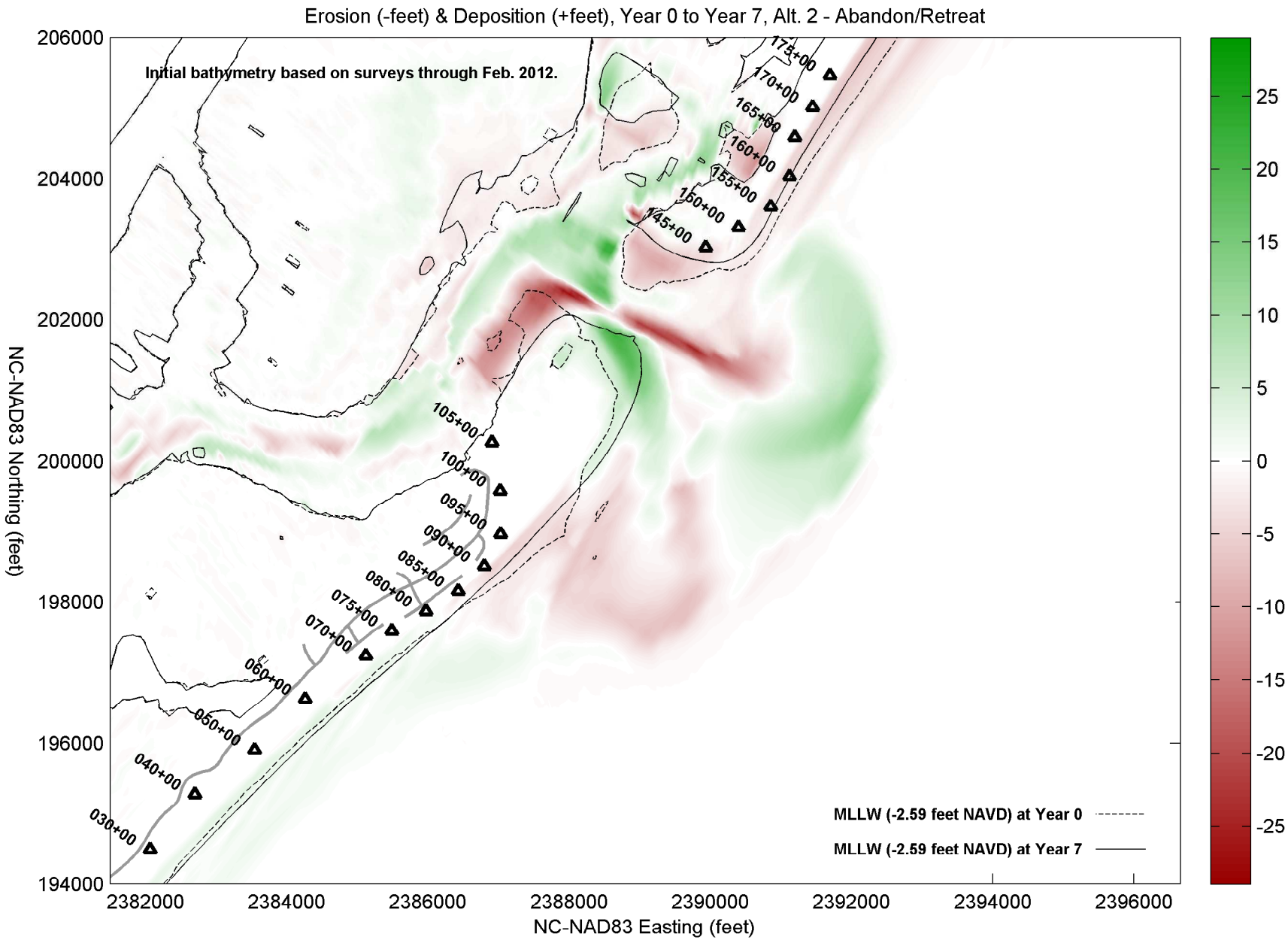

Erosion (-feet) & Deposition (+feet), Year 0 to Year 2, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 2
25
20
15
10
5
0
-5
-10
-15
-20
-25

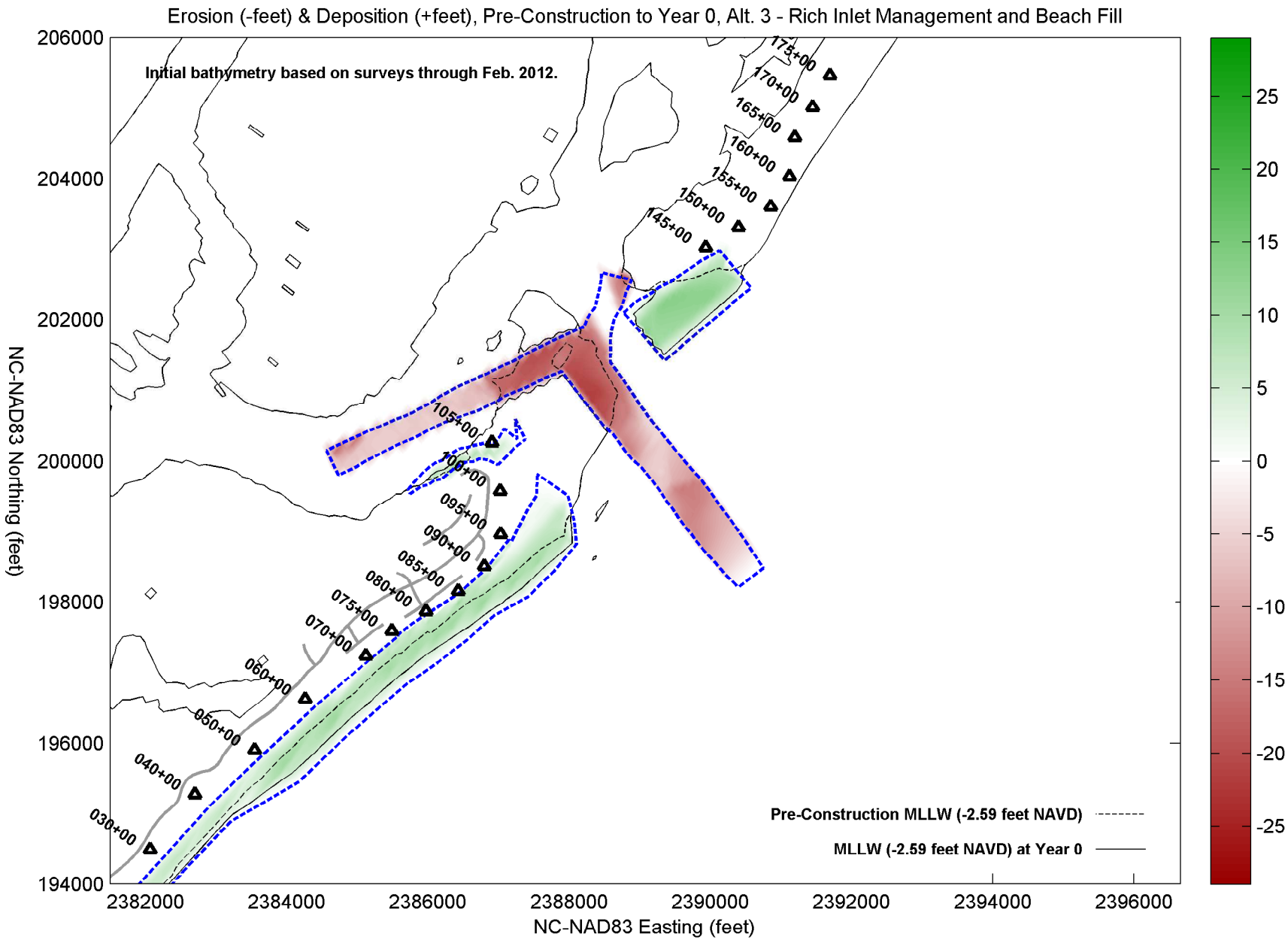

Erosion (-feet) & Deposition (+feet), Year 0 to Year 3, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 3
25
20
15
10
5
0
-5
-10
-15
-20
-25

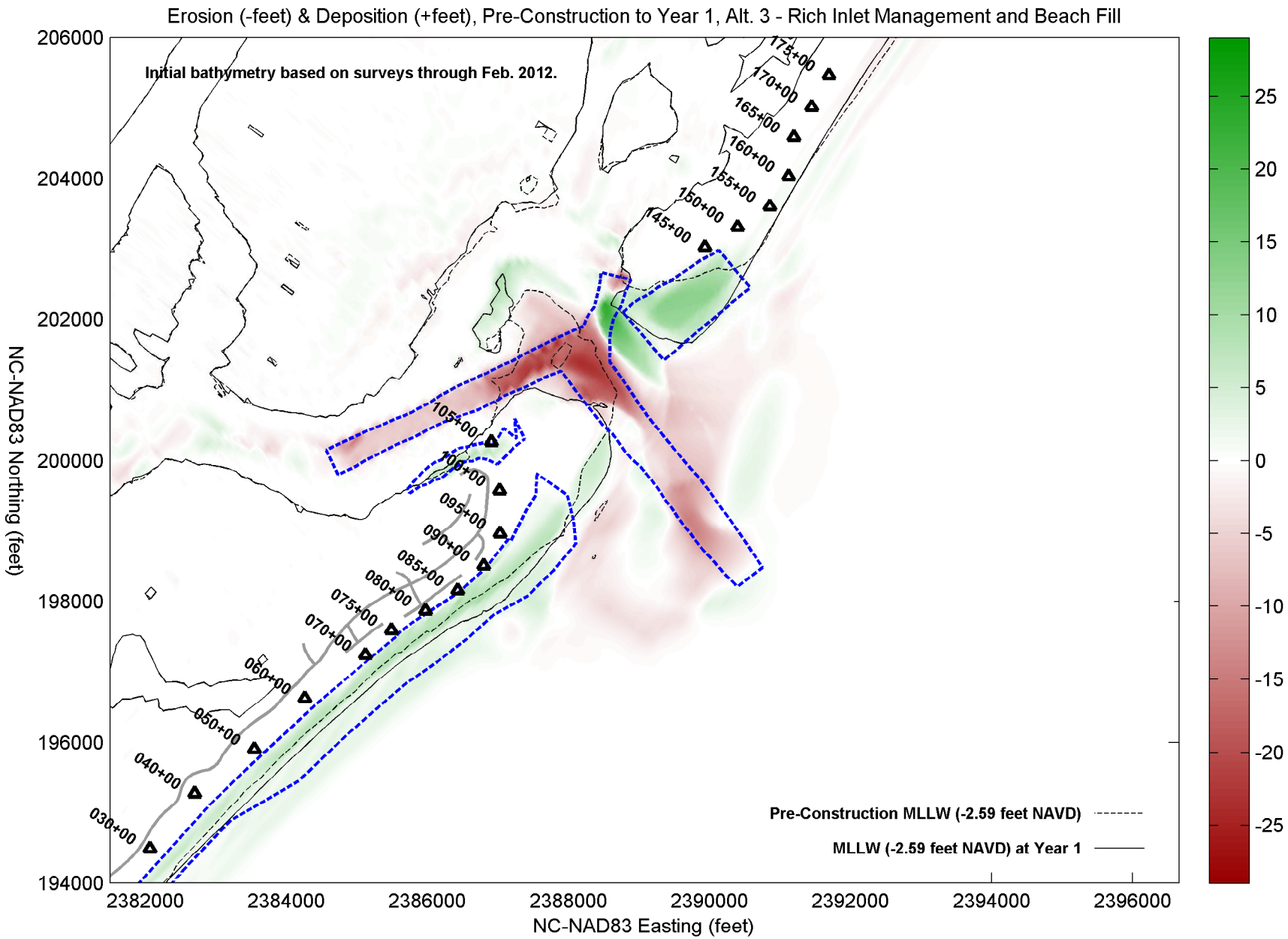

Erosion (-feet) & Deposition (+feet), Year 0 to Year 4, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 4
25
20
15
10
5
0
-5
-10
-15
-20
-25

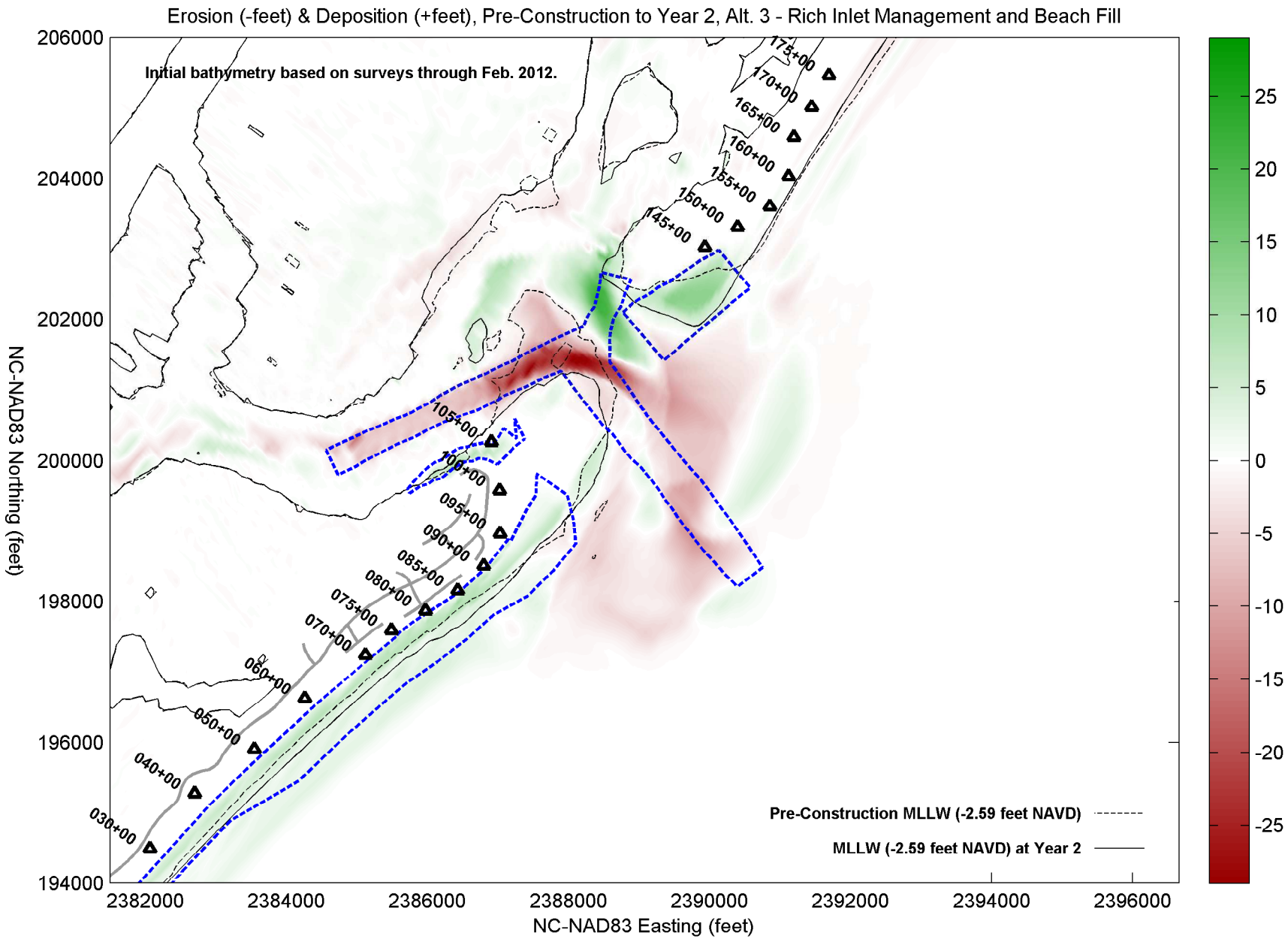

Erosion (-feet) & Deposition (+feet), Year 0 to Year 5, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 5
25
20
15
10
5
0
-5
-10
-15
-20
-25

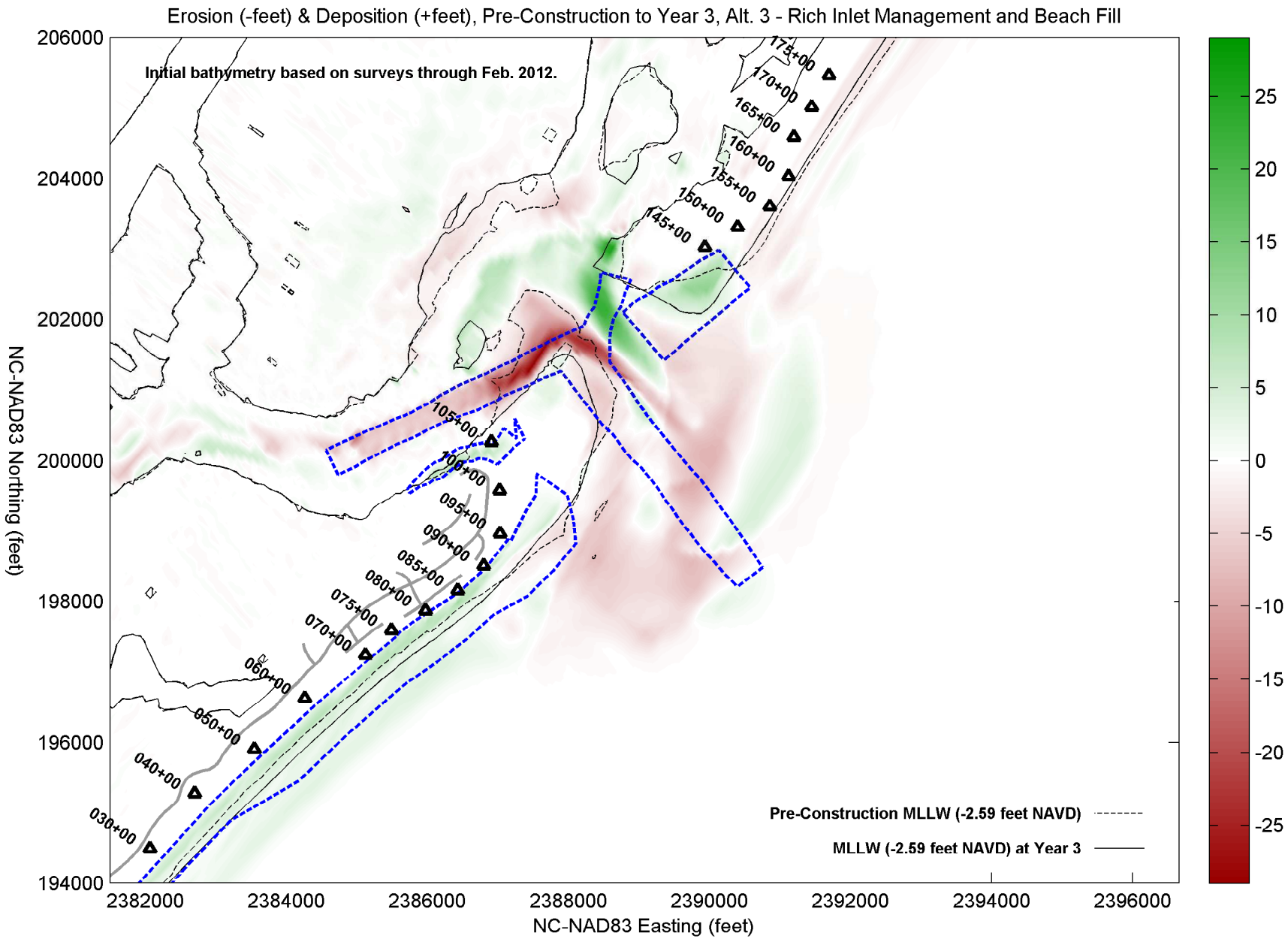

Erosion (-feet) & Deposition (+feet), Year 0 to Year 6, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 6
25
20
15
10
5
0
-5
-10
-15
-20
-25

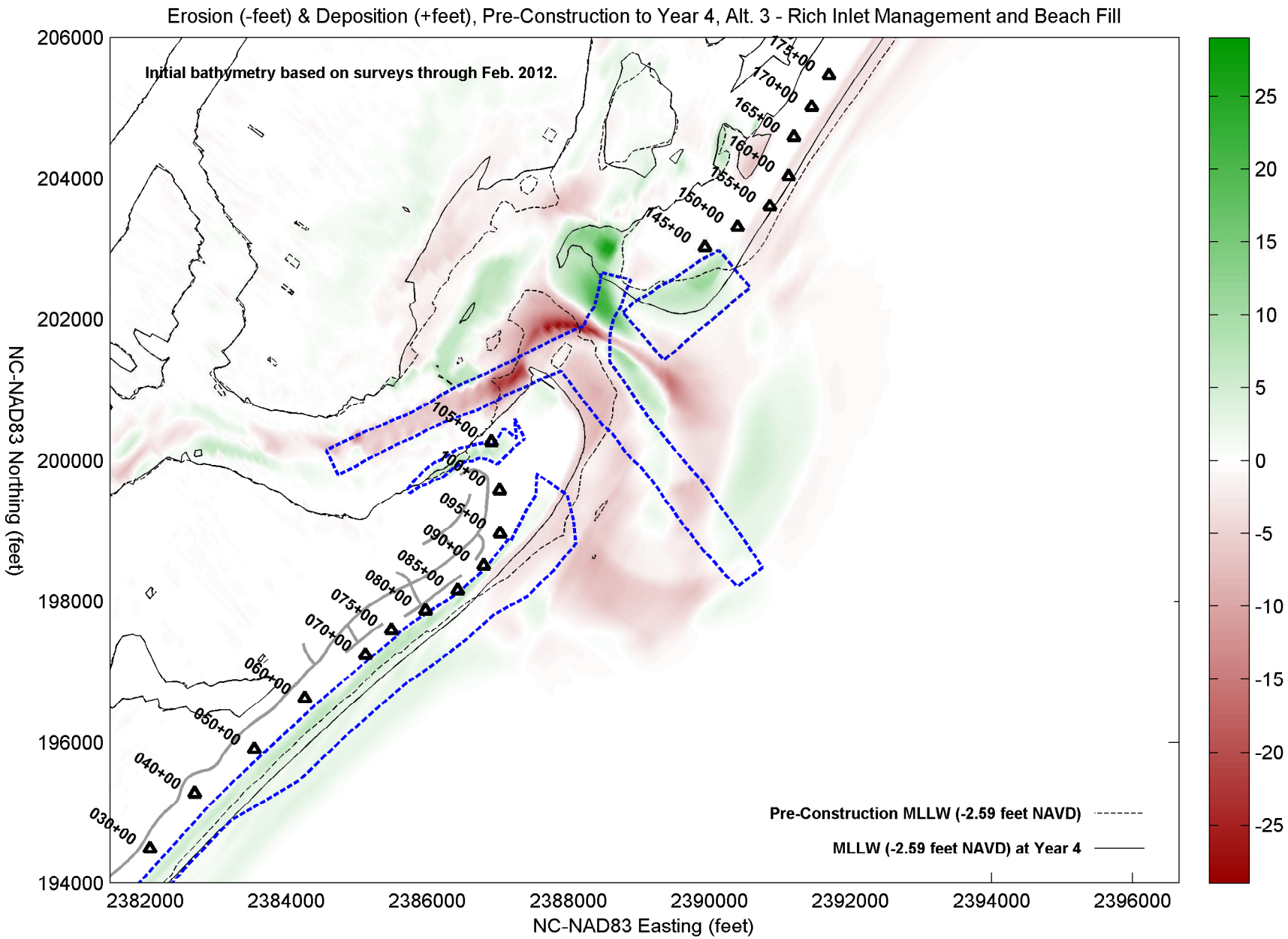

Erosion (-feet) & Deposition (+feet), Year 0 to Year 7, Alt. 2 - Abandon/Retreat
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
MLLW (-2.59 feet NAVD) at Year 0
MLLW (-2.59 feet NAVD) at Year 7
25
20
15
10
5
0
-5
-10
-15
-20
-25

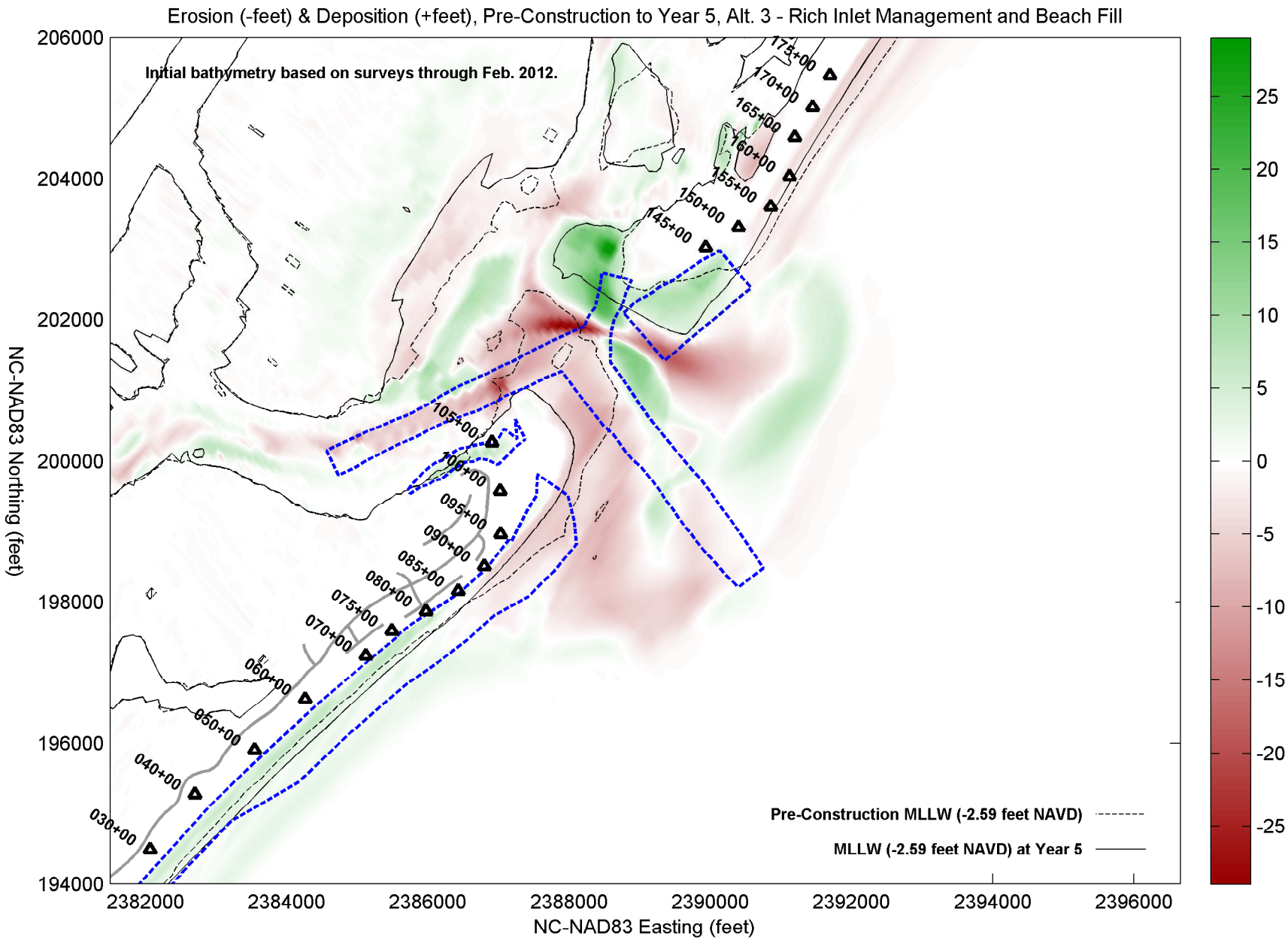

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 0, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 0
25
20
15
10
5
0
-5
-10
-15
-20
-25

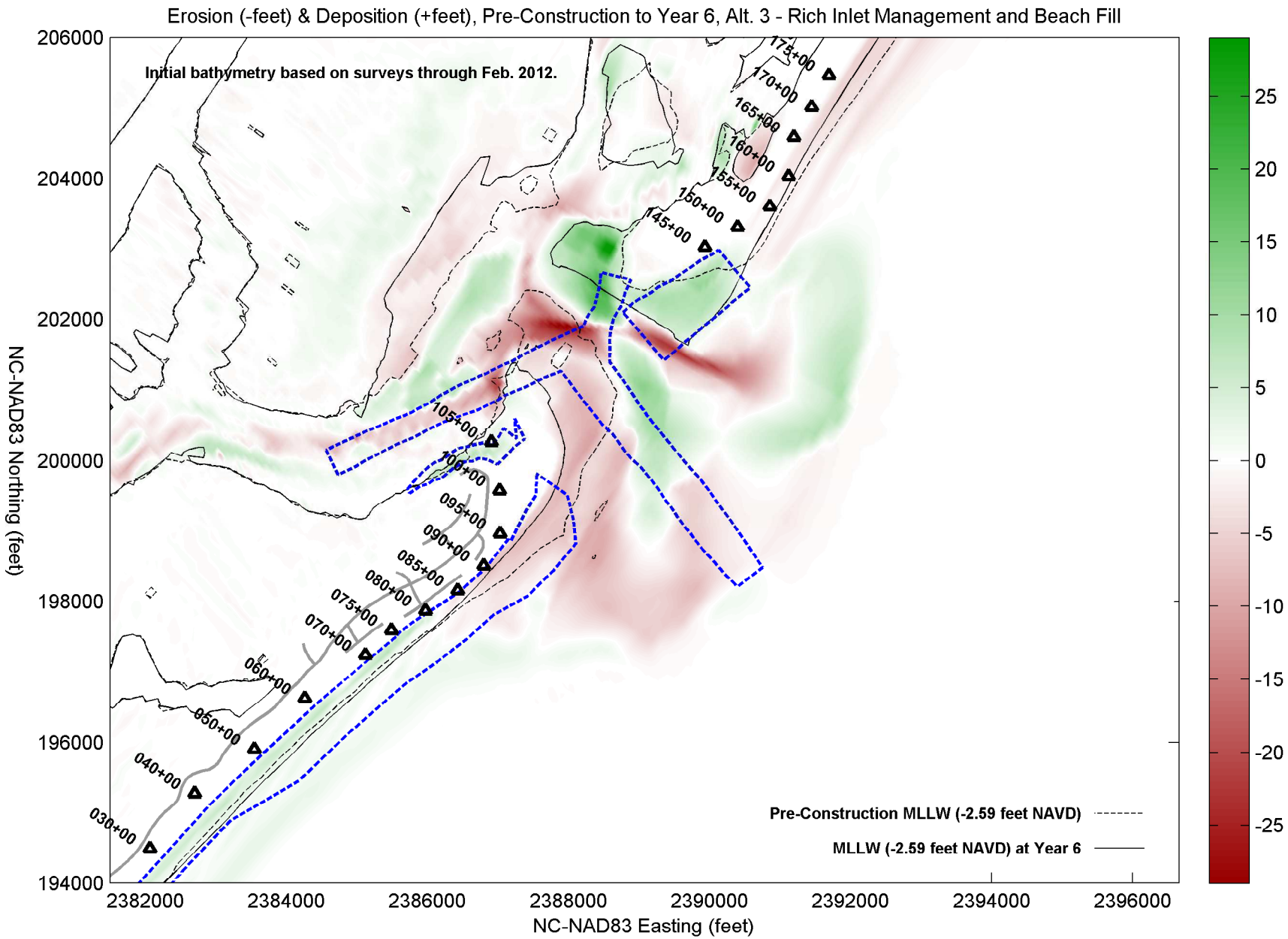

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 1, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 1
25
20
15
10
5
0
-5
-10
-15
-20
-25

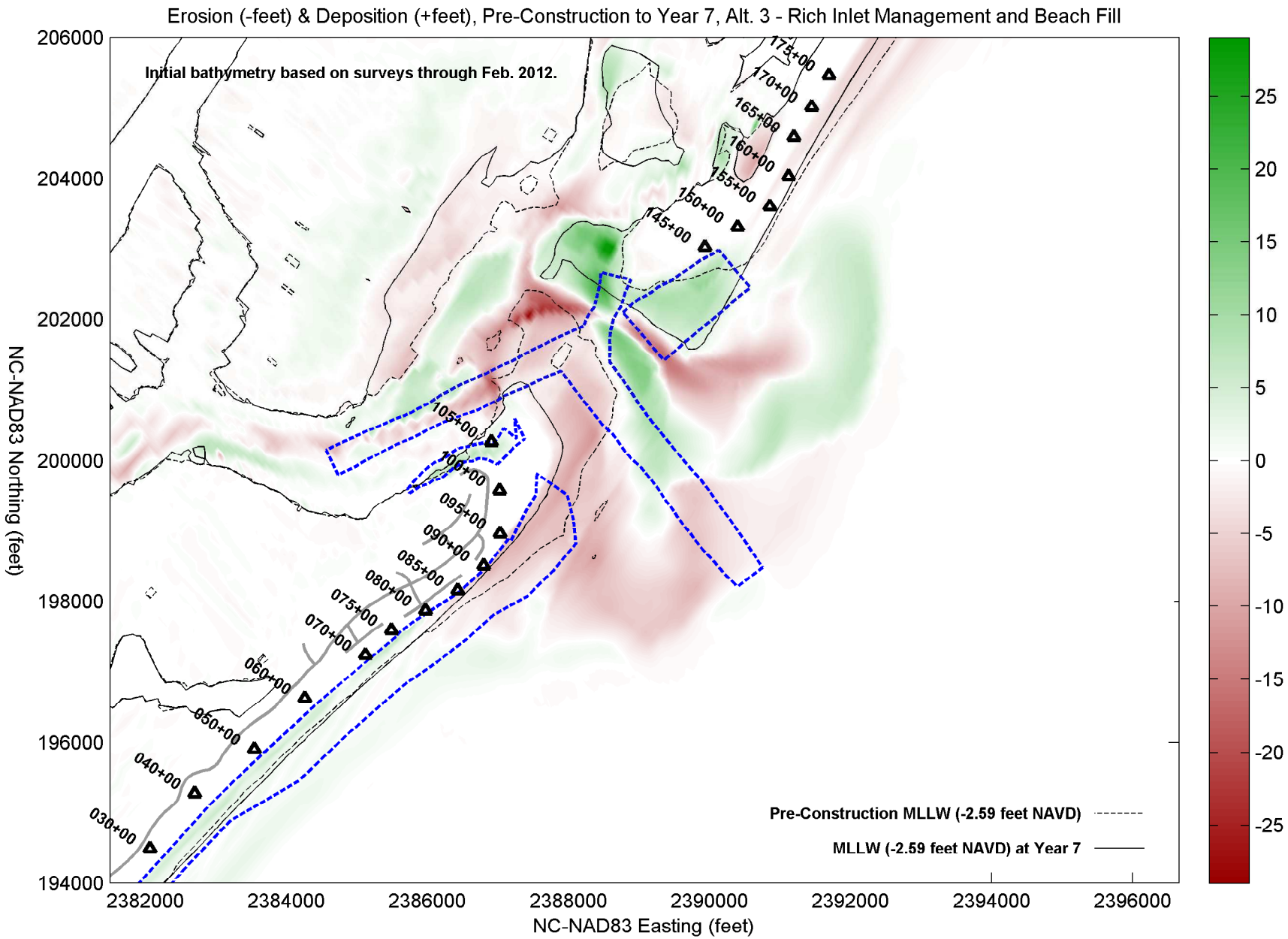

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 2, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 2
25
20
15
10
5
0
-5
-10
-15
-20
-25

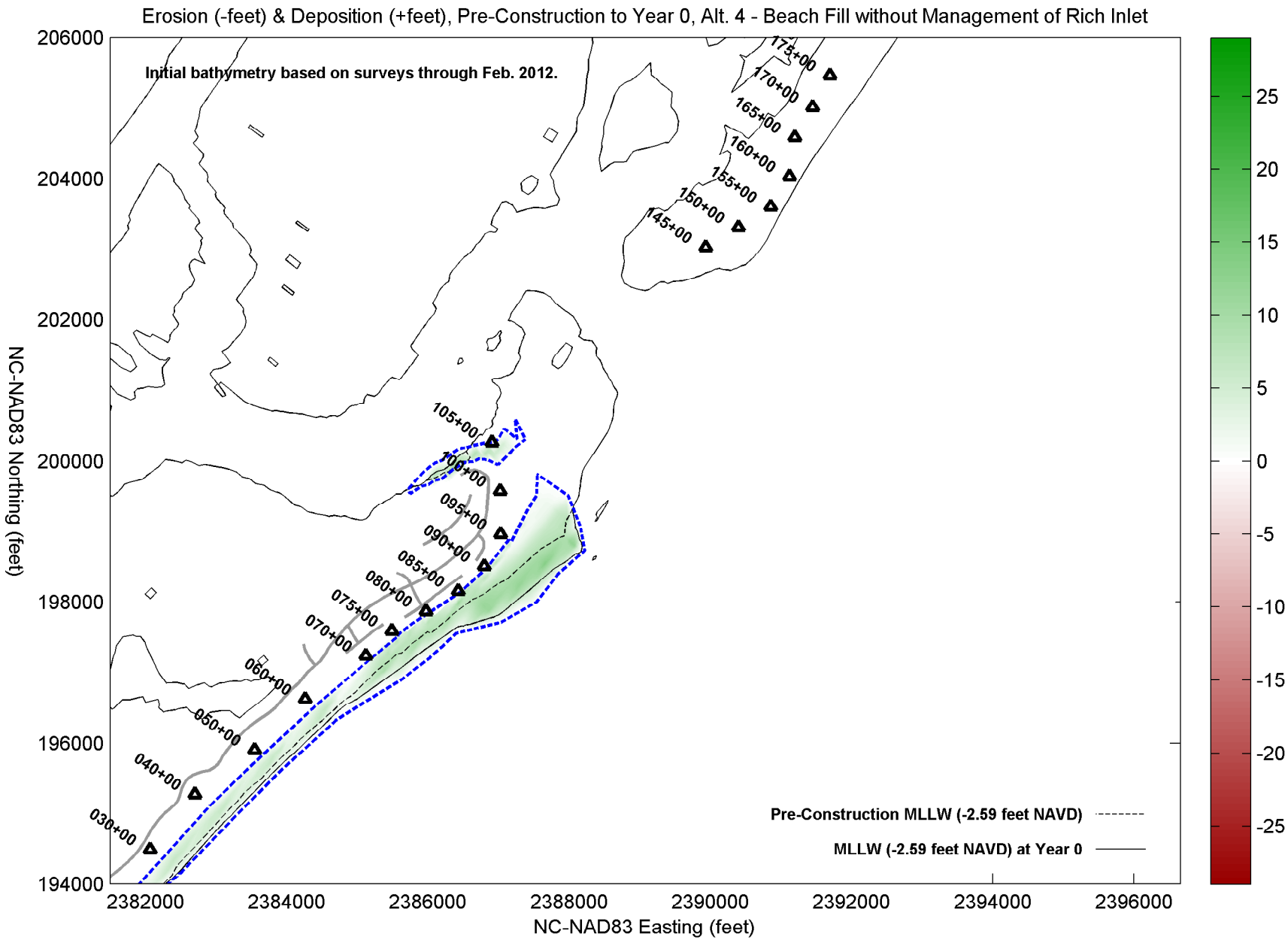

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 3, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 3
25
20
15
10
5
0
-5
-10
-15
-20
-25

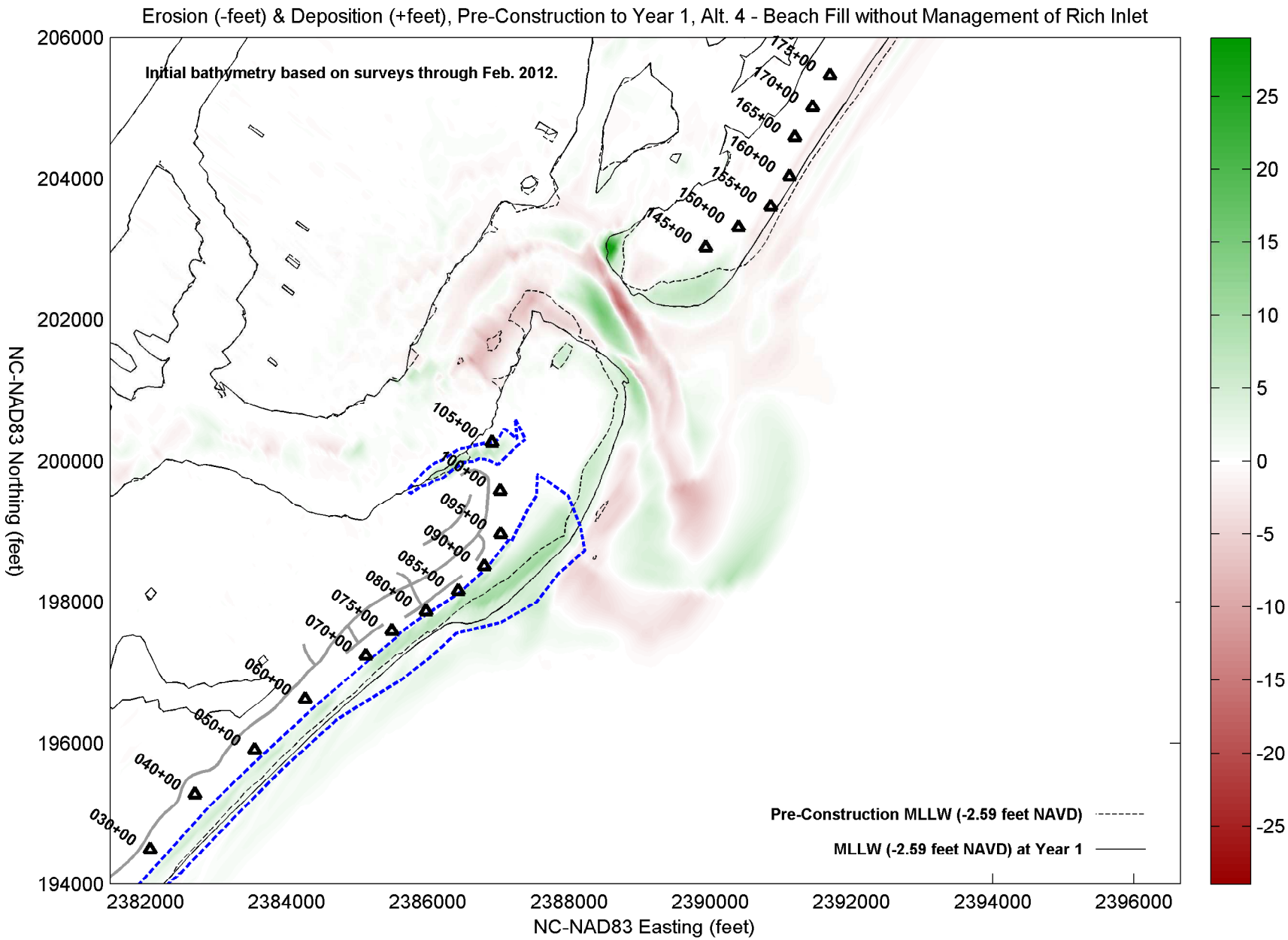

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 4, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 4
25
20
15
10
5
0
-5
-10
-15
-20
-25

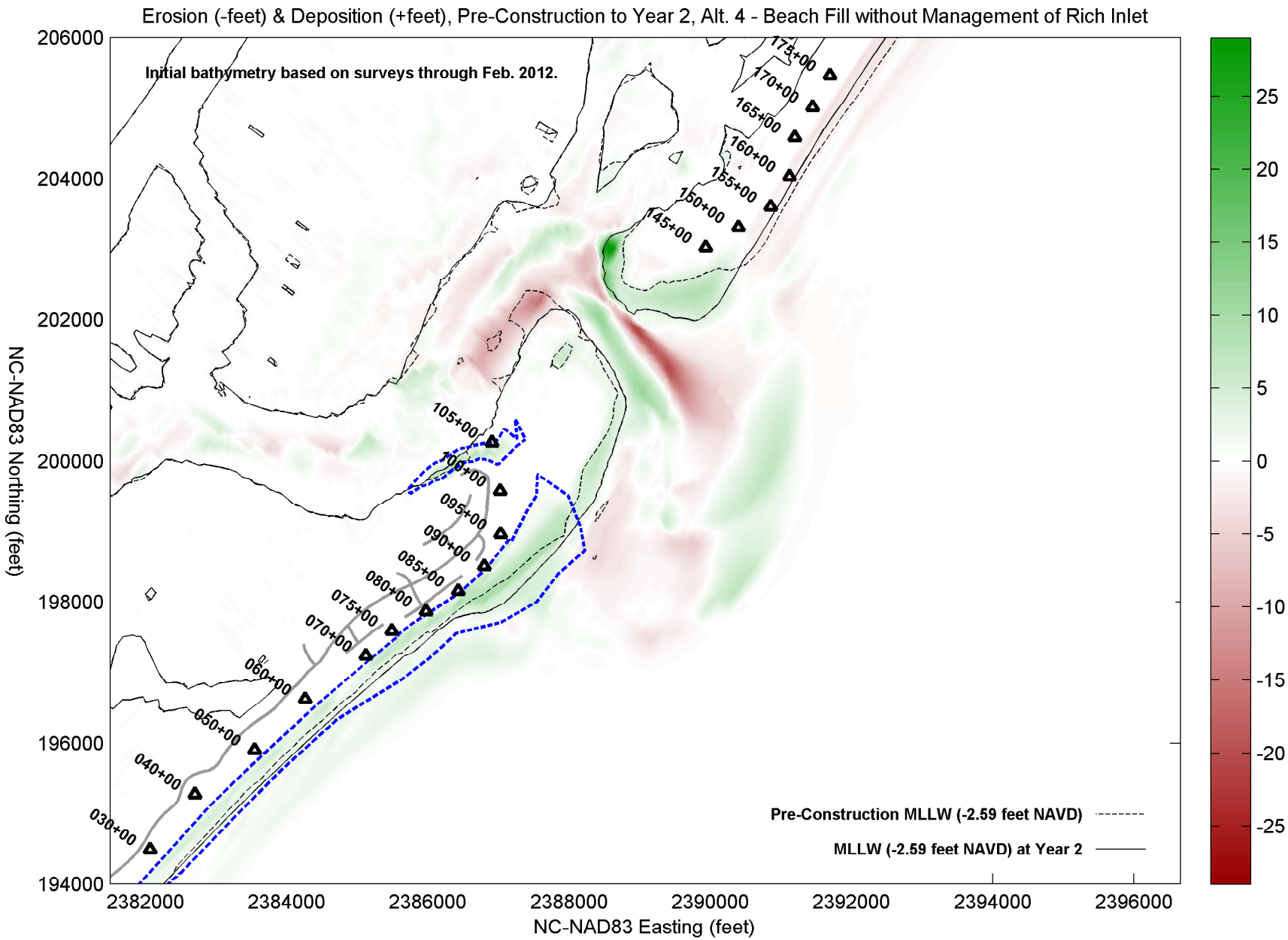

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 5, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 5
25
20
15
10
5
0
-5
-10
-15
-20
-25

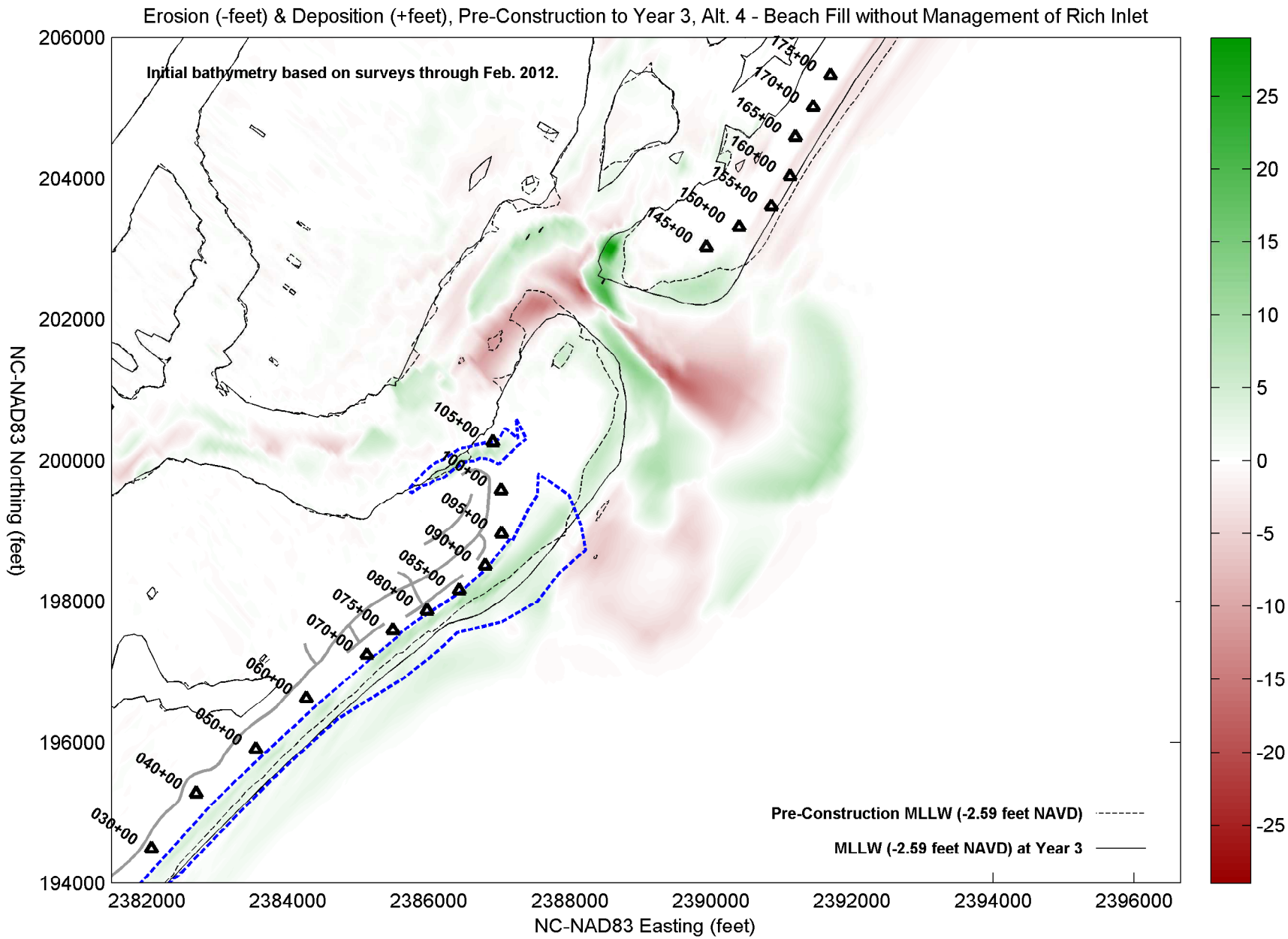

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 6, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 6
206000
204000
202000
200000
198000
196000
194000
NC-NAD83 Northing (feet)
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
NC-NAD83 Easting (feet)
25
20
15
10
5
0
-5
-10
-15
-20
-25

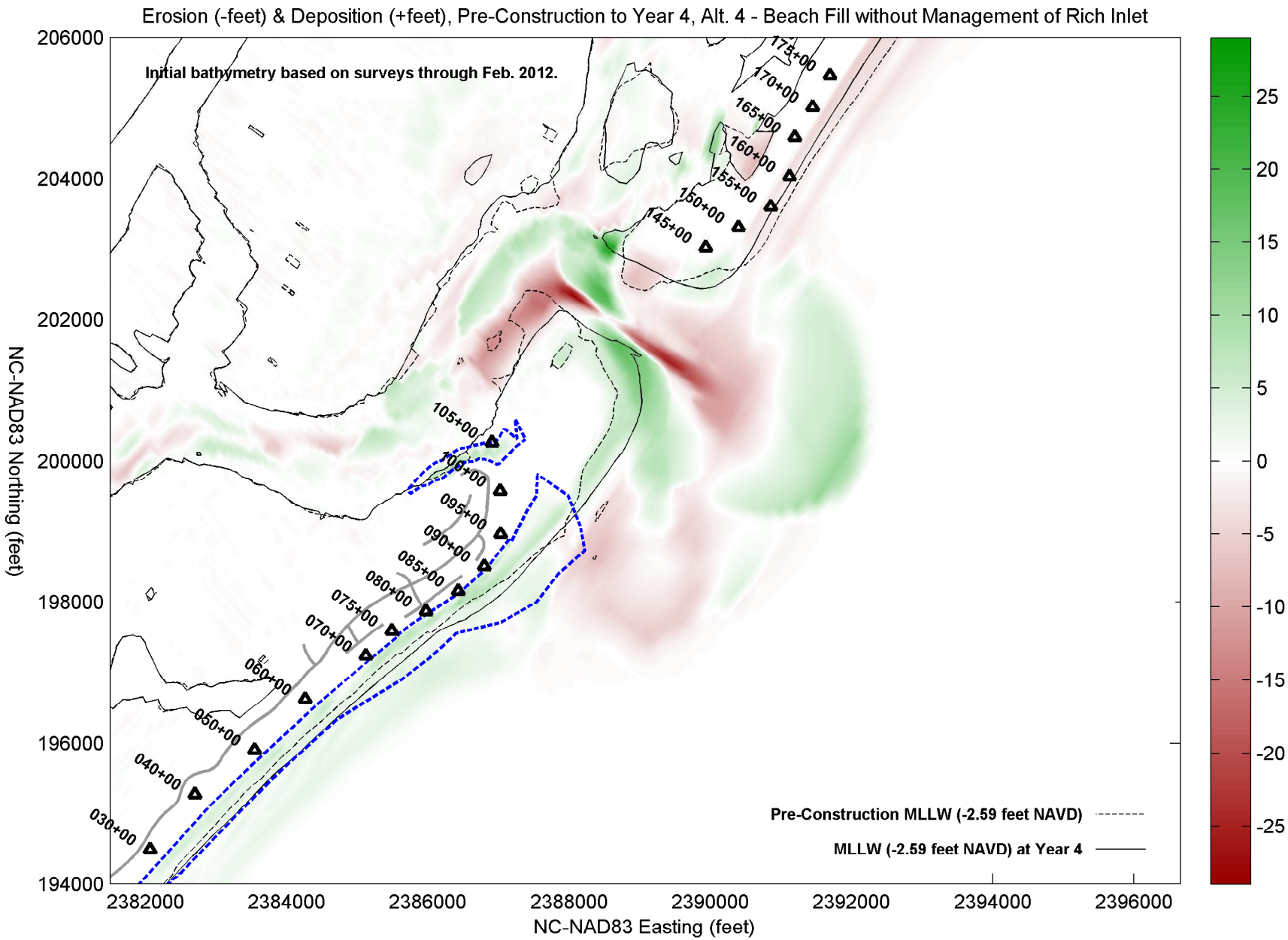

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 7, Alt. 3 - Rich Inlet Management and Beach Fill
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 7
25
20
15
10
5
0
-5
-10
-15
-20
-25

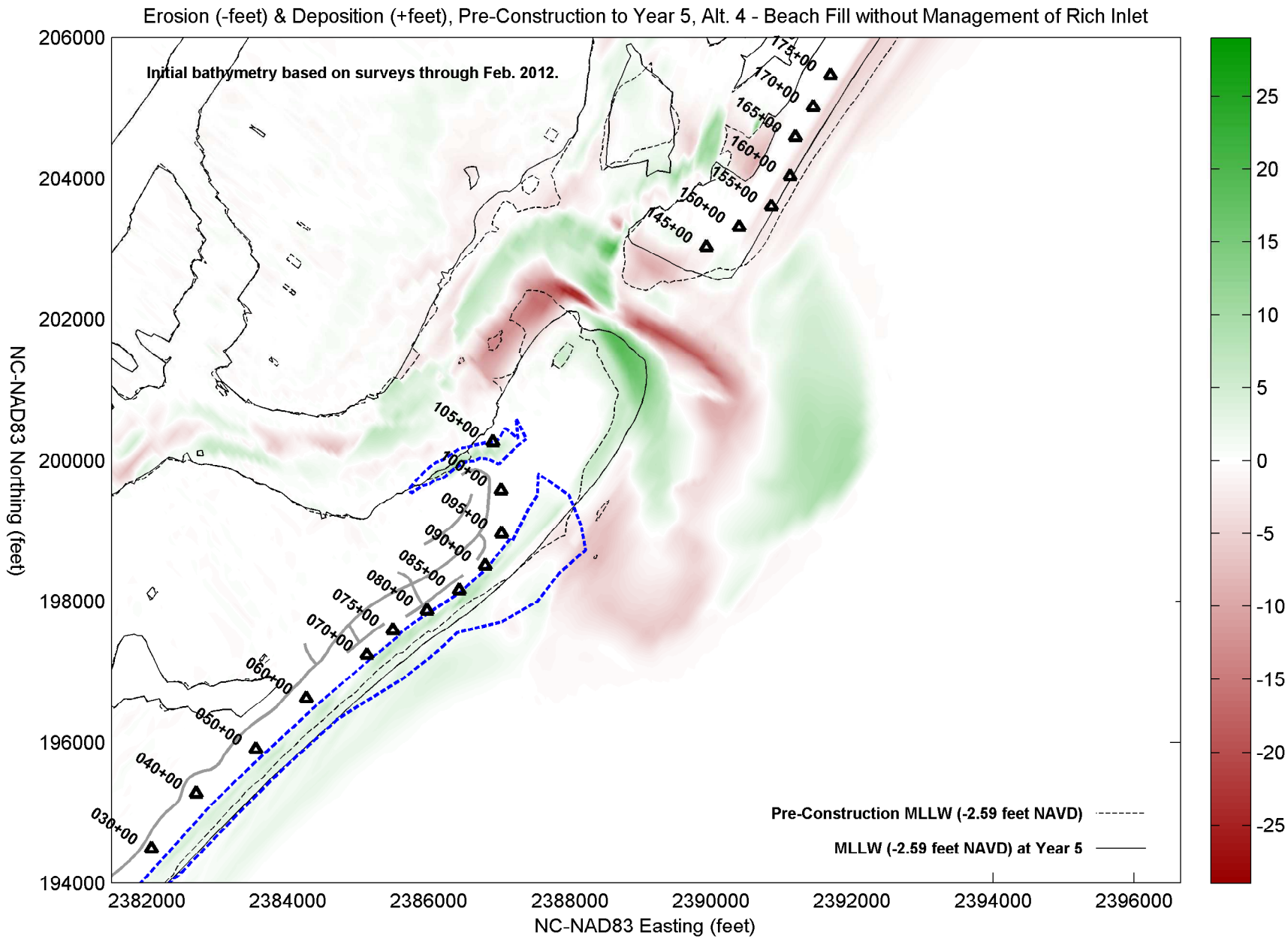

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 0, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 0
25
20
15
10
5
0
-5
-10
-15
-20
-25

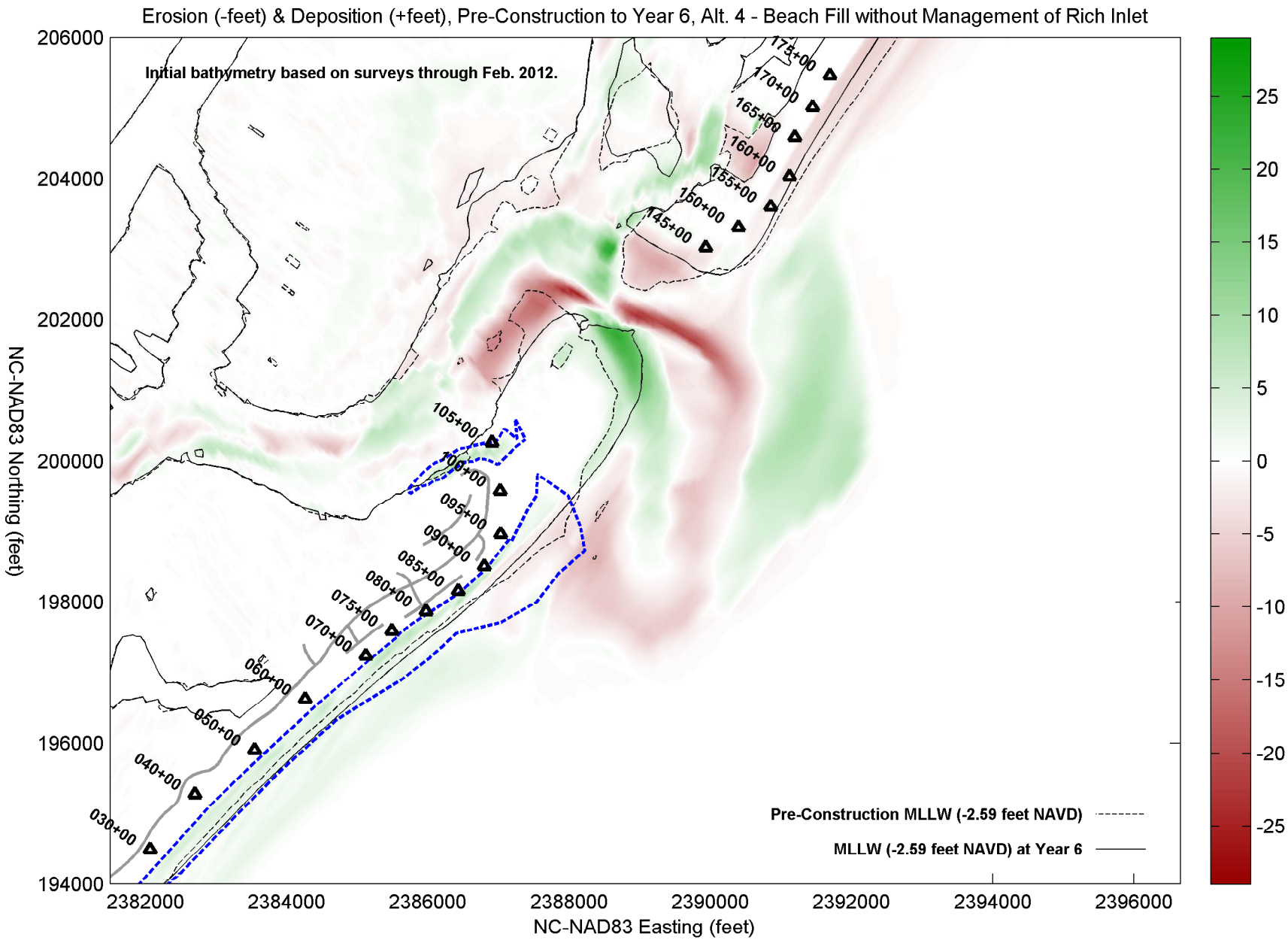

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 1, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 1
25
20
15
10
5
0
-5
-10
-15
-20
-25


Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 2, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 2
25
20
15
10
5
0
-5
-10
-15
-20
-25

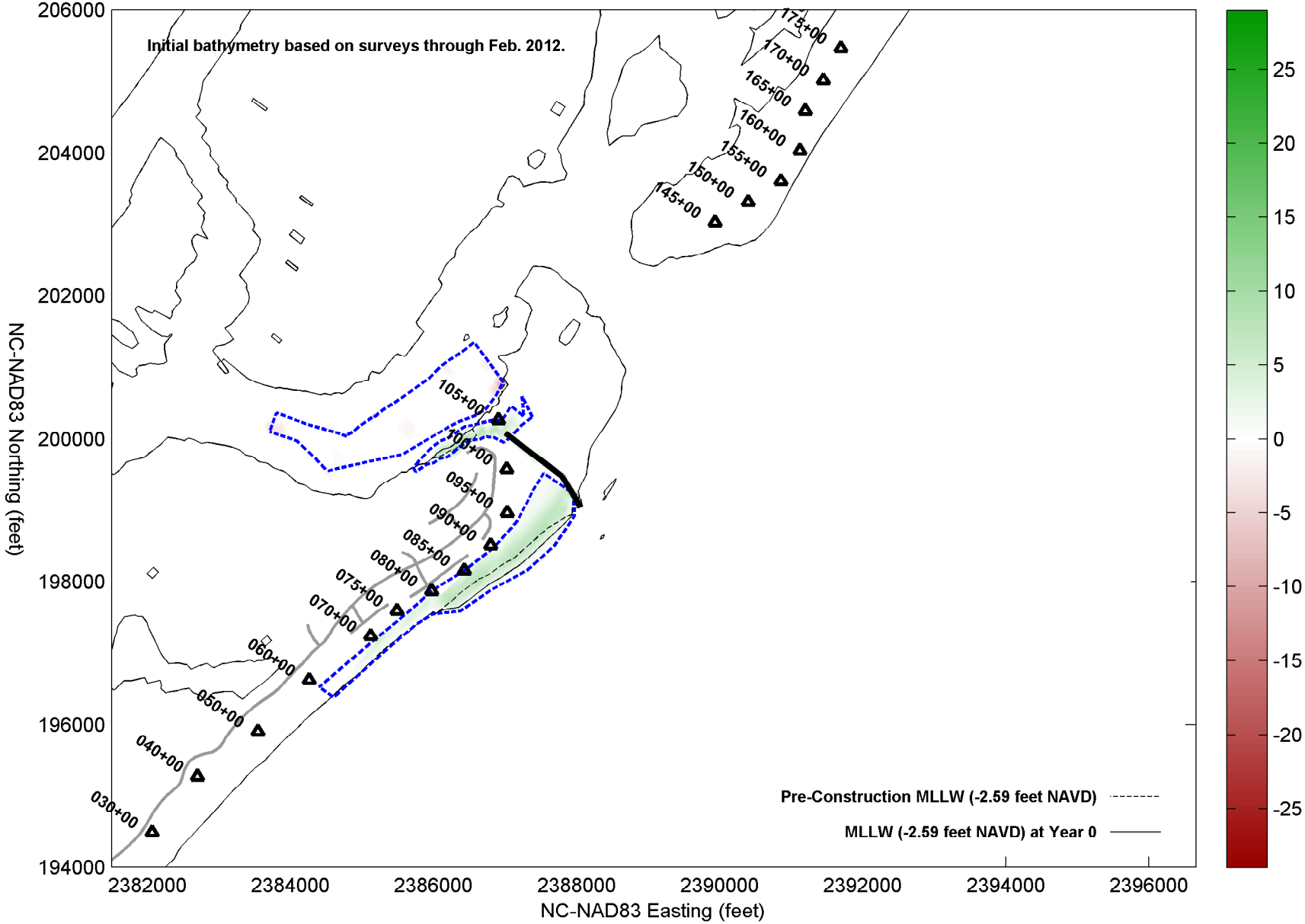

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 3, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 3
25
20
15
10
5
0
-5
-10
-15
-20
-25


Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 4, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 4
25
20
15
10
5
0
-5
-10
-15
-20
-25

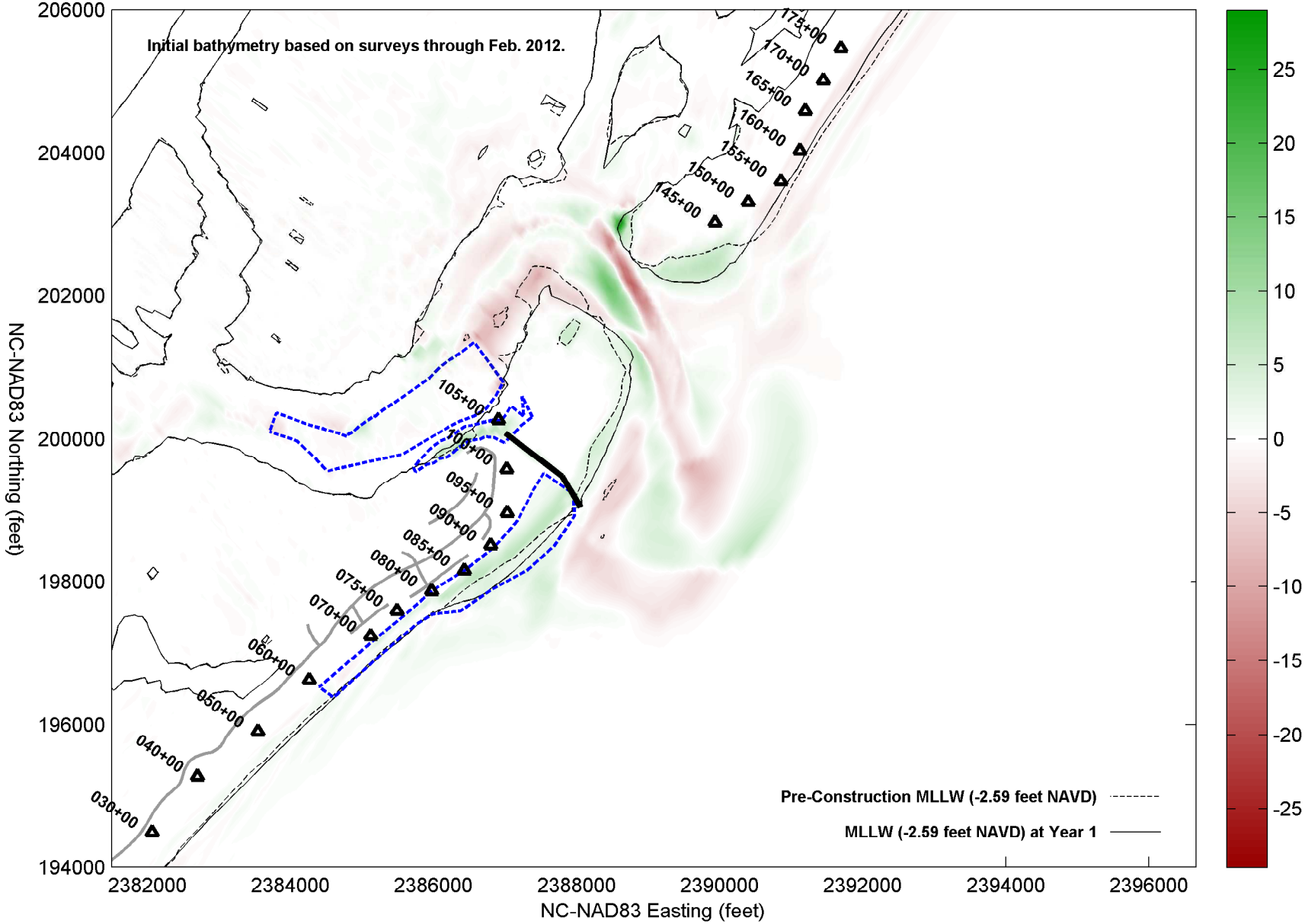

Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 5, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 5
25
20
15
10
5
0
-5
-10
-15
-20
-25


Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 6, Alt. 4 - Beach Fill without Management of Rich Inlet
Initial bathymetry based on surveys through Feb. 2012.
NC-NAD83 Northing (feet)
NC-NAD83 Easting (feet)
206000
204000
202000
200000
198000
196000
194000
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
Pre-Construction MLLW (-2.59 feet NAVD)
MLLW (-2.59 feet NAVD) at Year 6
25
20
15
10
5
0
-5
-10
-15
-20
-25

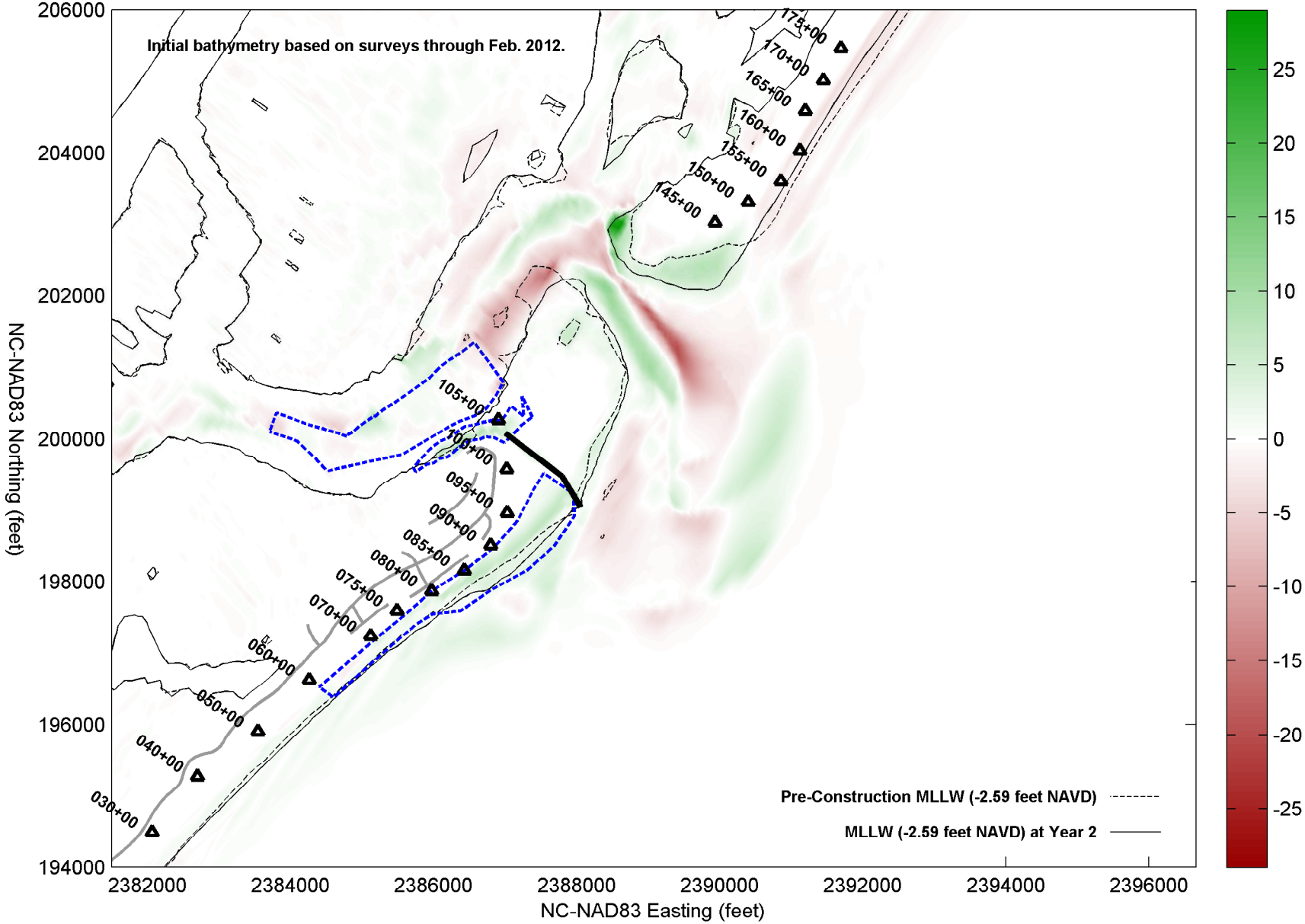
Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 0, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)



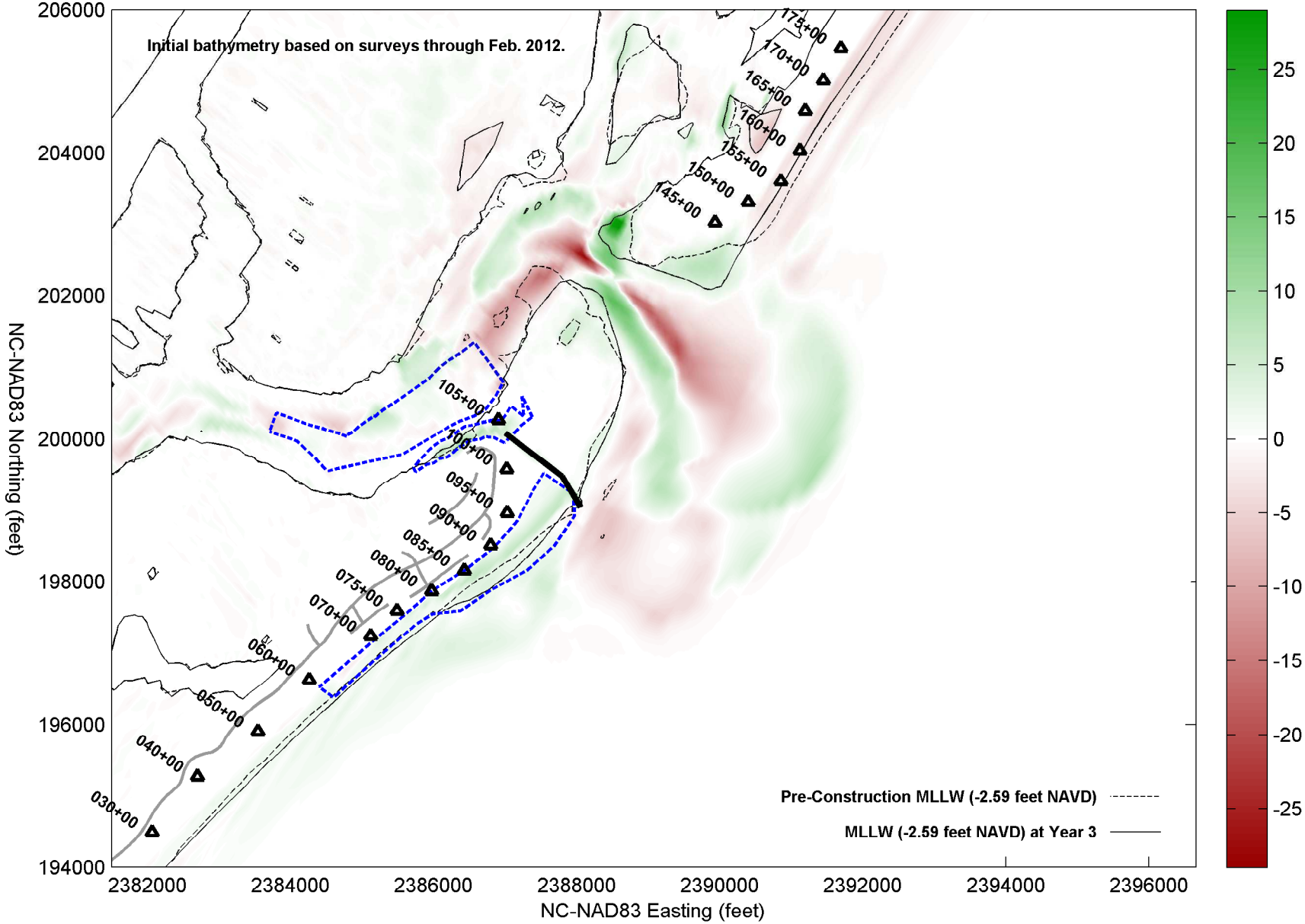
Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 1, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)



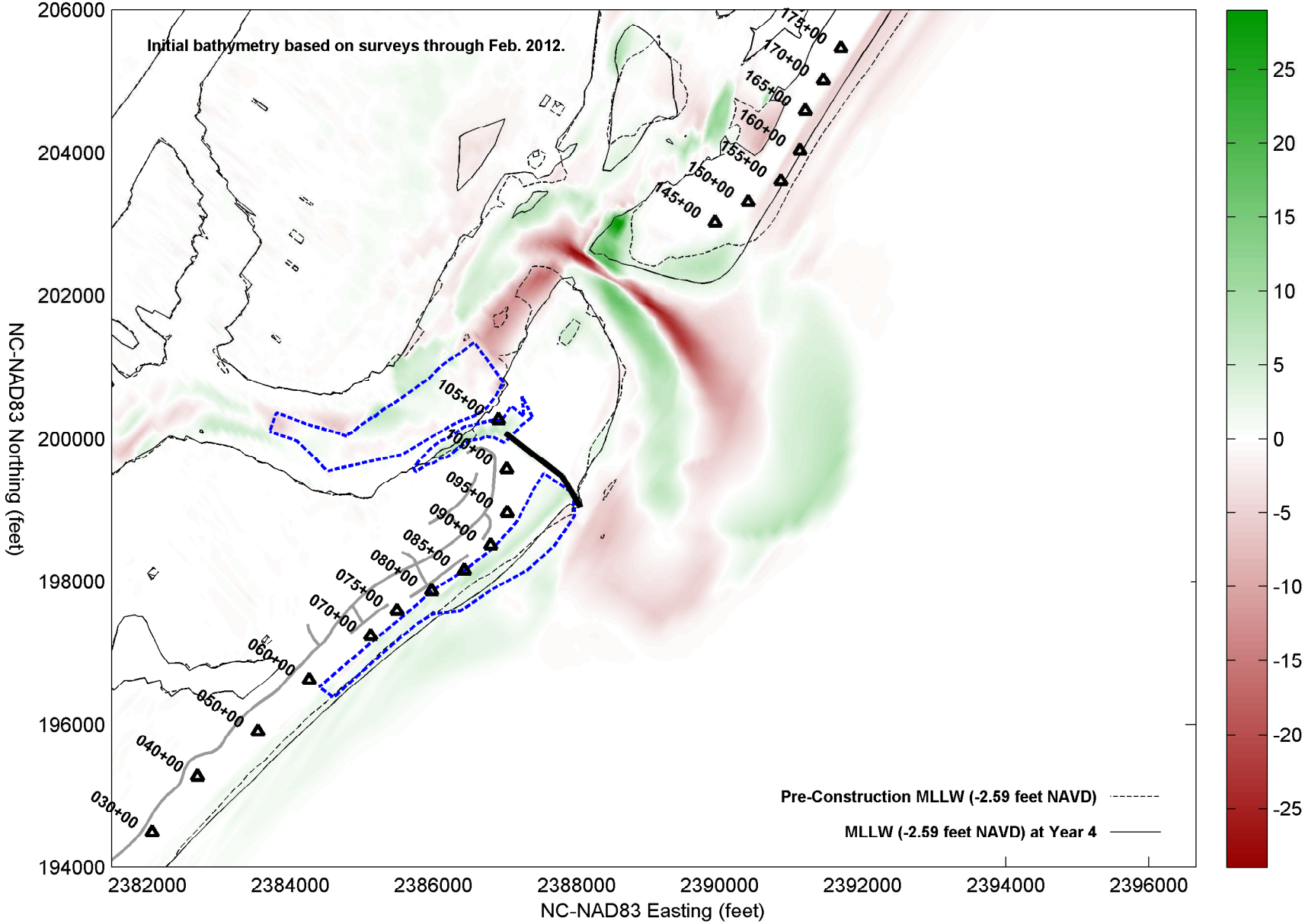
Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 2, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)



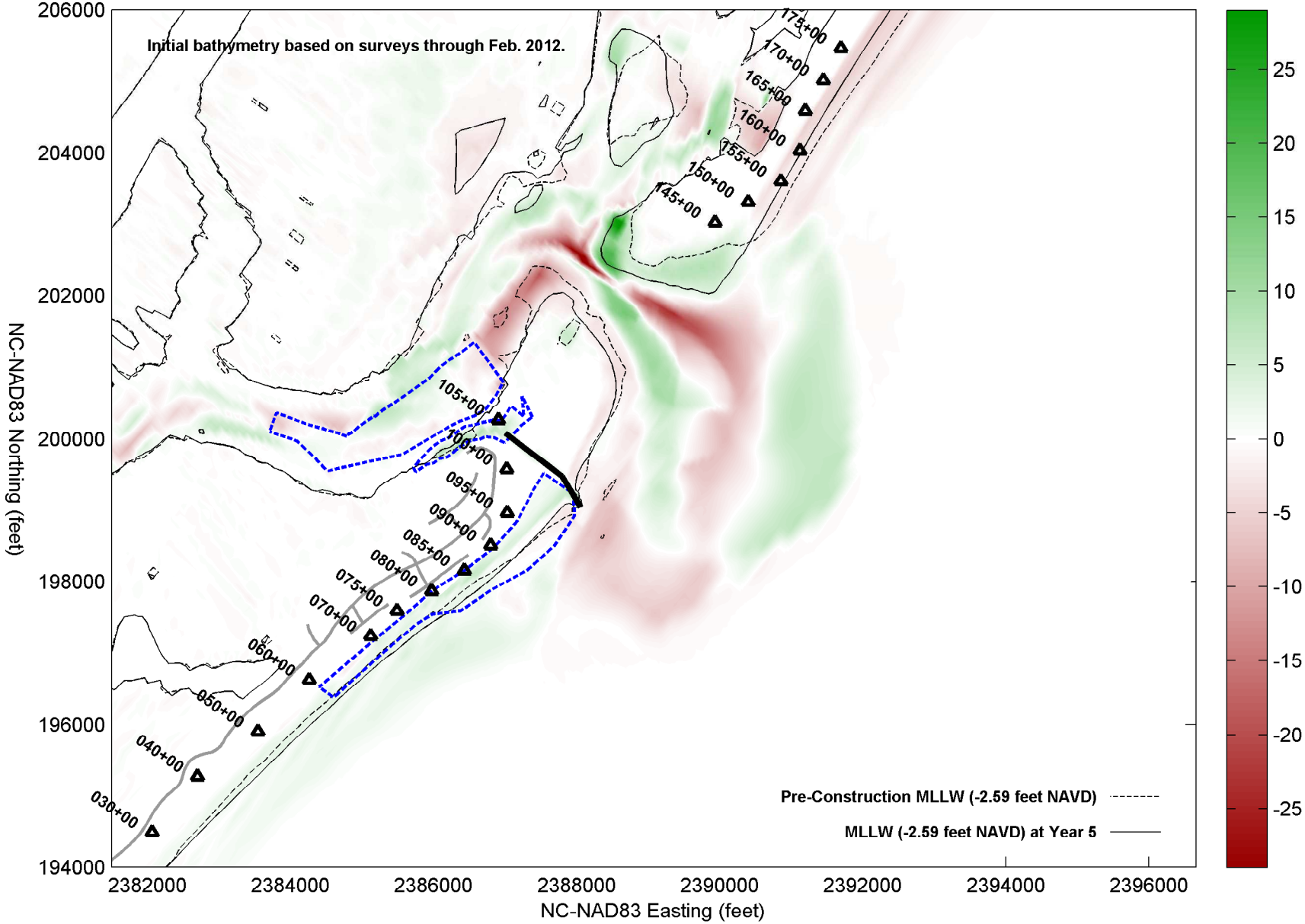
Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 3, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)



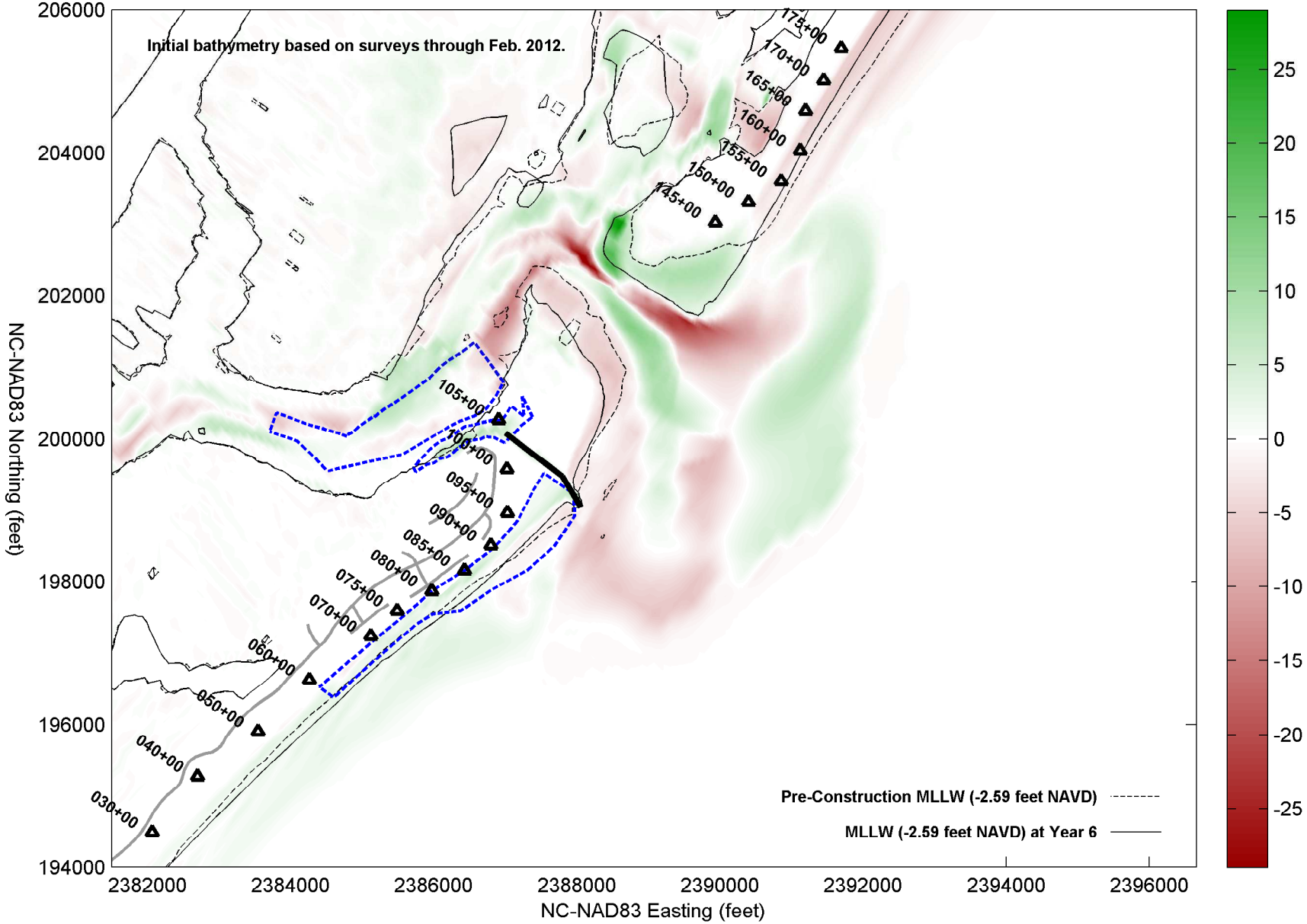
Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 4, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)



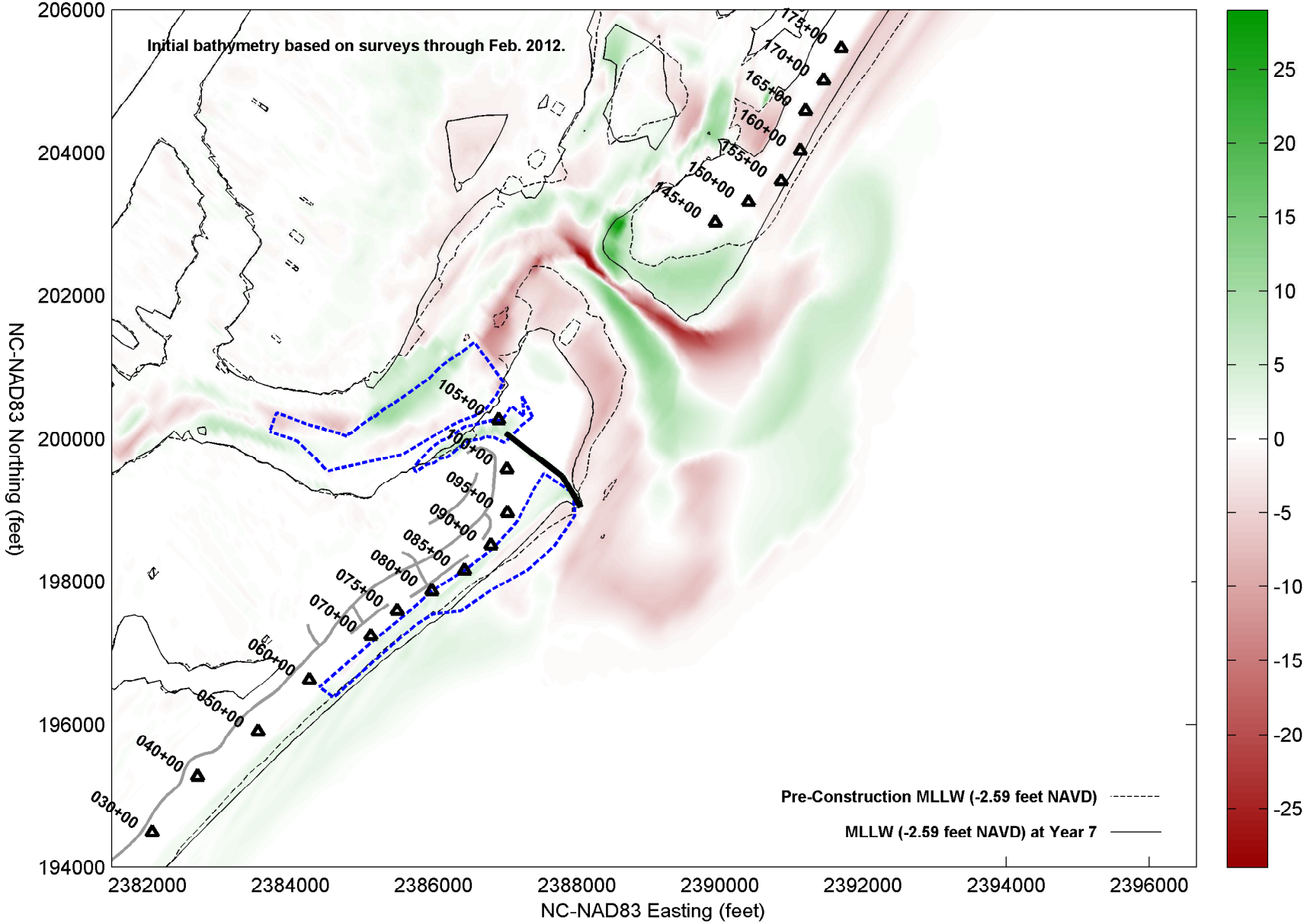
Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 5, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)

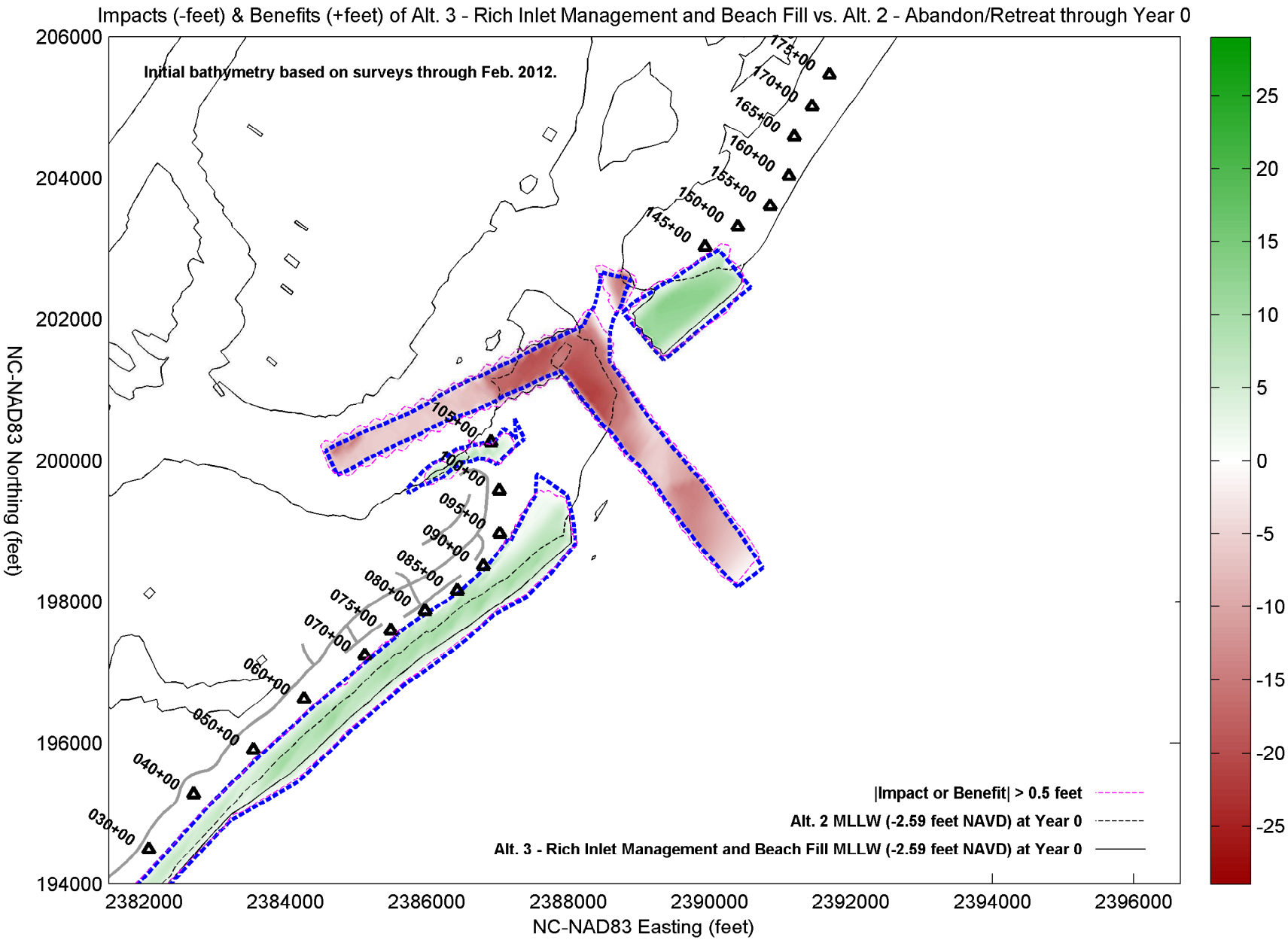


Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 6, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)

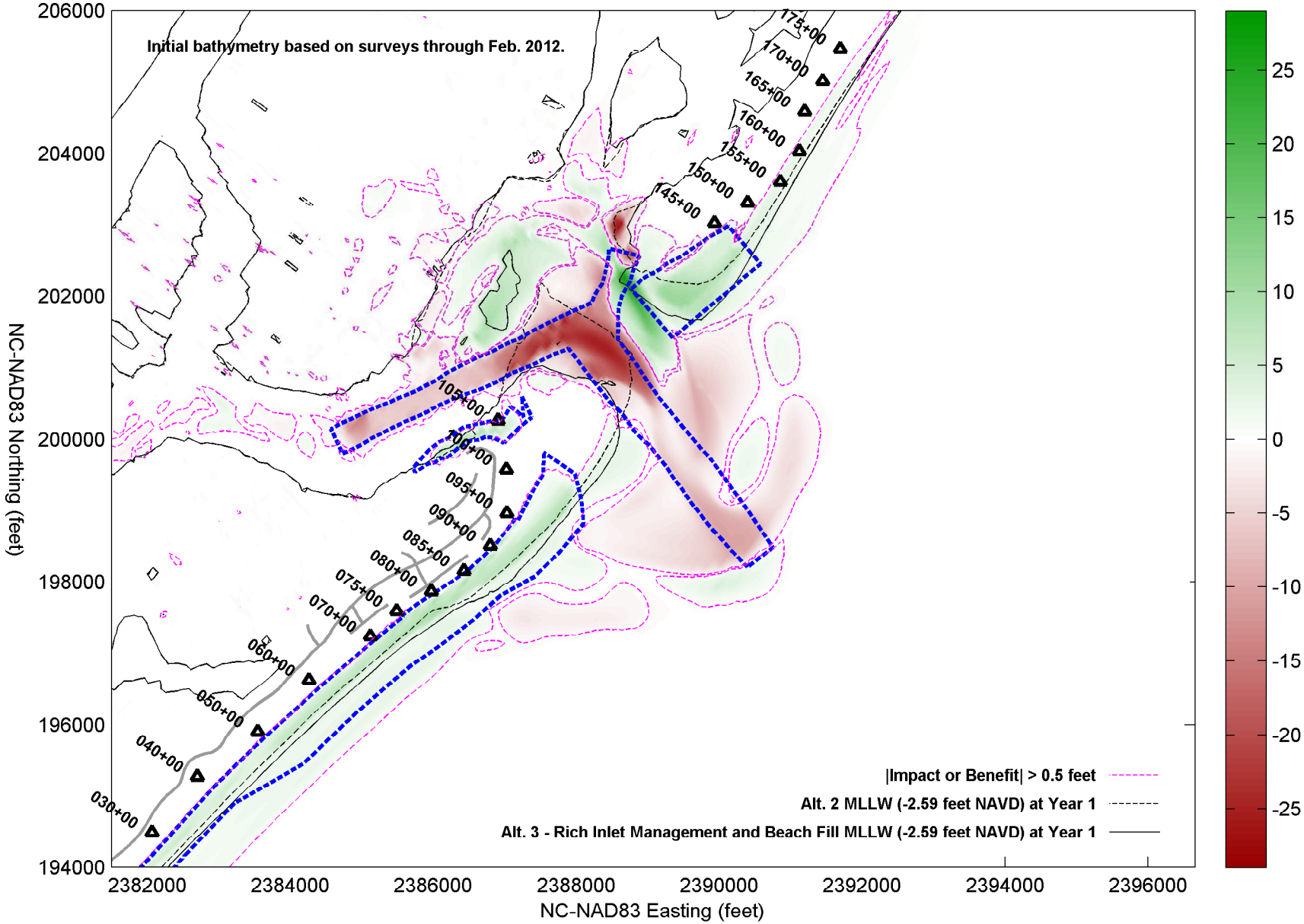


Erosion (-feet) & Deposition (+feet), Pre-Construction to Year 7, Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut)

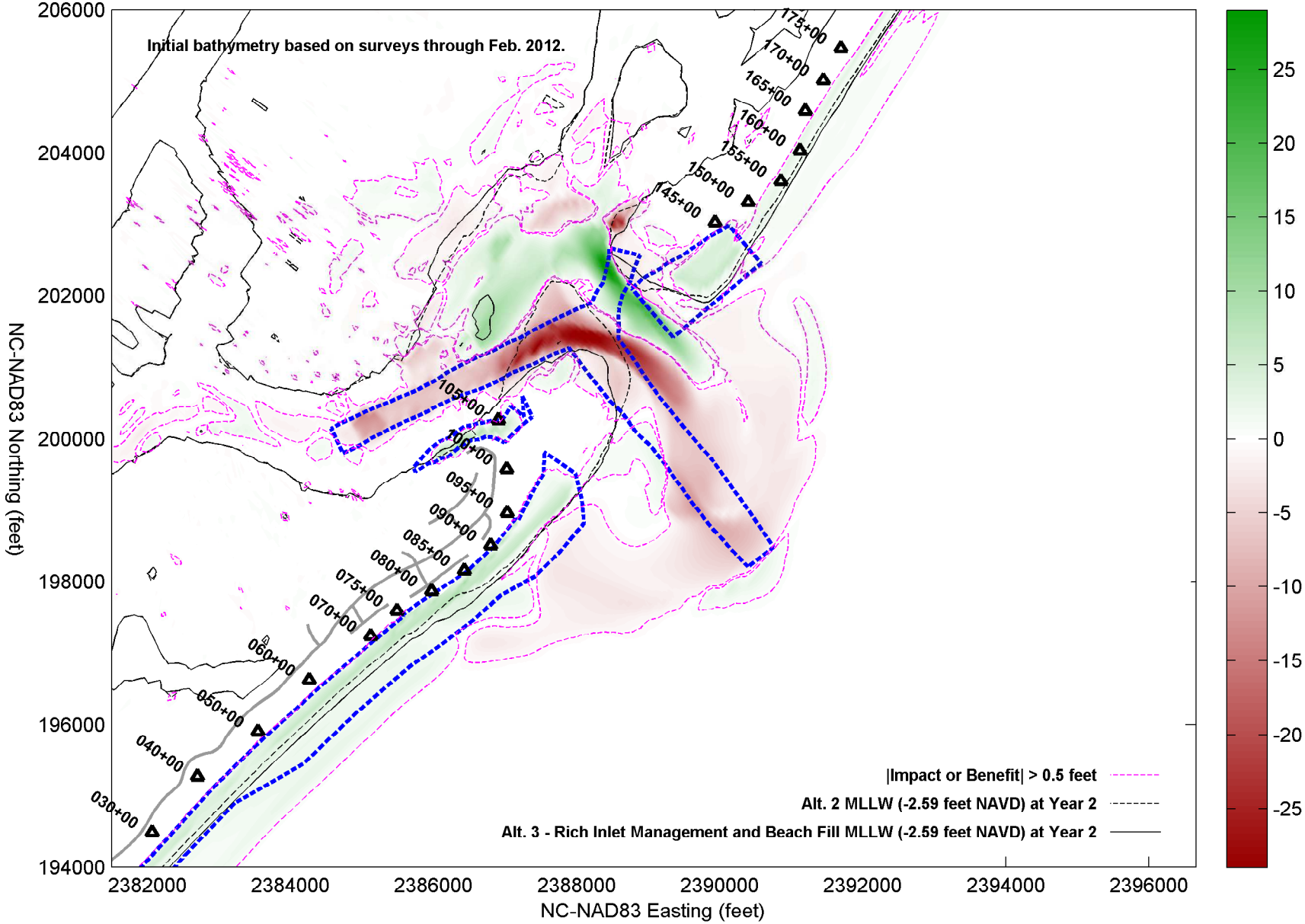



Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 0
Initial bathymetry based on surveys through Feb. 2012.
175+00
170+00
165+00
160+00
155+00
150+00
145+00
105+00
100+00
095+00
090+00
085+00
080+00
075+00
070+00
060+00
050+00
040+00
030+00
|Impact or Benefit| > 0.5 feet
Alt. 2 MLLW (-2.59 feet NAVD) at Year 0
Alt. 3 - Rich Inlet Management and Beach Fill MLLW (-2.59 feet NAVD) at Year 0
206000
204000
202000
200000
198000
196000
194000
NC-NAD83 Northing (feet)
2382000
2384000
2386000
2388000
2390000
2392000
2394000
2396000
NC-NAD83 Easting (feet)
25
20
15
10
5
0
-5
-10
-15
-20
-25

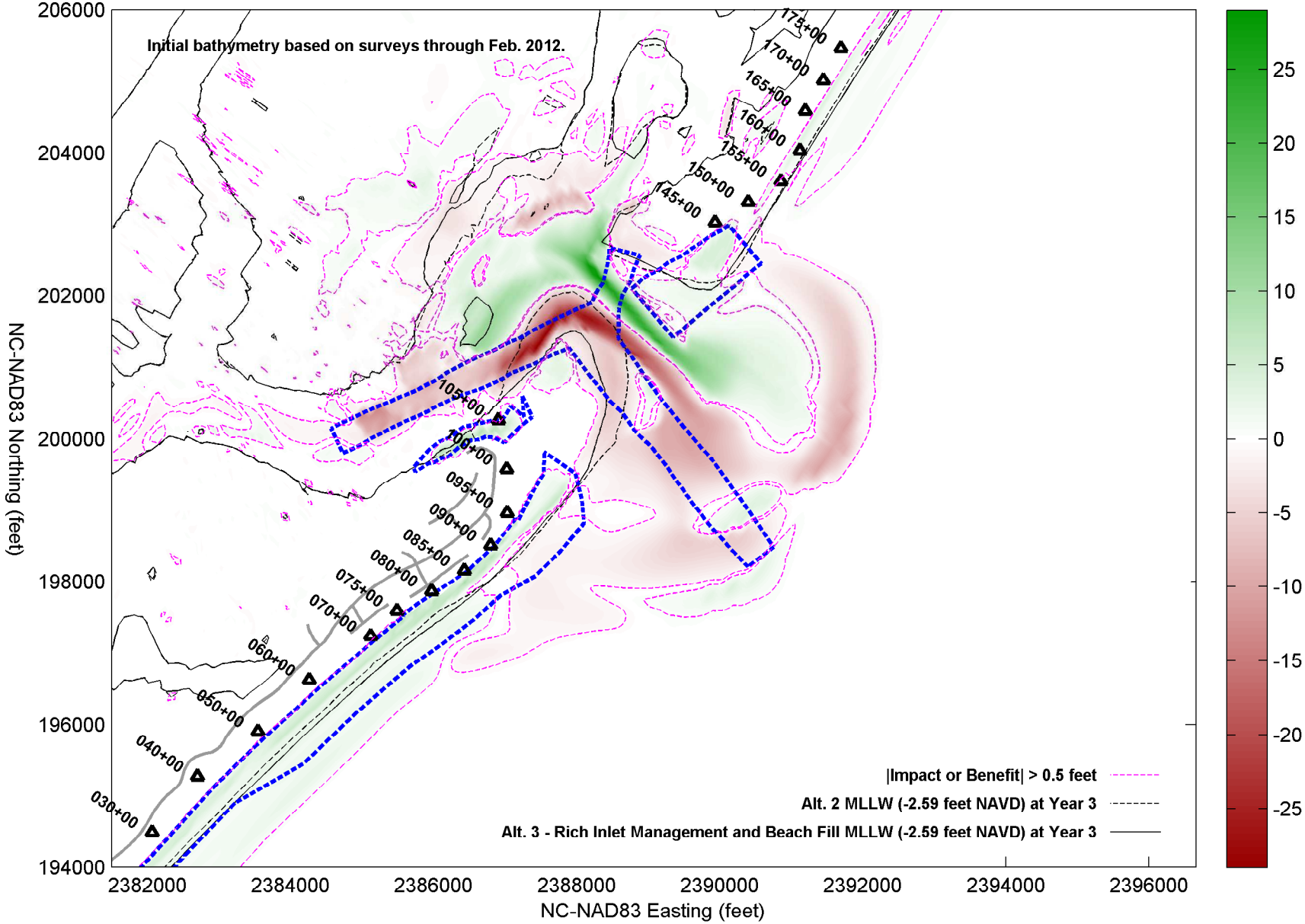
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 1



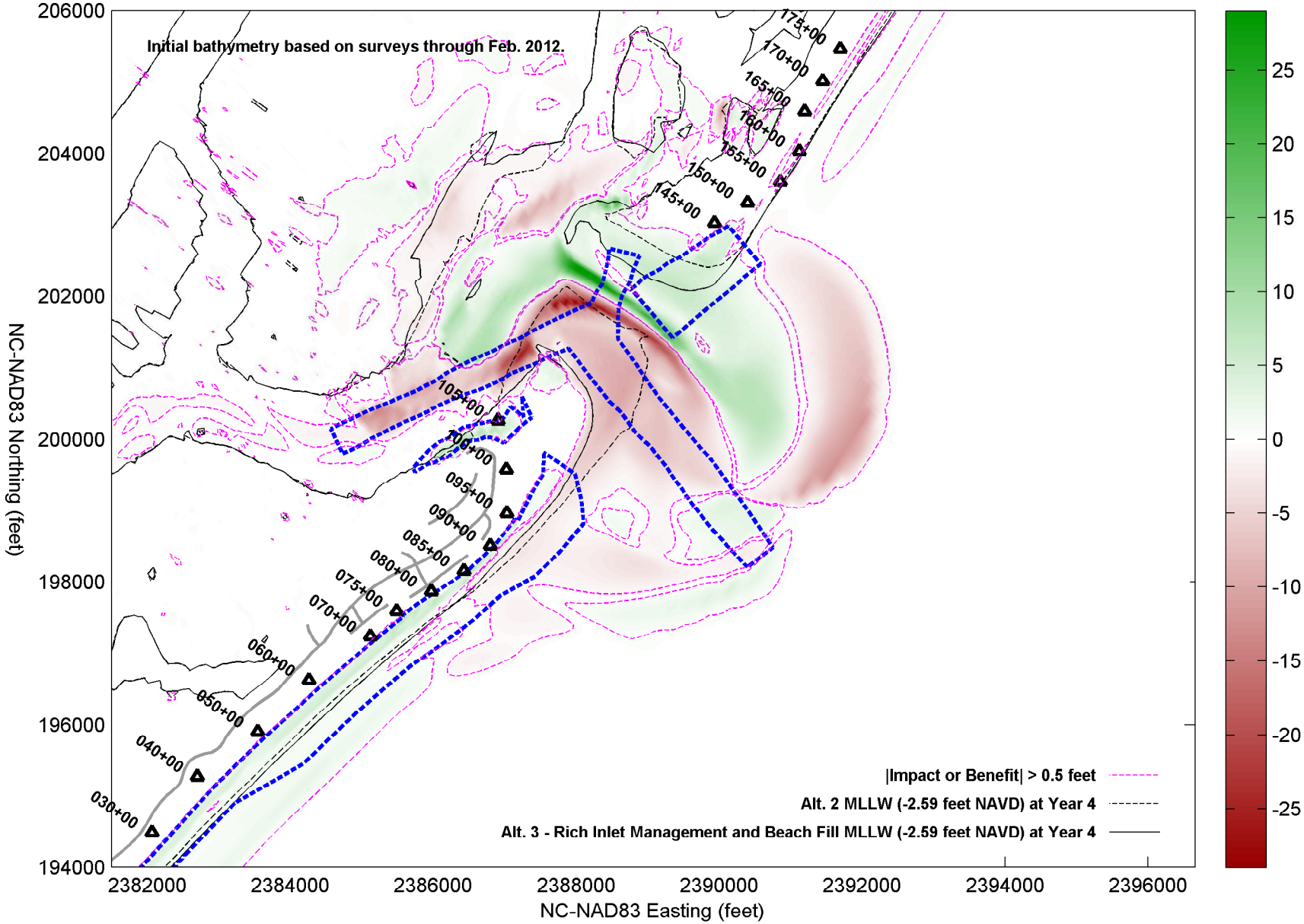
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 2



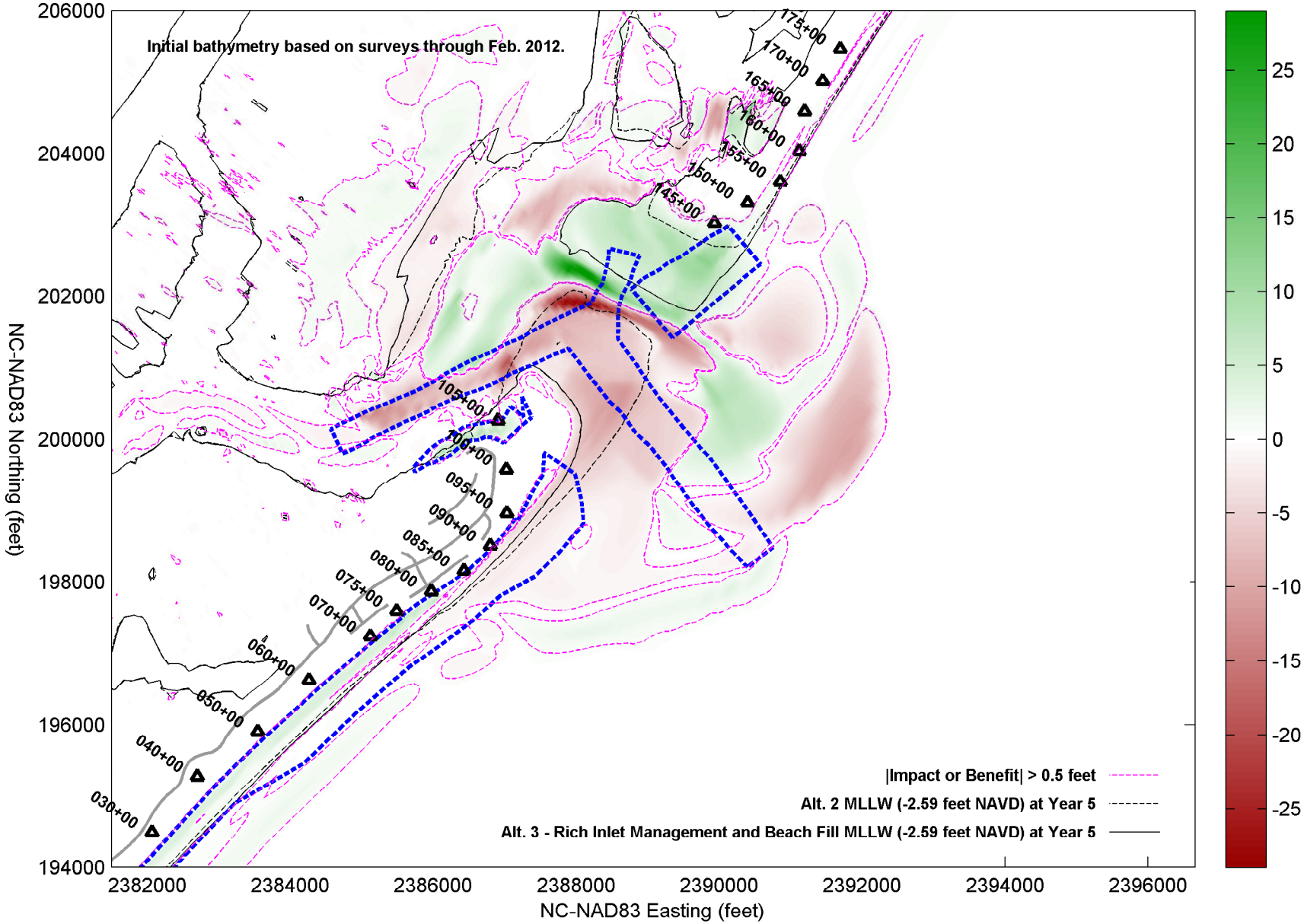
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 3



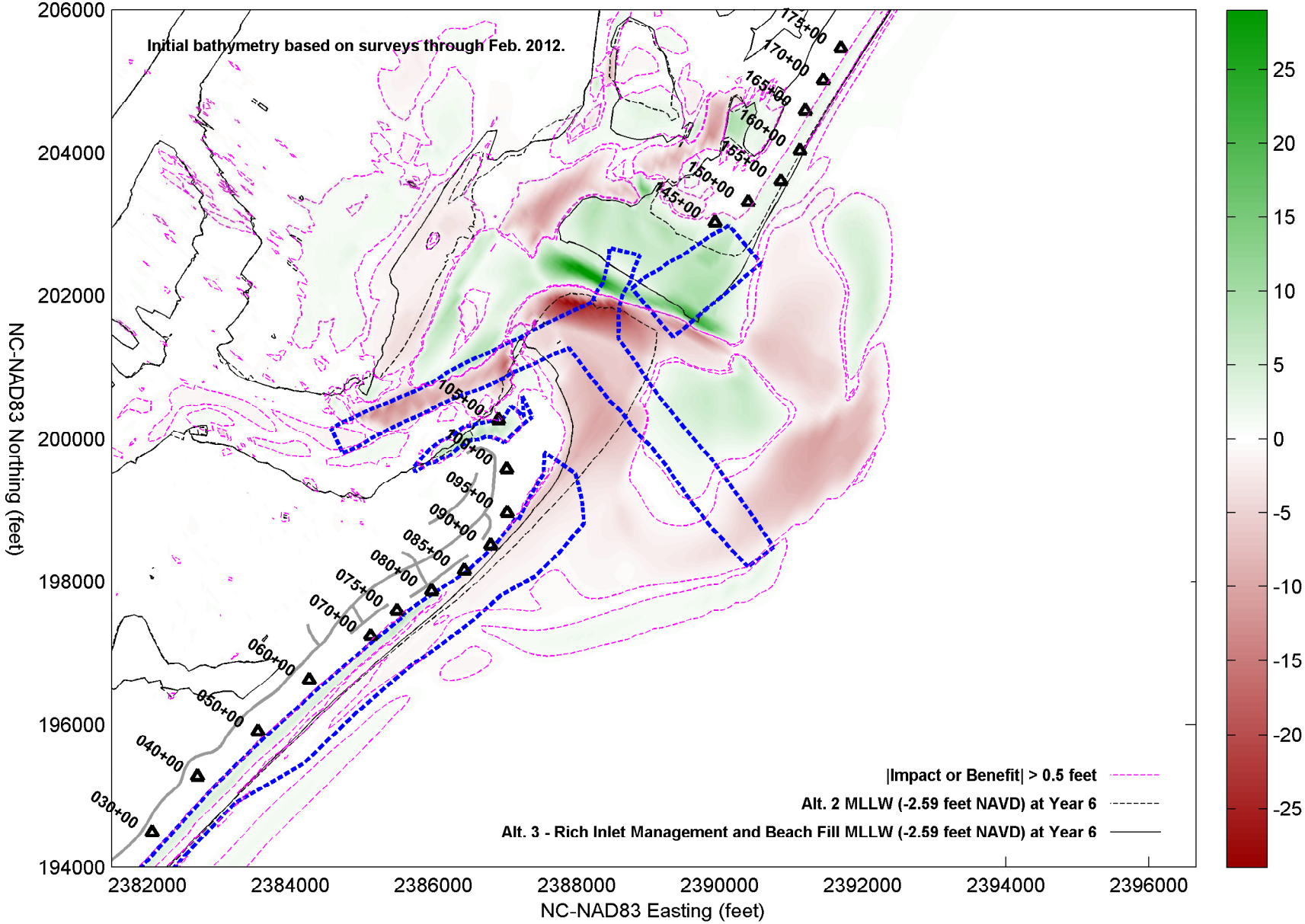
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 4



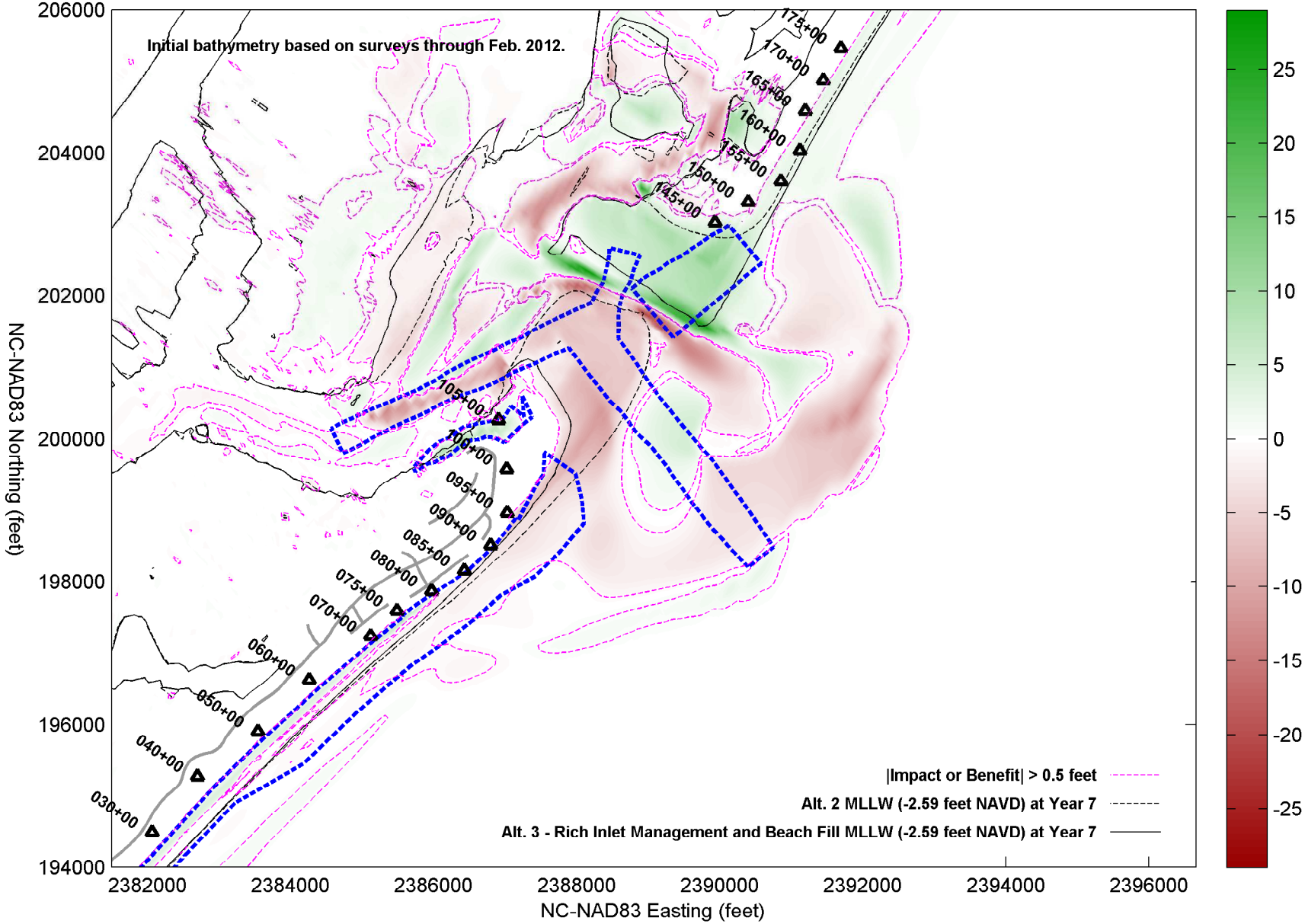
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 5



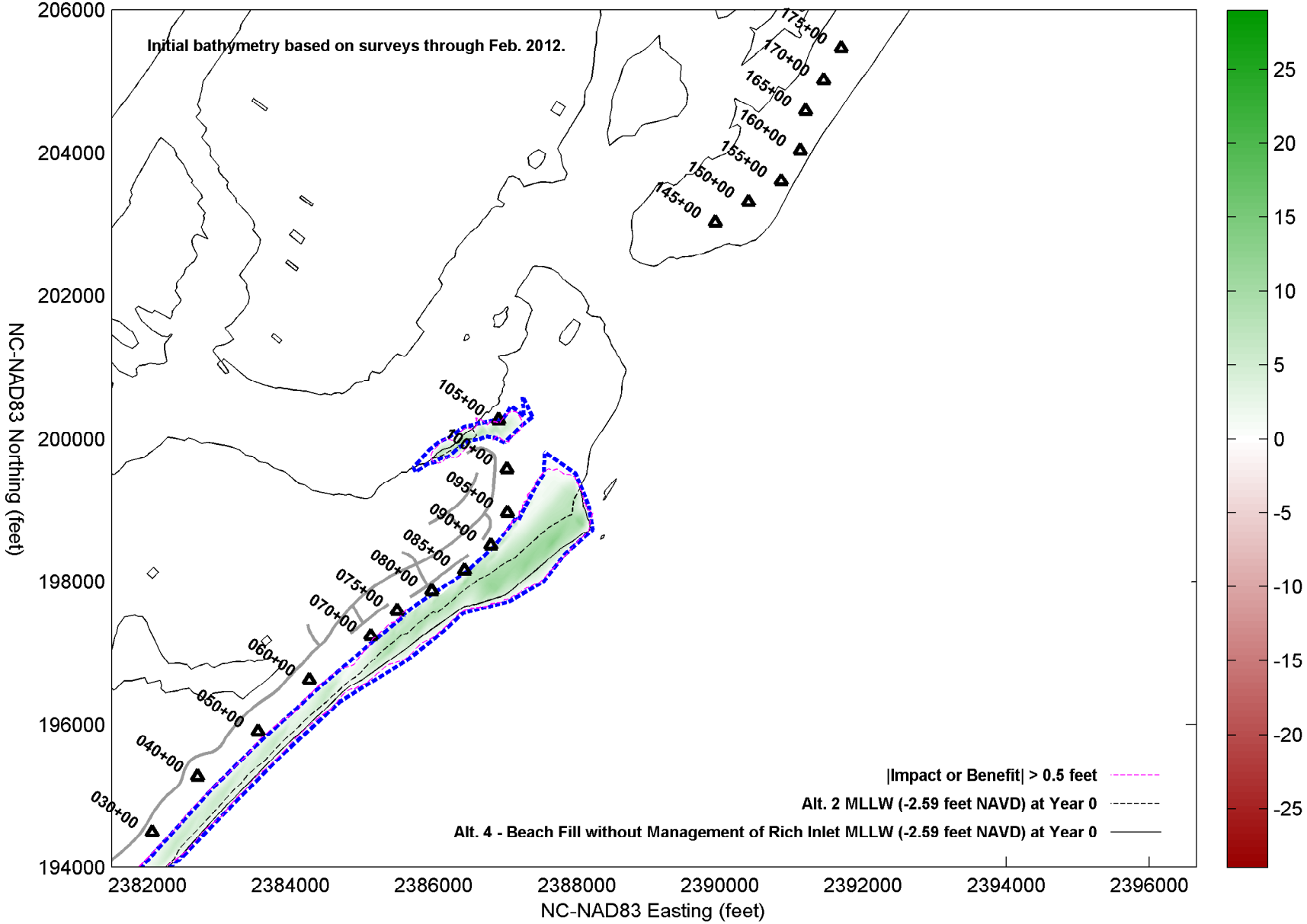
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 6



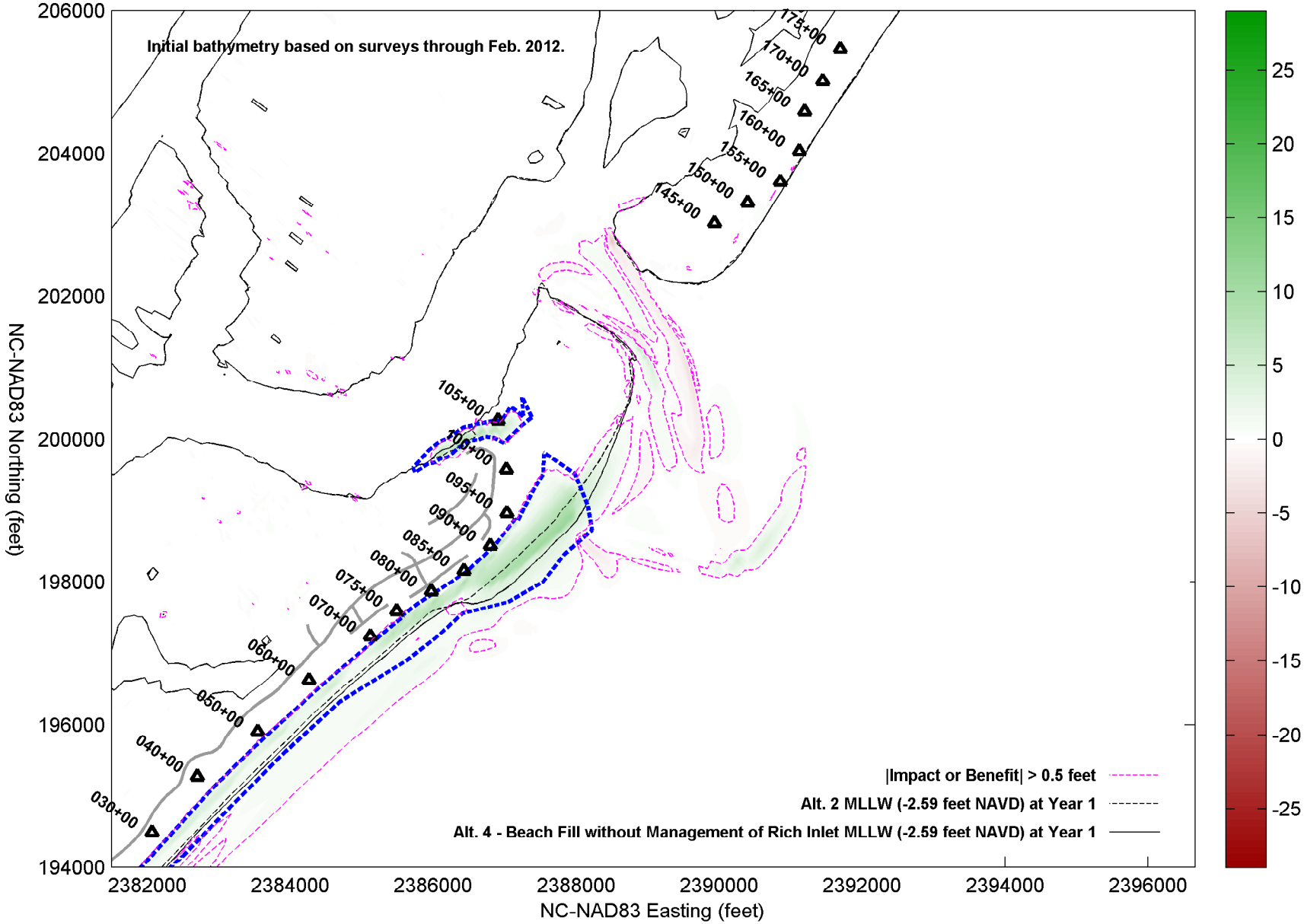
Impacts (-feet) & Benefits (+feet) of Alt. 3 - Rich Inlet Management and Beach Fill vs. Alt. 2 - Abandon/Retreat through Year 7



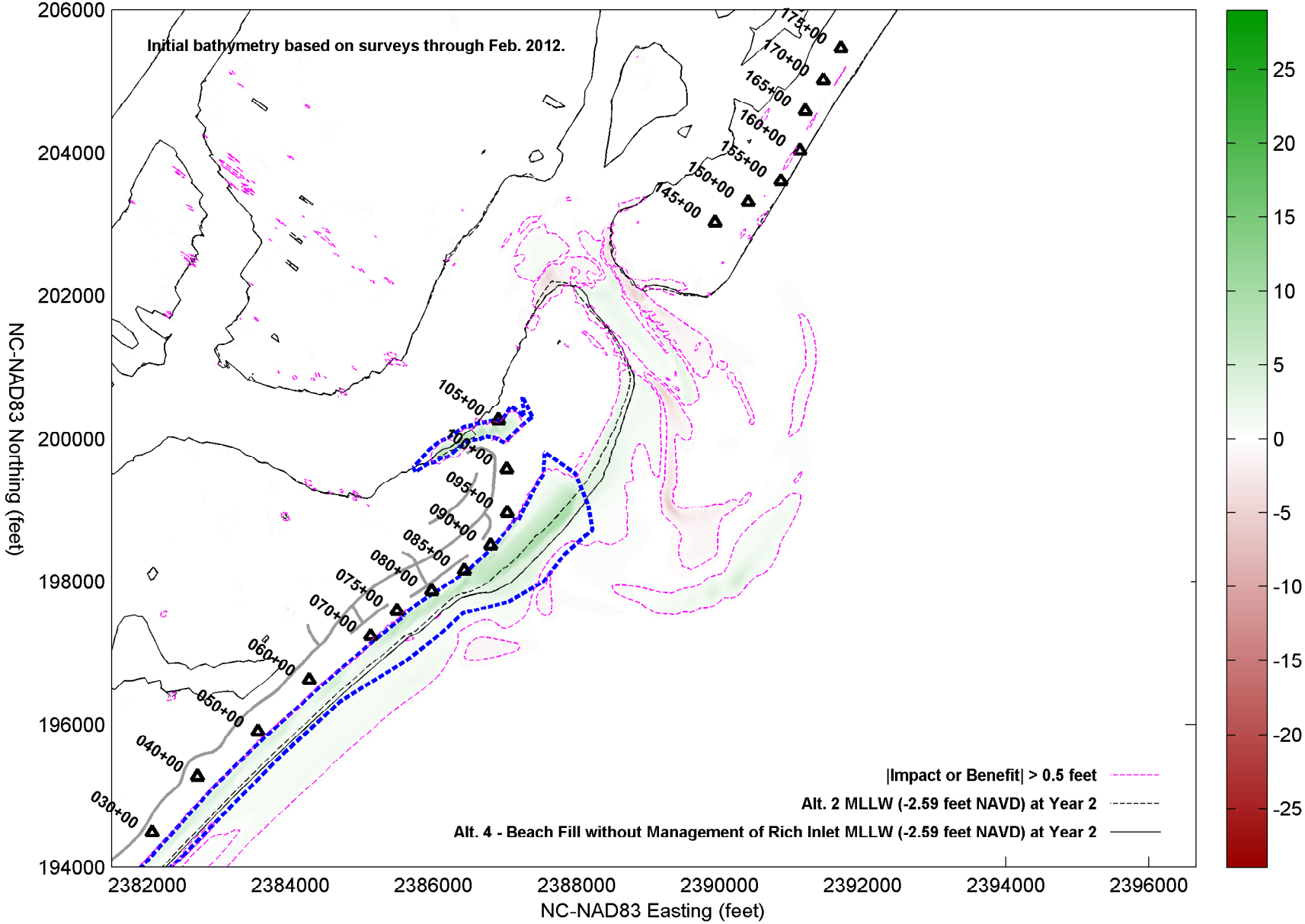
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 0



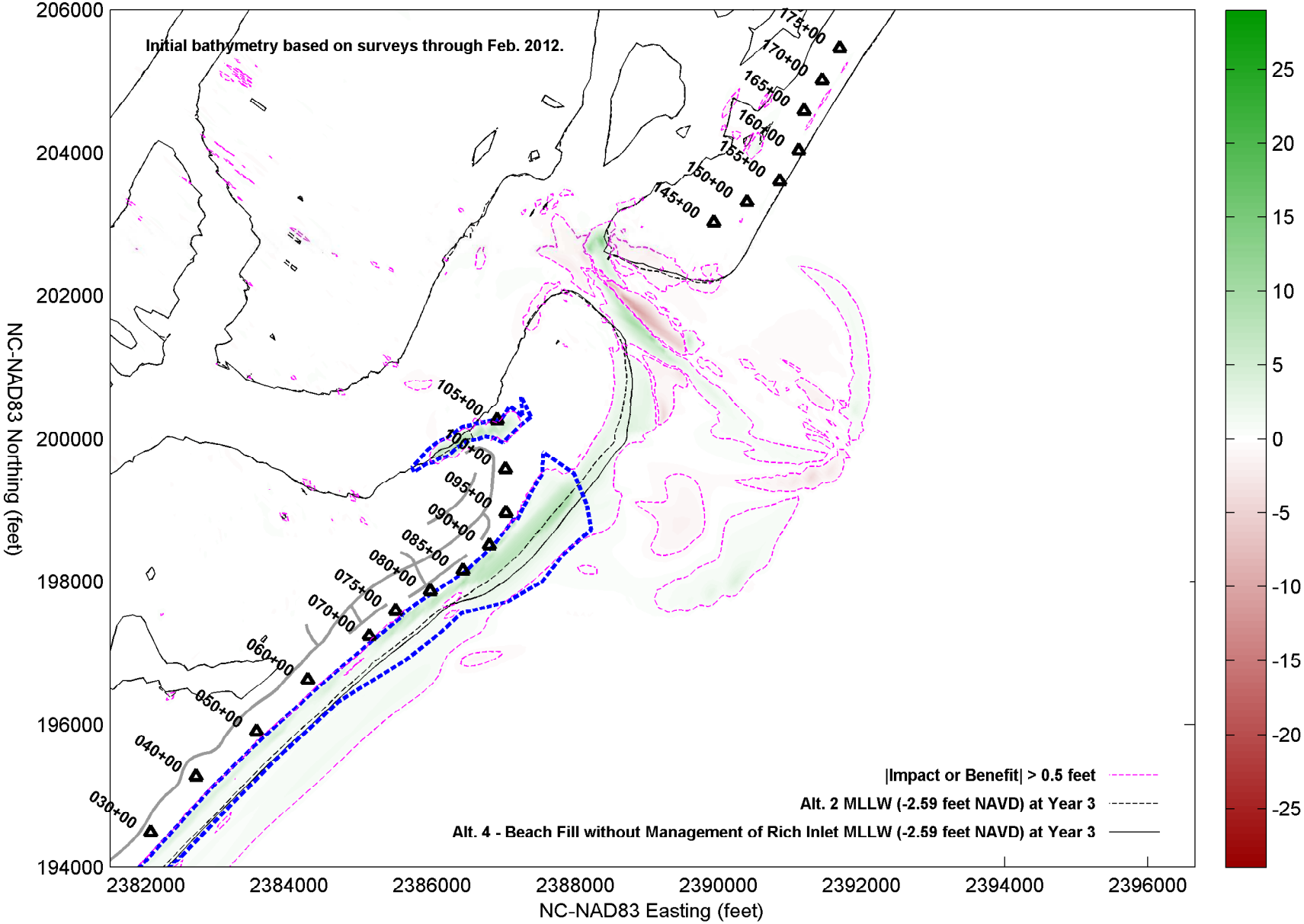
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 1



