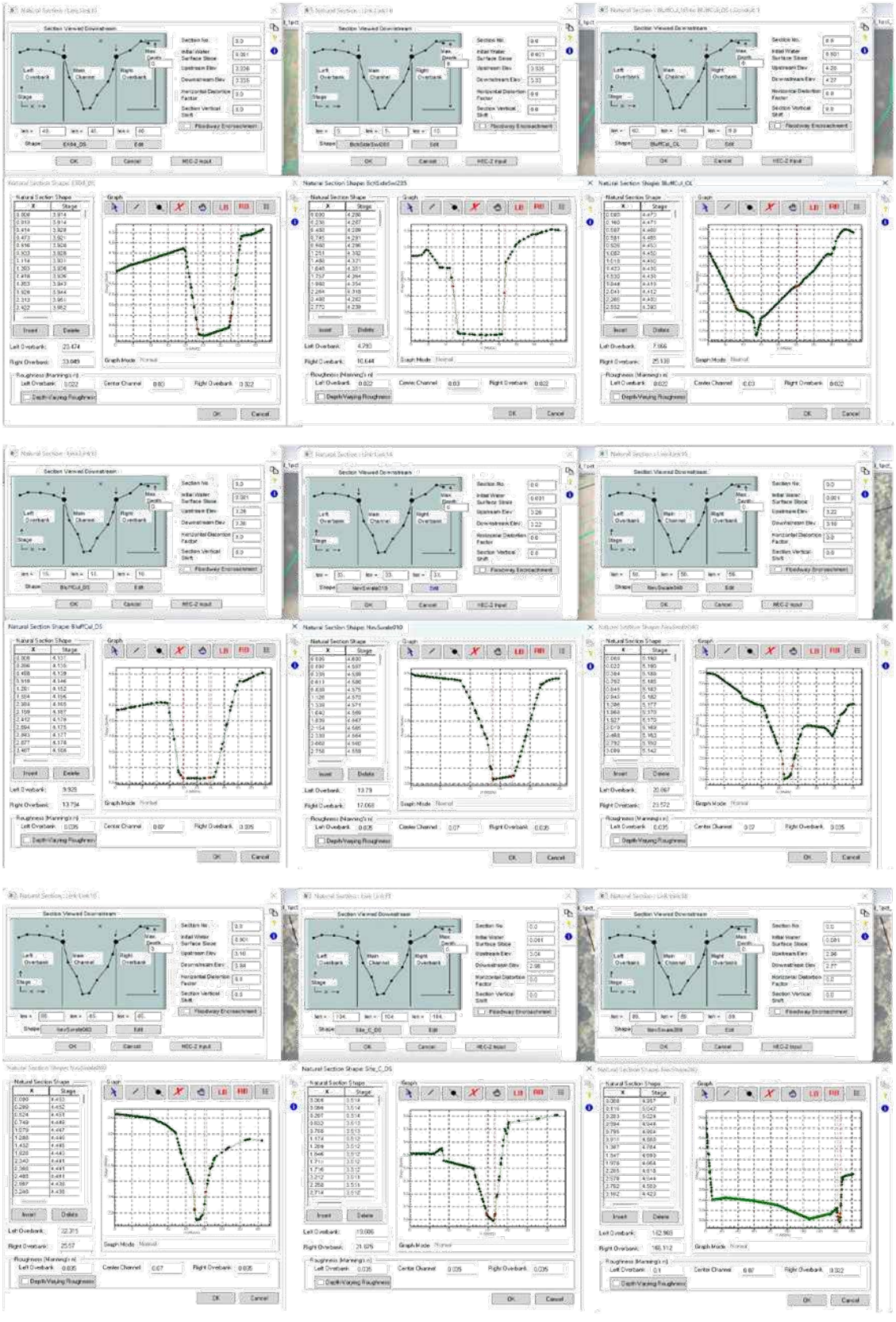
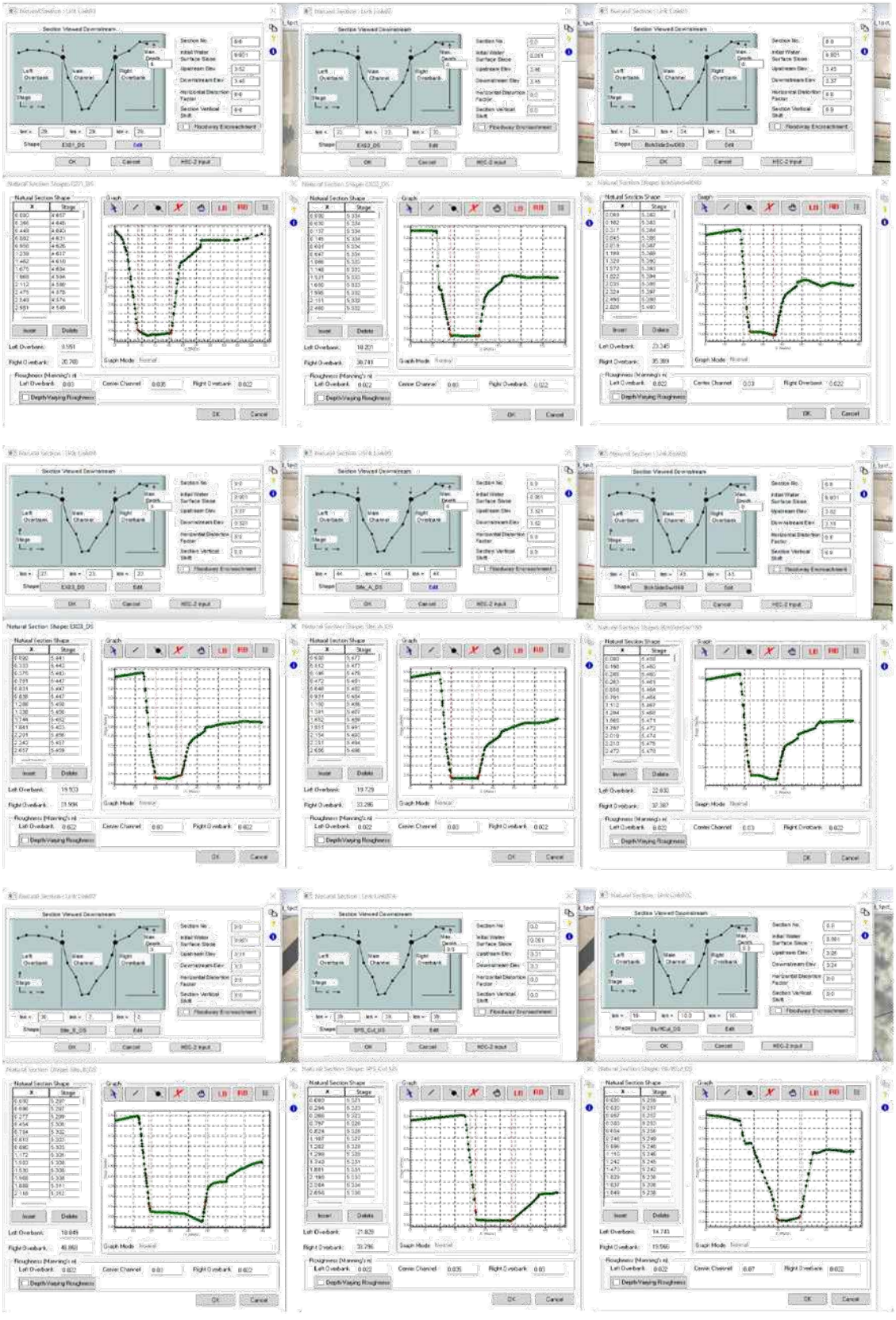
25-0703.FIA-01A JULY 2025

PRE-DEVELOPMENT MODEL LINKS 10 TO 18



POST-DEVELOPMENT MODEL LINKS 01 TO 07C

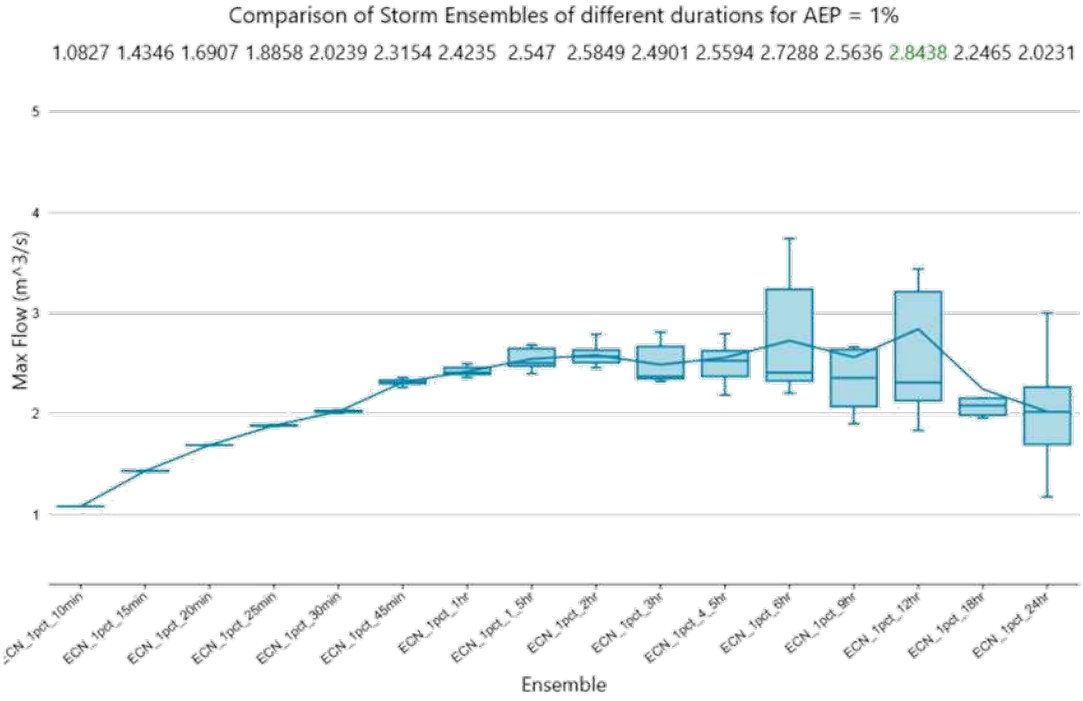


POST-DEVELOPMENT MODEL LINKS 11 TO 18

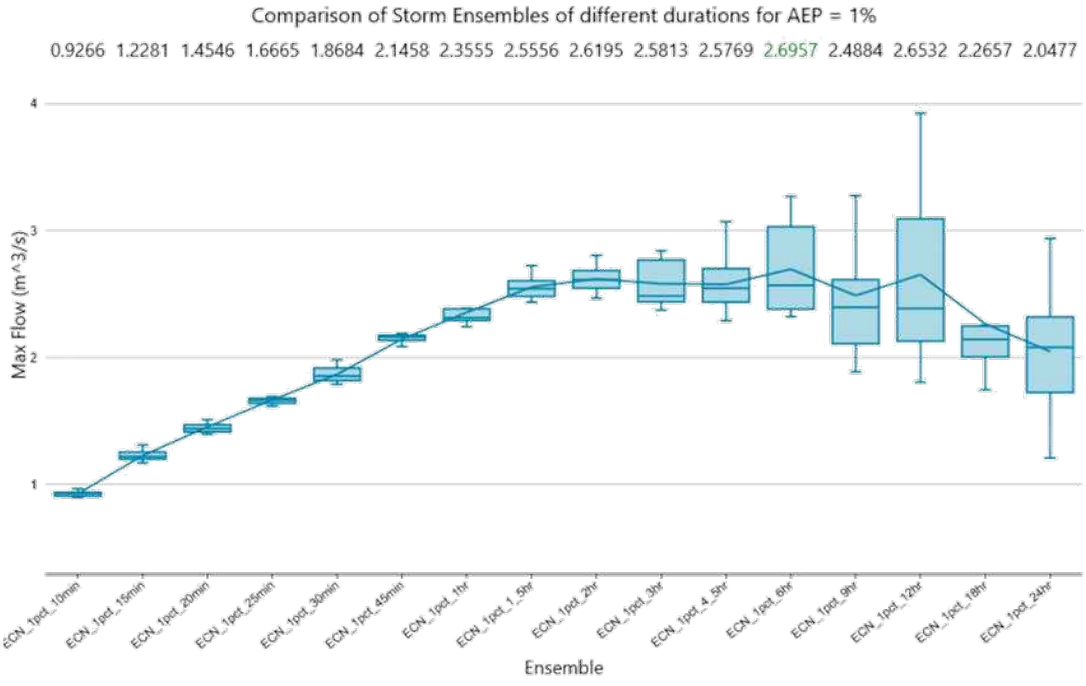
APPENDIX D

LINK 18 BOX & WHISKER PLOTS OF 1% AEP ENSEMBLE STORMS

PRE-DEVELOPMENT – LINK 18 Peak Flows



POST-DEVELOPMENT – LINK 18 Peak Flows



APPENDIX E

DESIGN SCENARIO XP-SWMM PRE-DEVELOPMENT MODEL RESULTS OUTPUTS FOR ALL AEP EVENTS AND ENSEMBLES

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                    INNOVYZE ENSEMBLE STATISTICS UTILITY
                       (c) Innovyze 2020

Summary information:

     Total No. of Ensembles:      532
     No. of Storms per ensemble: 10
     No. of AEP Bands:           9
     Object Name:                GS_1
     Result type:                Max Water Elevation


Results:

                AEP: 0.2EY = Max Water Elevation (m)

| Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_0.2EY_15min    | 3.7802  | 3.7290  | 3.7546  | 3.7689  | 3.7855  | 3.7896  | 3.7835  | 3.7558  | 3.7880  | 3.7583   | 3.7934  | 0.0503    | 3.7895 |
| ECN_0.2EY_12hr     | 3.8502  | 3.8431  | 3.8502  | 3.8783  | 3.8678  | 3.8529  | 3.8585  | 3.8482  | 3.8195  | 3.8564   | 3.8518  | 0.0291    | 3.8514 |
| ECN_0.2EY_30min    | 3.8816  | 3.8737  | 3.8822  | 3.8819  | 3.8819  | 3.8898  | 3.8892  | 3.8819  | 3.8824  | 3.8829   | 3.8819  | 0.0036    | 3.8819 |
| ECN_0.2EY_18hr     | 3.8949  | 3.8936  | 3.8960  | 3.8791  | 3.8791  | 3.9030  | 3.9021  | 3.8936  | 3.9258  | 3.8757   | 3.8953  | 0.0155    | 3.8947 |
| ECN_0.2EY_2_5hr    | 4.2951  | 4.2652  | 4.3181  | 4.3753  | 4.3410  | 4.2659  | 4.3522  | 4.2910  | 4.1837  | 4.3698   | 4.3026  | 0.0614    | 4.2983 |
| ECN_0.2EY_1hr      | 4.3429  | 4.3248  | 4.3269  | 4.3395  | 4.3378  | 4.3483  | 4.3345  | 4.3220  | 4.1306  | 4.3403   | 4.3228  | 0.0657    | 4.3357 |
| ECN_0.2EY_24hr     | 4.3488  | 4.3455  | 4.3455  | 4.3495  | 4.3572  | 4.3496  | 4.3496  | 4.3469  | 4.3267  | 4.3497   | 4.3495  | 0.0060    | 4.3496 |
| ECN_0.2EY_30min    | 4.3488  | 4.3455  | 4.3455  | 4.3495  | 4.3572  | 4.3496  | 4.3496  | 4.3469  | 4.3267  | 4.3497   | 4.3495  | 0.0060    | 4.3496 |
| ECN_0.2EY_2hr      | 4.3493  | 4.3458  | 4.3458  | 4.3495  | 4.3572  | 4.3496  | 4.3496  | 4.3469  | 4.3267  | 4.3497   | 4.3496  | 0.0060    | 4.3496 |
| ECN_0.2EY_45min    | 4.3498  | 4.3465  | 4.3465  | 4.3495  | 4.3572  | 4.3496  | 4.3496  | 4.3469  | 4.3267  | 4.3497   | 4.3496  | 0.0060    | 4.3496 |
| ECN_0.2EY_4_5hr    | 4.3508  | 4.3475  | 4.3475  | 4.3495  | 4.3572  | 4.3496  | 4.3496  | 4.3469  | 4.3267  | 4.3497   | 4.3496  | 0.0060    | 4.3496 |
| ECN_0.2EY_6hr      | 4.3559  | 4.3540  | 4.3540  | 4.3495  | 4.3572  | 4.3531  | 4.3509  | 4.3474  | 4.3162  | 4.3566   | 4.3507  | 0.0104    | 4.3523 |
| ECN_0.2EY_9hr      | 4.3623  | 4.3585  | 4.3590  | 4.3664  | 4.3693  | 4.3598  | 4.3599  | 4.3529  | 4.3362  | 4.3634   | 4.3582  | 0.0095    | 4.3603 |

| CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
| The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

                AEP: 0.5EY = Max Water Elevation (m)

| Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_0.5EY_15min    | 3.7288  | 3.7054  | 3.7249  | 3.7209  | 3.7308  | 3.7237  | 3.7261  | 3.7085  | 3.7238  | 3.7237   | 3.7218  | 0.0303    | 3.7235 |
| ECN_0.5EY_12hr     | 3.8041  | 3.8386  | 3.8375  | 3.8078  | 3.8014  | 3.8083  | 3.8004  | 3.8050  | 3.8222  | 3.8035   | 3.8109  | 0.0360    | 3.8069 |
| ECN_0.5EY_30min    | 3.8052  | 3.8058  | 3.8051  | 3.8018  | 3.8045  | 3.8017  | 3.8019  | 3.8024  | 3.8018  | 3.8046   | 3.8033  | 0.0014    | 3.8037 |
| ECN_0.5EY_18hr     | 3.8356  | 3.8368  | 3.8424  | 3.8239  | 3.8283  | 3.8243  | 3.8231  | 3.8287  | 3.8308  | 3.8331   | 3.8307  | 0.0061    | 3.8303 |
| ECN_0.5EY_1_5hr    | 4.0192  | 4.0478  | 4.0078  | 4.0065  | 4.0012  | 4.0459  | 4.0457  | 4.0529  | 4.0489  | 4.0424   | 4.0329  | 0.0187    | 4.0404 |
| ECN_0.5EY_1hr      | 4.0274  | 4.0255  | 4.0182  | 4.0282  | 4.0251  | 4.0308  | 4.0228  | 4.0279  | 4.0279  | 4.0228   | 4.0257  | 0.0045    | 4.0256 |
| ECN_0.5EY_2hr      | 4.0353  | 4.0358  | 4.0357  | 4.0345  | 4.0356  | 4.0353  | 4.0358  | 4.0328  | 4.0359  | 4.0359   | 4.0352  | 0.0011    | 4.0356 |
| ECN_0.5EY_24hr     | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368   | 4.0368  | 0.0000    | 4.0368 |
| ECN_0.5EY_30min    | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368   | 4.0368  | 0.0000    | 4.0368 |
| ECN_0.5EY_45min    | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368   | 4.0368  | 0.0000    | 4.0368 |
| ECN_0.5EY_4_5hr    | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368   | 4.0368  | 0.0000    | 4.0368 |
| ECN_0.5EY_6hr      | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368   | 4.0368  | 0.0000    | 4.0368 |
| ECN_0.5EY_9hr      | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368  | 4.0368   | 4.0368  | 0.0000    | 4.0368 |

| CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
| The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

                AEP: 10% = Max Water Elevation (m)

| Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_10pct_15min    | 3.4243  | 3.4532  | 3.4192  | 3.4326  | 3.4403  | 3.4454  | 3.4413  | 3.4265  | 3.4382  | 3.4309   | 3.4372  | 0.0098    | 3.4378 |
| ECN_10pct_12hr     | 3.4578  | 3.4782  | 3.4778  | 3.4553  | 3.4518  | 3.4553  | 3.4580  | 3.4534  | 3.4558  | 3.4548   | 3.4578  | 0.0077    | 3.4576 |
| ECN_10pct_30min    | 3.4419  | 3.4436  | 3.4414  | 3.4426  | 3.4422  | 3.4409  | 3.4393  | 3.4433  | 3.4397  | 3.4408   | 3.4415  | 0.0013    | 3.4412 |
| ECN_10pct_18hr     | 3.4723  | 3.4780  | 3.4795  | 3.4585  | 3.4578  | 3.4574  | 3.4552  | 3.4603  | 3.4589  | 3.4599   | 3.4641  | 0.0084    | 3.4643 |
| ECN_10pct_1_5hr    | 3.4782  | 3.4802  | 3.4759  | 3.4757  | 3.4752  | 3.4801  | 3.4784  | 3.4761  | 3.4782  | 3.4780   | 3.4778  | 0.0017    | 3.4781 |
| ECN_10pct_1hr      | 3.4851  | 3.4837  | 3.4827  | 3.4847  | 3.4833  | 3.4859  | 3.4842  | 3.4826  | 3.4844  | 3.4842   | 3.4841  | 0.0011    | 3.4842 |
| ECN_10pct_2hr      | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |
| ECN_10pct_24hr     | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |
| ECN_10pct_30min    | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |
| ECN_10pct_45min    | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |
| ECN_10pct_4_5hr    | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |
| ECN_10pct_6hr      | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |
| ECN_10pct_9hr      | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902  | 3.4902   | 3.4902  | 0.0000    | 3.4902 |

| CRITICAL DURATION : The critical duration for the 10% AEP is the ensemble ECN_10pct_3hr.
| The median pattern for this ensemble is storm 8 (storm name : ECN_10pct_3hr_8).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

                AEP: 2% = Max Water Elevation (m)

| Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_2pct_15min     | 3.9603  | 3.9652  | 3.9563  | 3.9639  | 3.9664  | 3.9665  | 3.9635  | 3.9555  | 3.9652  | 3.9605   | 3.9617  | 0.0044    | 3.9639 |
| ECN_2pct_12hr      | 4.0025  | 4.0230  | 4.0258  | 4.0048  | 4.0018  | 4.0048  | 4.0059  | 4.0029  | 4.0038  | 4.0035   | 4.0078  | 0.0087    | 4.0072 |
| ECN_2pct_30min     | 3.9859  | 3.9866  | 3.9847  | 3.9863  | 3.9863  | 3.9850  | 3.9838  | 3.9885  | 3.9868  | 3.9873   | 3.9865  | 0.0012    | 3.9868 |
| ECN_2pct_18hr      | 4.0212  | 4.0255  | 4.0278  | 4.0060  | 4.0060  | 4.0095  | 4.0078  | 4.0095  | 4.0082  | 4.0092   | 4.0126  | 0.0080    | 4.0114 |
| ECN_2pct_1_5hr     | 4.0518  | 4.0491  | 4.0781  | 4.0347  | 4.0745  | 4.0350  | 4.0673  | 4.0619  | 3.9935  | 4.0847   | 4.0734  | 0.0435    | 4.0768 |
| ECN_2pct_1hr       | 4.0188  | 4.0236  | 4.0225  | 4.0954  | 4.0178  | 4.0852  | 4.0023  | 4.0192  | 4.0853  | 4.0158   | 4.0364  | 0.0364    | 4.0258 |
| ECN_2pct_2hr       | 4.0624  | 4.0609  | 4.0691  | 4.0705  | 4.0672  | 4.0684  | 4.0673  | 4.0605  | 4.0674  | 4.0681   | 4.0667  | 0.0036    | 4.0672 |
| ECN_2pct_24hr      | 4.0685  | 4.0709  | 4.0623  | 4.0692  | 4.0690  | 4.0692  | 4.0688  | 4.0669  | 4.0699  | 4.0692   | 4.0705  | 0.0025    | 4.0692 |
| ECN_2pct_30min     | 4.0573  | 4.0586  | 4.0571  | 4.0588  | 4.0588  | 4.0588  | 4.0585  | 4.0588  | 4.0588  | 4.0588   | 4.0584  | 0.0006    | 4.0588 |
| ECN_2pct_2hr       | 4.0741  | 4.0739  | 4.0758  | 4.0715  | 4.0715  | 4.0743  | 4.0740  | 4.0743  | 4.0693  | 4.0722   | 4.0728  | 0.0017    | 4.0729 |
| ECN_2pct_3hr       | 4.0861  | 4.0872  | 4.0872  | 4.0858  | 4.0858  | 4.0870  | 4.0855  | 4.0862  | 4.0862  | 4.0862   | 4.0863  | 0.0006    | 4.0862 |
| ECN_2pct_45min     | 4.0918  | 4.0862  | 4.0887  | 4.0904  | 4.0890  | 4.0907  | 4.0867  | 4.0885  | 4.0842  | 4.0855   | 4.0872  | 0.0024    | 4.0878 |
| ECN_2pct_4_5hr     | 4.0969  | 4.0993  | 4.0910  | 4.0885  | 4.0935  | 4.0872  | 4.0773  | 4.0940  | 4.0783  | 4.0867   | 4.0893  | 0.0082    | 4.0898 |
| ECN_2pct_6hr       | 4.0952  | 4.0935  | 4.0898  | 4.0925  | 4.0949  | 4.0898  | 4.0854  | 4.0961  | 4.0857  | 4.0885   | 4.0911  | 0.0039    | 4.0898 |
| ECN_2pct_9hr       | 4.1036  | 4.1024  | 4.0979  | 4.1001  | 4.0957  | 4.0828  | 4.0925  | 4.0822  | 4.0988  | 4.0824   | 4.0933  | 0.0089    | 4.0959 |

| CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
| The median pattern for this ensemble is storm 3 (storm name : ECN_2pct_2hr_3).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

                AEP: 5% = Max Water Elevation (m)

| Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_5pct_15min     | 3.8993  | 3.8754  | 3.8948  | 3.8945  | 3.8852  | 3.8858  | 3.8861  | 3.8831  | 3.8882  | 3.8872   | 3.8850  | 0.0058    | 3.8854 |
| ECN_5pct_12hr      | 4.0229  | 4.0245  | 4.0185  | 4.0262  | 4.0184  | 4.0264  | 4.0237  | 4.0243  | 4.0179  | 4.0252   | 4.0218  | 0.0034    | 4.0240 |
| ECN_5pct_30min     | 3.9865  | 3.9860  | 3.9868  | 3.9836  | 3.9874  | 3.9878  | 3.9878  | 3.9884  | 3.9859  | 3.9890   | 3.9867  | 0.0015    | 3.9866 |
| ECN_5pct_18hr      | 4.0246  | 4.0286  | 4.0115  | 4.0076  | 4.0109  | 4.0296  | 4.0258  | 4.0298  | 4.0279  | 4.0299   | 4.0216  | 0.0105    | 4.0259 |
| ECN_5pct_2_5hr     | 4.3741  | 4.3293  | 4.3798  | 4.4353  | 4.3838  | 4.3424  | 4.3483  | 4.3474  | 4.3679  | 4.3886   | 4.3586  | 0.0263    | 4.3586 |
| ECN_5pct_1hr       | 4.3430  | 4.2988  | 4.3055  | 4.3858  | 4.3037  | 4.3892  | 4.3316  | 4.3055  | 4.3868  | 4.3251   | 4.3567  | 0.0608    | 4.3542 |
| ECN_5pct_2hr       | 4.3829  | 4.3803  | 4.3833  | 4.3837  | 4.3824  | 4.3836  | 4.3835  | 4.3830  | 4.3838  | 4.3838   | 4.3832  | 0.0013    | 4.3837 |
| ECN_5pct_24hr      | 4.3838  | 4.3832  | 4.3812  | 4.3772  | 4.3838  | 4.3773  | 4.3843  | 4.3959  | 4.3823  | 4.3837   | 4.3827  | 0.0037    | 4.3838 |
| ECN_5pct_30min     | 4.3838  | 4.3832  | 4.3812  | 4.3772  | 4.3838  | 4.3773  | 4.3843  | 4.3959  | 4.3823  | 4.3837   | 4.3827  | 0.0037    | 4.3838 |
| ECN_5pct_45min     | 4.3838  | 4.3832  | 4.3812  | 4.3772  | 4.3838  | 4.3773  | 4.3843  | 4.3959  | 4.3823  | 4.3837   | 4.3827  | 0.0037    | 4.3838 |
| ECN_5pct_4_5hr     | 4.3838  | 4.3832  | 4.3812  | 4.3772  | 4.3838  | 4.3773  | 4.3843  | 4.3959  | 4.3823  | 4.3837   | 4.3827  | 0.0037    | 4.3838 |
| ECN_5pct_6hr       | 4.3838  | 4.3832  | 4.3812  | 4.3772  | 4.3838  | 4.3773  | 4.3843  | 4.3959  | 4.3823  | 4.3837   | 4.3827  | 0.0037    | 4.3838 |
| ECN_5pct_9hr       | 4.3838  | 4.3832  | 4.3812  | 4.3772  | 4.3838  | 4.3773  | 4.3843  | 4.3959  | 4.3823  | 4.3837   | 4.3827  | 0.0037    | 4.3838 |

| CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
| The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

                AEP: 63.2% = Max Water Elevation (m)

| Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_63pct_15min    | 3.6603  | 3.6686  | 3.6646  | 3.6621  | 3.6824  | 3.6648  | 3.6647  | 3.6542  | 3.6688  | 3.6583   | 3.6683  | 0.0082    | 3.6680 |
| ECN_63pct_12hr     | 3.6988  | 3.6968  | 3.6868  | 3.6956  | 3.7008  | 3.7046  | 3.7051  | 3.6973  | 3.6962  | 3.6896   | 3.6958  | 0.0053    | 3.6959 |
| ECN_63pct_15min    | 3.7218  | 3.7252  | 3.7252  | 3.7284  | 3.7306  | 3.7266  | 3.7265  | 3.7228  | 3.7252  | 3.7259   | 3.7266  | 0.0018    | 3.7258 |
| ECN_63pct_18hr     | 3.7319  | 3.7329  | 3.7329  | 3.7335  | 3.7355  | 3.7331  | 3.7277  | 3.7328  | 3.7328  | 3.7325   | 3.7329  | 0.0015    | 3.7329 |
| ECN_63pct_1_5hr    | 3.9361  | 3.9403  | 3.9100  | 3.9439  | 3.9533  | 3.9384  | 3.9459  | 3.9258  | 3.9585  | 3.9447   | 3.9436  | 0.0135    | 3.9449 |
| ECN_63pct_1hr      | 3.9218  | 3.9249  | 3.9152  | 3.9589  | 3.9259  | 3.9292  | 3.9197  | 3.9174  | 3.9589  | 3.9211   | 3.9293  | 0.0130    | 3.9246 |
| ECN_63pct_20min    | 3.7765  | 3.7784  | 3.7760  | 3.7825  | 3.7763  | 3.7859  | 3.7822  | 3.7782  | 3.7828  | 3.7735   | 3.7780  | 0.0031    | 3.7789 |
| ECN_63pct_24hr     | 3.8845  | 3.8841  | 3.8871  | 3.8883  | 3.8883  | 3.8886  | 3.8881  | 3.8844  | 3.8828  | 3.8842   | 3.8853  | 0.0020    | 3.8857 |
| ECN_63pct_25min    | 3.8804  | 3.8826  | 3.8758  | 3.8804  | 3.8824  | 3.8840  | 3.8878  | 3.8804  | 3.8879  | 3.8878   | 3.8823  | 0.0035    | 3.8837 |
| ECN_63pct_2hr      | 3.9235  | 3.9205  | 3.9217  | 3.9258  | 3.9278  | 3.9288  | 3.9259  | 3.9242  | 3.9238  | 3.9282   | 3.9240  | 0.0028    | 3.9239 |
| ECN_63pct_30min    | 3.8233  | 3.8366  | 3.8365  | 3.8036  | 3.8378  | 3.8535  | 3.8250  | 3.8349  | 3.8302  | 3.8053   | 3.8327  | 0.0110    | 3.8350 |
| ECN_63pct_3hr      | 3.9235  | 3.9239  | 3.9281  | 3.9234  | 3.9234  | 3.9267  | 3.9245  | 3.9294  | 3.9292  | 3.9257   | 3.9261  | 0.0020    | 3.9254 |
| ECN_63pct_45min    | 3.8482  | 3.8546  | 3.8521  | 3.8473  | 3.8527  | 3.8503  | 3.8435  | 3.8506  | 3.8539  | 3.8490   | 3.8508  | 0.0029    | 3.8505 |
| ECN_63pct_4_5hr    | 3.9043  | 3.8994  | 3.8703  | 3.8757  | 3.9134  | 3.8957  | 3.8822  | 3.8927  | 3.8998  | 3.8927   | 3.8972  | 0.0132    | 3.8960 |
| ECN_63pct_6hr      | 3.9154  | 3.9169  | 3.8996  | 3.8953  | 3.9058  | 3.9168  | 3.8954  | 3.9054  | 3.9054  | 3.8976   | 3.9052  | 0.0080    | 3.9058 |
| ECN_63pct_9hr      | 3.9074  | 3.9235  | 3.9069  | 3.8823  | 3.9018  | 3.8758  | 3.9038  | 3.8917  | 3.9085  | 3.8875   | 3.9001  | 0.0151    | 3.8996 |
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INNOVYZE ENSEMBLE STATISTICS UTILITY
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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: EX02
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7904	3.7868	3.7867	3.7879	3.7850	3.7862	3.7867	3.7868	3.7858	3.7886	3.7865	0.0035	3.7867
ECN_0.2EY_12hr	3.8229	3.1852	3.2836	3.8569	3.9661	3.9439	3.9388	3.2016	3.8433	3.8950	3.6937	0.3160	3.8550
ECN_0.2EY_15min	3.8965	3.8765	3.8905	3.8926	3.8954	3.8964	3.8706	3.8966	3.8779	3.8766	3.8748	0.0089	3.8771
ECN_0.2EY_18hr	3.6298	3.8531	3.5415	3.8825	3.8926	3.8954	3.9550	3.8583	3.8959	3.7929	3.8536	0.0955	3.8569
ECN_0.2EY_1_5hr	4.1388	4.1688	4.0949	4.1484	4.1553	4.1652	4.1384	4.0568	4.1625	4.1522	4.1423	0.0439	4.1454
ECN_0.2EY_2hr	4.2838	4.1955	4.1855	4.1656	4.1167	4.5238	4.2140	4.2840	4.1838	4.2193	4.2188	0.0823	4.2049
ECN_0.2EY_24hr	4.2391	4.2537	4.2335	4.2373	4.2359	4.2524	4.2556	4.2548	4.2543	4.2568	4.2479	0.0082	4.2540
ECN_0.2EY_30min	3.9348	3.9347	3.9348	3.9358	3.9363	3.9363	3.9358	3.9363	3.9358	3.9363	3.9356	0.0006	3.9358
ECN_0.2EY_3hr	3.8404	3.8692	3.8693	3.8849	3.8958	3.8958	3.8958	3.8958	3.8958	3.8958	3.8869	0.0160	3.8958
ECN_0.2EY_45min	3.9619	3.9628	3.9628	3.9624	3.9626	3.9626	3.9628	3.9622	3.9628	3.9628	3.9626	0.0003	3.9626
ECN_0.2EY_4_5hr	4.0132	4.1202	4.0328	4.1628	4.1579	4.2369	4.1581	4.2534	4.1767	4.1973	4.1590	0.0745	4.1680
ECN_0.2EY_6hr	4.0449	4.0150	4.0132	4.0139	4.0189	4.0957	4.0139	4.0970	4.0142	4.0128	4.0514	0.0318	4.0359
ECN_0.2EY_9hr	4.3541	4.1295	4.2121	4.3045	4.1638	4.3542	4.1159	4.2519	4.1355	4.1590	4.2198	0.0928	4.1946

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7222	3.7218	3.7225	3.7228	3.7222	3.7222	3.7225	3.7223	3.7220	3.7231	3.7223	0.0003	3.7220
ECN_0.5EY_12hr	3.8263	3.8242	3.8189	3.8256	3.8056	3.8204	3.8957	3.8924	3.8345	3.8553	3.8405	0.0303	3.8309
ECN_0.5EY_15min	3.7596	3.7578	3.7589	3.7583	3.7582	3.7586	3.7585	3.7586	3.7588	3.7586	3.7585	0.0004	3.7586
ECN_0.5EY_18hr	3.8266	3.8260	3.8552	3.8305	3.9614	3.9220	3.8222	3.7950	3.8706	3.8274	3.8476	0.0564	3.8265
ECN_0.5EY_1_5hr	4.0263	4.0325	3.9948	4.0458	4.0458	4.0000	4.0324	4.0474	4.0525	4.0619	4.0359	0.0176	4.0399
ECN_0.5EY_2hr	4.0848	4.0637	4.0683	4.0902	4.0902	4.0977	4.0305	4.0695	4.0909	4.0748	4.0697	0.0089	4.0699
ECN_0.5EY_24hr	4.0834	4.0543	4.0511	4.0520	4.0529	4.0548	4.0523	4.0498	4.0483	4.0538	4.0533	0.0015	4.0537
ECN_0.5EY_30min	3.9389	3.9388	3.9385	3.9384	3.9384	3.9384	3.9384	3.9384	3.9384	3.9384	3.9384	0.0001	3.9384
ECN_0.5EY_3hr	3.8859	3.8883	3.8835	3.8544	3.8578	3.8836	3.8459	3.8586	3.8559	3.8496	3.8676	0.0150	3.8668
ECN_0.5EY_45min	3.9459	3.9469	3.9429	3.9439	3.9429	3.9429	3.9439	3.9429	3.9439	3.9442	3.9436	0.0007	3.9439
ECN_0.5EY_4_5hr	4.0229	4.0252	4.0035	3.9918	4.0200	4.0965	4.0285	4.0596	4.0296	4.0346	4.0292	0.0320	4.0290
ECN_0.5EY_6hr	3.9986	4.0370	4.0352	4.0356	4.0369	4.0454	4.0367	4.0464	4.0357	4.0363	4.0363	0.0033	4.0359
ECN_0.5EY_9hr	4.2370	4.2108	4.2195	4.2743	4.2156	4.2497	4.2153	4.2423	4.2242	4.2511	4.2240	0.0172	4.2370
ECN_0.5EY_30min	3.9249	3.9240	3.9357	3.9249	3.9228	3.9242	3.9228	3.9228	3.9228	3.9228	3.9239	0.0035	3.9228
ECN_0.5EY_3hr	3.8779	3.8787	3.8757	3.8998	3.8757	3.8760	3.8785	3.8771	3.8780	3.8748	3.8777	0.0013	3.8779
ECN_0.5EY_45min	3.9099	3.9078	3.9634	3.9428	3.9092	3.9083	3.8788	3.8841	3.9375	3.9212	3.9083	0.0240	3.9088
ECN_0.5EY_4_5hr	4.0076	3.9089	4.0598	4.0425	4.0852	4.0845	4.0143	4.2826	4.0394	4.0924	4.0337	0.0571	4.0369
ECN_0.5EY_6hr	4.0459	4.0309	4.0258	4.0327	4.0401	4.0915	4.0325	4.0400	4.0392	4.0436	4.0382	0.0182	4.0397
ECN_0.5EY_9hr	4.2518	4.0479	4.2162	4.2841	4.2092	4.2859	4.2828	4.2886	4.2239	4.2385	4.2159	0.0652	4.2282

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	4.6983	4.7068	4.6923	4.6983	4.6989	4.7068	4.6968	4.6968	4.6983	4.6963	4.6985	0.0038	4.6983
ECN_1pct_12hr	4.4789	4.3950	4.3352	4.3955	4.8778	4.2782	4.3689	4.3619	4.4965	4.5765	4.4382	0.1884	4.4135
ECN_1pct_15min	4.8532	4.8282	4.8228	4.8239	4.8253	4.8228	4.8222	4.8043	4.8238	4.8232	4.8227	0.0008	4.8228
ECN_1pct_18hr	4.3648	4.2651	4.3849	4.4294	4.0759	4.5409	4.3559	4.4484	4.3698	4.3992	4.3972	0.0339	4.3929
ECN_1pct_1_5hr	4.8648	4.8890	4.8790	4.8659	4.8768	4.8982	4.8783	4.8648	4.8829	4.8764	4.8752	0.0091	4.8779
ECN_1pct_1hr	4.8286	4.8307	4.8304	4.8222	4.8248	4.8341	4.8139	4.8225	4.8229	4.8219	4.8267	0.0053	4.8239
ECN_1pct_20min	4.8948	4.8998	4.8999	4.8909	4.8969	4.8993	4.8975	4.8976	4.8981	4.8977	4.8973	0.0030	4.8980
ECN_1pct_24hr	4.4823	4.5185	4.4589	4.5005	4.4269	4.3979	4.5007	4.4929	4.4928	4.4959	4.4872	0.0354	4.4879
ECN_1pct_2hr	4.5478	4.5386	4.5282	4.4622	4.4579	4.9663	4.5716	4.5663	4.5479	4.5688	4.5350	0.0382	4.5520
ECN_1pct_30min	4.7824	4.7963	4.7994	4.7941	4.7928	4.7931	4.7960	4.7958	4.7943	4.7937	4.7938	0.0020	4.7941
ECN_1pct_3hr	4.5479	4.5386	4.5282	4.4622	4.4579	4.9663	4.5716	4.5663	4.5479	4.5688	4.5350	0.0382	4.5520
ECN_1pct_45min	4.8820	4.8775	4.8782	4.8800	4.8804	4.8745	4.8792	4.8765	4.8832	4.8802	4.8773	0.0042	4.8789
ECN_1pct_4_5hr	4.8838	4.8937	4.8731	4.8483	4.8802	4.8925	4.8852	4.8814	4.8789	4.8829	4.8780	0.0139	4.8810
ECN_1pct_6hr	4.8192	4.8573	4.8686	4.8037	4.8539	4.8886	4.8531	4.8598	4.8019	4.8357	4.8553	0.0285	4.8556
ECN_1pct_9hr	4.5888	4.8660	4.8615	4.8852	4.8246	4.8961	4.8736	4.8188	4.8588	4.8639	4.8580	0.0382	4.8629

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_1pct_4_5hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	4.4308	4.4364	4.4308	4.4048	4.4302	4.0365	4.4369	4.4303	4.4358	4.4367	4.4356	0.0094	4.4358
ECN_2pct_12hr	4.3196	4.3645	4.4453	4.1483	4.3536	4.3384	4.1531	4.3842	4.2220	4.4930	4.3522	0.1496	4.3605
ECN_2pct_15min	4.4348	4.4344	4.4349	4.4352	4.4353	4.4323	4.4355	4.4359	4.4359	4.4348	4.4353	0.0010	4.4353
ECN_2pct_18hr	4.0895	4.0557	4.2819	4.0819	4.1625	4.2969	4.0389	4.0858	4.0395	4.0761	4.0779	0.0764	4.0816
ECN_2pct_1_5hr	4.4952	4.4938	4.4957	4.4957	4.4954	4.4954	4.4955	4.4923	4.4954	4.4954	4.4944	0.0013	4.4954
ECN_2pct_1hr	4.4743	4.4728	4.4758	4.4739	4.4742	4.4739	4.4750	4.4745	4.4735	4.4736	4.4742	0.0008	4.4739
ECN_2pct_20min	4.4808	4.4813	4.4813	4.4826	4.4805	4.4843	4.4822	4.4822	4.4822	4.4808	4.4818	0.0009	4.4815
ECN_2pct_24hr	4.3129	4.3732	4.3982	4.0933	4.2565	4.2985	4.3831	4.3292	4.3831	4.4259	4.3531	0.1239	4.3522
ECN_2pct_2hr	4.4498	4.4449	4.4525	4.4328	4.4085	4.4949	4.4485	4.4949	4.4485	4.4498	4.4495	0.0019	4.4492
ECN_2pct_30min	4.4959	4.4926	4.4815	4.4926	4.4927	4.4959	4.4926	4.4926	4.4915	4.4926	4.4926	0.0013	4.4927
ECN_2pct_3hr	4.4088	4.2832	4.2098	4.2575	4.2932	4.2845	4.2887	4.2172	4.2775	4.2943	4.2870	0.0235	4.2878
ECN_2pct_45min	4.1493	4.1507	4.2515	4.1524	4.1520	4.2585	4.1285	4.0485	4.1569	4.2814	4.1590	0.0626	4.1524
ECN_2pct_4_5hr	4.2570	4.1327	4.2946	4.2682	4.1788	4.3088	4.2175	4.2942	4.2438	4.2988	4.2550	0.0533	4.2598
ECN_2pct_6hr	4.2237	4.1750	4.2310	4.1803	4.2012	4.2296	4.2388	4.2684	4.2696	4.2184	4.2206	0.0413	4.2227
ECN_2pct_9hr	4.3478	4.1586	4.2135	4.2120	4.2862	4.2946	4.1862	4.2985	4.2297	4.2915	4.2532	0.0835	4.2655

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 3 (storm name : ECN_2pct_2hr_3).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	4.3570	4.3570	4.3569	4.3559	4.3559	4.3531	4.3569	4.3569	4.3576	4.3565	4.3570	0.0004	4.3569
ECN_5pct_12hr	4.2492	4.2657	4.2492	4.2658	4.2658	4.2658	4.2655	4.2655	4.2655	4.2326	4.2596	0.0385	4.2658
ECN_5pct_15min	4.3922	4.3919	4.3922	4.3922	4.3922	4.3922	4.3920	4.3924	4.3922	4.3928	4.3922	0.0002	4.3922
ECN_5pct_18hr	4.2836	4.1388	4.2519	4.3368	4.3896	4.3953	4.2820	4.3181	4.2962	4.2836	4.2859	0.0525	4.2859
ECN_5pct_1_5hr	4.4548	4.4684	4.4682	4.4525	4.4869	4.4869	4.4956	4.4956	4.4834	4.4859	4.4786	0.0137	4.4871
ECN_5pct_1hr	4.3901	4.3885	4.3835	4.3844	4.3878	4.3836	4.3859	4.3886	4.3859	4.3906	4.3871	0.0030	4.3868
ECN_5pct_20min	4.4439	4.4439	4.4429	4.4439	4.4429	4.4429	4.4439	4.4429	4.4439	4.4442	4.4436	0.0007	4.4439
ECN_5pct_24hr	4.2829	4.2252	4.2035	4.2916	4.2206	4.2965	4.2988	4.2596	4.2996	4.2946	4.2677	0.0340	4.2840
ECN_5pct_2hr	4.3986	4.3570	4.3952	4.3956	4.3869	4.3954	4.3987	4.3966	4.3957	4.3963	4.3946	0.0030	4.3956
ECN_5pct_30min	4.4270	4.4208	4.4175	4.4158	4.4199	4.4199	4.4213	4.4231	4.4208	4.4213	4.4217	0.0022	4.4210
ECN_5pct_3hr	4.3845	4.3340	4.2357	4.3426	4.2208	4.2382	4.2350	4.2426	4.2353	4.2845	4.2973	0.0524	4.2924
ECN_5pct_45min	4.4379	4.3978	4.2583	4.3886	4.3979	4.3879	4.3836	4.3908	4.3904	4.4036	4.3896	0.0333	4.3908
ECN_5pct_4_5hr	4.2389	4.3139	4.3185	4.2132	4.2870	4.3649	4.2560	4.3081	4.3195	4.3123	4.3256	0.0329	4.3236
ECN_5pct_6hr	4.4634	4.4268	4.4389	4.4609	4.4628	4.4683	4.4670	4.4586	4.4598	4.4598	4.4566	0.0121	4.4589
ECN_5pct_9hr	4.5635	4.3598	4.3815	4.3499	4.3637	4.3696	4.3703	4.3599	4.3795	4.4259	4.4256	0.0818	4.3841
ECN_5pct_9hr	4.4158	4.3571	4.3692	4.2924	4.3606	4.4135	4.5524	4.2243	4.3070	4.3415	4.3778	0.0748	4.3469

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6633	3.6639	3.6637	3.6652	3.6635	3.6634	3.6639	3.6650	3.6635	3.6634	3.6639	0.0002	3.6634
ECN_63pct_12hr	3.8845	3.8248	3.8029	3.8928	3.8758	3.7427	3.9293	3.8679	3.8587	3.8298	3.8529	0.0862	3.8592
ECN_63pct_15min	3.7283	3.7265	3.7284	3.7289	3.7289	3.7288	3.7288	3.7289	3.7245	3.7289	3.7284	0.0010	3.7288
ECN_63pct_18hr	3.7025	3.7367	3.7367	3.6862	3.6860	3.7822	3.7418	3.6163	3.7018	3.6842	3.7036	0.0401	3.7025
ECN_63pct_1_5hr	3.9060	3.8559	3.9023	3.9396	3.8456	3.8701	3.9232	3.9063	3.8697	3.8539	3.8853	0.0538	3.8956
ECN_63pct_1hr	3.9185	3.8837	3.9081	3.9183	3.9140	3.9213	3.9135	3.9189	3.9183	3.9183	3.9115	0.0029	3.9184
ECN_63pct_20min	3.7735	3.7738	3.7725	3.7750	3.7737	3.7702	3.7698	3.7736	3.7705	3.7723	3.7725	0.0016	3.7730
ECN_63pct_24hr	3.6141	3.6630	3.7259	3.8723	3.8322	3.6568	3.8838	3.7312	3.8523	3.8938	3.7945	0.0829	3.8229
ECN_63pct_2hr	3.8845	3.8625	3.8867	3.8850	3.8828	3.8843	3.8845	3.8834	3.8867	3.8845	3.8837	0.0012	3.8845
ECN_63pct_30min	3.9324	3.9288	3.9325	3.9324	3.9324	3.9268	3.9486	3.9350	3.9505	3.9388	3.9359	0.0117	3.9356
ECN_63pct_3hr	3.8779	3.8525	3.8535	3.8519	3.8299	3.8266	3.8291	3.8808	3.8259	3.8812	3.8559	0.0212	3.8560
ECN_63pct_45min	3.9529	3.9238	3.9782	3.9782	3.9682	3.9268	3.9698	3.9206	3.9682	3.9682	3.9582	0.0228	3.9682
ECN_63pct_4_5hr	3.9064	3.8940	3.8784	3.8784	3.8784	3.8784	3.8784	3.8784	3.8784	3.8784	3.8784	0.0000	3.8784
ECN_63pct_6hr	3.9585	3.9439	3.9783	3.9583	3.9583	3.9583	3.9583	3.9583	3.9583	3.9583	3.9583	0.0000	3.9583
ECN_63pct_9hr	3.9895	3.8172	3.9285	3.9905	3.8782	3.9308	3.8788	3.7850	3.8833	3.8285	3.8912	0.0570	3.8784

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_63pct_2hr_3).

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Summary information:

Total No. of Ensembles:	532
No. of Storms per ensemble:	10
No. of AEP Bands:	9
Object Name:	Site_A
Result type:	Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	5.7960	3.7967	3.7967	3.7969	3.7969	3.7967	3.7967	3.7968	3.7968	3.7968	3.7970	0.0005	3.7968
ECN_0.2EY_12hr	5.8228	3.1693	2.2817	4.0580	5.9865	5.9435	5.9367	5.2514	4.8458	4.8566	4.6906	0.9167	4.8562
ECN_0.2EY_15min	5.8963	3.8744	3.5748	5.4706	5.8754	5.8264	5.8708	5.8708	5.8778	5.8746	5.8762	0.0369	5.8753
ECN_0.2EY_18hr	5.8238	3.8539	3.5418	5.8052	5.8723	5.8255	5.8559	5.8160	5.8059	5.7823	5.7926	0.0459	5.8056
ECN_0.2EY_1_5hr	5.9259	4.1666	4.0986	5.9486	5.9559	5.9551	5.9383	5.9569	5.9625	5.9523	5.9461	0.0820	5.9523
ECN_0.2EY_2hr	5.9049	4.1058	4.1059	5.9656	6.1167	6.5230	6.2140	6.9040	6.1848	6.8793	6.1869	0.8025	6.0840
ECN_0.2EY_24hr	5.9370	4.2334	4.2333	5.9835	6.4267	6.5228	6.4235	6.5227	6.4257	6.5227	6.3731	0.8578	6.4246
ECN_0.2EY_30min	5.9528	4.2534	4.2534	6.0559	6.3523	6.3523	6.3523	6.3523	6.3523	6.3523	6.2611	0.6611	6.3523
ECN_0.2EY_3hr	5.9868	3.7980	3.7913	5.9224	6.4353	6.4353	6.4075	6.4098	6.4353	6.4098	6.1853	0.9730	6.4226
ECN_0.2EY_45min	5.9538	3.8274	3.8274	6.0559	6.3523	6.3523	6.3523	6.3523	6.3523	6.3523	6.2711	0.6611	6.3523
ECN_0.2EY_4_5hr	5.9868	3.8005	3.8005	5.9224	6.4353	6.4353	6.4075	6.4098	6.4353	6.4098	6.1853	0.9730	6.4226
ECN_0.2EY_6hr	5.9868	3.8258	3.8258	5.9224	6.4353	6.4353	6.4075	6.4098	6.4353	6.4098	6.1853	0.9730	6.4226
ECN_0.2EY_9hr	5.9868	3.8258	3.8258	5.9224	6.4353	6.4353	6.4075	6.4098	6.4353	6.4098	6.1853	0.9730	6.4226

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	5.7221	3.7227	3.7227	3.7227	3.7227	3.7227	3.7227	3.7227	3.7227	3.7227	3.7227	0.0003	3.7227
ECN_0.5EY_12hr	5.8758	4.0342	4.0159	5.8205	5.8853	5.8208	5.8965	4.9180	3.9385	4.8425	4.8553	0.9903	4.9362
ECN_0.5EY_15min	5.7360	3.7237	3.7237	3.7237	3.7237	3.7237	3.7237	3.7237	3.7237	3.7237	3.7237	0.0004	3.7237
ECN_0.5EY_18hr	5.8885	3.8258	3.8592	5.8592	5.8763	5.8589	5.8521	3.7189	5.7849	3.8265	4.8825	0.9264	5.8589
ECN_0.5EY_1_5hr	6.0249	4.0325	3.9945	6.0485	6.0497	6.0000	6.0335	6.0428	6.0535	6.0609	6.0356	0.0176	6.0349
ECN_0.5EY_2hr	5.9848	4.0838	3.9966	6.0095	6.0828	6.0240	6.0348	6.0619	7.0992	6.0148	6.0494	0.9024	6.0180
ECN_0.5EY_24hr	5.9614	3.9582	3.9510	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527
ECN_0.5EY_30min	5.9848	3.9582	3.9582	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527
ECN_0.5EY_3hr	5.9848	3.9582	3.9582	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527
ECN_0.5EY_45min	5.9848	3.9582	3.9582	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527
ECN_0.5EY_4_5hr	5.9848	3.9582	3.9582	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527
ECN_0.5EY_6hr	5.9848	3.9582	3.9582	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527
ECN_0.5EY_9hr	5.9848	3.9582	3.9582	5.9529	5.9528	5.9528	5.9522	5.9519	5.9882	5.9528	5.9533	0.0114	5.9527

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	4.8061	4.2868	4.2823	4.8826	4.8889	4.8850	4.8868	4.8868	4.8873	4.8862	4.8708	0.2079	4.8868
ECN_1pct_12hr	4.4258	4.3629	4.1353	4.3824	4.8702	4.8950	4.8887	4.8818	4.8782	4.8868	4.6788	0.2284	4.8823
ECN_1pct_15min	4.8033	4.1229	4.1229	4.1232	4.1232	4.1228	4.1232	4.8840	4.1229	4.8822	4.2708	0.3708	4.1229
ECN_1pct_18hr	4.3849	4.3659	4.3849	4.8224	4.8778	4.8852	4.3557	4.8409	4.3849	4.8408	4.6332	0.2180	4.3849
ECN_1pct_1_5hr	4.8644	4.8591	4.8789	4.8659	4.8767	4.8962	4.8783	4.8468	4.8789	4.8781	4.8763	0.0138	4.8781
ECN_1pct_1hr	4.8305	4.8307	4.8305	4.8220	4.8263	4.8289	4.8192	4.8226	4.8227	4.8218	4.8260	0.0032	4.8236
ECN_1pct_20min	4.3568	4.2585	4.3278	4.3709	4.3768	4.8393	4.3676	4.3746	4.8431	4.3737	4.3703	0.2906	4.3722
ECN_1pct_24hr	4.4828	4.3184	4.4563	4.8382	4.8767	4.8439	4.8823	4.8227	4.8769	4.8183	4.6357	0.2659	4.8295
ECN_1pct_25min	4.8528	4.2534	4.8534	4.8559	4.8523	4.8523	4.2884	4.8523	4.8523	4.8523	4.7611	0.2611	4.8523
ECN_1pct_2hr	4.4398	4.4855	4.4828	4.8828	4.8474	4.8828	4.8474	4.8828	4.8828	4.8828	4.7318	0.2010	4.8828
ECN_1pct_30min	4.2828	4.2828	4.2828	4.8828	4.8523	4.8828	4.8523	4.8828	4.8828	4.8828	4.7910	0.2611	4.8828
ECN_1pct_3hr	4.5178	4.3785	4.7280	4.8675	4.8577	4.8602	4.8749	4.8685	4.8602	4.8684	4.7638	0.1628	4.8628
ECN_1pct_45min	4.3828	4.3775	4.3782	4.8819	4.8804	4.8735	4.3701	4.3782	4.3782	4.8863	4.3710	0.2042	4.3759
ECN_1pct_4_5hr	4.8828	4.8045	4.8721	4.8846	4.8821	4.8693	4.8891	4.8819	4.8742	4.8709	4.8423	0.0472	4.8832
ECN_1pct_6hr	4.4184	4.4157	4.8685	4.8273	4.8532	4.8653	4.8529	4.8598	4.8682	4.8525	4.8059	0.0703	4.8695
ECN_1pct_9hr	4.5801	4.8659	4.3619	4.8832	4.8824	4.8684	4.8183	4.3185	4.3943	4.4614	4.6547	0.0981	4.8815

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_1pct_4_5hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	4.4308	3.9364	3.8388	4.4057	4.4395	2.8365	3.8389	3.8393	3.8358	3.8285	3.9398	0.8098	3.8216
ECN_2pct_12hr	4.3343	3.9648	3.8483	4.1982	4.3535	4.3403	4.1331	4.0842	3.8218	4.0692	4.0523	0.1896	4.1851
ECN_2pct_15min	3.9348	3.9344	3.9329	3.9331	3.9342	3.9355	3.9339	3.9339	3.9339	7.9360	4.0038	1.1353	3.9339
ECN_2pct_18hr	4.0895	3.9589	3.9825	4.1429	4.2864	4.2864	4.2864	3.9888	4.0296	4.2765	4.0760	0.1865	4.0815
ECN_2pct_1_5hr	4.2892	4.2911	4.2892	4.2892	4.2892	4.2892	4.2892	4.2892	4.2892	4.2892	4.2892	0.0017	4.2892
ECN_2pct_1hr	4.2845	4.1827	4.1850	4.2295	4.1952	4.1952	4.1952	4.1952	4.1952	4.2295	4.2295	0.0155	4.1952
ECN_2pct_20min	4.2803	4.2813	4.2813	4.2894	4.2818	4.2863	4.2812	4.2822	4.2822	4.2826	4.2839	0.0035	4.2822
ECN_2pct_24hr	4.3118	3.7306	4.0822	4.0832	4.0832	3.9524	4.2869	3.9838	3.8270	4.0832	4.0224	0.1886	3.9523
ECN_2pct_25min	4.2859	4.2862	4.2860	4.2867	4.2857	4.2861	4.2885	4.2878	4.2879	4.2875	4.2874	0.0016	4.2868
ECN_2pct_2hr	4.2880	4.2609	4.1866	4.2708	4.2708	4.2834	4.2280	4.2289	4.2289	4.2709	4.2511	0.0219	4.2709
ECN_2pct_30min	4.2859	4.2862	4.2860	4.2867	4.2857	4.2861	4.2885	4.2878	4.2879	4.2875	4.2874	0.0013	4.2868
ECN_2pct_3hr	4.2888	4.2895	4.2884	4.2894	4.2893	4.2888	4.2896	4.2892	4.2877	4.2894	4.2892	0.0235	4.2893
ECN_2pct_45min	4.1863	4.1507	4.2518	4.2526	4.1926	4.2526	4.1285	4.2484	4.1849	4.2512	4.1948	0.3668	4.2484
ECN_2pct_4_5hr	4.2932	4.1327	4.2945	4.2882	4.1926	4.2947	4.2276	4.2943	4.2432	4.2884	4.2504	0.0533	4.2896
ECN_2pct_6hr	4.2836	4.1757	4.2868	4.2836	4.2879	4.2893	4.2868	4.2886	4.2895	4.2842	4.2760	0.0213	4.2865
ECN_2pct_9hr	4.2870	4.2187	4.2113	4.2320	4.2894	4.2895	4.1901	4.2905	4.2283	4.2834	4.2531	0.0835	4.2854

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_10pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.9539	3.9570	3.9564	3.9569	3.9559	3.9531	3.9569	3.9569	3.9578	3.9565	3.9569	0.0004	3.9569
ECN_2pct_12hr	4.3443	4.2656	4.2483	4.2696	4.2697	4.2969	4.2969	4.2683	4.2157	4.2556	4.2965	0.1985	4.2949
ECN_2pct_15min	3.9721	3.9725	3.9702	3.9702	3.9702	3.9730	3.9702	3.9725	3.9697	3.9731	3.9713	0.0021	3.9702
ECN_2pct_18hr	4.2826	4.1765	4.2519	4.3952	4.5849	4.5833	4.2637	4.3099	4.2962	4.2819	4.3350	0.1856	4.2856
ECN_2pct_1_5hr	4.4948	4.4868	4.4901	4.4921	4.4880	4.4897	4.4993	4.4950	4.4925	4.4896	4.4926	0.0026	4.4909
ECN_2pct_1hr	4.4391	4.4485	4.4435	4.4543	4.4579	4.4588	4.4457	4.4558	4.4558	4.4586	4.4557	0.0060	4.4563
ECN_2pct_20min	4.1439	4.1439	4.1424	4.1439	4.1425	4.1422	4.1438	4.1439	4.1439	4.1442	4.1429	0.0007	4.1429
ECN_2pct_24hr	4.2823	4.2252	4.2324	4.2824	4.2829	4.2863	4.2898	4.2845	4.2858	4.2836	4.2735	0.0219	4.2849
ECN_2pct_25min	4.2838	4.2830	4.2838	4.2856	4.2859	4.2852	4.2847	4.2852	4.2857	4.2857	4.2854	0.0010	4.2854
ECN_2pct_2hr	4.4269	4.4193	4.4178	4.4781	4.4166	4.4833	4.5134	4.4215	4.4282	4.4512	4.4272	0.0143	4.4278
ECN_2pct_30min	4.2838	4.2838	4.2838	4.2857	4.2859	4.2852	4.2850	4.2866	4.2859	4.2845	4.2853	0.0024	4.2858
ECN_2pct_3hr	4.4376	4.3970	4.4295	4.4822	4.4879	4.4893	4.4879	4.4924	4.4903	4.4918	4.4906	0.0029	4.4903
ECN_2pct_45min	4.2838	4.2838	4.2838	4.2857	4.2859	4.2852	4.2845	4.2860	4.2856	4.2823	4.2851	0.0023	4.2858
ECN_2pct_4_5hr	4.4439	4.4216	4.4329	4.4838	4.4802	4.4838	4.4183	4.4824	4.4588	4.4749	4.4601	0.0221	4.4855
ECN_2pct_6hr	4.4414	4.3576	4.4819	4.4397	4.4838	4.4868	4.4845	4.4891	4.4891	4.4829	4.4677	0.0433	4.4858
ECN_2pct_9hr	4.4159	4.3570	4.4491	4.4923	4.4865	4.4895	4.4523	4.4883	4.4891	4.4834	4.4723	0.0468	4.4862

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 3 (storm name : ECN_2pct_2hr_3).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 10% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.9571	3.9592	3.9589	3.9587	3.9595	3.9593	3.9593	3.9592	3.9588	3.9593	3.9592	0.0002	3.9592
ECN_5pct_12hr	4.3082	4.2483	4.2732	4.4083	4.5200	4.5200	4.2899	4.3437	4.2547	4.3139	4.3710	0.0976	4.3139
ECN_5pct_15min	3.9753	3.9755	3.9729	3.9732	3.9732	3.9760	3.9732	3.9757	3.9728	3.9768	3.9747	0.0017	3.9752
ECN_5pct_18hr	4.2749	4.1594	4.1594	4.6892	4.6876	4.6892	4.6876	4.6892	4.1843	4.2885	4.3780	0.2885	4.3518
ECN_5pct_1_5hr	4.5278	4.2855	4.5278	4.2843	4.2898	4.5321	4.5283	4.5321	4.5169	4.5265	4.5049	0.5176	4.5267
ECN_5pct_1hr	4.2930	4.2582	4.2928	4.2930	4.2919	4.2930	4.2754	4.2928	4.2928	4.2928	4.2868	0.0058	4.2928
ECN_5pct_20min	4.6999	4.0653	4.6672	4.6997	4.6974	4.6850	4.6851	4.6997	4.6978	4.6964	4.6887	0.0018	4.6969
ECN_5pct_24hr	4.5340	3.7980	4.1913	4.2329	4.2323	4.4354	4.4075	4.4098	4.4353	4.4098	4.2707	0.1853	4.4226
ECN_5pct_25min	4.2150	4.2328	4.2131	4.3329	4.3324	4.3659	4.3323	4.3854	4.1837	4.3163	4.2947	0.0611	4.3452
ECN_5pct_2hr	4.3492	4.3492	4.2751	4.2739	4.2839	4.3698	4.3698	4.3698	4.3698	4.3698	4.3526	0.0322	4.3698
ECN_5pct_30min	4.2699	4.2699	4.2491	4.2698	4.2698	4.2699	4.2698	4.2698	4.2698	4.2698	4.2698	0.0013	4.2698
ECN_5pct_3hr	4.2946	4.2990	4.2992	4.3479	4.2885	4.3592	4.3743	4.3468	4.2679	4.2845	4.3057	0.0494	4.2965
ECN_5pct_45min	4.2199	4.2198	4.2835	4.2682	4.2326	4.2232	4.2328	4.2282	4.2256	4.2232	4.2335	0.0225	4.2328
ECN_5pct_4_5hr	4.2879	4.3008	4.3589	4.2625	4.2698	4.2844	4.3143	4.2824	4.1394	4.2921	4.2991	0.0591	4.3358
ECN_5pct_6hr	4.4247	4.2068	4.2853	4.2524	4.3401	4.3633	4.3424	4.3428	4.3572	4.3400	4.3119	0.0863	4.3376
ECN_5pct_9hr	4.3539	4.2417	4.3139	4.2849	4.3092	4.2952	4.2885	4.2896	4.2837	4.2885	4.2935	0.0482	4.2889

CRITICAL DURATION : The critical duration for the 10% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_5pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6635	3.6636	3.6634	3.6638	3.6634	3.6633	3.6637	2.9638	3.6634	2.9633	3.6638	0.0002	3.6633
ECN_63pct_12hr	3.8845	3.8965	3.8926	3.8954	3.8948	3.7136	3.8958	3.8828	3.8958	3.8958	3.8958	0.0862	3.8958
ECN_63pct_15min	3.7282	3.7284	3.7286	3.7286	3.7289	3.7282	3.7287	3.7288	3.7282	3.7288	3.7285	0.0014	3.7288
ECN_63pct_18hr	3.7828	3.7308	2.8801	3.7859	3.8848	3.7823	3.7858	2.6178	3.7867	2.8241	3.7538	0.4102	3.7823
ECN_63pct_1_5hr	3.9689	3.8352	3.9828	3.9398	3.9402	3.9259	3.9331	3.9363	3.8496	3.8559	3.9013	0.0138	3.9357
ECN_63pct_1hr	3.9188	3.8976	3.9401	3.9123	3.9159	3.8192	3.9128	3.9188	3.9184	3.8183	3.9020	0.0020	3.9186
ECN_63pct_20min	3.7784	3.7787	3.7784	3.7839	3.7836	3.7788	3.7788	3.7838	3.7785	3.7785	3.7832	0.0016	3.7809
ECN_63pct_24hr	3.6188	3.6638	3.7853	3.8723	3.8838	3.6569	3.8838	3.6723	3.7838	3.8535	3.8239	0.0781	3.8843
ECN_63pct_25min	3.8070	3.8072	3.8066	3.8070	3.8068	3.8042	3.8049	3.8070	3.8066	3.8024	3.8058	0.0012	3.8062
ECN_63pct_2hr	3.9152	3.9897	3.9825	3.9835	3.9875	3.9209	3.9486	3.9429	3.9555	3.9582	3.9622	0.0176	3.9657
ECN_63pct_30min	3.8388	3.8386	3.8386	3.8387	3.8389	3.8386	3.8391	3.8388	3.8389	3.8388	3.8388	0.0001	3.8388
ECN_63pct_3hr	3.9328	3.9238	3.9782	3.9898	3.9823	3.9152	3.9094	3.9208	3.9367	3.9648	3.9425	0.0254	3.9355
ECN_63pct_45min	3.8029	3.8031	3.8035	3.8026	3.8039	3.8034	3.8035	3.8030	3.8033	3.8025	3.8032	0.0010	3.8030
ECN_63pct_4_5hr	3.9368	3.8035	3.9849	3.8035	3.8051	3.8980	3.8981	3.9302	3.9358	3.9848	3.9358	0.0468	3.9358
ECN_63pct_6hr	3.9384	3.8829	3.8781	3.8838	3.8838	3.8549	3.8582	3.9268	3.8522	3.9423	3.8707	0.0446	3.8829
ECN_63pct_9hr	3.8969	3.9285	3.9589	3.8782	3.9589	3.8783	3.7958	3.8679	3.8624	3.8912	3.8797	0.0570	3.8789

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_63pct_2hr_3).

