Bell Snoxell Building Consultants Ltd

May 2018
Our Ref: LS/8633

REVIEW OF FLOOD RISK

Newton's Yard, Sneaton Lane, Ruswarp, YO22 5HL

1.0 INTRODUCTION

1.1 The location of the site is the former Newton's Yard, Sneaton Lane, Ruswarp, YO22 5HL.

1.2 The co-ordinates are as follows-

- Easting: 489011
- Northing: 509004

1.3 The proposals are for the replacement of an existing portable cabin that has been utilised as office space for a number of decades with a Nissen type building to be utilised as a workshop. As part of the application a new retaining wall will be constructed to make more efficient use of the site. The plans associated with the application are as follows.

- 01- Location Plan
- 02- Existing Block Plan and Picture of Existing Office Cabin
- 03- Proposed Block Plans
- 04- Proposed Elevations and Floor Layouts
- 05- Proposed Sections AA

1.4 The site is situated within approximately 44-48 meters of the banks of the River Esk. The proposed building itself is approximately 70 meters away from the banks of the River Esk.

1.5 It has been identified from the Environment Agency Flood Risk Assessment (FRA) map for Ruswarp as falling in Flood Zone 2. The front section of the site is indicated as being in flood Zone 3 however there is no proposed development or changes to this section.

1.6 Flood Zone 2 land and property that has a medium probability of flooding.

1.7 The Environment Agency risk from surface water flooding map for the area indicates that the area is not in a known area of risk.

NYMNPA
08/05/2018

2.0 SITE/FLOOD LEVELS

2.1 The Environment Agency flood event outlines and modelled node points map places the site near RESK020. For a 1 in 100 flood frequency level (with & without defences) the HT is 4.5 AOD from the Environment Agency modelled levels.

2.2 The current site level where the proposed building is to be placed is 5-5.2 AOD. Even at the front of the site that is indicated to be in Flood Zone 3 where there is to be no proposed development this is at 4.5-4.61 AOD.

2.3 The proposed internal finished floor level of the new Nissen style building will be 5.4 ADO.

3.0 CONCLUSION

3.1 From the related Ordnance Survey levels the finished floor level of the proposed building will be sufficiently above the highest known flood levels to this section of the site. This is above the minimum 300 mm standing advice from the Environment Agency for vulnerable sites over the estimated river flood level.

3.2 The nature of the construction, this being corrugated steel sheets with a solid concrete floor slab and masonry sides are flood resilient. All internal services will be placed at least 450-500 mm up from the internal ground levels.

3.3 The only additional surface water run-off will be from the slight increase in size from the existing portable office cabin. Where the new retaining wall is to be excavated sections of hardstanding will be formed in large aggregate giving a permeable surface.

3.4 Taking into account the above information it is considered that no additional flood protection measures are deemed required for these proposals.