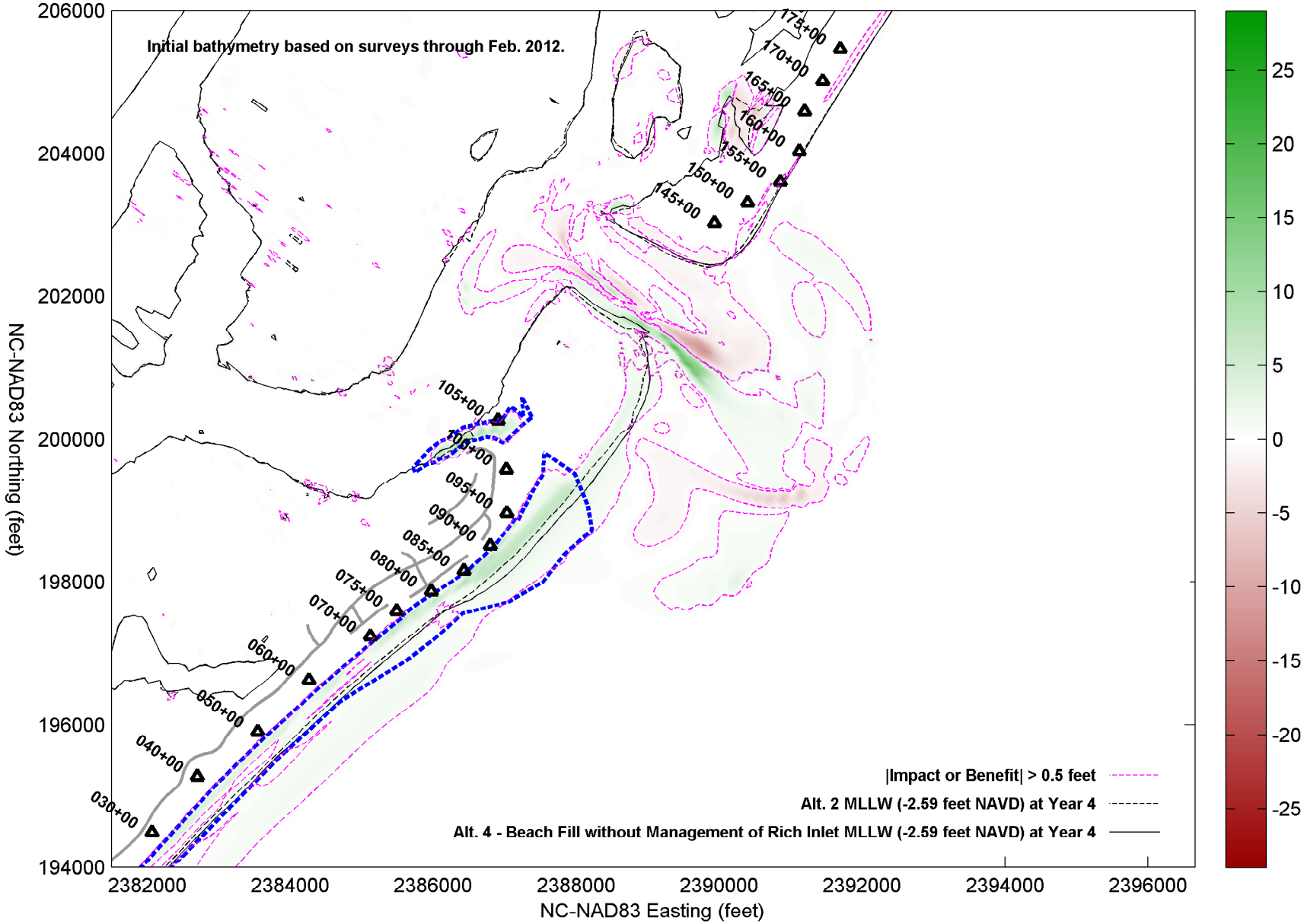
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 2



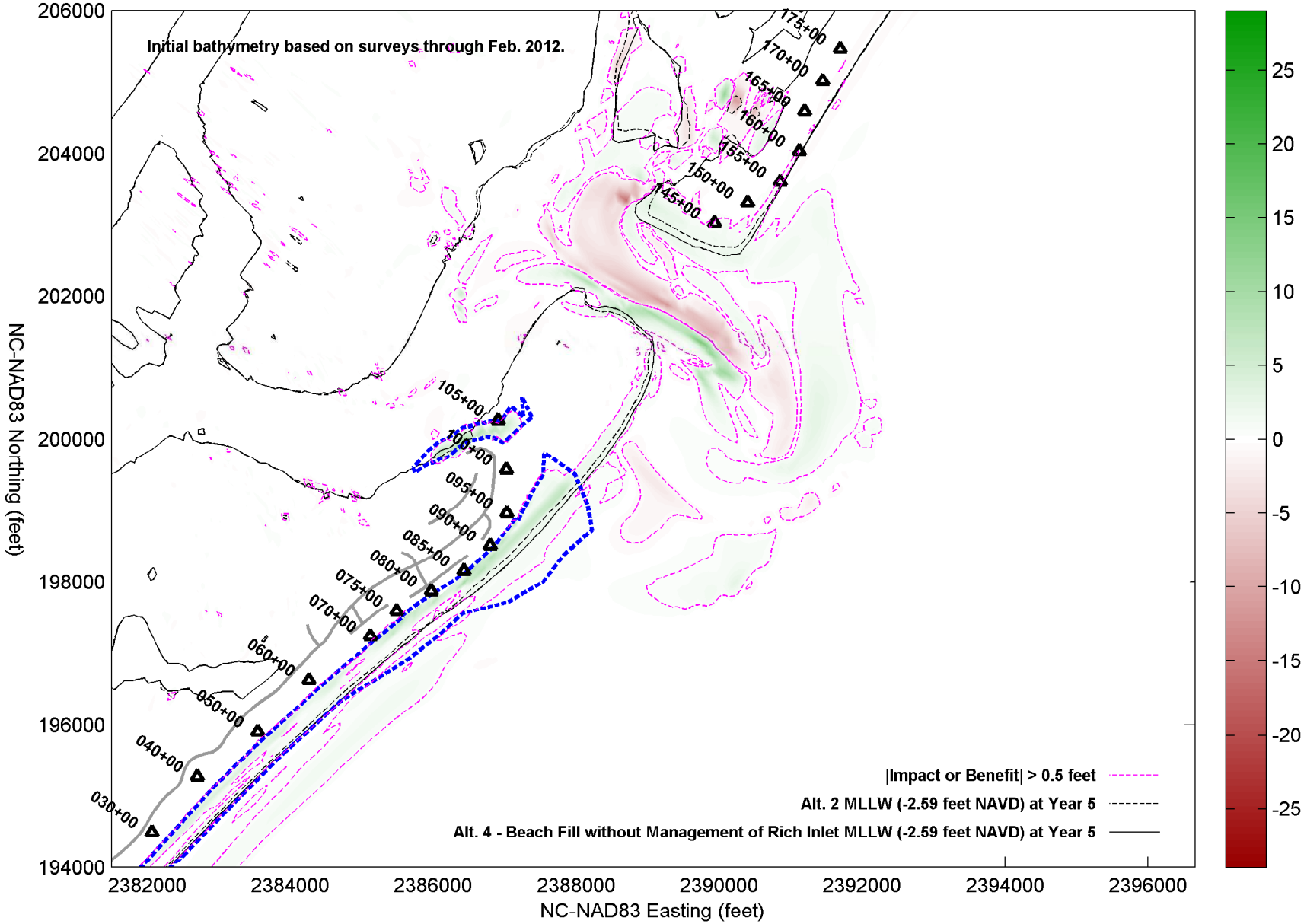
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 3



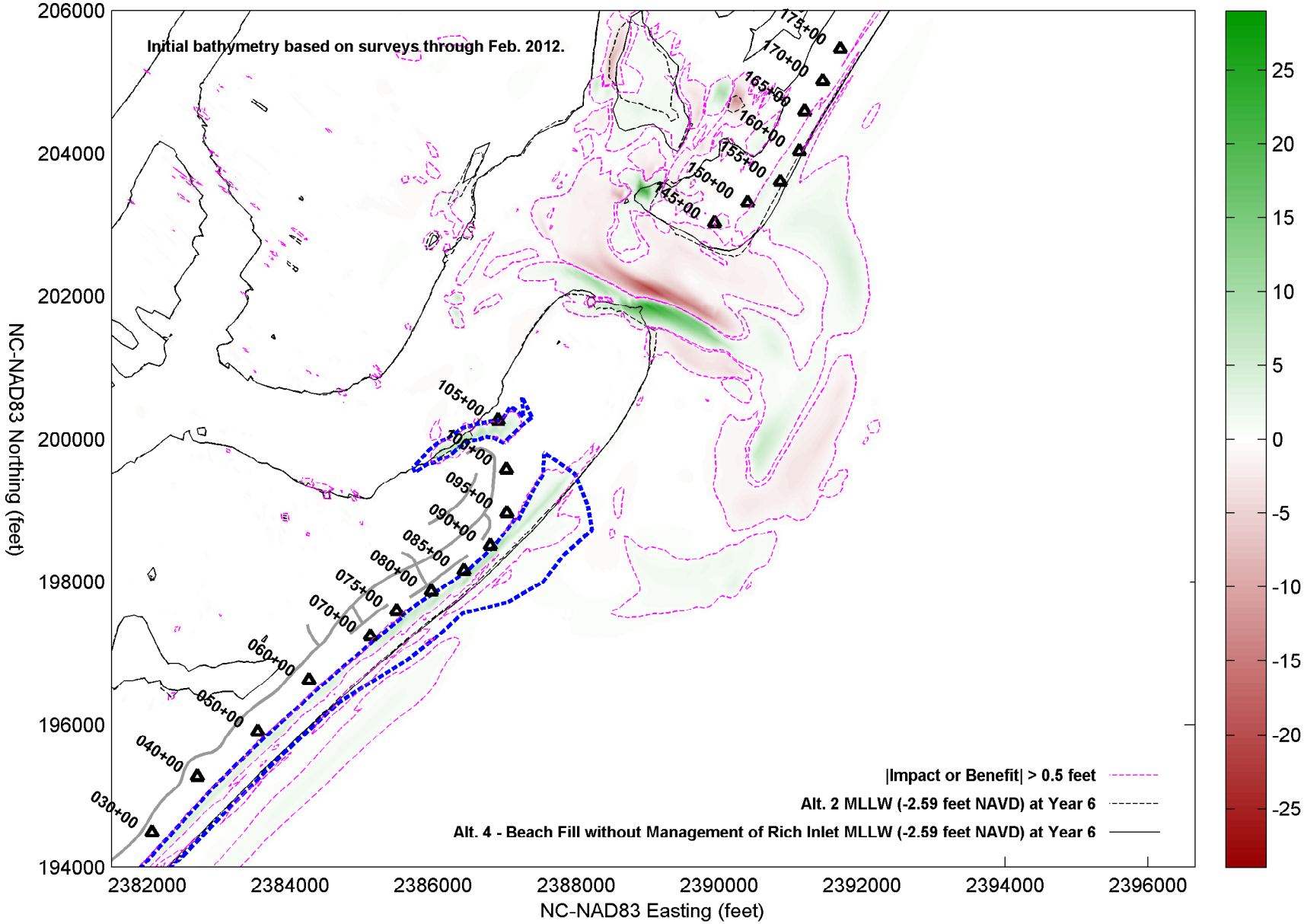
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 4



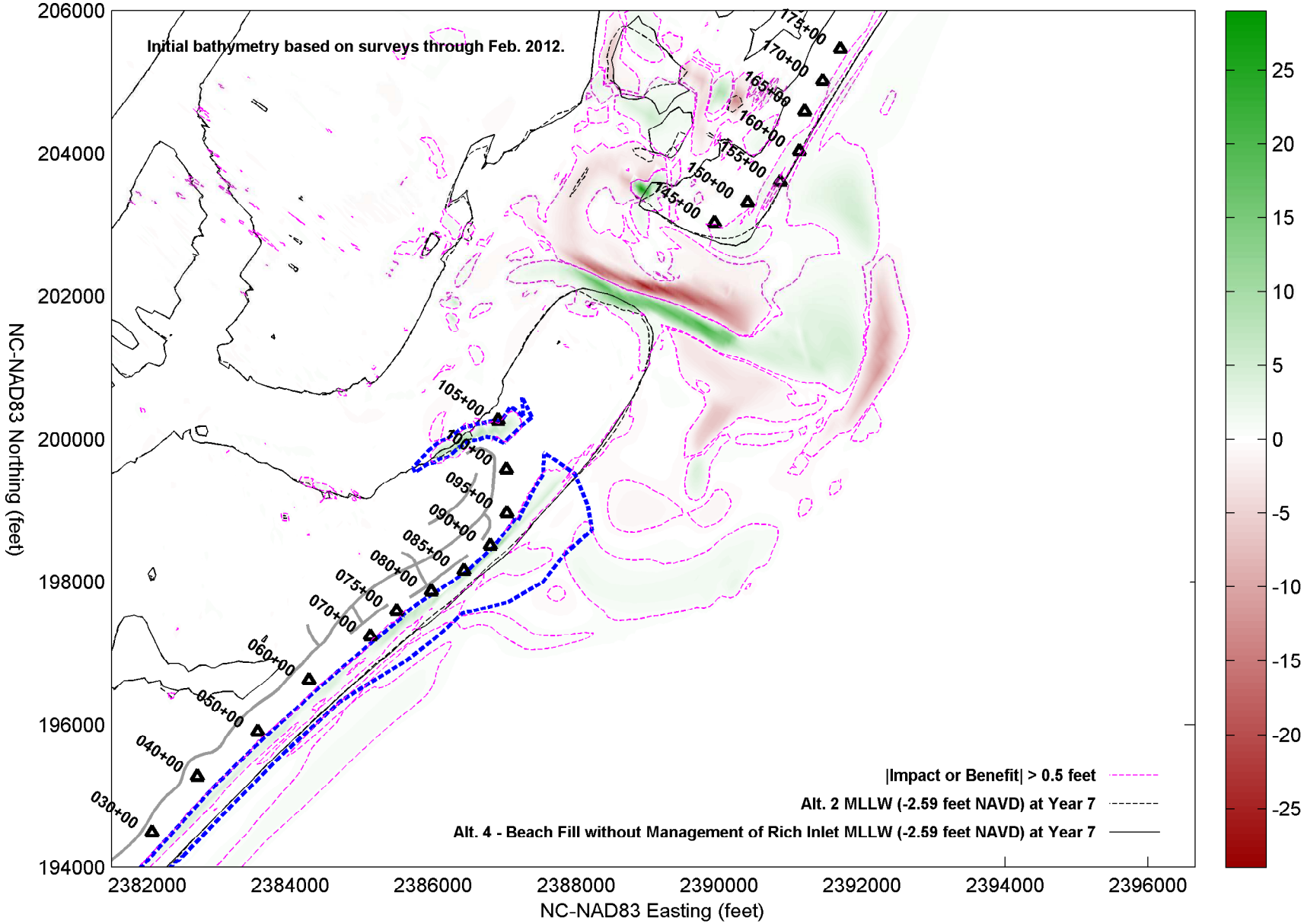
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 5



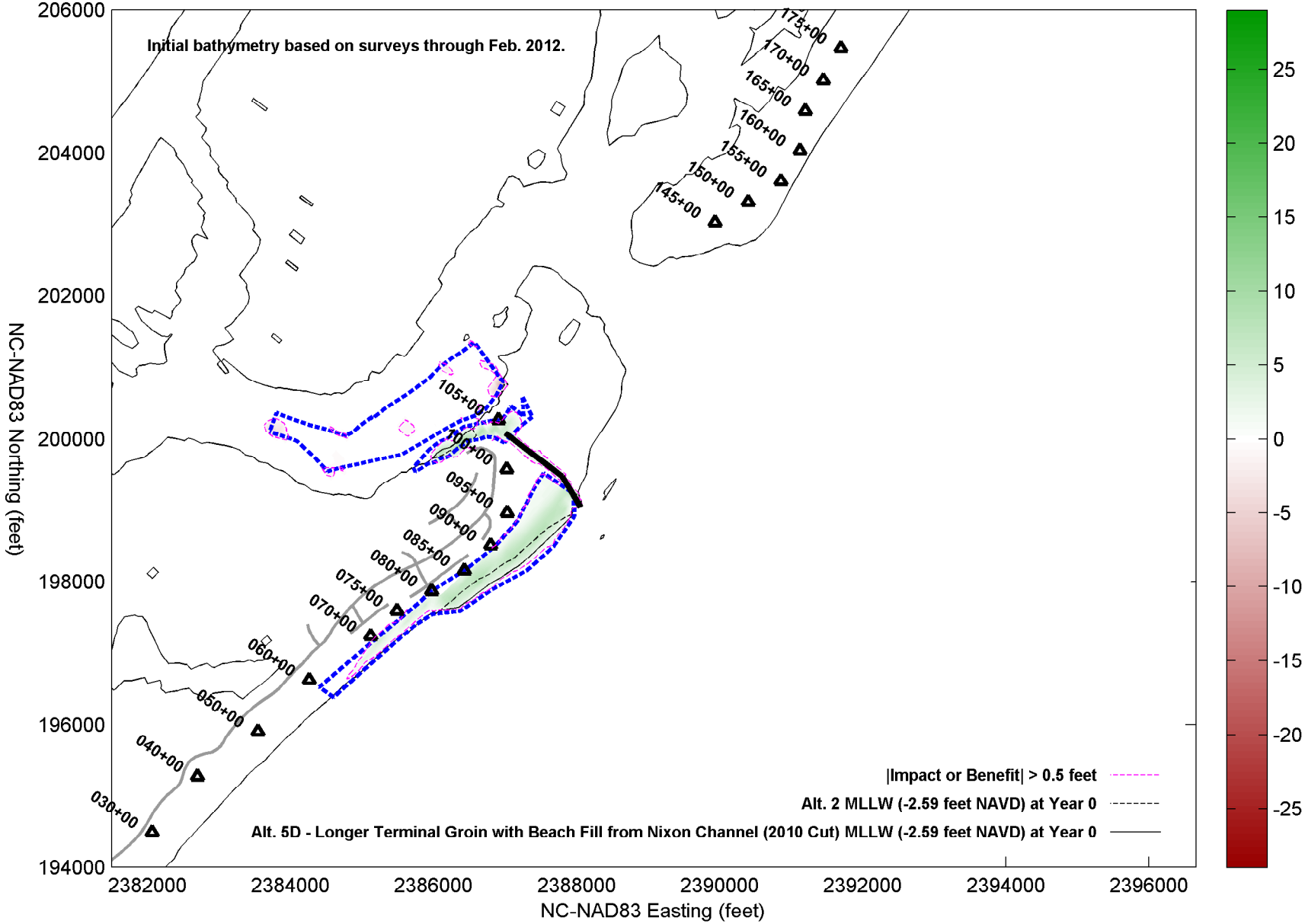
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 6



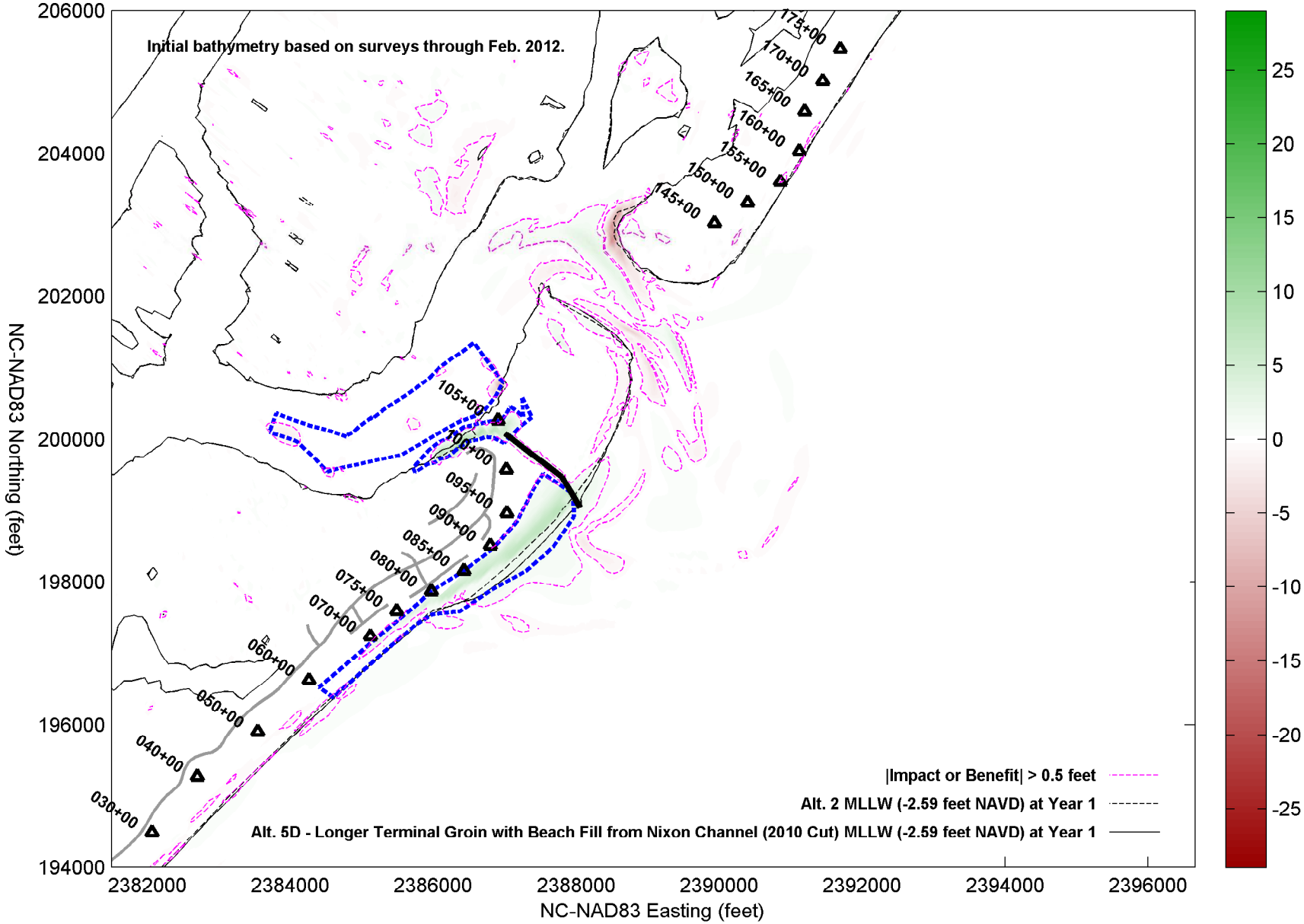
Impacts (-feet) & Benefits (+feet) of Alt. 4 - Beach Fill without Management of Rich Inlet vs. Alt. 2 - Abandon/Retreat through Year 7



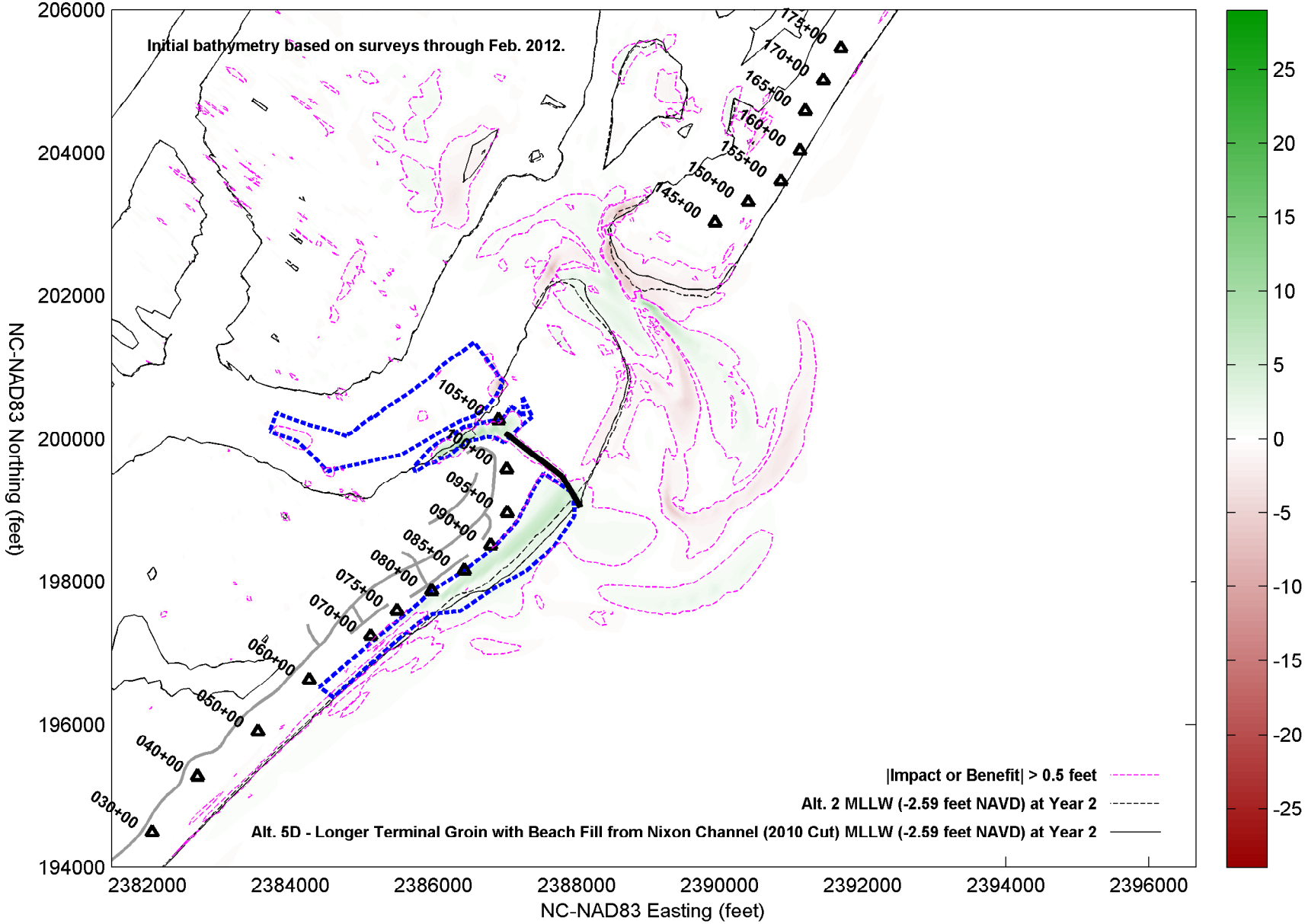
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 0



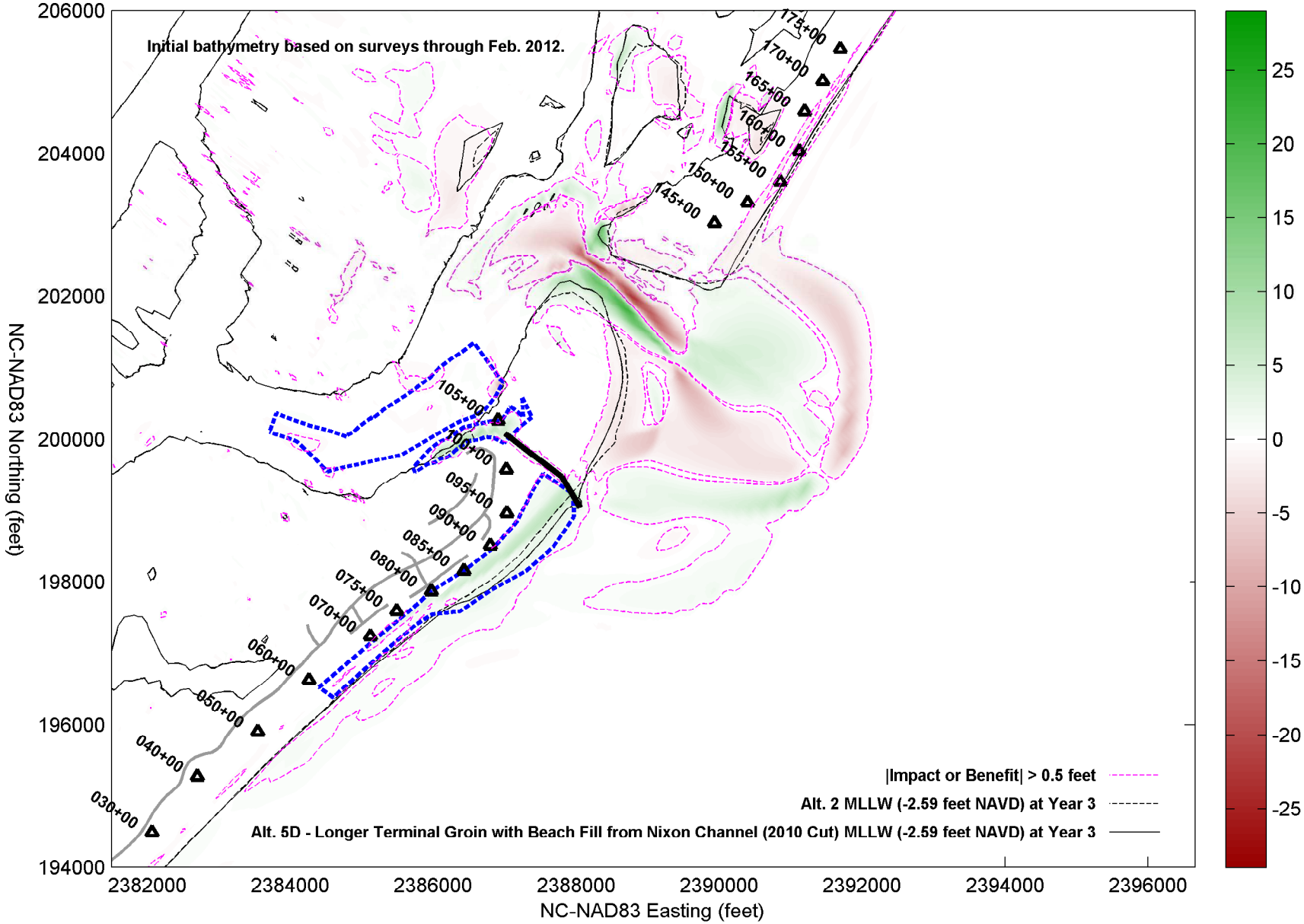
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 1



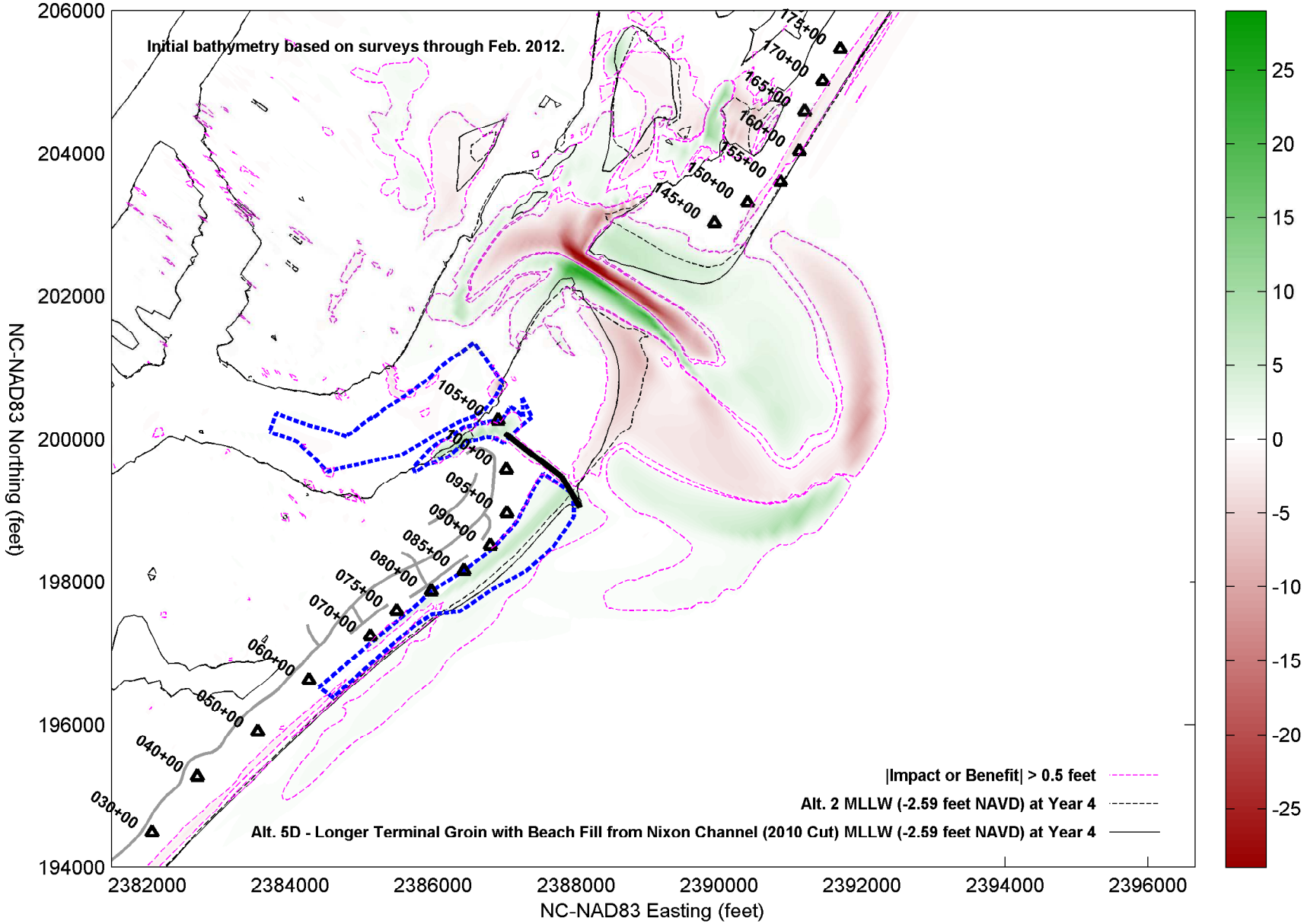
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 2



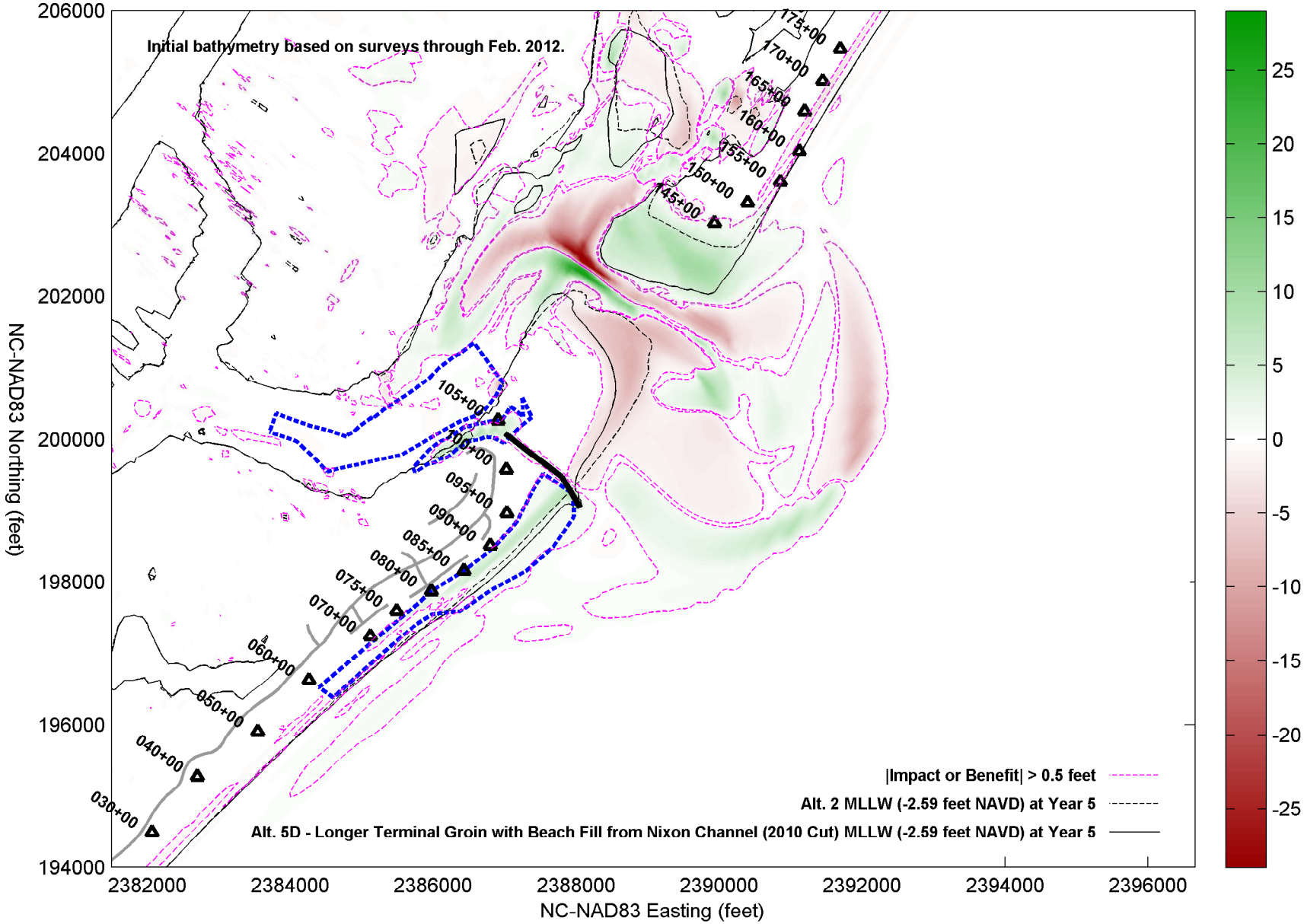
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 3



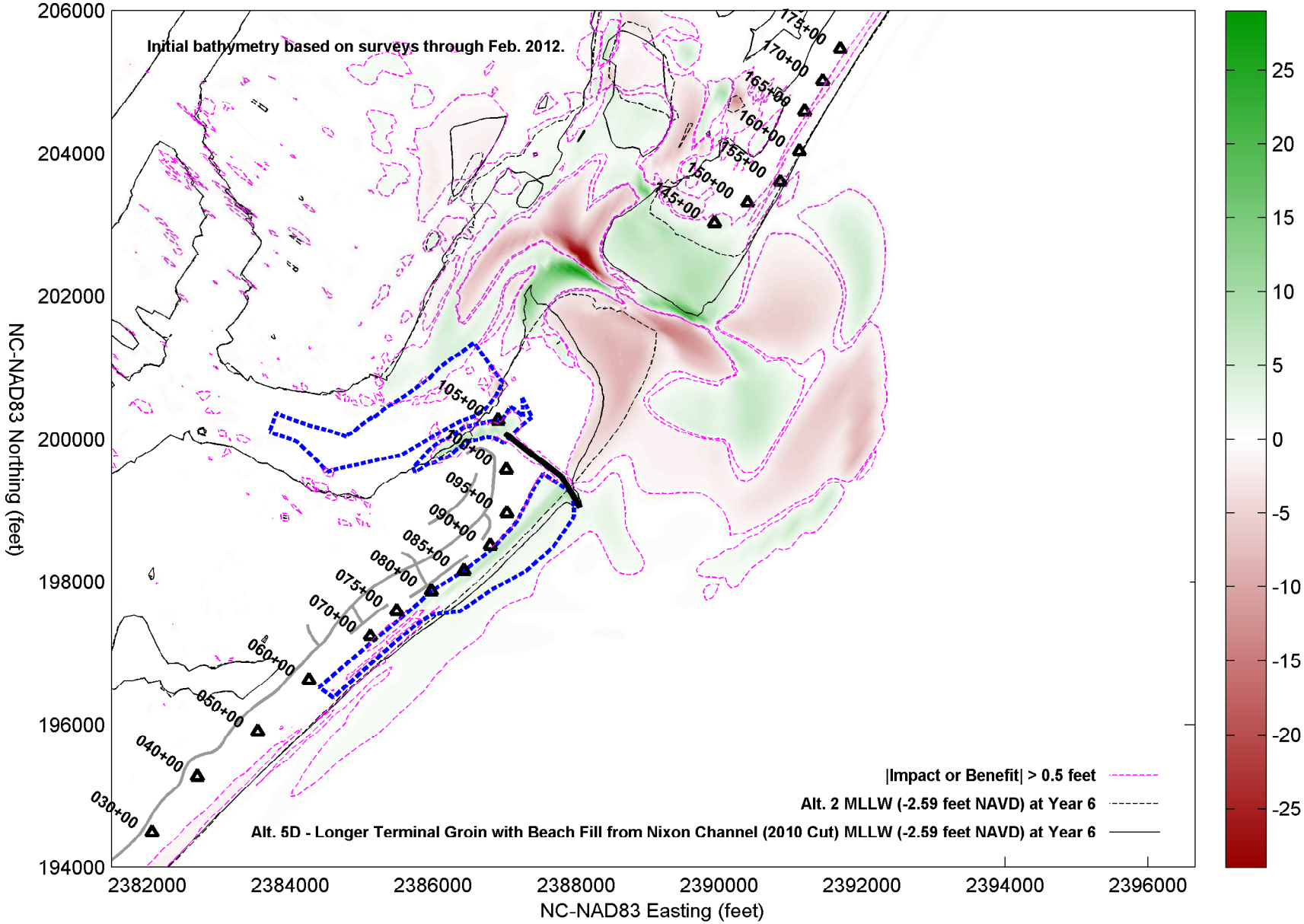
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 4



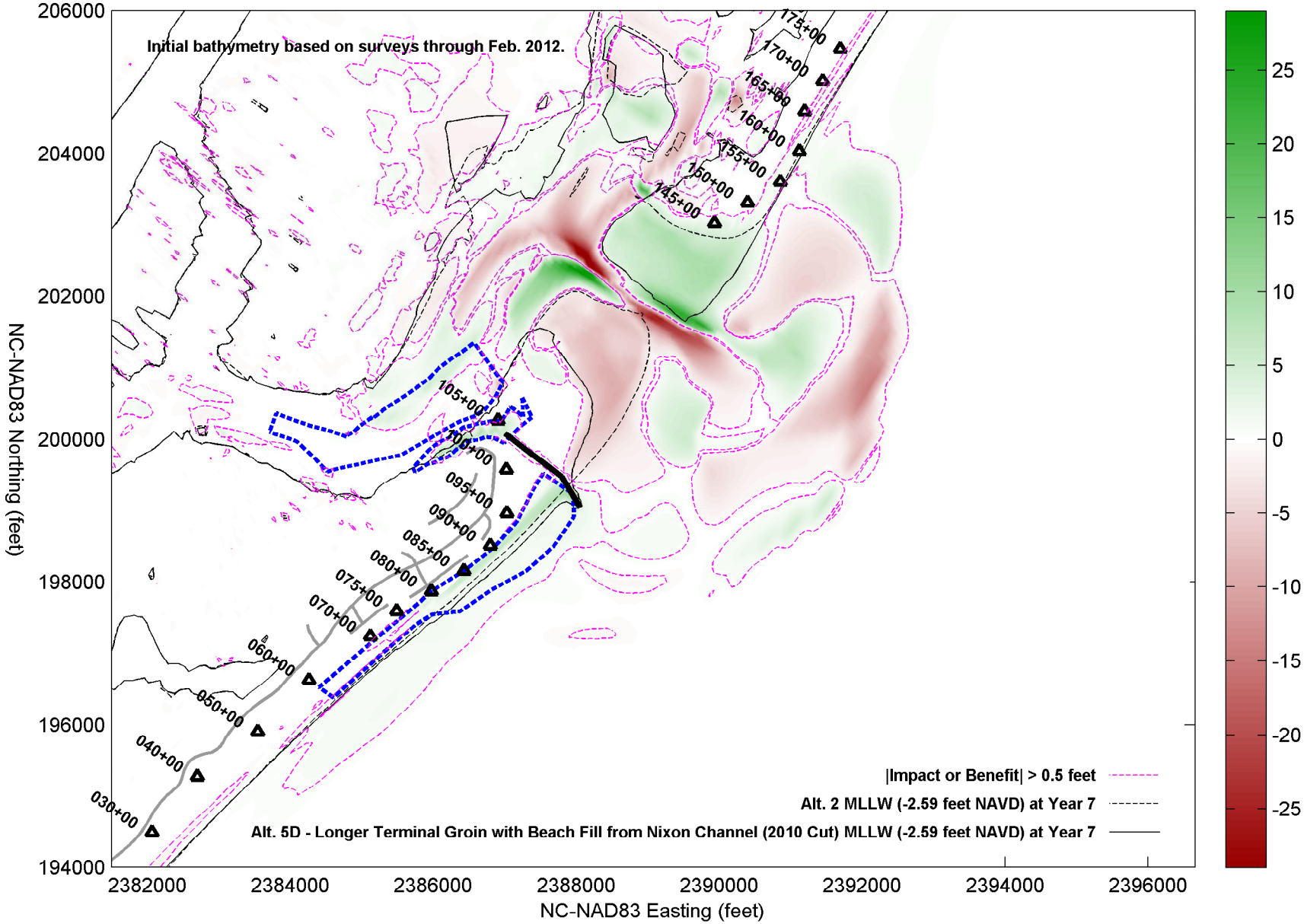
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 5



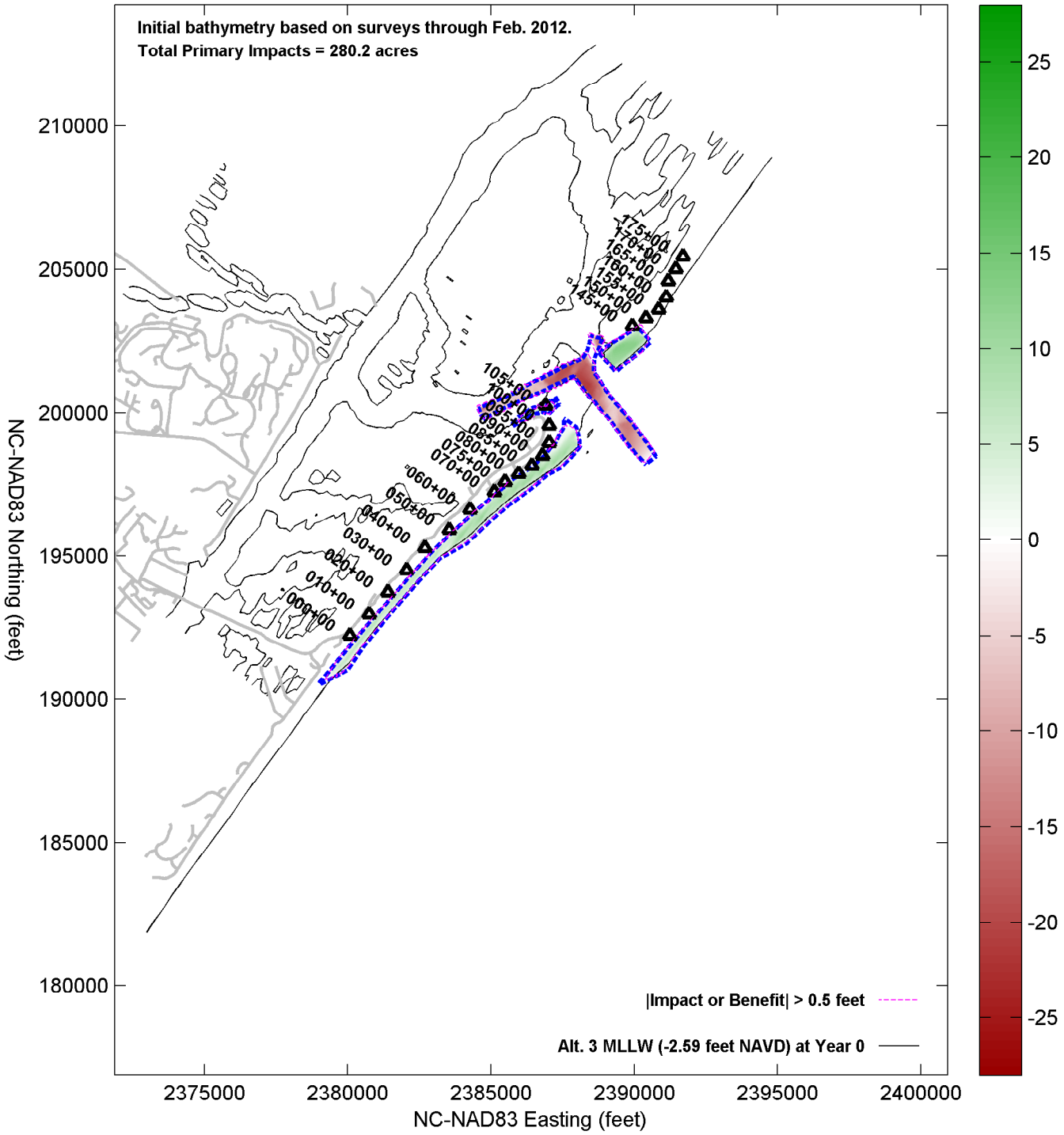
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 6



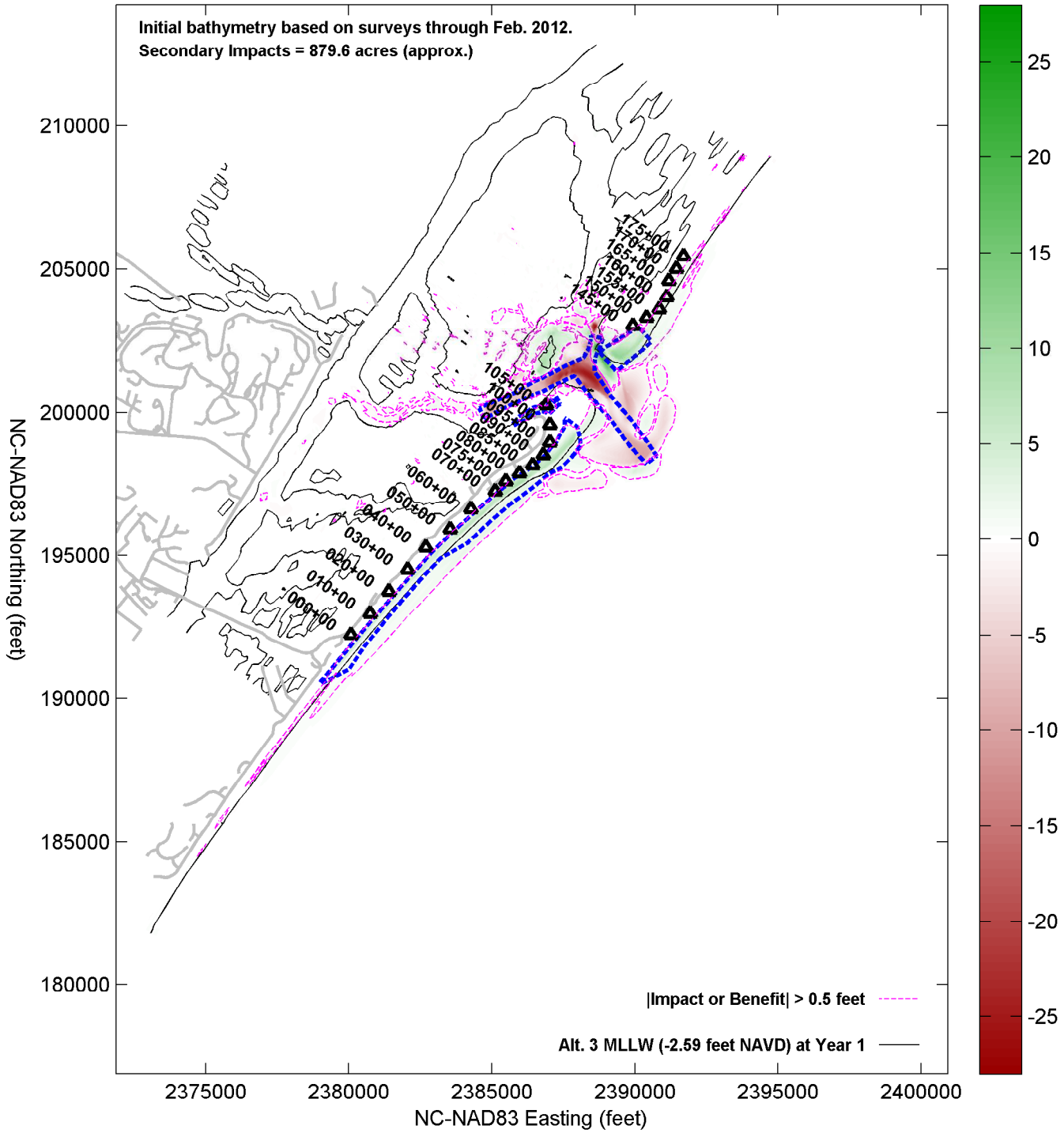
Impacts (-feet) & Benefits (+feet) of Alt. 5D - Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 - Abandon/Retreat through Year 7



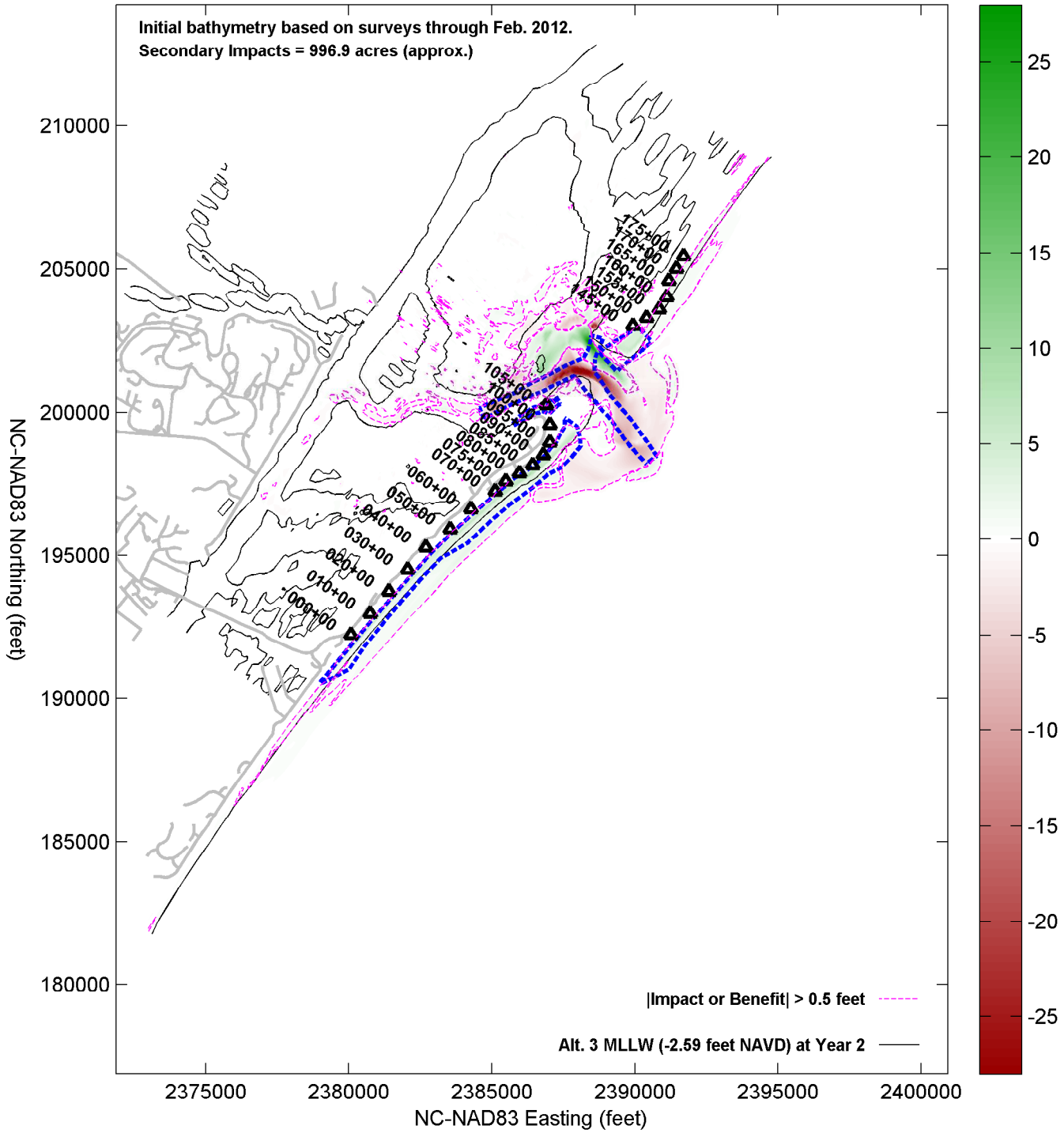
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 0



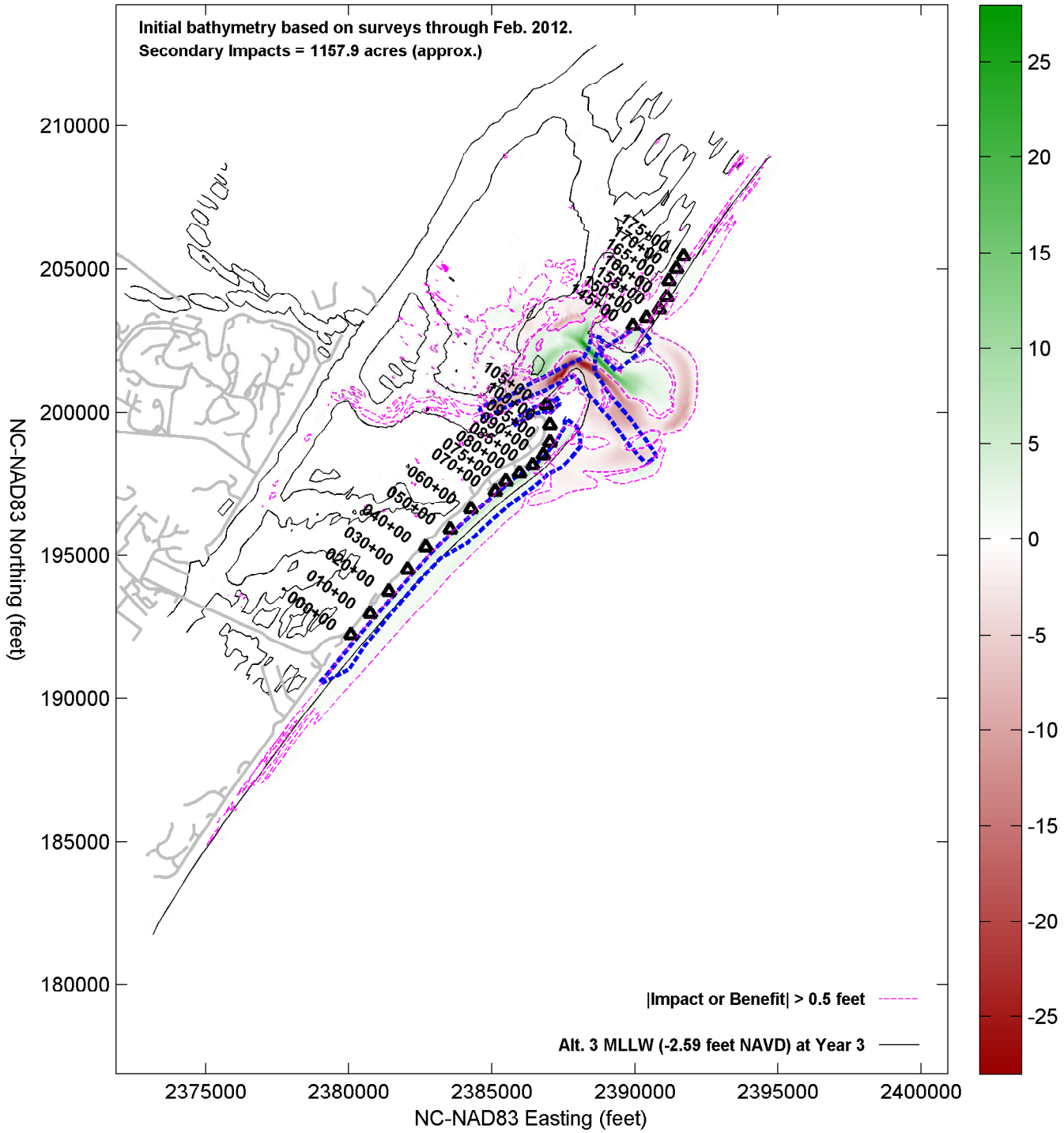
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 1



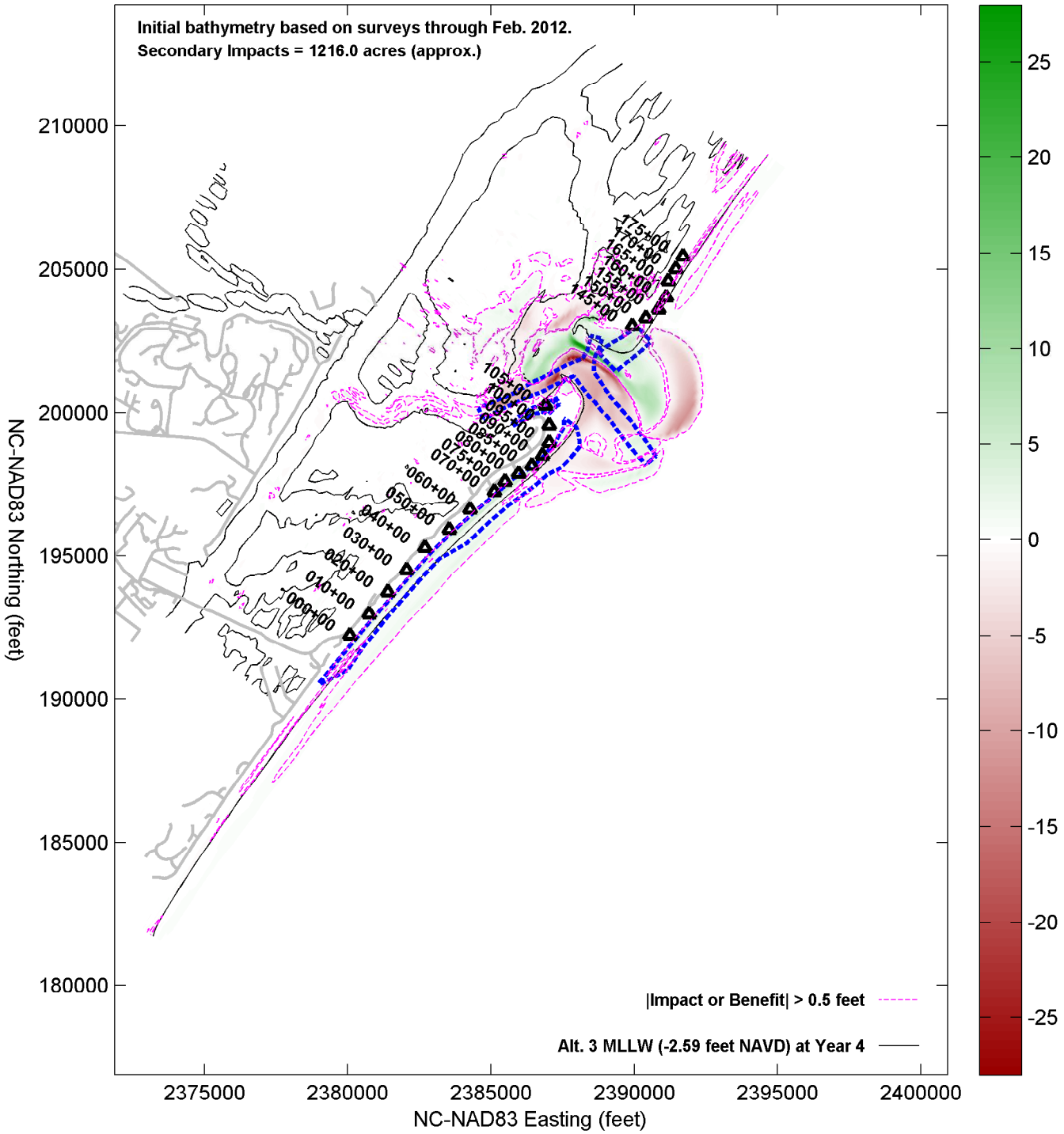
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 2



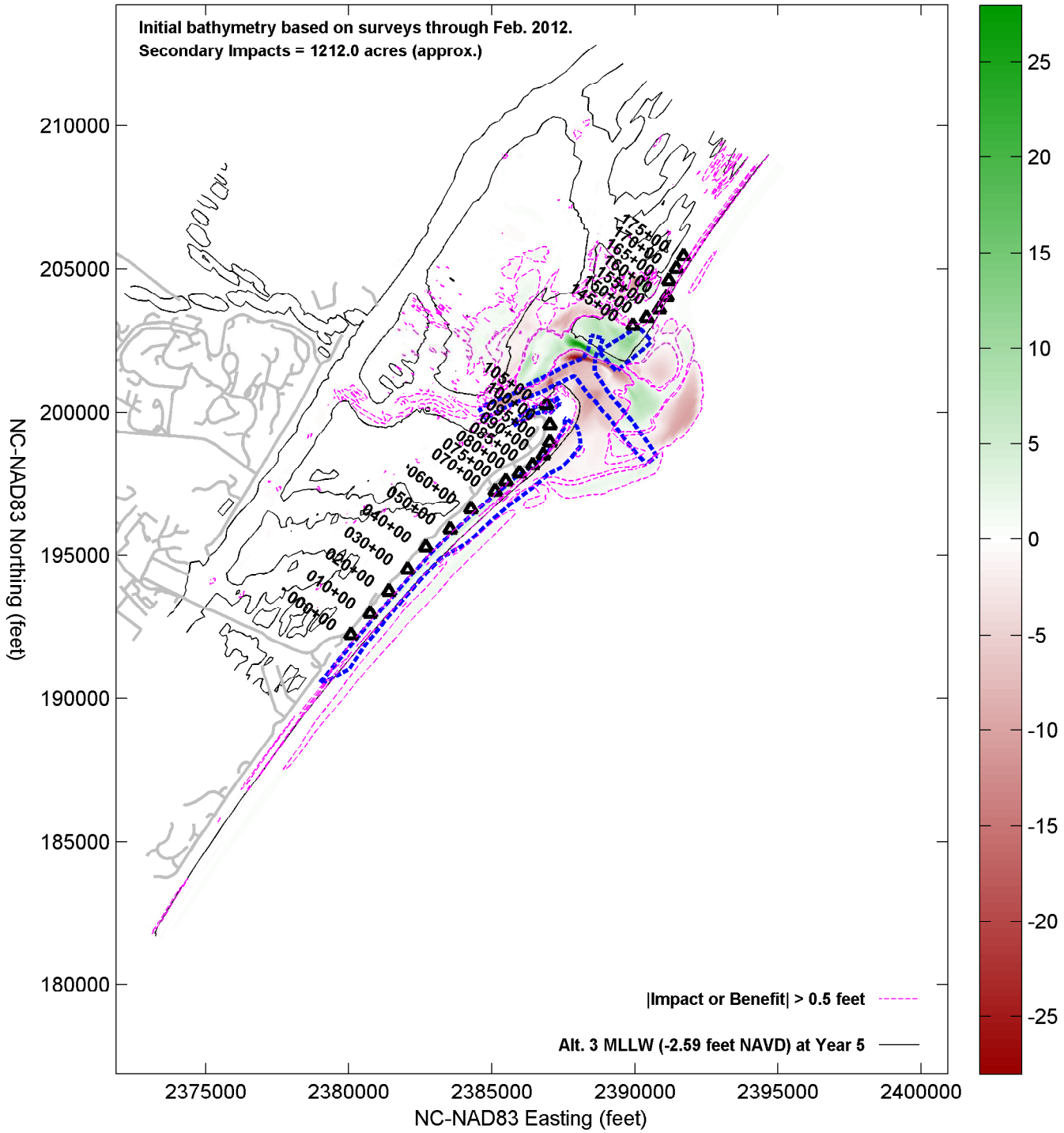
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 3



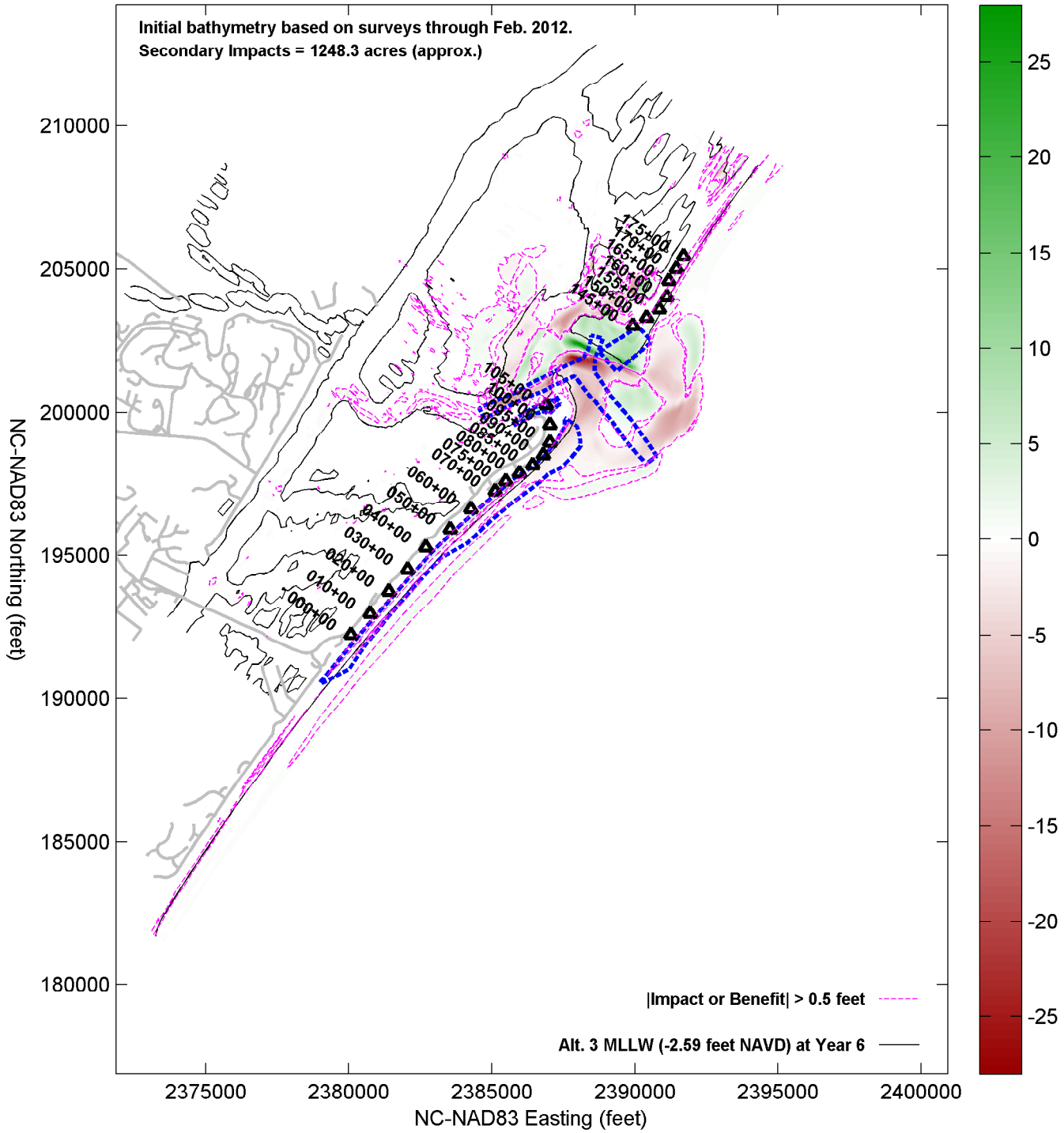
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 4



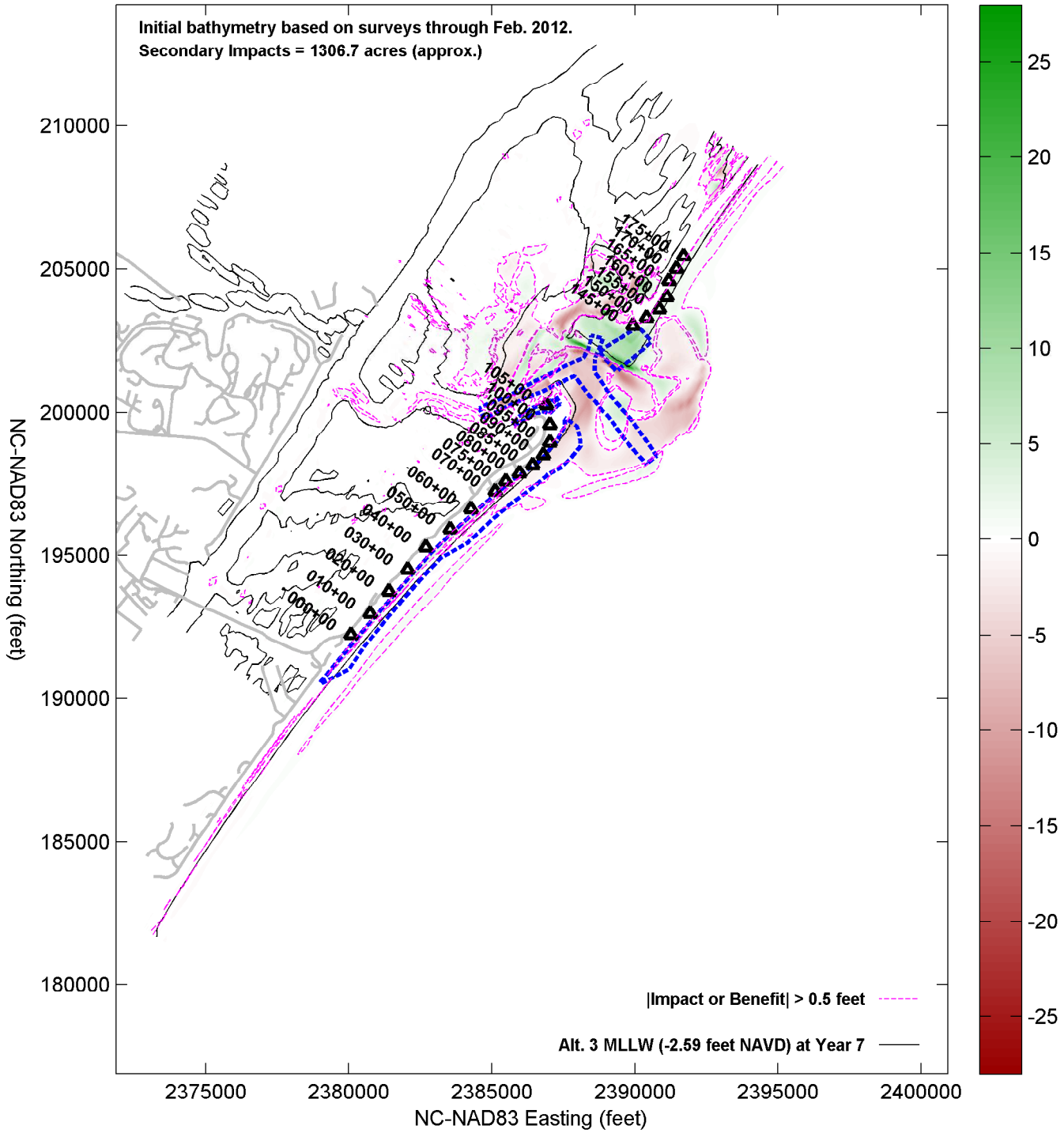
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 5



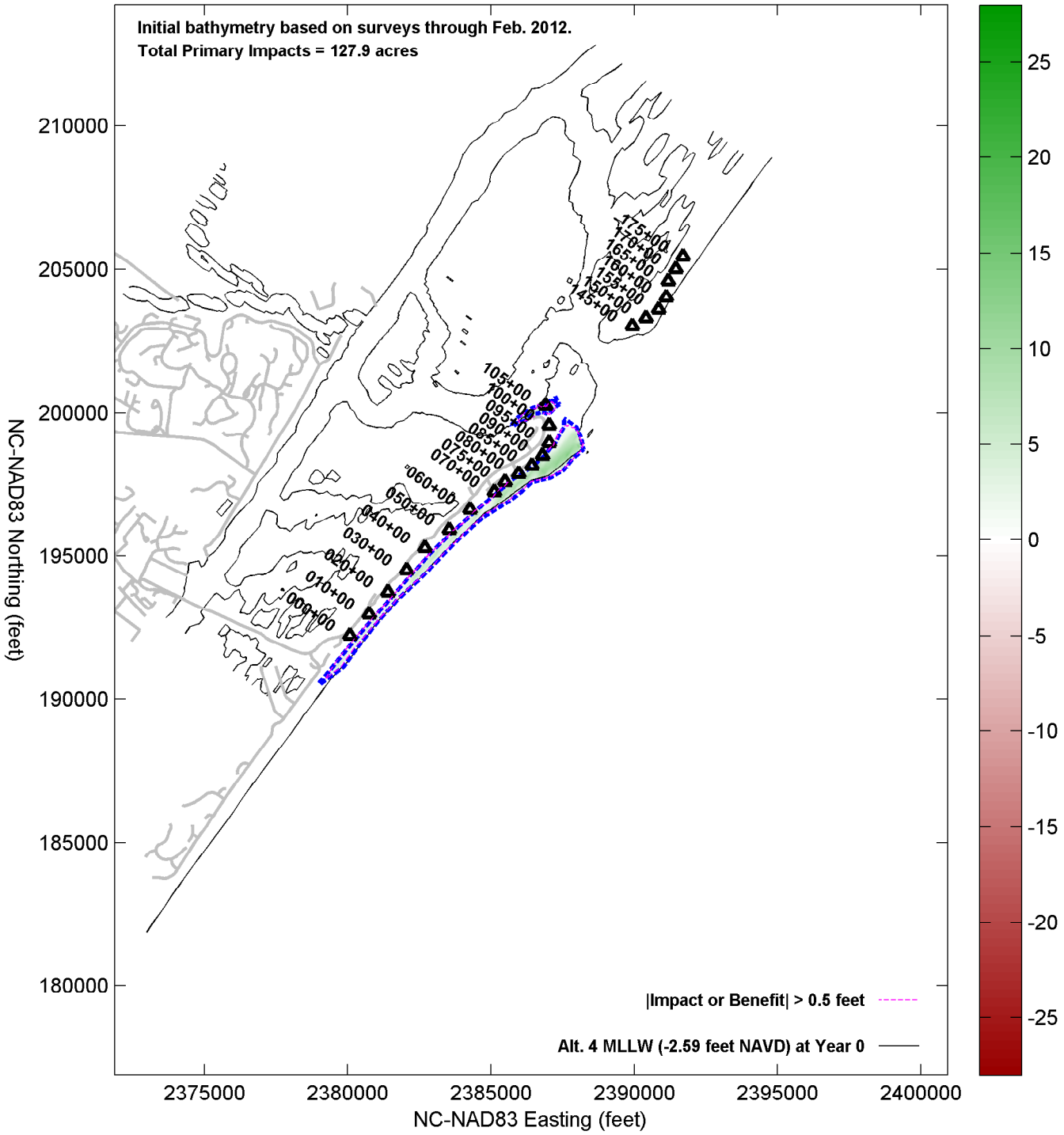
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 6



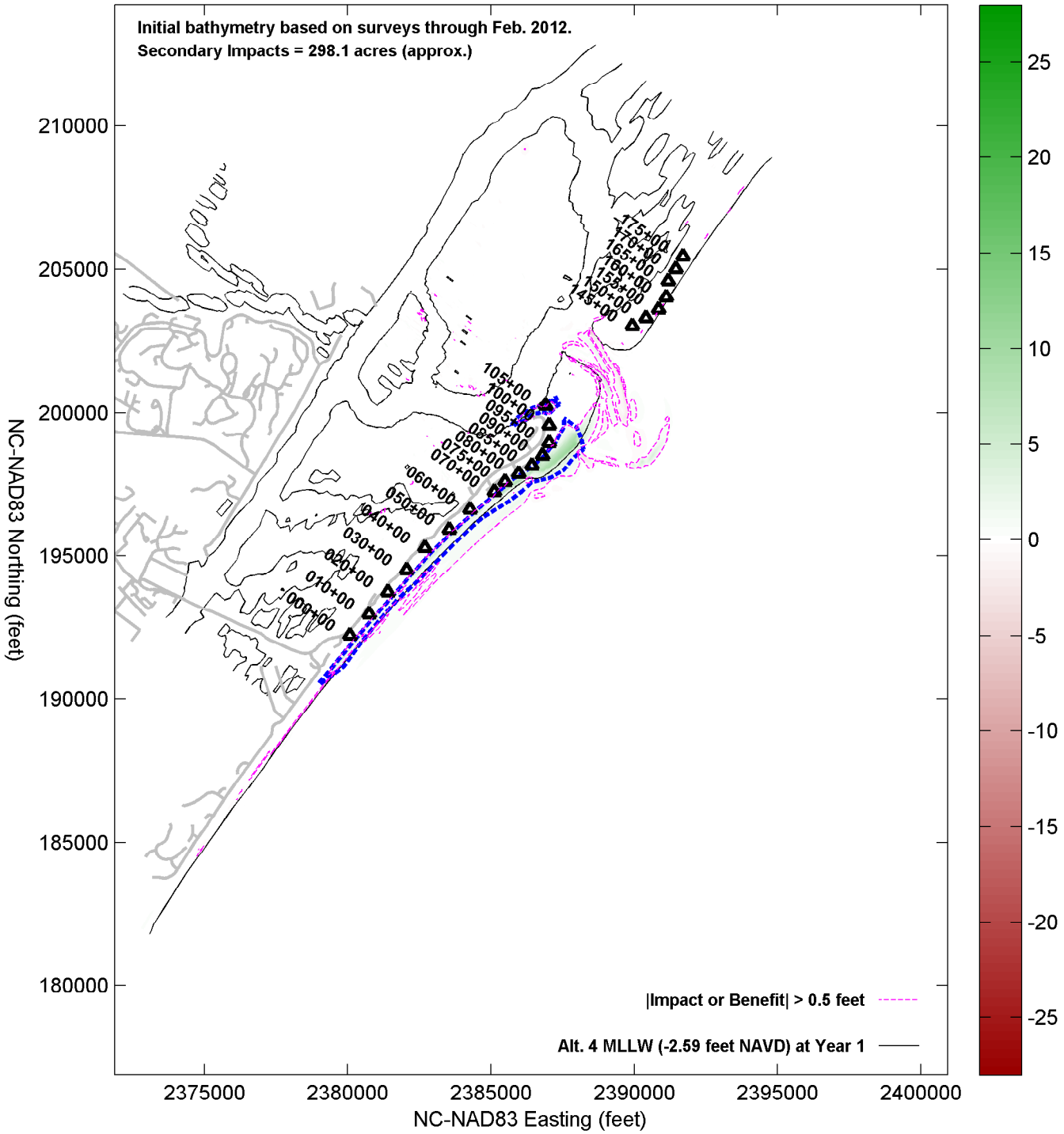
Impacts (-feet) & Benefits (+feet) of Alt. 3: Rich Inlet Management and Beach Fill vs. Alt. 2 through Year 7



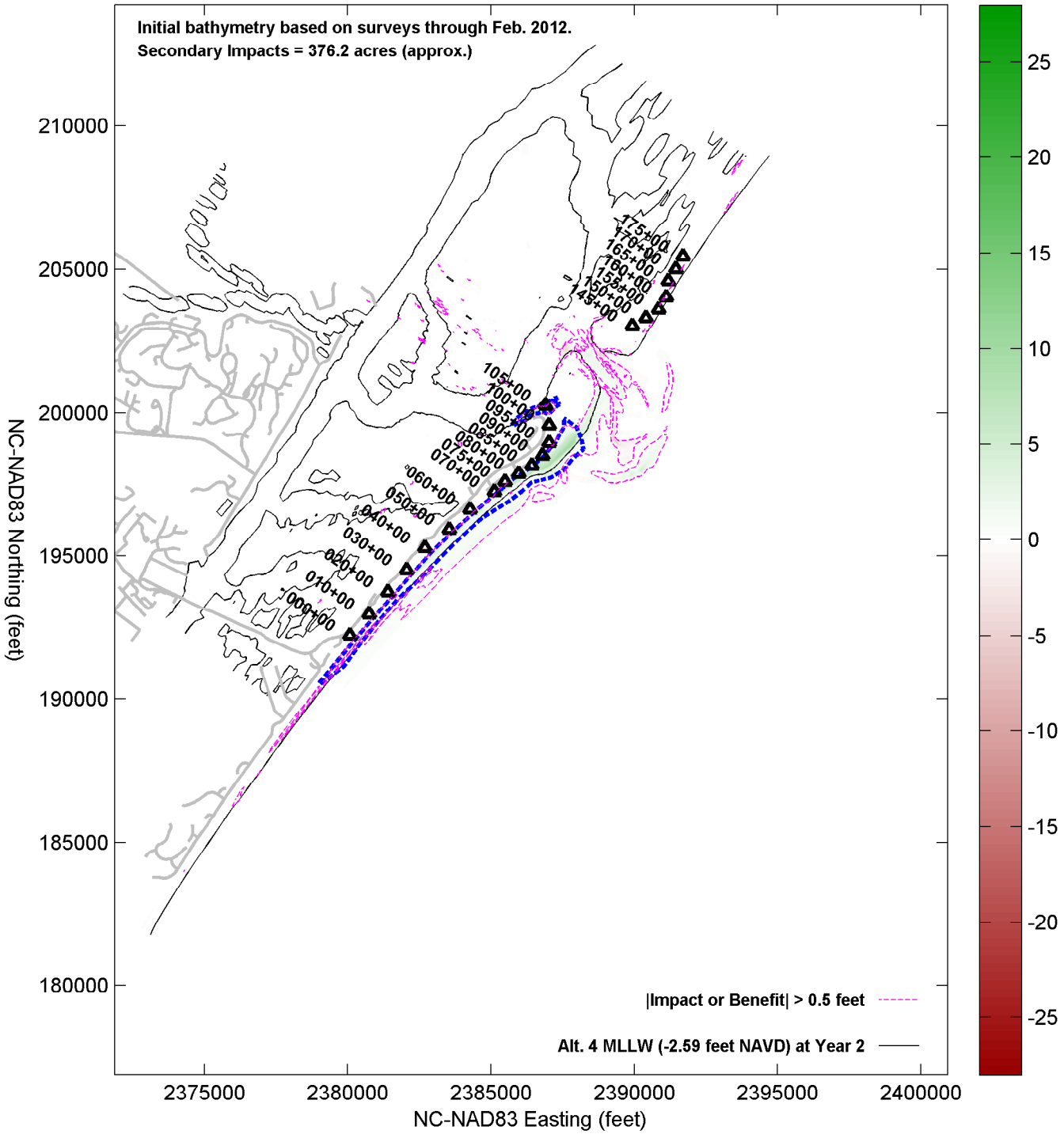
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 0



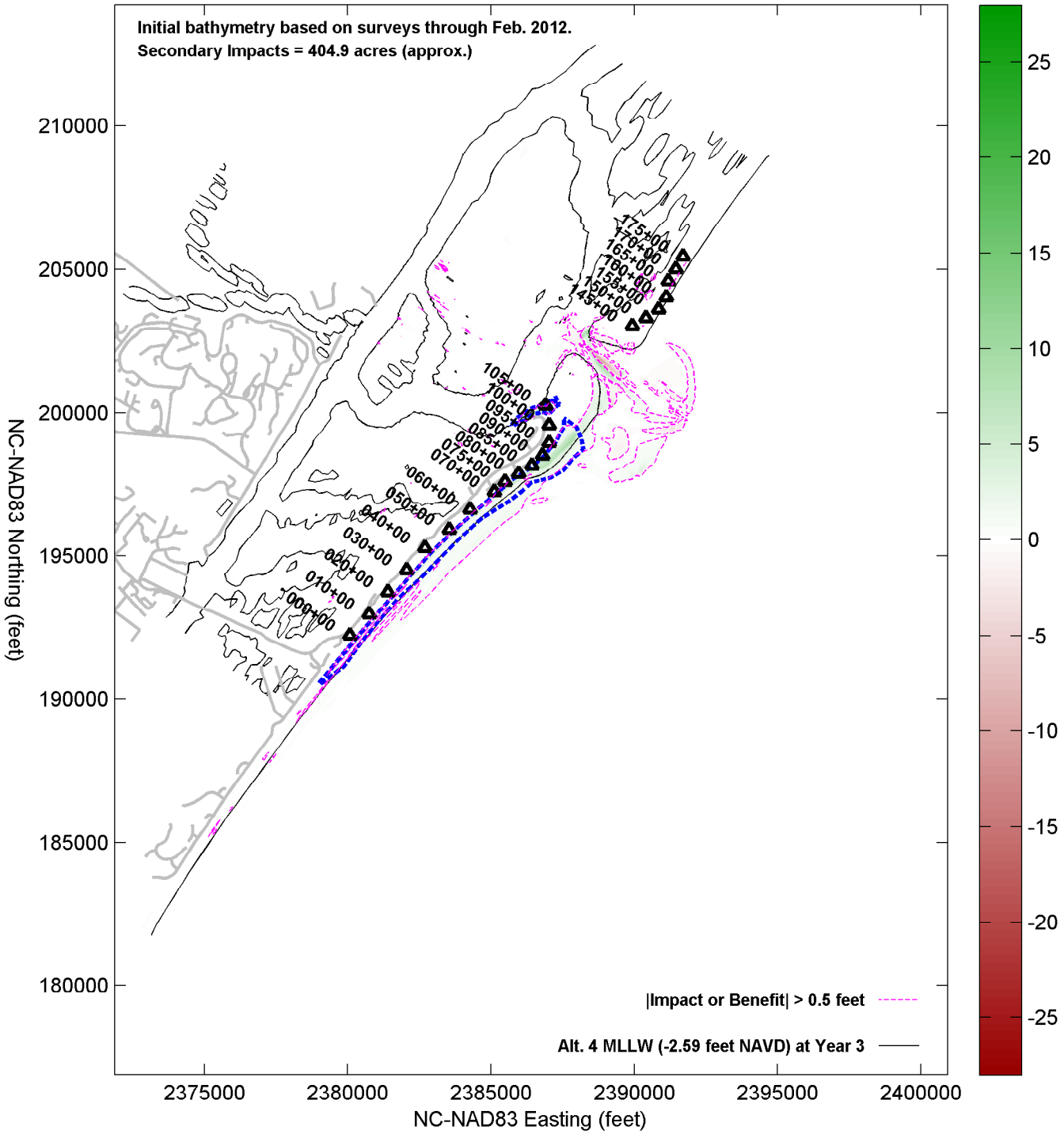
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 1



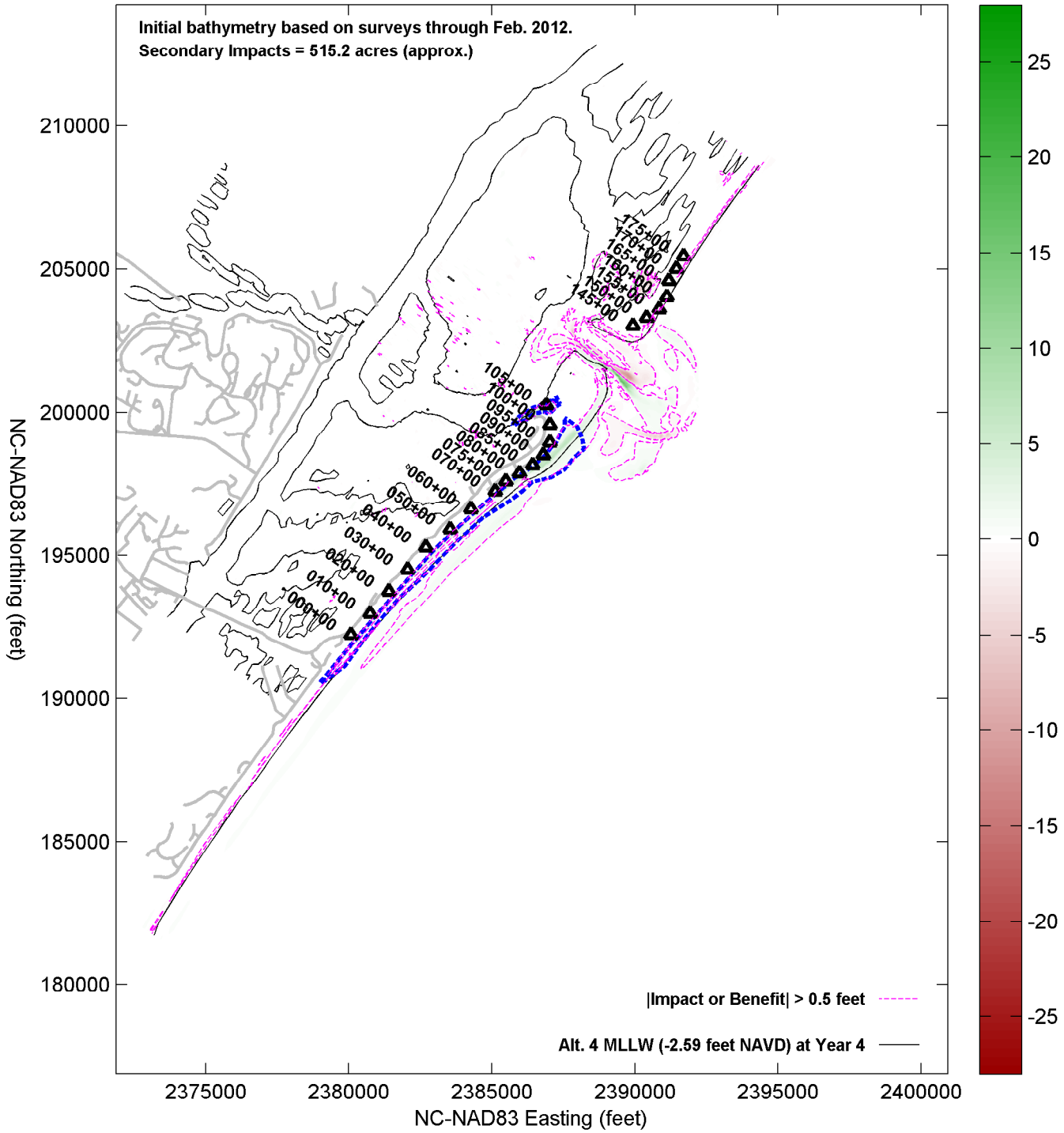
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 2



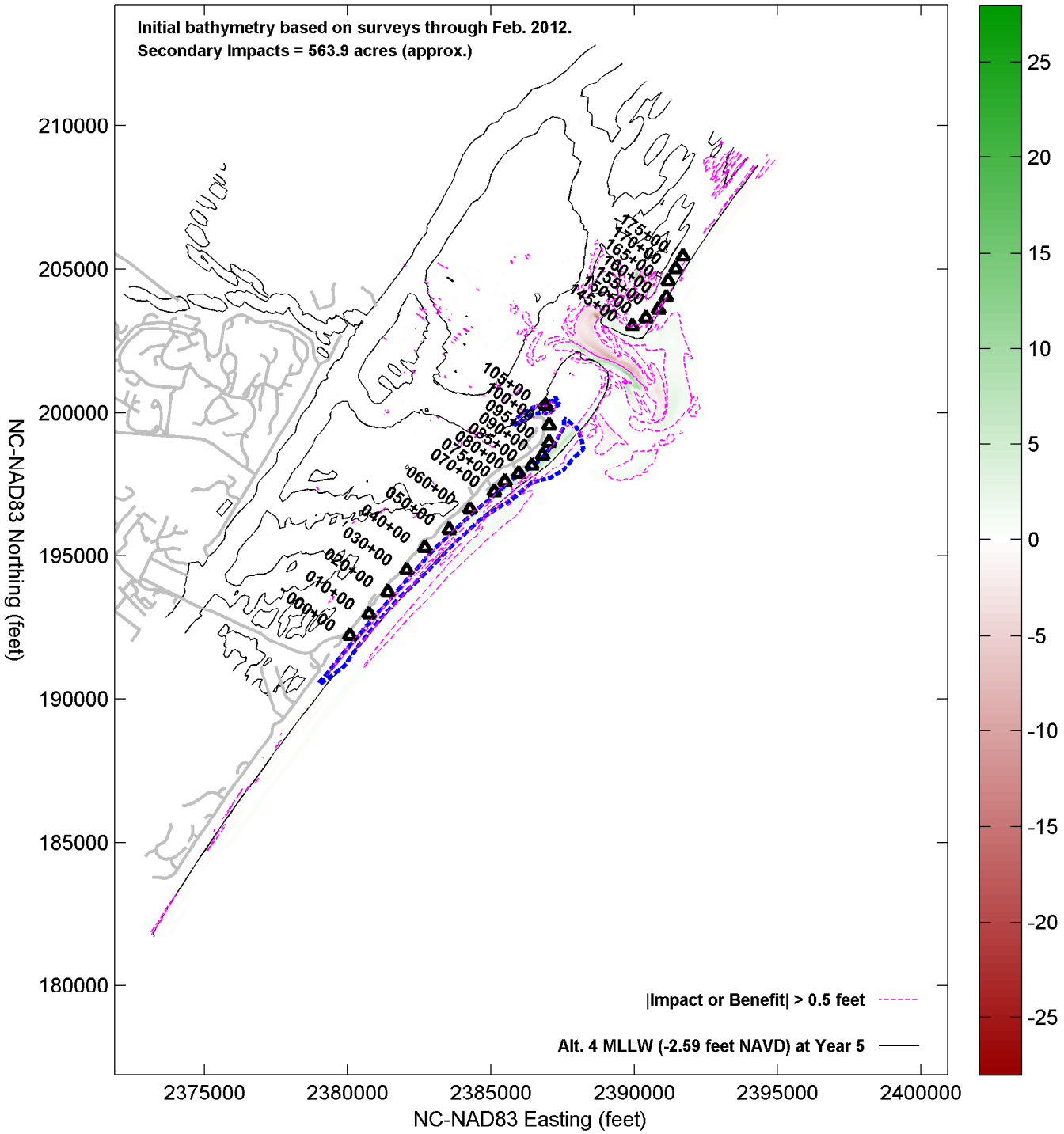
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 3



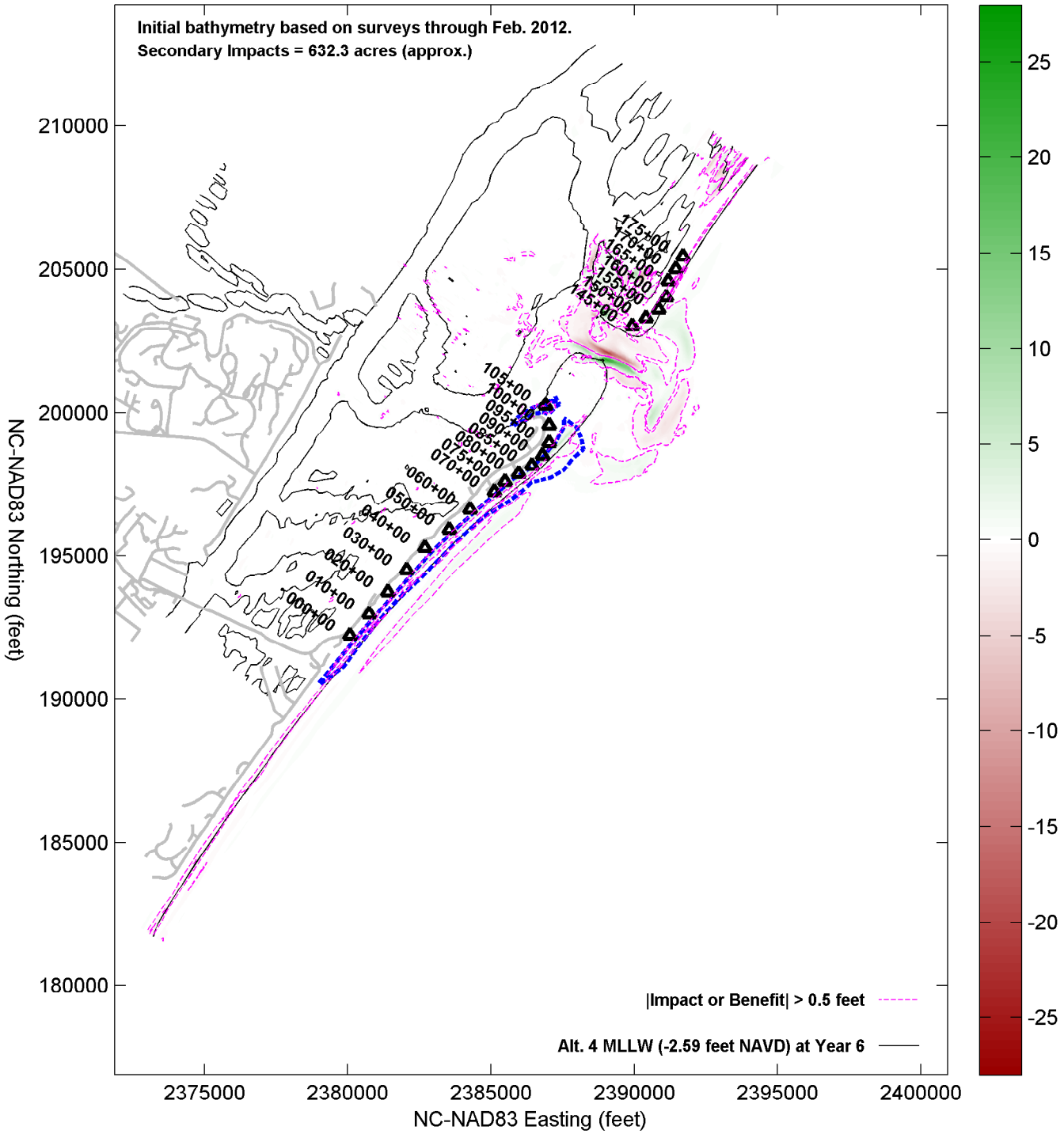
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 4



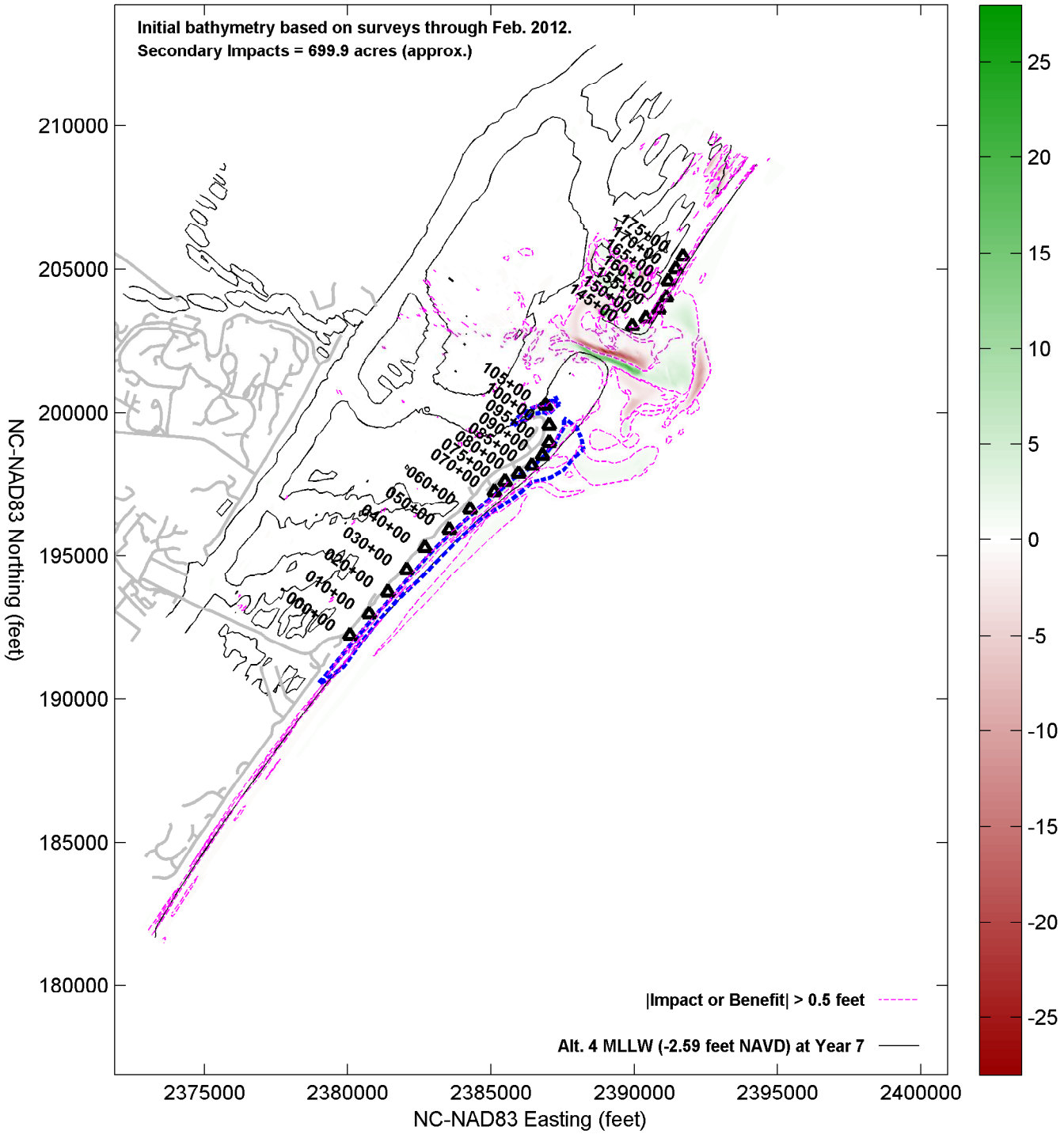
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 5



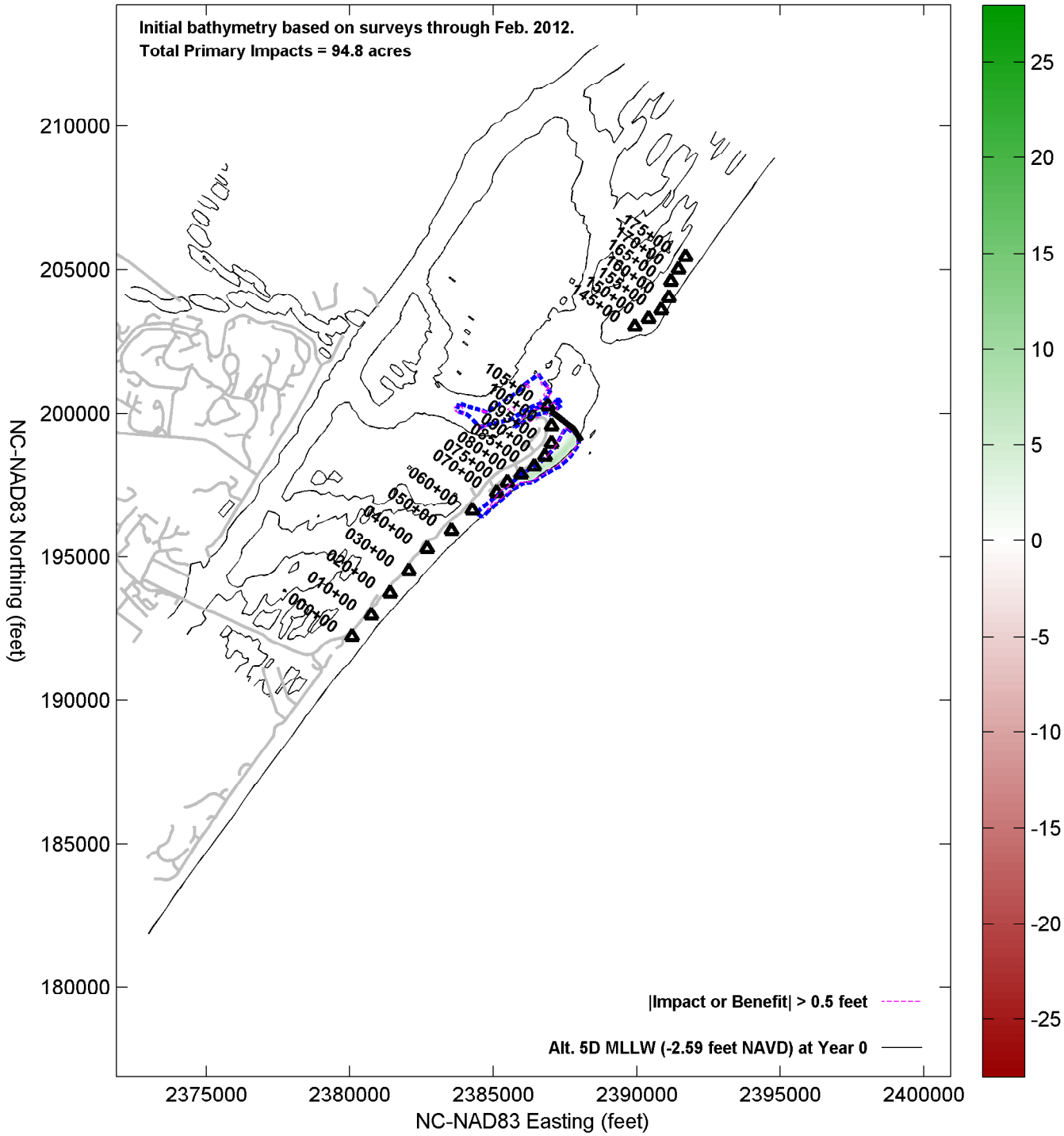
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 6



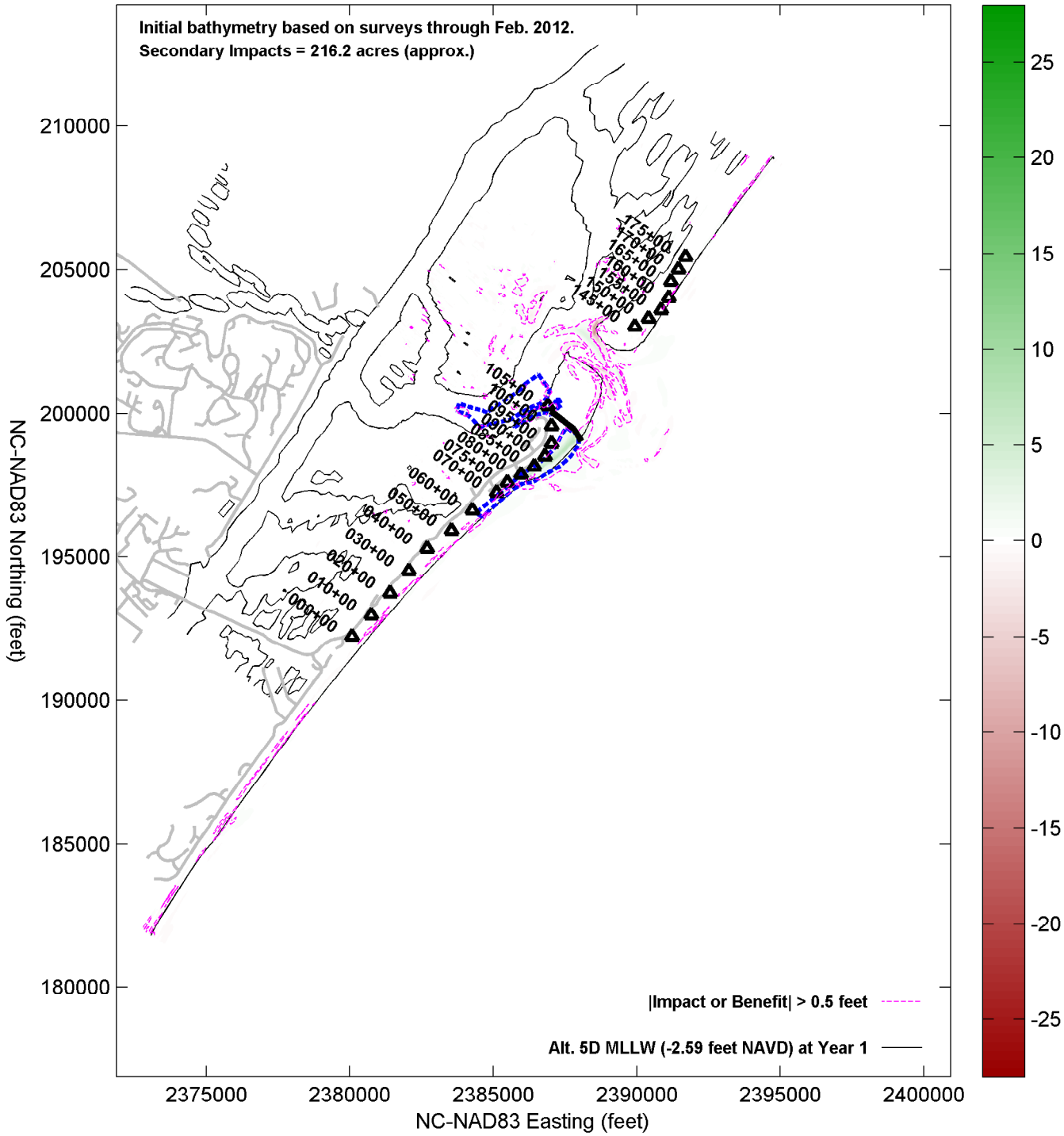
Impacts (-feet) & Benefits (+feet) of Alt. 4: Beach Fill without Management of Rich Inlet vs. Alt. 2 through Year 7



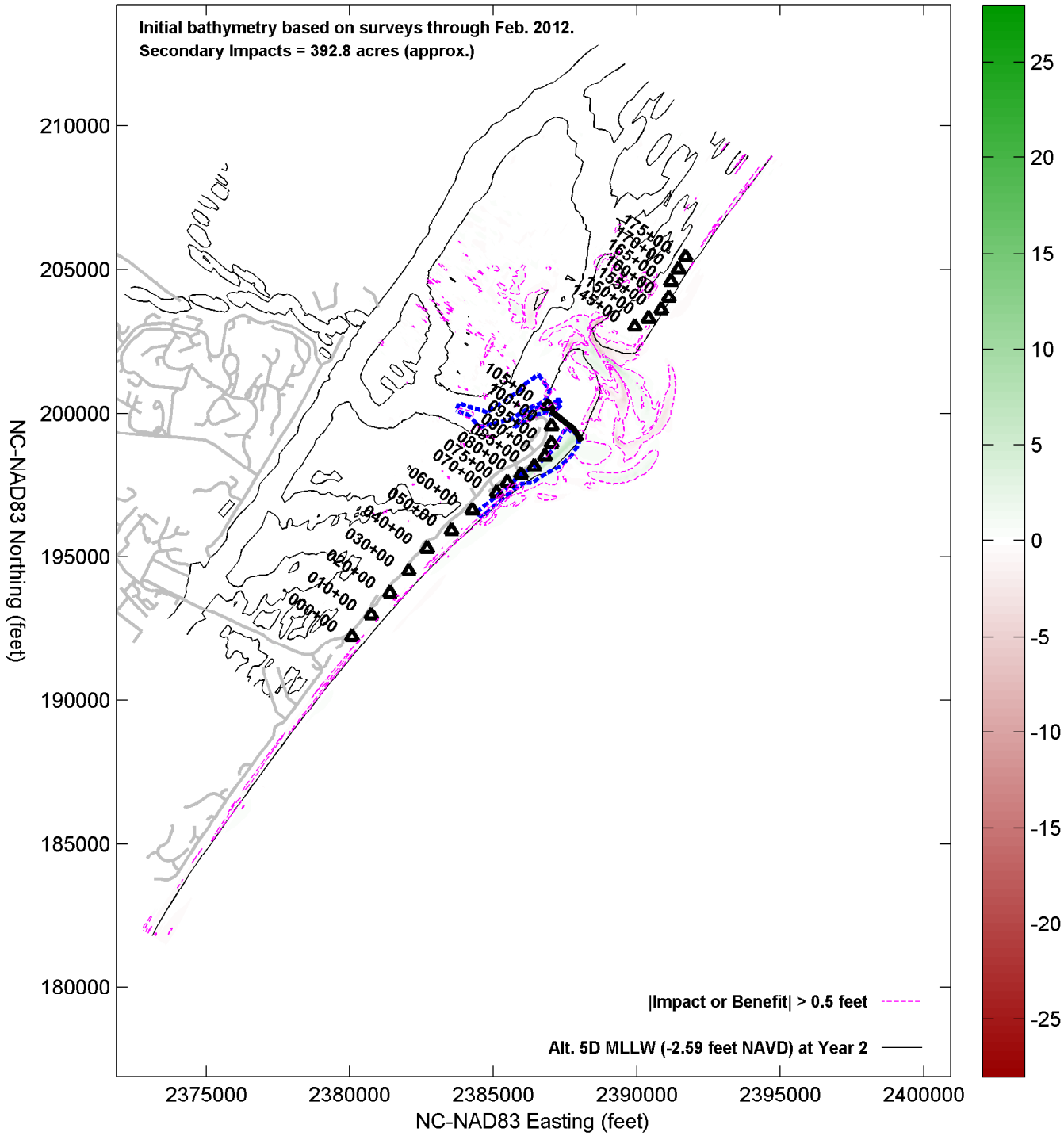
cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 0



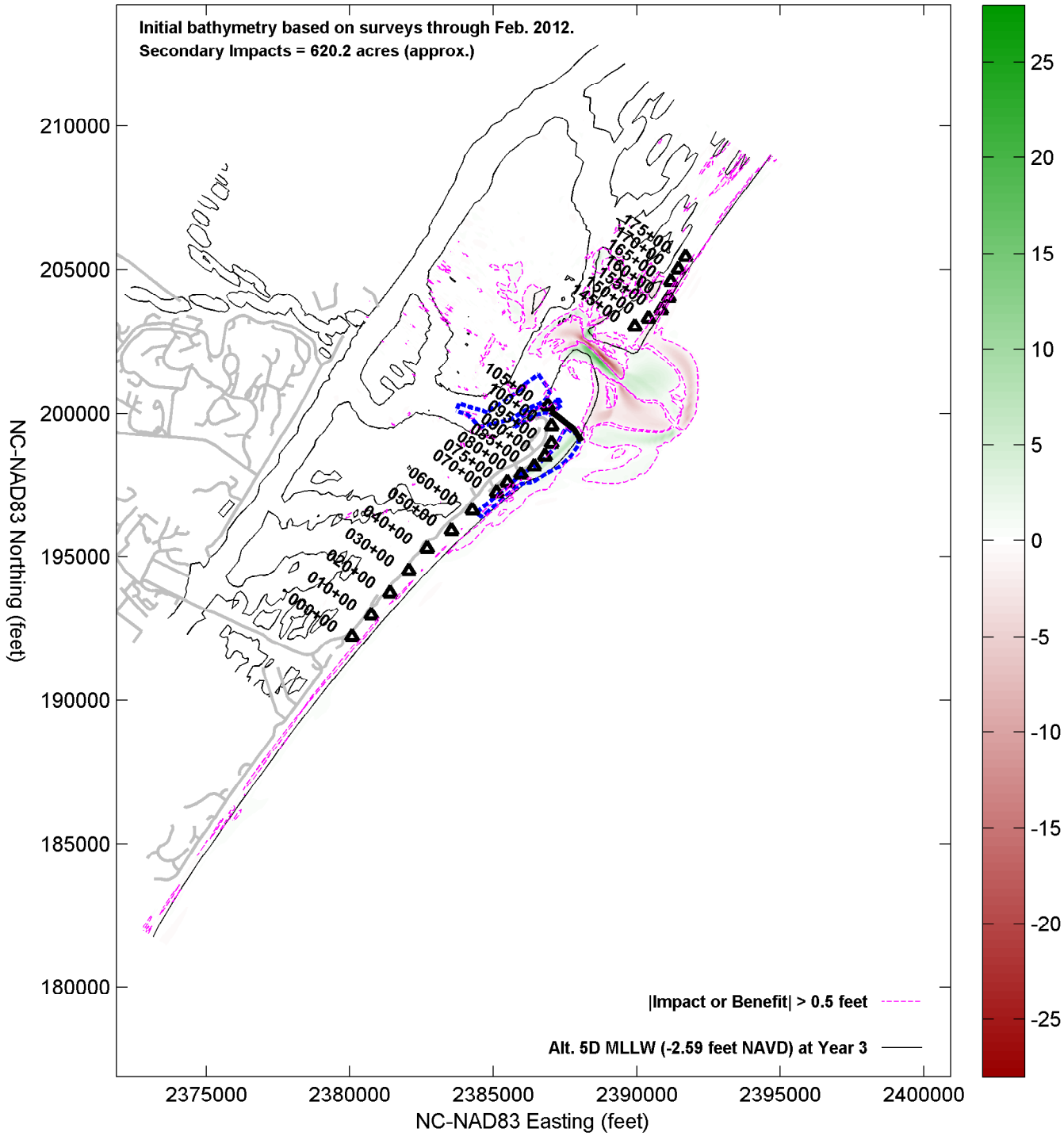
cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 1



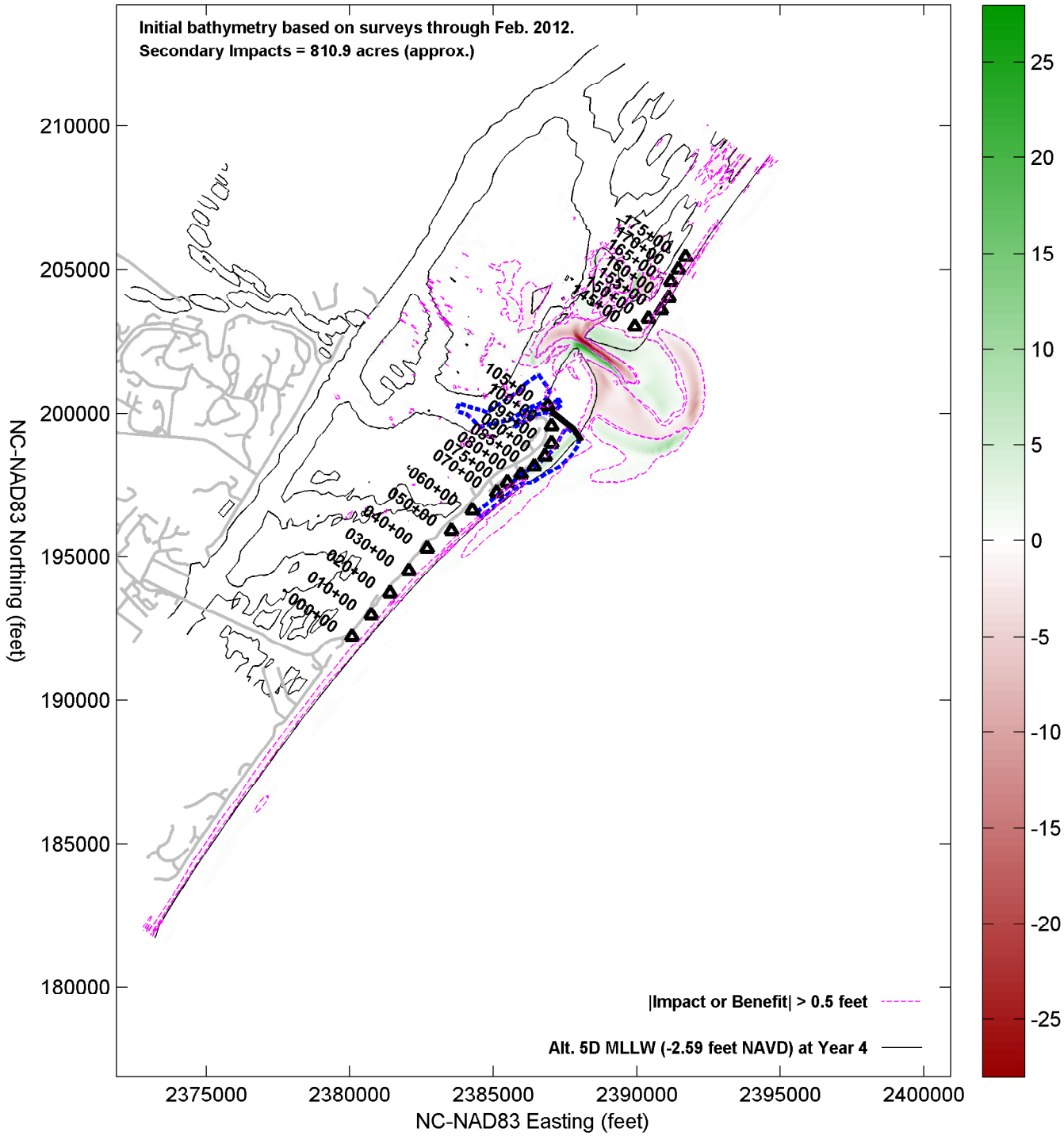
cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 2



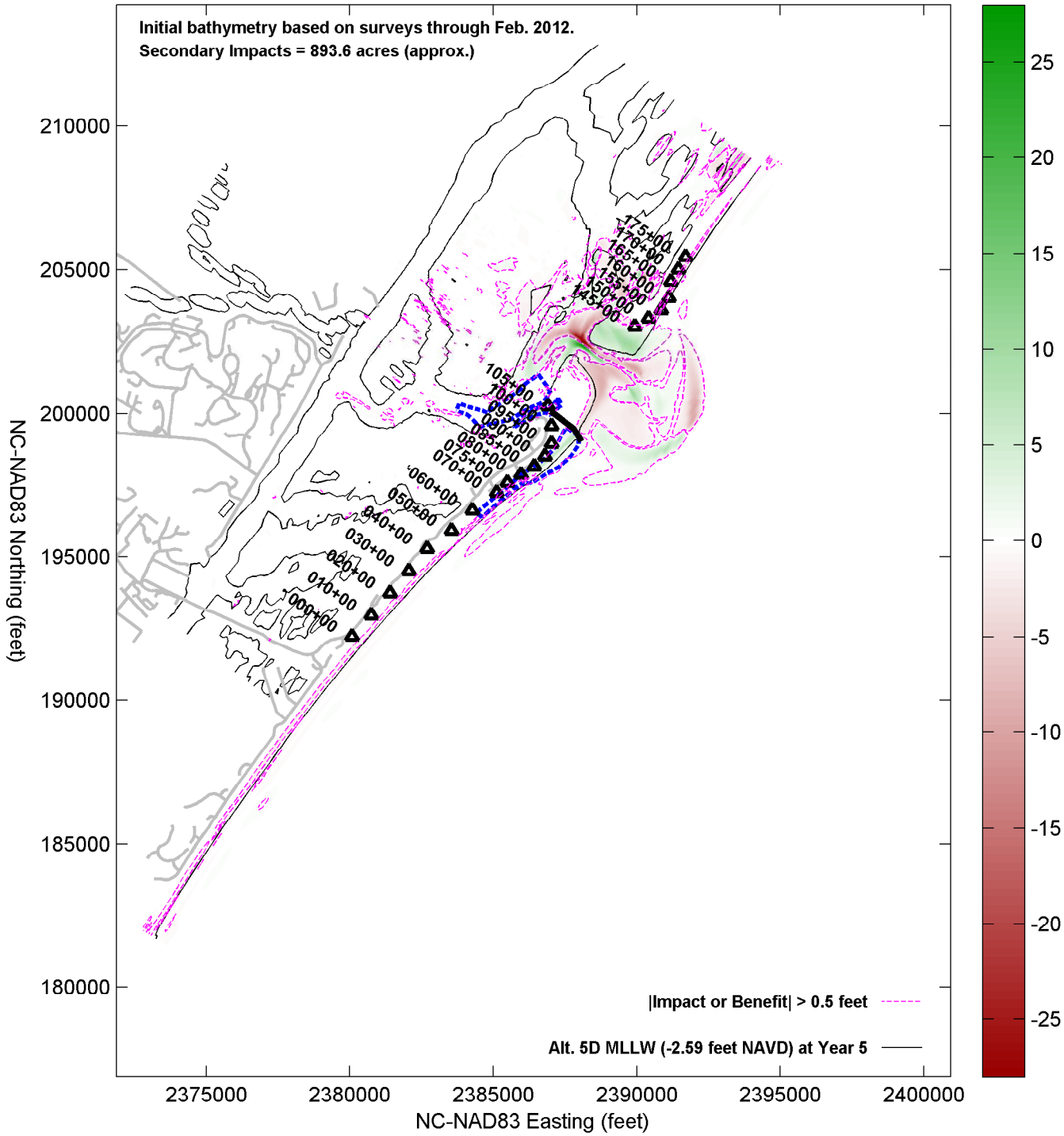
cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 3



cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 4



cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 5



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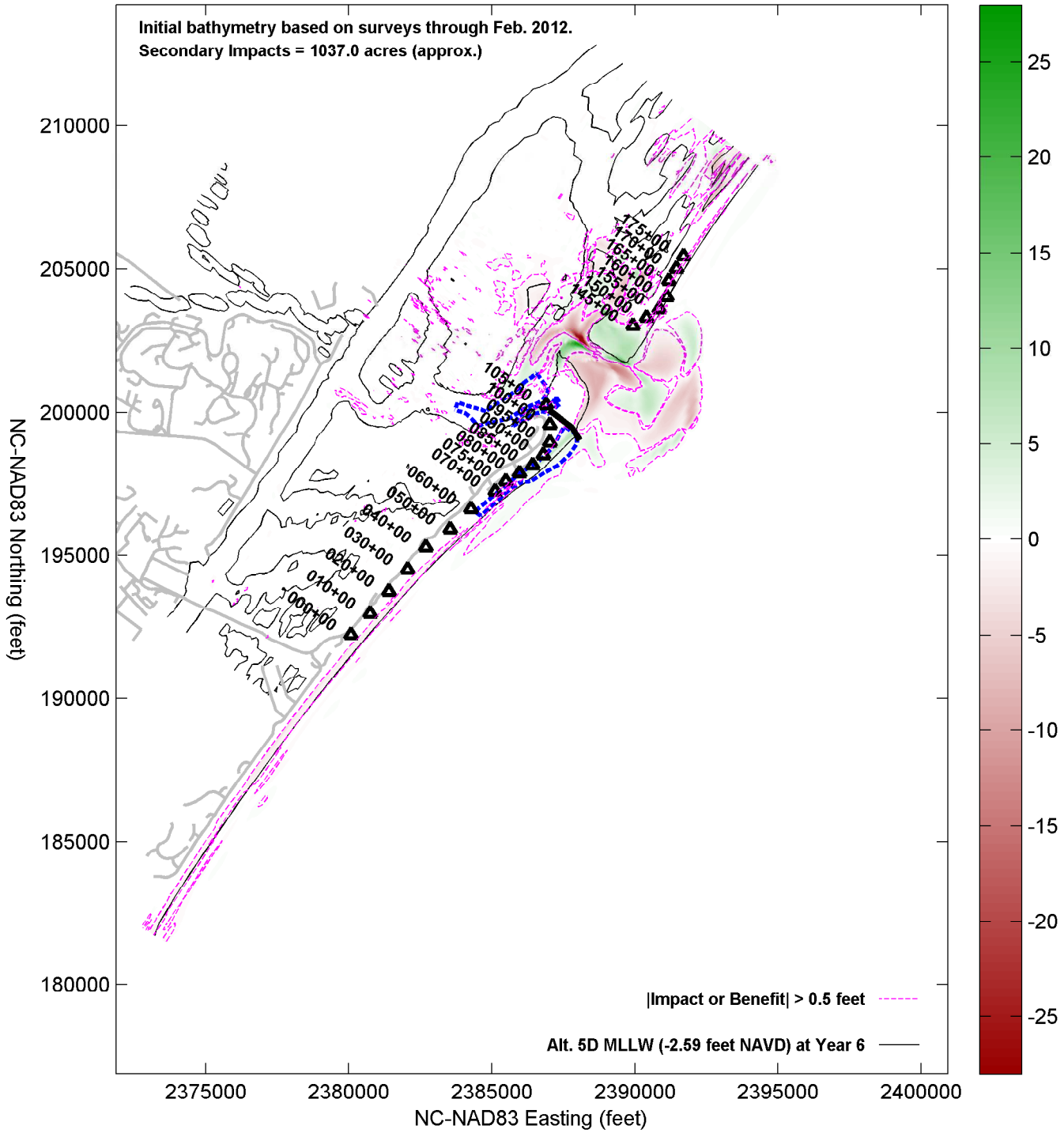


cts (-feet) & Benefits (+feet) of Alt. 5D: Longer Term. Groin with Beach Fill from Nixon Channel (2010 Cut) vs. Alt. 2 through Year 7

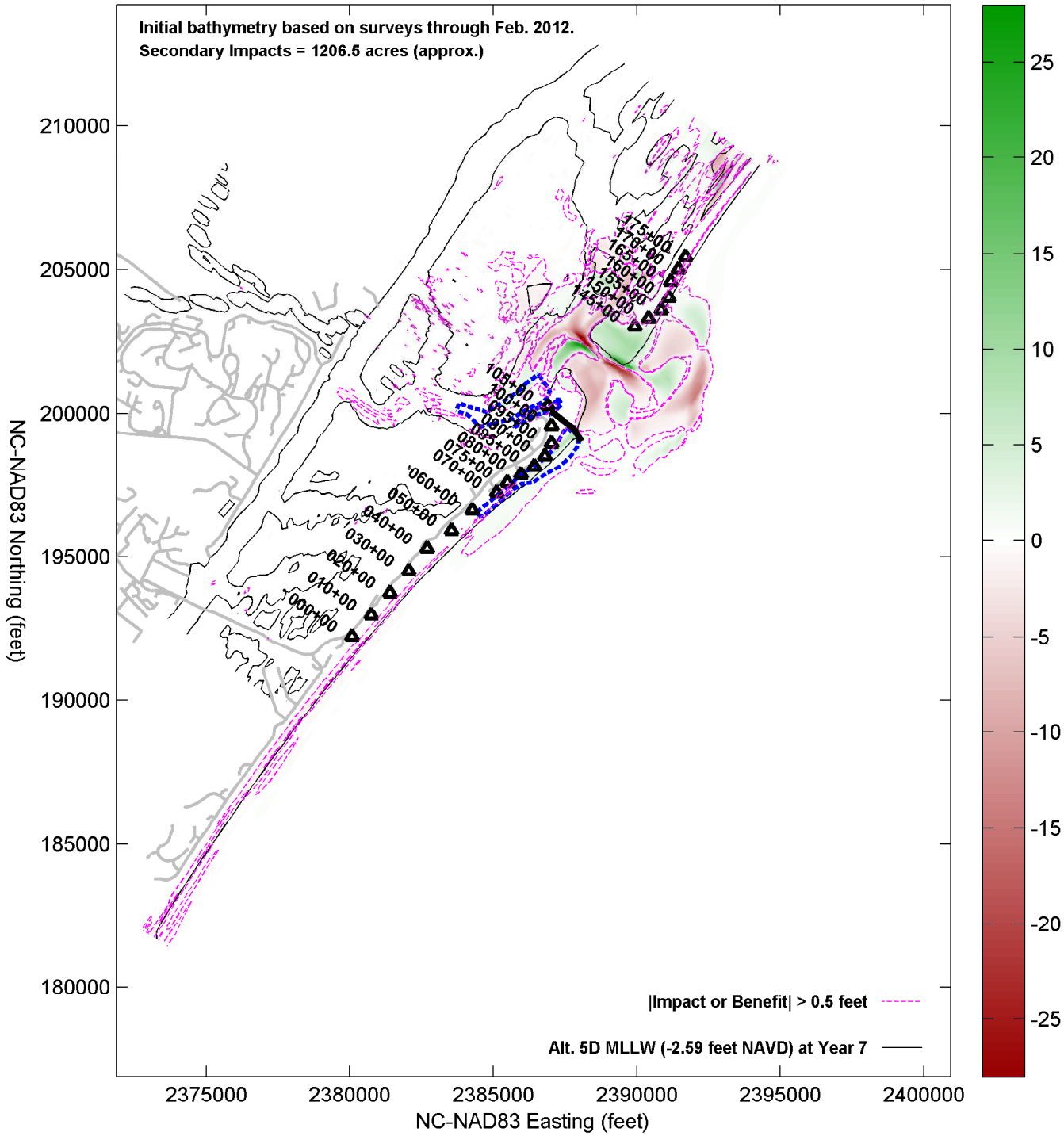
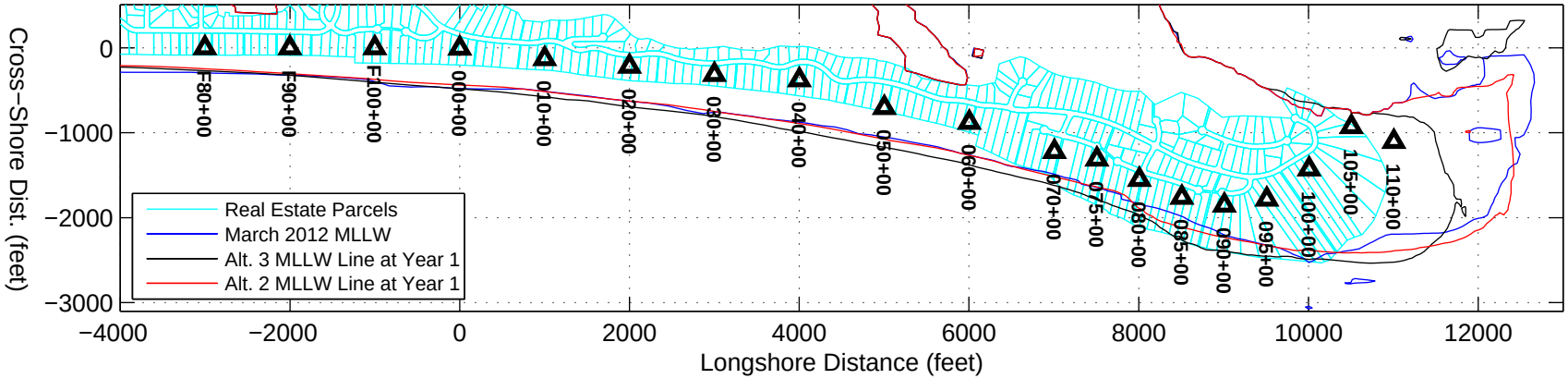


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 3: Rich Inlet Management and Beach Fill Based on 3/2012 Cond.