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Summary information:

Total No. of Ensembles:	532
No. of Storms per ensemble:	10
No. of AEP Bands:	9
Object Name:	Site_B
Result type:	Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7853	3.7886	3.7860	3.7858	3.7854	3.7866	3.7846	3.7861	3.7850	3.7852	3.7853	0.0015	3.7855
ECN_0.2EY_12hr	3.8226	3.1699	3.2816	3.8158	3.8697	3.9458	3.2915	3.8458	3.8905	3.8508	3.6524	0.2586	3.8337
ECN_0.2EY_30min	3.8043	3.8763	3.8743	3.8753	3.8783	3.8263	3.8783	3.8055	3.8768	3.8365	3.8556	0.0308	3.8562
ECN_0.2EY_18hr	3.6228	3.8028	3.5419	3.8835	3.8728	3.9282	3.9586	3.8109	3.8050	3.7922	3.8535	0.0455	3.8300
ECN_0.2EY_1.5hr	3.8098	3.1665	3.0929	3.8484	3.1951	3.8502	3.1382	3.8388	3.8402	3.8510	3.6421	0.3240	3.8424
ECN_0.2EY_9hr	3.8004	3.1053	3.1023	3.8635	3.1186	3.5229	3.2138	3.8838	3.1469	3.1846	3.4052	0.3056	3.1848
ECN_0.2EY_24hr	3.7349	3.3375	3.8372	3.8396	3.8281	3.9065	3.8398	3.8385	3.8585	3.8170	3.8018	3.7349
ECN_0.2EY_36hr	3.8858	3.8859	3.8925	3.8412	3.8850	3.8855	3.8780	3.8438	3.8889	3.7799	3.8892	0.0341	3.8902
ECN_0.2EY_30min	3.8613	3.8638	3.8836	3.8807	3.8784	3.8843	3.8823	3.8809	3.8819	3.8628	3.8802	0.0015	3.8809
ECN_0.2EY_2hr	3.8149	3.1203	3.8048	3.1619	3.1572	3.8387	3.1578	3.8368	3.1738	3.8731	3.6149	0.3245	3.8379
ECN_0.2EY_30min	3.8449	3.8350	3.8432	3.8532	3.8353	3.8855	3.8138	3.8433	3.8380	3.8388	3.8518	3.8315	3.8349
ECN_0.2EY_3hr	3.8048	3.1304	3.8126	3.8048	3.1439	3.8588	3.1154	3.8365	3.1357	3.1591	3.5523	0.3523	3.1595
ECN_0.2EY_45min	3.8809	3.8739	3.8956	3.8958	3.8768	3.8768	3.8729	3.8808	3.8729	3.8803	3.8726	3.8829	3.8794
ECN_0.2EY_4.5hr	3.8418	3.1849	3.8829	3.8062	3.1899	3.8124	3.1896	3.8834	3.1963	3.1888	3.5656	0.3485	3.1906
ECN_0.2EY_6hr	3.8385	3.8259	3.8397	3.8349	3.8851	3.8729	3.8783	3.8454	3.8529	3.8503	3.8393	3.8393
ECN_0.2EY_9hr	3.2041	3.8285	3.8987	3.8239	3.8352	3.7958	3.8582	3.8059	3.8728	3.8424	3.8260	3.8759	3.1903

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7229	3.7226	3.7225	3.7221	3.7221	3.7229	3.7263	3.7221	3.7219	3.7216	3.7222	0.0003	3.7221
ECN_0.5EY_12hr	3.8996	3.0251	3.8196	3.8235	3.8659	3.8242	3.8961	3.8924	3.8568	3.8429	3.8552	0.1903	3.8392
ECN_0.5EY_30min	3.7389	3.7438	3.7389	3.7439	3.7385	3.7383	3.7383	3.7381	3.7385	3.7384	3.7385	0.0024	3.7384
ECN_0.5EY_18hr	3.8888	3.8557	3.8596	3.8630	3.9614	3.9206	3.8365	3.7138	3.7848	3.8888	3.8272	0.1262	3.8629
ECN_0.5EY_1.5hr	4.0249	3.0328	2.9925	4.0485	4.0498	4.0009	4.0328	4.0432	4.0539	4.0498	4.0351	0.0174	4.0359
ECN_0.5EY_9hr	3.9049	3.0905	3.9058	3.9049	3.9127	3.8945	3.8363	3.9038	3.0989	4.0247	3.6497	0.3089	3.9049
ECN_0.5EY_24hr	3.6039	3.8588	3.8588	3.8629	3.8527	3.9388	3.8621	3.9026	3.8588	3.8588	3.8593	3.8588	3.8588
ECN_0.5EY_2hr	3.8993	3.7487	3.8218	3.8582	3.8919	3.7557	3.7588	3.8230	3.7928	3.8252	3.8706	0.0895	3.8709
ECN_0.5EY_30min	3.8993	3.8960	3.8889	3.8939	3.8881	3.8960	3.8876	3.8835	3.8872	3.8873	3.8898	0.0039	3.8889
ECN_0.5EY_3hr	3.6088	3.8152	3.8161	3.8069	3.8423	3.8825	3.8488	3.8474	3.8018	3.8634	3.8488	3.8216	3.8078
ECN_0.5EY_30min	3.9053	3.8208	3.8198	3.8952	3.9209	3.8208	3.8751	3.8188	3.9233	3.8198	3.8598	3.8039	3.8753
ECN_0.5EY_3hr	3.8829	3.8438	3.8893	3.8854	3.8925	3.8123	3.8579	3.8182	3.8252	3.8686	3.8601	3.8254	3.8586
ECN_0.5EY_45min	3.8775	3.8745	3.8707	3.8778	3.8767	3.8764	3.8783	3.8769	3.8780	3.8768	3.8770	3.8015	3.8780
ECN_0.5EY_4.5hr	3.8038	3.8838	3.8633	3.8828	3.8861	3.8747	3.8859	3.8747	3.8374	3.8818	3.8395	3.8818	3.8818
ECN_0.5EY_6hr	3.8618	3.8659	3.8682	3.8672	3.8538	3.8654	3.8838	3.8691	3.8609	3.8853	3.8729	3.8895	3.8672
ECN_0.5EY_9hr	3.8802	3.8637	3.8634	3.8821	3.8248	3.8566	3.8132	3.8368	3.8362	3.8615	3.8587	3.8981	3.8525

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_15min	3.6868	3.6865	3.6861	3.6858	3.6858	3.6864	3.6860	3.6862	3.6858	3.6861	3.6861	0.0003	3.6863
ECN_1pct_12hr	3.4236	3.2628	3.3357	3.3805	3.8504	3.8289	3.3657	3.8617	3.8352	3.8763	3.6728	0.2284	3.8539
ECN_1pct_15min	3.8938	3.8241	3.8228	3.8209	3.8838	3.8221	3.8223	3.8843	3.8229	3.8231	3.8229	0.0308	3.8225
ECN_1pct_18hr	3.8443	3.8445	3.8447	3.8436	3.8475	3.8458	3.8556	3.8443	3.8427	3.8442	3.8432	0.0021	3.8440
ECN_1pct_1.5hr	3.8698	3.8698	3.8698	3.8698	3.8698	3.8698	3.8702	3.8698	3.8697	3.8698	3.8698	0.0000	3.8698
ECN_1pct_1hr	3.8265	3.8308	3.8306	3.8258	3.8258	3.8289	3.8139	3.8227	3.8228	3.8216	3.8260	0.0023	3.8258
ECN_1pct_20min	3.7568	3.7568	3.7568	3.7568	3.7568	3.7568	3.7567	3.7570	3.7568	3.7568	3.7568	0.0001	3.7568
ECN_1pct_24hr	3.8329	3.8329	3.8329	3.8329	3.8329	3.8329	3.8329	3.8329	3.8329	3.8329	3.8329	0.0000	3.8329
ECN_1pct_25min	3.8259	3.8259	3.8259	3.8259	3.8259	3.8259	3.8259	3.8259	3.8259	3.8259	3.8259	0.0000	3.8259
ECN_1pct_2hr	3.5478	3.4785	3.5079	3.8675	3.8547	3.8659	3.8718	3.8549	3.8547	3.8547	3.7996	0.1302	3.8598
ECN_1pct_45min	3.8825	3.8775	3.8782	3.8809	3.8804	3.8794	3.8797	3.8782	3.8794	3.8783	3.8782	0.0012	3.8789
ECN_1pct_4.5hr	3.8819	3.8684	3.8731	3.8826	3.8809	3.8693	3.8809	3.8693	3.8732	3.8802	3.8756	0.0058	3.8778
ECN_1pct_6hr	3.8168	3.8159	3.8682	3.8272	3.8538	3.8654	3.8838	3.8691	3.8609	3.8853	3.8729	0.0895	3.8672
ECN_1pct_9hr	3.8802	3.8637	3.8634	3.8821	3.8248	3.8566	3.8132	3.8368	3.8362	3.8615	3.8587	0.0981	3.8525

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_1pct_4_5hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_15min	3.4330	3.5350	3.6345	3.4056	3.6359	3.6365	3.6368	3.6365	3.6359	3.6365	3.6256	0.0936	3.6365
ECN_2pct_12hr	3.2108	3.0668	3.8452	3.1868	3.1307	3.8502	3.1338	3.8471	3.2219	3.8503	3.5328	0.3847	3.1838
ECN_2pct_15min	3.9049	3.8349	3.9328	3.9356	3.8352	3.9021	3.9358	3.9354	3.9358	3.9358	3.9008	0.0038	3.9352
ECN_2pct_18hr	3.8985	3.8580	3.8329	3.8899	3.1628	3.8982	3.8982	3.8884	3.8259	3.8788	3.8780	3.8836	3.8834
ECN_2pct_1.5hr	3.8955	3.8955	3.8955	3.8955	3.8955	3.8955	3.8955	3.8955	3.8955	3.8955	3.8955	0.0000	3.8955
ECN_2pct_1hr	3.8942	3.8788	3.8848	3.8799	3.8850	3.8855	3.8848	3.8848	3.8826	3.8885	3.8837	3.8885	3.8850
ECN_2pct_20min	3.8906	3.8831	3.8913	3.8898	3.8819	3.8911	3.8911	3.8923	3.8928	3.8835	3.8902	3.8905	3.8902
ECN_2pct_24hr	3.3159	3.7305	3.8923	3.8088	3.8159	3.8583	3.2967	3.8829	3.8095	3.8066	3.7226	3.8066	3.8522
ECN_2pct_25min	3.8478	3.8481	3.8478	3.8465	3.8352	3.8100	3.8687	3.8480	3.8459	3.8465	3.8449	3.8014	3.8523
ECN_2pct_2hr	3.2958	3.2607	3.8368	3.1765	3.2508	3.8340	3.2270	3.2480	3.2478	3.8366	3.2810	3.8239
ECN_2pct_30min	3.8908	3.8825	3.8811	3.8826	3.8828	3.8836	3.8862	3.8832	3.8845	3.8835	3.8830	3.8815	3.8828
ECN_2pct_3hr	3.2883	3.2836	3.2086	3.2578	3.2930	3.2885	3.2882	3.2085	3.2777	3.2965	3.2835	3.2835	3.2577
ECN_2pct_45min	3.1481	3.1506	3.2517	3.1519	3.1528	3.2585	3.1485	3.2488	3.1529	3.2513	3.1708	3.0034	3.1543
ECN_2pct_4.5hr	3.1958	3.1828	3.2394	3.2060	3.1790	3.1994	3.2175	3.2059	3.2438	3.2389	3.2230	3.0062	3.2060
ECN_2pct_6hr	3.2889	3.1716	3.2367	3.2479	3.2513	3.2294	3.2788	3.2689	3.2694	3.2143	3.2760	3.0613	3.2824
ECN_2pct_9hr	3.2498	3.2587	3.2112	3.2329	3.2088	3.2298	3.1979	3.2964	3.2265	3.2953	3.1756	3.0825	3.2955

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_10pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 3% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_3pct_15min	3.5677	3.9959	3.5953	3.9557	3.9559	3.9567	3.9565	3.9573	3.9554	3.9564	3.8064	2.9567
ECN_3pct_12hr	3.4371	3.2678	3.2948	3.8097	3.2958	3.2960	3.2968	3.9325	3.8358	3.8598	3.4310	3.2948
ECN_3pct_15min	3.8721	3.8128	3.8781	3.8702	3.8722	3.8789	3.8702	3.8721	3.8727	3.8727	3.8702	3.8721	3.8728
ECN_3pct_18hr	3.8936	3.1789	3.2510	3.3960	3.8042	3.8053	3.2815	3.8100	3.8302	3.8819	3.7018	3.8053
ECN_3pct_1.5hr	3.8540	3.4684	3.4082	3.8323	3.4081	3.8287	3.8998	3.8951	3.8929	3.8286	3.8058	3.8455	3.8571
ECN_3pct_1hr	3.8891	3.8695	3.8423	3.8545	3.8579	3.8658	3.8456	3.8584	3.8536	3.8588	3.8595	3.8595	3.8568
ECN_3pct_20min	3.1418	3.1409	3.8429	3.8499	3.8425	3.8429	3.1430	3.8429	3.1408	3.8441	3.6429	3.0009	3.1629
ECN_3pct_24hr	3.8824	3.2252	3.8323	3.8859	3.8329	3.8864	3.8824	3.8198	3.8288	3.8288	3.7521	3.8824	3.8830
ECN_3pct_25min	3.3935	3.2589	3.3951	3.3905	3.3764	3.3953	3.1847	3.0964	3.0856	3.8956	3.4950	3.0019	3.3954
ECN_3pct_2hr	3.4268	3.4181	3.4178	3.4743	3.4154	3.4979	3.4112	3.4212	3.4242	3.4511	3.4288	3.0123	3.4279
ECN_3pct_30min	3.8288	3.8345	3.8353	3.8307	3.8328	3.8342	3.8345	3.8359	3.8359	3.8844	3.8534	3.0024	3.8344
ECN_3pct_3hr	3.4478	3.5973	3.8918	3.8960	3.8992	3.8881	3.8885	3.8980	3.8980	3.8983	3.8080	3.8959	3.8980
ECN_3pct_45min	3.8186	3.8130	3.8182	3.8130	3.8159	3.8029	3.8020	3.8163	3.8123	3.8125	3.8093	3.8024	3.8126
ECN_3pct_4.5hr	3.8434	3.8238	3.8389	3.8331	3.8609	3.8368	3.8102	3.8962	3.8162	3.8192	3.8844	3.8502	3.8378
ECN_3pct_6hr	3.8693	3.8575	3.8815	3.8375	3.8619	3.8804	3.8988	3.8299	3.8258	3.8253	3.8839	3.8809
ECN_3pct_9hr	3.8158	3.8588	3.8691	3.8922	3.8604	3.8324	3.8582	3.8285	3.8688	3.8513	3.8377	3.8363	3.8581

CRITICAL DURATION : The critical duration for the 3% AEP is the ensemble ECN_3pct_2hr.
The median pattern for this ensemble is storm 3 (storm name : ECN_3pct_2hr_3).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_3pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_15min	3.8650	3.8651	3.8809	3.8585	3.8862	3.8892	3.8904	3.8821	3.8889	3.8915	3.8859	0.0068	3.8858
ECN_5pct_12hr	3.6985	3.6693	3.8898	3.8728	3.8952	3.8959	3.8308	3.8958	3.8958	3.8958	3.8538	3.8958	3.8958
ECN_5pct_15min	3.8559	3.8956	3.8952	3.8972	3.8961	3.8958	3.8963	3.8973	3.8975	3.8976	3.8966	3.8969	3.8968
ECN_5pct_18hr	3.8028	3.1586	3.8392	3.8825	3.8706	3.8958	3.8958	3.8958	3.8958	3.8958	3.8758	3.8958	3.8547
ECN_5pct_1.5hr	3.8216	3.2856	3.8269	3.8865	3.8893	3.8916	3.8903	3.8979	3.8969	3.8965	3.8848	3.8179	3.8836
ECN_5pct_1hr	3.8539	3.2588	3.8928	3.8917	3.8931	3.8931	3.8795	3.8945	3.8942	3.8959	3.8658	3.8959	3.8959
ECN_5pct_20min	3.8955	3.8638	3.8971	3.8958	3.8972	3.8970	3.8986	3.8948	3.8979	3.8965	3.8913	3.8971	3.8969
ECN_5pct_24hr	3.8899	3.7931	3.8911	3.8972	3.8915	3.8983	3.8879	3.8980	3.8948	3.8985	3.8903	3.8980
ECN_5pct_25min	3.8750	3.1320	3.8139	3.8927	3.1328	3.8905	3.8765	3.8950	3.1330	3.8968	3.7345	3.0017	3.8139
ECN_5pct_2hr	3.8689	3.0439	3.8752	3.8787	3.8859	3.8679	3.8698	3.8698	3.8698	3.8698	3.8598	3.8698	3.8698
ECN_5pct_30min	3.8685	3.8588	3.8695	3.8588	3.8588	3.8710	3.8710	3.8683	3.8626	3.8588	3.8657	3.8710	3.8588
ECN_5pct_3hr	3.8548	3.8388	3.8951	3.8869	3.8957	3.8940	3.8980	3.8959	3.8957	3.8843	3.8955	3.8957	3.8956
ECN_5pct_45min	3.8196	3.8220	3.8278	3.8260	3.8285	3.8232	3.8208	3.8282	3.8266	3.8241	3.8253	3.8285	3.8249
ECN_5pct_4.5hr	3.8882	3.8808	3.8506	3.8414	3.8659	3.8685	3.8182	3.8862	3.8359	3.8986	3.8557	3.8570	3.8364
ECN_5pct_6hr	3.8389	3.8263	3.8402	3.8349	3.8687	3.8729	3.8838	3.8454	3.8534	3.8509	3.8418	3.8843	3.8405
ECN_5pct_9hr	3.8583	3.8479	3.8138	3.8239	3.8052	3.8124	3.8582	3.8059	3.8282	3.8138	3.8338	3.8488	3.8260

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_5pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_15min	3.6628	3.6635	3.6635	3.6638	3.6638	3.6632	3.6626	3.6633	3.6639	3.6632	3.6633	0.0002	3.6632
ECN_63pct_12hr	3.8049	3.8349	3.8035	3.8348	3.8348	3.7435	3.8557	3.8638	3.8165	3.8286	3.8525	0.0882	3.8289
ECN_63pct_15min	3.8281	3.8283	3.8285	3.8280	3.8288	3.8286	3.8286	3.8288	3.8283	3.8282	3.8284	0.0002	3.8283
ECN_63pct_18hr	3.8898	3.8388	3.8389	3.8843	3.8845	3.8820	3.8855	3.8178	3.8846	3.8846	3.8729	0.0402	3.8842
ECN_63pct_1.5hr	3.8959	3.8159	3.8605	3.8592	3.8638	3.8289	3.8330	3.8962	3.8695	3.8638	3.8613	0.0176	3.8638
ECN_63pct_1hr	3.8843	3.8975	3.8989	3.8929	3.8959	3.8818	3.8329	3.8988	3.8982	3.8943	3.8903	0.0029	3.8929
ECN_63pct_20min	3.7838	3.7838	3.7823	3.7838	3.7835	3.7838	3.7835	3.7784	3.7836	3.7821	3.7832	0.0016	3.7832
ECN_63pct_24hr	3.8379	3.8634	3.7891	3.8728	3.8321	3.8660	3.8831	3.8722	3.8783	3.8818	3.8328	3.8782	3.8686
ECN_63pct_25min	3.8845	3.8859	3.8859	3.8859	3.8859	3.8841	3.8843	3.8845	3.8859	3.8823	3.8837	3.8012	3.8842
ECN_63pct_2hr	3.8131	3.8288	3.8626	3.8838	3.8674	3.8258	3.8480	3.8488	3.8552	3.8678	3.8478	3.8177	3.8455
ECN_63pct_30min	3.8845	3.8332	3.8323	3.8838	3.8283	3.8494	3.8795	3.8806	3.8738	3.8831	3.8588	3.8012	3.8560
ECN_63pct_3hr	3.8829	3.8438	3.8741	3.8845	3.8838	3.8351	3.8858	3.8288	3.8847	3.8832	3.8534	3.8254	3.8359
ECN_63pct_45min	3.8828	3.8829	3.8793	3.8825	3.8829	3.8822	3.8837	3.8829	3.8828	3.8823	3.8827	3.8010	3.8832
ECN_63pct_4.5hr	3.8838	3.8388	3.8387	3.8838	3.8838	3.8843	3.8840	3.8838	3.8555	3.8206	3.8540	3.8840	3.8959
ECN_63pct_6hr	3.8804	3.8828	3.8742	3.8829	3.8833	3.8543	3.8582	3.8359	3.8822	3.8823	3.8736	3.8845	3.8826
ECN_63pct_9hr	3.8898	3.8273	3.8383	3.8588	3.8760	3.8224	3.8703	3.8758	3.8859	3.8823	3.8814	3.8970	3.8702

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: BluffOut_US
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	5.7840	3.7843	3.7843	3.7848	3.7848	3.7831	3.7833	3.7833	3.7834	3.7837	3.7840	0.0035	3.7842
ECN_0.2EY_12hr	5.8292	3.1662	2.8788	2.8788	5.9028	3.9496	5.9583	5.8295	3.8819	4.8788	4.8778	1.1167	4.8783
ECN_0.2EY_15min	3.8865	3.6235	3.8824	3.8727	5.8791	3.8252	3.8781	3.8736	3.8747	3.8743	3.8707	0.0566	3.8749
ECN_0.2EY_18hr	5.6252	3.6580	5.6252	3.8854	5.6702	3.8860	3.8566	3.8539	3.8965	3.7901	3.9598	0.7660	3.8858
ECN_0.2EY_1.5hr	5.9269	6.1536	6.0419	5.8456	5.9521	6.1451	6.1352	6.0516	5.9606	6.0681	6.0550	0.0821	6.0599
ECN_0.2EY_1hr	6.0794	6.1836	6.1823	6.7023	6.1134	6.1696	6.1319	6.8548	6.1308	6.8161	6.1537	0.2025	6.1696
ECN_0.2EY_20min	5.9548	5.9354	5.9350	5.9368	5.9359	5.9324	5.9305	5.9358	5.9353	5.9356	5.9356	0.0008	5.9356
ECN_0.2EY_24hr	5.7992	5.8548	5.8607	5.9425	5.9429	5.8843	5.8762	5.9439	5.8388	5.7952	5.8898	0.0640	5.8867
ECN_0.2EY_2hr	3.9784	3.6785	3.9783	3.9724	3.9761	3.9786	3.8789	3.9684	3.6736	3.9789	3.8783	0.0915	3.9784
ECN_0.2EY_30min	6.0125	6.1196	6.0211	6.1585	6.1847	6.2260	6.1588	6.0969	6.1729	6.1783	6.1299	0.0545	6.1536
ECN_0.2EY_3hr	6.0422	6.0325	6.0415	6.0423	6.0427	6.0508	6.0128	6.0420	6.0136	6.0199	6.0251	0.0095	6.0229
ECN_0.2EY_45min	6.0492	6.0459	6.0487	6.0425	6.0429	6.0463	6.0455	6.0455	6.0436	6.0478	6.0458	0.0018	6.0459
ECN_0.2EY_4_5hr	6.2340	6.2539	6.2979	6.1918	6.2489	6.1228	6.2858	6.2478	6.1232	6.5846	6.2692	0.1343	6.2485
ECN_0.2EY_45min	6.0492	6.0458	6.0484	6.0424	6.0426	6.0335	6.0457	6.0380	6.0765	6.0478	6.0579	0.0220	6.0468
ECN_0.2EY_6hr	6.0342	6.0329	6.0389	6.0389	6.0391	6.0495	6.0356	6.0389	6.0513	6.0386	6.0394	0.0057	6.0389
ECN_0.2EY_9hr	6.2018	6.0253	6.2022	6.2235	6.0134	6.1962	6.0035	6.0959	6.0688	6.0594	6.1357	0.0940	6.1009

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	5.7199	5.7259	5.7203	5.7859	5.8588	5.7197	5.7258	5.7955	5.7956	5.7856	5.7829	0.0303	5.7858
ECN_0.5EY_12hr	5.8598	4.0228	4.8164	5.8287	5.8033	5.8258	5.8423	4.8886	5.8327	5.8525	5.8259	0.1572	5.8272
ECN_0.5EY_15min	5.7568	5.7955	5.7955	5.7958	5.7958	5.7967	5.7965	5.7963	5.7962	5.7961	5.7962	0.0004	5.7962
ECN_0.5EY_18hr	5.8828	5.8237	5.8260	5.8554	5.8561	5.5795	5.8299	5.7868	5.7896	5.7865	5.8254	0.1243	5.8549
ECN_0.5EY_1.5hr	6.0228	6.0323	6.0330	6.0373	6.0935	6.0350	6.0296	6.0343	6.0504	6.0536	6.0324	0.0177	6.0323
ECN_0.5EY_1hr	6.0821	6.0831	6.0810	6.0675	6.0842	6.0845	6.0878	6.0849	6.0836	6.0880	6.0808	0.0068	6.0846
ECN_0.5EY_20min	5.9549	5.9488	5.9499	5.9496	5.9494	5.9464	5.9459	5.9434	5.9456	5.9459	5.9477	0.0031	5.9473
ECN_0.5EY_24hr	5.6873	5.7388	5.8151	5.9682	5.9695	5.7385	5.7581	5.8216	5.7967	5.6823	5.7963	0.0850	5.7629
ECN_0.5EY_2hr	3.9881	3.9886	3.9896	3.9870	3.9855	3.9849	3.9854	3.9870	3.9832	3.9858	3.9856	0.0014	3.9855
ECN_0.5EY_30min	6.0844	6.1405	6.0385	6.1289	6.1384	6.1389	6.1408	6.1328	6.1371	6.1338	6.1088	0.0389	6.1390
ECN_0.5EY_3hr	6.0049	6.0202	6.0504	6.0649	6.0149	6.0104	6.0574	6.0960	6.0824	6.0859	6.0499	0.0310	6.0646
ECN_0.5EY_45min	5.9809	5.9863	5.9925	5.9939	5.9939	5.9907	5.9863	5.9929	5.9881	5.9926	5.9918	0.0045	5.9930
ECN_0.5EY_4_5hr	6.0536	6.0345	6.0489	6.0829	6.0693	6.0324	6.0815	6.0462	6.0733	6.0643	6.0607	0.0177	6.0597
ECN_0.5EY_45min	5.9952	5.9732	5.9724	5.9726	5.9788	5.9787	5.9783	5.9784	5.9762	5.9783	5.9803	0.0023	5.9785
ECN_0.5EY_6hr	6.2009	5.9921	5.9611	5.9959	5.9929	6.0250	5.9814	6.0548	6.0348	6.0378	6.0359	0.0429	6.0350
ECN_0.5EY_9hr	6.0256	5.9996	5.9998	5.9989	5.9987	5.9996	5.9972	6.0226	5.9998	6.0098	6.0041	0.0084	5.9997
ECN_0.5EY_9hr	6.0561	5.9867	6.0487	6.0373	5.9971	6.0424	5.9787	6.0884	5.9619	6.0159	5.9911	0.0457	5.9935

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 9 (storm name : ECN_0.5EY_2hr_9).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	6.0056	5.9969	6.0085	6.0069	6.0033	5.9859	6.0028	6.0083	6.0247	6.0326	6.0035	0.0109	6.0056
ECN_1pct_12hr	6.4425	6.3635	6.1258	6.2943	6.6673	6.2886	6.2852	6.6789	6.4589	6.5458	6.3709	0.1965	6.3589
ECN_1pct_15min	6.2201	6.2190	6.2183	6.2259	6.2259	6.2246	6.2198	6.2221	6.1398	6.2196	6.1897	0.0358	6.2198
ECN_1pct_18hr	6.3648	6.3639	6.3429	6.4059	6.0753	6.3663	6.3592	6.3263	6.3812	6.3030	6.3372	0.1082	6.3736
ECN_1pct_1.5hr	6.4552	6.4871	6.4579	6.4864	6.4755	6.4909	6.4761	6.4637	6.4815	6.4907	6.4750	0.0140	6.4749
ECN_1pct_1hr	6.4259	6.4295	6.4282	6.4208	6.4257	6.4279	6.4150	6.4217	6.4219	6.4209	6.4233	0.0033	6.4225
ECN_1pct_20min	6.3548	6.3569	6.3545	6.3547	6.3547	6.3554	6.3550	6.3548	6.3549	6.3552	6.3550	0.0002	6.3550
ECN_1pct_24hr	6.4589	6.3965	6.3559	6.4292	6.4668	6.3583	6.3583	6.4728	6.4583	6.3572	6.4570	0.3597	6.3597
ECN_1pct_2hr	6.0478	6.0237	6.0324	6.0278	6.0200	6.0284	6.0329	6.0529	6.0554	6.0547	6.0411	0.0104	6.0345
ECN_1pct_30min	6.2763	6.2984	6.2873	6.2930	6.2969	6.3032	6.2931	6.2936	6.2952	6.2947	6.2934	0.0054	6.2934
ECN_1pct_3hr	6.5405	6.4372	6.4584	6.4576	6.4558	6.4706	6.4665	6.4571	6.4577	6.5390	6.4702	0.0302	6.4575
ECN_1pct_45min	6.3809	6.3758	6.3795	6.3758	6.3758	6.3758	6.3688	6.3736	6.3733	6.3748	6.3757	0.0032	6.3758
ECN_1pct_4_5hr	6.5808	6.5852	6.5780	6.6839	6.5898	6.6548	6.6878	6.5836	6.6948	6.5798	6.6097	0.0446	6.5959
ECN_1pct_6hr	6.4158	6.4457	6.4592	6.4606	6.4519	6.4663	6.4801	6.4728	6.4395	6.4342	6.4609	0.0169	6.4577
ECN_1pct_9hr	6.4921	6.4626	6.4599	6.4655	6.4226	6.4547	6.4815	6.4089	6.4227	6.4481	6.4562	0.0262	6.4599

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_1pct_4_5hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	5.9329	5.8530	5.9323	5.9337	5.9585	5.8315	5.9325	5.9330	5.9193	5.8530	5.9208	0.0508	5.9236
ECN_2pct_12hr	6.3112	6.3529	6.3910	6.3836	6.4076	6.0234	6.2106	6.3813	6.3893	6.2567	6.3693	0.0911	6.3862
ECN_2pct_15min	5.9247	5.9286	5.9314	5.9329	5.9329	5.9349	5.9323	5.9334	5.9326	5.9346	5.9328	0.0035	5.9329
ECN_2pct_18hr	6.0815	6.0555	6.2811	6.2736	6.1859	6.0825	6.0954	5.9840	6.0216	6.0781	6.0784	0.0678	6.0866
ECN_2pct_1.5hr	6.2269	6.2289	6.2283	6.2355	6.2359	6.2283	6.2278	6.2282	6.2322	6.2348	6.2289	0.0030	6.2286
ECN_2pct_1hr	6.1916	6.1881	6.1852	6.1834	6.1834	6.1879	6.1823	6.1818	6.1839	6.1888	6.1856	0.1616
ECN_2pct_20min	6.0351	6.0387	6.0383	6.0382	6.0383	6.0367	6.0386	6.0358	6.0391	6.0385	6.0374	0.0015	6.0383
ECN_2pct_24hr	6.0198	6.0288	6.0892	6.0139	6.0139	6.0269	6.0688	6.0688	6.0292	6.0228	6.0485	0.0289	6.0259
ECN_2pct_2hr	6.0486	6.0459	6.0487	6.0425	6.0429	6.0463	6.0455	6.0455	6.0437	6.0463	6.0458	0.0018	6.0459
ECN_2pct_2hr	6.2340	6.2539	6.2979	6.1918	6.2489	6.1228	6.2858	6.2478	6.1232	6.5846	6.2692	0.1343	6.2485
ECN_2pct_30min	6.0578	6.0752	6.0776	6.0758	6.0758	6.0803	6.0805	6.0856	6.0818	6.0805	6.0785	0.0019	6.0783
ECN_2pct_3hr	6.2819	6.2898	6.2983	6.2854	6.2826	6.2888	6.2837	6.2849	6.2779	6.2841	6.2838	0.0038	6.2852
ECN_2pct_45min	6.1851	6.1670	6.1887	6.1850	6.1893	6.1895	6.1855	6.1854	6.1903	6.2488	6.1939	0.0026	6.1889
ECN_2pct_4_5hr	6.2980	6.2199	6.2822	6.2829	6.1919	6.2880	6.2151	6.2819	6.2419	6.2958	6.2538	0.0336	6.2829
ECN_2pct_6hr	6.2823	6.1786	6.2881	6.2842	6.2869	6.2844	6.2765	6.2883	6.2836	6.2819	6.2840	0.0035	6.2839
ECN_2pct_9hr	6.2969	6.2679	6.2981	6.2938	6.2835	6.2896	6.1850	6.2852	6.2229	6.2802	6.2754	0.0335	6.2826

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_2pct_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	5.9554	5.9567	5.9041	5.9545	5.9598	5.9547	5.9545	5.9540	5.9550	5.9542	5.9548	0.0004	5.9545
ECN_5pct_12hr	6.0428	5.9678	5.9810	6.0065	6.0002	6.0043	6.0569	6.0372	5.9312	6.0292	6.0127	0.0418	6.0098
ECN_5pct_15min	5.9583	5.9592	5.9589	5.9589	5.9589	5.9570	5.9571	5.9589	5.9575	5.9572	5.9582	0.0008	5.9580
ECN_5pct_18hr	6.2810	6.1752	6.2875	6.3688	6.0831	6.2823	6.2558	6.2882	6.2869	6.2985	6.2703	0.2203	6.2857
ECN_5pct_1.5hr	6.3922	6.4078	6.4070	6.3726	6.4049	6.4054	6.3991	6.4109	6.4116	6.4222	6.4065	0.0156	6.4059
ECN_5pct_1hr	6.3573	6.3585	6.3619	6.3556	6.3660	6.3629	6.3459	6.3639	6.3549	6.3567	6.3555	0.0059	6.3562
ECN_5pct_20min	6.1389	6.1405	6.1385	6.1389	6.1384	6.1389	6.1408	6.1398	6.1398	6.1411	6.1398	0.0008	6.1390
ECN_5pct_24hr	6.2009	6.2202	6.2504	6.2649	6.2149	6.2024	6.2574	6.2490	6.2024	6.2037	6.2290	0.0178	6.2249
ECN_5pct_2hr	6.2809	6.2863	6.2925	6.2939	6.2939	6.2907	6.2873	6.2933	6.2834	6.2881	6.2890	0.0030	6.2890
ECN_5pct_30min	6.2602	6.2745	6.2385	6.2685	6.2708	6.2780	6.2705	6.2657	6.2729	6.2823	6.2697	0.0074	6.2705
ECN_5pct_3hr	6.4486	6.3639	6.4586	6.4743	6.4743	6.4803	6.4922	6.4865	6.4883	6.4878	6.4636	0.0481	6.4692
ECN_5pct_45min	6.3168	6.3138	6.3186	6.2954	6.3161	6.3183	6.3047	6.3404	6.3605	6.3105	6.3197	0.0088	6.3183
ECN_5pct_4_5hr	6.6624	6.4240	6.4960	6.4834	6.3587	6.4558	6.4898	6.4850	6.4150	6.4161	6.4650	0.0822	6.4622
ECN_5pct_6hr	6.5620	6.3566	6.4398	6.3686	6.3619	6.4019	6.3638	6.3208	6.3577	6.4245	6.4268	0.0840	6.3998
ECN_5pct_9hr	6.3248	6.3552	6.0691	6.2963	6.3583	6.3221	6.3538	6.2263	6.3050	6.3695	6.3780	0.1072	6.3624

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_2hr.
The median pattern for this ensemble is storm 3 (storm name : ECN_5pct_2hr_3).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_2hr_10).

AEP: 10% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	5.8828	5.9885	5.8862	5.8963	5.8971	5.8862	5.8852	5.8849	5.8859	5.8871	5.8873	0.0008	5.8869
ECN_10pct_12hr	6.0844	5.9178	6.0965	6.0042	6.0743	6.0284	6.0367	6.0328	6.0281	6.0292	6.0327	0.0418	6.0308
ECN_10pct_15min	5.8925	5.8958	5.8928	5.8931	5.8931	5.8930	5.8937	5.8924	5.8930	5.8933	5.8930	0.0003	5.8930
ECN_10pct_18hr	6.0815	6.1565	6.2425	6.0669	6.0686	6.0829	6.0845	6.0828	6.1129	6.0916	6.0923	0.0323	6.0872
ECN_10pct_1.5hr	6.2208	6.2686	6.2825	6.2874	6.3042	6.2993	6.2989	6.3149	6.3147	6.2823	6.2976	0.0176	6.2979
ECN_10pct_1hr	6.2990	6.2159	6.2867	6.2699	6.2598	6.2852	6.2836	6.2796	6.2822	6.2880	6.2802	0.0235	6.2845
ECN_10pct_20min	6.0822	6.0832	6.0819	6.0824	6.0823	6.0837	6.0828	6.0827	6.0829	6.0826	6.0827	0.0006	6.0826
ECN_10pct_24hr	6.2348	6.1237	6.2147	6.2580	6.2200	6.2024	6.2569	6.2377	6.2312	6.2037	6.2179	0.0359	6.2158
ECN_10pct_2hr	6.1503	6.1463	6.1525	6.1525	6.1525	6.1525	6.1525	6.1525	6.1525	6.1525	6.1517	0.0020	6.1525
ECN_10pct_30min	6.2603	6.2745	6.2385	6.2685	6.2708	6.2780	6.2705	6.2657	6.2729	6.2823	6.2697	0.0074	6.2705
ECN_10pct_3hr	6.3168	6.3138	6.3186	6.2954	6.3161	6.3183	6.3047	6.3404	6.3605	6.3105	6.3197	0.0088	6.3183
ECN_10pct_45min	6.2624	6.2240	6.2960	6.2834	6.2587	6.2558	6.2898	6.2850	6.2150	6.2161	6.2550	0.0322	6.2522
ECN_10pct_4_5hr	6.5620	6.3566	6.4398	6.3686	6.3619	6.4019	6.3638	6.3208	6.3577	6.4245	6.4268	0.0840	6.3998
ECN_10pct_6hr	6.3248	6.3552	6.0691	6.2963	6.3583	6.3221	6.3538	6.2263	6.3050	6.3695	6.3780	0.1072	6.3624
ECN_10pct_9hr	6.3248	6.3552	6.0691	6.2963	6.3583	6.3221	6.3538	6.2263	6.3050	6.3695	6.3780	0.1072	6.3624

CRITICAL DURATION : The critical duration for the 10% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_10pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_20pct_10min	5.4329	5.3529	5.4330	5.4337	5.4585	5.3315	5.4325	5.4330	5.4193	5.3530	5.4008	0.0508	5.4036
ECN_20pct_12hr	5.5112	5.4529	5.4910	5.4836	5.4976	5.4234	5.4106	5.4813	5.4893	5.4567	5.4863	0.0911	5.4862
ECN_20pct_15min	5.4247	5.4286	5.4314	5.4329	5.4329	5.4349	5.4323	5.4334	5.4326	5.4346	5.4328	0.0035	5.4329
ECN_20pct_18hr	5.6815	5.6555	5.8811	5.8736	5.7859	5.6825	5.6954	5.5840	5.6216	5.6781	5.6784	0.0678	5.6866
ECN_20pct_1.5hr	5.8269	5.8289	5.8283	5.8355	5.8359	5.8283	5.8278	5.8282	5.8322	5.8348	5.8289	0.0030	5.8286
ECN_20pct_1hr	5.8916	5.8881	5.8852	5.8834	5.8834	5.8879	5.8823	5.8818	5.8839	5.8888	5.8856	0.1616
ECN_20pct_20min	5.9351	5.9387	5.9383	5.9382	5.9383	5.9367	5.9386	5.9358	5.9391	5.9385	5.9374	0.0015	5.9383
ECN_20pct_24hr	5.8198	5.8288	5.8892	5.8139	5.8139	5.8269	5.8688	5.8688	5.8292	5.8228	5.8485	0.0289	5.8259
ECN_20pct_2hr	5.8486	5.8459	5.8487	5.8425	5.8429	5.8463	5.8455	5.8455	5.8437	5.8463	5.8458	0.0018	5.8459
ECN_20pct_2hr	5.9340	5.9539	5.9979	5.8918	5.9489	5.8228	5.9858	5.9478	5.8232	5.8846	5.9242	0.1343	5.9485
ECN_20pct_30min	5.8578	5.8752	5.8776	5.8758	5.8758	5.8803	5.8805	5.8856	5.8818	5.8805	5.8785	0.0019	5.8783
ECN_20pct_3hr	6.0819	6.0898	6.1083	6.0954	6.0926	6.0988	6.0837	6.0849	6.0779	6.0841	6.0858	0.0038	6.0852
ECN_20pct_45min	5.9851	5.9670	5.9887	5.9850	5.9893	5.9895	5.9855	5.9854	5.9903	6.0488	5.9939	0.0026	5.9889
ECN_20pct_4_5hr	6.0980	6.0199	6.0822	6.0829	5.9919	6.0880	6.0151	6.0819	6.0419	6.0958	6.0538	0.0336	6.0829
ECN_20pct_6hr	6.0823	5.9786	6.0881	6.0842	6.0869	6.0844	6.0765	6.0883	6.0836	6.0819	6.0840	0.0035	6.0839
ECN_20pct_9hr	6.0969	6.0679	6.0981	6.0938	6.0835	6.0896	5.9850	6.0852	6.0229	6.0802	6.0754	0.0335	6.0826

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_20pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_20pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_20pct_3hr_10).

AEP: 50% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_50pct_10min	4.9828	4.9885	4.9862	4.9863	4.9871	4.9862	4.9852	4.9849	4.9859	4.9871	4.9863	0.0008	4.9849
ECN_50pct_12hr	5.0844	5.0178	5.0965	5.0042	5.0743	5.0284	5.0367	5.0328	5.0281	5.0292	5.0327	0.0418	5.0308
ECN_50pct_15min	4.9925	4.9958	4.9928	4.9931	4.9931	4.9930	4.9937	4.9924	4.9930	4.9933	4.9930	0.0003	4.9930
ECN_50pct_18hr	5.0815	5.1565	5.2425	5.0669	5.0686	5.0829	5.0845	5.0828	5.1129	5.0916	5.0923	0.0323	5.0872
ECN_50pct_1.5hr	5.2208	5.2686	5.2825	5.2874	5.3042	5.2993	5.2989	5.3149	5.3147	5.2823	5.2976	0.0176	5.2979
ECN_50pct_1hr	5.2990	5.2159	5.2867	5.2699	5.2598	5.2852	5.2836	5.2796	5.2822	5.2880	5.2802	0.0235	5.2845
ECN_50pct_20min	5.0822	5.0832	5.0819	5.0824	5.0823	5.0837	5.0828	5.0827	5.0829	5.0826	5.0827	0.0006	5.0826
ECN_50pct_24hr	5.2348	5.1237	5.2147	5.2580	5.2200	5.2024	5.2569	5.2377	5.2312	5.2037	5.2179	0.0359	5.2158
ECN_50pct_2hr	5.1503	5.1463	5.1525	5.1525	5.1525	5.1525	5.1525	5.1525	5.1525	5.1525	5.1517	0.0020	5.1525
ECN_50pct_30min	5.2603	5.2745	5.2385	5.2685	5.2708	5.2780	5.2705	5.2657	5.2729	5.2823	5.2697	0.0074	5.2705
ECN_50pct_3hr	5.3168	5.3138	5.3186	5.2954	5.3161	5.3183	5.3047	5.3404	5.3605	5.3105	5.3197	0.0088	5.3183
ECN_50pct_45min	5.2624	5.2240	5.2960	5.2834	5.2587	5.2558	5.2898	5.2850	5.2150	5.2161	5.2550	0.0322	5.2522
ECN_50pct_4_5hr	5.5620	5.3566	5.4398	5.3686	5.3619	5.4019	5.3638	5.3208	5.3577	5.4245	5.4268	0.0840	5.3998
ECN_50pct_6hr	5.3248	5.3552	5.0691	5.2963	5.3583	5.3221	5.3538	5.2263	5.3050	5.3695	5.3780	0.1072	5.3624
ECN_50pct_9hr	5.3248	5.3552	5.0691	5.2963	5.3583	5.3221	5.3538	5.2263	5.3050	5.3695	5.3780	0.1072	5.3624

CRITICAL DURATION : The critical duration for the 50% AEP is the ensemble ECN_50pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_50pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_50pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	4.6608	4.6653	4.6632	4.6660	4.6829	4.6636	4.6653	4.6634	4.6630	4.6608	4.6669	0.0082	4.6629
ECN_63pct_12hr	4.8828	4.8720	4.8911	4.8695	4.8725	4.8745	4.8572	4.8834	4.8745	4.8588	4.8752	0.0082	4.8743
ECN_63pct_15min	4.8268	4.8266	4.8266	4.8266	4.8268	4.8268	4.8263	4.8268	4.8266	4.8264	4.8265

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Summary information:

Total No. of Ensembles:	532
No. of Storms per ensemble:	10
No. of AEP Bands:	9
Object Name:	Nev2wale010
Result type:	Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7702	3.7705	3.7705	3.7707	3.7703	3.7705	3.7701	3.7701	3.7701	3.7699	3.7703	0.0004	3.7704
ECN_0.2EY_12hr	3.5019	3.5718	3.5285	3.5989	3.5285	3.5923	3.5356	3.5826	3.5818	3.5858	3.5827	0.0280	3.5858
ECN_0.2EY_15min	3.8211	3.8206	3.8208	3.8209	3.8210	3.8202	3.8202	3.8206	3.8207	3.8209	3.8208	0.0003	3.8209
ECN_0.2EY_18hr	3.9868	3.9868	3.9838	3.9829	3.9829	3.9878	3.9842	3.9703	3.9703	3.9956	3.9848	0.0078	3.9858
ECN_0.2EY_1.5hr	4.0501	4.0503	4.0280	4.0652	4.0474	4.0538	4.0555	4.0509	4.0532	4.0488	4.0503	0.0115	4.0509
ECN_0.2EY_1hr	3.9436	3.9375	3.9328	3.9490	3.9438	3.9458	3.9386	3.9368	3.9476	3.9385	3.9414	0.0058	3.9411
ECN_0.2EY_24hr	3.9032	3.9037	3.9024	3.9042	3.9026	3.9029	3.9044	3.9051	3.9045	3.9043	3.9037	0.0008	3.9044
ECN_0.2EY_2hr	3.7830	3.8359	3.7960	3.8001	3.8074	3.8091	3.8013	3.8222	3.8058	3.7959	3.8057	0.0162	3.8035
ECN_0.2EY_30min	3.9395	3.9395	3.9385	3.9387	3.9389	3.9407	3.9389	3.9460	3.9397	3.9398	3.9402	0.0022	3.9394
ECN_0.2EY_3hr	4.0639	4.0441	4.0454	4.0737	4.0993	4.0929	4.0694	4.0488	4.0605	4.0645	4.0682	0.0169	4.0669
ECN_0.2EY_30min	3.9653	3.9656	3.9648	3.9648	3.9686	3.9680	3.9645	3.9693	3.9652	3.9647	3.9655	0.0022	3.9655
ECN_0.2EY_45min	4.0699	4.0538	4.0557	4.0648	4.0837	4.0820	4.0598	4.0582	4.0618	4.0585	4.0708	0.0115	4.0679
ECN_0.2EY_4.5hr	4.0248	4.0198	4.0166	4.0065	4.0488	4.0538	4.0453	4.0453	4.0458	4.0421	4.0545	0.0139	4.0543
ECN_0.2EY_6hr	4.0568	4.0657	4.0330	4.0325	4.0035	4.0090	4.0089	4.0347	4.0616	4.0546	4.0254	0.0220	4.0262
ECN_0.2EY_9hr	4.0025	3.9750	3.9589	3.9375	4.0378	4.0354	4.0338	3.9402	4.0006	3.9803	4.0019	0.0234	4.0146

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7101	3.7107	3.7109	3.7103	3.7102	3.7101	3.7103	3.7102	3.7099	3.7101	3.7103	0.0003	3.7102
ECN_0.5EY_12hr	3.5728	3.6422	3.5985	3.6017	3.5985	2.8290	2.8290	3.6222	3.6065	3.6062	3.5260	0.2605	3.6060
ECN_0.5EY_15min	3.7815	3.7805	3.7815	3.7806	3.7811	3.7811	3.7812	3.7813	3.7815	3.7813	3.7813	0.0003	3.7813
ECN_0.5EY_18hr	3.8619	3.8045	3.8072	3.8071	3.8073	3.8241	3.8122	3.8099	3.8105	3.8024	3.8104	0.0054	3.8084
ECN_0.5EY_1.5hr	3.9703	3.9790	3.9435	3.9853	3.8858	3.9168	3.9787	3.9822	3.8945	4.0001	3.9537	0.0431	3.9807
ECN_0.5EY_1hr	3.9547	3.9567	3.9265	3.9638	3.9439	3.9435	3.9618	3.9620	3.9523	3.9528	3.9462	0.0234	3.9529
ECN_0.5EY_24hr	3.9292	3.9288	3.9269	3.9296	3.9273	3.9285	3.9297	3.9302	3.9282	3.9284	3.9287	0.0011	3.9286
ECN_0.5EY_2hr	3.8090	3.7289	3.8023	3.8496	3.7579	3.7422	3.7460	3.8045	3.7582	3.8166	3.7950	0.0318	3.7997
ECN_0.5EY_30min	3.9435	3.9085	3.9428	3.9429	3.9428	3.9434	3.9431	3.9418	3.9429	3.9429	3.9359	0.0076	3.9422
ECN_0.5EY_3hr	3.9408	3.9567	3.9652	3.9429	4.0089	3.9984	3.9984	3.9859	4.0005	4.0022	3.9859	0.0218	3.9906
ECN_0.5EY_30min	3.9823	3.9890	3.9888	3.9885	3.9898	2.9653	2.9982	3.9884	3.9854	3.9850	3.9850	0.0080	3.9888
ECN_0.5EY_45min	4.0503	4.0196	4.0197	4.0547	4.0838	4.0803	4.0598	4.0582	4.0618	4.0585	4.0587	0.0207	4.0592
ECN_0.5EY_4.5hr	3.9828	3.9088	3.9147	3.9550	4.0093	3.9805	3.9567	3.9680	3.9849	4.0080	3.9657	0.0372	3.9729
ECN_0.5EY_6hr	3.9952	3.9360	3.9108	3.9031	3.9855	3.9233	3.9368	3.9259	3.9378	3.9235	3.9369	0.0311	3.9356
ECN_0.5EY_9hr	3.9429	3.9237	3.9247	3.9243	3.9043	3.9241	3.9268	3.9804	3.9828	3.9676	3.9812	0.0234	3.9828
ECN_0.5EY_6hr	3.9685	3.9734	3.9358	3.9605	3.9342	3.9308	3.9148	3.9807	3.9559	3.9912	3.9367	0.0215	3.9359
ECN_0.5EY_9hr	3.9993	3.9791	3.9671	3.9629	3.9529	3.9248	3.9522	3.9062	3.9737	3.9225	3.9559	0.0292	3.9582

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9596	3.9569	3.9597	3.9599	3.9595	3.9588	3.9588	3.9588	3.9595	3.9587	3.9592	0.0003	3.9592
ECN_1pct_12hr	3.2604	3.2605	3.2598	3.2662	3.2613	3.2659	3.2658	3.2622	3.2618	3.2685	3.2635	0.0026	3.2630
ECN_1pct_15min	3.9834	3.9835	3.9845	3.9836	3.9838	3.9841	3.9847	3.9843	3.9838	3.9842	3.9840	0.0003	3.9843
ECN_1pct_18hr	3.9403	3.1387	3.9851	3.9341	3.9784	3.9684	3.9839	3.9838	3.9838	3.9848	3.9296	0.0726	3.9784
ECN_1pct_1.5hr	3.9638	3.9810	3.9746	3.9576	3.9797	3.9665	3.9878	3.9847	3.9768	3.9651	3.9753	0.0125	3.9789
ECN_1pct_1hr	3.9359	3.9388	3.9768	3.9780	3.9828	3.9779	3.9852	3.9784	3.9852	3.9805	3.9639	0.0239	3.9779
ECN_1pct_24hr	3.9160	3.9150	3.9156	3.9159	3.9160	3.9165	3.9162	3.9162	3.9169	3.9164	3.9163	0.0005	3.9163
ECN_1pct_2hr	3.9185	3.9174	3.9174	3.9182	3.9177	3.9178	3.9182	3.9183	3.9178	3.9184	3.9180	0.0004	3.9180
ECN_1pct_30min	3.9523	3.9530	3.9564	3.9556	3.9559	3.9534	3.1256	3.9565	3.9562	3.9550	3.8015	0.8015	3.9550
ECN_1pct_3hr	4.0091	3.9825	4.0168	4.0287	4.0265	4.0265	4.0279	4.0265	4.0268	4.0278	4.0255	0.0134	4.0264
ECN_1pct_45min	4.0648	4.0549	4.0562	4.0659	4.0658	4.0649	4.0397	4.0693	4.0628	4.0663	4.0638	0.0091	4.0646
ECN_1pct_4.5hr	4.0203	4.0239	4.0315	4.0295	4.0268	4.0268	4.0226	4.0305	4.0239	4.0248	4.0258	0.0033	4.0262
ECN_1pct_6hr	4.0199	4.0498	4.0497	4.0384	4.0278	4.0268	4.0269	4.0021	4.0282	4.0262	4.0279	0.0119	4.0269
ECN_1pct_9hr	4.0719	4.0456	4.0529	4.0285	4.0358	4.0268	4.0287	4.0451	4.0197	4.0297	4.0355	0.0157	4.0351

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4.5hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_1pct_4.5hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4.5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.9295	3.9265	3.9298	3.9296	3.9294	3.9304	3.9305	3.9295	3.9295	3.9305	3.9299	0.0013	3.9299
ECN_2pct_12hr	3.0353	3.1997	3.0235	3.0426	3.0467	3.1231	3.0367	3.0033	3.1823	3.0427	3.0632	0.0535	3.0399
ECN_2pct_15min	3.9566	3.9004	3.9024	3.9019	3.9028	3.9008	3.9019	3.9021	3.9023	3.9023	3.9017	0.0005	3.9017
ECN_2pct_18hr	3.9452	3.9154	3.9183	3.9187	3.9240	3.9256	3.9228	3.9236	3.9232	3.9218	3.9224	0.0026	3.9225
ECN_2pct_1.5hr	4.0161	4.0299	4.0277	4.0337	4.0274	4.0299	4.0272	4.0298	4.0303	4.0299	4.0272	0.0045	4.0285
ECN_2pct_1hr	3.9549	3.9547	3.9559	3.9559	3.9548	3.9549	3.9556	3.9555	3.9551	3.9551	3.9552	0.0004	3.9551
ECN_2pct_24hr	3.9258	3.9258	3.9264	3.9262	3.9260	3.9263	3.9259	3.9259	3.9262	3.9259	3.9260	0.0002	3.9259
ECN_2pct_2hr	3.9003	3.8969	3.9009	3.9009	3.8992	3.8994	3.8999	3.9004	3.8999	3.8999	3.8998	0.0011	3.9000
ECN_2pct_30min	3.9750	3.9642	3.9652	3.9661	3.9659	3.9658	3.9675	3.9648	3.9678	3.9672	3.9668	0.0010	3.9670
ECN_2pct_3hr	3.9853	3.9565	3.9715	3.9699	3.9666	3.9666	3.9699	3.9666	3.9699	3.9699	3.9676	0.0053	3.9683
ECN_2pct_45min	4.0429	4.0228	4.0263	4.0290	4.0285	4.0252	4.0235	4.0460	4.0257	4.0462	4.0366	0.0091	4.0360
ECN_2pct_4.5hr	3.9412	3.9300	3.9372	3.9375	3.9345	3.9300	3.9245	3.9410	3.9299	3.9298	3.9356	0.0049	3.9355
ECN_2pct_6hr	3.9092	3.9128	3.9303	3.9326	3.9261	3.9093	3.9226	3.9272	3.9133	3.9284	3.9242	0.0080	3.9269
ECN_2pct_9hr	3.9268	3.9121	3.9411	3.9143	3.9098	3.9269	3.9162	3.9183	3.9121	3.9285	3.9127	0.0102	3.9143

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 3 (storm name : ECN_2pct_2hr_3).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.8622	3.8625	3.8621	3.8624	3.8629	3.8624	3.8636	3.8623	3.8629	3.8624	3.8627	0.0007	3.8625
ECN_5pct_12hr	3.0697	3.1765	3.0955	3.1049	3.0933	3.0933	3.0838	3.0926	3.1765	3.0926	3.0957	0.0275	3.0930
ECN_5pct_15min	3.9963	3.9580	3.9582	3.9582	3.9588	3.9566	3.9538	3.9624	3.9529	3.9621	3.9618	0.0018	3.9580
ECN_5pct_18hr	4.0520	4.0684	4.0028	4.0536	4.0418	4.0364	4.0399	4.0499	4.0496	4.0496	4.0394	0.0167	4.0534
ECN_5pct_1.5hr	4.1917	4.1656	4.1747	4.1566	4.1529	4.1625	4.1653	4.1688	4.1686	4.1685	4.1673	0.0103	4.1674
ECN_5pct_1hr	4.1429	4.1395	4.1393	4.1252	4.1387	4.1396	4.1425	4.1365	4.1382	4.1395	4.1382	0.0052	4.1397
ECN_5pct_24hr	4.0858	4.0859	4.0874	4.0864	4.0874	4.0868	4.0867	4.0821	4.0855	4.0864	4.0858	0.0014	4.0860
ECN_5pct_2hr	4.0508	4.1336	4.0926	4.0926	4.0974	4.1004	4.1003	4.0924	4.1004	4.0924	4.0993	0.0099	4.0965
ECN_5pct_30min	4.0603	3.7758	4.0928	4.0845	4.0875	3.9904	4.0227	4.0655	4.0629	4.0730	4.0428	0.0878	4.0716
ECN_5pct_3hr	4.0535	4.0464	4.0330	4.0360	4.0477	4.0489	4.0463	4.0503	4.0504	4.0537	4.0396	0.0072	4.0497
ECN_5pct_45min	4.0535	4.0558	4.0539	4.0549	4.0539	4.0498	4.0135	4.0459	4.0532	4.0532	4.0498	0.0116	4.0516
ECN_5pct_4.5hr	4.0522	4.0438	4.0395	4.0408	4.0498	4.0478	4.0352	4.0416	4.0426	4.0426	4.0436	0.0038	4.0426
ECN_5pct_6hr	4.0329	4.0393	4.0386	4.0385	4.0475	4.0060	4.0271	4.0373	4.0432	4.0439	4.0391	0.0107	4.0389
ECN_5pct_9hr	4.0993	4.0791	4.0671	4.0629	4.0529	4.0268	4.0527	4.0062	4.0737	4.0225	4.0559	0.0299	4.0582

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_5pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6589	3.6589	3.6588	3.6594	3.6589	3.6586	3.6548	3.6589	3.6587	3.6586	3.6587	0.0002	3.6588
ECN_63pct_12hr	2.9873	3.5862	3.0483	3.0024	3.0599	3.5296	2.9458	2.9283	3.5879	3.5041	3.2108	0.2835	3.0540
ECN_63pct_15min	3.7169	3.7168	3.7169	3.7165	3.7169	3.7163	3.7164	3.7164	3.7122	3.7165	3.7152	0.0015	3.7165
ECN_63pct_18hr	3.9398	3.9268	3.8789	3.7789	3.6901	3.8803	2.8321	3.6284	3.6398	3.6959	3.7234	0.0901	3.7588
ECN_63pct_1.5hr	3.8598	3.9636	3.8249	3.9832	3.9697	3.9663	3.8958	3.9636	3.8536	3.9185	3.9030	0.0127	3.9626
ECN_63pct_1hr	3.9841	3.9783	3.8783	3.8823	3.8847	3.9866	3.8828	3.9843	3.8866	3.9840	3.9243	0.0425	3.9824
ECN_63pct_20min	3.7589	3.7586	3.7564	3.7552	3.7538	3.7589	3.7565	3.7559	3.7582	3.7575	3.7584	0.0014	3.7586
ECN_63pct_24hr	3.6859	3.6538	3.7239	3.6882	3.6915	3.6572	3.6788	3.7250	3.6882	3.6943	3.6892	0.0233	3.6743
ECN_63pct_25min	3.7854	3.7893	3.7888	3.7896	3.7892	3.7896	3.7865	3.7892	3.7838	3.7850	3.7883	0.0015	3.7865
ECN_63pct_2hr	3.6886	3.6888	3.6912	3.6921	3.6921	3.6329	3.6139	3.6349	3.6892	3.6228	3.6857	0.0187	3.6894
ECN_63pct_30min	3.8832	3.8829	3.8803	3.8816	3.8804	3.8805	3.8180	3.8836	3.8809	3.8815	3.8580	0.0610	3.8809
ECN_63pct_3hr	3.8548	3.8285	3.8366	3.8705	3.8953	3.8699	3.8524	3.8568	3.8528	3.8742	3.8577	0.0214	3.8699
ECN_63pct_45min	3.8269	3.8535	3.8540	3.8560	3.8579	3.8565	3.8557	3.8590	3.8589	3.8585	3.8568	0.0016	3.8568
ECN_63pct_4.5hr	3.7948	3.8033	3.8031	3.8053	3.8078	3.8038	3.8022	3.8073	3.8034	3.8027	3.8033	0.0033	3.8033
ECN_63pct_6hr	3.8481	3.7965	3.8493	3.8529	3.8501	3.8239	3.8290	3.8557	3.8359	3.8851	3.8328	0.0224	3.8406
ECN_63pct_9hr	3.9127	3.7983	3.9085	3.9220	3.8911	3.9068	3.8863	3.7869	3.8292	3.9085	3.8540	0.0498	3.8655