Louis Stainthorpe
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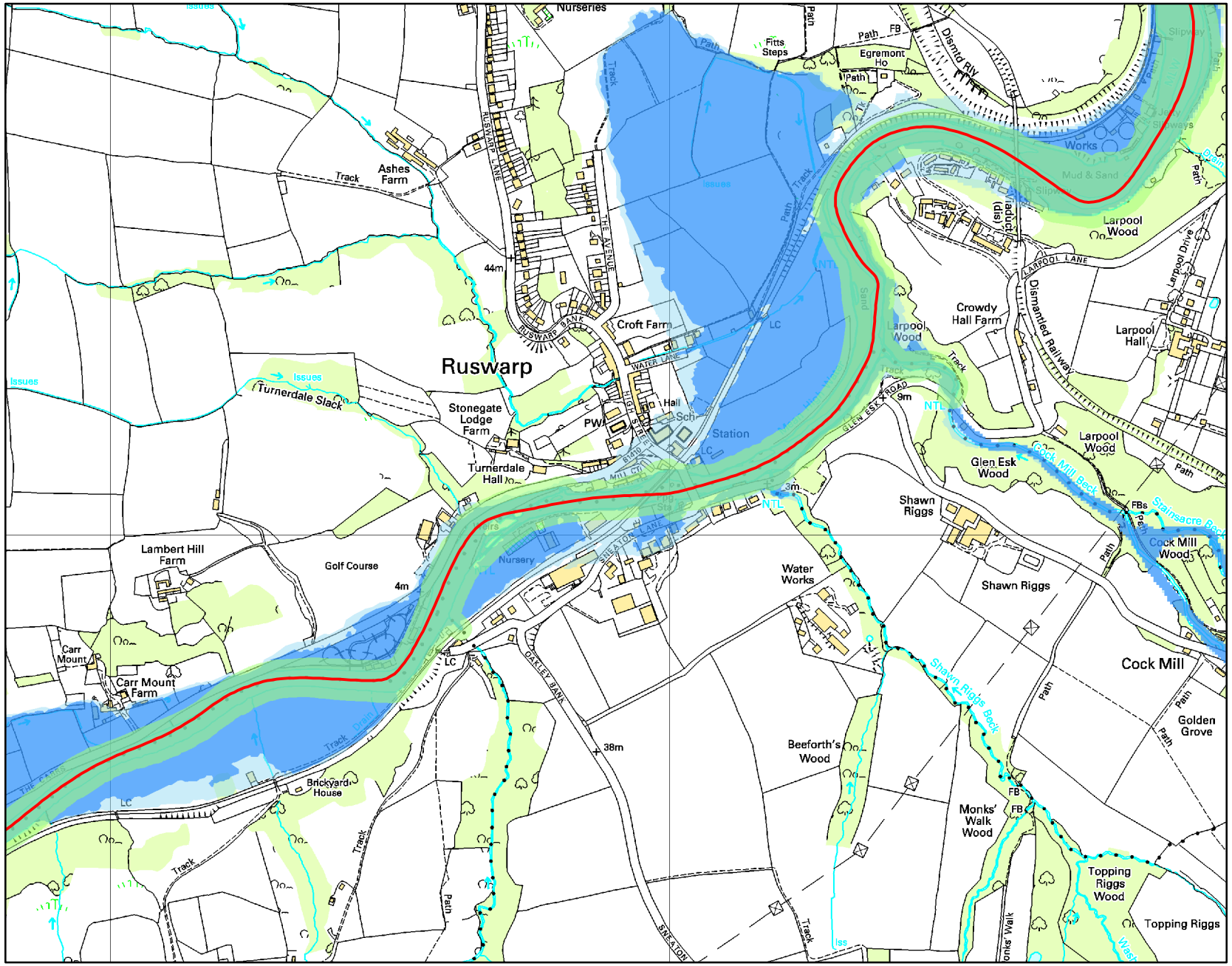
BSc (Hons), MRICS, RICS Registered Valuer, MCABE

Detailed FRA map centred on Ruswarp.



Environment Agency

Scale 1:10,000

N

Please note that the supplied map is not considered by the Environment Agency to constitute a flood risk assessment on its own and may not be accepted by local planning authorities for that purpose. Using an inappropriate scale can in some instances result in a different indication of whether a particular point is within a flood zone.

Legend

- Bank Top E-Planning Tool
- Areas Benefiting
- Flood Zone 3
- Flood Zone 2
- Main River