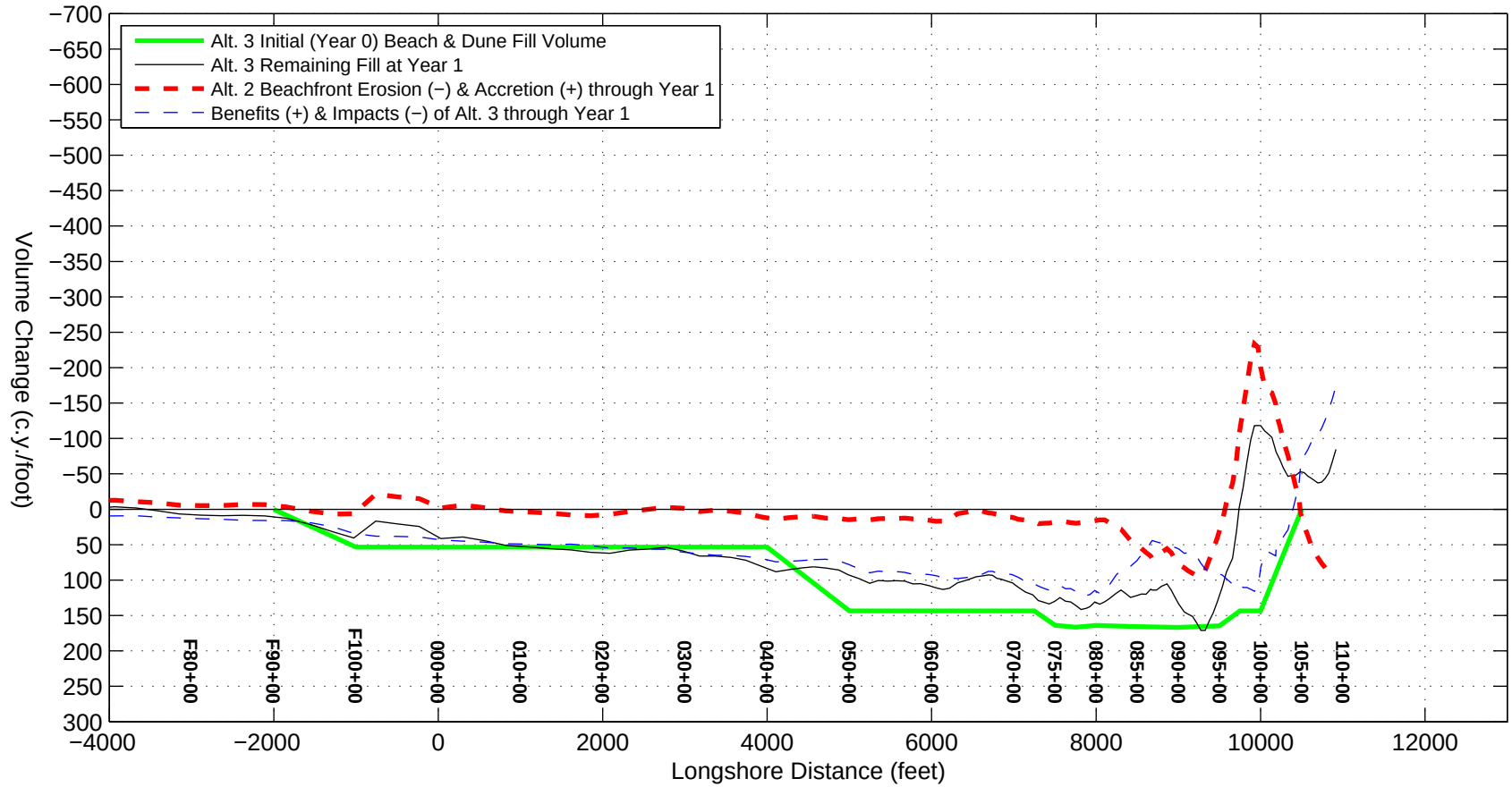
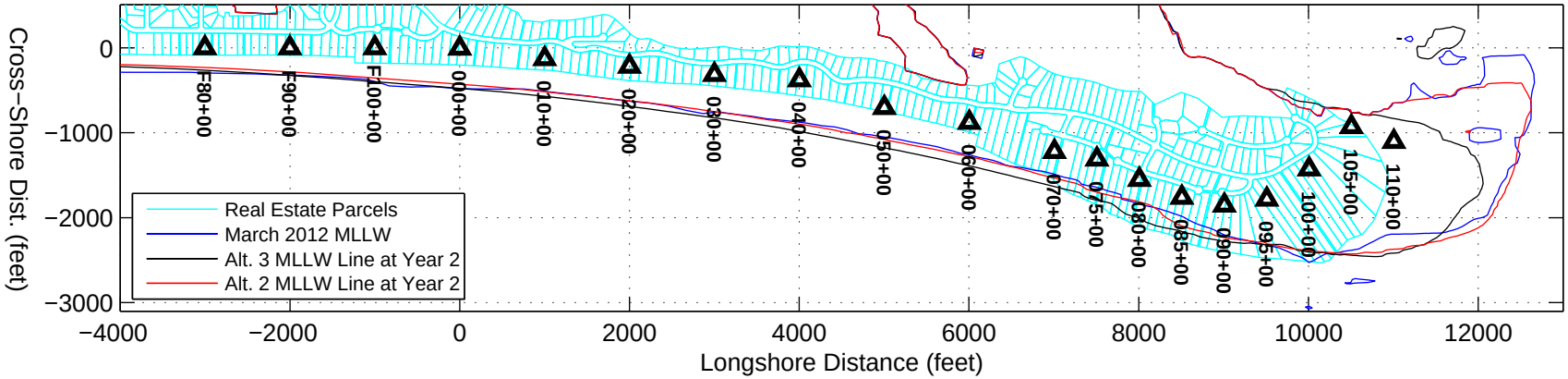


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



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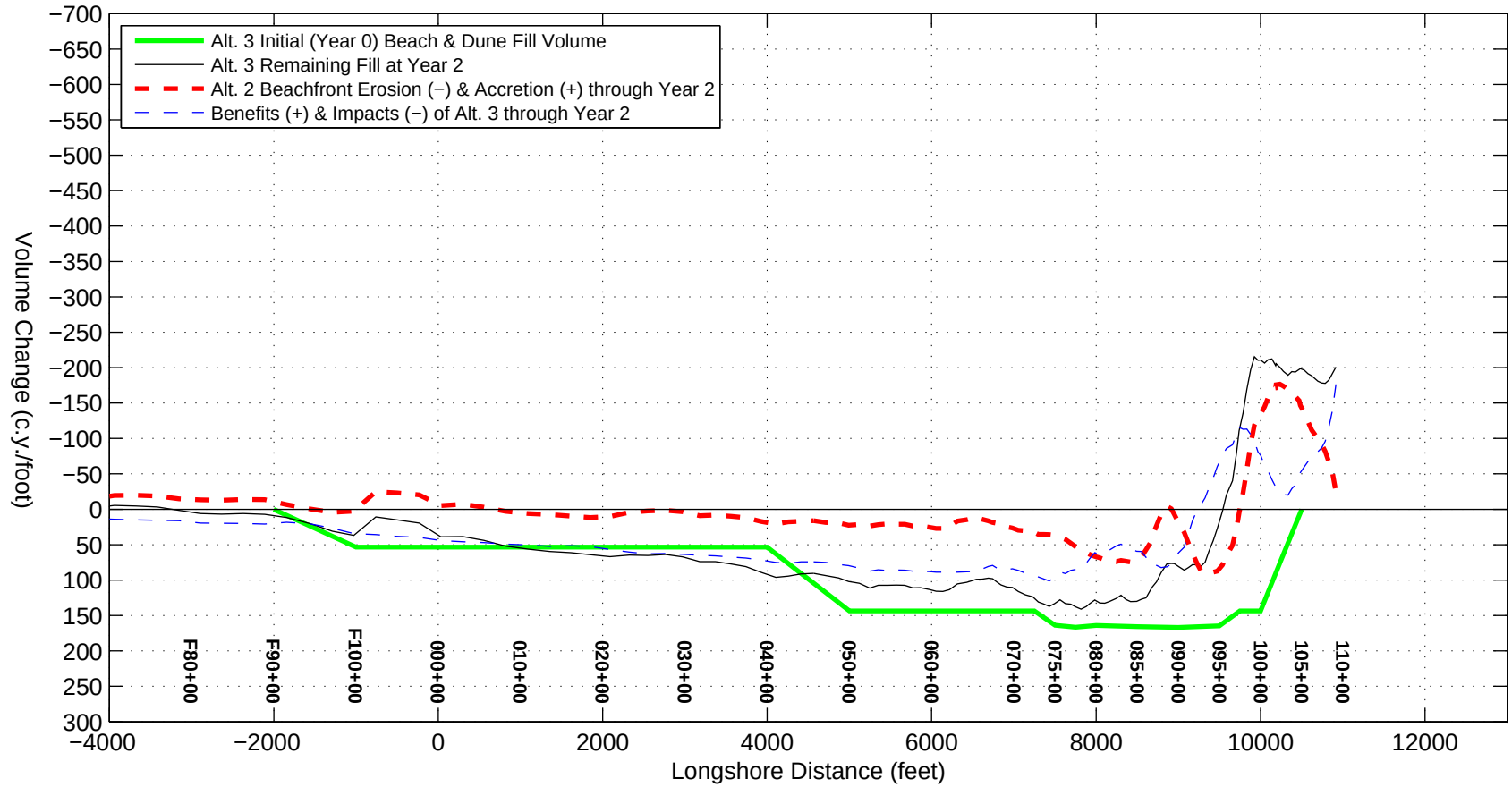
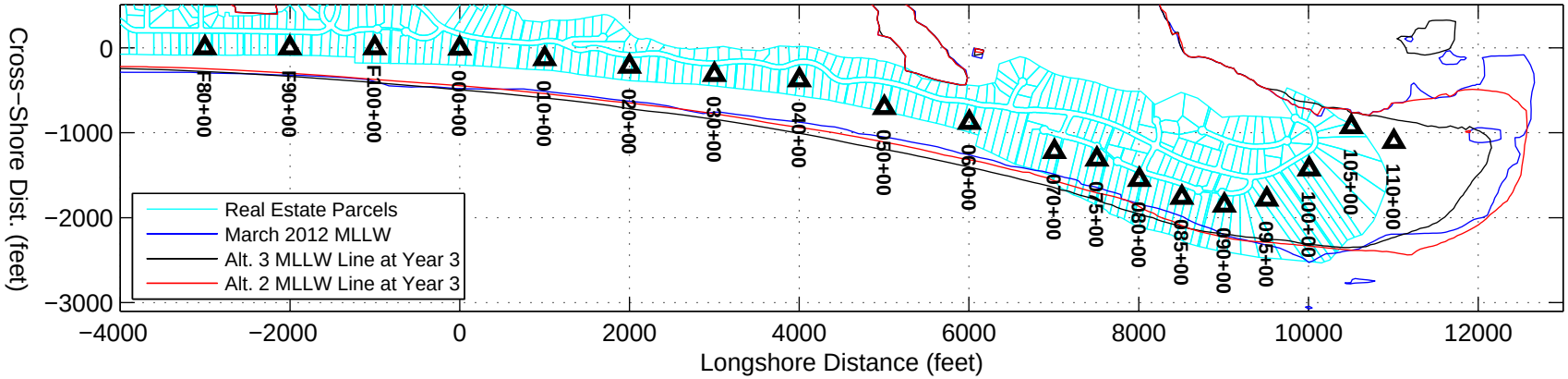


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



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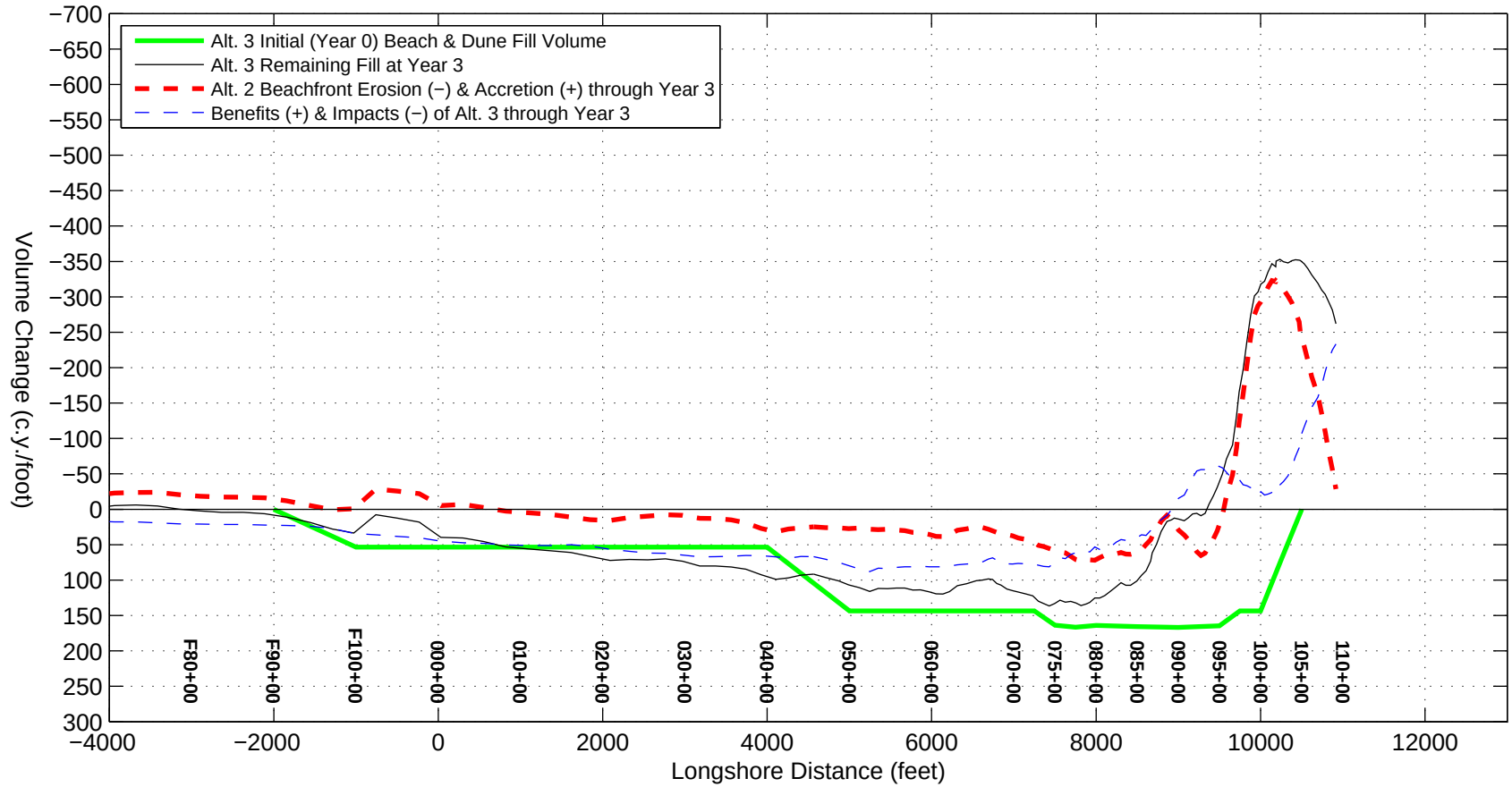


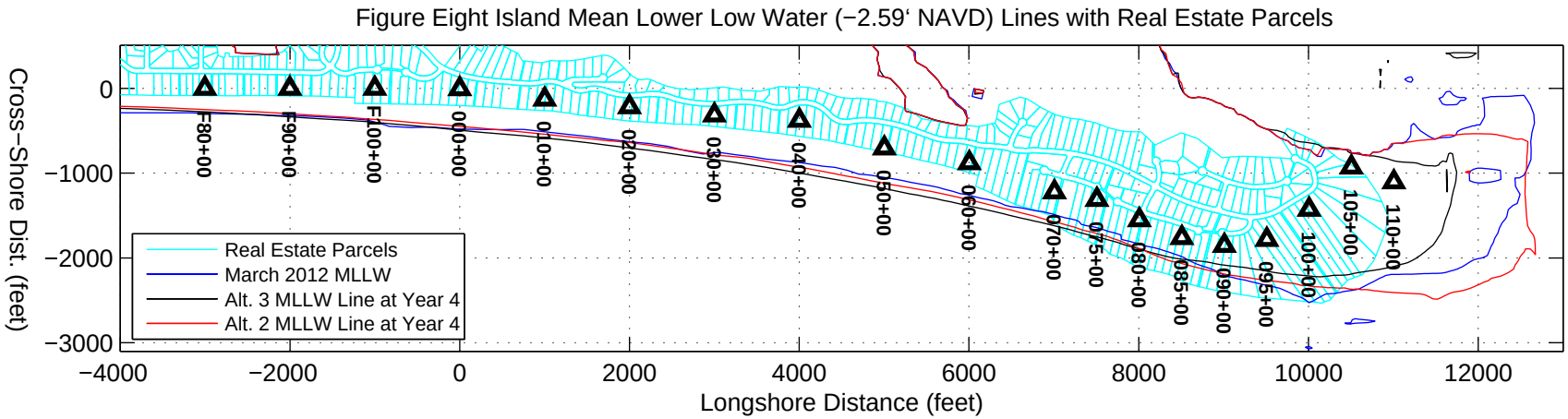


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels
Cross−Shore Dist. (feet)
Longshore Distance (feet)
Real Estate Parcels
March 2012 MLLW
Alt. 3 MLLW Line at Year 4
Alt. 2 MLLW Line at Year 4
F80+00
F90+00
F100+00
000+00
010+00
020+00
030+00
040+00
050+00
060+00
070+00
075+00
080+00
085+00
090+00
095+00
100+00
105+00
110+00

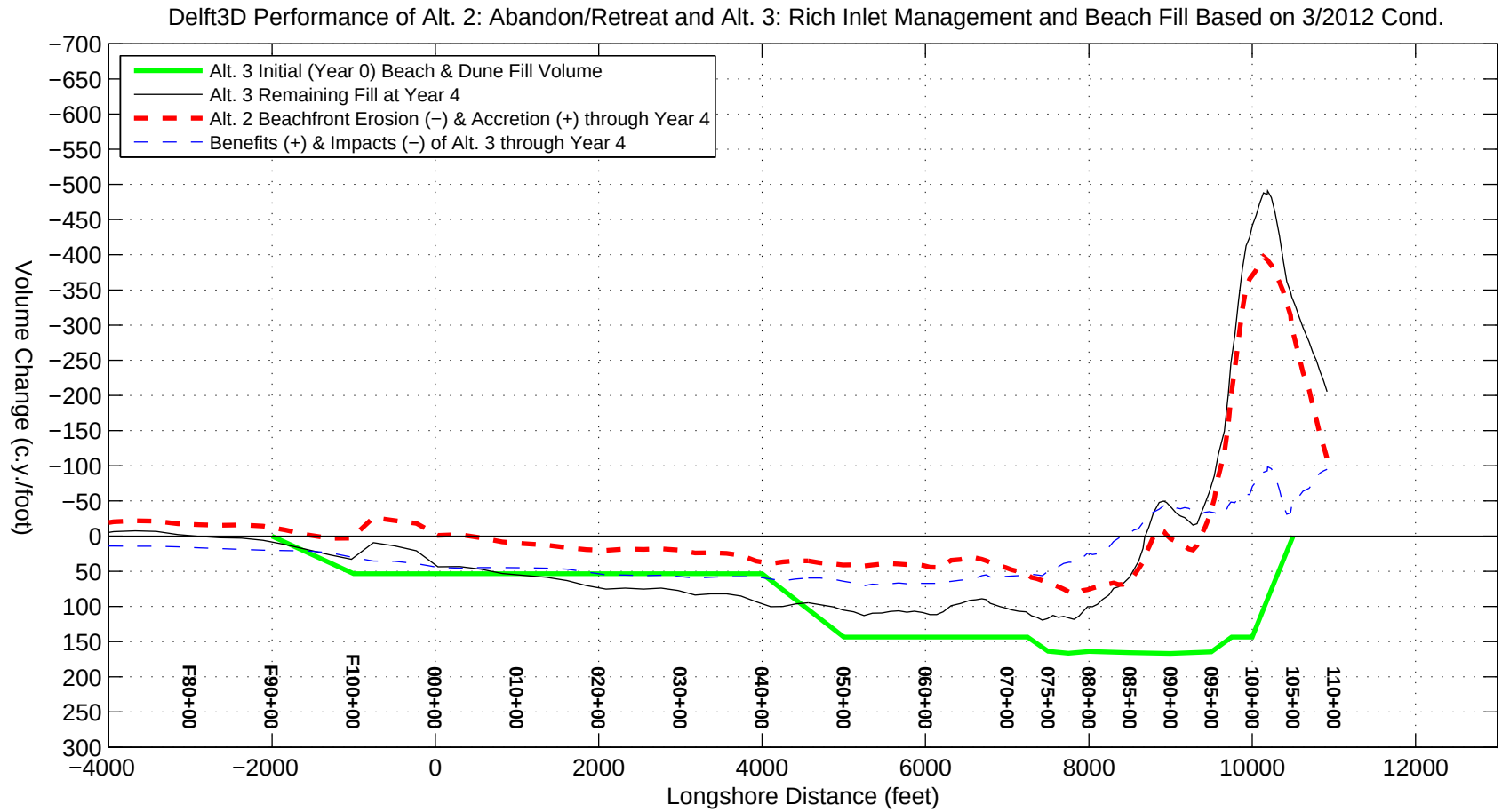
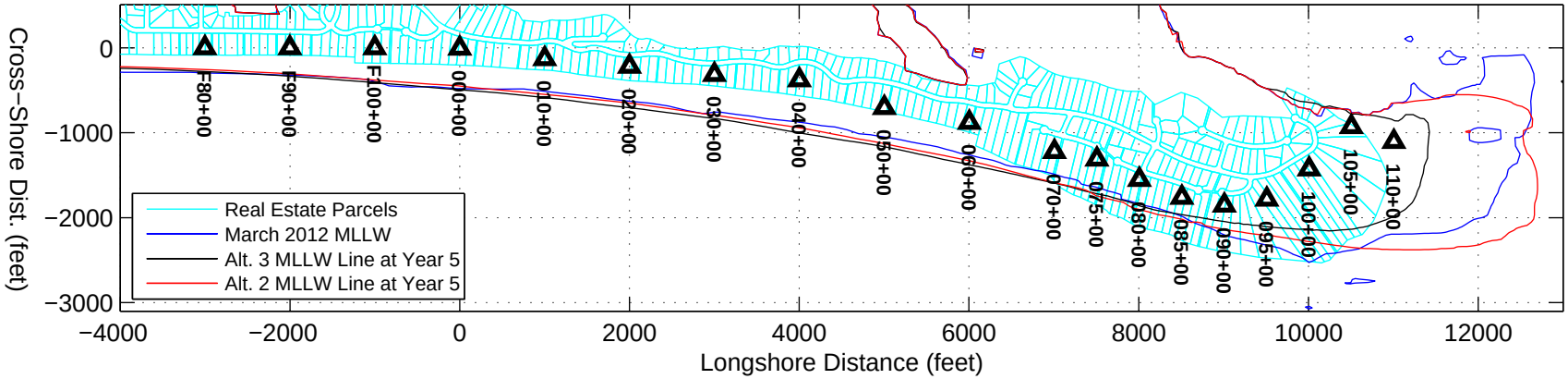

Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 3: Rich Inlet Management and Beach Fill Based on 3/2012 Cond.
Volume Change (c.y./foot)
Longshore Distance (feet)
Alt. 3 Initial (Year 0) Beach & Dune Fill Volume
Alt. 3 Remaining Fill at Year 4
Alt. 2 Beachfront Erosion (−) & Accretion (+) through Year 4
Benefits (+) & Impacts (−) of Alt. 3 through Year 4
F80+00
F90+00
F100+00
000+00
010+00
020+00
030+00
040+00
050+00
060+00
070+00
075+00
080+00
085+00
090+00
095+00
100+00
105+00
110+00

Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



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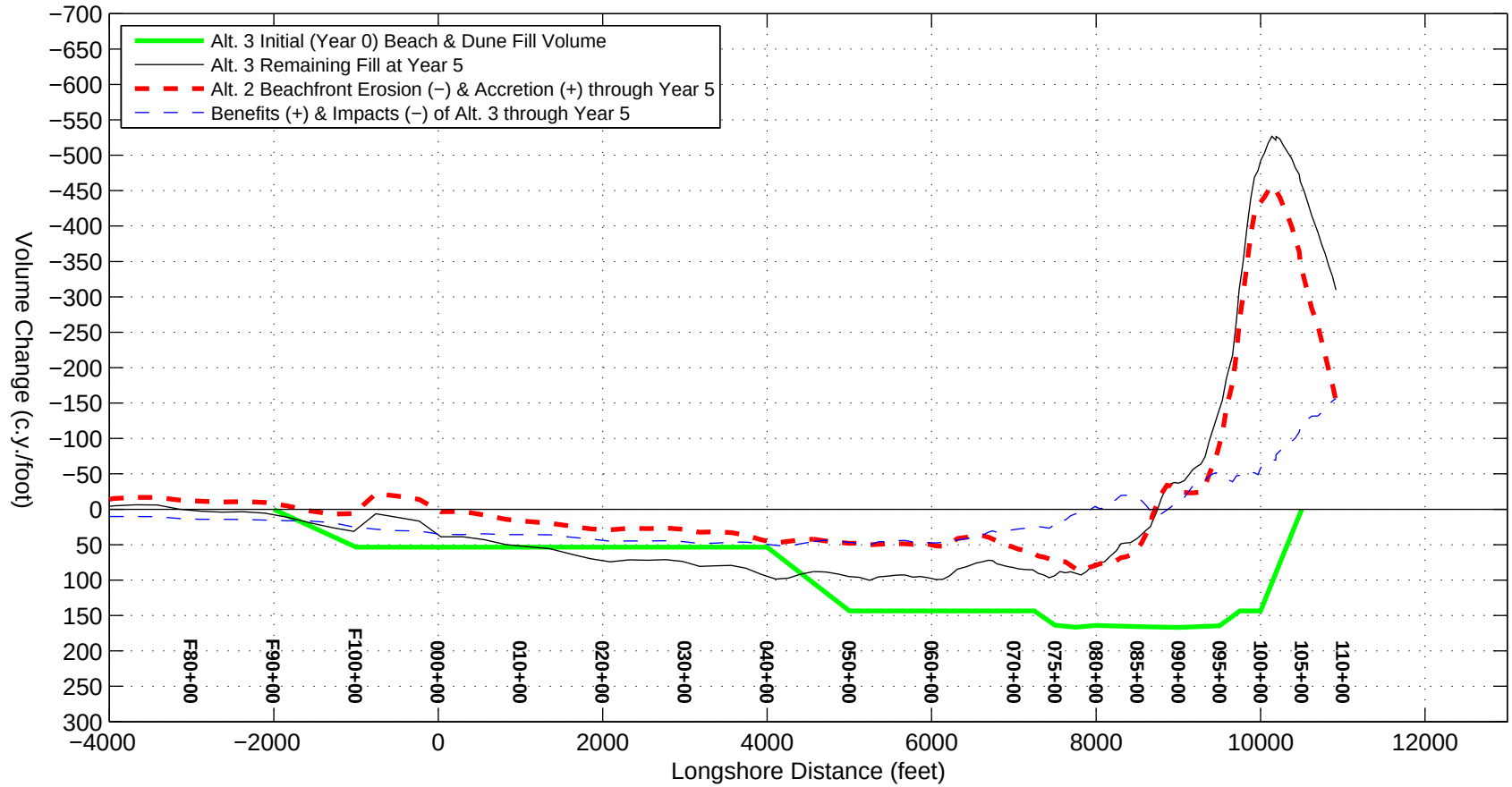
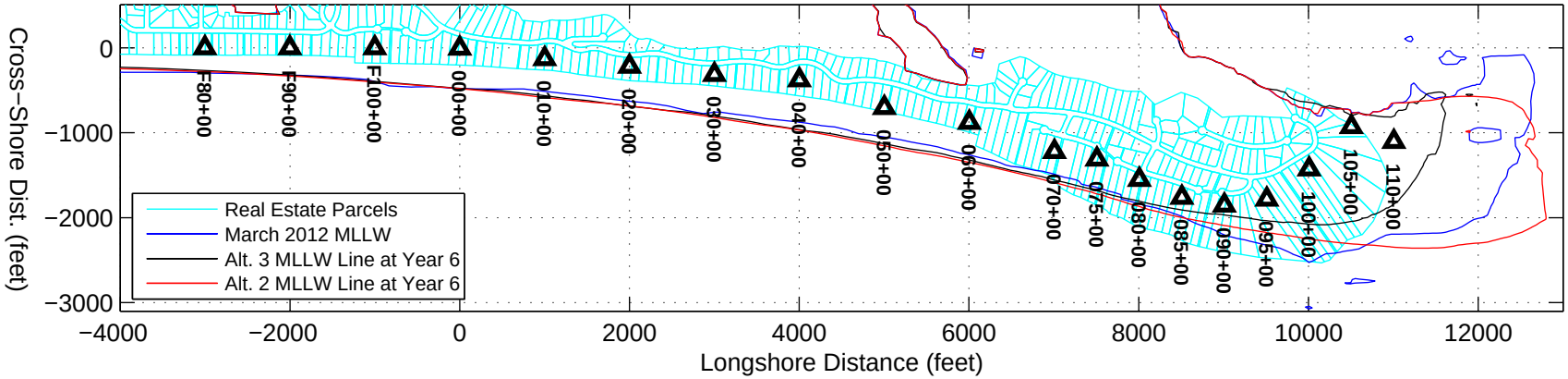


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 3: Rich Inlet Management and Beach Fill Based on 3/2012 Cond.

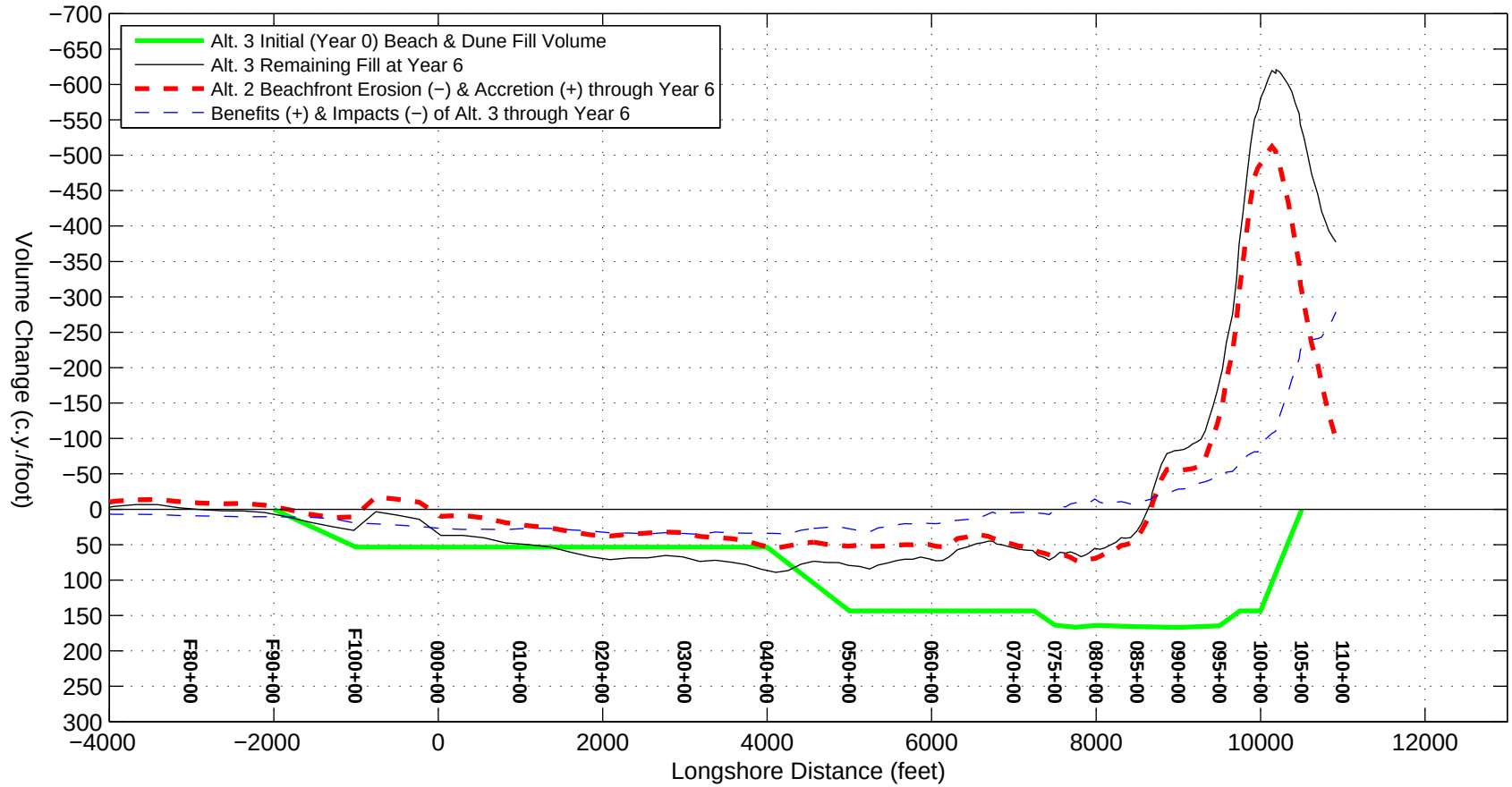
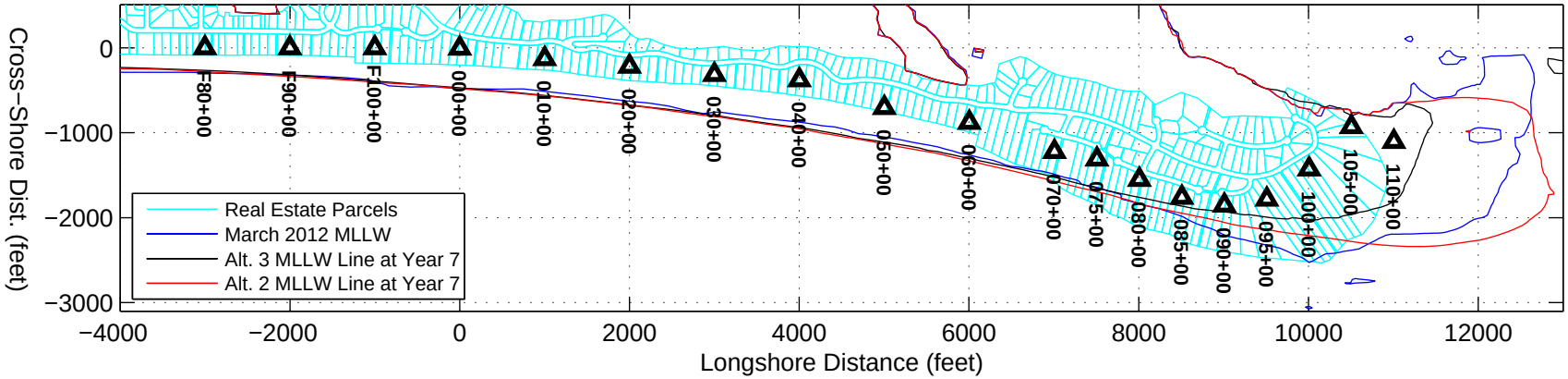
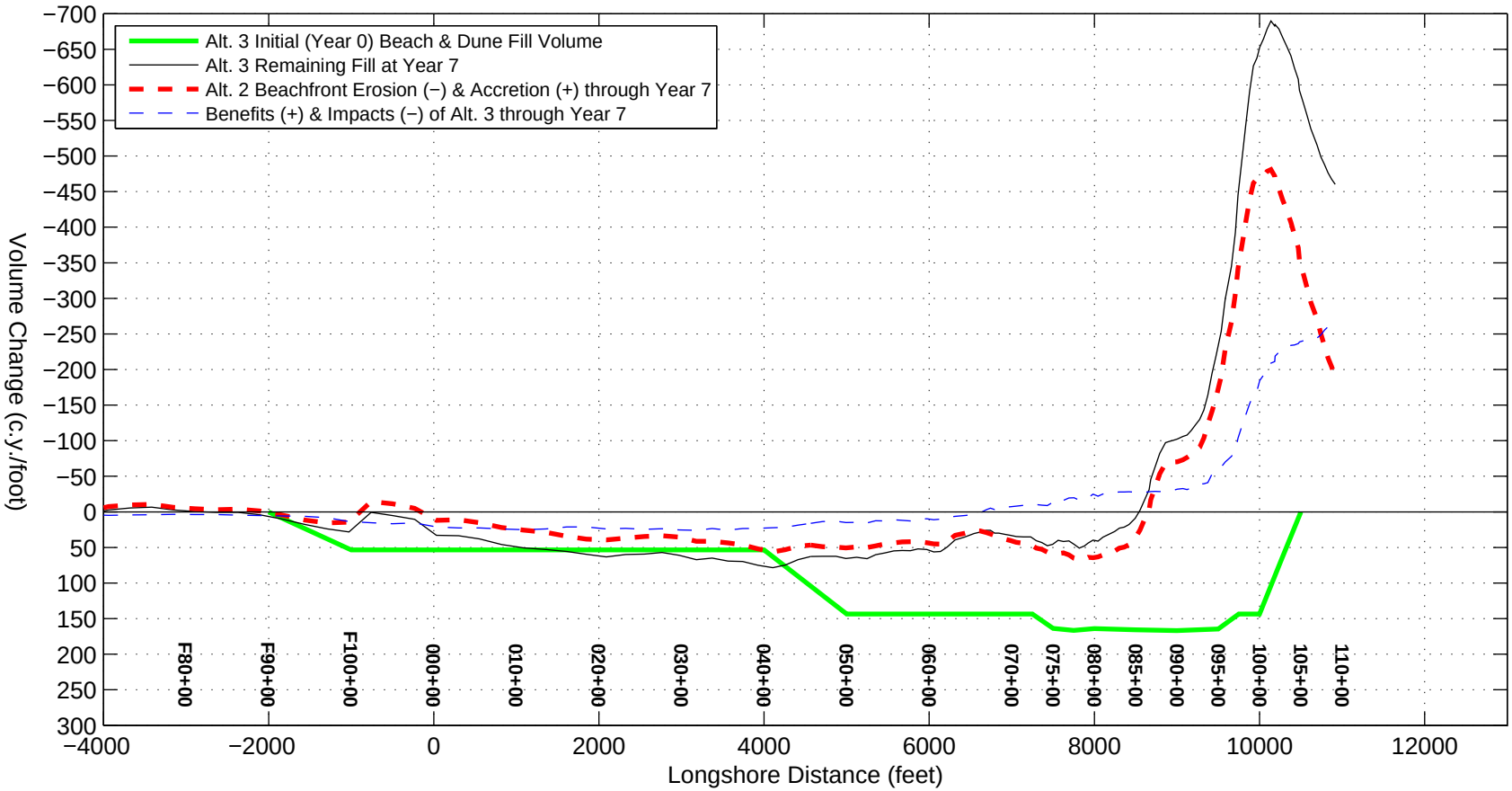


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 3: Rich Inlet Management and Beach Fill Based on 3/2012 Cond.



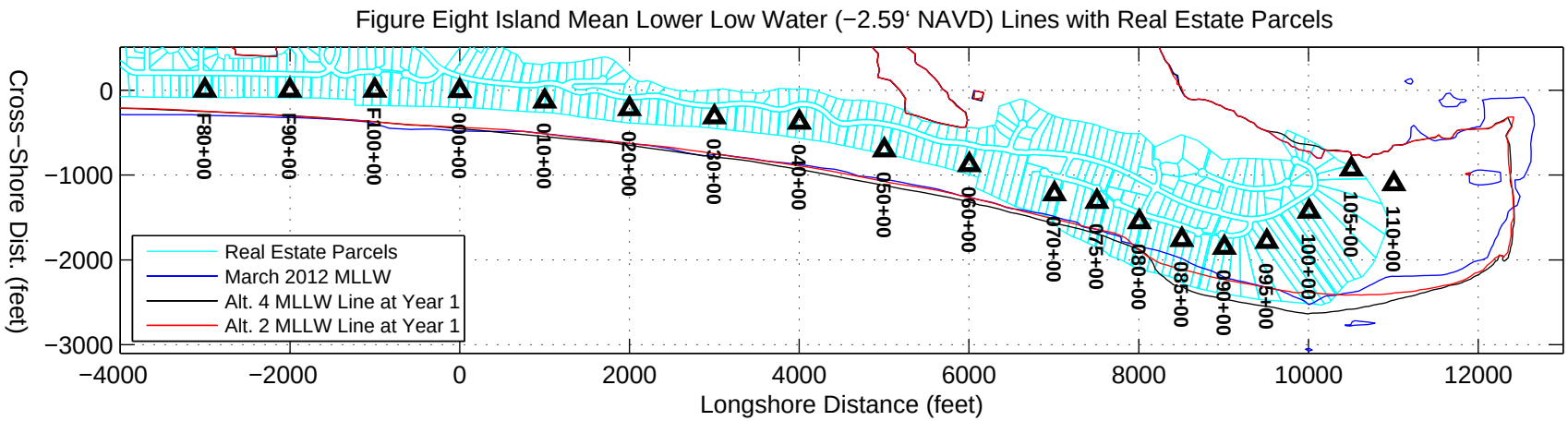


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels
Cross−Shore Dist. (feet)
Longshore Distance (feet)
Real Estate Parcels
March 2012 MLLW
Alt. 4 MLLW Line at Year 1
Alt. 2 MLLW Line at Year 1
F80+00
F90+00
F100+00
000+00
010+00
020+00
030+00
040+00
050+00
060+00
070+00
075+00
080+00
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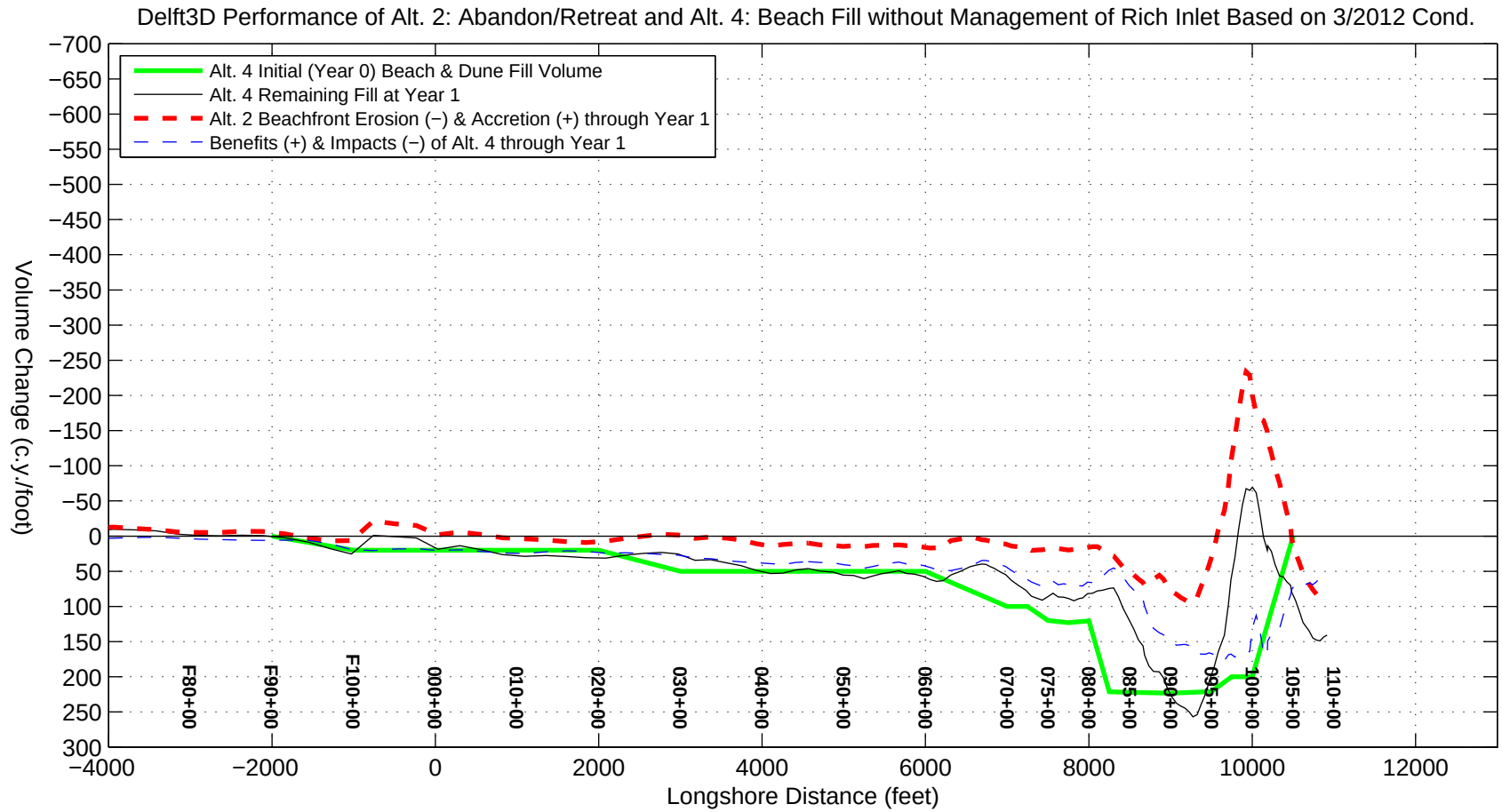
105+00
110+00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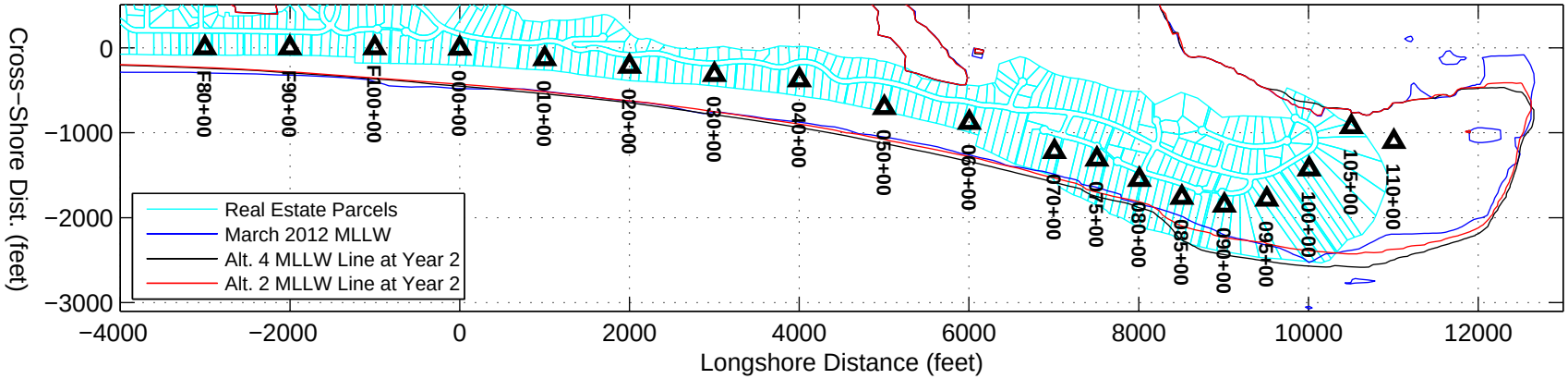
Volume Change (c.y./foot)
Longshore Distance (feet)
Alt. 4 Initial (Year 0) Beach & Dune Fill Volume
Alt. 4 Remaining Fill at Year 1
Alt. 2 Beachfront Erosion (−) & Accretion (+) through Year 1
Benefits (+) & Impacts (−) of Alt. 4 through Year 1
F80+00
F90+00
F100+00
000+00
010+00
020+00
030+00
040+00
050+00
060+00
070+00
075+00
080+00
085+00
090+00
095+00
100+00
105+00
110+00

Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



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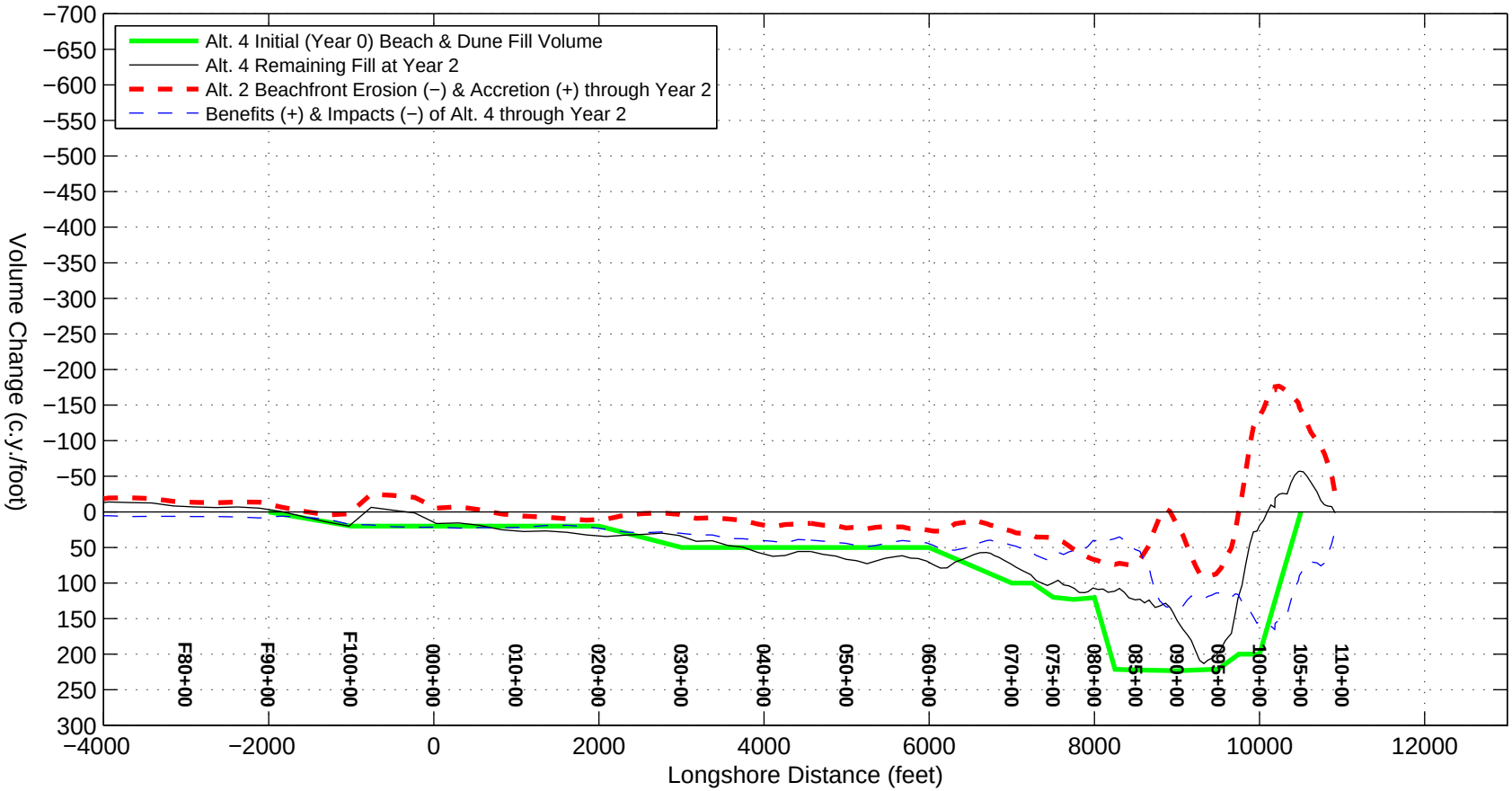

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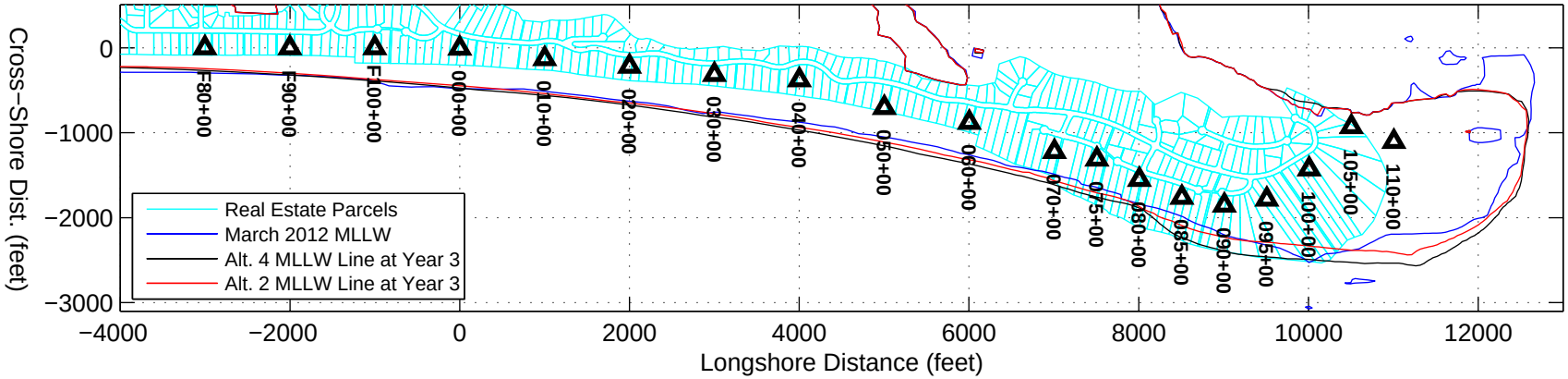

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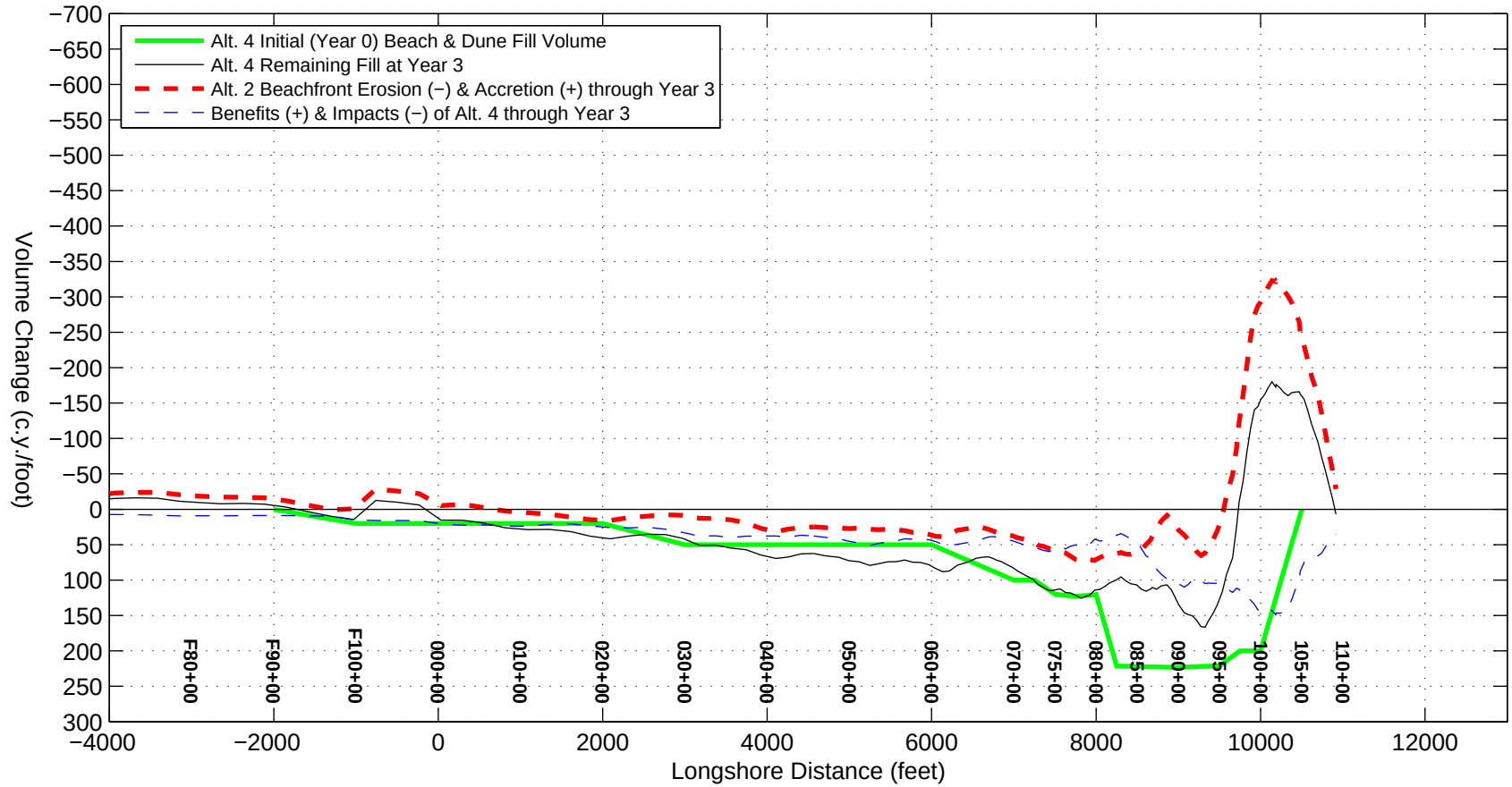

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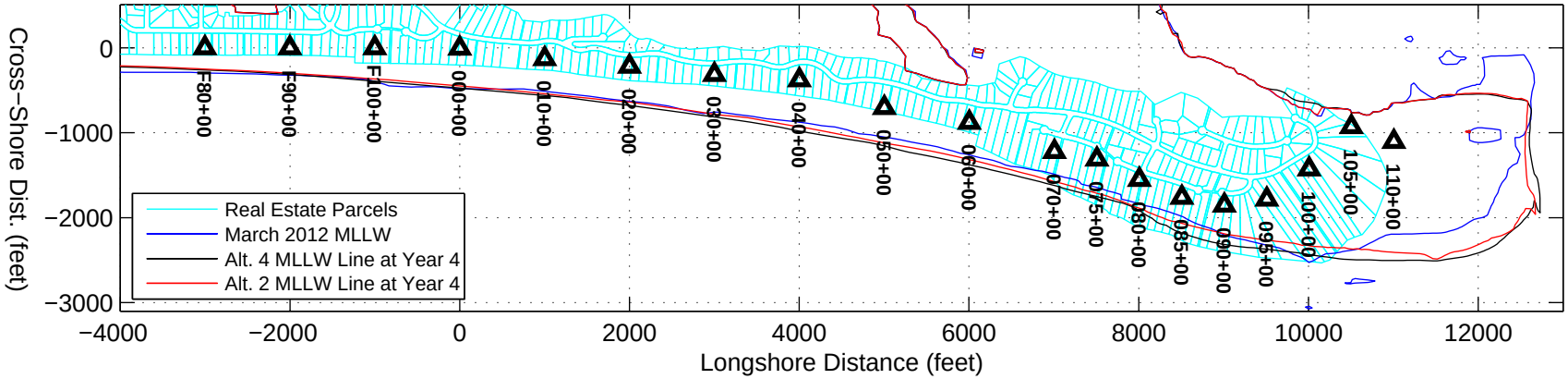

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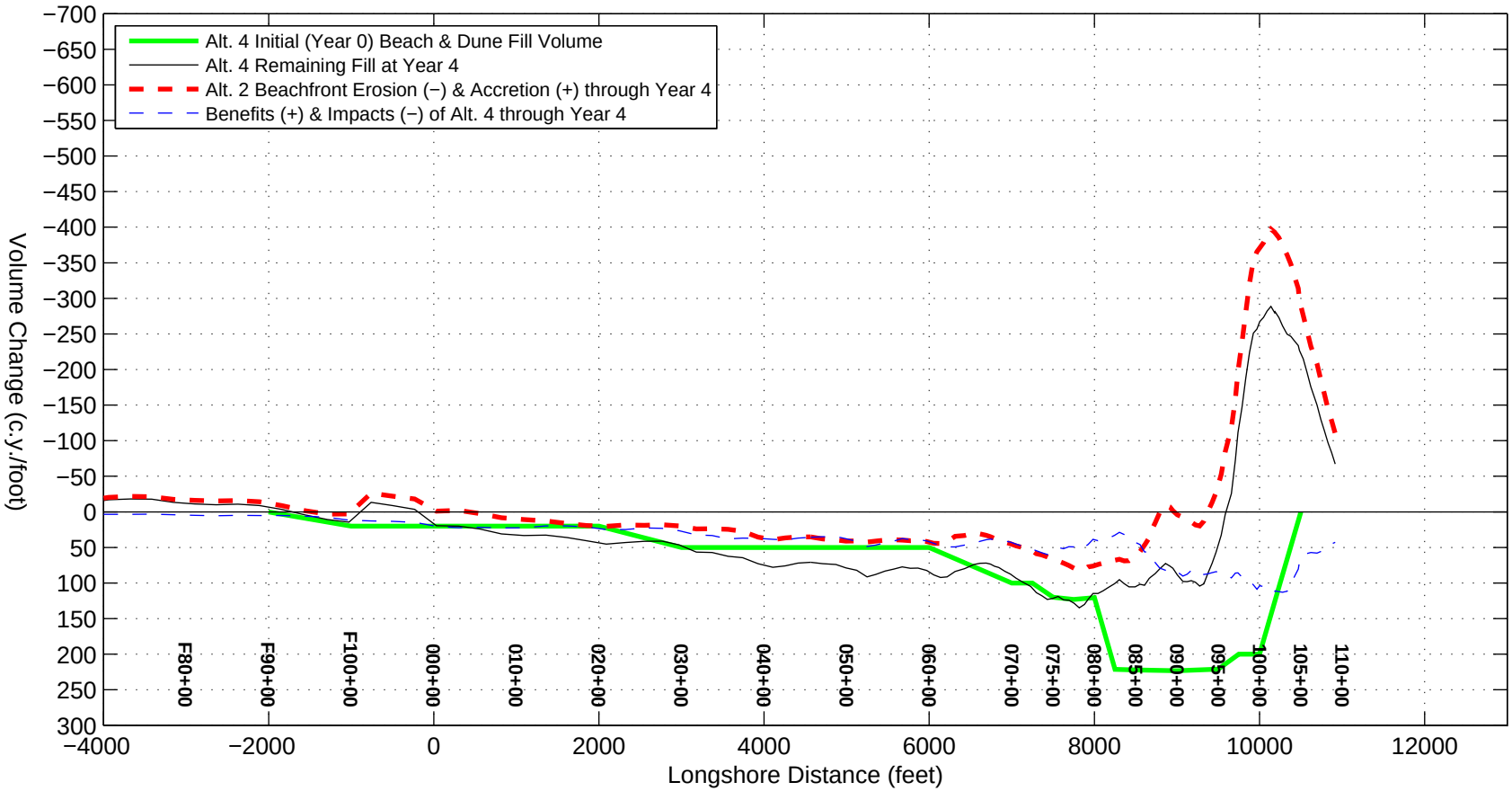

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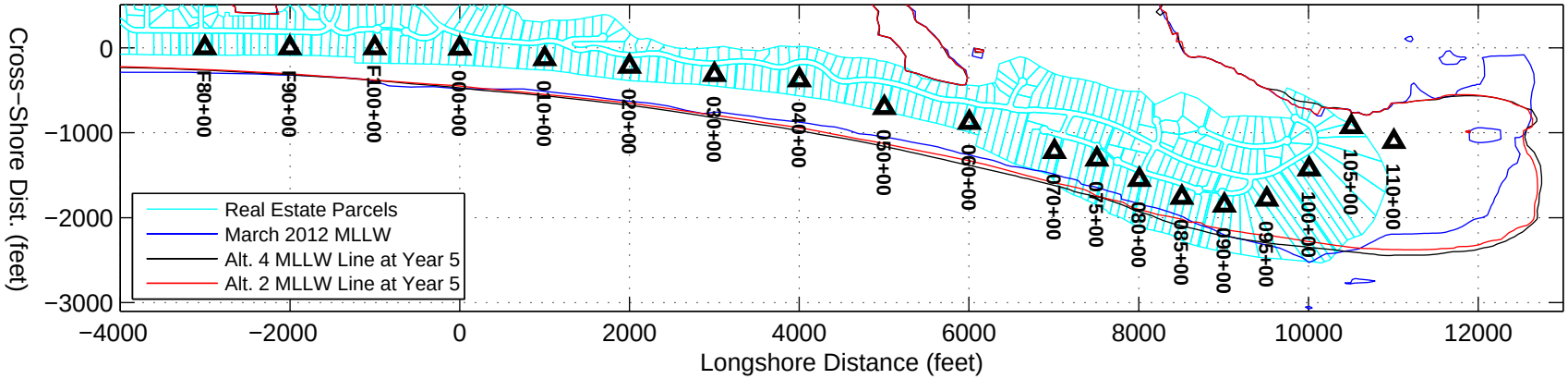

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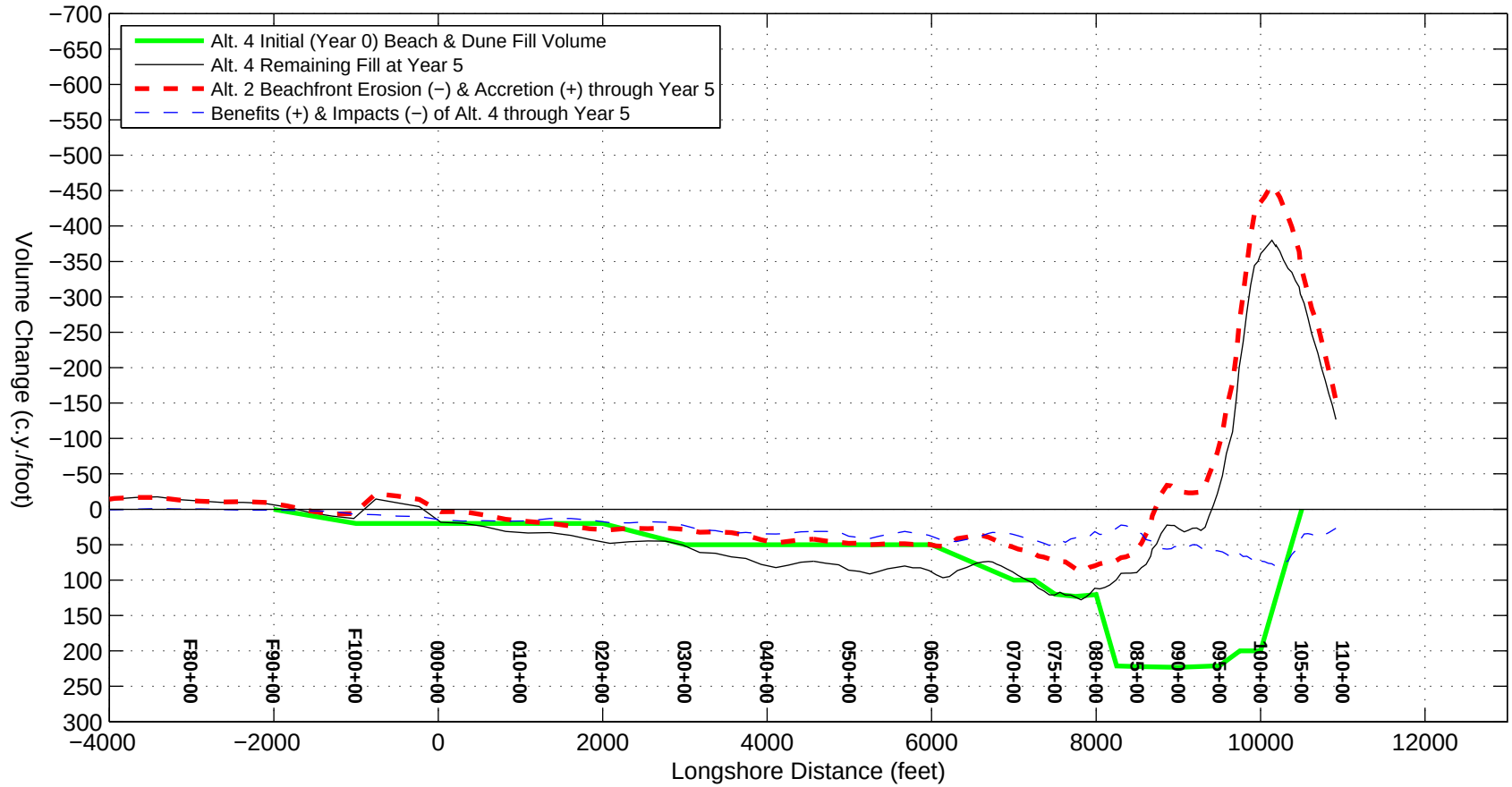

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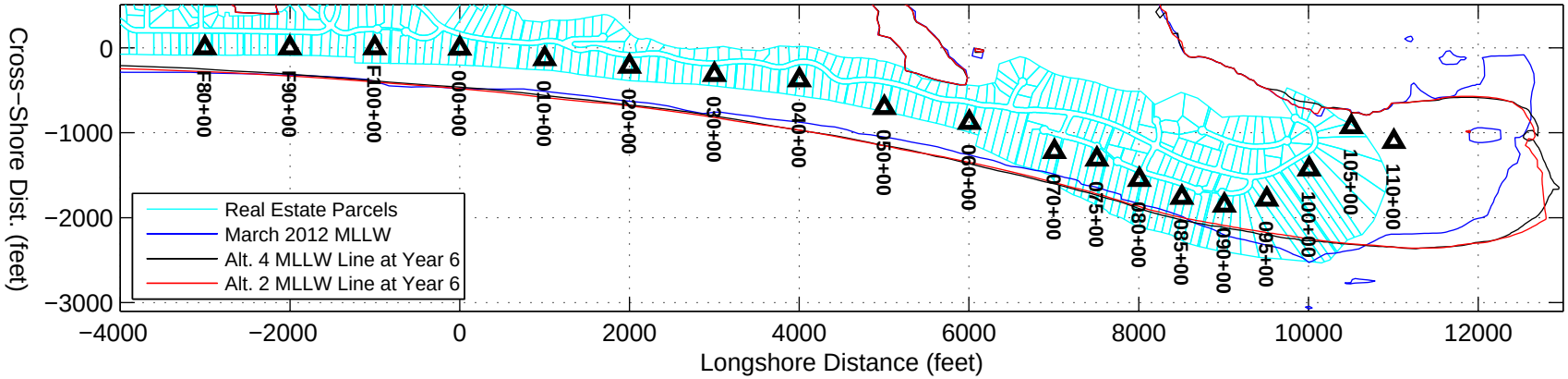

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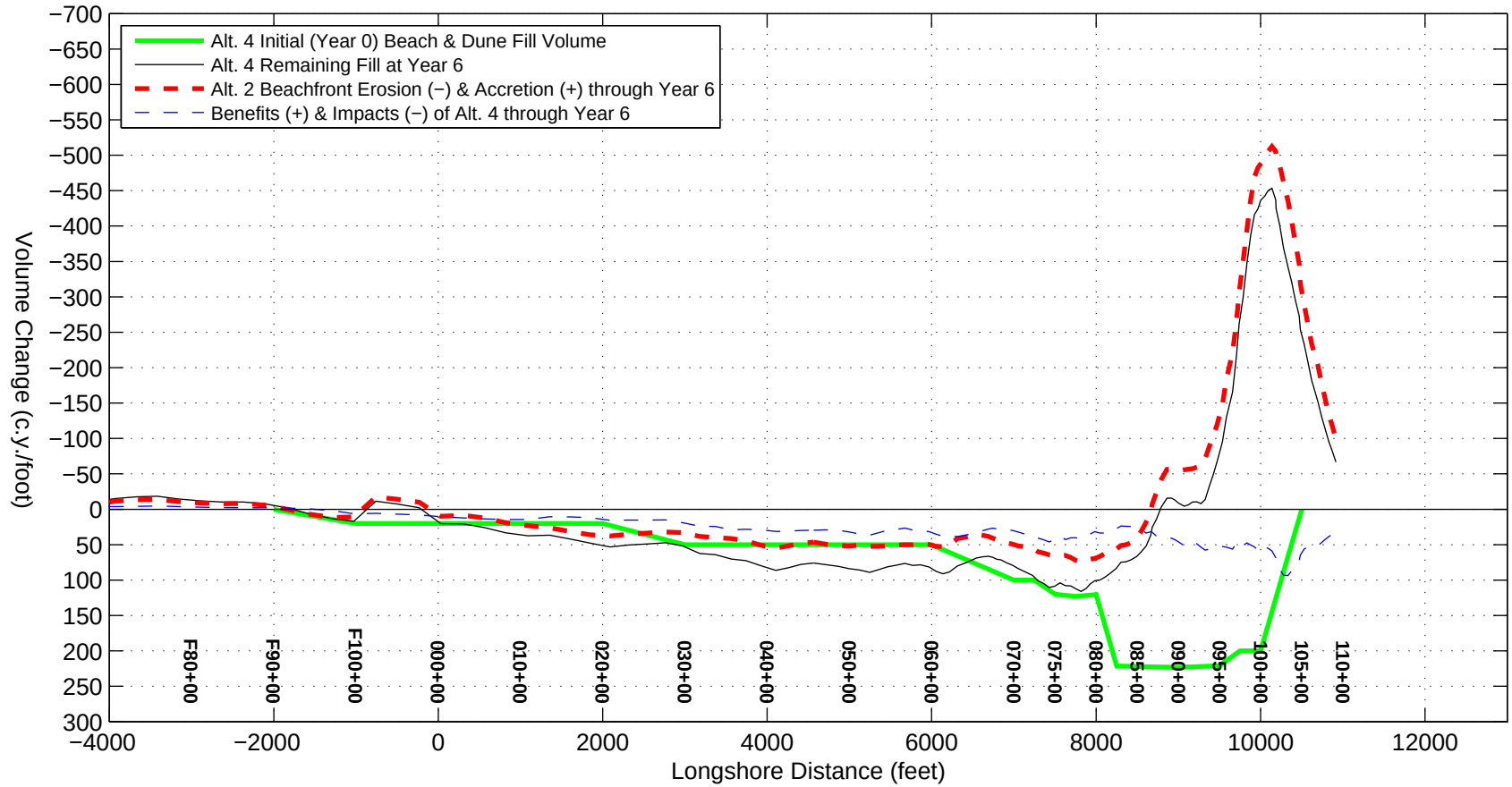

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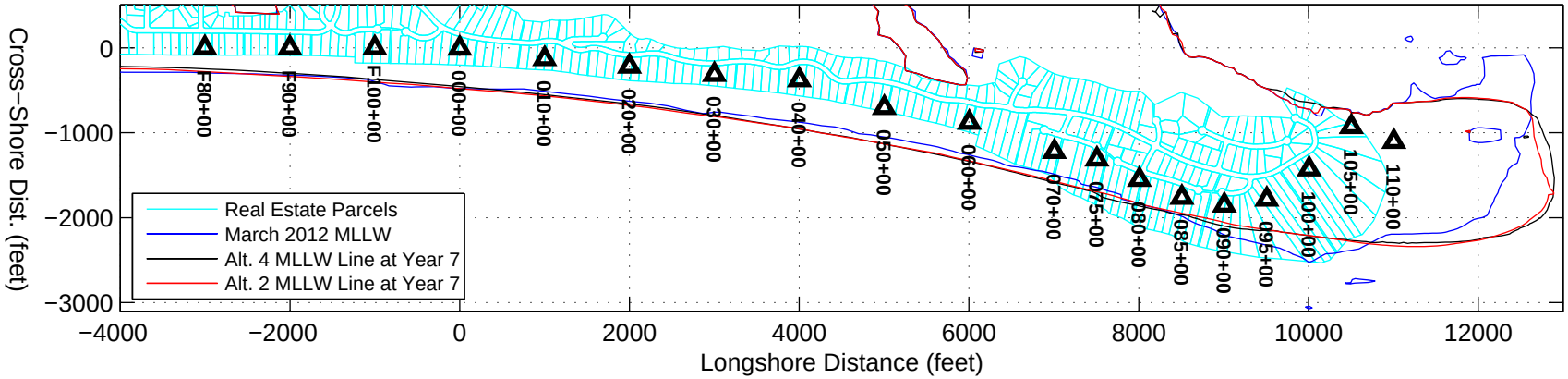

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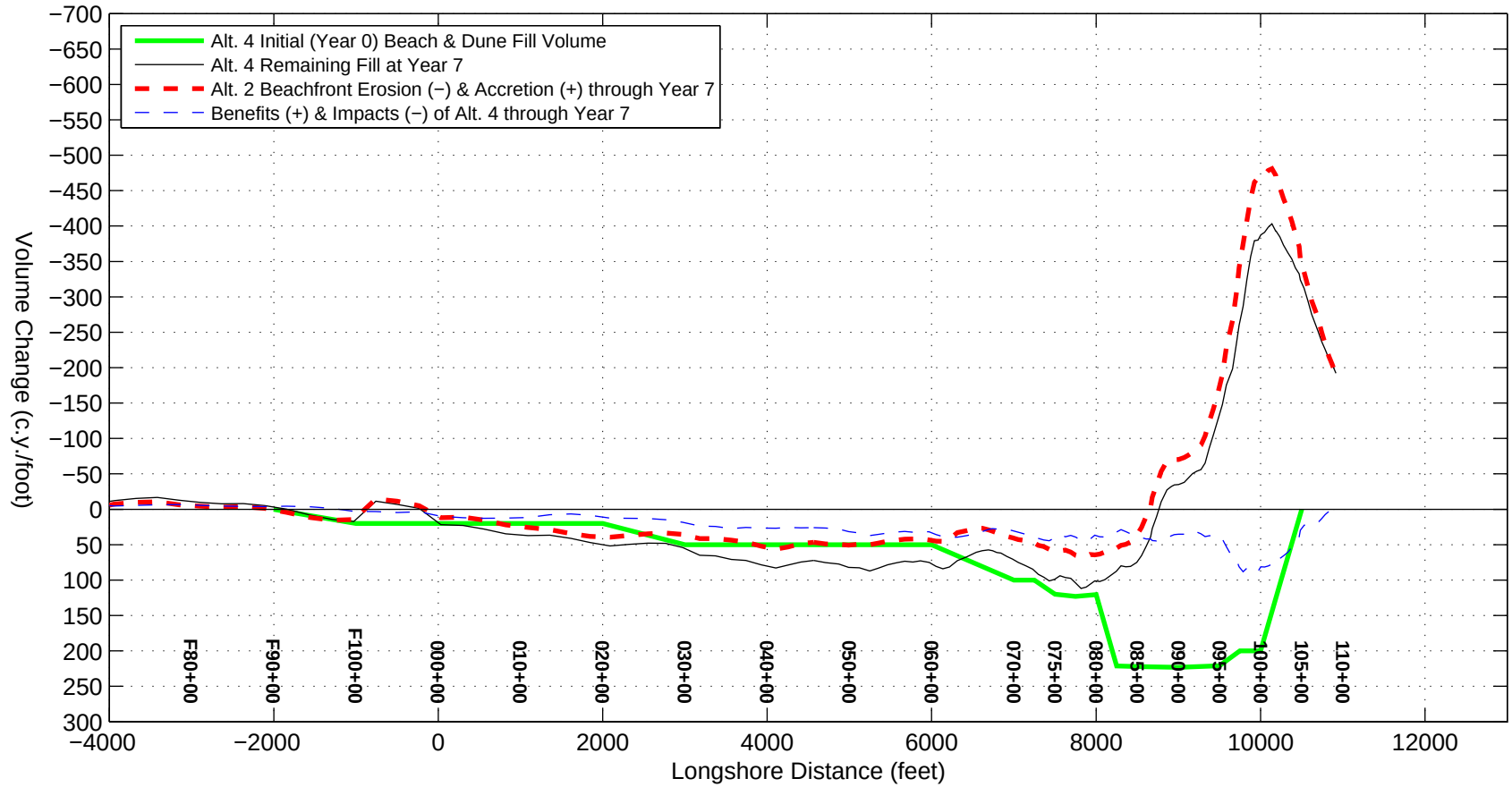
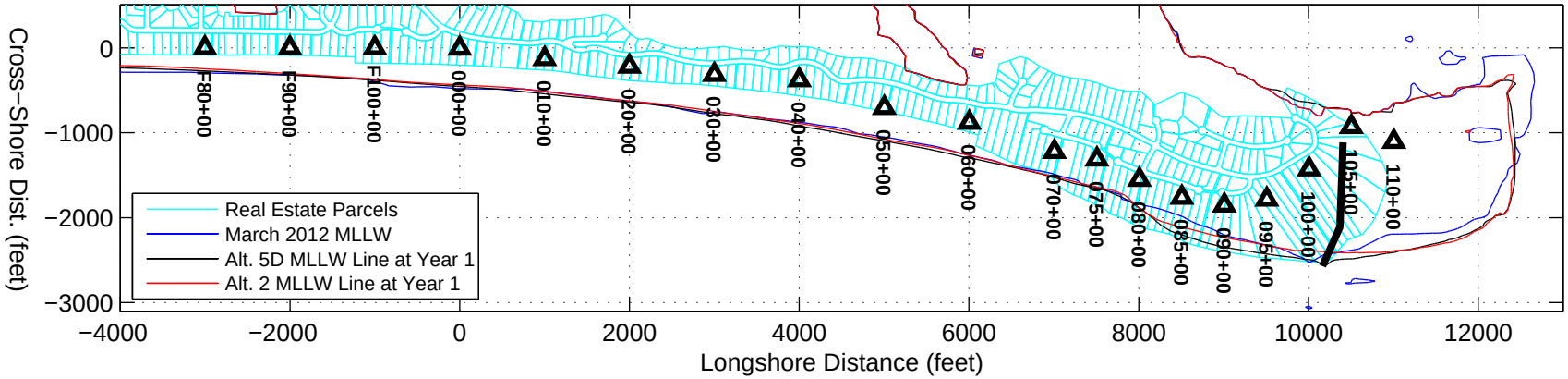
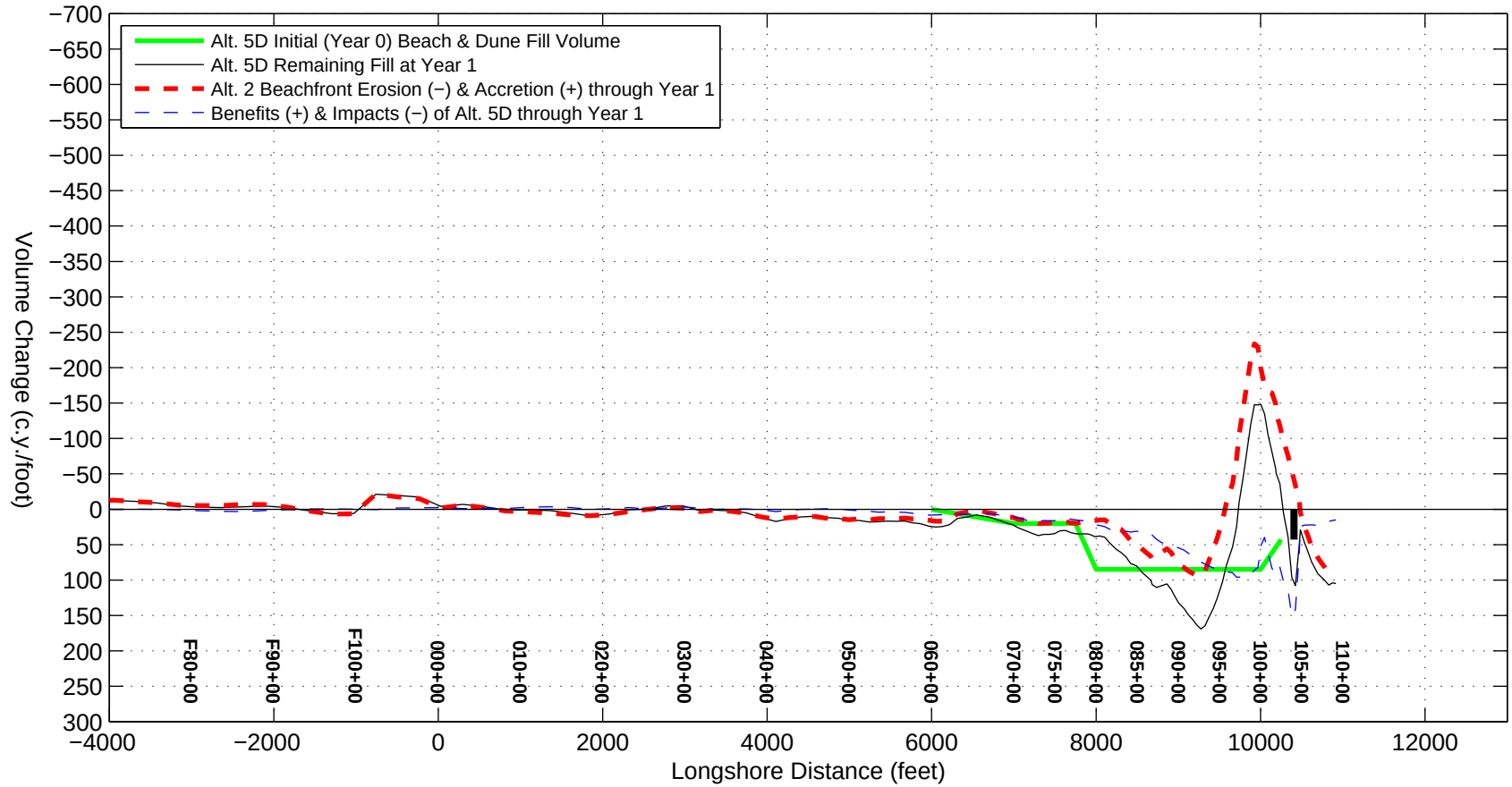


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 5D: Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) Based on 3/2012 Cond.



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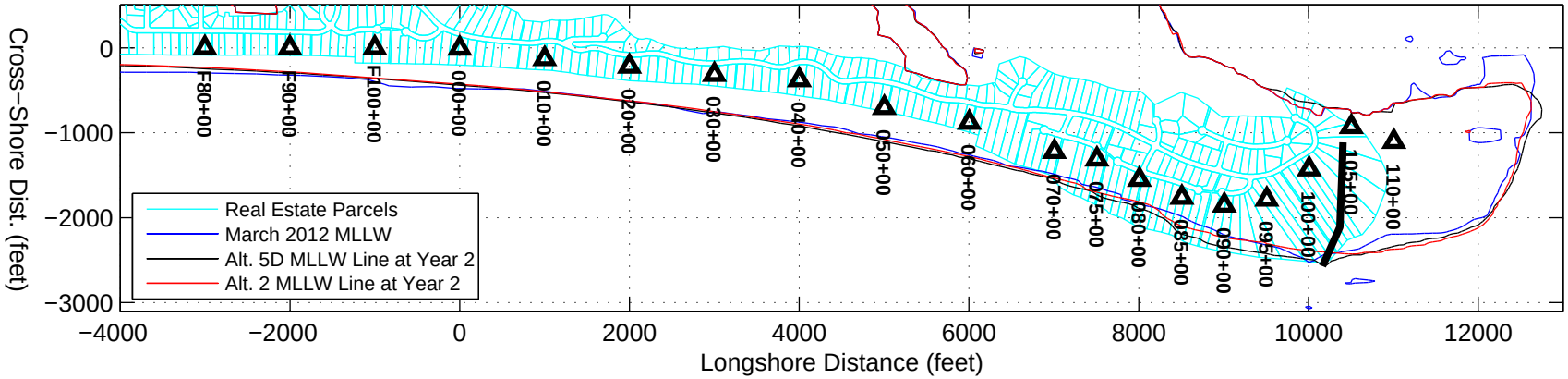

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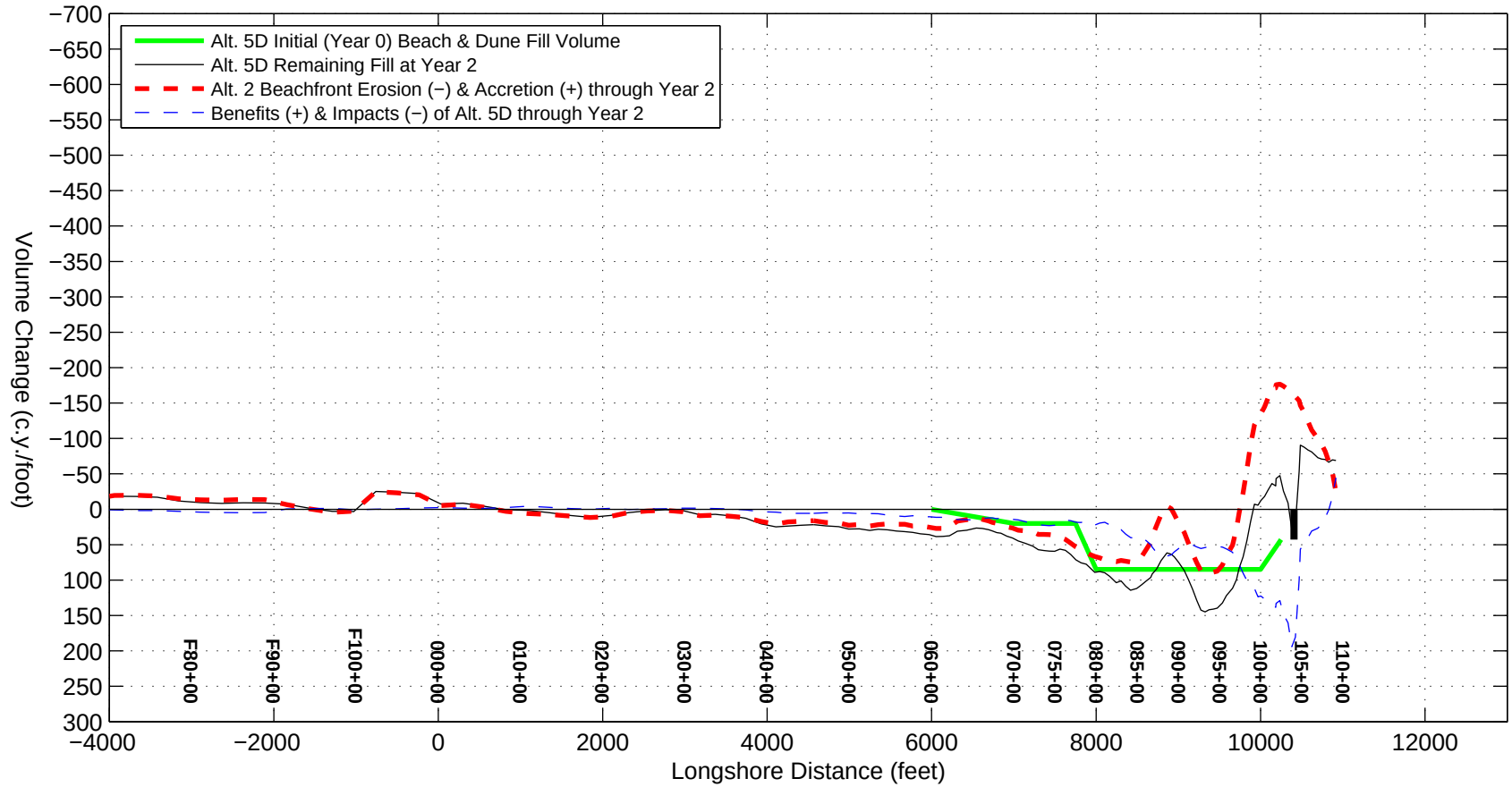

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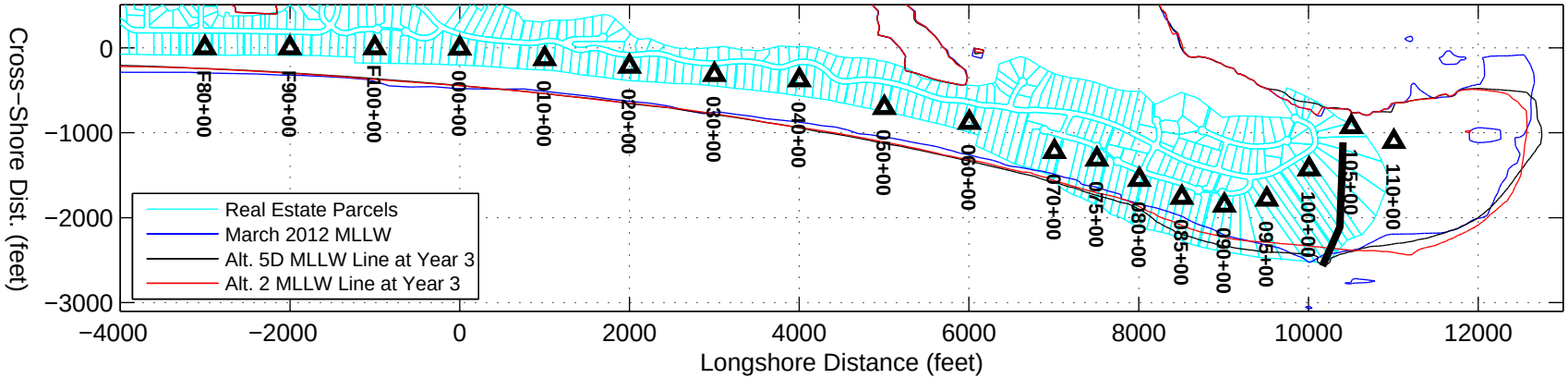

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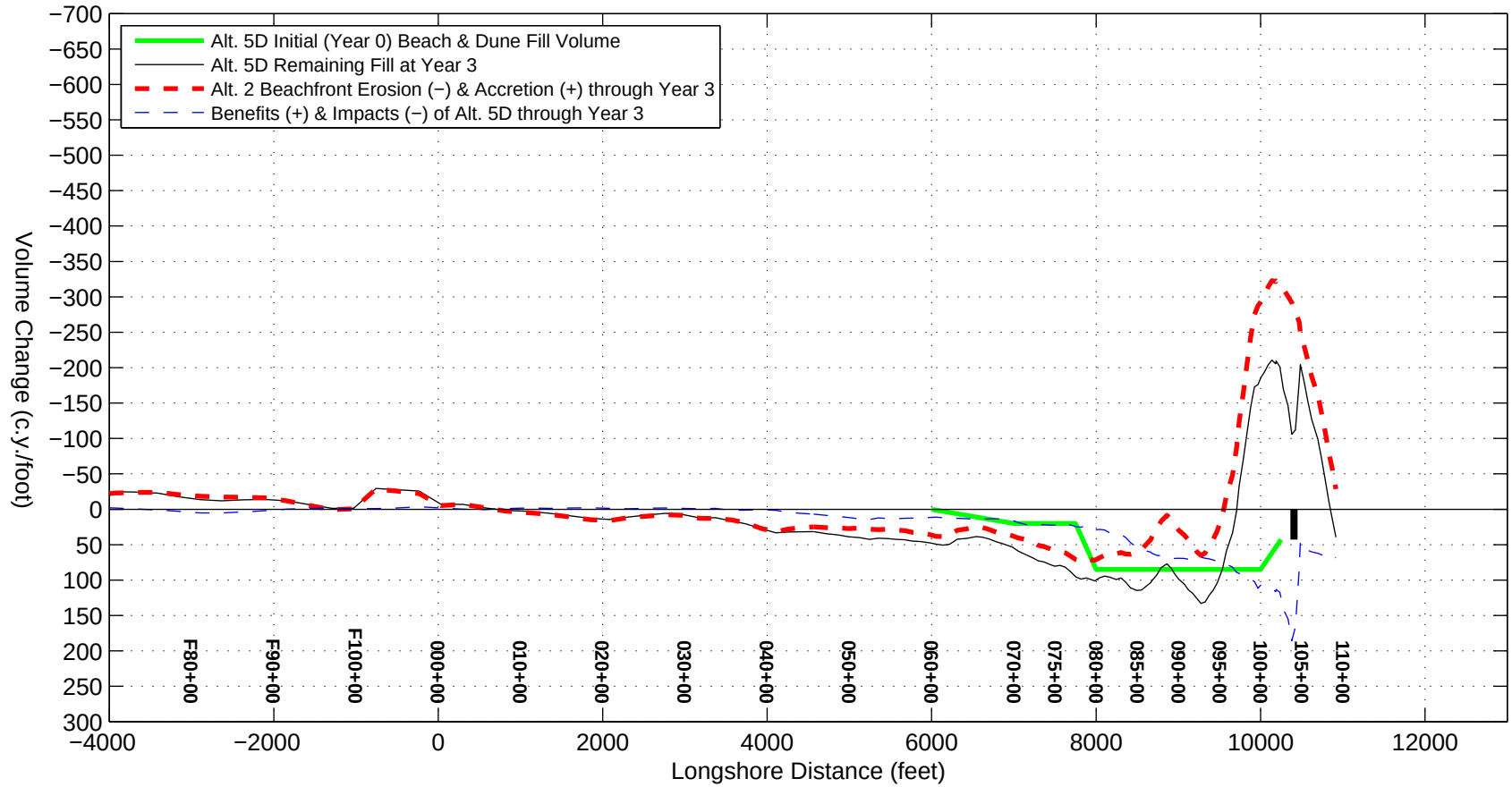

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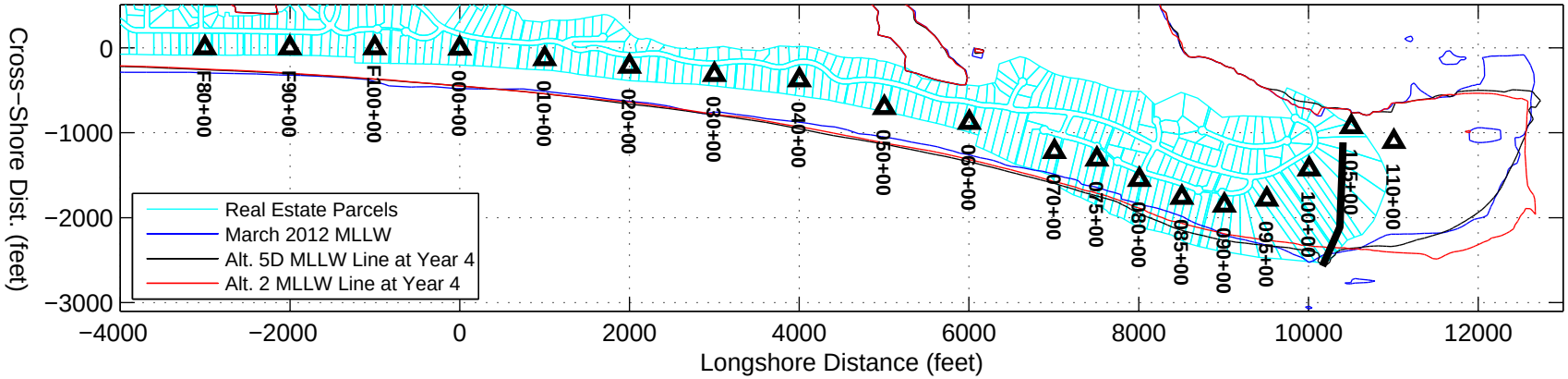

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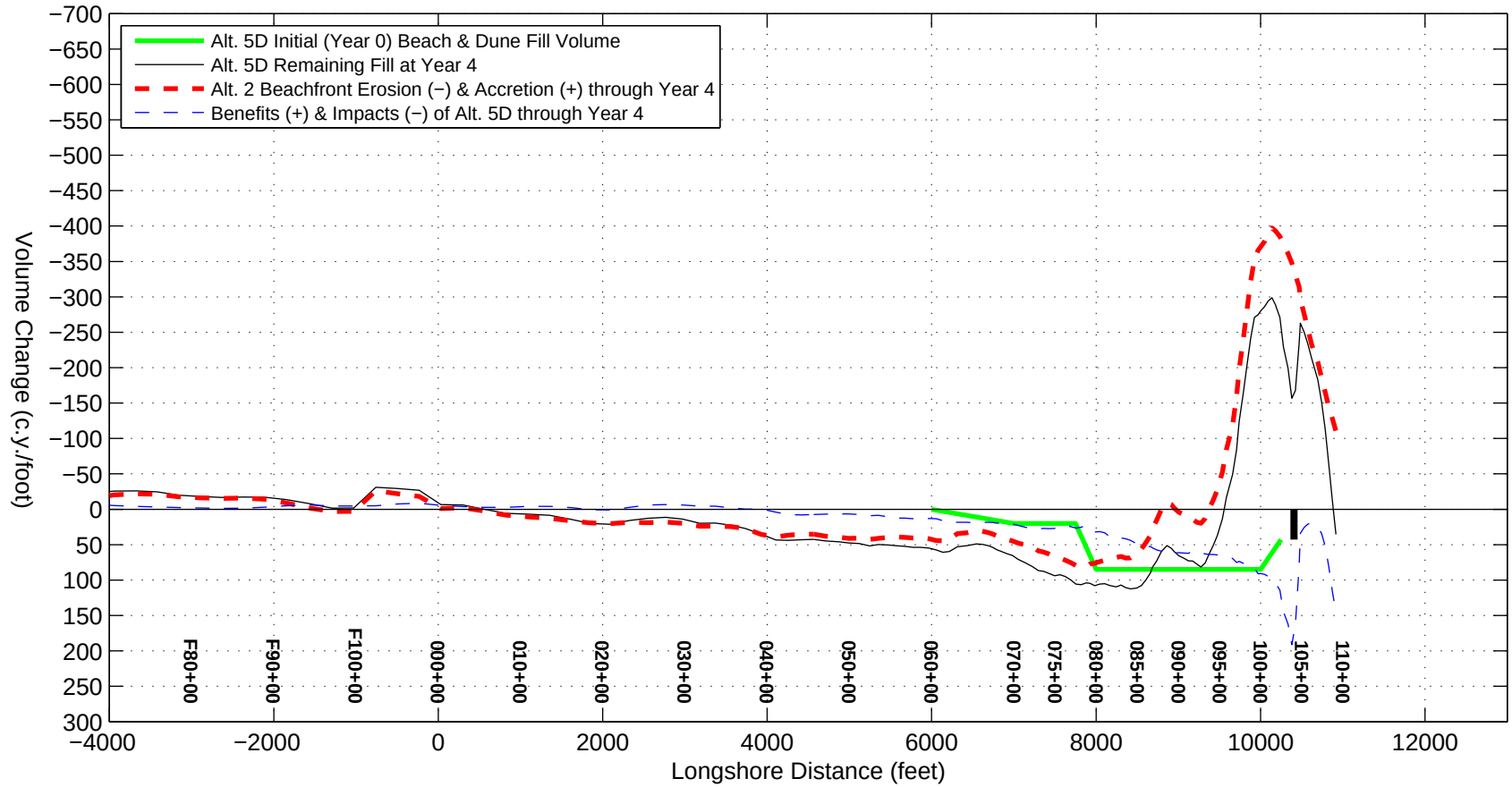

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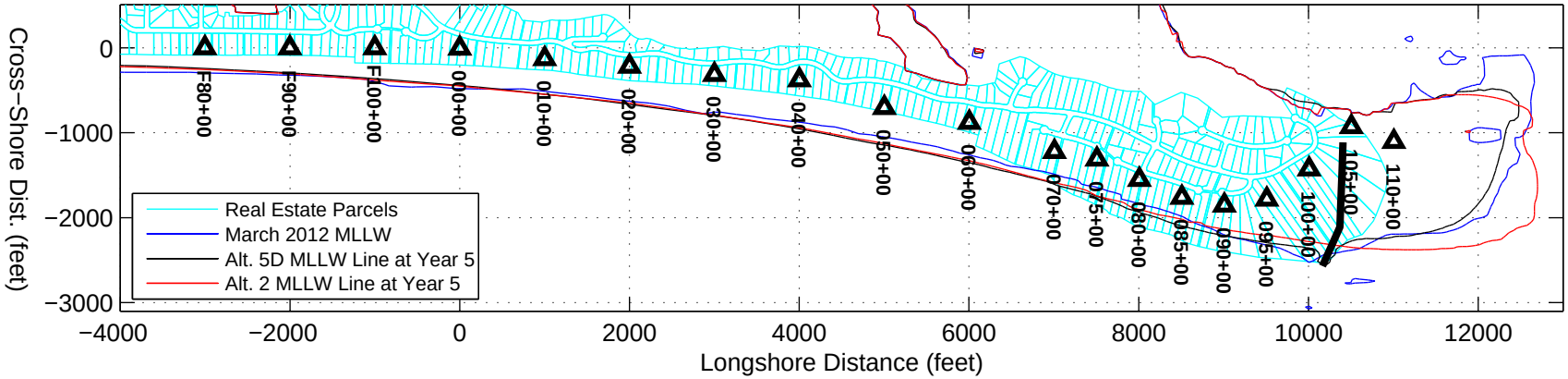

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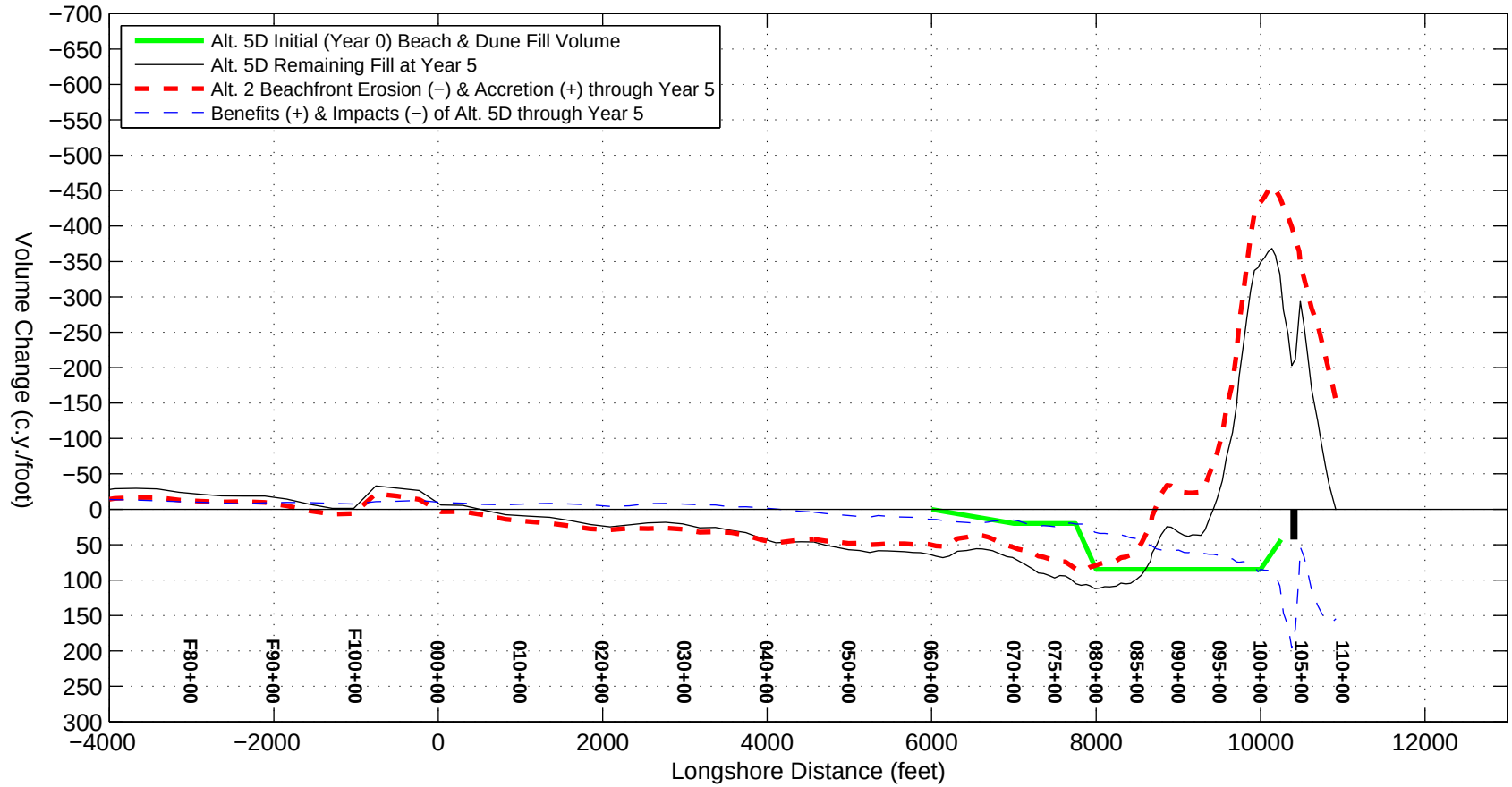

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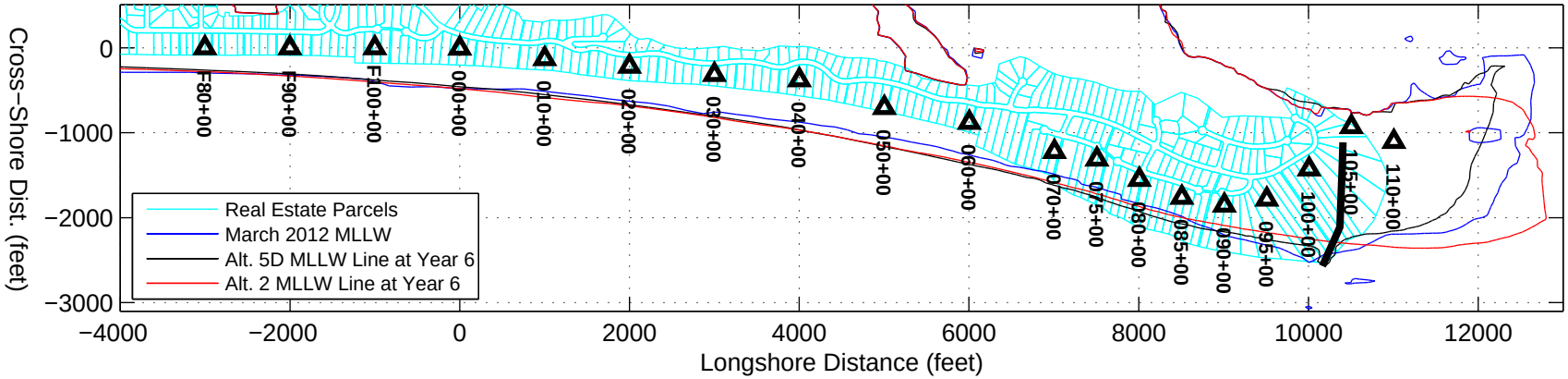


Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 5D: Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) Based on 3/2012 Cond.

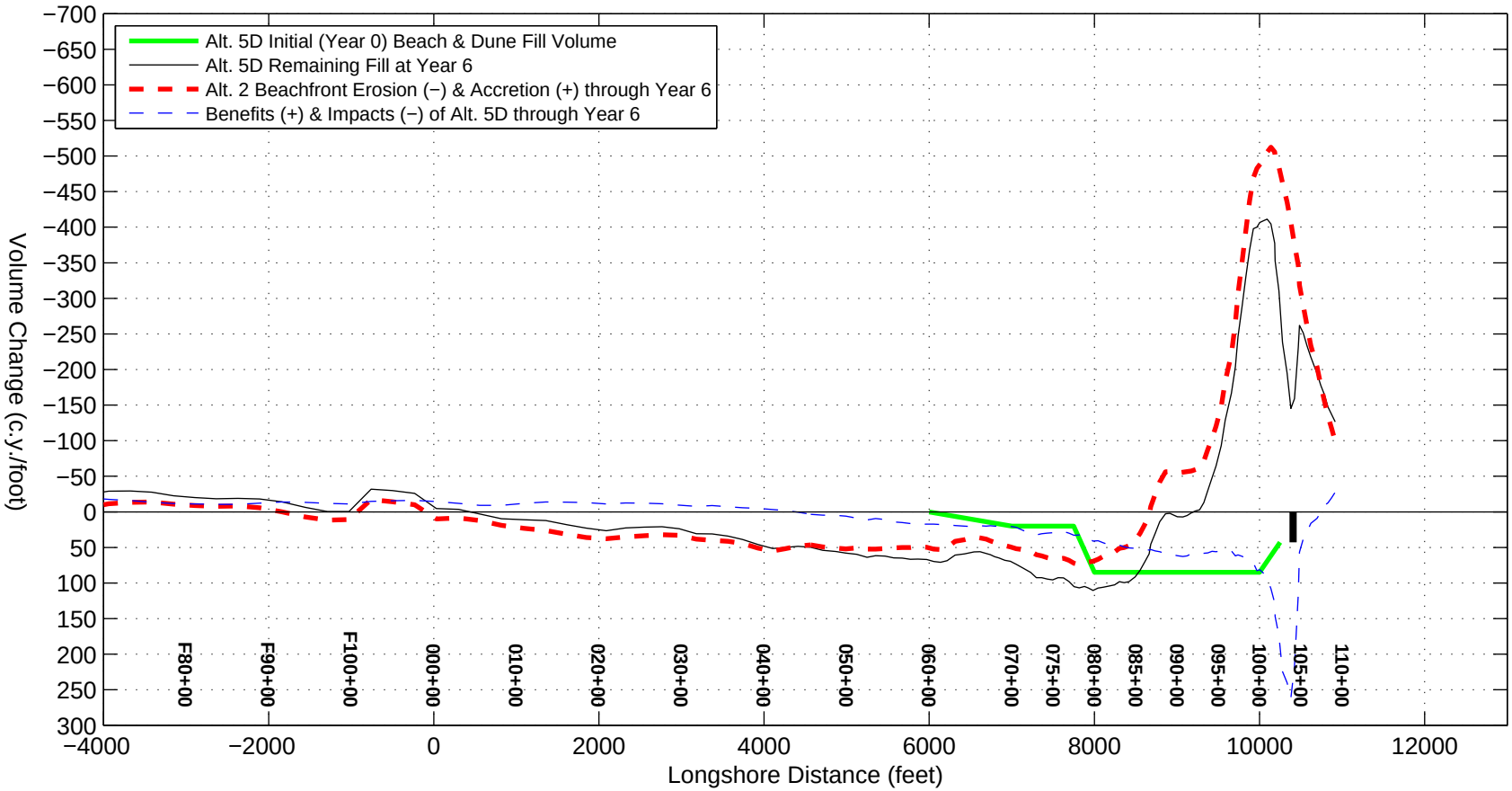
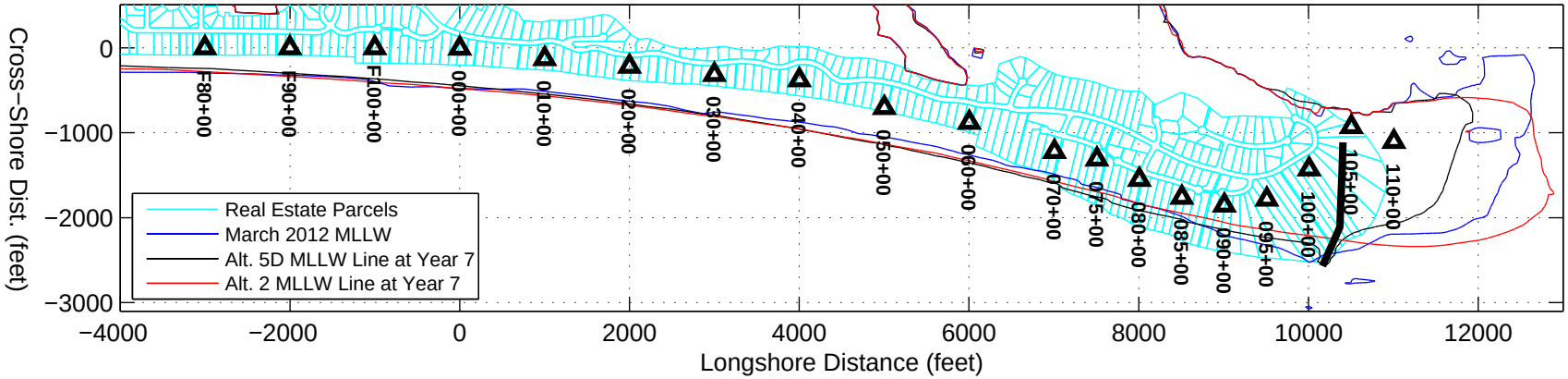


Figure Eight Island Mean Lower Low Water (−2.59‘ NAVD) Lines with Real Estate Parcels



Delft3D Performance of Alt. 2: Abandon/Retreat and Alt. 5D: Longer Terminal Groin with Beach Fill from Nixon Channel (2010 Cut) Based on 3/2012 Cond.

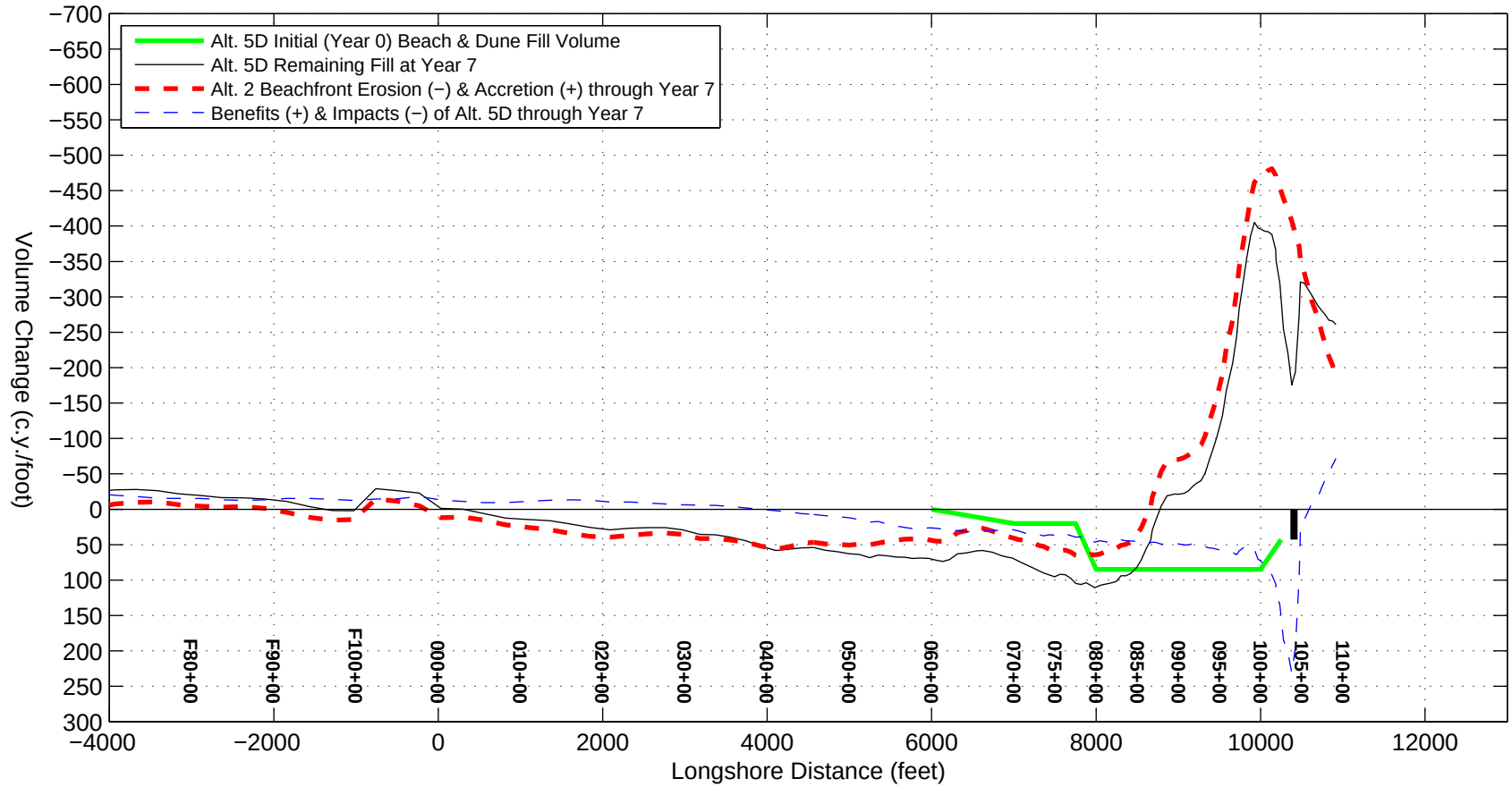


Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 2 Beach Erosion (-) & Accretion (+) in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	0	2,000	-1,000	-5,000	-2,000	2,000	6,000	11,000
F100+00 to 00+00	1,001	0	-14,000	-18,000	-21,000	-17,000	-13,000	-9,000	-5,000
00+00 to 10+00	1,000	0	-2,000	-2,000	-2,000	3,000	8,000	13,000	16,000
10+00 to 20+00	1,000	0	7,000	9,000	10,000	15,000	22,000	29,000	32,000
20+00 to 30+00	1,000	0	1,000	4,000	11,000	19,000	27,000	34,000	36,000
30+00 to 40+00	1,000	0	4,000	11,000	17,000	26,000	35,000	42,000	44,000
40+00 to 50+00	1,000	0	12,000	19,000	27,000	37,000	45,000	50,000	50,000
50+00 to 60+00	1,000	0	14,000	22,000	30,000	41,000	49,000	51,000	46,000
60+00 to 70+00	1,000	0	8,000	20,000	32,000	37,000	45,000	44,000	35,000
70+00 to 72+50	250	0	4,000	8,000	11,000	12,000	14,000	13,000	11,000
72+50 to 75+00	250	0	5,000	9,000	13,000	15,000	17,000	16,000	13,000
75+00 to 77+50	250	0	5,000	11,000	16,000	18,000	19,000	17,000	15,000
77+50 to 80+00	250	0	5,000	15,000	18,000	20,000	21,000	18,000	16,000
80+00 to 82+50	250	0	5,000	18,000	16,000	18,000	19,000	15,000	15,000
82+50 to 85+00	250	0	9,000	18,000	16,000	17,000	16,000	12,000	12,000
85+00 to 87+50	250	0	15,000	13,000	12,000	10,000	7,000	3,000	1,000
87+50 to 90+00	250	0	16,000	1,000	4,000	-1,000	-7,000	-13,000	-16,000
90+00 to 92+50	250	0	22,000	12,000	11,000	3,000	-6,000	-14,000	-19,000
92+50 to 95+00	250	0	17,000	22,000	12,000	-1,000	-13,000	-22,000	-31,000
95+00 to 97+50	250	0	-7,000	13,000	-10,000	-27,000	-42,000	-52,000	-63,000
97+50 to 100+00	250	0	-48,000	-20,000	-57,000	-77,000	-93,000	-105,000	-107,000
100+00 to 102+50	250	0	-40,000	-40,000	-78,000	-97,000	-112,000	-125,000	-118,000
102+50 to 105+00	250	0	-14,000	-41,000	-72,000	-86,000	-99,000	-101,000	-101,000
F90+00 to 30+00	5,001	0	-6,000	-8,000	-7,000	18,000	46,000	73,000	90,000
30+00 to 60+00	3,000	0	30,000	52,000	74,000	104,000	129,000	143,000	140,000
60+00 to 77+50	1,750	0	22,000	48,000	72,000	82,000	95,000	90,000	74,000
77+50 to 95+00	1,750	0	89,000	99,000	89,000	66,000	37,000	-1,000	-22,000
95+00 to 100+00	500	0	-55,000	-7,000	-67,000	-104,000	-135,000	-157,000	-170,000
100+00 to 105+00	500	0	-54,000	-81,000	-150,000	-183,000	-211,000	-226,000	-219,000
TOTAL	12,501	0	26,000	103,000	11,000	-17,000	-39,000	-78,000	-107,000

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 3 Remaining Beach Fill* in cubic yards Year 0 through Year ….							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	26,800	24,000	23,000	21,000	21,000	20,000	19,000	18,000
F100+00 to 00+00	1,001	53,600	25,000	20,000	18,000	20,000	16,000	14,000	11,000
00+00 to 10+00	1,000	53,500	45,000	44,000	46,000	48,000	44,000	41,000	39,000
10+00 to 20+00	1,000	53,500	57,000	61,000	61,000	62,000	61,000	58,000	55,000
20+00 to 30+00	1,000	53,500	58,000	65,000	71,000	75,000	72,000	68,000	60,000
30+00 to 40+00	1,000	53,500	69,000	78,000	83,000	85,000	82,000	76,000	68,000
40+00 to 50+00	1,000	98,600	85,000	94,000	97,000	98,000	93,000	80,000	68,000
50+00 to 60+00	1,000	143,600	102,000	108,000	113,000	108,000	95,000	75,000	58,000
60+00 to 70+00	1,000	143,600	102,000	106,000	109,000	99,000	83,000	56,000	38,000
70+00 to 72+50	250	35,900	29,000	30,000	30,000	27,000	21,000	14,000	9,000
72+50 to 75+00	250	35,900	33,000	33,000	33,000	29,000	23,000	17,000	11,000
75+00 to 77+50	250	41,300	32,000	33,000	33,000	29,000	22,000	15,000	10,000
77+50 to 80+00	250	41,300	34,000	34,000	33,000	28,000	22,000	16,000	11,000
80+00 to 82+50	250	41,100	32,000	33,000	30,000	23,000	17,000	13,000	9,000
82+50 to 85+00	250	41,300	30,000	32,000	26,000	18,000	12,000	10,000	5,000
85+00 to 87+50	250	41,500	29,000	30,000	19,000	6,000	6,000	**-1,000**	**-6,000**
87+50 to 90+00	250	41,600	28,000	20,000	5,000	**-10,000**	**-7,000**	**-19,000**	**-23,000**
90+00 to 92+50	250	41,600	37,000	20,000	3,000	**-7,000**	**-12,000**	**-22,000**	**-28,000**
92+50 to 95+00	250	41,300	39,000	14,000	**-2,000**	**-9,000**	**-24,000**	**-33,000**	**-43,000**
95+00 to 97+50	250	35,900	18,000	**-9,000**	**-22,000**	**-36,000**	**-53,000**	**-66,000**	**-82,000**
97+50 to 100+00	250	35,900	**-21,000**	**-46,000**	**-65,000**	**-91,000**	**-105,000**	**-125,000**	**-143,000**
100+00 to 102+50	250	26,900	**-24,000**	**-52,000**	**-85,000**	**-118,000**	**-129,000**	**-152,000**	**-169,000**
102+50 to 105+00	250	9,000	**-13,000**	**-49,000**	**-88,000**	**-100,000**	**-123,000**	**-146,000**	**-159,000**
F90+00 to 30+00	5,001	240,900	209,000	213,000	217,000	226,000	213,000	200,000	183,000
30+00 to 60+00	3,000	295,700	256,000	280,000	293,000	291,000	270,000	231,000	194,000
60+00 to 77+50	1,750	256,700	196,000	202,000	205,000	184,000	149,000	102,000	68,000
77+50 to 95+00	1,750	289,700	229,000	183,000	114,000	49,000	14,000	**-36,000**	**-75,000**
95+00 to 100+00	500	71,800	**-3,000**	**-55,000**	**-87,000**	**-127,000**	**-158,000**	**-191,000**	**-225,000**
100+00 to 105+00	500	35,900	**-37,000**	**-101,000**	**-173,000**	**-218,000**	**-252,000**	**-298,000**	**-328,000**
TOTAL	12,501	1,190,700	850,000	722,000	569,000	405,000	236,000	8,000	**-183,000**

*NOTE: **Red**, negative values indicate erosion into the pre-construction beach profile.

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 4 Remaining Beach Fill* in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	10,000	12,000	9,000	5,000	5,000	5,000	7,000	8,000
F100+00 to 00+00	1,001	20,000	5,000	2,000	**-4,000**	**-3,000**	**-4,000**	**-2,000**	**-1,000**
00+00 to 10+00	1,000	20,000	20,000	20,000	20,000	24,000	24,000	26,000	28,000
10+00 to 20+00	1,000	20,000	29,000	29,000	32,000	36,000	37,000	41,000	41,000
20+00 to 30+00	1,000	35,000	26,000	32,000	38,000	43,000	46,000	50,000	50,000
30+00 to 40+00	1,000	50,000	38,000	46,000	54,000	61,000	66,000	68,000	69,000
40+00 to 50+00	1,000	50,000	50,000	60,000	66,000	74,000	78,000	80,000	77,000
50+00 to 60+00	1,000	50,000	55,000	67,000	75,000	83,000	85,000	82,000	79,000
60+00 to 70+00	1,000	75,000	51,000	67,000	77,000	81,000	84,000	77,000	69,000
70+00 to 72+50	250	25,000	17,000	21,000	23,000	24,000	24,000	22,000	20,000
72+50 to 75+00	250	25,000	22,000	25,000	28,000	29,000	29,000	26,000	24,000
75+00 to 77+50	250	30,400	21,000	25,000	29,000	31,000	30,000	27,000	24,000
77+50 to 80+00	250	30,400	22,000	28,000	30,000	32,000	30,000	27,000	27,000
80+00 to 82+50	250	42,700	20,000	28,000	27,000	27,000	27,000	23,000	24,000
82+50 to 85+00	250	55,400	23,000	29,000	25,000	25,000	23,000	18,000	20,000
85+00 to 87+50	250	55,600	38,000	32,000	28,000	24,000	18,000	11,000	11,000
87+50 to 90+00	250	55,700	50,000	34,000	28,000	20,000	7,000	**-2,000**	**-6,000**
90+00 to 92+50	250	55,700	60,000	44,000	37,000	24,000	7,000	**-2,000**	**-11,000**
92+50 to 95+00	250	55,400	59,000	52,000	38,000	21,000	2,000	**-9,000**	**-22,000**
95+00 to 97+50	250	50,000	36,000	42,000	18,000	**-5,000**	**-26,000**	**-39,000**	**-48,000**
97+50 to 100+00	250	50,000	**-7,000**	15,000	**-25,000**	**-52,000**	**-75,000**	**-93,000**	**-85,000**
100+00 to 102+50	250	37,500	**-4,000**	**-1,000**	**-43,000**	**-70,000**	**-93,000**	**-109,000**	**-98,000**
102+50 to 105+00	250	12,500	14,000	**-10,000**	**-41,000**	**-62,000**	**-83,000**	**-80,000**	**-88,000**
F90+00 to 30+00	5,001	105,000	92,000	92,000	91,000	105,000	108,000	122,000	126,000
30+00 to 60+00	3,000	150,000	143,000	173,000	195,000	218,000	229,000	230,000	225,000
60+00 to 77+50	1,750	155,400	111,000	138,000	157,000	165,000	167,000	152,000	137,000
77+50 to 95+00	1,750	350,900	272,000	247,000	213,000	173,000	114,000	66,000	43,000
95+00 to 100+00	500	100,000	29,000	57,000	**-7,000**	**-57,000**	**-101,000**	**-132,000**	**-133,000**
100+00 to 105+00	500	50,000	10,000	**-11,000**	**-84,000**	**-132,000**	**-176,000**	**-189,000**	**-186,000**
TOTAL	12,501	911,300	657,000	696,000	565,000	472,000	341,000	249,000	212,000

*NOTE: **Red**, negative values indicate erosion into the pre-construction beach profile.

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 5D (1500 ft groin) Remaining Beach Fill* in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	0	2,000	-1,000	-6,000	-7,000	-7,000	-6,000	-4,000
F100+00 to 00+00	1,001	0	-15,000	-19,000	-23,000	-24,000	-24,000	-24,000	-20,000
00+00 to 10+00	1,000	0	-3,000	-4,000	-3,000	-1,000	0	2,000	5,000
10+00 to 20+00	1,000	0	4,000	7,000	8,000	13,000	15,000	16,000	20,000
20+00 to 30+00	1,000	0	0	4,000	9,000	15,000	21,000	23,000	27,000
30+00 to 40+00	1,000	0	4,000	11,000	17,000	24,000	30,000	35,000	40,000
40+00 to 50+00	1,000	0	13,000	24,000	33,000	44,000	49,000	52,000	57,000
50+00 to 60+00	1,000	0	18,000	31,000	43,000	51,000	60,000	63,000	67,000
60+00 to 70+00	1,000	10,000	16,000	33,000	45,000	56,000	62,000	63,000	65,000
70+00 to 72+50	250	5,000	7,000	12,000	16,000	19,000	19,000	20,000	19,000
72+50 to 75+00	250	5,000	9,000	14,000	19,000	22,000	23,000	23,000	23,000
75+00 to 77+50	250	5,000	8,000	15,000	21,000	24,000	24,000	24,000	24,000
77+50 to 80+00	250	13,100	9,000	20,000	25,000	26,000	27,000	27,000	27,000
80+00 to 82+50	250	21,300	11,000	23,000	24,000	27,000	27,000	26,000	26,000
82+50 to 85+00	250	21,300	17,000	27,000	26,000	28,000	26,000	24,000	23,000
85+00 to 87+50	250	21,300	24,000	25,000	26,000	23,000	19,000	16,000	12,000
87+50 to 90+00	250	21,300	28,000	17,000	21,000	15,000	8,000	2,000	-4,000
90+00 to 92+50	250	21,300	37,000	25,000	28,000	18,000	9,000	1,000	-7,000
92+50 to 95+00	250	21,300	37,000	35,000	30,000	15,000	3,000	-8,000	-18,000
95+00 to 97+50	250	21,300	15,000	29,000	10,000	-10,000	-24,000	-38,000	-48,000
97+50 to 100+00	250	21,300	-26,000	6,000	-32,000	-56,000	-73,000	-88,000	-92,000
100+00 to 102+50	250	16,000	-22,000	-8,000	-50,000	-72,000	-89,000	-96,000	-93,000
102+50 to 105+00	250	0	13,000	-4,000	-37,000	-51,000	-63,000	-51,000	-58,000
F90+00 to 30+00	5,001	0	-12,000	-13,000	-15,000	-4,000	5,000	11,000	28,000
30+00 to 60+00	3,000	0	35,000	66,000	93,000	119,000	139,000	150,000	164,000
60+00 to 77+50	1,750	25,000	40,000	74,000	101,000	121,000	128,000	130,000	131,000
77+50 to 95+00	1,750	140,900	163,000	172,000	180,000	152,000	119,000	88,000	59,000
95+00 to 100+00	500	42,600	-11,000	35,000	-22,000	-66,000	-97,000	-126,000	-140,000
100+00 to 105+00	500	16,000	-9,000	-12,000	-87,000	-123,000	-152,000	-147,000	-151,000
60+00 to 102+50	4,250	224,500	170,000	273,000	209,000	135,000	61,000	-4,000	-43,000
TOTAL	12,501	224,500	206,000	322,000	250,000	199,000	142,000	106,000	91,000

*NOTE: **Red**, negative values indicate erosion into the pre-construction beach profile.