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: Nev2wale040
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.9528	3.7527	3.7503	3.7545	3.9525	3.7527	3.9527	3.7528	3.7513	3.7524	3.7520	0.0864	3.7526
ECN_0.2EY_12hr	3.9469	3.9528	4.2258	3.9758	3.9519	3.9529	3.8959	3.9955	3.9536	3.9455	3.9586	0.0819	3.9540
ECN_0.2EY_15min	3.9518	3.9280	3.8301	3.9358	3.9315	3.8315	3.8315	3.9511	3.8320	3.9317	3.9302	0.0502	3.9324
ECN_0.2EY_18hr	3.9530	3.9950	4.3565	3.9055	3.9251	3.9500	3.9001	3.9795	3.9559	3.9398	3.9859	0.1359	3.9710
ECN_0.2EY_1.5hr	4.0203	4.0332	3.9814	4.0950	4.0939	4.0240	4.0314	4.0343	4.0089	4.0289	4.0334	0.0138	4.0307
ECN_0.2EY_1hr	4.0108	4.0389	4.0833	4.0149	4.0470	4.0214	4.0152	4.0459	4.0359	4.0169	4.0278	0.0178	4.0159
ECN_0.2EY_24hr	3.9825	3.9830	3.9833	3.9855	3.9853	3.9832	3.9839	3.9854	3.9837	3.9853	3.9842	0.0010	3.9838
ECN_0.2EY_36hr	3.9849	3.9165	3.9350	3.9354	3.9845	3.9384	3.9837	3.9830	3.9838	3.9853	3.9838	0.0061	3.9839
ECN_0.2EY_30min	3.9179	3.9180	3.9178	3.9178	3.9163	3.9161	3.9163	3.9178	3.9159	3.9161	3.9165	0.0008	3.9160
ECN_0.2EY_2hr	4.0040	4.0208	4.0221	4.0134	4.0045	4.0160	4.0451	4.0144	4.0092	4.0098	4.0460	0.0164	4.0147
ECN_0.2EY_30min	3.9431	3.9432	3.9429	3.9429	3.9403	3.9427	3.9429	3.9435	3.9400	3.9401	3.9432	0.0015	3.9432
ECN_0.2EY_3hr	4.0472	4.0280	4.0808	4.0873	4.0685	4.0805	4.0765	4.0868	4.0762	4.0652	4.0628	0.0228	4.0636
ECN_0.2EY_45min	3.9519	3.9508	3.9481	3.9508	3.9508	3.9503	3.9505	3.9514	3.9512	3.9514	3.9508	0.0014	3.9508
ECN_0.2EY_4.5hr	4.0893	4.0359	3.9933	3.9913	4.0289	4.0743	4.0786	4.0470	4.0476	4.0359	4.0317	0.0322	4.0322
ECN_0.2EY_6hr	4.0928	3.9428	4.0128	4.0093	3.9883	3.9829	3.9855	4.0089	3.9794	4.0043	4.0379	0.0514	3.9979
ECN_0.2EY_9hr	4.0564	3.9531	3.9858	4.0824	4.0191	4.0605	4.0099	3.9348	3.9856	3.9836	4.0245	0.0528	4.0130

| CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
| The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.6985	3.6788	3.6989	3.7007	3.6836	3.6925	3.6939	3.6997	3.6936	3.6960	3.6937	0.0102	3.6946
ECN_0.5EY_12hr	3.6508	3.6958	4.0181	3.8725	3.6231	3.7588	3.8059	3.6958	3.6629	3.6834	3.7386	0.1279	3.6959
ECN_0.5EY_15min	3.7639	3.7628	3.7639	3.7628	3.7634	3.7631	3.7632	3.7629	3.7634	3.7635	3.7632	0.0003	3.7632
ECN_0.5EY_18hr	3.6859	3.7676	3.9859	3.7982	3.7390	3.7848	3.7831	3.8860	3.7539	3.6823	3.7885	0.0912	3.7862
ECN_0.5EY_1.5hr	3.9503	3.9524	3.9279	3.9424	3.9460	3.9744	3.9562	3.9690	3.9717	3.9692	3.9572	0.0129	3.9580
ECN_0.5EY_1hr	3.9239	3.9367	3.9286	3.9415	3.9296	3.9422	3.9398	3.9382	3.9342	3.9393	3.9373	0.0063	3.9390
ECN_0.5EY_24hr	3.9009	3.8996	3.9029	3.8995	3.9031	3.9002	3.9009	3.9004	3.9029	3.9006	3.9011	0.0014	3.9009
ECN_0.5EY_36hr	3.8938	3.7835	3.7987	3.8959	3.8994	3.8988	3.8993	3.8988	3.8988	3.8993	3.8966	0.0051	3.8988
ECN_0.5EY_30min	3.8384	3.8408	3.8429	3.8458	3.8429	3.8456	3.8423	3.8456	3.8458	3.8429	3.8435	0.0031	3.8429
ECN_0.5EY_3hr	3.9848	3.8835	3.9481	3.9459	3.9838	3.9501	3.8676	3.9499	3.9778	3.9068	3.9218	0.0158	3.9215
ECN_0.5EY_45min	3.8484	3.8687	3.8685	3.8860	3.8659	3.8693	3.8668	3.8687	3.8677	3.8696	3.8695	0.0086	3.8695
ECN_0.5EY_4.5hr	3.9403	3.9528	3.9365	3.9368	3.9258	3.8593	3.9369	3.9458	3.9693	3.9439	3.9386	0.0322	3.9393
ECN_0.5EY_6hr	3.9843	3.8838	3.9133	3.9365	3.8189	3.9138	3.9353	3.9142	3.9337	3.9141	3.9245	0.0613	3.9259
ECN_0.5EY_9hr	4.0429	3.9278	3.9835	3.9092	3.9331	3.9264	3.9535	3.9579	3.9538	3.9408	3.9411	0.0511	3.9458
ECN_0.5EY_6hr	3.9299	3.9538	3.9193	3.9238	3.9310	3.9852	3.9581	3.9561	3.9884	3.9860	3.9268	3.9666
ECN_0.5EY_9hr	3.8717	3.7603	3.8828	3.9050	3.8313	3.8097	3.8269	3.7609	3.8550	3.7863	3.8367	0.0487	3.8289

| CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
| The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	4.9966	4.9385	4.9268	4.9268	4.9368	4.9368	4.9367	4.9368	4.9368	4.9366	4.9368	0.0020	4.9367
ECN_1pct_12hr	4.9193	4.9359	4.9592	4.9345	4.8837	4.9193	4.9308	4.9364	4.9059	4.9307	4.9230	0.0171	4.9245
ECN_1pct_15min	4.9216	4.9232	4.9208	4.9208	4.9214	4.9213	4.9209	4.9223	4.9210	4.9213	4.9209	0.0006	4.9209
ECN_1pct_18hr	4.9549	4.1320	4.1080	4.1582	4.1356	4.3284	4.1980	4.0564	4.1768	4.1788	4.2498	0.3893	4.1773
ECN_1pct_1.5hr	4.2343	4.2540	4.2196	4.2851	4.2500	4.2334	4.2345	4.2347	4.2348	4.2354	4.2377	0.0119	4.2349
ECN_1pct_1hr	4.2065	4.2208	4.2838	4.2029	4.2057	4.2109	4.1582	4.2048	4.2085	4.2059	4.2048	0.0215	4.2059
ECN_1pct_20min	4.0709	4.0722	4.0910	4.0718	4.0718	4.0716	4.0714	4.0716	4.0718	4.0715	4.0754	0.0065	4.0716
ECN_1pct_24hr	4.0176	4.1069	4.0113	4.0989	4.1112	4.0142	4.1368	4.0105	4.1026	4.0216	4.0725	0.0825	4.0171
ECN_1pct_25min	4.0916	4.0835	4.0851	4.0858	4.0857	4.0853	4.0849	4.0852	4.0858	4.0852	4.0858	0.0019	4.0852
ECN_1pct_2hr	4.0253	4.0705	4.1061	4.0528	4.0091	4.0355	4.1859	4.0048	4.0053	4.0054	4.0499	0.0849	4.0345
ECN_1pct_2.5hr	4.0514	4.0508	4.0528	4.0502	4.0516	4.0516	4.0533	4.0499	4.0528	4.0502	4.0513	0.0010	4.0514
ECN_1pct_30min	4.0265	4.0309	4.0303	4.0295	4.0286	4.0258	4.0296	4.0264	4.0302	4.0292	4.0295	0.0015	4.0295
ECN_1pct_3hr	4.0398	4.0854	4.0868	4.0837	4.0238	4.0261	4.2405	4.0268	4.0238	4.0285	4.0535	0.0541	4.0379
ECN_1pct_45min	4.0801	4.1713	4.0745	4.0758	4.0788	4.0772	4.0781	4.0782	4.1160	4.0766	4.0777	0.0119	4.0759
ECN_1pct_4.5hr	4.0854	4.0642	4.0439	4.1981	4.0349	4.0389	4.0567	4.0816	4.0698	4.0408	4.0569	0.0478	4.0579
ECN_1pct_6hr	4.1872	4.0558	4.0882	4.0876	4.0298	4.0388	4.0719	4.0672	4.0379	4.0691	4.0742	0.0521	4.0565
ECN_1pct_9hr	4.0690	4.0592	4.1083	4.1067	4.0933	4.0699	4.0831	4.0588	4.1089	4.0823	4.0808	0.0216	4.0758

| CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
| The median pattern for this ensemble is storm 9 (storm name : ECN_1pct_4_5hr_9).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	4.7858	4.7956	4.7956	4.7950	4.7959	4.7959	4.7970	4.7963	4.7957	4.7962	4.7960	0.0005	4.7958
ECN_2pct_12hr	4.6855	4.7042	4.6825	4.6969	4.6139	4.7545	4.8167	4.6856	4.6874	4.6501	4.6993	0.0428	4.6943
ECN_2pct_15min	4.8606	4.8606	4.8708	4.8690	4.8690	4.8692	4.8691	4.8691	4.8691	4.8691	4.8691	0.0001	4.8691
ECN_2pct_18hr	4.9209	4.9734	4.8884	4.9395	4.9193	4.9032	4.9288	4.9235	4.9502	4.9592	4.9386	0.0198	4.9362
ECN_2pct_1.5hr	4.8884	4.8734	4.8918	4.8917	4.8917	4.8921	4.8919	4.8919	4.8920	4.8917	4.8917	0.0005	4.8919
ECN_2pct_1hr	4.8683	4.8696	4.8681	4.8686	4.8686	4.8687	4.8686	4.8686	4.8686	4.8686	4.8686	0.0001	4.8686
ECN_2pct_24hr	4.7037	4.2106	4.8897	4.8726	4.1048	4.8585	4.5930	4.8834	4.8762	4.8432	4.6132	0.2834	4.8783
ECN_2pct_30min	4.8918	4.8939	4.8928	4.8929	4.8904	4.8908	4.8942	4.8929	4.8948	4.8940	4.8937	0.0014	4.8939
ECN_2pct_3hr	4.9048	4.9480	4.8788	4.9486	4.8798	4.3258	4.3286	4.8988	4.8202	4.8988	4.8552	0.2092	4.8988
ECN_2pct_45min	4.8382	4.8803	4.8419	4.8407	4.8419	4.8415	4.8389	4.8399	4.8422	4.8407	4.8402	0.0012	4.8407
ECN_2pct_4.5hr	4.8908	4.8418	4.1068	4.8049	4.8358	4.8258	4.8863	4.8474	4.1891	4.8231	4.6777	0.2233	4.8352
ECN_2pct_6hr	4.8490	4.8570	4.8678	4.8909	4.8948	4.8845	4.8591	4.8869	4.8858	4.8822	4.8832	0.0132	4.8846
ECN_2pct_9hr	4.8029	4.8405	4.8801	4.8389	4.8705	4.8527	4.8851	4.8188	4.8889	4.8853	4.8518	0.0328	4.8529

| CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_10pct_3hr.
| The median pattern for this ensemble is storm 4 (storm name : ECN_10pct_3hr_4).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	4.8992	4.9995	4.8985	4.8983	4.8985	4.8985	4.8989	4.8988	4.8988	4.8991	4.8988	0.0003	4.8988
ECN_2pct_12hr	4.3592	4.1708	4.4902	4.1368	4.8778	4.8773	4.5242	4.8784	4.5376	4.8783	4.6537	0.2079	4.8414
ECN_2pct_15min	4.9825	4.9856	4.9841	4.9835	4.9854	4.9854	4.9843	4.9856	4.9851	4.9842	4.9848	0.0008	4.9849
ECN_2pct_18hr	4.9384	4.9585	4.1952	4.9396	4.8962	4.8655	4.5128	4.9380	4.8962	4.9225	4.7480	0.2031	4.9156
ECN_2pct_1.5hr	4.9870	4.8893	4.9951	4.9758	4.9937	4.8877	4.7894	4.9878	4.8399	4.8949	4.8939	0.0458	4.9414
ECN_2pct_1hr	4.8622	4.8695	4.8693	4.8682	4.8698	4.8695	4.8691	4.8649	4.8649	4.8641	4.8657	0.0029	4.8665
ECN_2pct_20min	4.8243	4.8358	4.8249	4.8244	4.8248	4.8256	4.8356	4.8250	4.8358	4.8259	4.8255	0.0005	4.8259
ECN_2pct_24hr	4.8548	4.8892	4.1829	4.8525	4.1489	3.9538	4.0791	4.8425	4.8355	4.8285	4.5982	0.4982	4.8488
ECN_2pct_25min	4.8606	4.8760	4.8698	4.8705	4.8707	4.8708	4.8688	4.8705	4.8702	4.8702	4.8704	0.0017	4.8703
ECN_2pct_2hr	4.8871	4.2366	4.8810	4.2869	4.2802	4.2870	4.3969	4.2868	4.8828	4.8846	4.5579	0.3885	4.2868
ECN_2pct_30min	4.8982	4.8982	4.8957	4.8985	4.8939	4.8980	4.8953	4.8938	4.8959	4.8964	4.8960	0.0014	4.8959
ECN_2pct_3hr	4.8225	4.1688	4.8289	4.8949	4.1973	4.8625	4.8881	4.8649	4.1896	4.8974	4.8350	0.0285	4.8848
ECN_2pct_45min	4.8456	4.8488	4.8481	4.8429	4.8429	4.8459	4.8387	4.8398	4.8396	4.8480	4.8490	0.0019	4.8485
ECN_2pct_4.5hr	4.8841	4.8263	4.1663	4.8360	4.8873	4.8634	4.8371	4.8644	4.8098	4.8287	4.8799	0.0588	4.8585
ECN_2pct_6hr	4.8201	4.8458	4.8786	4.8585	4.8839	4.8789	4.8598	4.8398	4.8879	4.8944	4.8840	0.0206	4.8799
ECN_2pct_9hr	4.8936	4.8458	4.8158	4.8286	4.8182	4.8049	4.8085	4.8514	4.8169	4.8862	4.8427	0.0437	4.8457

| CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_2pct_2hr.
| The median pattern for this ensemble is storm 3 (storm name : ECN_2pct_2hr_3).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 10% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.8425	3.8424	3.8423	3.8421	3.8427	3.8428	3.8428	3.8428	3.8429	3.8430	3.8426	0.0007	3.8426
ECN_5pct_12hr	4.0985	4.0654	4.0995	4.0783	4.0990	4.0795	4.0955	4.1005	4.0292	4.0767	4.0727	0.0365	4.0955
ECN_5pct_15min	3.9289	3.9286	3.9283	3.9286	3.9290	3.9260	3.9258	3.9296	3.9288	3.9302	3.9285	0.0009	3.9288
ECN_5pct_18hr	4.0089	4.0621	4.1509	3.9647	4.0163	4.0096	3.9866	4.0107	4.0296	4.0588	4.0298	0.0758	4.0296
ECN_5pct_1.5hr	4.1254	4.1350	4.1248	4.1249	4.1269	4.1198	4.1353	4.1228	4.1221	4.1361	4.1293	0.0100	4.1269
ECN_5pct_1hr	4.0178	4.1069	4.0113	4.0989	4.1112	4.0142	4.1368	4.0105	4.1026	4.0216	4.0725	0.0825	4.0171
ECN_5pct_20min	3.9807	3.9805	3.9829	3.9829	3.9829	3.9829	3.9871	3.9829	3.9803	3.9808	3.9818	0.0017	3.9829
ECN_5pct_24hr	4.0842	3.7838	4.0673	4.0054	4.0159	3.9638	4.1889	3.9464	4.0838	4.0536	4.0291	0.0884	4.0489
ECN_5pct_25min	4.0196	4.0167	4.0139	4.0143	4.0137	4.0172	4.0144	4.0139	4.0159	4.0172	4.0157	0.0016	4.0160
ECN_5pct_2hr	4.0763	4.1309	4.1303	4.1295	4.0286	4.1258	0.1296	4.2964	4.0302	4.1292	4.0975	0.0019	4.1295
ECN_5pct_30min	4.0778	4.1309	4.1303	4.1295	4.0286	4.1258	0.1296	4.2964	4.0302	4.1292	4.0975	0.0019	4.1295
ECN_5pct_3hr	4.2798	4.2854	4.3958	4.0057	4.2258	4.2951	4.2485	0.2758	4.2838	4.2485	0.0841	4.2579
ECN_5pct_45min	4.1801	4.1713	4.1745	4.1758	4.1772	4.1781	4.1782	4.1760	4.1766	4.1771	4.1772	0.0019	4.1759
ECN_5pct_4.5hr	4.0854	4.2642	4.1439	4.1981	4.2349	4.2389	4.2567	4.2816	4.2698	4.2408	4.2439	0.0478	4.2579
ECN_5pct_6hr	4.1872	4.2558	4.2882	4.2876	4.2298	4.2388	4.2719	4.2672	4.2379	4.2691	4.2742	0.0521	4.2565
ECN_5pct_9hr	4.2690	4.2592	4.1083	4.1067	4.2933	4.2699	4.2831	4.2588	4.1089	4.2823	4.2808	0.0216	4.2758

| CRITICAL DURATION : The critical duration for the 10% AEP is the ensemble ECN_5pct_3hr.
| The median pattern for this ensemble is storm 4 (storm name : ECN_5pct_3hr_4).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6886	3.6383	3.6883	3.6886	3.6381	3.6880	3.6388	3.6888	3.6880	3.6881	3.6887	0.0002	3.6886
ECN_63pct_12hr	3.7658	3.8658	3.8278	3.9858	3.7621	3.7736	3.7985	3.9828	3.8858	3.8858	3.8296	0.0784	3.7826
ECN_63pct_15min	3.7661	3.8894	3.8898	3.8898	3.8898	3.8897	3.8897	3.8898	3.8895	3.8898	3.8898	0.0013	3.8898
ECN_63pct_18hr	3.7351	3.7885	3.8823	3.7988	3.8581	3.8786	3.7938	3.8823	3.8811	3.8886	3.8105	0.0553	3.8040
ECN_63pct_1.5hr	3.8834	3.8852	3.8540	3.9883	3.8892	3.8850	3.8792	3.8819	3.8529	3.8896	3.8811	3.8844
ECN_63pct_1hr	3.8586	3.8548	3.8586	3.8628	3.8589	3.8665	3.8627	3.8830	3.8605	3.8638	3.8625	0.0025	3.8628
ECN_63pct_20min	3.7886	3.7881	3.7886	3.7886	3.7886	3.7889	3.7879	3.7880	3.7880	3.7880	3.7880	0.0004	3.7880
ECN_63pct_24hr	3.9388	3.9388	3.8758	3.9388	3.8758	3.9388	3.8588	3.9388	3.8758	3.8758	3.8403	0.0773	3.8758
ECN_63pct_25min	3.7910	3.7921	3.7906	3.7909	3.7909	3.7884	3.7887	3.7910	3.7908	3.7886	3.7899	0.0011	3.7909
ECN_63pct_2hr	3.8629	3.9688	3.8807	3.9884	3.8088	3.8724	3.8962	3.8883	3.8884	3.8955	3.8818	0.0375	3.8884
ECN_63pct_30min	3.7905	3.7959	3.7899	3.7923	3.7909	3.7968	3.7923	3.7910	3.7918	3.7881	3.7919	0.0016	3.7920
ECN_63pct_3hr	3.8901	3.8672	3.8451	3.8388	3.8988	3.8734	3.8641	3.8988	3.8958	3.8958	3.8769	0.0269	3.8788
ECN_63pct_45min	3.8372	3.8238	3.8347	3.8322	3.8379	3.8362	3.8379	3.8398	3.8382	3.8364	3.8363	0.0018	3.8373
ECN_63pct_4.5hr	3.9291	3.8868	3.8215	3.8868	3.8868	3.8185	3.8729	3.8868	3.8883	3.8868	3.8685	0.0385	3.8868
ECN_63pct_6hr	3.8589	3.7762	3.8267	3.8000	3.8218	3.8489	3.8097	3.8752	3.8267	3.8588	3.8269	0.0298	3.8267
ECN_63pct_9hr	3.8717	3.7603	3.8828	3.9050	3.8313	3.8097	3.8269	3.7609	3.8550	3.7863	3.8367	0.0487	3.8289

| CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
| The median pattern for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_63pct_2hr_3).

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Summary information:

Total No. of Ensembles:	532
No. of Storms per ensemble:	10
No. of AEP Bands:	9
Object Name:	Site_C
Result type:	Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.3990	3.3992	3.3993	3.3990	3.3992	3.3992	3.3992	3.3989	3.3989	3.3990	3.3991	0.0001	3.3991
ECN_0.2EY_12hr	3.5232	3.5239	3.5182	3.5232	3.5170	3.5226	3.5196	3.5240	3.5203	3.5159	3.5208	0.0032	3.5215
ECN_0.2EY_15min	3.4576	3.4595	3.4588	3.4575	3.4597	3.4577	3.4597	3.4573	3.4592	3.4589	3.4589	0.0008	3.4591
ECN_0.2EY_18hr	3.5308	3.5304	3.5225	3.5295	3.4855	3.4709	3.5275	3.4825	3.4707	3.4805	3.4893	0.0268	3.4910
ECN_0.2EY_1.5hr	3.4793	3.5094	3.5089	3.4839	3.5056	3.5086	3.4816	3.4910	3.5091	3.4998	3.5046	0.0125	3.5063
ECN_0.2EY_1hr	3.4990	3.5705	3.5725	3.5059	3.5458	3.5330	3.5734	3.4955	3.5707	3.5391	3.5334	0.0214	3.5358
ECN_0.2EY_24hr	3.5636	3.5668	3.5039	3.5040	3.5040	3.4955	3.5042	3.5040	3.5042	3.5043	3.5035	0.0022	3.5040
ECN_0.2EY_2hr	3.4849	3.4937	3.5093	3.5089	3.4829	3.4958	3.4882	3.4960	3.4988	3.4978	3.4956	0.0083	3.4969
ECN_0.2EY_30min	3.5185	3.5185	3.5183	3.5080	3.5173	3.5180	3.5186	3.5184	3.5187	3.5187	3.5185	0.0004	3.5186
ECN_0.2EY_3hr	3.5748	3.5767	3.5753	3.5647	3.5718	3.5577	3.5851	3.5685	3.5697	3.5557	3.5692	0.0084	3.5699
ECN_0.2EY_36hr	3.5235	3.5235	3.5239	3.5239	3.5239	3.5290	3.5281	3.5283	3.5235	3.5292	3.5262	0.0024	3.5259
ECN_0.2EY_4hr	3.5651	3.5684	3.5362	3.5344	3.5834	3.5834	3.5733	3.5734	3.5997	3.5822	3.5721	0.0201	3.5743
ECN_0.2EY_45min	3.5671	3.5655	3.5659	3.5472	3.5661	3.5661	3.5667	3.5661	3.5673	3.5672	3.5663	0.0006	3.5660
ECN_0.2EY_6hr	3.4634	3.5722	3.3653	3.4570	3.5779	3.5724	3.5439	3.4484	3.5653	3.5383	3.5044	0.0128	3.5087
ECN_0.2EY_9hr	3.5502	3.5042	3.5739	3.5734	3.5691	3.5484	3.5623	3.5664	3.5389	3.5611	3.5648	0.0119	3.5649
ECN_0.2EY_96hr	3.5246	3.5326	3.5349	3.5335	3.5735	3.5914	3.5708	3.5243	3.5522	3.5386	3.5477	0.0248	3.5742

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.2EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.3651	3.3635	3.3635	3.3602	3.3632	3.3661	3.3633	3.3663	3.3629	3.3631	3.3637	0.0021	3.3632
ECN_0.5EY_12hr	3.4318	3.4288	3.4961	3.4958	3.4888	2.4865	2.4295	3.4661	3.4542	3.4572	3.4569	0.0345	3.4897
ECN_0.5EY_15min	3.4056	3.4059	3.4056	3.4058	3.4054	3.4053	3.4053	3.4052	3.4054	3.4053	3.4054	0.0002	3.4054
ECN_0.5EY_18hr	3.4643	3.4966	3.5249	3.4366	3.3820	3.3818	3.4185	3.3958	3.3915	3.3923	3.4023	0.0459	3.4643
ECN_0.5EY_1.5hr	3.4321	3.5088	3.5218	3.5068	3.5087	3.5108	3.5062	3.4389	3.4548	3.5541	3.5041	0.0334	3.5078
ECN_0.5EY_1hr	3.5252	3.5252	3.5243	3.5252	3.5288	3.5288	3.5279	3.5243	3.5232	3.5237	3.5257	0.0018	3.5256
ECN_0.5EY_24hr	3.4391	3.4329	3.4324	3.4389	3.4432	3.4382	3.4385	3.4581	3.0943	3.4585	3.4324	0.0004	3.4329
ECN_0.5EY_2hr	3.3431	3.3728	3.4185	3.3859	3.3874	3.3868	3.3863	3.4043	3.3990	3.3988	3.3899	0.0252	3.3879
ECN_0.5EY_30min	3.4046	3.4788	3.4851	3.4878	3.4699	3.4669	3.4695	3.4819	2.4696	3.4692	3.4720	0.0018	3.4703
ECN_0.5EY_3hr	3.5252	3.5263	3.5263	3.5409	3.5434	3.5289	3.5446	3.5445	3.5273	3.5684	3.5372	0.0125	3.5345
ECN_0.5EY_36hr	3.4948	3.4949	3.4998	3.4962	3.4959	2.4955	2.4943	2.4835	3.4991	3.4948	3.4958	0.0060	3.4998
ECN_0.5EY_4hr	3.5283	3.5283	3.5668	3.5263	3.5491	3.5503	3.5221	3.5276	3.5469	3.5293	3.5279	0.0170	3.5303
ECN_0.5EY_45min	3.5470	3.5752	3.5184	3.5573	3.5167	3.5367	3.5170	3.5469	3.5174	3.5175	3.5370	0.0305	3.5270
ECN_0.5EY_6hr	3.5539	3.5200	3.5107	3.5083	3.5258	3.5496	3.5331	3.5100	3.5179	3.5448	3.5307	0.0100	3.5288
ECN_0.5EY_9hr	3.5209	3.5762	3.5473	3.5089	3.5035	3.5904	3.5686	3.5358	3.5025	3.5830	3.5330	0.0196	3.5357
ECN_0.5EY_96hr	3.5234	3.5403	3.5023	3.5924	3.5158	3.5466	3.5127	3.4850	3.5923	3.4570	3.5257	0.0224	3.5168

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.5EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.5348	3.5360	3.5405	3.5349	3.5402	3.5368	3.5368	3.5360	2.5368	3.5401	3.5360	0.0001	3.5362
ECN_1pct_12hr	3.6213	3.6219	3.6214	3.6162	3.6158	3.5754	3.5139	3.7105	3.6178	3.6139	3.6142	0.0330	3.6226
ECN_1pct_15min	3.5611	3.5667	3.5673	3.5623	3.5633	3.5629	3.5633	3.5630	3.5638	3.5631	3.5635	0.0016	3.5636
ECN_1pct_18hr	3.6022	3.5977	3.6089	3.6160	3.6159	3.6304	3.6063	2.6194	3.6136	3.6052	3.6170	0.0218	3.6195
ECN_1pct_1.5hr	3.6529	3.6395	3.6529	2.6291	3.6348	3.6490	3.6342	3.6387	3.6373	3.6298	3.6355	0.0583	3.6544
ECN_1pct_1hr	3.6284	3.6280	3.6285	3.6265	3.6279	3.6286	3.6251	3.6268	3.6209	3.6268	3.6268	0.0013	3.6272
ECN_1pct_24hr	3.5829	3.5896	3.5828	3.5829	3.5830	3.5831	3.5831	3.5834	3.5836	3.5834	3.5830	0.0002	3.5830
ECN_1pct_2hr	3.6332	3.5962	3.6219	3.6169	3.6178	3.6166	3.5953	3.6391	3.6224	3.6368	3.6197	0.0154	3.6246
ECN_1pct_30min	3.5854	3.5962	3.5967	3.5919	3.5909	3.5958	2.5952	3.5959	2.5958	3.5959	3.5950	0.0002	3.5950
ECN_1pct_3hr	3.6198	3.6251	3.6198	3.6227	3.6346	3.6367	3.6352	3.6378	3.6414	3.6449	3.6378	0.0068	3.6384
ECN_1pct_36hr	3.6026	3.6063	3.6082	3.6037	3.6035	3.6031	3.6040	3.6042	3.6043	3.6022	3.6037	0.0015	3.6040
ECN_1pct_4hr	3.6237	3.6263	3.6261	3.6289	3.6273	3.6259	3.6307	3.6324	3.6296	3.6273	3.6278	0.0019	3.6281
ECN_1pct_45min	3.6209	3.6190	3.6195	3.6206	3.6204	3.6198	3.6191	3.6201	3.6252	3.6193	3.6204	0.0006	3.6205
ECN_1pct_6hr	3.6283	3.6365	3.6289	3.6243	3.6249	3.6304	3.6301	3.6359	3.6275	3.6339	3.6320	0.0040	3.6310
ECN_1pct_9hr	3.6249	3.6259	3.6272	3.6256	3.6203	3.6301	3.6763	3.6728	3.6263	3.6163	3.6422	0.0219	3.6206
ECN_1pct_96hr	3.6249	3.6255	3.6258	3.6282	3.6257	3.6353	3.6796	3.5910	3.6259	3.6213	3.6323	0.0236	3.6259

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_2hr.
The median pattern for this ensemble is storm 6 (storm name : ECN_1pct_2hr_6).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_2hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.4245	3.4265	3.4240	3.4243	3.4250	3.4221	3.4230	3.4231	3.4232	3.4232	3.4236	0.0011	3.4232
ECN_2pct_12hr	3.5378	3.5265	3.5852	3.5154	3.5424	3.5286	3.5345	3.5859	3.5963	3.5983	3.5579	0.0262	3.5530
ECN_2pct_15min	3.3525	3.3525	3.3525	3.3529	3.3529	3.3528	3.3528	3.3527	3.3534	3.3527	3.3528	0.0002	3.3528
ECN_2pct_18hr	3.5865	3.5863	3.6023	3.5852	3.5861	3.5865	3.5870	3.5893	3.5836	3.5893	3.5870	0.0015	3.5868
ECN_2pct_1.5hr	3.5018	3.5018	3.5018	3.5018	3.5018	3.5018	3.5018	3.5018	3.5018	3.5018	3.5018	0.0000	3.5018
ECN_2pct_1hr	3.5255	3.5255	3.5255	3.5255	3.5255	3.5255	3.5255	3.5255	3.5255	3.5255	3.5255	0.0000	3.5255
ECN_2pct_24hr	3.5829	3.5896	3.5828	3.5829	3.5830	3.5831	3.5831	3.5834	3.5836	3.5834	3.5830	0.0002	3.5830
ECN_2pct_2hr	3.4598	3.4601	3.4598	3.4598	3.4598	3.4598	3.4598	3.4598	3.4598	3.4598	3.4598	0.0000	3.4598
ECN_2pct_30min	3.5854	3.5962	3.5967	3.5919	3.5909	3.5958	3.5952	3.5959	3.5958	3.5959	3.5950	0.0002	3.5950
ECN_2pct_3hr	3.4198	3.4201	3.4198	3.4227	3.4346	3.4367	3.4352	3.4378	3.4414	3.4449	3.4278	0.0068	3.4284
ECN_2pct_36hr	3.4026	3.4063	3.4082	3.4037	3.4035	3.4031	3.4040	3.4042	3.4043	3.4022	3.4037	0.0015	3.4040
ECN_2pct_4hr	3.4237	3.4263	3.4261	3.4289	3.4273	3.4259	3.4307	3.4324	3.4296	3.4273	3.4278	0.0019	3.4281
ECN_2pct_45min	3.4209	3.4190	3.4195	3.4206	3.4204	3.4198	3.4191	3.4201	3.4252	3.4193	3.4204	0.0006	3.4205
ECN_2pct_6hr	3.4283	3.4365	3.4289	3.4243	3.4249	3.4304	3.4301	3.4359	3.4275	3.4339	3.4320	0.0040	3.4310
ECN_2pct_9hr	3.4249	3.4259	3.4272	3.4256	3.4203	3.4301	3.4763	3.4728	3.4263	3.4163	3.4422	0.0219	3.4206
ECN_2pct_96hr	3.4249	3.4255	3.4258	3.4282	3.4257	3.4353	3.4796	3.3910	3.4259	3.4213	3.4323	0.0236	3.4259

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 6 (storm name : ECN_2pct_2hr_6).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.3736	3.3737	3.3759	3.3750	3.3760	3.3737	3.3737	3.3739	3.3736	3.3722	3.3739	0.0009	3.3739
ECN_5pct_12hr	3.4963	3.4879	3.5291	3.4958	3.4958	3.4958	3.4958	3.4958	3.4958	3.4958	3.4958	0.0000	3.4958
ECN_5pct_15min	3.3231	3.3230	3.3251	3.3230	3.3230	3.3252	3.3252	3.3256	3.3230	3.3238	3.3239	0.0009	3.3235
ECN_5pct_18hr	3.5308	3.5264	3.5285	3.5274	3.5274	3.5023	3.5256	3.5281	3.5256	3.5256	3.5273	0.0016	3.5273
ECN_5pct_1.5hr	3.4208	3.4230	3.4219	3.4021	3.4137	3.4256	3.4156	3.4195	3.4203	3.4238	3.4366	0.0083	3.4367
ECN_5pct_1hr	3.4114	3.4079	3.4084	3.4024	3.4069	3.4045	3.4111	3.4068	3.4034	3.4102	3.4059	0.0028	3.4060
ECN_5pct_24hr	3.4825	3.4174	3.4428	3.4824	3.4824	3.4824	3.4148	3.4824	3.4824	3.4359	3.4753	0.0263	3.4824
ECN_5pct_25min	3.4573	3.4696	3.4696	3.4573	3.4573	3.4642	3.4573	3.4573	3.4573	3.4573	3.4593	0.0043	3.4573
ECN_5pct_2hr	3.4821	3.4696	3.4698	3.4698	3.4698	3.4698	3.4698	3.4698	3.4698	3.4698	3.4698	0.0000	3.4698
ECN_5pct_30min	3.4189	3.4189	3.4183	3.4079	3.4173	3.4256	3.4152	3.4163	3.4162	3.4189	3.4179	0.0053	3.4189
ECN_5pct_3hr	3.4198	3.4251	3.4198	3.4227	3.4346	3.4367	3.4352	3.4378	3.4414	3.4449	3.4278	0.0068	3.4284
ECN_5pct_36hr	3.4026	3.4063	3.4082	3.4037	3.4035	3.4031	3.4040	3.4042	3.4043	3.4022	3.4037	0.0015	3.4040
ECN_5pct_4hr	3.4237	3.4263	3.4261	3.4289	3.4273	3.4259	3.4307	3.4324	3.4296	3.4273	3.4278	0.0019	3.4281
ECN_5pct_45min	3.4209	3.4190	3.4195	3.4206	3.4204	3.4198	3.4191	3.4201	3.4252	3.4193	3.4204	0.0006	3.4205
ECN_5pct_6hr	3.4283	3.4365	3.4289	3.4243	3.4249	3.4304	3.4301	3.4359	3.4275	3.4339	3.4320	0.0040	3.4310
ECN_5pct_9hr	3.4249	3.4259	3.4272	3.4256	3.4203	3.4301	3.4763	3.4728	3.4263	3.4163	3.4422	0.0219	3.4206
ECN_5pct_96hr	3.4249	3.4255	3.4258	3.4282	3.4257	3.4353	3.4796	3.3910	3.4259	3.4213	3.4323	0.0236	3.4259

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.3241	3.3284	3.3284	3.3284	3.3283	3.3281	3.3280	3.3281	3.3282	3.3281	3.3282	0.0001	3.3282
ECN_63pct_12hr	3.4652	3.4841	3.5218	3.4652	3.4899	3.3050	3.3858	3.4219	3.4729	3.4969	3.4605	0.0650	3.4636
ECN_63pct_15min	3.3473	3.3488	3.3478	3.3473	3.3478	3.3630	3.3630	3.3481	3.3546	3.3630	3.3560	0.0068	3.3571
ECN_63pct_18hr	3.3341	3.3705	3.4529	3.4356	3.3383	3.3482	2.8832	2.9289	3.3458	3.2998	3.3619	0.1619	3.3585
ECN_63pct_1.5hr	3.4983	3.4616	3.4856	3.5085	3.4859	3.4855	3.4836	3.4723	3.4897	3.4588	3.4804	0.0144	3.4848
ECN_63pct_1hr	3.4892	3.4830	3.4821	3.4818	3.4903	3.4932	3.4885	3.4869	3.4897	3.4870	3.4872	0.0027	3.4882
ECN_63pct_20min	3.3920	3.3922	3.3920	3.3908	3.3921	3.3920	3.3899	3.3921	3.3905	3.3918	3.3915	0.0007	3.3919
ECN_63pct_24hr	3.2976	3.3268	3.2681	3.2834	3.2838	3.3238	2.3281	2.3866	3.2827	3.3587	3.0597	0.2859	3.2907
ECN_63pct_25min	3.4059	3.4059	3.4096	3.4059	3.4059	3.4063	3.4063	3.4058	3.4058	3.4085	3.4552	0.0066	3.4058
ECN_63pct_2hr	3.4651	3.4882	3.4882	3.5054	3.5026	3.4802	3.5055	3.5020	3.5054	3.5121	3.5892	0.0095	3.5052
ECN_63pct_30min	3.4218	3.4218	3.4289	3.4224	3.4218	3.4235	3.4224	3.4232	3.4237	3.4220	3.4232	0.0006	3.4228
ECN_63pct_3hr	3.5809	3.5956	3.5163	3.6428	3.5112	3.5829	3.4784	3.4903	3.5134	3.5256	3.5296	0.0172	3.5340
ECN_63pct_45min	3.4845	3.4536	3.4870	3.4834	3.4859	3.4871	3.4858	3.4853	3.4845	3.4844	3.4846	0.0021	3.4846
ECN_63pct_4hr	3.5018	3.4809	3.5109	3.4828	3.5158	3.5108	3.4860	3.4859	3.5089	3.5025	3.5020	0.0115	3.4959
ECN_63pct_6hr	3.4808	3.4880	3.4543	3.4868	3.4109	3.4238	3.4341	3.4063	3.4292	3.4864	3.4538	0.0240	3.4839
ECN_63pct_9hr	3.5082	3.4195	3.5083	3.4522	3.3004	3.4464	3.4914	3.4278	3.4159	3.4570	3.4414	0.0414	3.4494

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_63pct_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: Site_D
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.4927	3.4929	3.4929	3.4929	3.4937	3.4929	3.4935	3.4926	3.4929	3.4937	3.4929	0.0004	3.4927
ECN_0.2EY_12hr	3.4948	3.4955	3.4966	3.4985	3.4978	3.4953	3.4957	3.4952	3.4985	3.4966	3.4958	0.0016	3.4957
ECN_0.2EY_15min	3.4983	3.4955	3.4955	3.4952	3.4952	3.4969	3.4952	3.4952	3.4934	3.4953	3.4956	0.0015	3.4953
ECN_0.2EY_18hr	3.4968	3.4997	3.5020	3.5028	3.5004	3.4985	3.4990	3.4986	3.4993	3.4972	3.4994	0.0015	3.4985
ECN_0.2EY_1.5hr	3.4909	3.4886	3.4914	3.4967	3.4949	3.4897	3.4936	3.4936	3.4918	3.4982	3.4930	0.0029	3.4929
ECN_0.2EY_1hr	3.4916	3.4977	3.4983	3.4986	3.4969	3.4939	3.4986	3.4967	3.4917	3.4980	3.4962	0.0026	3.4966
ECN_0.2EY_24hr	3.4995	3.5006	3.5028	3.5006	3.5008	3.5028	3.5006	3.4998	3.4980	3.5028	3.5008	0.0016	3.5006
ECN_0.2EY_2hr	3.4966	3.4977	3.5006	3.5028	3.4985	3.4966	3.4985	3.4966	3.4966	3.4985	3.4982	0.0021	3.4977
ECN_0.2EY_30min	3.4927	3.4937	3.4936	3.4929	3.4929	3.4969	3.4951	3.4929	3.4934	3.4937	3.4935	0.0013	3.4936
ECN_0.2EY_3hr	3.4966	3.4996	3.5042	3.5028	3.4993	3.4966	3.4993	3.4966	3.4966	3.4993	3.4992	0.0024	3.4993
ECN_0.2EY_45min	3.4927	3.4956	3.4951	3.4929	3.4934	3.4969	3.4951	3.4934	3.4934	3.4951	3.4944	0.0015	3.4951
ECN_0.2EY_4.5hr	3.4993	3.5028	3.5042	3.5028	3.5028	3.5028	3.5028	3.4998	3.4993	3.5028	3.5024	0.0016	3.5028
ECN_0.2EY_6hr	3.4966	3.4996	3.5042	3.5028	3.4993	3.4966	3.4993	3.4966	3.4966	3.4993	3.4992	0.0024	3.4993
ECN_0.2EY_9hr	3.4966	3.4996	3.5042	3.5028	3.4993	3.4966	3.4993	3.4966	3.4966	3.4993	3.4992	0.0024	3.4993

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_3hr.
The median pattern for this ensemble is storm 1 (storm name : ECN_0.2EY_3hr_1).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.2EY_3hr_3).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.3639	3.3641	3.3645	3.3640	3.3639	3.3659	3.3648	3.3626	3.3629	3.3635	3.3642	0.0011	3.3645
ECN_0.5EY_12hr	3.3688	3.3688	3.3692	3.3690	3.3953	3.3696	3.3852	3.3716	3.3719	3.3699	3.3743	0.0081	3.3697
ECN_0.5EY_15min	3.3663	3.3665	3.3683	3.3665	3.3665	3.3662	3.3662	3.3662	3.3662	3.3683	3.3665	0.0011	3.3662
ECN_0.5EY_18hr	3.3648	3.3665	3.3685	3.3689	3.3653	3.3640	3.3664	3.3636	3.3704	3.3677	3.3672	0.0020	3.3669
ECN_0.5EY_1.5hr	3.3580	3.3588	3.3604	3.3610	3.3601	3.3580	3.3603	3.3584	3.3602	3.3588	3.3595	0.0011	3.3594
ECN_0.5EY_1hr	3.3648	3.3688	3.3688	3.3690	3.3653	3.3640	3.3664	3.3636	3.3704	3.3677	3.3672	0.0020	3.3669
ECN_0.5EY_24hr	3.3697	3.3705	3.3708	3.3690	3.3702	3.3708	3.3705	3.3698	3.3680	3.3708	3.3700	0.0011	3.3705
ECN_0.5EY_2hr	3.3688	3.3688	3.3708	3.3690	3.3702	3.3688	3.3705	3.3688	3.3704	3.3677	3.3694	0.0013	3.3688
ECN_0.5EY_30min	3.3639	3.3641	3.3645	3.3640	3.3639	3.3659	3.3648	3.3626	3.3629	3.3635	3.3642	0.0011	3.3645
ECN_0.5EY_3hr	3.3688	3.3688	3.3708	3.3690	3.3702	3.3688	3.3705	3.3688	3.3704	3.3677	3.3694	0.0013	3.3688
ECN_0.5EY_45min	3.3663	3.3665	3.3683	3.3665	3.3665	3.3662	3.3662	3.3662	3.3662	3.3683	3.3665	0.0011	3.3662
ECN_0.5EY_4.5hr	3.3697	3.3705	3.3708	3.3690	3.3702	3.3708	3.3705	3.3698	3.3680	3.3708	3.3700	0.0011	3.3705
ECN_0.5EY_6hr	3.3688	3.3688	3.3708	3.3690	3.3702	3.3688	3.3705	3.3688	3.3704	3.3677	3.3694	0.0013	3.3688
ECN_0.5EY_9hr	3.3688	3.3688	3.3708	3.3690	3.3702	3.3688	3.3705	3.3688	3.3704	3.3677	3.3694	0.0013	3.3688

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.5EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 10 = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.2973	3.2989	3.3183	3.2978	3.2972	3.2933	3.2983	3.2982	3.2979	3.2973	3.2991	0.0061	3.2979
ECN_1pct_12hr	3.3171	3.3208	3.2957	3.3619	3.4538	3.2982	3.3585	3.3572	3.3349	3.3583	3.3396	0.0470	3.3369
ECN_1pct_15min	3.2983	3.2982	3.2837	3.3033	3.2649	3.2639	3.2998	3.2640	3.2838	3.2834	3.2895	0.0162	3.2837
ECN_1pct_18hr	3.2986	3.3859	3.2804	3.4038	3.3629	3.3185	3.4519	3.3468	3.3389	3.3223	3.3470	0.0345	3.3392
ECN_1pct_1.5hr	3.3265	3.4361	3.3278	3.3333	3.3278	3.3069	3.3387	3.3385	3.3269	3.3273	3.3330	0.0091	3.3287
ECN_1pct_1hr	3.3279	3.3284	3.3258	3.3287	3.3248	3.3265	3.3282	3.3229	3.3291	3.3234	3.3265	0.0022	3.3257
ECN_1pct_20min	3.2853	3.2819	3.2865	3.2921	3.2844	3.2816	3.2865	3.2857	3.2821	3.2897	3.2860	0.0032	3.2858
ECN_1pct_24hr	3.3398	3.3391	3.3524	3.3328	3.3434	3.3481	3.3469	3.3440	3.3482	3.3527	3.3445	0.0061	3.3434
ECN_1pct_25min	3.2946	3.2945	3.2983	3.2993	3.2993	3.2934	3.2995	3.2947	3.2945	3.2983	3.2967	0.0023	3.2945
ECN_1pct_2hr	3.3215	3.3296	3.3442	3.3287	3.3195	3.3282	3.3229	3.3098	3.3205	3.3092	3.3226	0.0096	3.3208
ECN_1pct_30min	3.3212	3.3150	3.3196	3.3259	3.3201	3.3069	3.3360	3.3172	3.3259	3.3150	3.3203	0.0055	3.3205
ECN_1pct_3hr	3.3268	3.3317	3.3214	3.3199	3.3169	3.3229	3.3260	3.3146	3.3199	3.3169	3.3220	0.0051	3.3199
ECN_1pct_45min	3.3258	3.3245	3.3213	3.3229	3.3171	3.3265	3.3705	3.3048	3.3215	3.3028	3.3357	0.0168	3.3228
ECN_1pct_9hr	3.3356	3.3299	3.3804	3.3084	3.3021	3.3679	3.3839	3.2994	3.3085	3.3085	3.3217	0.0270	3.3085

CRITICAL DURATION : The critical duration for the 10 AEP is the ensemble ECN_1pct_2hr.
The median pattern for this ensemble is storm 6 (storm name : ECN_1pct_2hr_6).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_2hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	3.0928	3.1962	3.1968	3.1969	3.1969	3.1967	3.1967	3.1965	3.1962	3.1962	3.1956	0.0052	3.1964
ECN_10pct_12hr	3.2551	3.2846	3.2687	3.2543	3.2965	3.2789	3.2884	3.2687	3.2786	3.2840	3.2748	0.0114	3.2743
ECN_10pct_15min	3.2159	3.2897	3.2197	3.2282	3.2208	3.2958	3.2803	3.2802	3.2803	3.2259	3.2527	0.0332	3.2208
ECN_10pct_18hr	3.2139	3.2839	3.2281	3.2217	3.2434	3.2438	3.2258	3.2358	3.2358	3.2698	3.2436	0.0187	3.2359
ECN_10pct_1.5hr	3.2838	3.2837	3.2838	3.2838	3.2838	3.2838	3.2838	3.2838	3.2838	3.2838	3.2838	0.0000	3.2838
ECN_10pct_1hr	3.2732	3.2798	3.2752	3.2585	3.2784	3.2721	3.2791	3.2702	3.2787	3.2768	3.2742	0.0070	3.2755
ECN_10pct_20min	3.2359	3.2386	3.2361	3.2363	3.2362	3.2361	3.2361	3.2363	3.2363	3.2359	3.2362	0.0001	3.2361
ECN_10pct_24hr	3.2838	3.1625	3.2308	3.1958	3.2969	3.2308	3.2965	3.2239	3.2138	3.2295	3.2344	0.0420	3.2295
ECN_10pct_25min	3.2363	3.2365	3.2825	3.2959	3.2957	3.2960	3.2959	3.2444	3.2962	3.2966	3.2852	0.0268	3.2962
ECN_10pct_2hr	3.2839	3.2842	3.2785	3.2782	3.2847	3.2833	3.2825	3.2805	3.2836	3.2842	3.2825	0.0056	3.2836
ECN_10pct_30min	3.2531	3.2536	3.2532	3.2537	3.2539	3.2545	3.2542	3.2539	3.2543	3.2541	3.2539	0.0004	3.2539
ECN_10pct_3hr	3.2793	3.2739	3.2728	3.2749	3.2782	3.2844	3.2798	3.2782	3.2798	3.2847	3.2780	0.0037	3.2789
ECN_10pct_45min	3.2684	3.2692	3.2698	3.2698	3.2703	3.2704	3.2691	3.2655	3.2703	3.2702	3.2683	0.0021	3.2700
ECN_10pct_4.5hr	3.2819	3.2959	3.2839	3.2838	3.2857	3.2838	3.2838	3.2838	3.2852	3.2852	3.2837	0.0023	3.2838
ECN_10pct_6hr	3.2814	3.2788	3.2855	3.2823	3.2838	3.2838	3.2853	3.2838	3.2809	3.2848	3.2837	0.0020	3.2838
ECN_10pct_9hr	3.2820	3.2828	3.2753	3.2581	3.2783	3.2102	3.2838	3.2569	3.2938	3.2401	3.2656	0.0254	3.2669

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_10pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.2236	3.2253	3.3294	3.2834	3.2259	3.2233	3.2231	3.2234	3.2236	3.2236	3.2362	0.0301	3.2255
ECN_2pct_12hr	3.2755	3.2826	3.2758	3.2939	3.3432	3.2748	3.2928	3.2828	3.2825	3.2833	3.2870	0.0219	3.2830
ECN_2pct_15min	3.2512	3.2932	3.2588	3.2539	3.2514	3.2540	3.2308	3.2512	3.2522	3.2958	3.2564	0.0302	3.2529
ECN_2pct_18hr	3.2512	3.2887	3.2828	3.2529	3.2322	3.2293	3.2842	3.2983	3.2522	3.2961	3.2763	0.0291	3.2661
ECN_2pct_1.5hr	3.3124	3.3289	3.3622	3.3095	3.3139	3.3265	3.3149	3.3150	3.3219	3.3286	3.3189	0.0068	3.3169
ECN_2pct_1hr	3.3262	3.3367	3.3193	3.3698	3.3316	3.3258	3.3057	3.3089	3.3109	3.3119	3.3227	0.0153	3.3185
ECN_2pct_20min	3.2683	3.2626	3.2685	3.2665	3.2687	3.2688	3.2685	3.2688	3.2687	3.2681	3.2687	0.0002	3.2688
ECN_2pct_24hr	3.2916	3.2783	3.2995	3.2958	3.2958	3.2296	3.2752	3.3046	3.2958	3.2819	3.2907	0.0209	3.2887
ECN_2pct_25min	3.2864	3.2885	3.2910	3.2921	3.2916	3.2883	3.2895	3.2913	3.2923	3.2912	3.2908	0.0022	3.2912
ECN_2pct_2hr	3.3102	3.3165	3.3121	3.3340	3.3113	3.3034	3.3134	3.3034	3.3038	3.3255	3.3143	0.0083	3.3095
ECN_2pct_30min	3.2879	3.2938	3.2953	3.2936	3.2958	3.2967	3.2902	3.2902	3.2903	3.2884	3.2922	0.0026	3.2909
ECN_2pct_3hr	3.3228	3.3261	3.3253	3.3065	3.3082	3.3054	3.3078	3.3024	3.3038	3.3126	3.3119	0.0071	3.3069
ECN_2pct_45min	3.3078	3.3057	3.3056	3.3035	3.3092	3.3040	3.3034	3.3034	3.3058	3.3032	3.3052	0.0019	3.3056
ECN_2pct_4.5hr	3.3221	3.3232	3.3058	3.2849	3.3050	3.3064	3.3118	3.3140	3.3132	3.3168	3.3103	0.0110	3.3125
ECN_2pct_6hr	3.3280	3.3028	3.3083	3.2934	3.3005	3.3089	3.3069	3.3143	3.3072	3.3153	3.3109	0.0072	3.3089
ECN_2pct_9hr	3.3129	3.2867	3.3034	3.2883	3.3001	3.3205	3.3229	3.2948	3.3028	3.3102	3.3045	0.0101	3.3052

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 6 (storm name : ECN_2pct_2hr_6).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.2693	3.2691	3.3683	3.2960	3.2934	3.2693	3.2697	3.2698	3.2693	3.2698	3.2898	0.0302	3.2694
ECN_5pct_12hr	3.2745	3.2826	3.2780	3.2762	3.2783	3.2748	3.2828	3.2825	3.2825	3.2830	3.2798	0.0035	3.2787
ECN_5pct_15min	3.2549	3.2568	3.2568	3.2553	3.2549	3.2549	3.2549	3.2551	3.2559	3.2553	3.2550	0.0008	3.2549
ECN_5pct_18hr	3.2538	3.2650	3.2655	3.2539	3.2538	3.2538	3.2538	3.2538	3.2538	3.2538	3.2557	0.0035	3.2538
ECN_5pct_1.5hr	3.2894	3.2928	3.2958	3.2958	3.2919	3.2965	3.2865	3.2959	3.2965	3.2961	3.2949	0.0025	3.2957
ECN_5pct_1hr	3.2745	3.2808	3.2815	3.2829	3.2829	3.2947	3.2829	3.2829	3.2829	3.2830	3.2829	0.0032	3.2829
ECN_5pct_20min	3.2588	3.2588	3.2502	3.2592	3.2592	3.2592	3.2592	3.2592	3.2592	3.2592	3.2592	0.0002	3.2592
ECN_5pct_24hr	3.2903	3.2778	3.2878	3.2858	3.2858	3.2914	3.2961	3.2936	3.2858	3.2858	3.2878	0.0051	3.2878
ECN_5pct_25min	3.2620	3.2623	3.2611	3.2629	3.2612	3.2629	3.2621	3.2622	3.2618	3.2621	3.2622	0.0005	3.2622
ECN_5pct_2hr	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	0.0000	3.2858
ECN_5pct_30min	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	0.0000	3.2598
ECN_5pct_3hr	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	0.0000	3.2858
ECN_5pct_45min	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	3.2598	0.0000	3.2598
ECN_5pct_4.5hr	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	0.0000	3.2858
ECN_5pct_6hr	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	0.0000	3.2858
ECN_5pct_9hr	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	3.2858	0.0000	3.2858

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_2hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.1979	3.1636	3.1872	3.1675	3.1674	3.1633	3.1675	3.1636	3.1678	3.1672	3.1703	0.0081	3.1678
ECN_63pct_12hr	3.1898	3.2107	3.1819	3.1986	3.1953	3.1966	3.1952	3.2049	3.1972	3.2101	3.1950	0.0221	3.1965
ECN_63pct_15min	3.1659	3.1657	3.1658	3.1658	3.1658	3.1658	3.1658	3.1658	3.1656	3.1658	3.1657	0.0002	3.1658
ECN_63pct_18hr	3.2923	3.1655	3.2582	3.1605	3.1501	3.1543	3.1668	3.1668	3.1543	3.1543	3.1685	0.0296	3.1602
ECN_63pct_1.5hr	3.2158	3.2165	3.2095	3.2160	3.2012	3.2158	3.2078	3.2078	3.2029	3.2082	3.2040	0.0048	3.2078
ECN_63pct_1hr	3.2142	3.2125	3.2120	3.2236	3.2104	3.2092	3.2040	3.2108	3.2038	3.2096	3.2110	0.0039	3.2109
ECN_63pct_20min	3.1966	3.1789	3.1963	3.1789	3.1789	3.1768	3.1778	3.1789	3.1789	3.1786	3.1799	0.0054	3.1786
ECN_63pct_24hr	3.2331	3.1838	3.1823	3.2053	3.1822	3.1857	3.1891	3.1845	3.1678	3.2101	3.1932	0.0221	3.1868
ECN_63pct_25min	3.1625	3.1586	3.1588	3.1589	3.1582	3.1608	3.1578	3.1582	3.1578	3.1582	3.1590	0.0016	3.1589
ECN_63pct_2hr	3.2158	3.2283	3.2123	3.2197	3.2284	3.2158	3.2054	3.2000	3.2199	3.2240	3.2150	0.0090	3.2158
ECN_63pct_30min	3.1966	3.1950	3.1953	3.1953	3.1968	3.1968	3.1956	3.1950	3.1967	3.1981	3.1959	0.0009	3.1959
ECN_63pct_3hr	3.2131	3.2122	3.2297	3.2069	3.2028	3.2022	3.2052	3.2004	3.2028	3.2122	3.2082	0.0060	3.2078
ECN_63pct_45min	3.2002	3.2066	3.2084	3.2063	3.2071	3.2003	3.2075	3.2063	3.2078	3.2062	3.2067	0.0005	3.2062
ECN_63pct_4.5hr	3.2223	3.2065	3.2002	3.1992	3.2108	3.2060	3.2165	3.2060	3.2063	3.2239	3.2098	0.0101	3.2065
ECN_63pct_6hr	3.2103	3.1857	3.2081	3.2030	3.1957	3.2060	3.2079	3.2058	3.1958	3.2118	3.2040	0.0085	3.2059
ECN_63pct_9hr	3.2109	3.1889	3.2191	3.2159	3.2091	3.2061	3.2088	3.1918	3.1959	3.2090	3.2037	0.0100	3.2075

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_63pct_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_63pct_2hr_3).

APPENDIX F

DESIGN SCENARIO XP-SWMM POST-DEVELOPMENT MODEL RESULTS OUTPUTS FOR ALL AEP EVENTS AND ENSEMBLES

INNOVYZE ENSEMBLE STATISTICS UTILITY
(c) Innovyze 2020

Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: GS_1
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7830	3.7935	3.7888	3.7887	3.7837	3.7932	3.7888	3.7889	3.7910	3.7884	3.7899	0.0035	3.7888
ECN_0.2EY_12hr	3.8408	3.5958	3.6198	3.6838	3.6828	3.8468	3.8468	3.8926	3.8732	3.8536	3.8119	0.1193	3.8779
ECN_0.2EY_15min	3.8709	3.8695	3.8701	3.8716	3.8719	3.8796	3.8781	3.8719	3.8809	3.8818	3.8745	0.0058	3.8734
ECN_0.2EY_18hr	3.8478	3.8867	3.8805	3.8923	3.9037	3.9072	3.8712	3.8264	3.8927	3.8521	3.8906	0.0368	3.8925
ECN_0.2EY_1.5hr	4.2518	4.1595	4.1986	4.2671	4.1758	4.3548	4.3564	4.0615	4.1831	4.0670	4.1696	0.1150	4.1830
ECN_0.2EY_1hr	4.3703	4.1967	4.1699	4.3748	4.1658	4.3209	4.3233	4.3038	4.1225	4.3873	4.3240	0.0980	4.3241
ECN_0.2EY_24hr	3.9314	3.9323	3.9319	3.9339	3.9297	3.9327	3.9372	3.9329	3.9332	3.9322	3.9325	0.0014	3.9326
ECN_0.2EY_2hr	3.8391	3.8981	3.9947	4.1852	3.9299	3.9279	3.9059	3.9844	3.9223	3.9258	3.9293	0.0622	3.9256
ECN_0.2EY_30min	3.9474	3.8775	3.9767	3.9764	3.9704	3.9781	3.8781	3.9654	3.8977	3.8998	3.8732	0.0698	3.9773
ECN_0.2EY_3hr	4.2368	4.1321	4.2363	4.2738	4.2038	4.2053	4.2022	4.2376	4.1979	4.2047	4.1789	0.0855	4.2044
ECN_0.2EY_30min	4.0432	4.0139	4.0437	4.0459	4.0459	4.0435	4.0386	4.0389	4.0184	4.0439	4.0283	4.0182	4.0435
ECN_0.2EY_45min	4.0454	4.0842	4.0825	4.0807	4.0819	4.0098	4.0823	4.0841	4.0819	4.0856	4.0520	4.0019	4.0820
ECN_0.2EY_4.5hr	4.2688	4.1238	4.0836	4.0832	4.1598	4.0339	4.1520	4.1584	4.1369	4.0903	4.0818	4.1628	
ECN_0.2EY_6hr	4.3405	4.2490	4.2251	4.3341	4.2872	4.2939	4.2578	4.3042	4.2855	4.2705	4.2688	4.2488	
ECN_0.2EY_9hr	4.2819	4.0447	4.2204	4.2530	4.2705	4.2519	4.2323	4.0208	4.0955	4.0408	4.1662	4.0225	4.1361

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.2EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7230	3.7265	3.7206	3.7200	3.7201	3.7232	3.7203	3.7205	3.7195	3.7199	3.7202	0.0018	3.7200
ECN_0.5EY_12hr	3.8293	3.5625	3.5826	3.6526	3.6479	3.8558	3.8782	3.8915	3.8538	3.8405	3.8097	0.0965	3.8359
ECN_0.5EY_15min	3.7358	3.7348	3.7358	3.7358	3.7358	3.7368	3.7357	3.7358	3.7362	3.7361	3.7357	0.0004	3.7358
ECN_0.5EY_18hr	3.8405	3.8818	3.8695	3.8780	3.7868	3.9046	3.8496	3.7259	3.8148	3.7372	3.8257	0.0718	3.8317
ECN_0.5EY_1.5hr	4.0198	4.0403	4.0195	4.0504	4.0504	4.0470	4.0446	4.0479	4.0409	4.2674	4.0607	0.0736	4.0469
ECN_0.5EY_1hr	4.1838	4.0082	4.0819	4.0849	4.0841	4.0961	4.0131	4.0835	4.0908	4.0838	4.0838	4.0839	
ECN_0.5EY_24hr	3.7782	3.8478	3.8047	3.8012	3.8085	3.7389	3.8823	3.8807	3.8395	3.8662	3.8052	3.8828	
ECN_0.5EY_2hr	3.8884	3.8860	3.8850	3.8856	3.8846	3.8846	3.8832	3.8836	3.8813	3.8812	3.8810	3.8828	2.0849
ECN_0.5EY_30min	3.8288	4.0285	4.0288	4.0807	4.0819	4.0456	4.0653	4.0659	4.0742	4.0836	4.0560	4.0208	4.0818
ECN_0.5EY_3hr	3.9848	3.8369	3.8168	3.8836	3.9179	3.9013	3.8145	3.8324	3.9179	3.8125	3.8153	3.8833	3.8179
ECN_0.5EY_45min	3.9838	3.9158	3.9161	3.9523	3.9218	3.9834	3.9163	3.9162	3.9159	3.9158	3.9168	3.9159	3.9162
ECN_0.5EY_4.5hr	4.0203	4.0214	4.0219	4.0128	4.0625	4.0589	4.0233	4.0709	4.0538	4.0728	4.0282	4.0499	
ECN_0.5EY_6hr	3.9538	3.9455	3.9768	3.9783	3.9749	3.9732	3.9768	3.9152	3.9762	3.9728	3.9706	3.9813	3.9763
ECN_0.5EY_9hr	4.0203	4.0056	3.9719	3.9850	4.0362	4.0181	4.0578	4.0286	4.0536	4.0378	4.0278	4.0423	4.0363
ECN_0.5EY_15min	3.9838	3.9280	3.9840	3.9789	3.9629	3.9629	3.9733	3.9781	3.9739	3.9829	3.9588	3.9183	3.9826
ECN_0.5EY_18hr	3.9910	3.9282	3.9650	4.0274	3.9703	3.9702	3.8597	3.9038	3.8778	3.8916	3.9065	3.9511	3.9034

AEP: 10 = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	4.6804	4.7048	4.6809	4.6849	4.6817	4.6825	4.6834	4.6806	4.6848	4.6803	4.6822	0.0077	4.6822
ECN_1pct_12hr	4.4833	4.5624	4.3542	4.4529	4.4235	4.3367	4.4265	4.4608	4.5637	4.4351	4.5760	0.2149	4.4350
ECN_1pct_15min	4.8272	4.8274	4.8273	4.8263	4.8263	4.8283	4.8268	4.8280	4.8263	4.8259	4.8273	0.0012	4.8273
ECN_1pct_18hr	4.3649	4.2895	4.3746	4.4438	4.4373	4.3877	4.3854	4.4458	4.4808	4.4486	4.4559	0.0856	4.4458
ECN_1pct_1.5hr	4.5899	4.5780	4.5802	4.5828	4.5668	4.5899	4.5884	4.5838	4.5838	4.5822	4.5809	0.0041	4.5813
ECN_1pct_1hr	4.6884	4.6944	4.6808	4.6814	4.6850	4.6832	4.6721	4.6863	4.6919	4.6827	4.6862	0.0058	4.6858
ECN_1pct_24hr	4.2102	4.2175	4.2150	4.2159	4.2108	4.2065	4.2135	4.2112	4.2116	4.2137	4.2119	0.0028	4.2119
ECN_1pct_2hr	4.4823	4.3852	4.4582	4.4838	4.4858	4.4808	4.4307	4.5256	4.4958	4.4888	4.4788	4.4201	4.4858
ECN_1pct_30min	4.4425	4.4279	4.4236	4.4459	4.4312	4.4378	4.4180	4.4260	4.4259	4.4261	4.4259	4.4258	
ECN_1pct_3hr	4.4321	4.5664	4.5163	4.4473	4.4978	4.5464	4.4490	4.5347	4.5733	4.4852	4.5245	4.4842	4.5242
ECN_1pct_45min	4.5020	4.4795	4.5093	4.4889	4.4883	4.5362	4.5332	4.5305	4.4981	4.5730	4.5868	4.1265	4.5194
ECN_1pct_4.5hr	4.5639	4.5395	4.3219	4.4906	4.4106	4.5343	4.4787	4.5389	4.4939	4.5620	4.5191	4.4511	4.5078

CRITICAL DURATION : The critical duration for the 10 AEP is the ensemble ECN_1pct_2hr.
The median pattern for this ensemble is storm 6 (storm name : ECN_1pct_2hr_6).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_2hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	4.4293	4.4335	4.4312	4.4326	4.4327	4.4343	4.4329	4.4318	4.4324	4.4320	4.4325	4.4326	
ECN_10pct_12hr	4.3256	4.0634	4.2110	4.2335	4.2859	4.4659	4.4324	4.2109	4.4552	4.4034	4.4189	4.4652	
ECN_10pct_15min	4.4273	4.4276	4.4268	4.4266	4.4264	4.4282	4.4265	4.4269	4.4264	4.4262	4.4266	4.4265	4.4266
ECN_10pct_18hr	4.2818	4.2754	4.2548	4.2552	4.2178	4.2182	4.2259	4.2183	4.2423	4.2193	4.2355	4.2352	4.2352
ECN_10pct_1.5hr	4.4233	4.4233	4.4232	4.4232	4.4232	4.4232	4.4232	4.4232	4.4232	4.4232	4.4232	4.4232	4.4232
ECN_10pct_1hr	4.4259	4.4249	4.4258	4.4259	4.4259	4.4259	4.4259	4.4259	4.4259	4.4259	4.4259	4.4259	4.4259
ECN_10pct_20min	3.9366	3.9363	3.9383	3.9369	3.9369	3.9363	3.9362	3.9369	3.9375	3.9362	3.9373	3.9368	3.9369
ECN_10pct_24hr	3.9602	3.7627	3.8286	3.8588	3.8283	3.9050	4.0580	4.0605	3.8595	4.0239	3.9307	4.0581	4.0230
ECN_10pct_25min	4.0439	4.0459	4.0440	4.0451	4.0435	4.0481	4.0466	4.0465	4.0460	4.0463	4.0449	4.0015	4.0463
ECN_10pct_2hr	4.2899	4.2922	4.0282	4.2579	4.2699	4.2638	4.2579	4.2784	4.2738	4.2788	4.2729	4.2829	4.2795
ECN_10pct_30min	4.0825	4.0852	4.0829	4.0838	4.0838	4.0852	4.0848	4.0823	4.0858	4.0829	4.0837	4.0819	4.0829
ECN_10pct_3hr	4.2328	4.2284	4.2323	4.2959	4.2159	4.2979	4.2319	4.2983	4.2837	4.2311	4.2766	4.0342	4.2855
ECN_10pct_45min	4.2599	4.1639	4.2623	4.2609	4.1691	4.2628	4.1861	4.2539	4.1631	4.2628	4.1927	4.0618	4.2621
ECN_10pct_4.5hr	4.3299	4.1536	4.2743	4.2181	4.1973	4.3196	4.2037	4.2291	4.2788	4.2580	4.2530	4.0594	4.2569
ECN_10pct_6hr	4.3626	4.1938	4.2167	4.2886	4.2395	4.3498	4.2834	4.3452	4.2889	4.2451	4.2678	4.2029	4.2879
ECN_10pct_9hr	4.2565	4.1859	4.2483	4.2589	4.2928	4.2658	4.2992	4.2422	4.2579	4.2949	4.2625	4.0351	4.2946

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_10pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 3% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_3pct_10min	4.5507	4.5547	4.5527	4.5537	4.5537	4.5553	4.5539	4.5527	4.5533	4.5529	4.5534	4.5535	4.5534
ECN_3pct_12hr	4.4591	4.1967	4.3455	4.4059	4.4235	4.5988	4.5677	4.3455	4.5938	4.5438	4.5403	4.5937	
ECN_3pct_15min	4.5636	4.5639	4.5634	4.5633	4.5633	4.5649	4.5635	4.5637	4.5633	4.5631	4.5635	4.5634	4.5634
ECN_3pct_18hr	4.4139	4.3077	4.4238	4.4838	4.4773	4.4277	4.4254	4.4838	4.5208	4.4886	4.4744	4.4837	
ECN_3pct_1.5hr	4.6332	4.6185	4.6291	4.6348	4.6223	4.6332	4.6332	4.6332	4.6332	4.6332	4.6301	4.6332	4.6332
ECN_3pct_1hr	4.6339	4.6338	4.6339	4.6339	4.6339	4.6339	4.6339	4.6339	4.6339	4.6339	4.6339	4.6339	4.6339
ECN_3pct_24hr	4.3782	4.3478	4.3603	4.3812	4.3085	4.3782	4.3782	4.3455	4.3258	4.3661	4.3637	4.3838	4.3782
ECN_3pct_2hr	4.4884	4.4860	4.4850	4.4856	4.4846	4.4846	4.4832	4.4836	4.4813	4.4812	4.4810	4.4828	4.4832
ECN_3pct_30min	4.4253	4.4266	4.4258	4.4258	4.4258	4.4253	4.4254	4.4259	4.4259	4.4253	4.4257	4.4259	4.4253
ECN_3pct_3hr	4.5137	4.5236	4.5196	4.5172	4.5144	4.5183	4.5192	4.5196	4.5196	4.5196	4.5177	4.5221	4.5196
ECN_3pct_45min	4.4287	4.4718	4.4781	4.4737	4.4829	4.4841	4.4818	4.4808	4.4814	4.4705	4.4809	4.4814	4.4807
ECN_3pct_4.5hr	4.6833	4.6835	4.6707	4.6853	4.6843	4.6838	4.6838	4.6853	4.6839	4.6841	4.6838	4.6841	4.6838
ECN_3pct_6hr	4.4632	4.4437	4.4840	4.4144	4.4029	4.4539	4.4730	4.4840	4.4839	4.4436	4.4668	4.4840	4.4839
ECN_3pct_9hr	4.3710	4.4280	4.3650	4.4747	4.4091	4.4597	4.4038	4.4778	4.4916	4.4065	4.4511	4.4834	

CRITICAL DURATION : The critical duration for the 3% AEP is the ensemble ECN_3pct_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_3pct_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_3pct_2hr_5).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	4.5518	4.5537	4.5508	4.5523	4.5510	4.5515	4.5509	4.5504	4.5523	4.5509	4.5515	4.5506	4.5509
ECN_2pct_12hr	4.3991	4.3703	4.2855	4.3496	4.3738	4.2275	4.2258	4.2895	4.3568	4.4042	4.3279	4.3983	4.3568
ECN_2pct_15min	4.5703	4.5705	4.5692	4.5678	4.5718	4.5694	4.5682	4.5739	4.5690	4.5676	4.5698	4.5695	4.5692
ECN_2pct_18hr	4.3673	4.1977	4.2749	4.3513	4.3729	4.3526	4.2955	4.3429	4.3625	4.3068	4.3268	4.3548	4.3226
ECN_2pct_1.5hr	4.4452	4.4785	4.4543	4.4236	4.4398	4.4649	4.4521	4.4385	4.4736	4.4852	4.4698	4.4494	4.4522
ECN_2pct_1hr	4.4038	4.4618	4.4183	4.4482	4.4829	4.4698	4.3834	4.5008	4.4804	4.4883	4.4803	4.4868	4.4817
ECN_2pct_20min	4.1439	4.1560	4.1482	4.1474	4.1484	4.1449	4.1496	4.1448	4.1495	4.1533	4.1487	4.1502	4.1484
ECN_2pct_24hr	4.2258	4.2261	4.2261	4.2263	4.2237	4.2243	4.2228	4.2264	4.2258	4.2308	4.2257	4.2262	4.2262
ECN_2pct_25min	4.2586	4.2903	4.2682	4.2695	4.2698	4.2682	4.2665	4.2695	4.2699	4.2696	4.2695	4.2614	4.2699
ECN_2pct_2hr	4.4838	4.4657	4.4925	4.4826	4.4828	4.4698	4.2683	4.4738	4.5002	4.4856	4.4750	4.4228	4.4826
ECN_2pct_30min	4.2998	4.2657	4.2209	4.2743	4.2733	4.2123	4.2942	4.2954	4.2668	4.2548	4.2737	4.2021	4.2744
ECN_2pct_3hr	4.3429	4.4883	4.2244	4.4889	4.4079	4.4038	4.4982	4.4864	4.4268	4.4206	4.4396	4.4234	
ECN_2pct_45min	4.3942	4.2568	4.3896	4.3567	4.3524	4.3820	4.3487	4.3481	4.3499	4.3479	4.3633	4.3035	4.3826
ECN_2pct_4.5hr	4.5628	4.5650	4.4196	4.5395	4.5311	4.4244	4.4552	4.5068	4.4752	4.5078	4.4589	4.0425	4.5048
ECN_2pct_6hr	4.4860	4.4095	4.4092	4.3839	4.3802	4.4508	4.4398	4.4368	4.0807	4.4615	4.4454	4.2139	4.4895
ECN_2pct_9hr	4.4559	4.3670	4.3898	4.3946	4.4677	4.4505	4.4586	4.2892	4.3559	4.4936	4.4262	4.1365	4.4823

