

Assessment of Biodiversity Biodiversity Net Gain (BNG)

Version 2
15.03.24

Prepared for: Exemplar

Site: Bury

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1. Introduction

1.1 Background to the project

Amenity Tree was commissioned by Exemplar Healthcare to undertake a Biodiversity Assessment for the proposed development.

1.2 Site location and context

The Preliminary Ecological Appraisal stated:

‘The site is located within Bury an urban environment. The area is mixed use. There is residential and offices to the north and west, with a leisure centre to the east. To the South is Jubilee Way. The main area of site is vacant previously developed land. Beyond the boundary, at the south of site, scattered trees are present. Identified habitats include ephemeral/short perennial has been identified on-site, indicated by “short patchy plant associations typical of derelict urban sites” (JNCC, 2010).’.

The total area of the site is approximately 0.381 hectare.

1.3 Report purpose and legislative background

- 1.3.1 This assessment was requested by the client for the purposes of supporting a planning application for the site’s development in line with The Environment Act 2021, including Part 6 of the Environment Act 2021 ‘nature and biodiversity’, which allows for biodiversity gain in the planning system. Schedule 14 of the Environment Act 2021 has been brought into force and there are current regulations legally mandating BNG.

The British Standard BS 8683:20211 defines BNG as “*a specific, quantifiable outcome from project activities that deliver demonstrable benefits for biodiversity compared to the baseline situation.*”

The National Planning Policy Framework 2021 (NPPF) emphasises the importance of protecting and enhancing the natural environment. The NPPF approach to BNG is set out in Paragraph 179b, which is to “*promote the*

conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity”.

1.3.2 A Preliminary Ecological Appraisal confirmed habitats present. Therefore, the habitats present are confirmed and using the UK Habitats Classification System (UKHAB) it is possible that the appropriate habitat classification is used in the BNG metric.

1.3.3 The scope of the Assessment is therefore:

- Assessment of the habitats within the site in accordance with the UK Habitats Classification (UK Habitats Classification Working Group, 2018).
- Completion of Condition Assessments of each habitat in accordance with those presented in The Biodiversity Metric 4.0: Auditing and accounting for biodiversity value: technical supplement (Crosher, et al., Beta version, July 2019).

2. Survey Methods

2.1 Vegetation and Habitats

2.1.1 An extended phase one habitat survey plan (in accordance with JNCC, 2010) is provided in appendix 2 which confirmed the habitats present. Appendix 3 is the habitat mapping based on the UK Habitat Classification system (UK Habitats Classification Working Group, 2018) which details ephemeral / ruderal.

2.1.2 Table 1 details the conversion used from JNCC habitats to UK Habitat classifications / BNG metric habitat descriptors.

JNCC Habitat type	UK Habs/ BNG metric descriptors.
Ephemeral	Ruderal / ephemeral

2.1.3 Whilst on the site the habitat survey searched for all plants including those that are considered rare, uncommon or are statutorily protected such as those listed in schedule 9 of the *Wildlife and Countryside Act 1981* (as amended).

2.2 Limitations

2.2.1 The survey was conducted in the sub optimal survey period for vascular plants as determined by JNCC, 2010 (August 2021), but broad species and habitats were identifiable.

2.3 Evaluation

2.3.1 Habitats have been assessed to determine whether they meet those described in the UK Biodiversity Action Plan – Priority Habitat descriptions which are used to form Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2.3.2 <https://www.daftlogic.com/projects-google-maps-area-calculator-tool.htm> and AutoCad has been used to measure habitat size and all habitats are calculated as areas.

2.3.3 The BNG Assessment tool “The Biodiversity Metric 4.0 – Natural England 2023) is used for the evaluation and condition assessment is made using the technical support provided by Natural England.

2.3.4 Other government advice on wildlife such as the National Planning Policy Framework (NPPF) or the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017, is referenced where applicable and any impacts on protected species are evaluated in accordance with current guidance.

3. Survey results

3.1 History of site

3.1.1 The recent history of the site can be examined using historic aerial imagery. The site appears to have been recently demolished.