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 2 Beach Erosion (-) & Accretion (+) in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	0	2,000	-1,000	-5,000	-2,000	2,000	6,000	11,000
F100+00 to 00+00	1,001	0	-14,000	-18,000	-21,000	-17,000	-13,000	-9,000	-5,000
00+00 to 10+00	1,000	0	-2,000	-2,000	-2,000	3,000	8,000	13,000	16,000
10+00 to 20+00	1,000	0	7,000	9,000	10,000	15,000	22,000	29,000	32,000
20+00 to 30+00	1,000	0	1,000	4,000	11,000	19,000	27,000	34,000	36,000
30+00 to 40+00	1,000	0	4,000	11,000	17,000	26,000	35,000	42,000	44,000
40+00 to 50+00	1,000	0	12,000	19,000	27,000	37,000	45,000	50,000	50,000
50+00 to 60+00	1,000	0	14,000	22,000	30,000	41,000	49,000	51,000	46,000
60+00 to 70+00	1,000	0	8,000	20,000	32,000	37,000	45,000	44,000	35,000
70+00 to 72+50	250	0	4,000	8,000	11,000	12,000	14,000	13,000	11,000
72+50 to 75+00	250	0	5,000	9,000	13,000	15,000	17,000	16,000	13,000
75+00 to 77+50	250	0	5,000	11,000	16,000	18,000	19,000	17,000	15,000
77+50 to 80+00	250	0	5,000	15,000	18,000	20,000	21,000	18,000	16,000
80+00 to 82+50	250	0	5,000	18,000	16,000	18,000	19,000	15,000	15,000
82+50 to 85+00	250	0	9,000	18,000	16,000	17,000	16,000	12,000	12,000
85+00 to 87+50	250	0	15,000	13,000	12,000	10,000	7,000	3,000	1,000
87+50 to 90+00	250	0	16,000	1,000	4,000	-1,000	-7,000	-13,000	-16,000
90+00 to 92+50	250	0	22,000	12,000	11,000	3,000	-6,000	-14,000	-19,000
92+50 to 95+00	250	0	17,000	22,000	12,000	-1,000	-13,000	-22,000	-31,000
95+00 to 97+50	250	0	-7,000	13,000	-10,000	-27,000	-42,000	-52,000	-63,000
97+50 to 100+00	250	0	-48,000	-20,000	-57,000	-77,000	-93,000	-105,000	-107,000
100+00 to 102+50	250	0	-40,000	-40,000	-78,000	-97,000	-112,000	-125,000	-118,000
102+50 to 105+00	250	0	-14,000	-41,000	-72,000	-86,000	-99,000	-101,000	-101,000
F90+00 to 30+00	5,001	0	-6,000	-8,000	-7,000	18,000	46,000	73,000	90,000
30+00 to 60+00	3,000	0	30,000	52,000	74,000	104,000	129,000	143,000	140,000
60+00 to 77+50	1,750	0	22,000	48,000	72,000	82,000	95,000	90,000	74,000
77+50 to 95+00	1,750	0	89,000	99,000	89,000	66,000	37,000	-1,000	-22,000
95+00 to 100+00	500	0	-55,000	-7,000	-67,000	-104,000	-135,000	-157,000	-170,000
100+00 to 105+00	500	0	-54,000	-81,000	-150,000	-183,000	-211,000	-226,000	-219,000
TOTAL	12,501	0	26,000	103,000	11,000	-17,000	-39,000	-78,000	-107,000

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 3 Erosion (-) & Accretion (+) vs. Post-Construction in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	0	-2,800	-3,800	-5,800	-5,800	-6,800	-7,800	-8,800
F100+00 to 00+00	1,001	0	-28,600	-33,600	-35,600	-33,600	-37,600	-39,600	-42,600
00+00 to 10+00	1,000	0	-8,500	-9,500	-7,500	-5,500	-9,500	-12,500	-14,500
10+00 to 20+00	1,000	0	3,500	7,500	7,500	8,500	7,500	4,500	1,500
20+00 to 30+00	1,000	0	4,500	11,500	17,500	21,500	18,500	14,500	6,500
30+00 to 40+00	1,000	0	15,500	24,500	29,500	31,500	28,500	22,500	14,500
40+00 to 50+00	1,000	0	-13,600	-4,600	-1,600	-600	-5,600	-18,600	-30,600
50+00 to 60+00	1,000	0	-41,600	-35,600	-30,600	-35,600	-48,600	-68,600	-85,600
60+00 to 70+00	1,000	0	-41,600	-37,600	-34,600	-44,600	-60,600	-87,600	-105,600
70+00 to 72+50	250	0	-6,900	-5,900	-5,900	-8,900	-14,900	-21,900	-26,900
72+50 to 75+00	250	0	-2,900	-2,900	-2,900	-6,900	-12,900	-18,900	-24,900
75+00 to 77+50	250	0	-9,300	-8,300	-8,300	-12,300	-19,300	-26,300	-31,300
77+50 to 80+00	250	0	-7,300	-7,300	-8,300	-13,300	-19,300	-25,300	-30,300
80+00 to 82+50	250	0	-9,100	-8,100	-11,100	-18,100	-24,100	-28,100	-32,100
82+50 to 85+00	250	0	-11,300	-9,300	-15,300	-23,300	-29,300	-31,300	-36,300
85+00 to 87+50	250	0	-12,500	-11,500	-22,500	-35,500	-35,500	-42,500	-47,500
87+50 to 90+00	250	0	-13,600	-21,600	-36,600	-51,600	-48,600	-60,600	-64,600
90+00 to 92+50	250	0	-4,600	-21,600	-38,600	-48,600	-53,600	-63,600	-69,600
92+50 to 95+00	250	0	-2,300	-27,300	-43,300	-50,300	-65,300	-74,300	-84,300
95+00 to 97+50	250	0	-17,900	-44,900	-57,900	-71,900	-88,900	-101,900	-117,900
97+50 to 100+00	250	0	-56,900	-81,900	-100,900	-126,900	-140,900	-160,900	-178,900
100+00 to 102+50	250	0	-50,900	-78,900	-111,900	-144,900	-155,900	-178,900	-195,900
102+50 to 105+00	250	0	-22,000	-58,000	-97,000	-109,000	-132,000	-155,000	-168,000
F90+00 to 30+00	5,001	0	-31,900	-27,900	-23,900	-14,900	-27,900	-40,900	-57,900
30+00 to 60+00	3,000	0	-39,700	-15,700	-2,700	-4,700	-25,700	-64,700	-101,700
60+00 to 77+50	1,750	0	-60,700	-54,700	-51,700	-72,700	-107,700	-154,700	-188,700
77+50 to 95+00	1,750	0	-60,700	-106,700	-175,700	-240,700	-275,700	-325,700	-364,700
95+00 to 100+00	500	0	-74,800	-126,800	-158,800	-198,800	-229,800	-262,800	-296,800
100+00 to 105+00	500	0	-72,900	-136,900	-208,900	-253,900	-287,900	-333,900	-363,900
TOTAL	12,501	0	-340,700	-468,700	-621,700	-785,700	-954,700	-1,182,700	-1,373,700

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 4 Erosion (-) & Accretion (+) vs. Post-Construction in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	0	2,000	-1,000	-5,000	-5,000	-5,000	-3,000	-2,000
F100+00 to 00+00	1,001	0	-15,000	-18,000	-24,000	-23,000	-24,000	-22,000	-21,000
00+00 to 10+00	1,000	0	0	0	0	4,000	4,000	6,000	8,000
10+00 to 20+00	1,000	0	9,000	9,000	12,000	16,000	17,000	21,000	21,000
20+00 to 30+00	1,000	0	-9,000	-3,000	3,000	8,000	11,000	15,000	15,000
30+00 to 40+00	1,000	0	-12,000	-4,000	4,000	11,000	16,000	18,000	19,000
40+00 to 50+00	1,000	0	0	10,000	16,000	24,000	28,000	30,000	27,000
50+00 to 60+00	1,000	0	5,000	17,000	25,000	33,000	35,000	32,000	29,000
60+00 to 70+00	1,000	0	-24,000	-8,000	2,000	6,000	9,000	2,000	-6,000
70+00 to 72+50	250	0	-8,000	-4,000	-2,000	-1,000	-1,000	-3,000	-5,000
72+50 to 75+00	250	0	-3,000	0	3,000	4,000	4,000	1,000	-1,000
75+00 to 77+50	250	0	-9,400	-5,400	-1,400	600	-400	-3,400	-6,400
77+50 to 80+00	250	0	-8,400	-2,400	-400	1,600	-400	-3,400	-3,400
80+00 to 82+50	250	0	-22,700	-14,700	-15,700	-15,700	-15,700	-19,700	-18,700
82+50 to 85+00	250	0	-32,400	-26,400	-30,400	-30,400	-32,400	-37,400	-35,400
85+00 to 87+50	250	0	-17,600	-23,600	-27,600	-31,600	-37,600	-44,600	-44,600
87+50 to 90+00	250	0	-5,700	-21,700	-27,700	-35,700	-48,700	-57,700	-61,700
90+00 to 92+50	250	0	4,300	-11,700	-18,700	-31,700	-48,700	-57,700	-66,700
92+50 to 95+00	250	0	3,600	-3,400	-17,400	-34,400	-53,400	-64,400	-77,400
95+00 to 97+50	250	0	-14,000	-8,000	-32,000	-55,000	-76,000	-89,000	-98,000
97+50 to 100+00	250	0	-57,000	-35,000	-75,000	-102,000	-125,000	-143,000	-135,000
100+00 to 102+50	250	0	-41,500	-38,500	-80,500	-107,500	-130,500	-146,500	-135,500
102+50 to 105+00	250	0	1,500	-22,500	-53,500	-74,500	-95,500	-92,500	-100,500
F90+00 to 30+00	5,001	0	-13,000	-13,000	-14,000	0	3,000	17,000	21,000
30+00 to 60+00	3,000	0	-7,000	23,000	45,000	68,000	79,000	80,000	75,000
60+00 to 77+50	1,750	0	-44,400	-17,400	1,600	9,600	11,600	-3,400	-18,400
77+50 to 95+00	1,750	0	-78,900	-103,900	-137,900	-177,900	-236,900	-284,900	-307,900
95+00 to 100+00	500	0	-71,000	-43,000	-107,000	-157,000	-201,000	-232,000	-233,000
100+00 to 105+00	500	0	-40,000	-61,000	-134,000	-182,000	-226,000	-239,000	-236,000
TOTAL	12,501	0	-254,300	-215,300	-346,300	-439,300	-570,300	-662,300	-699,300

Table: Delft3D Beach Erosion and Beach Fill Performance Based on March 2012 Conditions
Figure Eight Island, NC

Profiles	Beach Length (feet)	Alt. 5D (1500 ft groin) Erosion (-) & Accretion (+) vs. Post-Construction in cubic yards Year 0 through Year							
		0	1	2	3	4	5	6	7
F90+00 to F100+00	1,000	0	2,000	-1,000	-6,000	-7,000	-7,000	-6,000	-4,000
F100+00 to 00+00	1,001	0	-15,000	-19,000	-23,000	-24,000	-24,000	-24,000	-20,000
00+00 to 10+00	1,000	0	-3,000	-4,000	-3,000	-1,000	0	2,000	5,000
10+00 to 20+00	1,000	0	4,000	7,000	8,000	13,000	15,000	16,000	20,000
20+00 to 30+00	1,000	0	0	4,000	9,000	15,000	21,000	23,000	27,000
30+00 to 40+00	1,000	0	4,000	11,000	17,000	24,000	30,000	35,000	40,000
40+00 to 50+00	1,000	0	13,000	24,000	33,000	44,000	49,000	52,000	57,000
50+00 to 60+00	1,000	0	18,000	31,000	43,000	51,000	60,000	63,000	67,000
60+00 to 70+00	1,000	0	6,000	23,000	35,000	46,000	52,000	53,000	55,000
70+00 to 72+50	250	0	2,000	7,000	11,000	14,000	14,000	15,000	14,000
72+50 to 75+00	250	0	4,000	9,000	14,000	17,000	18,000	18,000	18,000
75+00 to 77+50	250	0	3,000	10,000	16,000	19,000	19,000	19,000	19,000
77+50 to 80+00	250	0	-4,100	6,900	11,900	12,900	13,900	13,900	13,900
80+00 to 82+50	250	0	-10,300	1,700	2,700	5,700	5,700	4,700	4,700
82+50 to 85+00	250	0	-4,300	5,700	4,700	6,700	4,700	2,700	1,700
85+00 to 87+50	250	0	2,700	3,700	4,700	1,700	-2,300	-5,300	-9,300
87+50 to 90+00	250	0	6,700	-4,300	-300	-6,300	-13,300	-19,300	-25,300
90+00 to 92+50	250	0	15,700	3,700	6,700	-3,300	-12,300	-20,300	-28,300
92+50 to 95+00	250	0	15,700	13,700	8,700	-6,300	-18,300	-29,300	-39,300
95+00 to 97+50	250	0	-6,300	7,700	-11,300	-31,300	-45,300	-59,300	-69,300
97+50 to 100+00	250	0	-47,300	-15,300	-53,300	-77,300	-94,300	-109,300	-113,300
100+00 to 102+50	250	0	-38,000	-24,000	-66,000	-88,000	-105,000	-112,000	-109,000
102+50 to 105+00	250	0	13,000	-4,000	-37,000	-51,000	-63,000	-51,000	-58,000
F90+00 to 30+00	5,001	0	-12,000	-13,000	-15,000	-4,000	5,000	11,000	28,000
30+00 to 60+00	3,000	0	35,000	66,000	93,000	119,000	139,000	150,000	164,000
60+00 to 77+50	1,750	0	15,000	49,000	76,000	96,000	103,000	105,000	106,000
77+50 to 95+00	1,750	0	22,100	31,100	39,100	11,100	-21,900	-52,900	-81,900
95+00 to 100+00	500	0	-53,600	-7,600	-64,600	-108,600	-139,600	-168,600	-182,600
100+00 to 105+00	500	0	-25,000	-28,000	-103,000	-139,000	-168,000	-163,000	-167,000
60+00 to 102+50	4,250	0	-54,500	48,500	-15,500	-89,500	-163,500	-228,500	-267,500
TOTAL	12,501	0	-18,500	97,500	25,500	-25,500	-82,500	-118,500	-133,500

APPENDIX B
ENGINEERING REPORT

SUB-APPENDIX C

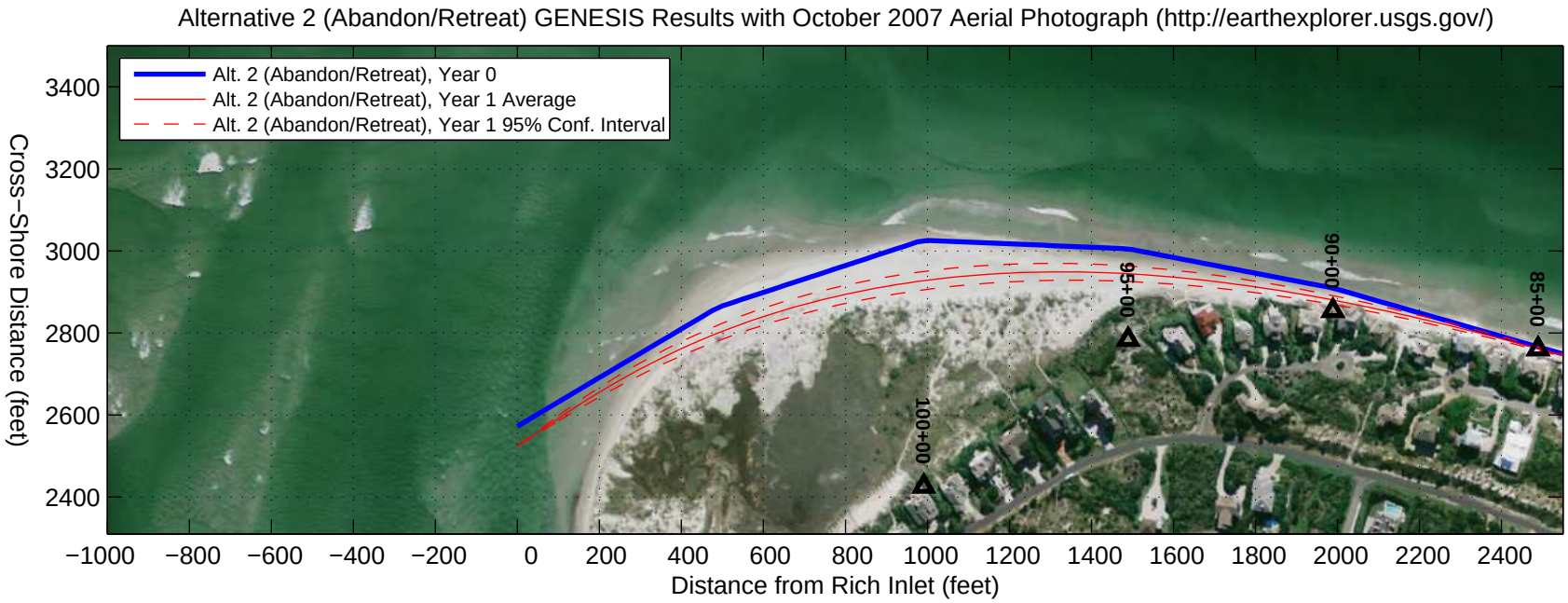
APPENDIX B
ENGINEERING REPORT

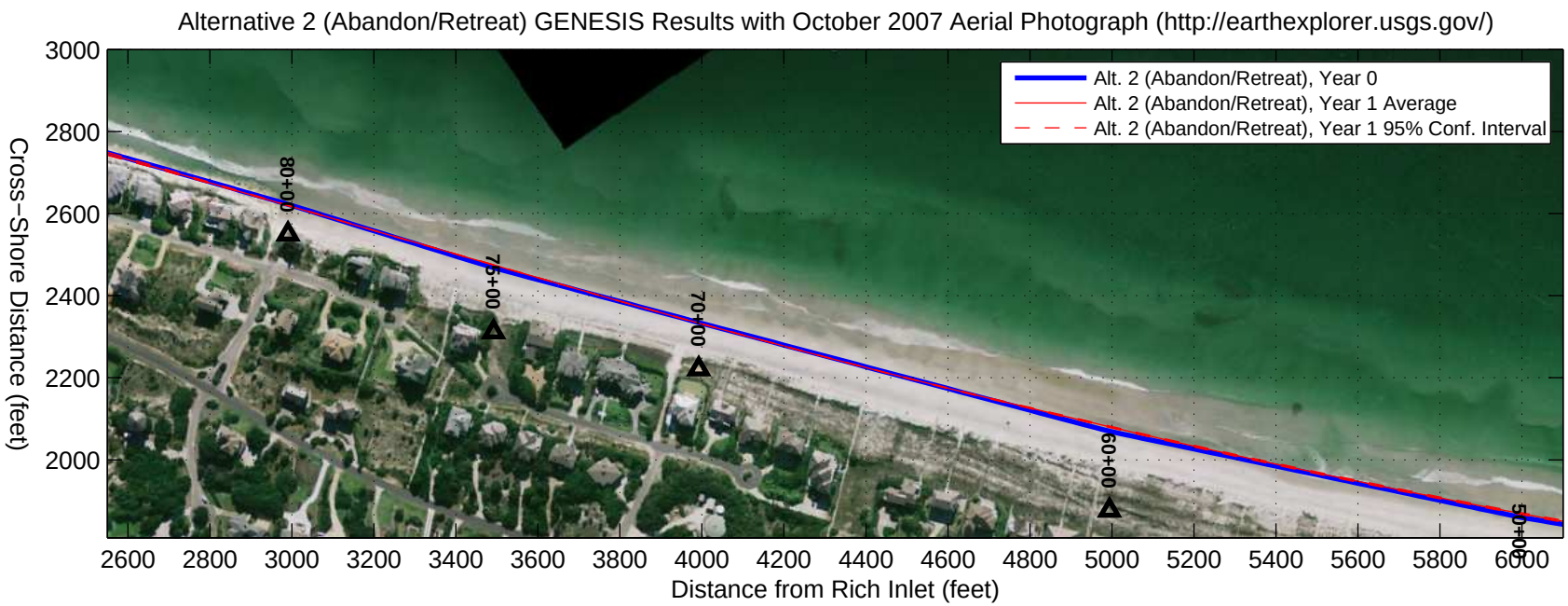
SUB-APPENDIX C

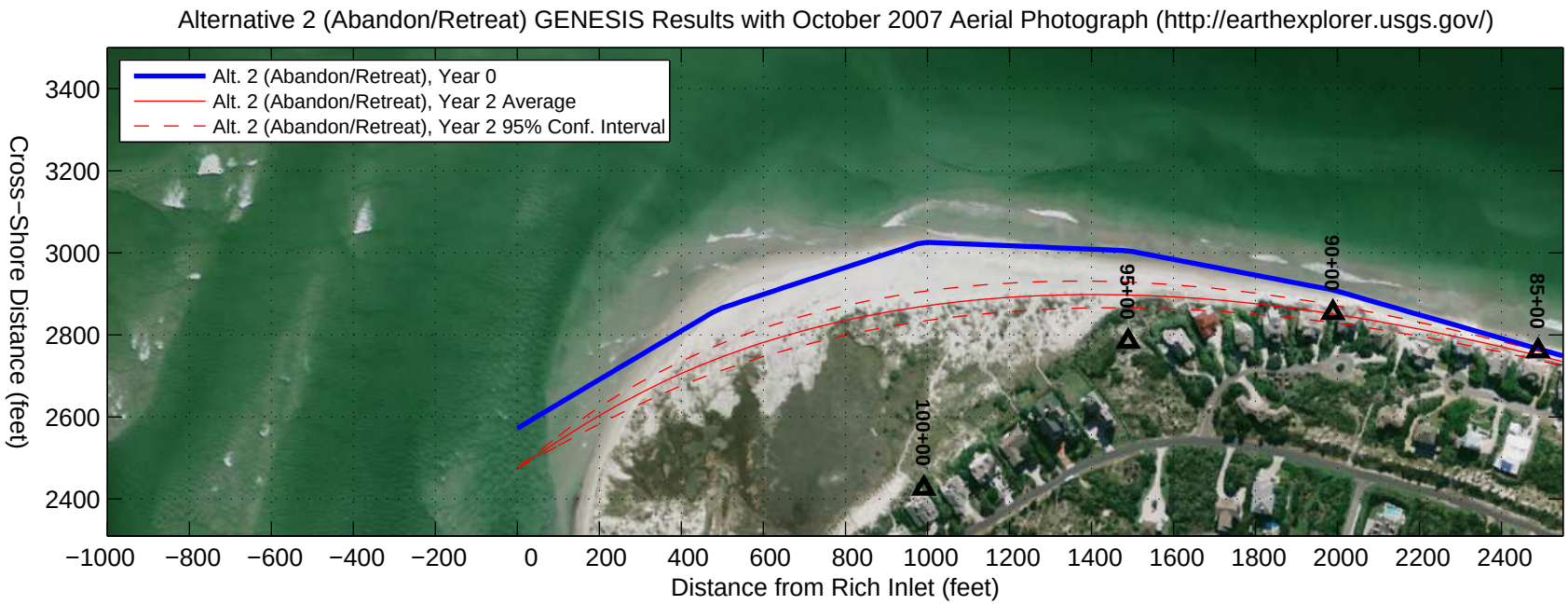
Sub-Appendix C

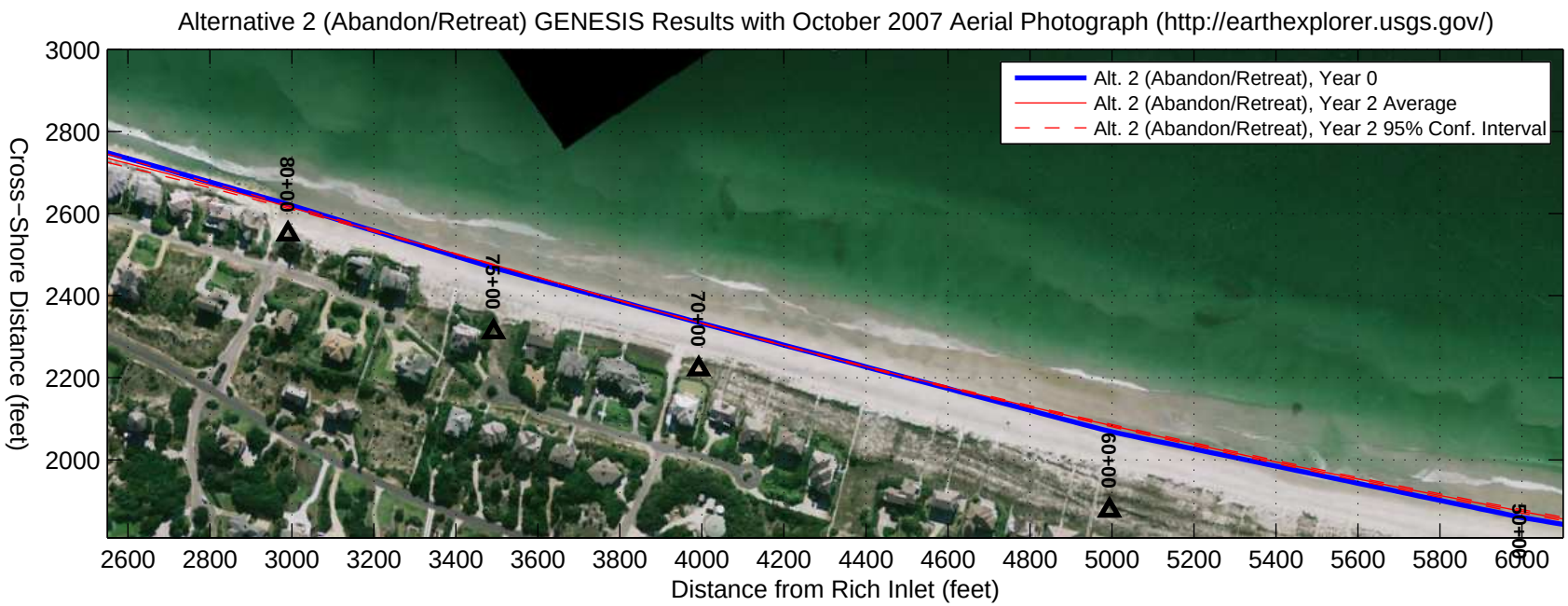
GENESIS Model Results

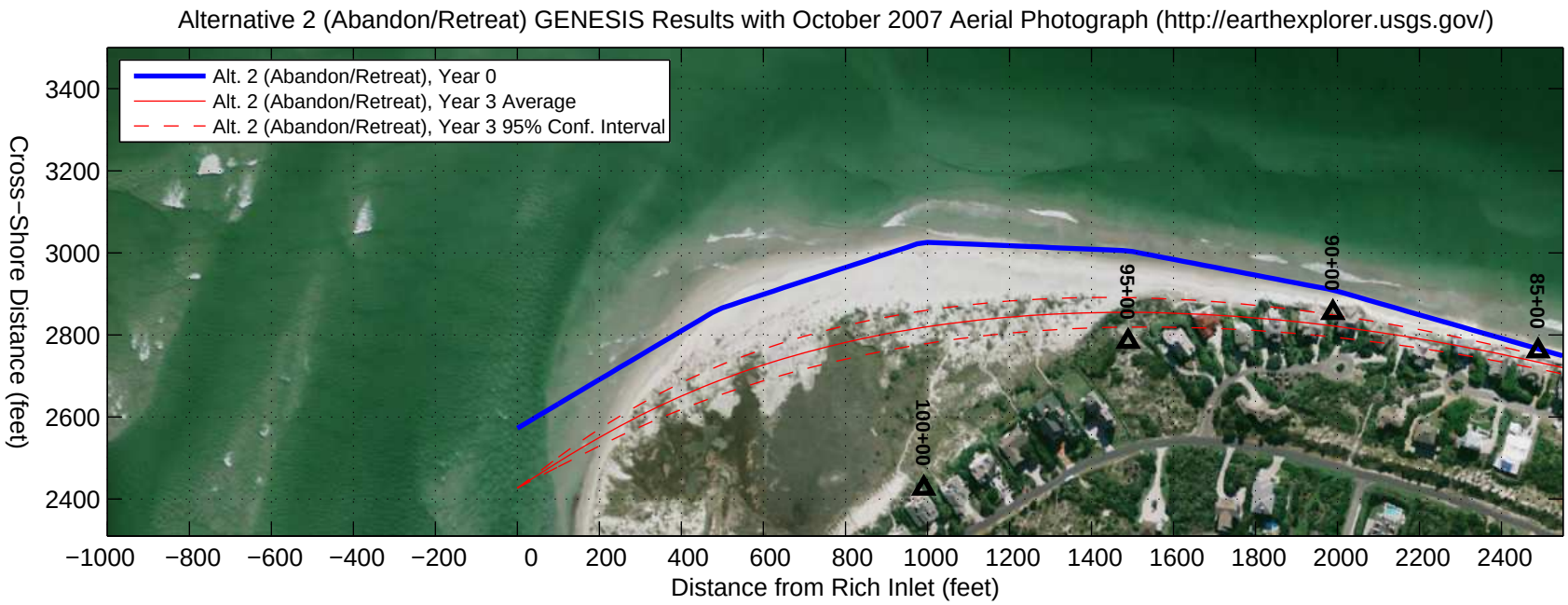
Part 1 – Model Results Given April 2007 Eroded Conditions

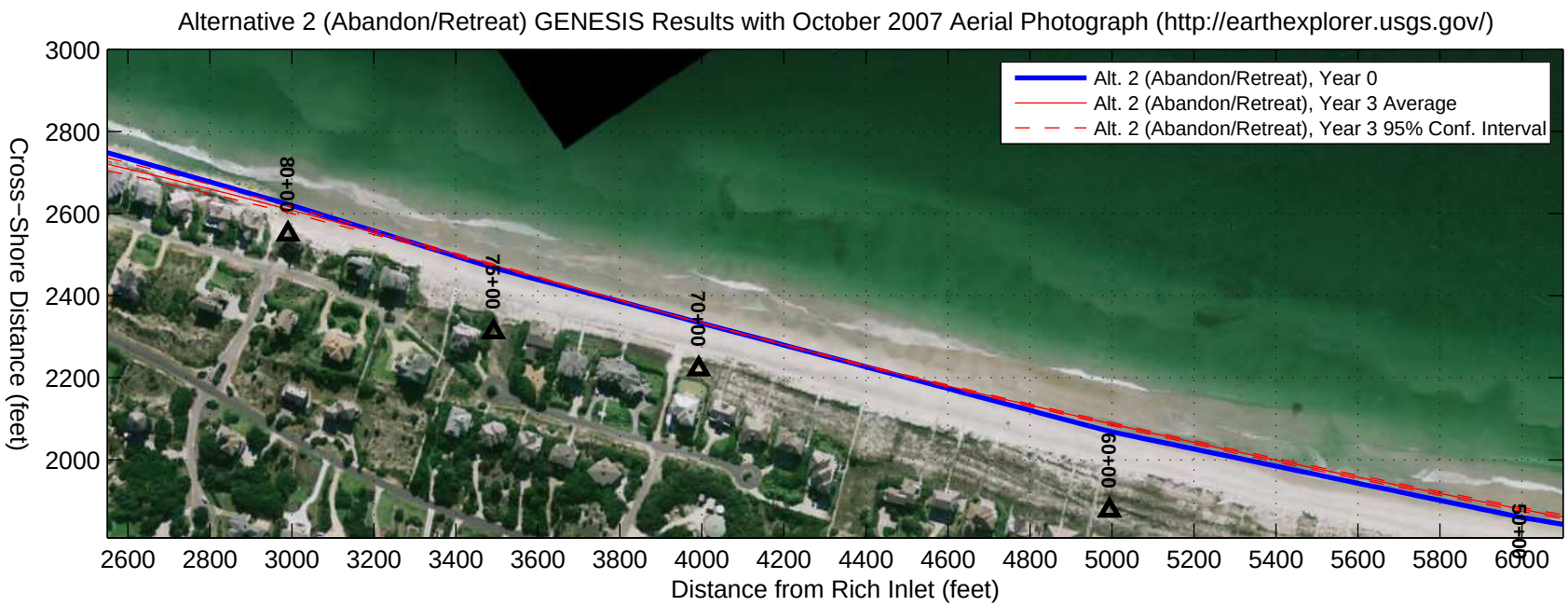

Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 1 Average
Alt. 2 (Abandon/Retreat), Year 1 95% Conf. Interval
100+00
95+00
90+00
85+00
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)

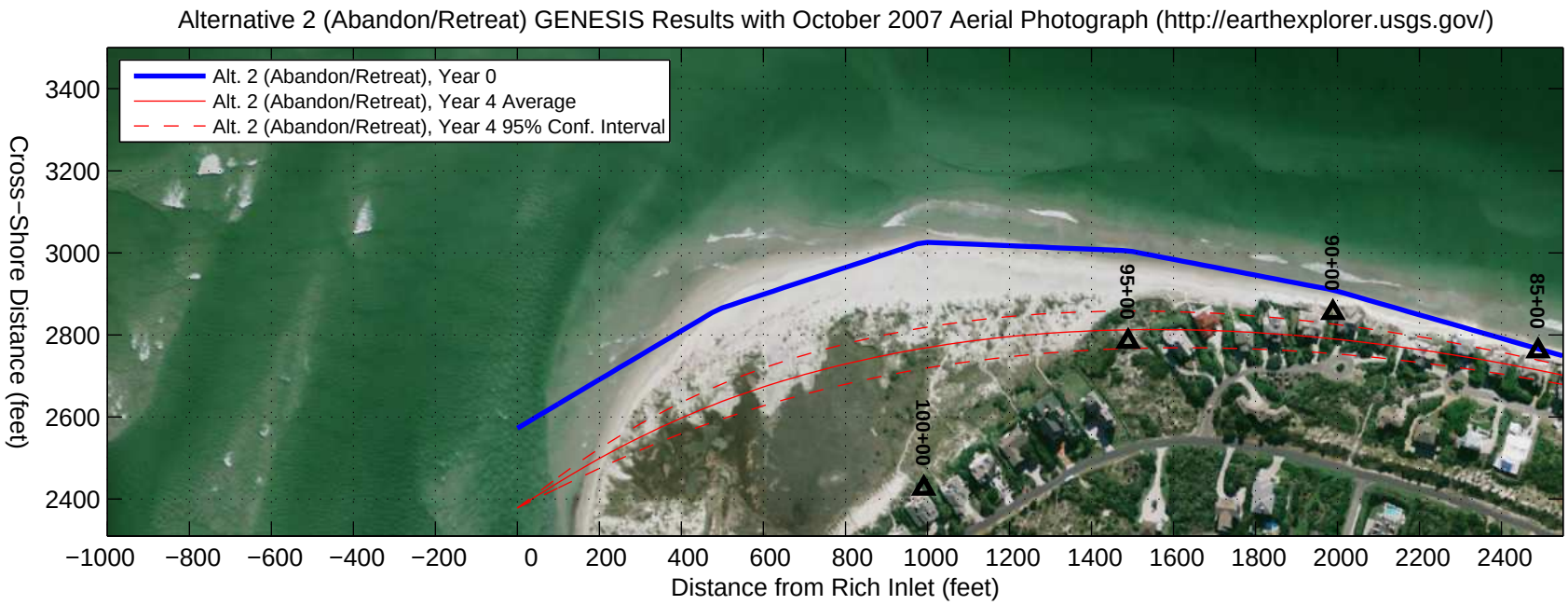

Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 1 Average
Alt. 2 (Abandon/Retreat), Year 1 95% Conf. Interval
80+00
75+00
70+00
60+00
50+00
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)

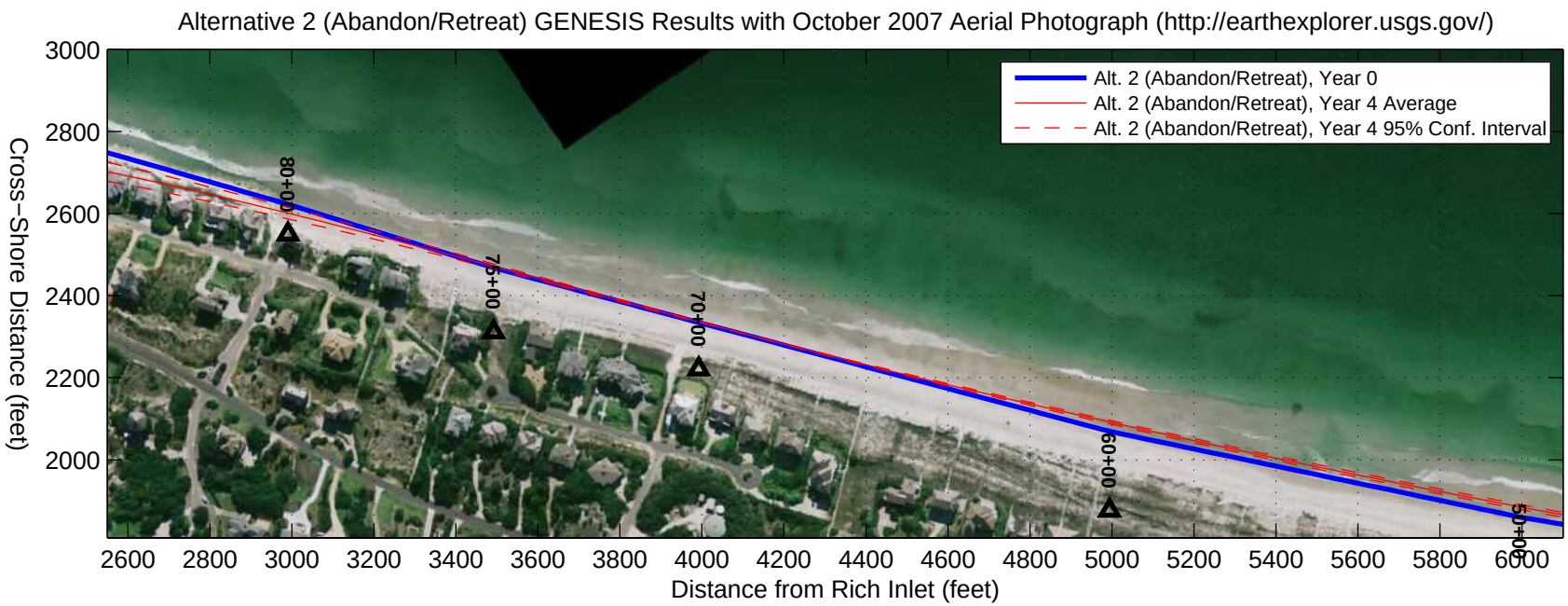

Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 2 Average
Alt. 2 (Abandon/Retreat), Year 2 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 2 Average
Alt. 2 (Abandon/Retreat), Year 2 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00


Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 3 Average
Alt. 2 (Abandon/Retreat), Year 3 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 3 Average
Alt. 2 (Abandon/Retreat), Year 3 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00


Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 4 Average
Alt. 2 (Abandon/Retreat), Year 4 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00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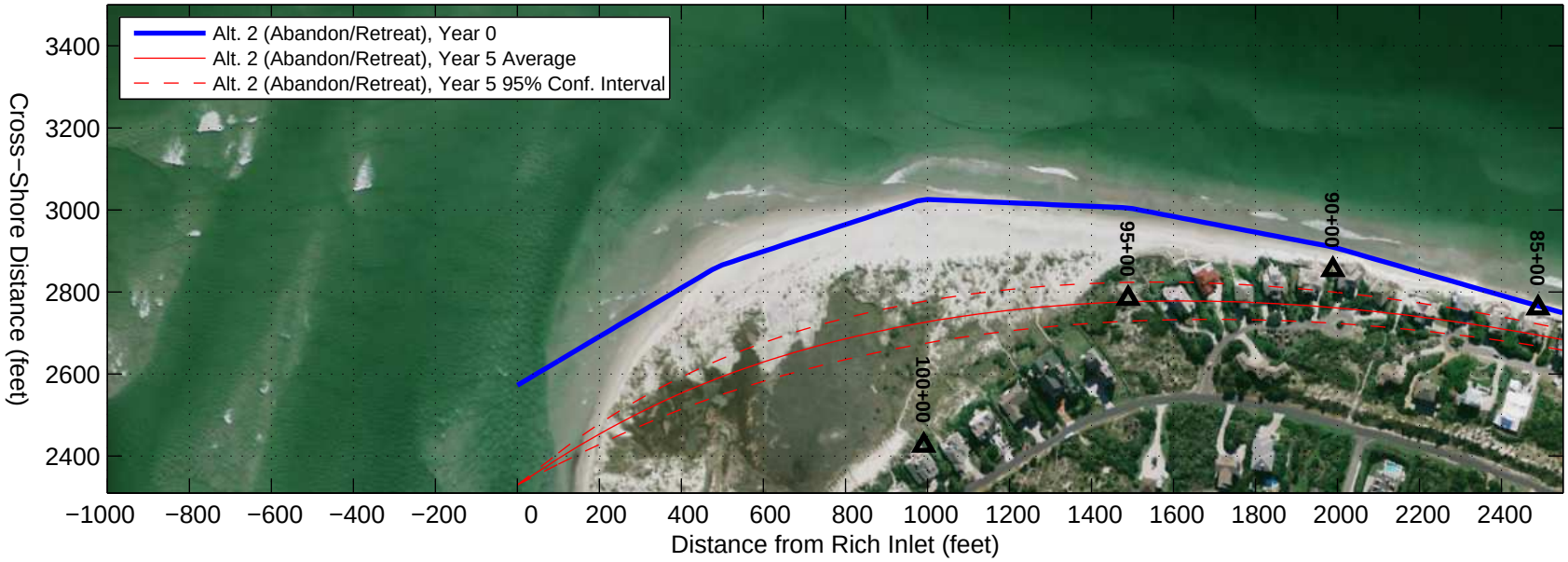
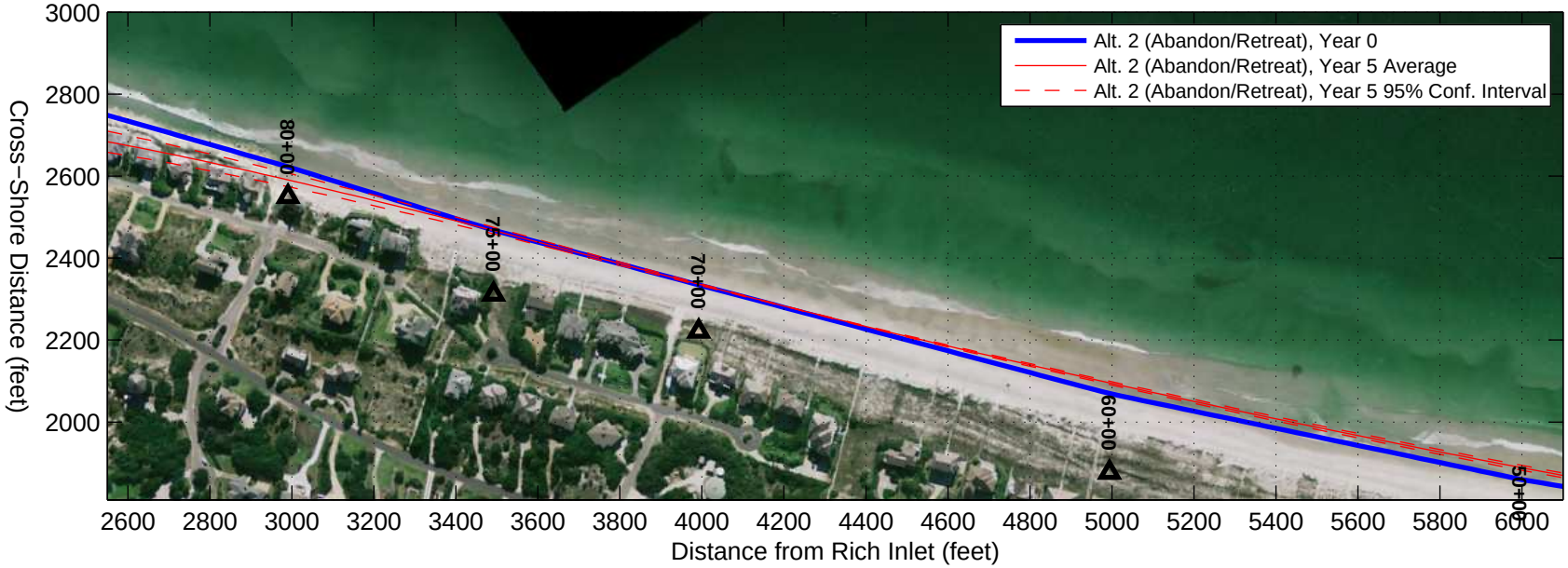
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 4 Average
Alt. 2 (Abandon/Retreat), Year 4 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00

Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



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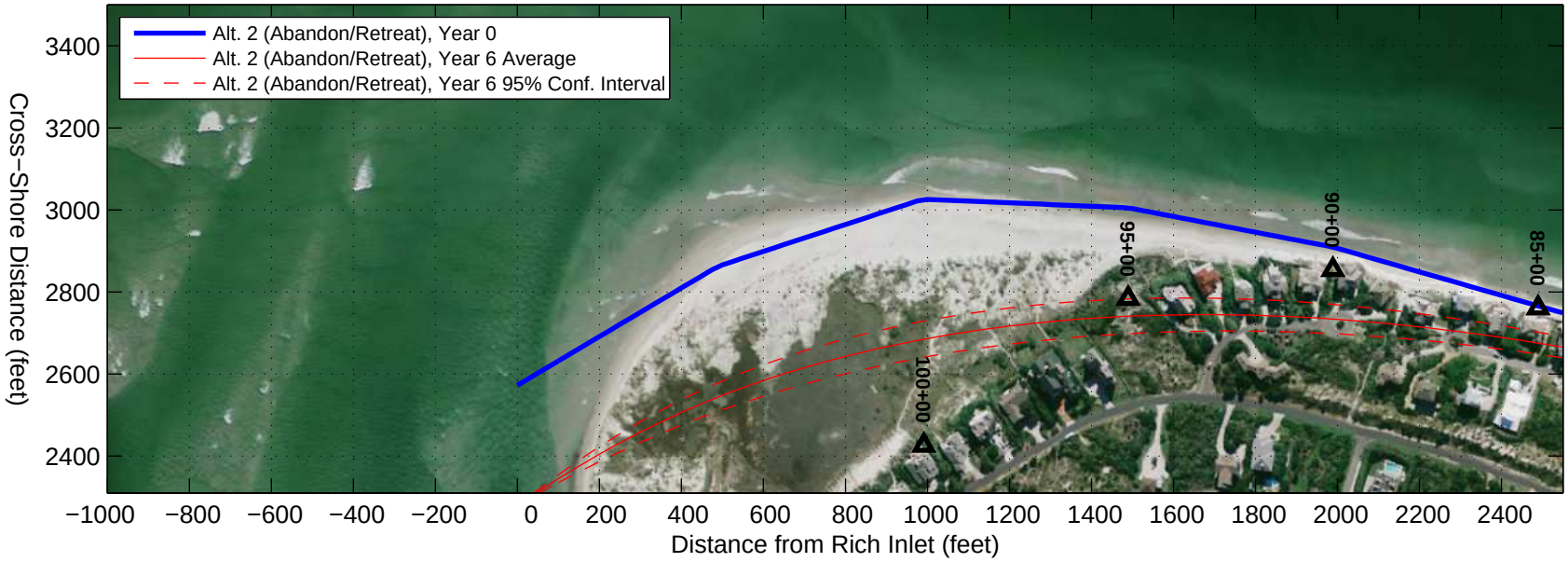
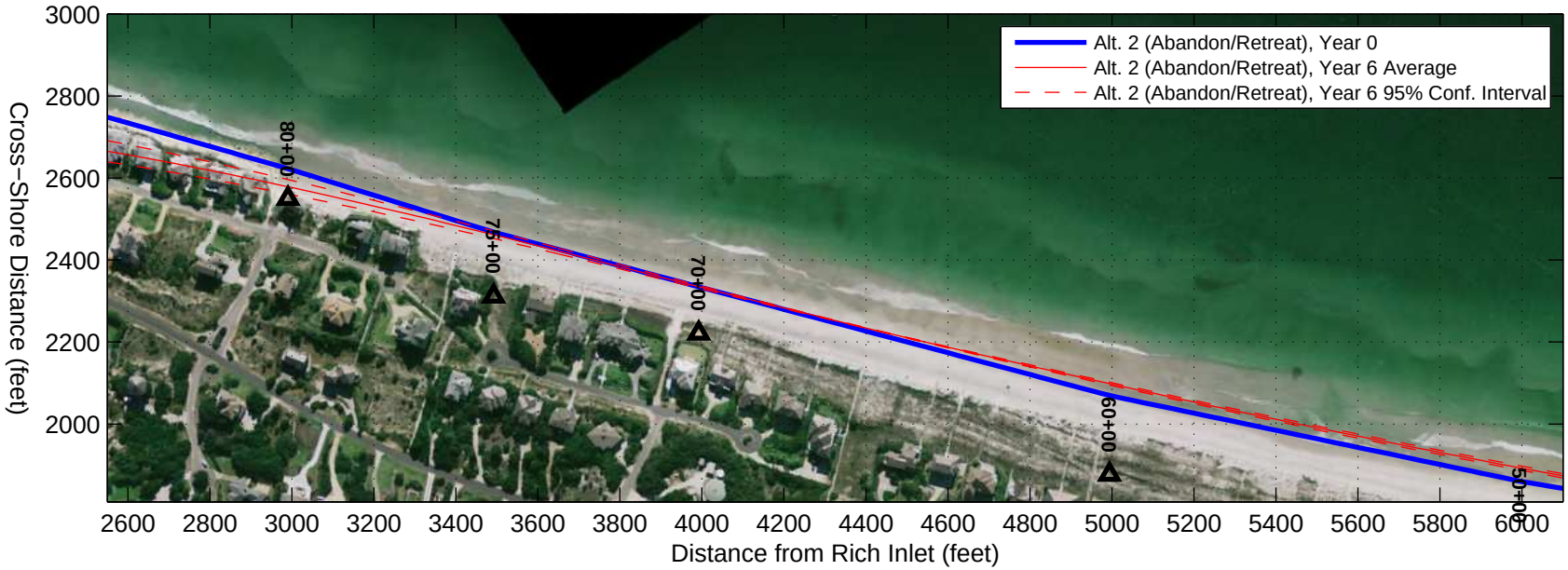
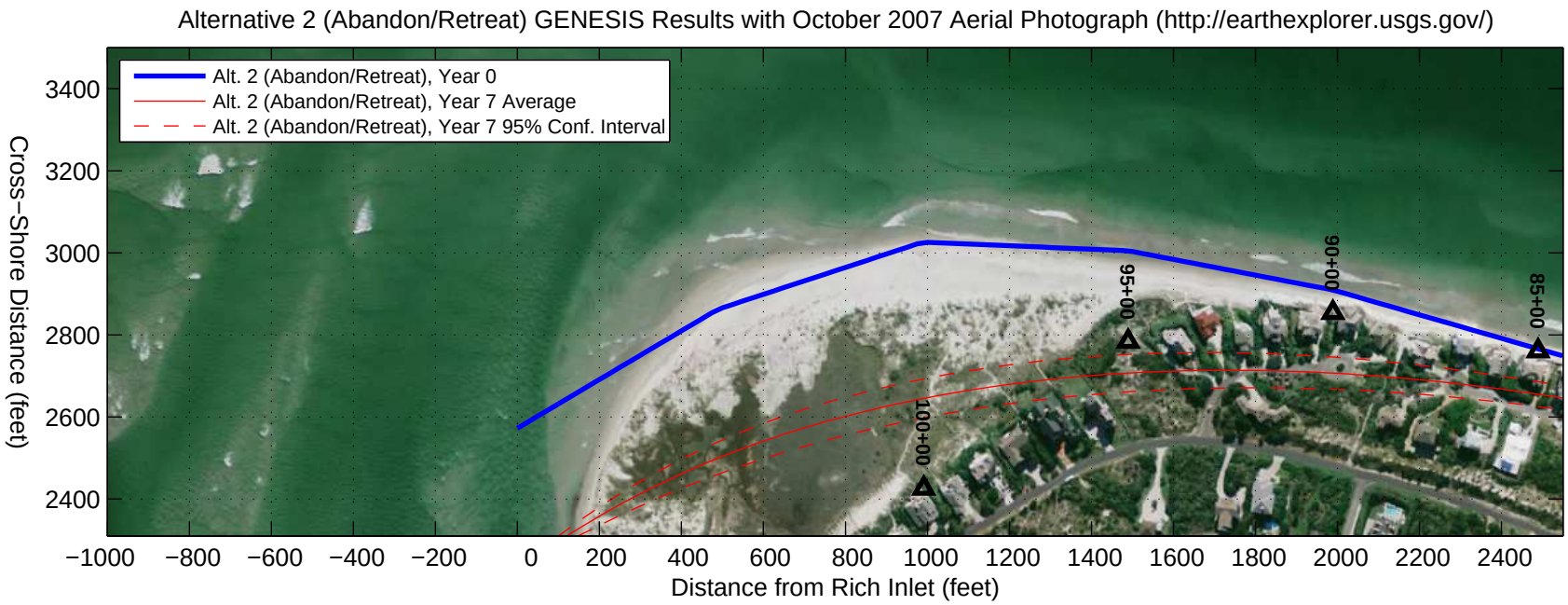
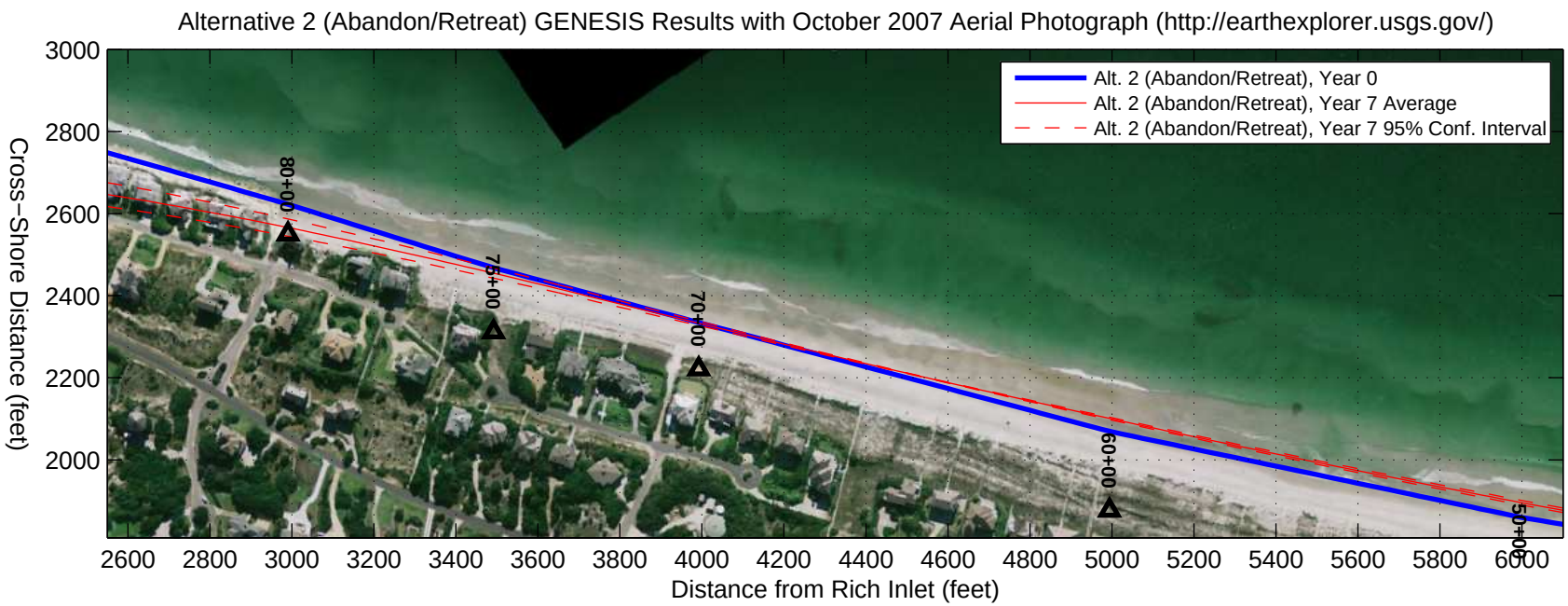


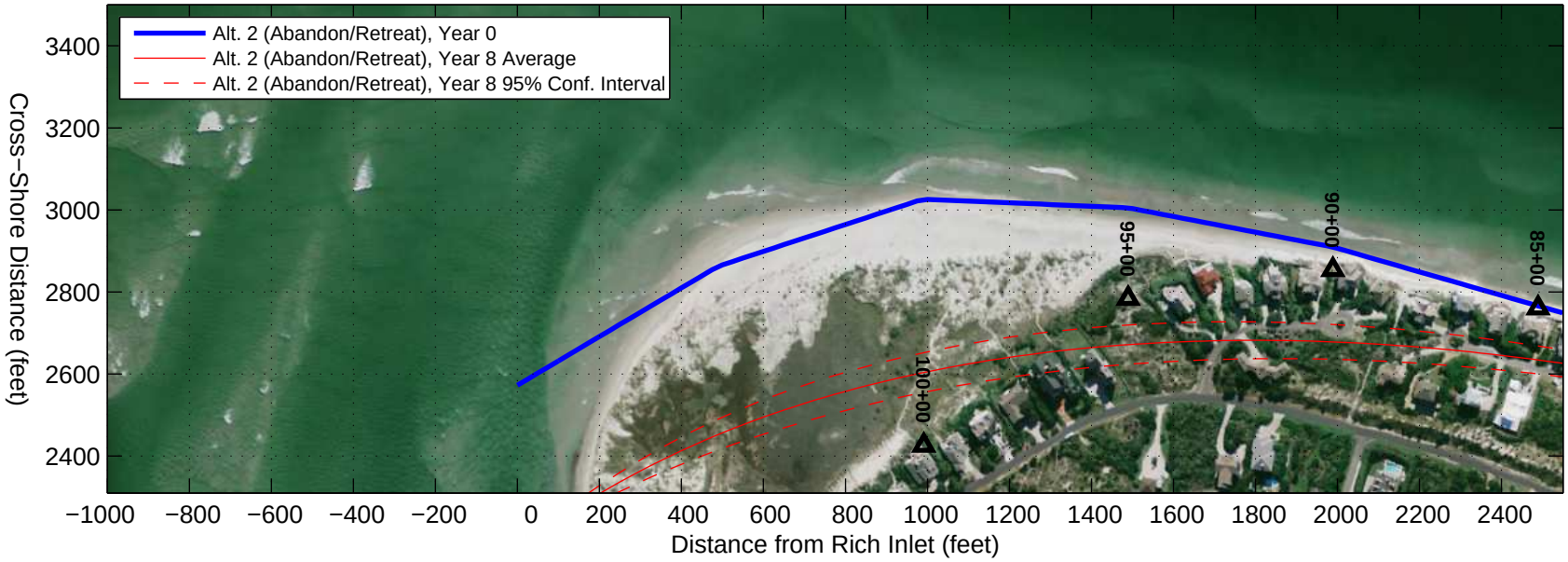
Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)




Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 7 Average
Alt. 2 (Abandon/Retreat), Year 7 95% Conf. Interval
85+00
90+00
95+00
100+00
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)


Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 7 Average
Alt. 2 (Abandon/Retreat), Year 7 95% Conf. Interval
50+00
60+00
70+00
75+00
80+00
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)

Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



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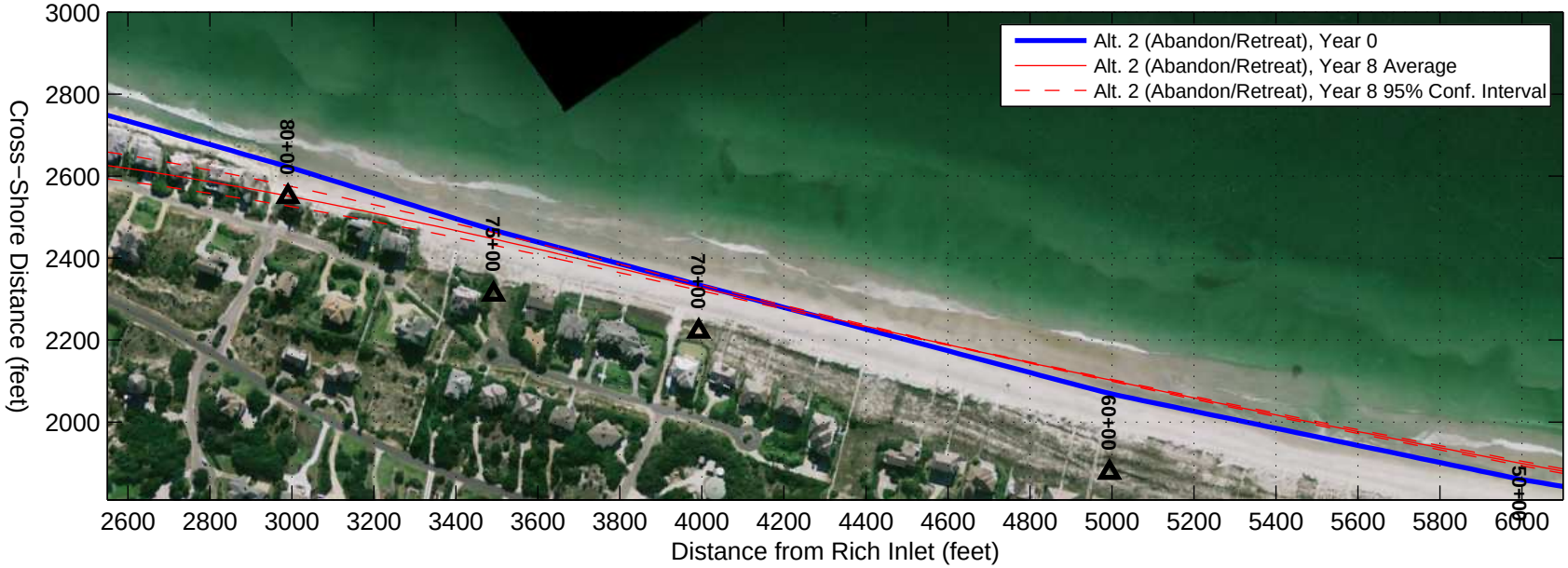
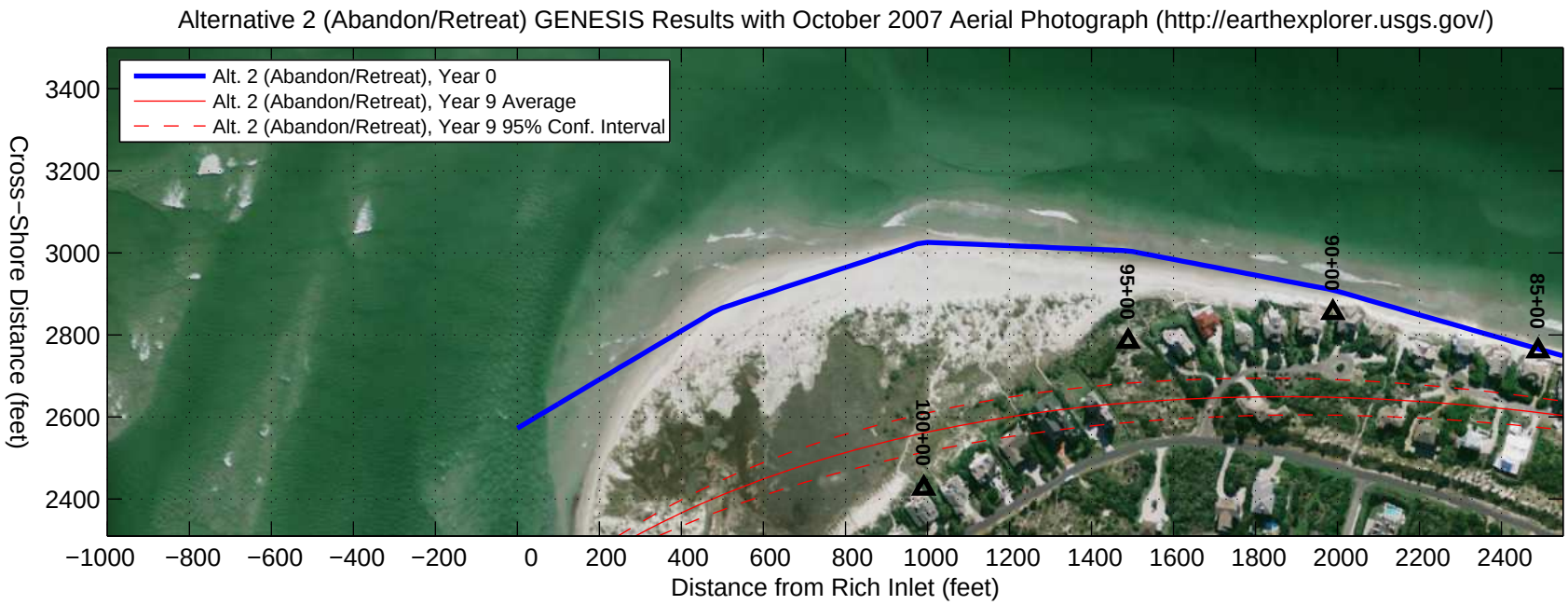
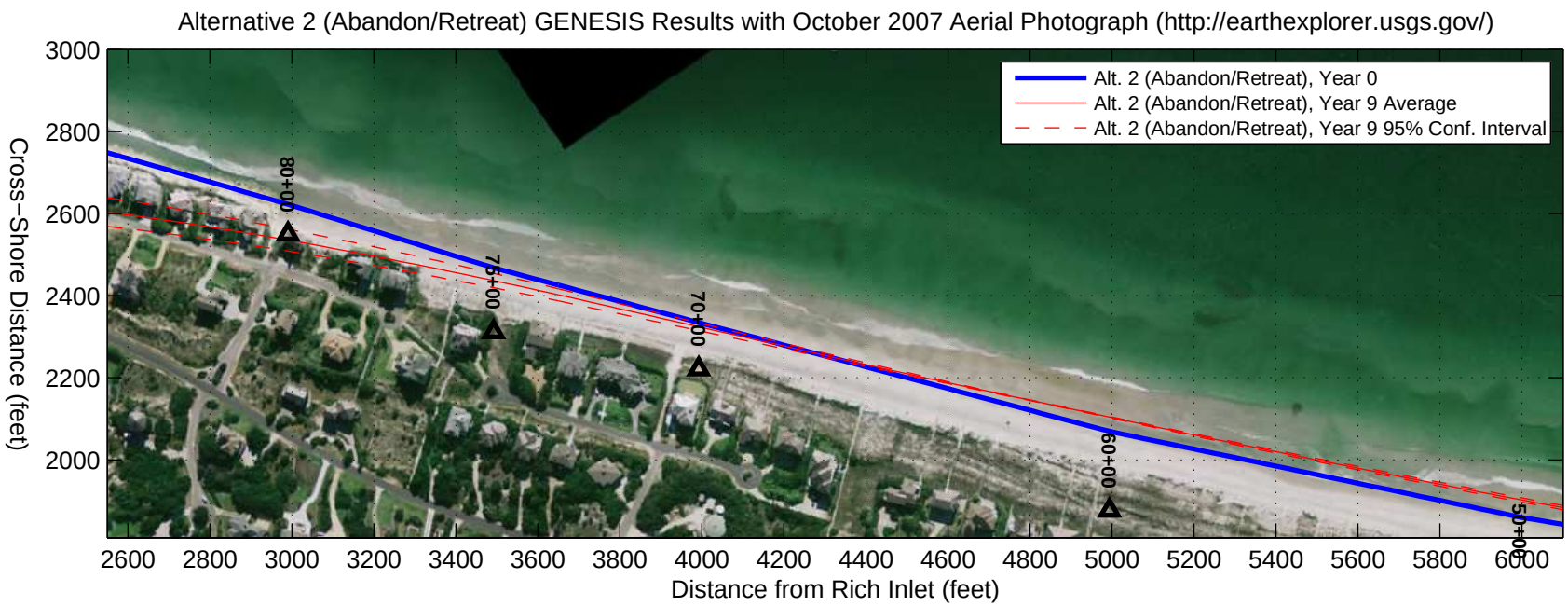



Alternative 2 (Abandon/Retreat) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 9 Average
Alt. 2 (Abandon/Retreat), Year 9 95% Conf. Interval
85+00
90+00
95+00
100+00
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)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Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 9 Average
Alt. 2 (Abandon/Retreat), Year 9 95% Conf. Interval
50+00
60+00
70+00
75+00
80+00
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)

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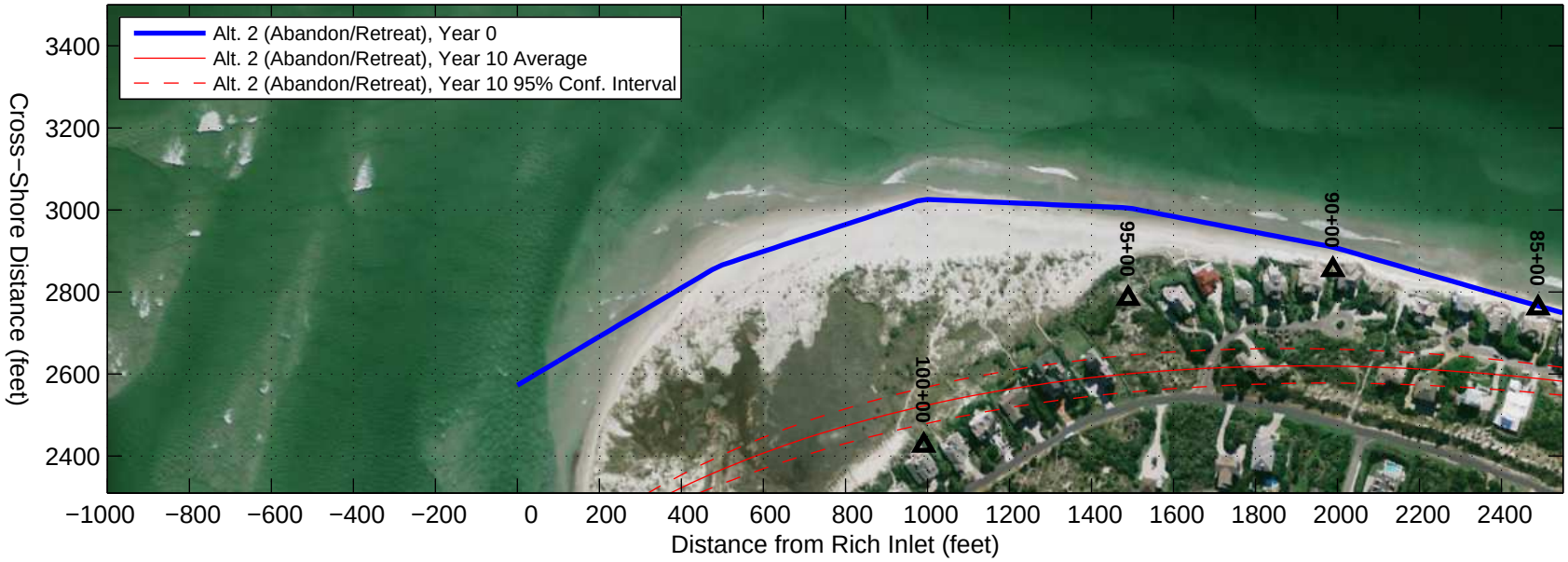

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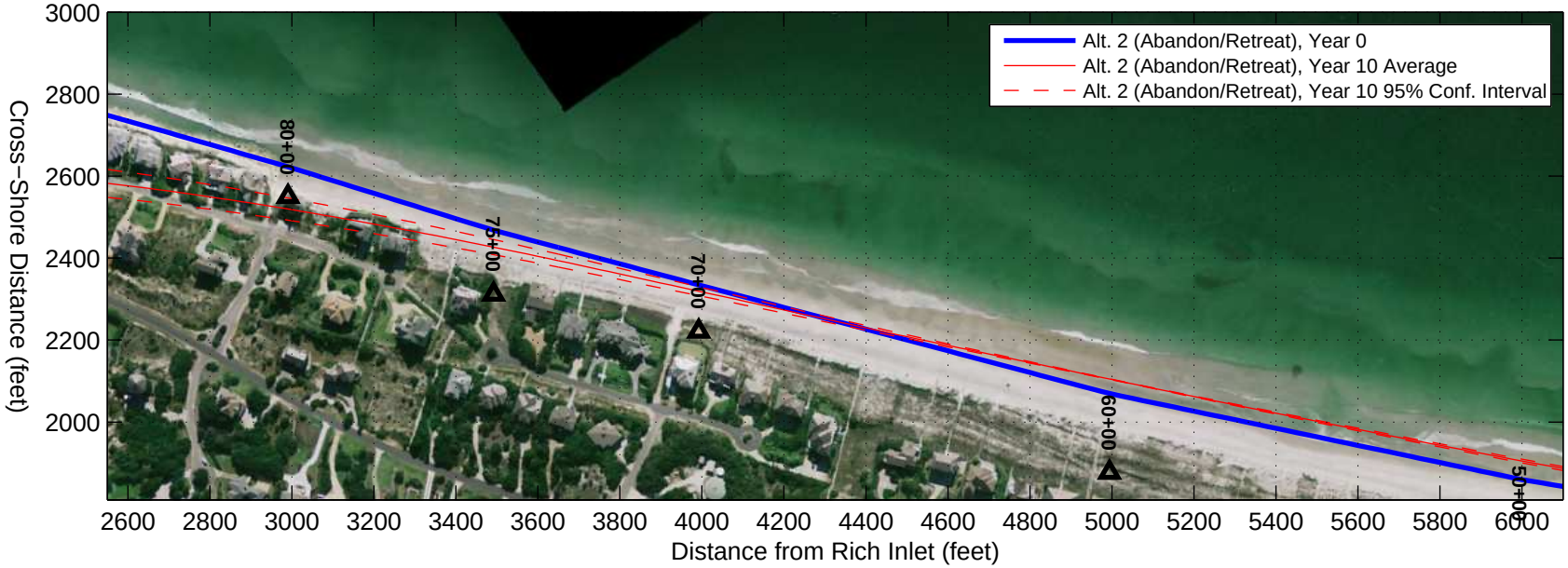
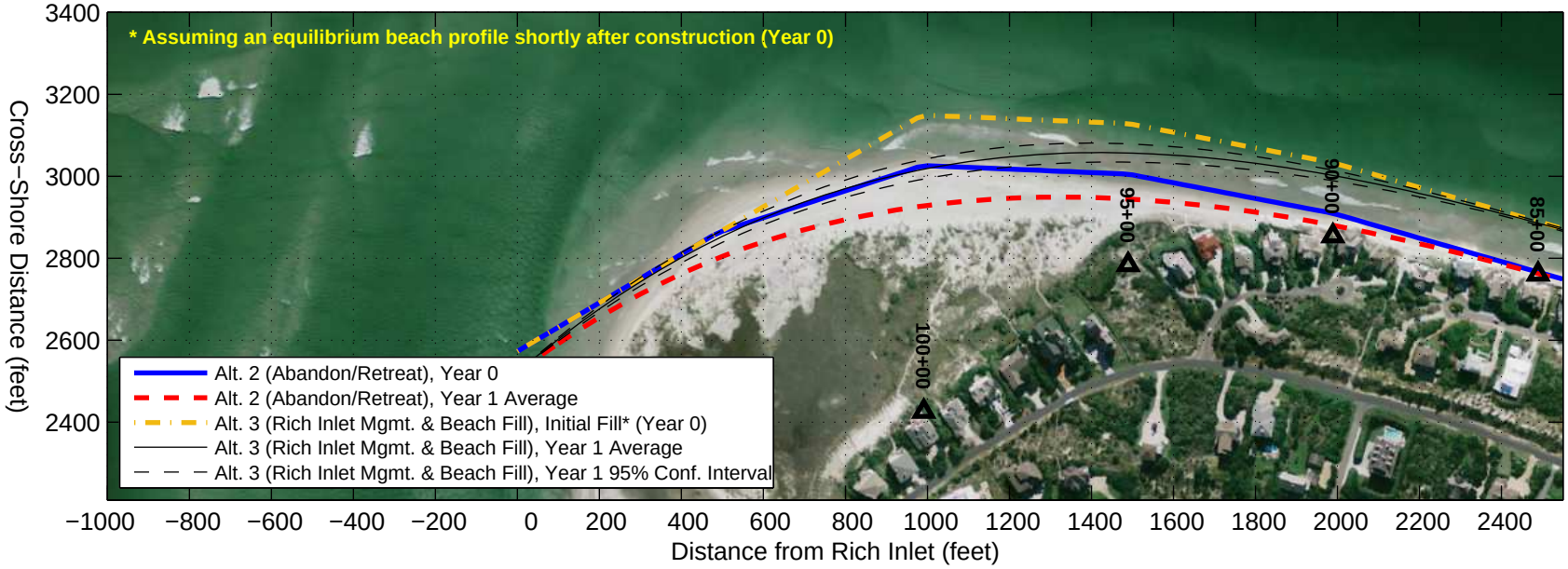


Alternative 3 (Rich Inlet Mgmt. & Beach Fill) GENESIS Results with October 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



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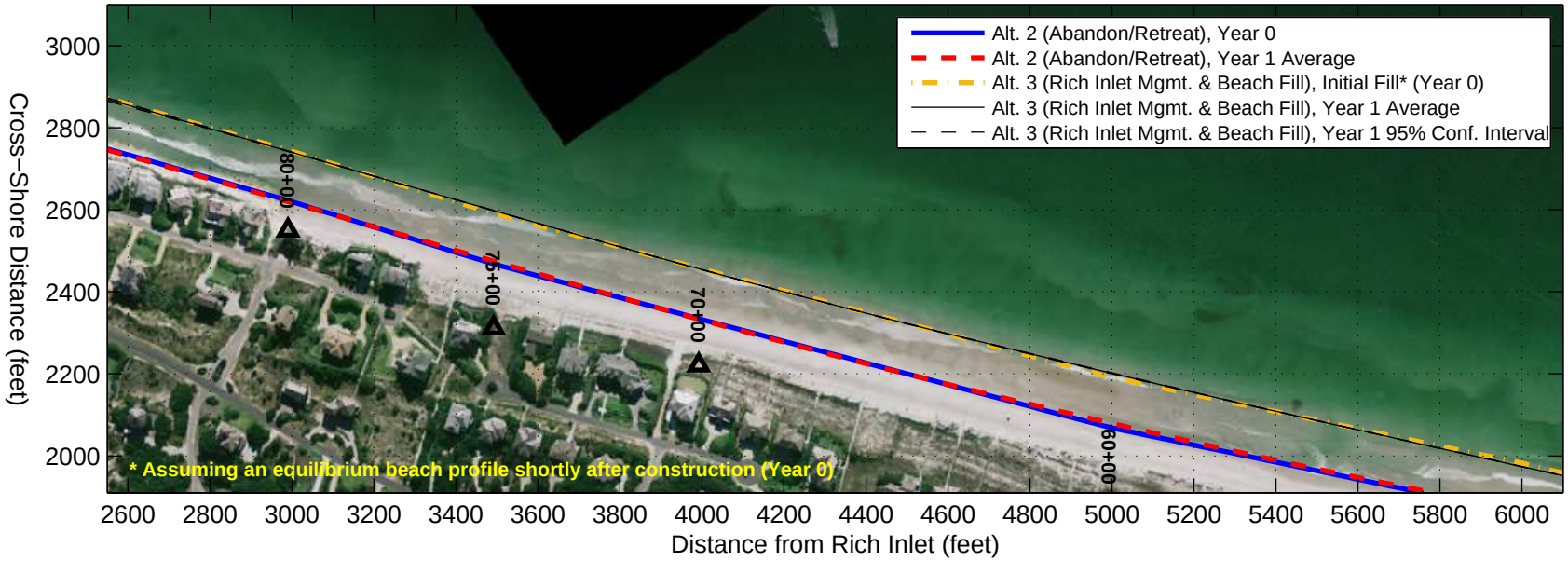

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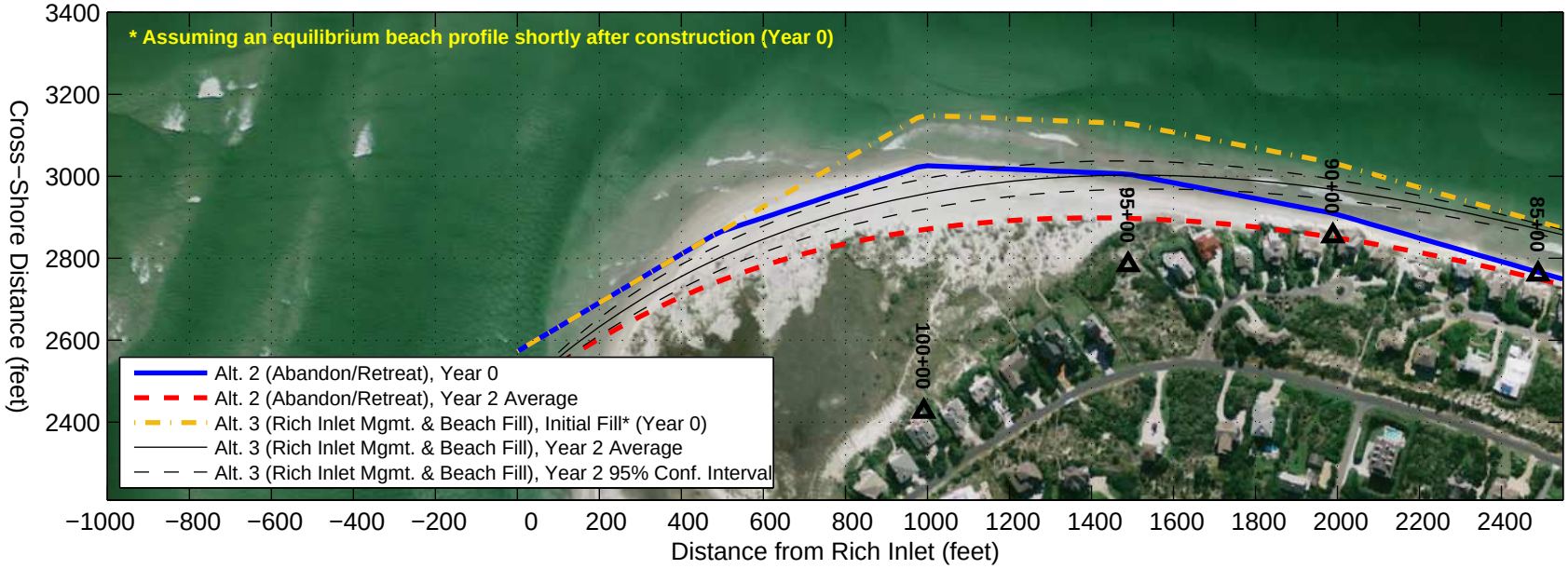

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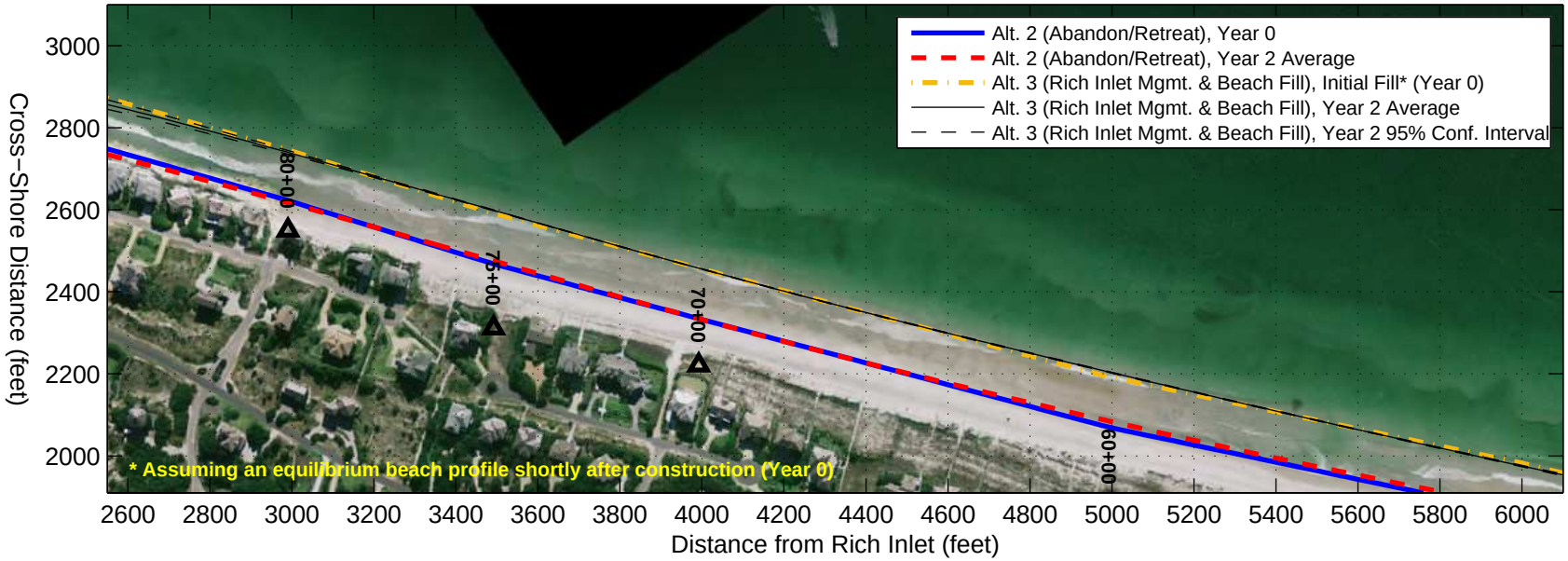

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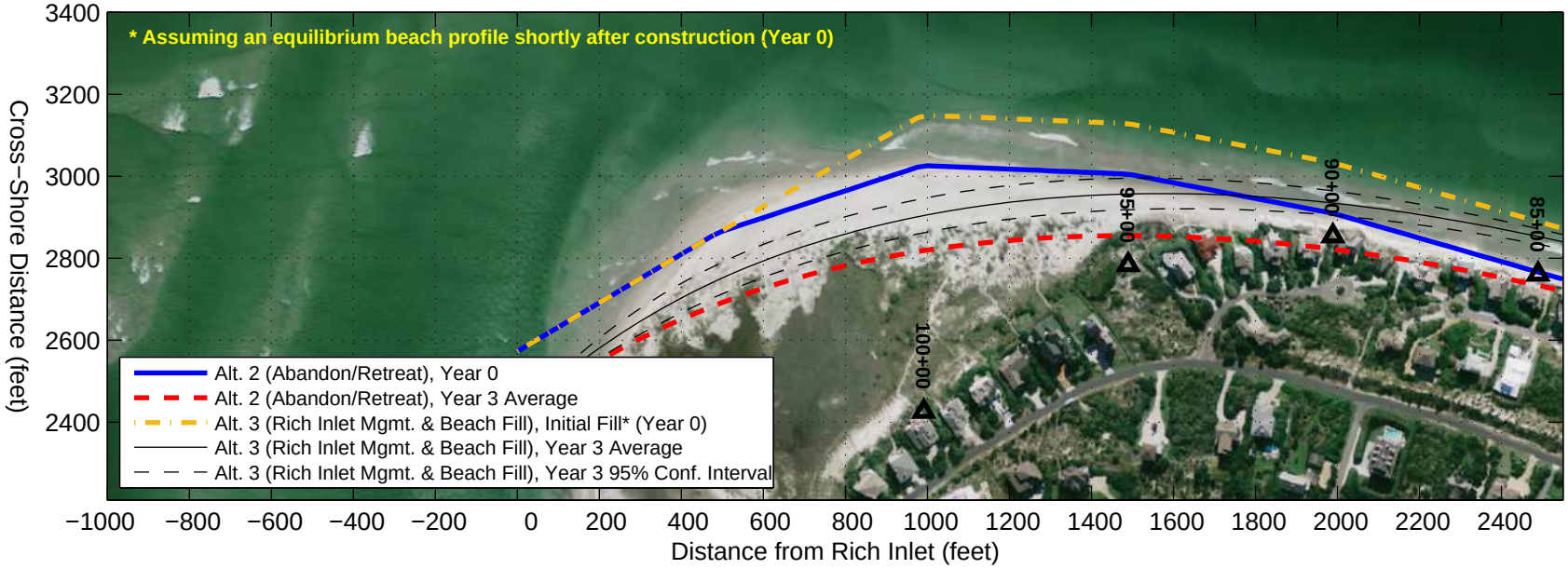

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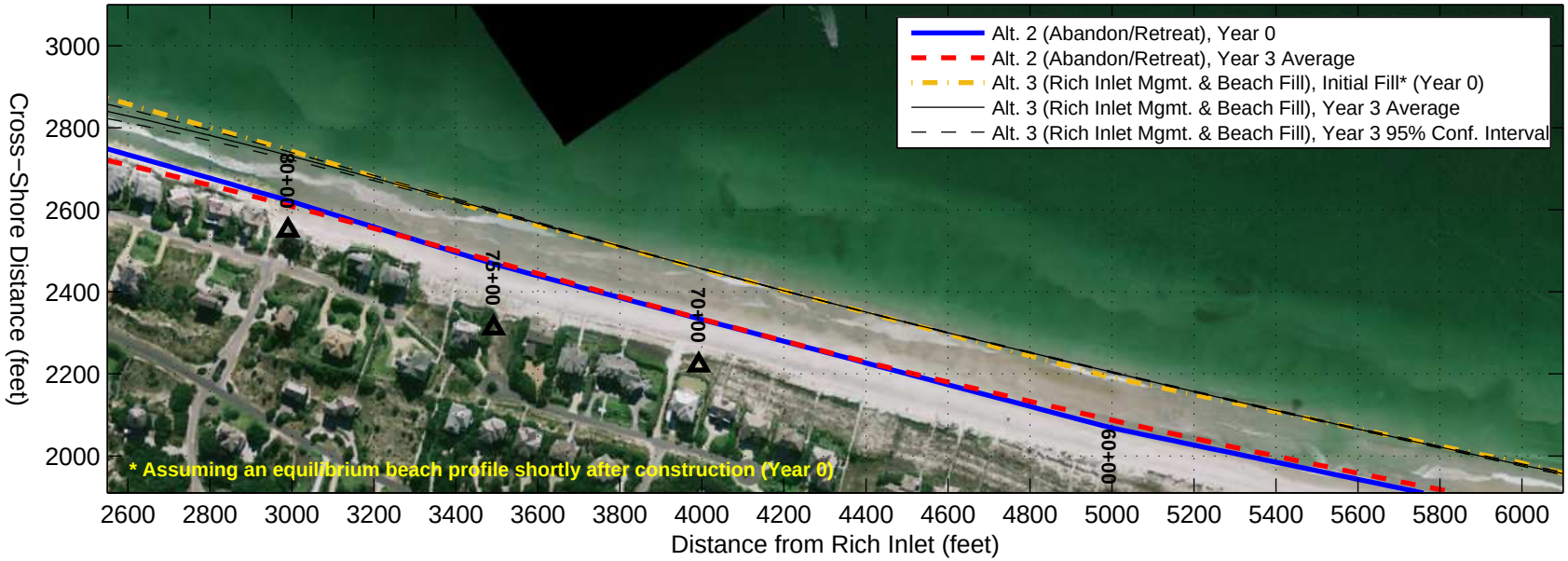

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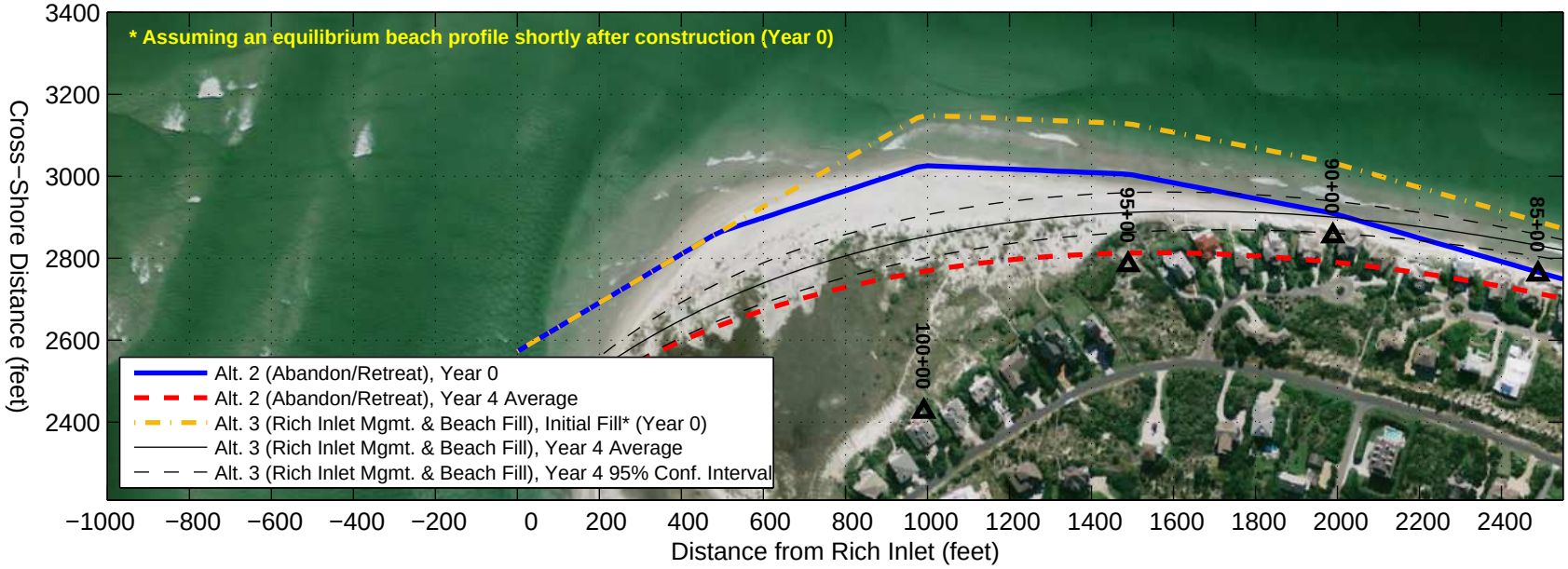

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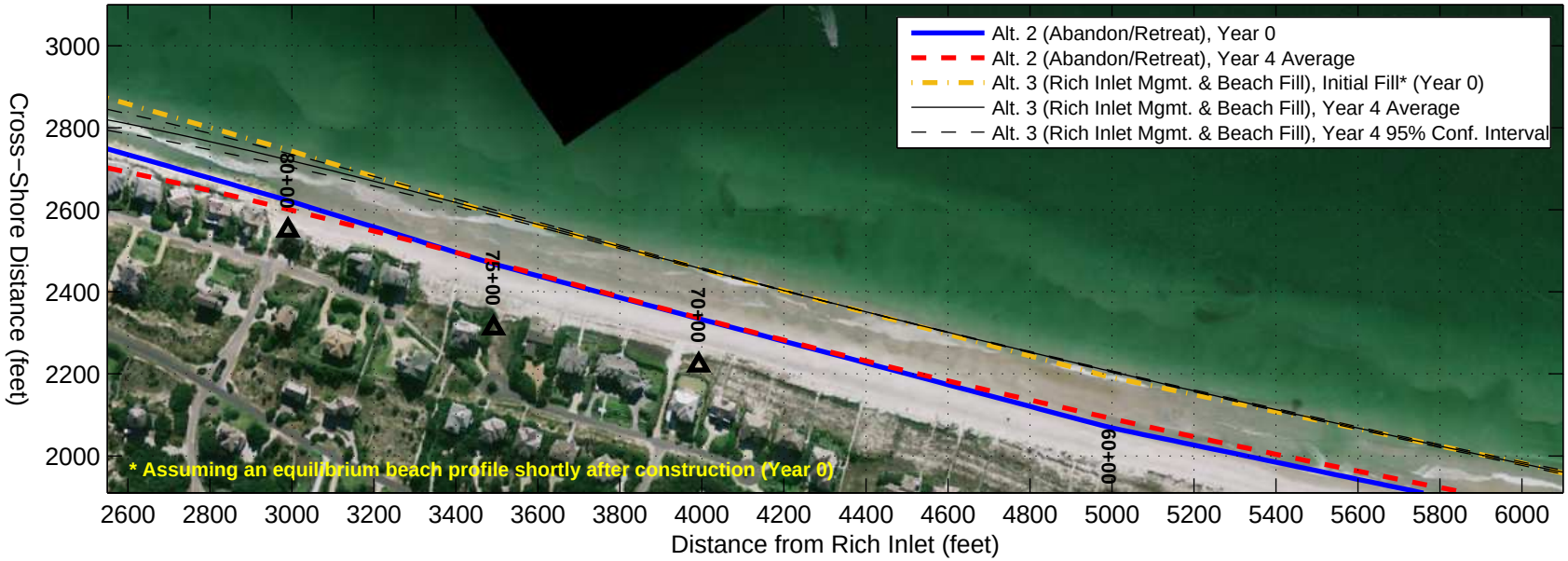

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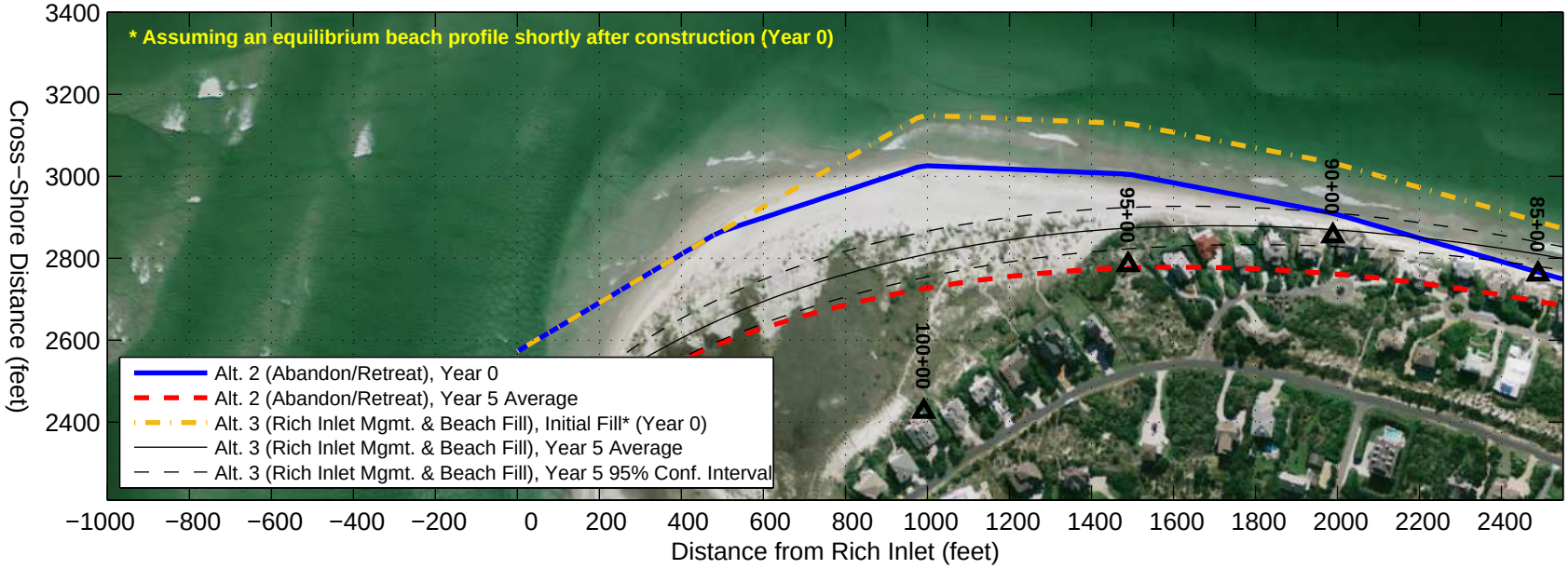

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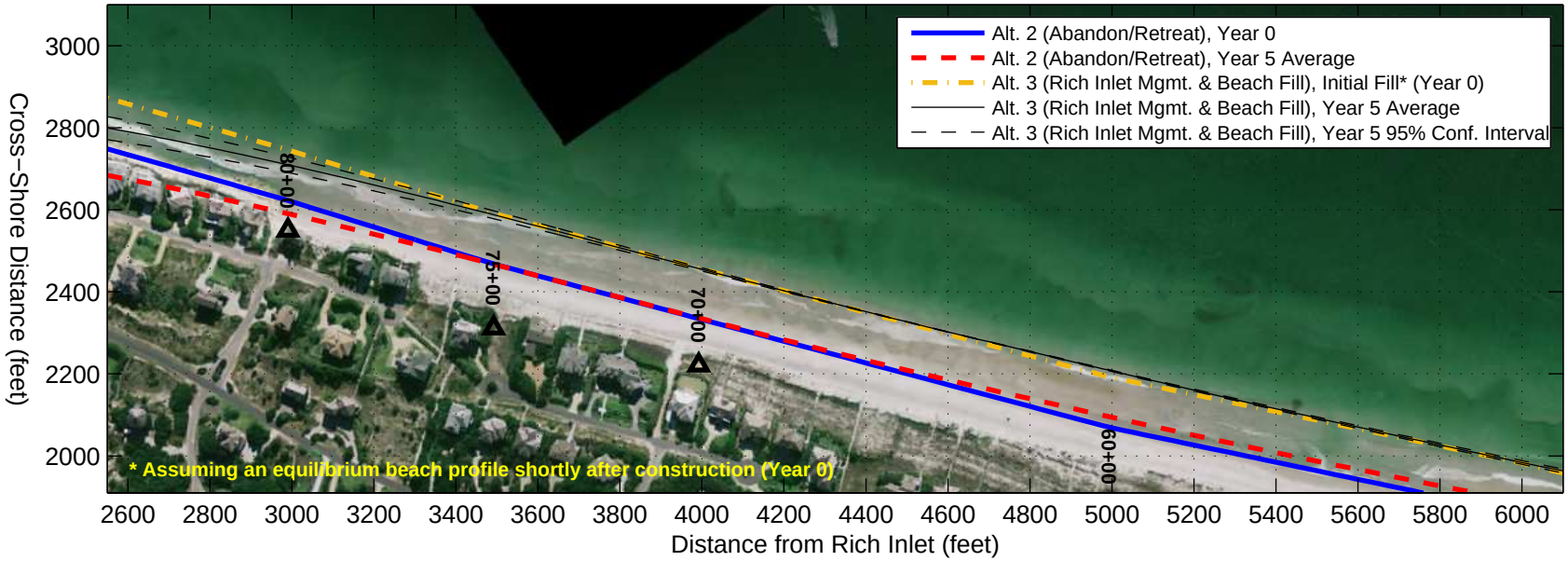

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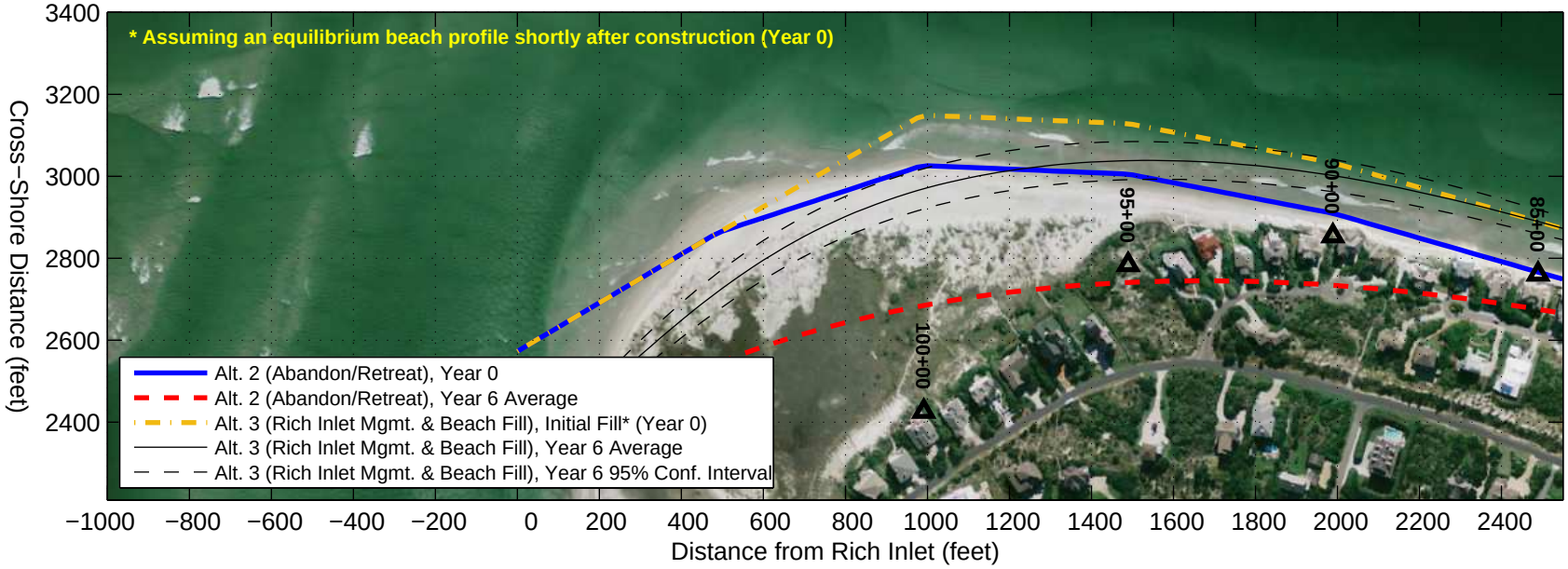

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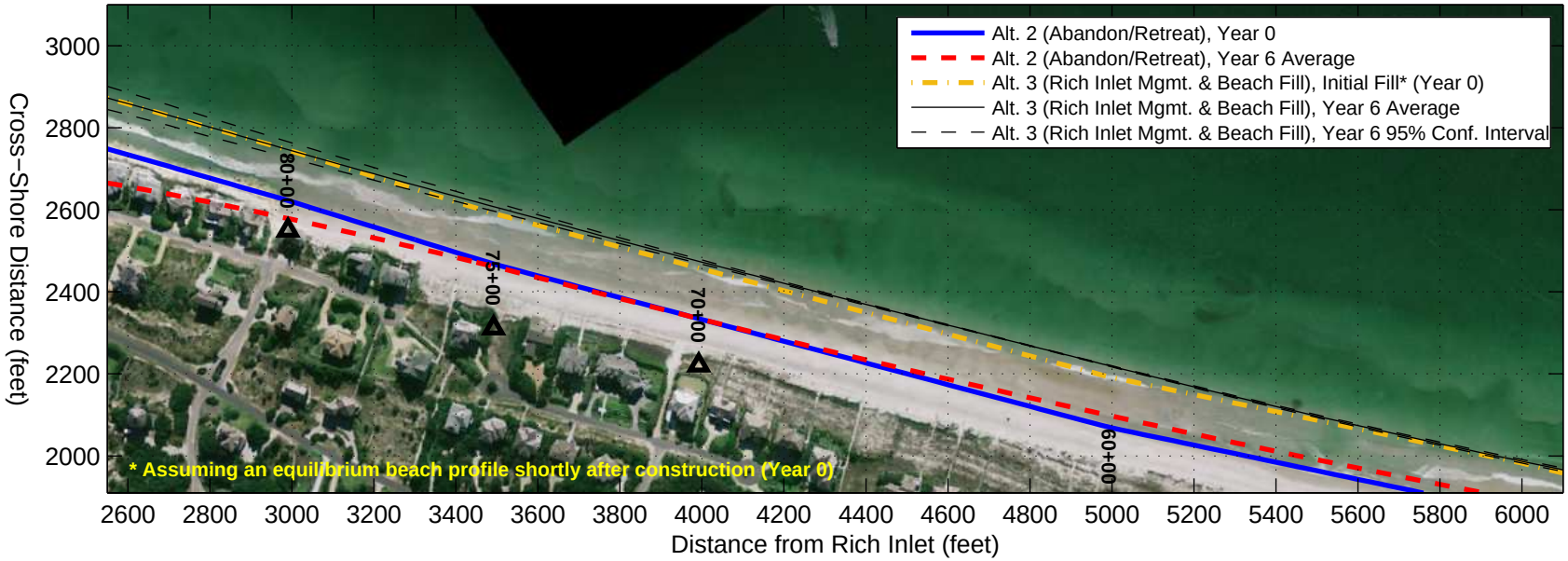

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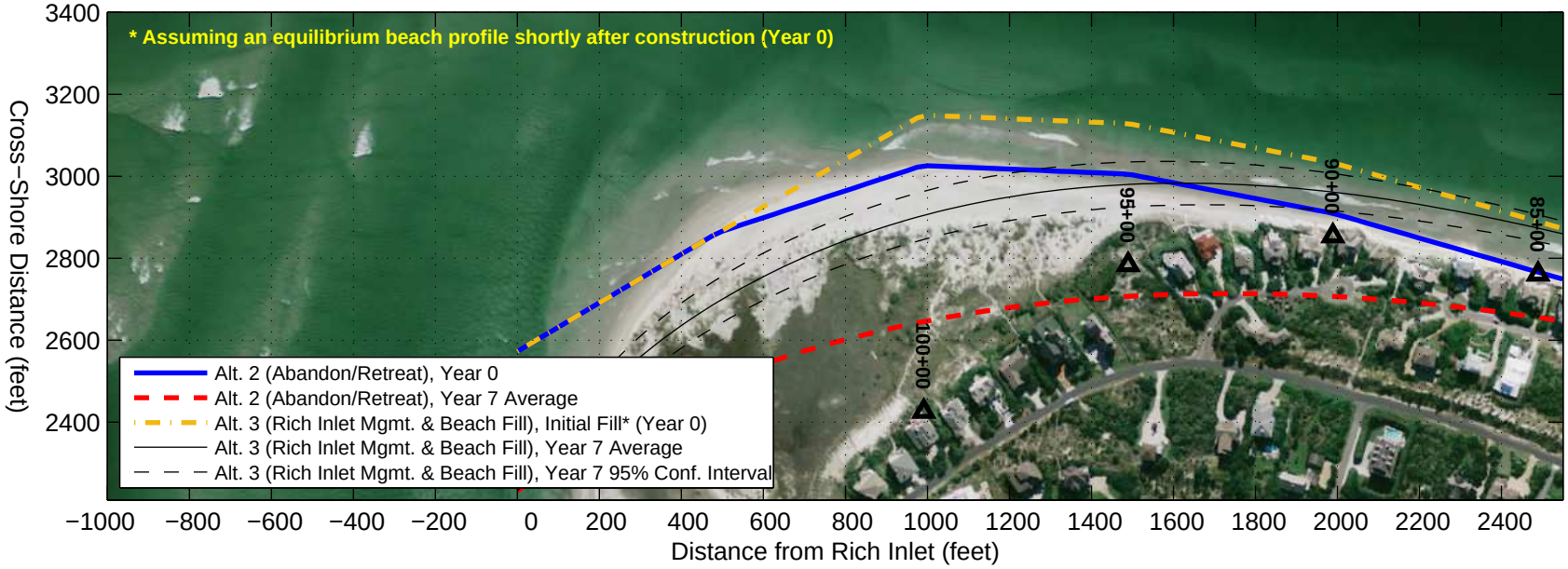

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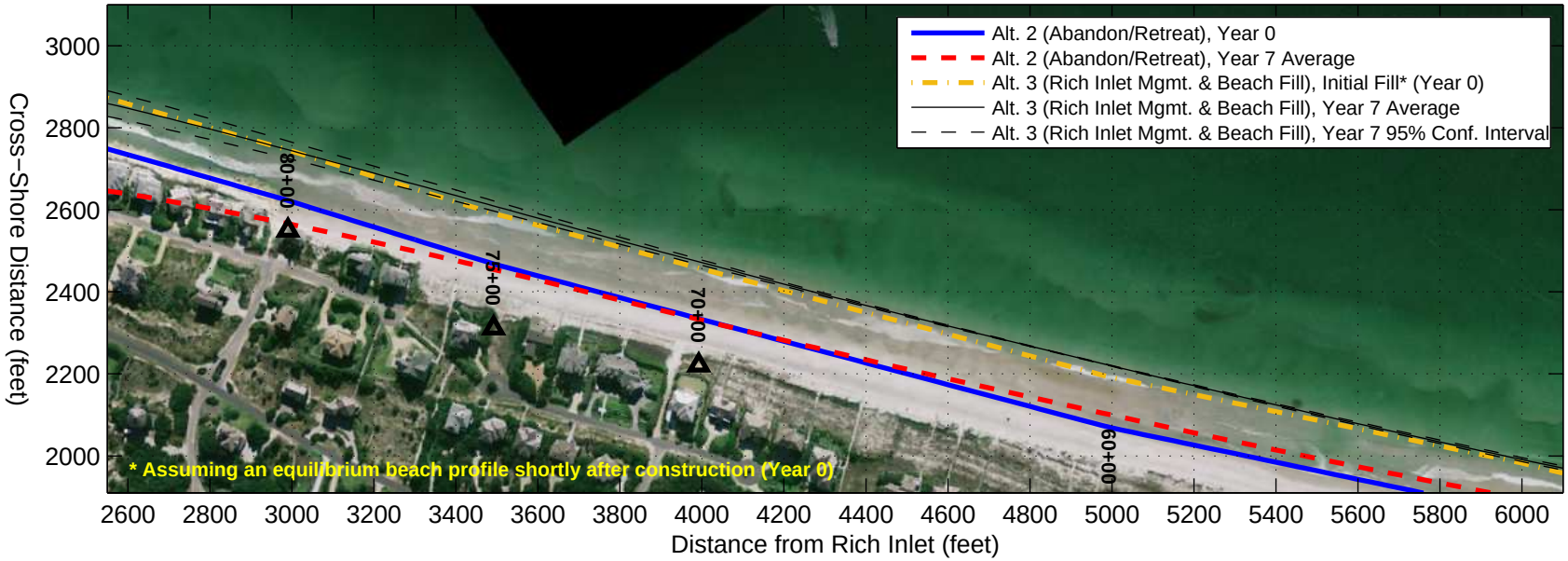

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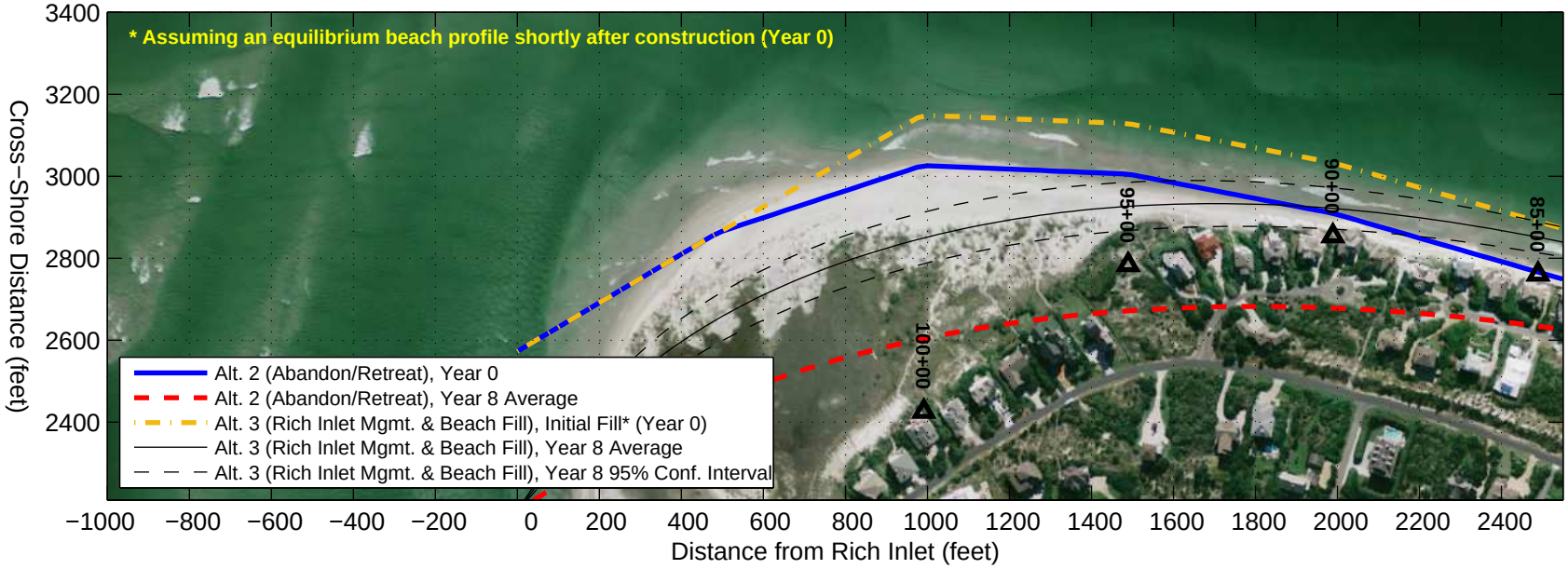

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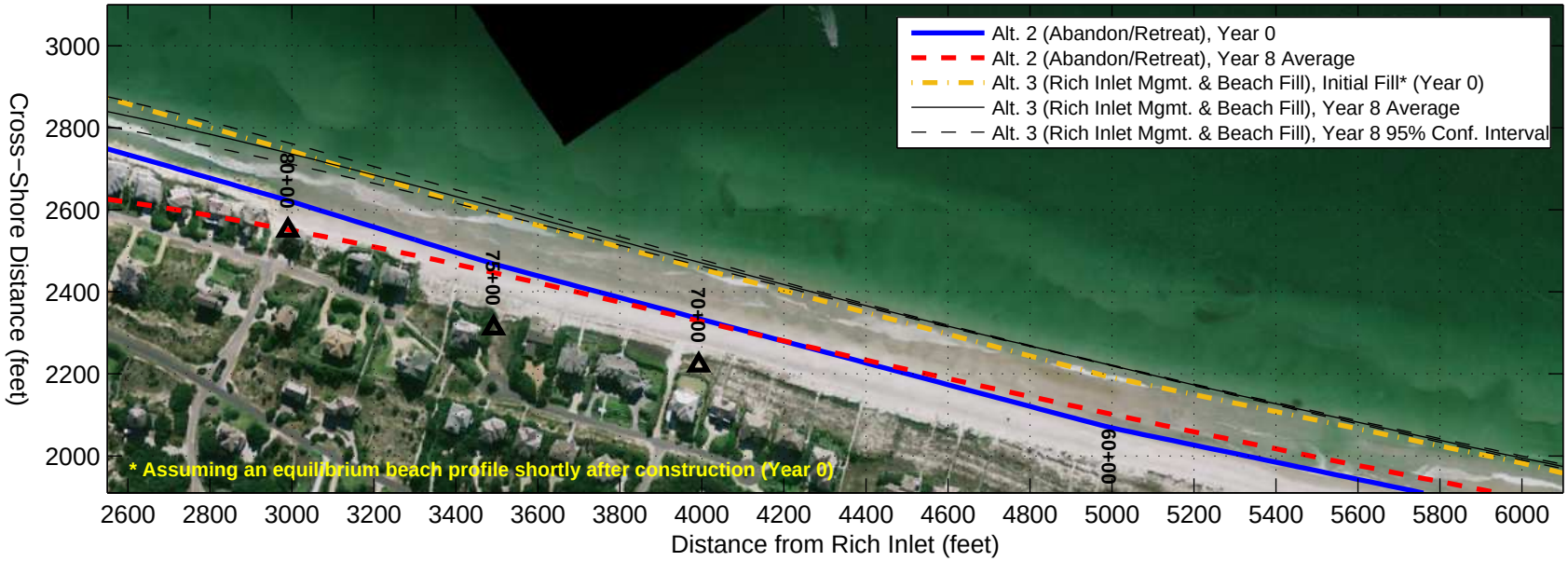

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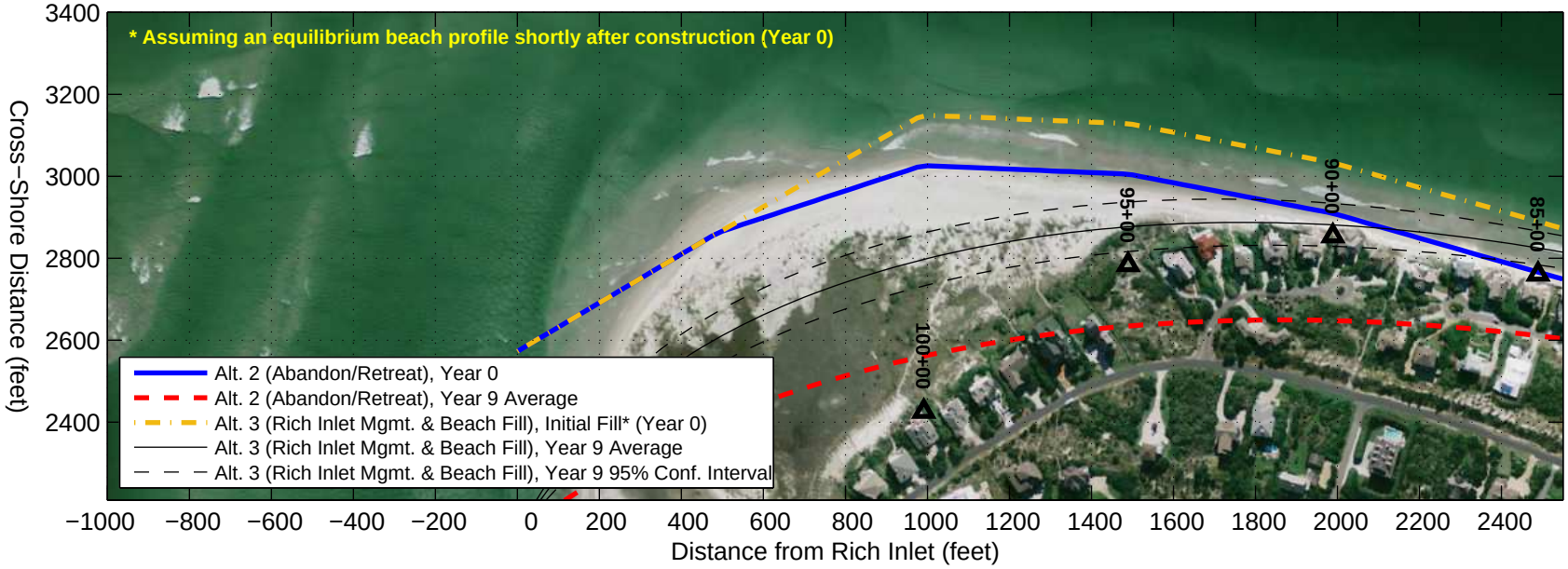

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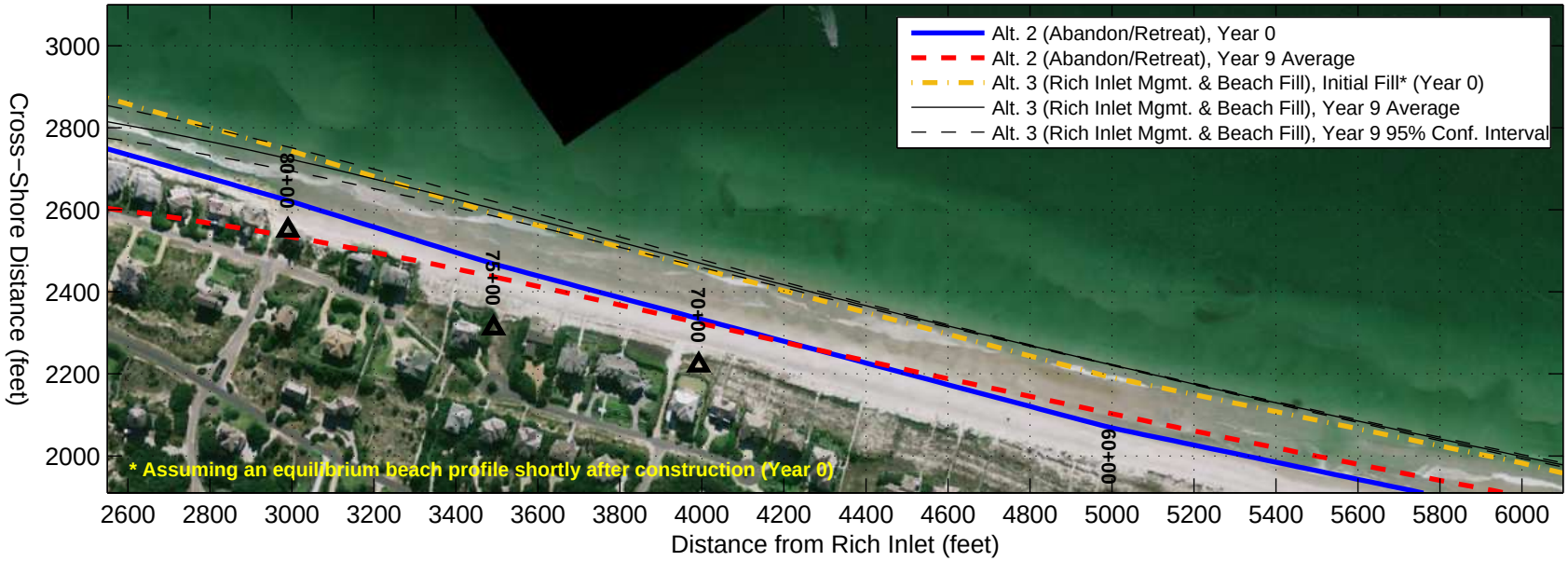

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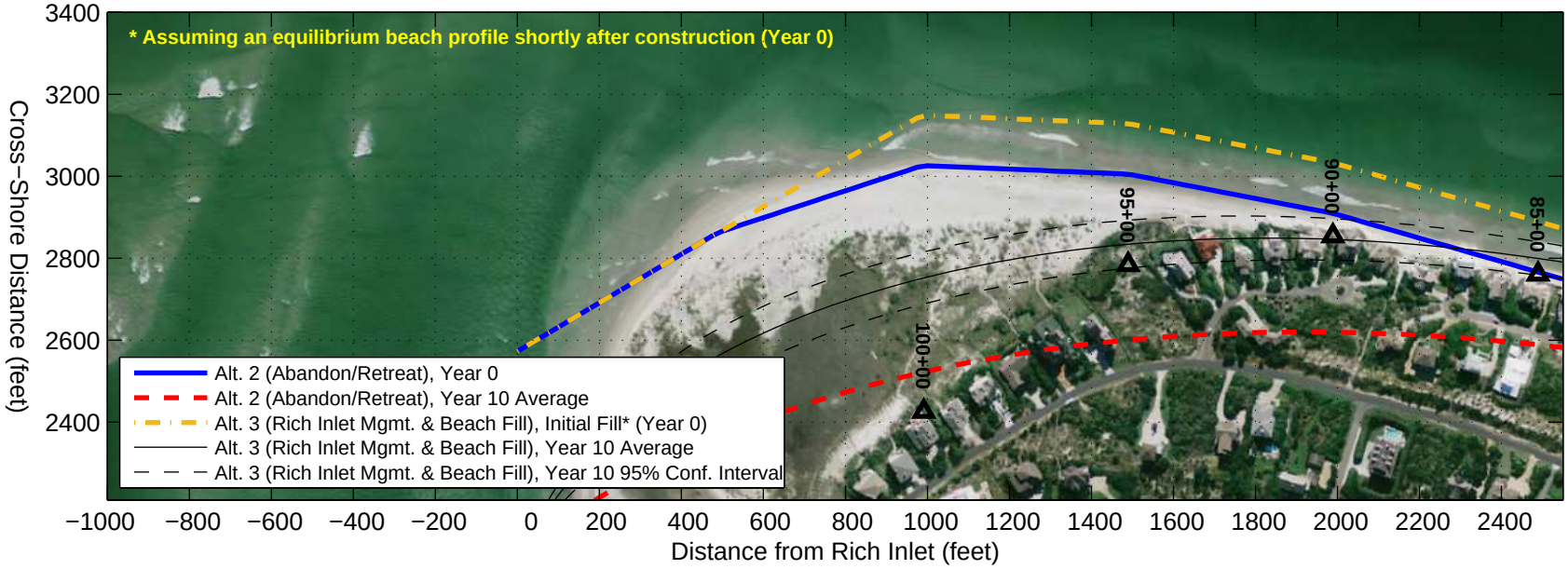

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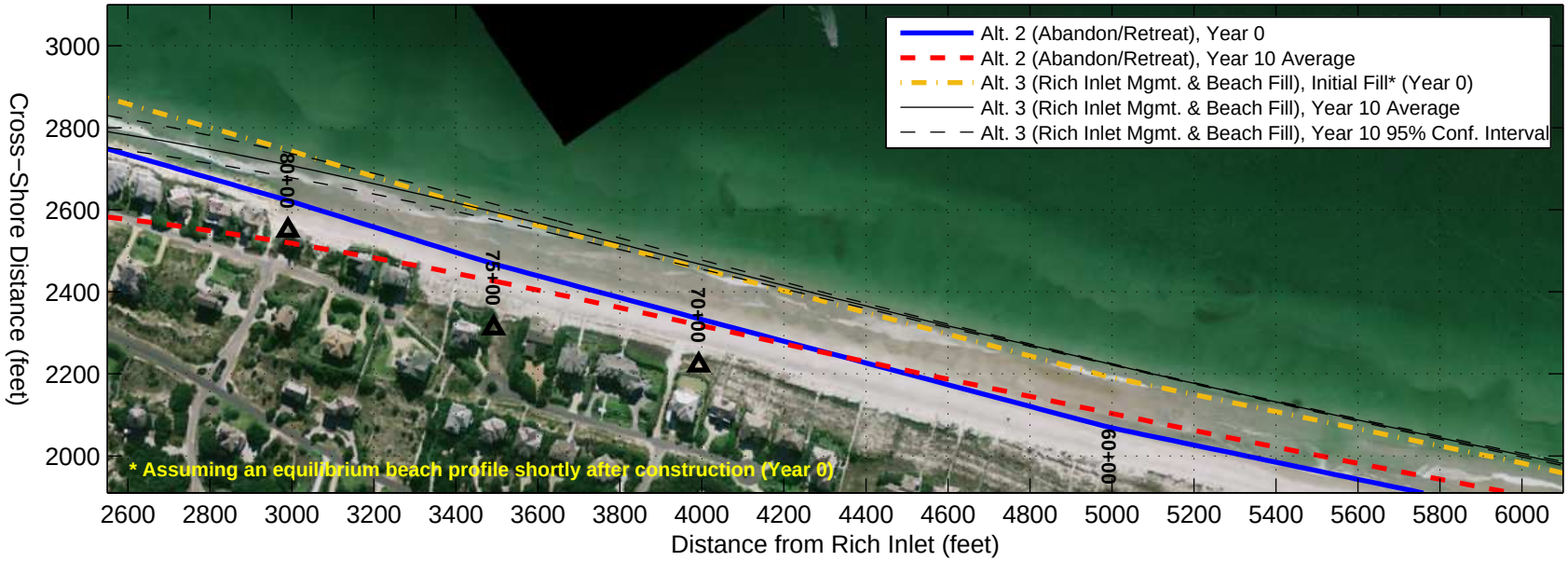

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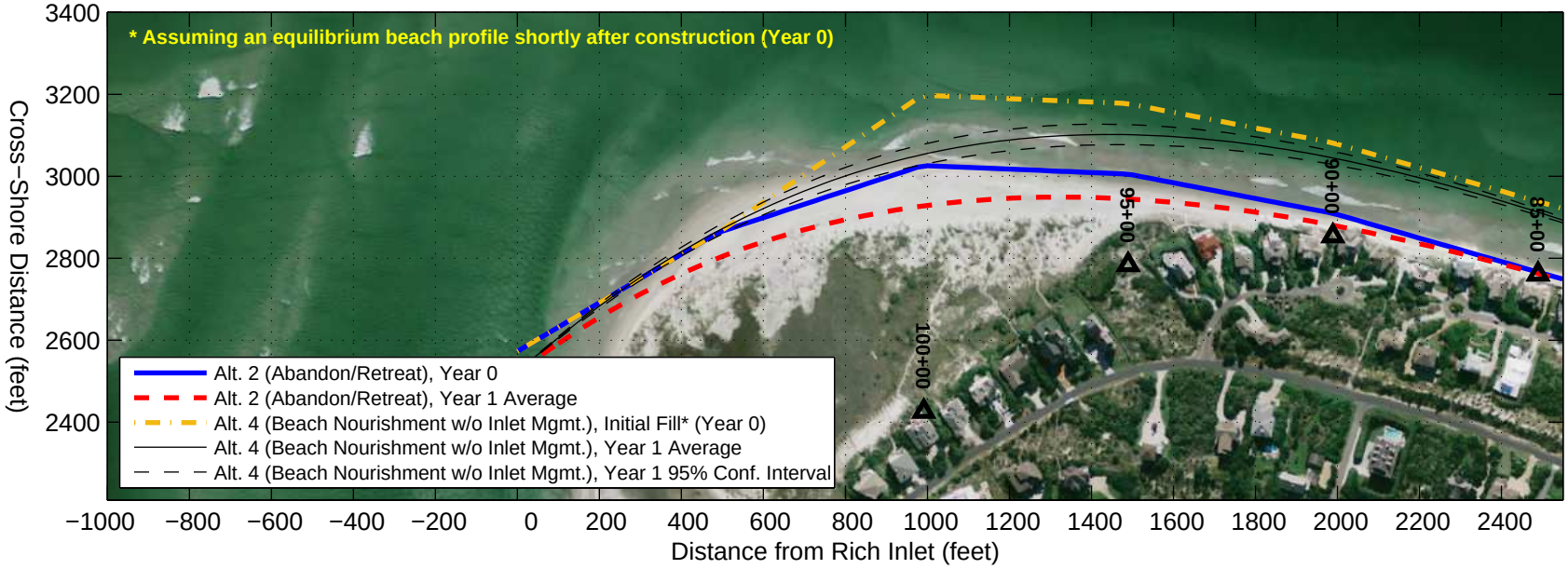

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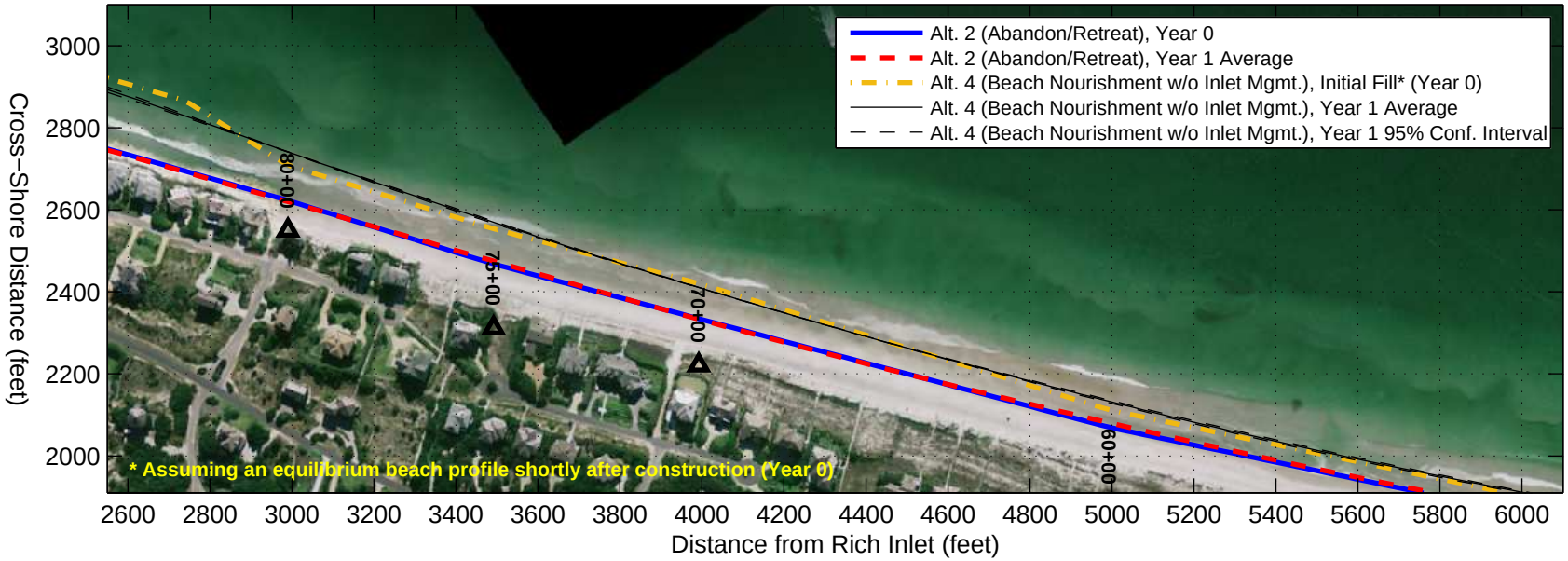

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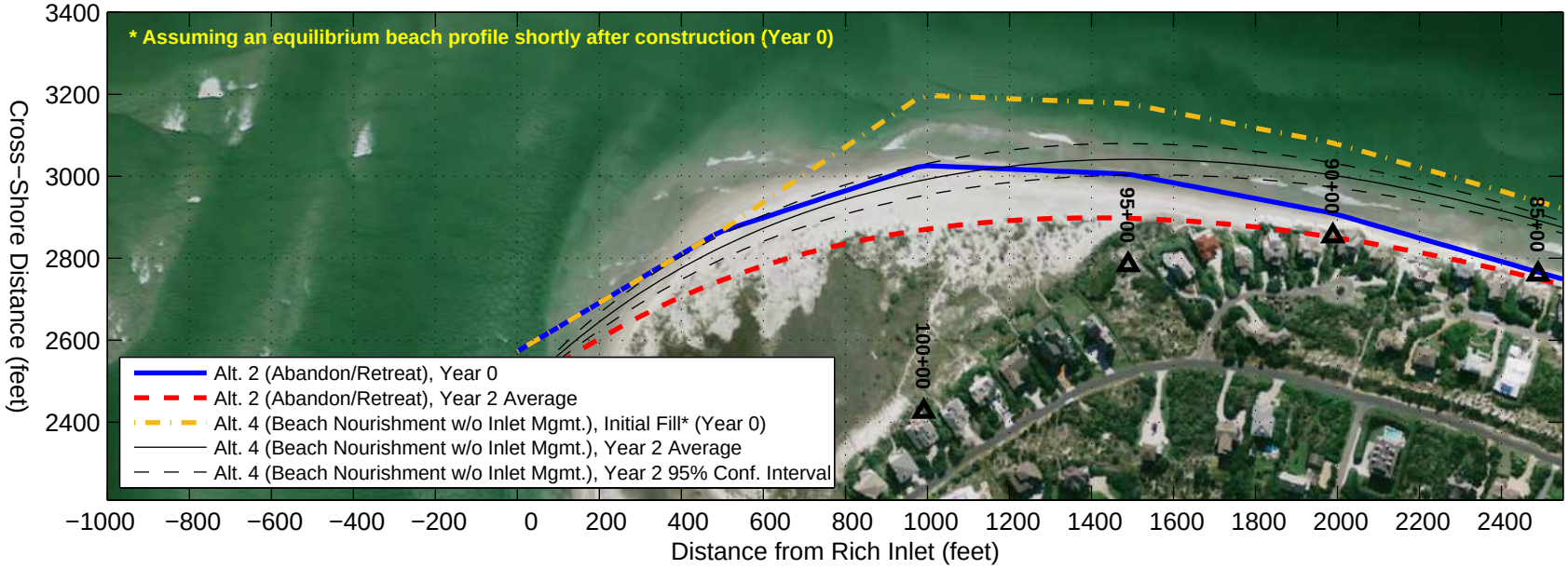

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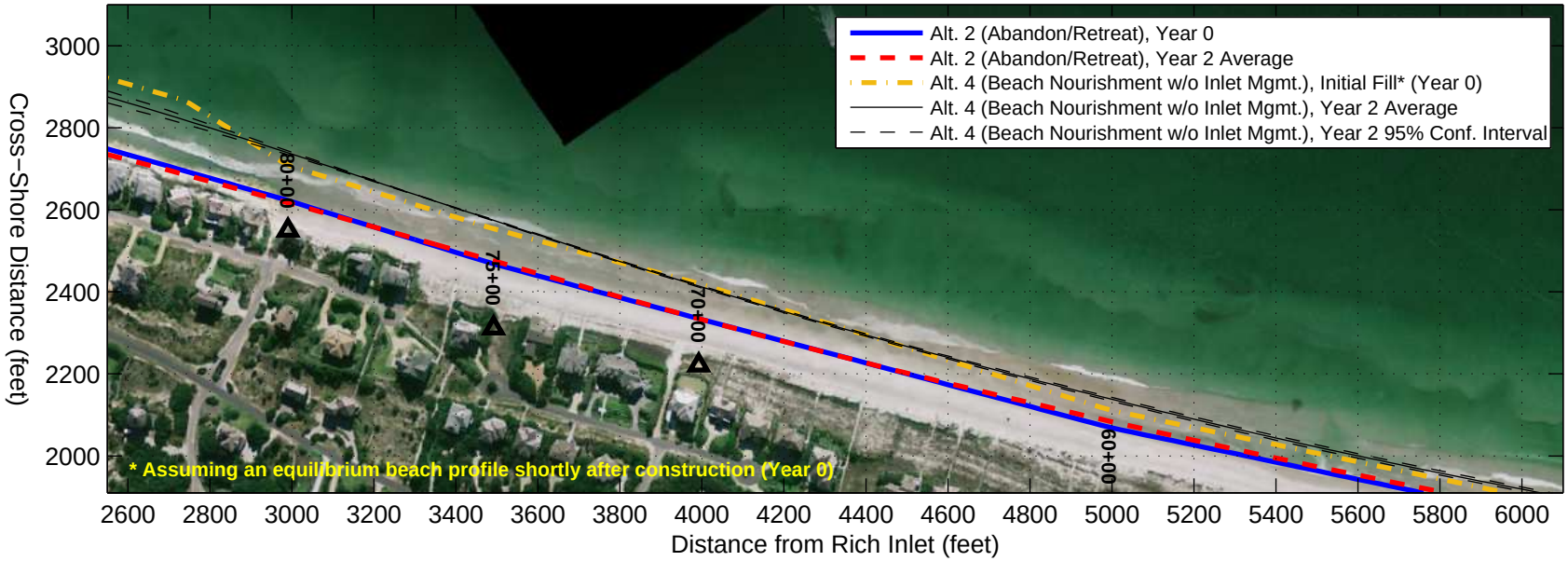

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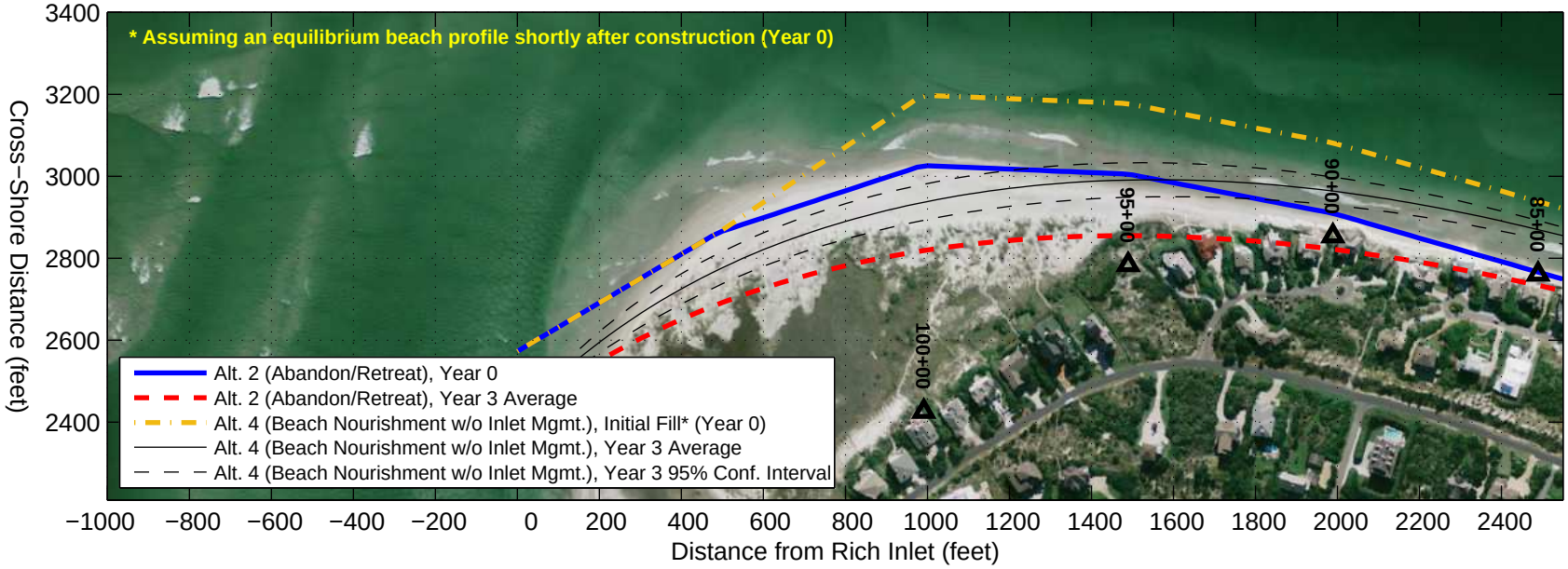