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	4.6622	4.6620	4.6632	4.6622	4.6622	4.6623	4.6620	4.6628	4.6629	4.6632	4.6623	4.6621	4.6623
ECN_63pct_12hr	4.6297	4.5855	4.6492	4.6525	4.6125	4.5723	4.5851	4.6545	4.6508	4.5405	4.5893	4.6548	4.6548
ECN_63pct_15min	4.6273	4.6265	4.6269	4.6250	4.6268	4.6273	4.6233	4.6231	4.6237	4.6239	4.6246	4.6029	4.6273
ECN_63pct_18hr	4.6078	4.5747	4.6058	4.6344	4.6138	4.5950	4.5455	4.6322	4.6293	4.6321	4.6266	4.1858	4.6309
ECN_63pct_1.5hr	4.6386	4.6428	4.6205	4.6268	4.6512	4.6468	4.6425	4.6489	4.6513	4.6453	4.6451	4.6105	4.6469
ECN_63pct_1hr	4.6439	4.6438	4.6439	4.6432	4.6432	4.6248	4.6439	4.6439	4.6438	4.6438	4.6435	4.6019	4.6435
ECN_63pct_20min	4.7315	4.7317	4.7315	4.7300	4.7317	4.7315	4.7680	4.7317	4.7679	4.7313	4.7490	4.5025	4.7315
ECN_63pct_24hr	4.6310	4.7009	4.7610	4.6868	4.7289	4.7838	4.7150	4.7455	4.6258	4.6961	4.6837	4.6938	4.7089
ECN_63pct_25min	4.6833	4.6853	4.6825	4.6860	4.6841	4.6860	4.6823	4.6852	4.6859	4.6809	4.6836	4.6028	4.6833
ECN_63pct_2hr	4.6818	4.5336	4.6354	4.6503	4.6755	4.6424	4.6609	4.6726	4.6659	4.6630	4.6559	4.6181	4.6560
ECN_63pct_30min	4.8253	4.8266	4.8358	4.8580	4.8245	4.8264	4.8265	4.8272	4.8258	4.8293	4.8317	4.8019	4.8277
ECN_63pct_3hr	4.9139	4.8480	4.8795	4.9396	4.8722	4.9484	4.8383	4.8492	4.8494	4.8537	4.8721	4.8488	
ECN_63pct_45min	4.8307	4.8718	4.8781	4.8730	4.8829	4.8812	4.8818	4.8808	4.8814	4.8705	4.8800	4.8814	4.8807
ECN_63pct_4.5hr	4.6855	4.6835	4.6707	4.6853	4.6843	4.6838	4.6838	4.6853	4.6839	4.6841	4.6838	4.6841	4.6838
ECN_63pct_6hr	4.8632	4.8437	4.8840	4.8144	4.8029	4.8539	4.8730	4.8840	4.8839	4.8436	4.8668	4.8840	4.8839
ECN_63pct_9hr	4.8710	4.8280	4.8650	4.8747	4.8091	4.8597	4.8038	4.8778	4.8916	4.8065	4.8511	4.8834	

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_63pct_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: EX02
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7706	3.7700	3.7735	3.7852	3.7704	3.7709	3.7705	3.7735	3.7758	3.7655	3.7705	0.0035	3.7705
ECN_0.2EY_12hr	3.8522	3.1625	3.2623	3.0648	3.4590	3.3988	3.3732	3.2938	3.4598	3.1859	3.2859	0.1089	3.2588
ECN_0.2EY_15min	3.9628	3.8695	3.8628	3.8419	3.8629	3.8684	3.8683	3.9658	3.8658	3.8658	3.8650	0.0326	3.8655
ECN_0.2EY_18hr	3.0508	3.9726	3.9171	3.9829	3.8879	3.9009	3.9615	3.8846	3.9259	3.8865	3.9225	0.0325	3.9209
ECN_0.2EY_1_5hr	4.2108	4.1259	4.0869	4.1525	4.1358	4.1251	4.1200	4.0884	4.1812	4.0469	4.1295	0.0535	4.1305
ECN_0.2EY_1hr	4.0944	4.0859	4.0893	4.0923	4.0924	4.0963	4.0909	4.0913	4.0958	4.0952	4.0932	0.0032	4.0930
ECN_0.2EY_24hr	3.6495	3.5992	3.5197	3.5204	3.5209	3.5299	3.5252	3.5284	3.5313	3.5225	3.5327	0.0341	3.5307
ECN_0.2EY_2hr	3.8438	3.8613	3.7854	3.1398	3.8439	3.8496	3.8398	3.7940	3.8396	3.7840	3.8396	0.0861	3.8397
ECN_0.2EY_30min	3.9619	3.9609	3.9611	3.9609	3.9599	3.9623	3.9823	3.9612	3.9622	3.9615	3.9615	0.0007	3.9616
ECN_0.2EY_3hr	4.1095	4.1922	4.1121	4.1459	4.1459	4.1471	4.1459	4.1455	4.1598	4.1389	4.1460	0.0257	4.1457
ECN_0.2EY_45min	3.9922	3.9938	3.9937	3.9923	3.9918	3.9905	3.9938	3.9950	3.9922	3.9932	3.9931	0.0011	3.9930
ECN_0.2EY_4_5hr	4.0545	4.1082	4.0859	4.0844	4.1394	4.0454	4.1658	4.0962	4.1482	4.0737	4.1053	0.0254	4.1002
ECN_0.2EY_45min	4.0078	4.0548	4.0593	4.0562	4.0544	4.0539	4.0551	4.0525	4.0545	4.0559	4.0554	0.0016	4.0548
ECN_0.2EY_6_5hr	4.2178	4.1625	4.0931	4.0789	4.1891	4.3493	4.1486	4.2480	4.2547	4.0625	4.1925	0.0922	4.1981
ECN_0.2EY_6hr	4.0325	4.0232	4.0970	4.1949	4.0980	4.0884	4.0720	4.0990	4.0269	4.0452	4.0733	0.0330	4.0657
ECN_0.2EY_9hr	4.0936	4.0208	4.1758	4.0930	4.0190	4.0788	4.0676	4.0281	4.0752	4.0523	4.0564	0.0449	4.0609

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.2EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7176	3.7161	3.7182	3.7269	3.7179	3.7178	3.7178	3.7218	3.7172	3.7170	3.7180	0.0022	3.7178
ECN_0.5EY_12hr	3.3203	2.9322	3.0119	2.9027	3.2959	3.2852	3.2782	3.1978	3.2956	3.0642	3.1668	0.1695	3.2395
ECN_0.5EY_15min	3.7911	3.7965	3.7915	3.7963	3.7955	3.7937	3.7925	3.7932	3.7911	3.7926	3.7934	0.0018	3.7931
ECN_0.5EY_18hr	3.6982	3.6548	3.6875	3.6958	3.7038	3.7014	3.6825	3.7245	3.6152	3.7252	3.6977	0.0334	3.6979
ECN_0.5EY_1_5hr	4.0092	3.9225	3.9995	4.0309	4.0324	4.0246	4.0257	4.0261	4.0359	4.0435	4.0270	0.0110	4.0264
ECN_0.5EY_1hr	3.9859	3.9908	3.9829	3.9953	3.9961	3.9880	3.9847	3.9923	3.9925	3.9963	3.9895	0.0046	3.9899
ECN_0.5EY_20min	3.9969	3.9968	3.9807	3.9827	3.9819	3.9764	3.9827	3.9813	3.9838	3.9819	3.9857	0.0071	3.9819
ECN_0.5EY_24hr	3.7659	3.7758	3.8481	3.7982	3.7704	3.7782	3.7892	3.8842	3.8046	3.8358	3.8358	0.0828	3.7948
ECN_0.5EY_25min	3.6975	3.6773	3.6774	3.6776	3.6758	3.6729	3.6735	3.6768	3.6732	3.6727	3.6753	0.0019	3.6761
ECN_0.5EY_2hr	3.8219	3.8268	3.8233	3.8233	3.8233	3.8241	3.8253	3.8239	3.8239	3.8273	3.8240	0.0015	3.8239
ECN_0.5EY_30min	3.9043	3.9566	3.9550	3.9558	3.9565	3.9564	3.9634	3.9629	3.9565	3.9634	3.9561	0.0024	3.9563
ECN_0.5EY_3hr	4.0350	3.9893	3.9863	4.0304	4.0011	4.0302	3.9958	4.0538	4.0028	4.0408	4.0255	0.0245	4.0305
ECN_0.5EY_45min	3.9404	3.8632	3.9532	3.9628	3.9612	3.9652	3.9612	3.9401	3.9650	3.9594	3.9609	0.0083	3.9630
ECN_0.5EY_4_5hr	4.0940	3.9817	3.9800	3.9528	4.0183	4.0044	4.0308	4.0530	4.0353	4.0267	4.0242	0.0382	4.0255
ECN_0.5EY_6hr	3.9458	3.8296	3.9794	3.9953	3.9859	3.9532	3.9866	4.0328	3.9823	4.0266	3.9822	0.0335	3.9839
ECN_0.5EY_9hr	3.9602	3.9383	3.9601	3.8954	3.9413	3.9492	3.8921	3.9260	3.8719	3.8907	3.9375	0.0496	3.8968

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.5EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9838	3.9825	3.9833	3.9832	3.9831	3.9829	3.9829	3.9829	3.9818	3.9829	3.9829	0.0005	3.9829
ECN_1pct_12hr	3.4639	3.4230	3.5081	3.3889	3.6775	3.5825	3.5502	3.5163	3.6383	3.5263	3.5147	0.0815	3.5408
ECN_1pct_15min	3.9309	3.9282	3.9340	3.9309	3.9309	3.9303	3.9391	3.9316	3.9309	3.9303	3.9315	0.0012	3.9309
ECN_1pct_18hr	3.8355	3.8470	3.8129	3.8778	3.8438	3.8434	3.8363	3.8888	3.8728	3.8459	3.8485	0.0207	3.8459
ECN_1pct_1_5hr	4.4328	4.4532	4.4344	4.4367	4.4830	4.4600	4.4338	4.4378	4.4383	4.4570	4.4580	0.0161	4.4559
ECN_1pct_1hr	4.3650	4.3698	4.3858	4.3650	4.3850	4.3690	4.3780	4.3825	4.3838	4.3661	4.3783	0.0083	4.3840
ECN_1pct_20min	4.3969	4.3871	4.4053	4.3783	4.4000	4.3972	4.4002	4.4040	4.4016	4.4000	4.4010	0.0082	4.4002
ECN_1pct_24hr	4.0379	4.0832	4.0209	4.0584	4.0858	4.0858	4.0833	4.0858	4.0799	4.0817	4.0832	0.0186	4.0848
ECN_1pct_25min	4.0729	4.0742	4.0729	4.0729	4.0735	4.0735	4.0743	4.0744	4.0729	4.0729	4.0735	0.0006	4.0735
ECN_1pct_2hr	4.0923	4.0965	4.0955	4.0923	4.0925	4.0930	4.0923	4.0922	4.0924	4.0923	4.0932	0.0015	4.0930
ECN_1pct_30min	4.2279	4.2535	4.2853	4.2586	4.2510	4.2209	4.2515	4.2925	4.2506	4.2537	4.2548	0.0216	4.2547
ECN_1pct_3hr	4.4823	4.4965	4.5060	4.4823	4.4895	4.4930	4.4299	4.4828	4.4944	4.4943	4.4933	0.0225	4.4930
ECN_1pct_45min	4.3968	4.4248	4.4385	4.3950	4.3806	4.3937	4.3296	4.3936	4.3932	4.3942	4.3980	0.0215	4.3956
ECN_1pct_4_5hr	4.5029	4.4988	4.5699	4.4798	4.5038	4.5029	4.4939	4.4796	4.5682	4.4567	4.4909	0.0493	4.4967
ECN_1pct_6hr	4.4178	4.4258	4.4815	4.3966	4.4101	4.4239	4.4031	4.4406	4.4852	4.4755	4.4796	0.0821	4.4766
ECN_1pct_9hr	4.4662	4.4556	4.3279	4.3467	4.4351	4.4629	4.4875	4.4281	4.3627	4.4808	4.4324	0.0458	4.4359

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4_5hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.9373	3.9379	3.9364	3.9375	3.9378	3.9355	3.9378	3.9363	3.9393	3.9359	3.9372	0.0009	3.9378
ECN_2pct_12hr	3.3711	3.1355	3.2628	3.1830	3.5892	3.4901	3.4068	3.4469	3.3957	3.2002	3.3716	0.1816	3.4278
ECN_2pct_15min	3.9345	3.9305	3.9319	3.9286	3.9287	3.9329	3.9417	3.9338	3.9326	3.9313	3.9328	0.0012	3.9326
ECN_2pct_18hr	3.8246	3.7660	3.7339	3.8265	3.8746	3.8318	3.7850	3.8346	3.8624	3.8252	3.8295	0.0358	3.8751
ECN_2pct_1_5hr	4.0653	3.8935	4.0487	4.0665	4.0722	4.0983	4.0695	4.0643	4.0797	4.0379	4.0703	0.0484	4.0659
ECN_2pct_1hr	4.0351	4.0286	4.0259	4.0345	4.0309	4.0343	4.0310	4.0490	4.0350	4.0185	4.0318	0.0060	4.0340
ECN_2pct_20min	4.0088	4.0187	4.0181	4.0086	4.0091	4.0092	4.0801	4.0094	4.0109	4.0109	4.0092	0.0008	4.0092
ECN_2pct_24hr	4.2982	4.2982	4.2228	4.2816	4.3016	4.3006	4.1985	4.4053	4.2879	4.2275	4.2785	0.0750	4.2947
ECN_2pct_25min	4.0578	4.1863	4.0588	4.1589	4.1584	4.0840	4.1578	4.0998	4.1595	4.2698	4.1393	0.0585	4.1586
ECN_2pct_2hr	4.0879	4.2838	4.0855	4.2888	4.0799	4.2852	4.2822	4.2885	4.0858	4.0203	4.1982	0.0428	4.2840
ECN_2pct_30min	4.2788	4.1962	4.2971	4.2965	4.1962	4.2959	4.1973	4.2892	4.1975	4.1895	4.1947	0.0422	4.1972
ECN_2pct_3hr	4.4218	4.4259	4.4328	4.4304	4.4299	4.4284	4.4845	4.4336	4.4379	4.4375	4.4322	0.0058	4.4304
ECN_2pct_45min	4.2731	4.2749	4.2723	4.2730	4.2748	4.2748	4.2695	4.2720	4.2732	4.2729	4.2726	0.0019	4.2729
ECN_2pct_4_5hr	4.4804	4.4225	4.3581	4.3947	4.3861	4.3545	4.3386	4.4022	4.3957	4.4322	4.3934	0.0263	4.3952
ECN_2pct_6hr	4.3783	4.3608	4.3492	4.3956	4.3824	4.3689	4.3238	4.3836	4.3355	4.3479	4.3999	0.0280	4.3960
ECN_2pct_9hr	4.3830	4.3267	4.2484	4.2693	4.3927	4.3842	4.3278	4.2083	4.2824	4.3252	4.2598	0.0745	4.3360

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_4_5hr.
The median pattern for this ensemble is storm 2 (storm name : ECN_2pct_4_5hr_2).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_4_5hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.8949	3.8769	3.8745	3.8732	3.8729	3.8750	3.8763	3.8732	3.8758	3.8732	3.8752	0.0059	3.8745
ECN_5pct_12hr	3.4853	3.2809	3.3009	3.1878	3.6139	3.5197	3.4727	3.4589	3.5592	3.3032	3.4496	0.1569	3.4589
ECN_5pct_15min	3.8926	3.8720	3.8938	3.8735	3.8733	3.8788	3.8785	3.8945	3.8754	3.8753	3.8760	0.0069	3.8756
ECN_5pct_18hr	4.0692	3.9438	3.9441	3.9838	3.9408	3.9408	3.9658	3.9693	3.9724	3.9450	3.9635	0.0236	3.9665
ECN_5pct_1_5hr	4.2918	4.2659	4.2949	4.2684	4.2668	4.2854	4.2750	4.2606	4.2863	4.2948	4.2780	0.0139	4.2794
ECN_5pct_1hr	4.2309	4.2265	4.2323	4.2177	4.2391	4.2295	4.2270	4.2316	4.2332	4.2316	4.2259	0.0060	4.2270
ECN_5pct_20min	4.2280	4.2369	4.2334	4.2250	4.2401	4.2296	4.2305	4.2402	4.2402	4.2350	4.2359	0.0059	4.2349
ECN_5pct_24hr	4.2030	3.9785	4.1869	3.8868	4.2059	4.0585	4.3732	4.0484	4.0928	4.0401	4.1477	0.1495	4.0889
ECN_5pct_25min	4.0843	4.0852	4.0823	4.0873	4.0838	4.0859	4.0849	4.0856	4.0839	4.0853	4.0844	0.0011	4.0847
ECN_5pct_2hr	4.2959	4.2998	4.2959	4.2959	4.2962	4.2952	4.2966	4.2968	4.2964	4.2960	4.2969	0.0010	4.2964
ECN_5pct_30min	4.2102	4.1851	4.2178	4.1969	4.1886	4.2169	4.1888	4.2329	4.1890	4.1896	4.2092	0.0188	4.1993
ECN_5pct_3hr	4.4218	4.4764	4.4752	4.4382	4.4782	4.4296	4.4832	4.4220	4.3882	4.4046	4.4336	0.0374	4.4327
ECN_5pct_45min	4.2684	4.2986	4.2989	4.2828	4.2813	4.2832	4.2881	4.2868	4.2839	4.2902	4.2852	0.0064	4.2865
ECN_5pct_4_5hr	4.4348	4.3126	4.3305	4.2508	4.3395	4.2962	4.2955	4.3395	4.3085	4.2972	4.3225	0.0355	4.3052
ECN_5pct_6hr	4.3934	4.2385	4.2941	4.2259	4.3235	4.3564	4.2557	4.3403	4.3234	4.3920	4.2984	0.0602	4.3068
ECN_5pct_9hr	4.3252	4.2908	4.2977	4.2908	4.2915	4.3237	4.2858	4.2989	4.3139	4.2762	4.3209	0.0443	4.2920

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_5pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6664	3.6688	3.6688	3.6668	3.6686	3.6687	3.6683	3.6689	3.6686	3.6686	3.6687	0.0001	3.6687
ECN_63pct_12hr	3.4828	3.3345	3.4029	3.4687	3.5784	3.5784	3.5920	3.5832	3.5459	3.5430	3.5296	0.0836	3.5458
ECN_63pct_15min	3.9246	3.9239	3.9281	3.9394	3.9284	3.9348	3.9285	3.9248	3.9282	3.9258	3.9281	0.0036	3.9284
ECN_63pct_18hr	3.8033	3.7743	3.8276	3.7886	3.8198	3.7935	3.7850	3.8458	3.7979	3.8528	3.7962	0.0189	3.7969
ECN_63pct_1_5hr	4.0549	3.8988	4.0585	4.0385	4.0385	3.9351	4.0307	3.9249	4.0408	3.9452	4.0155	0.0549	4.0369
ECN_63pct_1hr	3.9029	3.8989	3.9015	3.9099	3.9099	3.9094	3.9093	3.9085	3.9095	3.9098	3.9093	0.0021	3.9096
ECN_63pct_20min	3.7697	3.7679	3.7697	3.7680	3.7676	3.7673	3.7627	3.7630	3.7636	3.7678	3.7662	0.0021	3.7677
ECN_63pct_24hr	3.8299	3.8899	3.7937	3.8838	3.7934	3.7818	3.9139	3.7961	3.7988	3.7996	3.8299	0.0493	3.7964
ECN_63pct_25min	3.6837	3.6885	3.7338	3.6820	3.6892	3.7360	3.7364	3.6802	3.7842	3.7541	3.7096	0.0319	3.7090
ECN_63pct_2hr	3.8219	3.8261	3.8261	3.8263	3.8615	3.8688	3.8972	3.8481	3.8538	3.8613	3.8433	0.0137	3.8463
ECN_63pct_30min	3.8195	3.8396	3.8281	3.8262	3.8208	3.8285	3.8225	3.8219	3.8236	3.8203	3.8236	0.0057	3.8249
ECN_63pct_3hr	3.9651	3.9618	3.9655	3.9222	3.9698	3.9459	3.9213	3.9376	3.9767	3.9698	3.9467	0.0234	3.9572
ECN_63pct_45min	3.8922	3.8896	3.8809	3.8783	3.8749	3.8723	3.8723	3.8715	3.8739	3.8715	3.8778	0.0076	3.8722
ECN_63pct_4_5hr	3.9880	3.9759	3.9682	3.9287	3.9248	3.8179	3.9367	3.9353	3.9429	3.9353	3.9526	0.0328	3.9353
ECN_63pct_6hr	3.8588	3.8162	3.8788	3.8528	3.8789	3.8619	3.8688	3.8553	3.8707	3.9381	3.8689	0.0325	3.8638
ECN_63pct_9hr	3.9502	3.9383	3.9601	3.8954	3.9413	3.9492	3.8921	3.9260	3.8719	3.8907	3.9375	0.0496	3.8968

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_63pct_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles:	532
No. of Storms per ensemble:	10
No. of AEP Bands:	9
Object Name:	Site_C1
Result type:	Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7756	3.7782	3.7795	3.7808	3.7798	3.7798	3.7805	3.7795	3.7780	3.7784	3.7780	0.0015	3.7785
ECN_0.2EY_12hr	4.0625	4.1636	4.2621	4.0648	4.2996	4.3988	4.3737	4.2918	4.0123	4.0738	4.1042	0.1242	4.0648
ECN_0.2EY_15min	3.8629	3.8858	3.8682	3.8639	3.8832	3.8684	3.8838	3.8652	3.8658	3.8627	3.8650	0.0088	3.8652
ECN_0.2EY_18hr	4.0508	4.0920	4.1518	4.0620	4.0973	4.0993	4.0963	4.0845	4.0255	4.0855	4.0825	0.0325	4.0850
ECN_0.2EY_1_5hr	4.2178	4.2396	4.2899	4.2520	4.2756	4.2725	4.2732	4.2680	4.1691	4.2468	4.2485	0.0189	4.2492
ECN_0.2EY_2hr	4.2985	4.3457	4.3864	4.3020	4.3027	4.3963	4.3995	4.3927	4.3938	4.3987	4.3677	0.0673	4.3796
ECN_0.2EY_24hr	3.9693	3.9203	3.9143	3.9202	3.9209	3.9249	3.9215	3.9208	3.9208	3.9219	3.9225	0.0026	3.9220
ECN_0.2EY_30min	3.8419	3.8678	3.8828	3.8743	3.8599	3.8623	3.8655	3.8638	3.8599	3.8615	3.8637	0.0067	3.8637
ECN_0.2EY_3hr	4.1958	4.2138	4.2459	4.1962	4.1998	4.2003	4.1993	4.1963	4.1939	4.1960	4.2017	0.0163	4.1978
ECN_0.2EY_45min	3.9422	3.9643	3.9845	3.9689	3.9549	3.9622	3.9623	3.9610	3.9569	3.9623	3.9651	0.0087	3.9637
ECN_0.2EY_4_5hr	4.0545	4.1052	4.0838	4.0830	4.0747	4.1098	4.0940	4.0743	4.0708	4.1453	4.0854	0.0254	4.0799
ECN_0.2EY_6hr	4.0579	4.0563	4.0585	4.0569	4.0549	4.0329	4.0555	4.0368	4.0548	4.0564	4.0552	0.0014	4.0547
ECN_0.2EY_9hr	4.2179	4.1629	4.0910	4.0765	4.1090	4.3494	4.1380	4.2020	4.2545	4.0691	4.1560	0.0929	4.1369
ECN_0.2EY_6hr	4.0932	4.0732	4.0969	4.1039	4.0582	4.0603	4.0768	4.0958	4.0887	4.0853	4.0833	0.0155	4.0855
ECN_0.2EY_9hr	4.2939	4.0208	4.2995	4.2889	4.4192	4.3704	4.2077	4.0252	4.1752	4.0220	4.1882	0.1886	4.1990

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7195	3.7150	3.7181	3.7209	3.7178	3.7179	3.7192	3.7178	3.7179	3.7177	3.7180	0.0018	3.7178
ECN_0.5EY_12hr	3.9291	4.0228	4.0115	3.9029	4.0309	4.0491	4.0771	4.0269	3.9356	4.0441	4.0065	0.0695	4.0095
ECN_0.5EY_15min	3.7918	3.7983	3.7915	3.7963	3.7999	3.7967	3.7979	3.7931	3.7916	3.7949	3.7952	0.0028	3.7950
ECN_0.5EY_18hr	3.9268	3.9658	4.0434	3.9039	3.9137	3.9053	3.9069	3.9243	3.8138	3.9218	3.9276	0.0834	3.9247
ECN_0.5EY_1_5hr	4.0198	4.0229	4.0960	4.0296	4.0342	4.0282	4.0258	4.0279	4.0377	4.0433	4.0259	0.0120	4.0280
ECN_0.5EY_2hr	3.9938	3.9899	3.9897	3.9825	3.9861	3.9889	3.9846	3.9900	3.9824	3.9863	3.9885	0.0028	3.9888
ECN_0.5EY_20min	3.9806	3.9887	3.9807	3.9828	3.9818	3.9884	3.9842	3.9819	3.9828	3.9833	3.9858	0.0013	3.9849
ECN_0.5EY_24hr	3.9252	3.9758	3.9822	3.9981	3.9799	3.9798	3.9882	3.9843	3.9865	3.9757	3.9835	0.0052	3.9827
ECN_0.5EY_30min	3.8774	3.8733	3.8782	3.8715	3.8759	3.8738	3.8735	3.8759	3.8732	3.8782	3.8750	0.0018	3.8761
ECN_0.5EY_3hr	4.0128	4.0158	4.0433	4.0098	4.0098	4.0057	4.0483	4.0429	4.0053	4.0582	4.0317	0.0214	4.0224
ECN_0.5EY_45min	3.9043	3.9049	3.9056	3.9058	3.9068	3.9065	3.9058	3.9028	3.9058	3.9029	3.9051	0.0012	3.9055
ECN_0.5EY_4_5hr	4.0256	3.9828	4.0326	4.0192	4.0319	4.0269	4.0384	4.0262	4.0313	4.0418	4.0257	0.0180	4.0293
ECN_0.5EY_6hr	3.9404	3.9419	3.9511	3.9429	3.9413	3.9432	3.9413	3.9439	3.9428	3.9432	3.9432	0.0032	3.9430
ECN_0.5EY_9hr	4.0980	3.9988	3.9859	3.9751	4.0188	4.0386	4.0029	4.0204	4.0846	4.0206	4.0144	0.0382	4.0162
ECN_0.5EY_6hr	3.9459	3.9234	3.9742	3.9350	3.9834	3.9502	3.9801	3.9587	3.9825	3.9273	3.9582	0.0219	3.9598
ECN_0.5EY_9hr	4.0619	3.9185	4.0453	4.0025	3.9913	3.9489	3.9871	3.9452	3.9665	3.9389	3.9838	0.0560	3.9852

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9830	3.9825	3.9833	3.9850	3.9811	3.9830	3.9829	3.9825	3.9818	3.9829	3.9826	0.0010	3.9826
ECN_1pct_12hr	4.4822	4.4335	4.5400	4.5956	4.6762	4.6819	4.5561	4.5152	4.4693	4.5981	4.5507	0.0465	4.5245
ECN_1pct_15min	3.9908	3.9931	3.9899	3.9906	3.9909	3.9902	3.9881	3.9916	3.9880	3.9903	3.9904	0.0011	3.9906
ECN_1pct_18hr	4.3598	4.3459	4.3160	4.3778	4.3468	4.3459	4.3363	4.3803	4.3728	4.3490	4.3596	0.0332	4.3572
ECN_1pct_1_5hr	4.4554	4.4535	4.4496	4.4895	4.4469	4.4473	4.4473	4.4577	4.4549	4.4558	4.4612	0.0139	4.4549
ECN_1pct_1hr	4.3859	4.3889	4.3897	4.3829	4.3852	4.3848	4.3854	4.3850	4.3835	4.3828	4.3845	0.0019	4.3845
ECN_1pct_20min	4.2959	4.2891	4.2994	4.3003	4.2988	4.3008	4.2988	4.3009	4.2966	4.2990	4.2983	0.0033	4.2983
ECN_1pct_24hr	4.0579	4.0857	4.0864	4.0939	4.0927	4.0963	4.0995	4.0933	4.0939	4.0987	4.0787	0.0173	4.0796
ECN_1pct_2hr	4.4858	4.4858	4.4858	4.4858	4.4858	4.4858	4.4858	4.4858	4.4858	4.4858	4.4858	0.0000	4.4858
ECN_1pct_30min	4.2975	4.2936	4.2983	4.2967	4.2908	4.2936	4.2911	4.2916	4.2914	4.2943	4.2937	0.0026	4.2936
ECN_1pct_3hr	4.4824	4.4880	4.5085	4.4838	4.4842	4.4858	4.4896	4.4889	4.4902	4.4883	4.4870	0.0078	4.4870
ECN_1pct_45min	4.3466	4.3385	4.3340	4.3348	4.3362	4.3345	4.3353	4.3355	4.3330	4.3345	4.3359	0.0015	4.3352
ECN_1pct_4_5hr	4.5028	4.4988	4.4876	4.5190	4.5028	4.4975	4.4938	4.4775	4.5462	4.4586	4.4935	0.0235	4.4952
ECN_1pct_6hr	4.4835	4.4821	4.4834	4.4868	4.4801	4.4845	4.4831	4.4874	4.4834	4.4755	4.4830	0.0032	4.4832
ECN_1pct_9hr	4.4662	4.4596	4.4269	4.4495	4.4347	4.4627	4.4892	4.4829	4.3629	4.4808	4.4510	0.0457	4.4599

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4_5hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.8253	3.8252	3.8258	3.8246	3.8218	3.8264	3.8273	3.8252	3.8234	3.8270	3.8252	0.0015	3.8259
ECN_2pct_12hr	4.3136	4.3353	4.3892	4.3320	4.3693	4.3356	4.3362	4.3771	4.3626	4.3617	4.3488	0.0397	4.3468
ECN_2pct_15min	3.9159	3.9260	3.9142	3.9200	3.9197	3.9165	3.9177	3.9178	3.9161	3.9206	3.9178	0.0018	3.9177
ECN_2pct_18hr	4.0259	4.0581	4.1270	4.0409	4.0620	4.0650	4.0320	4.0615	4.0239	4.0728	4.0582	0.0458	4.0623
ECN_2pct_1_5hr	4.0753	4.1163	4.1819	4.1059	4.1218	4.1203	4.0993	4.1203	4.0568	4.1128	4.1031	0.0186	4.1035
ECN_2pct_1hr	4.0642	4.1093	4.1688	4.1028	4.1028	4.0962	4.1015	4.1021	4.1028	4.1008	4.0935	0.0157	4.1017
ECN_2pct_20min	3.9769	3.9767	3.9782	3.9796	3.9789	3.9781	3.9788	3.9738	3.9800	3.9767	3.9783	0.0019	3.9780
ECN_2pct_24hr	4.3843	4.3659	4.3899	4.3818	4.3903	4.3960	4.2699	4.3885	4.3852	4.3703	4.3806	0.0354	4.3856
ECN_2pct_2hr	4.4236	4.4236	4.4236	4.4236	4.4236	4.4236	4.4236	4.4236	4.4236	4.4236	4.4236	0.0000	4.4236
ECN_2pct_30min	4.0551	4.0569	4.0557	4.0556	4.0558	4.0569	4.0567	4.0569	4.0558	4.0585	4.0559	0.0009	4.0559
ECN_2pct_3hr	4.2432	4.2368	4.2458	4.2358	4.2358	4.2386	4.2413	4.2397	4.2382	4.2383	4.2389	0.0029	4.2386
ECN_2pct_45min	4.1210	4.1229	4.1224	4.1210	4.1235	4.1227	4.1213	4.1213	4.1230	4.1225	4.1223	0.0009	4.1225
ECN_2pct_4_5hr	4.1838	4.1836	4.2229	4.2222	4.1958	4.2058	4.2037	4.1998	4.2329	4.2058	4.2050	0.0089	4.2126
ECN_2pct_6hr	4.2563	4.1546	4.1783	4.1662	4.2561	4.2384	4.1799	4.2681	4.2529	4.2462	4.2099	0.0554	4.1924
ECN_2pct_9hr	4.2396	4.1498	4.2054	4.1279	4.1697	4.2390	4.1729	4.2158	4.2237	4.2386	4.1863	0.0371	4.2082

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_2pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_3hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.9577	3.9577	3.9583	3.9578	3.9578	3.9585	3.9583	3.9588	3.9585	3.9578	3.9581	0.0003	3.9578
ECN_5pct_12hr	4.3909	4.3745	4.4272	4.3882	4.4350	4.3988	4.4469	4.3853	4.3958	4.4088	4.4072	0.0235	4.4077
ECN_5pct_15min	3.9730	3.9695	4.0319	3.9687	3.9687	3.9687	3.9686	3.9699	3.9688	3.9712	3.9719	0.0012	3.9715
ECN_5pct_18hr	4.2243	4.1668	4.3322	4.2276	4.1797	4.2787	4.2111	4.2919	4.2587	4.2433	4.2586	0.0358	4.2360
ECN_5pct_1_5hr	4.3652	4.3822	4.3785	4.3855	4.3792	4.3981	4.3889	4.3890	4.3759	4.3876	4.3795	0.0126	4.3802
ECN_5pct_1hr	4.3508	4.3358	4.3525	4.3365	4.3286	4.3242	4.3718	4.3686	4.3889	4.3183	4.3496	0.0198	4.3490
ECN_5pct_20min	4.1988	4.1907	4.1930	4.2026	4.1952	4.2002	4.1992	4.2026	4.1990	4.2103	4.2006	0.0054	4.2002
ECN_5pct_24hr	4.2922	4.2902	4.3225	4.2728	4.3011	4.2997	4.3183	4.2958	4.3053	4.2379	4.2934	0.0234	4.2916
ECN_5pct_2hr	4.4579	4.4666	4.4598	4.4569	4.4699	4.4646	4.4579	4.4579	4.4579	4.4579	4.4609	0.0035	4.4579
ECN_5pct_30min	4.3341	4.3398	4.3370	4.3345	4.3362	4.3358	4.3373	4.3401	4.3374	4.3344	4.3370	0.0021	4.3372
ECN_5pct_3hr	4.4414	4.4367	4.4343	4.4355	4.4349	4.4383	4.4368	4.4401	4.4383	4.4374	4.4374	0.0019	4.4379
ECN_5pct_45min	4.2769	4.2767	4.2731	4.2760	4.2758	4.2783	4.2782	4.2829	4.2829	4.2736	4.2775	0.0034	4.2780
ECN_5pct_4_5hr	4.3845	4.3928	4.3590	4.3949	4.3861	4.3962	4.3896	4.4029	4.3893	4.4322	4.3902	0.0204	4.3892
ECN_5pct_6hr	4.3584	4.3603	4.3437	4.3653	4.3524	4.3603	4.3238	4.3409	4.3356	4.3479	4.3498	0.0089	4.3542
ECN_5pct_9hr	4.3830	4.3254	4.2893	4.2892	4.3935	4.3861	4.3273	4.2089	4.2842	4.3252	4.2565	0.0365	4.3358

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6605	3.6607	3.6609	3.6605	3.6609	3.6608	3.6607	3.6605	3.6609	3.6605	3.6606	0.0001	3.6606
ECN_63pct_12hr	3.8928	3.9318	3.8938	3.8658	3.8971	3.9068	3.9922	3.9034	3.8458	3.9469	3.9059	0.0785	3.9049
ECN_63pct_15min	3.9246	3.9289	3.9281	3.9249	3.9294	3.9246	3.9281	3.9238	3.9233	3.9289	3.9260	0.0024	3.9254
ECN_63pct_18hr	3.9032	3.9782	4.0275	3.9189	3.9554	3.9264	3.9826	3.9516	3.9207	3.9585	3.9623	0.0382	3.9582
ECN_63pct_1_5hr	3.9246	3.9583	3.9892	3.9242	3.9384	3.9268	3.9385	3.9214	3.9409	3.9452	3.9378	0.0084	3.9342
ECN_63pct_1hr	3.9028	3.8990	3.9013	3.9048	3.9048	3.9044	3.9032	3.9059	3.9003	3.9022	3.9027	0.0018	3.9029
ECN_63pct_20min	3.7674	3.7618	3.7696	3.7652	3.7678	3.7642	3.7828	3.7678	3.7630	3.7663	3.7684	0.0021	3.7676
ECN_63pct_24hr	3.8286	3.8967	3.9398	3.8878	3.9194	3.9018	3.9139	3.9140	3.8788	3.9344	3.9038	0.0353	3.9068
ECN_63pct_2hr	3.9503	3.9580	3.9389	3.9600	3.9391	3.9503	3.9863	3.9603	3.9842	3.9360	3.9586	0.0018	3.9584
ECN_63pct_30min	3.8219	3.8242	3.8261	3.8603	3.8616	3.8596	3.8653	3.8952	3.8732	3.8202	3.8622	0.0137	3.8658
ECN_63pct_3hr	3.9251	3.9236	3.9243	3.9210	3.9258	3.9226	3.9325	3.9318	3.9209	3.8780	3.9236	0.0093	3.9233
ECN_63pct_45min	3.8731	3.8684	3.8809	3.8709	3.8730	3.8736	3.8753	3.8725	3.8729	3.8745	3.8735	0.0018	3.8732
ECN_63pct_4_5hr	3.9043	3.8983	3.8662	3.9283	3.8839	3.8870	3.9330	3.8629	3.9232	3.9232	3.9026	0.0228	3.8986
ECN_63pct_6hr	3.8183	3.8160	3.8783	3.8528	3.8769	3.8629	3.8868	3.8578	3.8764	3.9381	3.8602	0.0429	3.8638
ECN_63pct_9hr	3.9502	3.9262	3.9381	3.9626	3.8954	3.9491	3.8922	3.8295	3.8712	3.8585	3.8973	0.0485	3.8960

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_63pct_2hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: Site_C2
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7752	3.7795	3.7738	3.7808	3.7758	3.7738	3.7798	3.7798	3.7796	3.7780	3.7782	0.0025	3.7784
ECN_0.2EY_12hr	4.0532	3.1626	2.2629	4.0648	3.2998	3.9548	3.9736	4.0257	4.0552	4.0750	3.5858	0.7042	3.9585
ECN_0.2EY_15min	3.8624	3.8624	3.8613	3.8639	3.8291	3.8653	3.8639	3.8654	3.8658	3.8629	3.8617	0.0106	3.8628
ECN_0.2EY_18hr	4.0028	3.9722	3.9172	3.9832	3.8832	3.9957	3.9613	3.9848	3.9258	3.8829	3.9569	0.0426	3.9636
ECN_0.2EY_1_5hr	4.2178	4.1722	4.0805	4.1746	4.1353	4.1724	4.1338	4.0005	4.1105	4.0469	4.1245	0.0743	4.1298
ECN_0.2EY_1hr	4.0954	4.0854	4.0680	4.0915	4.0926	4.0963	4.0905	4.0873	4.0919	4.0957	4.0915	0.0057	4.0916
ECN_0.2EY_24hr	3.9494	3.9282	3.9198	3.9286	3.9269	3.9290	3.9295	3.9265	3.9259	3.9218	3.9276	0.0070	3.9286
ECN_0.2EY_2hr	4.0396	3.8813	3.9880	4.1381	3.9837	3.9902	3.8996	3.8798	3.8296	3.7939	3.9395	0.0942	3.9369
ECN_0.2EY_30min	3.9617	3.9636	3.9618	3.9682	3.9599	3.9658	3.9823	3.9620	3.9667	3.9619	3.9683	0.0057	3.9649
ECN_0.2EY_3hr	4.0192	3.9125	4.1115	4.1436	4.1478	4.1263	4.1653	4.0455	4.1538	4.1380	4.1080	0.0206	4.1458
ECN_0.2EY_30min	3.9923	3.9933	3.9903	3.9924	3.9949	3.9943	3.9998	3.9949	3.9982	3.9958	3.9954	0.0014	3.9953
ECN_0.2EY_45min	4.0535	4.0542	4.0540	4.0560	4.0541	4.0563	4.0540	4.0562	4.0542	4.0550	4.0544	0.0010	4.0545
ECN_0.2EY_4_5hr	4.2178	4.1622	4.0833	4.0778	4.1038	4.3406	4.1195	4.2008	4.2563	4.0654	4.1527	0.0922	4.1397
ECN_0.2EY_6hr	4.0925	4.0237	4.0970	4.1036	4.0896	4.0825	4.0767	4.0930	4.0867	4.0431	4.0731	0.0338	4.0858
ECN_0.2EY_9hr	4.0509	4.0237	4.0795	4.0881	4.0342	4.0795	4.0678	4.0849	4.0755	4.0521	4.0645	0.0228	4.0688

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.2EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7195	3.7150	3.7180	3.7200	3.6178	3.7177	3.7172	3.7178	3.7178	3.7152	3.7117	0.0268	3.7177
ECN_0.5EY_12hr	3.3203	4.0224	4.0112	3.9229	3.0897	2.9498	2.8730	4.0496	2.9368	4.0498	3.5865	0.6864	3.9196
ECN_0.5EY_15min	3.7569	3.7552	3.7511	3.7582	3.7388	3.7383	3.7385	3.7390	3.7316	3.7383	3.7468	0.0504	3.7520
ECN_0.5EY_18hr	3.9283	3.9155	3.8476	3.8438	3.7839	3.9012	3.8403	3.9241	3.8178	3.7258	3.8800	0.0835	3.8257
ECN_0.5EY_1_5hr	4.0189	4.0238	3.9905	4.0267	4.0148	4.0238	4.0245	4.0225	4.0375	4.0432	4.0226	0.0120	4.0240
ECN_0.5EY_1hr	3.9932	3.9699	3.9835	3.9961	3.9961	3.7884	3.9849	3.9983	3.9973	3.9962	3.9883	0.0028	3.9946
ECN_0.5EY_20min	3.9399	3.9397	3.9405	3.9403	3.9401	3.9403	3.9405	3.9397	3.9402	3.9401	3.9401	0.0003	3.9402
ECN_0.5EY_24hr	3.7452	3.7758	3.8229	3.9422	3.7369	3.7769	2.7681	3.8941	3.8309	3.8258	3.8259	0.0828	3.7929
ECN_0.5EY_25min	3.6793	3.6782	3.6783	3.6785	3.6793	3.6788	3.6789	3.6789	3.6729	3.6725	3.6758	0.0019	3.6781
ECN_0.5EY_2hr	3.9428	3.8363	3.8533	3.8528	3.8522	3.8857	3.8455	3.8482	3.8526	3.8246	3.8574	0.0178	3.8524
ECN_0.5EY_30min	3.8041	3.8059	3.8055	3.8048	3.8049	3.8064	3.8078	3.8023	3.8029	3.8049	3.8045	0.0014	3.8050
ECN_0.5EY_3hr	3.9838	3.9038	3.8867	3.9328	3.9249	4.0343	3.9855	4.0228	3.9315	4.0012	3.9525	0.0555	3.9328
ECN_0.5EY_45min	3.9408	3.8410	3.8518	3.9623	3.9813	3.9630	3.9812	3.9535	3.9628	3.9234	3.9482	0.0002	3.9629
ECN_0.5EY_4_5hr	4.0340	3.9915	3.9802	3.9752	4.0499	4.0048	4.0308	4.0028	4.0659	4.0267	4.0255	0.0313	4.0158
ECN_0.5EY_6hr	3.9408	3.9238	3.9760	3.9318	3.9838	3.9530	3.9866	3.9389	3.9529	3.9278	3.9562	0.0198	3.9538
ECN_0.5EY_9hr	3.9618	3.9186	4.0453	4.0669	3.9913	3.9883	3.9872	3.9926	3.9586	3.9585	3.9838	0.0564	3.9885

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9838	3.9824	3.9823	3.9803	3.9811	3.9829	3.9828	3.9825	3.9824	3.9818	3.9824	0.0010	3.9826
ECN_1pct_12hr	3.9166	3.8292	3.1656	3.9861	2.8764	3.8859	3.8563	3.9049	3.8698	3.9230	3.7809	0.3465	3.8749
ECN_1pct_15min	3.9389	3.9390	3.9382	3.9397	3.9362	3.9382	3.9390	3.9016	3.9384	3.9393	3.9382	0.0093	3.9389
ECN_1pct_18hr	3.8198	3.8458	3.8169	3.7799	3.8468	3.8451	3.8359	3.8826	3.8725	3.8485	3.8494	0.0352	3.8463
ECN_1pct_1_5hr	4.0398	3.9725	3.9491	3.9856	3.9535	3.9800	3.9302	3.9744	3.9367	3.9366	3.9627	0.0328	3.9740
ECN_1pct_1hr	3.9845	3.9587	3.9596	3.9829	4.0853	3.9842	3.9754	3.9250	3.9836	3.9826	3.9855	0.0959	3.9833
ECN_1pct_20min	3.9569	3.9690	3.9595	3.9744	3.9603	3.9638	3.9693	3.9665	3.9707	3.9669	3.9676	0.0048	3.9683
ECN_1pct_24hr	3.9533	3.9398	3.9285	3.9475	3.9054	3.9054	3.8913	3.9354	3.8719	3.9118	3.9210	0.0215	3.9209
ECN_1pct_25min	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	0.0000	3.9178
ECN_1pct_2hr	4.0504	3.9805	3.9979	4.0228	4.0248	4.0352	4.0268	4.0089	3.9762	4.0043	4.0048	0.0237	4.0156
ECN_1pct_30min	3.9685	3.9748	3.9705	3.9789	3.9804	3.9747	3.9790	3.9755	3.9739	3.9760	3.9752	0.0035	3.9756
ECN_1pct_3hr	4.0048	3.9693	3.9874	4.0179	4.0098	4.0057	4.0533	4.0479	3.9492	4.0402	4.0045	0.0298	4.0052
ECN_1pct_45min	3.9783	3.9839	3.9835	3.9900	3.9816	3.9882	3.9861	3.9861	3.9836	3.9836	3.9835	0.0035	3.9836
ECN_1pct_4_5hr	4.0468	4.0252	4.0268	4.0359	4.0459	4.0619	4.0872	4.0829	4.0629	4.0486	4.0522	0.0207	4.0549
ECN_1pct_6hr	4.0465	4.0252	4.0268	4.0359	4.0459	4.0619	4.0872	4.0829	4.0629	4.0486	4.0522	0.0207	4.0549
ECN_1pct_9hr	4.0465	4.0252	4.0268	4.0359	4.0459	4.0619	4.0872	4.0829	4.0629	4.0486	4.0522	0.0207	4.0549

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4_5hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	3.8295	3.8252	3.8249	3.8245	3.8253	3.8254	3.8270	3.8252	3.8272	3.8259	3.8255	0.0015	3.8254
ECN_10pct_12hr	3.3183	2.1313	3.8491	2.1328	2.8089	3.8365	3.8301	3.8378	3.8457	3.8216	3.3482	0.7787	3.8342
ECN_10pct_15min	3.9156	3.9139	3.9154	3.9150	3.9179	3.9165	3.9178	3.9184	3.9164	3.9173	3.9170	0.0010	3.9172
ECN_10pct_18hr	3.8235	3.8389	3.8279	3.8393	3.8491	3.8453	3.8324	3.8415	3.8239	3.8358	3.8350	0.0078	3.8354
ECN_10pct_1_5hr	3.9851	3.9589	3.9179	3.9819	3.9179	3.9659	3.9324	3.9454	3.9402	3.9418	3.9487	0.0235	3.9505
ECN_10pct_1hr	3.9641	3.9453	3.9187	3.9478	3.9552	3.9625	3.9453	3.9579	3.9523	3.9508	3.9500	0.0056	3.9508
ECN_10pct_20min	3.9389	3.9387	3.9392	3.9394	3.9393	3.9389	3.9381	3.9388	3.9389	3.9382	3.9387	0.0004	3.9388
ECN_10pct_24hr	3.8869	3.7659	3.8983	3.8119	3.8868	3.2803	3.8868	3.8868	3.8868	3.8702	3.8704	0.0704	3.8868
ECN_10pct_25min	3.8225	3.8236	3.8231	3.8222	3.8219	3.8245	3.8233	3.8228	3.8228	3.8228	3.8229	0.0010	3.8228
ECN_10pct_2hr	3.9389	3.8339	3.8753	3.8728	3.8553	3.8842	3.8520	3.8755	3.8368	3.8286	3.8577	0.0184	3.8548
ECN_10pct_30min	3.8521	3.8549	3.8538	3.8555	3.8558	3.8563	3.8569	3.8547	3.8563	3.8556	3.8552	0.0008	3.8552
ECN_10pct_3hr	3.9041	3.8367	3.8754	3.8748	3.8659	3.8846	3.8626	3.8706	3.8548	3.8748	3.8740	0.0206	3.8744
ECN_10pct_45min	3.8388	3.8389	3.8388	3.8393	3.8389	3.8394	3.8393	3.8393	3.8392	3.8392	3.8392	0.0002	3.8392
ECN_10pct_4_5hr	3.9858	3.9218	3.9228	3.9223	3.9166	3.9041	3.9216	3.9212	3.9229	3.9225	3.9222	0.0020	3.9223
ECN_10pct_6hr	3.9588	3.8569	3.8743	3.8855	3.8369	3.8388	3.8391	3.8459	3.8228	3.8841	3.8658	0.0253	3.8653
ECN_10pct_9hr	3.9538	3.8569	3.8757	3.8840	3.8396	3.8529	3.8752	3.8459	3.8263	3.8298	3.8540	0.0391	3.8553

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_10pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.9375	3.9310	3.9353	3.9378	3.9378	3.9355	3.9370	3.9363	3.9398	3.9359	3.9378	0.0015	3.9373
ECN_2pct_12hr	3.9215	3.9386	3.9227	3.8836	3.9891	3.9059	3.8765	3.9451	3.9548	3.9068	3.9228	0.1819	3.9239
ECN_2pct_15min	3.9528	3.9534	3.9517	3.9559	3.9569	3.9535	3.9415	3.9519	3.9582	3.9511	3.9520	0.0053	3.9528
ECN_2pct_18hr	3.8264	3.8687	3.8328	3.8787	3.8706	3.8536	3.8328	3.8588	3.8538	3.8558	3.8572	0.0159	3.8548
ECN_2pct_1_5hr	3.9654	3.9550	3.9746	3.9658	3.9703	3.9585	3.9285	3.9589	3.9393	3.9384	3.9577	0.0126	3.9587
ECN_2pct_1hr	3.9508	3.9399	3.9282	3.9345	3.9209	3.9253	3.9113	3.9089	3.9388	3.9196	3.9278	0.0085	3.9273
ECN_2pct_20min	3.9588	3.9588	3.9588	3.9588	3.9592	3.9592	3.9592	3.9594	3.9594	3.9588	3.9591	0.0002	3.9591
ECN_2pct_24hr	3.8879	3.9258	3.9223	3.9014	3.9586	3.8176	3.9058	3.9339	3.8395	3.9275	3.9178	0.0536	3.9226
ECN_2pct_25min	3.9389	3.9389	3.9389	3.9389	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	0.0000	3.9388
ECN_2pct_2hr	3.9977	3.9827	3.9457	3.9989	4.0457	4.0031	3.9830	4.0048	3.9947	4.0281	3.9909	0.0429	3.9962
ECN_2pct_30min	3.9940	3.9980	3.9973	3.9963	3.9983	4.0007	3.9859	3.9971	3.9972	3.9954	3.9961	0.0014	3.9960
ECN_2pct_3hr	4.0319	3.9939	4.0395	4.0536	4.0496	4.0567	4.0568	4.0478	4.0546	4.0396	4.0344	0.0222	4.0396
ECN_2pct_45min	3.9758	3.9766	3.9785	3.9849	3.9758	4.0046	3.9690	3.9855	3.9836	3.9783	3.9833	0.0078	3.9820
ECN_2pct_4_5hr	4.0889	3.9921	3.9589	3.9849	3.9865	4.0169	3.9778	4.0067	3.9638	4.0325	4.0030	0.0508	4.0059
ECN_2pct_6hr	4.0585	3.9635	3.9849	3.9849	4.0329	4.0030	4.0037	3.9610	3.9385	3.9986	4.0092	0.0840	3.9850
ECN_2pct_9hr	4.0329	3.9283	4.0395	4.0651	3.9836	4.0270	4.0269	4.0220	3.9458	3.9584	4.0044	0.0442	4.0155

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_4_5hr.
The median pattern for this ensemble is storm 2 (storm name : ECN_2pct_4_5hr_2).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_4_5hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.9349	3.9367	3.9345	3.9369	3.9352	3.9358	3.9362	3.9370	3.9368	3.9353	3.9357	0.0008	3.9355
ECN_5pct_12hr	3.9068	3.8965	3.9097	3.9058	3.9104	3.9195	3.9195	3.9272	3.9254	3.9202	3.9141	0.0078	3.9172
ECN_5pct_15min	3.9862	3.9723	3.9728	3.9723	3.9736	3.9752	3.9738	3.9744	3.9756	3.9753	3.9739	0.0010	3.9739
ECN_5pct_18hr	3.9049	3.9155	3.9529	3.9785	3.9837	3.9982	3.9685	3.9851	3.9889	3.9859	3.9684	0.0256	3.9767
ECN_5pct_1_5hr	4.0919	4.0868	4.0945	4.0833	4.0872	4.0855	4.0755	4.0862	4.0548	4.0783	4.0835	0.0115	4.0859
ECN_5pct_1hr	4.0389	4.0288	4.0345	4.0309	4.0283	4.0309	4.0311	4.0309	4.0388	4.0256	4.0322	0.0048	4.0309
ECN_5pct_20min	4.0388	4.0388	4.0388	4.0388	4.0388	4.0388	4.0388	4.0388	4.0388	4.0388	4.0388	0.0000	4.0388
ECN_5pct_24hr	3.9533	3.9398	3.9285	3.9475	3.9054	3.9054	3.8913	3.9354	3.8719	3.9118	3.9210	0.0215	3.9209
ECN_5pct_25min	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	3.9178	0.0000	3.9178
ECN_5pct_2hr	4.0504	3.9805	3.9979	4.0228	4.0248	4.0352	4.0268	4.0089	3.9762	4.0043	4.0048	0.0237	4.0156
ECN_5pct_30min	3.9685	3.9748	3.9705	3.9789	3.9804	3.9747	3.9790	3.9755	3.9739	3.9760	3.9752	0.0035	3.9756
ECN_5pct_3hr	4.0048	3.9693	3.9874	4.0179	4.0098	4.0057	4.0533	4.0479	3.9492	4.0402	4.0045	0.0298	4.0052
ECN_5pct_45min	3.9783	3.9839	3.9835	3.9900	3.9816	3.9882	3.9861	3.9861	3.9836	3.9836	3.9835	0.0035	3.9836
ECN_5pct_4_5hr	4.0468	4.0252	4.0268	4.0359	4.0459	4.0619	4.0872	4.0829	4.0629	4.0486	4.0522	0.0207	4.0549
ECN_5pct_6hr	4.0465	4.0252	4.0268	4.0359	4.0459	4.0619	4.0872	4.0829	4.0629	4.0486	4.0522	0.0207	4.0549
ECN_5pct_9hr	4.0465	4.0252	4.0268	4.0359	4.0459	4.0619	4.0872	4.0829	4.0629	4.0486	4.0522	0.0207	4.0549

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6605	3.6607	3.6669	3.6685	3.6684	3.6682	3.6667	3.6686	3.6684	3.6685	3.6683	0.0031	3.6685
ECN_63pct_12hr	3.6889	3.9533	3.6939	3.8656	3.8670	3.7952	3.7922	3.9729	3.8452	3.5468	3.8795	0.0785	3.9461
ECN_63pct_15min	3.7245	3.7227	3.7250	3.7263	3.7291	3.7246	3.7245	3.7235	3.7192	3.7249	3.7238	0.0014	3.7240
ECN_63pct_18hr	3.6034	3.7786	3.6278	3.7184	3.7888	3.6628	3.6451	3.7276	3.6585	3.7628	3.6948	0.1089	3.7489
ECN_63pct_1_5hr	3.9284	3.8398	3.9283	3.9244	3.9304	3.8869	3.9390	3.9218	3.8463	3.8412	3.9007	0.0384	3.9245
ECN_63pct_1hr	3.9023	3.8996	3.9012	3.9046	3.9048	3.9044	3.9032	3.9063	3.9003	3.8926	3.9019	0.0042	3.9029
ECN_63pct_20min	3.7675	3.7677	3.7679	3.7682	3.7677	3.7683	3.7685	3.7676	3.7682	3.7683	3.7682	0.0003	3.7679
ECN_63pct_24hr	3.6385	3.6868	3.7379	3.8868	3.7194	3.7216	3.5138	3.7553	3.7205	3.7343	3.7284	0.0724	3.7345
ECN_63pct_25min	3.6888	3.6883	3.6887	3.6889	3.6888	3.6888	3.6882	3.6884	3.6883	3.6850	3.6885	0.0010	3.6886
ECN_63pct_2hr	3.8219	3.8265	3.8263	3.8418	3.8418	3.8026	3.8574	3.8959	3.8538	3.8651	3.8431	0.0139	3.8440
ECN_63pct_30min	3.8191	3.8162	3.8183	3.8259	3.8255	3.8204	3.8334	3.8218	3.8208	3.8221	3.8218	0.0037	3.8213
ECN_63pct_3hr	3.9858	3.8068	3.8808	3.9059	3.8426	3.8226	3.9324	3.9153	3.8468	3.8228	3.8776	0.0575	3.8747
ECN_63pct_45min	3.8928	3.8694	3.8896	3.8782	3.8738	3.8723	3.8723	3.8729	3.8713	3.8698	3.8728	0.0078	3.8722
ECN_63pct_4_5hr	3.9838	3.8953	3.8898	3.9025	3.9248	3.8854	3.9803	3.9587	3.9432	3.9530	3.9217	0.0328	3.9288
ECN_63pct_6hr	3.8367	3.8283	3.8783	3.9503	3.8787	3.9529	3.8863	3.9533	3.8707	3.8340	3.8987	0.0514	3.8760
ECN_63pct_9hr	3.9698	3.9381	4.0428	3.8956	3.9430	3.8925	3.9859	3.8712	3.8505	3.8978	3.9047	0.0464	3.8981

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_63pct_2hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_63pct_2hr_3).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: BluffOut_US
Result type: Max Water Elevation

Results:

AEP: 0.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2%_15min	5.7795	5.7758	5.7792	5.7739	5.7791	5.7754	5.7792	5.7782	5.7771	5.7731	5.7760	0.0025	5.7760
ECN_0.2%_12hr	5.5531	5.1629	5.2513	5.0883	5.3958	5.3958	5.3753	5.2229	5.0519	4.5781	5.1837	0.1042	5.2229
ECN_0.2%_15min	5.0624	5.0822	5.5815	5.8025	5.8839	5.8652	5.2852	5.0528	5.8628	5.4589	5.5577	0.3306	5.8839
ECN_0.2%_18hr	5.0506	5.9709	5.5179	5.8837	5.8963	5.3994	5.3413	5.5845	5.9255	5.8820	5.5907	0.1824	5.8820
ECN_0.2%_1.5hr	6.2139	6.2539	6.0801	6.1706	6.1752	6.1228	6.1225	6.0269	6.1489	6.0462	6.1227	0.0147	6.1348
ECN_0.2%_2hr	6.0984	6.0856	6.0870	6.0927	6.0928	6.0963	6.0905	6.0917	6.0926	6.0905	6.0918	0.0033	6.0914
ECN_0.2%_24hr	5.9402	5.9268	5.9154	5.9255	5.9285	5.9285	5.9268	5.9205	5.9257	5.9209	5.9259	0.0064	5.9259
ECN_0.2%_3hr	6.0348	5.8967	5.9459	5.9174	5.9174	5.9286	5.8991	5.9178	5.9302	5.9182	5.9212	0.0310	5.9178
ECN_0.2%_6hr	6.0239	5.9576	6.0291	5.9915	6.0438	6.0057	6.0150	6.0014	6.0236	6.0135	6.0076	0.0188	6.0106
ECN_10pct_15min	5.0523	5.1832	5.4603	4.1810	4.1810	4.1810	5.2023	5.0963	4.1810	4.1810	4.6191	0.5229	4.1810
ECN_10pct_1hr	4.9640	4.1810	4.1810	4.1810	4.1810	4.1810	4.1627	4.1810	4.1536	4.1810	4.1898	0.0235	4.1810
ECN_10pct_2hr	4.4796	4.0358	4.2989	4.3791	4.3996	4.4788	4.3983	4.0899	4.3896	4.3093	4.2855	0.1885	4.3934
ECN_10pct_24hr	4.3808	4.7825	4.0995	4.8888	4.8113	4.3985	4.2888	4.8888	4.8888	4.8789	4.6900	0.1915	4.8567
ECN_10pct_25min	4.8222	4.8234	4.8228	4.8298	4.8225	4.8282	4.8235	4.8230	4.8226	4.8232	4.8232	0.0026	4.8229
ECN_10pct_2hr	4.2339	4.1883	4.7428	4.2257	4.2248	4.2120	4.2196	4.2266	4.2279	4.2265	4.2774	0.1814	4.2244
ECN_10pct_30min	4.6849	4.7557	4.6648	4.8552	4.8559	4.8566	4.8568	4.8539	4.8583	4.8566	4.8556	0.0808	4.8556
ECN_10pct_3hr	4.4930	4.1988	4.1977	4.2398	4.1978	4.4863	4.2619	4.2398	4.2538	4.2749	4.2899	0.0267	4.2899
ECN_10pct_45min	4.3286	4.3225	4.3223	4.1282	4.1028	4.3225	4.1218	4.3231	4.1227	4.3224	4.1281	0.0809	4.3225
ECN_10pct_4_5hr	4.6856	4.1238	4.2284	4.2249	4.1564	4.2492	4.2023	4.2918	4.2323	4.2858	4.2890	0.0886	4.2329
ECN_10pct_6hr	4.2592	4.1549	4.1741	4.1885	4.2357	4.2304	4.1659	4.2438	4.2547	4.2691	4.2552	4.2553	4.2326
ECN_10pct_9hr	4.2830	4.1365	4.2058	4.1362	4.1884	4.2909	4.1735	4.2958	4.2264	4.2394	4.1558	0.0391	4.2480

CRITICAL DURATION : The critical duration for the 0.2% AEP is the ensemble ECN_0.2%_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_0.2%_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2%_2hr_5).