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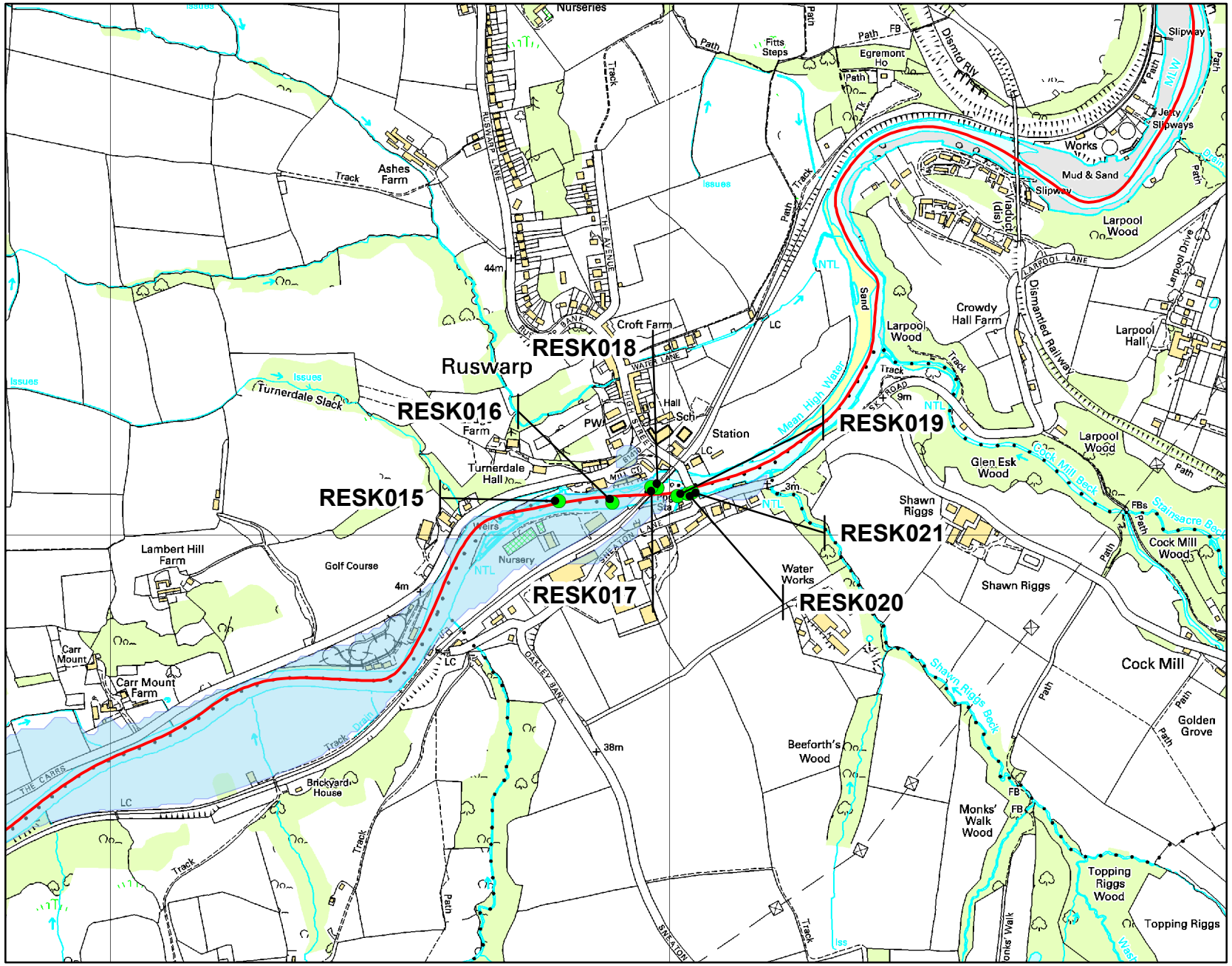
Flood Event Outlines and Modelled Node Points map centred on Ruswarp.