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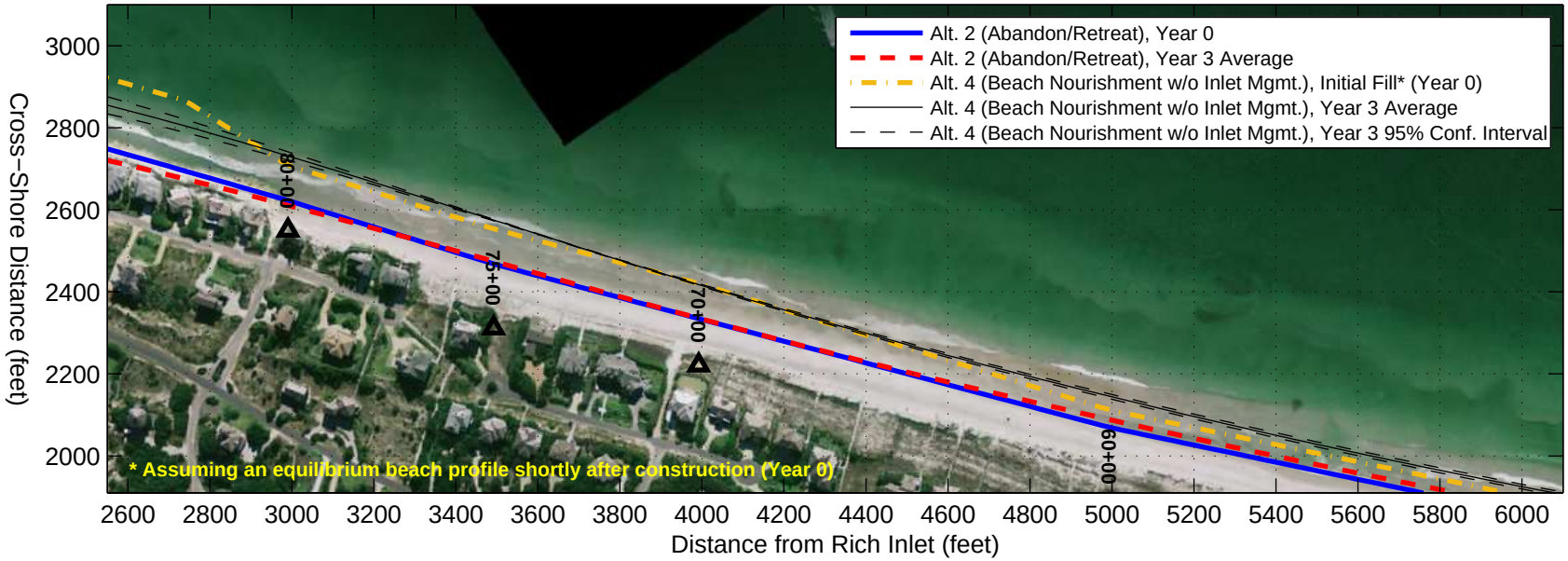

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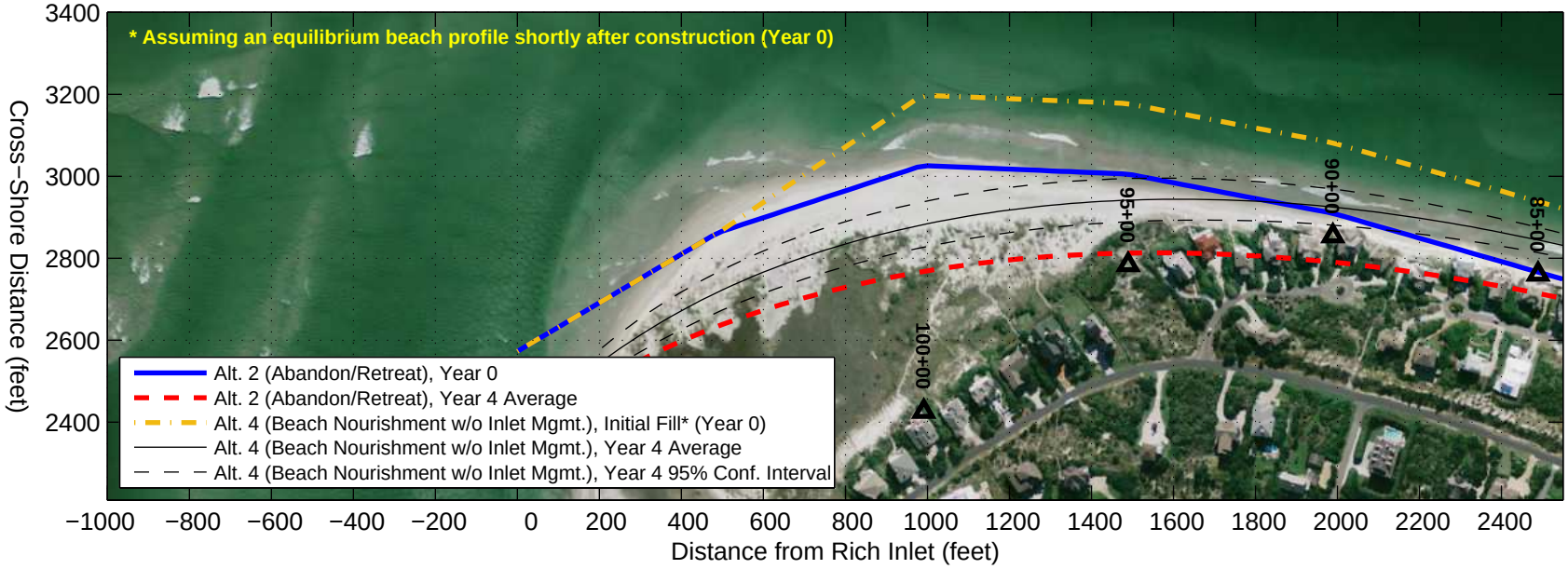

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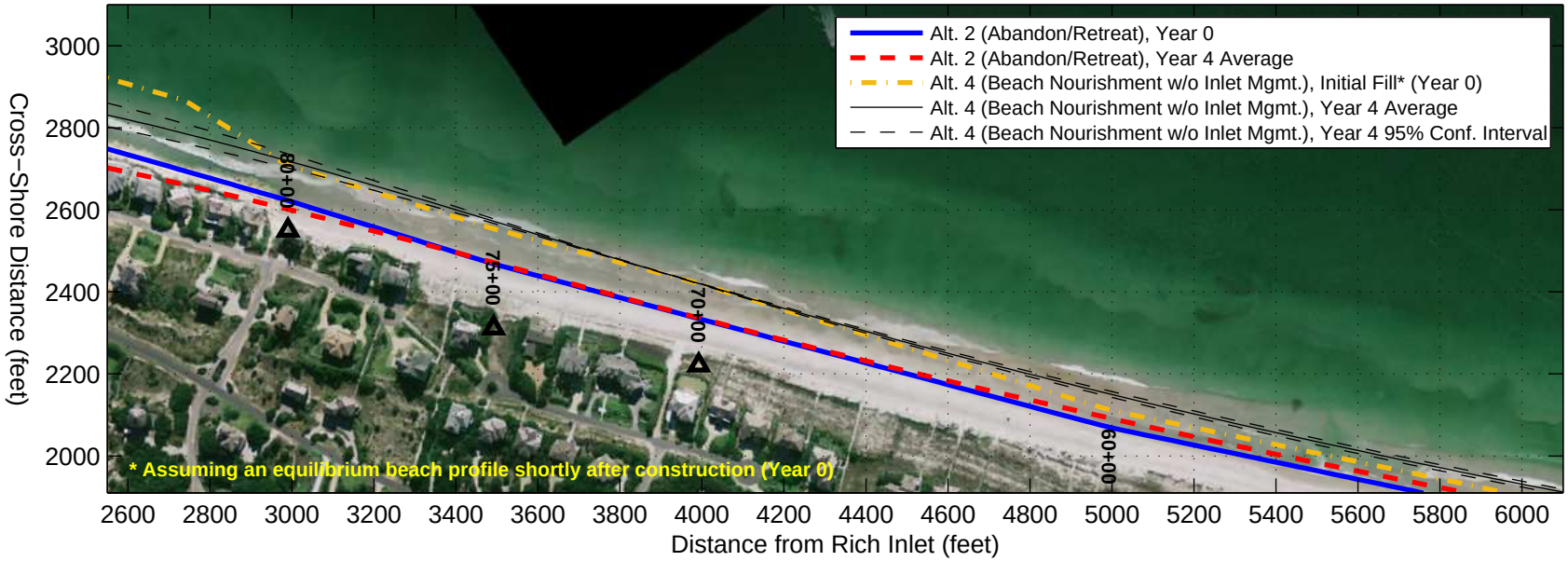

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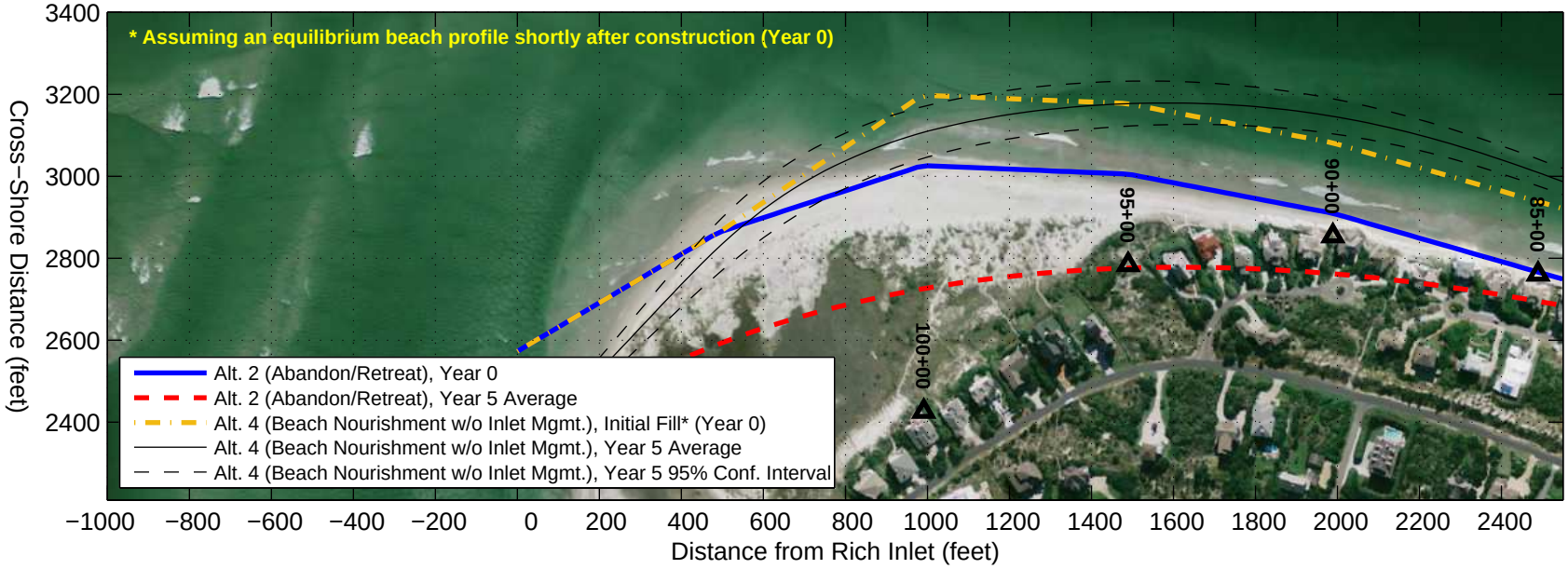

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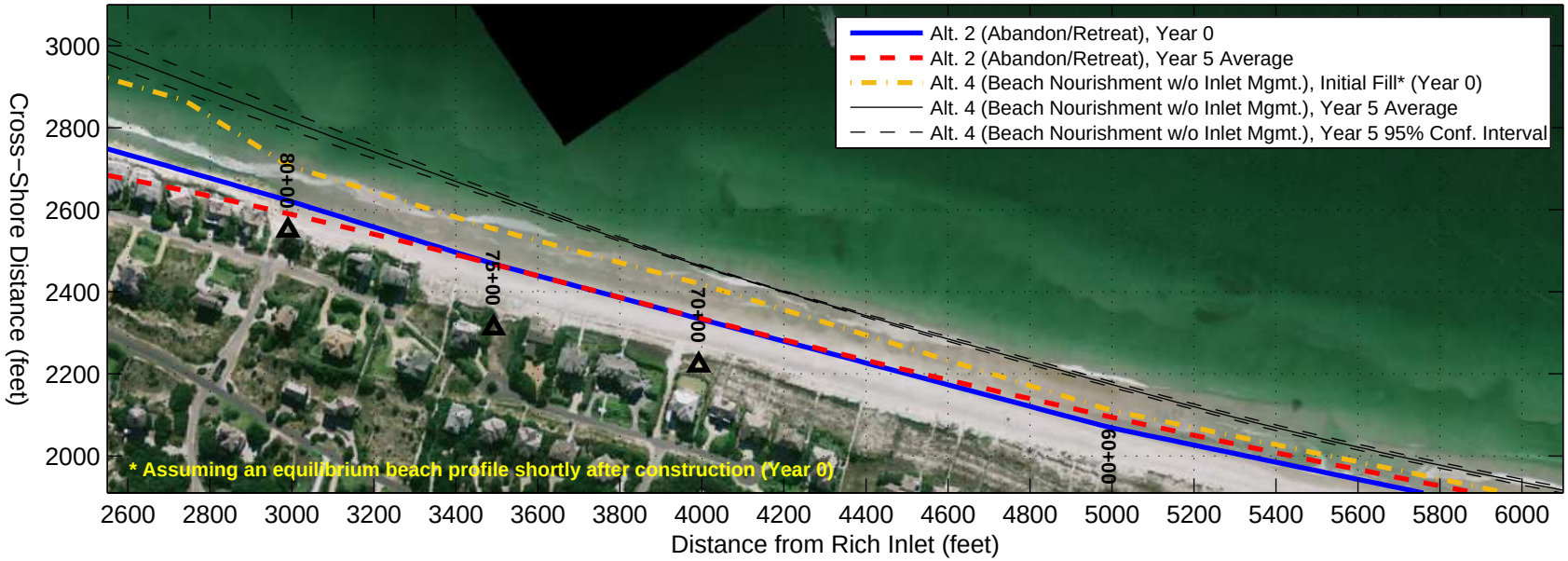

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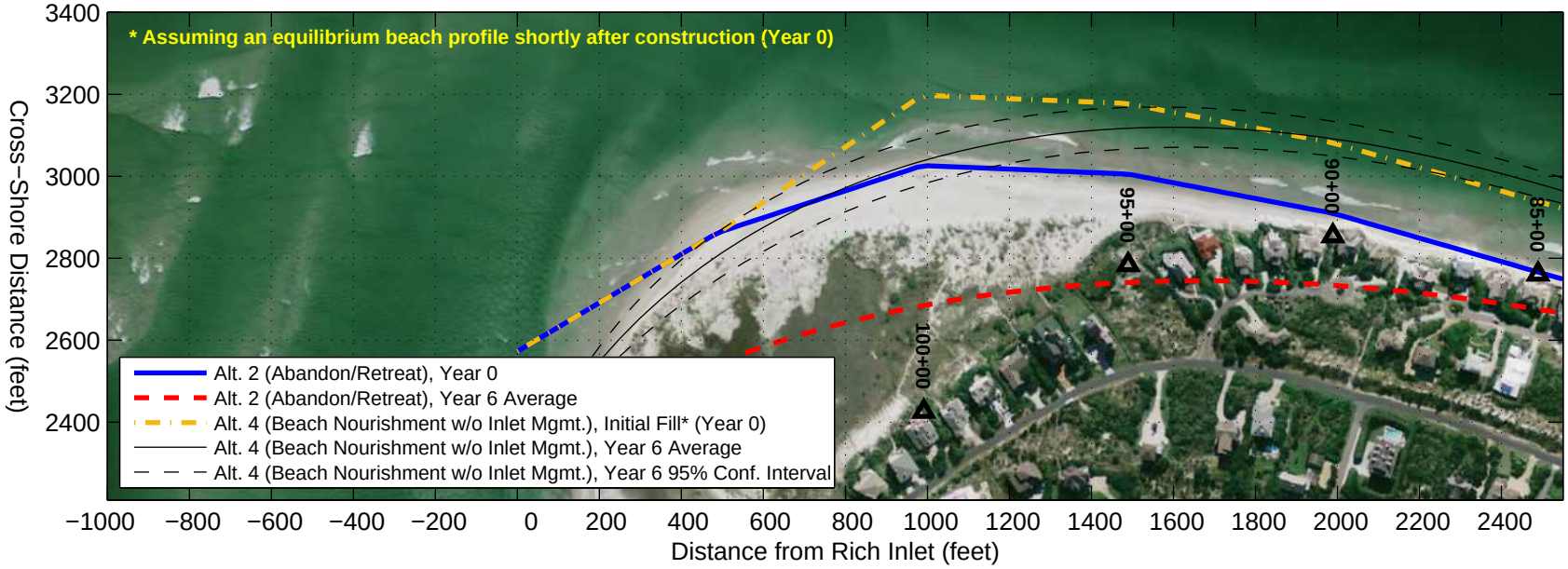

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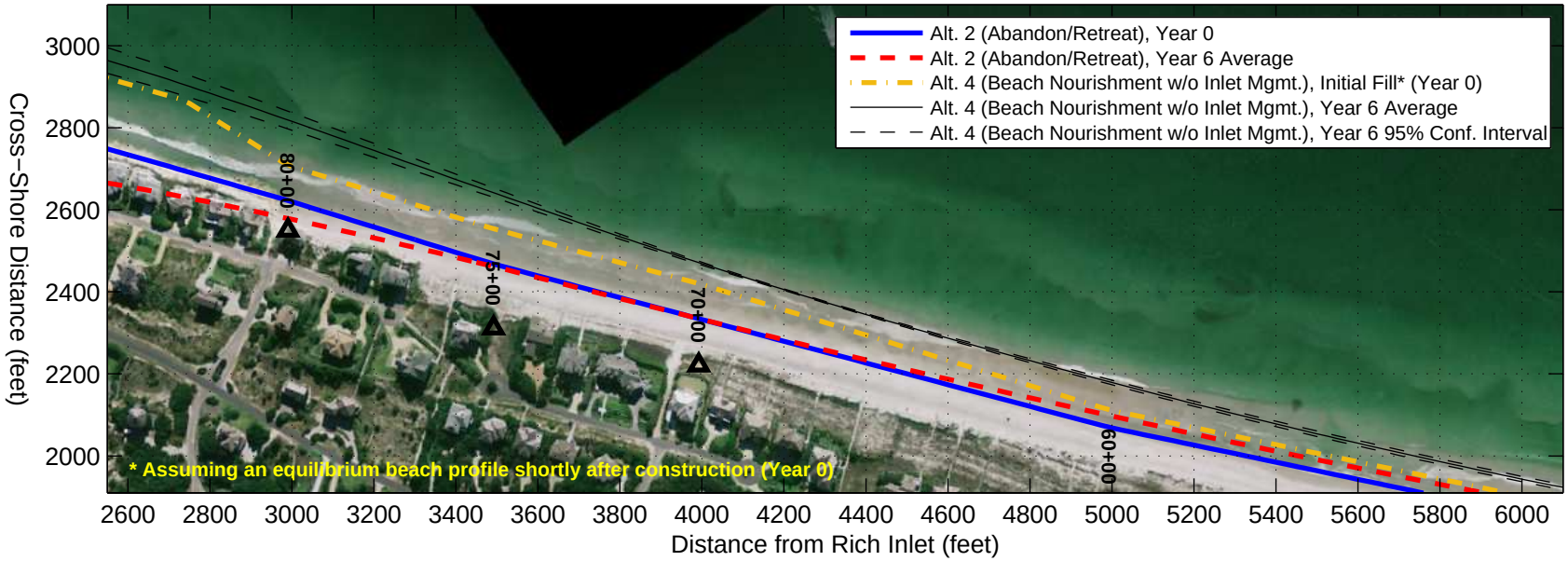

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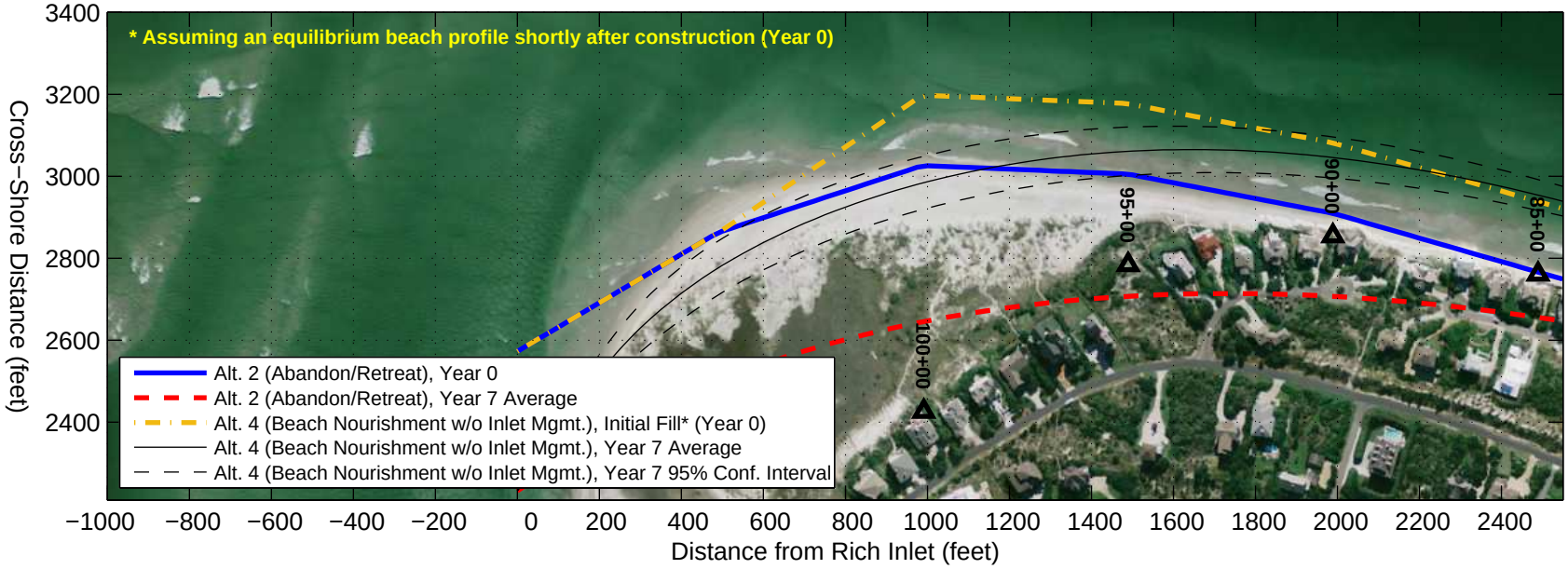

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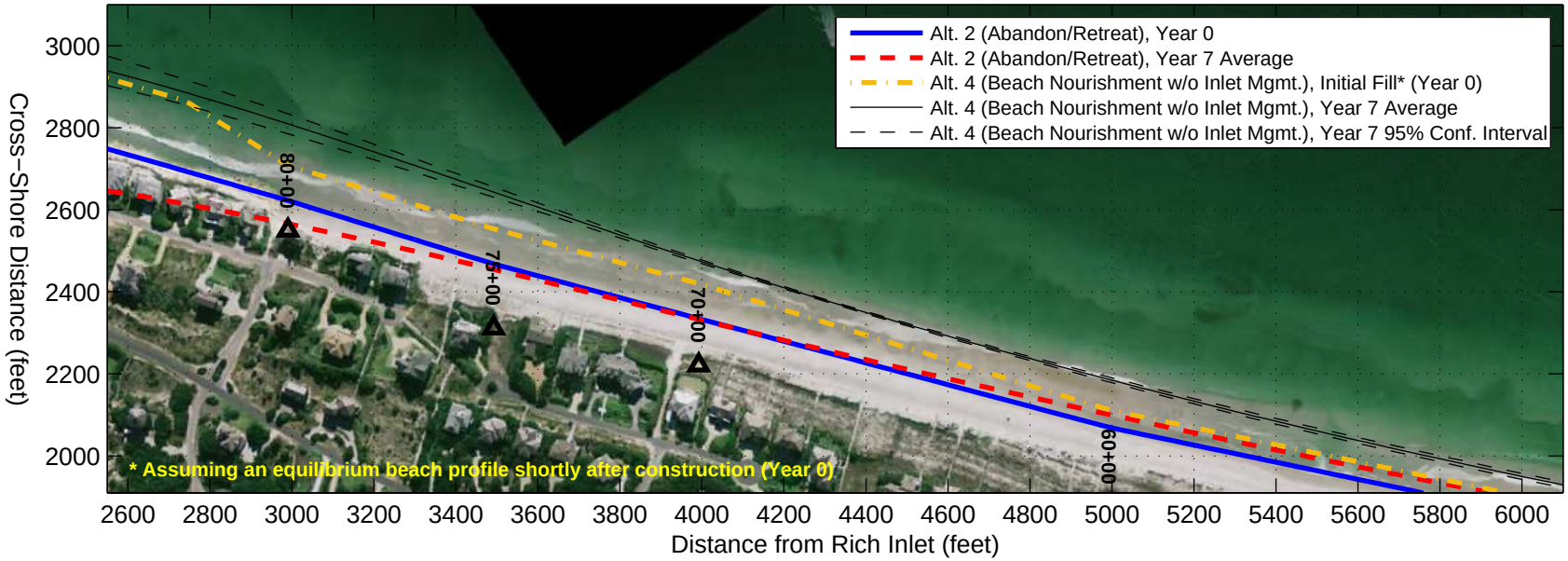

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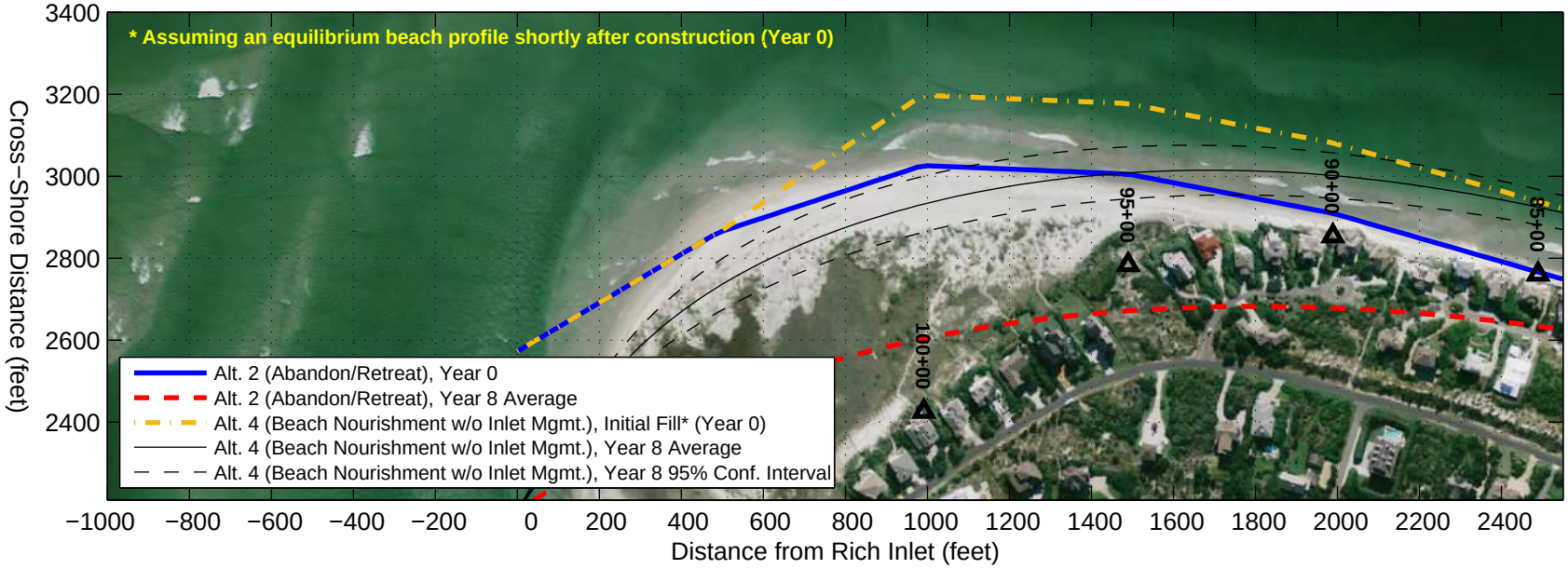

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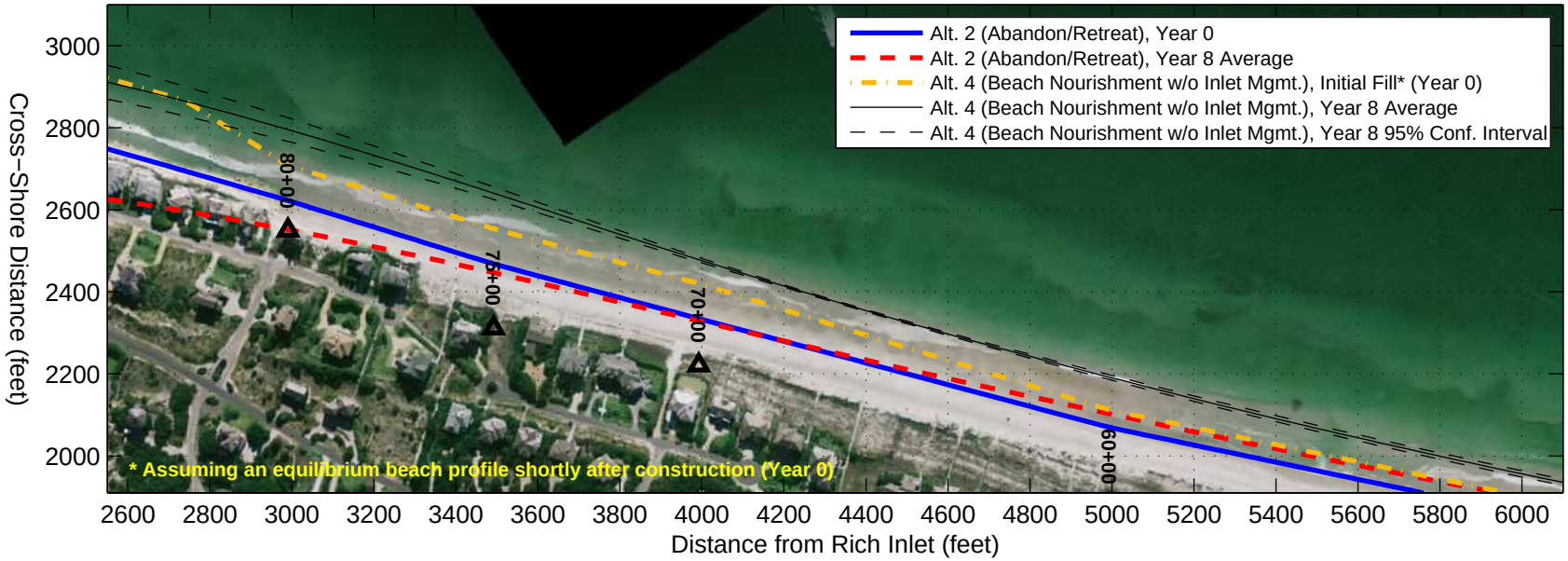

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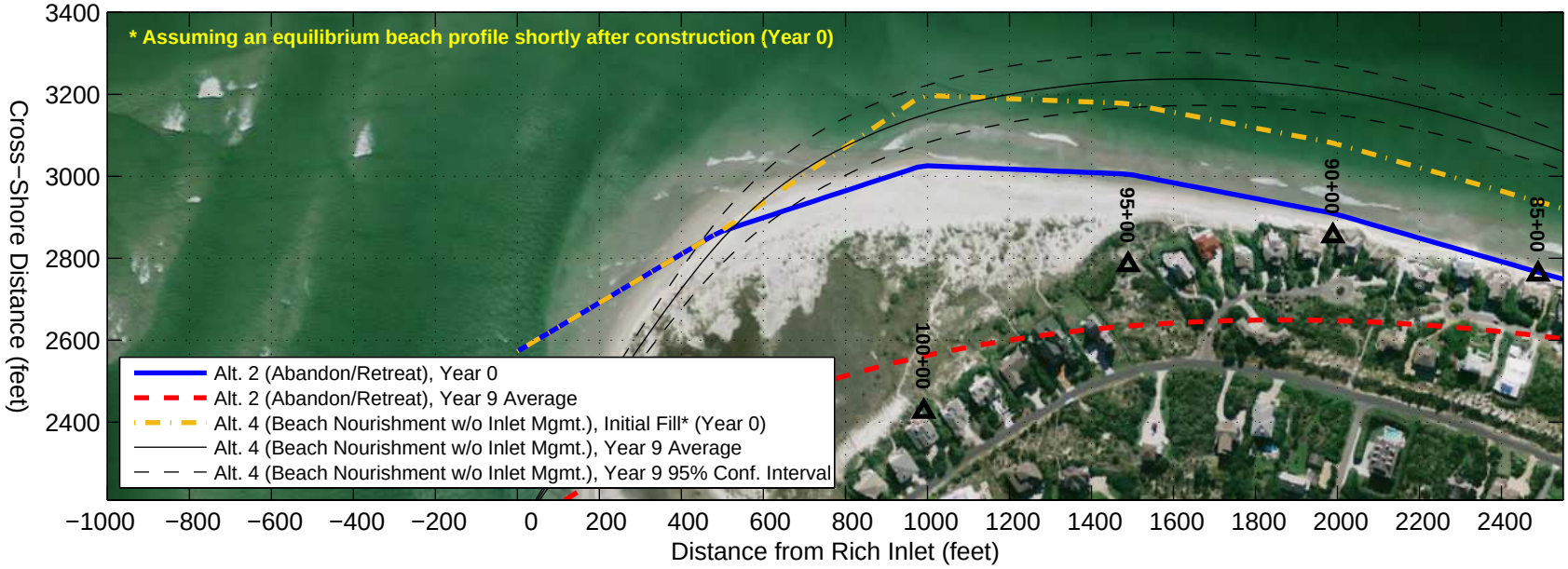

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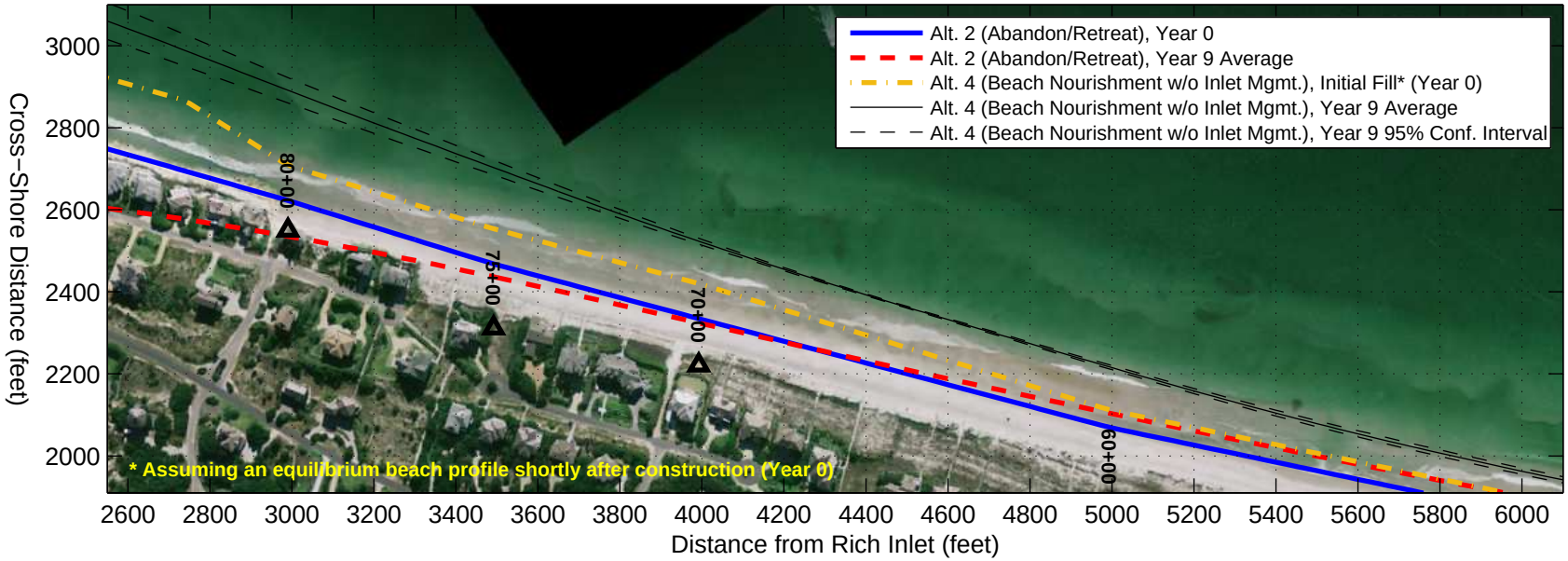

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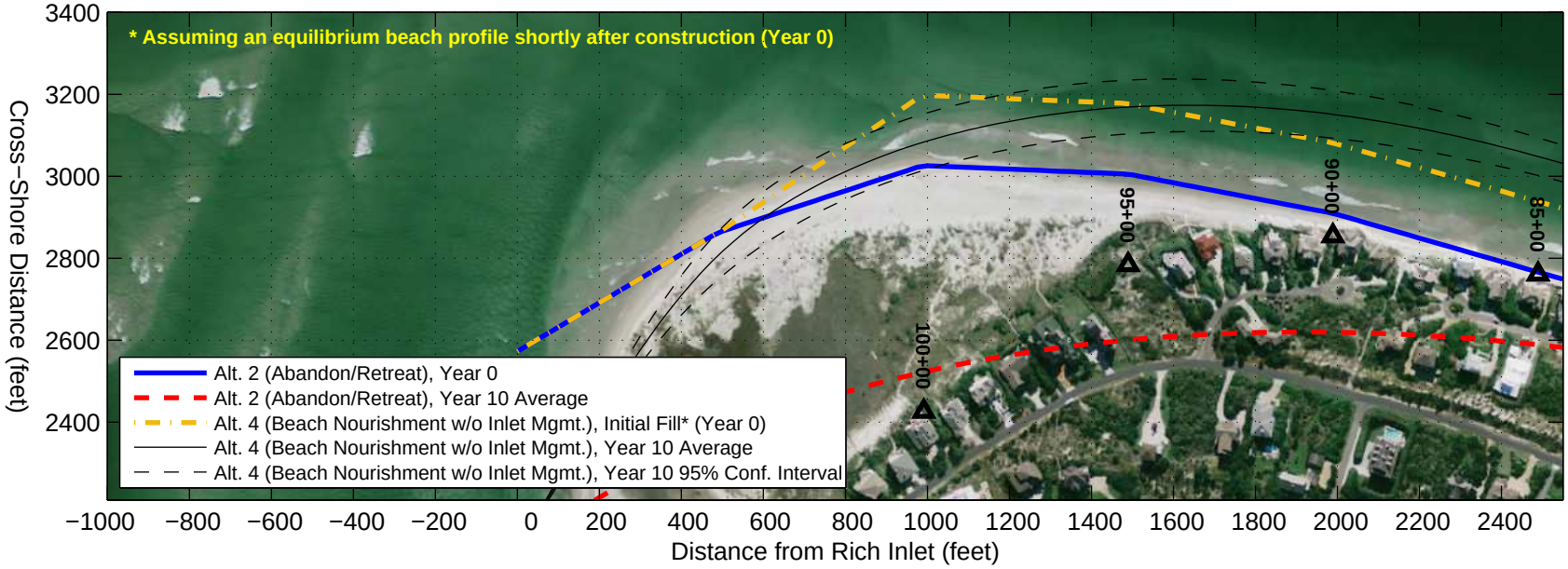

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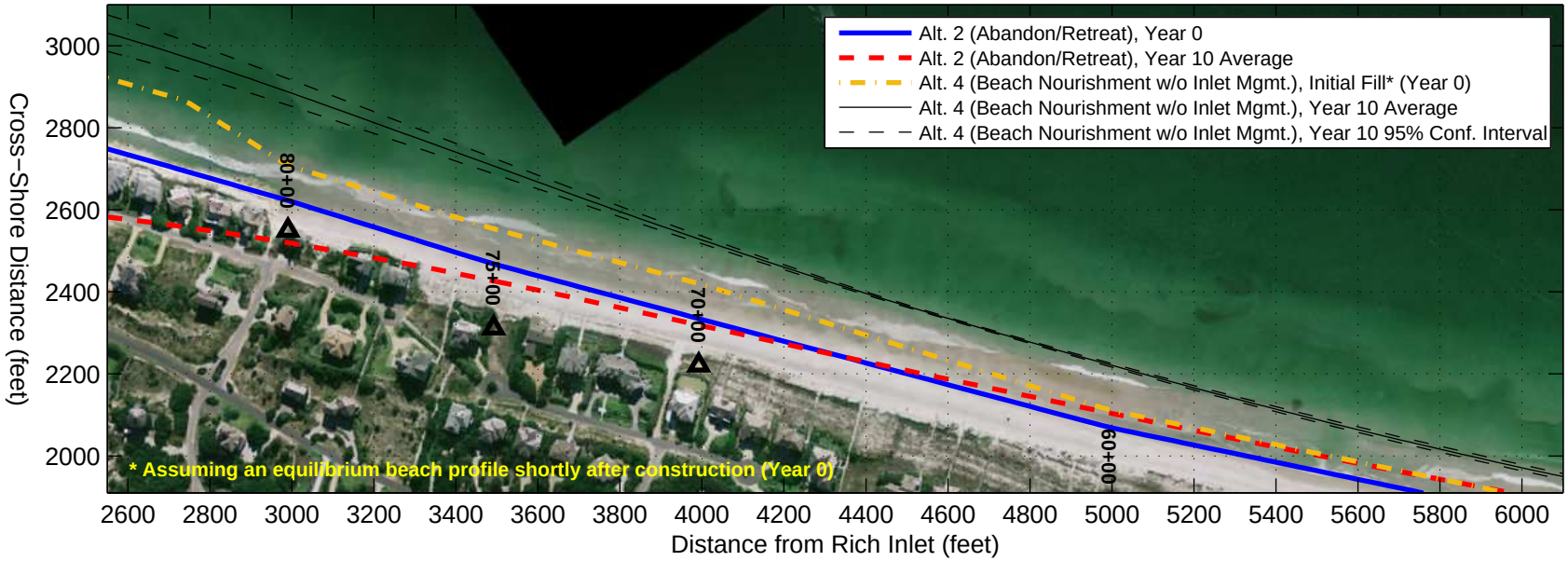

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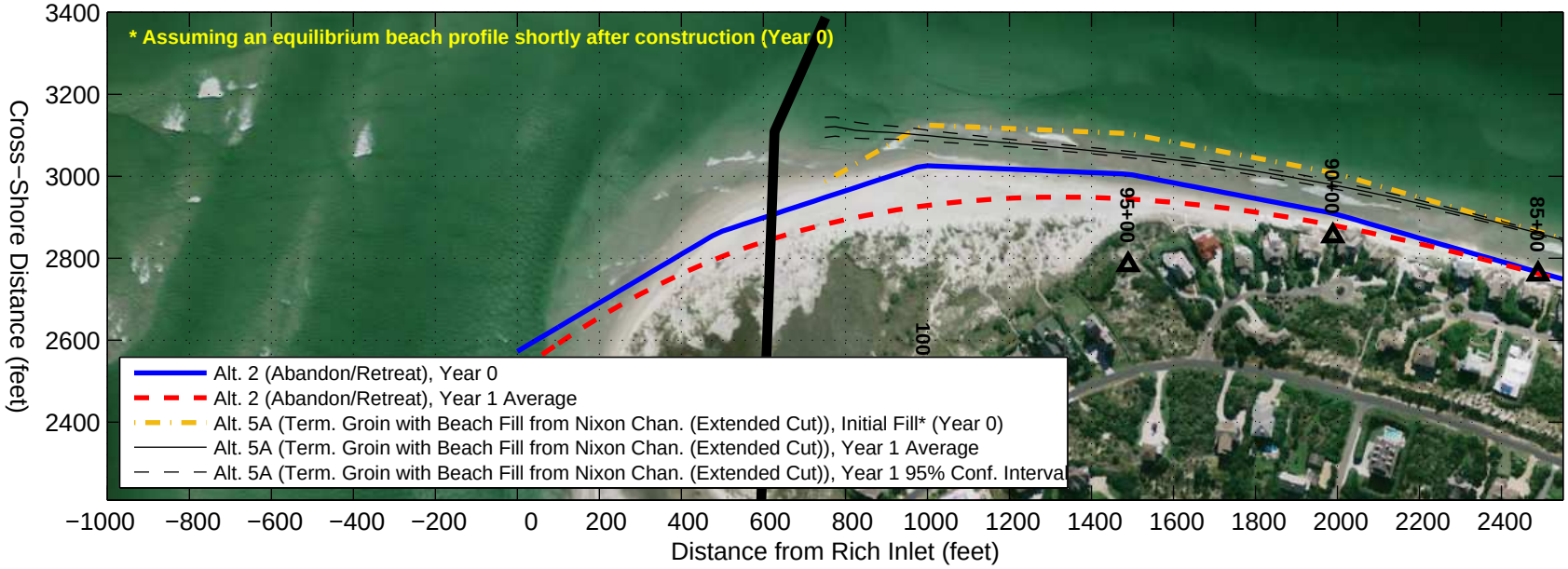

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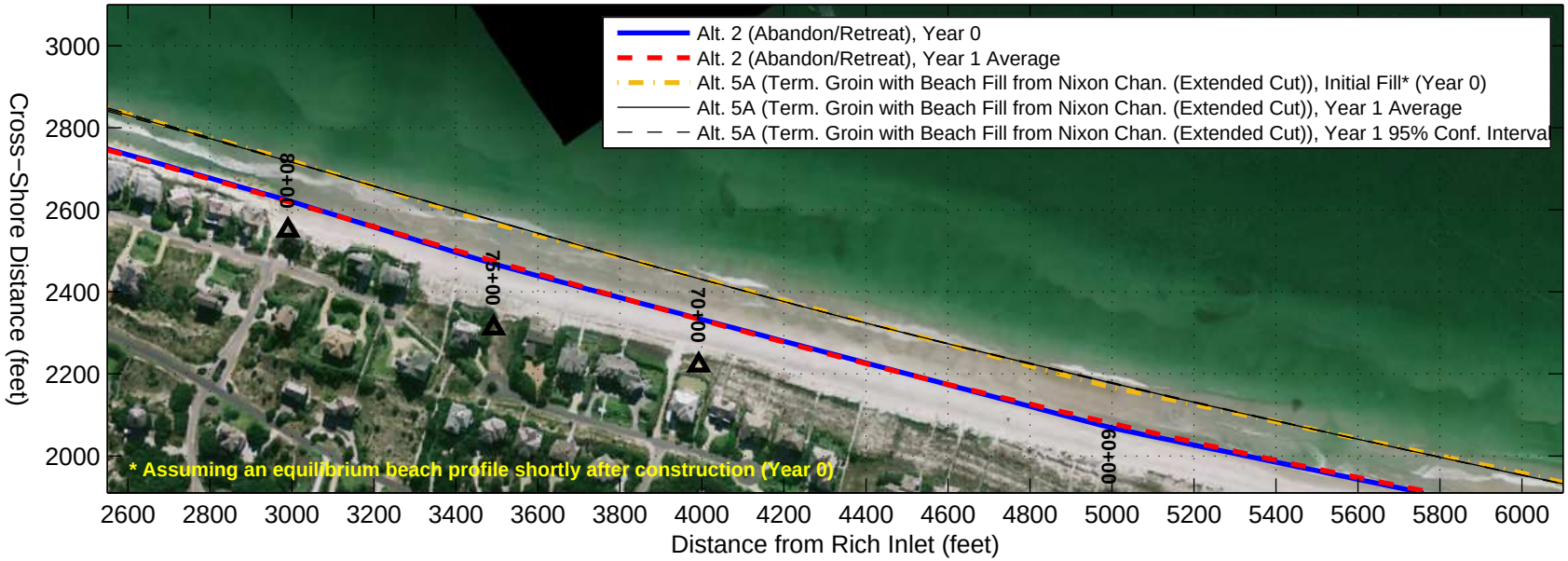

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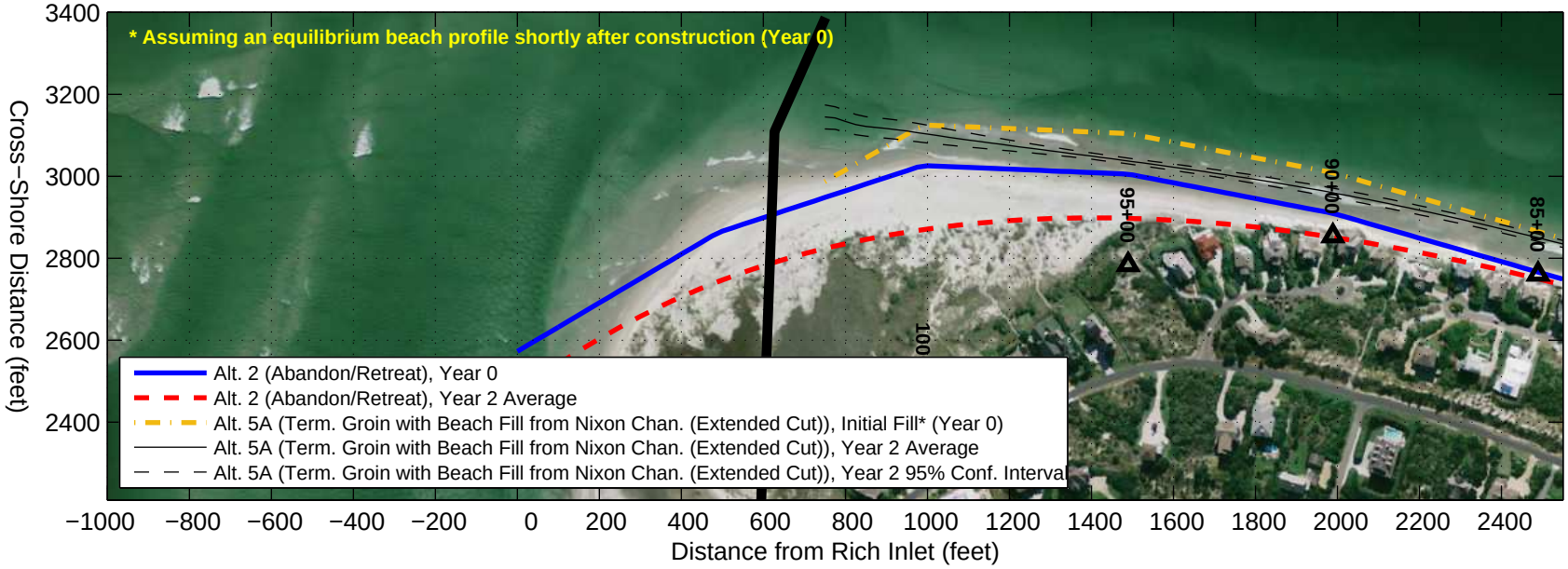

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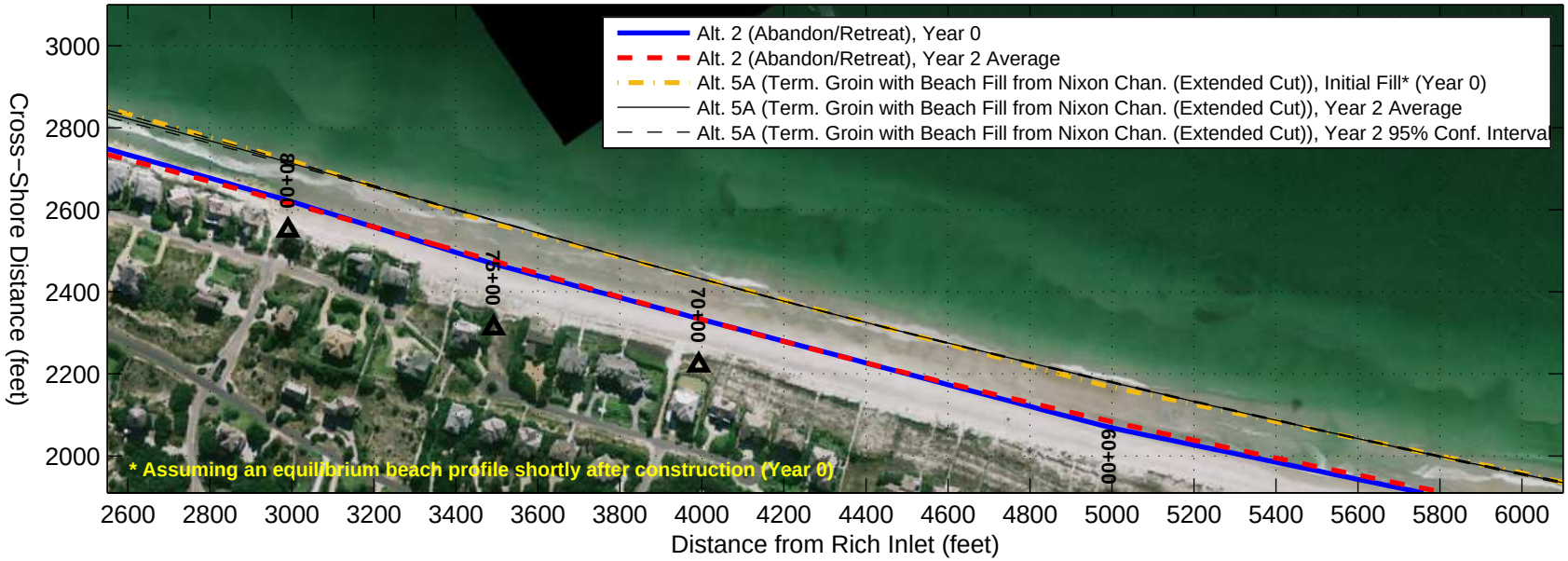

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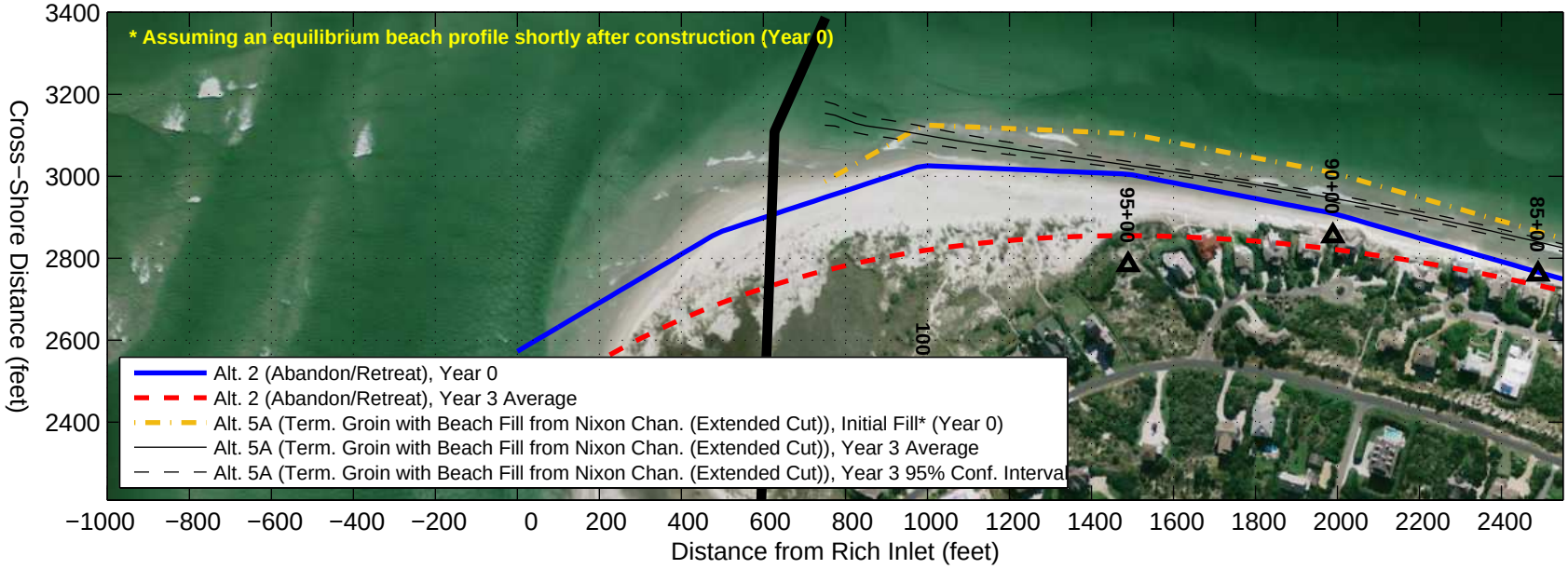

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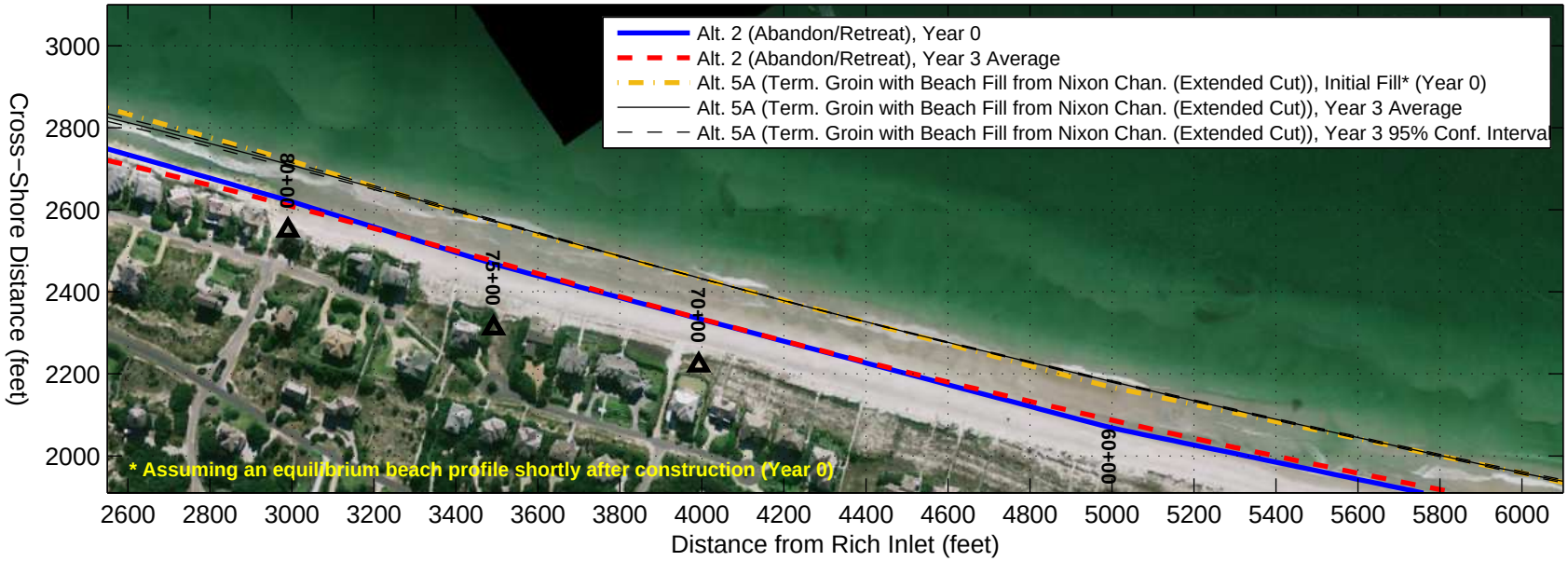

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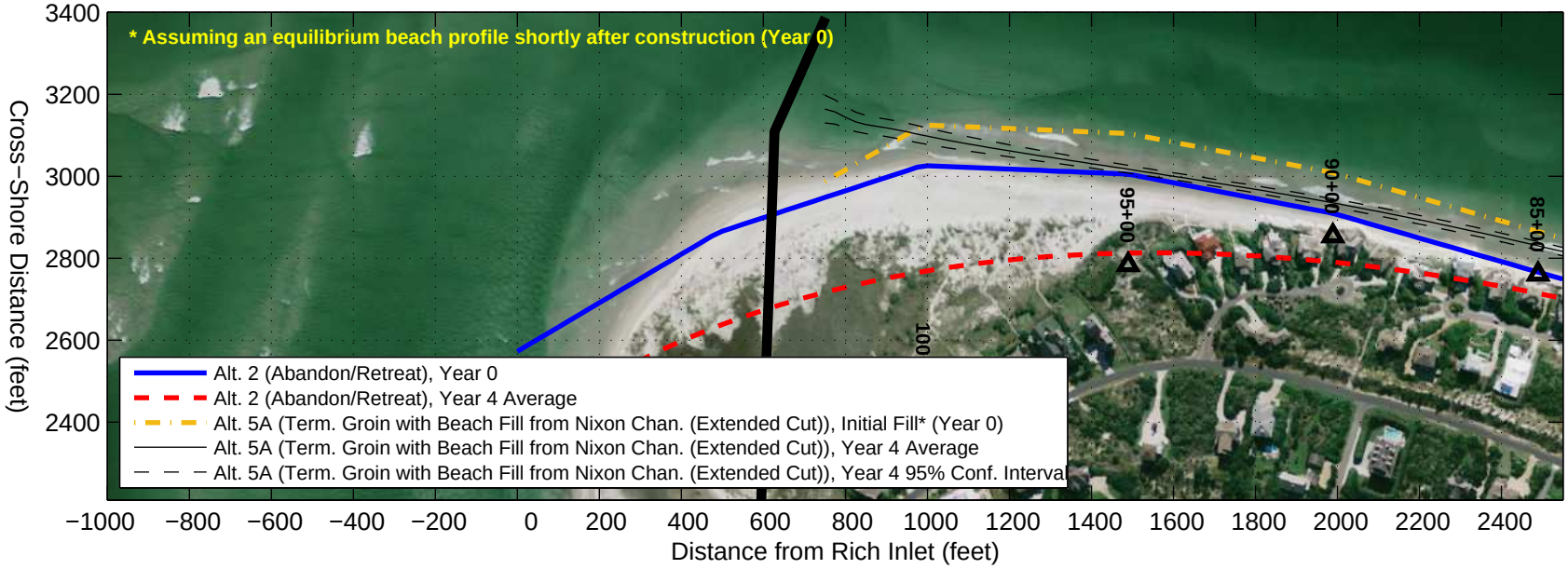

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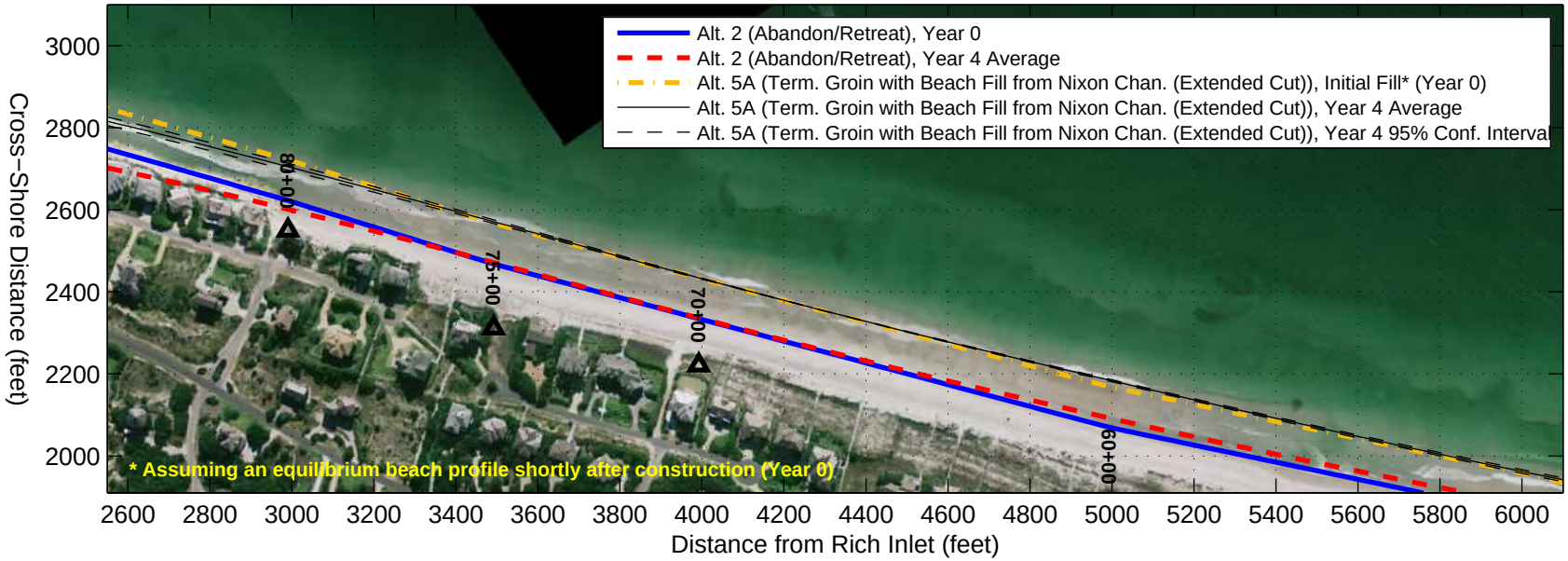

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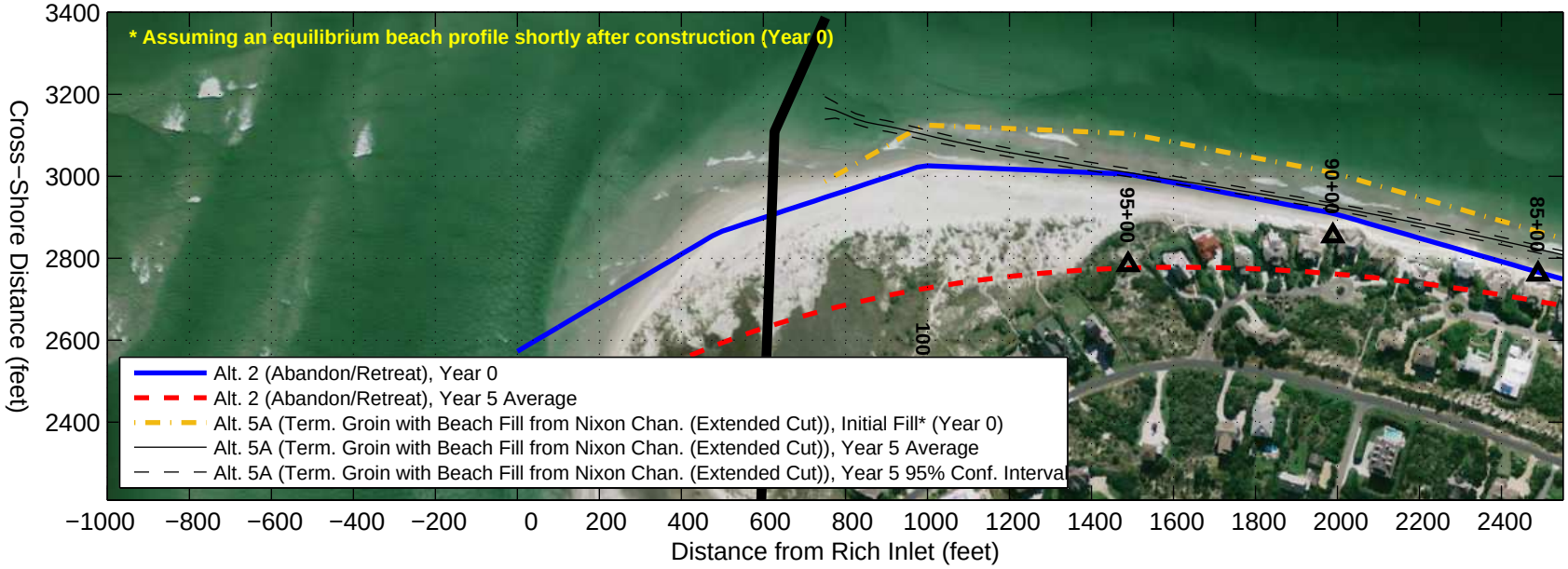

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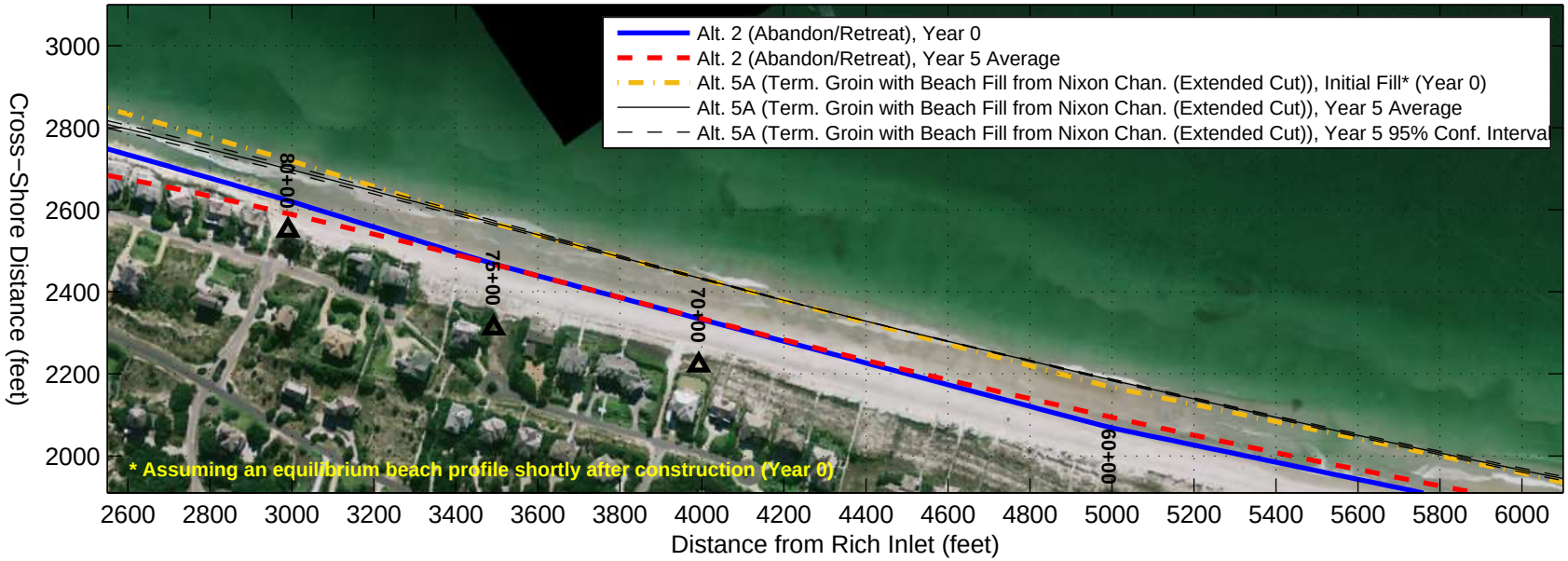

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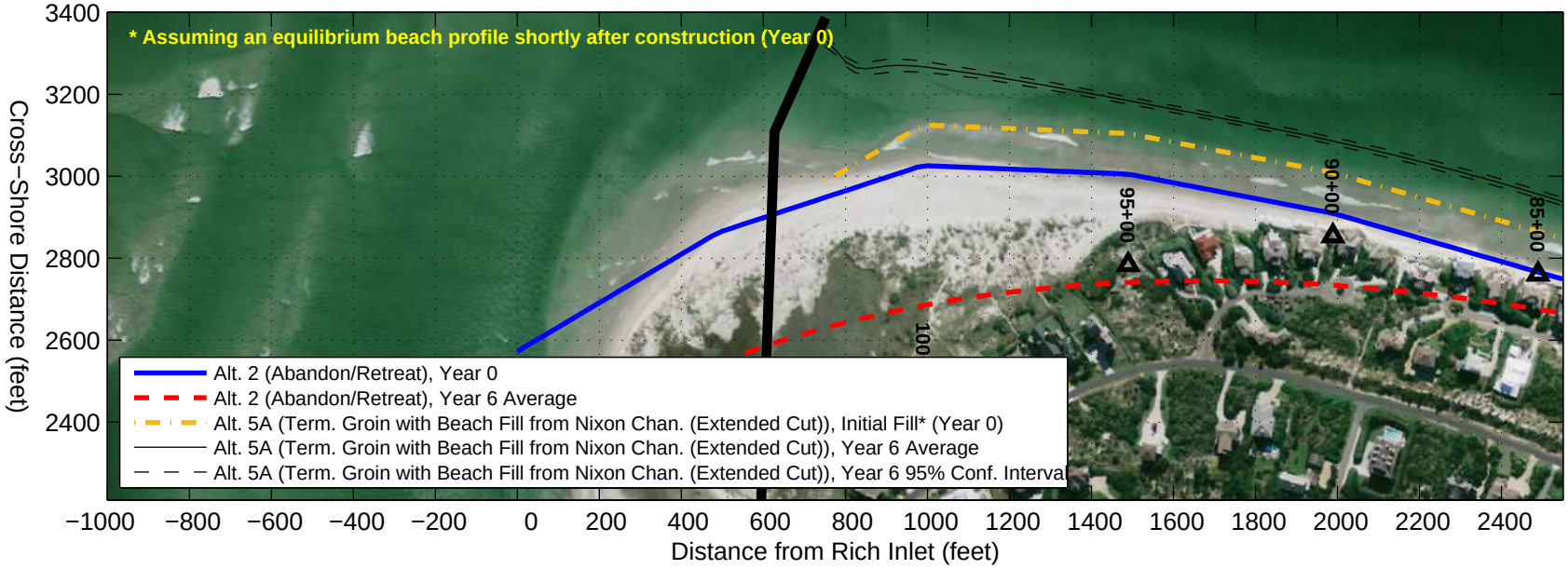

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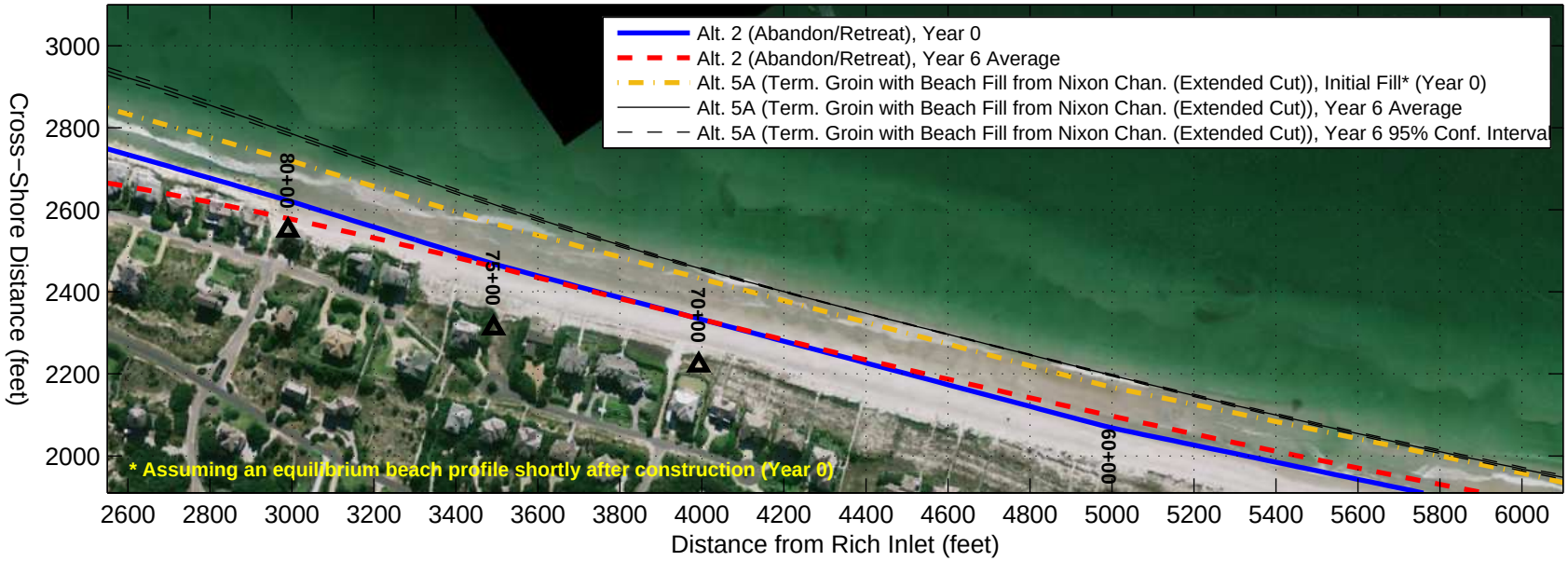

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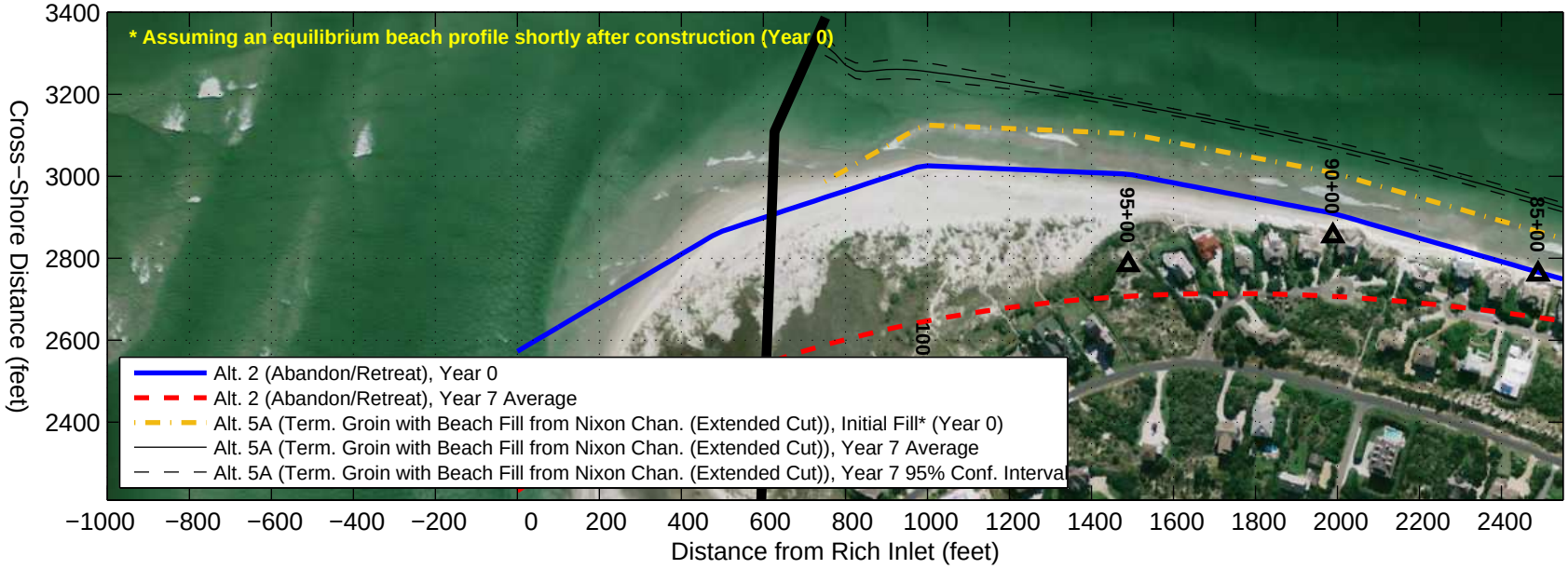

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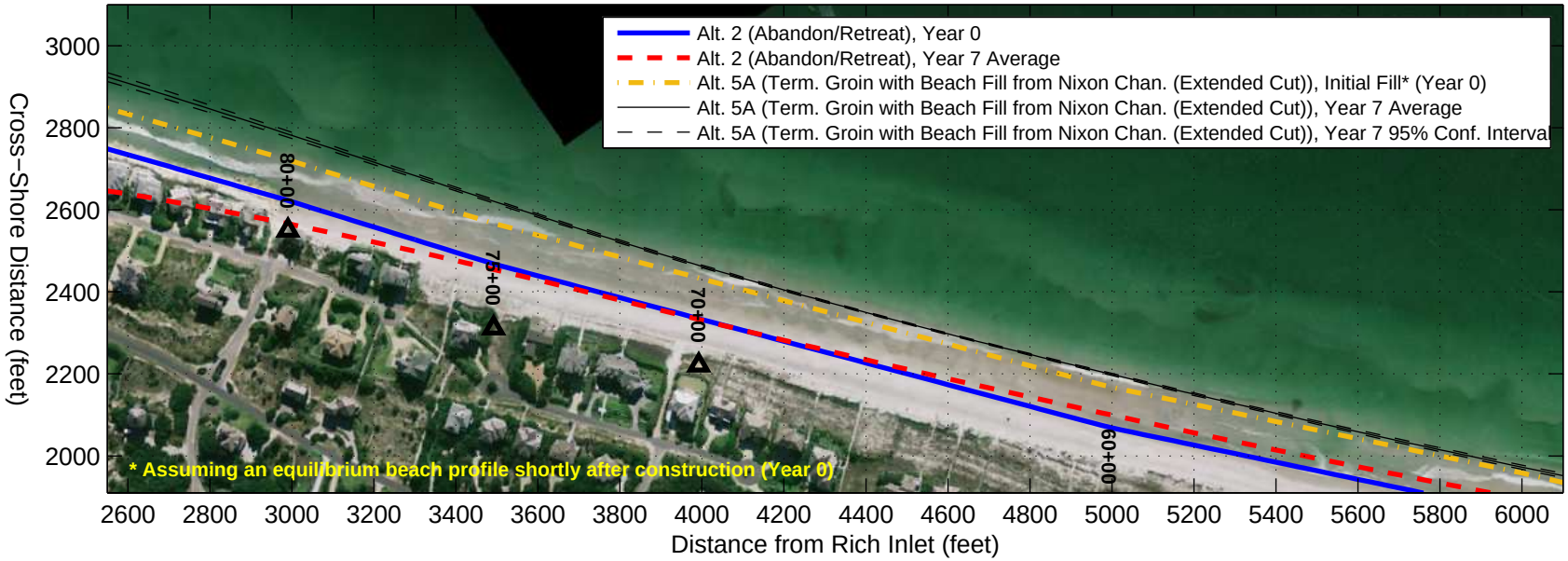

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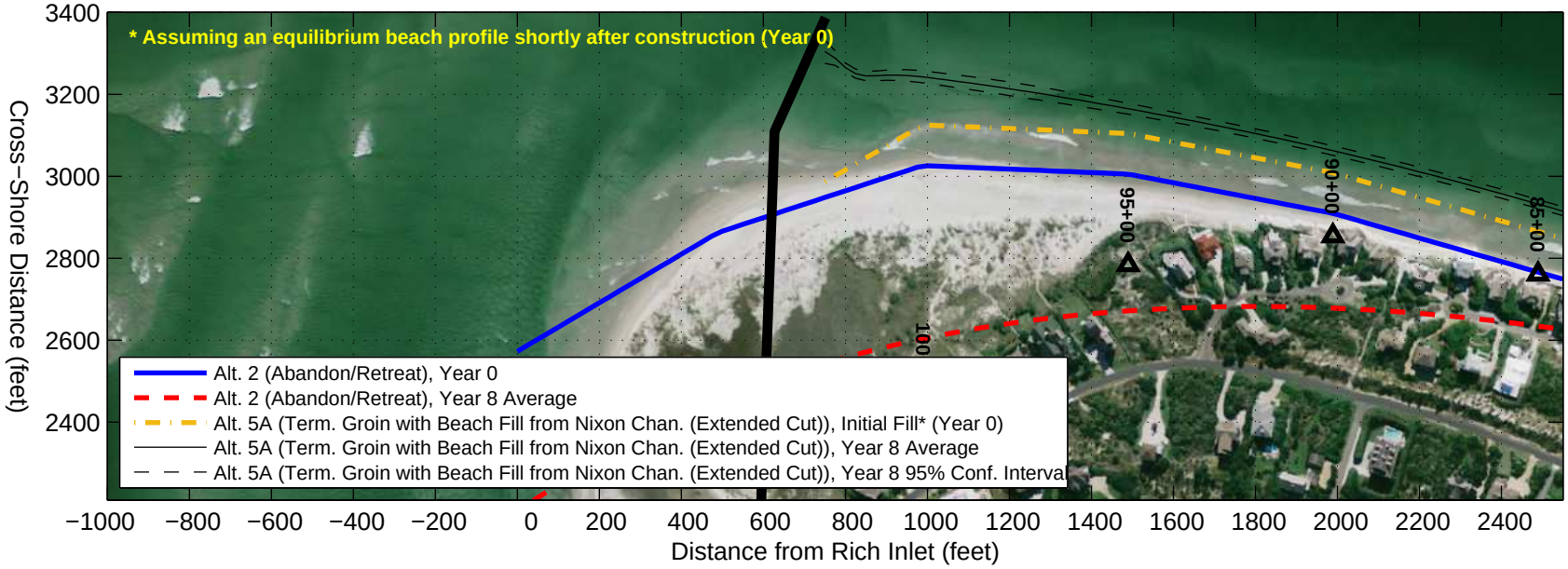

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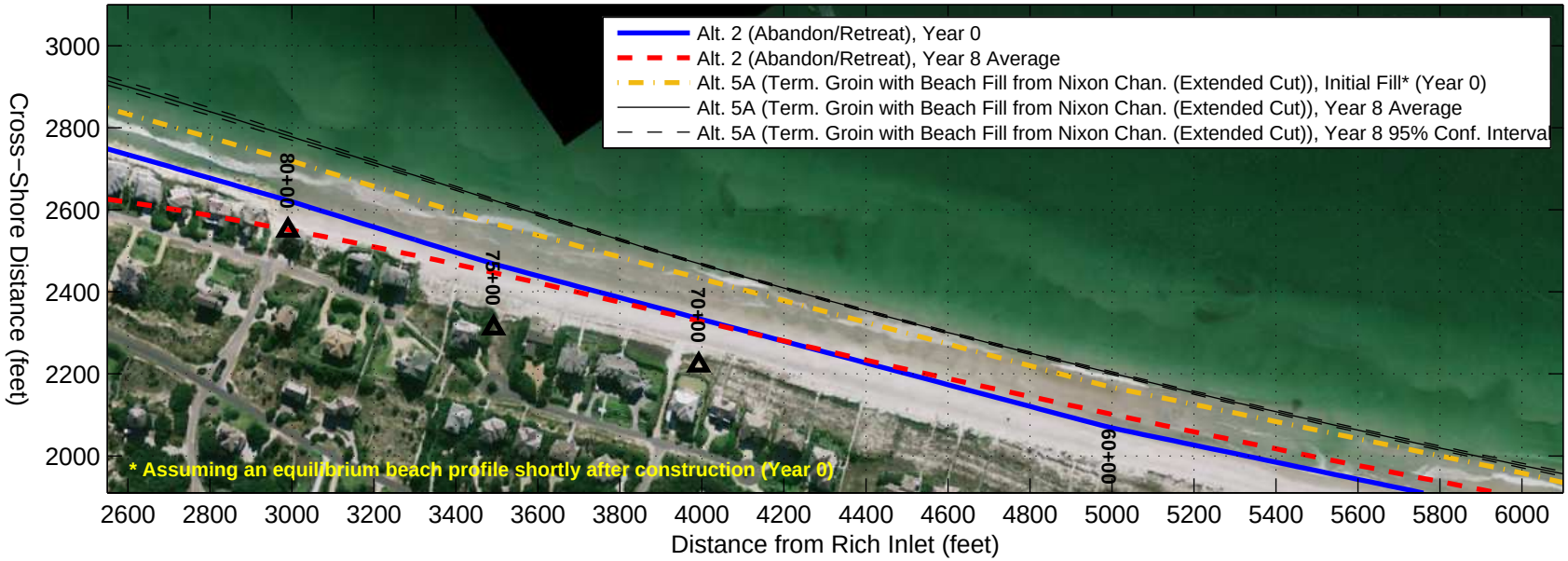

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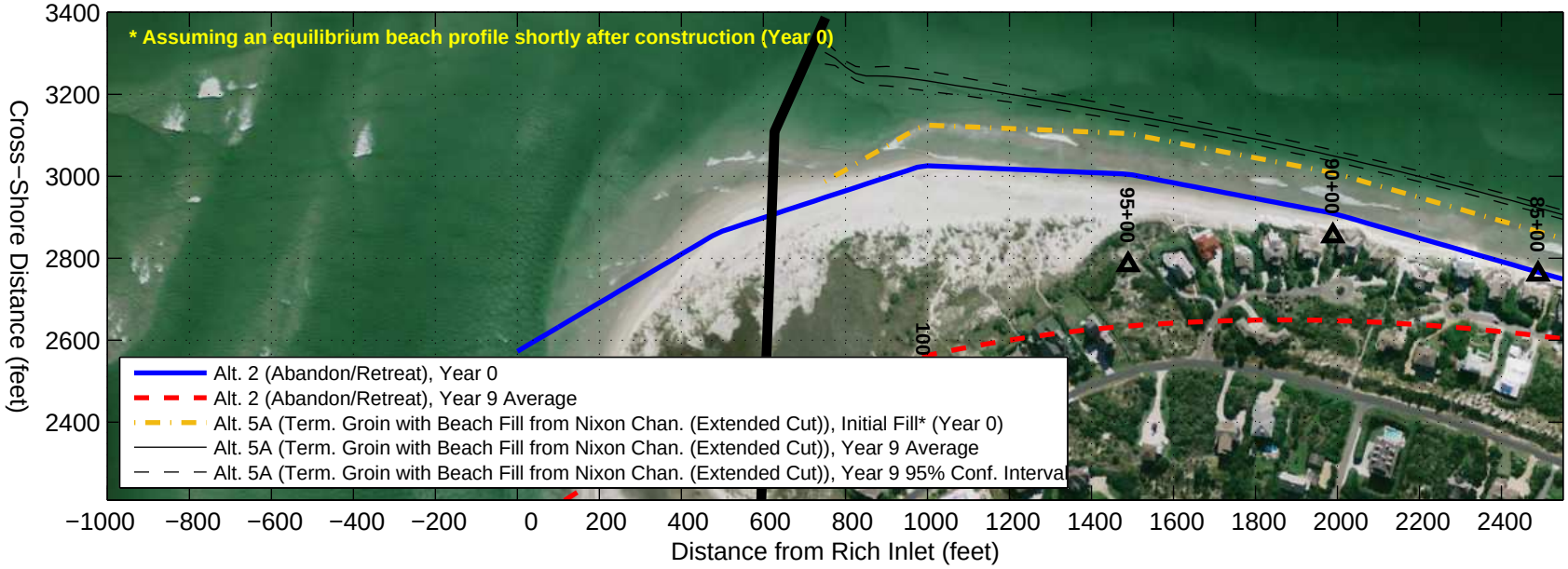

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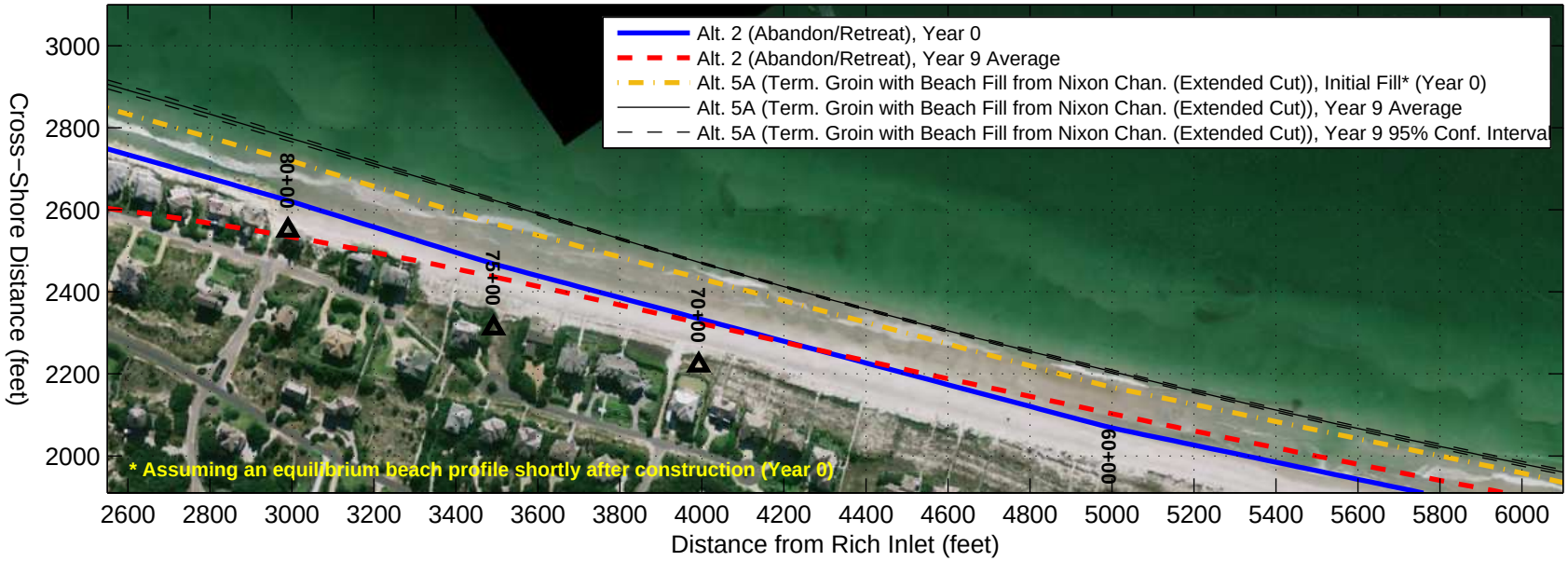

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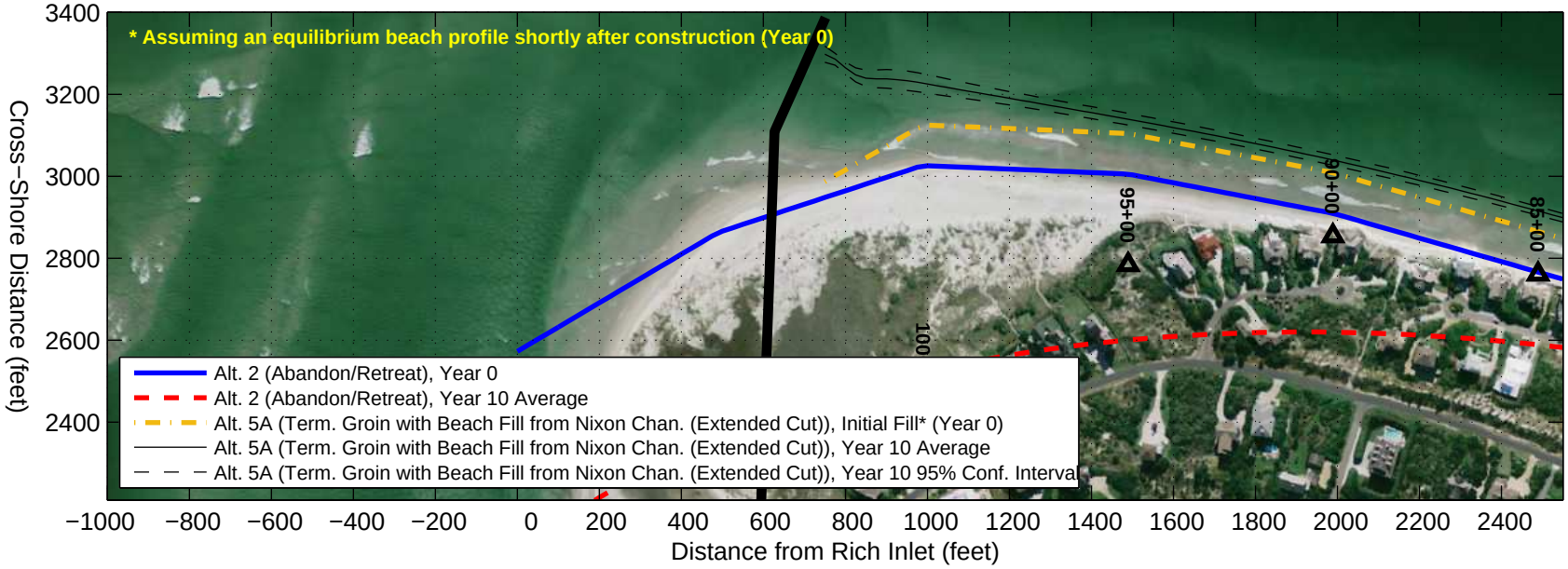

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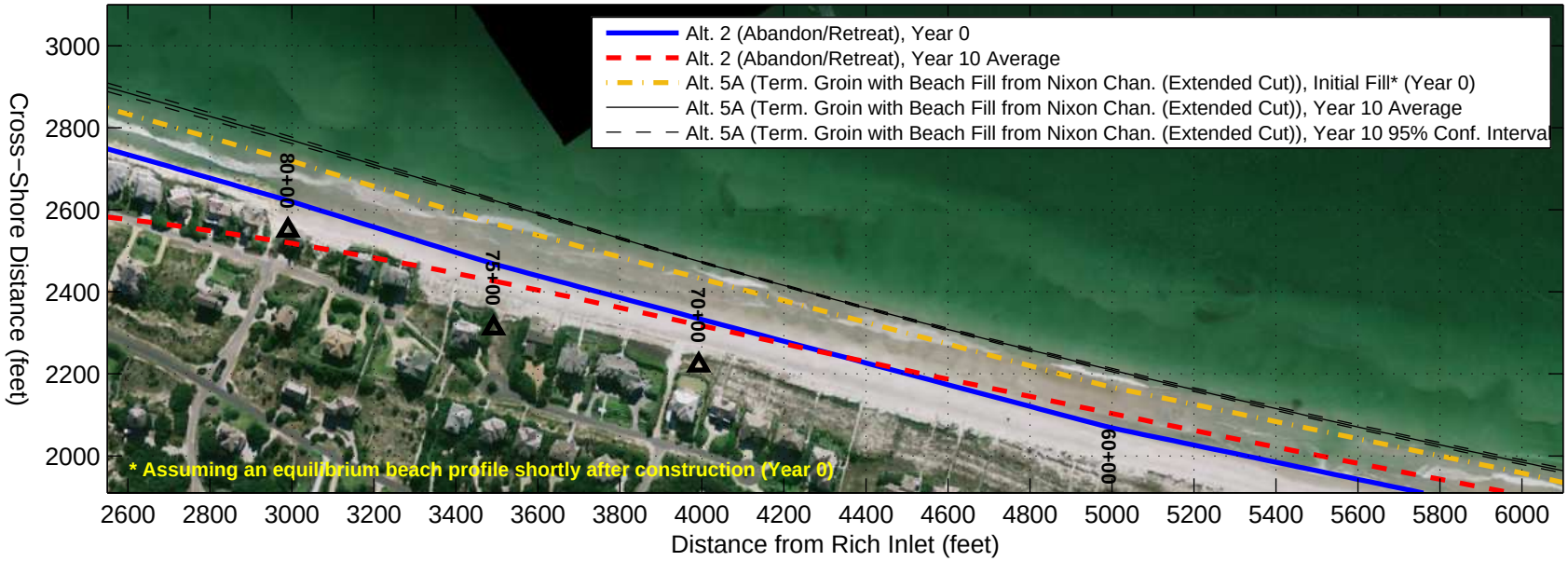
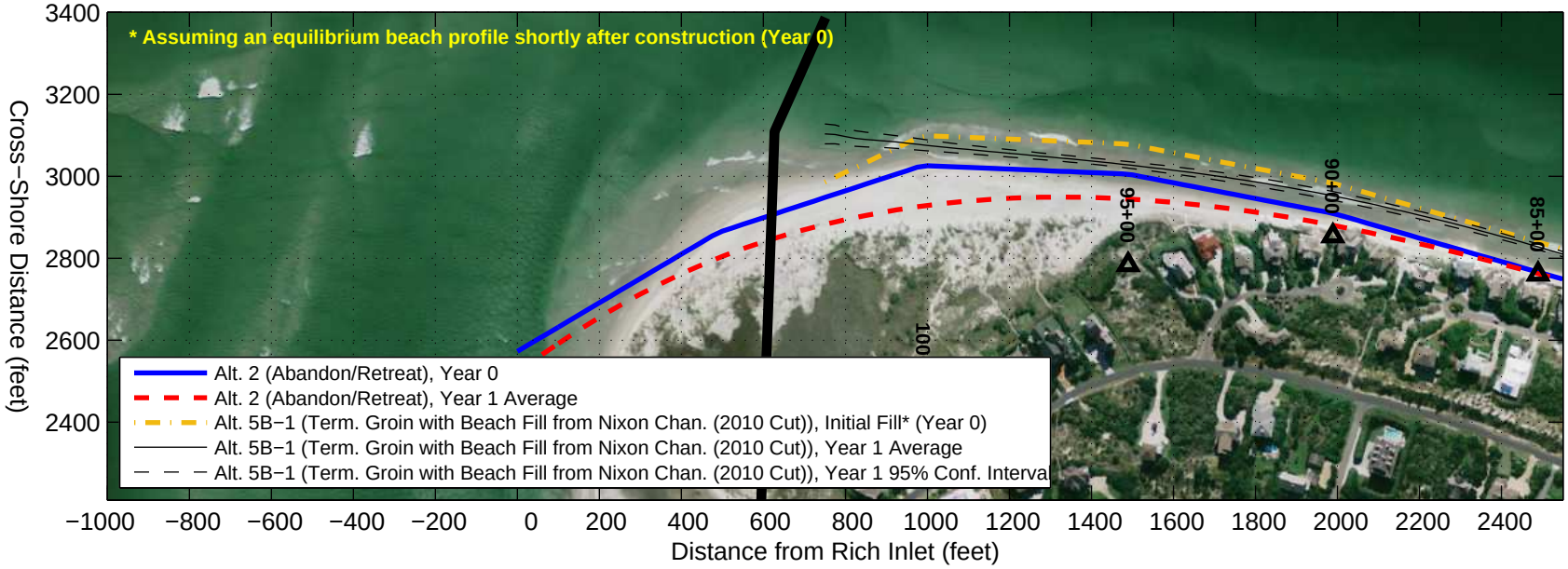


Alt. 5B−1 (Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



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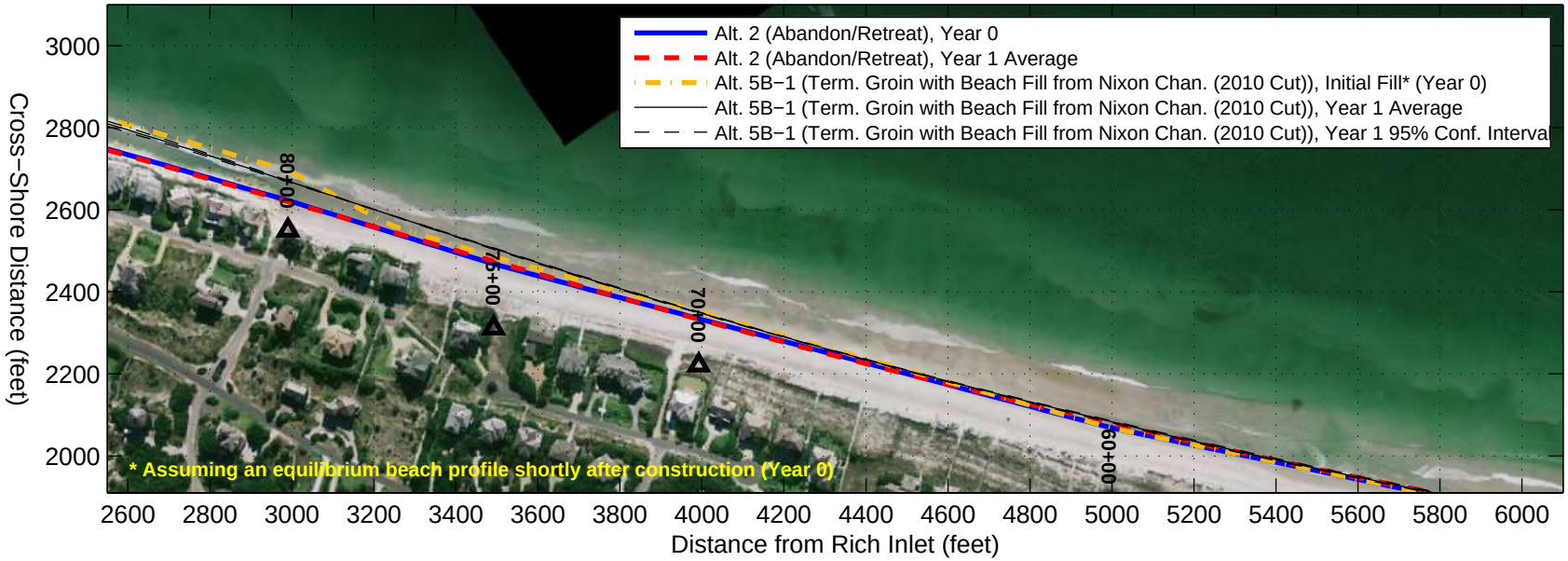

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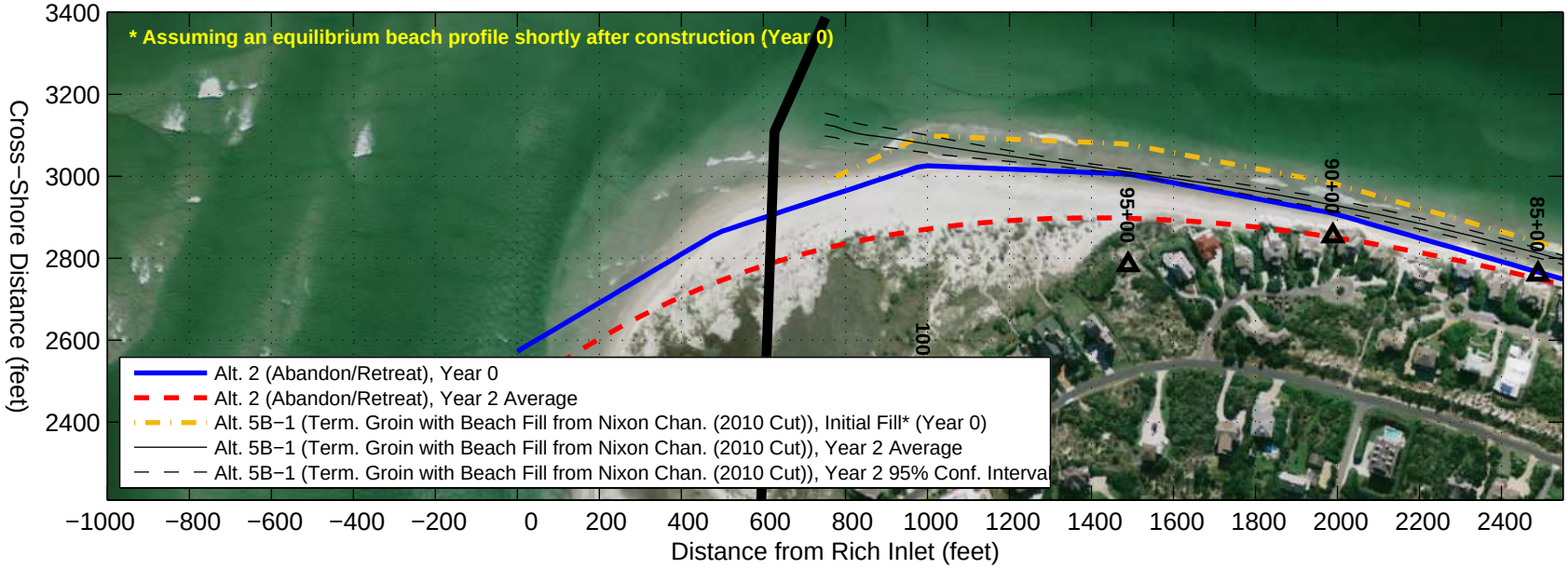

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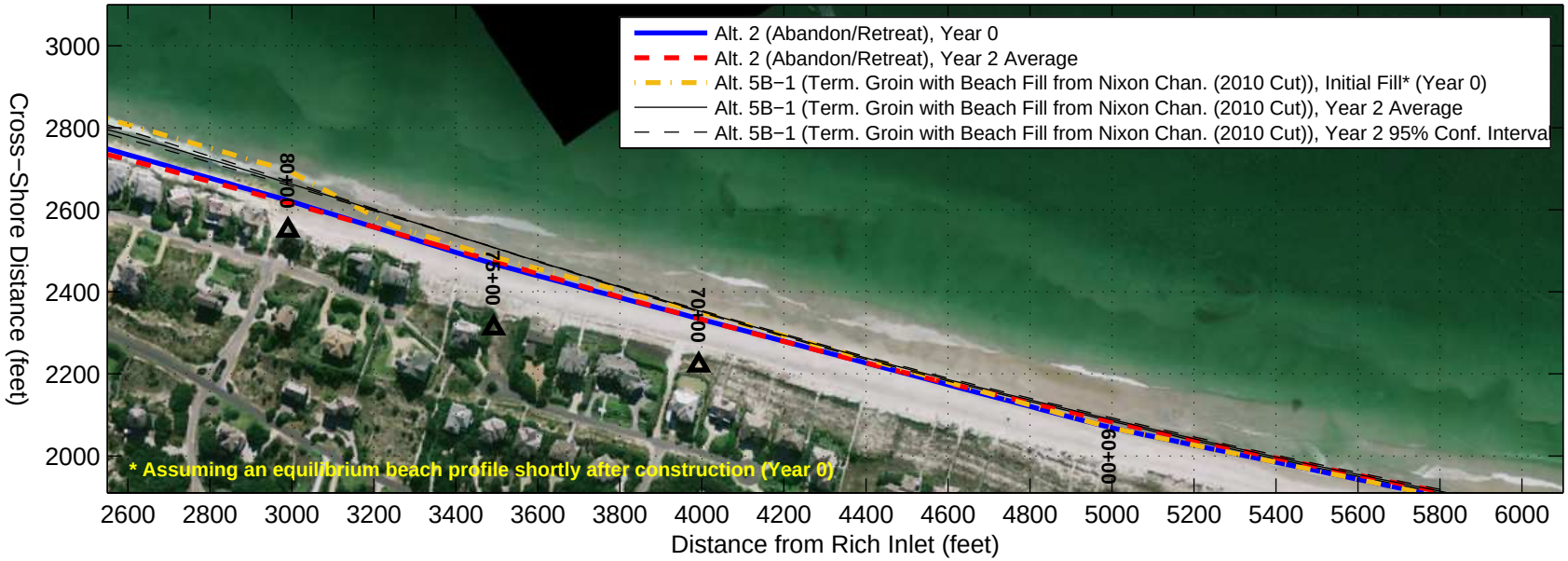

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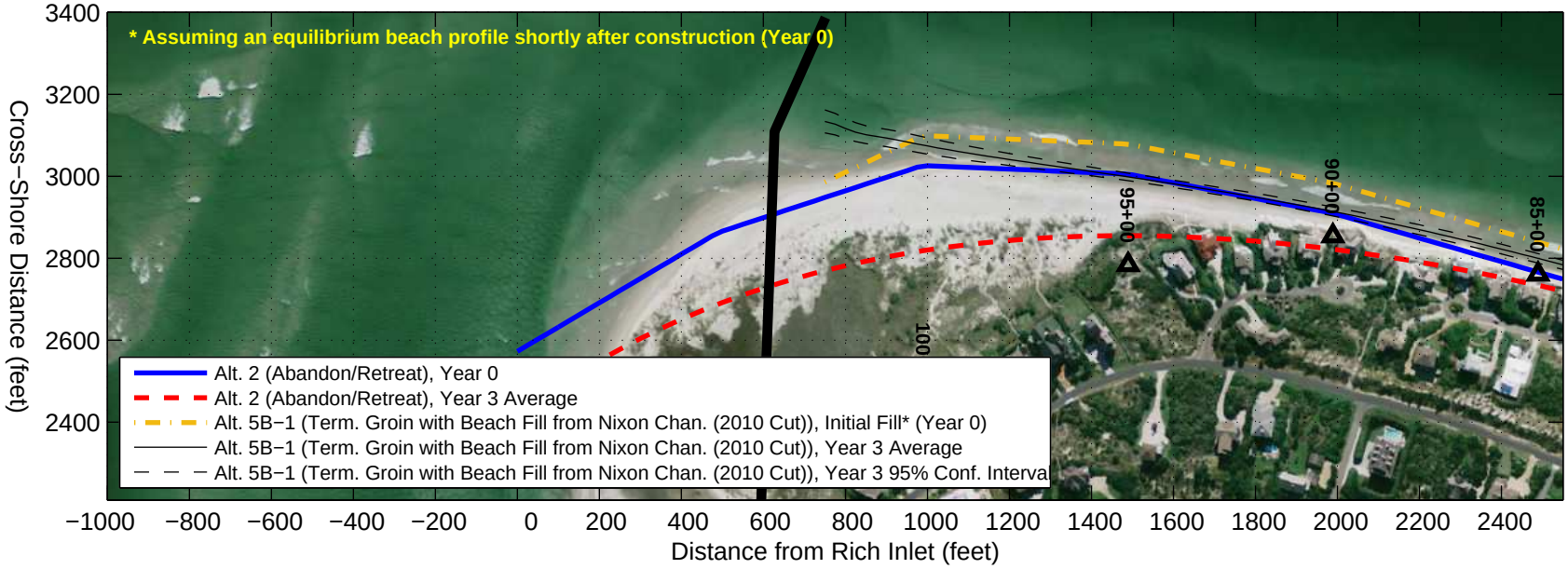

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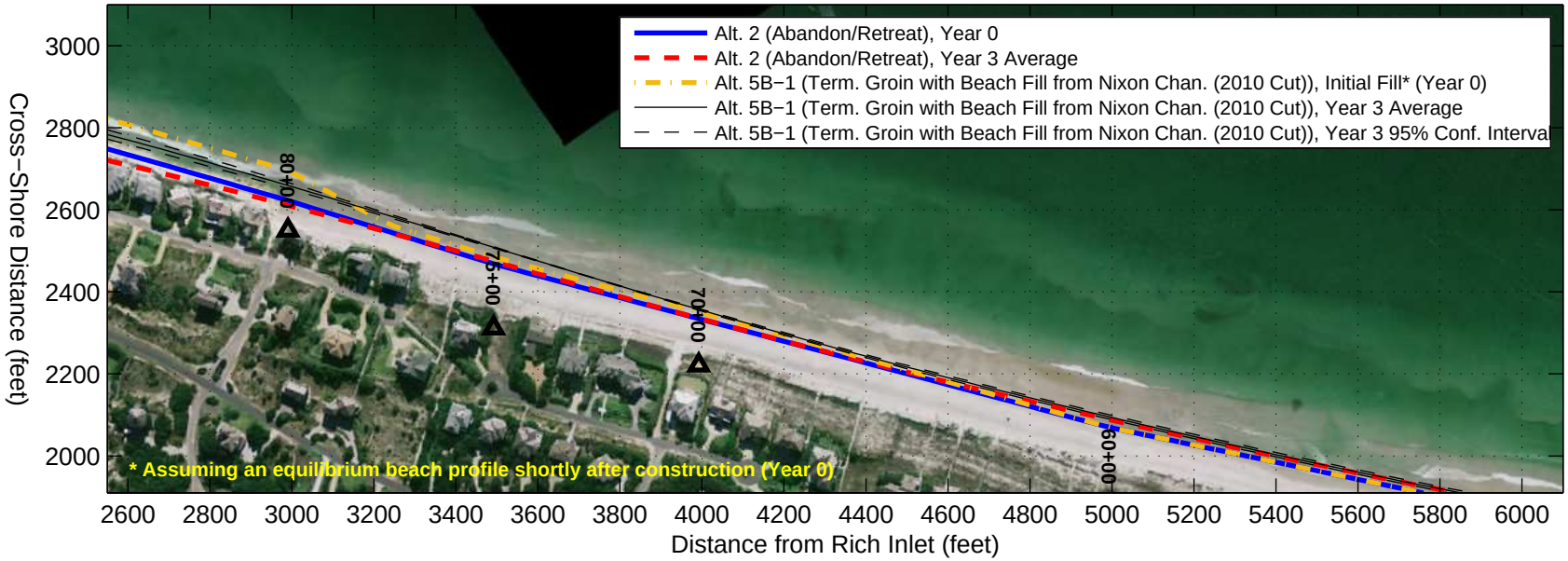

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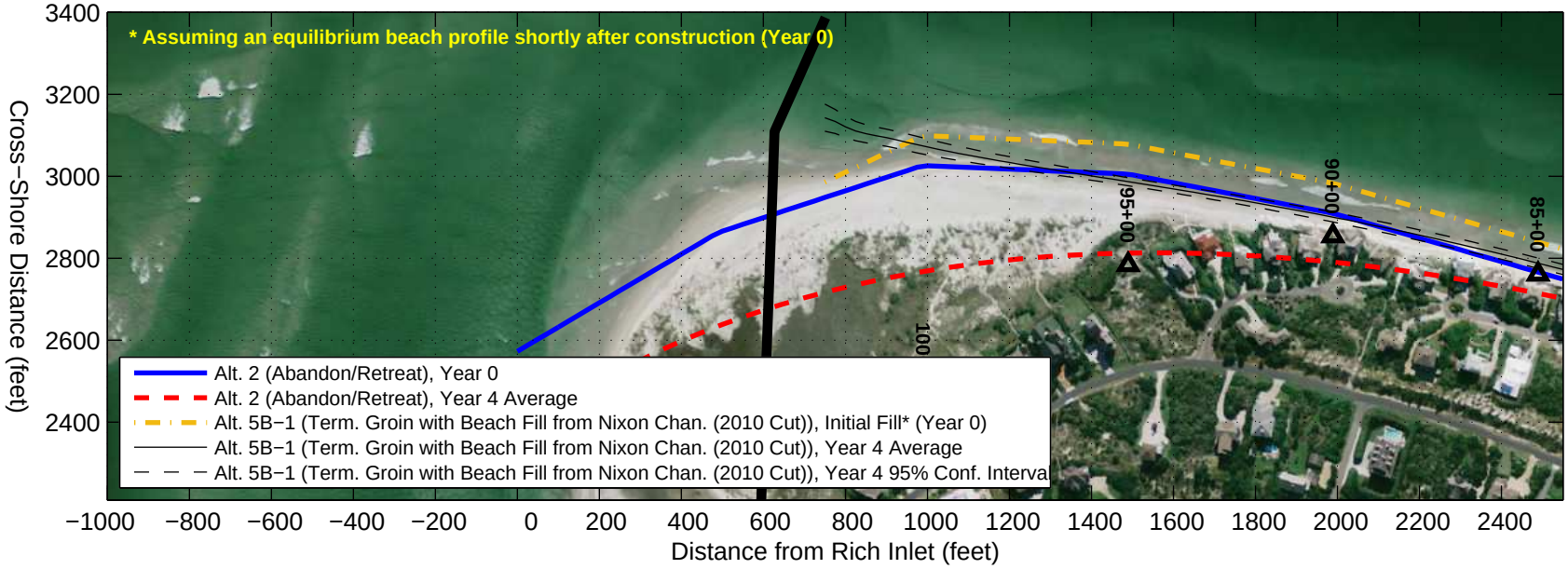

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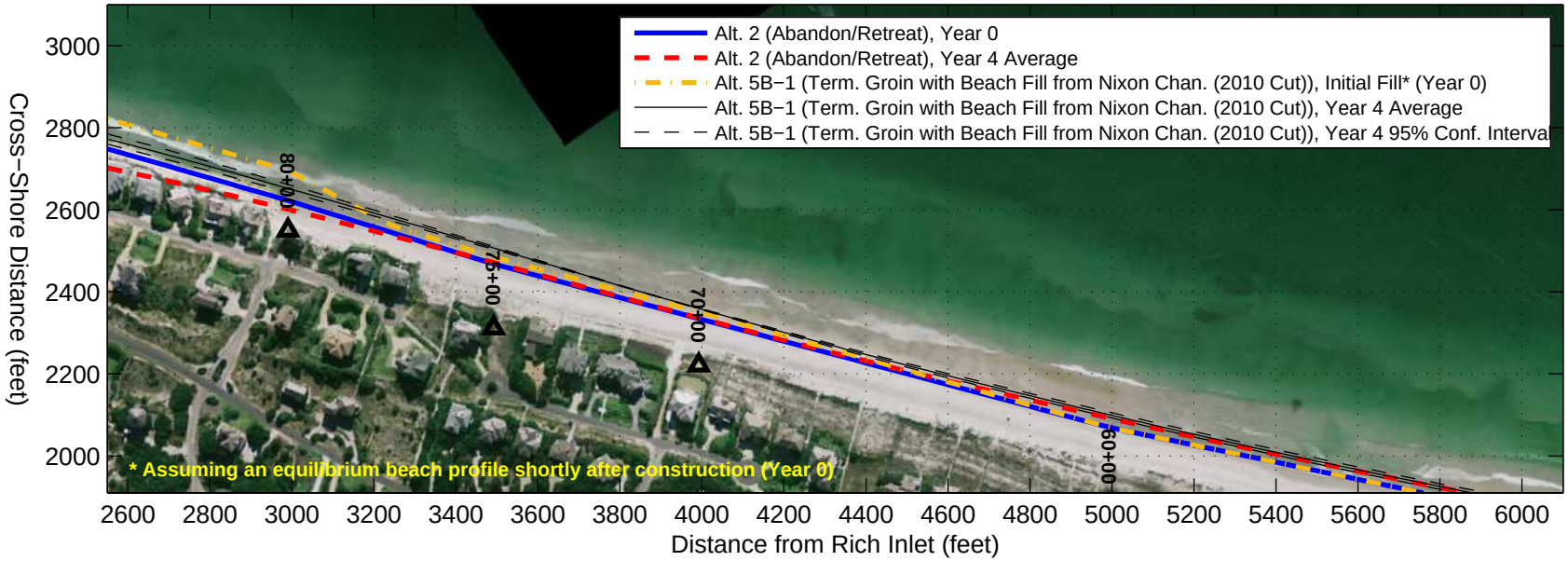

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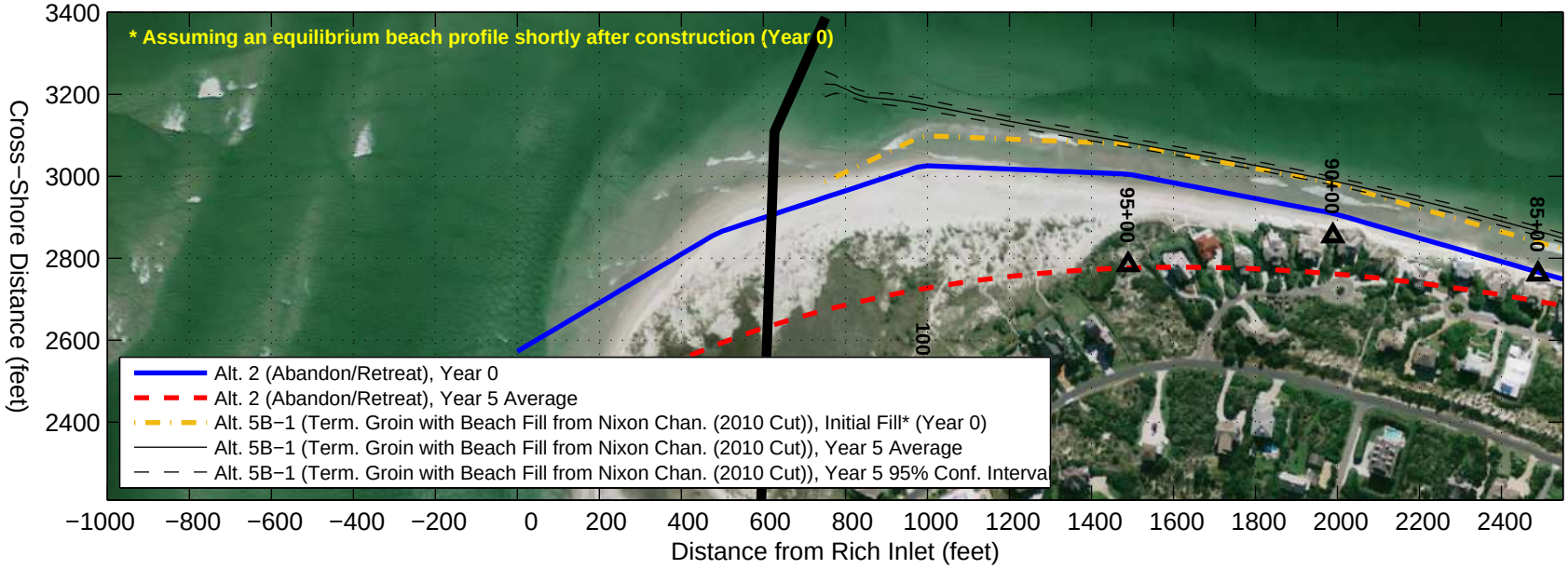

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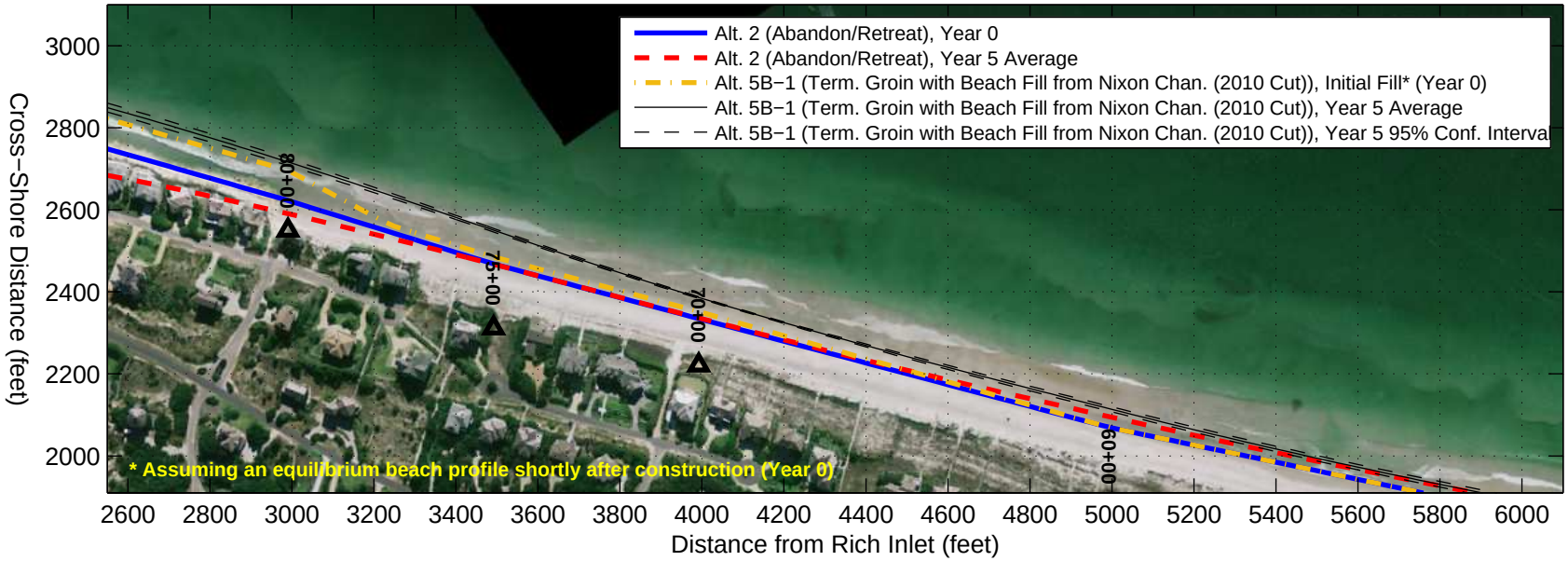

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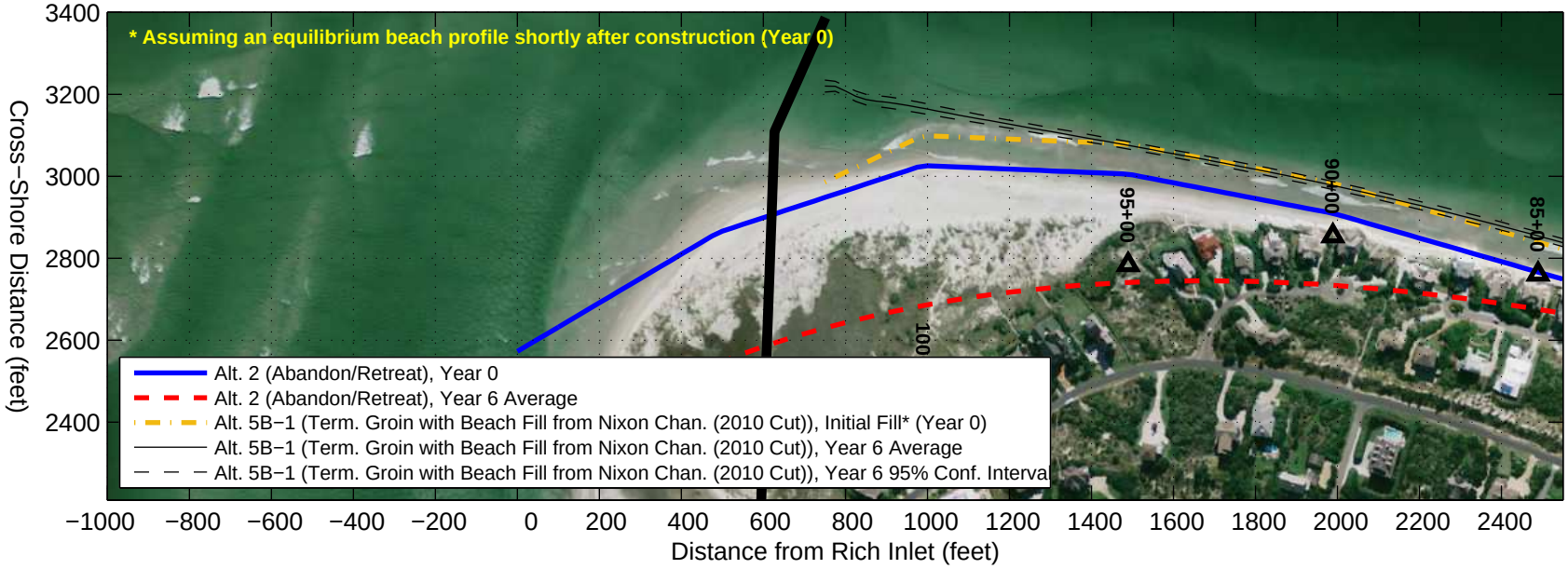

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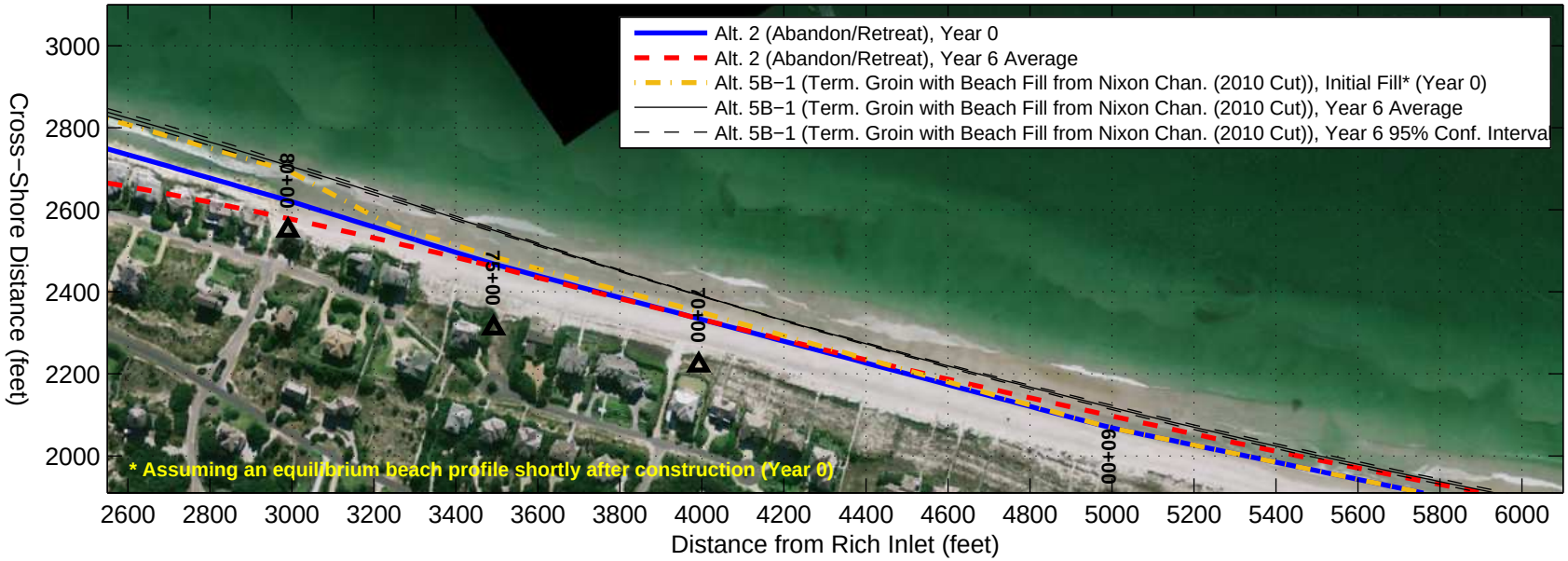

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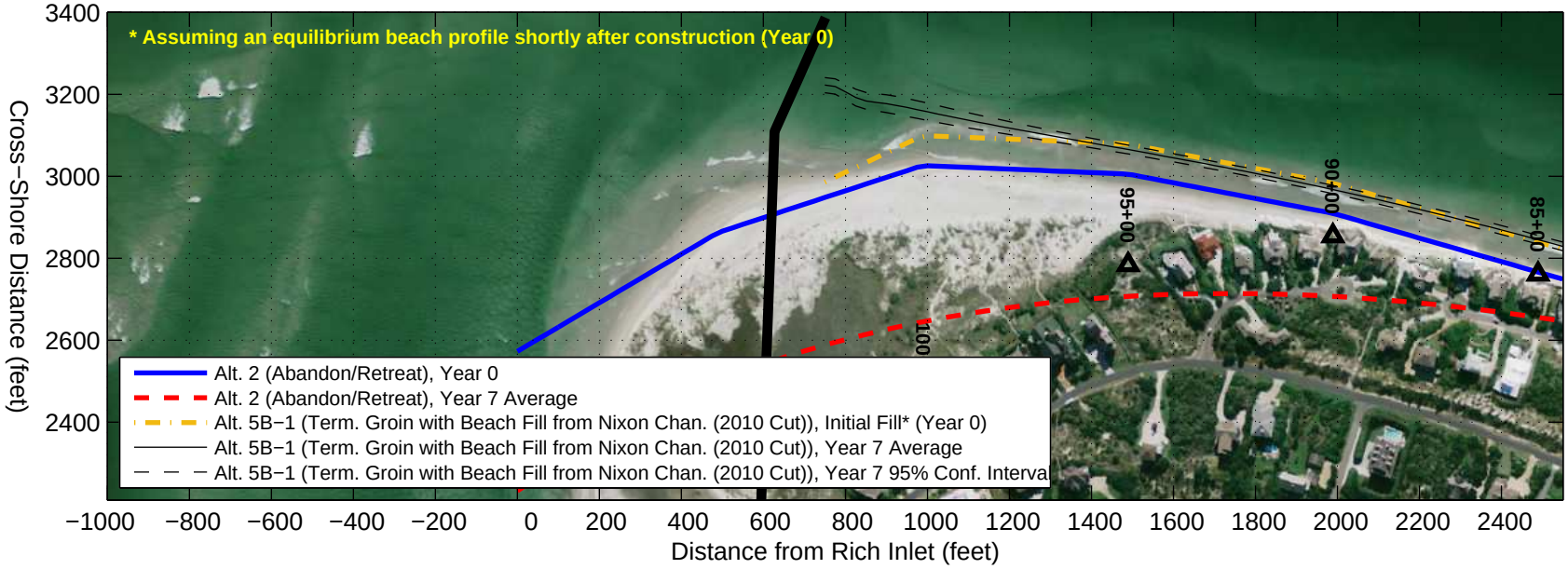

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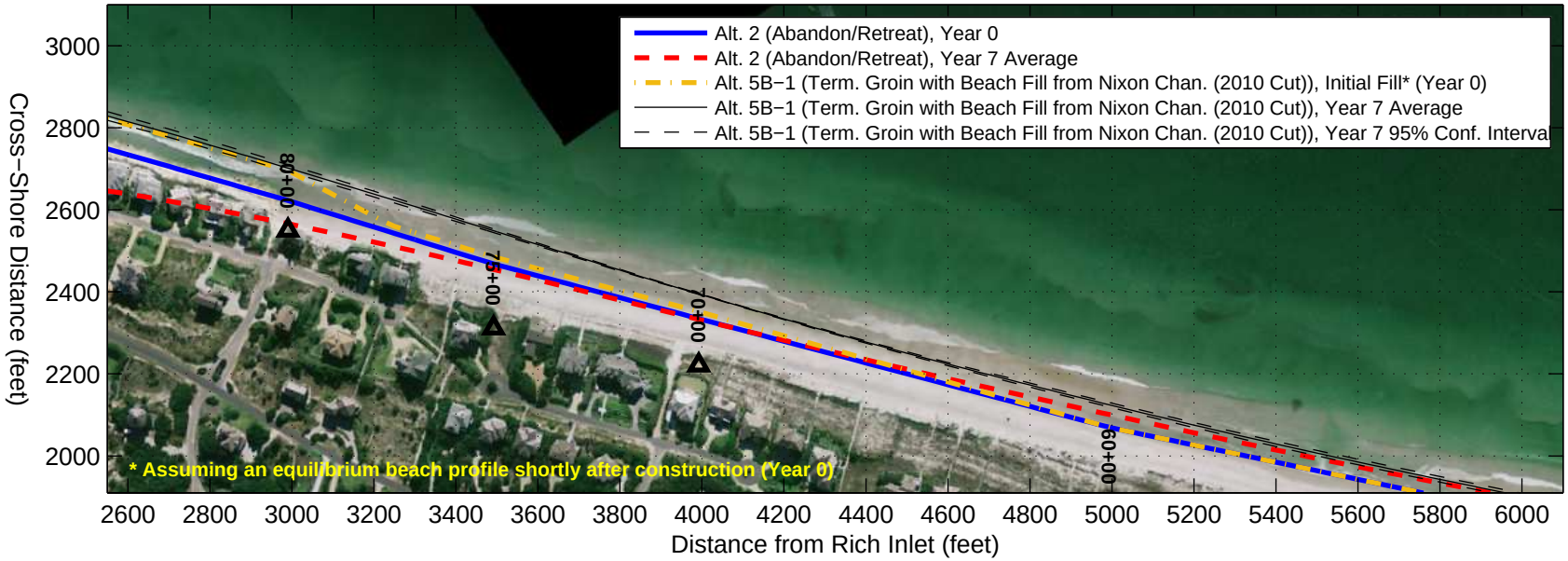