AEP: 0.5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5%_15min	3.7172	3.7237	3.7179	3.7233	3.7172	3.7238	3.7235	3.7175	3.7169	3.7230	3.7216	0.0033	3.7216
ECN_0.5%_12hr	3.3291	2.9122	3.0118	2.9029	3.0305	2.9180	2.8787	2.9273	2.8559	2.8553	2.9602	0.1884	2.9302
ECN_0.5%_15min	3.7969	3.7968	3.7969	3.7969	3.7966	3.7966	3.7967	3.7968	3.7969	3.7968	3.7968	0.0001	3.7968
ECN_0.5%_18hr	3.4989	3.4553	3.4474	3.4434	3.7835	3.4869	3.4435	3.4228	3.4468	3.4475	3.4627	0.1130	3.4475
ECN_0.5%_1.5hr	4.0192	4.0236	3.9922	4.0295	4.0338	4.0262	4.0263	4.0038	4.0372	4.0230	4.0254	0.0120	4.0248
ECN_0.5%_2hr	3.9969	3.9887	3.9895	3.9938	3.9938	3.9984	3.9942	3.9944	3.9938	3.9942	3.9938	0.0028	3.9940
ECN_0.5%_20min	3.9893	3.9865	3.9903	3.9868	3.9868	3.9869	3.9869	3.9864	3.9864	3.9881	3.9870	0.0013	3.9869
ECN_0.5%_24hr	3.9251	3.9759	3.9527	3.9722	3.9778	3.9769	3.7879	3.9723	3.9779	3.9523	3.9523	0.0528	3.9723
ECN_0.5%_25min	3.9772	3.9778	3.9781	3.9769	3.9787	3.9725	3.9753	3.9782	3.9723	3.9723	3.9745	0.0026	3.9753
ECN_0.5%_2hr	3.9681	3.9852	3.9528	3.9829	3.9811	3.9895	3.9687	3.9458	3.9520	3.9584	3.9650	0.0128	3.9668
ECN_0.5%_30min	3.9835	3.9658	3.9858	3.9895	3.9868	3.9861	3.9895	3.9824	3.9829	3.9868	3.9848	0.0024	3.9849
ECN_0.5%_3hr	3.9549	3.9687	3.9853	3.9899	3.9895	3.9432	3.9231	3.9329	3.9860	3.9457	3.9525	0.0213	3.9503
ECN_0.5%_45min	3.9818	3.9809	3.9830	3.9789	3.9729	3.9722	3.9729	3.9733	3.9727	3.9718	3.9758	0.0035	3.9729
ECN_0.5%_4_5hr	3.9787	3.9961	3.9682	3.9884	3.9287	3.9858	3.9805	3.9787	3.9839	3.9858	3.9835	0.0203	3.9847
ECN_0.5%_6hr	3.9595	3.9363	3.9761	3.9534	3.9758	3.9523	3.9602	3.9704	3.9758	3.9582	3.9682	0.0114	3.9664
ECN_0.5%_9hr	3.9651	3.9269	3.9790	3.9605	3.8955	3.9487	3.8929	3.9859	3.8710	3.8504	3.9376	0.0454	3.9505

CRITICAL DURATION : The critical duration for the 0.5% AEP is the ensemble ECN_0.5%_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5%_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5%_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9616	3.9822	3.9881	3.9828	3.9828	3.9826	3.9825	3.9830	3.9827	3.9818	3.9825	0.0006	3.9826
ECN_1pct_12hr	3.9503	3.8215	3.8659	3.8445	3.8768	3.8856	3.8581	3.8766	3.8498	3.8393	3.8707	0.0428	3.8645
ECN_1pct_15min	3.9986	3.9989	3.9807	3.9985	3.9985	3.9988	3.9988	3.9986	3.9988	3.9988	3.9987	0.0001	3.9988
ECN_1pct_18hr	3.9193	3.8459	3.9165	3.7484	3.9463	3.9439	3.9324	3.9858	3.9323	3.9269	3.9268	0.0481	3.9297
ECN_1pct_1.5hr	4.0388	3.9258	4.0452	3.9859	3.8435	3.8889	4.0342	4.0342	3.9579	4.0385	3.9787	0.0720	4.0340
ECN_1pct_1hr	3.9848	3.9688	3.9885	3.9828	4.0853	3.9884	3.9855	3.9858	3.9855	3.9824	3.9860	0.0035	3.9842
ECN_1pct_20min	3.9998	3.9998	3.9994	3.9988	3.9990	3.9602	3.9989	3.9988	3.9988	3.9816	3.9965	0.0053	3.9988
ECN_1pct_24hr	3.9579	3.9298	3.9138	3.9409	3.9409	3.9402	3.9412	3.9412	3.9409	3.9412	3.9409	0.0061	3.9409
ECN_1pct_25min	3.9836	3.9836	3.9841	3.9838	3.9837	3.9832	3.9831	3.9840	3.9839	3.9836	3.9836	0.0003	3.9836
ECN_1pct_2hr	3.9729	3.9114	3.9218	3.9838	3.9213	3.9825	3.9813	3.9843	3.9829	3.9837	3.9387	0.0389	3.9833
ECN_1pct_30min	3.9845	3.9853	3.9819	3.9862	3.9840	3.9840	3.9857	3.9845	3.9862	3.9841	3.9847	0.0011	3.9845
ECN_1pct_3hr	3.9929	3.9986	3.9975	3.9528	3.9294	3.9353	3.9862	3.9873	3.9734	3.9884	3.9835	0.0035	3.9879
ECN_1pct_45min	3.9888	3.9868	3.9838	3.9847	3.9858	3.9846	3.9838	3.9838	3.9821	3.9839	3.9840	0.0020	3.9839
ECN_1pct_4_5hr	3.9910	3.9892	3.9892	3.9787	3.9829	3.9857	3.9836	3.9776	3.9852	3.9886	3.9838	0.0038	3.9846
ECN_1pct_6hr	3.9838	3.9833	3.9813	3.9871	3.9191	3.9828	3.9889	3.9861	3.9835	3.9855	3.9788	0.0218	3.9871
ECN_1pct_9hr	3.9858	3.9850	3.9784	3.9849	3.9885	3.9870	3.9823	3.9829	3.9829	3.9804	3.9830	0.0026	3.9839

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4_5hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.9249	3.9251	3.9256	3.9244	3.9250	3.9262	3.9270	3.9263	3.9252	3.9264	3.9257	0.0005	3.9253
ECN_2pct_12hr	3.7348	3.1338	3.5887	3.2828	3.4434	3.5972	3.4859	3.4366	3.2439	3.5423	3.4048	0.1788	3.4366
ECN_2pct_15min	3.9193	3.9250	3.9459	3.9178	3.9174	3.9262	3.9178	3.9178	3.9182	3.9178	3.9218	0.0034	3.9178
ECN_2pct_18hr	3.6232	3.5576	3.6275	3.9315	3.6438	3.6057	3.6150	3.6014	3.6236	3.6735	3.6478	0.0784	3.6326
ECN_2pct_1.5hr	3.9553	3.9582	3.9603	4.0120	4.0169	4.0023	4.0023	3.9963	4.0052	4.0119	4.0064	0.0184	4.0046
ECN_2pct_1hr	3.9540	3.9158	3.9581	3.9582	3.9582	3.9629	3.9582	3.9536	3.9582	3.9599	3.9579	0.0135	3.9582
ECN_2pct_20min	3.9796	3.9788	3.9789	3.9791	3.9796	3.9788	3.9783	3.9789	3.9796	3.9793	3.9793	0.0005	3.9794
ECN_2pct_24hr	3.9808	3.7825	4.0995	3.8888	3.8113	3.9985	4.0288	3.8888	3.8888	3.8789	3.8990	0.1915	3.9567
ECN_2pct_25min	3.9822	3.9834	3.9828	3.9298	3.9825	3.9282	3.9235	3.9830	3.9226	3.9832	3.9325	0.0018	3.9829
ECN_2pct_2hr	3.9339	3.9383	3.9383	3.9729	3.9284	3.9240	3.9120	3.9296	3.9279	3.9265	3.9374	3.9184	3.9244
ECN_2pct_30min	3.9849	3.9857	3.9848	3.9852	3.9859	3.9866	3.9868	3.9839	3.9883	3.9866	3.9856	3.9808	3.9856
ECN_2pct_3hr	3.9930	3.9988	3.9977	3.9398	3.9178	3.9863	3.9619	3.9398	3.9538	3.9749	3.9699	3.9267	3.9699
ECN_2pct_45min	3.9286	3.9225	3.9223	3.9282	3.9228	3.9225	3.9218	3.9231	3.9227	3.9224	3.9249	3.9269	3.9225
ECN_2pct_4_5hr	3.9856	3.9238	3.9284	3.9249	3.9564	3.9492	3.9023	3.9918	3.9323	3.9858	3.9886	3.9729	
ECN_2pct_6hr	3.9592	3.9549	3.9541	3.9552	3.9523	3.9304	3.9659	3.9438	3.9547	3.9691	3.9552	3.9553	3.9326
ECN_2pct_9hr	3.9830	3.9365	3.9858	3.9362	3.9884	3.9909	3.9735	3.9958	3.9264	3.9394	3.9558	3.9391	3.9480

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_4_5hr.
The median pattern for this ensemble is storm 2 (storm name : ECN_2pct_4_5hr_2).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_4_5hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.8785	3.8785	3.8793	3.8789	3.8788	3.8788	3.8788	3.8785	3.8788	3.8789	3.8787	0.0002	3.8788
ECN_5pct_12hr	3.6861	3.8805	3.8743	3.8066	3.8577	3.8352	3.7952	3.7213	3.8049	3.8242	3.8036	3.8169	3.8059
ECN_5pct_15min	3.9828	3.9825	3.9826	3.9745	3.9795	3.9825	3.9831	3.9832	3.9828	3.9826	3.9826	3.9819	3.9826
ECN_5pct_18hr	3.8045	3.8433	3.7589	3.8989	3.8989	3.8886	3.8606	3.8989	3.8989	3.8718	3.8744	3.8824	3.8989
ECN_5pct_1.5hr	3.9819	3.9892	3.9928	3.9534	3.9478	3.9534	3.9751	3.9662	3.9862	3.9940	3.9793	3.9834	3.9859
ECN_5pct_1hr	3.9385	3.9385	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388	3.9388
ECN_5pct_20min	3.9393	3.9377	3.9391	3.9382	3.9382	3.9382	3.9382	3.9382	3.9382	3.9382	3.9384	3.9382	3.9382
ECN_5pct_24hr	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729
ECN_5pct_25min	3.9844	3.9843	3.9819	3.9832	3.9832	3.9832	3.9845	3.9845	3.9841	3.9836	3.9837	3.9831	3.9832
ECN_5pct_2hr	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729
ECN_5pct_30min	3.9845	3.9842	3.9841	3.9842	3.9842	3.9842	3.9842	3.9842	3.9842	3.9842	3.9842	3.9842	3.9842
ECN_5pct_3hr	3.8729	3.9332	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729	3.8729
ECN_5pct_45min	3.9836	3.9782	3.9782	3.9783	3.9758	3.9840	3.9839	3.9838	3.9845	3.9781	3.9830	3.9820	3.9839
ECN_5pct_4_5hr	3.9832	3.9820	3.9820	3.9857	3.9168	3.9778	3.9840	3.9832	3.9832	3.9832	3.9808	3.9859	
ECN_5pct_6hr	3.9582	3.9438	3.9390	3.9963	3.9823	3.9564	3.9838	3.9512	3.9307	3.9396	3.9609	3.9840	3.9552
ECN_5pct_9hr	3.9626	3.9285	3.9892	3.9810	3.9825	3.9828	3.9270	3.9269	3.9810	3.9819	3.9636	3.9568	3.9822

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6605	3.6683	3.6682	3.6682	3.6681	3.6688	3.6689	3.6688	3.6689	3.6682	3.6685	0.0001	3.6682
ECN_63pct_12hr	3.6928	3.9382	3.9985	3.8869	3.8869	3.9788	3.9815	3.9326	3.8869	3.9454	3.9239	0.0785	3.9350
ECN_63pct_15min	3.9282	3.9285	3.9283	3.9366	3.9282	3.9282	3.9282	3.9283	3.9288	3.9286	3.9285	3.9816	3.9286
ECN_63pct_18hr	3.8034	3.9765	3.8829	3.9198	3.9198	3.9198	3.8825	3.8589	3.9282	3.8568	3.9029	0.1308	3.9077
ECN_63pct_1.5hr	3.9284	3.8335	3.9283	3.9249	3.8383	3.9268	3.9302	3.9347	3.8408	3.9450	3.9211	3.0599	3.9345
ECN_63pct_1hr	3.9082	3.9584	3.9013	3.9084	3.9083	3.9084	3.9082	3.9082	3.9083	3.9083	3.9083	3.0012	3.9083
ECN_63pct_20min	3.7672	3.7678	3.7672	3.7929	3.7674	3.7678	3.7623	3.7679	3.7639	3.7641	3.7686	3.7021	3.7672
ECN_63pct_24hr	3.6283	3.6863	3.7382	3.6838	3.7198	3.7269	3.7123	3.7539	3.7037	3.6838	3.6978	3.0724	3.7382
ECN_63pct_25min	3.7938	3.7939	3.7939	3.7957	3.7988	3.7936	3.7960	3.7938	3.7957	3.7941	3.7951	3.0019	3.7938
ECN_63pct_2hr	3.9221	3.9245	3.9282	3.9065	3.9619	3.9583	3.9979	3.9726	3.9536	3.9589	3.9625	3.0126	3.9589
ECN_63pct_30min	3.8199	3.8258	3.8240	3.8257	3.8273	3.8282	3.8322	3.8221	3.8268	3.8229	3.8253	3.0019	3.8239
ECN_63pct_3hr	3.9549	3.9687	3.9853	3.9899	3.9895	3.9432	3.9231	3.9329	3.9860	3.9457	3.9525	3.0213	3.9503
ECN_63pct_45min	3.8918	3.8909	3.8880	3.8709	3.8729	3.8722	3.8729	3.8733	3.8727	3.8718	3.8785	3.0019	3.8729
ECN_63pct_4_5hr	3.9849	3.9961	3.9682	3.9884	3.9287	3.9858	3.9805	3.9787	3.9839	3.9858	3.9835	3.0203	3.9847
ECN_63pct_6hr	3.9595	3.9363	3.9761	3.9534	3.9758	3.9523	3.9602	3.9704	3.9758	3.9582	3.9682	3.0114	3.9664
ECN_63pct_9hr	3.9651	3.9269	3.9790	3.9605	3.8955	3.9487	3.8929	3.9859	3.8710	3.8504	3.9376	3.0454	3.9505

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_63pct_2hr_3).

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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: Nev2wale010
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7758	3.7755	3.7759	3.7755	3.7758	3.7762	3.7758	3.7759	3.7754	3.7758	3.7758	0.0002	3.7759
ECN_0.2EY_12hr	3.8570	3.8393	3.8284	3.8483	3.8868	3.8480	3.8425	3.8365	3.8499	3.8599	3.8495	0.0159	3.8489
ECN_0.2EY_15min	3.8978	3.8550	3.8563	3.8572	3.8579	3.8578	3.8579	3.8580	3.8581	3.8573	3.8600	0.0009	3.8575
ECN_0.2EY_18hr	3.9056	3.9622	3.8648	3.9399	3.8902	3.9226	3.9510	3.8398	3.9193	3.8825	3.9267	0.0361	3.9282
ECN_0.2EY_1.5hr	4.0943	4.0993	4.0898	4.1664	4.1501	4.0268	4.0891	4.0965	4.1832	4.0881	4.0937	0.0332	4.0916
ECN_0.2EY_1hr	4.0851	4.0452	4.0969	4.0119	4.0918	4.0851	4.0839	4.0835	4.0792	4.0903	4.0852	0.0087	4.0857
ECN_0.2EY_20min	3.9814	3.9422	3.9528	3.9225	3.9529	3.9226	3.9525	3.9428	3.9228	3.9289	3.9372	0.0209	3.9334
ECN_0.2EY_24hr	3.8290	3.8808	3.9005	3.8929	3.9059	3.8923	3.8923	3.9439	3.8969	3.9267	3.8972	0.0337	3.8950
ECN_0.2EY_30min	3.9415	3.8563	3.8557	3.9384	3.8497	3.9568	3.9518	3.9568	3.9528	3.9515	3.8998	0.0067	3.9049
ECN_0.2EY_2hr	4.0080	4.0857	4.0870	4.1054	4.1385	4.0889	4.0892	4.0955	4.1319	4.0227	4.0727	0.0154	4.0892
ECN_0.2EY_30min	3.9798	3.9685	3.9868	3.9798	3.9822	3.9819	3.9787	3.9824	3.9827	3.9861	3.9807	0.0058	3.9809
ECN_0.2EY_3hr	4.2092	4.2868	4.1282	4.0529	4.1248	4.1268	4.0878	4.1028	4.1350	4.1248	4.1520	0.0853	4.1258
ECN_0.2EY_45min	4.0199	4.0330	4.0347	4.0040	4.0369	4.0358	4.0378	4.0398	4.0378	4.0388	4.0278	0.0019	4.0373
ECN_0.2EY_4.5hr	4.0629	4.0693	4.0523	4.0352	4.1089	4.0802	4.1229	4.0894	4.1273	4.0269	4.0807	0.0357	4.1054
ECN_0.2EY_6hr	4.2478	4.2023	4.2786	4.2069	4.2388	4.2437	4.2557	4.2317	4.2489	4.2175	4.2372	0.0329	4.2400
ECN_0.2EY_9hr	4.3640	4.3140	4.3458	4.3750	4.3912	4.3484	4.3855	4.3132	4.3580	4.3392	4.3595	0.0298	4.3552

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_0.2EY_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.7135	3.7154	3.7109	3.7655	3.6531	3.7102	3.7818	3.7856	3.7686	3.7540	3.7358	0.0388	3.7852
ECN_0.5EY_12hr	3.7422	3.8178	3.8885	3.8130	3.8829	3.8659	3.8650	3.8683	3.8596	3.8540	3.8525	0.0325	3.8586
ECN_0.5EY_15min	3.7872	3.7864	3.7872	3.7865	3.7854	3.7833	3.7872	3.7862	3.7874	3.7878	3.7871	0.0012	3.7872
ECN_0.5EY_18hr	3.8719	3.8562	3.8211	3.8559	3.7908	3.9029	3.8752	3.7210	3.8568	3.7226	3.8480	0.0990	3.8259
ECN_0.5EY_1.5hr	4.0943	4.0689	4.0960	4.0838	4.0838	4.0894	4.0048	4.0883	4.0927	4.0943	4.0813	0.0111	4.0879
ECN_0.5EY_1hr	3.9842	3.9779	3.9754	3.9849	3.9836	3.9859	3.9825	3.9830	3.9799	3.9816	3.9819	0.0024	3.9822
ECN_0.5EY_20min	3.9329	3.9338	3.9309	3.9340	3.9391	3.9283	3.9366	3.9366	3.9319	3.9363	3.9350	0.0025	3.9359
ECN_0.5EY_24hr	3.7229	3.7726	3.8379	3.9680	3.7448	3.7985	3.7845	3.8082	3.8082	3.8587	3.7900	0.0959	3.7948
ECN_0.5EY_30min	3.6812	3.6792	3.6792	3.6784	3.6858	3.6858	3.6874	3.6826	3.6879	3.6845	3.6852	0.0031	3.6856
ECN_0.5EY_2hr	3.9938	4.0035	4.0031	4.0359	4.0424	4.0518	4.0226	4.0272	4.0359	4.0824	4.0357	0.0156	4.0358
ECN_0.5EY_30min	3.8948	3.8986	3.8991	3.8974	3.8998	3.8982	3.8965	3.8954	3.8958	3.8953	3.8957	0.0015	3.8957
ECN_0.5EY_3hr	4.0843	3.9863	3.9951	3.9358	3.9485	3.9525	3.9145	3.9249	3.9052	3.9347	3.9580	0.0356	3.9565
ECN_0.5EY_45min	3.9501	3.9507	3.9504	3.9523	3.9459	3.9479	3.9665	3.9491	3.9664	3.9458	3.9525	0.0073	3.9542
ECN_0.5EY_4.5hr	4.0020	3.9702	3.9800	3.9681	4.0058	3.9969	4.0228	4.0475	4.0267	4.0042	4.0224	0.0243	4.0097
ECN_0.5EY_6hr	4.0310	4.0120	3.9848	3.9826	3.9909	3.9662	3.9998	4.0202	3.9629	4.0227	3.9973	0.0138	3.9959
ECN_0.5EY_9hr	4.0439	3.9906	4.0289	4.0021	3.9952	4.0295	3.9756	3.9950	3.9598	3.9859	3.9952	0.0220	3.9970

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 10 = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9705	3.9705	3.9707	3.9714	3.9704	3.9707	3.9705	3.9704	3.9704	3.9706	3.9706	0.0001	3.9706
ECN_1pct_12hr	4.3425	4.3523	4.2591	4.2840	4.3052	4.3256	4.2985	4.3405	4.3284	4.3509	4.3050	0.0385	4.3074
ECN_1pct_15min	3.9539	3.9182	3.9383	3.9700	3.9614	3.9614	3.9698	3.9584	3.9682	3.9710	3.9591	0.0159	3.9614
ECN_1pct_18hr	4.2943	4.2969	4.2661	4.2954	4.2485	4.2885	4.2819	4.2860	4.2982	4.2938	4.2850	0.0154	4.2893
ECN_1pct_1.5hr	4.3439	4.3428	4.3444	4.3454	4.3463	4.3446	4.3431	4.3399	4.3493	4.3450	4.3445	0.0021	4.3448
ECN_1pct_1hr	4.3219	4.3252	4.3269	4.3208	4.3259	4.3251	4.3148	4.3207	4.3208	4.3292	4.3221	0.0042	4.3220
ECN_1pct_20min	4.1535	4.1530	4.1344	4.1524	4.1530	4.1530	4.1529	4.1527	4.1537	4.1530	4.1526	0.0056	4.1530
ECN_1pct_24hr	4.0182	4.0395	4.0368	4.0328	4.0209	4.0402	4.0368	4.0484	4.0536	4.0373	4.0383	0.0110	4.0349
ECN_1pct_25min	4.1775	4.1797	4.1788	4.1795	4.1772	4.1772	4.1772	4.1772	4.1788	4.1788	4.1787	0.0008	4.1788
ECN_1pct_2hr	4.2845	4.2791	4.2788	4.2783	4.2783	4.2783	4.2768	4.2810	4.2809	4.2866	4.2814	0.0031	4.2811
ECN_1pct_30min	4.2021	4.2124	4.2118	4.2114	4.2119	4.2168	4.2109	4.2115	4.2152	4.2124	4.2115	0.0015	4.2120
ECN_1pct_3hr	4.4003	4.3437	4.4106	4.3537	4.3539	4.3984	4.3835	4.3645	4.3982	4.4182	4.3927	0.0236	4.3932
ECN_1pct_45min	4.2822	4.2858	4.2867	4.2868	4.2828	4.2896	4.2781	4.2897	4.2798	4.2908	4.2852	0.0042	4.2848
ECN_1pct_4.5hr	4.2078	4.2683	4.2823	4.2375	4.2879	4.2809	4.2730	4.3965	4.2868	4.2952	4.2787	0.0547	4.2795
ECN_1pct_6hr	4.4791	4.4517	4.4580	4.4532	4.4479	4.4658	4.4667	4.4598	4.4622	4.4588	4.4593	0.0093	4.4597
ECN_1pct_9hr	4.4829	4.4838	4.4788	4.4928	4.4798	4.4798	4.4788	4.4889	4.4838	4.4793	4.4829	0.0045	4.4836

CRITICAL DURATION : The critical duration for the 10 AEP is the ensemble ECN_1pct_4.5hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4.5hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4.5hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	3.8206	3.8267	3.8262	3.8220	3.8214	3.8269	3.8220	3.8214	3.8209	3.8224	3.8219	0.0021	3.8219
ECN_10pct_12hr	3.8949	3.8831	3.8884	3.8925	3.8891	3.8905	3.8878	3.8838	3.8785	3.8829	3.8857	0.0046	3.8863
ECN_10pct_15min	3.9073	3.9080	3.9092	3.9089	3.9057	3.9065	3.9057	3.9084	3.9104	3.9090	3.9079	0.0010	3.9087
ECN_10pct_18hr	4.0189	3.9808	4.0282	3.9885	4.0238	4.0782	4.0387	3.9889	4.0311	4.0458	4.0203	0.0719	4.0257
ECN_10pct_1.5hr	4.0838	4.0823	4.0837	4.0837	4.0838	4.0838	4.0838	4.0838	4.0837	4.0838	4.0837	0.0001	4.0838
ECN_10pct_1hr	4.1358	4.1586	4.1511	4.1213	4.1513	4.1048	4.1363	4.1363	4.1362	4.1410	4.1396	0.0108	4.1379
ECN_10pct_20min	3.9670	3.9673	3.9673	3.9686	3.9684	3.9685	3.9691	3.9680	3.9684	3.9690	3.9682	0.0005	3.9685
ECN_10pct_24hr	3.9283	3.7689	4.0891	3.8629	3.9988	3.9079	3.9589	3.9418	3.8838	3.9956	3.9256	0.0926	3.9862
ECN_10pct_25min	4.0004	4.0068	4.0049	4.0005	4.0057	4.0058	4.0055	4.0055	4.0059	4.0058	4.0055	0.0019	4.0056
ECN_10pct_2hr	4.0973	4.2009	4.1550	4.1528	4.1909	4.1599	4.1703	4.1929	4.1539	4.1948	4.1518	0.0159	4.1599
ECN_10pct_30min	4.0878	4.0966	4.0879	4.0966	4.0958	4.0963	4.0991	4.0909	4.0958	4.0951	4.0930	0.0038	4.0949
ECN_10pct_3hr	4.2419	4.2149	4.2042	4.2092	4.1992	4.2093	4.2294	4.2024	4.2183	4.2331	4.2162	0.0088	4.2093
ECN_10pct_45min	4.0970	4.0985	4.0934	4.0975	4.0993	4.0957	4.0976	4.0943	4.0988	4.0967	4.0969	0.0008	4.0967
ECN_10pct_4.5hr	4.0953	4.0904	4.1078	4.0956	4.1892	4.1250	4.1696	4.0969	4.1952	4.2404	4.1734	0.0421	4.1384
ECN_10pct_6hr	4.2992	4.3230	4.2889	4.3329	4.3982	4.3809	4.3682	4.2294	4.2995	4.2958	4.3456	0.0478	4.3431
ECN_10pct_9hr	4.2941	4.3257	4.3725	4.4037	4.3572	4.3691	4.3434	4.2824	4.3427	4.3182	4.3562	0.0345	4.3566

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_10pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.9295	3.9256	3.9295	3.9283	3.9304	3.9295	3.9288	3.9278	3.9303	3.9296	3.9290	0.0010	3.9293
ECN_2pct_12hr	4.2760	4.2898	4.2710	4.2707	4.3004	4.2943	4.2950	4.3059	4.2933	4.3065	4.2903	0.0159	4.2913
ECN_2pct_15min	3.9278	3.9278	3.9295	3.9283	3.9282	3.9282	3.9353	3.9295	3.9280	3.9280	3.9291	0.0021	3.9282
ECN_2pct_18hr	4.1589	4.1351	4.1955	4.2422	4.1893	4.3662	4.2119	4.2457	4.2582	4.2813	4.2357	0.0770	4.2385
ECN_2pct_1.5hr	4.3261	4.3205	4.3135	4.2956	4.3121	4.3273	4.3083	4.3249	4.3158	4.3242	4.3193	0.0084	4.3228
ECN_2pct_1hr	4.2690	4.2782	4.2739	4.2608	4.2690	4.2736	4.2814	4.2636	4.2677	4.2698	4.2698	0.0056	4.2688
ECN_2pct_20min	4.0864	4.0870	4.0865	4.0859	4.0866	4.0868	4.0866	4.0869	4.0865	4.0881	4.0864	0.0006	4.0866
ECN_2pct_24hr	4.0418	4.1048	4.0787	4.0529	4.0522	4.0283	4.1458	4.0691	4.0928	4.0123	4.0730	0.0178	4.0724
ECN_2pct_25min	4.1970	4.1925	4.1949	4.1926	4.1929	4.1943	4.1943	4.1932	4.1944	4.1931	4.1934	0.0009	4.1936
ECN_2pct_2hr	4.3328	4.3266	4.3198	4.3294	4.3179	4.3262	4.3247	4.3292	4.3386	4.3265	4.3272	0.0057	4.3267
ECN_2pct_30min	4.2616	4.2666	4.2652	4.2653	4.2648	4.2639	4.2663	4.2650	4.2653	4.2648	4.2650	0.0013	4.2649
ECN_2pct_3hr	4.3510	4.2828	4.3604	4.2870	4.2918	4.3825	4.3668	4.3889	4.3902	4.3623	4.3329	0.0264	4.3609
ECN_2pct_45min	4.2329	4.2309	4.2296	4.2281	4.2320	4.2340	4.2260	4.2296	4.2299	4.2365	4.2300	0.0019	4.2304
ECN_2pct_4.5hr	4.2058	4.3281	4.3207	4.2546	4.2738	4.2992	4.2580	4.3270	4.3269	4.4907	4.3299	0.0853	4.3022
ECN_2pct_6hr	4.4628	4.2983	4.3821	4.2653	4.2930	4.3003	4.4223	4.4435	4.2775	4.3625	4.3385	0.0622	4.3405
ECN_2pct_9hr	4.3205	4.3739	4.2287	4.2268	4.4298	4.3389	4.4258	4.3283	4.2572	4.2835	4.3294	0.0926	4.2965

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_4.5hr.
The median pattern for this ensemble is storm 2 (storm name : ECN_2pct_4.5hr_2).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_4.5hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.8824	3.8857	3.8845	3.8849	3.8832	3.8855	3.8791	3.8843	3.8828	3.8910	3.8839	0.0028	3.8850
ECN_5pct_12hr	4.2727	4.3020	4.1896	4.1897	4.2892	4.2802	4.2815	4.2978	4.2838	4.2966	4.2693	0.0419	4.2783
ECN_5pct_15min	3.9815	3.9817	3.9813	3.9835	3.9828	3.9833	3.9833	3.9858	3.9803	3.9841	3.9829	0.0009	3.9835
ECN_5pct_18hr	4.0829	4.1275	4.2845	4.0548	4.2105	4.2352	4.0478	4.0556	4.0869	4.2385	4.1048	0.0956	4.0969
ECN_5pct_1.5hr	4.2253	4.2295	4.2478	4.2490	4.2265	4.2965	4.2333	4.2580	4.2458	4.2455	4.2388	0.0156	4.2565
ECN_5pct_1hr	4.0989	4.1021	4.1397	4.1622	4.1439	4.1965	4.1897	4.0955	4.1835	4.0928	4.1297	0.0252	4.1093
ECN_5pct_20min	4.0239	4.0221	4.0238	4.0231	4.0254	4.0235	4.0218	4.0240	4.0248	4.0227	4.0227	0.0007	4.0239
ECN_5pct_24hr	4.0040	3.9702	4.0958	3.9292	4.0758	4.0233	4.1725	4.0358	4.0558	4.0666	4.0533	0.0425	4.0536
ECN_5pct_25min	4.0648	4.0650	4.0633	4.0634	4.0630	4.0734	4.0645	4.0658	4.0637	4.0653	4.0652	0.0010	4.0648
ECN_5pct_2hr	4.2651	4.2657	4.2179	4.2966	4.2948	4.2848	4.2897	4.2978	4.2909	4.2971	4.2778	0.0159	4.2848
ECN_5pct_30min	4.0949	4.0936	4.0988	4.0936	4.0958	4.0984	4.0961	4.0966	4.0955	4.0958	4.0959	0.0015	4.0959
ECN_5pct_3hr	4.3891	4.2337	4.2819	4.2795	4.2922	4.3769	4.3895	4.3767	4.3939	4.3659	4.3417	0.0342	4.3585
ECN_5pct_45min	4.2970	4.2934	4.2994	4.2998	4.2997	4.3015	4.3078	4.3038	4.3048	4.3052	4.3018	0.0039	4.3009
ECN_5pct_4.5hr	4.2253	4.1628	4.2928	4.2889	4.2108	4.3104	4.2438	4.2936	4.2583	4.3178	4.2664	0.0436	4.2720
ECN_5pct_6hr	4.5248	4.2605	4.4722	4.3908	4.2718	4.4477	4.4165	4.5019	4.2879	4.3961	4.4138	0.0591	4.3947
ECN_5pct_9hr	4.4963	4.2922	4.2506	4.3845	4.2895	4.3859	4.2953	4.3664	4.2829	4.3681	4.3907	0.0565	4.2839

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6396	3.6387	3.6387	3.6388	3.6383	3.6387	3.6388	3.6387	3.6385	3.6383	3.6386	0.0001	3.6386
ECN_63pct_12hr	3.8293	3.8328	3.8618	3.8425	3.8829	3.7464	3.7989	3.8419	3.8409	3.8536	3.8049	0.0385	3.8096
ECN_63pct_15min	3.7219	3.7219	3.7218	3.7387	3.7219	3.7220	3.7385	3.7219	3.7195	3.7222	3.7223	0.0056	3.7219
ECN_63pct_18hr	3.7393	3.7683	3.8124	3.7783	3.8158	3.7366	3.8595	3.6454	3.8268	3.8689	3.7950	0.0872	3.7959
ECN_63pct_1.5hr	3.9363	3.8598	3.9010	3.9034	3.8685	3.8368	3.9249	3.9051	3.8312	3.8358	3.8927	3.8985	3.9078
ECN_63pct_1hr	3.8892	3.8925	3.8943	3.8944	3.8972	3.8890	3.8958	3.8994	3.8834	3.8933	3.8947	0.0025	3.8949
ECN_63pct_20min	3.7681	3.7683	3.7681	3.7539	3.7683	3.7682	3.7683	3.7682	3.7680	3.7682	3.7629	0.0321	3.7681
ECN_63pct_24hr	3.6378	3.6963	3.7083	3.7815	3.7188	3.7464	3.7131	3.7580	3.7828	3.7987	3.7207	0.0619	3.7249
ECN_63pct_25min	3.7951	3.7962	3.7957	3.7960	3.7955	3.7929	3.7823	3.7960	3.7932	3.7920	3.7944	0.0013	3.7954
ECN_63pct_2hr	3.9240	3.9360	3.9181	3.8972	3.9317	3.8221	3.9278	3.9268	3.9490	3.9852	3.9209	0.0158	3.9268
ECN_63pct_30min	3.8447	3.8287	3.8189	3.8454	3.8380	3.8360	3.8396	3.8368	3.8388	3.8387	3.8327	0.0079	3.8372
ECN_63pct_3hr	3.9408	3.8958	3.9051	3.8958	3.8985	3.9185	3.9140	3.9249	3.9052	3.9347	3.9056	3.9056	3.9065
ECN_63pct_45min	3.8649	3.8638	3.8628	3.8650	3.8679	3.8665	3.8691	3.8664	3.8659	3.8698	3.8652	0.0019	3.8662
ECN_63pct_4.5hr	3.9068	3.8683	3.8983	3.8859	3.9455	3.8933	3.9229	3.8965	3.8939	3.9316	3.9036	3.9036	3.9233
ECN_63pct_6hr	3.9869	3.8590	3.8702	3.8952	3.8758	3.9571	3.8606	3.9268	3.8727	3.8852	3.8920	0.0430	3.8787
ECN_63pct_9hr	3.9501	3.9232	3.9125	3.8680	3.9389	3.8854	3.9243	3.8639	3.9453	3.8950	3.9060	0.0465	3.8959

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 9 (storm name : ECN_63pct_2hr_9).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

Total No. of Ensembles:	532
No. of Storms per ensemble:	10
No. of AEP Bands:	9
Object Name:	New2wale040
Result type:	Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.7108	3.7195	3.7192	3.7065	3.7138	3.7092	3.7182	3.7244	3.7088	3.7184	3.7160	0.0059	3.7164
ECN_0.2EY_12hr	3.6458	3.6559	3.6588	3.6368	3.6525	3.6527	3.6565	3.6655	3.6534	3.6598	3.6528	0.0081	3.6532
ECN_0.2EY_15min	3.7309	3.7387	3.7385	3.7260	3.7324	3.7286	3.7366	3.7426	3.7282	3.7362	3.7340	0.0059	3.7344
ECN_0.2EY_18hr	3.6488	3.6585	3.6589	3.6446	3.6578	3.6482	3.6552	3.6659	3.6532	3.6582	3.6549	0.0069	3.6547
ECN_0.2EY_1.5hr	4.0253	4.0303	4.0301	4.0178	4.0207	4.0296	4.0350	4.0431	4.0255	4.0309	4.0312	0.0072	4.0307
ECN_0.2EY_2hr	4.0042	4.0082	4.0079	4.0009	4.0023	4.0060	4.0106	4.0170	4.0056	4.0097	4.0072	0.0038	4.0077
ECN_0.2EY_24hr	3.9379	3.9404	3.9389	3.9339	3.9359	3.9389	3.9391	3.9430	3.9357	3.9385	3.9382	0.0027	3.9387
ECN_0.2EY_30min	3.9139	3.9158	3.9153	3.9095	3.9113	3.9143	3.9141	3.9179	3.9111	3.9137	3.9134	0.0023	3.9139
ECN_0.2EY_3hr	3.8660	3.8653	3.8658	3.8613	3.8624	3.8644	3.8665	3.8684	3.8639	3.8667	3.8650	0.0024	3.8659
ECN_0.2EY_4.5hr	4.0401	4.0434	4.0430	4.0362	4.0390	4.0404	4.0437	4.0482	4.0369	4.0414	4.0423	0.0038	4.0422
ECN_0.2EY_45min	3.9719	3.9687	3.9686	3.9530	3.9586	3.9676	3.9684	3.9729	3.9589	3.9688	3.9682	0.0061	3.9686
ECN_0.2EY_6.5hr	4.1710	4.1895	3.9838	3.9869	4.0352	4.0048	4.0525	4.0910	4.0558	4.0695	4.0376	0.0369	4.0418
ECN_0.2EY_6hr	4.0093	3.9438	4.0053	4.0059	3.9830	3.9804	3.9849	4.0024	3.9889	4.0038	4.0036	0.0351	3.9948
ECN_0.2EY_9hr	4.0431	3.9433	4.0405	4.0435	4.0283	4.0283	4.0167	3.9428	3.9675	3.9681	4.0239	0.0385	4.0295

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_0.2EY_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_0.2EY_2hr_5).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.6618	3.6629	3.6624	3.6628	3.6619	3.6620	3.6621	3.6621	3.6619	3.6617	3.6620	0.0003	3.6621
ECN_0.5EY_12hr	3.6488	3.6498	3.6498	3.6491	3.6500	3.6503	3.6505	3.6502	3.6500	3.6497	3.6497	0.0005	3.6500
ECN_0.5EY_15min	3.7308	3.7305	3.7303	3.7295	3.7308	3.7302	3.7301	3.7302	3.7305	3.7302	3.7302	0.0003	3.7302
ECN_0.5EY_18hr	3.6295	3.6295	3.6518	3.7366	3.7328	3.7489	3.7752	3.6681	3.6589	3.6588	3.6904	0.0624	3.7340
ECN_0.5EY_1.5hr	3.9808	3.9806	3.9799	3.9678	3.9809	3.9820	3.9825	3.9858	3.9679	3.9838	3.9772	0.0066	3.9809
ECN_0.5EY_2hr	3.9841	3.9838	3.9838	3.9840	3.9832	3.9835	3.9840	3.9850	3.9837	3.9843	3.9840	0.0004	3.9839
ECN_0.5EY_24hr	3.7736	3.7757	3.7755	3.7762	3.7762	3.7762	3.7760	3.7760	3.7759	3.7762	3.7756	0.0012	3.7759
ECN_0.5EY_30min	3.6691	3.7154	3.7778	3.7139	3.7369	3.7999	3.7279	3.7358	3.7619	3.6987	3.7255	0.0458	3.7264
ECN_0.5EY_3hr	3.8695	3.8694	3.8695	3.8690	3.8691	3.8693	3.8695	3.8698	3.8691	3.8696	3.8693	0.0002	3.8694
ECN_0.5EY_4.5hr	3.9880	3.9884	3.9882	3.9880	3.9882	3.9884	3.9885	3.9888	3.9881	3.9886	3.9884	0.0002	3.9884
ECN_0.5EY_45min	3.9459	3.9526	3.8859	3.9828	3.9828	3.8509	3.8709	3.9710	3.8781	3.9679	3.9122	0.0432	3.9320
ECN_0.5EY_6.5hr	3.9239	3.9356	3.8382	3.8985	3.9329	3.9329	3.9329	3.9329	3.9329	3.9329	3.9255	0.0341	3.9329
ECN_0.5EY_6hr	3.9528	3.9332	3.9496	3.8499	3.9832	3.9832	3.9832	3.9832	3.9832	3.9832	3.9672	0.0328	3.9832
ECN_0.5EY_9hr	3.9848	3.9852	3.9852	3.9852	3.9852	3.9852	3.9852	3.9852	3.9852	3.9852	3.9852	0.0000	3.9852
ECN_0.5EY_12hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_15min	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_18hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_1.5hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_2hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_24hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_30min	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_3hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_4.5hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_45min	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_6.5hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_6hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848
ECN_0.5EY_9hr	3.9849	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	3.9848	0.0000	3.9848

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 3 (storm name : ECN_0.5EY_2hr_3).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.9585	3.9694	3.9646	3.9554	3.9593	3.9632	3.9655	3.9643	3.9584	3.9642	3.9619	0.0045	3.9629
ECN_1pct_12hr	3.8988	3.8982	3.8968	3.8926	3.8957	3.8984	3.8997	3.8983	3.8975	3.8987	3.8982	0.0020	3.8985
ECN_1pct_15min	4.0088	4.0038	4.0092	4.0059	4.0039	4.0062	4.0093	4.0073	4.0089	4.0084	4.0061	0.0022	4.0062
ECN_1pct_18hr	3.9895	3.9340	3.9858	3.9873	3.9891	3.9923	4.0088	4.0196	3.9838	4.0148	3.9825	0.0830	4.0026
ECN_1pct_1.5hr	4.0371	4.0372	4.0329	4.0338	4.0315	4.0320	4.0370	4.0362	4.0367	4.0359	4.0355	0.0021	4.0363
ECN_1pct_1hr	4.0349	4.0362	4.0289	4.0250	4.0259	4.0332	4.0361	4.0319	4.0368	4.0335	4.0317	0.0040	4.0329
ECN_1pct_20min	4.0286	4.0285	4.0302	4.0262	4.0280	4.0293	4.0323	4.0283	4.0284	4.0290	4.0281	0.0013	4.0285
ECN_1pct_24hr	3.9897	3.9898	3.9875	3.9868	3.9878	3.9883	3.9858	3.9874	3.9853	3.9884	3.9870	0.0014	3.9876
ECN_1pct_25min	4.0281	3.9785	4.0266	4.0246	4.0277	4.0266	4.0285	4.0269	4.0268	4.0272	4.0216	0.0154	4.0269
ECN_1pct_2hr	4.0093	4.0055	4.0078	4.0062	4.0068	4.0085	4.0095	4.0078	4.0062	4.0081	4.0076	0.0013	4.0079
ECN_1pct_30min	4.0159	4.0165	4.0152	4.0125	4.0137	4.0154	4.0153	4.0139	4.0139	4.0150	4.0144	0.0014	4.0150
ECN_1pct_3hr	4.0131	4.0130	4.0126	4.0079	4.0097	4.0116	4.0127	4.0092	4.0102	4.0094	4.0105	0.0019	4.0099
ECN_1pct_4.5hr	4.0351	4.0375	4.0365	4.0329	4.0343	4.0357	4.0372	4.0353	4.0347	4.0362	4.0351	0.0014	4.0352
ECN_1pct_45min	4.0281	4.0275	4.0265	4.0229	4.0239	4.0257	4.0255	4.0269	4.0268	4.0272	4.0251	0.0017	4.0262
ECN_1pct_6.5hr	4.0304	4.0275	4.0278	4.0236	4.0259	4.0272	4.0283	4.0273	4.0253	4.0283	4.0266	0.0017	4.0273
ECN_1pct_6hr	4.0259	4.0264	4.0226	4.0196	4.0219	4.0234	4.0222	4.0208	4.0214	4.0243	4.0222	0.0019	4.0220
ECN_1pct_9hr	4.0158	4.0143	4.0122	4.0093	4.0107	4.0123	4.0115	4.0092	4.0102	4.0109	4.0114	0.0019	4.0112

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4.5hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4.5hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4.5hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	3.7818	3.7915	3.7913	3.7820	3.7829	3.7826	3.7835	3.7827	3.7818	3.7831	3.7823	0.0006	3.7828
ECN_10pct_12hr	3.6201	3.6206	3.6238	3.6197	3.6218	3.6218	3.6218	3.6252	3.6218	3.6228	3.6223	0.0016	3.6218
ECN_10pct_15min	3.8143	3.8145	3.8168	3.8141	3.8151	3.8152	3.8151	3.8152	3.8149	3.8157	3.8150	0.0008	3.8151
ECN_10pct_18hr	3.7833	3.7829	3.8129	3.8048	3.8041	3.8059	3.8307	3.8221	3.8039	3.8033	3.8066	0.0159	3.8044
ECN_10pct_1.5hr	4.0138	4.0139	4.0134	4.0019	4.0033	4.0133	4.0203	4.0187	4.0137	4.0185	4.0122	0.0065	4.0136
ECN_10pct_1hr	4.0665	4.0682	4.0618	4.0589	4.0629	4.0653	4.0673	4.0698	4.0658	4.0693	4.0657	0.0034	4.0662
ECN_10pct_20min	3.9619	3.9613	3.9618	3.9621	3.9624	3.9614	3.9612	3.9629	3.9625	3.9613	3.9619	0.0005	3.9617
ECN_10pct_24hr	3.9152	3.9169	3.9081	3.9318	3.9318	3.9169	3.9166	3.9098	3.9195	3.9209	3.9186	0.0076	3.9199
ECN_10pct_25min	3.9436	3.9466	3.9334	3.9409	3.9299	3.9425	3.9473	3.9459	3.9469	3.9454	3.9425	0.0055	3.9444
ECN_10pct_2hr	3.9279	3.9287	3.9258	3.9288	3.9278	3.9281	3.9269	3.9265	3.9280	3.9283	3.9277	0.0009	3.9280
ECN_10pct_30min	3.9503	3.9503	3.9504	3.9492	3.9491	3.9509	3.9508	3.9482	3.9508	3.9508	3.9501	0.0008	3.9505
ECN_10pct_3hr	3.9299	3.9309	3.9321	3.9292	3.9317	3.9322	3.9336	3.9298	3.9324	3.9285	3.9310	0.0016	3.9312
ECN_10pct_45min	3.9280	3.9284	3.9309	3.9283	3.9304	3.9298	3.9285	3.9284	3.9298	3.9296	3.9292	0.0009	3.9295
ECN_10pct_4.5hr	3.9429	3.9438	3.9439	3.9429	3.9437	3.9443	3.9455	3.9438	3.9432	3.9450	3.9439	0.0008	3.9440
ECN_10pct_6hr	3.9386	3.9387	3.9385	3.9363	3.9383	3.9382	3.9391	3.9384	3.9382	3.9392	3.9384	0.0009	3.9384
ECN_10pct_9hr	3.9343	3.9345	3.9329	3.9315	3.9327	3.9330	3.9340	3.9322	3.9329	3.9339	3.9329	0.0010	3.9329

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_10pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.8840	3.9030	3.8628	3.8840	3.8839	3.8839	3.8838	3.8828	3.8867	3.8681	3.8857	0.0065	3.8848
ECN_2pct_12hr	4.1984	4.2000	4.1794	4.1936	4.1968	4.1983	4.1998	4.1998	4.1990	4.2001	4.1955	0.0061	4.1976
ECN_2pct_15min	3.9978	3.9931	3.9975	3.9988	3.9982	3.9984	3.9979	3.9980	3.9981	3.9931	3.9964	0.0024	3.9980
ECN_2pct_18hr	4.2166	4.1987	4.1286	4.1787	4.2008	4.2992	4.1392	4.0754	4.1575	4.1481	4.1742	0.0721	4.1583
ECN_2pct_1.5hr	4.2236	4.2450	4.2334	4.2359	4.2342	4.2368	4.2318	4.2286	4.2378	4.2436	4.2363	0.0062	4.2349
ECN_2pct_1hr	4.2091	4.1982	4.2008	4.1958	4.1974	4.2092	4.1983	4.1968	4.1968	4.2034	4.1967	0.0053	4.1968
ECN_2pct_20min	4.0474	4.0483	4.0475	4.0479	4.0477	4.0477	4.0477	4.0499	4.0474	4.0491	4.0478	0.0006	4.0477
ECN_2pct_24hr	4.1695	4.1781	4.1696	4.1622	4.1734	4.1592	4.0991	4.2558	4.2259	4.2034	4.1725	0.0429	4.1729
ECN_2pct_25min	4.0685	4.0638	4.0615	4.0625	4.0625	4.0646	4.0698	4.0639	4.0617	4.0629	4.0629	0.0026	4.0629
ECN_2pct_2hr	4.2504	4.2497	4.2376	4.2492	4.2392	4.2493	4.2416	4.2476	4.2543	4.2450	4.2485	0.0042	4.2489
ECN_2pct_30min	4.0997	4.0948	4.0940	4.0990	4.0936	4.0826	4.0837	4.0939	4.0949	4.0942	4.0937	0.0021	4.0939
ECN_2pct_3hr	4.1879	4.0997	4.2103	4.2135	4.2135	4.2033	4.2264	4.2252	4.2259	4.2093	4.2080	0.0240	4.2096
ECN_2pct_4.5hr	4.1618	4.1566	4.1578	4.1560	4.1602	4.1590	4.1599	4.1569	4.1576	4.1596	4.1580	0.0015	4.1585
ECN_2pct_45min	4.2726	4.2657	4.2336	4.2953	4.2819	4.2243	4.0579	4.2908	4.2573	4.2822	4.2487	0.0395	4.2619
ECN_2pct_6hr	4.1989	4.2236	4.2131	4.1914	4.2068	4.2256	4.2256	4.2251	4.2031	4.2302	4.2235	0.0076	4.2238
ECN_2pct_9hr	4.2210	4.2017	4.1366	4.1343	4.1939	4.2297	4.2195	4.2052	4.1259	4.2162	4.2063	0.0263	4.2089

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_4.5hr.
The median pattern for this ensemble is storm 2 (storm name : ECN_2pct_4.5hr_2).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_4.5hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.8870	3.8930	3.8868	3.8855	3.8879	3.8903	3.8894	3.8938	3.8878	3.8933	3.8870	0.0030	3.8893
ECN_5pct_12hr	4.0815	4.0852	4.0792	4.0807	4.0822	4.0282	4.0960	4.1549	4.0947	4.1549	4.0779	0.0679	4.0955
ECN_5pct_15min	3.9838	3.9860	3.9868	3.9878	3.9883	3.9861	3.9866	3.9859	3.9868	3.9883	3.9870	0.0009	3.9868
ECN_5pct_18hr	4.0548	4.0984	4.2118	3.9855	4.0979	4.0885	3.9891	3.9896	4.0378	4.0966	4.0669	0.0968	4.0933
ECN_5pct_1.5hr	4.1748	4.1678	4.1792	4.1804	4.1804	4.1838	4.1835	4.1868	4.1895	4.1891	4.1834	0.0072	4.1836
ECN_5pct_1hr	4.1289	4.1360	4.1030	4.1093	4.1299	4.1294	4.1365	4.1309	4.1327	4.1237	4.1260	0.0151	4.1299
ECN_5pct_20min	3.9849	3.9868	3.9838	3.9856	3.9861	3.9866	3.9864	3.9852	3.9842	3.9853	3.9853	0.0009	3.9853
ECN_5pct_24hr	4.3608	4.3681	4.3699	4.3680	4.3699	4.3653	4.3763	4.3674	4.3619	4.3719	4.3702	0.0034	4.3702
ECN_5pct_25min	3.9934	3.9929	3.9923	3.9882	3.9880	3.9924	3.9954	3.9919	3.9947	3.9960	3.9925	0.0021	3.9927
ECN_5pct_2hr	4.1939	4.1952	4.1850	4.1883	4.1848	4.1888	4.1858	4.1868	4.1898	4.1885	4.1887	0.0031	4.1886
ECN_5pct_30min	4.0239	4.0264	4.0213	4.0268	4.0259	4.0209	4.0371	4.0237	4.0268	4.0268	4.0252	0.0035	4.0256
ECN_5pct_3hr	4.1378	4.1503	4.1598	4.1368	4.1598	4.1044	4.2041	4.2161	4.1580	4.2157	4.1596	0.0359	4.1569
ECN_5pct_45min	4.0865	4.0865	4.0888	4.0581	4.0861	4.0907	4.0879	4.0822	4.0839	4.0889	4.0824	0.0019	4.0857
ECN_5pct_4.5hr	4.2533	4.2526	4.2918	4.1048	4.2392	4.2543	4.1935	4.2608	4.1867	4.2391	4.2160	0.0515	4.2467
ECN_5pct_6hr	4.2472	4.2403	4.2588	4.2040	4.2397	4.2466	4.2423	4.2252	4.2378	4.2457	4.2386	0.0148	4.2430
ECN_5pct_9hr	4.2040	4.1800	4.2883	4.2047	4.2657	4.2269	4.2535	4.0962	4.1899	4.2165	4.2136	0.0459	4.2209

CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_3hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_5pct_3hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_3hr_10).

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.6081	3.6559	3.6083	3.6582	3.6081	3.6082	3.6083	3.6082	3.6080	3.6091	3.6083	0.0001	3.6082
ECN_63pct_12hr	3.9589	3.9585	3.9152	3.9997	3.9851	3.9130	3.9338	3.9968	3.9855	3.9838	3.9672	0.0289	3.9862
ECN_63pct_15min	3.6884	3.6837	3.6879	3.6883	3.6883	3.6883	3.6884	3.6869	3.6883	3.6877	3.6879	0.0015	3.6882
ECN_63pct_18hr	3.9318	3.9335	3.9823	3.9824	3.9824	3.9850	3.9081	3.9992	3.9992	3.9963	3.9834	0.0225	3.9890
ECN_63pct_1.5hr	3.9524	3.9586	3.9309	3.9681	3.9808	3.9565	3.9570	3.9588	3.9657	3.9611	3.9583	0.0085	3.9569
ECN_63pct_1hr	3.9329	3.9289	3.9476	3.9529	3.9294	3.9332	3.9331	3.9304	3.9329	3.9332	3.9327	0.0016	3.9329
ECN_63pct_20min	3.7092	3.9985	3.7084	3.7083	3.7084	3.7087	3.7084	3.9586	3.7082	3.7078	3.8220	0.1289	3.7093
ECN_63pct_24hr	3.9980	3.8068	3.7018	3.8239	3.8239	3.8264	3.8529	3.8668	3.8264	3.8484	3.8448	0.0479	3.8690
ECN_63pct_25min	3.7085	3.7567	3.7382	3.7585	3.7378	3.7382	3.7330	3.7383	3.7348	3.7330	3.7419	0.0219	3.7375
ECN_63pct_2hr	3.8459	3.9526	3.8059	3.8823	3.8809	3.8709	3.8709	3.9710	3.8781	3.9679	3.8732	0.0432	3.8820
ECN_63pct_30min	3.7568	3.7926	3.7608	3.7602	3.7572	3.7223	3.7206	3.7202	3.7570	3.7523	3.7542	0.0215	3.7565
ECN_63pct_3hr	3.8528	3.8532	3.8496	3.8499	3.8832	3.8486	3.8503	3.8536	3.8524	3.8472	3.8551	0.0108	3.8542
ECN_63pct_45min	3.8835	3.8922	3.8820	3.8818	3.8861	3.8858	3.8858	3.8843	3.8852	3.8839	3.8853	0.0031	3.8846
ECN_63pct_4.5hr	3.9603	3.9598	3.9030	3.9598	3.9832	3.9832	3.9832	3.9832	3.9832	3.9832	3.9772	0.0238	3.9832
ECN_63pct_6hr	3.9472	3.7737	3.8046	3.8223	3.8232	3.7782	3.7980	3.8649	3.8650	3.8611	3.8439	0.0388	3.8636
ECN_63pct_9hr	3.8849	3.7639	3.8849	3.8835	3.8234	3.8834	3.8285	3.7650	3.8849	3.7849	3.8270	0.0472	3.8234

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_63pct_2hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 5 (storm name : ECN_63pct_2hr_5).

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Summary information:

     Total No. of Ensembles:     532
     No. of Storms per ensemble: 10
     No. of AEP Bands:           9
     Object Name:                Site_C3
     Result type:                Max Water Elevation


Results:

                AEP: 0.2EY = Max Water Elevation (m)

|       Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_0.2EY_15min          |  3.3711 |  3.3782 |  3.3710 |  3.3730 |  3.3791 |  3.3784 |  3.3782 |  3.3810 |  3.3806 |  3.3801  |  3.3781 |   0.0034  | 3.3782 |
| ECN_0.2EY_12hr           |  3.3608 |  3.3668 |  3.3611 |  3.3637 |  3.3655 |  3.3695 |  3.3695 |  3.3725 |  3.3695 |  3.3715  |  3.3673 |   0.0038  | 3.3676 |
| ECN_0.2EY_15min          |  3.4158 |  3.3931 |  3.4108 |  3.4158 |  3.4151 |  3.4262 |  3.4262 |  3.4151 |  3.4138 |  3.4169  |  3.4163 |   0.0066  | 3.4158 |
| ECN_0.2EY_18hr           |  3.3658 |  3.3760 |  3.3813 |  3.3882 |  3.3815 |  3.4329 |  3.4723 |  3.4296 |  3.3539 |  3.4033  |  3.4075 |   0.0415  | 3.4053 |
| ECN_0.2EY_1_5hr          |  3.5581 |  3.5657 |  3.5697 |  3.5695 |  3.5595 |  3.5534 |  3.5521 |  3.5525 |  3.5525 |  3.5538  |  3.5587 |   0.0059  | 3.5596 |
| ECN_0.2EY_1hr            |  3.5313 |  3.5349 |  3.5363 |  3.5350 |  3.5331 |  3.5306 |  3.5283 |  3.5328 |  3.5287 |  3.5286  |  3.5310 |   0.0023  | 3.5309 |
| ECN_0.2EY_2hr            |  3.4259 |  3.4460 |  3.4459 |  3.4462 |  3.4463 |  3.4458 |  3.4463 |  3.4464 |  3.4459 |  3.4464  |  3.4459 |   0.0002  | 3.4462 |
| ECN_0.2EY_30min          |  3.5780 |  3.5767 |  3.5782 |  3.5783 |  3.5762 |  3.5781 |  3.5766 |  3.5768 |  3.5763 |  3.5764  |  3.5772 |   0.0009  | 3.5768 |
| ECN_0.2EY_3hr            |  3.4348 |  3.4632 |  3.4744 |  3.4722 |  3.4731 |  3.4670 |  3.4822 |  3.4743 |  3.4849 |  3.4744  |  3.4740 |   0.0071  | 3.4744 |
| ECN_0.2EY_45min          |  3.5845 |  3.5847 |  3.5849 |  3.5851 |  3.5839 |  3.5849 |  3.5847 |  3.5843 |  3.5847 |  3.5847  |  3.5846 |   0.0004  | 3.5847 |
| ECN_0.2EY_4_5hr          |  3.5338 |  3.5364 |  3.5380 |  3.5380 |  3.5363 |  3.5377 |  3.5365 |  3.5373 |  3.5369 |  3.5370  |  3.5370 |   0.0013  | 3.5369 |
| ECN_0.2EY_6hr            |  3.4658 |  3.4771 |  3.4785 |  3.4668 |  3.4659 |  3.4869 |  3.4812 |  3.4728 |  3.4593 |  3.4746  |  3.4730 |   0.0076  | 3.4732 |
| ECN_0.2EY_9hr            |  3.4876 |  3.4888 |  3.4822 |  3.4768 |  3.4836 |  3.4854 |  3.4844 |  3.4850 |  3.4750 |  3.4795  |  3.4798 |   0.0042  | 3.4796 |

| CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
| The median pattern for this ensemble is storm 8 (storm name : ECN_0.2EY_2hr_8).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).


                AEP: 0.5EY = Max Water Elevation (m)

|       Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_0.5EY_15min          |  3.3695 |  3.3362 |  3.3362 |  3.3362 |  3.3359 |  3.3360 |  3.3360 |  3.3361 |  3.3357 |  3.3356  |  3.3360 |   0.0013  | 3.3360 |
| ECN_0.5EY_12hr           |  3.2923 |  3.2688 |  3.2875 |  3.2824 |  3.2873 |  2.6855 |  2.6875 |  3.2915 |  3.2913 |  3.2891  |  3.0958 |   0.2025  | 3.2902 |
| ECN_0.5EY_15min          |  3.3874 |  3.3729 |  3.3874 |  3.3778 |  3.3874 |  3.3794 |  3.3793 |  3.3874 |  3.3876 |  3.3878  |  3.3794 |   0.0052  | 3.3794 |
| ECN_0.5EY_18hr           |  3.4276 |  3.4052 |  3.2619 |  3.4274 |  3.3259 |  3.3349 |  3.3135 |  3.3490 |  3.3944 |  3.3286  |  3.3638 |   0.0539  | 3.3639 |
| ECN_0.5EY_1_5hr          |  3.5636 |  3.5628 |  3.5605 |  3.5656 |  3.5060 |  3.5655 |  3.5026 |  3.5630 |  3.5637 |  3.5643  |  3.5645 |   0.0030  | 3.5648 |
| ECN_0.5EY_1hr            |  3.4634 |  3.4937 |  3.4882 |  3.4200 |  3.4691 |  3.4841 |  3.4823 |  3.4828 |  3.4838 |  3.4838  |  3.4813 |   0.0214  | 3.4829 |
| ECN_0.5EY_2hr            |  3.4041 |  3.4052 |  3.4048 |  3.4044 |  3.4042 |  3.4039 |  3.4035 |  3.4040 |  3.4038 |  3.4044  |  3.4042 |   0.0003  | 3.4042 |
| ECN_0.5EY_30min          |  3.4745 |  3.4755 |  3.4128 |  3.4756 |  3.4753 |  3.4739 |  3.4744 |  3.4743 |  3.4744 |  3.4744  |  3.4702 |   0.0207  | 3.4744 |
| ECN_0.5EY_3hr            |  3.4235 |  3.4248 |  3.4234 |  3.4232 |  3.4232 |  3.4234 |  3.4237 |  3.4236 |  3.4215 |  3.4232  |  3.4230 |   0.0011  | 3.4232 |
| ECN_0.5EY_45min          |  3.5828 |  3.5828 |  3.5827 |  3.5832 |  3.5827 |  3.5832 |  3.5832 |  3.5832 |  3.5832 |  3.5832  |  3.5830 |   0.0002  | 3.5832 |
| ECN_0.5EY_4_5hr          |  3.5020 |  3.5065 |  3.5032 |  3.5063 |  3.5032 |  3.5062 |  3.5031 |  3.5062 |  3.5062 |  3.5062  |  3.5053 |   0.0017  | 3.5062 |
| ECN_0.5EY_6hr            |  3.4490 |  3.4580 |  3.4595 |  3.4580 |  3.4588 |  3.4589 |  3.4588 |  3.4589 |  3.4588 |  3.4589  |  3.4588 |   0.0003  | 3.4589 |
| ECN_0.5EY_9hr            |  3.4845 |  3.4829 |  3.4829 |  3.4862 |  3.4836 |  3.4854 |  3.4844 |  3.4850 |  3.4844 |  3.4850  |  3.4844 |   0.0010  | 3.4844 |

| CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
| The median pattern for this ensemble is storm 8 (storm name : ECN_0.5EY_2hr_8).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).


                AEP: 1% = Max Water Elevation (m)

|       Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_1pct_10min           |  3.4758 |  3.4754 |  3.4782 |  3.4738 |  3.4767 |  3.4754 |  3.4758 |  3.4752 |  3.4761 |  3.4755  |  3.4759 |   0.0010  | 3.4755 |
| ECN_1pct_12hr            |  3.6840 |  3.6685 |  3.6824 |  3.6826 |  3.6847 |  3.6819 |  3.6823 |  3.6825 |  3.6802 |  3.7152  |  3.7826 |   0.4148  | 3.6979 |
| ECN_1pct_15min           |  3.5262 |  3.5270 |  3.5261 |  3.5248 |  3.5270 |  3.5267 |  3.5262 |  3.5270 |  3.5266 |  3.5269  |  3.5266 |   0.0007  | 3.5266 |
| ECN_1pct_18hr            |  3.6278 |  3.6093 |  3.6259 |  3.6262 |  3.6281 |  3.6273 |  3.6277 |  3.6288 |  3.6267 |  3.6435  |  3.6512 |   0.0392  | 3.6294 |
| ECN_1pct_1_5hr           |  3.6901 |  3.6862 |  3.6793 |  3.6725 |  3.6791 |  3.6810 |  3.6788 |  3.6734 |  3.6788 |  3.6738  |  3.6785 |   0.0062  | 3.6788 |
| ECN_1pct_1hr             |  3.6540 |  3.6631 |  3.6514 |  3.6548 |  3.6559 |  3.6508 |  3.6572 |  3.6552 |  3.6573 |  3.6602  |  3.6560 |   0.0031  | 3.6556 |
| ECN_1pct_20min           |  3.6259 |  3.6259 |  3.6259 |  3.6259 |  3.6259 |  3.6259 |  3.6259 |  3.6259 |  3.6259 |  3.6259  |  3.6259 |   0.0000  | 3.6259 |
| ECN_1pct_24hr            |  3.6022 |  3.6232 |  3.6467 |  3.6726 |  3.6802 |  3.6428 |  3.6152 |  3.6569 |  3.6369 |  3.6369  |  3.6435 |   0.0215  | 3.6369 |
| ECN_1pct_2hr             |  3.5780 |  3.5767 |  3.5782 |  3.5783 |  3.5762 |  3.5781 |  3.5766 |  3.5768 |  3.5763 |  3.5764  |  3.5772 |   0.0009  | 3.5768 |
| ECN_1pct_30min           |  3.6078 |  3.5935 |  3.6059 |  3.5983 |  3.6035 |  3.5930 |  3.5985 |  3.6009 |  3.6060 |  3.5825  |  3.6026 |   0.0086  | 3.6043 |
| ECN_1pct_3hr             |  3.7023 |  3.6809 |  3.7231 |  2.6772 |  3.6698 |  3.6732 |  3.6784 |  3.6731 |  3.6785 |  3.7105  |  3.6886 |   0.0159  | 3.6789 |
| ECN_1pct_45min           |  3.6358 |  3.6295 |  3.6431 |  3.6234 |  3.6298 |  3.6306 |  3.6369 |  3.6586 |  3.6317 |  3.6225  |  3.6313 |   0.0070  | 3.6308 |
| ECN_1pct_4_5hr           |  3.7035 |  3.6936 |  3.6958 |  3.6512 |  3.6508 |  3.6749 |  3.6819 |  3.6952 |  3.6745 |  3.7428  |  3.6864 |   0.0274  | 3.6819 |
| ECN_1pct_6hr             |  3.7458 |  3.6771 |  3.6735 |  3.6638 |  3.6658 |  3.6865 |  3.7412 |  3.7328 |  3.6593 |  3.6746  |  3.6932 |   0.0345  | 3.6853 |
| ECN_1pct_9hr             |  3.6876 |  3.6888 |  3.6822 |  3.6768 |  3.6836 |  3.6854 |  3.6844 |  3.6850 |  3.6750 |  3.6795  |  3.6798 |   0.0042  | 3.6796 |

| CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_4_5hr.
| The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_4_5hr_8).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_4_5hr_10).


                AEP: 2% = Max Water Elevation (m)

|       Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_2pct_10min           |  3.3958 |  3.3956 |  3.3959 |  3.3950 |  3.3958 |  3.3953 |  3.3956 |  3.3953 |  3.3957 |  3.3946  |  3.3954 |   0.0003  | 3.3954 |
| ECN_2pct_12hr            |  3.5290 |  3.5206 |  3.5334 |  3.5442 |  3.5454 |  3.5093 |  3.5037 |  3.5450 |  3.5452 |  3.5072  |  3.5243 |   0.0166  | 3.5268 |
| ECN_2pct_15min           |  3.4548 |  3.4538 |  3.4548 |  3.4548 |  3.4547 |  3.4548 |  3.4548 |  3.4548 |  3.4549 |  3.4547  |  3.4548 |   0.0003  | 3.4548 |
| ECN_2pct_18hr            |  3.5245 |  3.5282 |  3.5210 |  3.5252 |  3.5252 |  3.5252 |  3.5252 |  3.5252 |  3.5252 |  3.5252  |  3.5250 |   0.0012  | 3.5252 |
| ECN_2pct_1_5hr           |  3.6801 |  3.6551 |  3.6483 |  3.6425 |  3.6483 |  3.6585 |  3.6528 |  3.6436 |  3.6587 |  3.6582  |  3.6526 |   0.0085  | 3.6538 |
| ECN_2pct_1hr             |  3.6312 |  3.6348 |  3.6278 |  3.6292 |  3.6299 |  3.6293 |  3.6308 |  3.6293 |  3.6309 |  3.6357  |  3.6299 |   0.0023  | 3.6299 |
| ECN_2pct_20min           |  3.6252 |  3.6256 |  3.6228 |  3.6247 |  3.6251 |  3.6258 |  3.6256 |  3.6256 |  3.6249 |  3.6258  |  3.6253 |   0.0009  | 3.6255 |
| ECN_2pct_24hr            |  3.6172 |  3.6287 |  3.6405 |  3.6532 |  3.6569 |  3.6388 |  3.6246 |  3.6465 |  3.6369 |  3.6369  |  3.6380 |   0.0107  | 3.6369 |
| ECN_2pct_25min           |  3.6328 |  3.6256 |  3.6251 |  3.6225 |  3.6255 |  3.6252 |  3.6248 |  3.6254 |  3.6259 |  3.6253  |  3.6253 |   0.0009  | 3.6253 |
| ECN_2pct_2hr             |  3.6459 |  3.6355 |  3.6322 |  3.6502 |  3.6508 |  3.6288 |  3.6532 |  3.6295 |  3.6396 |  3.6734  |  3.6395 |   0.0068  | 3.6347 |
| ECN_2pct_30min           |  3.6731 |  3.6703 |  3.6721 |  3.6697 |  3.6696 |  3.6699 |  3.6698 |  3.6698 |  3.6701 |  3.6701  |  3.6705 |   0.0012  | 3.6699 |
| ECN_2pct_3hr             |  3.6875 |  3.6437 |  3.6773 |  3.6328 |  3.6413 |  3.6789 |  3.6491 |  3.6442 |  3.6416 |  3.6972  |  3.6589 |   0.0215  | 3.6459 |
| ECN_2pct_45min           |  3.6682 |  3.6654 |  3.6697 |  3.6689 |  3.6693 |  3.6698 |  3.6695 |  3.6942 |  3.6696 |  3.6692  |  3.6694 |   0.0014  | 3.6692 |
| ECN_2pct_4_5hr           |  3.6539 |  3.6589 |  3.6549 |  3.6279 |  3.6298 |  3.6454 |  3.6498 |  3.6598 |  3.6469 |  3.7029  |  3.6556 |   0.0206  | 3.6543 |
| ECN_2pct_6hr             |  3.7198 |  3.6453 |  3.6483 |  3.6358 |  3.6358 |  3.6568 |  3.7159 |  3.7082 |  3.6311 |  3.6982  |  3.6684 |   0.0415  | 3.6545 |
| ECN_2pct_9hr             |  3.6510 |  3.6347 |  3.6306 |  3.6256 |  3.6287 |  3.6456 |  3.6443 |  3.6450 |  3.6337 |  3.6393  |  3.6423 |   0.0093  | 3.6379 |

| CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
| The median pattern for this ensemble is storm 6 (storm name : ECN_2pct_2hr_6).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).


                AEP: 5% = Max Water Elevation (m)

|       Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_5pct_10min           |  3.4025 |  3.4023 |  3.4021 |  3.4019 |  3.4029 |  3.4023 |  3.4020 |  3.4022 |  3.4020 |  3.4019  |  3.4023 |   0.0003  | 3.4022 |
| ECN_5pct_12hr            |  3.5840 |  3.5807 |  3.5826 |  3.5808 |  3.5797 |  3.5692 |  3.5698 |  3.5822 |  3.5828 |  3.5752  |  3.5780 |   0.0054  | 3.5792 |
| ECN_5pct_15min           |  3.4789 |  3.4787 |  3.4788 |  3.4784 |  3.4791 |  3.4792 |  3.4788 |  3.4792 |  3.4792 |  3.4791  |  3.4789 |   0.0003  | 3.4791 |
| ECN_5pct_18hr            |  3.5498 |  3.5458 |  3.5468 |  3.5502 |  3.5469 |  3.5060 |  3.5345 |  3.5268 |  3.5467 |  3.5196  |  3.5403 |   0.0165  | 3.5332 |
| ECN_5pct_1_5hr           |  3.6853 |  3.6842 |  3.6791 |  3.6854 |  3.6831 |  3.6869 |  3.6805 |  3.6100 |  3.6838 |  3.6847  |  3.6823 |   0.0237  | 3.6849 |
| ECN_5pct_1hr             |  3.6023 |  3.5967 |  3.6002 |  3.5918 |  3.5914 |  3.5944 |  3.5915 |  3.5992 |  3.5958 |  3.5931  |  3.5966 |   0.0036  | 3.5959 |
| ECN_5pct_20min           |  3.5826 |  3.5803 |  3.5836 |  3.5832 |  3.5839 |  3.5839 |  3.5826 |  3.5873 |  3.5803 |  3.5827  |  3.5829 |   0.0014  | 3.5828 |
| ECN_5pct_24hr            |  3.5498 |  3.5632 |  3.5744 |  3.6232 |  3.6371 |  3.5870 |  3.6512 |  3.5243 |  3.5849 |  3.5244  |  3.5912 |   0.0539  | 3.5849 |
| ECN_5pct_25min           |  3.5845 |  3.5847 |  3.5849 |  3.5851 |  3.5839 |  3.5849 |  3.5847 |  3.5843 |  3.5847 |  3.5847  |  3.5846 |   0.0004  | 3.5847 |
| ECN_5pct_2hr             |  3.5259 |  3.5280 |  3.5280 |  3.5263 |  3.5297 |  3.5280 |  3.5288 |  3.5284 |  3.5256 |  3.5299  |  3.5281 |   0.0014  | 3.5280 |
| ECN_5pct_30min           |  3.5552 |  3.5535 |  3.5550 |  3.5539 |  3.5539 |  3.5548 |  3.5542 |  3.5540 |  3.5536 |  3.5535  |  3.5542 |   0.0006  | 3.5539 |
| ECN_5pct_3hr             |  3.6135 |  3.6036 |  3.6158 |  3.6096 |  3.6186 |  3.6029 |  3.6279 |  3.6022 |  3.6095 |  3.6274  |  3.6101 |   0.0081  | 3.6089 |
| ECN_5pct_45min           |  3.5968 |  3.5968 |  3.5967 |  3.5965 |  3.5971 |  3.5968 |  3.5959 |  3.5950 |  3.5979 |  3.5968  |  3.5972 |   0.0006  | 3.5968 |
| ECN_5pct_4_5hr           |  3.5882 |  3.5934 |  3.6234 |  3.6265 |  3.6029 |  3.6349 |  3.6348 |  3.6252 |  3.6331 |  3.6023  |  3.6260 |   0.0215  | 3.6196 |
| ECN_5pct_6hr             |  3.6538 |  3.6538 |  3.6478 |  3.6353 |  3.6287 |  3.6358 |  3.6058 |  3.6340 |  3.6369 |  3.6216  |  3.6372 |   0.0113  | 3.6353 |
| ECN_5pct_9hr             |  3.6435 |  3.6403 |  3.6213 |  3.5998 |  3.6361 |  3.6324 |  3.6085 |  3.6290 |  3.6232 |  3.5809  |  3.6204 |   0.0174  | 3.6248 |

| CRITICAL DURATION : The critical duration for the 5% AEP is the ensemble ECN_5pct_2hr.
| The median pattern for this ensemble is storm 4 (storm name : ECN_5pct_2hr_4).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_5pct_2hr_10).