3.1.2 An examination of <https://magic.defra.gov.uk/MagicMap.aspx> indicates the following.

The site is located within SSSI Impact Zone for Rochdale Canal SSSI which is located 8100m east of site. The site is located approximately 18km from a Wigan Flashes National Nature Reserve and 1900m from Chesham Woods Local Nature Reserve. The development proposal does not appear to conform to those development types that require the LPA to consult Natural England on the likely risks.

Multi-Agency Geographic Information for the Countryside website data has confirmed the following habitats and species apply to the site and its immediate locality:

- There are no section 41 habitats listed on the inventory on the site.
- Priority woodland is located in numerous areas within a 1km radius of site.
- The site is located 850m southwest of Network Enhancement Zone 2 and 200m from Network Expansion Zone.
- There are no important bird areas, seabird considerations, or water and wetland considerations in respect of avian species.
- The site is in the range of 4 species of Arable Assemblage Farmland Birds under the Countryside Stewardship Scheme (CSS).
- The site is located within the CSS for avian species (Lapwing and Curlew) shown by data collation periods between 2005-2010.
- The closest granted European Protected Species (EPS) license applications is for bats 550m southwest of site.

3.2. Site description and condition assessment of habitats

3.2.1 The site is best described as ephemeral / ruderal.

3.2.3 A condition assessment for the ephemeral / ruderal is provided in appendix 5. The condition habitat assessment scored 1 core criteria passed making it a poor condition.

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
Core Criteria - must be assessed for all urban habitat types :			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No	No variety of height or structure
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes	
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	No	

3.2.4 Summary of the area based habitat (Site size 0.381 ha)

Habitat ref	UK Habitat Classification Type	Condition Assessment Result	Ha / Linear M
Habitat 1	Sparsely vegetated land – ephemeral/ruderal	Poor	0.381

4. Evaluation and Assessment

4.1 Proposed habitat creation and enhancement

The site shall be developed as proposed in appendix 4 and as detailed below.

The total area of the site is approximately 0.381 hectare.

REF	LSCP DESCRIPTION	BNG DESCRIPTION	HECTARE
			/ NO.
1	TREES	MEDIUM	9
		SMALL	8
2	WILDFLOWER	NEUTRAL GRASSLAND	0.032
3	AMENITY GRASSLANDS	MODIFIED GRASSLAND	0.012
4	NATIVE HEDGROWS	NATIVE HEDGROWS	165Lm
5	SHRUB BEDS	URBAN INTRODUCED SHRUBS	0.039
6	URBAN SEALED SURFACES	URBAN SEALED SURFACES	0.298
		TOTAL HA:	0.381
7	AREA WITHIN RED LINE BOUNDARY	TOTAL HA:	0.381

Proposed urban tree sizes.

A full assessment of the proposed trees and the extent to which they will develop into medium size trees has been undertaken as follows.

- Plant spacings have been considered as part of this assessment.

No trees that are proposed in pits or adjacent to hard standing have been counted as medium size due to likely root restriction over the 30-year period.

- Only tree species that would naturally attain a stem diameter of 300mm or greater in 30 years have been considered as a medium size tree.
- It is reasonable to consider that a UK Habs 30-year management plan can afford trees developing into the medium size and for BNG as they will be afforded appropriate management as part of this plan.

From the total of 17 proposed urban trees it has been assessed that 9 can reach a medium size within the 30 year habitat management plan that will required as part of a planning condition associated with full planning consent. The total proposed coverage of these in the proposed habitat creation within the metric is as follows.

Tree size	Number of trees and area (ha) for each condition state					
	Poor	Area	Moderate	Area	Good	Area
Small		0.0000	8	0.0326		0.0000
Medium		0.0000	9	0.3298		0.0000
Large		0.0000		0.0000		0.0000
Total	0	0.0000	17	0.3624	0	0.0000

4.2 Habitat creation methods – Neutral grassland

Other neutral grassland contains Biodiverse lawn EL1 (unmown and mown) and flowering meadow EM4.