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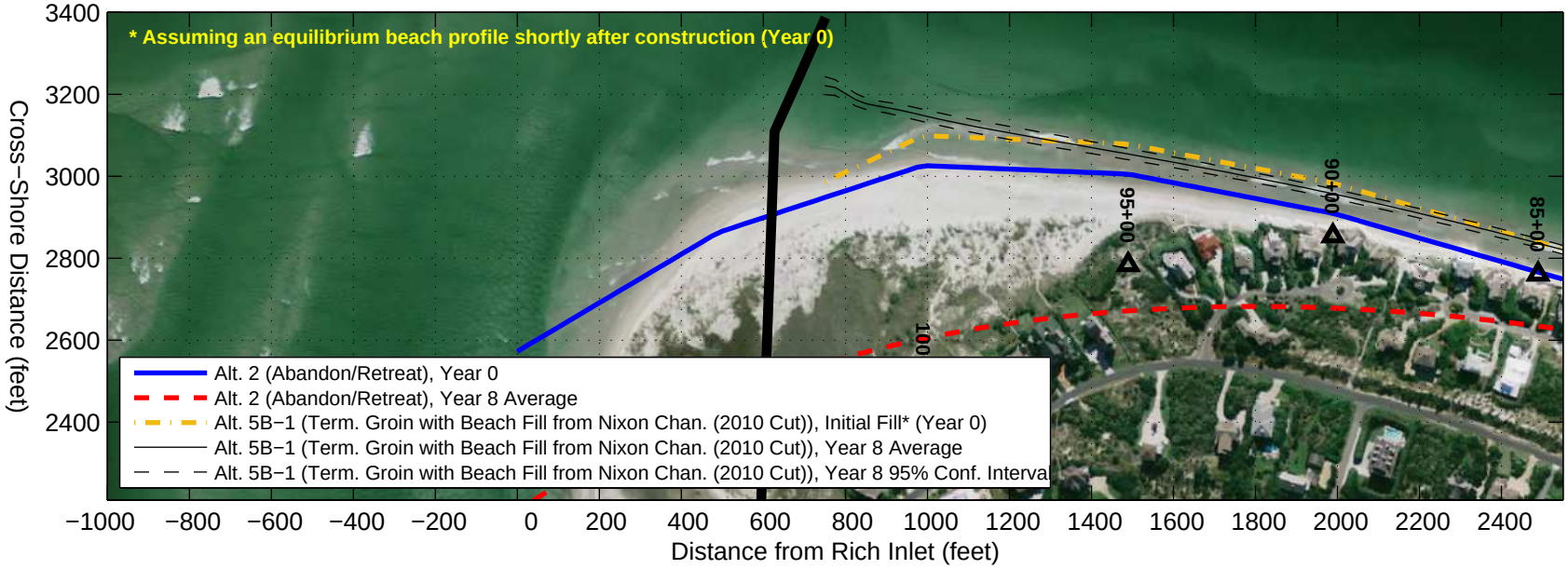

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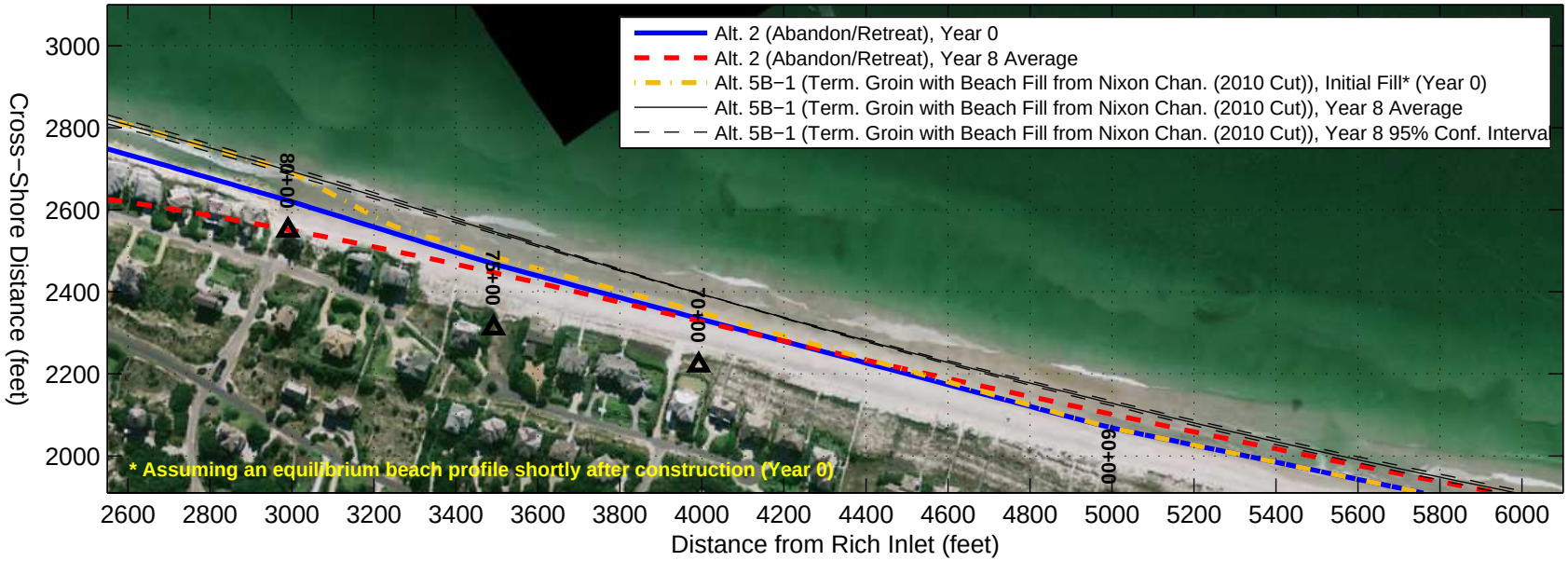

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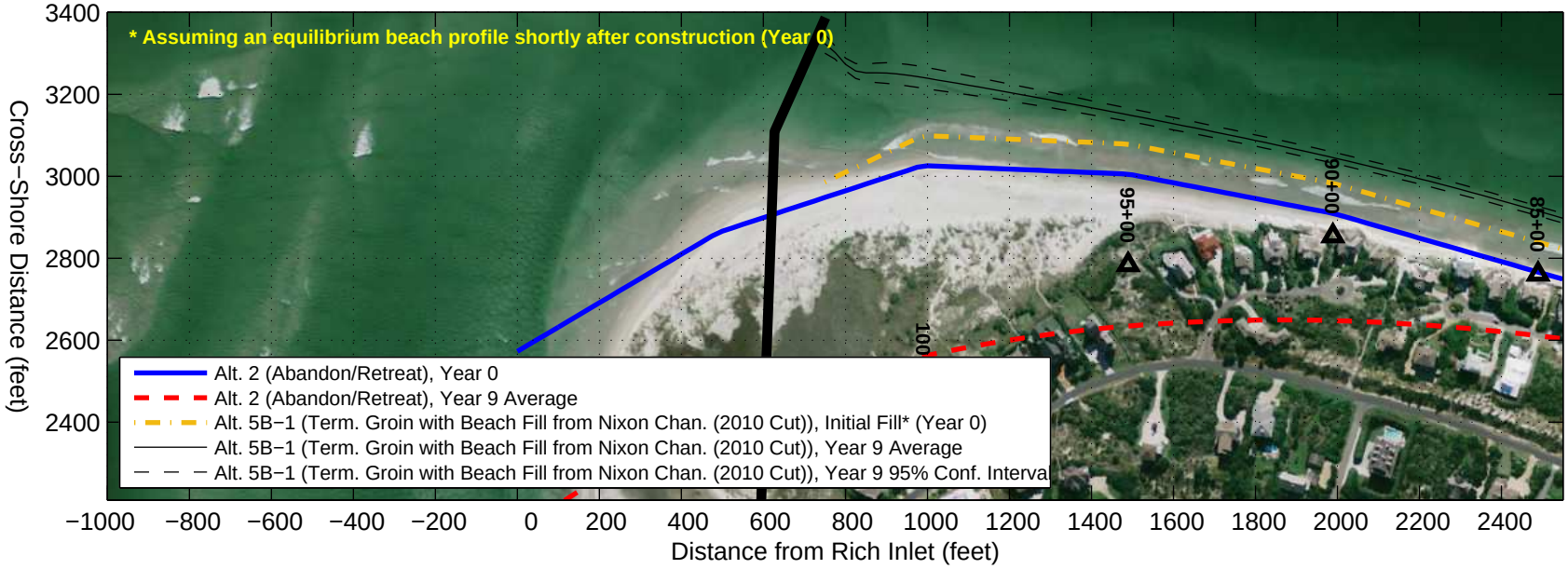

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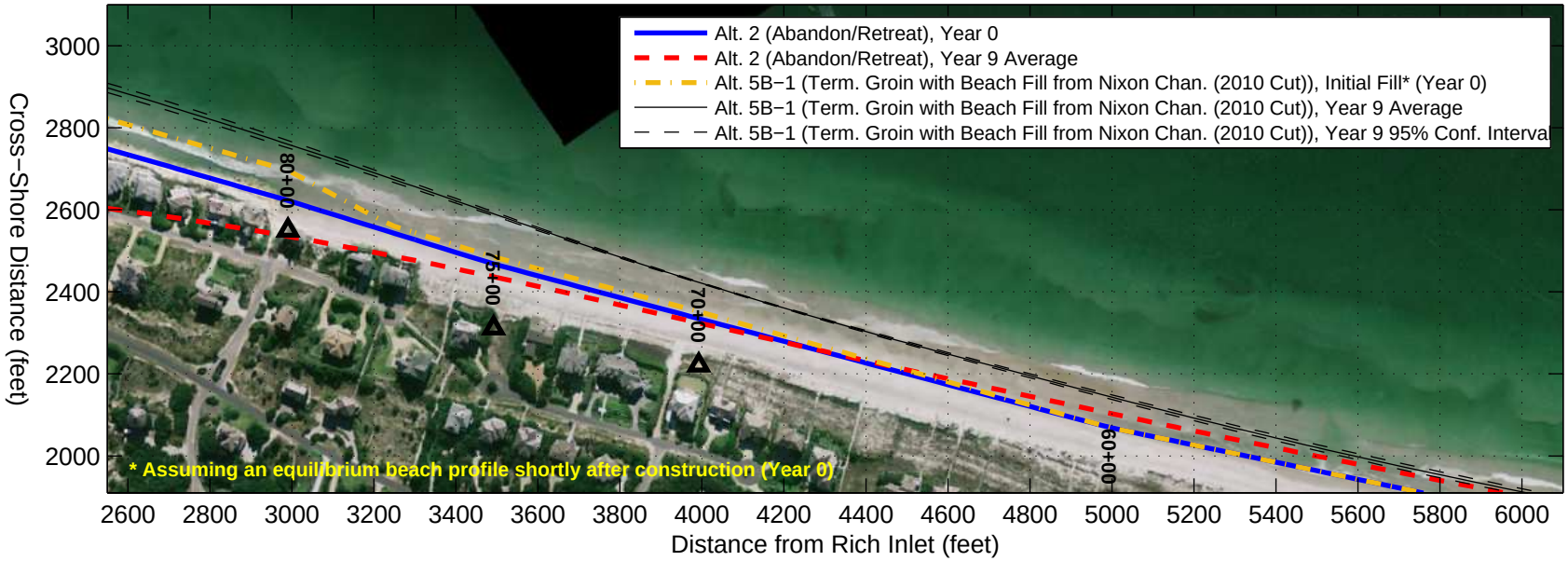

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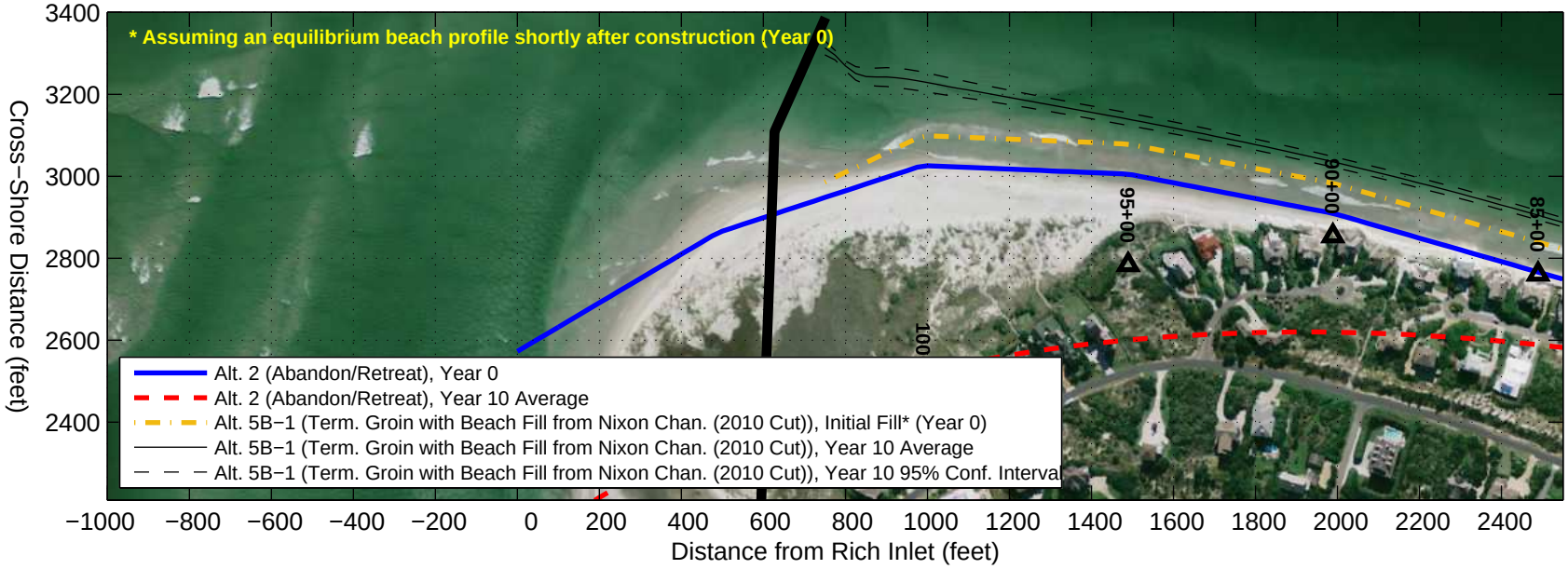
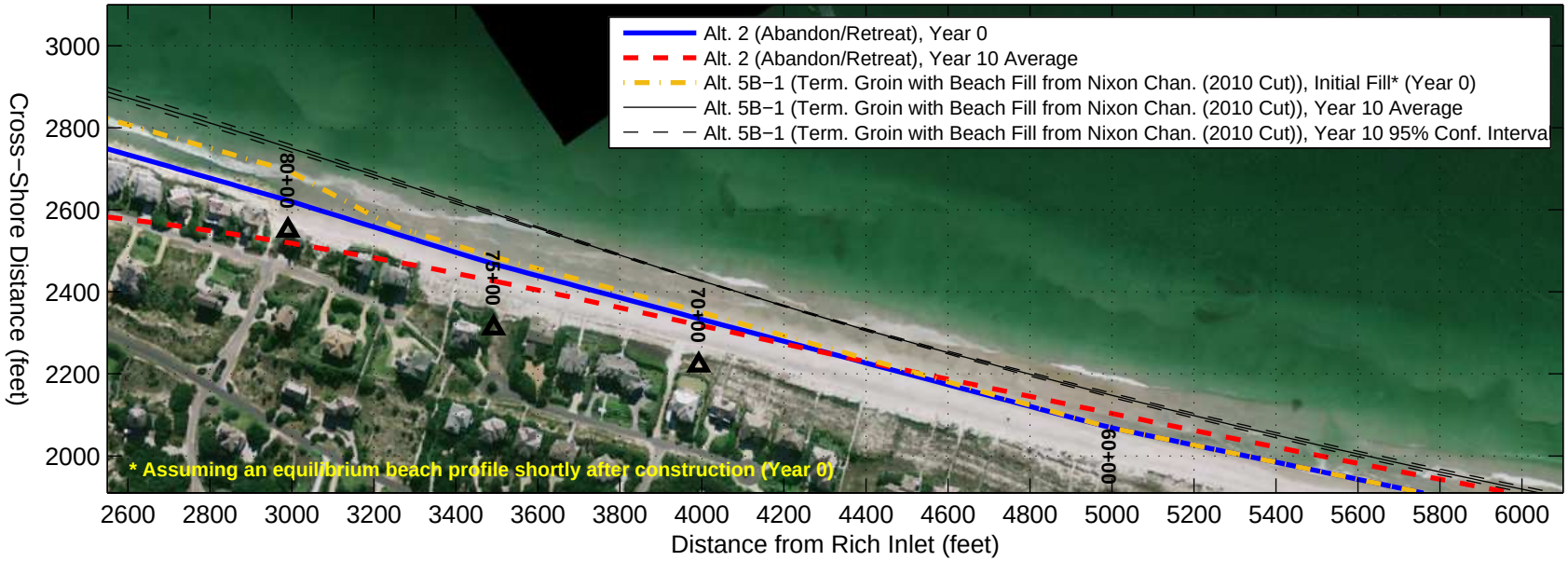
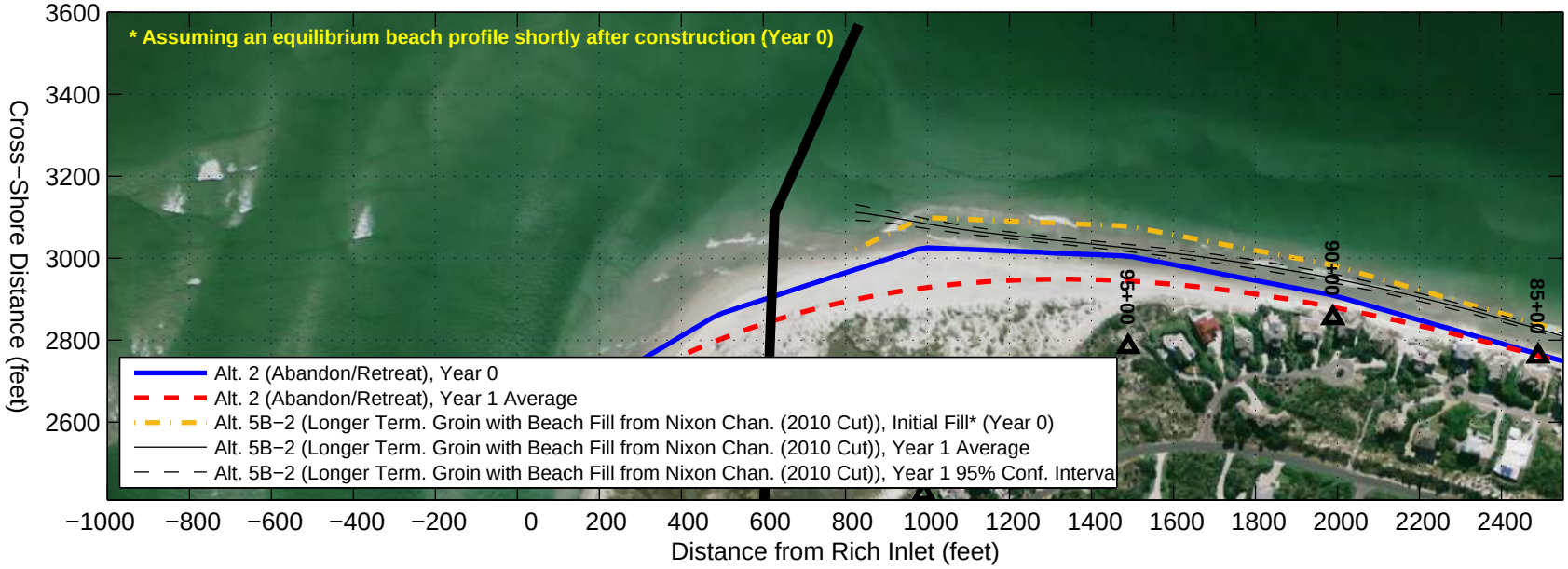


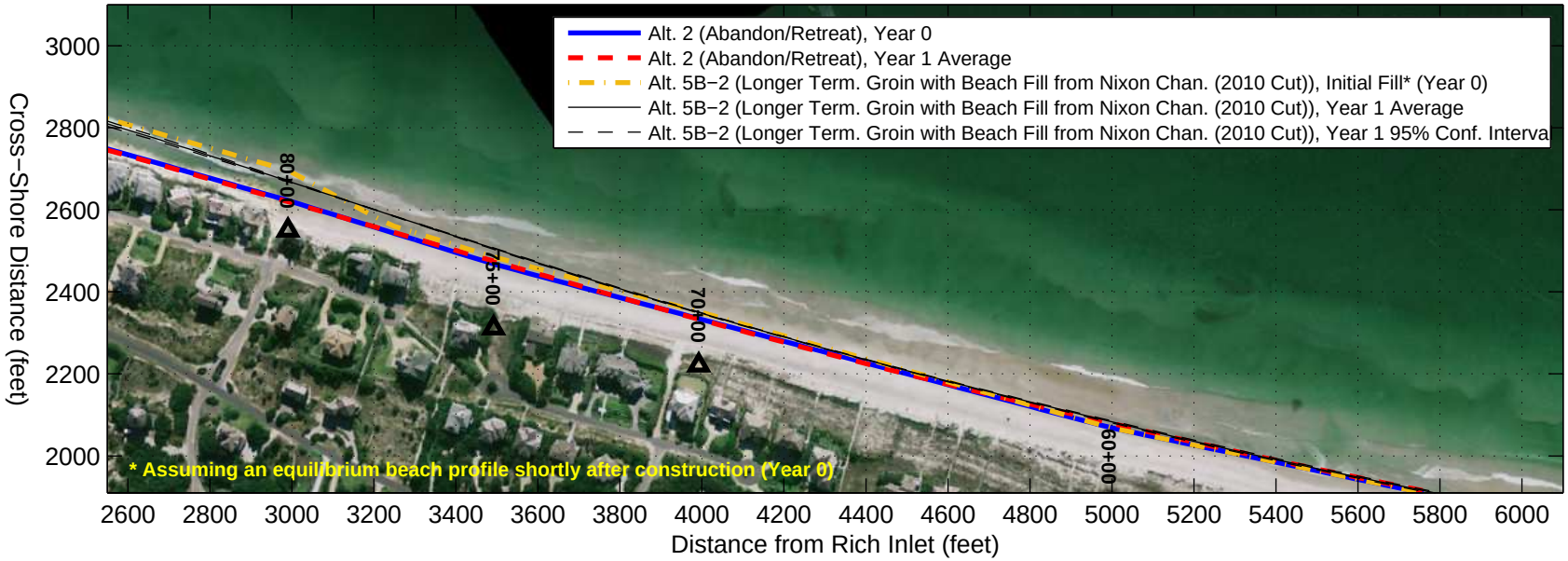
Alt. 5B−1 (Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



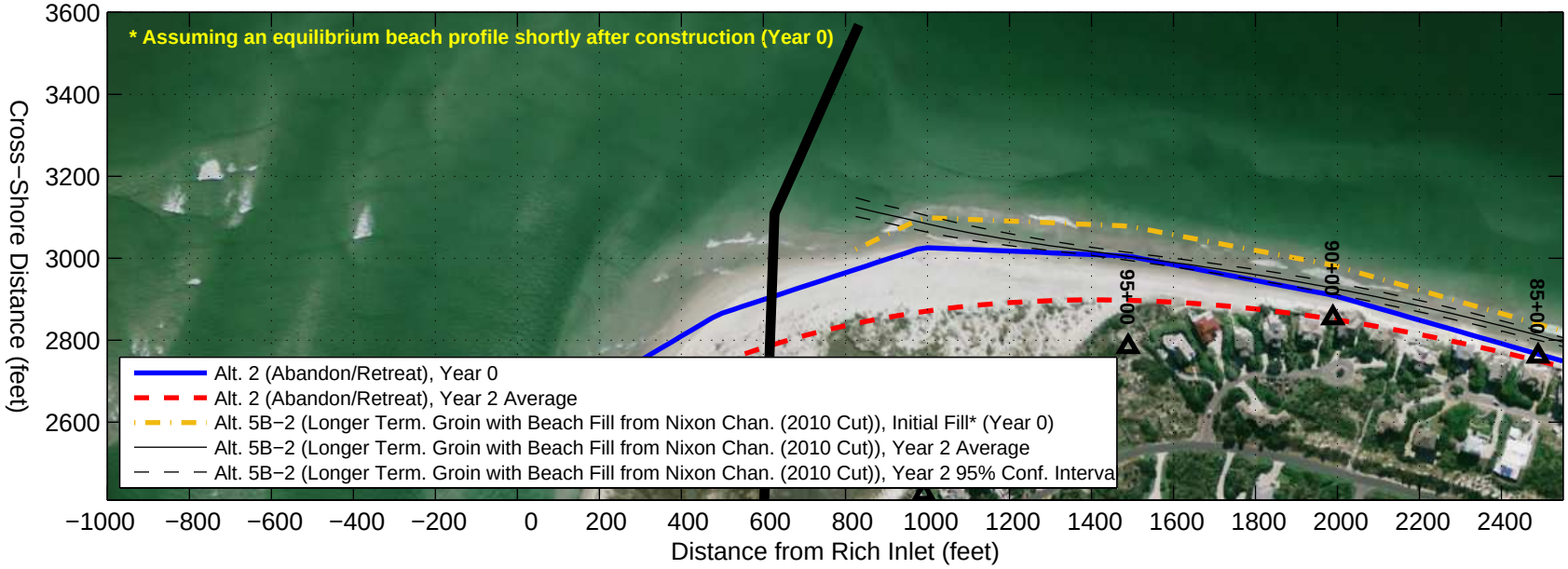
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



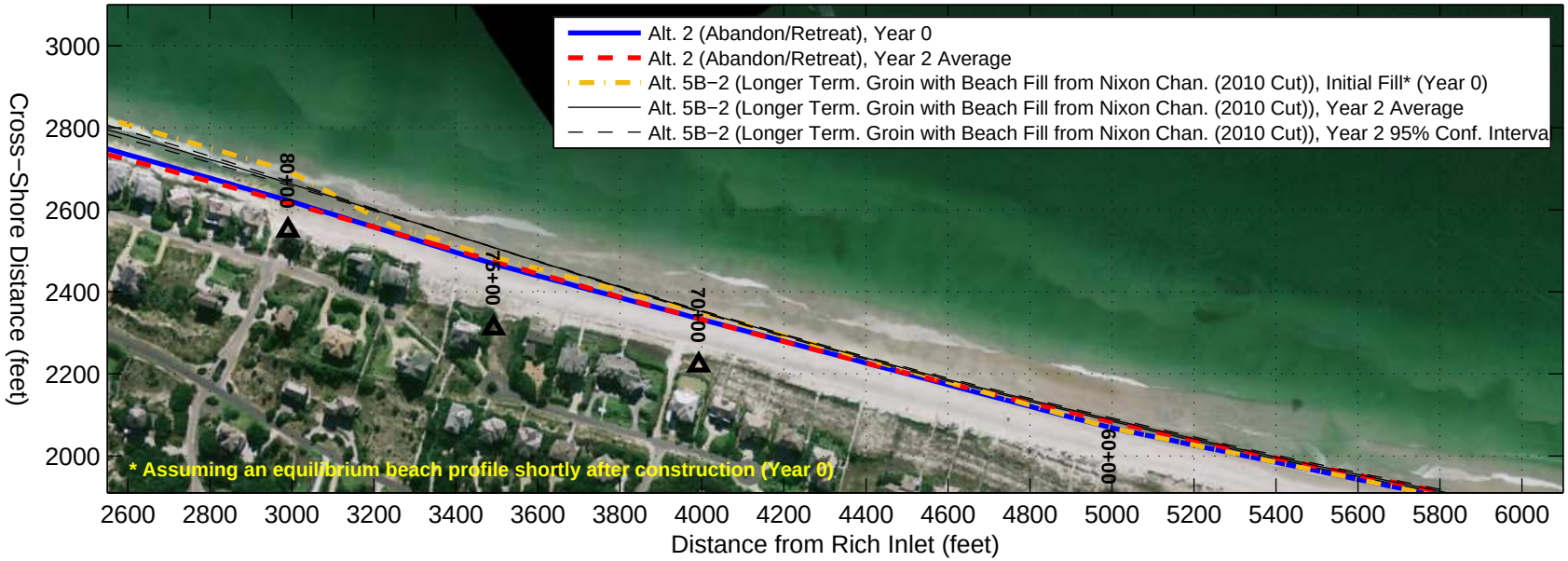
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



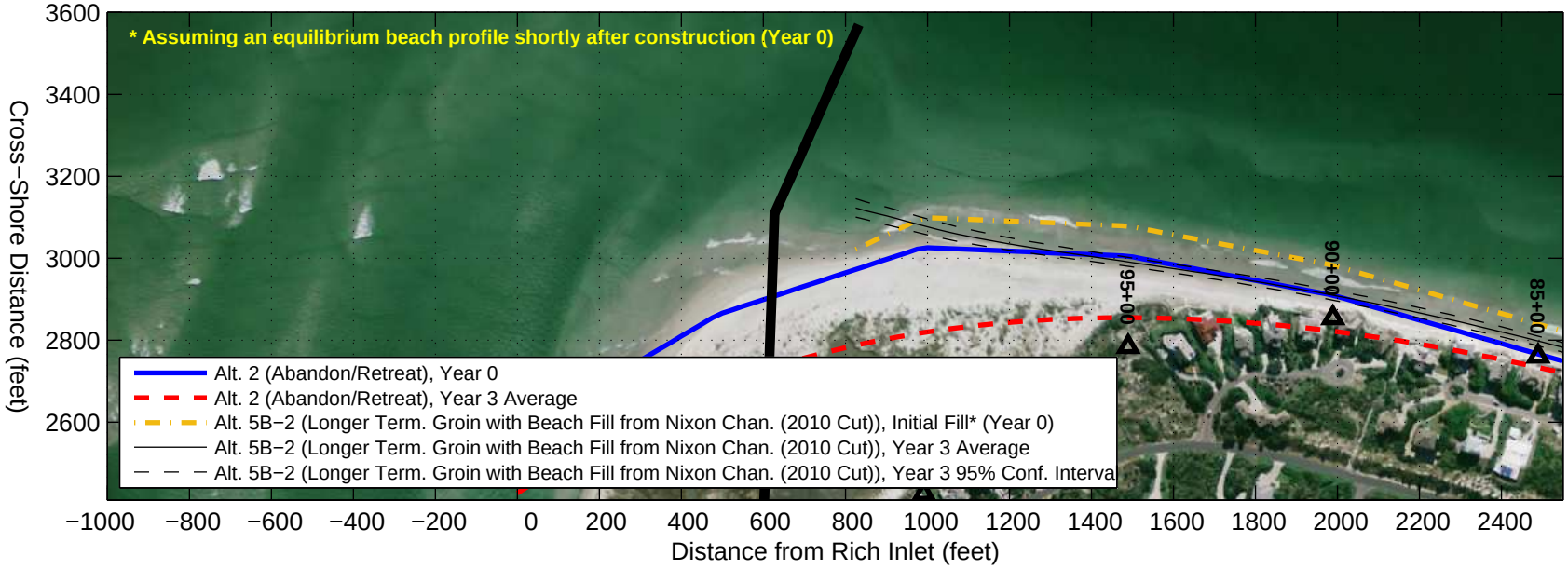
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



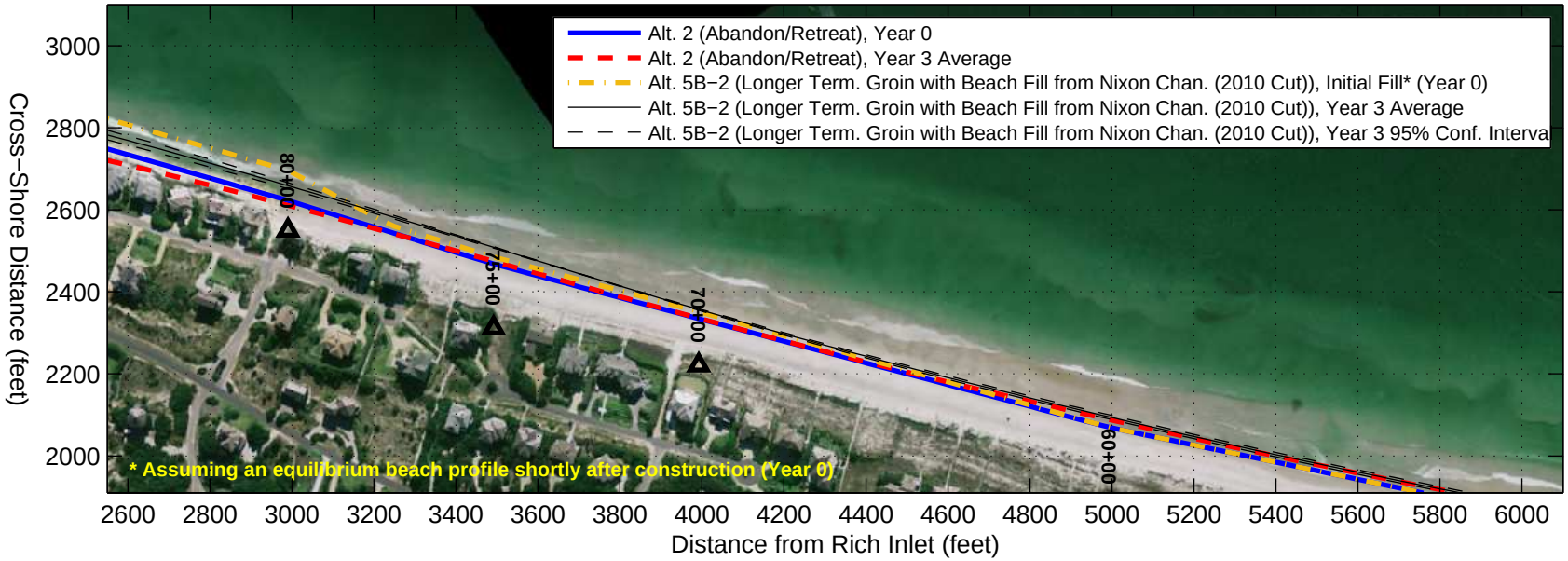
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



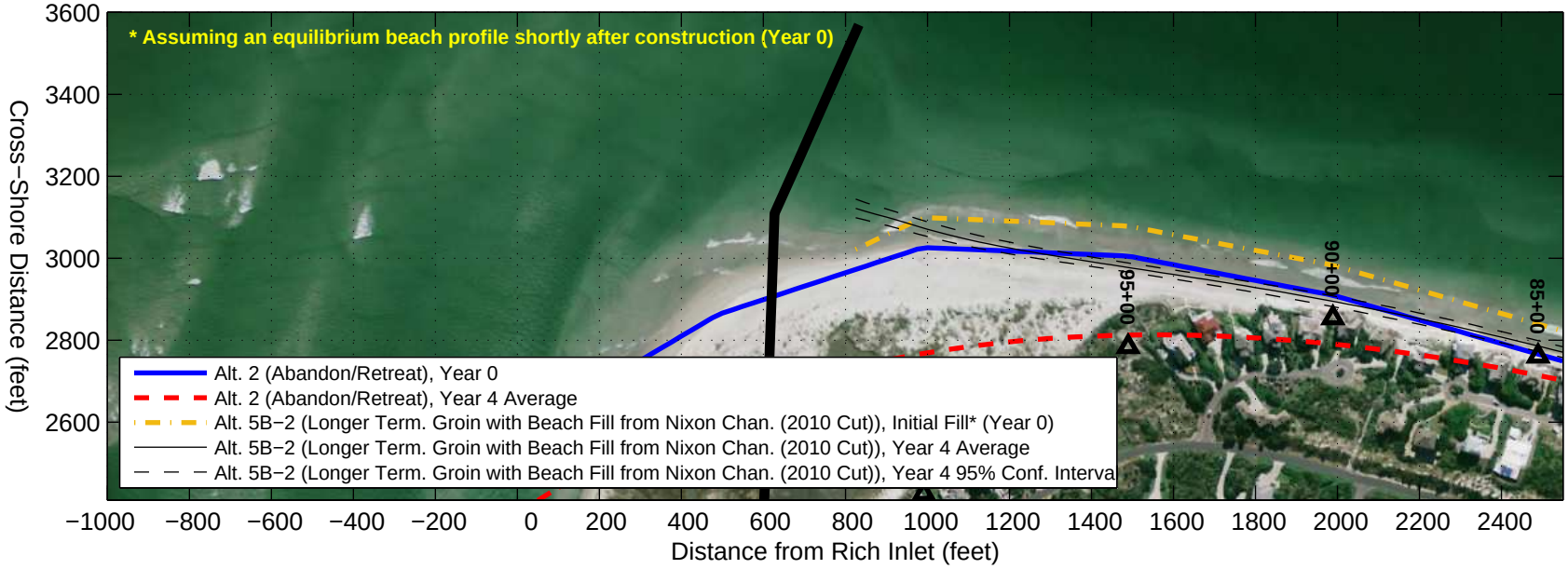
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



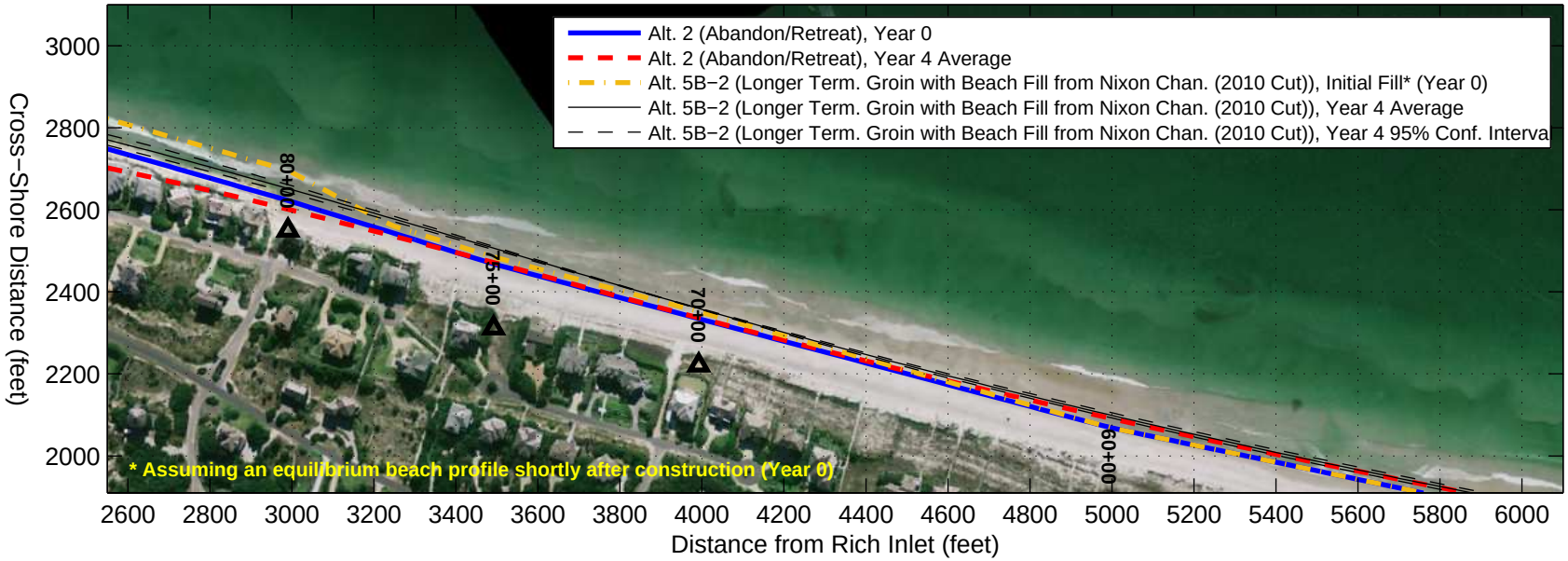
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



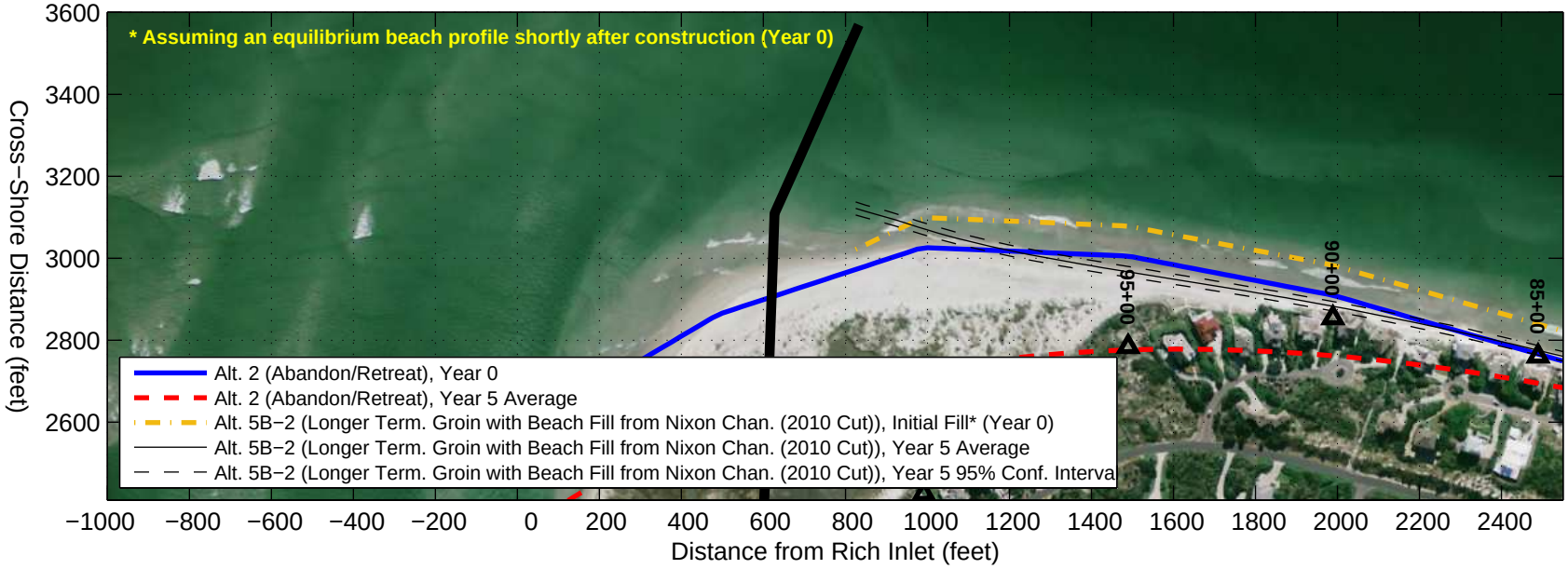
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



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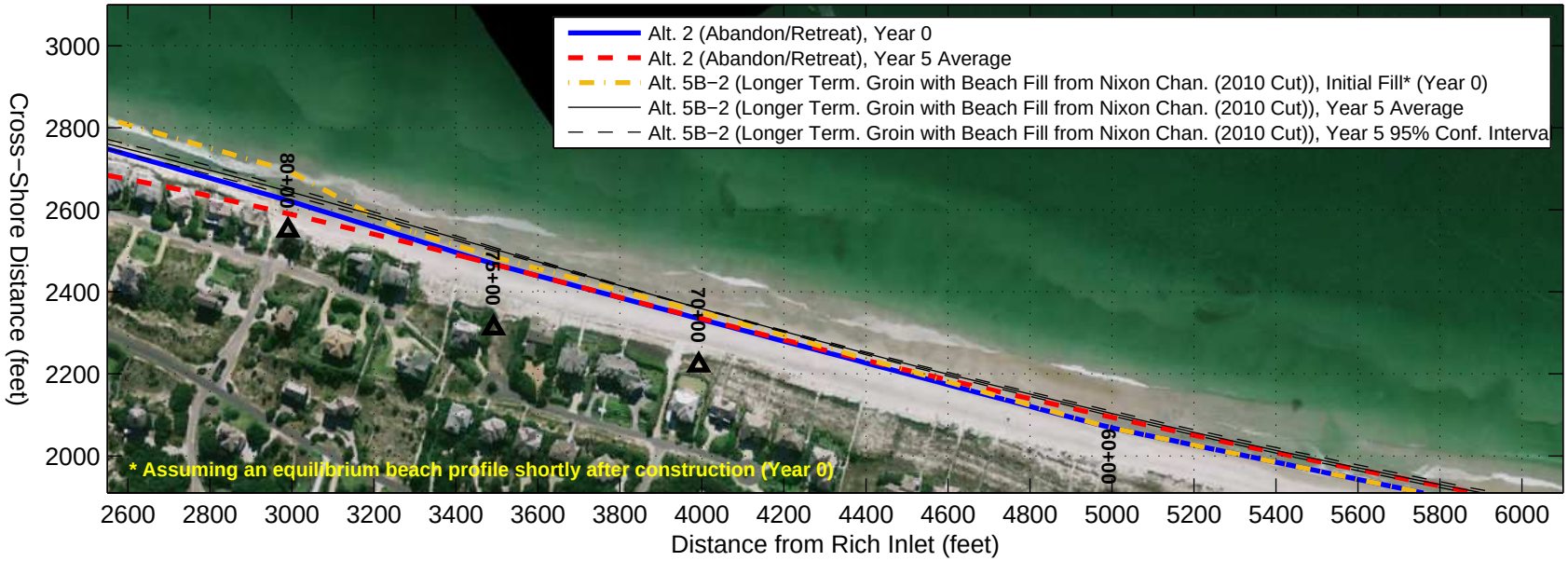
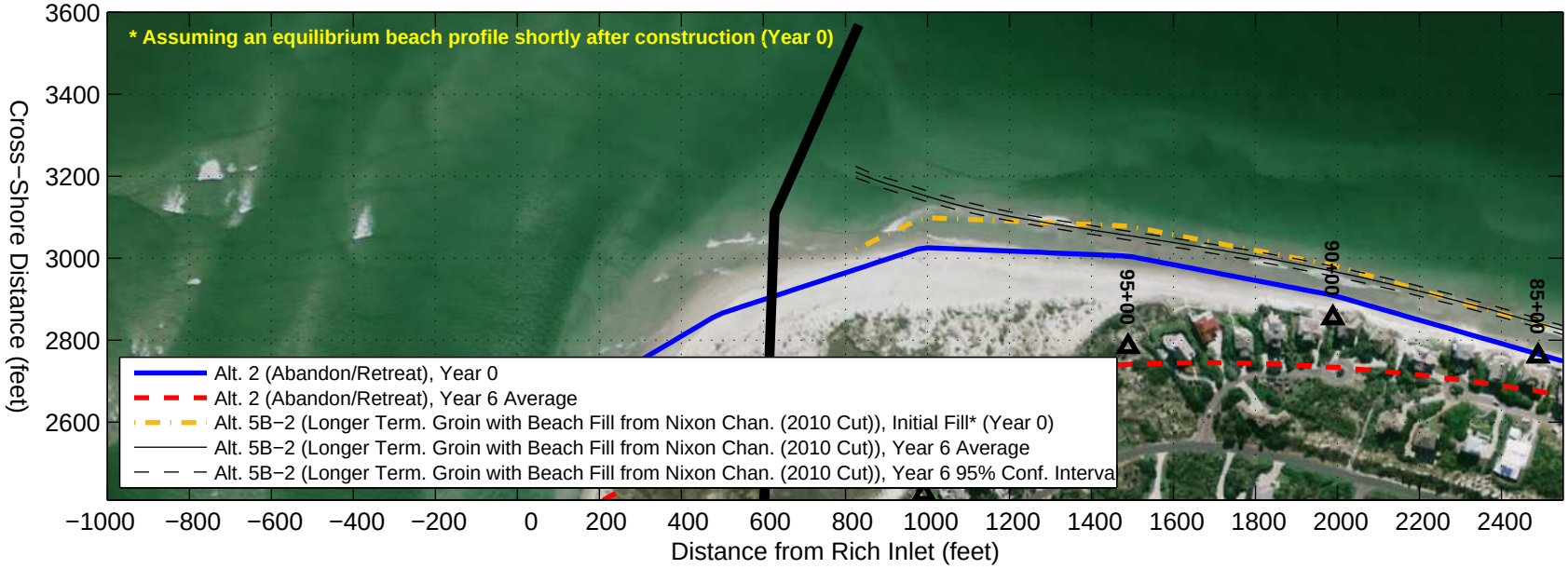
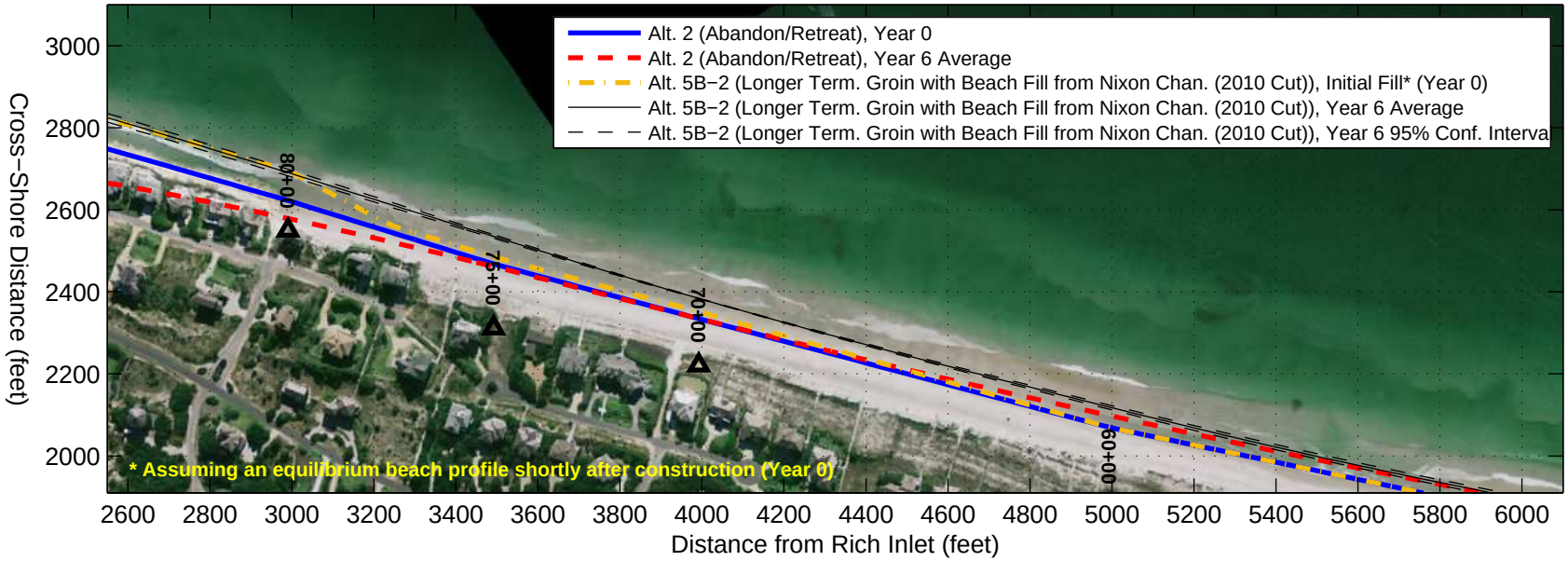


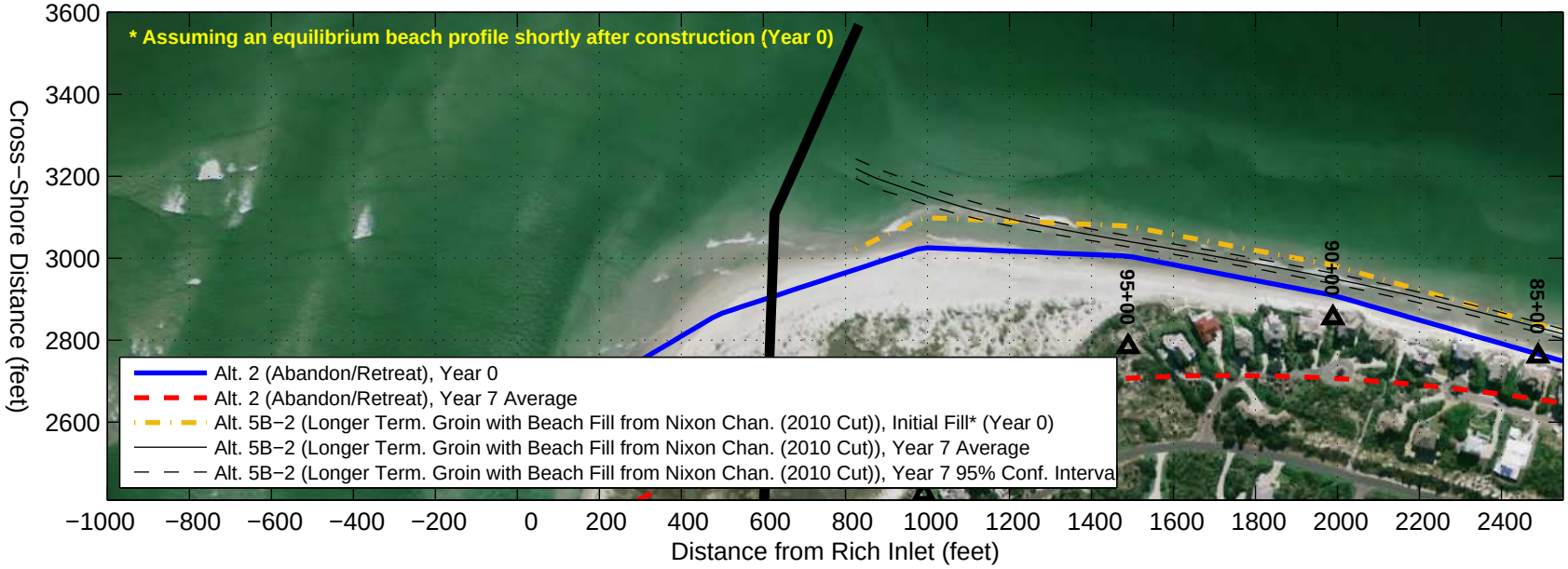
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



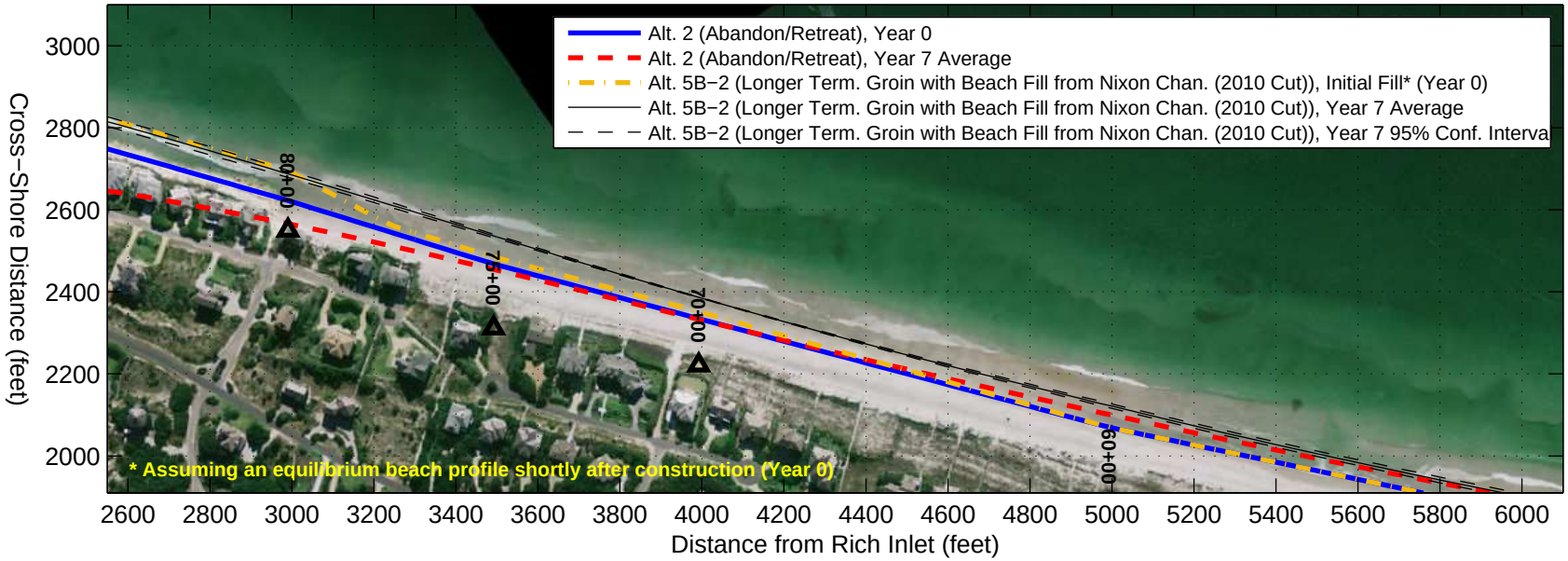
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



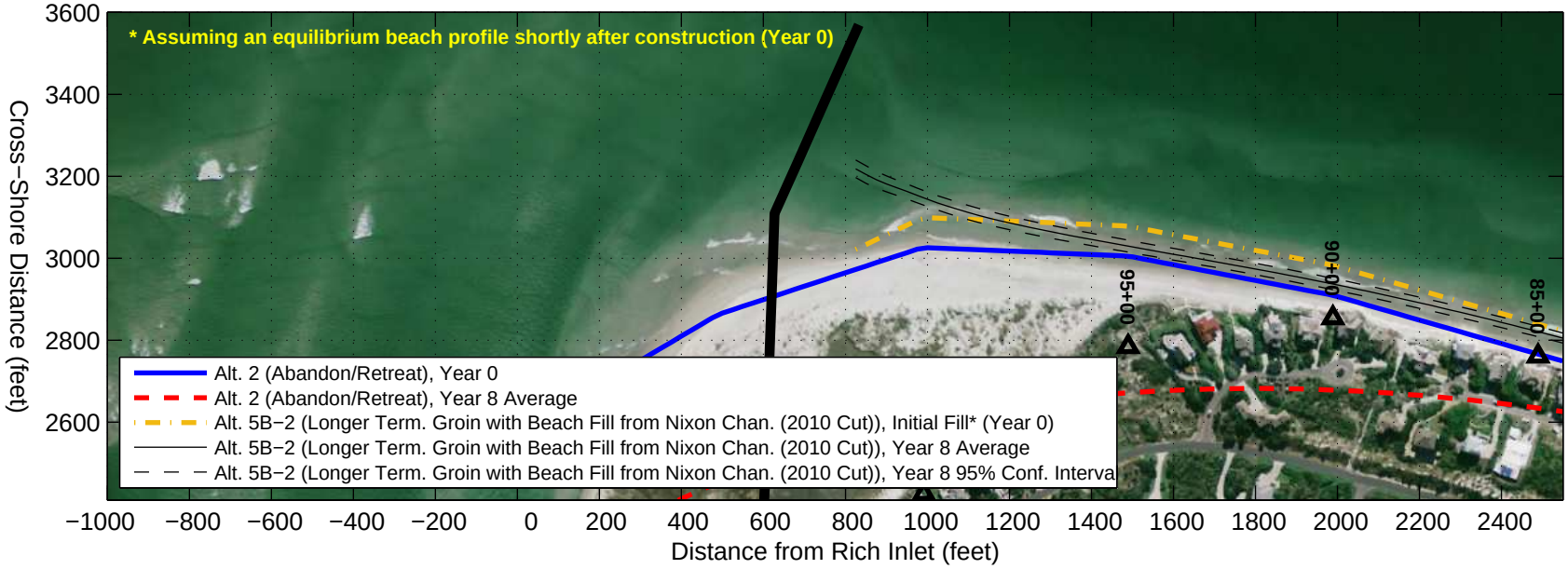
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



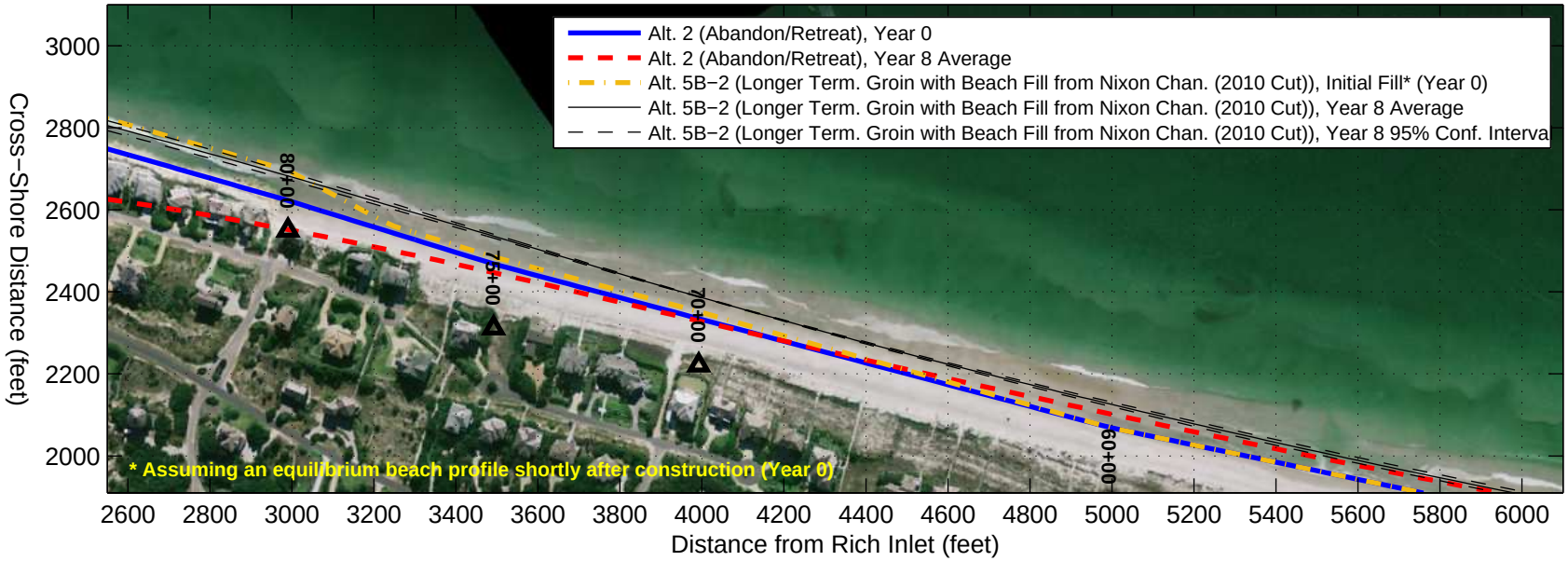
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



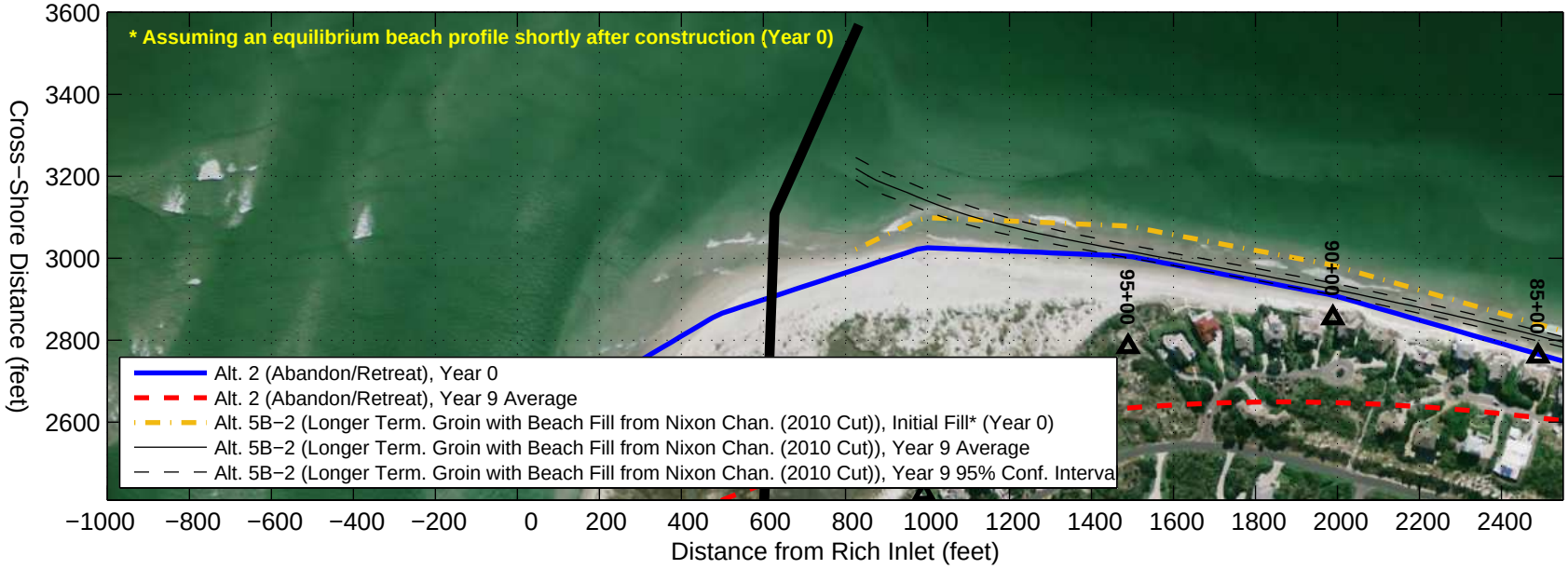
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



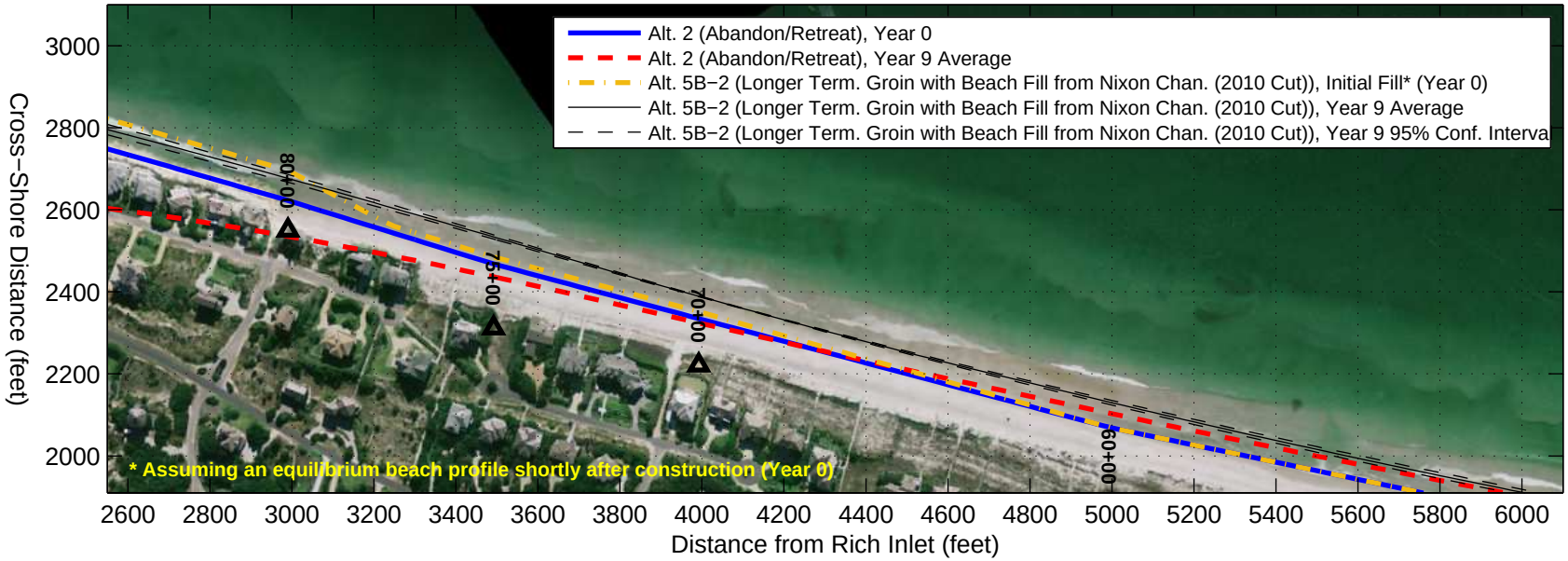
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



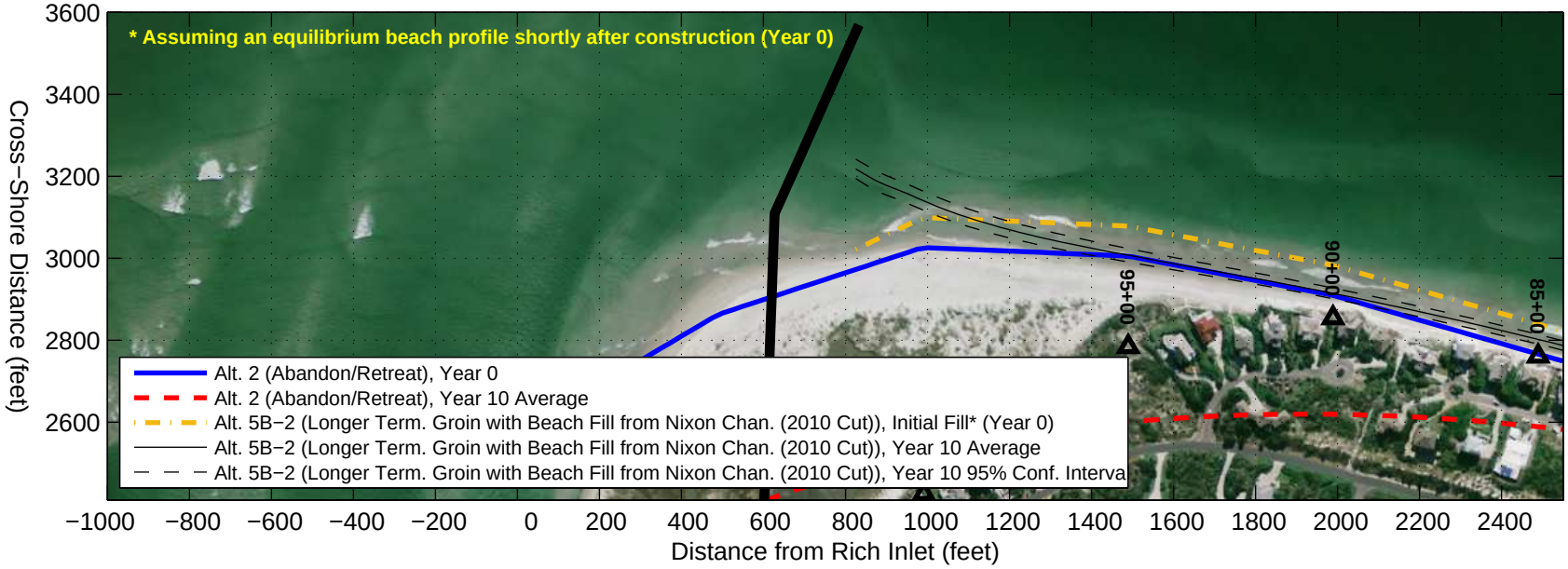
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



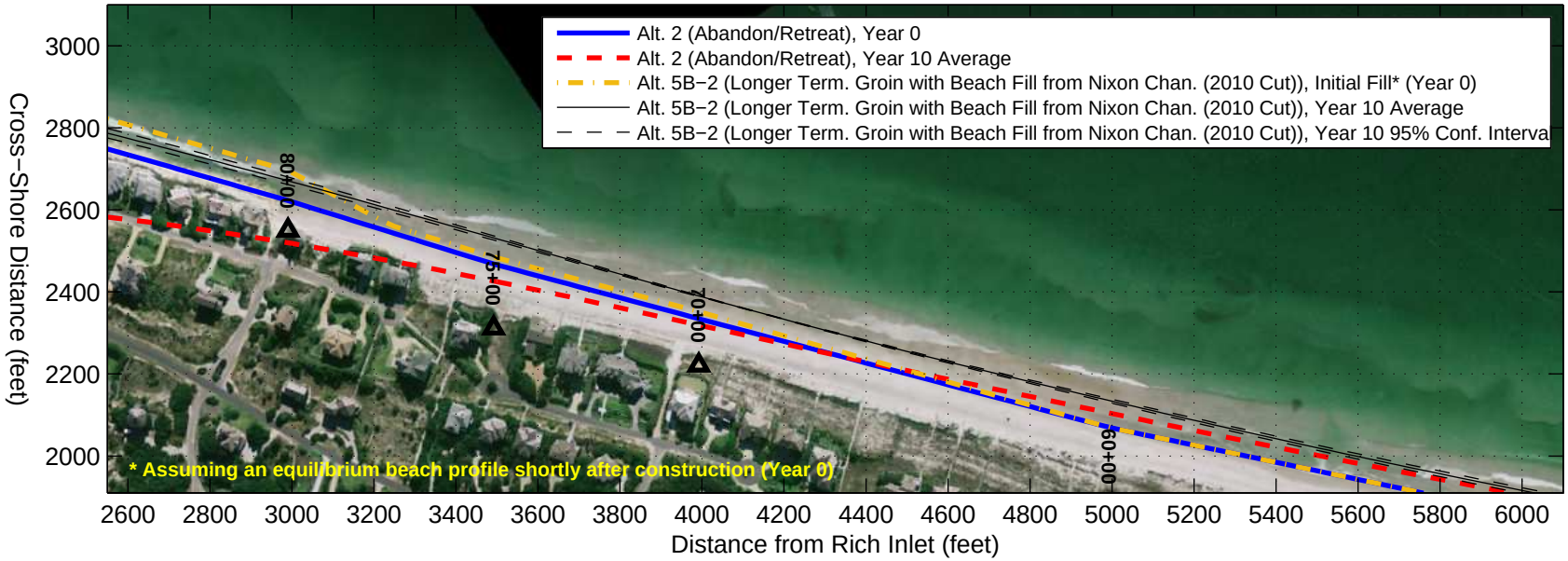
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)



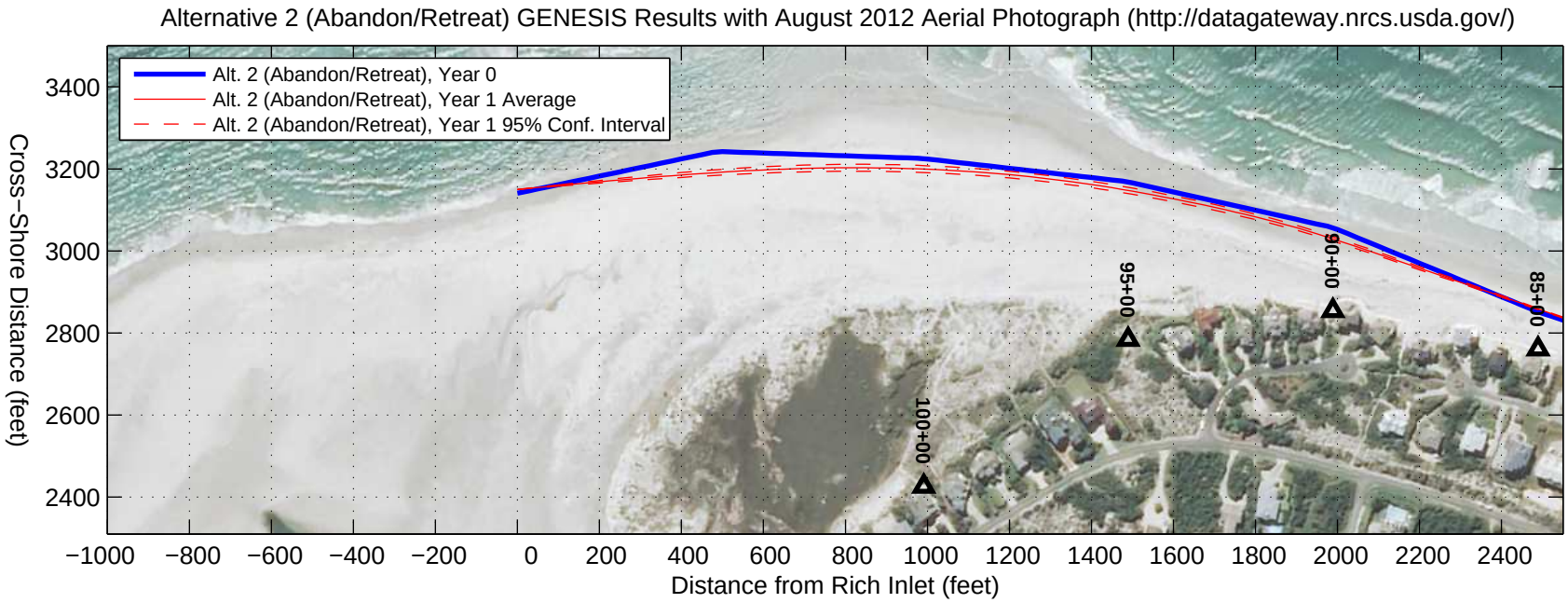
Alt. 5B−2 (Longer Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Oct. 2007 Aerial Photograph (http://earthexplorer.usgs.gov/)

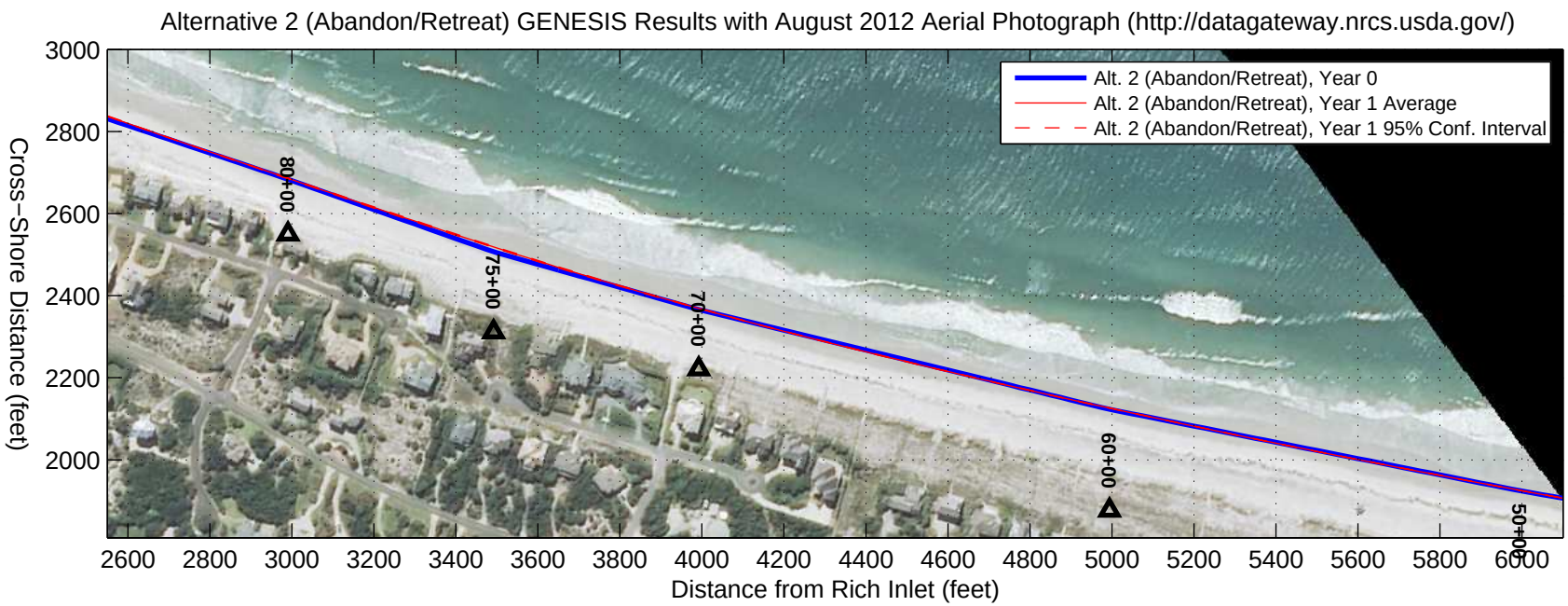


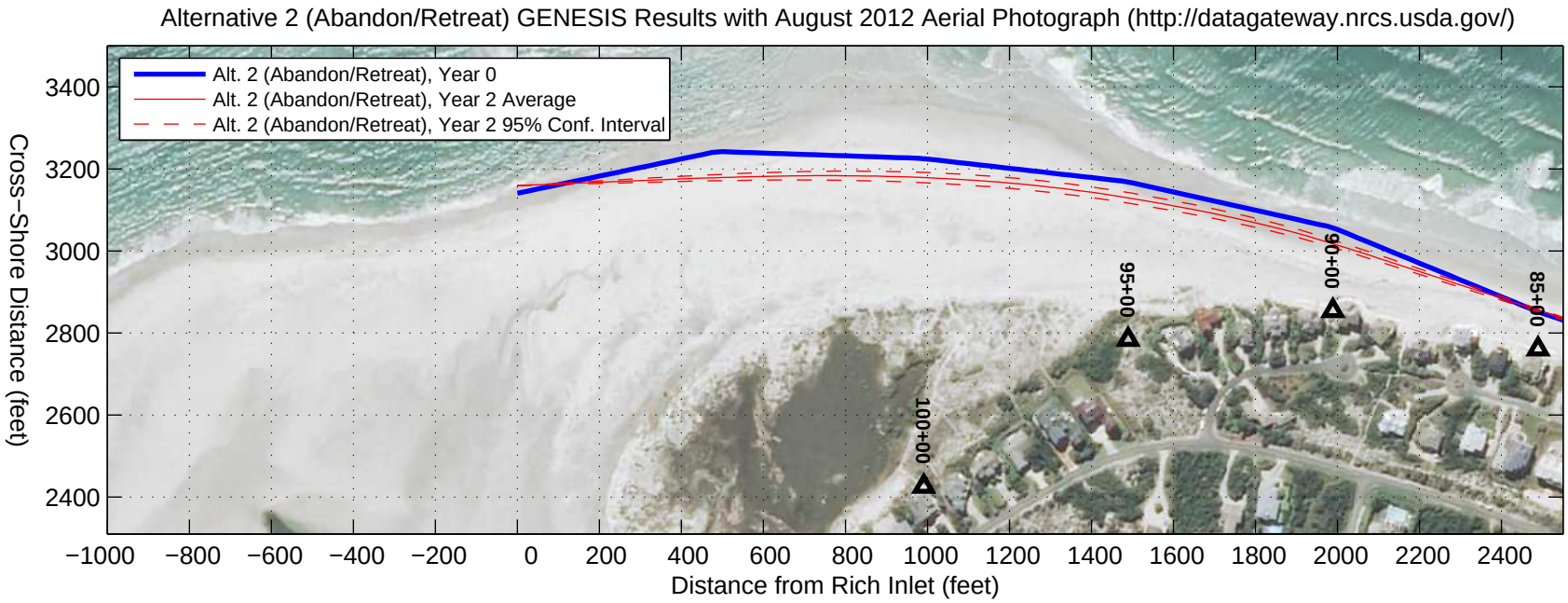
Sub-Appendix B

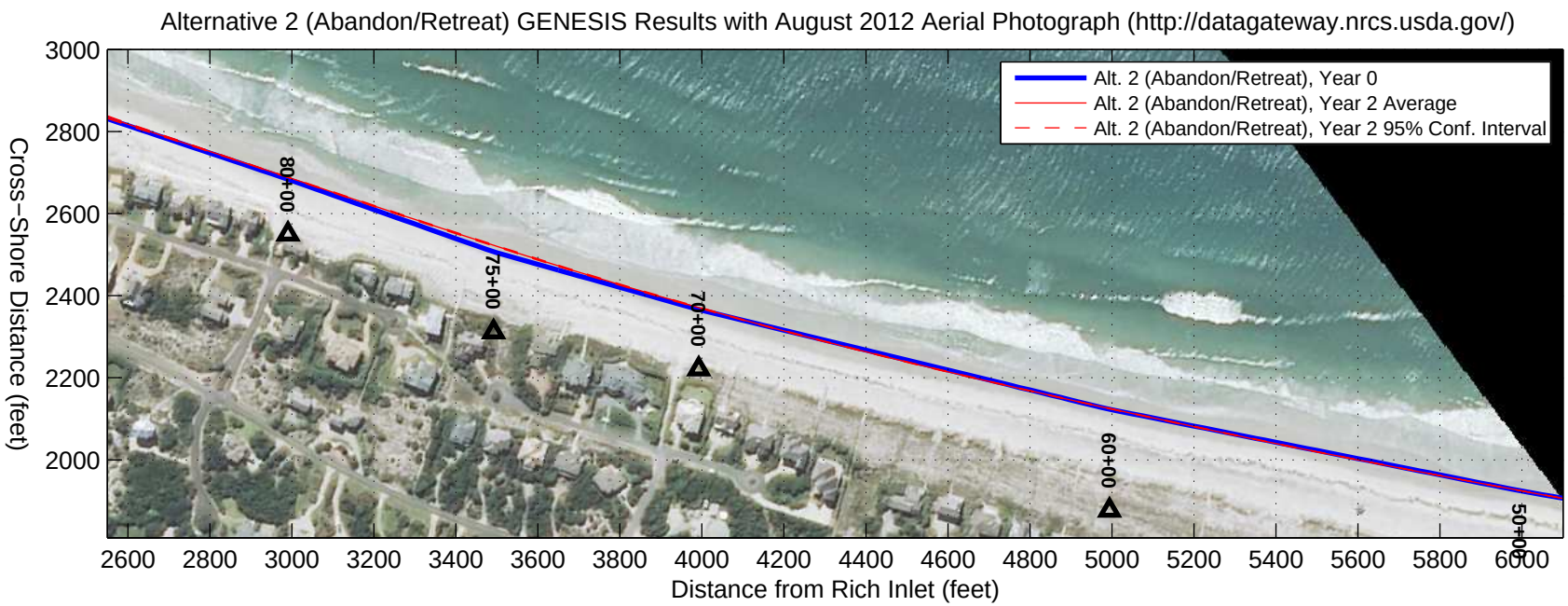
GENESIS Model Results

Part 2 – Model Results Given Present (Feb.-March 2012) Conditions

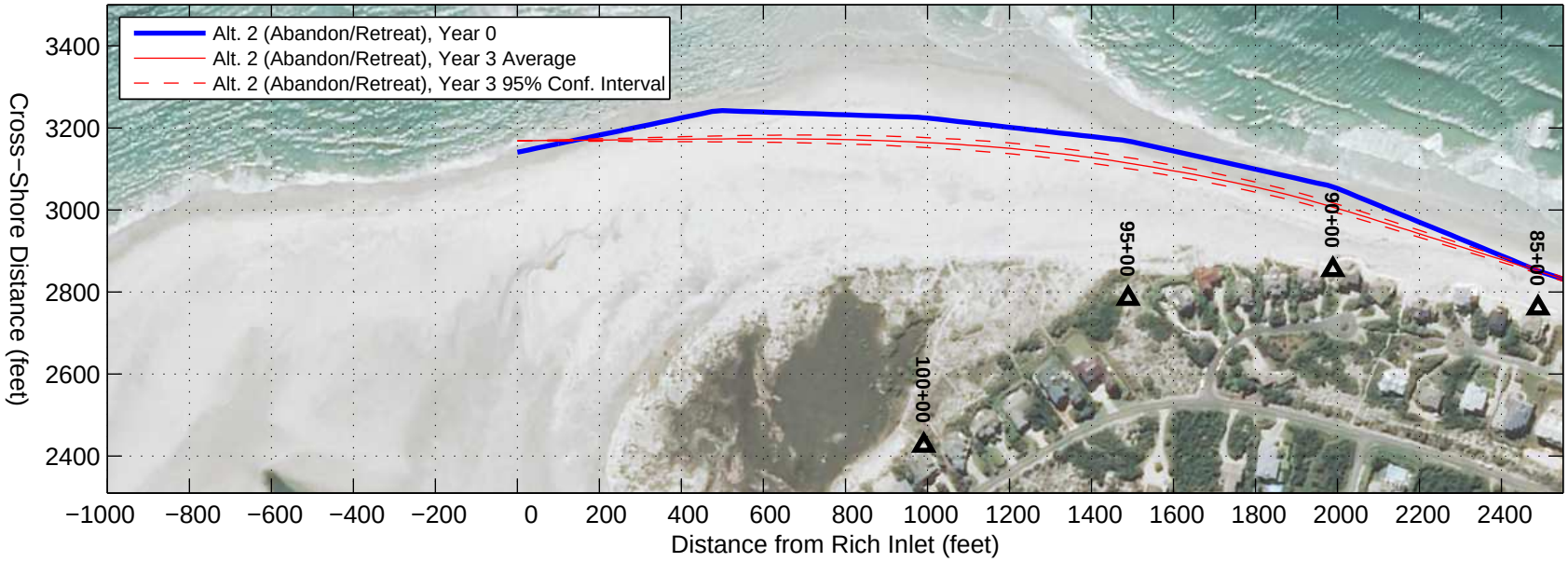

Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 1 Average
Alt. 2 (Abandon/Retreat), Year 1 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 1 Average
Alt. 2 (Abandon/Retreat), Year 1 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00

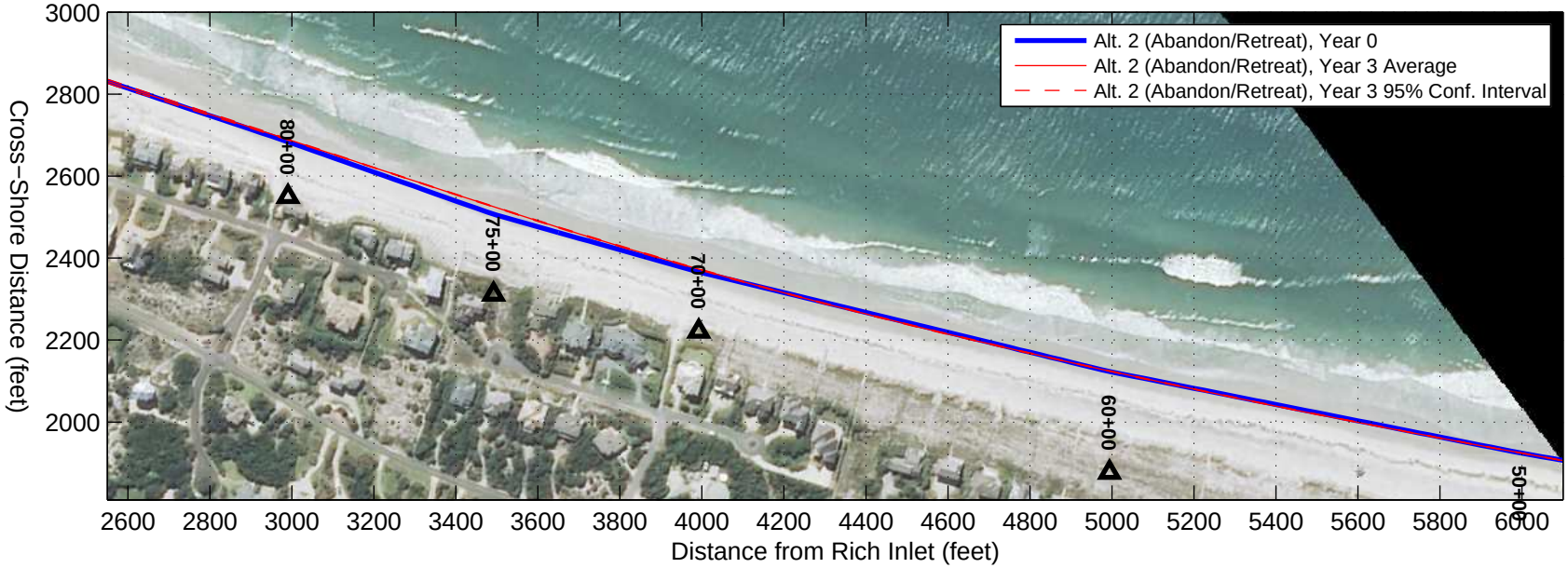

Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 2 Average
Alt. 2 (Abandon/Retreat), Year 2 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 2 Average
Alt. 2 (Abandon/Retreat), Year 2 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00

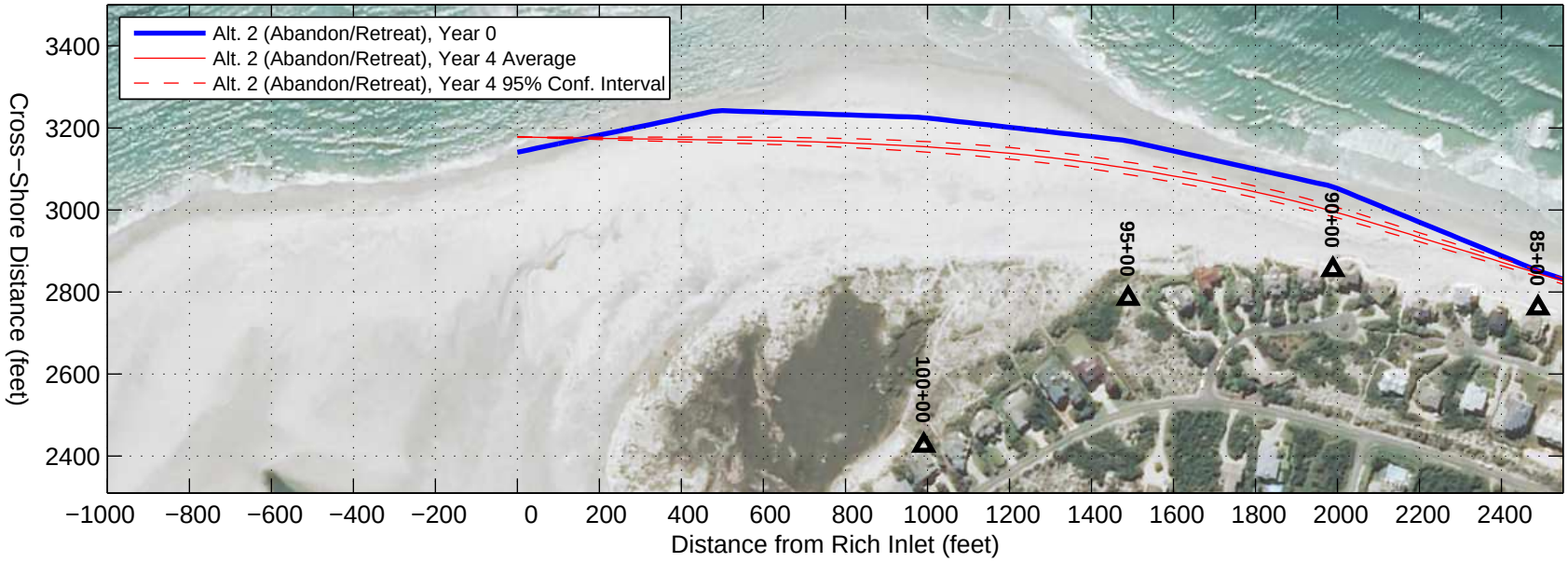
Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



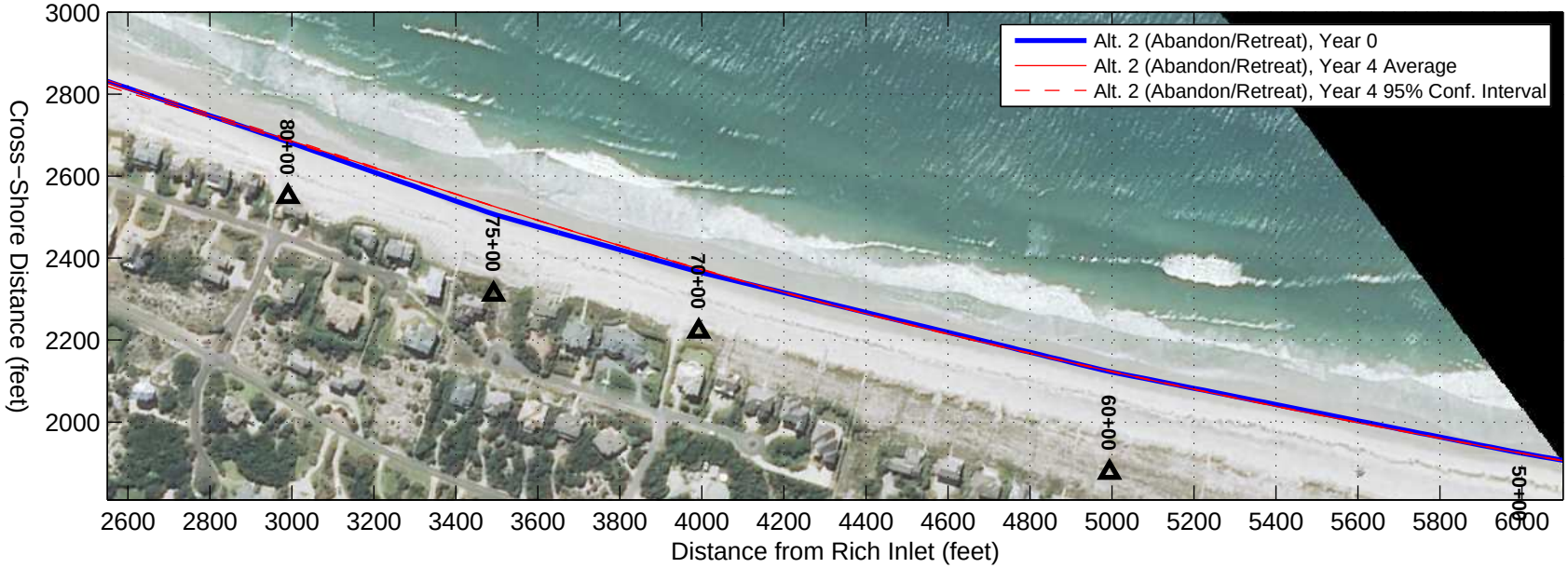
Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)

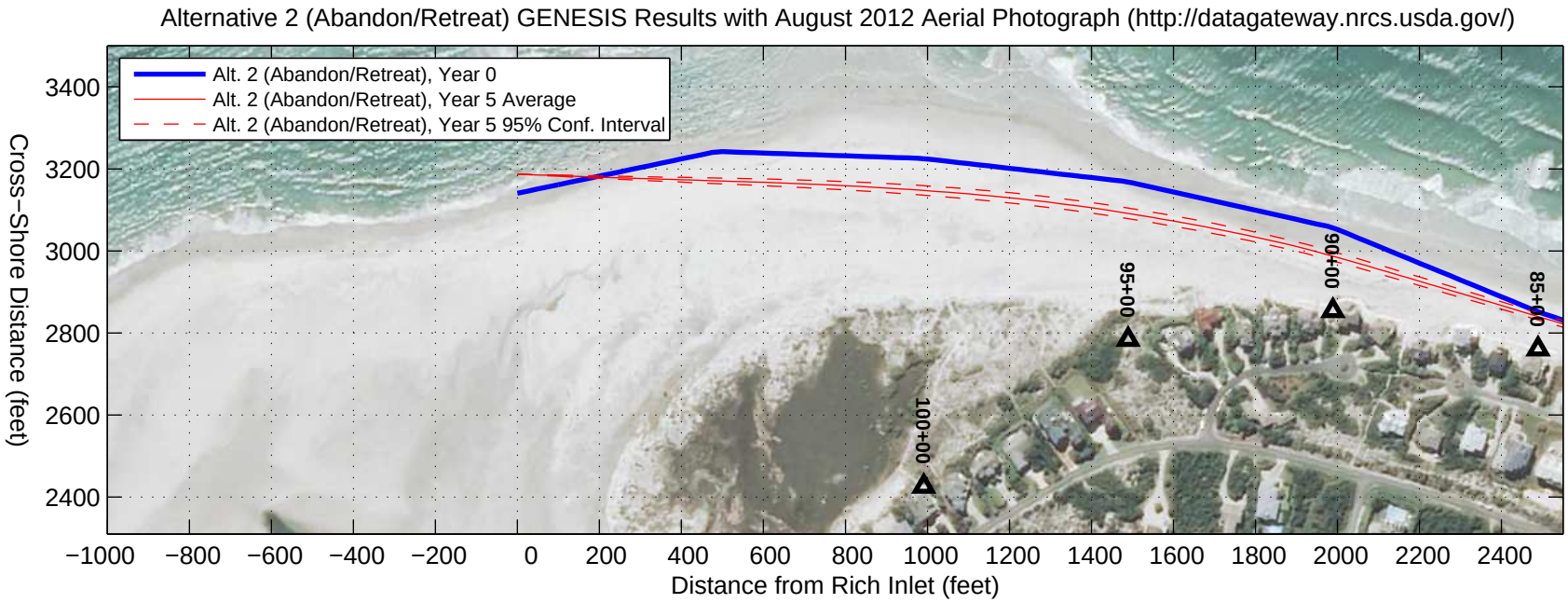


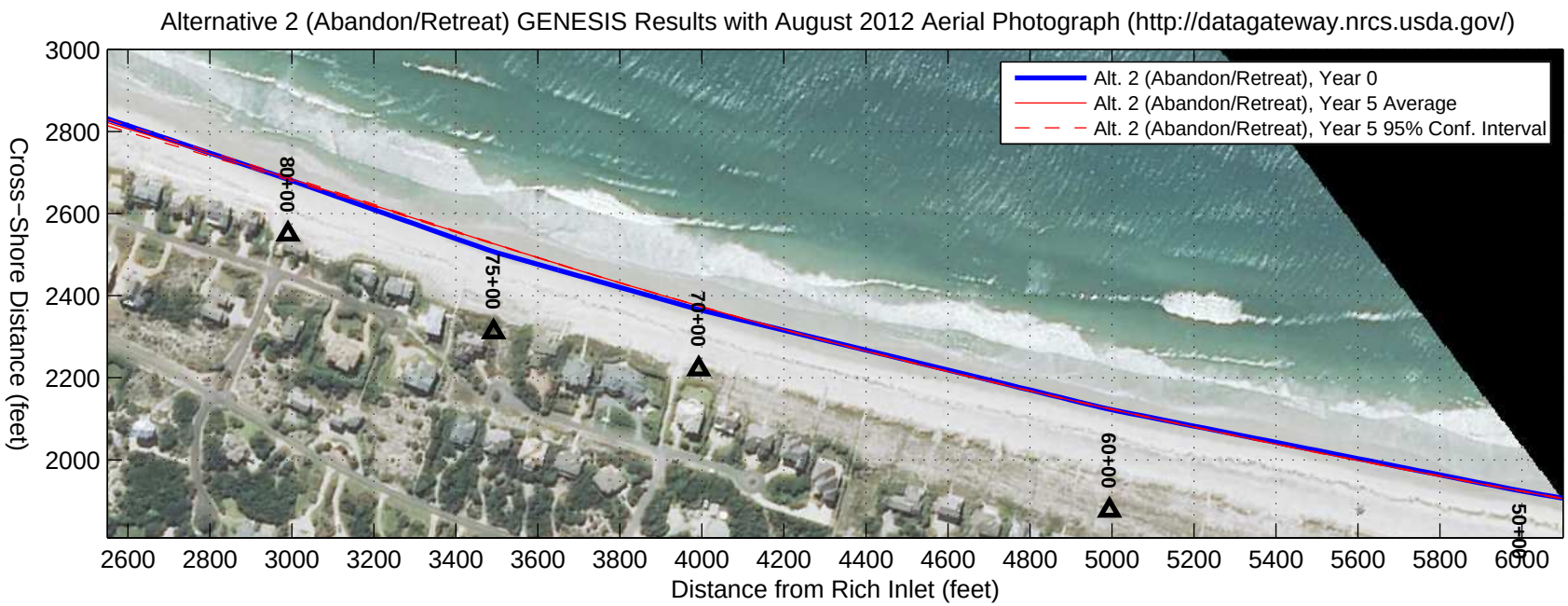
Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)

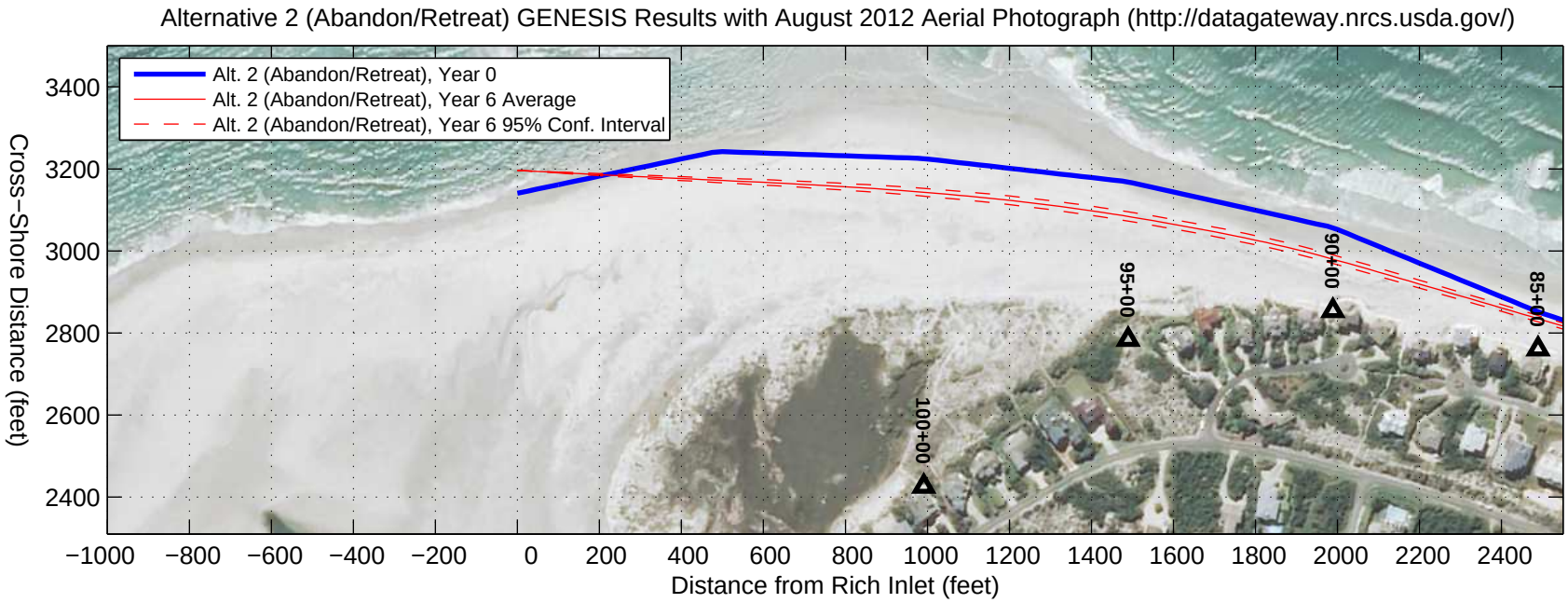


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)




Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 5 Average
Alt. 2 (Abandon/Retreat), Year 5 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 5 Average
Alt. 2 (Abandon/Retreat), Year 5 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00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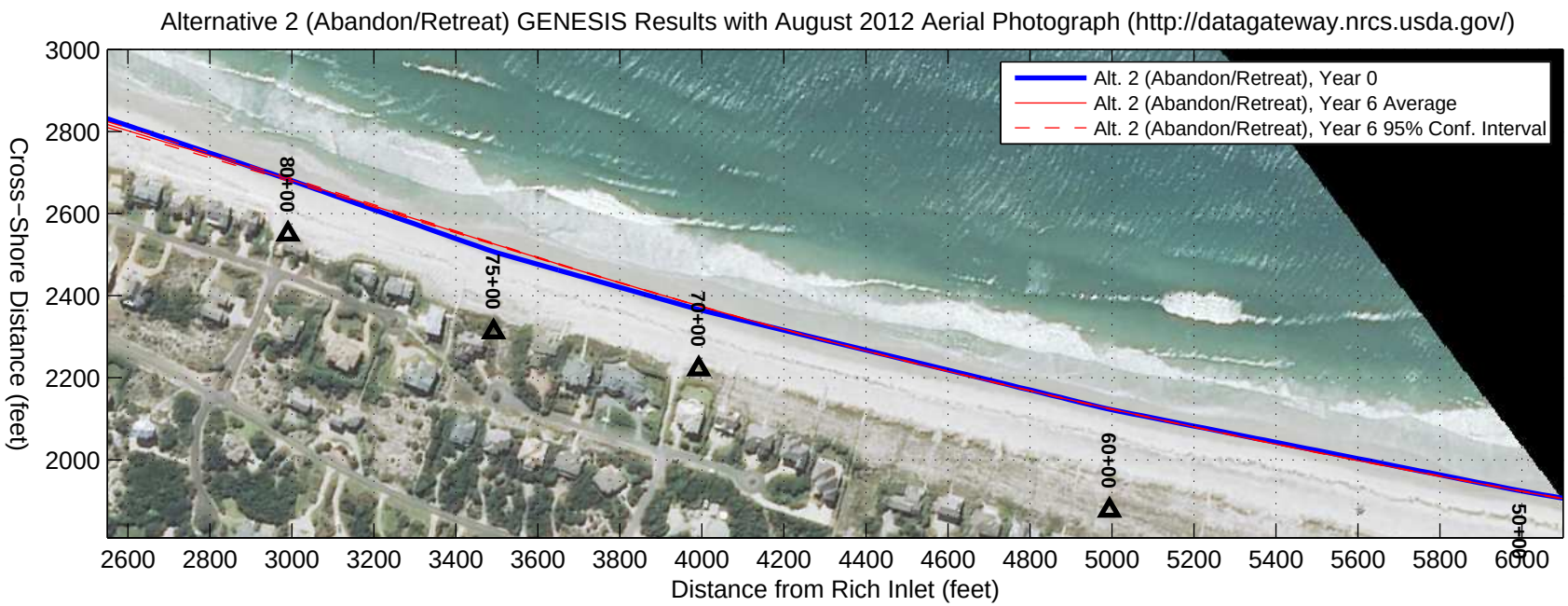
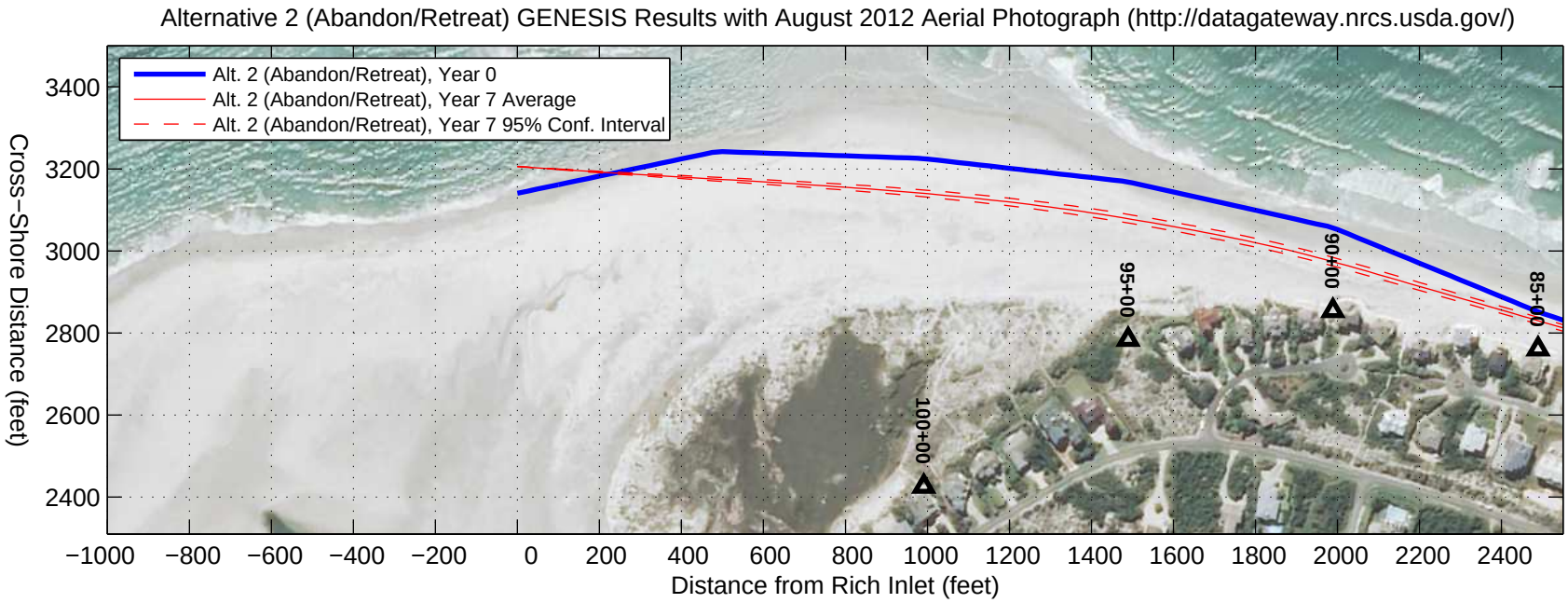
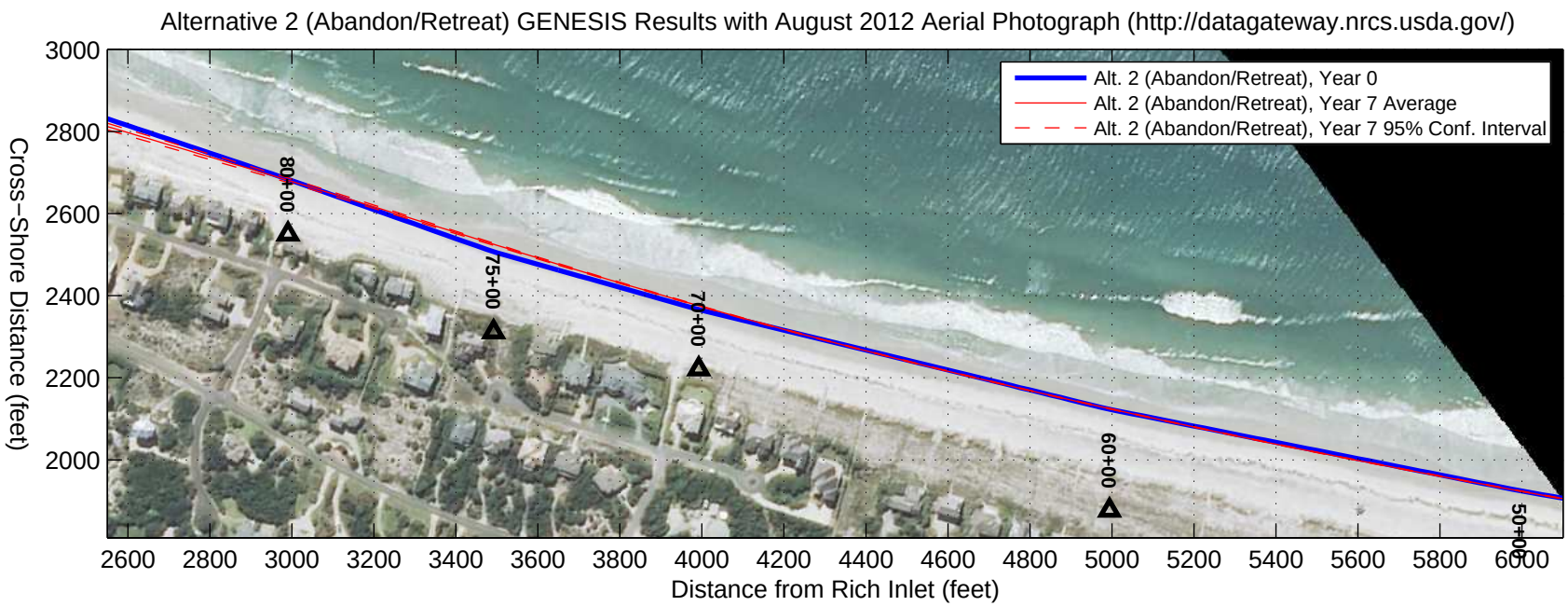
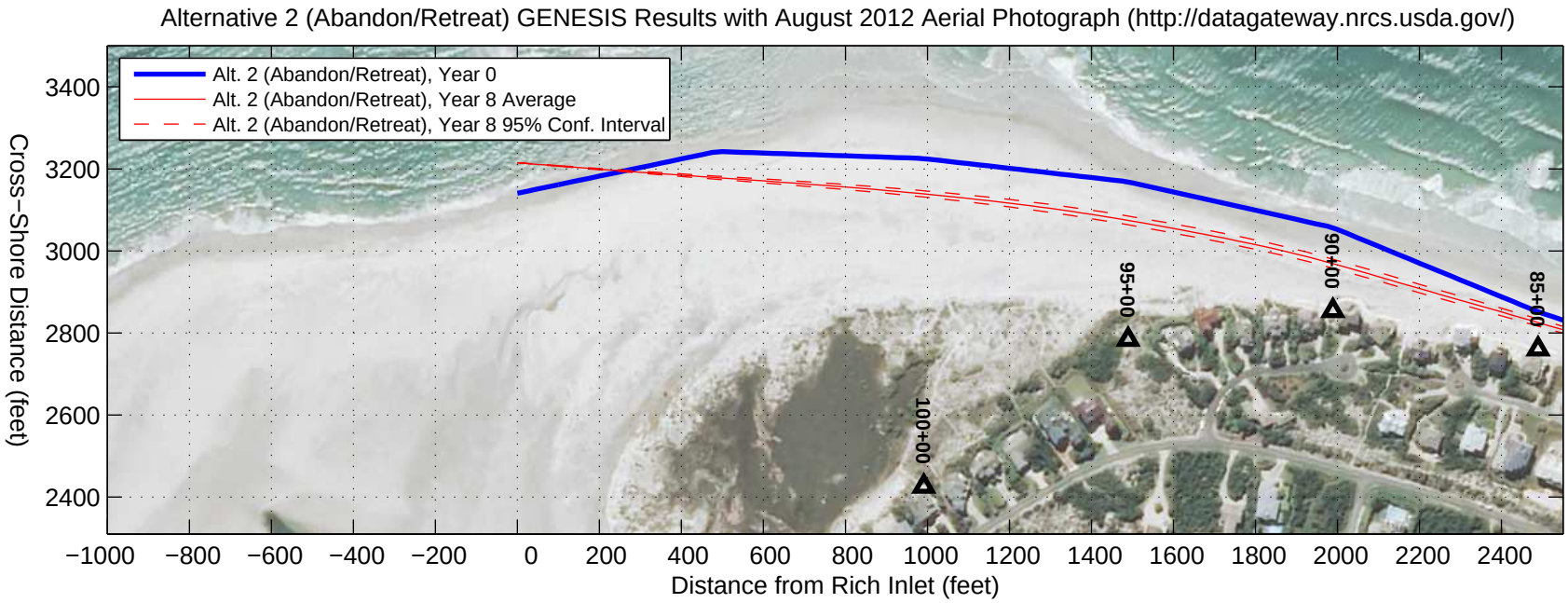
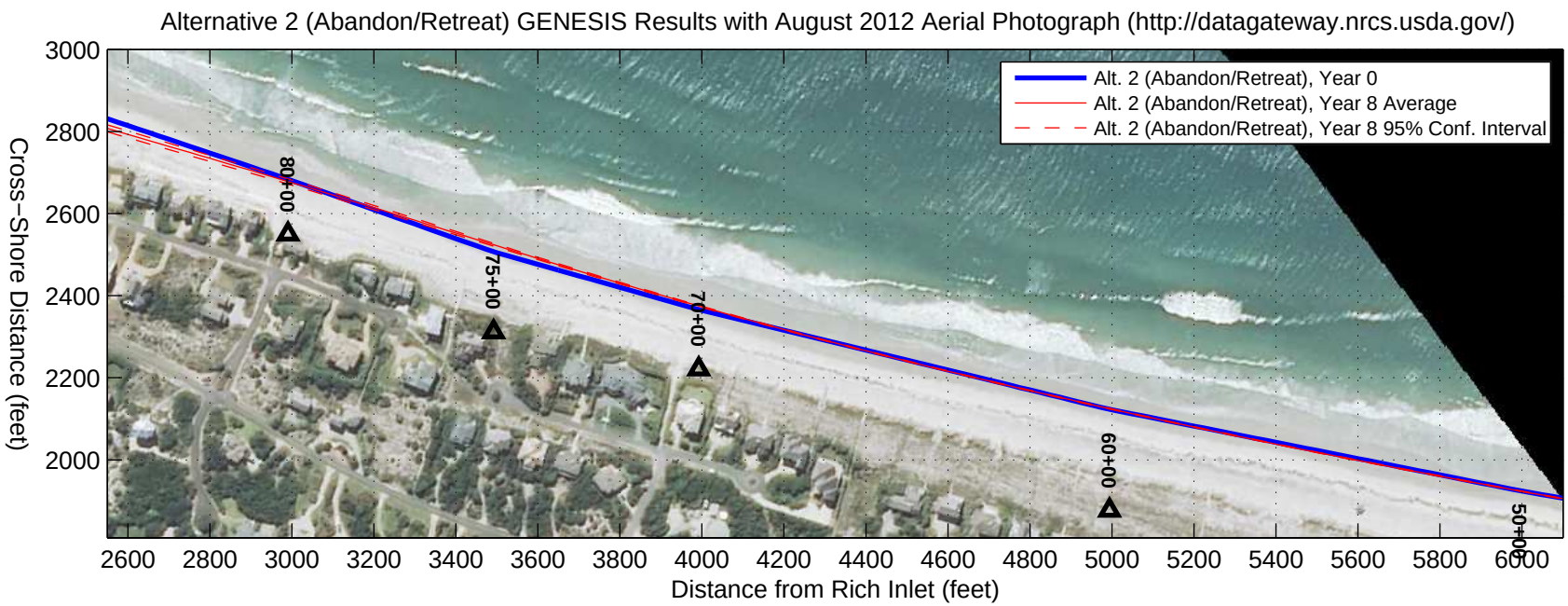
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 6 Average
Alt. 2 (Abandon/Retreat), Year 6 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00

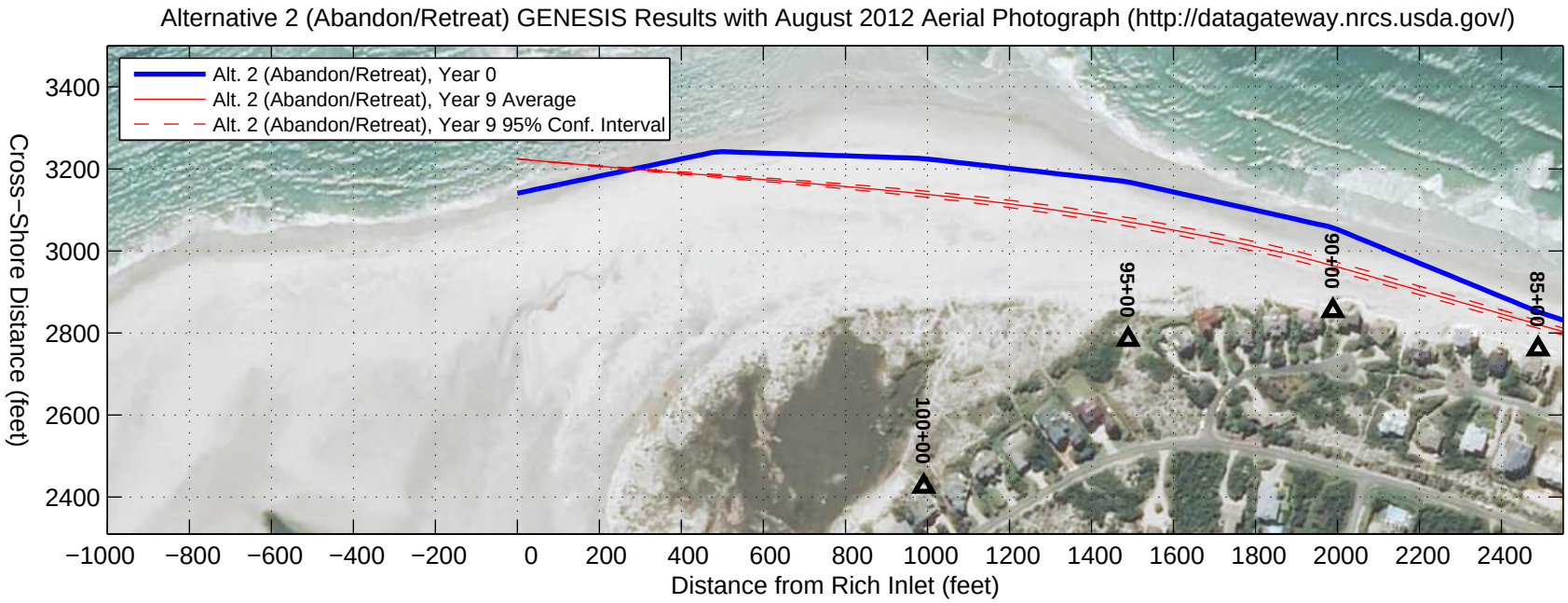

Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 6 Average
Alt. 2 (Abandon/Retreat), Year 6 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00

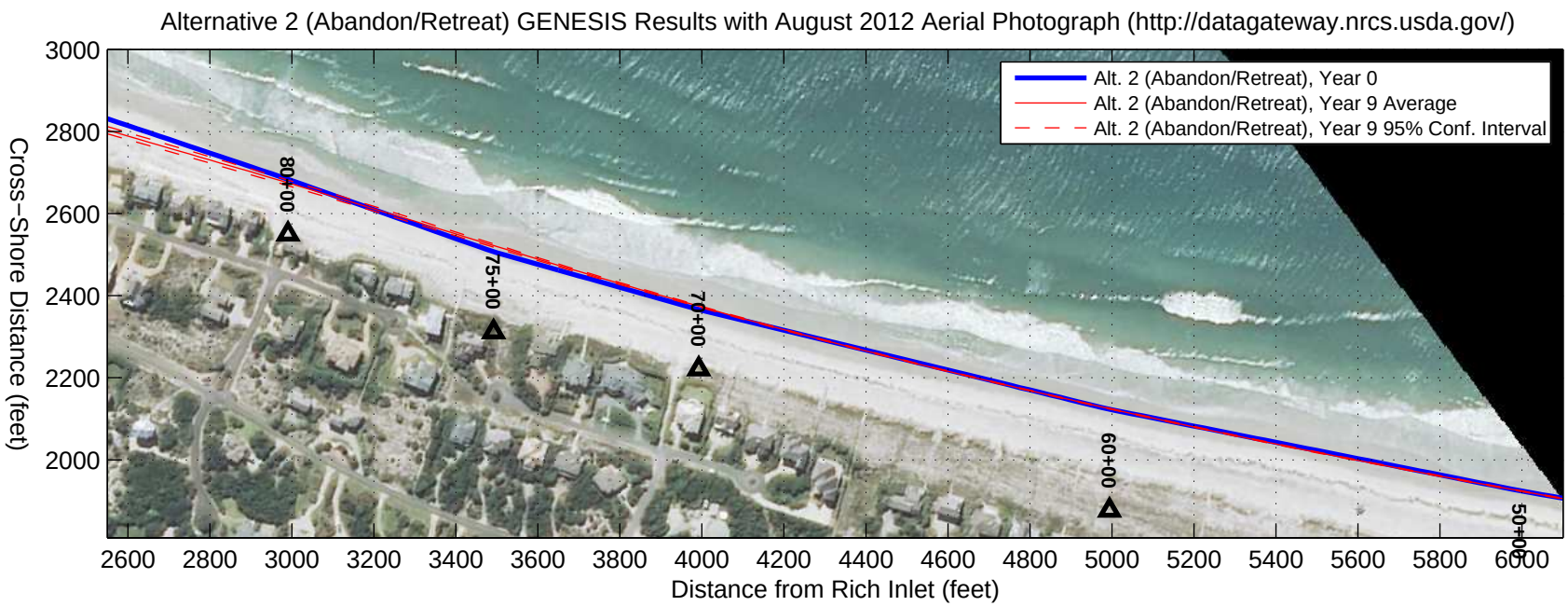

Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 7 Average
Alt. 2 (Abandon/Retreat), Year 7 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 7 Average
Alt. 2 (Abandon/Retreat), Year 7 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00

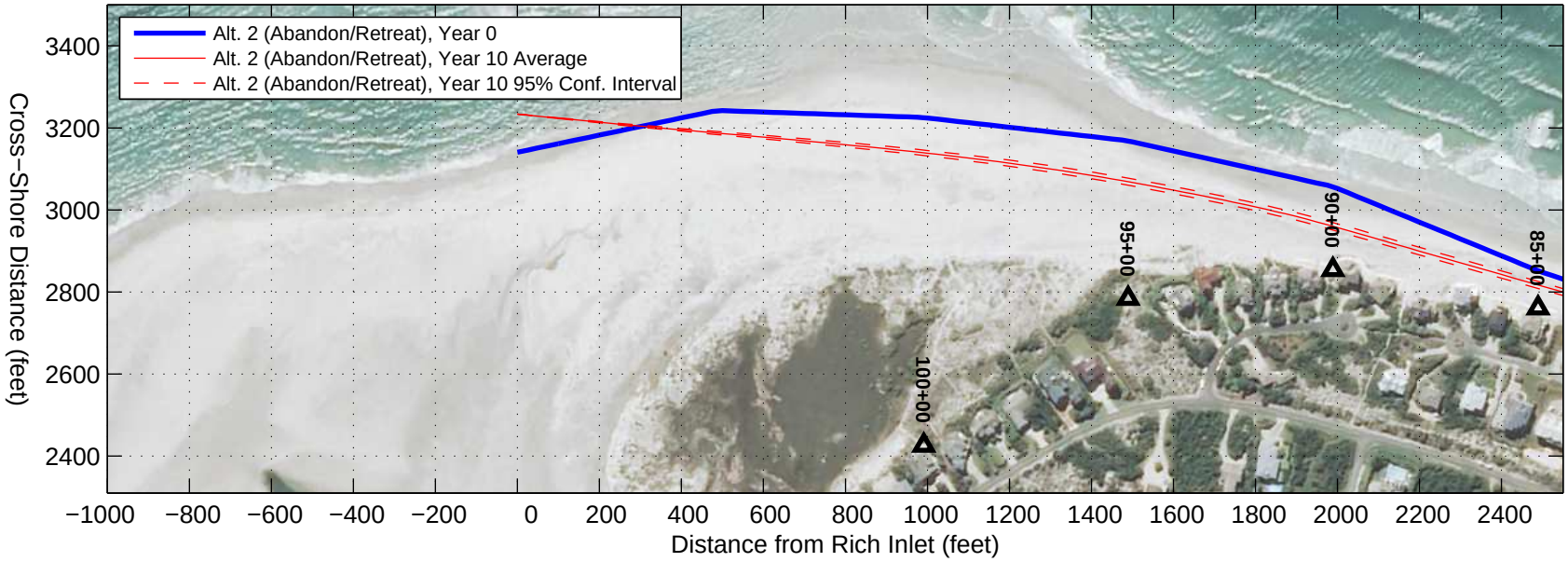

Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 8 Average
Alt. 2 (Abandon/Retreat), Year 8 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 8 Average
Alt. 2 (Abandon/Retreat), Year 8 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 9 Average
Alt. 2 (Abandon/Retreat), Year 9 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
85+00
90+00
95+00
100+00


Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)
Alt. 2 (Abandon/Retreat), Year 0
Alt. 2 (Abandon/Retreat), Year 9 Average
Alt. 2 (Abandon/Retreat), Year 9 95% Conf. Interval
Cross−Shore Distance (feet)
Distance from Rich Inlet (feet)
50+00
60+00
70+00
75+00
80+00

Alternative 2 (Abandon/Retreat) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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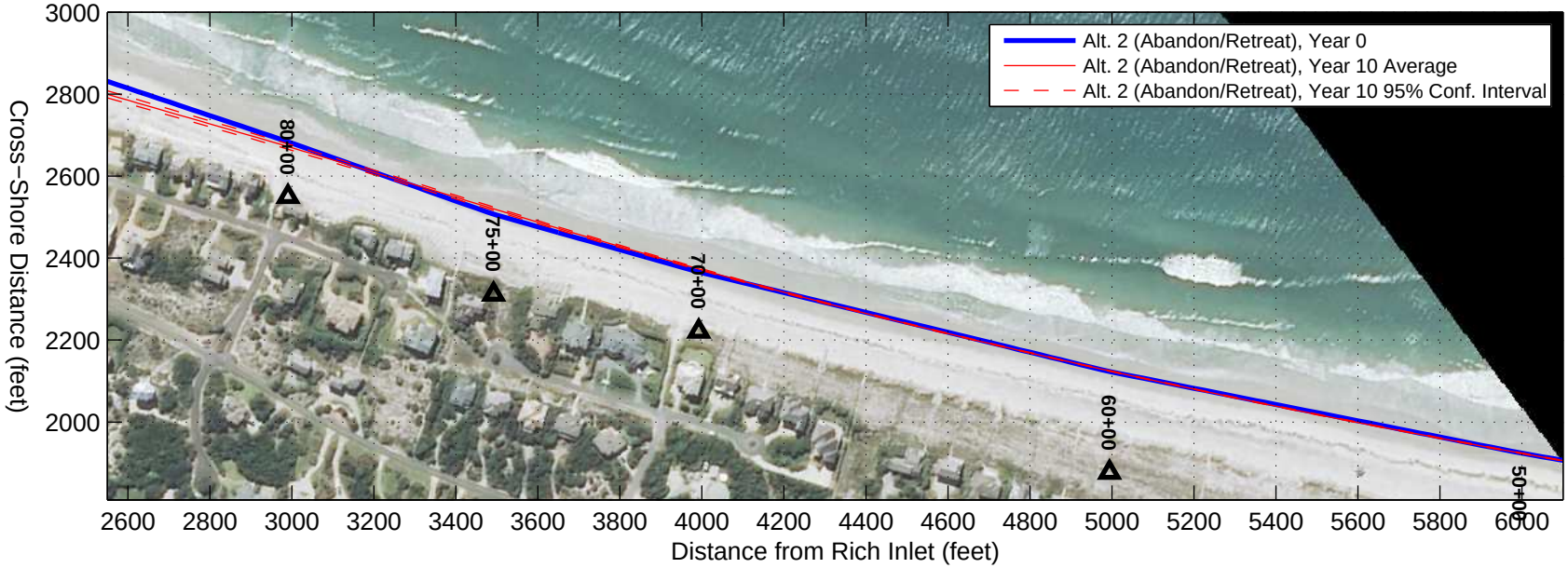
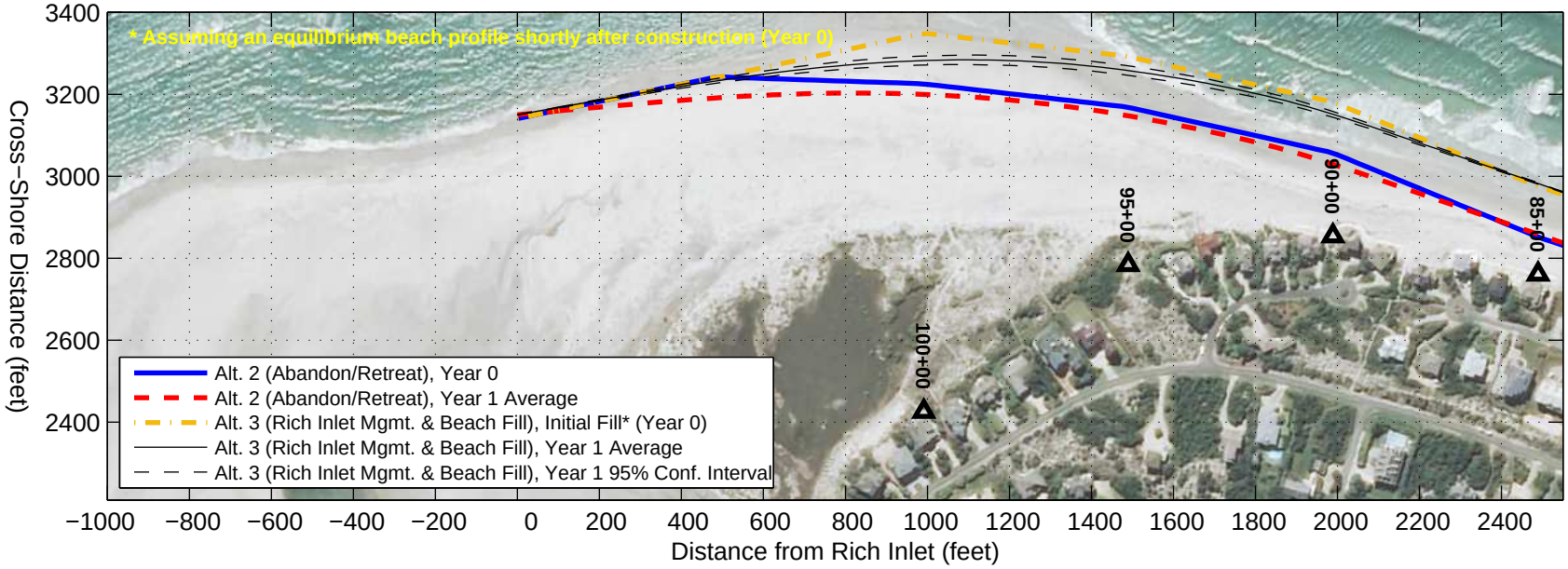


Alternative 3 (Rich Inlet Mgmt. & Beach Fill) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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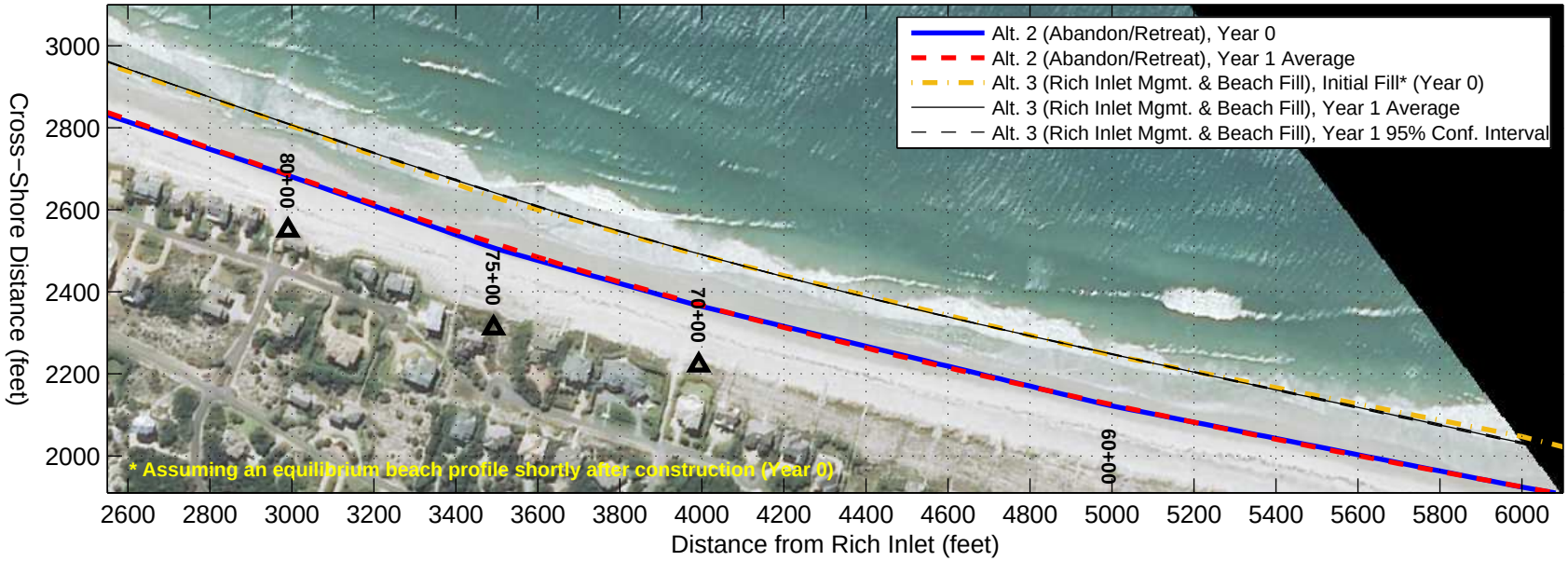