Environment Agency

Scale 1:10,000

N

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Legend

Node Points

NAME

Autumn 2000 Event

Main River

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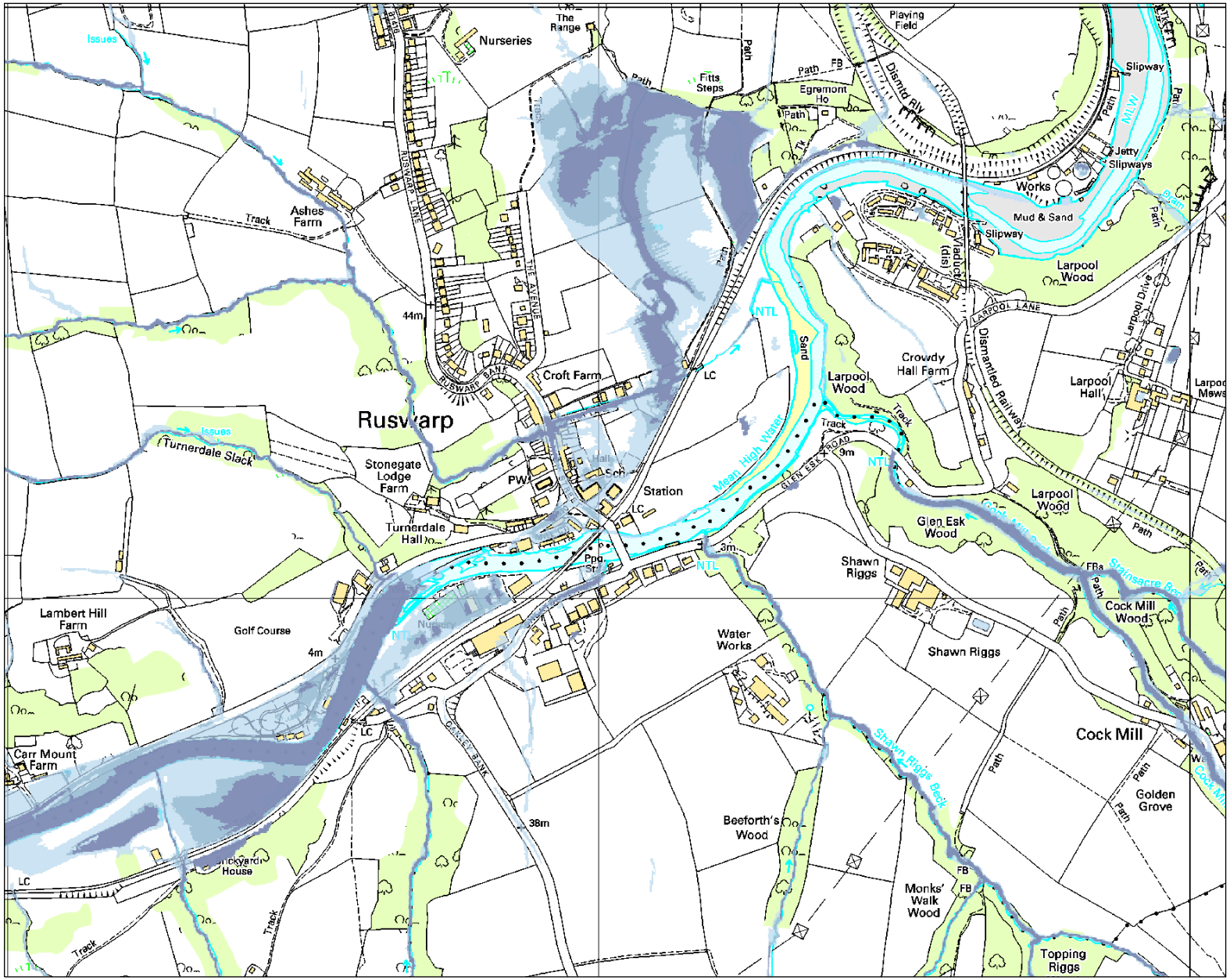
Risk of flooding from Surface Water



Environment Agency

Scale 1:10,000

N
W E
S

Likelihood of flooding from Surface Water

- High
- Medium
- Low
- Very Low

Likelihood of flooding from Surface Water

High:	Greater than or equal to 1 in 30 (3.3%) chance in any given year
Medium:	Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance in any given year
Low:	Less than 1 in 100 (1%) but greater than or equal to 1 in 1,000 (0.1%) chance in any given year
Very Low:	Less than 1 in 1,000 (0.1%) chance in any given year

This information is shown on the Risk of Flooding from Surface Water map on our website.