                AEP: 63.2% = Max Water Elevation (m)

|       Ensemble name      | Storm 1 | Storm 2 | Storm 3 | Storm 4 | Storm 5 | Storm 6 | Storm 7 | Storm 8 | Storm 9 | Storm 10 | Average | Std. Dev. | Median |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|-----------|--------|
| ECN_63pct_10min          |  3.3025 |  3.3059 |  3.3030 |  3.3069 |  3.3028 |  3.3029 |  3.3030 |  3.3056 |  3.3028 |  3.3028  |  3.3046 |   0.0022  | 3.3029 |
| ECN_63pct_12hr           |  3.4078 |  3.4538 |  3.4883 |  3.4948 |  3.4921 |  3.4530 |  3.4845 |  3.4851 |  3.4845 |  3.4652  |  3.4787 |   0.0285  | 3.4842 |
| ECN_63pct_15min          |  3.3491 |  3.3556 |  3.3498 |  3.3539 |  3.3498 |  3.3483 |  3.3505 |  3.3499 |  3.3509 |  3.3502  |  3.3508 |   0.0019  | 3.3502 |
| ECN_63pct_18hr           |  3.3909 |  3.3745 |  3.3859 |  3.3980 |  3.3899 |  3.3526 |  3.3684 |  3.3814 |  3.3879 |  3.3666  |  3.3806 |   0.0142  | 3.3868 |
| ECN_63pct_1_5hr          |  3.4941 |  3.4578 |  3.4868 |  3.4578 |  3.4587 |  3.4867 |  3.4569 |  3.4589 |  3.4868 |  3.4589  |  3.4707 |   0.0167  | 3.4589 |
| ECN_63pct_1hr            |  3.4370 |  3.4386 |  3.4421 |  3.4369 |  3.4388 |  3.4385 |  3.4383 |  3.4367 |  3.4397 |  3.4378  |  3.4385 |   0.0015  | 3.4383 |
| ECN_63pct_20min          |  3.3629 |  3.3656 |  3.3650 |  3.3628 |  3.3650 |  3.3650 |  3.3622 |  3.3652 |  3.3628 |  3.3648  |  3.3642 |   0.0012  | 3.3650 |
| ECN_63pct_24hr           |  3.3943 |  3.3399 |  3.3474 |  2.4369 |  3.3891 |  3.3428 |  2.8403 |  3.3660 |  3.3432 |  3.3655  |  3.2855 |   0.2829  | 3.3429 |
| ECN_63pct_25min          |  3.3823 |  3.3826 |  3.3821 |  3.3823 |  3.3819 |  3.3809 |  3.3808 |  3.3822 |  3.3801 |  3.3801  |  3.3816 |   0.0010  | 3.3819 |
| ECN_63pct_2hr            |  3.4579 |  3.4587 |  3.4597 |  3.4663 |  3.4718 |  3.4529 |  3.4723 |  3.4664 |  3.4677 |  3.4668  |  3.4650 |   0.0058  | 3.4658 |
| ECN_63pct_30min          |  3.3656 |  3.3655 |  3.3659 |  3.3652 |  3.3634 |  3.3659 |  3.3669 |  3.3658 |  3.3641 |  2.0943  |  3.2051 |   0.5010  | 3.3440 |
| ECN_63pct_3hr            |  3.4525 |  3.4579 |  3.4705 |  3.4258 |  3.4584 |  3.4645 |  3.4554 |  3.4620 |  3.4772 |  3.4283  |  3.4587 |   0.0419  | 3.4625 |
| ECN_63pct_45min          |  3.4314 |  3.4206 |  3.4203 |  3.4268 |  3.4225 |  3.4310 |  3.4221 |  3.4216 |  3.4259 |  3.4241  |  3.4253 |   0.0037  | 3.4235 |
| ECN_63pct_4_5hr          |  3.4823 |  3.4393 |  3.4313 |  3.4328 |  3.4327 |  3.4547 |  3.4618 |  3.4382 |  3.4629 |  3.4241  |  3.4538 |   0.0126  | 3.4547 |
| ECN_63pct_6hr            |  3.4509 |  3.4884 |  3.4275 |  3.4609 |  3.4304 |  3.4363 |  3.4577 |  3.4026 |  3.4307 |  3.4369  |  3.4352 |   0.0167  | 3.4369 |
| ECN_63pct_9hr            |  3.4216 |  3.4080 |  3.4599 |  3.4324 |  3.4837 |  3.4620 |  3.4353 |  3.4559 |  3.4278 |  3.4174  |  3.4500 |   0.0229  | 3.4395 |

| CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
| The median pattern for this ensemble is storm 8 (storm name : ECN_63pct_2hr_8).
| The pattern with the greatest <Max Water Elevation> for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).
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INNOVYZE ENSEMBLE STATISTICS UTILITY
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Summary information:

Total No. of Ensembles: 532
No. of Storms per ensemble: 10
No. of AEP Bands: 9
Object Name: Site_C4
Result type: Max Water Elevation

Results:

AEP: 0.2EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.2EY_15min	3.9063	3.1658	3.2685	3.3686	3.1656	3.9848	3.8819	3.3678	3.1659	3.1662	3.4264	0.3068	3.3678
ECN_0.2EY_12hr	3.6152	3.2060	3.6920	3.2998	3.2894	3.2505	3.2832	3.3418	3.8377	3.8255	3.5161	0.2179	3.3719
ECN_0.2EY_15min	3.9824	3.1895	3.1902	3.2805	3.1920	3.9885	3.1850	3.9605	3.1905	3.0872	3.4586	0.3885	3.1895
ECN_0.2EY_18hr	3.2128	3.2035	3.2570	3.2845	3.3989	3.1991	3.2005	3.3752	3.1968	3.2038	3.2315	0.0615	3.2009
ECN_0.2EY_1.5hr	3.2781	3.2285	3.2386	3.2386	3.2349	3.2285	3.0286	3.2984	3.2299	3.2285	3.2564	0.0572	3.2332
ECN_0.2EY_1hr	3.3216	3.2226	3.2230	3.2210	3.0216	3.2286	3.2237	3.2421	3.2232	3.2218	3.2220	0.0059	3.2229
ECN_0.2EY_2hr	3.9502	3.1903	3.1909	3.2965	3.1914	3.1935	3.1928	3.8929	3.1854	3.8985	3.4896	0.3991	3.1929
ECN_0.2EY_3hr	3.8698	3.1898	3.2021	3.3988	3.2532	3.8316	3.8969	3.8929	3.1844	3.8972	3.5918	0.3174	3.3539
ECN_0.2EY_30min	3.8968	3.1968	3.1967	3.2967	3.1998	3.2968	3.1685	3.9043	3.1378	3.2968	3.2907	0.3603	3.1968
ECN_0.2EY_4hr	3.8282	3.2034	3.2288	3.2965	3.2329	3.2967	3.2274	3.2925	3.2940	3.2944	3.2977	0.0282	3.2955
ECN_0.2EY_6hr	3.8933	3.2020	3.2818	3.2978	3.2823	3.2980	3.2838	3.2985	3.2819	3.2835	3.2903	0.0509	3.2879
ECN_0.2EY_9hr	3.8294	3.2254	3.2556	3.2988	3.2524	3.2326	3.2293	3.2996	3.2362	3.2335	3.2389	0.0295	3.2362
ECN_0.2EY_45min	3.2132	3.2156	3.2151	3.2024	3.2149	3.2809	3.2165	3.2103	3.2139	3.2105	3.2107	0.0051	3.2109
ECN_0.2EY_6.5hr	3.2918	3.2265	3.2020	3.2206	3.2293	3.2265	3.2333	3.2066	3.2309	3.2028	3.2283	0.0082	3.2280
ECN_0.2EY_9hr	3.2300	3.2392	3.2324	3.2280	3.2384	3.2677	3.2338	3.2151	3.2387	3.2511	3.2394	0.0070	3.2383
ECN_0.2EY_96hr	3.2573	3.2129	3.2181	3.2066	3.2297	3.2365	3.2256	3.2104	3.2328	3.2178	3.2255	0.0102	3.2259

CRITICAL DURATION : The critical duration for the 0.2EY AEP is the ensemble ECN_0.2EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.2EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 7 (storm name : ECN_0.2EY_2hr_7).

AEP: 0.5EY = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_0.5EY_15min	3.9038	3.1535	3.1935	3.1955	3.1949	3.9584	3.1537	3.9545	3.1578	3.1539	3.5160	0.3987	3.1548
ECN_0.5EY_12hr	3.4549	3.2936	3.2282	3.1975	3.1836	3.8834	3.1986	3.2218	3.1988	3.2148	3.2697	0.1747	3.2059
ECN_0.5EY_15min	3.9638	3.1628	3.1695	3.7635	3.1638	3.1643	3.1846	3.9638	3.1639	3.9661	3.4047	0.3813	3.1643
ECN_0.5EY_18hr	3.2944	3.2842	3.2826	3.2845	3.2958	3.2758	3.1824	3.2518	3.2752	3.2948	3.2737	0.0315	3.2798
ECN_0.5EY_1.5hr	3.2130	3.2567	3.2134	3.2029	3.2034	3.2029	3.2128	3.2029	3.2013	3.2129	3.2082	0.0050	3.2079
ECN_0.5EY_1hr	3.2041	3.2858	3.2041	3.2039	3.2041	3.2039	3.2049	3.2040	3.2040	3.2031	3.2040	0.0007	3.2040
ECN_0.5EY_2hr	3.4750	3.1630	3.1749	3.1954	3.1752	3.1789	3.1751	3.4739	3.1739	3.1751	3.2789	0.1588	3.1750
ECN_0.5EY_24hr	3.2958	3.1652	3.1829	3.2962	3.1702	3.2958	3.2972	3.2958	3.1702	3.2962	3.2756	0.0173	3.2794
ECN_0.5EY_30min	3.1638	3.1638	3.1819	3.2958	3.1937	3.2958	3.1931	3.2939	3.1939	3.2935	3.2034	0.5994	2.0630
ECN_0.5EY_3hr	3.2918	3.2958	3.2919	3.2883	3.2958	3.2958	3.2958	3.2958	3.2957	3.2958	3.2958	0.0027	3.2957
ECN_0.5EY_30min	3.9635	3.1693	3.1982	3.1858	3.1853	2.9693	3.1978	2.9693	3.1893	3.0477	3.1668	0.0852	3.0082
ECN_0.5EY_4hr	3.8991	3.1582	3.1921	3.2958	3.2958	3.2958	3.2958	3.2958	3.2957	3.2958	3.2958	0.0027	3.2957
ECN_0.5EY_45min	3.9635	3.1693	3.1982	3.1858	3.1853	2.9693	3.1978	2.9693	3.1893	3.0477	3.1668	0.0852	3.0082
ECN_0.5EY_6.5hr	3.8991	3.1582	3.1921	3.2958	3.2958	3.2958	3.2958	3.2958	3.2957	3.2958	3.2958	0.0027	3.2957
ECN_0.5EY_9hr	3.8991	3.1582	3.1921	3.2958	3.2958	3.2958	3.2958	3.2958	3.2957	3.2958	3.2958	0.0027	3.2957
ECN_0.5EY_96hr	3.8991	3.1582	3.1921	3.2958	3.2958	3.2958	3.2958	3.2958	3.2957	3.2958	3.2958	0.0027	3.2957

CRITICAL DURATION : The critical duration for the 0.5EY AEP is the ensemble ECN_0.5EY_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_0.5EY_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 7 (storm name : ECN_0.5EY_2hr_7).

AEP: 1% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_1pct_10min	3.2962	3.2855	3.2942	3.2969	3.2969	3.2961	3.2957	3.2969	3.2974	3.2968	3.2971	0.0019	3.2968
ECN_1pct_12hr	3.2955	3.2969	3.2939	3.2970	3.2974	3.2480	3.2993	3.2950	3.2968	3.2936	3.2938	0.0021	3.2958
ECN_1pct_15min	3.2969	3.2974	3.2189	3.2963	3.2959	3.2229	3.2959	3.2965	3.2235	3.2959	3.2906	0.0929	3.2965
ECN_1pct_18hr	3.2956	3.2953	3.2953	3.2963	3.2933	3.2969	3.2595	3.2483	3.2953	3.2953	3.2893	0.0285	3.2958
ECN_1pct_1.5hr	3.2963	3.2917	3.2918	3.2963	3.2960	3.2962	3.2958	3.2963	3.2958	3.2961	3.2958	0.0014	3.2959
ECN_1pct_1hr	3.2950	3.2959	3.2955	3.2963	3.0967	3.2964	3.2902	3.2959	3.2952	3.0955	3.2959	0.0026	3.2957
ECN_1pct_20min	3.2939	3.2946	3.2902	3.2909	3.2939	3.2902	3.2939	3.2959	3.2952	3.2950	3.2930	0.0054	3.2939
ECN_1pct_24hr	3.2956	3.2959	3.2931	3.2958	3.2959	3.2959	3.2958	3.2956	3.2959	3.2958	3.2957	0.0010	3.2958
ECN_1pct_25min	3.2956	3.2959	3.2958	3.2958	3.2959	3.2934	3.2958	3.2956	3.2958	3.2958	3.2952	0.0010	3.2958
ECN_1pct_2hr	3.2959	3.2959	3.2958	3.2958	3.2959	3.2959	3.2958	3.2958	3.2958	3.2958	3.2958	0.0000	3.2958
ECN_1pct_30min	3.2956	3.2957	3.2957	3.2959	3.2958	3.2959	3.2914	3.2953	3.2958	3.2951	3.2956	0.0005	3.2958
ECN_1pct_3hr	3.2959	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	0.0000	3.2958
ECN_1pct_45min	3.2959	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	0.0000	3.2958
ECN_1pct_4.5hr	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	0.0000	3.2958
ECN_1pct_6hr	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	0.0000	3.2958
ECN_1pct_9hr	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	3.2958	0.0000	3.2958

CRITICAL DURATION : The critical duration for the 1% AEP is the ensemble ECN_1pct_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_1pct_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_1pct_2hr_10).

AEP: 20% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_10pct_10min	3.2948	3.1957	3.1975	3.1966	3.1795	3.1961	3.1975	3.1974	3.1969	3.1977	3.1764	0.0085	3.1959
ECN_10pct_12hr	3.2286	3.2065	3.2017	3.1956	3.2258	3.1952	3.2089	3.2053	3.2014	3.2030	3.2030	0.0110	3.2059
ECN_10pct_15min	3.2959	3.1966	3.1994	3.1900	3.1957	3.1948	3.1959	3.1708	3.1935	3.1932	3.1902	0.0459	3.1948
ECN_10pct_18hr	3.2924	3.2132	3.2357	3.2057	3.2816	3.2823	3.2091	3.2077	3.2323	3.2357	3.2359	0.0191	3.2365
ECN_10pct_1.5hr	3.2118	3.2078	3.2118	3.2078	3.2078	3.2078	3.2078	3.2078	3.2078	3.2078	3.2084	0.0013	3.2078
ECN_10pct_1hr	3.2048	3.2028	3.2029	3.2030	3.2037	3.2030	3.2030	3.2031	3.2030	3.2032	3.2034	0.0006	3.2030
ECN_10pct_2hr	3.2959	3.1966	3.1995	3.2030	3.1956	3.1963	3.1959	3.2019	3.2030	3.2030	3.2009	0.0028	3.1995
ECN_10pct_20min	3.2959	3.1966	3.1994	3.2030	3.1956	3.1963	3.1959	3.2019	3.2030	3.2030	3.2009	0.0028	3.1995
ECN_10pct_24hr	3.2629	3.1629	3.2059	3.1662	3.2084	3.2028	3.2081	3.2046	3.1997	3.2085	3.2084	0.0262	3.2055
ECN_10pct_25min	3.2065	3.2069	3.2069	3.2065	3.2083	3.2060	3.2066	3.2066	3.2050	3.2083	3.2078	0.0011	3.2069
ECN_10pct_2hr	3.2959	3.2045	3.2030	3.2030	3.2030	3.2030	3.2030	3.2030	3.2030	3.2030	3.2030	0.0000	3.2030
ECN_10pct_30min	3.2128	3.2028	3.2029	3.2032	3.2030	3.2032	3.2032	3.2032	3.2030	3.2032	3.2032	0.0001	3.2032
ECN_10pct_3hr	3.2596	3.2086	3.2096	3.2083	3.2085	3.2050	3.2029	3.2046	3.2039	3.2082	3.2077	0.0024	3.2082
ECN_10pct_45min	3.2063	3.2059	3.2062	3.2056	3.2056	3.2083	3.2059	3.2069	3.2049	3.2060	3.2060	0.0006	3.2060
ECN_10pct_4.5hr	3.2602	3.2082	3.2099	3.2028	3.2029	3.2035	3.2035	3.2069	3.2030	3.2060	3.2074	0.0025	3.2055
ECN_10pct_6hr	3.2021	3.2008	3.2062	3.2026	3.2039	3.2032	3.2035	3.2062	3.2030	3.2032	3.2039	0.0015	3.2039
ECN_10pct_9hr	3.2078	3.2056	3.2095	3.2069	3.2059	3.2082	3.2069	3.2092	3.2060	3.2098	3.2552	0.0054	3.2065

CRITICAL DURATION : The critical duration for the 20% AEP is the ensemble ECN_10pct_3hr.
The median pattern for this ensemble is storm 4 (storm name : ECN_10pct_3hr_4).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_10pct_3hr_10).

AEP: 2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_2pct_10min	3.1980	3.1572	3.2040	3.1976	3.1671	3.2037	3.1978	3.1967	3.1932	3.1982	3.1978	0.0019	3.1979
ECN_2pct_12hr	3.0539	3.2893	3.2491	3.2541	3.2077	3.2231	3.2457	3.2082	3.2932	3.2921	3.2557	0.0744	3.2491
ECN_2pct_15min	3.2331	3.2330	3.2201	3.2328	3.2358	3.2325	3.2186	3.2169	3.2330	3.2134	3.2327	0.0018	3.2328
ECN_2pct_18hr	3.2329	3.2280	3.2458	3.2324	3.2782	3.2782	3.2688	3.2522	3.2280	3.2280	3.2528	0.0137	3.2516
ECN_2pct_1.5hr	3.2925	3.2700	3.2688	3.2661	3.2619	3.2695	3.2604	3.2689	3.2707	3.2694	3.2659	0.0038	3.2695
ECN_2pct_1hr	3.2648	3.2658	3.2342	3.2950	3.2572	3.2953	3.2857	3.2588	3.2596	3.2596	3.2696	0.0061	3.2596
ECN_2pct_20min	3.2339	3.2282	3.2207	3.2321	3.2329	3.2280	3.2325	3.2258	3.2292	3.2255	3.2232	0.0025	3.2280
ECN_2pct_24hr	3.2559	3.2938	3.2552	3.2942	3.2939	3.2930	3.2203	3.2946	3.2936	3.2938	3.2845	0.0189	3.2885
ECN_2pct_25min	3.2319	3.2325	3.2309	3.2328	3.2329	3.2306	3.2273	3.2309	3.2315	3.2313	3.2320	0.0019	3.2320
ECN_2pct_2hr	3.2293	3.2649	3.2628	3.2625	3.2595	3.2960	3.2607	3.2716	3.2781	3.2835	3.2849	0.0029	3.2829
ECN_2pct_30min	3.2630	3.2308	3.2341	3.2609	3.2598	3.2580	3.2653	3.0073	3.2629	3.2869	3.2622	0.0952	3.2668
ECN_2pct_3hr	3.2932	3.2915	3.2739	3.2650	3.2598	3.2641	3.2628	3.2921	3.2852	3.2921	3.2903	0.0024	3.2902
ECN_2pct_45min	3.2318	3.2308	3.2320	3.2328	3.2325	3.2323	3.2320	3.2689	3.2325	3.2312	3.2337	0.0012	3.2324
ECN_2pct_4.5hr	3.2708	3.2688	3.2608	3.2659	3.2542	3.2624	3.2629	3.2639	3.2705	3.2806	3.2653	0.0070	3.2645
ECN_2pct_6hr	3.2649	3.2680	3.2624	3.2570	3.2579	3.2672	3.2688	3.2625	3.2567	3.2626	3.2626	0.0108	3.2640
ECN_2pct_9hr	3.2543	3.2591	3.2492	3.2685	3.2928	3.2643	3.2892	3.2824	3.2439	3.2587	3.2690	0.0162	3.2669

CRITICAL DURATION : The critical duration for the 2% AEP is the ensemble ECN_2pct_2hr.
The median pattern for this ensemble is storm 6 (storm name : ECN_2pct_2hr_6).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 10 (storm name : ECN_2pct_2hr_10).

AEP: 5% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_5pct_10min	3.2654	3.1858	3.1871	3.1946	3.1869	3.1962	3.1871	3.1963	3.1938	3.1874	3.1881	0.0026	3.1869
ECN_5pct_12hr	3.2405	3.2748	3.2587	3.2734	3.2388	3.2323	3.2392	3.2855	3.2538	3.2892	3.2657	0.0129	3.2598
ECN_5pct_15min	3.2929	3.1906	3.1895	3.2888	3.2885	3.2936	3.1887	3.2885	3.2827	3.2823	3.2509	0.0026	3.1898
ECN_5pct_18hr	3.2799	3.2907	3.2822	3.2885	3.0859	3.2965	3.2828	3.2788	3.2885	3.2885	3.2843	0.0458	3.2866
ECN_5pct_1.5hr	3.2910	3.2598	3.2529	3.2908	3.2904	3.2942	3.2587	3.2908	3.2923	3.2845	3.2805	0.0219	3.2914
ECN_5pct_1hr	3.2886	3.2856	3.2231	3.2888	3.2892	3.2888	3.2838	3.2888	3.2889	3.2868	3.2857	0.0221	3.2887
ECN_5pct_20min	3.2898	3.2883	3.2898	3.2879	3.2898	3.2367	3.2895	3.2836	3.2887	3.2898	3.2857	0.0217	3.2892
ECN_5pct_24hr	3.2948	3.1777	3.2385	3.2968	3.2838	3.2968	3.2854	3.2968	3.2838	3.2837	3.2849	0.0345	3.2868
ECN_5pct_25min	3.2171	3.2838	3.2150	3.2176	3.2157	3.2968	3.2171	3.2174	3.2836	3.2838	3.2489	0.0016	3.2837
ECN_5pct_2hr	3.2930	3.2569	3.2515	3.2898	3.2526	3.2965	3.2968	3.2943	3.2899	3.2967	3.2949	0.0025	3.2958
ECN_5pct_30min	3.2849	3.2238	3.2287	3.2893	3.2928	3.2968	3.2842	3.2540	3.2838	3.2270	3.2587	0.0311	3.2843
ECN_5pct_3hr	3.2952	3.2598	3.2328	3.2965	3.2538	3.2969	3.2678	3.2942	3.2878	3.2925	3.2835	0.0085	3.2926
ECN_5pct_45min	3.2895	3.2938	3.2866	3.2903	3.2889	3.2968	3.2889	3.2894	3.2865	3.2928	3.2922	0.0026	3.2906
ECN_5pct_4.5hr	3.2648	3.2878	3.2825	3.2883	3.2863	3.2625	3.2902	3.2914	3.2599	3.2625	3.2753	0.0080	3.2624
ECN_5pct_6hr	3.2838	3.2808	3.2867	3.2886	3.2859	3.2842	3.2850	3.2824	3.2838	3.2826	3.2848	0.0041	3.2840
ECN_5pct_9hr	3.2878	3.2868	3.2828	3.2839	3.2848	3.2827	3.2882	3.2795	3.2856	3.2892	3.2862	0.0041	3.2878

AEP: 63.2% = Max Water Elevation (m)

Ensemble name	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7	Storm 8	Storm 9	Storm 10	Average	Std. Dev.	Median
ECN_63pct_10min	3.2818	3.1435	3.2435	3.1653	3.1620	3.1622	3.1973	3.2435	3.1498	3.2417	3.1499	0.0022	3.1687
ECN_63pct_12hr	3.2736	3.1647	3.2694	3.2625	3.2726	3.1653	3.1691	3.2016	3.2808	3.2695	3.2695	0.0181	3.2625
ECN_63pct_15min	3.2491	3.2495	3.2495	3.2484	3.1501	3.1589	3.1581	3.2516	3.1569	3.1526	3.1586	0.0415	3.1585
ECN_63pct_18hr	3.2509	3.1668	3.2136	3.1660	3.1513	3.1648	3.1916	3.2529	3.1529	3.2153	3.2685	0.0210	3.2582
ECN_63pct_1.5hr	3.1563	3.1955	3.1975	3.1955	3.1872	3.1965	3.1855	3.1963	3.1945	3.1951	3.1900	0.0025	3.1963
ECN_63pct_1hr	3.1681	3.1637	3.2002	3.2004	3.1604	3.2002	3.1983	3.1842	3.1879	3.1990	3.1885	0.0017	3.1882
ECN_63pct_20min	3.2577	3.1577	3.2577	3.2565	3.1577	3.1577	3.2565	3.2577	3.1569	3.2582	3.1578	0.0005	3.1578
ECN_63pct_24hr	3.1854	3.1677	3.1618	3.2604	3.1618	3.2028	3.1587	3.2587	3.1619	3.2136	3.1618	3.1624
ECN_63pct_25min	3.1653	3.1650	3.1658	3.1650	3.1650	3.1641	3.1642	3.1652	3.1642	3.1642	3.1644	0.0005	3.1644
ECN_63pct_2hr	3.2960	3.1855	3.2587	3.2568	3.2592	3.2592	3.2592	3.2017	3.2989	3.1897	3.2596	0.0619	3.1990
ECN_63pct_30min	3.0638	3.2938	3.2711	3.2702	3.2703	3.2707	3.2706	3.2702	3.2702	3.2705	3.2702	0.0005	3.2704
ECN_63pct_3hr	3.2951	3.1582	3.2951	3.2951	3.2951	3.2951	3.2951	3.2951	3.2951	3.2951	3.2951	0.0000	3.2951
ECN_63pct_45min	3.2652	3.1629	3.1620	3.1638	3.1638	3.0654	3.1638	3.2660	3.1593	3.2631	3.1632	0.0008	3.1632
ECN_63pct_4.5hr	3.2628	3.2698	3.1938	3.2599	3.1602	3.2599	3.1598	3.2960	3.1579	3.2595	3.1599	3.2599
ECN_63pct_6hr	3.2608	3.1603	3.1919	3.1920	3.2473	3.0653	3.1856	3.2702	3.1577	3.2960	3.1935	3.2614
ECN_63pct_9hr	3.2096	3.1797	3.2098	3.1939	3.1908	3.1601	3.1946	3.1647	3.1938	3.1980	3.1976	3.2599

CRITICAL DURATION : The critical duration for the 63.2% AEP is the ensemble ECN_63pct_2hr.
The median pattern for this ensemble is storm 8 (storm name : ECN_63pct_2hr_8).
The pattern with the greatest <Max Water Elevation> for this ensemble is storm 7 (storm name : ECN_63pct_2hr_7).

13.6 - DEVELOPMENT PERMIT FOR A RECONFIGURING A LOT FOR A RECONFIGURING A LOT FOR ONE (1) INTO 77 RESIDENTIAL LOTS AND ONE ENVIRONMENT AND DRAINAGE LOT (STAGES 1-4), ON LOT 2 ON RP617670, AND LOCATED AT 1-41 NEVILLE STREET, MULAMBIN QLD 4703

1st Environmental Report

Meeting Date: 19 August 2025

Attachment No: 7

BURCHILLS
SCIENCE AND ENGINEERING

1-41 Neville Street, Mulambin
Ecological Site Assessment

Client: Red Emperor Pty Ltd
Project No: BE240146
Document No: BE240146-RP-ESA-01

October 2024

Document Control Record

Prepared by:	Gabriela Castan Caroline Kelly
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Date:	October 2024

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00	Initial issue	11.07.2024	GC/CK	CK
01	Revised to address Council and SARA information request & revised design	21.10.2024	CK	CK

Recipients are responsible for eliminating all superseded documents in their possession.

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MORETON BAY I SUNSHINE COAST I IPSWICH I BANGALOW

Executive Summary

Burchills were engaged by Red Emperor Pty Ltd to undertake an Ecological Site Assessment for a proposed residential subdivision at 1-41 Neville Street Mulambin, within the Livingstone Shire Council local government area. The proposed development comprises a staged 91 lot residential subdivision.

This report was prepared in accordance with the *Livingstone Planning Scheme 2018 SC7.5 Environmental management planning scheme policy and State survey guidelines*.

Field surveys were undertaken on the site in May 2024. A total of 94 species of flora were detected during the surveys, comprising 64 native species and 30 non-native species, two (2) of which are Category 3 Restricted invasive plants under the Qld *Biosecurity Act 2016* - *Cryptostegia grandiflora* (rubber vine), *Lantana camara* and *Schinus terebinthifolius* (broad leaved pepper). Five (5) vegetation associations were mapped over the site:

- Vegetation Unit A – Remnant Corymbia Melaleuca woodland / open forest RE 11.2.5;
- Vegetation Unit B – Regrowth Corymbia Melaleuca woodland / open forest RE 11.2.5;
- Vegetation Unit C – Regrowth Corymbia Melaleuca woodland open forest RE 11.2.5 with marine plants in ground stratum;
- Vegetation Unit D – Remnant Mangrove woodland and samphire forbland RE 11.1.4 and RE 11.1.2; and
- Vegetation Unit E – Anthropogenic grassland.

Vegetation Units A and D meet the benchmark structural and floristic criteria to be considered remnant vegetation. No State or Commonwealth listed EVNT flora species were observed within the site. Two (2) Special Least Concern flora species were observed: *Acrostichum speciosum* (mangrove fern) and *Livistona decora* weeping cabbage palm. These species are not threatened species but listed as Special Least Concern flora under the NCA due to collection pressure. *Acrostichum speciosum* is also identified as a marine plant under the Fisheries Act even when found above the high tide mark. This species is entirely within the proposed protected area. *Livistona decora* is present in large number throughout the site including within the proposed protected area.

Thirty-three (33) species of vertebrate fauna were observed within the subject site during surveys including two (2) reptile species, 29 bird species and two (2) native mammal species. No conservation significant species of fauna were encountered on-site, nor was any direct or indirect evidence observed that would suggest the site is utilised by conservation significant fauna species.

An assessment of the results of the desktop surveys and field investigations against the proposed development design indicates that the development is unlikely to result in a significant impact on values identified as Matters of National Environmental Significance (MNES).

Matters of State Environmental Significance (MSES) and Matters of Local Environmental Significance (MLES) as identified in the *Livingstone Shire Planning Scheme 2018 Biodiversity Overlay Code* mapped over the site include:

- **MSES**: Remnant (Least concern Regional Ecosystems 11.1.2 and 11.2.5) vegetation that has Essential Habitat values for threatened species including the Vulnerable estuarine crocodile (*Crocodylus porosus*), the Endangered eastern curlew (*Numenius madagascariensis*) and the Vulnerable Western Alaskan bar-tailed godwit (*Limosa lapponica baueri*); and

- **MLES**: Habitat and Vegetation - Native remnant vegetation (Regional Ecosystems 11.1.2 and 11.2.5); Local Biodiversity Corridors – sub-regional corridor; Wetlands and waterways – estuarine wetland on Mulambin Ck foreshore.

Surveys identified the vegetation in the western parts of the site provide habitat values for the abovementioned threatened species and significant values including marine plants, wetland buffering and biodiversity corridor function. This part of the site and the surrogate ecological values and functions, is proposed to be protected in an environmental reserve that will be restored as part of the proposed development including weed management and revegetation using species from the preclearing regional ecosystems.

Following a request for information from Council and SARA, the subdivision design was revised to decrease the development footprint and increase the proposed environmental reserve, providing enhanced protection of existing values and ecological functions (buffering and corridor functions). The proposed reserve protects a minimum of 30% of the site area, as required by *State Code 16 – Native vegetation clearing*.

The revised design reduced the development footprint, facilitating increased protection for mapped and ground truthed significant values including:

- Protection of all regional ecosystem types mapped over the site including Regional Ecosystems 11.1.2 and 11.2.5 which provide habitat for the Vulnerable estuarine crocodile (*Crocodylus porosus*), the Endangered eastern curlew (*Numenius madagascariensis*) and the Vulnerable Western Alaskan bar-tailed godwit (*Limosa lapponica baueri*);
- Increased buffering to MLES wetlands along Mulambin Ck (minimum 100-200m); and
- Increased protection of habitat that contributes to a north-south sub-regional corridor that protects areas of local habitat as identified in the *Livingstone Shire Planning Scheme 2018 Biodiversity Overlay Code.*

In addition to the above mapped values, the site surveys detected diggings typical of the *Tachyglossus aculeatus* (short beaked echidna) within the site. This species is identified as Special Least Concern under the Queensland *Nature Conservation Act 1992* (NCA). It is likely that the proposed development will impact on breeding habitat for this species so it is recommended that a Species Management Program (SMP) be approved for the development prior to works commencing.

Recommendations for site specific impact avoidance, minimisation and mitigation measures during clearing, construction and operation of the development are provided within this document, including management of significant fauna, rehabilitation of the proposed reserve, vegetation protection, erosion and sediment control.

In summary, the proposed development will result in impacts on mapped and ground truthed ecological values however provided the proposal is developed in accordance with the recommendations of this report it is considered compliant with the applicable Performance Outcomes of *State Code 16: Native vegetation clearing* and the *Livingstone Shire Planning Scheme 2018 Biodiversity Overlay Code*.

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Appendices

1. Introduction

This Ecological Site Assessment (ESA) has been prepared for a proposed rural residential subdivision at 1-41 Neville Street Mulambin (Lot 2 RP617670), within the Livingstone Shire Council local government area.

This report was prepared in accordance with the *Livingstone Planning Scheme 2018 SC7.5.5 Environmental management planning scheme policy – Ecological Assessment Reports.*

1.1 Objectives

The intent of this assessment is to assess the ecological values of the subject site, identify any potential impacts on these values as a result of proposed development, and recommend strategies to avoid, minimise and mitigate these impacts.

In summary, the objectives of this ESA are to:

- Desktop review to verify Local, State and National Matters of Environmental Significance (MLES, MSES and MNES) and other potential environmental values of the site and adjoining areas;
- Site assessment including:
  - Ecological surveys consistent with *Livingstone Planning Scheme 2018 SC7.5.5 Environmental management planning scheme policy – Ecological Assessment Reports*;
  - Vegetation mapping including Regional ecosystem type classification;
  - Flora Survey consistent with the *Flora Survey Guidelines - Protected Plants* (as required under the *Nature Conservation Act 1992*);
  - Marine Plant survey and mapping to verify location of protected marine plants;
  - Fauna habitat feature and function assessment including identification of significant habitat features / breeding places and functions; and
  - Targeted significant fauna surveys based on desktop review results.
- Ecological features map set (GIS) of survey results including vegetation associations including marine plant communities, mapped significant habitat based on survey results, significant features (e.g. habitat trees, nests etc) and functions and significant species records;
- Assessment of impacts of proposed development on MLES / MSES / MNES including marine plants and preparation of an impact plan based on the design footprint and survey results;
- Recommendation of mitigation measures to avoid/minimise/mitigate environmental impacts of development including opportunities for offset/compensatory planting / rehabilitation of mapped values; and
- Assessment of proposal against applicable State and Planning Scheme codes and a review of applicable permits and approvals required to facilitate the development.

1.2 Site Context

The site is within the Livingstone Shire suburb of Mulambin, a coastal town located south of Yeppoon (Figure 1.1). The site is described as Lot 2 on RP617670, has a total area of 10 hectares and mostly vegetated with cleared tracks in the central and western parts (Figure 1.2).

Under the *Livingstone Planning Scheme 2018*, the site is zoned as Rural with the surrounding area to the north east and south zoned Low Density Residential and areas to the north west also zoned Rural (Figure 1.3).

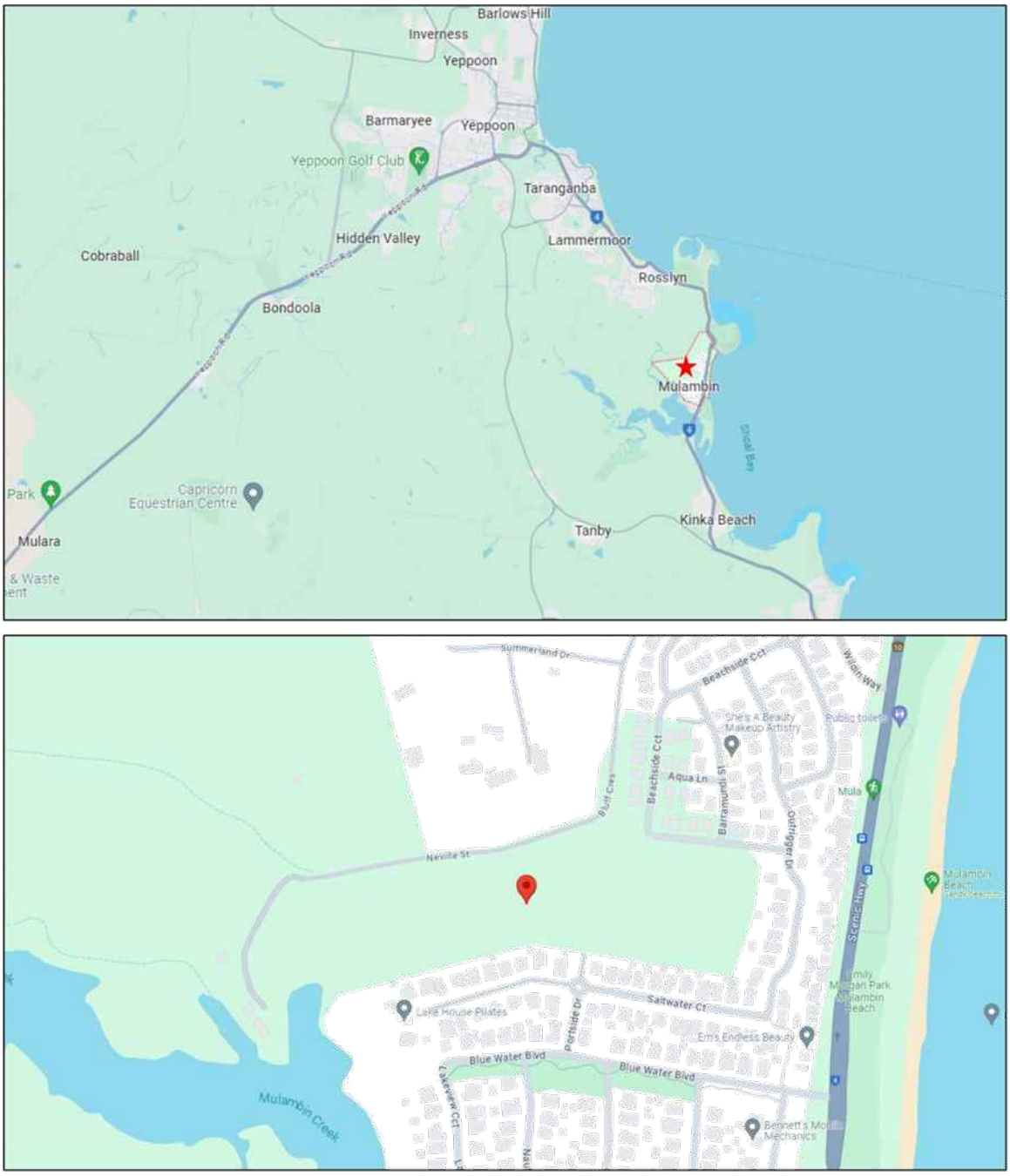

Figure 1.1 Site location context (Google, 2024)

Figure 1.2 Site aerial imagery (Nearmap, April 2023)

Figure 1.3 Site and surrounding zoning (Livingstone Planning Scheme 2018)

1.3 Development History

A development permit for subdivision of the subject site has been issued by Livingstone Shire Council in the past. The development permit issued on 9 February 2016 (Council Reference: D/74-2015) granted permission for the subdivision of the existing land parcel to create 62 residential lots and open space. An extract of the approved plan of development is provided below in Figure 1.3.

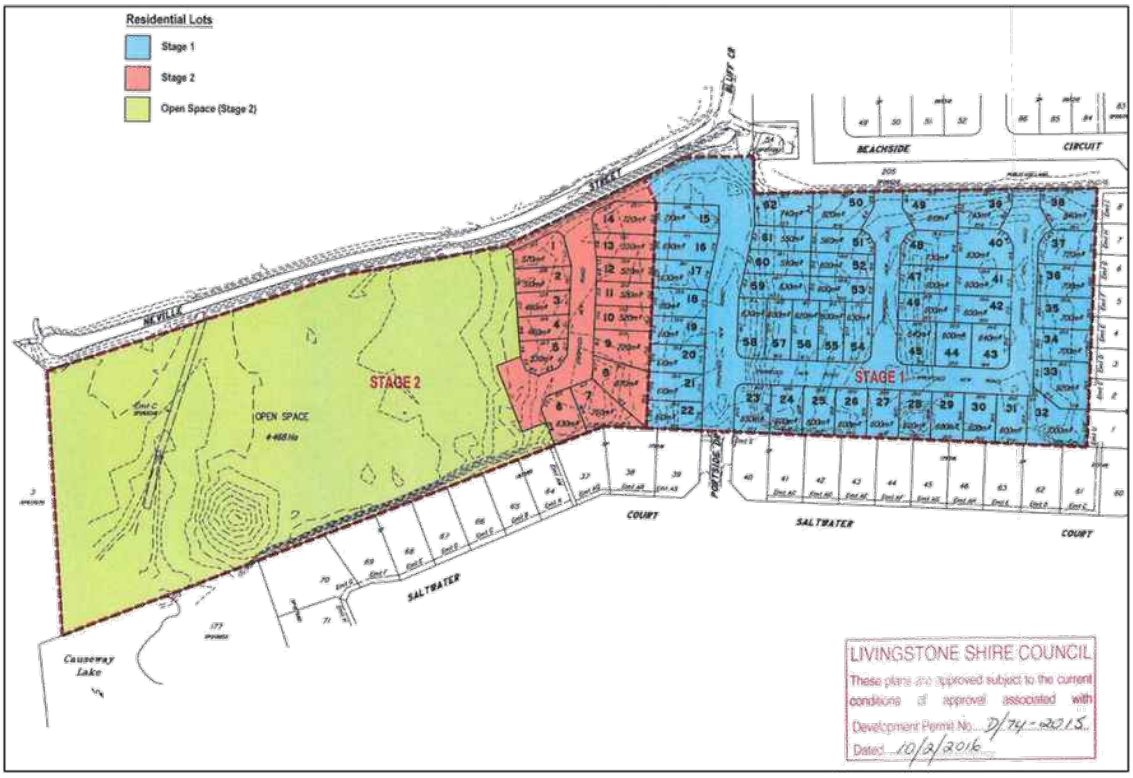

Figure 1.4 Previously Approved Plan of Development

1.4 Proposed Development

The proposed development comprises a staged 78 lot residential subdivision and a reserve in the western part of the site. The residential lots delivered as part of the subdivision are mostly 450m² – 600m². Figure 1.5 below provides an extract of the plan of development prepared by Barlow Shelley Consulting Engineers. For further details, please refer to the full plan of subdivision and Preliminary Bulk Earthworks Plans prepared by Barlow Shelley Consulting Engineers included in Appendix A.

Figure 1.5 Proposed development design (Barlow Shelley Consulting Engineers, 2024)

2. Site Physical Description

2.1 Soils, Geology and Land Zone

The Geological Survey of Queensland mapping (QldGlobe, 2024) indicates that the local surface geology consists of *'Qhcb-QLD: Moderately well-sorted, fine to coarse-grained quartzose to shelly sand and minor gravel, silt, mud: mainly beach ridges and cheniers'*.

This geological association aligns with Land Zone 2 under the Qld regional ecosystem (RE) framework for land classification described as follows: '*Quaternary coastal dunes and beach ridges. Includes degraded dunes, sand plains and swales, lakes and swamps enclosed by dunes, as well as coral and sand cays. Soils are predominantly Rudosols and Tenosols (siliceous or calcareous sands), Podosols and Organosols.*'. The south-western corner of the site however falls within Land Zone 1 - Quaternary marine deposits (Figure 2.1).

Additionally, under the *Livingstone Planning Scheme 2018*, the site is mapped as being constrained by known actual or potential acid sulfate soils (Figure 2.2).

Figure 2.1 Detailed surface geology above (Geological Survey of Queensland mapping, QldGlobe 2024) and land zone mapping below (Department of Resources, QldGlobe, 2024)

Figure 2.2 Potential acid sulfate soils mapping (Livingstone Planning Scheme 2018)

2.2 Waterways, Wetlands and Drainage

The site's south-western corner adjoins the lower estuarine reaches of Mulambin Creek. Mulambin Ck flows southwards under the Scenic Highway causeway and into Shoal Bay. This part of the site is mapped as a Wetland under the Livingstone Planning Scheme 2018 Overlay Map 10 - Biodiversity Wetlands Waterways (Figure 2.3).

Figure 2.3 Wetland mapping in south-western corner of site (Livingstone Planning Scheme 2018)

3. Desktop Review

3.1 Matters of National Environmental Significance

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is federal legislation that provides a national framework for the protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as Matters of National Environmental Significance (MNES).

If a proposed action is likely to have a significant impact on MNES it must be referred to the Australian Government Minister for the Environment for assessment against the EPBC Act. A significant impact is an impact which is important, notable, or of consequence, having regard to its context or intensity. All of these factors should be considered when determining whether an action is likely to have a significant impact on the environment.

The EPBC Act Protected Matters Search Tool (PMST) enables searches for MNES in a specified area. Results of this database search (using a 2km buffer from the site) identified:

- Two (2) listed threatened ecological communities may occur within the area:
  - Semi-evergreen vine thickets of the Brigalow Belt and Nandewar Bioregions; and
  - Poplar Box Grassy Woodland on Alluvial Plains
- 51 threatened species may occur within the area, comprising 13 threatened flora species and 21 threatened fauna species; and
- 58 Migratory species may occur within the area.

The large majority of listed species are shorebirds and marine species (eg marine turtles, whales, dolphins and sharks) because of the proximity of the site to coastal/marine habitat. Excluding these species leaves 28 threatened species. The results of the search are presented in Appendix B and Table 3.1 lists the 28 threatened species identified in this search that may occur within the site. An assessment of the likelihood of species presence on and / or near the subject site based on the results of the site surveys is provided in Section 6.1 and Appendix D.

Table 3.1 EPBC Act Protected Matters Search Tool Results

Scientific Name	Common Name	Threatened Category	Migratory Status
Birds			
Epthianura crocea macgregori	Capricorn Yellow Chat	Critically Endangered	
Erythrotriorchis radiatus	Red Goshawk	Endangered	
Falco hypoleucos	Grey Falcon	Vulnerable	
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Vulnerable	Migratory Wetlands Species
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable	
Hirundapus caudacutus	White-throated Needletail	Vulnerable	Migratory Terrestrial Species
Neochmia ruficauda ruficauda	Star Finch (eastern)	Endangered	
Poephila cincta cincta	Southern Black-throated Finch	Endangered	
Rostratula australis	Australian Painted Snipe	Endangered	
Turnix melanogaster	Black-breasted Button-quail	Vulnerable	
Mammals			
Dasyurus hallucatus	Northern Quoll	Endangered	
Macroderma gigas	Ghost Bat	Vulnerable	

Scientific Name	Common Name	Threatened Category	Migratory Status
Petauroides volans	Greater Glider (southern and central)	Endangered	
Phascolarctos cinereus	Koala	Endangered	
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	Vulnerable	
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	
Xeromys myoides	Water Mouse, False Water Rat	Vulnerable	
Reptiles			
Denisonia maculata	Ornamental Snake	Vulnerable	
Egernia rugosa	Yakka Skink	Vulnerable	
Furina dunmalli	Dunmall's Snake	Vulnerable	
Plants			
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	Vulnerable	
Cycas ophiolitica	null	Endangered	
Dichanthium setosum	bluegrass	Vulnerable	
Eucalyptus raveretiana	Black Ironbox	Vulnerable	
Leichhardtia brevifolia	null	Vulnerable	
Macadamia integrifolia	Macadamia Nut	Vulnerable	
Phaius australis	Lesser Swamp-orchid	Endangered	
Pimelea leptospermoides	null	Vulnerable	

3.2 Matters of State Environmental Significance

Matters of state environmental significance (MSES) are a component of the biodiversity state interest that is defined under the State Planning Policy (SPP) and the *Environmental Offsets Regulation 2014* (Offset Regulation). A summary of MSES that may occur within or close to the subject site based on State MSES mapping is listed in Table 3.2.

Matters that are mapped as potentially occurring within or near the subject site are further detailed in the following sections.

Table 3.2 MSES and potential presence on subject site

Matter	Mapped on/near site
Protected areas under the *Nature Conservation Act 1992* and *Marine Parks Act 2004*	Not mapped on site
Fish Habitat Areas declared under the *Fisheries Regulation 2008*	No
Wetlands mapped under the *Environmental Protection Regulation 2019*	No
Wetlands and watercourses in high ecological value waters identified in the *Environmental Protection (Water) Policy 2009*, schedule 1	No
Legally secured offsets as defined under the *Environmental Offsets Act 2014*	No
Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the *Nature Conservation (Animals) Regulation 2020*	**Yes**
Marine plants under the *Fisheries Act 1994* (excludes marine plants in an urban area)	**Not mapped but part of site is in tidal area**

Matter	Mapped on/near site
Waterways that provide for fish passage under the *Fisheries Act 1994* (excluding waterways providing for fish passage in an urban area)	No
Regulated Vegetation under the *Vegetation Management Act 1999* that is: a. category B areas on the regulated vegetation management map, that are 'endangered' and 'of concern' regional ecosystems b. category C areas on the regulated vegetation management map that are 'endangered' and 'of concern' regional ecosystems c. category R areas on the regulated vegetation management map **d. areas of essential habitat on the essential habitat map for an animal that is 'endangered wildlife' or 'vulnerable wildlife' or a plant that is 'endangered wildlife' or 'vulnerable wildlife' wildlife prescribed as 'endangered wildlife' or 'vulnerable wildlife' under the *Nature Conservation Act 1992*** e. category A,B,C,R areas that are located within a defined distance from the defining banks of a relevant watercourse identified on the vegetation management watercourse and drainage feature map f. category A,B,C,R areas that are located within 100 metres from the defining bank of a wetland identified on the vegetation management wetlands map.	**Yes – Essential Habitat**

3.2.1 Threatened and Special Least Concern Species – *Nature Conservation Act 1992*

MSES Threatened and Special Least Concern wildlife under the *Nature Conservation Act 1992* (NCA) include species listed as Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT; collectively 'EVNT' species) or fauna species listed Special Least concern ('SL') under the NCA.

The results of the MSES and Wildnet database searches indicate that the site may contain habitat values for five (5) threatened flora/fauna and eleven (11) Special Least Concern fauna based on historical species records as listed in Table 3.3. The complete results of this search are provided in Appendix B. An assessment of likelihood of occurrence for these species is presented in Section 6.2.2.

Table 3.3 MSES species historically recorded near subject site

Scientific name	Common name	NCA status	EPBC status	Migratory status
Threatened fauna				
Calyptorhynchus lathami erebus	glossy black-cockatoo (northern)	V	None	
Crocodylus porosus	estuarine crocodile	V	None	MI-B/E
Limosa lapponica baueri	Western Alaskan bartailed godwit	V	V	M-C/J/R/B/E
Numenius madagascariensis	eastern curlew	E	CE	M-C/J/R/B/E
Threatened flora				
Cycas ophiolitica	Marlborough blue	E	E	
Special least concern fauna				
Actitis hypoleucos	common sandpiper	SL	M	MI-C/J/R/B/E
Calidris ruficollis	red-necked stint	SL	M	M-C/J/R/B/E
Monarcha melanopsis	black-faced monarch	SL	M	Migratory terrestrial
Myiagra cyanoleuca	satin flycatcher	SL	M	Migratory terrestrial

Scientific name	Common name	NCA status	EPBC status	Migratory status
Numenius phaeopus	whimbrel	SL	M	MI-C/J/R/B/E
Pandion haliaetus cristatus	eastern osprey	SL	M	Migratory wetland
Phaethon lepturus	white-tailed tropicbird	SL	M	Migratory marine
Rhipidura rufifrons	rufous fantail	SL	M	Migratory terrestrial
Symposiachrus trivirgatus	spectacled monarch	SL	M	Migratory terrestrial
Tachyglossus aculeatus	short-beaked echidna	SL	None	
Tringa nebularia	common greenshank	SL	M	MI-C/J/R/B/E

*NCA Status: As listed under the *Queensland Nature Conservation Act 1992*: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern. **EPBC Status: As listed under the EPBC: CE = Critically Endangered, E = Endangered, V = Vulnerable, M = Migratory Species.

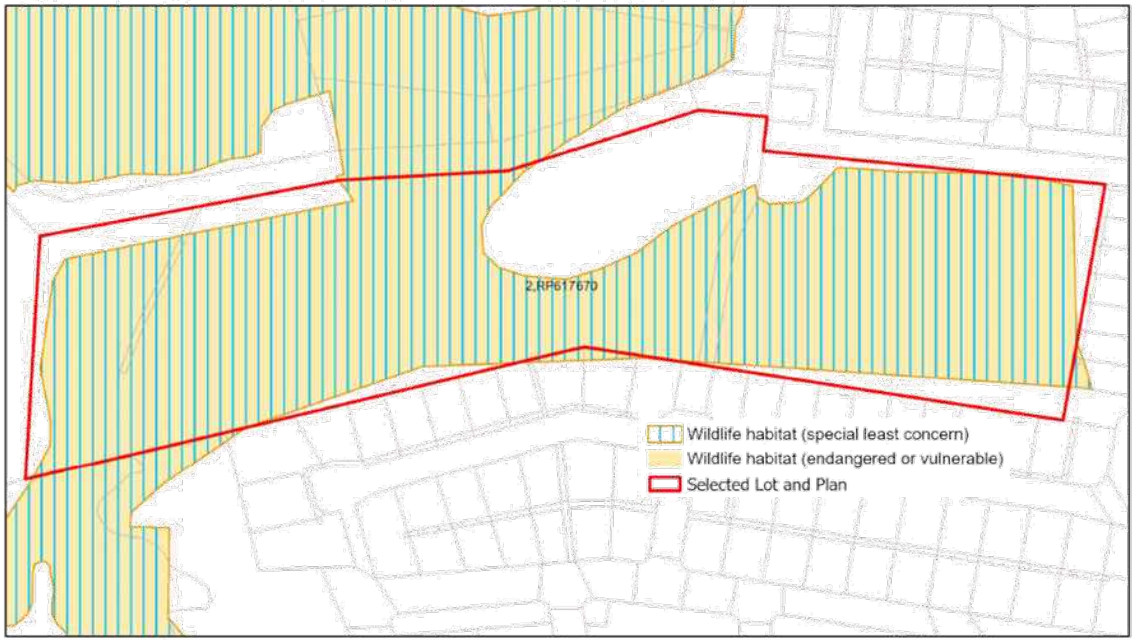

Figure 3.1 MSES values mapped over site (DESI, 2024)

3.2.2 Regulated Vegetation and Essential Habitat - *Vegetation Management Act 1999*

The *Vegetation Management Act 1999* (VMA), the *Vegetation Management Regulation 2012*, the *Planning Act 2016* and the *Planning Regulation 2017*, in conjunction with associated policies and codes, form the Vegetation Management Framework. This framework regulates the clearing of vegetation across Queensland mapped as remnant or regrowth. The purpose of the VMA is mainly achieved through the classification of vegetation units and defining permissible clearing for each unit in accordance with its level of significance.

Under the Qld *Vegetation Management Act 1999* mapping, the site contains 8.1ha of Category B Least concern Remnant Vegetation (Figure 3.2). This vegetation is mapped as having Essential Habitat values for *Crocodylus porosus* (estuarine crocodile) – Vulnerable, *Numenius madagascariensis* (eastern curlew) – Endangered, and *Limosa lapponica baueri* (Western Alaskan bar-tailed godwit) - Vulnerable (Table 3.4).

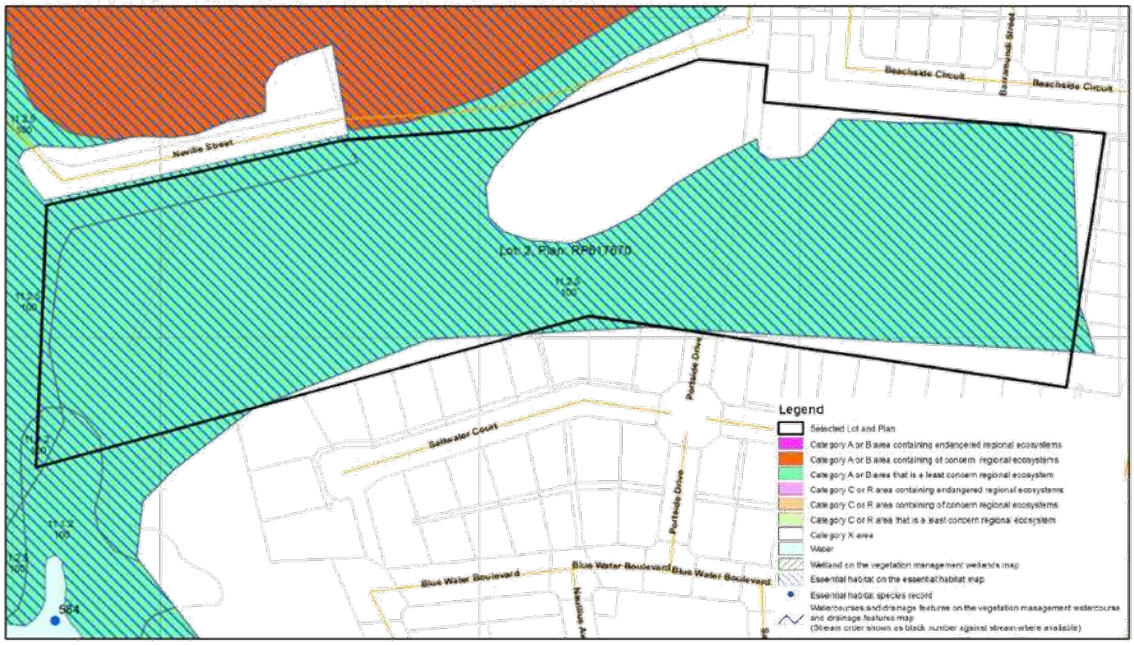

Figure 3.2 Vegetation Management Supporting Map (Qld Department of Resources, 2024)

Table 3.4 Regional Ecosystems and Essential Habitat mapped over subject site

Regional Ecosystem	VMA Status	Category	Area (ha)	Short Description	Essential Habitat
11.1.2	Least Concern	B	0.11	Samphire forbland on marine clay plains	*Crocodylus porosus* (estuarine crocodile) – Vulnerable *Numenius madagascariensis* (eastern curlew) – Endangered *Limosa lapponica baueri* (Western Alaskan bar-tailed godwit) - Vulnerable
11.2.5	Least Concern	B	8.01	Corymbia-Melaleuca woodland complex of beach ridges and swales	*Crocodylus porosus* (estuarine crocodile) – Vulnerable
Non-rem	None	X	2.36	None	None

3.3 Other State Matters

3.3.1 Protected Plants – NCA

The NCA and subordinate regulations protect flora and fauna native to Queensland. The *Nature Conservation (Plants) Regulation 2020* regulates the clearing, growing, harvesting and trade of protected plants in Queensland. In most instances, commonly occurring native plants can be taken and used without a licence or permit. However, a licence, permit or authority may be required to take and use restricted protected plants. A restricted plant is a native plant listed as special least concern, near threatened, vulnerable, endangered or critically endangered under the NCA.

The Protected Plants Flora Survey Trigger Map (PPFST Map) shows high risk areas for 'protected plants' and is used to help determine flora survey and clearing permit requirements for a particular location. A protected plant includes 'near threatened' and 'threatened' species. A 'threatened' species is defined a plant of a species listed as extinct, extinct in the wild, critically endangered, endangered, or vulnerable in the *Nature Conservation (Plants) Regulation 2020*.

Clearing areas shown on the PPFST Map as high risk may require either an exemption notification or clearing permit dependant on the results of the flora survey. If surveys verify that protected plants are not present or can be avoided by 100m, the clearing activity may be considered exempt clearing. An Exempt Clearing Notification form is required to be submitted to the Queensland Department of Environment, Science and Innovation (DESI) prior to the commencement of clearing. Clearing under this exemption must be conducted within two (2) years after the flora survey report has been submitted.

Areas of the site are mapped on, or within 100m from the Protected Plants as shown below in Figure 3.3. A search of the DESI Wildnet database was undertaken to determine which Protected Plants have been recorded in the local area. Two (2) protected plants were detected – each with one (1) record within two (2) km of the subject site. The results of this search are provided in Table 3.5 Wildnet Protected Plants Search Results (DESI, 2024) and Appendix B.

Figure 3.3 Protected Plants Flora Survey Trigger map (Qld Globe, 2024)

Table 3.5 Wildnet Protected Plants Search Results (DESI, 2024)

Species	Common Name	Status NCA	Status EPBC
Cycas ophiolitica	Marlborough blue	Endangered	Endangered
Paspalum batianoffii		Presumed Extinct	Extinct

3.3.2 State Mapped Waterways

No waterways are mapped within the site. Mulambin Ck which adjoins site's south-western corner is mapped as a Major Tidal waterway under the Fisheries Act Queensland waterways for waterway barrier works mapping, a second order watercourse under the VMA (for vegetation clearing purposes) and an unmapped water feature

under the Water Act inland waters identification mapping layer. Permit implications under these Acts are triggered where works within or adjacent to the waterway are required to facilitate the development.

3.4 Livingstone Planning Scheme 2018 – Biodiversity Overlay Code

The Livingstone Planning Scheme 2018 Biodiversity Overlay Code identifies matters of environmental significance to be prioritised for conservation. The Biodiversity Overlay Code identifies matters of local environmental significance (MLES) for the site including:

- Habitat and Vegetation - Native remnant vegetation (Regional Ecosystems 11.1.2 and 11.2.5)
- Local Biodiversity Corridors – north/south sub-regional corridor (western part of site)
- Wetlands and waterways – wetland (estuarine – Mulambin Ck foreshore).

3.4.1 Habitat and Vegetation

The Biodiversity Overlay Code mapping identifies the site's vegetation as 'MLES – Remnant Vegetation Not of concern' (Figure 3.4). The alignment of this vegetation generally corresponds with the site's mapped regulated vegetation including Regional Ecosystems 11.1.2 and 11.2.5 as outlined in Section 3.1.

3.4.2 Local Biodiversity Corridor

The Biodiversity Overlay Code identifies a sub-regional corridor along the western boundary of the site (Figure 3.4). Local biodiversity corridors provide protection for wildlife habitat values in areas that may face development pressure. The corridors provide habitat connectivity to flora / fauna movement and migration. The site's contribution to this corridor includes habitat values within mapped vegetation including Regional Ecosystems 11.1.2 and 11.2.5 including estuarine wetlands on Mulambin Ck foreshore.

3.4.3 Waterways & Wetlands

The site's south-western corner adjoins the lower estuarine reaches of Mulambin Creek. This part of the site is mapped as a MLES Wetland under the Livingstone Planning Scheme 2018 Overlay Map 10 - Biodiversity Wetlands Waterways (Figure 3.5).

Figure 3.4 Biodiversity Overlay Map OM07 (Livingstone Planning Scheme 2018)

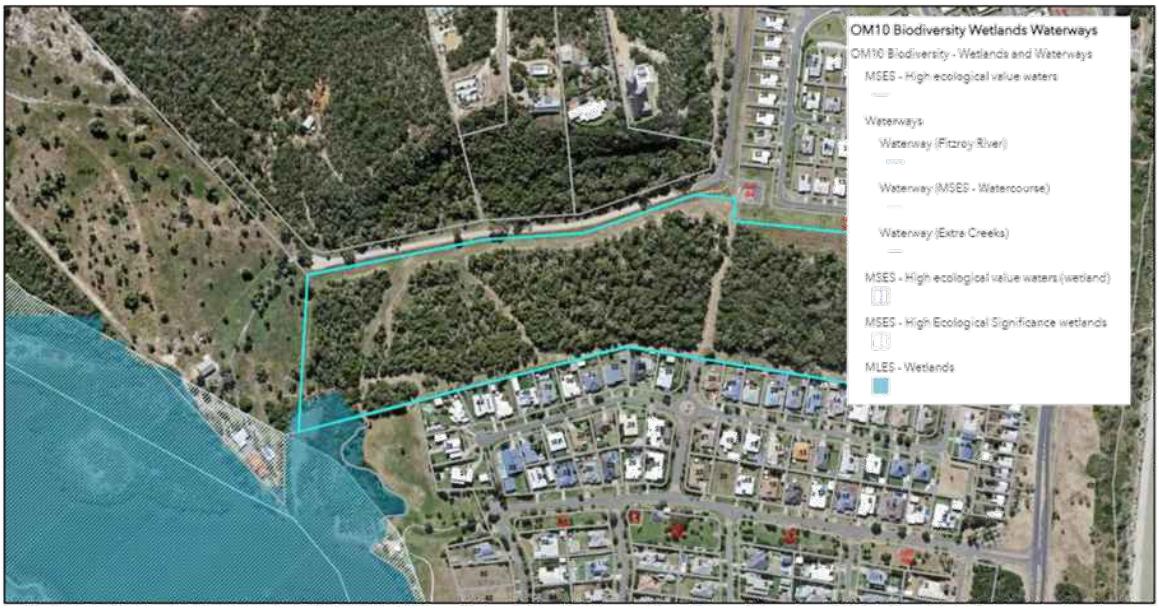

Figure 3.5 Wetland mapping in south-western corner of site (Livingstone Planning Scheme 2018)

4. Site Surveys

4.1 Flora Survey Methods

To ground-truth the information obtained through the desktop assessment, Burchills ecologists undertook field surveys within the subject site during May 2024. Where relevant, observations regarding floristic values outside the survey area were also recorded.

The survey methodology was consistent with the Queensland Herbarium's *Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland* (v7.0, Neldner *et al.*, 2023) and the *Flora Survey Guidelines - Protected Plants* (v2.01, DES 2020) and consisted of an initial visual audit followed by a quantitative assessment of vegetation associations and communities.

The site's broad vegetation types were characterised using the results of the desktop review including mapped vegetation communities, geology / soils and high-resolution aerial imagery. The initial visual audit consisted of timed meanders within each broad vegetation type to ground-truth desktop investigations and search for protected plant species (3 x 30 minute meanders total). Quantitative assessments were undertaken including structural formations (i.e. growth form, stratum intervals, crown cover and height) and floristic associations (i.e. species diversity) for each broad vegetation type.

Unless otherwise noted, quantitative observations were recorded as follows:

- Growth form – determined in accordance with pp 88-93 Hnatiuk et al. (2009);
- Stratum intervals – determined by recording the median height of each stratum using a hand-held clinometer. Strata were defined in accordance with Table 4.1 which is summarised from Hnatiuk *et al.* (2009);
- Stratum cover – determined using a field estimation of crown cover in accordance with Table 4.2, which is reproduced from Hnatiuk *et al.* (2009);
- Diameter at breast height (DBH) – measurements were taken using a *Yamayo Enclosed Million 12 Fibreglass Diameter Tape* and a methodology consistent with Appendix A of Australian Standard *AS4970-2009: Protection of trees on development sites*.