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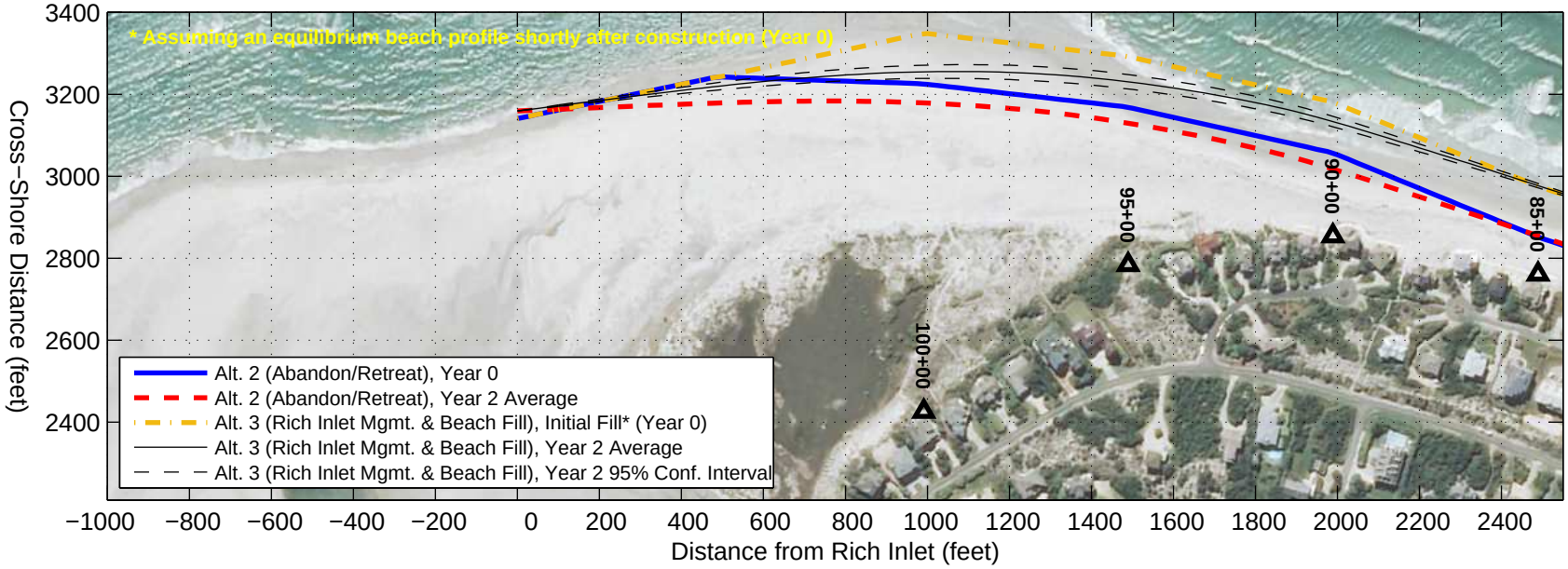

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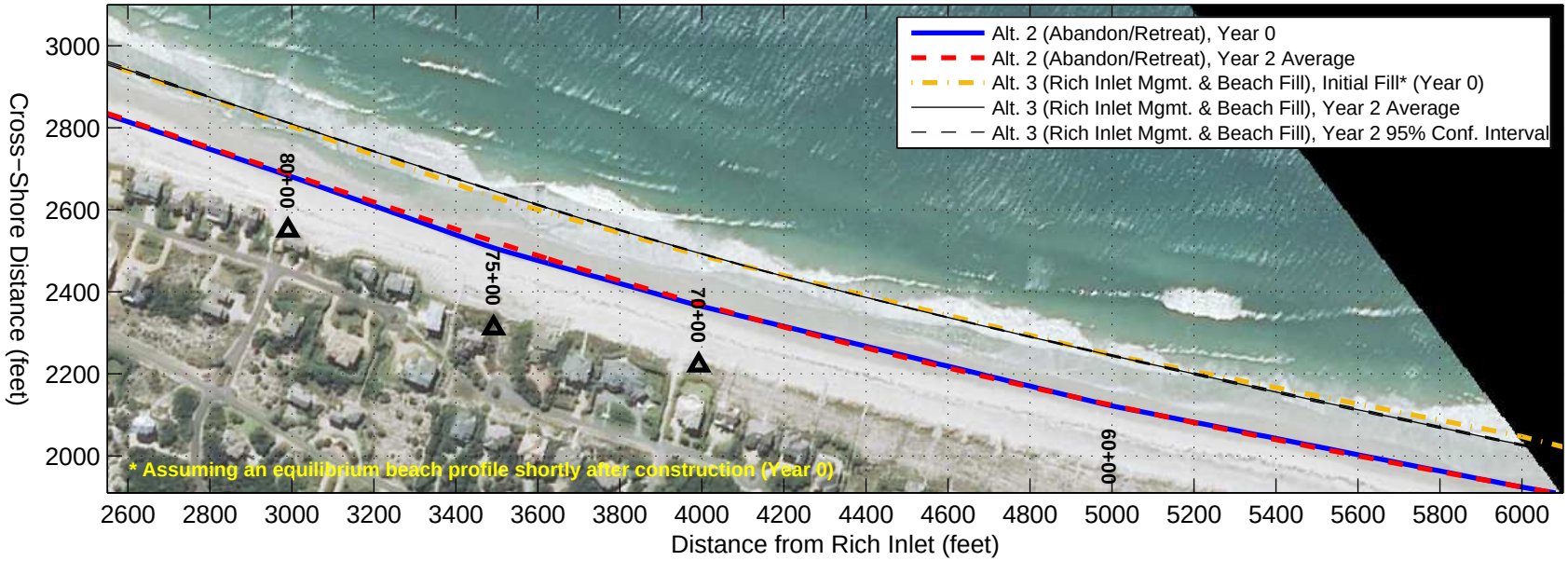

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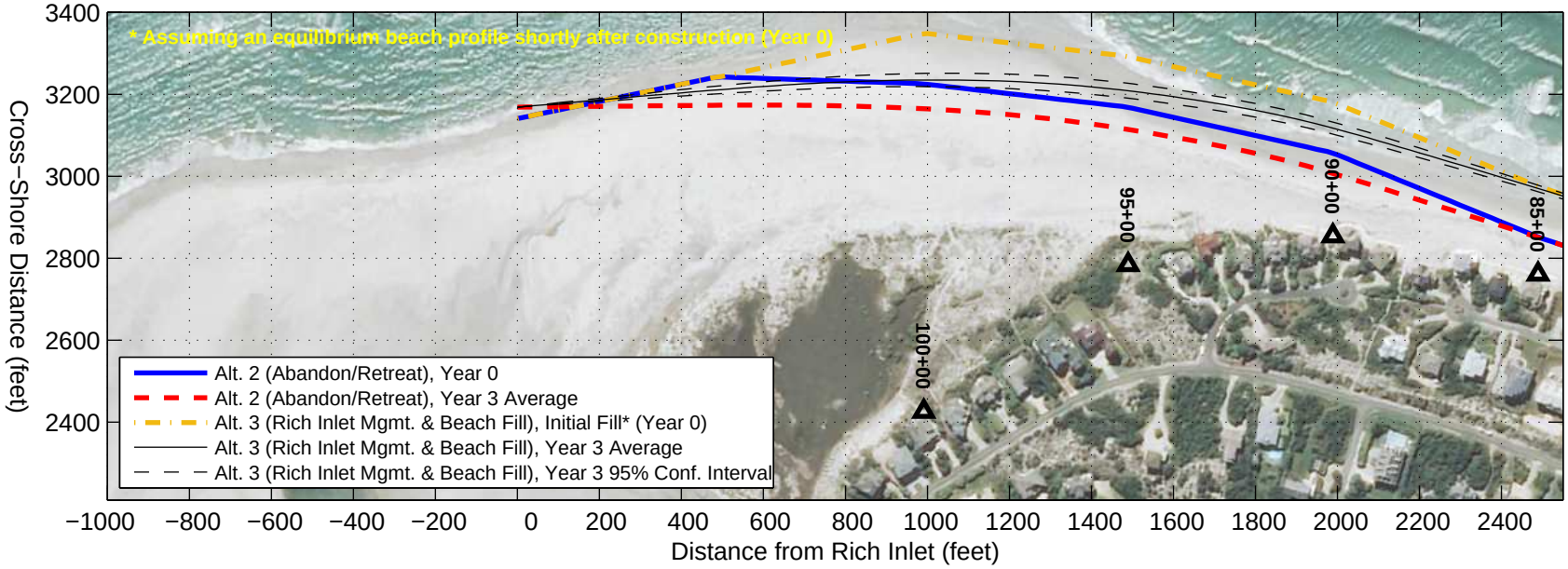

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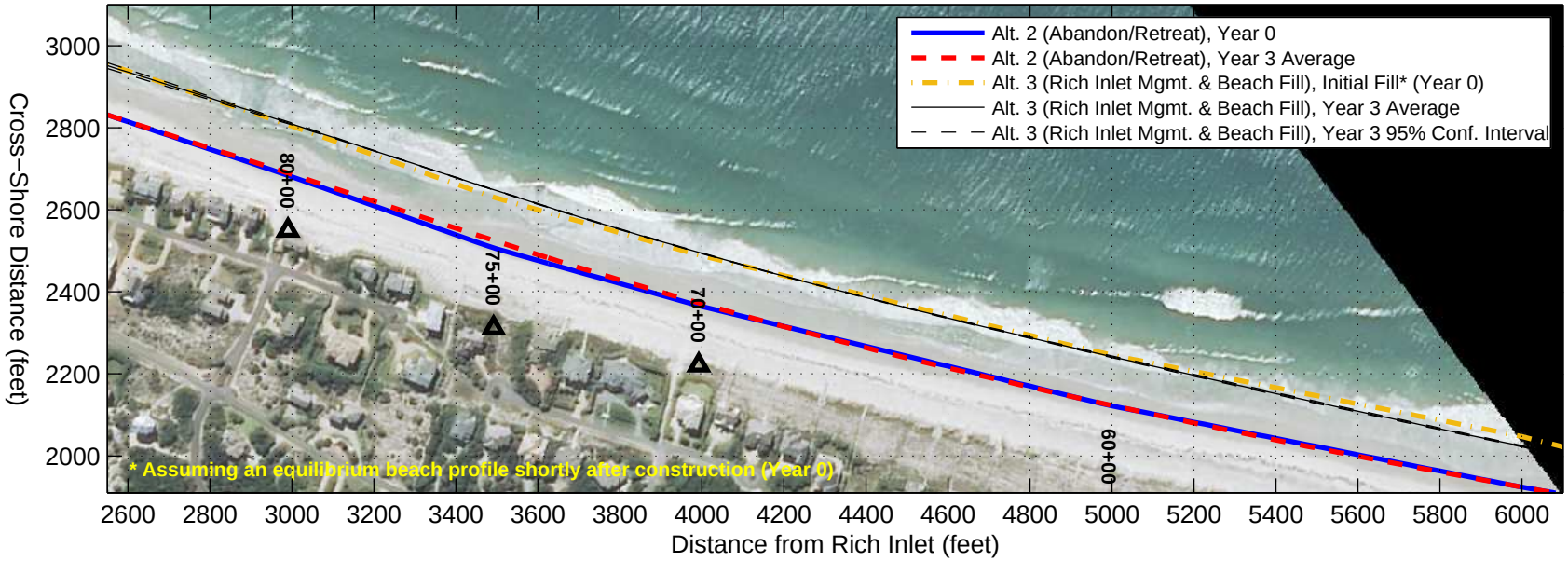
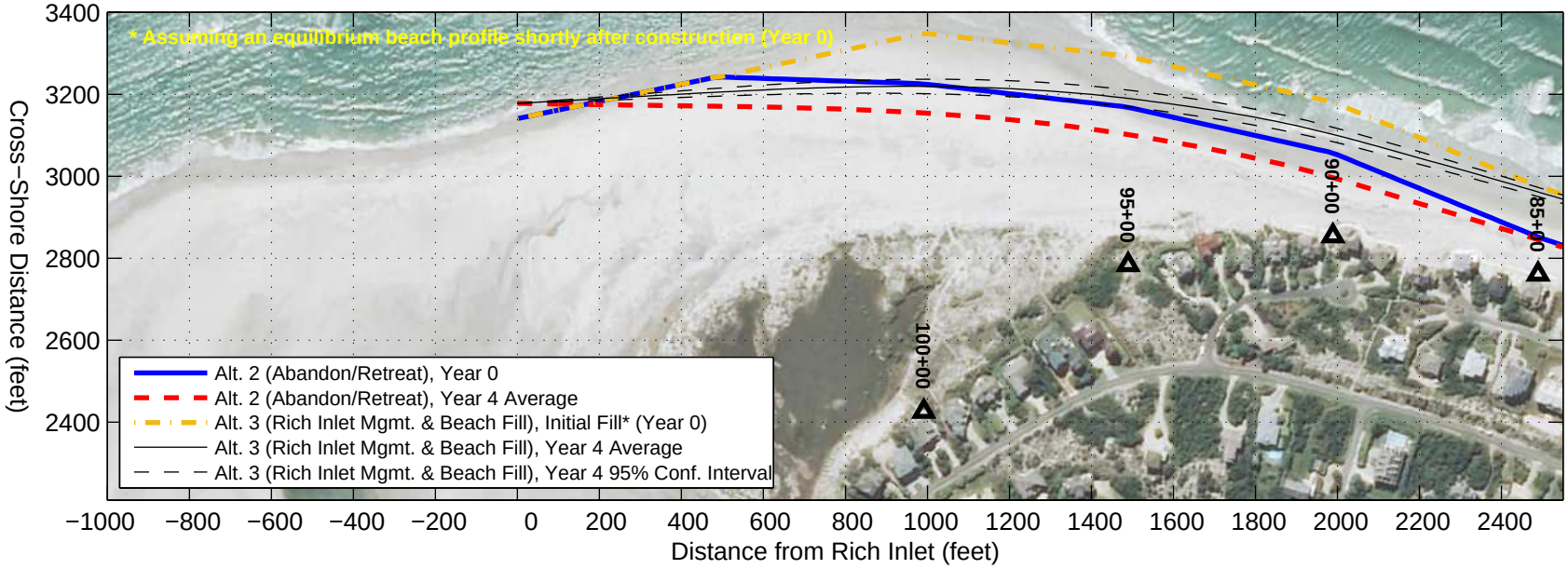


Alternative 3 (Rich Inlet Mgmt. & Beach Fill) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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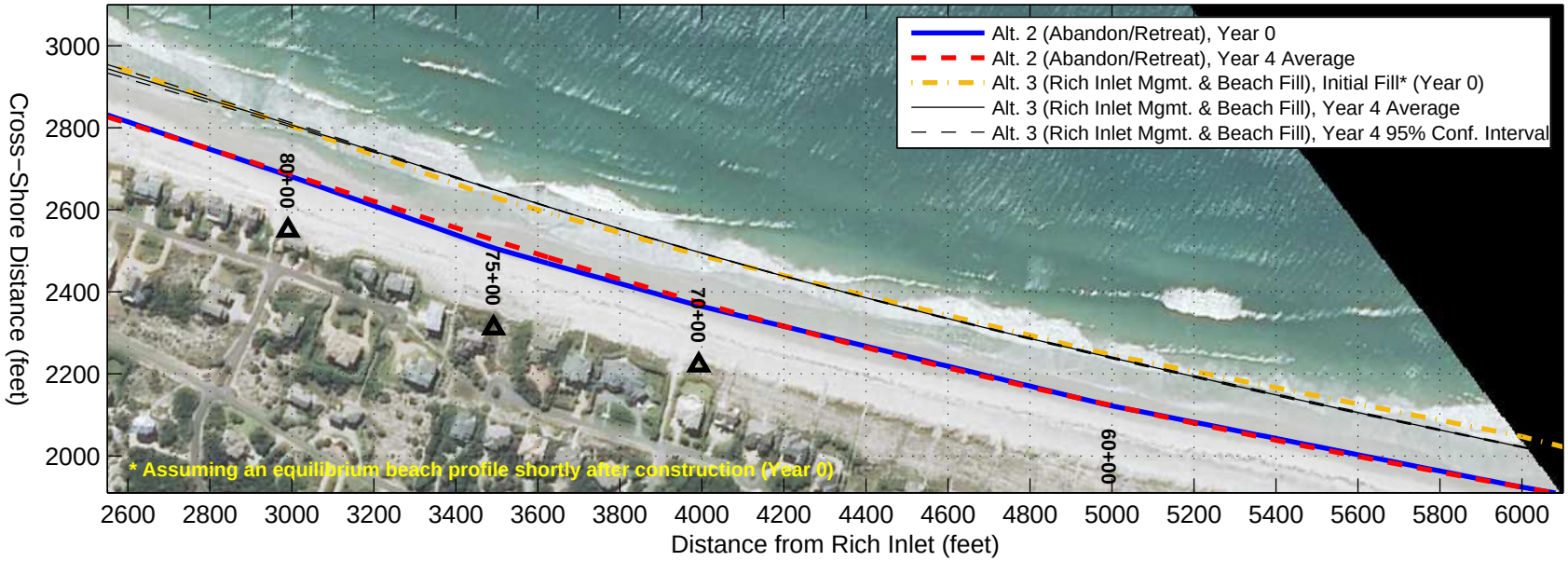

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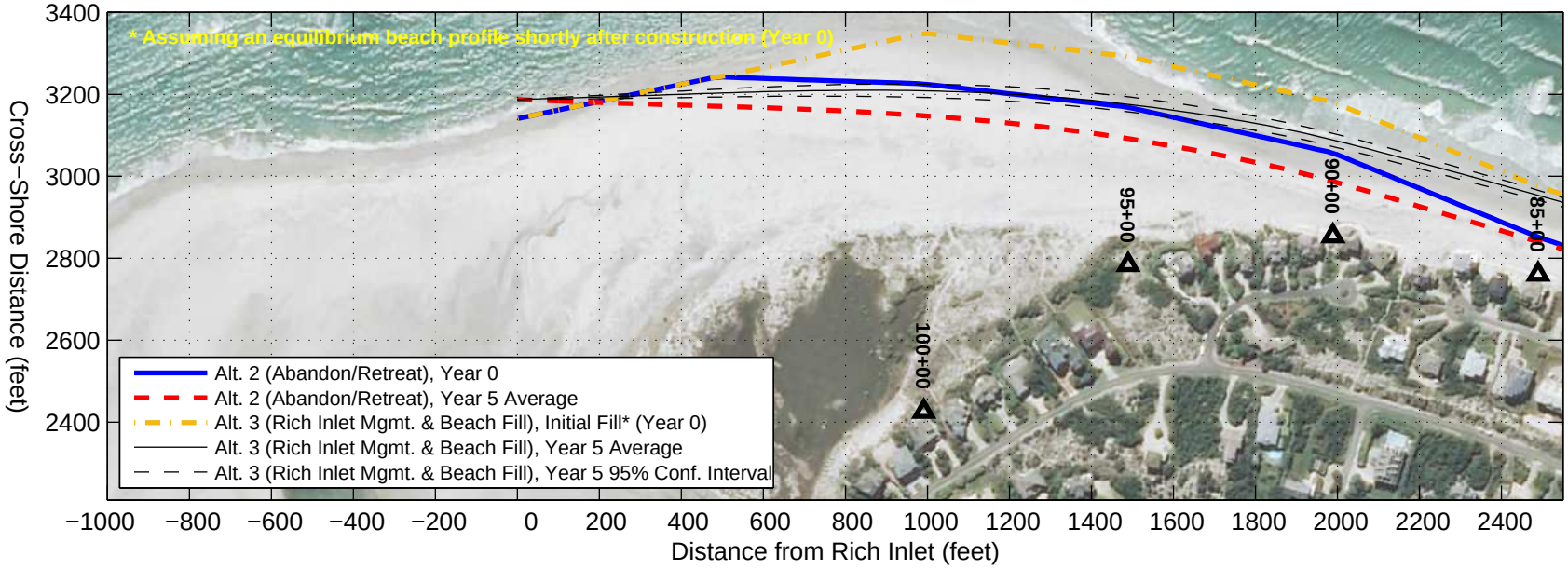

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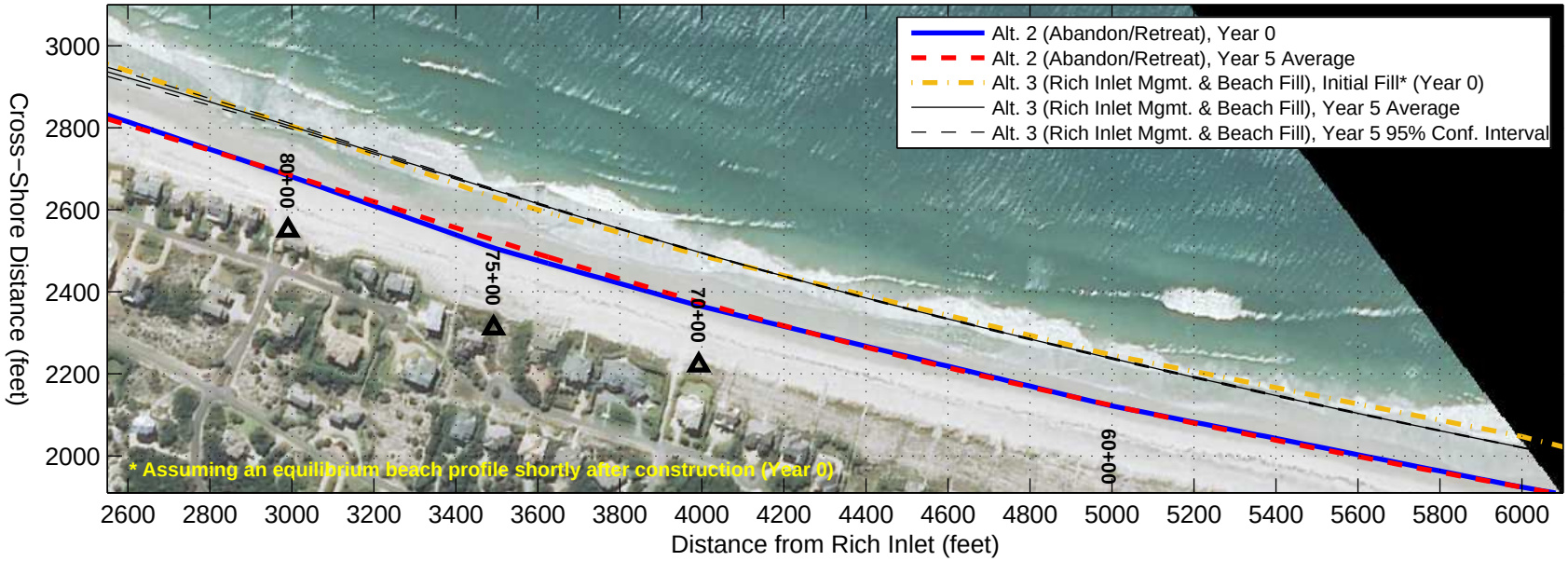

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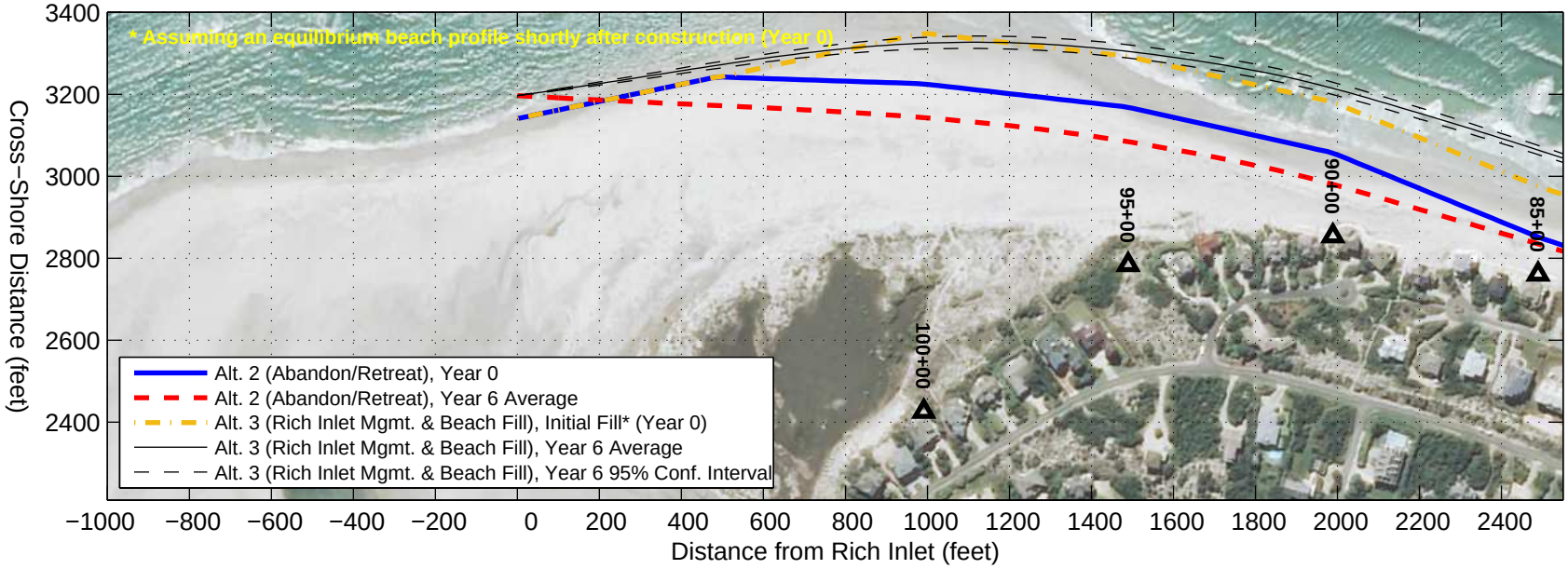

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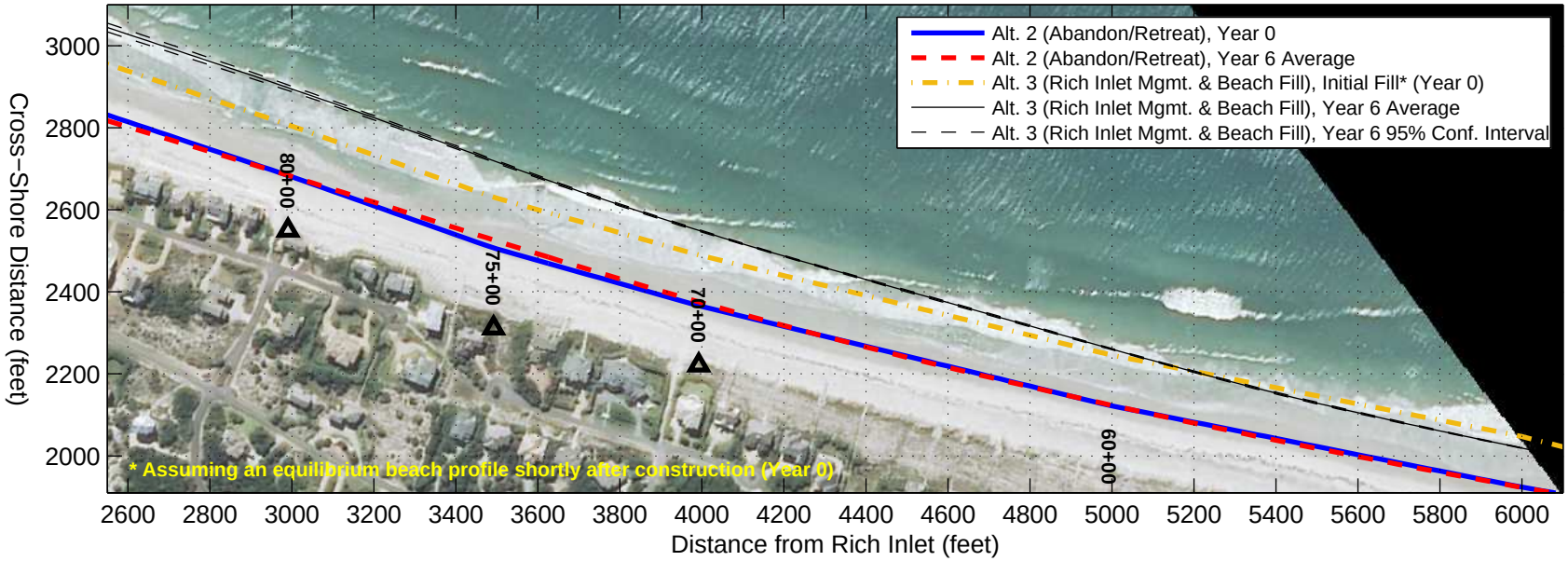

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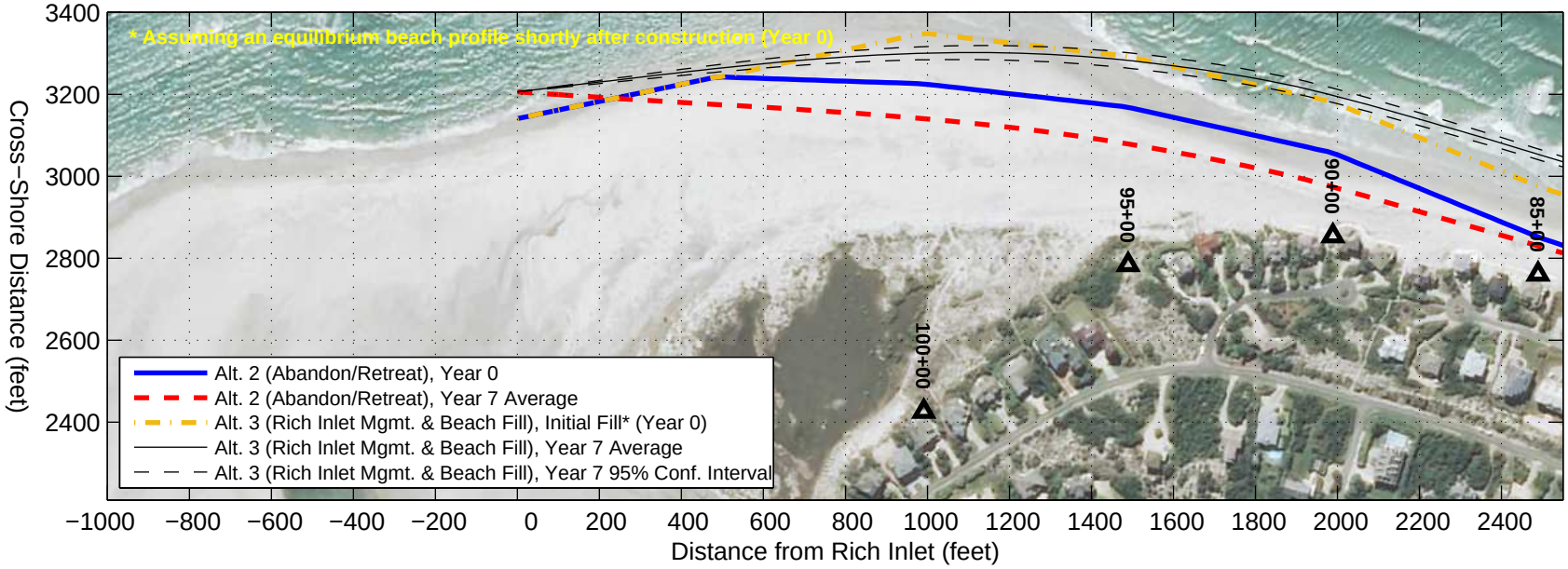

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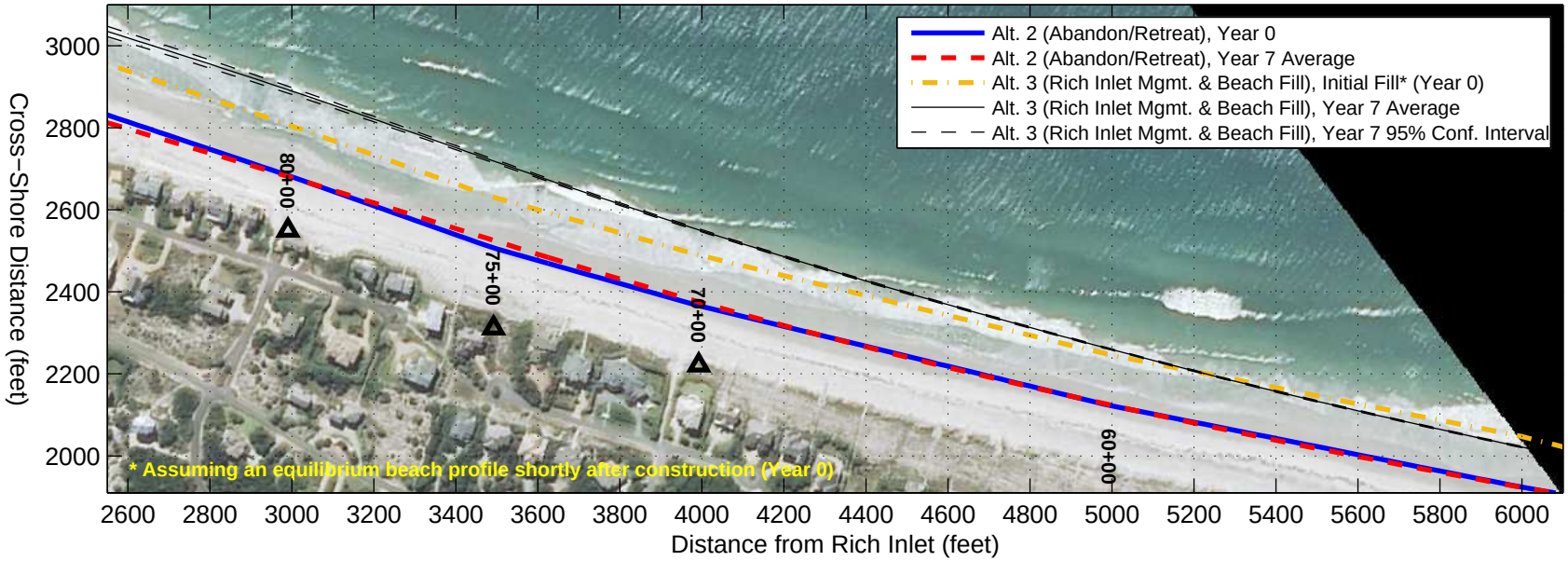

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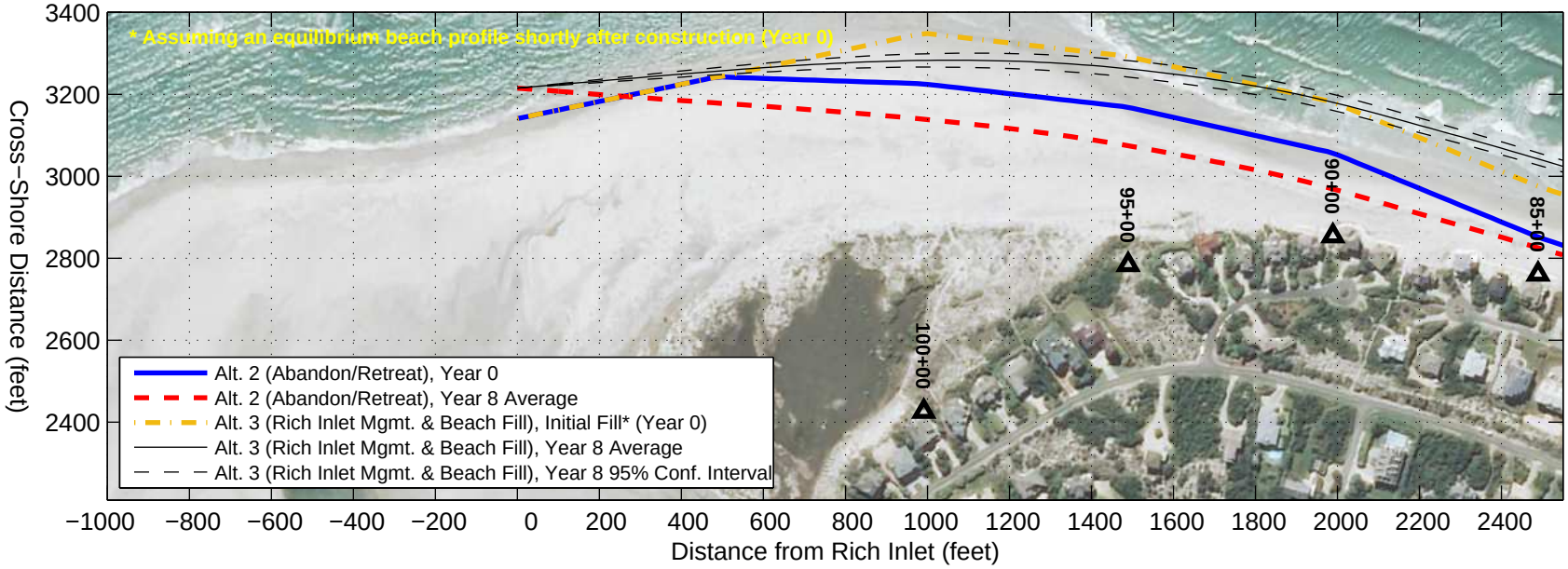

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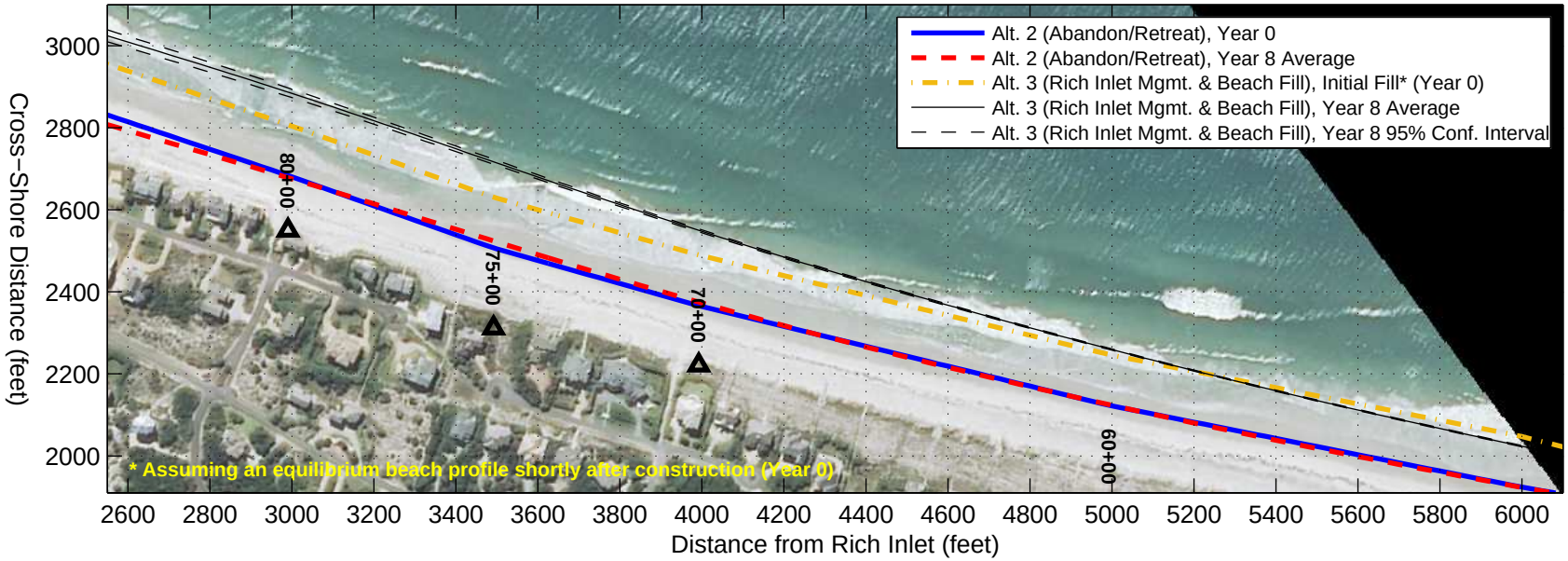

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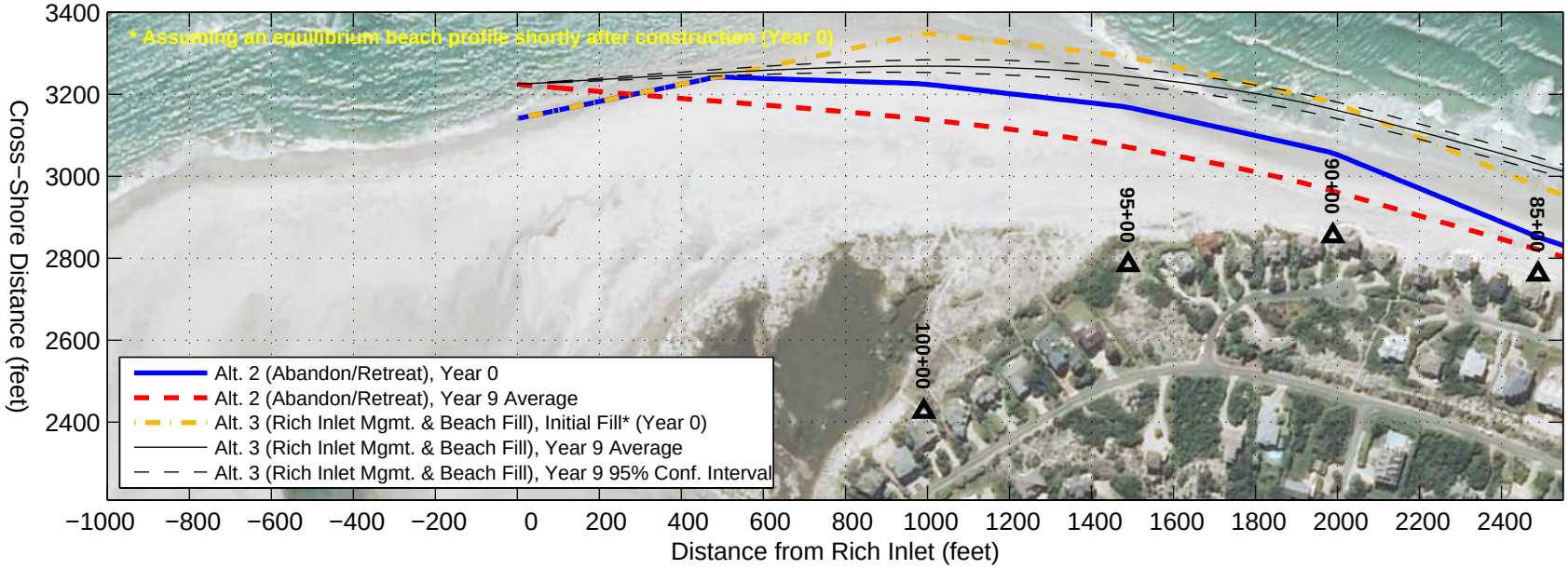

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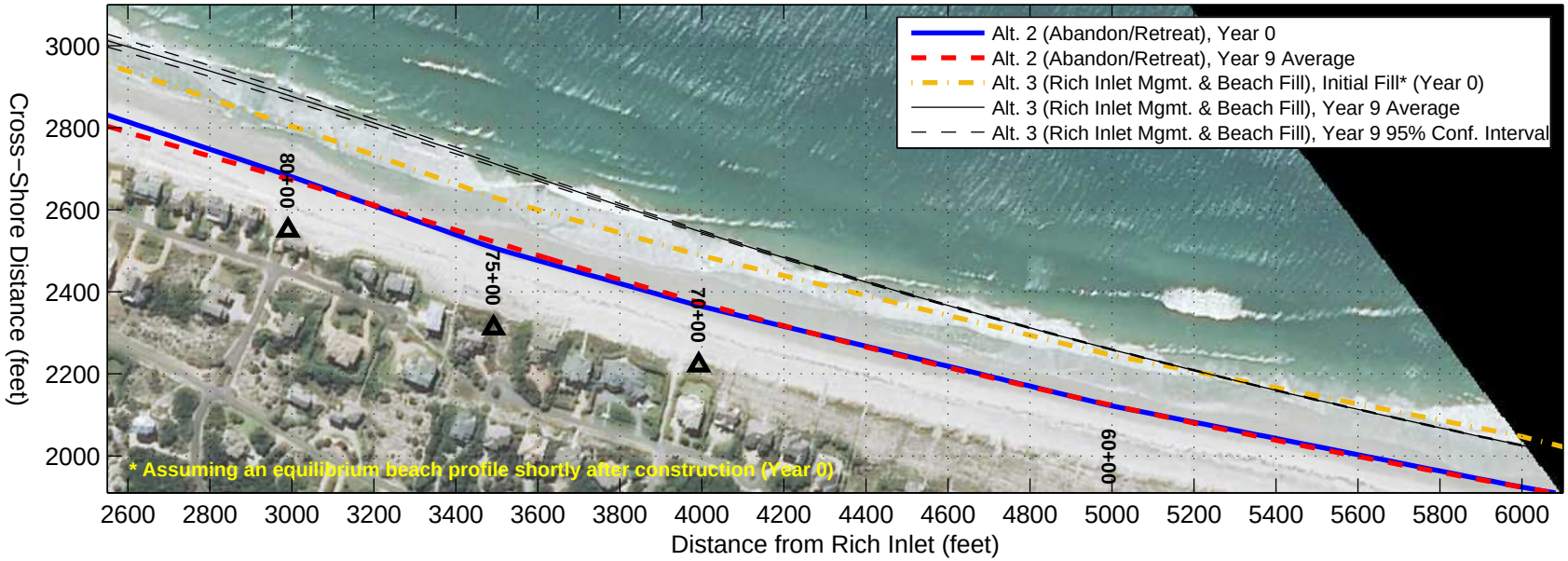

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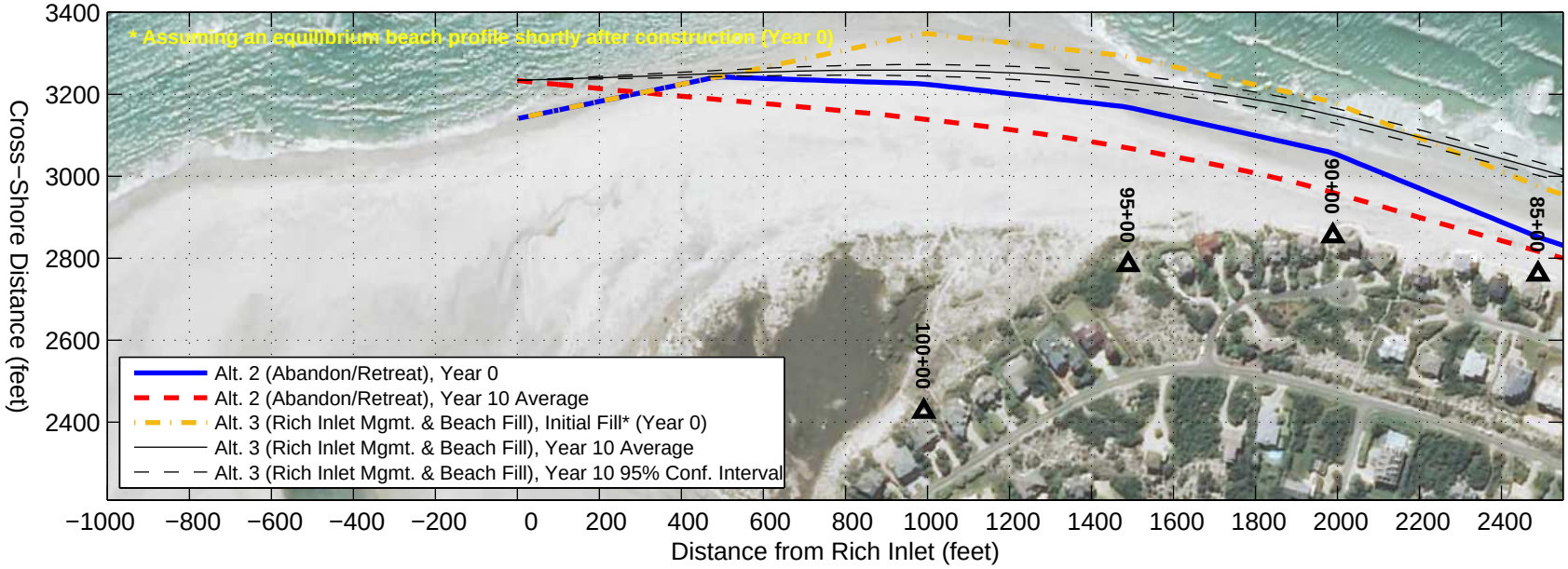

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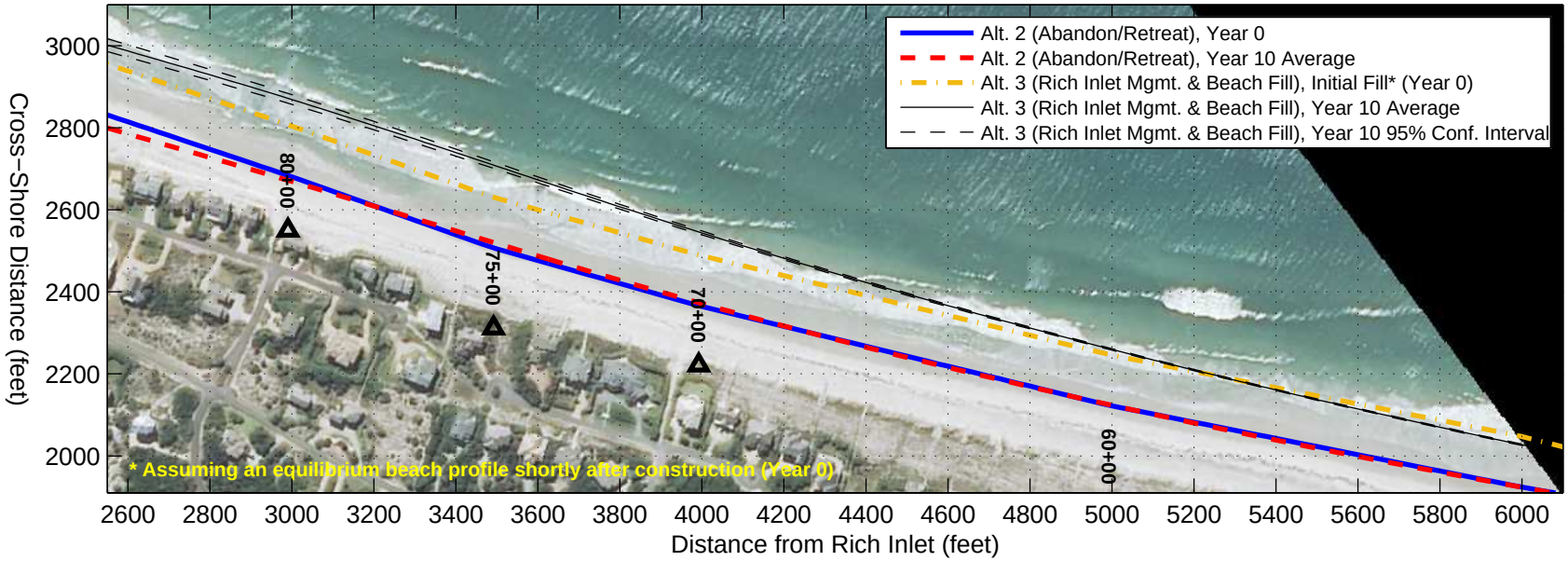
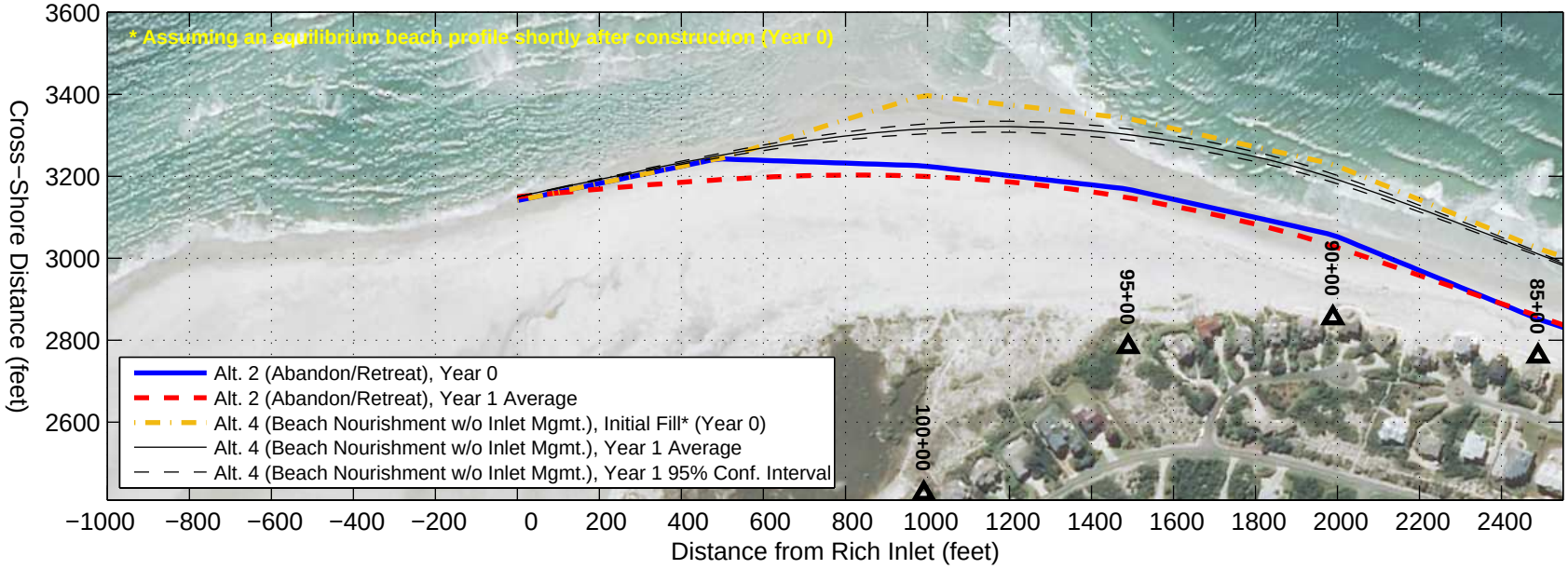


Alternative 4 (Beach Nourishment w/o Inlet Mgmt.) GENESIS Results with August 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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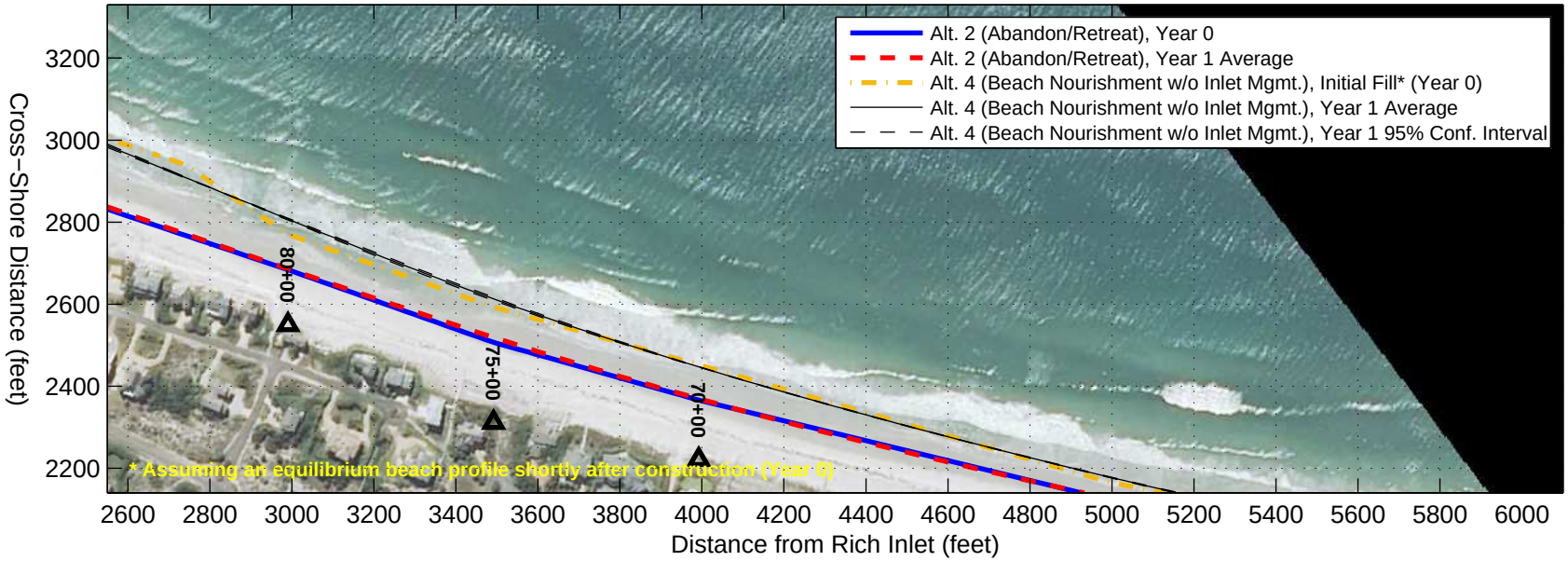

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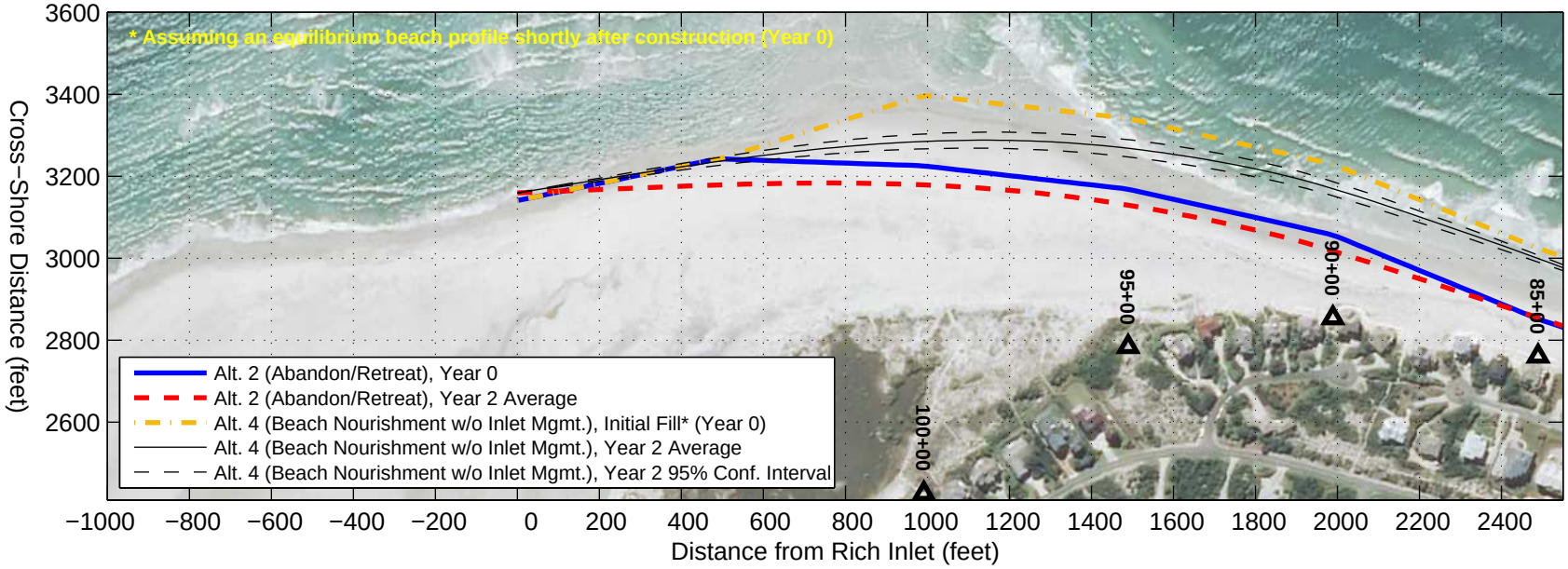

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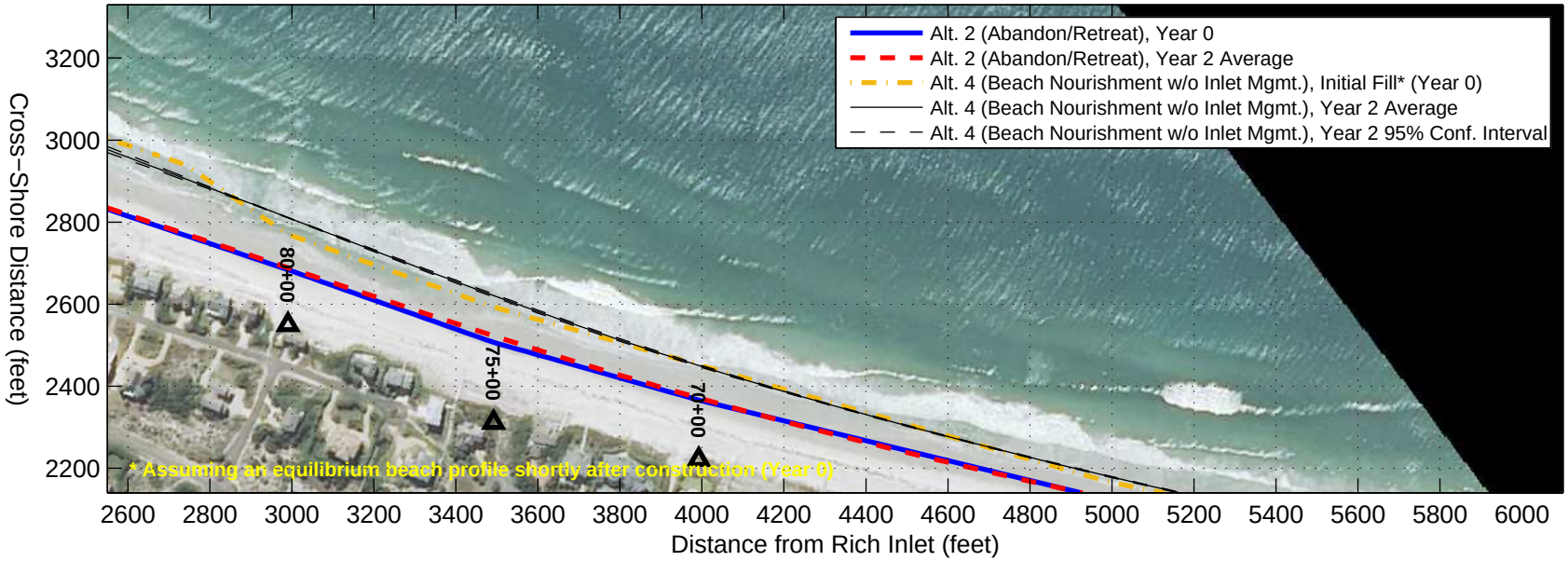

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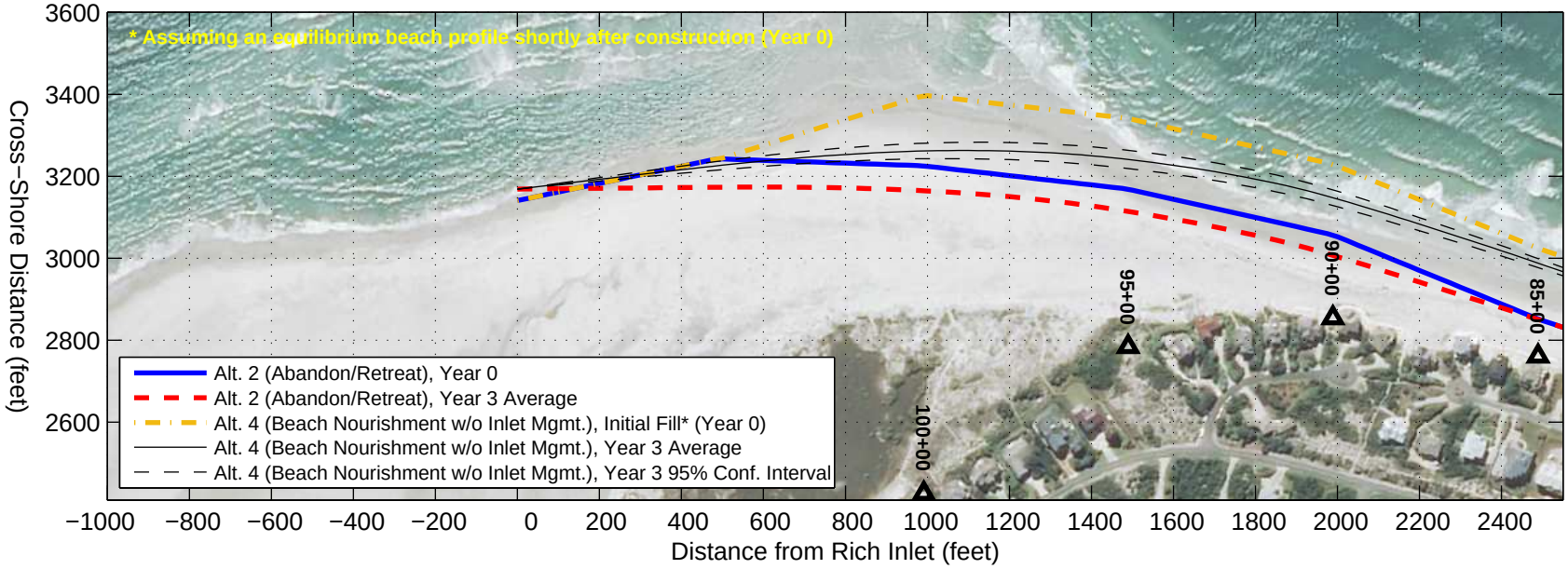

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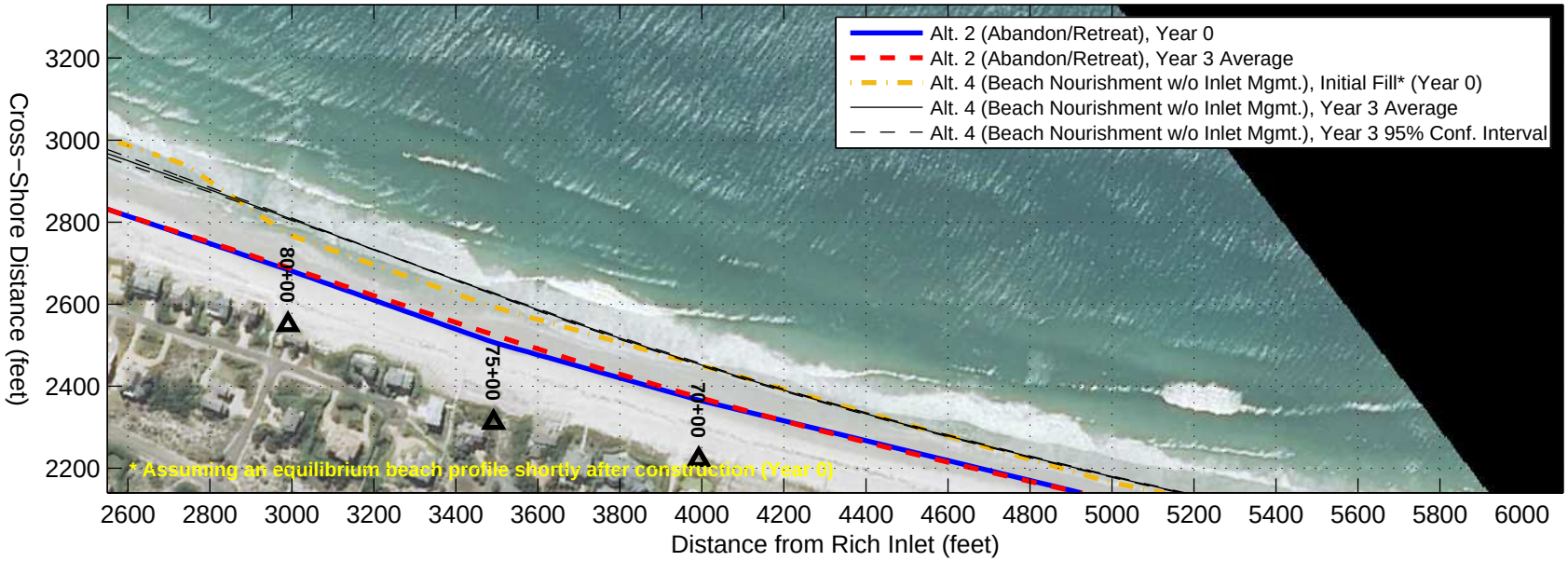

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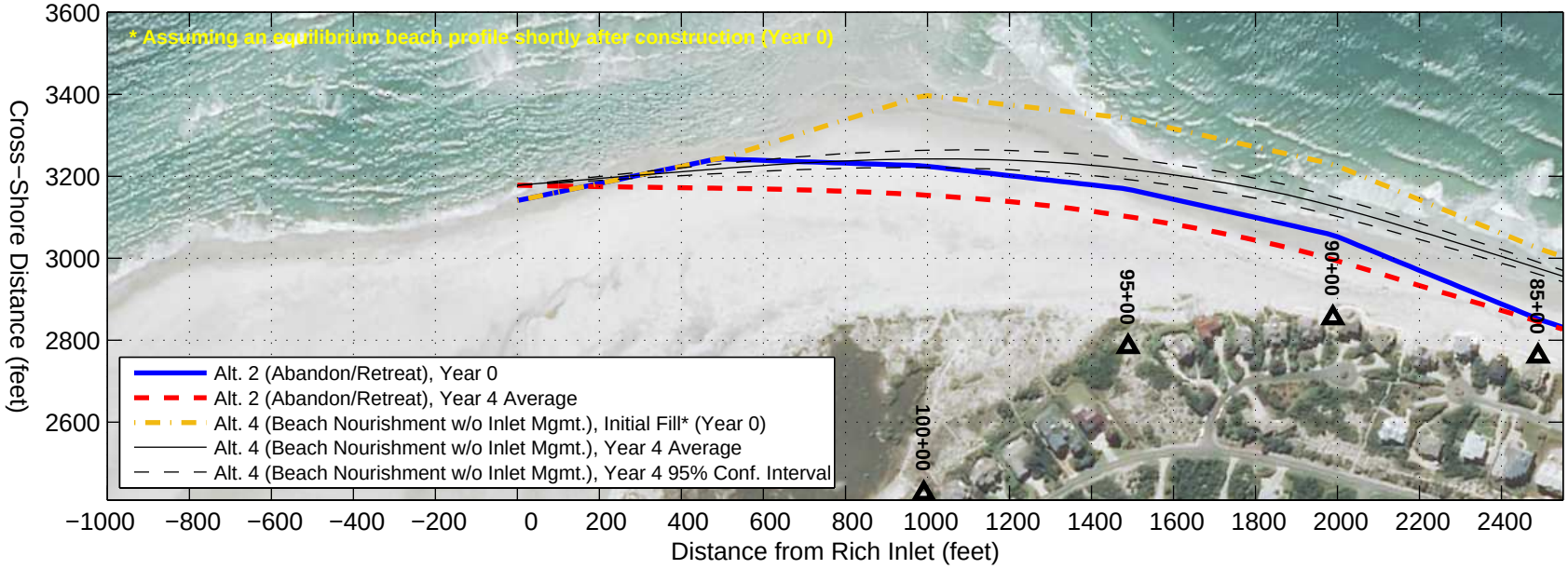

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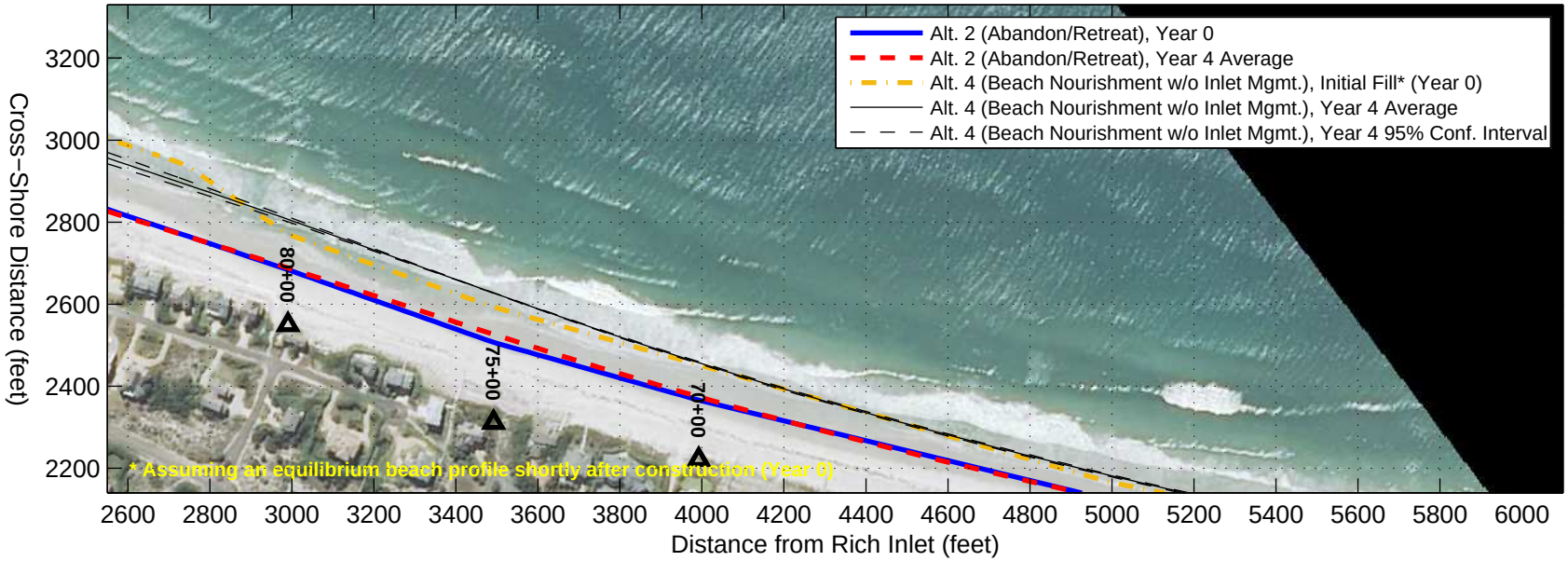

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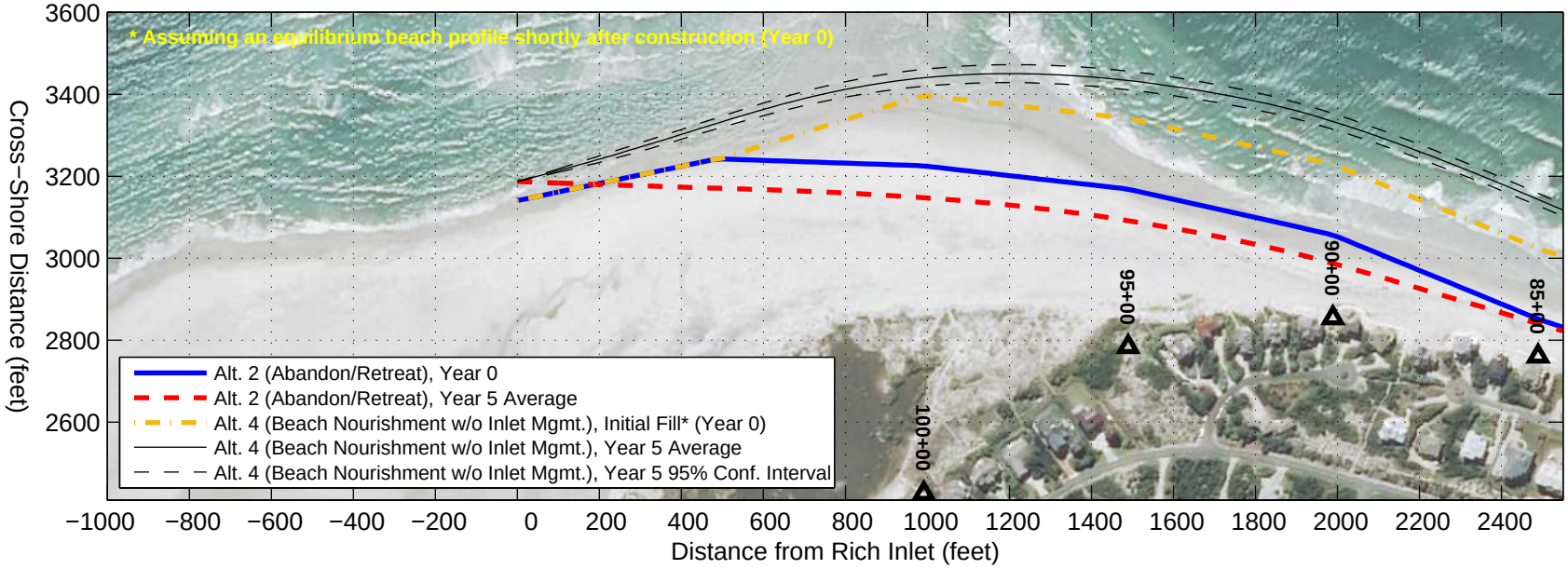

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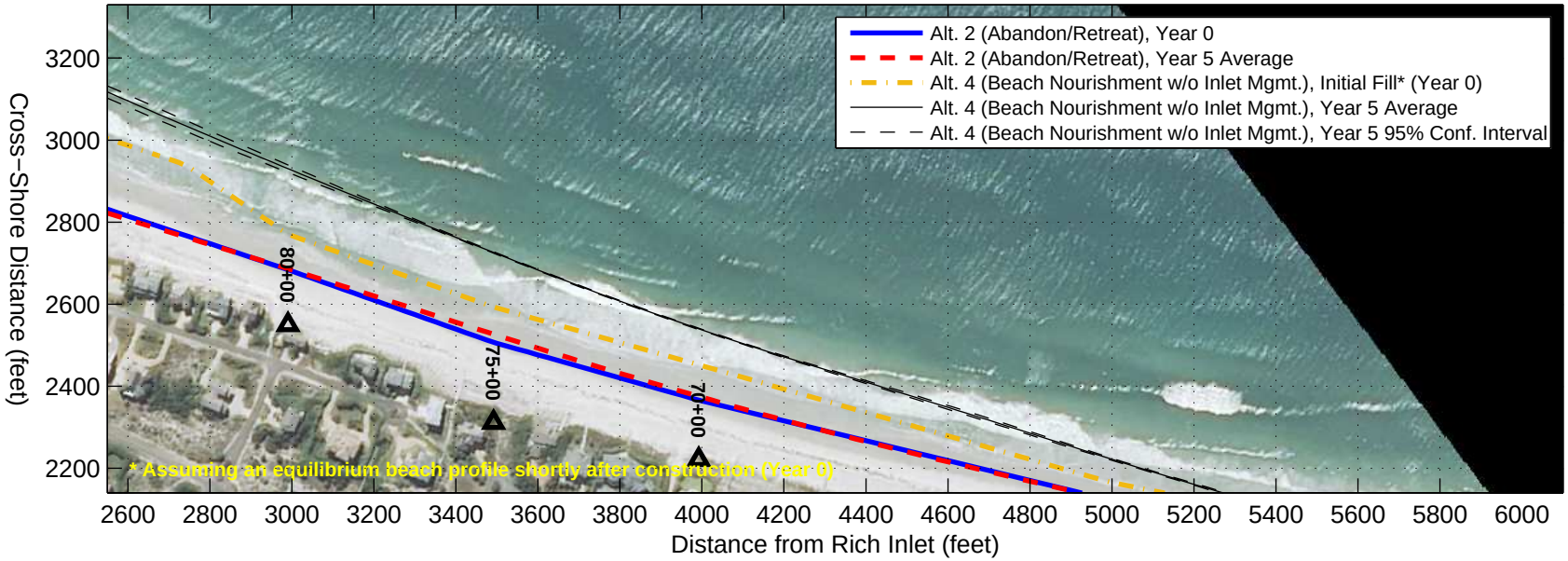

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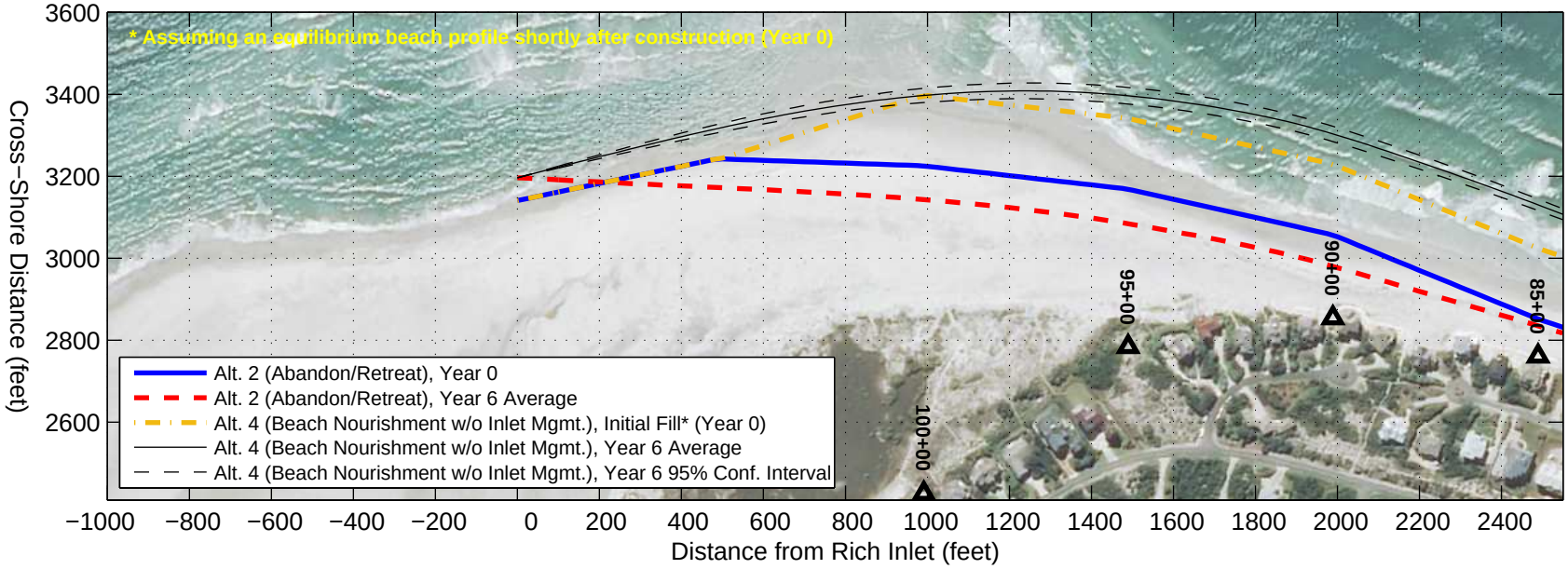

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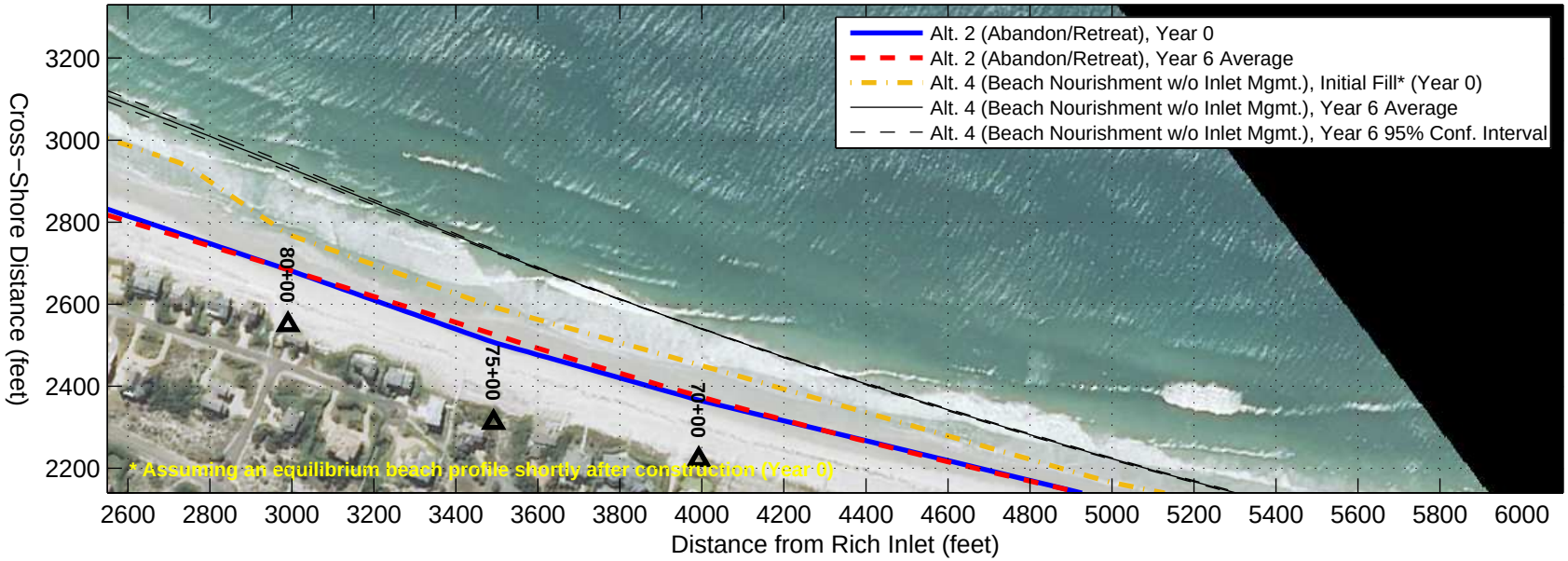

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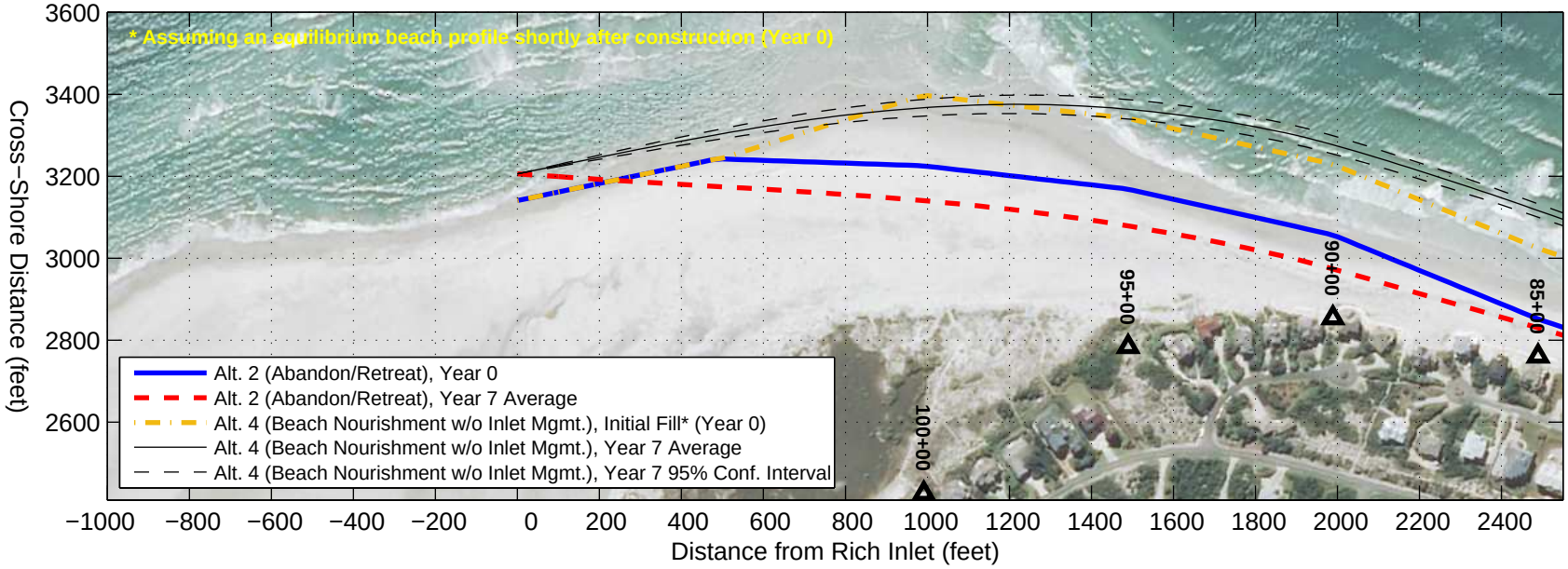

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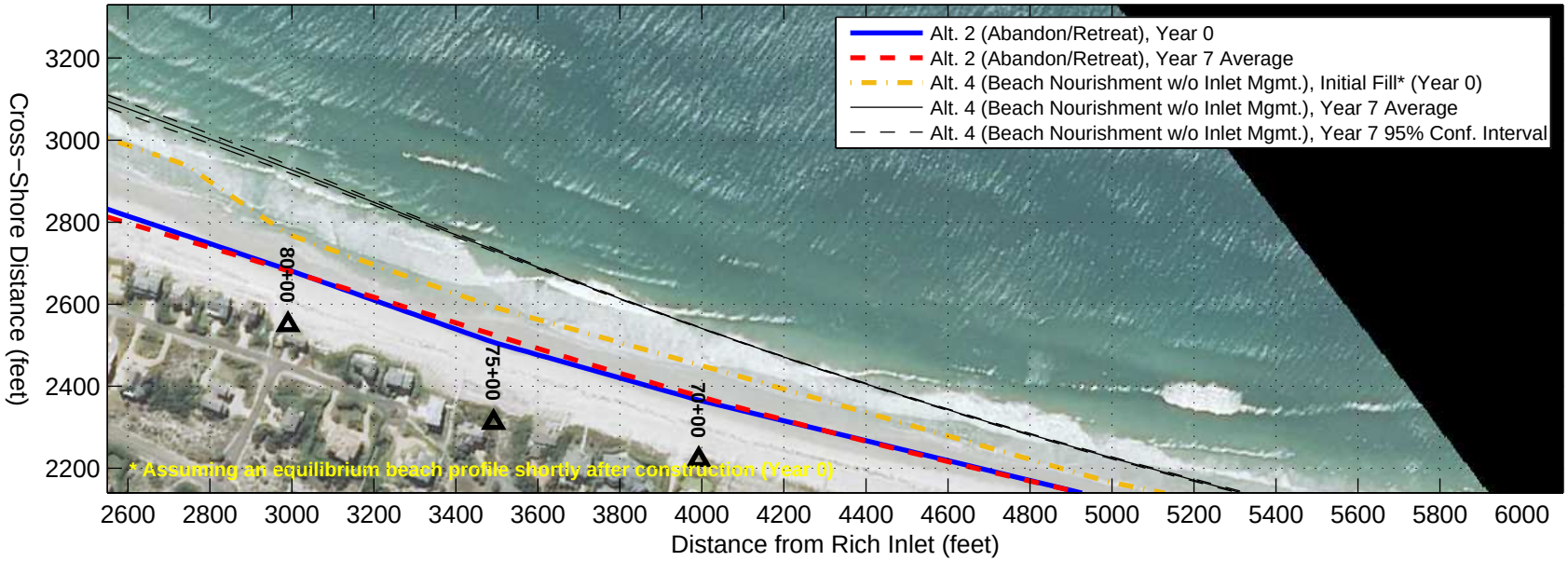

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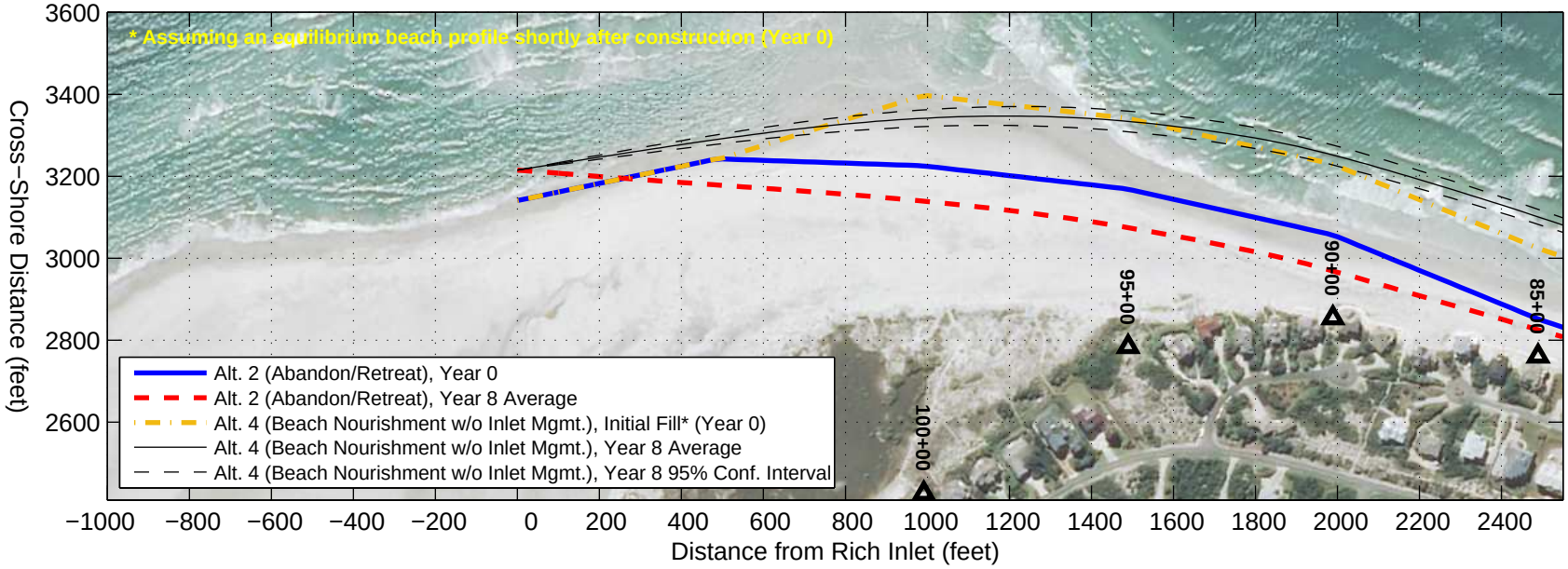

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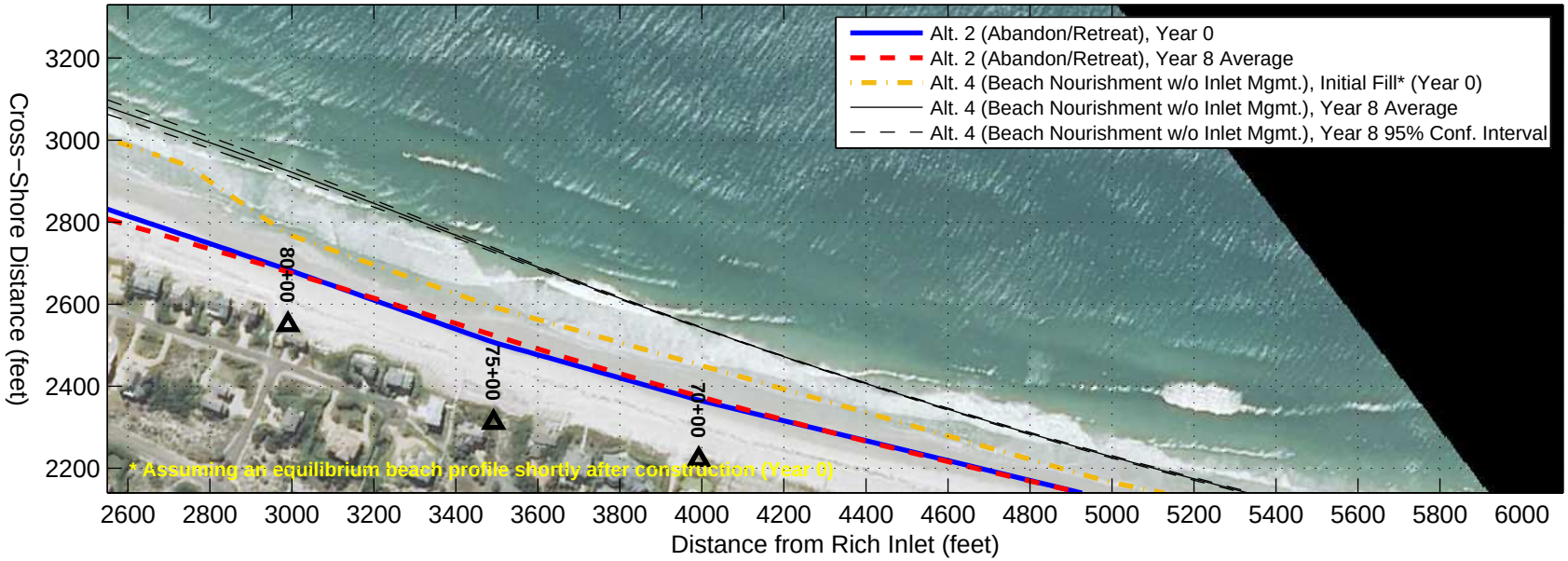

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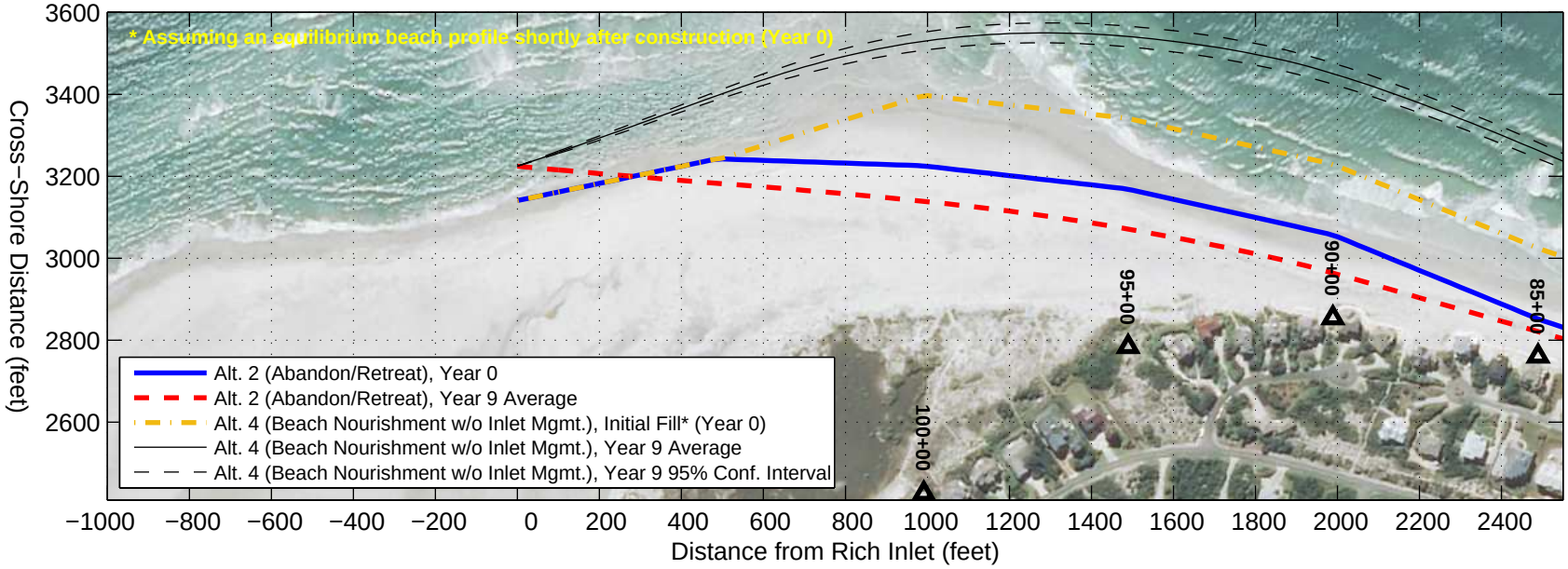

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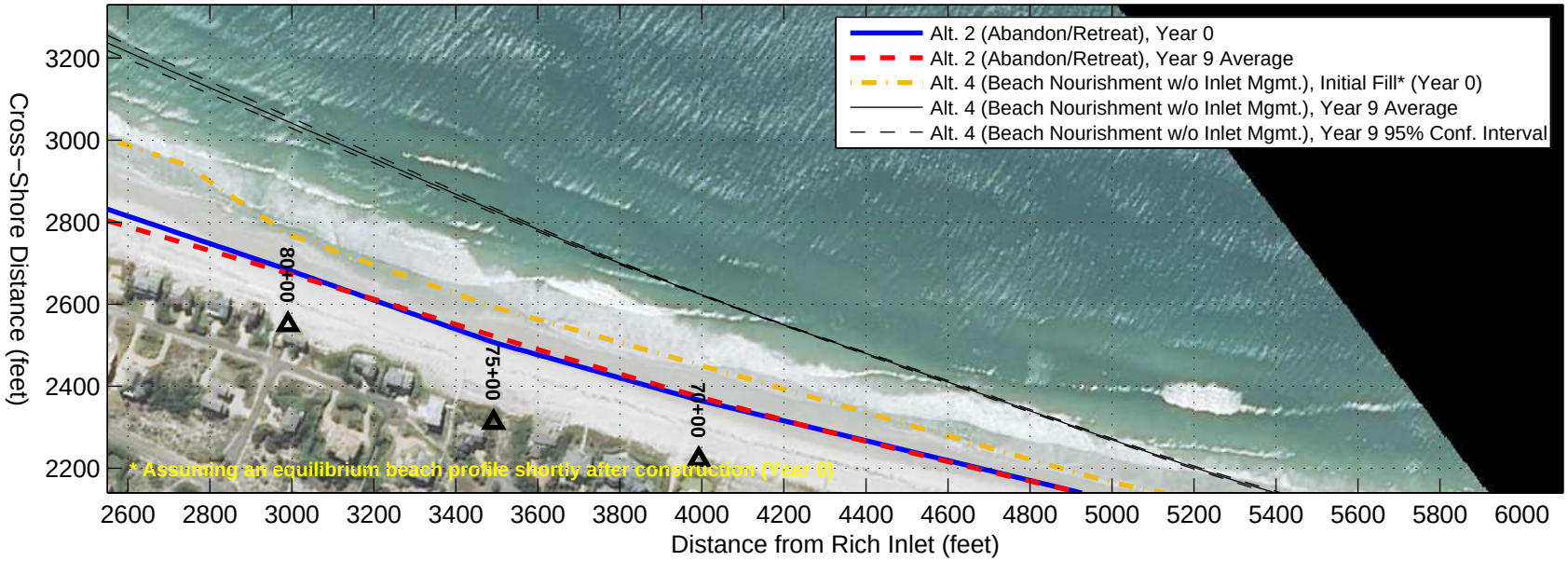

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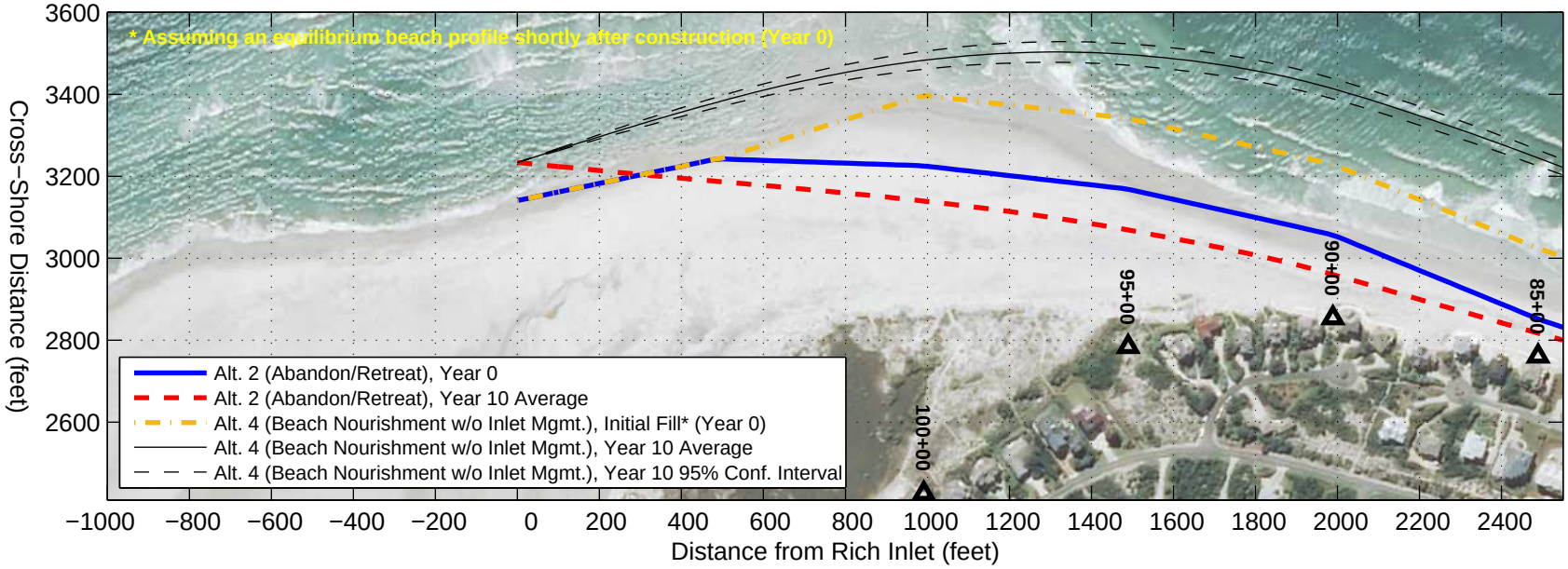

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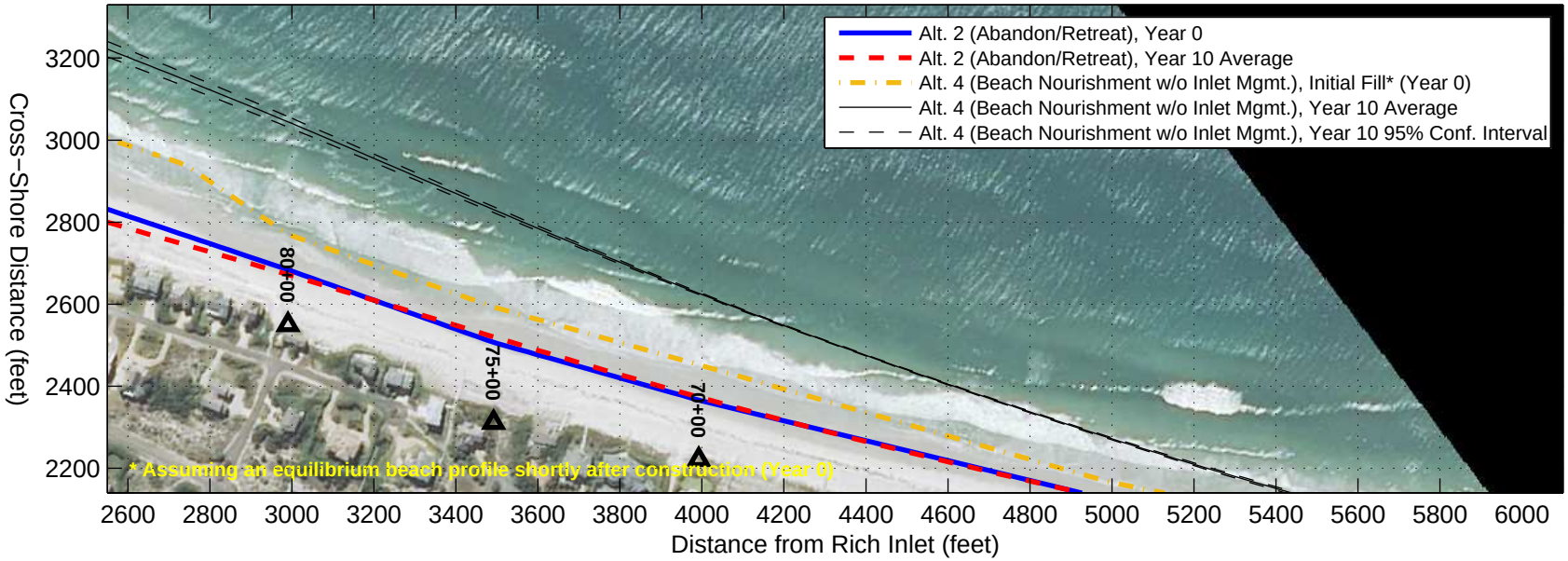
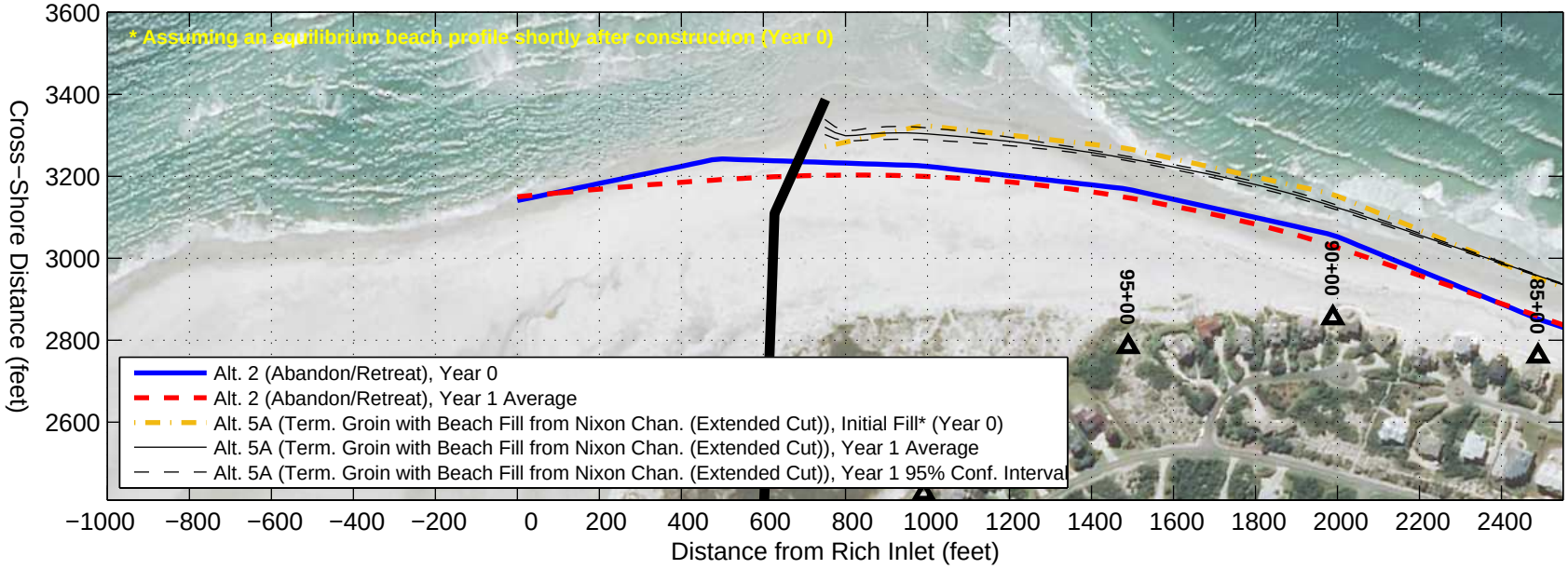


Alt. 5A (Term. Groin with Beach Fill from Nixon Chan. (Extended Cut)) GENESIS Results with Aug. 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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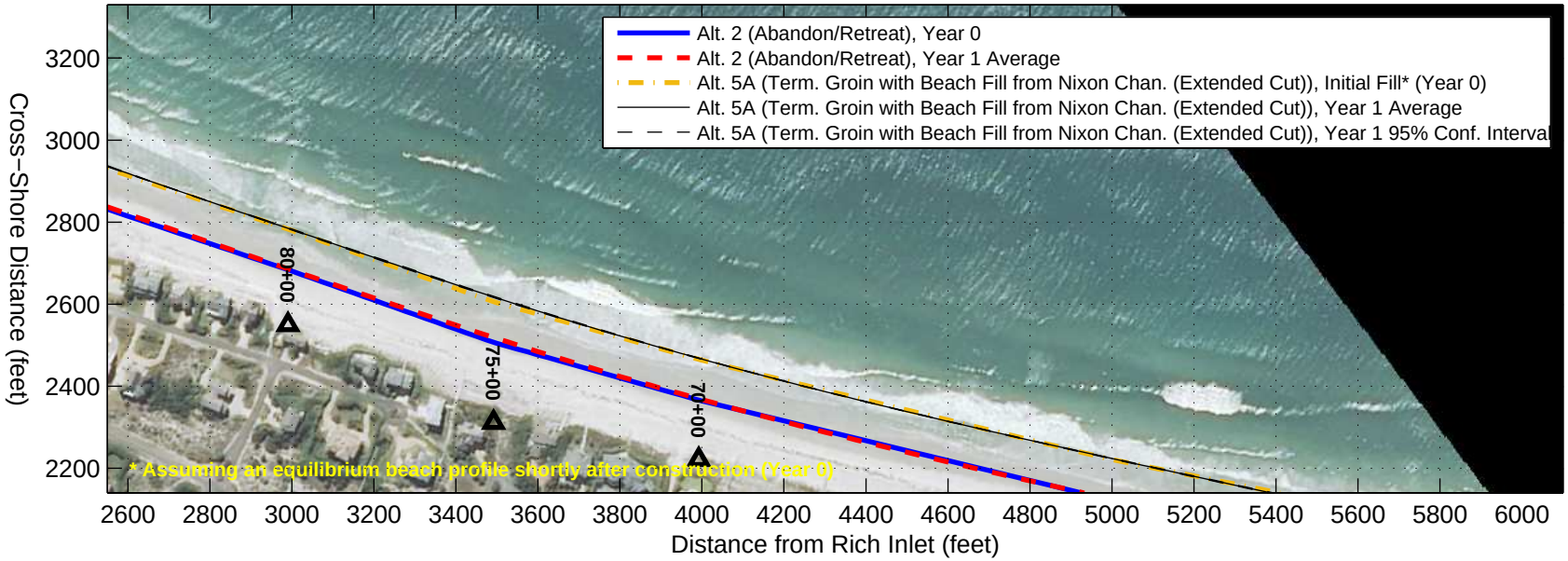

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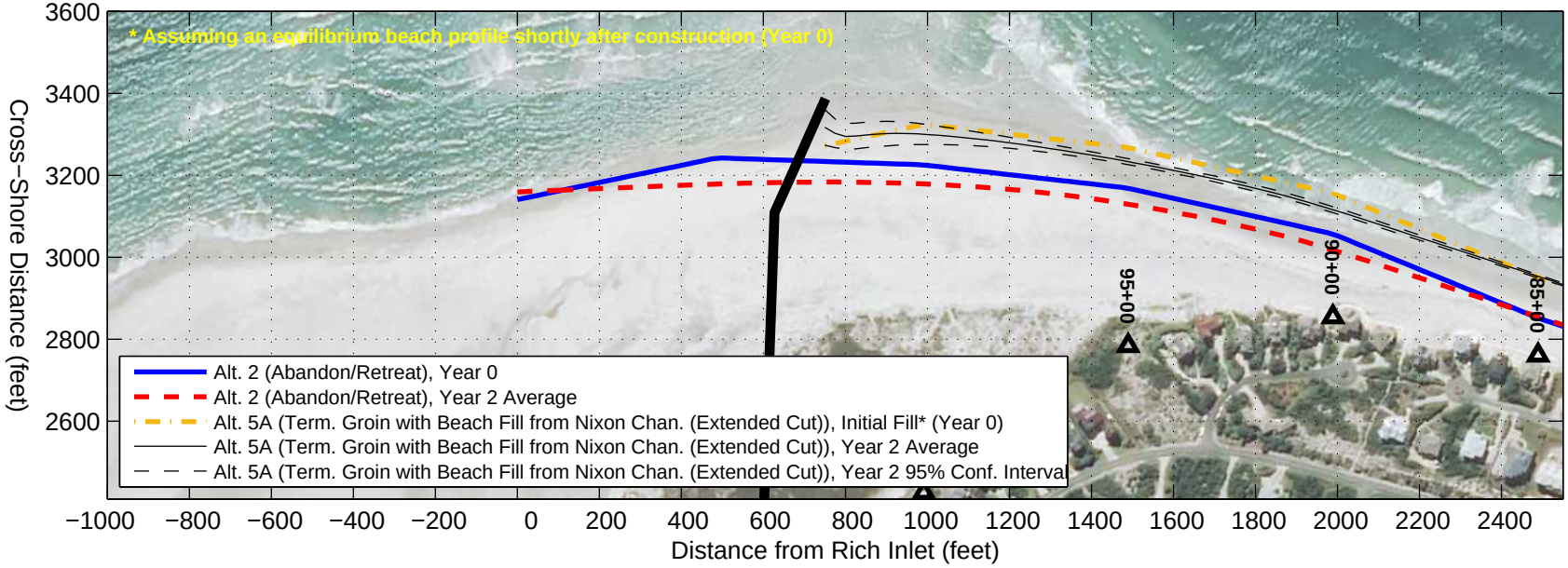

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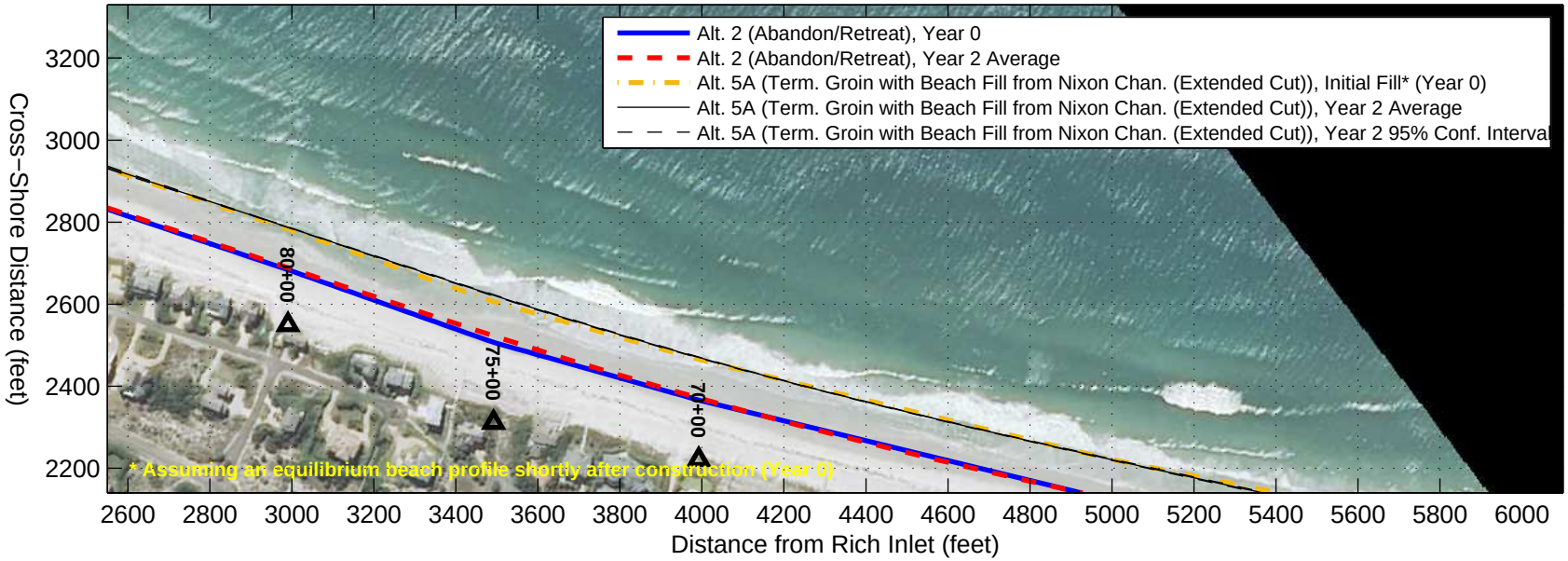

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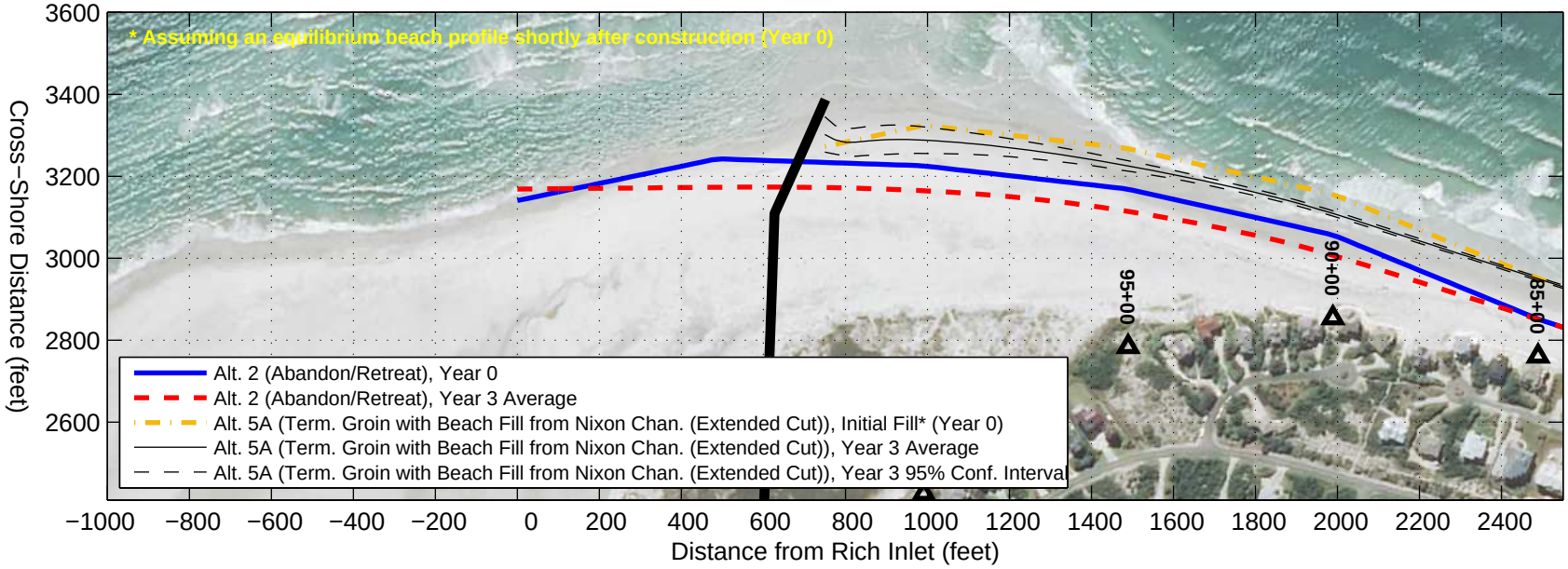

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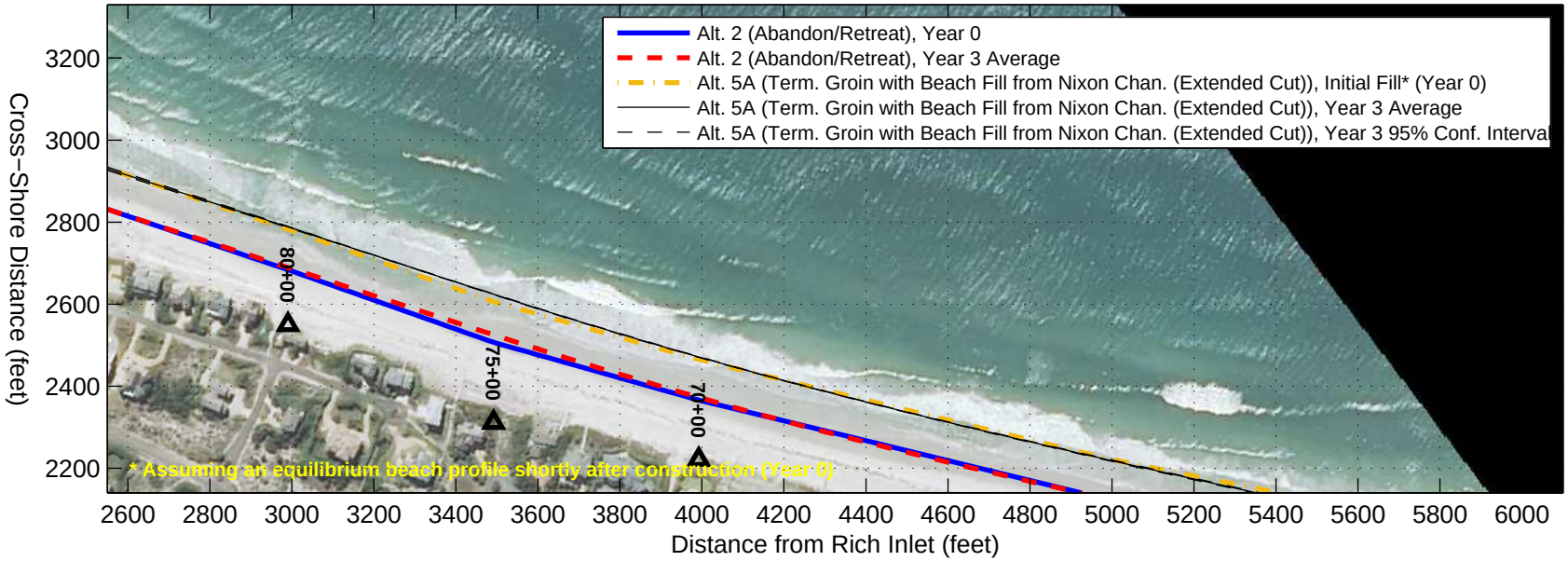

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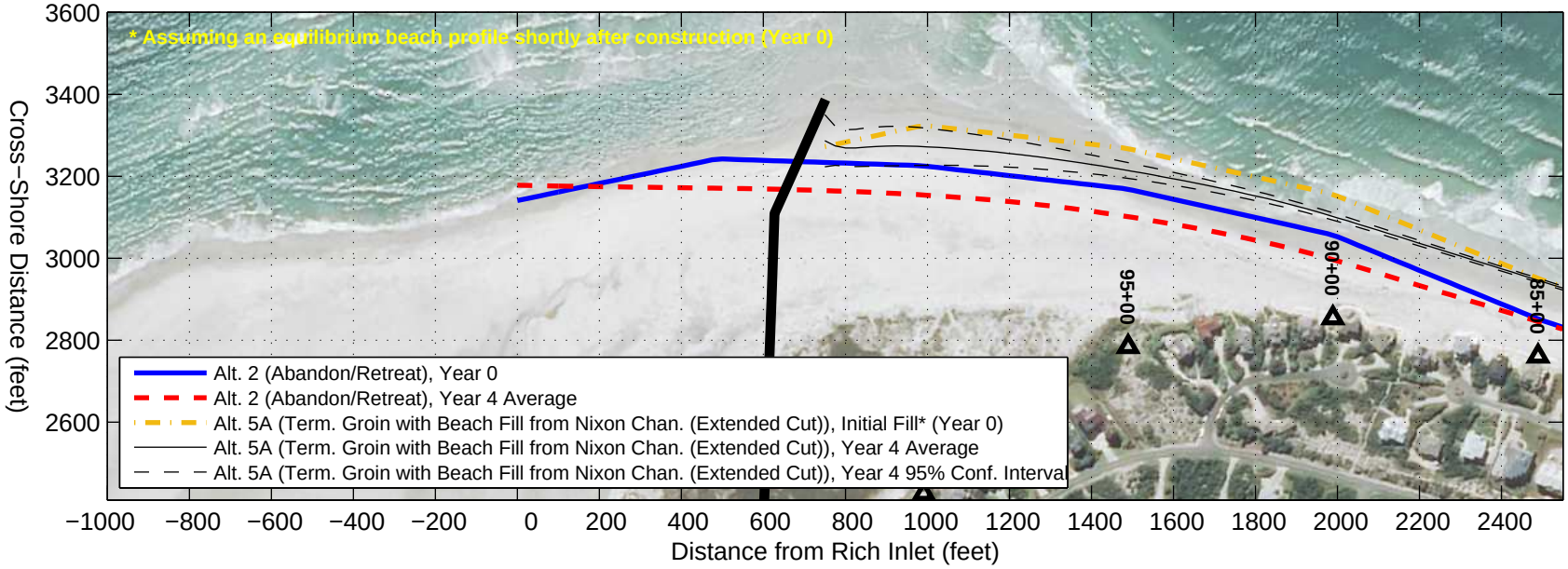

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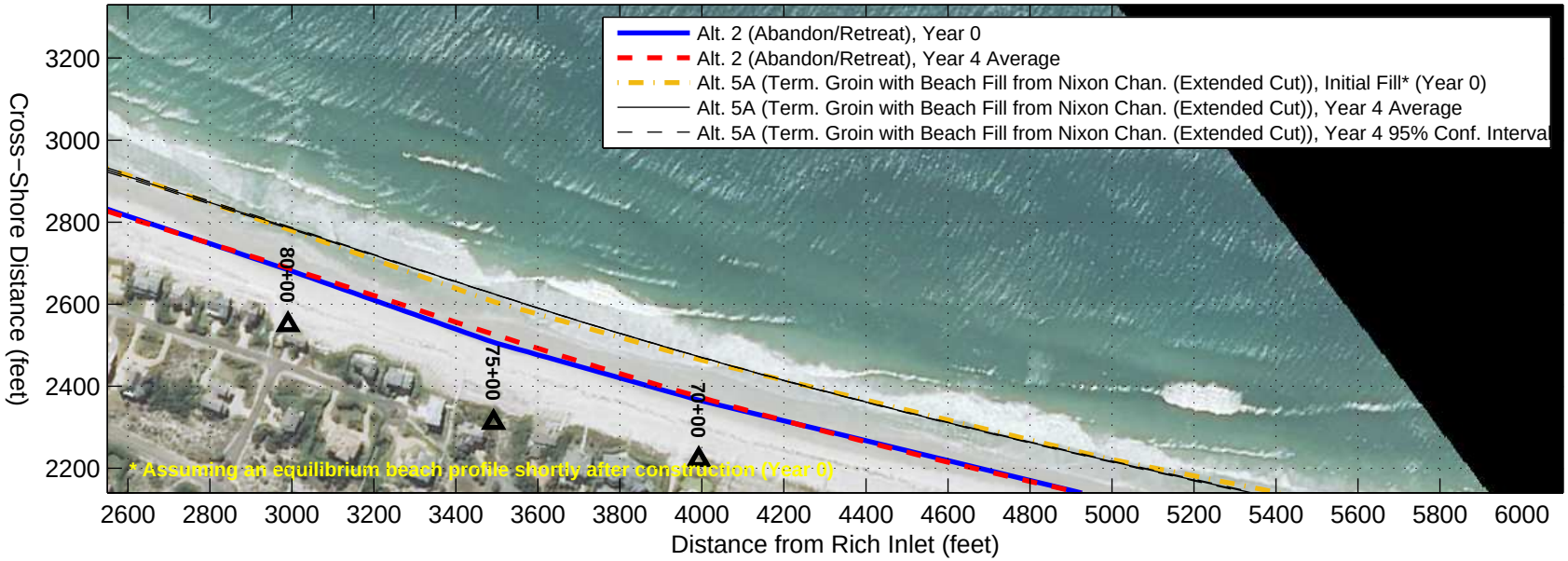

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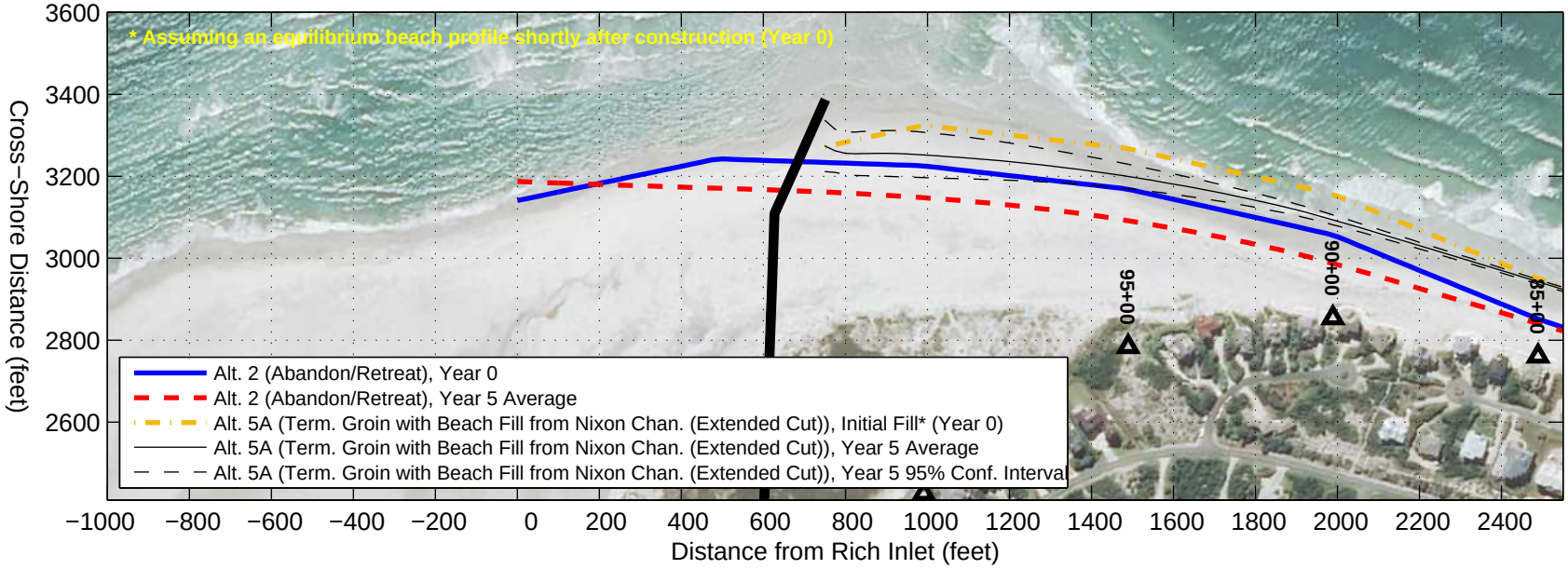

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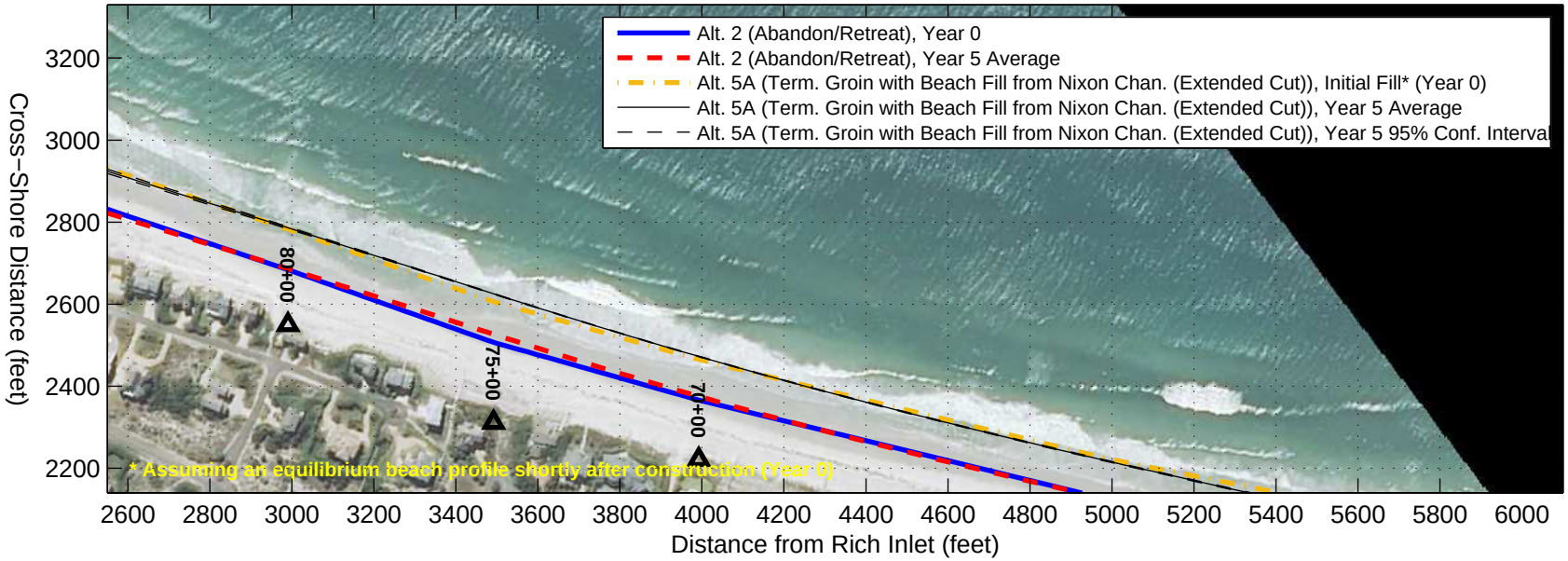

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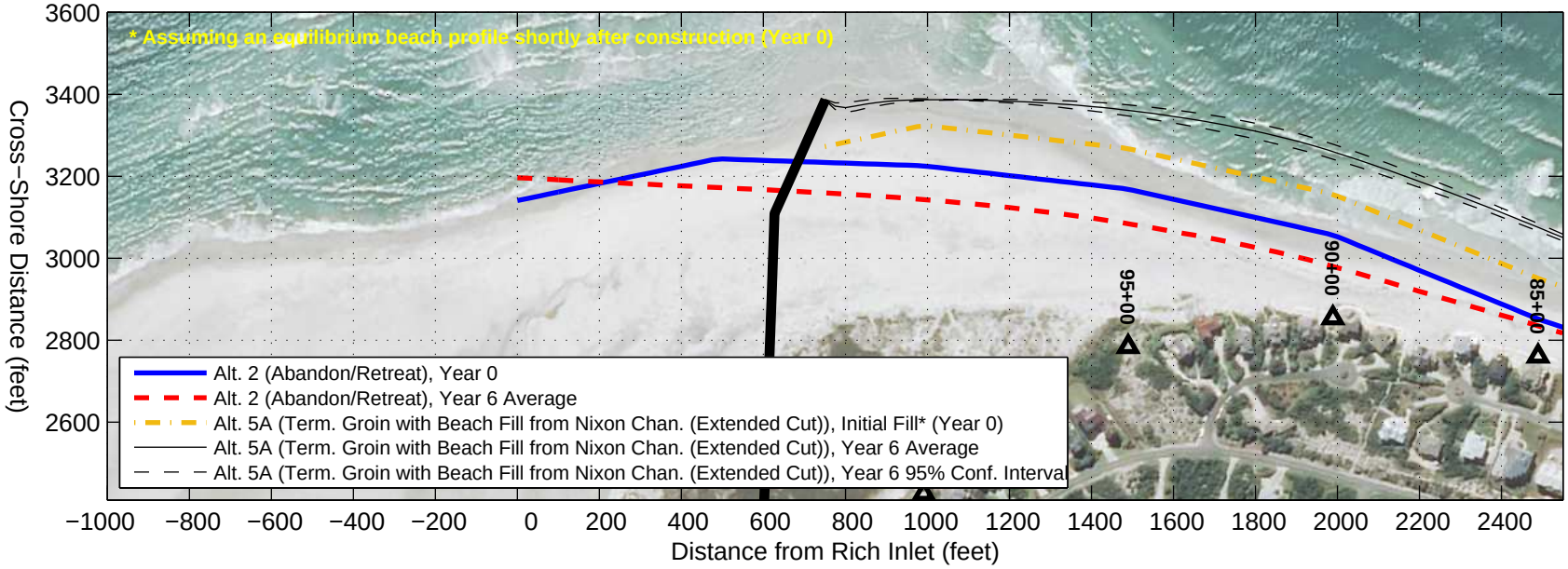