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	With Defences			Without Defences			Tidal		
Node Point	Return Period	Level Value	Flow Value	Return Period	Level Value	Flow Value	Return Period	Level Value	Flow Value
	5	3.71	94.12	5	3.71	94.12	5	3.37	8.85
	10	3.86	217.96	10	3.86	217.96	10	3.48	8.85
	25	4.08	268.18	25	4.08	268.25	25	3.64	8.89
	50	4.27	310.70	50	4.27	309.95	50	3.79	13.17
	75	4.43	334.14	75	4.43	334.21	75	3.88	14.81
	100	4.58	348.11	100	4.58	348.10	100	3.95	15.50
	101	5.10	383.03	101	5.10	382.68	200	4.14	18.44
RESK015	1000	6.05	459.37	1000	6.05	482.60	201	4.41	21.36
	5	3.66	93.85	5	3.66	94.10	202	5.07	37.69
	10	3.79	218.23	10	3.79	218.17	1000	4.45	23.64
	25	3.98	268.29	25	3.98	268.31	5	3.37	9.99
	50	4.14	311.75	50	4.14	311.11	10	3.48	10.08
	75	4.26	342.34	75	4.25	342.31	25	3.64	10.16
	100	4.36	363.33	100	4.36	363.25	50	3.79	13.82
	101	4.67	440.04	101	4.67	438.62	75	3.88	15.37
RESK016	1000	5.28	604.54	1000	5.28	604.50	100	3.95	16.01
	5	3.77	94.10	5	3.77	94.06	200	4.14	19.05
	10	3.94	218.07	10	3.94	218.28	201	4.41	22.45
	25	4.19	268.36	25	4.19	268.39	202	5.06	47.37
	50	4.39	312.04	50	4.39	311.24	1000	4.45	24.18
	75	4.54	342.40	75	4.53	342.49	5	3.37	11.33
	100	4.66	363.36	100	4.66	363.41	10	3.48	11.44
	101	5.05	437.64	101	5.05	437.10	25	3.64	11.60
RESK017	1000	5.82	578.59	1000	5.82	578.82	50	3.79	14.47
	5	3.77	94.10	5	3.77	94.06	75	3.88	15.92
	10	3.94	218.07	10	3.94	218.28	100	3.95	16.52
	25	4.19	268.36	25	4.19	268.39	200	4.14	19.67
	50	4.39	312.04	50	4.39	311.24	201	4.41	23.56
	75	4.54	342.40	75	4.53	342.49	202	5.05	48.69
	100	4.66	363.36	100	4.66	363.41	1000	4.45	24.78
	101	5.04	437.64	101	5.04	437.10	5	3.37	11.33
RESK018	1000	5.75	578.59	1000	5.75	578.82	10	3.48	11.44
	5	3.69	94.10	5	3.69	94.19	25	3.64	11.60
	10	3.84	218.10	10	3.84	218.13	50	3.79	14.47
	25	4.06	268.55	25	4.06	268.42	75	3.88	15.92
	50	4.25	312.21	50	4.25	311.37	100	3.95	16.52
	75	4.39	342.57	75	4.38	342.51	200	4.14	19.67
	100	4.51	363.52	100	4.51	363.41	201	4.41	23.56
	101	4.87	436.07	101	4.87	436.27	202	5.05	48.69
RESK019	1000	5.59	556.08	1000	5.59	555.95	1000	4.45	24.78
	5	3.69	94.09	5	3.69	94.03	5	3.37	12.71
	10	3.84	218.05	10	3.84	218.10	10	3.48	12.86
	25	4.06	268.41	25	4.06	268.65	25	3.64	13.09
	50	4.25	312.27	50	4.25	311.35	50	3.79	15.12
	75	4.38	342.52	75	4.38	342.57	75	3.88	16.48
	100	4.50	363.37	100	4.50	363.48	100	3.95	17.04

	101	4.85	436.34
RESK020	1000	5.57	560.88
	5	3.67	94.09
	10	3.82	218.05
	25	4.03	268.41
	50	4.20	312.27
	75	4.34	342.52
	100	4.46	363.37
	101	4.79	436.34
RESK021	1000	5.44	560.88

101	4.85	435.43
1000	5.56	560.81
5	3.67	94.03
10	3.82	218.10
25	4.03	268.65
50	4.20	311.35
75	4.33	342.57
100	4.45	363.48
101	4.79	435.43
1000	5.43	560.81

200	4.14	20.32
201	4.41	24.76
202	5.05	50.24
1000	4.45	25.62
5	3.37	12.97
10	3.48	13.13
25	3.64	13.38
50	3.79	15.24
75	3.88	16.59
100	3.95	17.14
200	4.14	20.51
201	4.41	24.99
202	5.05	50.37
1000	4.45	25.76
5	3.37	12.97
10	3.48	13.13
25	3.64	13.38
50	3.79	15.24
75	3.88	16.59
100	3.95	17.14
200	4.14	20.51
201	4.41	24.99
202	5.05	50.37
1000	4.45	25.76