Table 4.1 Criteria for Defining Vegetation Strata*

Stratum	Description
Emergent	Tallest plants in vegetation associations / communities that are so sparsely distributed that they do not form the dominant or most significant layer (e.g. large trees that rise above a distinct canopy layer).
Dominant or Upper Stratum	In most cases the tallest stratum will be the dominant stratum (i.e. except when emergents are present).
Mid-stratum	If present, this stratum is between the dominant (upper) stratum and the ground stratum. There are no pre-conceived height limits for this stratum. Where multiple strata are present between the dominant (upper) stratum and the ground stratum, the mid-stratum can be subdivided in order of decreasing height (i.e. the highest mid-stratum is termed Mid-stratum 1, the next highest mid-stratum is termed Mid-stratum 2 etc).
Ground stratum	Typically consists of herbaceous ferns, forbs and graminoids; although can also include juvenile species from other strata. The ground stratum can also be the dominant stratum (e.g. where grass cover is closed and trees are very sparse). There are no pre-conceived height limits for this stratum; however, it is usually less than 2.0 m tall.

*Table summarised from Hnatiuk et al. (2009).

Table 4.2 Crown Cover Classes

Criteria Assessed in Field	Description	Crown Separation Ratio	Crown Cover (%)	Foliage Cover (%)
Crowns touching to overlapping	Closed or Dense	<0*	>80	>70
Crowns touching or slightly separated	Mid Dense	0-0.25	50-80	30-70
Crowns clearly separated	Sparse or Open	0.25-1	20-50	10-30
Crowns well separated	Very Sparse	1-20	0.25-20	0.2-10
Isolated plants (trees approximately 100m apart; shrubs approximately 20m apart)	Isolated Plants	>20	<0.25	<0.20
Isolated clumps of two (2) to many plants approximately 200m apart	Isolated Clumps	>20	<0.25	<0.20
Emergent	Emergents	>3	<5 % total crown cover	<3% of total foliage cover

*Where crown overlap occurs, the crown ratio has a negative value: the larger the negative value, the greater the overlap. Table reproduced from Table 17 in Hnatiuk et al. (2009).

4.1.1 Taxonomy and Nomenclature

Application of flora scientific names in this report follows the *Queensland Flora Census* (DES, 2023). Use of an asterisk (*) indicates the species is not native to Queensland or the local area.

4.2 Flora Survey Results

A total of 94 species of flora were detected during the surveys, comprising 64 native species and 30 non-native species, two (2) of which are Category 3 Restricted invasive plants under the Qld *Biosecurity Act 2016* - *Cryptostegia grandiflora* (rubber vine), *Lantana camara* and *Schinus terebinthifolius* (broad leaved pepper).

Five (5) vegetation associations were mapped over the site as shown in Figure 4.1:

- Vegetation Unit A – Remnant Corymbia Melaleuca woodland / open forest RE 11.2.5;
- Vegetation Unit B – Regrowth Corymbia Melaleuca woodland / open forest RE 11.2.5;
- Vegetation Unit C – Regrowth Corymbia Melaleuca woodland open forest RE 11.2.5 with marine plants in ground stratum;
- Vegetation Unit D – Remnant Mangrove woodland and samphire forbland RE 11.1.4 and RE 11.1.2; and
- Vegetation Unit E – Anthropogenic grassland.

Vegetation Units A and D meet the benchmark structural and floristic criteria to be considered remnant vegetation. No State or Commonwealth listed EVNT flora species were observed within the site.

The following sections describe the vegetation structure and floristics of each of the vegetation map units including structure, floristics, condition, variation and significance.


1
2
3
4
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7
8
9
10
A
B
C
D
E
F
G
H
0
50
100
150
200
250
300
350
400
450
500
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1-41 Neville St, Mulambin
Figure 4.1 Vegetation Associations & Marine Plants
Legend
Site
HAT 2.73m AHD
Surface contours 0.2m intervals (AHD)
Marine Plants
Vegetation Associations
A - Remnant Open Forest RE11.2.5 (43,752m2)
B - Regrowth Open Forest RE11.2.5 (22,347m2)
C - Open Forest RE11.2.5 with Marine Plants (12,906m2)
D - Marine Plants (Mangroves RE11.1.4 and Samphire forbland RE11.1.2) (2,726m2)
E - Cleared areas (10,823m2)
Project: BE240146
Date: 24-05-2024
Scale: 1:2,000 at A3
Projection: GDA 94/MGA Zone 56
Data Sources: Queensland Department of Resources (Cadastre, 2024), Nearmap (Aerial imagery, April 2023)
BURCHILLS
SCIENCE AND ENGINEERING
Red Emperor Pty Ltd C/
Adams and Sparkes Town Planning
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4.2.1 Vegetation Association A – Remnant Corymbia Melaleuca woodland open forest RE 11.2.5

Vegetation Association A is described as Remnant Corymbia Melaleuca woodland / open forest with structure and floristics reflecting remnant Regional Ecosystem 11.2.5.

The results of the structural and floristic assessments are summarised in Table 4.3 and Table 4.4 respectively.

Table 4.3 Vegetation Association A Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Height range (m)	Height Average (m)
Canopy T1	Tree	50	12-20	18
T2	Tree	60	5-10	7
Mid 1	Small Tree / Shrub	30	1-5	2
Mid 2	Shrub	20	0.5-1.5	1.5
Ground	Groundcover	30	0-1	1

†Strata that were not present have been omitted.

Table 4.4 Vegetation Association A Floristic Formation

Stratum†	Species
Canopy T1	***Corymbia tesselaris*** **(Moreton Bay ash)**, ***Melaleuca dealbata*** **(swamp tea-tree)**, ***Livistona decora*** **(weeping cabbage palm)**, *Eucalyptus tereticornis* (Qld blue gum), *Eucalyptus platyphylla* (poplar gum).
T2	***Melaleuca dealbata*** **(swamp tea-tree)**, ***Livistona decora*** **(weeping cabbage palm)**, ***Acacia crassa subsp. longicoma*** **(curracabah wattle)**, *Banksia integrifolia* (coastal banksia), *Corymbia tesselaris* (Moreton Bay ash), *Alphitonia excelsa* (Red ash), *Glochidion ferdinandi* (Cheese tree), *Acacia aulacocarpa* (salwood), *Corymbia intermedia* (Pink bloodwood), *Lophostemon suaveolens* (swamp box).
Mid 1	***Banksia integrifolia*** **(coastal banksia)**, ***Acacia crassa subsp. longicoma*** **(curracabah wattle)**, ***Livistona decora*** **(weeping cabbage palm)**, *Lophostemon suaveolens* (swamp box), *Acacia aulacocarpa* (salwood), *Cupaniopsis anacardioides* (tuckeroo), *Allocasuarina littoralis* (Black she-oak), *Alphitonia excelsa* (Red ash), *Acacia disparrima* subsp. *disparrima* (Hickory wattle), *Heptapleurum actinophyllum* (Umbrella tree), *Cryptostegia grandiflora** (rubber vine), *Ficus opposita* (sandpaper fig).
Mid 2	***Lantana camara**** **(Lantana)**, *Breynia oblongifolia* (Coffee bush), *Jasminum didymum* (native jasmine), *Trema tomentosa* (Poison peach), *Carissa ovata* (current bush), *Clerodendrum tomentosum* (hairy lolly bush), *Dodonaea viscosa* (sticky hops bush), *Exocarpos latifolius* (beach cherry), *Indigofera tinctoria** (true indigo), *Ipomoea cairica** (mil-a-minute), *Schinus terebinthifolius** (broad-leaved pepper).
Ground	***Megathyrsus maximus**** **(Guinea grass)**, ***Chloris gayana**** **(Rhodes grass)**, ***Setaria sphacelata**** **(South African pigeon grass)**, ***Macroptilium atropurpureum**** **(siratro)**, ***Pteridium esculentum*** **(bracken)**, ***Imperata cylindrica*** **(Blady grass)**, *Gahnia aspera* (Saw sedge), *Cymbopogon refractus* (Barbed wire grass), *Stachytarpheta jamaicensis** (Blue snakeweed), *Glossocardia bidens** (native cobbler's pegs), *Lomandra longifolia* (matrush), *Cyperus brevifolius** (Mullumbimby couch)

†Species are listed in order of dominance – dominants in bold.

*Non local-native

Variation and Disturbance

The canopy layer of this Association varied in height and cover from east to west with older vegetation and higher cover in the east of the site. There were also varying localised canopy dominance observed although at map scales too small to be mapped as individual vegetation units.

Structural composition of the mid strata and groundcover also varied with weedy grasses and Lantana forming dense thickets on the edges where the canopy opens up.

This vegetation unit has been subject to low historical disturbance, with disturbance limited to vehicular tracks and weed infestations present throughout.

Conservation Significance

The floristics and structure (height and cover) of the canopy within this vegetation unit generally meet the benchmark criteria to be considered remnant vegetation of the mapped RE 11.2.5 (Least Concern).

No State or Commonwealth listed EVNT flora were recorded in this vegetation Association during field surveys.

Figure 4.2 General Composition of Vegetation Association A

4.2.2 Vegetation Association B – Regrowth Corymbia Melaleuca woodland / open forest RE 11.2.5

Vegetation Association B occurs over the western part of the site and is described as Corymbia Melaleuca woodland open forest with structure and floristics reflecting regrowth Regional Ecosystem 11.2.5.

The results of the structural and floristic assessments are summarised in Table 4.5 and Table 4.6 respectively.

Table 4.5 Vegetation Association B Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Height range (m)	Height Average (m)
Canopy T1	Tree	50	5-12	10
Mid 1	Small Tree / Shrub	30	1-5	4
Mid 2	Shrub	20	1-2	2
Ground	Groundcover	30	0-1	1

†Strata that were not present have been omitted.

Table 4.6 Vegetation Association B Floristic Formation

Stratum†	Species
Canopy T1	***Melaleuca dealbata*** **(swamp tea-tree)**, ***Livistona decora*** **(weeping cabbage palm),** *Corymbia tesselaris* (Moreton Bay ash), *Eucalyptus tereticornis* (Qld blue gum), *Eucalyptus platyphylla* (poplar gum).
Mid 1	***Melaleuca dealbata*** **(swamp tea-tree)**, ***Livistona decora*** **(weeping cabbage palm),** ***Acacia crassa subsp. longicoma*** **(curracabah wattle),** *Banksia integrifolia* (coastal banksia), *Corymbia tesselaris* (Moreton Bay ash), *Alphitonia excelsa* (red ash), *Glochidion ferdinandi* (cheese tree), *Acacia aulacocarpa* (salwood), *Corymbia intermedia* (pink bloodwood), *Cupaniopsis anacardioides* (tuckeroo), *Lophostemon suaveolens* (swamp box), *Heptapleurum actinophyllum* (umbrella tree), *Cryptostegia grandiflora** (rubber vine), *Ficus opposita* (sandpaper fig).
Mid 2	***Lantana camara**** **(Lantana),** *Breynia oblongifolia* (coffee bush), *Jasminum didymum* (native jasmine), *Carissa ovata* (current bush), *Clerodendrum tomentosum* (hairy lolly bush), *Dodonaea viscosa* (sticky hops bush), *Exocarpos latifolius* (beach cherry), *Indigofera tinctoria** (true indigo), *Ipomoea cairica** (mil-a-minute), *Schinus terebinthifolius** (broad-leaved pepper).
Ground	***Megathyrsus maximus**** **(Guinea grass),** ***Chloris gayana**** **(Rhodes grass),** ***Setaria sphacelata**** **(South African pigeon grass),** ***Macroptilium atropurpureum**** **(siratro),** ***Pteridium esculentum*** **(bracken),** ***Imperata cylindrica*** **(Blady grass),** *Cenchrus echinatus** (Mossman River grass), *Gahnia aspera* (saw sedge), *Cymbopogon refractus* (Barbed wire grass), *Stachytarpheta jamaicensis** (Blue snakeweed), *Glossocardia bidens** (native cobbler's pegs), *Lomandra longifolia* (matrush), *Cyperus brevifolius** (Mullumbimby couch).

†Species are listed in order of dominance – dominants in bold.

*Non-native

Variation and Disturbance

The canopy layer of this association varied substantially in height and cover from Vegetation Association A, however the floristics were much the same with the only variation being less Corymbia tesselaris. east to west with older vegetation and higher cover in the east of the site. There were also varying localised canopy dominance observed although at map scales too small to be mapped as individual vegetation units.

Structural composition of the mid strata and groundcover also varied with weedy grasses and Lantana forming dense thickets on the edges where the canopy opens up.

This vegetation unit has been subject to low historical disturbance, with disturbance limited to vehicular tracks and weed infestations present throughout.

Conservation Significance

The floristics and structure (height and cover) of the canopy within this vegetation Association generally meet the benchmark criteria to be considered regrowth vegetation of the mapped RE 11.2.5 (Least Concern).

No State or Commonwealth listed EVNT flora were recorded in this vegetation unit during field surveys.

Figure 4.3 General composition of Vegetation Association B

4.2.3 Vegetation Association C – Regrowth Corymbia Melaleuca woodland / open forest RE 11.2.5 with marine plants

This association occurs in the west of the site and has similar structure and floristics to Vegetation Association B but with occasional marine plants in the ground stratum. The results of the structural and floristic assessments are summarised in Table 4.7 and Table 4.8 respectively.

Table 4.7 Vegetation Association C Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Height range (m)	Height Average (m)
Canopy T1	Tree	50	5-12	10
Mid 1	Small Tree / Shrub	30	1-5	4
Mid 2	Shrub	20	1-2	2
Ground	Groundcover	30	0-1	1

†Strata that were not present have been omitted.

Table 4.8 Vegetation Association C Floristic Formation

Stratum†	Species
Canopy T1	***Melaleuca dealbata*** **(swamp tea-tree)**, ***Livistona decora*** **(weeping cabbage palm),** *Corymbia tesselaris* (Moreton Bay ash), *Eucalyptus tereticornis* (Qld blue gum), *Eucalyptus platyphylla* (poplar gum).
Mid 1	***Melaleuca dealbata*** **(swamp tea-tree)**, ***Livistona decora*** **(weeping cabbage palm),** ***Acacia crassa subsp. longicoma*** **(curracabah wattle),** *Banksia integrifolia* (coastal banksia), *Corymbia tesselaris* (Moreton Bay ash), *Alphitonia excelsa* (red ash), *Glochidion ferdinandi* (cheese tree), *Acacia aulacocarpa* (salwood), *Corymbia intermedia* (pink bloodwood), *Cupaniopsis anacardioides* (tuckeroo), *Lophostemon suaveolens* (swamp box), *Heptapleurum actinophyllum* (umbrella tree), *Cryptostegia grandiflora** (rubber vine), *Ficus opposita* (sandpaper fig).
Mid 2	***Lantana camara**** **(Lantana),** *Breynia oblongifolia* (coffee bush), *Jasminum didymum* (native jasmine), *Carissa ovata* (current bush), *Clerodendrum tomentosum* (hairy lolly bush), *Dodonaea viscosa* (sticky hops bush), *Exocarpos latifolius* (beach cherry), *Indigofera tinctoria** (true indigo), *Ipomoea cairica** (mil-a-minute), *Schinus terebinthifolius** (broad-leaved pepper).
Ground	***Megathyrsus maximus**** **(Guinea grass),** ***Chloris gayana**** **(Rhodes grass),** ***Setaria sphacelata**** **(South African pigeon grass),** ***Macroptilium atropurpureum**** **(siratro),** ***Pteridium esculentum*** **(bracken),** ***Imperata cylindrica*** **(Blady grass**), *Cenchrus echinatus** (Mossman River grass), *Gahnia aspera* (saw sedge), *Cymbopogon refractus* (Barbed wire grass), *Stachytarpheta jamaicensis** (Blue snakeweed), *Glossocardia bidens** (native cobbler's pegs), *Lomandra longifolia* (matrush), *Cyperus brevifolius** (Mullumbimby couch), *Sporobolus virginicus* (salt couch), *Acrostichum speciosum* (mangrove fern).
Marine Plants	*Sporobolus virginicus* (salt couch), *Acrostichum speciosum* (mangrove fern).

†Species are listed in order of dominance – dominants in bold.

*Non-native

Variation and Disturbance

The canopy layer of this association varied substantially in height and cover from Vegetation Association A, however the floristics were much the same with the only variation being less Corymbia tesselaris. east to west with older vegetation and higher cover in the east of the site. There were also varying localised canopy dominance observed although at map scales too small to be mapped as individual vegetation units.

Structural composition of the mid strata and groundcover also varied with weedy grasses and Lantana forming dense thickets on the edges where the canopy opens up.

This vegetation unit has been subject to low historical disturbance, with disturbance limited to vehicular tracks and weed infestations present throughout.

Conservation Significance

The floristics and structure (height and cover) of the canopy within this vegetation unit generally meet the benchmark criteria to be considered regrowth vegetation of the mapped RE 11.2.5 (Least Concern).

No State or Commonwealth listed EVNT flora were recorded in this vegetation unit during field surveys.

Species defined as marine plants were detected in this community including *Sporobolus virginicus (*salt couch*)* and *Acrostichum speciosum (*mangrove fern*)*. These species were present in very low densities with salt couch limited to the tracks and open areas and only occasional clumps of mangrove fern were detected.

Figure 4.4 Occasional Mangrove ferns (marine plants) found in Vegetation Association C

4.2.4 Vegetation Association D – Mangrove woodland and Saltmarsh forbland RE 11.1.4/2

This association was present in the southwestern corner of the site on and adjacent to the banks of Mulambin Ck. The vegetation varies between mangrove woodland (RE 11.1.4) and saltmarsh forbland (RE 11.1.2).

The results of the structural and floristic assessments are summarised in Table 4.9 and Table 4.10 respectively.

Table 4.9 Vegetation Association D Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Height range (m)	Height Average (m)
Canopy	Tree/Shrub	50-70	1.5-4.5	3
Ground	Groundcover	30	0-0.5	0.2

†Strata that were not present have been omitted.

Table 4.10 Vegetation Association D Floristic Formation

Stratum†	Species
Canopy	***Avicennia marina* (grey mangrove), *Ceriops australis* (yellow mangrove), *Lumnitzera racemosa* (black mangrove),** *Myoporum acuminatum* (Coastal Boobialla)
Ground	***Sporobolus virginicus (salt couch), Cyperus polystachyos (bunchy flat-sedge), Fimbristylis ferruginea (rusty sedge),*** *Paspalum vaginatum (saltwater couch), Zoysia macrantha subsp. macrantha (sand couch), Fimbristylis polytrichoides, Hibbertia scandens (snake vine), Acrostichum speciosum (mangrove fern). Sarcocornia quinqueflora (beaded samphire),*

†Species are listed in order of dominance.

*Non-native

Variation and Disturbance

This association is a mix of mangrove woodland and saltmarsh forbland. Aside from the different associations, there is little variation within each association in terms of structure and floristics.

Conservation Significance

The floristics of the vegetation within this community unit generally reflect mangrove woodland (RE 11.1.4) and saltmarsh forbland (RE 11.1.2) (both Least Concern).

No State or Commonwealth listed EVNT flora were recorded in this vegetation unit during field surveys.

All plants in this association are marine plants under the Fisheries Act.

Figure 4.5 General composition of Vegetation Unit D

Figure 4.6 Interface of site with Mulambin Ck

4.2.5 Vegetation Association E – Anthropogenic grassland

This association occurs in the cleared and disturbed parts of the site where tracks and open areas are regularly maintained.

The results of the structural and floristic assessments are summarised in Table 4.11 and Table 4.12 respectively.

Table 4.11 Vegetation Association E Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Height range (m)	Height Average (m)
Canopy	Tree/Shrub	50-70	1.5-4.5	3
Ground	Groundcover	30	0-0.5	0.2

†Strata that were not present have been omitted.

Table 4.12 Vegetation Association E Floristic Formation

Stratum†	Species
Canopy	***Avicennia marina* (grey mangrove), *Ceriops australis* (yellow mangrove), *Lumnitzera racemosa* (black mangrove),** *Myoporum acuminatum* (Coastal Boobialla)
Ground	***Sporobolus virginicus (salt couch), Cyperus polystachyos (bunchy flat-sedge), Fimbristylis ferruginea (rusty sedge),*** *Paspalum vaginatum (saltwater couch), Zoysia macrantha subsp. macrantha (sand couch), Fimbristylis polytrichoides, Hibbertia scandens (snake vine), Acrostichum speciosum (mangrove fern). Sarcocornia quinqueflora (beaded samphire),*

†Species are listed in order of dominance.

*Non-native

Variation and Disturbance

This association is a mix of mangrove woodland and saltmarsh forbland. Aside from the different associations, there is little variation within each association in terms of structure and floristics.

Conservation Significance

The floristics of the vegetation within this community unit generally reflect mangrove woodland (RE 11.1.4) and saltmarsh forbland (RE 11.1.2) (both Least Concern).

No State or Commonwealth listed EVNT flora were recorded in this vegetation unit during field surveys.

All plants in this association are marine plants under the Fisheries Act.

Figure 4.7 General composition of Vegetation Unit E (foreground)

4.2.6 Weed Infestations

For the purposes of this report, a weed has been defined as a species that is recognised as an Environmental Weed in the WildNet database managed by the Queensland Department of Environment and Science. A total of 30 weeds recorded during surveys including three (3) identified as Restricted Invasive Plants under the *Biosecurity Act 2014*. Weeds recorded are listed below in Table 4.13.

Table 4.13 Weeds observed within subject site

Scientific Name	Common Name	Qld Status
Alternanthera pungens	khaki weed	
Amaranthus viridis	green amaranth	
Catharanthus roseus	Madagascar Periwinkle	
Cenchrus echinatus	Mossman River grass	
Chloris gayana	Rhodes grass	
Crassocephalum crepidioides	thickhead	
Cryptostegia grandiflora	rubber vine	Restricted Cat 3
Cynodon dactylon	common couch	
Cyperus brevifolius	Mullumbimby couch	
Desmodium tortuosum	Florida beggar-weed	
Digitaria ciliaris	summer grass	
Erigeron bonariensis	flax leaf fleabane	
Indigofera tinctoria		
Ipomoea cairica	mile-a-minute	
Lantana camara	lantana	Restricted Cat 3
Macroptilium atropurpureum	siratro	
Megathyrsus maximus	Guinea grass	
Melinis repens	red natal grass	
Oxalis corniculata	creeping wood sorrel	
Paspalum vaginatum	saltwater couch	
Passiflora foetida	stinky passion flower	
Passiflora suberosa	corky passion flower	
Rivina humilis	coral berry	
Schinus terebinthifolius	broad leaved pepper	Restricted Cat 3
Setaria sphacelata	South African pigeon grass	
Sida cordifolia	flannel weed	
Solanum americanum	black nightshade	
Sporobolus fertilis	giant Parramatta grass	
Stachytarpheta jamaicensis	Jamaica snakeweed	
Urena lobata	urena weed	

*Qld Status per the *Biosecurity Act 2014*, where:

Restricted Category 3 = Restricted invasive plants must not be given away, sold or released into the environment without a permit. The Biosecurity Act requires everyone to take all reasonable and practical steps to minimise the risks associated with invasive plants under their control. At a local level, each local government must have a biosecurity plan that covers invasive plants and animals in its area. This plan may include actions to be taken on certain species. Some of these actions may be required under local laws.

4.3 Fauna Survey Methods

With consideration given to the information obtained within the desktop assessment Burchills ecologists undertook fauna surveys over the site in May 2024.

The survey methodology incorporated the following survey techniques:

- Assessment of habitat features and functions;
- Opportunistic records and observations of inferential evidence.
- Diurnal bird surveys;
- Ground dwelling reptile surveys; and
- Targeted Conservation Significant Species surveys.

4.3.1 Fauna Habitat Features and Functions

The site was surveyed to verify presence of any features and functions of faunal habitat significance. This can include significant features such as hollow-bearing trees, waterways / wetlands and riparian areas and functions such as corridors and buffers.

4.3.2 Opportunistic Observations and Inferential Evidence

Observations of inferential evidence and opportunistic fauna encounters were recorded throughout the duration of the flora survey. Inferential evidence included observation of scratches, scats, tracks, shed skins, diggings and nests, as well as targeted inspected and searches for potential habitat features such as hollow bearing limbs and trunks, arboreal termite mounds with holes, stick or mud nests and dreys.

4.3.3 Diurnal Bird Surveys

Five (5) diurnal bird surveys were undertaken within the site, for one (1) hour by one (1) observer for each event. Surveys were undertaken dawn, early morning, late morning, mid-afternoon and late afternoon. Bird species were identified through direct observations (i.e. visual sighting) and / or vocalisations and involved the observer walking slowly and quietly through the site, looking and listening for birds. Additionally, due to the possible presence of the Vulnerable *Calyptorhynchus lathami erebus* (glossy black-cockatoo) targeted searches under *Allocasuarina* species for orts (chewed seed cones) was undertaken to verify recent feeding activity.

4.3.4 Ground Dwelling Reptile Surveys

Active searches can detect many reptile species that trapping rarely does. Active searching primarily focuses on detecting reptiles and amphibians but will also detect small terrestrial mammals and signs of other somewhat cryptic species (e.g. tracks, scats, nests and feeding signs) (Eyre et. al., 2022). Active searching involves scanning for active animals as well as turning rocks and logs, raking through leaf litter, looking under bark and in crevices and other suitable microhabitat for cryptic animals. Five (5) active searches were undertaken within the site. These searches were conducted for 30 person-minutes within a 25m x 25m area.

4.3.5 Survey Limitations

It should be noted that the fauna survey that was undertaken only provides a very limited 'snap-shot' of the species present and detectable on the subject site at the time of the field investigations. Weather and time constraints impact on the detectability of some species. Failure to detect a species during a single survey does not mean it is absent from the site. It cannot be confidently claimed a target species is absent from a site without repeated seasonal surveys. Therefore, it is acknowledged that the full inventory of fauna species utilising the site is unlikely to have been recorded. Although assessments of habitat and species ecology do provide an additional measure to predict the presence of species (i.e. in lieu of direct observation), it should be noted that there are no methodologies that can be used to predict, with absolute certainty, the absence of a species from marginal or potential habitat.

4.4 Fauna Survey Results

Thirty-three (33) species of vertebrate fauna were observed within the subject site during surveys including two (2) reptile species, 29 bird species and two (2) mammal species (Table 4.14). No introduced species were detected. Though not listed (since they were not observed to be 'in the wild') domesticated dogs were observed in high numbers both on and off leash on the walking tracks that dissect the site.

These results are discussed further in the following sections.

4.4.1 Reptiles

Two (2) reptile species was identified during field surveys: *Pseudonaja textilis* (eastern brown snake) and *Lampropholis delicata* (grass skink). It is likely there are other reptile species present given the good habitat conditions (eg. high levels of leaf litter and woody debris).

4.4.2 Birds

All of the 29 bird species identified on-site all were native and no EVNT or SL avifauna were detected, including migratory species. The site's conditions provide shelter, foraging and breeding opportunities for species with broad habitat requirements.

The site has variety of good habitat conditions for grassland, scrub birds and wetland birds and additional surveys are likely to detect a higher diversity.

No shorebird habitat is present within the site higher Vegetation Association D provides habitat for estuarine species such as kingfishers.

Targeted searches under Allocasuarina species for orts did not detect any recent glossy black-cockatoo feeding activity and there Allocasuarina density on site is low.

The rainbow bee eater was observed feeding in the mangrove habitat in the creek front park to the south west of the site.

4.4.3 Mammals

Evidence of one (1) native mammal species was observed within the site: *Tachyglossus aculeatus* (echidna). Though no scat was detected, diggings typical of this species were observed in a number of areas within Vegetation Associations A and B.

This species is found throughout Australia and in a wide range of terrestrial habitats. The echidna is generally a solitary species that is active at night or early morning. They generally like to burrow or shelter in hollow logs.

The habitat conditions for the echidna were optimal in Vegetation Associations A, B and C with high levels of foraging resources, ground hollows and dense shrub and groundcover present. Predation by foxes and dogs is a threat for this species and off leash dogs were observed within the project area.

Table 4.14 Fauna Species Identified On-Site

Family	Scientific Name	Common Name	Status*	Method**	Location†	Survey Type††
Reptiles						
Elapidae	*Pseudonaja textilis*	Eastern brown snake	C	V	W	OO
Scincidae	*Lampropholis delicata*	Grass skink	C	V	W	GDRS
Birds						
Accipitridae	*Haliastur indus*	brahminy kite	C	V	E	DBS
Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra	C	V	W	OO
Artamidae	*Cracticus nigrogularis*	pied butcherbird	C	V	W	OO
Artamidae	*Gymnorhina tibicen*	Australian magpie	C	V	W	OO
Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo	C	V	W	DBS
Cacatuidae	*Zanda funerea*	yellow-tailed black-cockatoo	C	V	E	DBS
Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike	C	V	W	DBS
Campephagidae	*Lalage leucomela*	varied triller	C	V	W	DBS
Columbidae	*Geopelia placida*	peaceful dove	C	V	W	OO
Columbidae	*Geopelia humeralis*	bar-shouldered dove	C	V	W	OO
Corvidae	*Corvus orru*	Torresian crow	C	V	W	DBS
Dicaeidae	*Dicaeum hirundinaceum*	mistletoebird	C	V	W	DBS
Estrildidae	*Taeniopygia bichenovii*	double-barred finch	C	V	W	DBS
Hirundinidae	*Hirundo neoxena*	welcome swallow	C	V	W	DBS
Megapodiidae	*Alectura lathami*	Australian brush-turkey	C	V	W	OO
Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater	C	V	W	DBS
Meliphagidae	*Lichmera indistincta*	brown honeyeater	C	V	W	DBS
Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater	C	V	W	DBS

Family	Scientific Name	Common Name	Status*	Method**	Location†	Survey Type††
Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater	C	V	W	DBS
Meliphagidae	*Philemon citreogularis*	little friarbird	C	V	W	DBS
Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater	C	V	W	DBS
Meropidae	*Merops ornatus*	rainbow bee-eater	SL	V	E	DBS
Monarchidae	*Grallina cyanoleuca*	magpie-lark	C	V	W	OO
Oriolidae	*Sphecotheres vieilloti*	Australasian figbird	C	V	W	DBS
Pardalotidae	*Pardalotus striatus*	striated pardalote	C	V	W	DBS
Petroicidae	*Microeca fascinans*	jacky winter	C	V	W	OO
Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet	C	V	W	DBS
Psittaculidae	*Platycercus adscitus*	pale-headed rosella	C	V	W	DBS
Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis	C	V	W	OO
Mammals						
Tachyglossidae	*Tachyglossus aculeatus*	echidna	C	S	W	OO
Canidae	*Canis familiaris*	dog	I	V	W	OO

*Status: As listed under the NCA: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern, C = Least Concern.

As listed under the EPBC: CE# = Critically Endangered, E# = Endangered, V# = Vulnerable, CD# = Conservation Dependent, MT = Migratory (Terrestrial Species), MW = Migratory (Wetland Species), M = Marine Species, I# = Introduced Species

**Primary method of identification: C = hand caught, H = heard, V = visually observed, T = trapped, S = other signs of presence (e.g. scats, traces etc).

†Survey type: DBS = bird survey; GDRS = ground dwelling reptile survey; OO = opportunistic observation.

††Location: W = species observed within subject property; E = species observed external but close (within 100m) to subject site.

5. Impacts and Recommendations

5.1 Impacts on Matters of National Environmental Significance

An assessment of the results of the desktop surveys and field investigations against the proposed development design indicates that the development is unlikely to result in a significant impact on values identified as Matters of National Environmental Significance (MNES).

The results of the MNES PMST as detailed in Section 4 and Appendix C indicates that a number of MNES may occur within or near the site. The vegetation mapping for the site (refer Section 4.2.2) eliminates both MNES threatened ecological communities (TECs). Poplar Box Grassy Woodland on Alluvial Plains (Endangered) occurs on land zone 3 (alluvium) and the site is mapped in land zone 2 (beach ridges and sandy swales). Semi-evergreen vine thickets of the Brigalow Belt (Endangered) occurs in regional ecosystems that are not mapped or present within or near the site (RE 11.3.11, 11.4.1, 11.8.13, 11.11.18, 11.2.3 and 11.9.4).

No species scheduled as Endangered, Vulnerable or Near Threatened (EVNT) under the Queensland NCA and / or Commonwealth EPBC Act were recorded (either directly or via inferential evidence) within the subject site during surveys.

The site surveys including habitat assessment results also eliminate many of the shorebird and marine species (eg marine turtles, whales, sharks and dolphins) picked up in the desktop review results, as well as other species unlikely to occur due to lack of suitable habitat conditions and resources. The results of a likelihood of occurrence assessment for threatened species are summarised below in Table 5.1 and further detailed in Appendix D.

Two (2) threatened species were identified as possibly occurring within the subject site based on presence of suitable habitat and / or foraging resources. *Hirundapus caudacutus* (white-throated needletail) and *Pteropus poliocephalus* (grey-headed flying-fox). *Hirundapus caudacutus* is a non-breeding migrant that is almost exclusively aerial and has a large range with broad resource requirements; and a search of the National Flying-fox monitoring viewer indicates there are no recorded flying fox camps within 5km of the site. Both species have broad habitat and food resource requirements and the site does not support an important population of the species or an ecologically significant proportion of the population. For these reasons the project is not likely to have a significant impact on MNES and therefore does not require referral to the Minister under the provisions of the EPBC.

Table 5.1 Likelihood of occurrence for MNES threatened species detected in desktop review

Scientific Name	Common Name	Threatened Category	Likelihood of Occurrence
Birds			
Epthianura crocea macgregori	Capricorn Yellow Chat	Critically Endangered	Unlikely
Erythrotriorchis radiatus	Red Goshawk	Endangered	Unlikely
Falco hypoleucos	Grey Falcon	Vulnerable	Unlikely
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Vulnerable	Unlikely
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable	Unlikely
Hirundapus caudacutus	White-throated Needletail	Vulnerable	Possible
Neochmia ruficauda ruficauda	Star Finch (eastern)	Endangered	Unlikely
Poephila cincta cincta	Southern Black-throated Finch	Endangered	Unlikely
Rostratula australis	Australian Painted Snipe	Endangered	Unlikely
Turnix melanogaster	Black-breasted Button-quail	Vulnerable	Unlikely
Mammals			

Scientific Name	Common Name	Threatened Category	Likelihood of Occurrence
Dasyurus hallucatus	Northern Quoll	Endangered	Unlikely
Macroderma gigas	Ghost Bat	Vulnerable	Unlikely
Petauroides volans	Greater Glider (southern and central)	Endangered	Unlikely
Phascolarctos cinereus	Koala	Endangered	Unlikely
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	Vulnerable	Unlikely
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Possible
Xeromys myoides	Water Mouse, False Water Rat	Vulnerable	Unlikely
Reptiles			
Denisonia maculata	Ornamental Snake	Vulnerable	Unlikely
Egernia rugosa	Yakka Skink	Vulnerable	Unlikely
Furina dunmalli	Dunmall's Snake	Vulnerable	Unlikely
Plants			
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	Vulnerable	Unlikely
Cycas ophiolitica	null	Endangered	Unlikely
Dichanthium setosum	bluegrass	Vulnerable	Unlikely
Eucalyptus raveretiana	Black Ironbox	Vulnerable	Unlikely
Leichhardtia brevifolia	null	Vulnerable	Unlikely
Macadamia integrifolia	Macadamia Nut	Vulnerable	Unlikely
Phaius australis	Lesser Swamp-orchid	Endangered	Unlikely
Pimelea leptospermoides	null	Vulnerable	Unlikely

5.2 Impacts on Matters of State Environmental Significance

5.2.1 Habitat for MSES Threatened and Special Least Concern Species

The results of the MSES and Wildnet database searches indicate that the site may contain habitat values for five (5) threatened flora/fauna and eleven (11) Special Least Concern fauna based on historical species records as listed in Table 3.3. The complete results of this search are provided in Appendix B. The majority of these species are shorebirds that are unlikely to utilise the site due to lack of suitable habitat conditions. The estuarine wetlands on Mulambin Ck does however provide foraging and roosting habitat for some shorebird species.

The Vegetation Management Supporting Map (refer Figure 4.2 and Appendix B) indicates that all of the site's Category B vegetation (RE 11.1.2 and 11.2.5) is Essential Habitat for *Crocodylus porosus* (estuarine crocodile) – Vulnerable, *Numenius madagascariensis* (eastern curlew) – Endangered and *Limosa lapponica baueri* (Western Alaskan bar-tailed godwit) - Vulnerable. Ground truthing surveys determined that these values are limited to the estuarine wetlands on Mulambin Ck. All suitable habitat for these species is proposed to be protected in the reserve which protects a minimum 100m-200m buffer to Mulambin Ck. Vegetation within the balance of the site does not provide suitable habitat values for these species.

No flora or fauna species scheduled as Endangered, Vulnerable or Near Threatened (EVNT) under the Queensland NCA and / or Commonwealth EPBC Act were recorded (either directly or via inferential evidence) within the subject site during surveys.

Two (2) Special Least Concern flora species were observed: *Acrostichum speciosum* (mangrove fern) and *Livistona decora* weeping cabbage palm. These species are not threatened species but listed as Special Least Concern flora under the NCA due to collection pressure. *Acrostichum speciosum* is also identified as a marine plant under the Fisheries Act even when found above the high tide mark. This species is entirely within the proposed protected area. *Livistona decora* is present in large number throughout the site including within the proposed protected area.

Targeted searches under potential feed trees (Allocasuarina species) for orts did not detect glossy black-cockatoo feeding activity. Additionally, the flora surveys found that Allocasuarina density on site is low.

No signs of the estuarine crocodile were detected however this species is unlikely to be impacted by the proposed development given suitable breeding habitat (ie areas within 10m of and below HAT) is protected in the proposed design. Additionally, there are no recent records for this species in Mulambin Ck.

Surveys detected one (1) SL species – diggings typical of the *Tachyglossus aculeatus* (short beaked echidna) were observed within the site. It is likely that the proposed development will impact on habitat, including breeding habitat, for this species in particular vegetation within Vegetation Associations A and B. It is therefore recommended that a Species Management Program be approved for this species given impacts on breeding habitat are likely to occur. A High Risk SMP is required for fauna identified under the NCA as either least concern colonial breeders, extinct in the wild, critically endangered, endangered, vulnerable, near threatened, or special least concern. The High Risk SMP approval is required prior to works commencing and the SMP has a standard term of three (3) years.

An additional seven (7) SL species – were identified as possibly utilising the site on a transient basis. The majority of these species are migratory shorebirds that may utilise the estuarine wetland habitat along Mulambin Ck foreshore. This part of the site will be protected as part of the proposed development including a 100m-200m setback to the development. The remaining species are migratory birds that have broad habitat and resource requirements and the site does not support an important population of the species or an ecologically significant proportion of the population. For these reasons the proposal is unlikely to have a significant impact on a MSES.

Table 5.2 MSES species and likelihood of occurrence on subject site

Scientific name	Common name	NCA status	EPBC status	Likelihood of Occurrence
Threatened fauna				
Calyptorhynchus lathami erebus	glossy black-cockatoo (northern)	V	None	Unlikely
Crocodylus porosus	estuarine crocodile	V	None	Unlikely
Limosa lapponica baueri	Western Alaskan bartailed godwit	V	V	Unlikely
Numenius madagascariensis	eastern curlew	E	CE	Unlikely
Threatened flora				
Cycas ophiolitica	Marlborough blue	E	E	Unlikely
Special least concern fauna				
Actitis hypoleucos	common sandpiper	SL	M	Possible
Calidris ruficollis	red-necked stint	SL	M	Possible
Monarcha melanopsis	black-faced monarch	SL	M	Possible
Myiagra cyanoleuca	satin flycatcher	SL	M	Possible
Numenius phaeopus	whimbrel	SL	M	Unlikely
Pandion haliaetus cristatus	eastern osprey	SL	M	Possible
Phaethon lepturus	white-tailed tropicbird	SL	M	Unlikely

Scientific name	Common name	NCA status	EPBC status	Likelihood of Occurrence
Rhipidura rufifrons	rufous fantail	SL	M	Possible
Symposiachrus trivirgatus	spectacled monarch	SL	M	Possible
Tachyglossus aculeatus	short-beaked echidna	SL	None	Observed
Tringa nebularia	common greenshank	SL	M	Unlikely

*NCA Status: As listed under the *Queensland Nature Conservation Act 1992*: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern. **EPBC Status: As listed under the EPBC: CE = Critically Endangered, E = Endangered, V = Vulnerable, M = Migratory Species.

5.2.2 Impacts on Vegetation and Marine Plants

The site contains 8.12ha of Category B Least concern Remnant Vegetation representing Least concern regional ecosystem (RE) 11.2.5 and Least concern RE 11.1.2. No regrowth is mapped over the site, however surveys found the mapped Category B vegetation to include a mix of remnant and regrowth condition. Additionally, areas mapped as Category X were found to be a mix of remnant and regrowth vegetation.

The proposed works will impact approximately 63% (51,234m² / 5.123ha) of the site's total mapped regulated Category B (remnant) vegetation as summarised below in Table 5.3 and shown in Figure 5.1.

Table 5.3 Impacts on Regulated Vegetation

Category	Value	Area Site Total	Area Impacted	Area Protected
A	Not present	-	-	-
B	Remnant Least concern RE 11.1.2	0.11ha	0	0.11ha (100%)
B	Remnant Least concern RE 11.2.5	8.01ha	5.12ha (63%)	2.99 (37%)
C	Not present	-	-	-
R	Not present	-	-	-
Total				

Surveys ground truthed the regulated vegetation and found it represents three (3) distinct regional ecosystems - RE 11.2.5 (Vegetation Associations A, B and C), RE 11.1.4 and 11.1.2 (Vegetation Association D). Vegetation Associations A and D were found to represent remnant (Category B) vegetation while B and C were found to reflect regrowth condition based on structural criteria (height / cover of ecologically dominant layer not meeting the RE benchmark conditions).

The proposed works will impact approximately 4.37ha (43,752m2) of the site's total ground truthed Category B (remnant) vegetation representing Vegetation Association A and D. No impacts are proposed on Vegetation Associations C (regrowth, contains occasional marine plants – mangrove fern and salt couch) and D (remnant mangroves and salt marsh communities). A summary of the vegetation impacts is provided below in Table 5.4 and presented in Figure 5.2.

The site's vegetation is mapped as Least Concern Category B. Category B Least Concern Vegetation is not a MSES and is not prescribed environmental matter under the *Environmental Offsets Act 2014*, and therefore impacts on the site's vegetation do not result in a significant residual impact on a prescribed matter and therefore do not require an environmental offset.

However, impacts on Regulated Vegetation for the proposed development does require referral to SARA and the Department of Resources for assessment against *State Code 16: Native vegetation clearing*. Following a request for information from Council and SARA during the assessment phase, the subdivision design was revised to increase the proposed protected area, providing enhanced protection of existing values and ecological functions (buffering and corridor functions). The proposed three (3) hectare reserve protects a minimum of 30% of the site area, as required by *State Code 16 – Native vegetation clearing*.

An assessment of the proposed development against this code is provided in Appendix E. As detailed in the response to the code – the proposed development satisfactorily complies with the applicable performance outcomes.

The proposed development protects all marine plants (as defined and regulated by the Qld *Fisheries Act 1994*) recorded on site which were predominantly within Vegetation Association D (mangroves and salt marsh communities), and occasional presence in Vegetation Association C (mangrove fern and salt couch).

Table 5.4 Impacts on Vegetation Associations

Vegetation Unit	Value	Area Total	Area Impacted	Area Protected
Vegetation Unit A	Remnant Corymbia Melaleuca woodland / open forest RE 11.2.5	43,752	43,752	0
Vegetation Unit B	Regrowth Corymbia Melaleuca woodland / open forest RE 11.2.5	22,347	12,029	10,318
Vegetation Unit C	Regrowth Corymbia Melaleuca woodland open forest RE 11.2.5 with marine plants in ground stratum	12,986	0	12,986
Vegetation Unit D	Remnant Mangrove woodland and samphire forbland RE 11.1.4 and RE 11.1.2	2,726	0	2726
Vegetation Unit E	Anthropogenic grassland	18,823	15,498	3,325
Total		100,634	75,912	24,722

5.3 Impacts on Matters of Local Environmental Significance

As detailed in Section 3.4, a number of matters of local environmental significance (MLES) are identified in the Livingstone Shire Planning Scheme for the site including remnant vegetation, a sub-regional biodiversity corridor and a wetland.

The proposed protected area was revised to increase protection and buffering to these MLES values. Impacts on remnant vegetation have been reduced and the 3ha reserve provides protection for the sub-regional biodiversity corridor, the MLES wetland and a 100-200m buffer to the wetland.

Additionally, the protected area will be rehabilitated to enhance the in-situ ecological values and ecological functions (wetland buffering and biodiversity corridor) (refer Figure 5.2).


1
2
3
4
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7
8
9
10
A
B
C
D
E
F
G
H
30,101m2 Protected Area
0
50
100
150
200
250
300
350
400
450
500 m
COPYRIGHT © This drawing is copyright and the property of Burchills Engineering Solutions. It must not be retained, copied or used without the authority of Burchills Engineering Solutions.
1-41 Neville St, Mulambin
Figure 5.1 Impact Assessment Regulated Vegetation
Legend
Subject Site Lot (10ha)
Impact Footprint
Design Lots
Protected Reserve 30,101m2
Regulated Vegeation Map
CAT A - 0m2 in site
CAT B - 81,088m2 total in site (8.108ha)
CAT C - 0m2 in site
CAT R - 0m2 in site
Regulated Vegetation Impact (Cat B - 51,234m2)
Regulated Vegetation Protected (Cat B - 29,854m2)
Project: BE240146
Date: 21-10-2024
Scale: 1:2,100 at A3
Projection: GDA 94/MGA Zone 56
Data Sources: Queensland Department of Resources (Cadastre, 2024), Nearmap (Aerial imagery, April 2023)
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1 2 3 4 5 6 7 8 9 10
A B C D E F G H
30,101m2 Protected Area
0 50 100 150 200 250 300 350 400 450 500 m
COPYRIGHT © This drawing is copyright and the property of Burchills Engineering Solutions. It must not be retained, copied or used without the authority of Burchills Engineering Solutions.
1-41 Neville St, Mulambin
Figure 5.2 Impact Assessment Mapped Vegetation
Legend
Subject Site Lot (10ha)
Impact Footprint
Design Lots
Protected Reserve 30,101m2
Impacted Mapped Vegetation Associations
A - Remnant Open Forest RE11.2.5 (43,752m2)
B - Regrowth Open Forest RE11.2.5 (12,029m2)
C - Regrowth Open Forest RE11.2.5 with Marine Plants (0m2)
D - Marine Plants (Mangroves RE11.1.4 and Samphire forbland RE11.1.2) (0m2)
Protected Mapped Vegetation Associations
A - Remnant Open Forest RE11.2.5 (0m2)
B - Regrowth Open Forest RE11.2.5 (10,318m2)
C - Regrowth Open Forest RE11.2.5 with Marine Plants (12,986m2)
D - Marine Plants (Mangroves RE11.1.4 and Samphire forbland RE11.1.2) (2,726m2)
MLES wetland
MLES wetland 100m Buffer
Marine Plants - ground truthed
HAT 2.82mAHD
Project: BE240146
Date: 21-10-2024
Scale: 1:2,100 at A3
Projection: GDA 94/MGA Zone 56
Data Sources: Queensland Department of Resources (Cadastre, 2024), Nearmap (Aerial imagery, April 2023)
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5.4 Mitigation of Environmental Impacts

5.4.1 Protection of Significant Areas

The eastern part of the site will be protected as environmental open space. This includes all of the site's marine plant communities and provides a minimum 100-200m buffer to the Mulambin Ck estuarine wetlands. This 3ha reserve will be rehabilitated to enhance the existing biodiversity, habitat values and wetland buffer function.

5.4.2 Management of Operational Works

Other impacts of the proposed development are primarily construction stage impacts on retained vegetation, fauna and habitat values. To ensure that these potential impacts are managed responsibly, all vegetation clearing operations will be guided by Council conditions of approval. This includes a preclearance survey by a spotter catcher, clearly delineating protected areas and staged, directional clearing. A Vegetation and Fauna Management Plan will be prepared and will include measures to protect areas of retained vegetation, weed management measures and supervision of works by a minimum AQF Level 5 Arborist and a DES licensed fauna spotter-catcher.

Surveys detected one (1) SL species – diggings typical of the *Tachyglossus aculeatus* (short beaked echidna) were observed within the site. It is likely that the proposed development will impact on habitat, including breeding habitat, for this species in particular vegetation within Vegetation Associations A and B. It is recommended that a Species Management Program be approved for this species given impacts on breeding habitat are likely to occur. A High Risk SMP is required for fauna identified under the NCA as either least concern colonial breeders, extinct in the wild, critically endangered, endangered, vulnerable, near threatened, or a special least concern. The High Risk SMP approval is required prior to works commencing and the SMP has a standard term of three (3) years.

5.4.3 Rehabilitation

To offset the residual impacts that the proposed development may incur on the site's intrinsic and extrinsic environmental values, the vegetation within the proposed reserve will be rehabilitated including weeding and revegetation using species from the preclearing regional ecosystems where required to increase cover in disturbed areas that lack native vegetation cover. The restoration and protection of vegetation in the proposed reserve will enhance existing biodiversity and habitat values, and improve the corridor and buffer functional contributions of this part of the site to local and regional ecosystems.

6. Conclusions

Field surveys were undertaken on the site in May 2024. A total of 94 species of flora were detected during the surveys, comprising 64 native species and 30 non-native species, two (2) of which are Category 3 Restricted invasive plants under the Qld *Biosecurity Act 2016* - *Cryptostegia grandiflora* (rubber vine), *Lantana camara* and *Schinus terebinthifolius* (broad leaved pepper).

Five (5) vegetation associations were mapped over the site:

- Vegetation Unit A – Remnant Corymbia Melaleuca woodland / open forest RE 11.2.5;
- Vegetation Unit B – Regrowth Corymbia Melaleuca woodland / open forest RE 11.2.5;
- Vegetation Unit C – Regrowth Corymbia Melaleuca woodland open forest RE 11.2.5 with marine plants in ground stratum;
- Vegetation Unit D – Mangrove woodland and samphire forbland RE 11.1.4 and RE 11.1.2; and
- Vegetation Unit E – Anthropogenic grassland.

Vegetation Units A and D meet the benchmark structural and floristic criteria to be considered remnant vegetation. No State or Commonwealth listed EVNT flora species were observed within the site. Two (2) Special Least Concern flora species were observed: *Acrostichum speciosum* (mangrove fern) and *Livistona decora* weeping cabbage palm. These species are not threatened species but listed as Special Least Concern flora under the NCA due to collection pressure. *Acrostichum speciosum* is also identified as a marine plant under the Fisheries Act even when found above the high tide mark. This species is entirely within the proposed protected area. *Livistona decora* is present in large number throughout the site including within the proposed protected area.

Thirty-three (33) species of vertebrate fauna were observed within the subject site during surveys including two (2) reptile species, 29 bird species and two (2) mammal species. No conservation significant species of fauna were encountered on-site, nor was any direct or indirect evidence observed that would suggest the site is utilised by conservation significant fauna species.

An assessment of the results of the desktop surveys and field investigations against the proposed development design indicates that the development is unlikely to result in a significant impact on values identified as Matters of National Environmental Significance (MNES).

Matters of State Environmental Significance (MSES) and Matters of Local Environmental Significance (MLES) as identified in the *Livingstone Shire Planning Scheme 2018 Biodiversity Overlay Code* mapped over the site include

- **MSES**: Remnant (Least concern Regional Ecosystems 11.1.2 and 11.2.5) vegetation that has Essential Habitat values for threatened species including the Vulnerable estuarine crocodile (*Crocodylus porosus*), the Endangered eastern curlew (*Numenius madagascariensis*) and the Vulnerable Western Alaskan bar-tailed godwit (*Limosa lapponica baueri*); and
- **MLES**: Habitat and Vegetation - Native remnant vegetation (Regional Ecosystems 11.1.2 and 11.2.5); Local Biodiversity Corridors – sub-regional corridor; Wetlands and waterways – estuarine wetland on Mulambin Ck foreshore.

Surveys identified the vegetation in the western parts of the site provide habitat values for the abovementioned threatened species and significant values including marine plants, wetland buffering and biodiversity corridor function.

Following a request for information from Council and SARA, the subdivision design was revised to increase the proposed protected area, providing enhanced protection of existing values and ecological functions

(buffering and corridor functions). The proposed three (3) hectare reserve protects a minimum of 30% of the site area, as required by *State Code 16 – Native vegetation clearing*.

The revised design reduced the development footprint, facilitating increased protection for mapped and ground truthed significant values including:

- Protection of all regional ecosystem types mapped over the site including Regional Ecosystems 11.1.2 and 11.2.5 which provide habitat for the Vulnerable estuarine crocodile (*Crocodylus porosus*), the Endangered eastern curlew (*Numenius madagascariensis*) and the Vulnerable Western Alaskan bar-tailed godwit (*Limosa lapponica baueri*);
- Increased buffering to MLES wetlands along Mulambin Ck (minimum 100-200m); and
- Increased protection of habitat that contributes to a north-south sub-regional corridor that protects areas of local habitat as identified in the *Livingstone Shire Planning Scheme 2018 Biodiversity Overlay Code*.

In addition to the above mapped values, the site surveys detected diggings typical of the *Tachyglossus aculeatus* (short beaked echidna) within the site. This species is identified as Special Least Concern under the Queensland *Nature Conservation Act 1992* (NCA). It is likely that the proposed development will impact on breeding habitat for this species so it is recommended that a Species Management Program (SMP) be approved for the development prior to works commencing.

Recommendations for site specific impact avoidance, minimisation and mitigation measures during clearing, construction and operation of the development are provided within this document, including management of significant fauna, rehabilitation of the proposed reserve, vegetation protection, erosion and sediment control.

In summary, the proposed development will result in impacts on mapped and ground truthed ecological values however provided the proposal is developed in accordance with the recommendations of this report it is considered that it is compliant with the applicable Performance Outcomes of *State Code 16: Native vegetation clearing* and the *Livingstone Shire Planning Scheme 2018 Biodiversity Overlay Code*.

7. Definitions

DAF	Queensland Department of Agriculture and Fisheries
DBH	Diameter at Breast Height
DES/DESI	Queensland Department of Environment Science and Innovation
EPBC	*Environmental Protection and Biodiversity Conservation Act 1999*
EVNT	Endangered, Vulnerable or Near Threatened
MES	Matters of Environmental Significance
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NCA	*Nature Conservation Act 1992*
PPFST	Protected Plants Flora Survey Trigger Map
RE	Regional Ecosystem
RVM	Regulated Vegetation Map
SARA	State Assessment Referral Agency
KSAT	Koala Spot Assessment Technique
SDAP	State Development Assessment Provision
SPP	State Planning Policy
SPRP	State Planning Regulatory Provisions
VMA	*Vegetation Management Act 1999*
VMS Map	Vegetation Management Support Map

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Appendix A – Proposed Plan of Development (Barlow Shelley, 2024)

APPLICATION FOR RECONFIGURATION OF A LOT (1 INTO 85) AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703 LOT 2 ON RP617670 FOR RED EMPEROR PTY LTD JOB No. 2415

LOCALITY PLAN
SCALE 1:2500
IMAGE SOURCE: NEARMAP

SCHEDULE OF DRAWINGS

DWG	DESCRIPTION
2415 - P01	LOCALITY PLAN AND SCHEDULE OF DRAWINGS
2415 - P02	OVERALL LAYOUT AND KEY PLAN
2415 - P03	PLAN OF DEVELOPMENT SHEET 1
2415 - P04	PLAN OF DEVELOPMENT SHEET 2
2415 - P05	PLAN OF DEVELOPMENT (AERIAL IMAGE) SHEET 1
2415 - P06	PLAN OF DEVELOPMENT (AERIAL IMAGE) SHEET 2
2415 - P07	ROAD HIERARCHY PLAN
2415 - P08	PROPOSED TYPICAL ROAD CROSS SECTIONS
2415 - P09	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 1
2415 - P10	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 2
2415 - P12	PRELIMINARY SERVICES PLAN SHEET 1
2415 - P13	PRELIMINARY SERVICES PLAN SHEET 2

PROPERTY DESCRIPTION

LOT 2 ON RP617670
1-41 NEVILLE STREET, MULAMBIN, QLD 4703
SITE AREA = 10.03 Ha
DEVELOPMENT AREA = 6.92 Ha

THESE PLANS HAVE BEEN PREPARED FOR A **MATERIAL CHANGE OF USE** APPLICATION ONLY AND ARE NOT SUITABLE FOR SUBMISSION WITH ANY OTHER COUNCIL APPLICATION.

CIVIL DESIGN BASED ON:
FIELD SURVEY BY **CAPRICORN SURVEY GROUP CQ**
DWG No. 025210 DATED 22/04/2024
GDA2020 MGA 56

NOTE:
THESE DESIGN DRAWINGS HAVE BEEN PREPARED FROM THIRD PARTY INFORMATION RECEIVED FROM THE FOLLOWING CONSULTANTS. ALL SET OUT, LEVELS AND LOCATIONS MUST BE CROSS CHECKED BY A LICENSED SURVEYOR BEFORE COMMENCING CONSTRUCTION TO ENSURE COMPLIANCE WITH CURRENT MAPPING GRIDS, HEIGHT DATUMS AND BUILDING SETBACKS.
SURVEYOR CAPRICORN SURVEY GROUP CQ PH: 07 4927 5199
ENVIRONMENTAL ASSESSMENT BIRCHILLS ENGINEERING SOLUTIONS PH: 07 5509 8400

REV	DATE	DESCRIPTION	BY	CHKD
A	25.06.24	FOR APPROVAL	EC	CS
B	03.07.24	FOR APPROVAL	EC	CS
C	19.09.24	COUNCIL / SARA RFI RESPONSE	TW	TB
D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE: 1:2500 50 0 50 100 A1; 1:5000 A3

APPROVED
Director: TONY SHELLEY (RPEQ 7736)
DRAWING STATUS
FOR APPROVAL

Barlow Shelley CONSULTING ENGINEERS
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e office@barlowshelley.com.au W www.barlowshelley.com.au
a PO Box 899 Maroochydore 4558 ABN 89 215 591 077

PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703 FOR RED EMPEROR PTY LTD

JOB NUMBER: 2415

DRAWING TITLE:
LOCALITY PLAN AND SCHEDULE OF DRAWINGS

DRAWING NUMBER: P01 REV: D

p:\2415-neville st mulambin\design\civil\acad\2415 - p01 - locality plan and schedule of drawings.dwg

LEGEND

- SITE BOUNDARY
- PROPOSED STAGE BOUNDARY
- PROPOSED LOT BOUNDARY
- EASEMENT BOUNDARY
- 15m OFFSET TO MARINE PLANT AREA
- MAPPED MARINE PLANT AREA
- EASEMENT
- ASSET PROTECTION ZONE (APZ)
- BUSHFIRE ACCESS GRAVEL TRACK
- PROPOSED AREA TO BE TRANSFERRED TO COUNCIL
- PROPOSED AREA TO BE RECEIVED FROM COUNCIL

PROPOSED LOTS

LEGEND	SIZE (m²)	STAGE 1	STAGE 2	STAGE 3	STAGE 4	TOTAL
	450	0	1	0	1	2
	450-600	19	15	11	13	58
	>600	4	11	6	4	25
	TOTAL	23	27	17	18	85

DETAIL 1 - PROPOSED BOUNDARY REALIGNMENT (BALANCE AREA SWAP)
SCALE 1:500

SITE INFORMATION

1-41 NEVILLE ST, MULAMBIN QLD 4703
LIVINGSTONE SHIRE COUNCIL
ZONING: L1 - Rural
LOT PLAN: 2RP617670
TOTAL AREA: 100,059m²

REV	DATE	DESCRIPTION	BY	CHKD
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D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE
1:1500 30 20 10 0 30 60 A1
1:3000 A3
1:1000 10 0 10 20 30 40 50 A1
1:2000 A3
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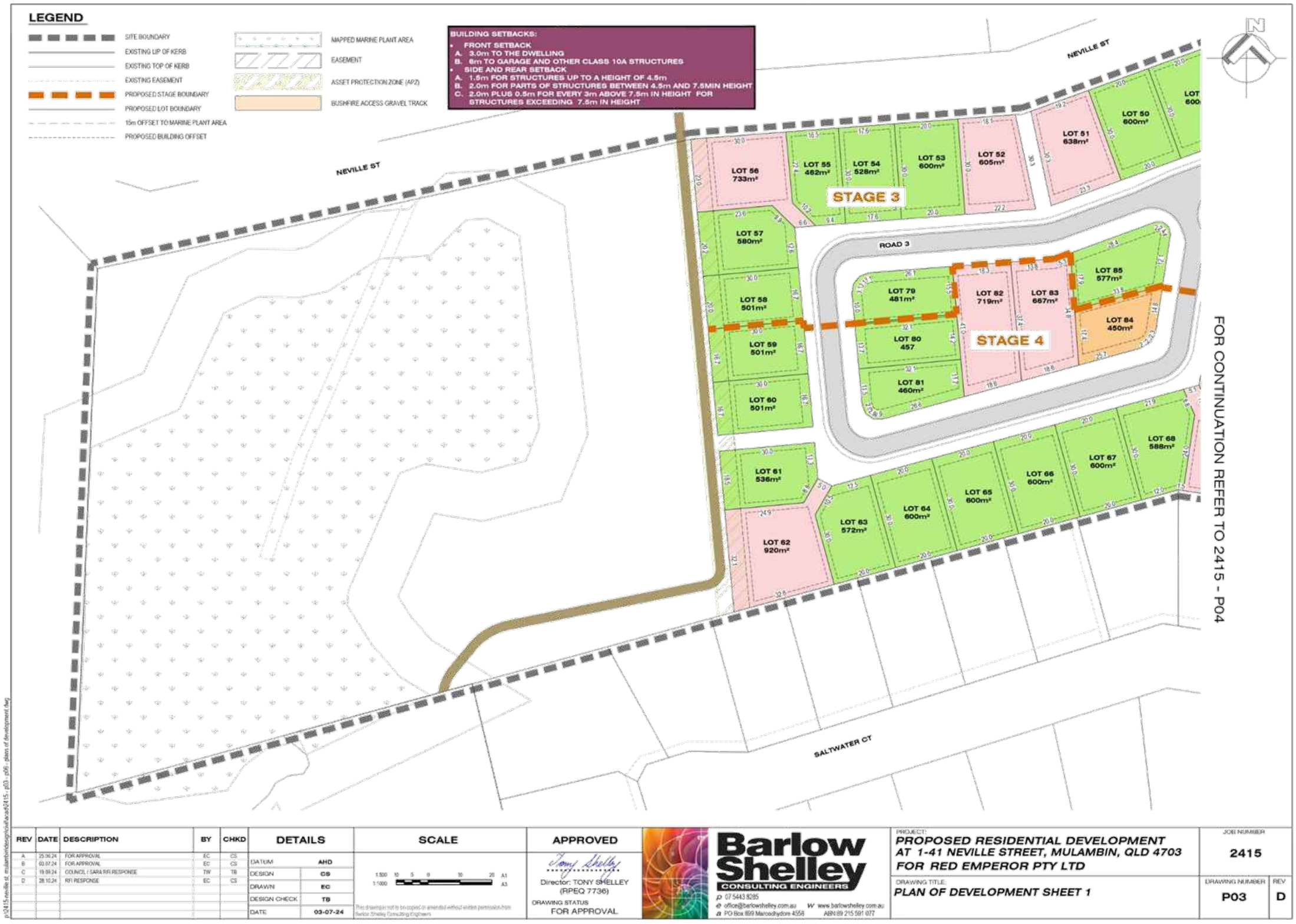
JOB NUMBER: 2415

DRAWING TITLE:
OVERALL LAYOUT AND KEY PLAN

DRAWING NUMBER: P02 REV: D

p:\2415-neville st_mulambin\designs\civil\acad\2415 - p02 - overall layout and key plan.dwg



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B	03.07.24	FOR APPROVAL	EC	CS
C	19.09.24	COUNCIL / SARA RFI RESPONSE	TW	TB
D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	03-07-24

SCALE
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1:1000 A3

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JOB NUMBER: 2415

DRAWING TITLE:
PLAN OF DEVELOPMENT SHEET 1

DRAWING NUMBER: P03 REV: D

p:\2415-neville st mulambin\designs\civil\arcad\2415 - p03 - p06 - plans of development dwg

REV	DATE	DESCRIPTION	BY	CHKD
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B	03.07.24	FOR APPROVAL	EC	CS
C	19.09.24	COUNCIL / SARA RFI RESPONSE	TW	TB
D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	03-07-24

SCALE
1:500 10 5 0 10 20 A1
1:1000 A3

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JOB NUMBER: 2415

DRAWING TITLE:
PLAN OF DEVELOPMENT SHEET 2

DRAWING NUMBER: P04 REV: D

p:\2415 neville st, mulambin\design\civil\acad\2415 - p03 - p05 - plans of development.dwg

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B	03.07.24	FOR APPROVAL	EC	CS
C	19.09.24	COUNCIL / SARA RFI RESPONSE	TW	TB
D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	03-07-24

SCALE
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1:1000 A3
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PROPOSED RESIDENTIAL DEVELOPMENT
AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703
FOR RED EMPEROR PTY LTD

JOB NUMBER: 2415

DRAWING TITLE:
PLAN OF DEVELOPMENT (AERIAL IMAGE) SHEET 1

DRAWING NUMBER: P05

REV: D

p:\2415-neville st, mulambin\design\civil\acad\2415 - p03 - p06 - plans of development.dwg

REV	DATE	DESCRIPTION	BY	CHKD
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B	03.07.24	FOR APPROVAL	EC	CS
C	19.09.24	COUNCIL / SARA RFI RESPONSE	EC	CS
D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TS
DATE	03-07-24

SCALE

1:500 10 5 0 10 20 A1
1:1000 A3

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JOB NUMBER: 2415

DRAWING TITLE:
PLAN OF DEVELOPMENT (AERIAL IMAGE) SHEET 2

DRAWING NUMBER: P06

REV: D

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C	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE
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1:2000 A3

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PROPOSED RESIDENTIAL DEVELOPMENT AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703 FOR RED EMPEROR PTY LTD

JOB NUMBER: 2415

DRAWING TITLE:
ROAD HIERARCHY PLAN

DRAWING NUMBER: P07

REV: C

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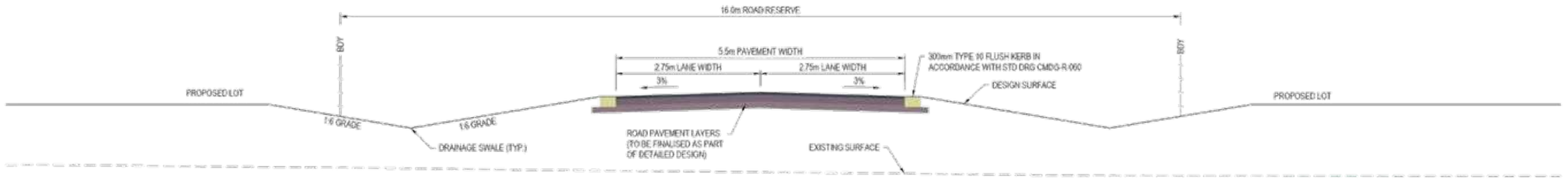
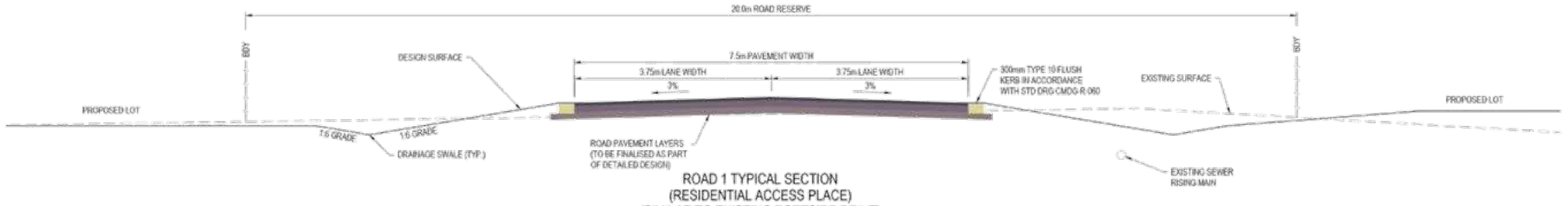


ROAD 2 AND 3 TYPICAL SECTION
(RESIDENTIAL ACCESS PLACE)



ROAD 1 TYPICAL SECTION
(RESIDENTIAL ACCESS PLACE)
(SIMILAR TO EXISTING PORTSIDE DRIVE)

p:\2415-neville st, mulambin\design\civil\acad\2415 - p08 - proposed typical road cross sections.dwg

REV	DATE	DESCRIPTION	BY	CHKD
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B	19.09.24	COUNCIL / SARA RFI RESPONSE	TW	TB
C	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE
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1:100 A3