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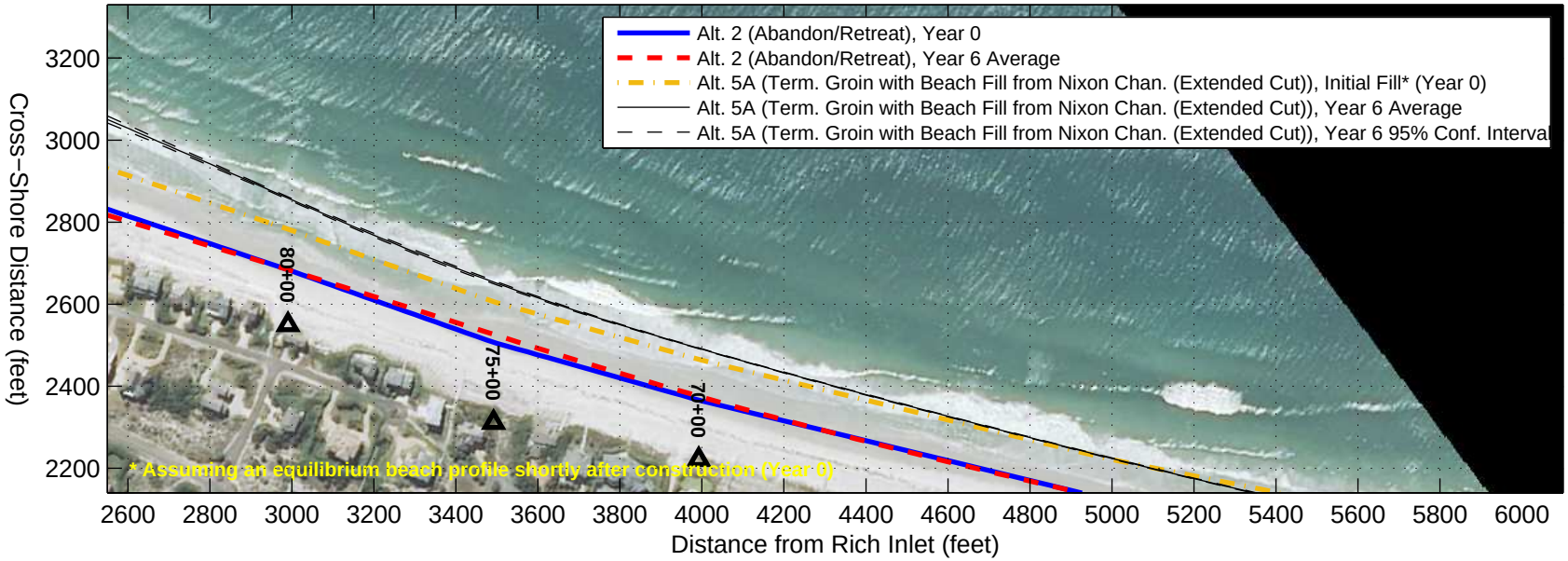

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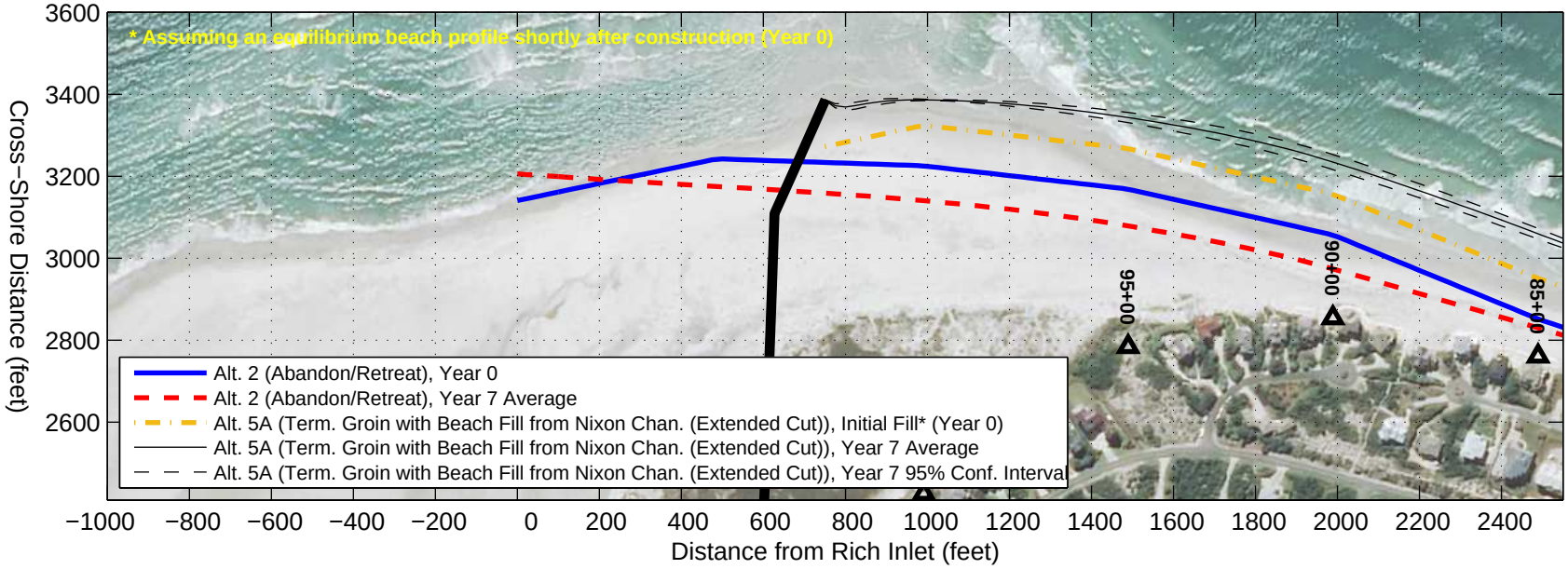

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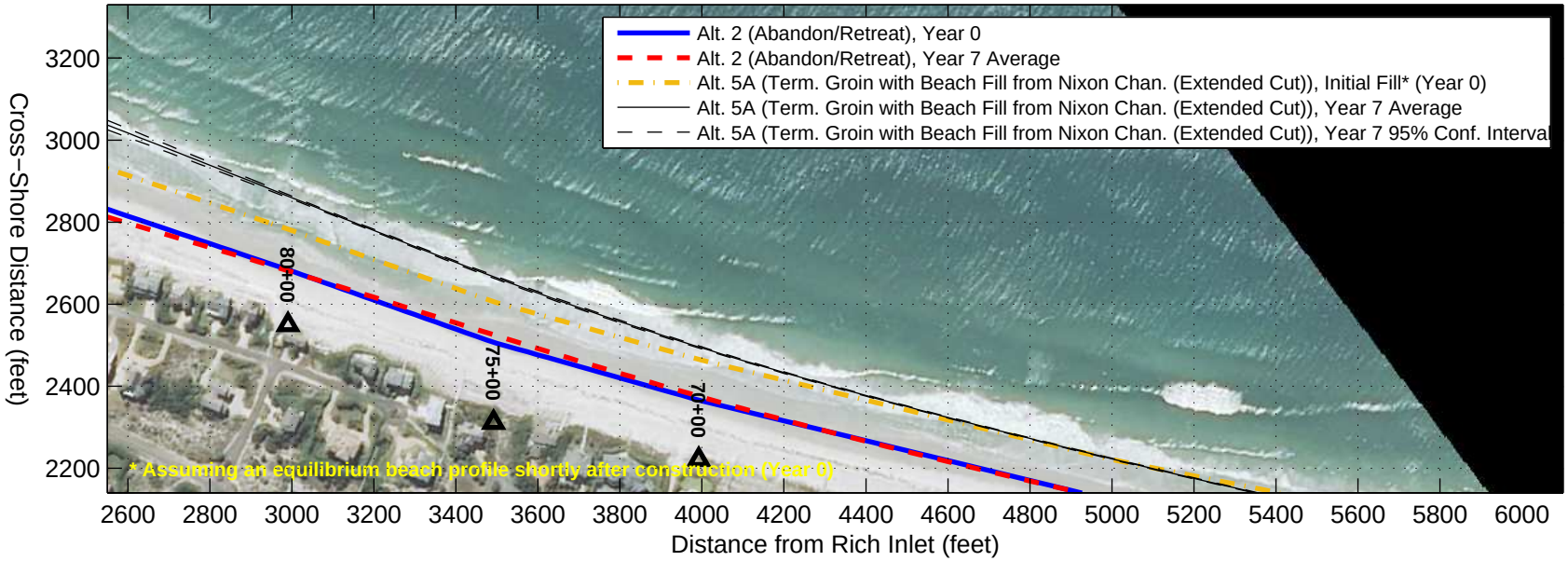

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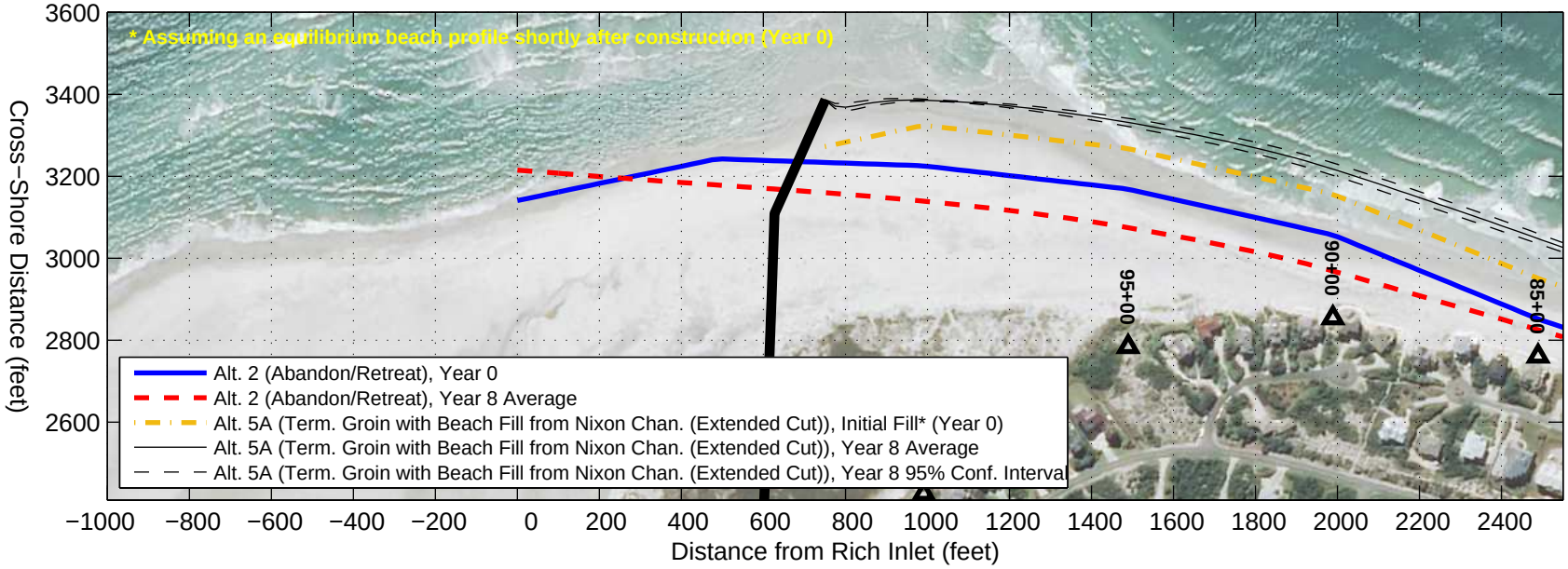

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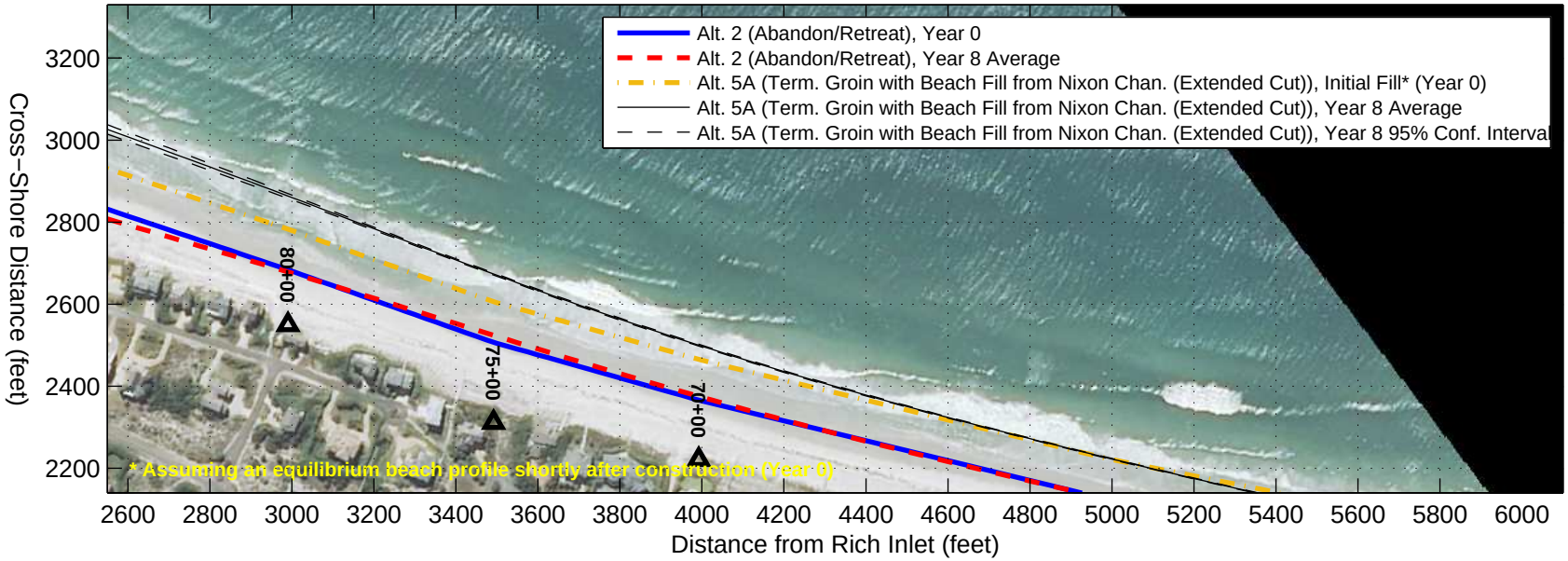

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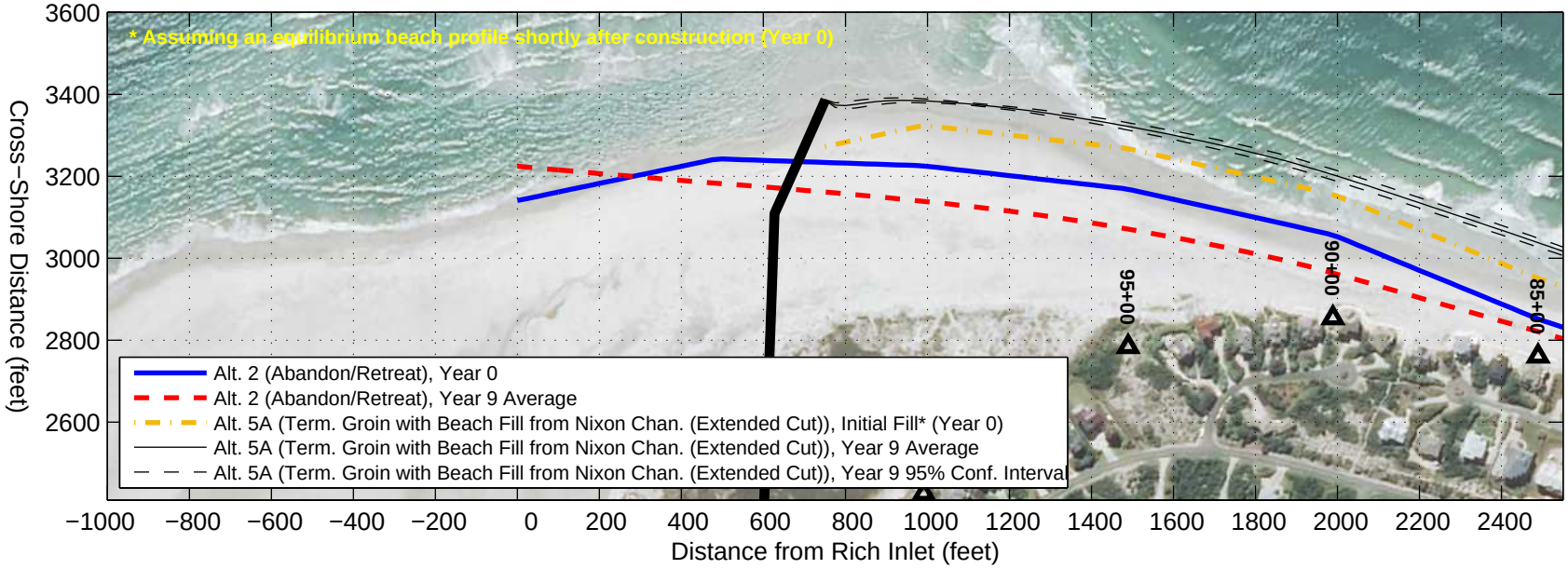

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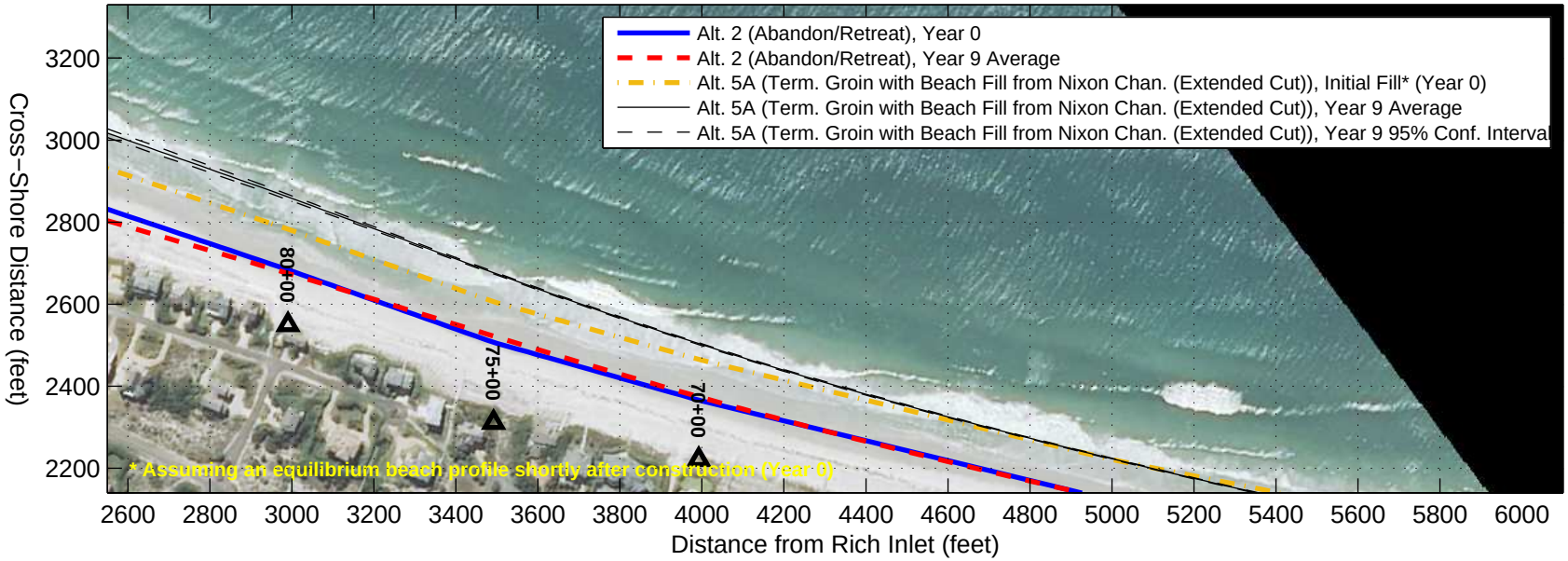

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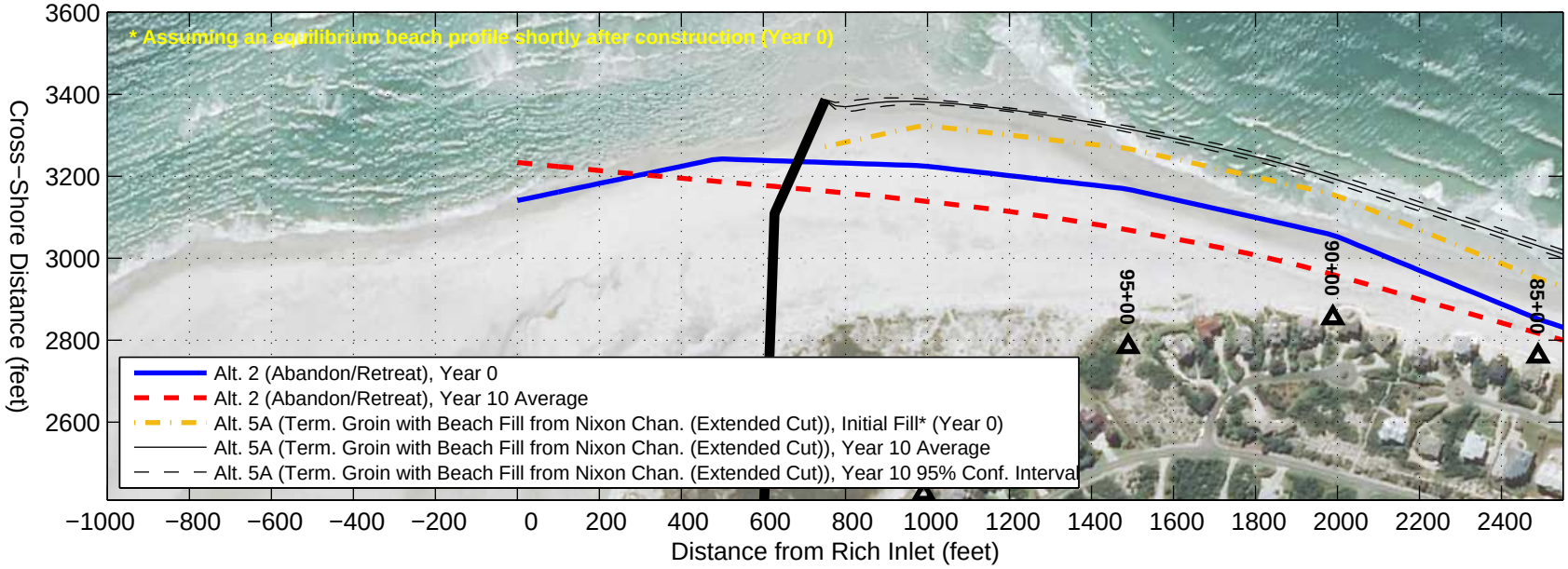
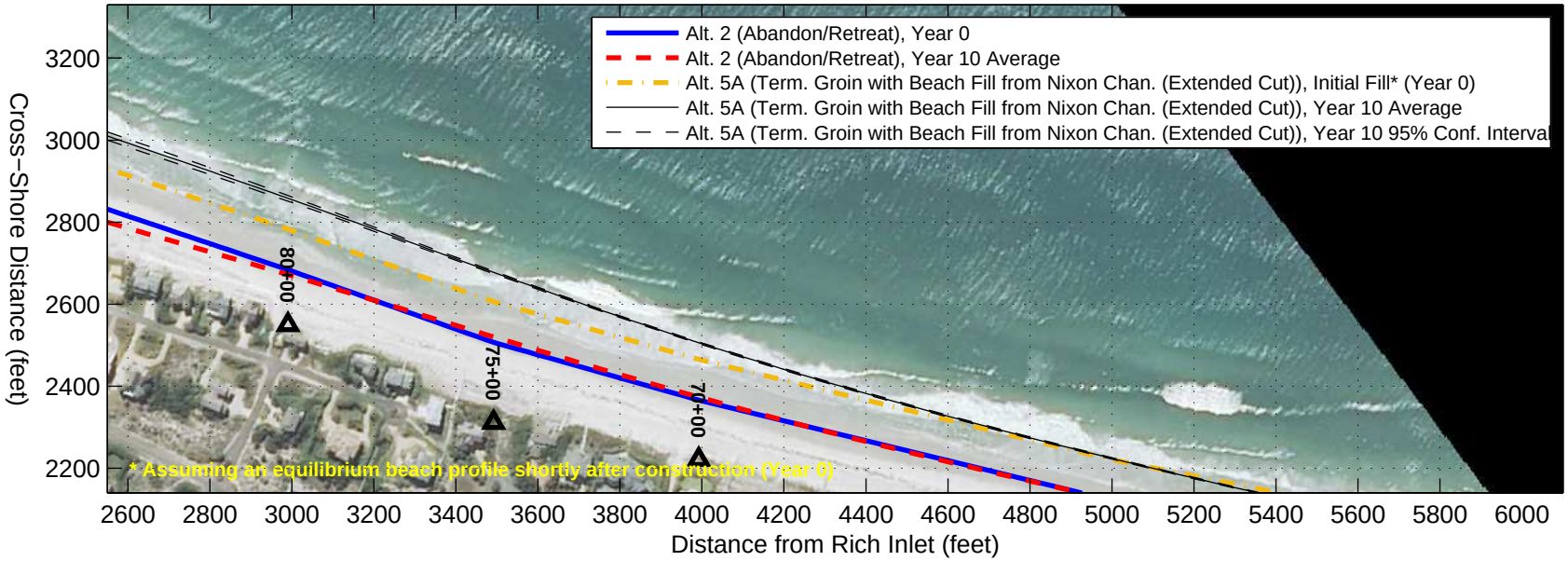
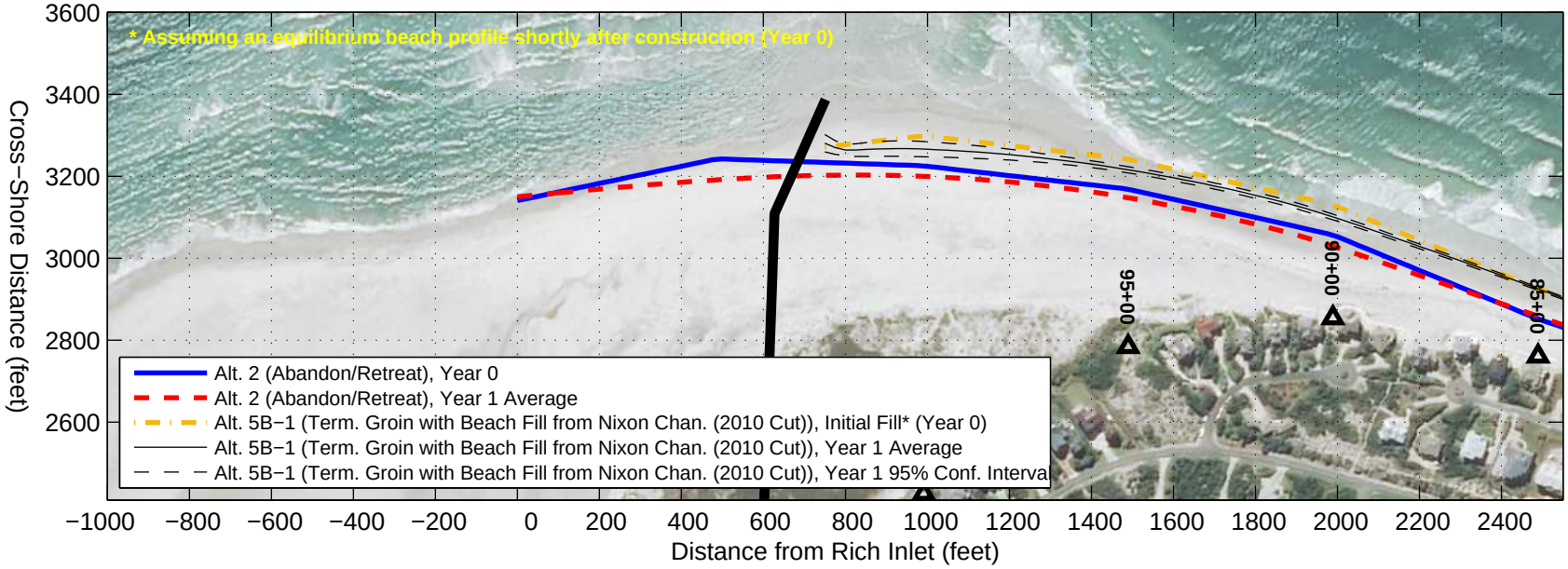


Alt. 5A (Term. Groin with Beach Fill from Nixon Chan. (Extended Cut)) GENESIS Results with Aug. 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



Alt. 5B−1 (Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Aug. 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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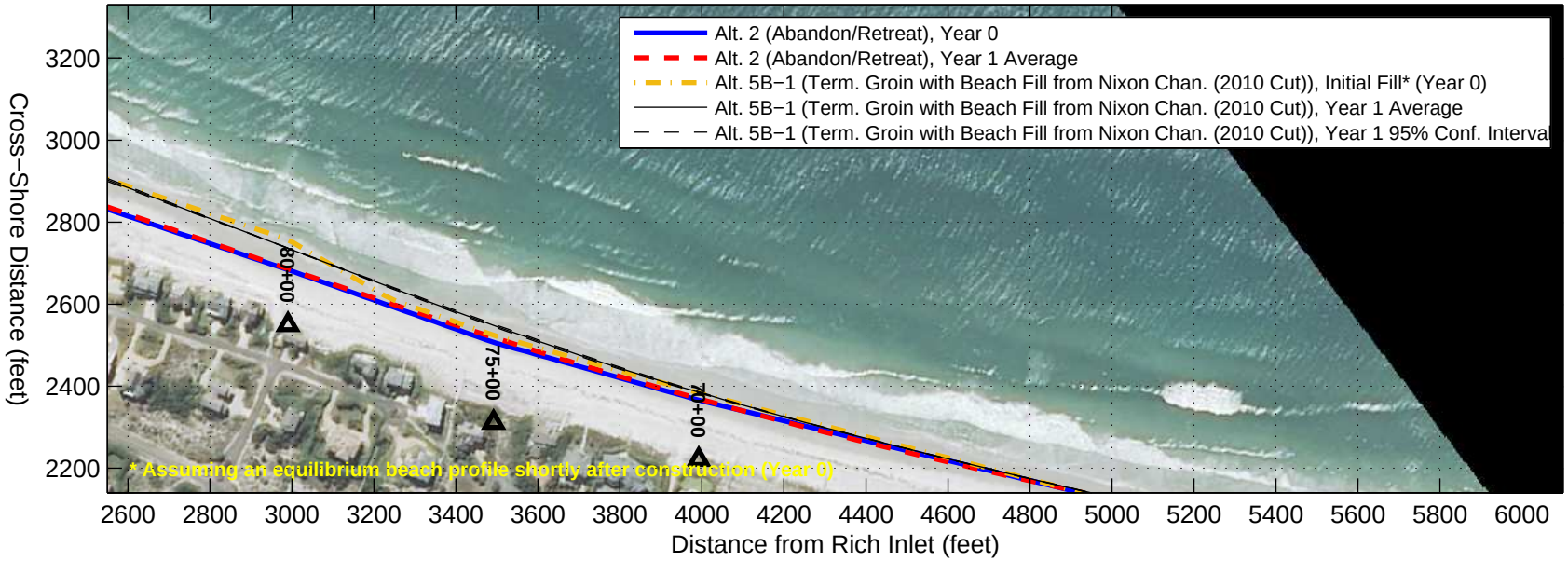

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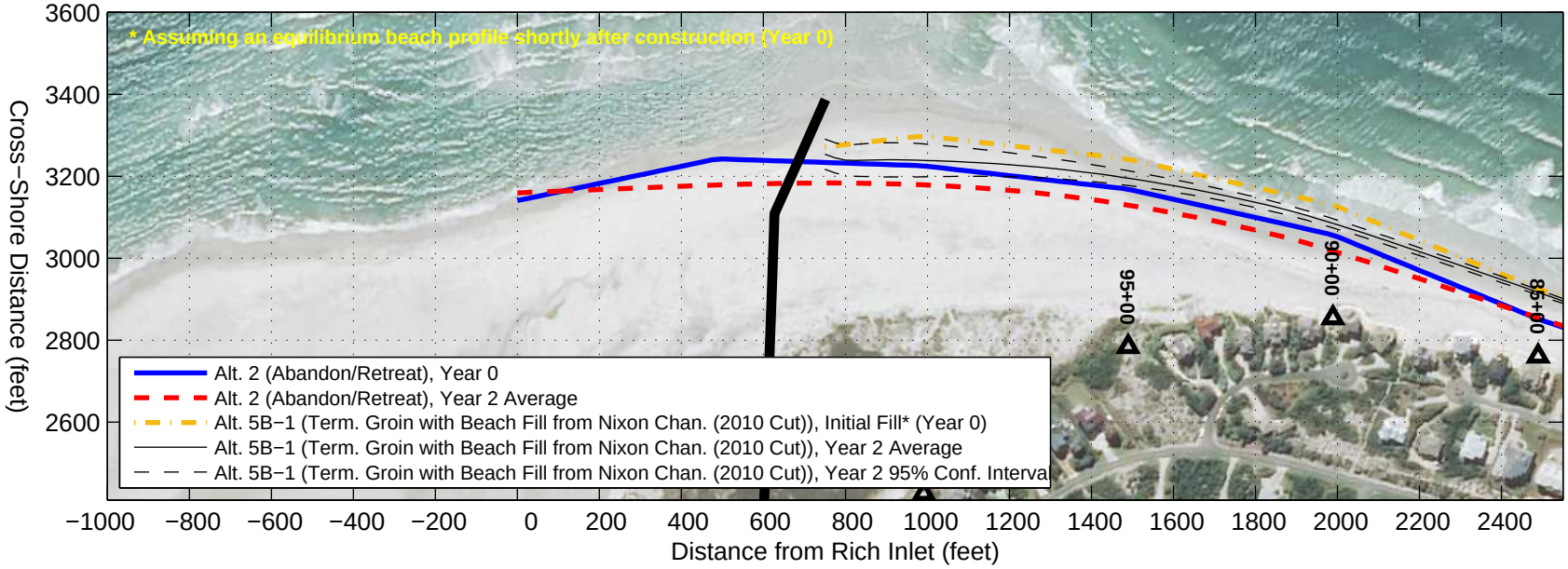

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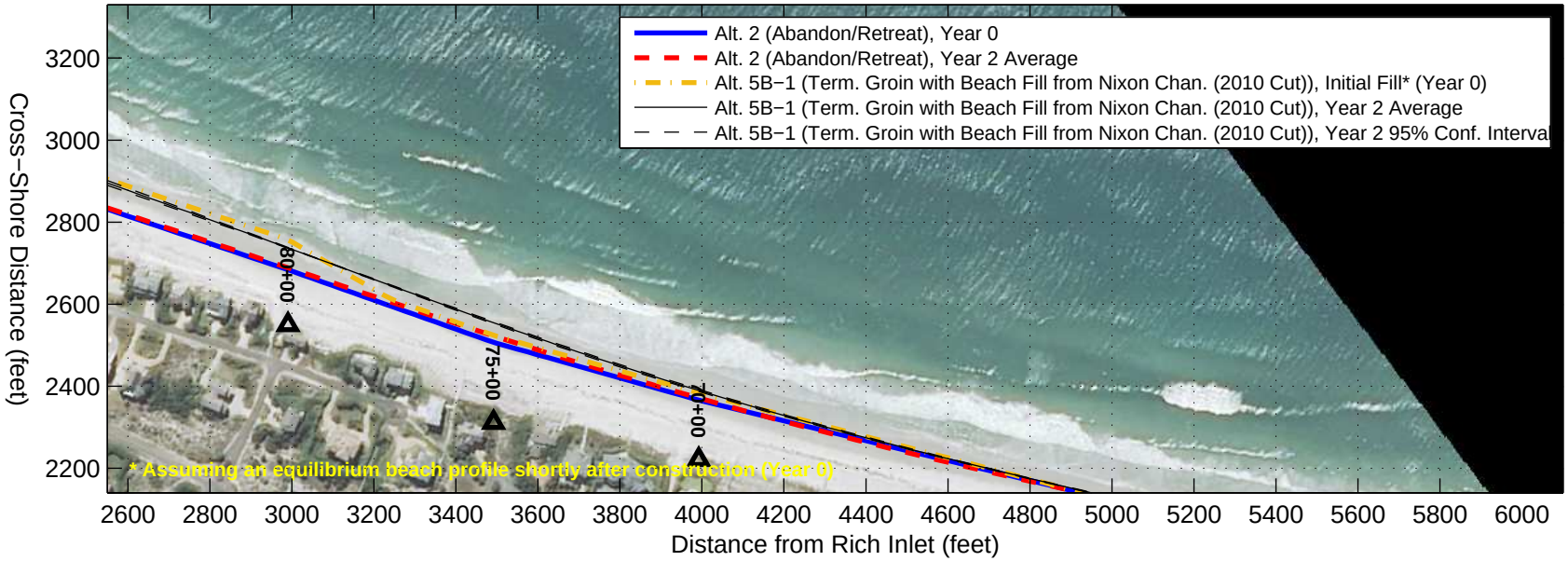

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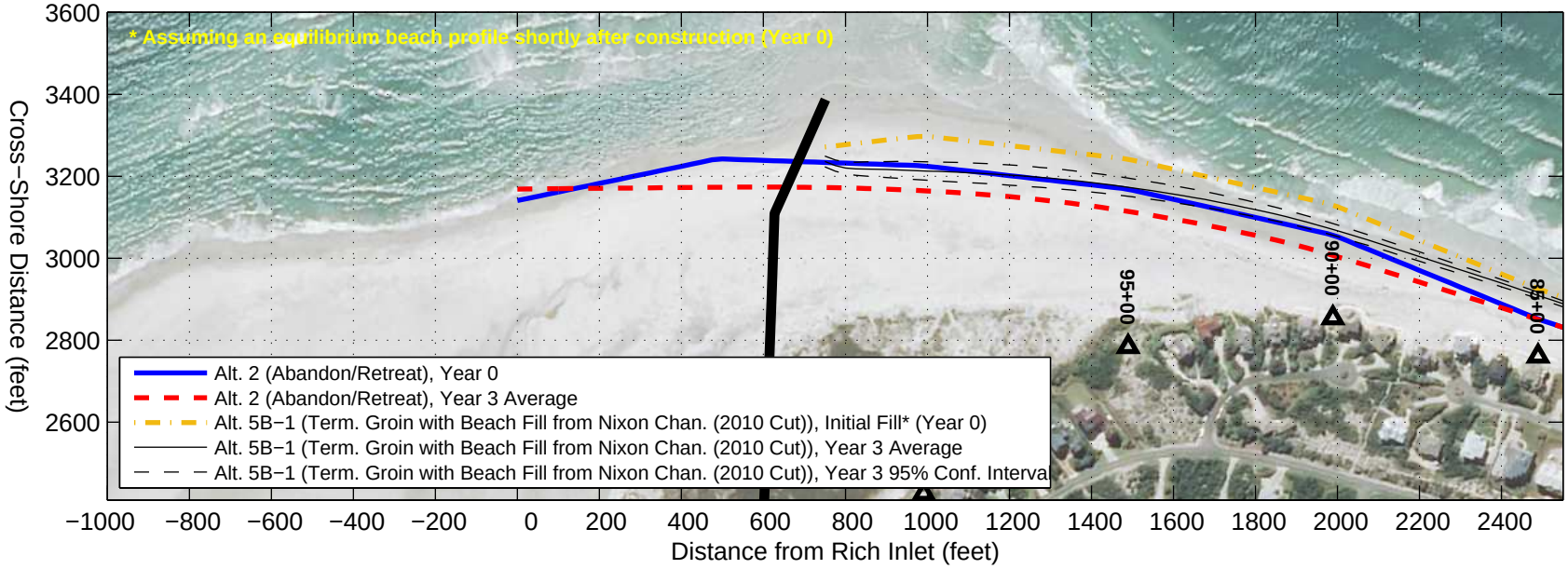

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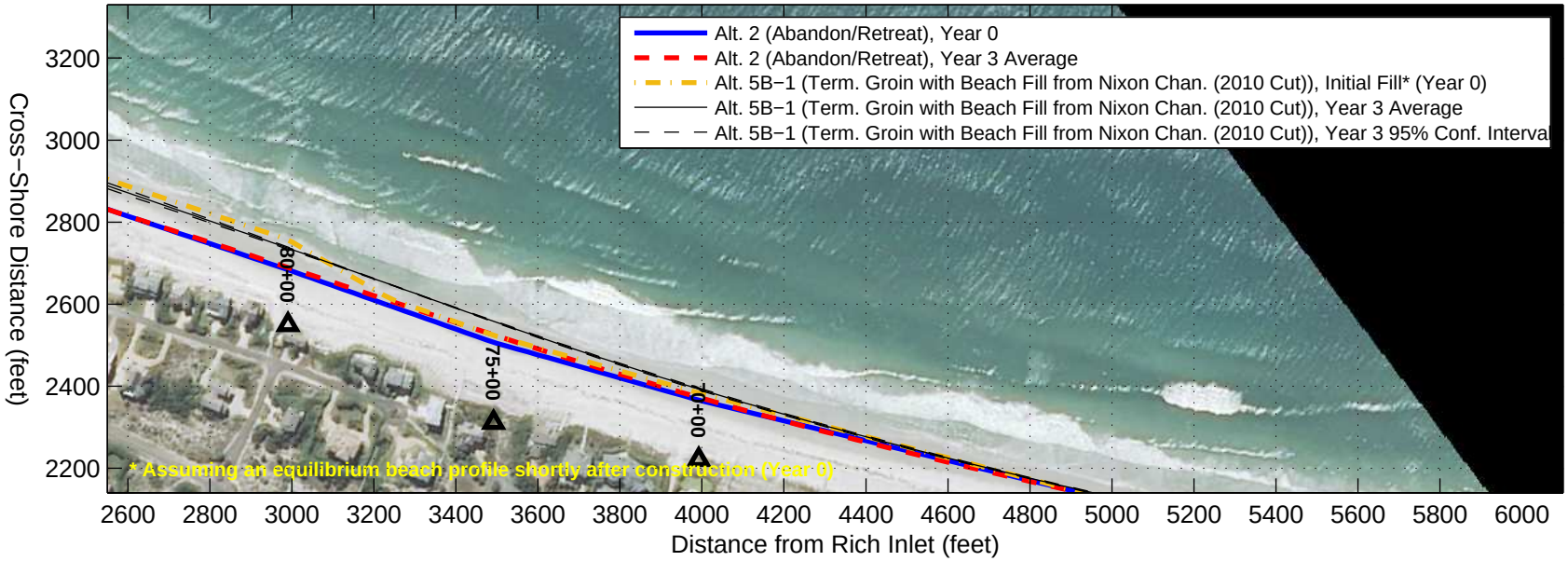

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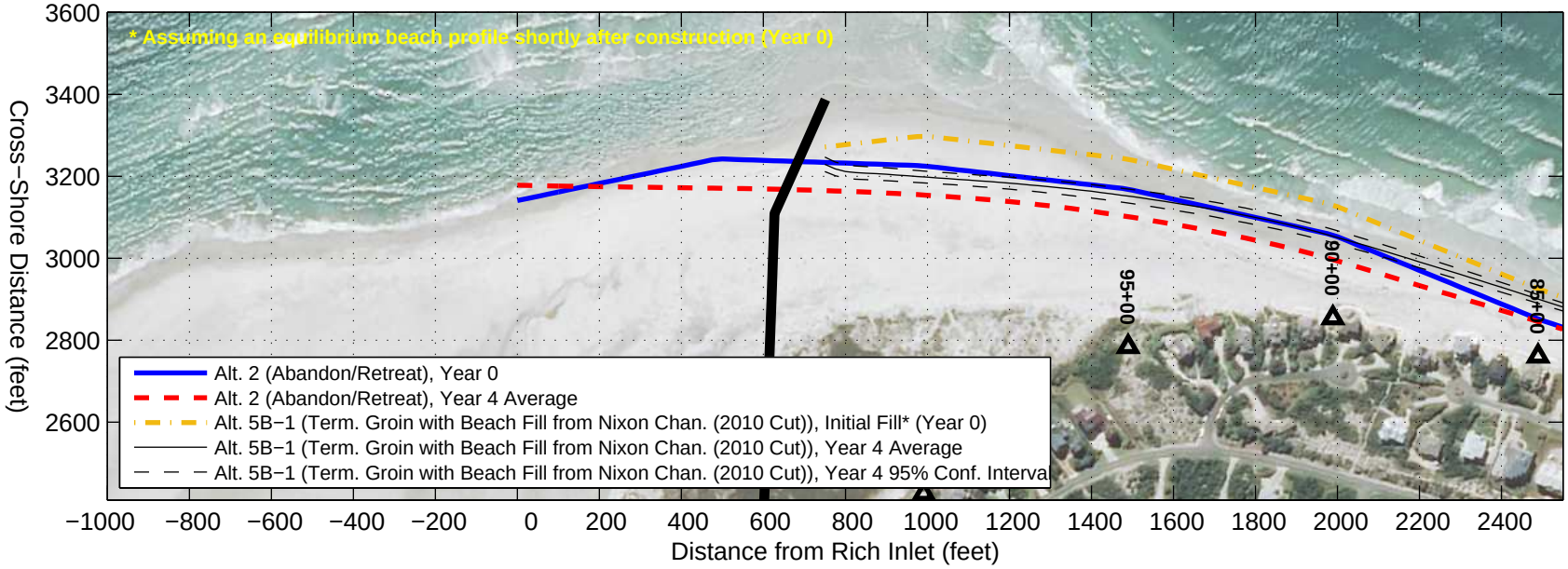

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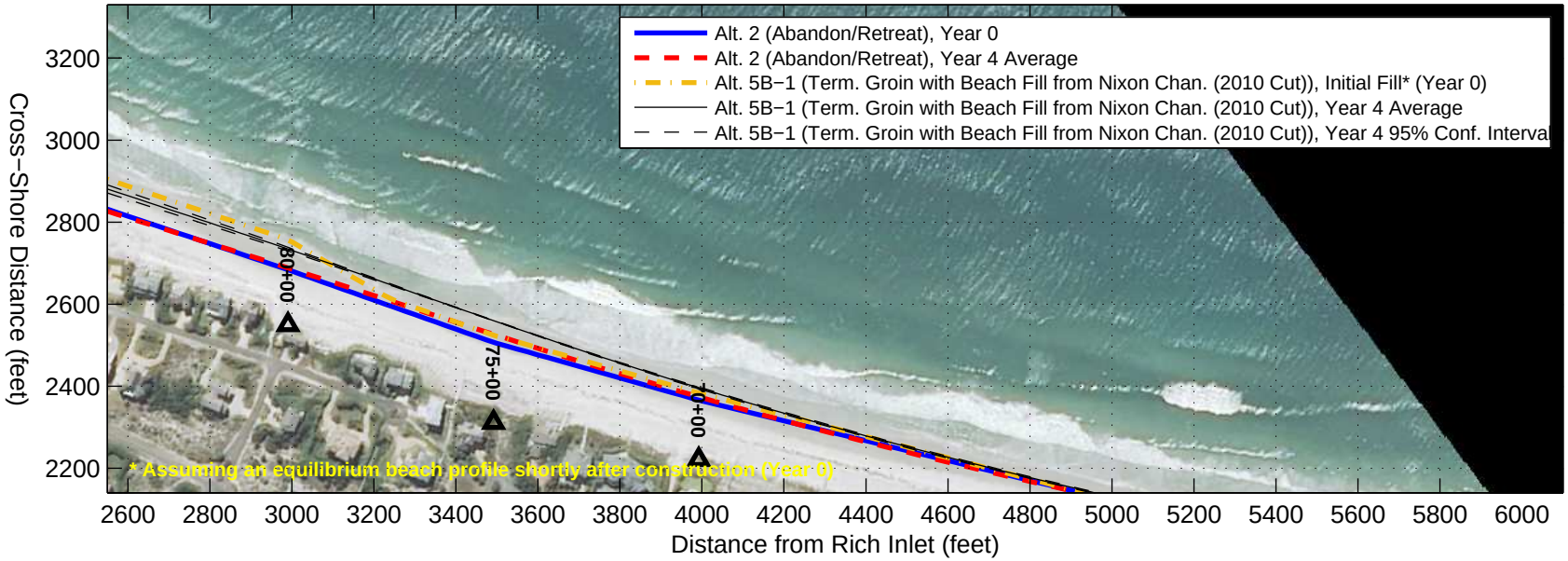

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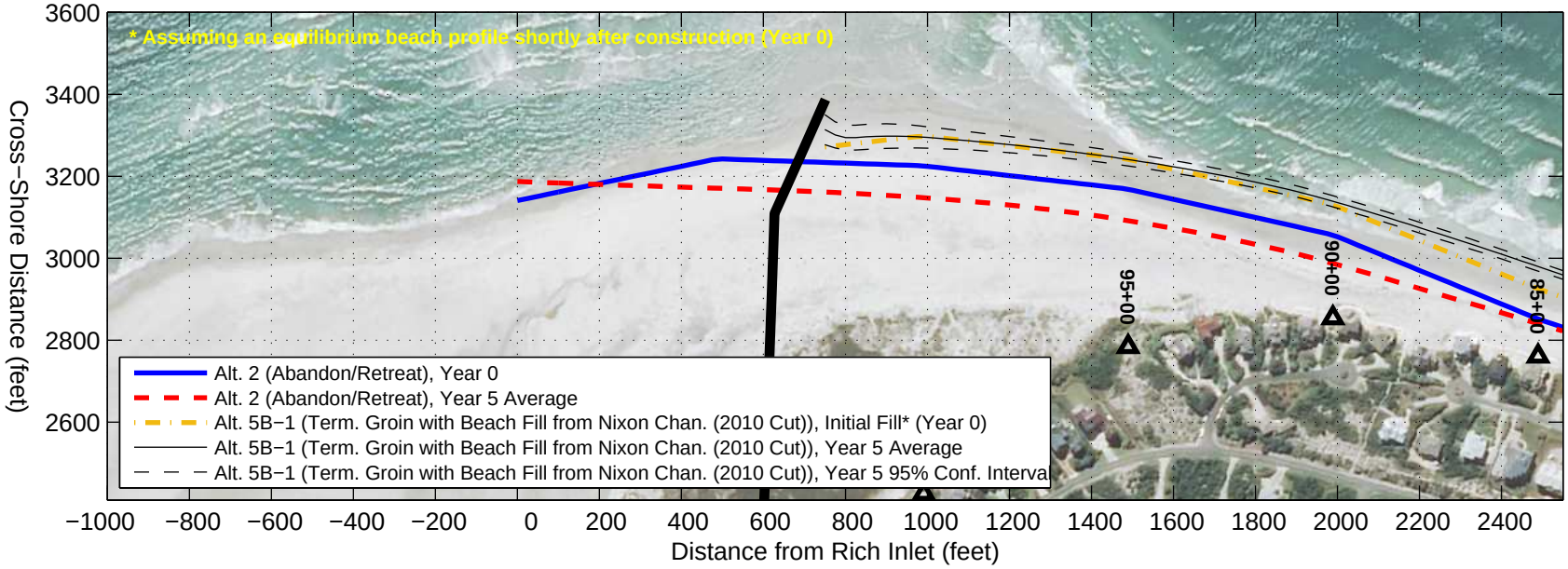

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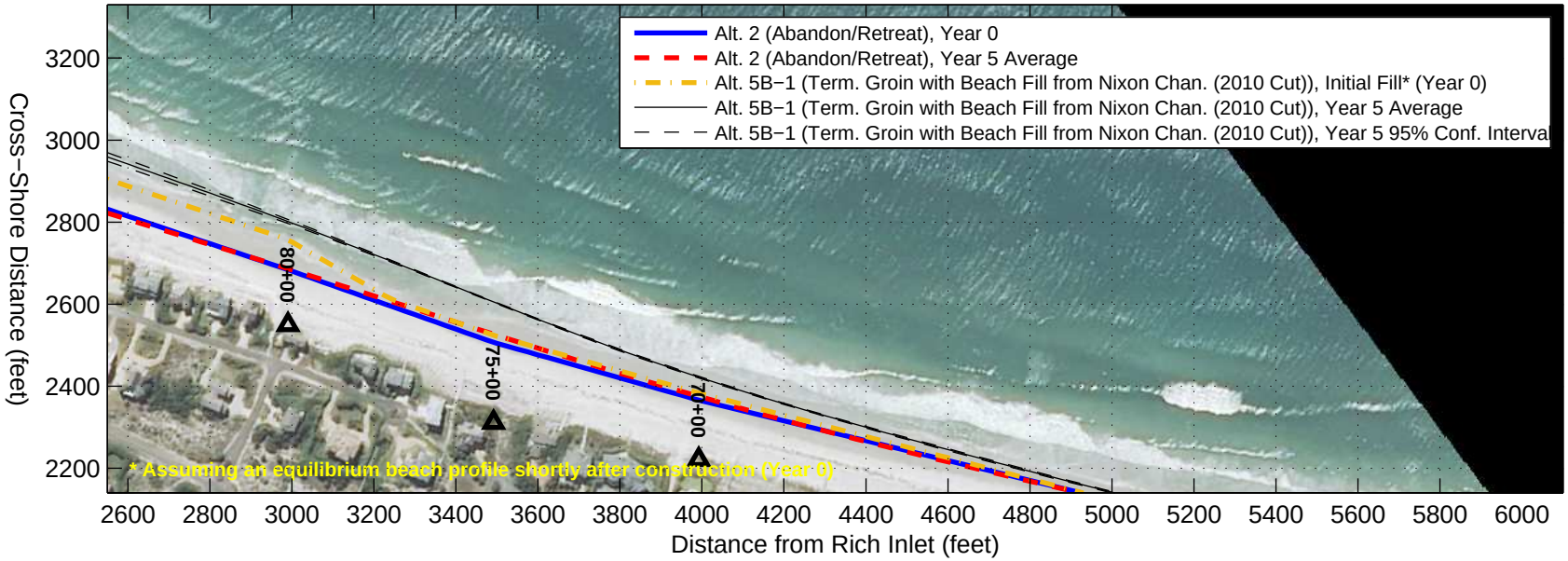

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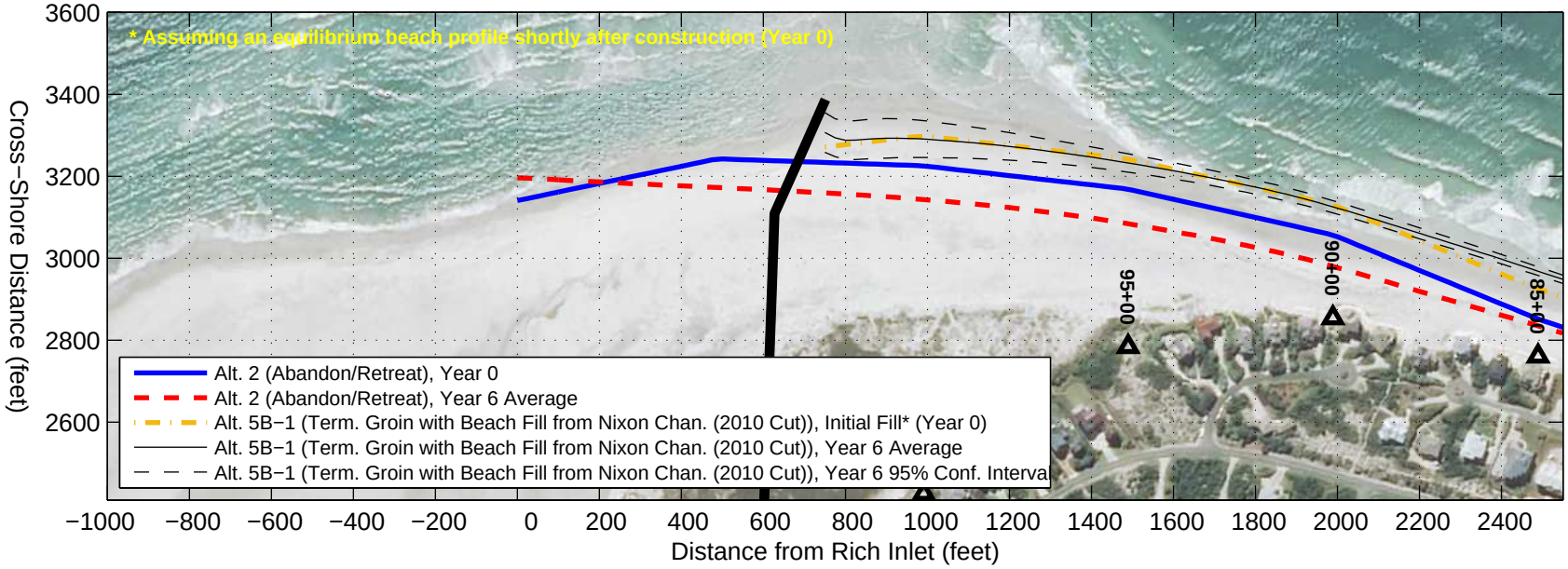

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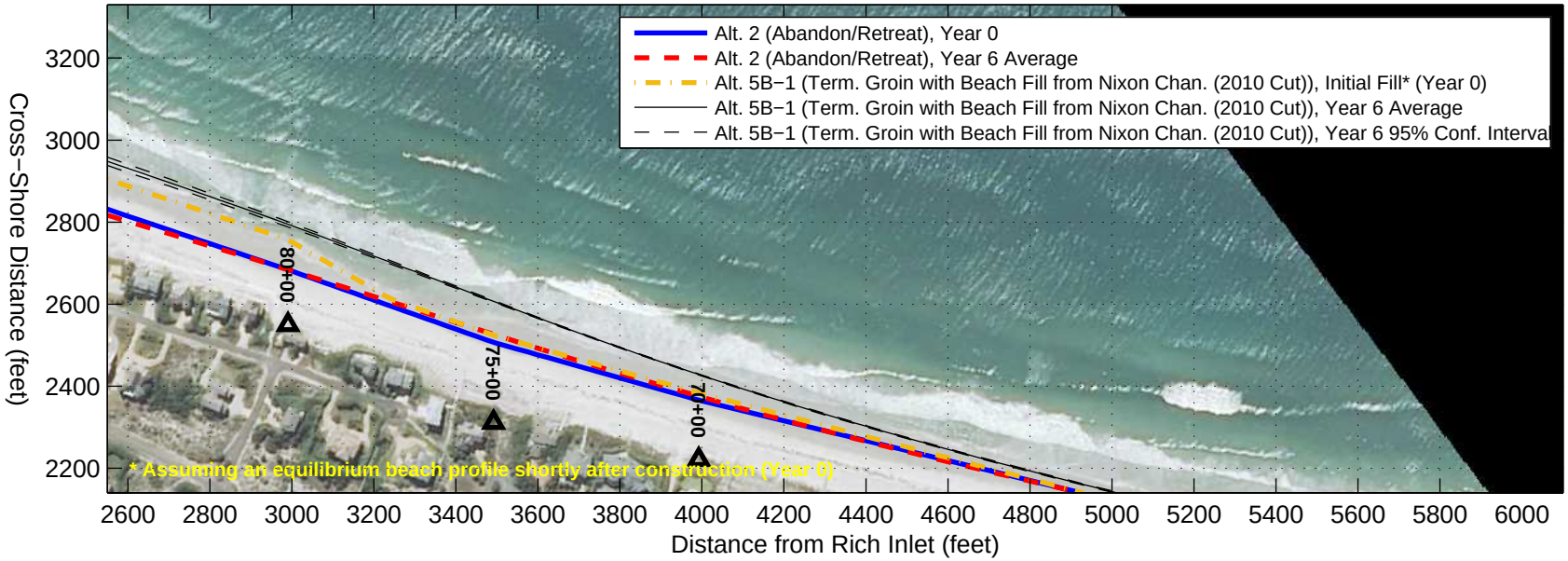

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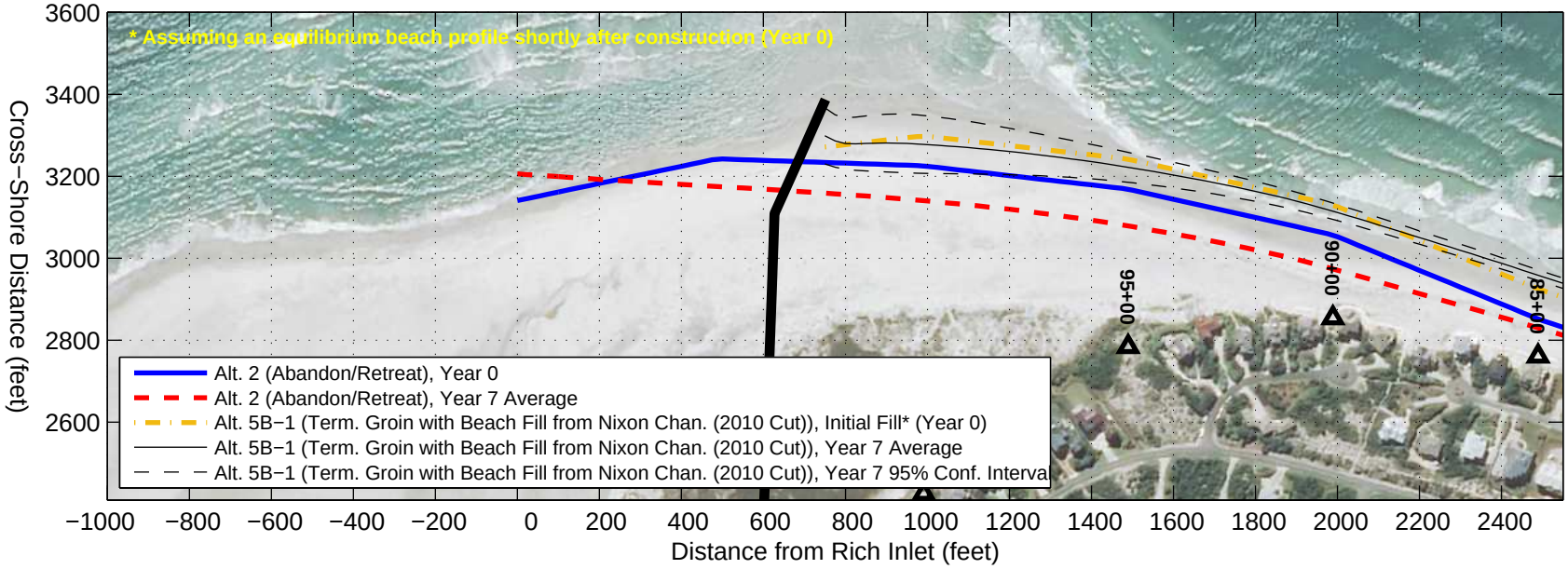

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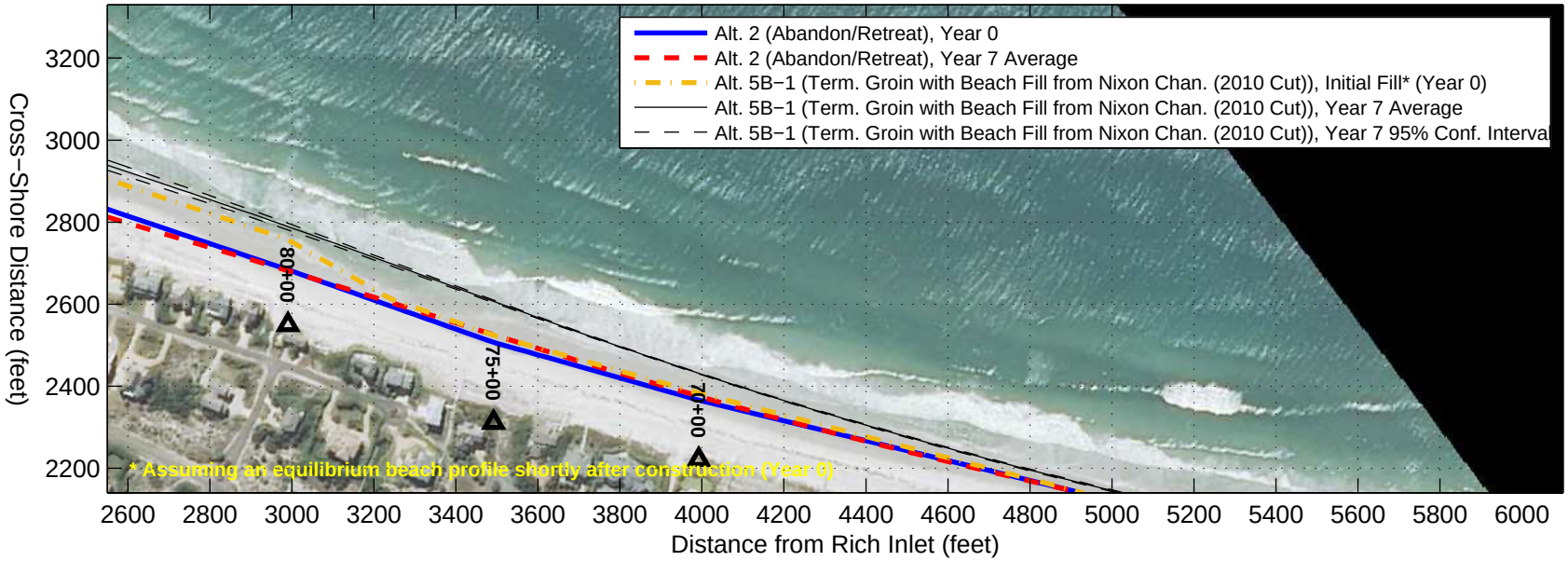

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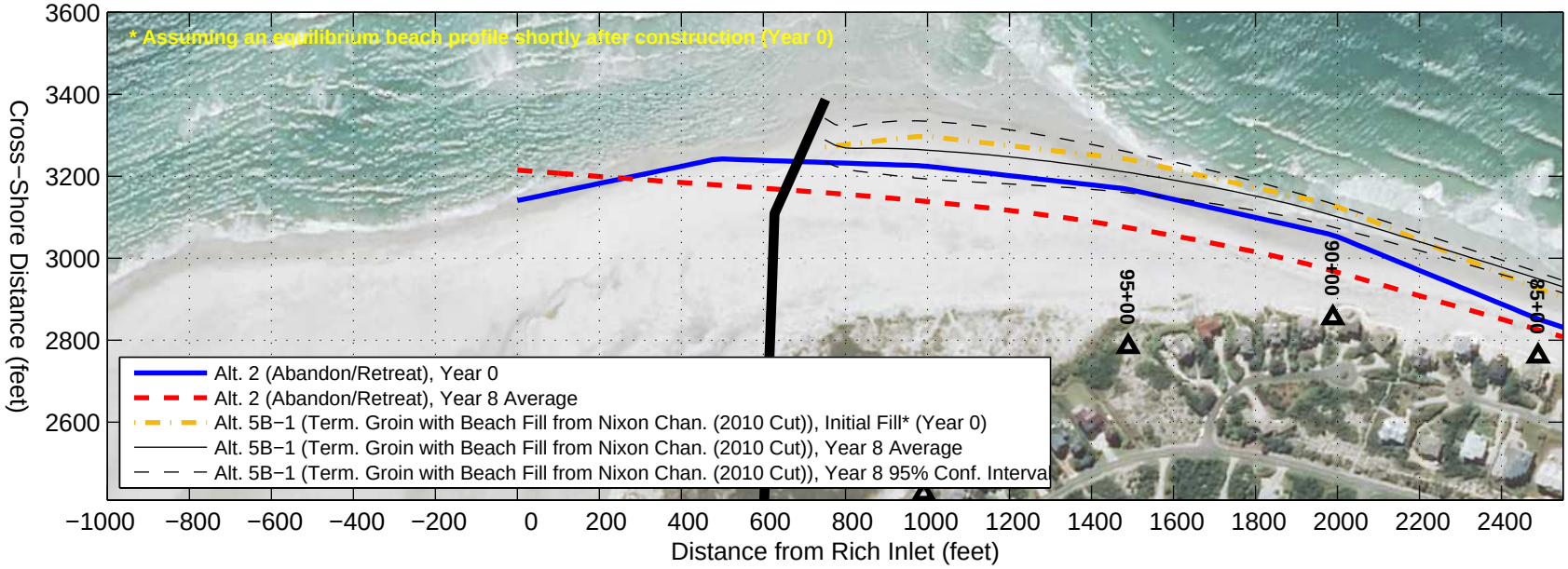

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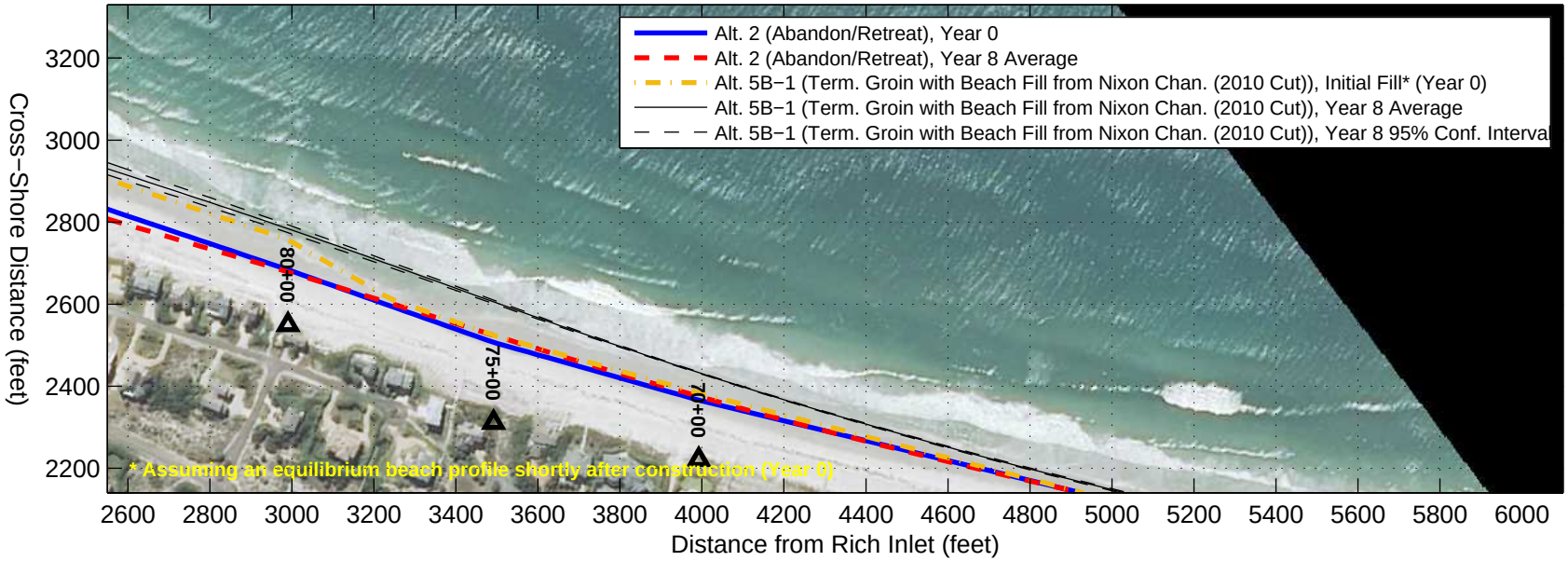

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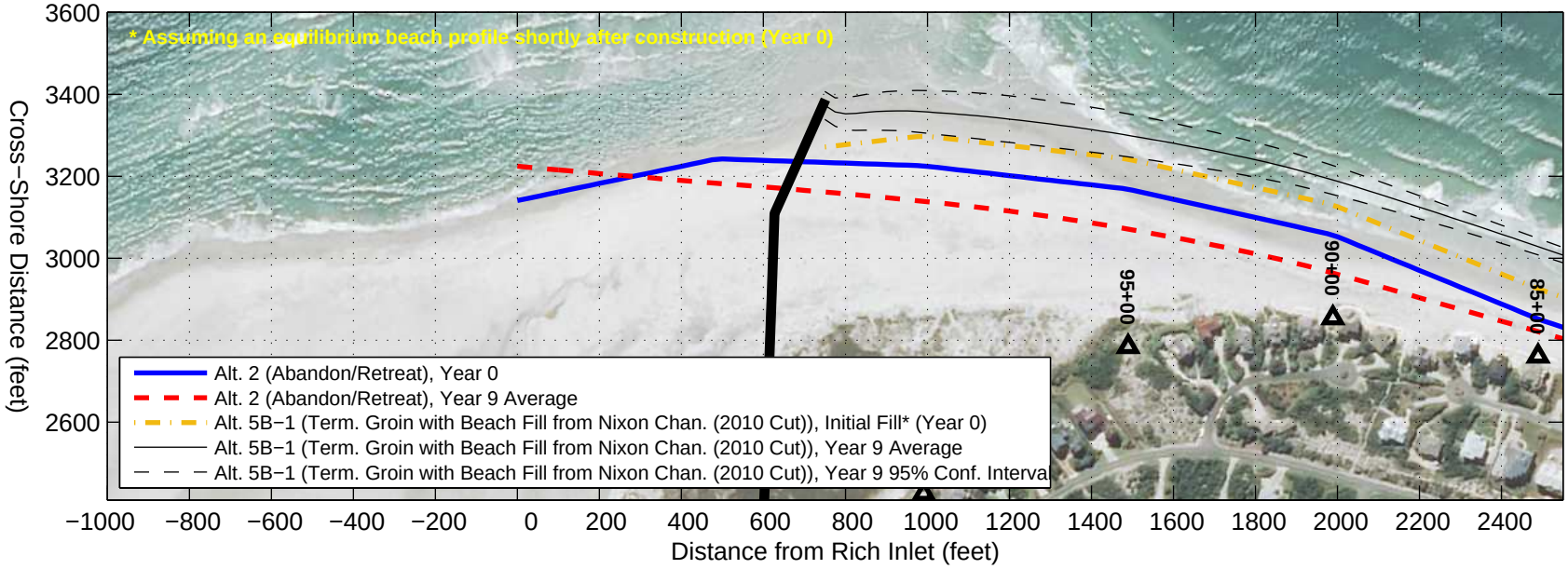

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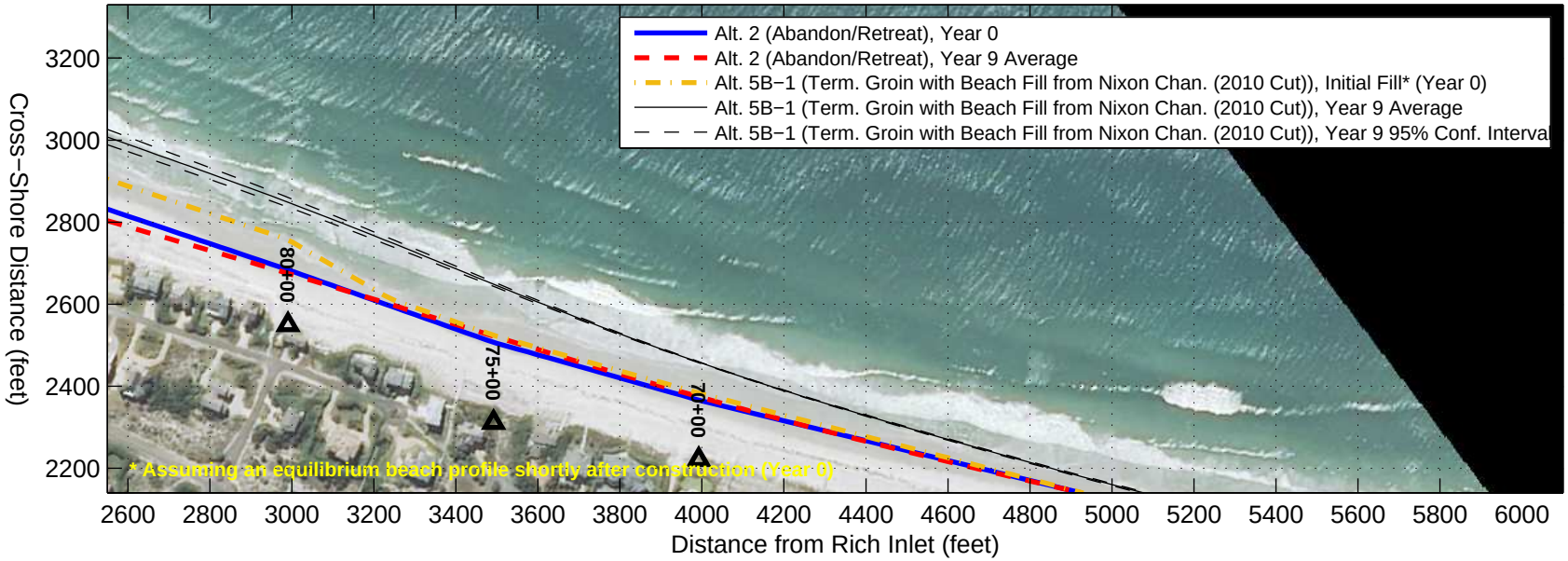
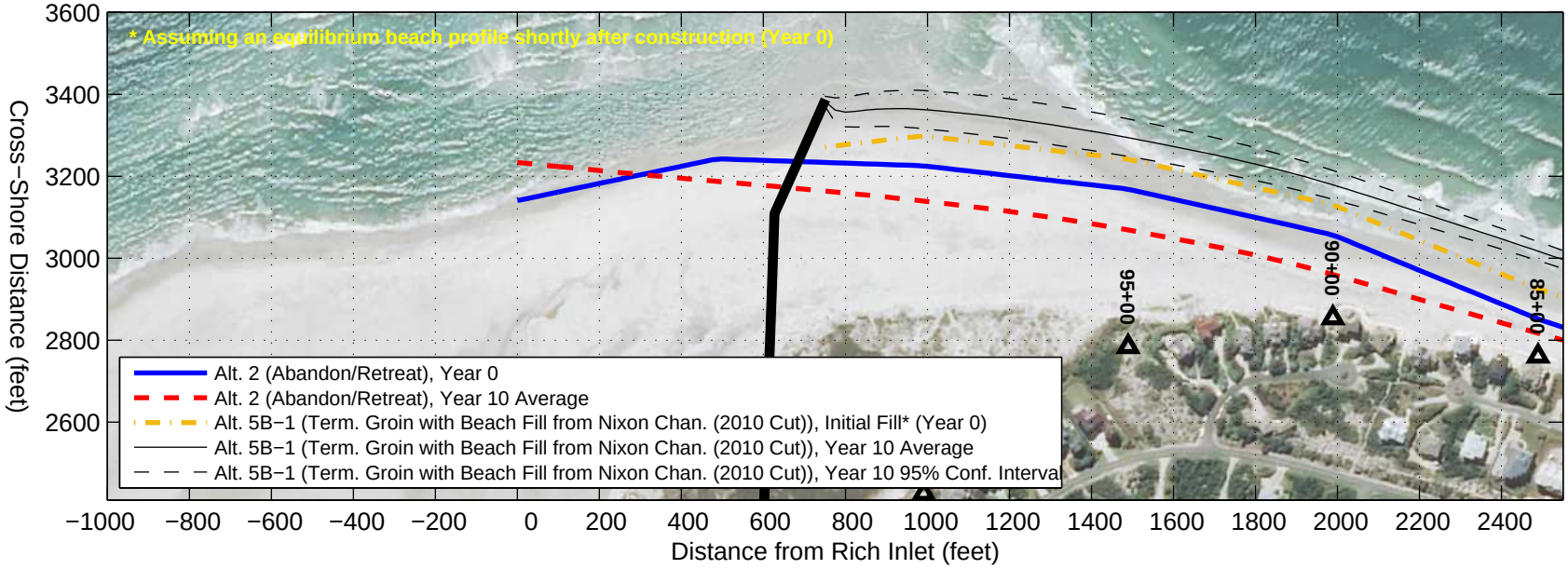


Alt. 5B−1 (Term. Groin with Beach Fill from Nixon Chan. (2010 Cut)) GENESIS Results with Aug. 2012 Aerial Photograph (http://datagateway.nrcs.usda.gov/)



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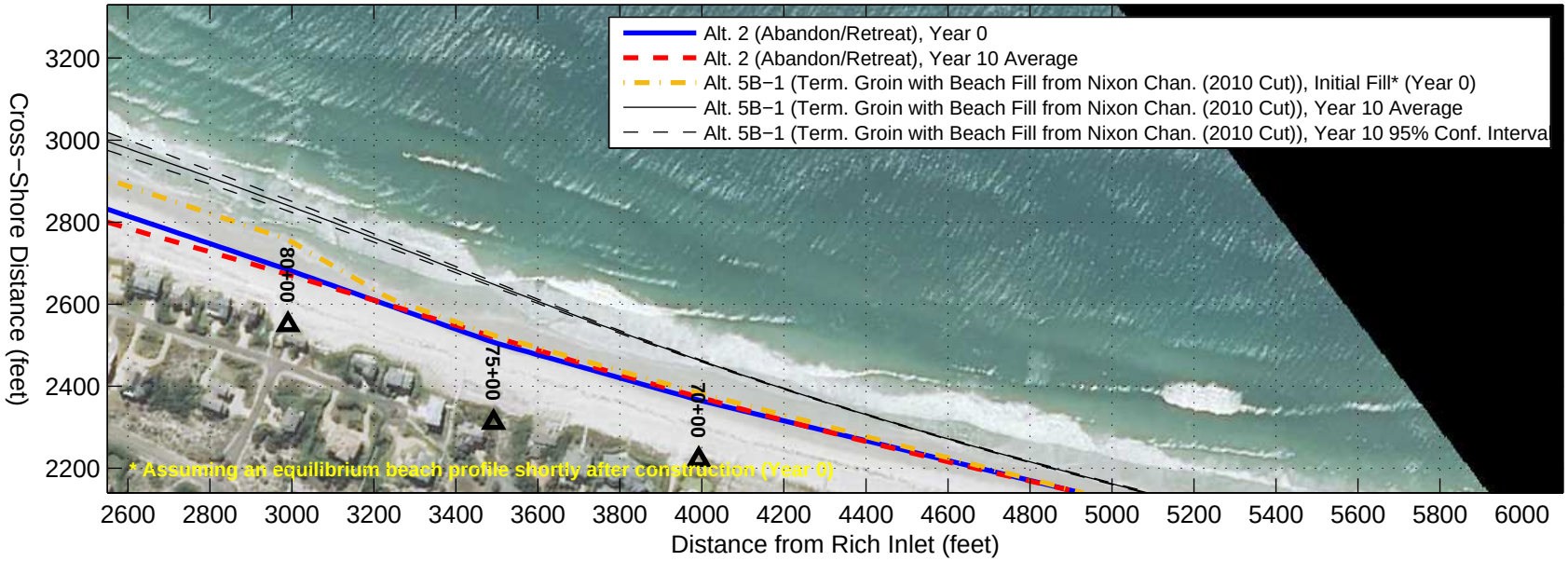

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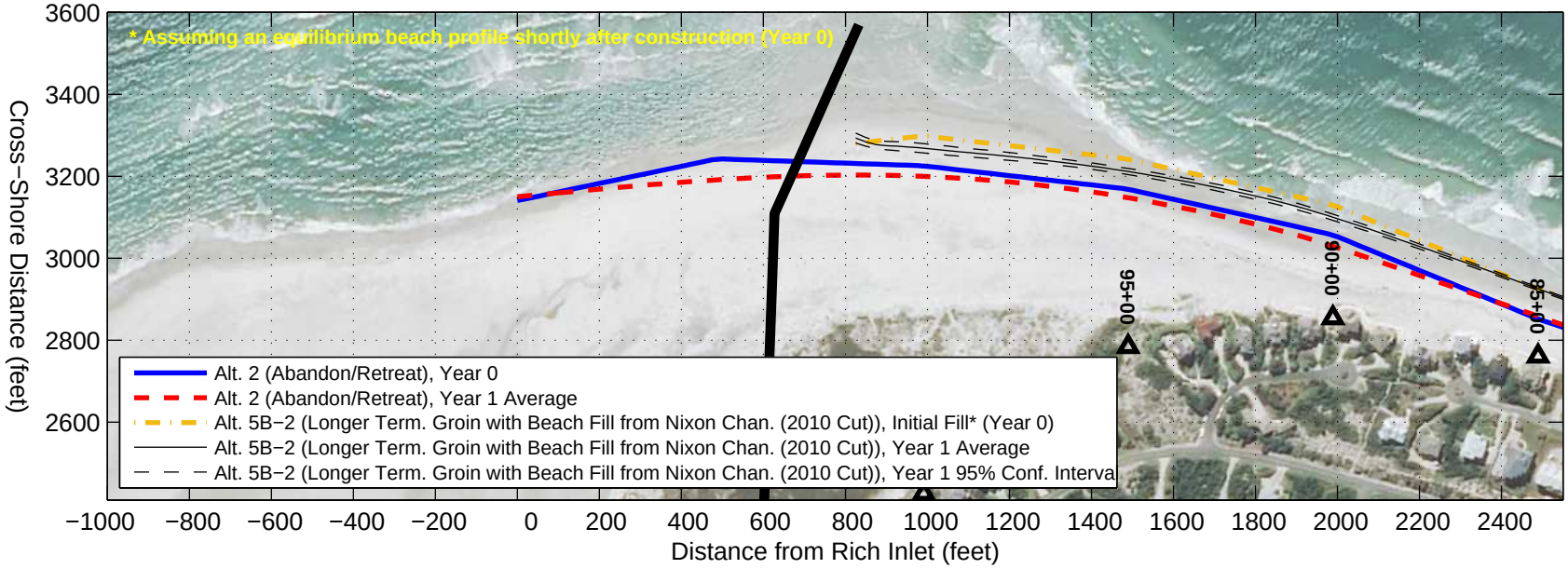

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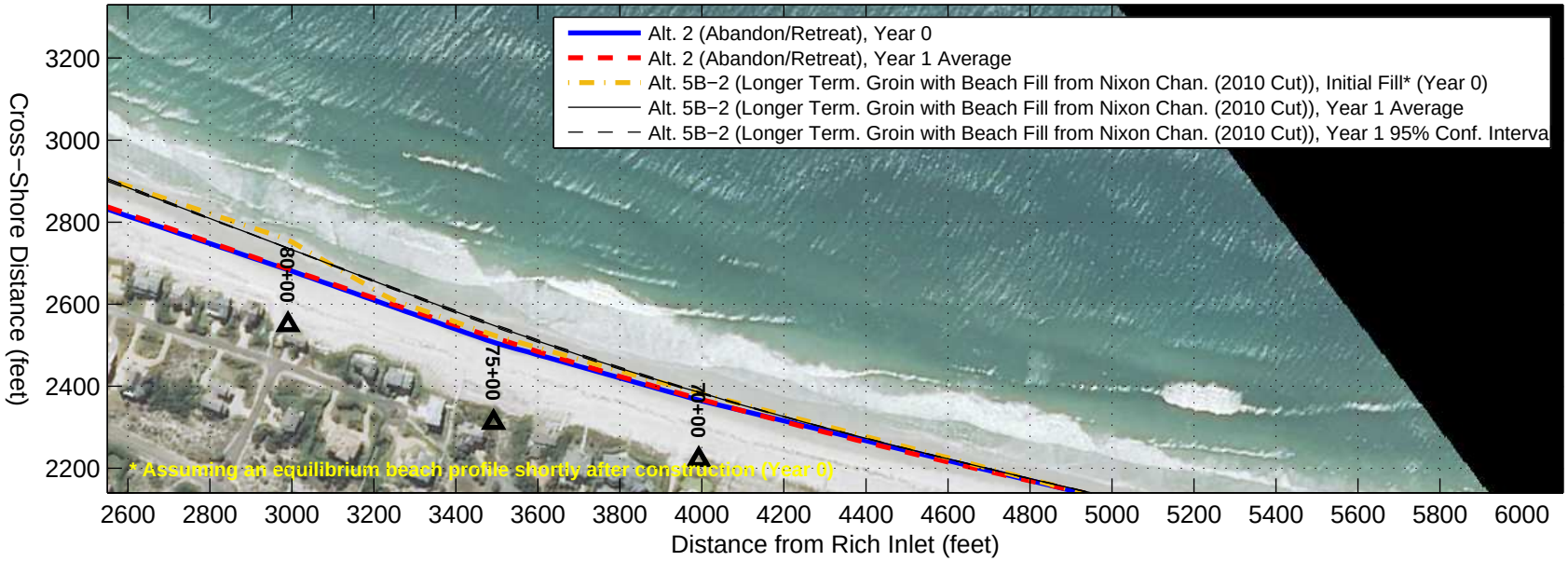

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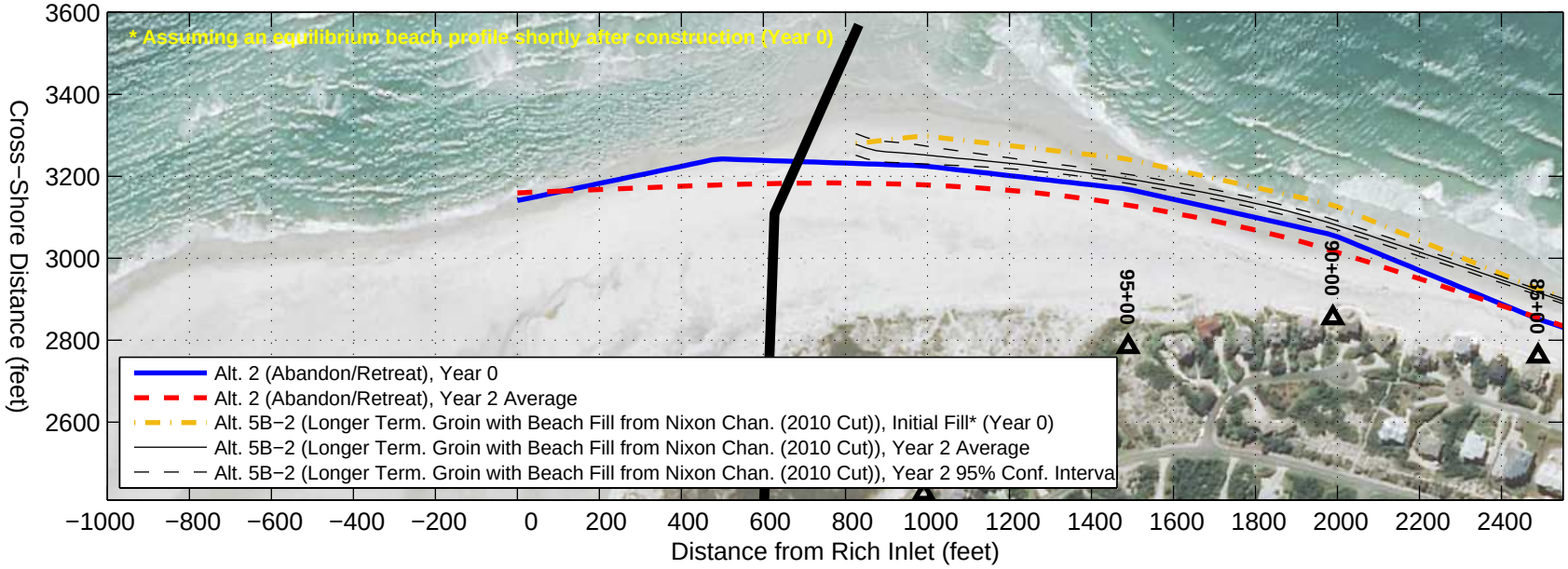

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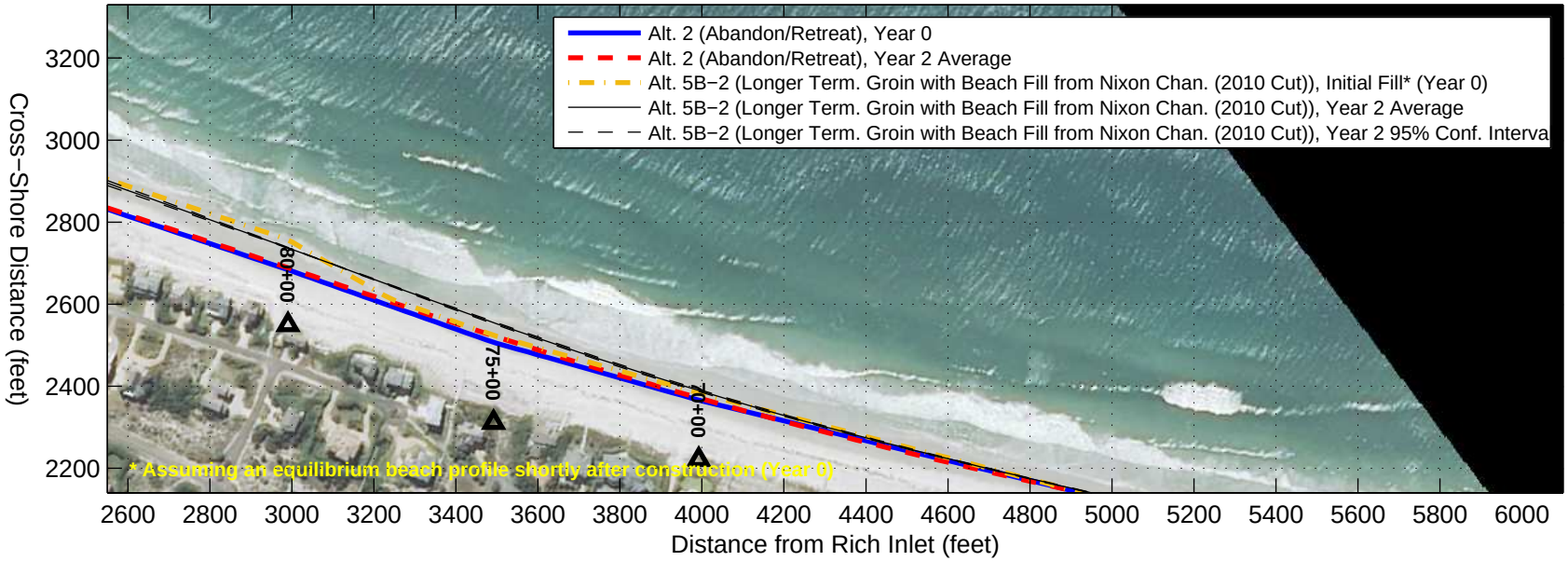

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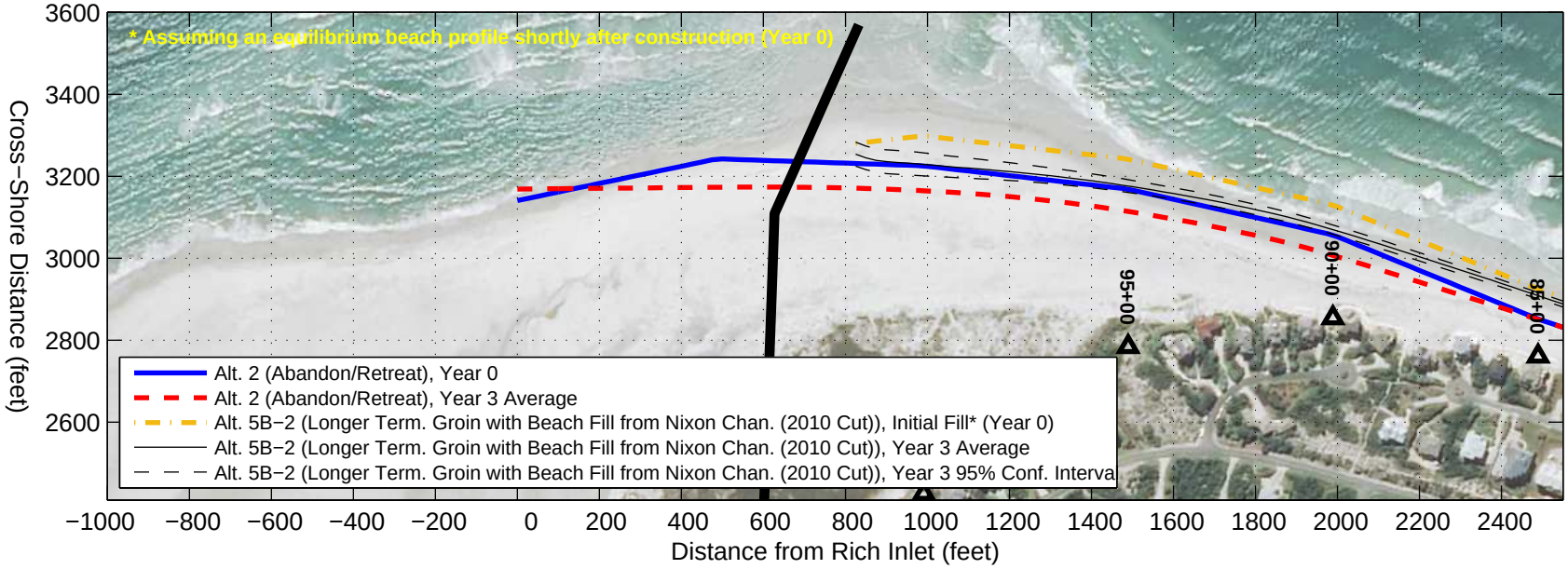

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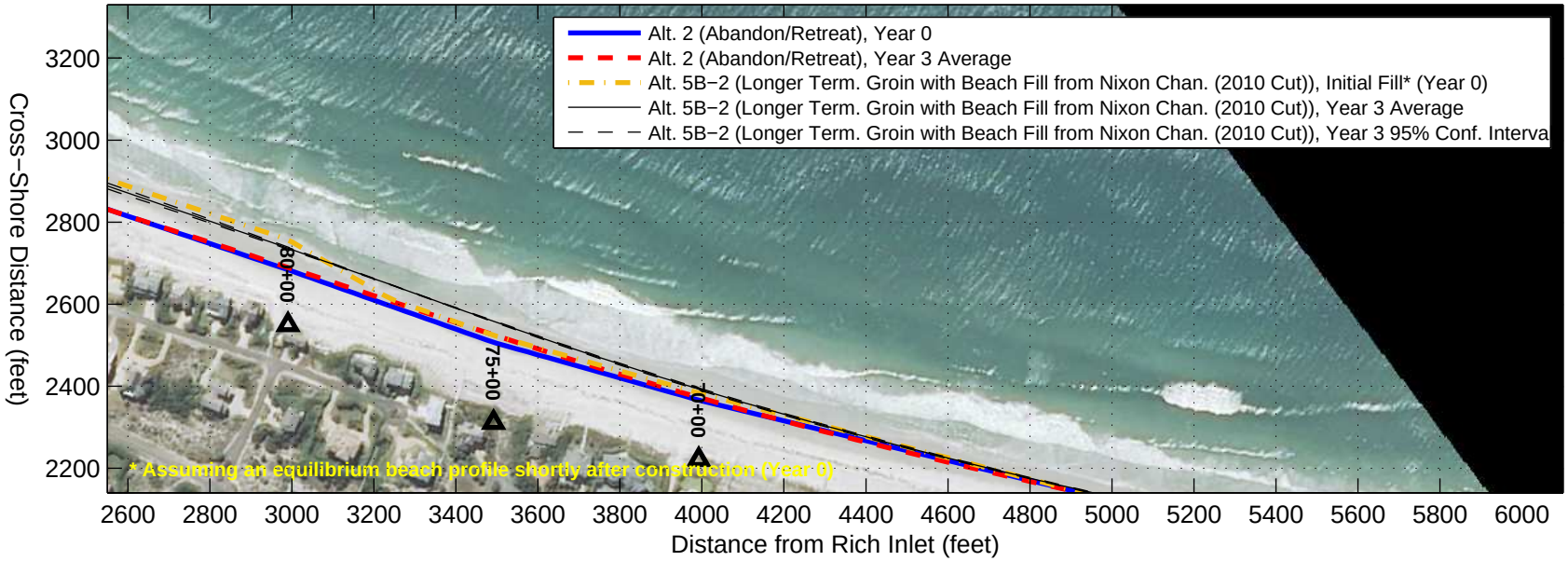

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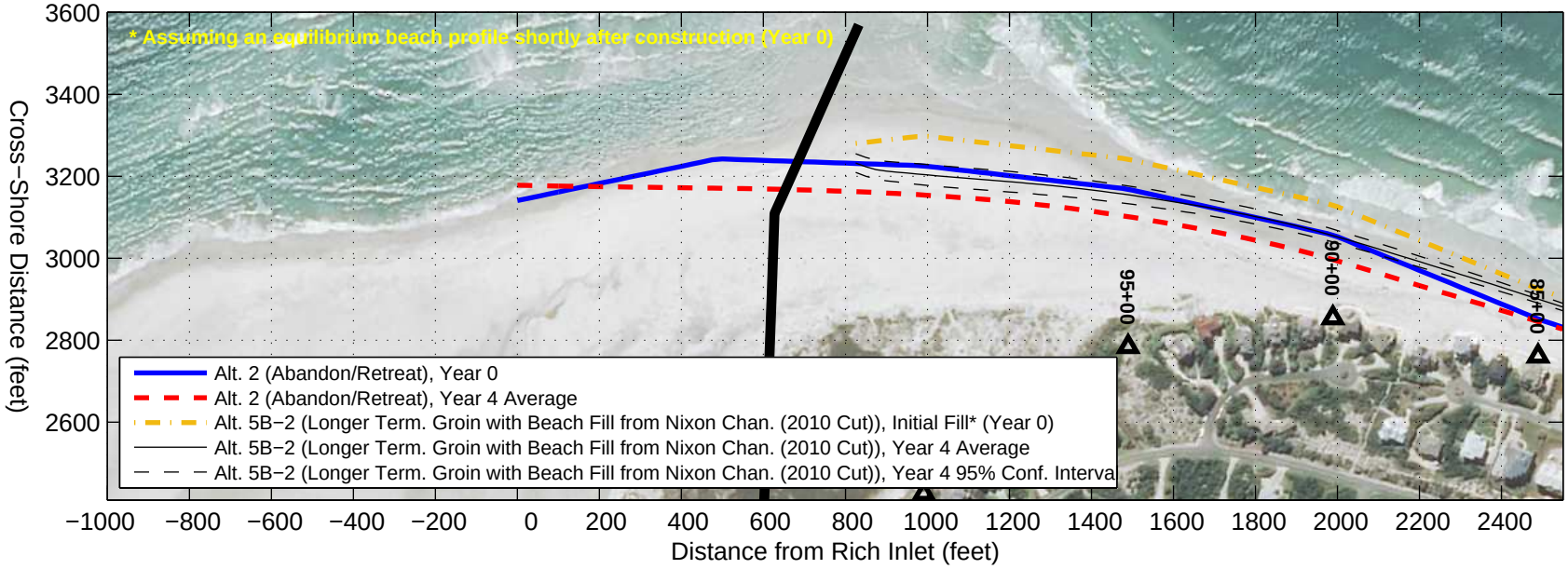

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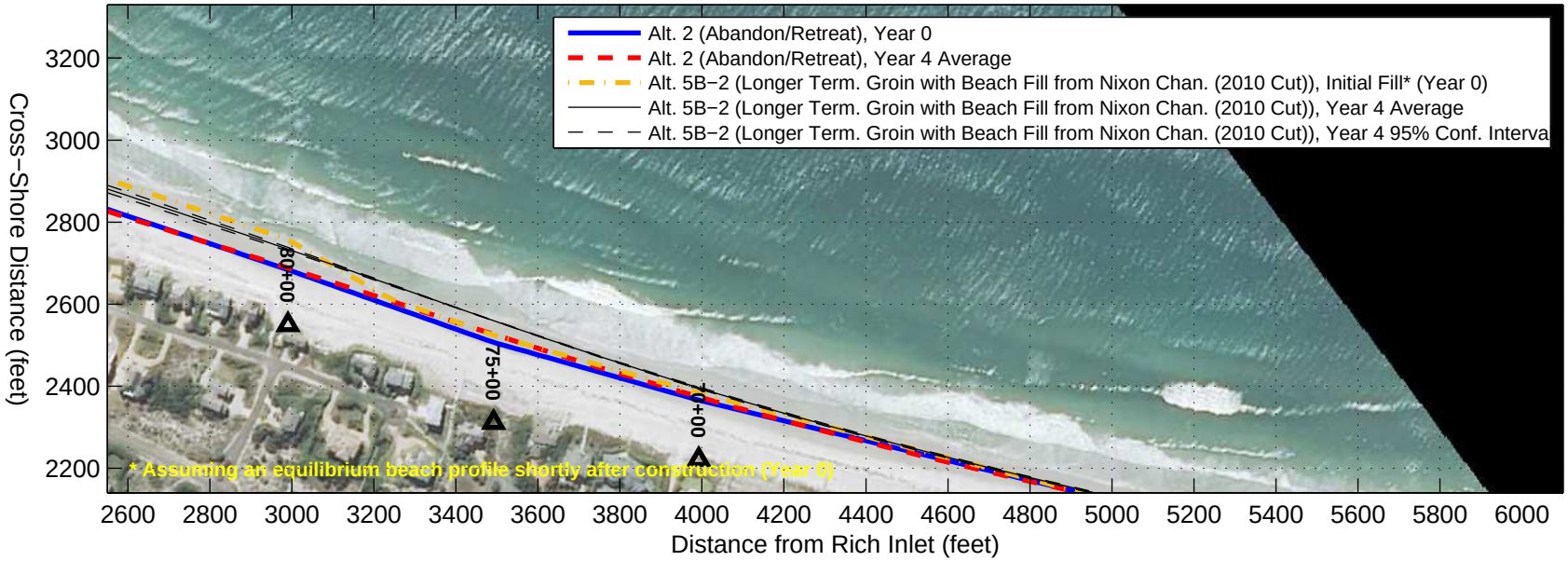

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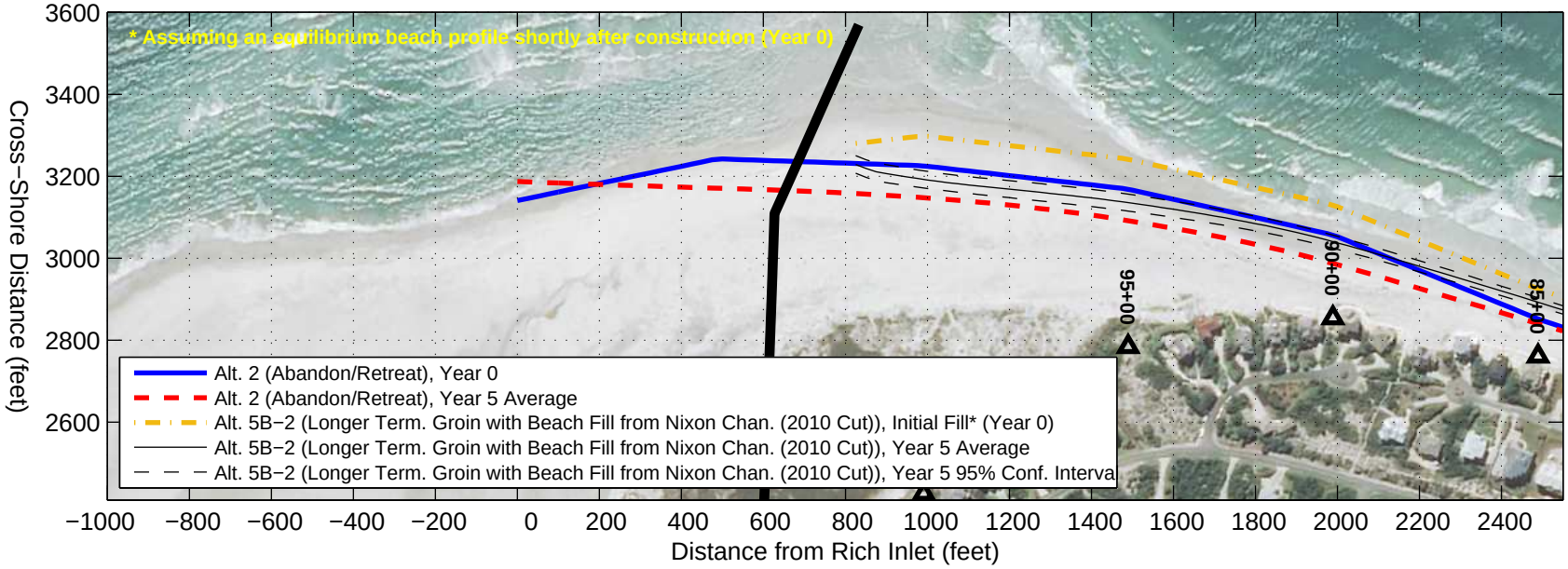

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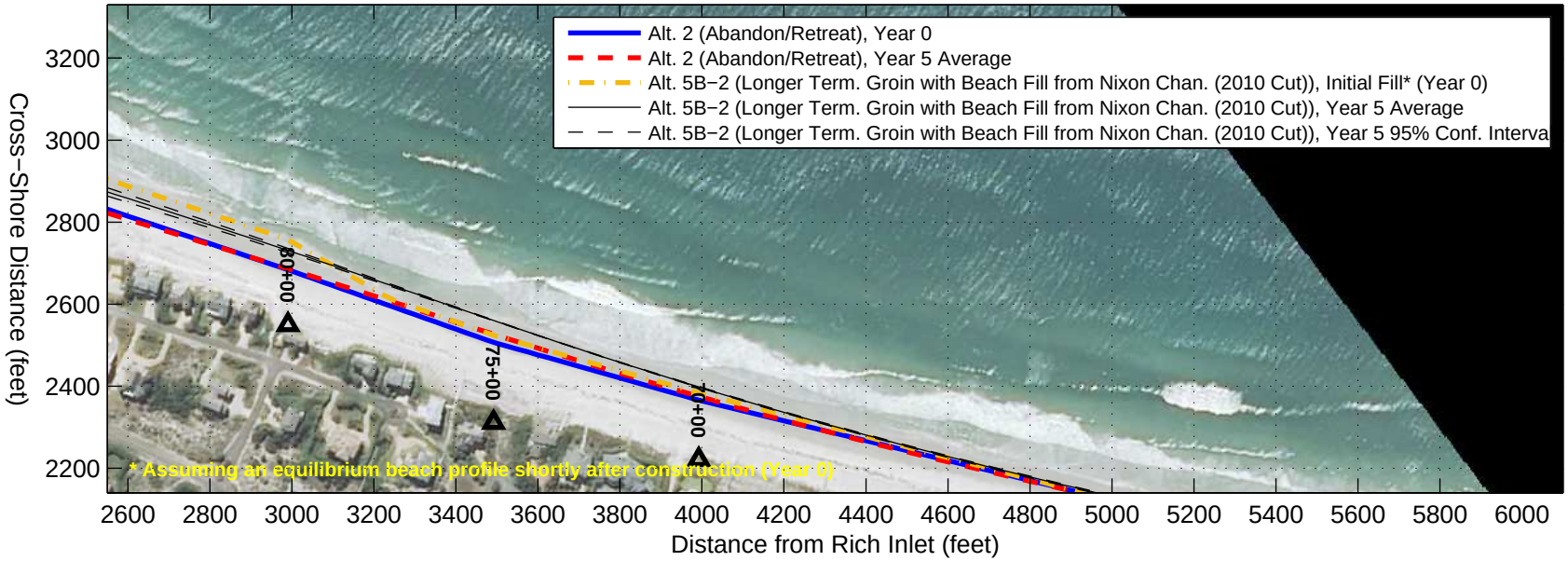

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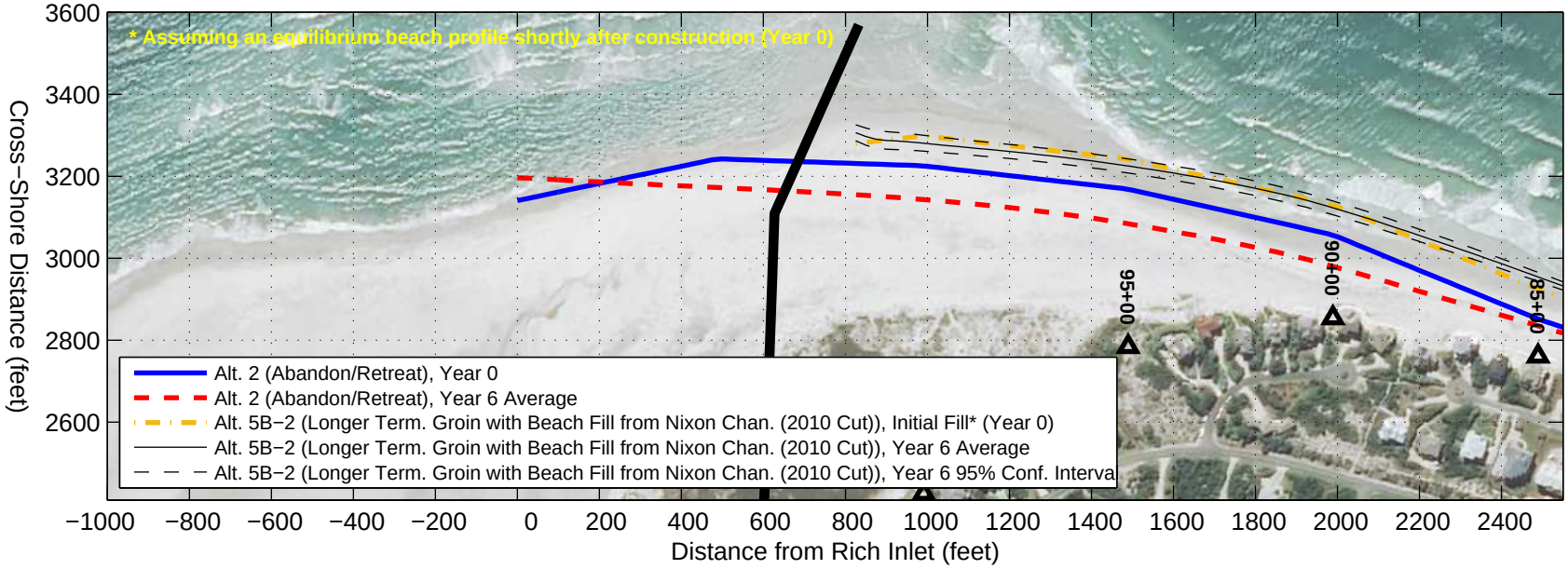

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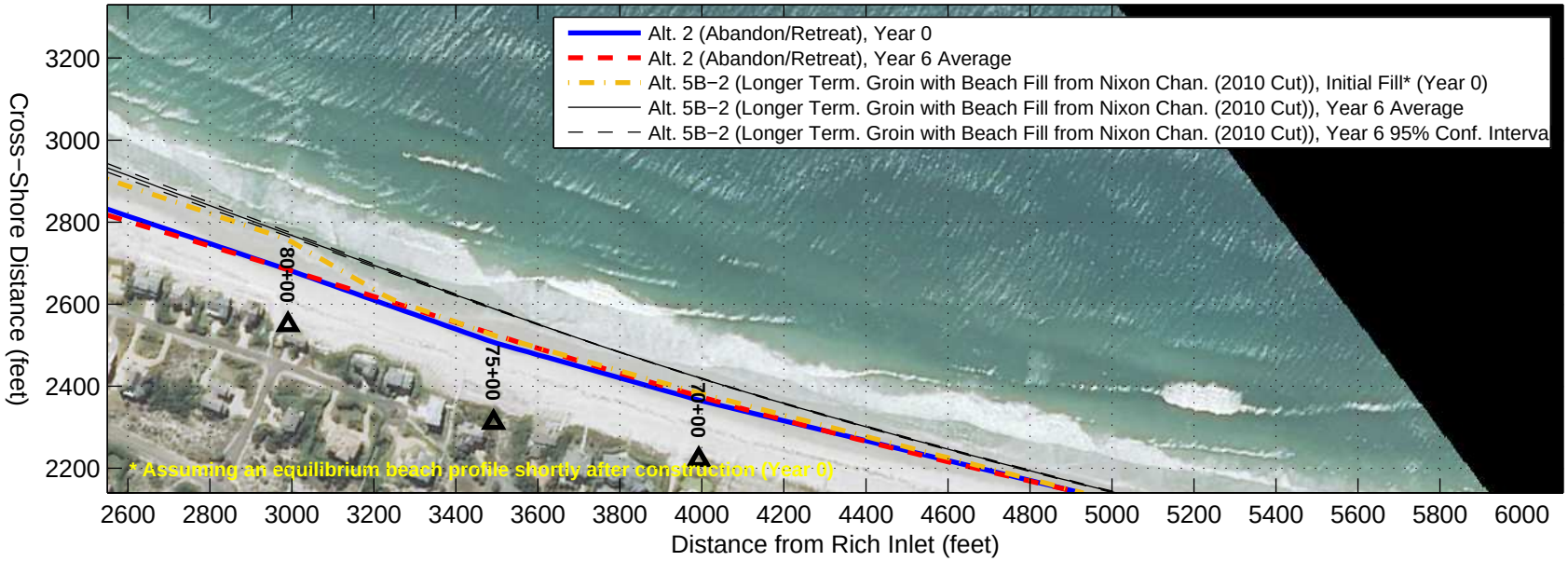

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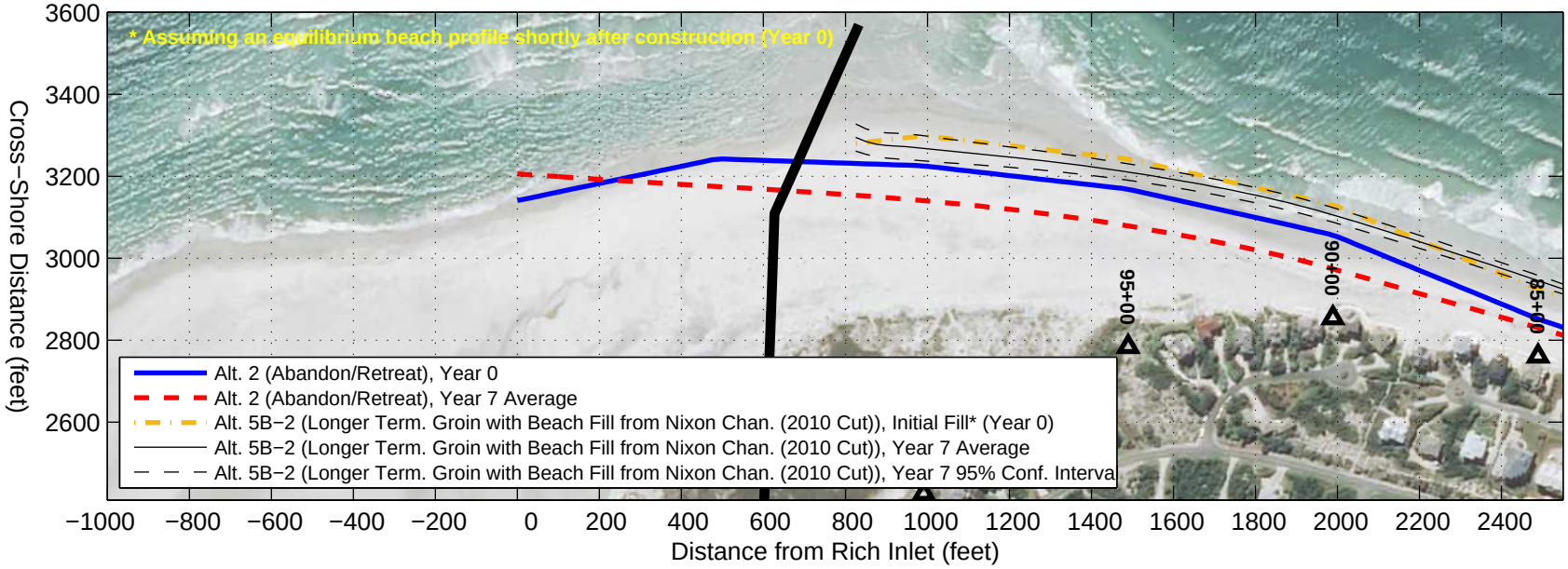

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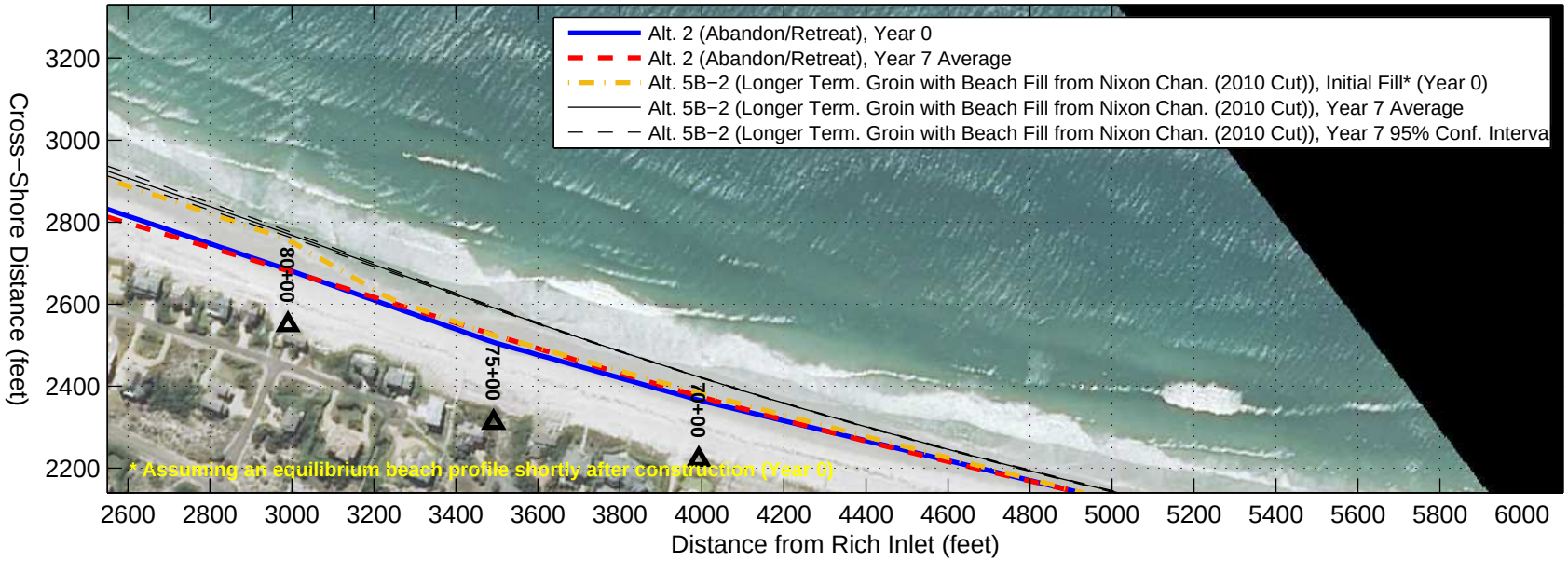

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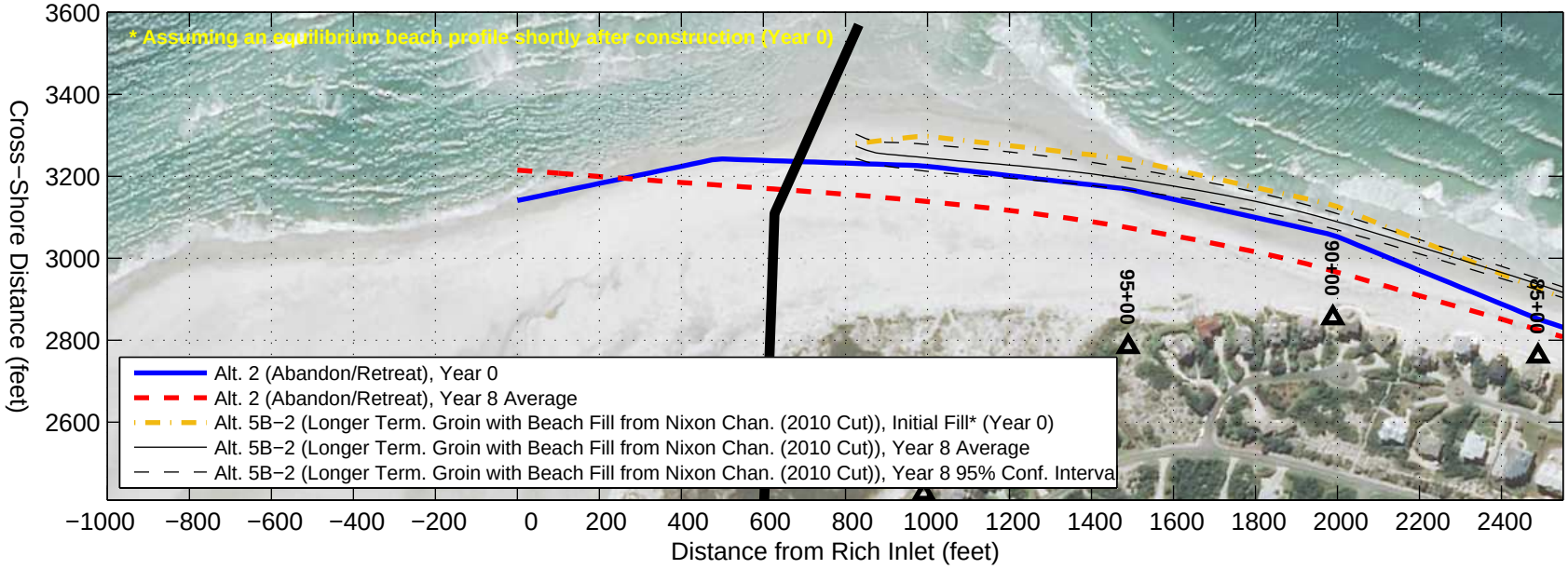

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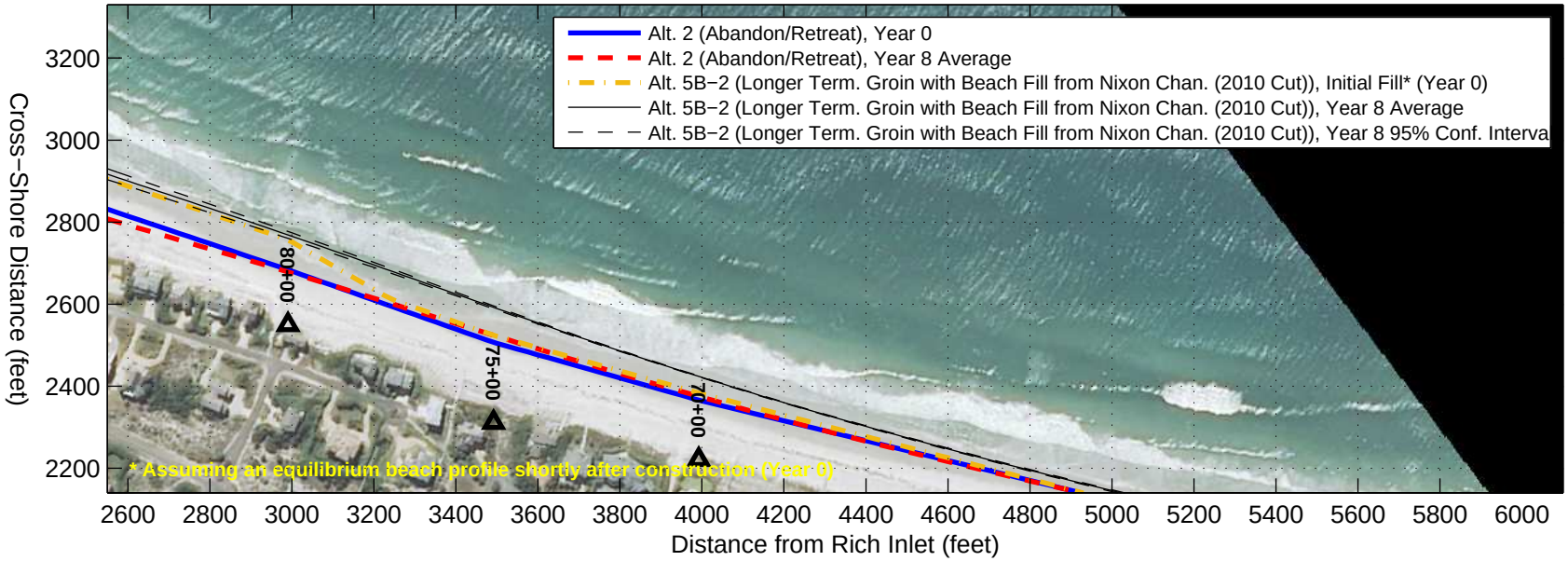

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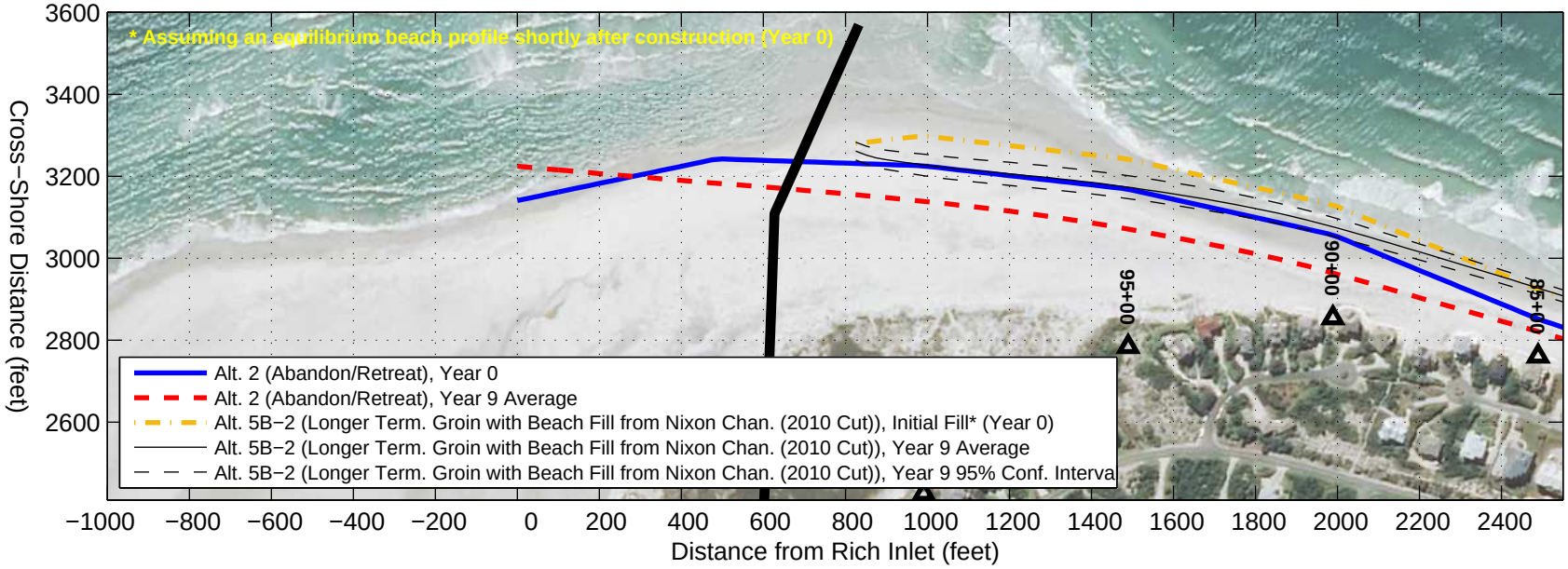

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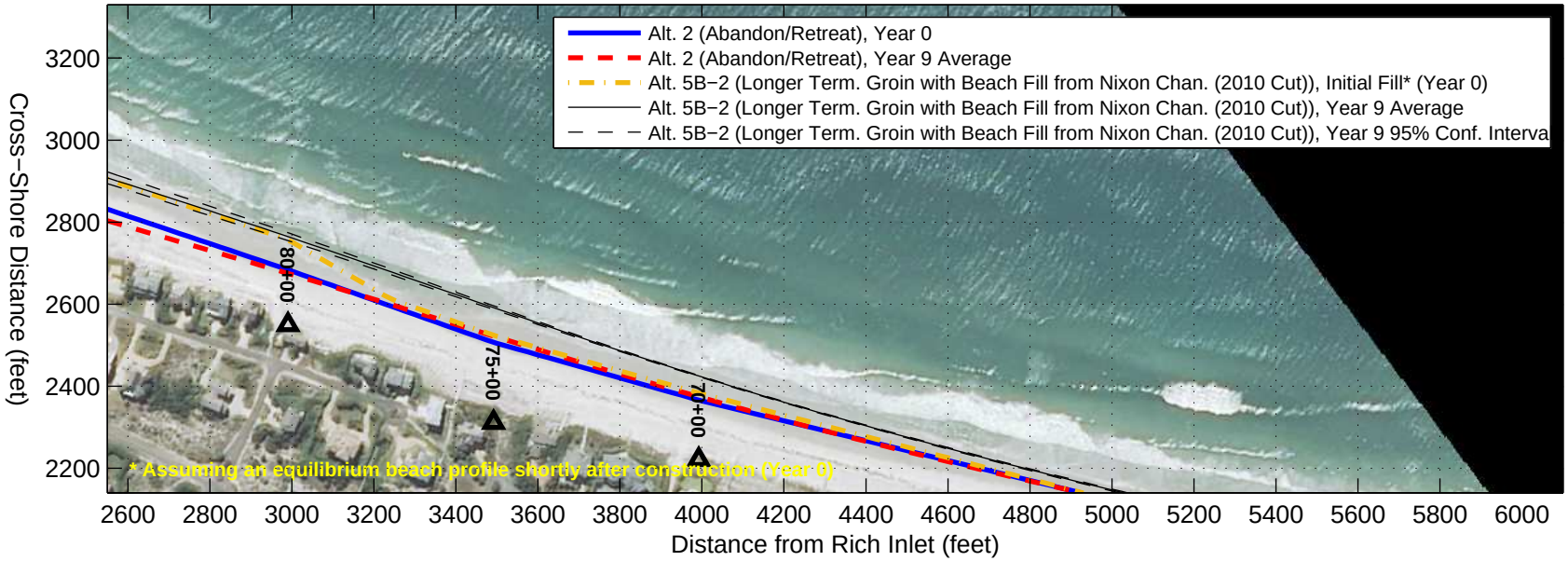

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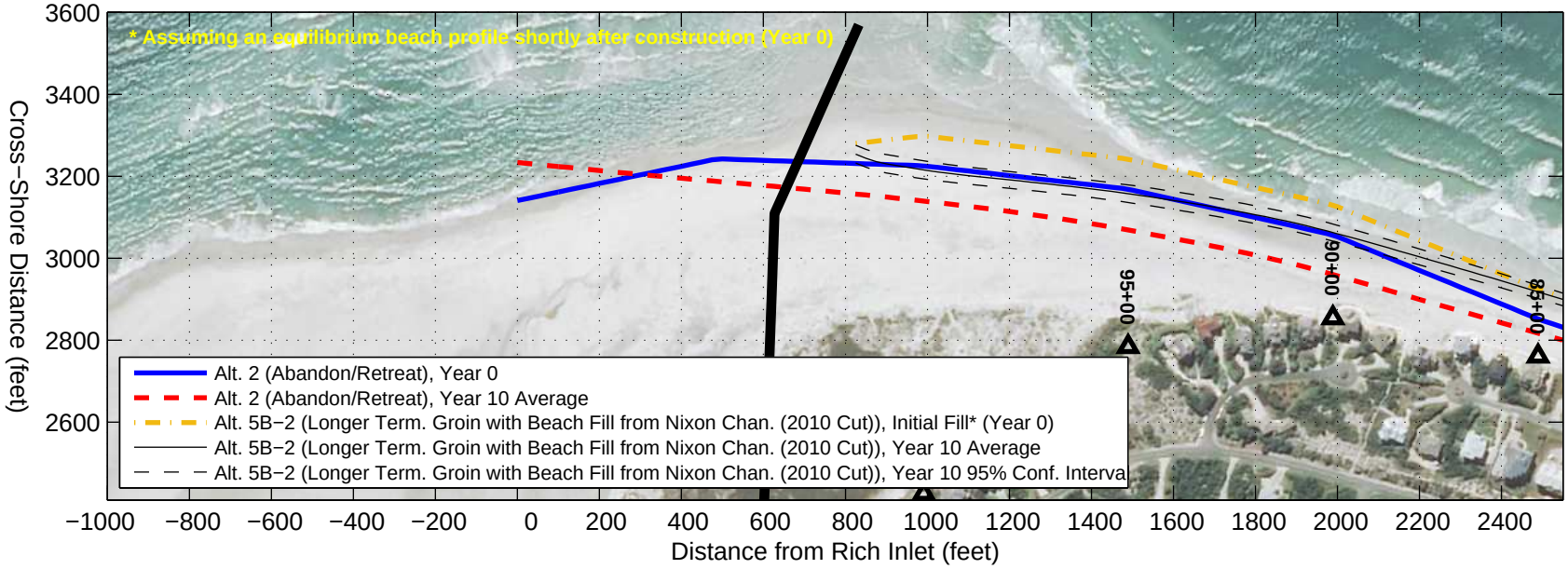
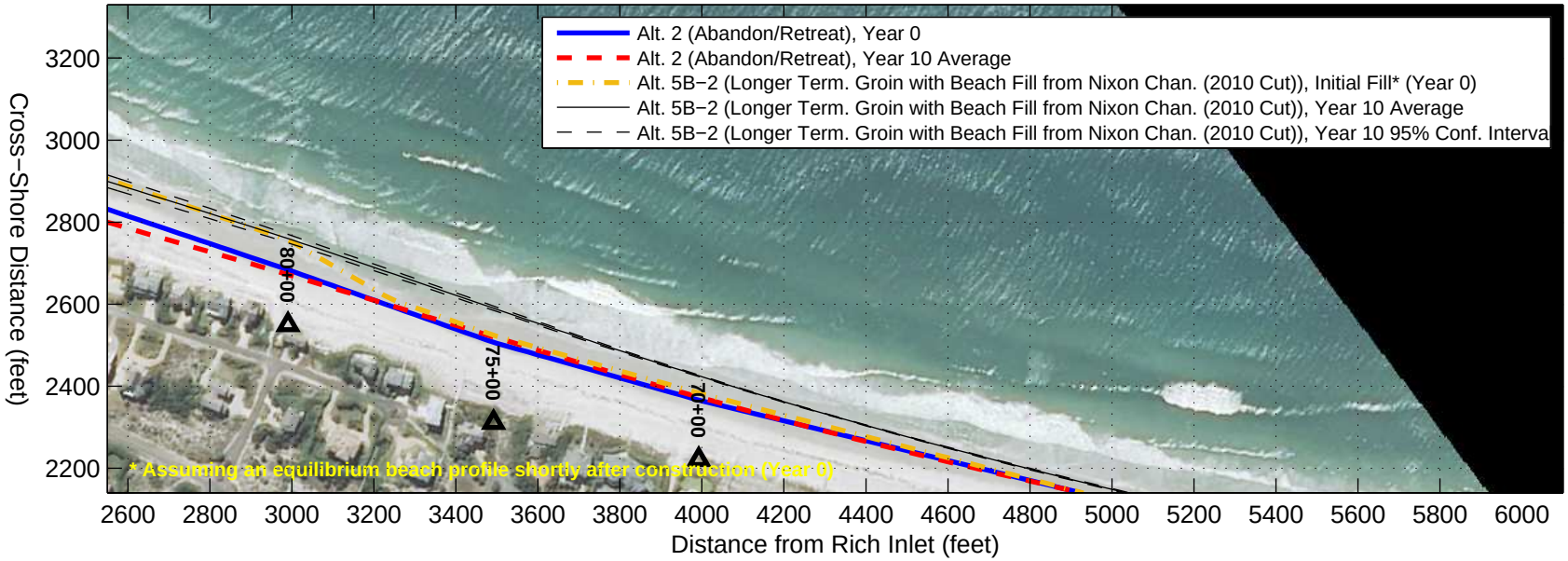
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