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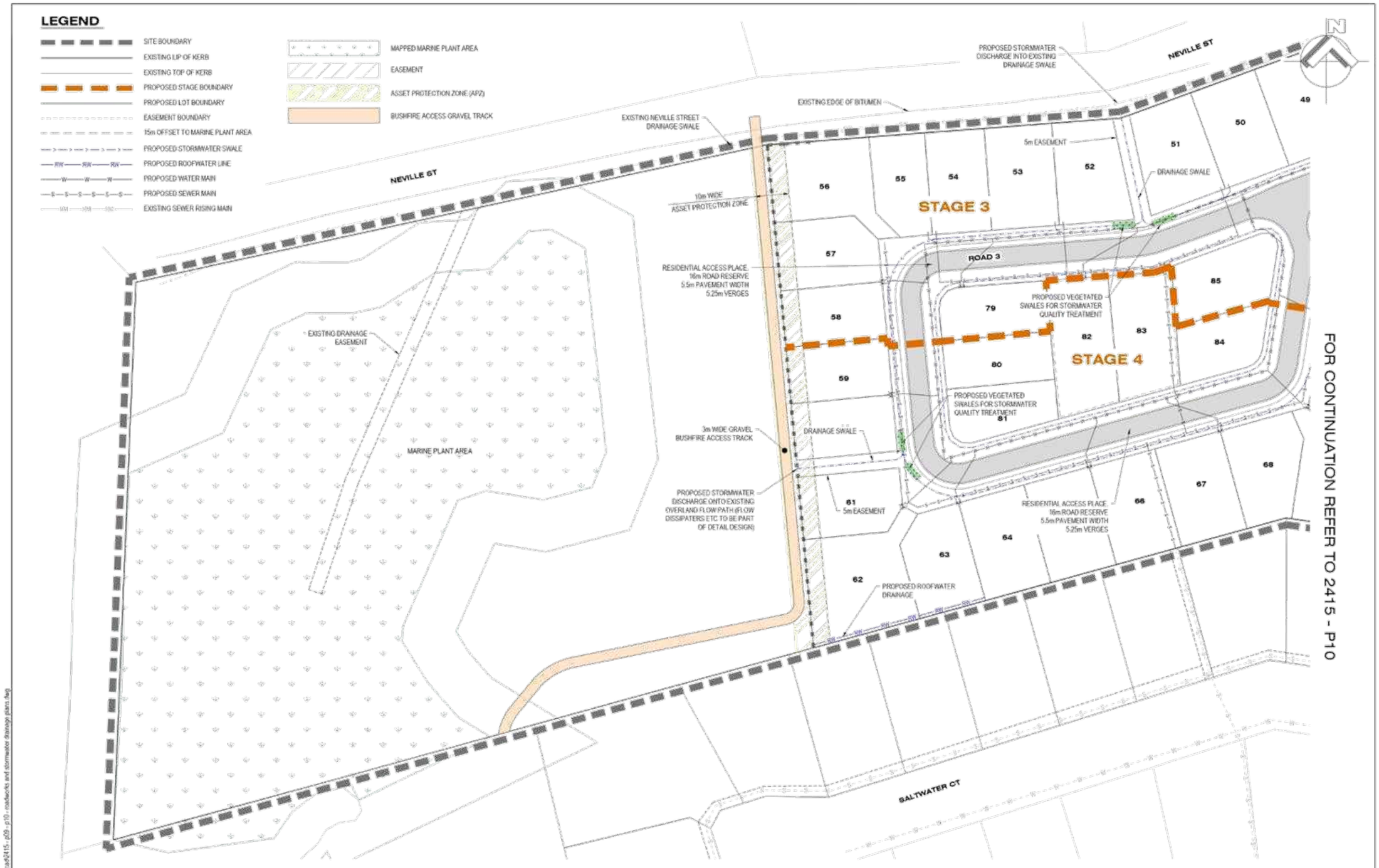
JOB NUMBER: **2415**

DRAWING TITLE:
PROPOSED TYPICAL ROAD CROSS SECTIONS

DRAWING NUMBER: **P08** REV: **C**



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C	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE
1:500 10 5 0 10 20 A1
1:1000 A3
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PROPOSED RESIDENTIAL DEVELOPMENT AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703 FOR RED EMPEROR PTY LTD

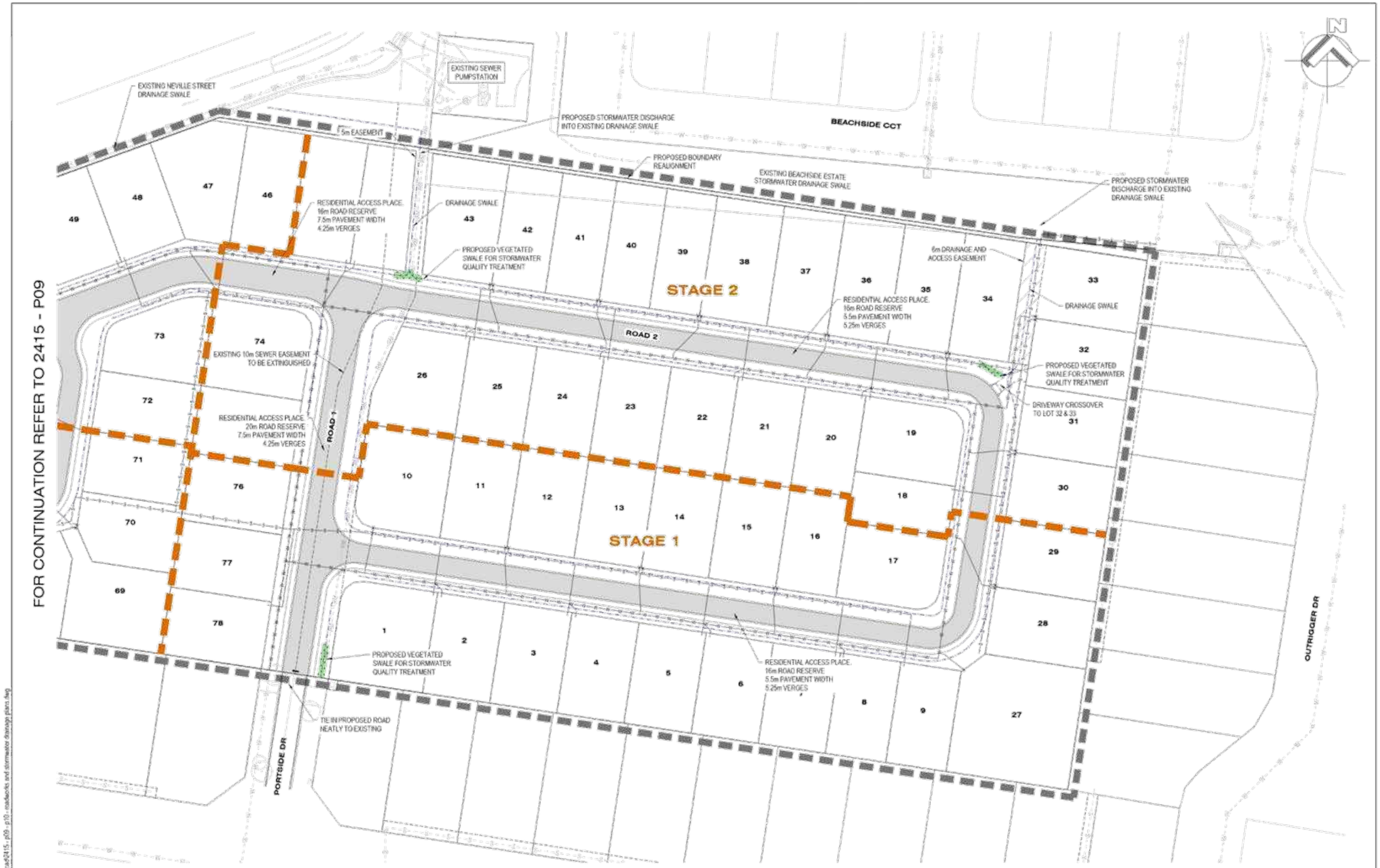
JOB NUMBER: 2415

DRAWING TITLE:
ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 1

DRAWING NUMBER: P09

REV: C

p:\2415-neville st mulambin\design\civil\acad\2415 - p09 - p10 - roadworks and stormwater drainage plans.dwg



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DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE
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1:1000 A3

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PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703 FOR RED EMPEROR PTY LTD

JOB NUMBER: 2415

DRAWING TITLE:
ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 2

DRAWING NUMBER: P10

REV: C

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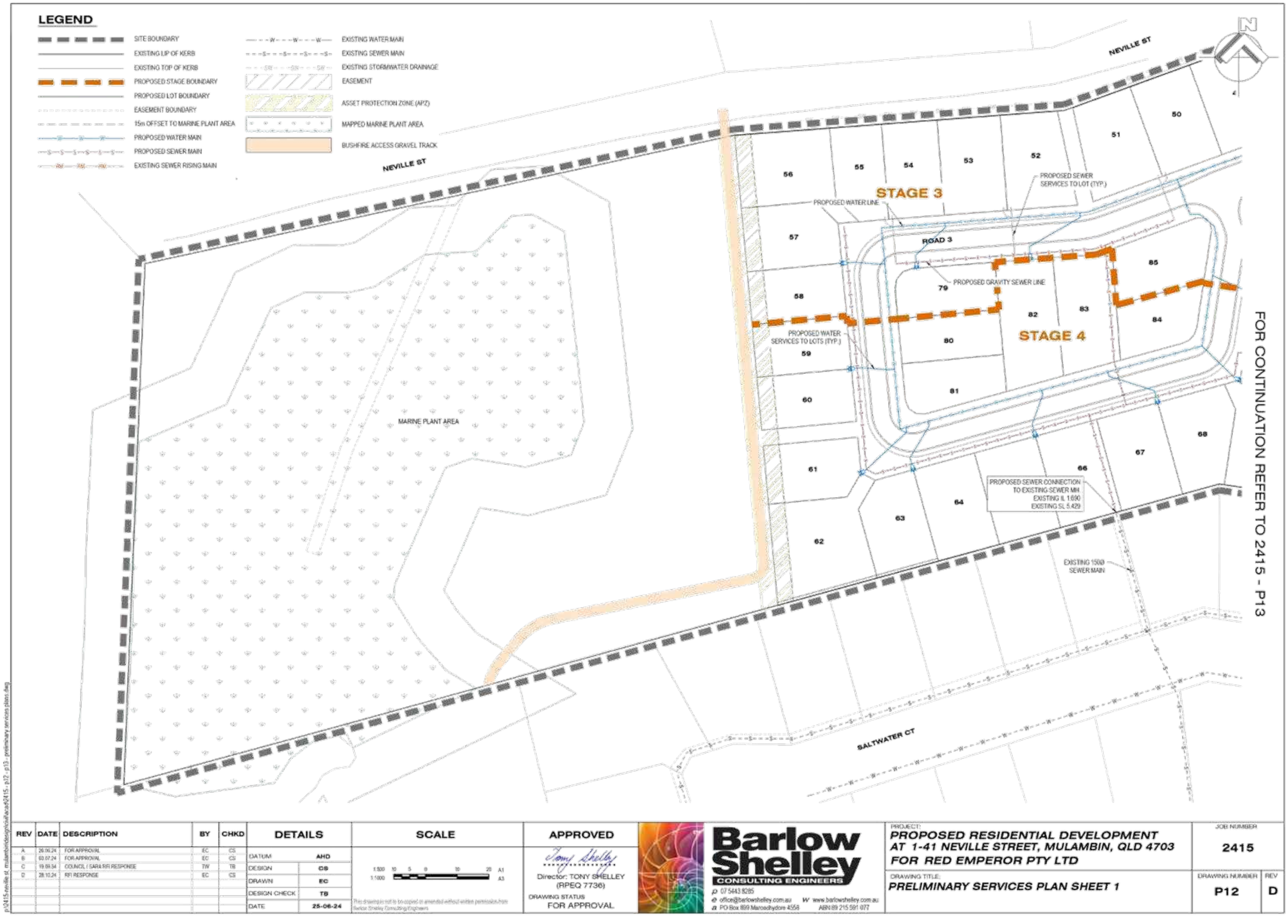

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C	19.09.24	COUNCIL / SARA RFI RESPONSE	TW	TB
D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE
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JOB NUMBER: **2415**

DRAWING TITLE:
PRELIMINARY SERVICES PLAN SHEET 1

DRAWING NUMBER: **P12** REV: **D**

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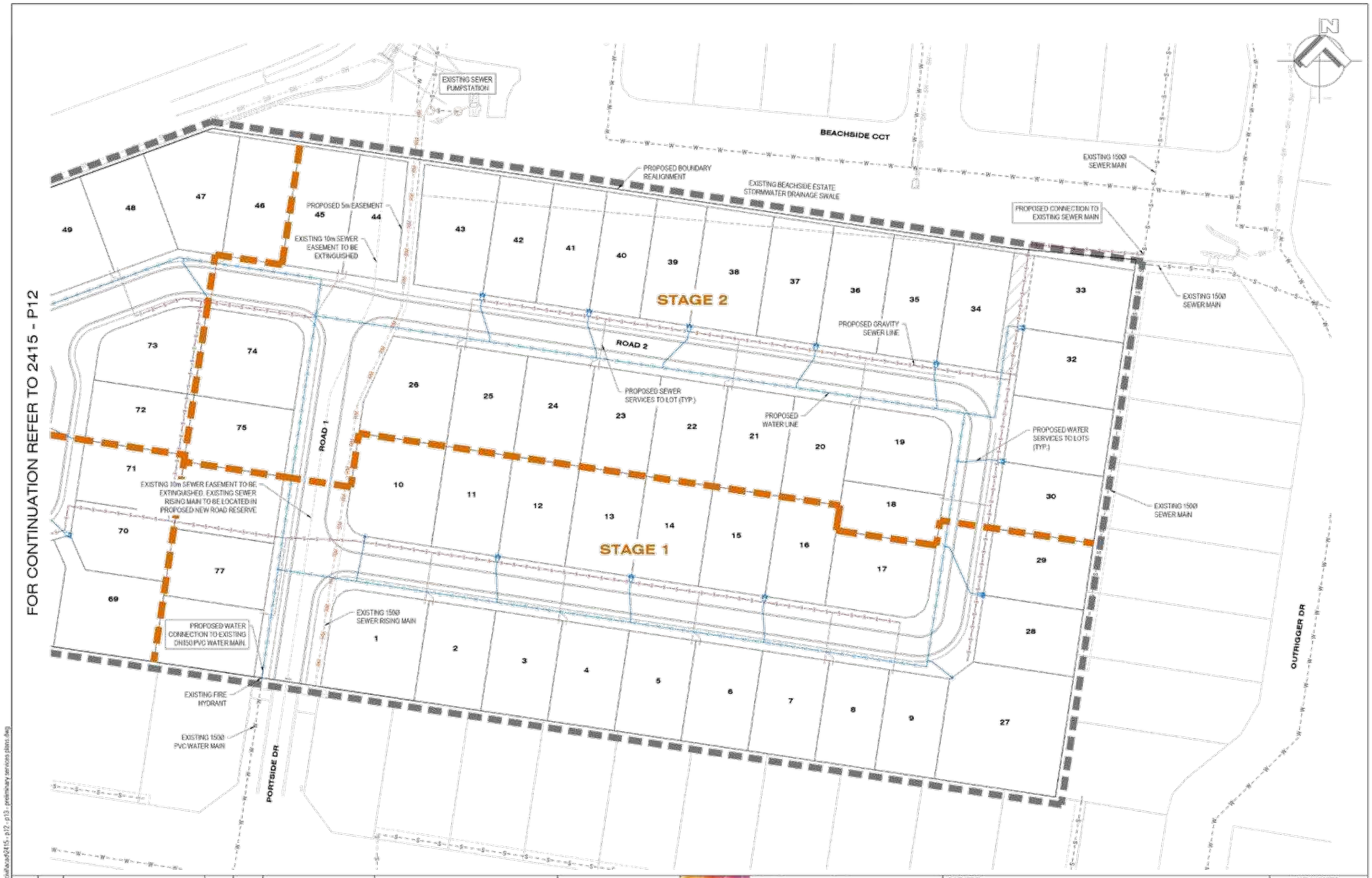

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D	28.10.24	RFI RESPONSE	EC	CS

DETAILS	
DATUM	AHD
DESIGN	CS
DRAWN	EC
DESIGN CHECK	TB
DATE	25-06-24

SCALE 1:500 10 5 0 10 20 A1 / 1:1000 A3

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Director: TONY SHELLEY (RPEQ 7736)
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PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT
AT 1-41 NEVILLE STREET, MULAMBIN, QLD 4703
FOR RED EMPEROR PTY LTD

JOB NUMBER 2415

DRAWING TITLE:
PRELIMINARY SERVICES PLAN SHEET 2

DRAWING NUMBER P13 REV D

p:\2415 neville st mulambin\design\civil\acad\2415 - p12 - p13 - preliminary services plans.dwg

Appendix B – Desktop Review Search Results

Appendix C – Flora Species Identified On-Site

Scientific Name	Common Name	I	Biosecurity Act	Q
Acacia aulacocarpa	salwood			C
Acacia crassa subsp. longicoma	curracabah wattle			C
Acrostichum speciosum	mangrove fern			SL
Ajuga australis	Australian bugle			C
Alectryon connatus	grey birds-eye			C
Allocasuarina littoralis	black sheoak			C
Alphitonia excelsa	soap tree			C
Alternanthera pungens	khaki weed	Y		
Amaranthus viridis	green amaranth	Y		
Apowollastonia spilanthoides				C
Avicennia marina	grey mangrove			C
Banksia integrifolia	coastal banksia			C
Breynia oblongifolia	coffee bush			C
Carissa ovata	currantbush			C
Catharanthus roseus	Madagascar Periwinkle	Y		
Cenchrus echinatus	Mossman River grass	Y		
Ceriops australis	yellow mangrove			C
Chloris gayana	Rhodes grass	Y		
Clerodendrum tomentosum	hairy lolly bush			C
Corymbia intermedia	pink bloodwood			C
Corymbia tessellaris	Moreton Bay ash			C
Crassocephalum crepidioides	thickhead	Y		
Cryptostegia grandiflora	rubber vine	Y	Restricted Cat 3	
Cupaniopsis anacardioides	tuckeroo			C
Cymbopogon refractus	barbed-wire grass			C
Cynodon dactylon	common couch	Y		
Cyperus brevifolius	Mullumbimby couch	Y		
Cyperus gracilis				C
Cyperus polystachyos	bunchy flat-sedge			C
Desmodium rhytidophyllum				C
Desmodium tortuosum	Florida beggar-weed	Y		
Dianella caerulea				C
Digitaria ciliaris	summer grass	Y		
Diospyros geminata	scaly ebony			C
Dodonaea viscosa	sticky hops bush			C
Erigeron bonariensis	flax leaf fleabane	Y		
Eucalyptus platyphylla	poplar gum			C
Eucalyptus tereticornis	Qld blue gum			C
Euroschinus falcata var. falcata	ribbonwood			C

Scientific Name	Common Name	I	Biosecurity Act	Q
Eustrephus latifolius	wombat berry			C
Exocarpos latifolius	beach cherry			C
Ficus opposita	sandpaper fig			C
Fimbristylis ferruginea	rusty sedge			C
Fimbristylis polytrichoides				C
Gahnia aspera	red sawsedge			C
Glochidion sumatranum	umbrella cheese tree			C
Glossocardia bidens	native cobbler's pegs			C
Heptapleurum actinophyllum	umbrella tree			C
Heteropogon contortus	black speargrass			C
Hibbertia scandens	snake vine			C
Imperata cylindrica	blady grass			C
Indigofera tinctoria		Y		
Ipomoea cairica	mile-a-minute	Y		
Jasminum didymum	native jasmine			C
Lantana camara	lantana	Y	Restricted Cat 3	
Livistona decora	weeping cabbage palm			SL
Lomandra longifolia	matrush			C
Lophostemon suaveolens	swamp box			C
Lumnitzera racemosa	black mangrove			C
Macaranga involucrata	macaranga			C
Macroptilium atropurpureum	siratro	Y		
Mallotus discolor	white kamala			C
Megathyrsus maximus	Guinea grass	Y		
Melaleuca dealbata	swamp tea-tree			C
Melaleuca quinquenervia	swamp paperbark			C
Melinis repens	red natal grass	Y		
Myoporum acuminatum	Coastal Boobialla			C
Oplismenus aemulus	creeping shade grass			C
Oxalis corniculata	creeping wood sorrel	Y		
Pandanus tectorius	screw pine			C
Paspalum vaginatum	saltwater couch	Y		
Passiflora foetida	stinky passion flower	Y		
Passiflora suberosa	corky passion flower	Y		
Petalostigma pubescens	quinine tree			C
Pittosporum spinescens				C
Planchonia careya	cockatoo apple			C
Pleiogynium timorense	Burdekin plum			C
Psydrax odorata forma buxifolia	shiny leaved canthium			C
Pteridium esculentum	bracken			C
Rivina humilis	coral berry	Y		

Scientific Name	Common Name	I	Biosecurity Act	Q
Sarcocornia quinqueflora	beaded samphire			C
Schinus terebinthifolius	broad leaved pepper	Y	Restricted Cat 3	
Setaria sphacelata	South African pigeon grass	Y		
Sida cordifolia	flannel weed	Y		
Solanum americanum	black nighshade	Y		
Sporobolus fertilis	giant Parramatta grass	Y		
Sporobolus virginicus	salt couch			C
Stachytarpheta jamaicensis	Jamaica snakeweed	Y		
Stephania japonica	tape vine			C
Terminalia muelleri	Australian almond			C
Themeda triandra	kangaroo grass			C
Trema tomentosa	poison peach			C
Urena lobata	urena weed	Y		
Zoysia macrantha subsp. macrantha	sand couch			C

*Status:

C = Least Concern under NCA, SL = Special Least Concern Under the NCA, I = Introduced

Appendix D – Conservation Significant Fauna Species Likelihood of Occurrence Assessment

Table D1: Likelihood of Occurrence of Conservation Significant Fauna Species on Site

This table incorporates the results of the desktop assessment and the site survey results to determine whether species recorded in the desktop survey results are likely to occur on or near the site based on existing habitat and resources available. Species' habitat descriptions are summarised from the Commonwealth DoEE EPBC SPRAT (Species Profile and Threat) Database (https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl or for species not listed under the EPBC – the Qld Dept of Environment and Science 'Threatened Species Profiles' https://environment.des.qld.gov.au/wildlife/threatened-species/ and or the NSW OEH Threatened Species Profiles database https://www.environment.nsw.gov.au/threatenedspeciesapp/.

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
Actitis hypoleucos	Common sandpiper	MWS	SL	**POSSIBLE** *Actitis hypoleucos* utilises a wide range of coastal wetlands and inland wetlands, primarily found around muddy margins or rocky shores, estuaries, stream banks, lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties, mangroves, and areas of mud littered with rocks and / or snags. Roosts on rocks or in roots or branches of vegetation, mangroves, posts, jetties, moored boats and other artificial structures. This species forages in shallow water and on bare soft mud at the edges of wetlands, often where obstacles project from substrate and sometimes ventures into grassy areas adjoining wetlands. The common sandpiper feeds on molluscs, crustaceans and insects. This species has been recorded at Causeway Lake south of the site (eBird record, 1997) and suitable habitat for this species is present in the wetland habitat along Mulambin Ck foreshore in and near the site.
Calidris ruficollis	Red-necked stint	MWS	SL	**POSSIBLE** *Calidris ruficollis* is a small wader that migrates in summer from Siberia and is found widely around Australia except the arid inland. It prefers intertidal mudflats in sheltered coastal areas including estuaries, bays, inlets, lagoons, non-tidal swamps, coastal lakes and lagoons with exposed sandy or muddy edges. Other habitats this species forages within include saltmarsh, wet mats of algae or waterweed and banks of beachcast seagrass or seaweed. Typically, this species forages in small groups, and mixed flocks feeding primarily on invertebrates (worms, molluscs, crustaceans, and insects). This species has been recorded at Mulambin Beach (ALA record, 1998) and suitable habitat for this species is present in the wetland habitat along Mulambin Ck foreshore in and near the site.
Calyptorhynchus lathami erebus	glossy black-cockatoo (northern)	V	C	**UNLIKELY** *Calyptorhynchus lathami erebus* inhabit open forests and woodlands of the north and central east coast of Queensland. T preferring drier forests within intact landscapes. They mostly feed on *Allocasuarina* spp in coastal Qld with some reports of feeding on Casuarina spp in western Qld. This species shows string fidelity to feed trees and have been known to fly upto 10km to seek out their preferred feeding trees. The chewed cones (orts) are typically used in surveys to determine feed tree presence in a site. Glossy Black-Cockatoos are also dependent on large eucalypt hollows (at least 14 cm in diameter) for nest sites and will typically select hollow bearing trees close to a fresh water source. The same hollow may

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
				be reused in subsequent years by the same or different females. Breeding occurs from March to August, with laying in autumn and nesting over winter. Suitable breeding hollows were not detected within the study area, however the study area has potential foraging resources though no confirmed feed trees were detected. Based on historical records (ALA) this species does not appear to be utilise the local region and is unlikely to be dependant on the site's habitat.
Crocodylus porosus	Estuarine crocodile	-	V	**POSSIBLE** This species is the largest reptile species in the world and is widespread in northern Australia, inhabiting waterways from Rockhampton in Queensland, throughout coastal Northern Territory and across to King Sound, near Broome in Western Australia. They are also not uncommon on offshore islands of the Great Barrier Reef. Their habitat is typically rivers, estuaries, creeks, swamps, lagoons, and billabongs and they can tolerate water salinity from 0% (freshwater) to 35% (sea water). During breeding this species creates a mound nest typically in wetland vegetation close to a water source. Given there are nearby records, it is possible that this species utilises the wetland habitat on Mulambin Ck on a transient basis.
Dasyurus hallucatus	Northern Quoll	E	C	**UNLIKELY** *Dasyurus hallucatus* populates a varied range of habitats which include eucalypt forest and woodlands, rocky areas, rainforests, shrubland, sandy lowlands and beaches, desert and grasslands. Additionally, this species is also known to occupy lowland habitats such as beachscrub communities. They can also occupy woodland or eucalypt forest due to these habitats having a high structural diversity for denning purposes. In general, *Dasyurus hallucatus* habitat contains some form of rocky area with surrounding vegetated habitats and are most abundant within 150km of the coast. *Dasyurus hallucatus* are omnivorous with a varied diet (Oakwood, 2008). Suitable habitat for this species is not present on the subject site.
Delma torquata	Collared Delma	V	V	**UNLIKELY** *Delma torquata* is endemic to Qld where it typically inhabits Poplar Box woodland on alluvial plains, Brigalow open forest on fine-grained sedimentary rocks and Spotted Gum open forest on coarse-grained sedimentary rocks in the Brigalow Belt bioregion (land zones 3,9 and 10). Suitable habitat for this species is not present on the subject site.
Egernia rugosa	Yakka Skink	V	V	**UNLIKELY** *Egernia rugosa* is known to occur in a broad range of open forest, woodland and low shrub land vegetation types, predominantly on firm but friable soils but are also known to occur less frequently in rocky environs. The core of the yakka skink's distribution is within the Mulga Lands and Brigalow Belt South bioregions. Other populations are scattered throughout the Brigalow Belt North (east to the Rockhampton area) and Einasleigh Uplands bioregions, extending northwards to southern Cape York Peninsula. Recent surveys have detected populations along the Queensland/New South Wales border. Suitable habitat for this species is not present on the subject site.

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
Epthianura crocea macgregori	Capricorn Yellow Chat	CE	E	**UNLIKELY** The species is restricted to coastal areas of central Queensland with confirmed and active breeding populations only known to occur on the Torilla Plain and Fitzroy River Delta. A historical population existed at Curtis Island however based on surveys in 2007 it is now considered that this population is extinct. The Yellow Chat inhabits marine plain wetlands that are subject to extensive seasonal inundation and varying degrees of both fresh and saltwater (tidal) influence. Though this habitat is present along Mulambin Ck, it is highly unlikely this species would utilise the site's habitat based on current activity records.
Erythrotriorchis radiatus	Red goshawk	E	E	**UNLIKELY** The Red Goshawk is endemic to Australia where it is sparsely dispersed across approximately 15% of coastal and sub-coastal Australia, from western Kimberley Division (north of 19°S) to northeastern NSW (north of 33°), and occasionally on continental islands. The Red Goshawk occurs in large bushland remnants of coastal and sub-coastal open forest and rainforest usually near watercourses. Such habitats typically support high bird numbers and biodiversity, especially medium to large bird species which the goshawk requires for prey. The Red Goshawk nests in large trees within 1km of permanent water. The closest ALA records for this species are in Rockhampton and surveys did not detect this species. It is unlikely that this species utilises the subject site.
Falco hypoleucos	Grey Falcon	V	V	**UNLIKELY** The rarest Australian falcon species, the distribution of this endemic species is restricted largely to arid areas with high annual average temperatures and annual rainfall of less than 500 mm. It favours lightly timbered and untimbered lowland plains that are crossed by tree-lined watercourses but frequents other habitats including grassland and sand dune habitats. The species has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter. It is unlikely that this species utilises the subject site.
Furina dunmalli	Dunmall's Snake	V	V	**UNLIKELY** *Furina dunmalli* prefers a range of different habitats that are between 200 to 500m above sea level. These habitats include forests and woodlands on black alluvial cracking clay and clay loams dominated by native Cypress (*Callitris spp.*), Brigalow (*Acacia harpophylla*), other wattles (*A. burowii, A. deanii, A. leioclyx*) or Bull-oak (*Allocasuarina luehmannii*). Additionally, this species can also be found in various Blue Spotted Gum (*Corymbia citriodora*), Ironbark (*Eucalyptus crebra* and *E. melanophloia*), White Cypress Pine (*Callitris glaucophylla*) and Bulloak open forest and woodland associations on sandstone derived soils. Records show that some *Furina dunmalli* have inhabited the hard ironstone country near Dalby, Queensland. There is insufficient knowledge on the ecological requirements of this species, although some *Furina dunmalli* have been found taking refuge under fallen timber and ground litter as well as cracks in alluvial clay soil Suitable habitat for this species is not present on the subject site.

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
Gallinago hardwickii	Latham's snipe	V	SL	**UNLIKELY** *Gallinago hardwickii* prefers permanent and ephemeral wetlands up to 2,000 m above sea-level. Usually the species inhabits open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around water bodies). However, they can also occur in modified or artificial habitats, and in habitats located close to humans or human activity. Latham's snipe feeds mostly on seeds, other plant material primarily from Cyperaceae, Poaceae, Juncaceae, Polygonaceae, Ranunculaceae and Fabaceae and insects. Suitable habitat for this species is not present on the subject site.
Geophaps scripta scripta	Squatter Pigeon (southern)	V	V	**UNLIKELY** *Geophaps scripta scripta* occurs on the inland slopes of the Great Dividing Range, with a distribution that extends from the Burdekin-Lynd divide in central Queensland, west to Charleville and Longreach, east to the coast from Prosperine to Port Curtis, and south to scattered sites in south-eastern Queensland. This ground-dwelling pigeon typically habits open-forests to sparse, open-woodlands and scrub that are dominated in the overstorey by *Eucalyptus*, *Corymbia*, *Acacia* or *Callitris* species with remnant, regrowth or partly modified vegetation communities, and within 3 km of water bodies or courses. In Qld, Squatter Pigeon (southern) foraging and breeding habitat is known to occur on well-draining, sandy or loamy soils on low, gently sloping, flat to undulating plains and foothills (Land Zone 5), and lateritic (duplex) soils on low 'jump-ups' and escarpments (Land Zone 7). It is unlikely that this species utilises the subject site.
Hirundapus caudacutus	White-throated Needletail	V	V	**POSSIBLE** *Hirundapus caudacutus* migrates to Australia in Summer where it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. This species is almost exclusively aerial, most often seen at heights of less than 1 m up to more than 1000 m above the ground. Foraging in flight above a wide variety of more often wooded habitats but including, farmland, heathland, mudflats, open habitats, recently disturbed areas, updraughts near ridges or cliffs or sand-dunes. This species roosts in tree hollows or the canopy of open forests and woodlands. *Hirundapus caudacutus* was not seen during surveys, but the site may provide habitat for this species.
Limosa lapponica baueri	Western Alaskan bar-tailed godwit	E	V	**UNLIKELY** *Limosa lapponica baueri* is a large migratory shorebird which breeds in the northern hemisphere during the boreal summer, and whose distribution during non-breeding period mainly occurs along the north and east coasts of Australia. The bar-tailed godwit (western Alaskan) occurs mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It has also been recorded in coastal sewage farms and saltworks, salt lakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms and coral reef-flats. This species usually forages near the edge of water or in shallow water, mainly in tidal estuaries and harbours. They prefer exposed sandy or soft mud substrates on intertidal flats, banks and beaches. It is unlikely that this species utilises the subject site.

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
Macroderma gigas	Ghost bat	V	E	**UNLIKELY** *Macroderma gigas* have been recorded in both arid regions (Pilbara region) and rainforest areas (North Queensland). This species roosts in caves, old mine tunnels and in deep cracks in rocks. They usually roost in colonies but, because many of their roosting sites are being destroyed, it is rare to find large colonies. Ghost bats are distributed widely but patchily across the northern half of Australia and are found in a variety of tropical habitats. Suitable habitat for this species is not present on the subject site.
Monarcha melanopsis	Black-faced Monarch	MTS	SL	**POSSIBLE** *Monarcha melanopsis* (Black-faced Monarch) is a widespread and common summer breeding migrant from PNG found in eastern Australia from September to March where it habits rainforest, eucalypt forest and woodlands. The Black-faced Monarch builds a deep cup nest of casuarina needles, bark, roots, moss and spider web in the fork of a tree, about 3 m to 6 m above the ground. It is possible that this species utilises the subject site on a transient basis.
Myiagra cyanoleuca	Satin Flycatcher	MTS	SL	**POSSIBLE** *Myiagra cyanoleuca* are widespread in eastern Australia and are migratory, moving north in autumn to spend winter in northern Australia and New Guinea. Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests. It is possible that this species utilises the subject site on a transient basis.
Neochmia ruficauda ruficauda	Star Finch (eastern)	E	E	**UNLIKELY** The Star Finch (eastern) is a sedentary bird that feeds primarily on seeds but also eats insects and other invertebrates. This species has an extremely limited population with only 50 individuals estimated and is possibly already extinct. The distribution of this subspecies is poorly known, and it has disappeared from much of its former range. The most recent records occur in an area from near Wowan, north to Bowen, west to beyond Winton. It has been recorded from damp grasslands, sedgelands or grassy woodlands near permanent water or areas of regular inundation. Occasionally, individuals have been reported in disturbed habitat and suburban areas. This species is unlikely to utilise habitat on the subject site.

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
Numenius madagascariensis	eastern curlew	CE	E	**UNLIKELY** *Numenius madagascariensis* is a large migratory shorebird. It is most commonly associated with sheltered coasts especially estuaries, bays, harbours and coastal lagoons, with large intertidal mudflats or sandflats and often with seagrass beds. The species is less frequently encountered on ocean beaches, coral reefs, rock platforms and rocky islets. *Numenius madagascariensis* predominantly forages on sheltered intertidal sandflats or mudflats which are open except for seagrass, often near mangroves, in saltmarsh, rockpools and beaches near the tide line. This species roosts during high tides on sandy spits and islets, especially on dry beach sand near the high-water mark, and among coastal vegetation including low saltmarsh or mangroves. Suitable habitat for this species is not present on the subject site.
Numenius phaeopus	Whimbrel	MWS	SL	**UNLIKELY** This migratory species has a largely coastal distribution and is found in all states including Tasmania. They breed in Siberia and migrate to Australia in summer. Often seen with the Eastern curlew this species may gather in large flocks on coastal and inland wetlands near swamps and flooded areas. It is unlikely that this species utilises the subject site.
Pandion haliaetus	Osprey	MWS	SL	**POSSIBLE** *Pandion haliaetus* occurs in littoral and coastal habitats and terrestrial wetlands. They are predominately found in coastal areas however, travel inland along major rivers. Osprey require extensive areas of fresh, brackish or saline water for foraging. This species typically feeds on fish, but may also feed on molluscs, crustaceans, insects, reptiles, birds and mammals and is reasonably tolerant of urbanised environments. It is possible that this species utilises the wetlands in the along Mulambin Ck for feeding.
Petauroides volans	Greater Glider	V	V	**UNLIKELY** *Petauroides volans* is found in a variety of eucalypt forest and woodlands preferring taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. This species is nocturnal, sheltering in tree hollows during the day, and requires areas of undisturbed and unfragmented native forest of at least 160km2 to maintain viable populations. Suitable habitat for this species is not present on the subject site.
Petaurus australis australis	Yellow-bellied glider (south-eastern)	V	V	**UNLIKELY** The yellow-bellied glider (south-eastern) is found at altitudes ranging from sea level to 1400m above sea level and has a widespread but patchy distribution from south-eastern Queensland (Qld) to far south-eastern SA, near the SA-Vic border. Their distribution extends inland to the western slopes of the Great Dividing Range in parts of NSW and Qld The yellow-bellied glider (south-eastern) occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. The species shows a preference for large patches of mature old growth forest that provide

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
				suitable trees for foraging and shelter with a high proportion of winter-flowering and smooth-barked eucalypts. Minimum habitat areas of 180–350 km2 are required to maintain a viable subpopulation. This species dens in hollows during the day and hollow-bearing trees used by the glider are primarily living, smooth-barked eucalypts. Sap is an important part of this species diet and characteristic feeding scars on trees are typically used to detect activity. Grey gums are most commonly utilised for feeding in Qld. Though the site contains suitable foraging and habitat resources, there are no ALA records within 30km of the subject site. This species has low dispersal capacity so it is therefore unlikely it utilises the site.
Phaethon lepturus	white-tailed tropicbird	M	SL	**UNLIKELY** The White-tailed Tropicbird (Christmas Island) is endemic to Christmas Island. The species nests over the whole island and feeds in warm waters off the coast. The Tropicbird is able to utilise a broad range of nest-sites, from trees in closed-canopy rainforest to bare sandy ground, to rugged rocky terrain in cliffs and quarries. It nests in deep, completely shaded hollows or crevices, and very occasionally on the ground. It is able to utilise a range of nest-sites, including hollows in rainforest trees and crevices on rock faces, cliffs and quarries. It is unlikely that this species utilises the subject site.
Phascolarctos cinereus	Koala	E	E	**UNLIKELY** *Phascolarctos cinereus* inhabits dry open sclerophyll forests and woodlands occurring on fertile soils. Communities containing denser vegetation and larger trees are generally preferred; however *Phascolarctos cinereus* can also inhabit less optimal habitat such as young forests, highly fragmented vegetation communities, and small remnants. This species prefers to forage on leaves of *Eucalyptus* species but will also feed leaves of *Corymbia*, *Angophora*, *Lophostemon* and *Melaleuca* species. No evidence of this species was observed on-site, searches of available databases (e.g. WildNet and Atlas of Living Australia) indicate that there are no recent records of this species proximate to the site, and there is only a very small area of essential habitat for this species mapped on the site. It is therefore unlikely that this species utilises the site.
Poephila cincta cincta	Southern Black-throated Finch	E	E	**UNLIKELY** The southern subspecies of the Black-throated Finch currently occurs in coastal northern Queensland and inland central Queensland. This small but brightly coloured species occupies woodland savannah and riverine vegetation. Inland it prefers grassy woodland dominated by eucalypts, paperbacks or acacias, while in coastal areas it occupies open grassy plains with Pandanus. This species' diet consists mainly of grass seed, flying insects, spiders and ants and their larvae. This species is mostly sedentary, and usually seen in pairs or flocks of up to 30 individuals. Flocks often forage, bathe, drink and rest together. This species was not observed during surveys and there are no ALA records in the local region. It is therefore unlikely to utilise habitat on the subject site.
Pteropus poliocephalus	Grey-headed flying-fox	V	C	**POSSIBLE** The grey-headed flying-fox occurs in the coastal belt from Rockhampton to Melbourne. It requires foraging resources (typically flowering gums and paperbark) and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, *Melaleuca* swamps

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
				and *Banksia* woodlands. None of the vegetation communities used by the Grey-headed Flying-fox produce continuous foraging resources throughout the year, so the species selectively forages where food is available. As a result, patterns of occurrence and relative abundance within its distribution vary widely between seasons and between years. At a local scale, the species is generally present intermittently and irregularly. The Grey-headed Flying-fox roosts in camps – often mixed species (black and little red flying foxes) and of various sizes. They most frequently travel around 15km from a roost site to feed although are capable of traveling up to 50km as food resources change. While no roost sites were found on-site, grey-headed flying-fox may periodically forage on the site when suitable food resources are available.
Rhipidura rufifrons	Rufous Fantail	MWS	SL	**POSSIBLE** *Rhipidura rufifrons* is a north south migrant (and possibly altitudinal), inhabiting the dense undergrowth of rainforests, wet sclerophyll forests, swamp woodlands and mangroves. It is possible that this species utilises the subject site.
Rostratula australis	Australian painted snipe	E	E	**UNLIKELY** *Rostratula australis* is a cryptic species that is generally encountered singly or in pairs, and less frequently in small groups. This species is most common in eastern Australia where it is usually found in shallow inland permanent or temporary wetlands. This species is piscivorous and nests on sheltered beaches above the high tide mark. Suitable habitat for this species is not present on the site.
Symposiachrus trivirgatus	Spectacled Monarch	MTS	SL	**POSSIBLE** *Symposiachrus trivirgatus* is found in coastal north-eastern and eastern Australia, including coastal islands, from Cape York, Queensland to Port Stephens, New South Wales. Though migratory further south, this species is mostly resident in Qld where it typically inhabits thick understorey in rainforests, wet gullies, riparian vegetation and sometimes mangroves. Suitable habitat for this species is present on the subject site – mostly along Mulambin Ck.
Tringa nebularia	Common Greenshank	MWS	SL	**POSSIBLE** *Tringa nebularia* occurs in all types of wetlands including inland wetlands (e.g. swamps, lakes, dams, rivers, creeks, inundated floodplains) and sheltered coastal habitats of varying salinity (e.g. tidal pools, harbours, river estuaries, lagoons). The species prefer wetlands with mud or clay edges with bare, emergent or fringing vegetation including short sedges and saltmarsh, mangroves, thickets of rushes and dead or live trees. The Common Greenshank does not breed in Australia, however a population of 18,000–19,000 spend the non-breeding season in Australia. It is typically seen singly or in small to large flocks, foraging at the edges of wetland, mudflats, channels or among mangrove pneumatophores, occasionally feeding on exposed seagrass beds (Higgins & Davies 1996). Its diet consists of molluscs, crustaceans, insects and occasionally fish and frogs. Suitable habitat for this species is present on the subject site – mostly along Mulambin Ck and there are nearby records within 5-10km (ALA) so it is possible that this species utilises the subject site.

Scientific Name	Common Name	Status EPBC	Status NCA	Likelihood of Occurrence on Site
Turnix melanogaster	Black-breasted Button-quail	V	V	**UNLIKELY** *Turnix melanogaster* is restricted to rainforests and forests, mostly in areas with 770-1200 mm rainfall per annum. This species prefers semi-evergreen vine thicket, low microphyll vine forest, araucarian microphyll vine forest and araucarian notophyll vine forest. It also occurs in dense acacia thickets and, littoral area, lantana which is used for diurnal foraging and nocturnal roosting and pasture grass adjacent to habitat areas. Extensive leaf-litter is required for foraging, fallen logs and a dense, heterogeneously distributed shrub layers are also considered to be important habitat characteristics for shelter and breeding. Suitable habitat for this species is not present on the subject site.
Xeromys myoides	Water Mouse, False Water Rat	V	V	**UNLIKELY** *Xeromys myoides* inhabit mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands and freshwater wetlands. In Queensland the upper tidal areas on the shoreward side of the mangrove zone often support saltmarsh adjoining terrestrial communities including freshwater wetland, coastal woodland or wet heathland. These communities are all utilised by the water mouse for foraging and nesting. This species' diet typically includes a variety of crustaceans, marine polyclads, marine pulmonates, mud lobster *Laomedia healyi*, mottled shore crab *Peragrapsis laevis* and marine bivalves. Though there is suitable habitat along Mulambin Ck, there are no nearby records for this species. This species is unlikely to utilise the subject site.

**Status: As listed within the Queensland Nature Conservation Act 1992: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern, C = Least Concern. As listed in the Commonwealth Environment Protection and Biodiversity Conservation Act 1999: CE# = Critically Endangered, E# = Endangered, V# = Vulnerable, CD# = Conservation Dependent, I# = Introduced Species, MTS = Migratory Terrestrial Species, MWS = Migratory Wetland Species, M = Marine*

Appendix E – State Code 16: Native Vegetation Clearing Response

State code 16: Native vegetation clearing

For guidance on how to address this code, please refer to the State Development Assessment Provisions Guidance material: State code 16: Native vegetation clearing.

Please note: It is only necessary to provide a response to the performance outcomes relevant to the clearing purpose(s). Table 16.1 below specifies which tables of performance outcomes are relevant for each clearing purpose. Tables that are not relevant to your clearing purpose can be left blank or deleted.

As an example, only Table 16.2 and Table 16.15 are relevant for a development application for operational works that involves managing thickened vegetation. The remaining tables may be deleted.

Table 16.1: Relevant code provisions for each type of development

Clearing purpose	Relevant provisions
Material change of use and / or reconfiguring a lot and / or operational work	
Public safety, **relevant infrastructure activities** and / or **consequential development of IPA approval**	Table 16.2 and Table 16.3
Extractive industry	Table 16.2 and Table 16.4
Coordinated project (agriculture)	Table 16.2 and Table 16.5
Coordinated project (**extractive industry**)	Table 16.2 and Table 16.6
Coordinated project (all other purposes)	Table 16.2 and Table 16.7
Material change of use and / or reconfiguring a lot for all other purposes	Table 16.2 and Table 16.8
Material change of use and / or reconfiguring a lot for which there will be no **clearing as a result of the material change of use** or **reconfiguring a lot**	Table 16.9
Material change of use and / or reconfiguring a lot for which **clearing** is limited to **clearing** that could be done as **exempt clearing work** for the purpose of the development prior to the material change of use or reconfiguring a lot application being approved	Table 16.2 and Table 16.10
Operational work	
Necessary environmental clearing	Table 16.2 and Table 16.11
Control non-native plants or **declared pests**	Table 16.2 and Table 16.12
Encroachment	Table 16.2 and Table 16.13
Fodder harvesting	Table 16.2 and Table 16.14
Managing thickened vegetation	Table 16.2 and Table 16.15

Table 16.2: General

Performance outcomes	Acceptable outcomes	Response
PO1 Clearing of **vegetation** is consistent with any **notice requiring compliance** on the land subject to the development application, unless a **better environmental outcome** can be achieved.	No acceptable outcome is prescribed.	NA No known notice requiring compliance is registered on the site.
PO2 Clearing of **vegetation** is consistent with **vegetation management requirements** for **particular regulated areas** unless a **better environmental outcome** can be achieved.	No acceptable outcome is prescribed.	NA Site is not within any known particular regulated area (e.g. exchange area, unlawfully cleared area, declared offset area of PMAV area).
PO3 Clearing of **vegetation** in a **legally secured offset area**: 1. is consistent with the **offset** delivery plan; or 2. is consistent with an **agreement** for the **offset area** on the land subject to the development application; or 3. only occurs if an additional **offset** is provided.	No acceptable outcome is prescribed.	NA Site is not within any known legally secured offset area.

Table 16.3: Public safety, relevant infrastructure activities and / or consequential development of IPA approval

Performance outcomes	Acceptable outcomes	Response
Clearing avoids and minimises impacts		
PO4 Clearing of **vegetation** and **adverse impacts of clearing vegetation** do not occur unless the application has demonstrated that the **clearing** and the **adverse impacts of clearing** have been: 1. reasonably avoided; or 2. reasonably minimised where it cannot be reasonably avoided.	No acceptable outcome is prescribed.	NA
Clearing associated with wetlands		
PO5 Clearing of **vegetation** within a natural **wetland** and/or within 100 metres of the **defining bank** of a natural **wetland** maintains the composition, structure and function of any **regional ecosystem** associated with any natural **wetland** to protect all of the following: 1. bank stability by protecting against bank erosion;	**AO5.1 Clearing** does not occur in a natural **wetland** or within 100 metres of the **defining bank** of any natural **wetland**. OR **AO5.2 Clearing** within 100 metres of the **defining bank** of any natural **wetland**:	NA

Performance outcomes	Acceptable outcomes	Response
2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat; 4. terrestrial habitat.	1. does not occur within 10 metres of the **defining bank** of any natural **wetland**; and 2. does not exceed widths in reference table 1 in this code.	
PO6 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a natural **wetland** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Clearing associated with watercourses and drainage features		
PO7 Clearing of **vegetation** within a **watercourse** and/or **drainage feature** and/or within the relevant distance (listed in reference table 2) of a **watercourse** and/or **drainage feature,** maintains the composition, structure and function of the **regional ecosystem** associated with the **watercourse** and/or **drainage feature** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat; 4. terrestrial habitat.	**AO7.1 Clearing** does not occur in any of the following areas: 1. inside the **defining bank** of a **watercourse** or **drainage feature**; and 2. within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code. OR **AO7.2 Clearing** within any **watercourse** or **drainage feature**, or within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code: 1. does not exceed the widths in reference table 1 of this code; and 2. does not occur within 10 metres of the **defining bank**, unless **clearing** is required into or across the **watercourse** or **drainage feature**.	NA
PO8 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a **watercourse** and/or **drainage feature** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Connectivity		

Performance outcomes	Acceptable outcomes	Response
PO9 Regional ecosystems on the subject land and any adjacent land retain sufficient **vegetation** to: 1. maintain **ecological processes**; and 2. ensure the **regional ecosystem** remains in the landscape despite **threatening processes**.	**AO9.1 Clearing** occurs in accordance with reference table 3 in this code.	NA
Soil erosion if the local government is not the assessment manager for the development application		
PO10 Clearing of **vegetation** does not result in **accelerated soil erosion** within or outside the land the subject of the development application.	**AO10.1 Clearing** only occurs if an **erosion and sediment control plan** is developed and implemented to prevent increased **soil erosion and instability** resulting from the **clearing**.	NA
Salinity		
PO11 Clearing of **vegetation** within 100 metres of a **salinity expression area** does not contribute to or accelerate **land degradation** through either of the following: 1. **waterlogging**; 2. the **salinisation** of **groundwater**, surface water or soil.	**AO11.1 Clearing** does not occur within 100 metres of a **salinity expression area**.	NA
Conserving least concern regional ecosystems - Minimising clearing of areas temporarily required to enable construction of the infrastructure		
PO12 Clearing of **vegetation** for temporary use areas to construct necessary infrastructure, such as temporary use roads or access tracks, maintains the composition, structure and function of **least concern regional ecosystems**.	**AO12.1 Clearing** for temporary use areas to construct necessary infrastructure does not occur in a **least concern regional ecosystem**. OR **AO12.2** Total **clearing** for temporary use areas to construct necessary infrastructure in any **regional ecosystem** combined does not exceed the widths prescribed in table reference table 1 of this code. OR **AO12.3** Total **clearing** for temporary use areas to construct necessary infrastructure in any **regional ecosystem** combined does not exceed areas prescribed in table reference table 1 of this code.	NA

Performance outcomes	Acceptable outcomes	Response
PO13 Where **clearing** of **vegetation** in a **regional ecosystem** for temporary use areas to construct necessary infrastructure does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, the **cleared** area is **rehabilitated**.	No acceptable outcome is prescribed.	NA
Conserving endangered and of concern regional ecosystems		
PO14 Clearing of **vegetation** maintains the composition, structure and function of **endangered regional ecosystems** and/or **of concern regional ecosystems**.	**AO14.1 Clearing** does not occur in an **endangered regional ecosystem** or an **of concern regional ecosystem**. OR **AO14.2** Total **clearing** of **endangered regional ecosystems** and **of concern regional ecosystems** combined does not exceed the widths prescribed in table reference table 1 of this code. OR **AO14.3** Total **clearing** of **endangered regional ecosystems** and **of concern regional ecosystems** combined does not exceed areas prescribed in table reference table 1 of this code.	NA
PO15 Where **clearing** of **vegetation** in an **endangered regional ecosystem** or an **of concern regional ecosystems** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, the cleared area: 1. is **rehabilitated**; or 2. where the **cleared** area cannot reasonably be **rehabilitated**, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Essential habitat excluding essential habitat for *Phascolarctos cinereus* (koalas) if development is assessable under Schedule 10, Part 10 of the Planning Regulation 2017		

Performance outcomes	Acceptable outcomes	Response
PO16 Clearing of **vegetation** in a **regional ecosystem** that is an area of **essential habitat** maintains the composition, structure and function of the **regional ecosystem** for each **protected wildlife** species individually.	**AO16.1 Clearing** does not occur in **essential habitat**. OR **AO16.2 Clearing** in **essential habitat** does not exceed the widths prescribed in reference table 1 of this code. OR **AO16.3 Clearing** in **essential habitat** does not exceed the areas prescribed in table reference table 1 of this code.	NA
PO17 Where **clearing** of **vegetation** in a **regional ecosystem** that is an area of **essential habitat** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact for** each **protected wildlife** species individually.	No acceptable outcome is prescribed.	NA
Acid sulfate soils if the local government is not the assessment manager for the development application		
PO18 Clearing of **vegetation** does not result in, or accelerate, disturbance of acid sulfate soils or changes to the hydrology of the location that will result in either of the following: 1. aeration of horizons containing iron sulphides; 2. mobilisation of acid or metals.	**AO18.1 Clearing** does not occur in **land zone 1**, **land zone 2** or **land zone 3**. OR **AO18.2 Clearing** in **land zone 1**, **land zone 2** or **land zone 3** in areas below the five metre Australian Height Datum only occurs where: 1. **mechanical clearing** does not disturb the soil to a depth greater than 30 centimetres; and 2. acid sulfate soils are managed consistent with the soil management guidelines in the Queensland Acid Sulfate Soil Technical Manual.	NA

Table 16.4: Extractive industry

State Development Assessment Provisions v3.0

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Performance outcomes	Acceptable outcomes	Response
Clearing avoids and minimises impacts		
PO19 Clearing of **vegetation** and **adverse impacts of clearing vegetation** do not occur unless the application has demonstrated that the **clearing** and the **adverse impacts of clearing** have been: 1. reasonably avoided; or 2. reasonably minimised where it cannot be reasonably avoided.	No acceptable outcome is prescribed.	NA
Clearing associated with wetlands		
PO20 Clearing of **vegetation** within a natural **wetland** and/or within 100 metres of the **defining bank** of a natural **wetland** maintains the composition, structure and function of any **regional ecosystem** associated with any natural **wetland** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat; 4. terrestrial habitat.	**AO20.1 Clearing** does not occur in a natural **wetland** or within 100 metres of the **defining bank** of any natural **wetland**. OR **AO20.2 Clearing** within 100 metres of the **defining bank** of any natural **wetland**: 1. does not occur within 10 metres of the **defining bank** of any natural **wetland**; and 2. does not exceed widths in table reference table 1 in this code.	NA
PO21 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a natural **wetland** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	
Clearing associated with watercourses and drainage features		
PO22 Clearing of **vegetation** within a **watercourse** and /or **drainage feature** and/or within the relevant distance (listed in reference table 2) of a **watercourse** and/or **drainage feature,** maintains the composition, structure and function of the **regional ecosystem** associated with the **watercourse** and/or **drainage feature** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants;	**AO22.1 Clearing** does not occur in any of the following areas: 1. inside the **defining bank** of a **watercourse** or **drainage feature**; and 2. within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code. OR	NA

Performance outcomes	Acceptable outcomes	Response
3. aquatic habitat; 4. terrestrial habitat.	**AO22.2 Clearing** within any **watercourse** or **drainage feature**, or within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code: 1. does not exceed the widths in table reference table 1 of this code; and 2. does not occur within 10 metres of the **defining bank**, unless **clearing** is required into or across the **watercourse** or **drainage feature**.	
PO23 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a **watercourse** and/or **drainage feature** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Connectivity		
PO24 Regional ecosystems on the subject land and any adjacent land retain sufficient **vegetation** to maintain: 1. **ecological processes**; and 2. ensure the **regional ecosystem** remains in the landscape despite **threatening processes**.	**AO24.1 Clearing** occurs in accordance with reference table 3 in this code.	NA
Soil erosion if the local government is not the assessment manager for the development application		
PO25 Clearing does not result in **accelerated soil erosion** within or outside the land the subject of the development application.	**AO25.1 Clearing** only occurs if an **erosion and sediment control plan** is developed and implemented to prevent **soil erosion and instability** resulting from the **clearing**.	NA
Salinity		
PO26 Clearing within 100 metres of a **salinity expression area** does not contribute to or accelerate **land degradation** through either of the following: 1. **waterlogging**; 2. the **salinisation** of **groundwater**, surface water or soil.	**AO26.1 Clearing** does not occur within 100 metres of a **salinity expression area**.	NA
Conserving endangered and of concern regional ecosystems		

Performance outcomes	Acceptable outcomes	Response
PO27 Clearing of **vegetation** maintains the composition, structure and function of **endangered regional ecosystems** and/or **of concern regional ecosystems**.	**AO27.1 Clearing** does not occur in an **endangered regional ecosystem** or an **of concern regional ecosystem**. OR **AO27.2** Total **clearing** of **endangered regional** ecosystems and **of concern regional ecosystems** combined does not exceed the widths prescribed in table reference table 1 of this code. OR **AO27.3** Total **clearing** of **endangered regional ecosystems** and **of concern regional ecosystems** combined does not exceed areas prescribed in table reference table 1 of this code.	NA
PO28 Where **clearing** of **vegetation** in an **endangered regional ecosystem** or an **of concern regional ecosystems** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, the cleared area: 1. is **rehabilitated**; or 2. where the cleared area cannot be **rehabilitated**, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Essential habitat excluding essential habitat for *Phascolarctos cinereus* (koalas) if development is assessable under Schedule 10, Part 10 of the Planning Regulation 2017		
PO29 Clearing of **vegetation** in a **regional ecosystem** that is an area of **essential habitat** maintains the composition, structure and function of the **regional ecosystem** for each **protected wildlife** species individually.	**AO29.1 Clearing** does not occur in **essential habitat**. OR **AO29.2 Clearing** in **essential habitat** does not exceed the widths prescribed in table reference table 1 of this code.	NA

Performance outcomes	Acceptable outcomes	Response
	OR **AO29.3 Clearing** in **essential habitat** does not exceed the areas prescribed in table reference table 1 of this code.	
PO30 Where **clearing** of **vegetation** in a **regional ecosystem** that is an area of **essential habitat** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact for** each **protected wildlife** species individually.	No acceptable outcome is prescribed.	NA
Acid sulfate soils if the local government is not the assessment manager for the development application		
PO31 Clearing does not result in, or accelerate, disturbance of acid sulfate soils or changes to the hydrology of the location that will result in either of the following: 1. aeration of horizons containing iron sulphides 2. mobilisation of acid or metals.	**AO31.1 Clearing** does not occur in **land zone 1**, **land zone 2** or **land zone 3**. OR **AO31.2 Clearing** in **land zone 1**, **land zone 2** or **land zone 3** in areas below the five metre Australian Height Datum only occurs where: 1. **mechanical clearing** does not disturb the soil to a depth greater than 30 centimetres; and 2. acid sulfate soils are managed consistent with the soil management guidelines in the Queensland Acid Sulfate Soil Technical Manual.	NA
Staged clearing		
PO32 Clearing of **vegetation**: 1. is staged in line with operational needs that restrict **clearing** to the current operational area; and 2. only occurs in the area from which material will be extracted, and any reasonably associated **built infrastructure**, within the term of the development approval; and 3. does not occur without required permits.	No acceptable outcome is prescribed.	NA

Table 16.5: Coordinated project (agriculture)

Performance outcomes	Acceptable outcomes	Response
Clearing avoids and minimises impacts		
PO33 Clearing of **vegetation** and **adverse impacts of clearing vegetation** do not occur unless the application has demonstrated that the **clearing** and the **adverse impacts of clearing** have been: 1. reasonably avoided; or 2. reasonably minimised where it cannot be reasonably avoided.	No acceptable outcome is prescribed.	NA
Clearing associated with wetlands		
PO34 Clearing of **vegetation** within a natural **wetland** and/or within 100 metres of the **defining bank** of a natural **wetland** maintains the composition, structure and function of any **regional ecosystem** associated with any natural **wetland** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat; 4. terrestrial habitat.	**AO34.1 Clearing** does not occur in a natural **wetland** or within 100 metres of the **defining bank** of any natural **wetland**. OR **AO34.2 Clearing** within 100 metres of the **defining bank** of any natural **wetland**: 1. does not occur within 10 metres of the **defining bank** of any natural **wetland**; and 2. does not exceed widths in table reference table 1 in this code.	NA
PO35 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a natural **wetland** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Clearing associated with watercourses and drainage features		
PO36 Clearing of **vegetation** within a **watercourse** and /or **drainage feature** and/or within the relevant distance (listed in reference table 2) of a **watercourse** and/or **drainage feature,** maintains the composition, structure and function of the	**AO36.1 Clearing** does not occur in any of the following areas: 1. inside the **defining bank** of a **watercourse** or **drainage feature**; and	NA

Performance outcomes	Acceptable outcomes	Response
regional ecosystem associated with the **watercourse** and/or **drainage feature** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat; 4. terrestrial habitat.	2. within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code. OR **AO36.2 Clearing** within any **watercourse** or **drainage feature**, or within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code: 1. does not exceed the widths in table reference table 1 of this code; and 2. does not occur within 10 metres of the **defining bank**, unless **clearing** is required into or across the **watercourse** or **drainage feature**.	
PO37 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a **watercourse** and/or **drainage feature** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Connectivity		
PO38 Regional ecosystems on the subject land and any adjacent land retain sufficient **vegetation** to: 1. maintain **ecological processes**; and 2. ensure the **regional ecosystem** remains in the landscape despite **threatening processes**.	**AO38.1 Clearing** occurs in accordance reference table 3 of this code.	NA
PO39 Where: 1. **clearing** of **vegetation** in a **regional ecosystem** does not maintain **ecological processes**; and 2. the **regional ecosystem** does not remain in the landscape despite **threatening processes**; and 3. the **clearing** cannot be avoided; and 4. the **clearing** has been mitigated	No acceptable outcome is prescribed.	NA

Performance outcomes	Acceptable outcomes	Response
an **offset** is provided for any acceptable **significant residual impact**.		
Soil erosion if the local government is not the assessment manager for the development application		
PO40 Clearing does not result in **accelerated soil erosion** within or outside the land the subject of the development application.	**AO40.1 Clearing** only occurs if an **erosion and sediment control plan** is developed and implemented to prevent **soil erosion and instability** resulting from the **clearing**.	NA
Salinity		
PO41 Clearing within 100 metres of a **salinity expression area** does not contribute to or accelerate **land degradation** through either of the following: 1. **waterlogging**; 2. the **salinisation** of **groundwater**, surface water or soil.	**AO41.1 Clearing** does not occur within 100 metres of a **salinity expression area**.	NA
Conserving endangered and of concern regional ecosystems		
PO42 Clearing of **vegetation** maintains the composition, structure and function of **endangered regional ecosystems** and/or **of concern regional ecosystems**.	**AO42.1 Clearing** does not occur in an **endangered regional ecosystem** or an **of concern regional ecosystem**. OR **AO42.2** Total **clearing** of **endangered regional ecosystems** and **of concern regional ecosystems** combined does not exceed the widths prescribed in table reference table 1 of this code. OR **AO42.3** Total **clearing** of **endangered regional ecosystems** and **of concern regional ecosystems** combined does not exceed areas prescribed in table reference table 1 of this code.	NA
PO43 Where **clearing** of **vegetation** in an **endangered regional ecosystem** or an **of concern regional ecosystems** does not maintain the composition, structure and function of the **regional**	No acceptable outcome is prescribed.	NA

Performance outcomes	Acceptable outcomes	Response
ecosystem, and cannot be avoided and has been mitigated, the cleared area: 1. is **rehabilitated**; or 2. where the cleared area cannot be **rehabilitated**, an **offset** is provided for any acceptable **significant residual impact**.		
Essential habitat excluding essential habitat for *Phascolarctos cinereus* (koalas) if development is assessable under Schedule 10, Part 10 of the Planning Regulation 2017		
PO44 Clearing of **vegetation** in a **regional ecosystem** that is an area of **essential habitat** maintains the composition, structure and function of the **regional ecosystem** for each **protected wildlife** species individually.	**AO44.1 Clearing** does not occur in **essential habitat**. OR **AO44.2 Clearing** in **essential habitat** does not exceed the widths prescribed in table reference table 1 of this code. OR **AO44.3 Clearing** in **essential habitat** does not exceed the areas prescribed in table reference table 1 of this code.	NA
PO45 Where **clearing** of **vegetation** in a **regional ecosystem** that is an area of **essential habitat** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact for** each **protected wildlife** species individually.	No acceptable outcome is prescribed.	NA
Acid sulfate soils if the local government is not the assessment manager for the development application		
PO46 Clearing does not result in, or accelerate, disturbance of acid sulfate soils or changes to the hydrology of the location that will result in either of the following: 1. aeration of horizons containing iron sulphides; 2. mobilisation of acid or metals.	**AO46.1 Clearing** does not occur in **land zone 1**, **land zone 2** or **land zone 3**. OR **AO46.2 Clearing** in **land zone 1**, **land zone 2** or **land zone 3** in areas below the five metre Australian Height Datum only occurs where:	NA

Performance outcomes	Acceptable outcomes	Response
	1. **mechanical clearing** does not disturb the soil to a depth greater than 30 centimetres; and 2. acid sulfate soils are managed consistent with the soil management guidelines in the Queensland Acid Sulfate Soil Technical Manual.	
Clearing for agriculture		
PO47 Clearing of **vegetation** only occurs where the land is suitable for agriculture having regard to topography, climate and soil attributes.	No acceptable outcome is prescribed.	NA
PO48 For applications for irrigated crops, the owner of the land has, or may have, access to enough water for establishing, cultivating and harvesting the crops to which the **clearing** of **vegetation** relates.	No acceptable outcome is prescribed.	NA

Table 16.6: Coordinated project (extractive industry)

Performance outcomes	Acceptable outcomes	Response
Clearing avoids and minimises impacts		
PO49 Clearing of **vegetation** and **adverse impacts of clearing vegetation** do not occur unless the application has demonstrated that the **clearing** and the **adverse impacts of clearing** have been: 1. reasonably avoided; or 2. reasonably minimised where it cannot be reasonably avoided.	No acceptable outcome is prescribed.	NA
Clearing associated with wetlands		
PO50 Clearing of **vegetation** within a natural **wetland** and/or within 100 metres of the **defining bank** of a natural **wetland** maintains the composition, structure and function of any **regional ecosystem** associated with any natural **wetland** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat;	**AO50.1 Clearing** does not occur in a natural **wetland** or within 100 metres of the **defining bank** of any natural **wetland**. OR **AO50.2 Clearing** within 100 metres of the **defining bank** of any natural **wetland**: 1. does not occur within 10 metres of the **defining bank** of any natural **wetland**; and	NA

Performance outcomes	Acceptable outcomes	Response
4. terrestrial habitat.	2. does not exceed widths in reference table 1 in this code.	
PO51 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a natural **wetland** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact**.	No acceptable outcome is prescribed.	NA
Clearing associated with watercourses and drainage features		
PO52 Clearing of **vegetation** within a **watercourse** and /or **drainage feature** and/or within the relevant distance (listed in reference table 2) of a **watercourse** and/or **drainage feature,** maintains the composition, structure and function of the **regional ecosystem** associated with the **watercourse** and/or **drainage feature** to protect all of the following: 1. bank stability by protecting against bank erosion; 2. water quality by filtering sediments, nutrients and other pollutants; 3. aquatic habitat; 4. terrestrial habitat.	**AO52.1 Clearing** does not occur in any of the following areas: 1. inside the **defining bank** of a **watercourse** or **drainage feature**; and 2. within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code. OR **AO52.2 Clearing** within any **watercourse** or **drainage feature**, or within the relevant distance of the **defining bank** of any **watercourse** or **drainage feature** in reference table 2 of this code: 1. does not exceed the widths in reference table 1 of this code; and 2. does not occur within 10 metres of the **defining bank**, unless **clearing** is required into or across the **watercourse** or **drainage feature**.	NA
PO53 Where **clearing** of **vegetation** in a **regional ecosystem** associated with a **watercourse** and/or **drainage feature** does not maintain the composition, structure and function of the **regional ecosystem**, and cannot be avoided and has been mitigated, an **offset** is provided for any acceptable **significant residual impact.**	No acceptable outcome is prescribed.	NA
Connectivity		