Recommended Seed Mixes:

- Emorsgate Seeds EM4
- Emorsgate Seeds EL1

Considerations:

- If soil is being imported into the site, then nutrient poor soil should be used to create wildflower areas in order to support the establishment of the meadow.
- Don't add fertiliser as this will increase fertility of the soil and negatively impact the wildflower meadow.
- Reducing soil fertility: Due to the baseline conditions of the site intensive nutrient stripping techniques are not considered necessary and therefore nutrients should be removed from the grassland through silage cuts

Creation Methodology:

- Create a fine tilth for a seedbed by digging or rotovating the soil then firming and raking.
- Sow seed mixture evenly by hand at 5g per square meter during, late summer/early autumn.

Additional Methodology:

- Designate some areas of grassland for creation of a calcareous species sward with thin poor soils and good drainage. These areas should be managed in line with 'other neutral grassland' once established.
- Remove topsoil and spread limestone chippings.
- Translocation of soils from habitats within the site to be removed by development should be carried out by an experienced contractor alongside Suitably Qualified Ecologist (SQE) who can identify appropriate soils.

Habitat creation methods – Urban trees

Recommended Species: At least 70% of trees should be native species found in the local area, taking into account the requirement to plant trees that will be appropriate for anticipated changes in climate.

Considerations:

- Trees will adapt to natural conditions. Additional watering will only be required during a particularly long dry spell
Trees are to be planted within the tree planting season (October to March inclusive).
- Up to 30% of street trees will not establish and therefore supplementary planting over the following three years will be required to achieve prescribed numbers over the longer term.

Creation Methodology:

- Advanced nursery stock trees or larger will be planted within optimal tree planting season (October to March inclusive).
- Suitable wooden stakes will be used to support the trees.
- Weeds will be controlled around the base of the trees by applying organic mulch (10cm depth in a 50cm buffer around trees), this will also assist with water retention. This will be applied in early summer until trees are successfully established (minimum 3 years).

4.3 Management and monitoring

The following section details management and monitoring methodologies for the habitats proposed to be created and retained on site

The site should be subject to a UKHAB classification survey alongside a condition assessment of the created and enhanced habitats. This survey should be carried out by a suitably qualified ecologist, starting 1 year after the project is completed, with follow up visits within year 2, 5, 10, 20, until the final visit on year 30. A report provided by an independent assessor shall be submitted to the LPA, when habitats as listed in the Biodiversity Metric are judged to have reached target condition.

A review of management of all habitats should be undertaken at years 10 and 20 with the management programme will be updated/adjusted accordingly.

General Management

The following management practices are recommended throughout the site in order to protect created habitats from harmful management practices.

- Weed control will be undertaken using non-chemical interventions wherever possible including mulching and hand pulling. Where deemed necessary, the spot application of eco-friendly herbicides may be used, avoiding areas containing waterbodies such as ponds and rivers.
- The application of fertilisers will be avoided as excessive nutrient loading will negatively alter the species composition of the habitats.

- Care should always be taken when maintaining habitats to avoid damage or disturbance to protected species such as breeding birds and water vole.
- Any arisings and/or cuttings created by maintenance will need to be removed and disposed of off-site or in a suitable location such as a designated compost heap or alternatively composted within the allotments on site.
- During site clearance and management, wood (including dead wood) should be used to create refugia in a suitable location (within native scrub, woodland, or pond edges) wherever possible.
- All areas are to be monitored for controlled and/or invasive species and appropriate action taken to remove if found.
- All areas to be monitored for fly-tipping, rubbish and litter annually (both construction and post-construction phases) with appropriate action taken to remove if found.

Neutral Grassland

The created neutral grassland areas within the site will require regular monitoring and annual maintenance to achieve 'moderate' condition, allowing the more desirable species to flourish and to reduce the presence of unwanted species that will attempt to colonise the area. The following sets out the UKHAB criteria as to what is a good condition other neutral grassland.

Aim:

- The appearance and composition of the vegetation closely matches characteristics of UKHAB type definition. Indicator species are easily and clearly visible throughout the sward.
- Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds, and small mammals to live and breed.
- Cover of bare ground between 1% and 5% of total habitat area to provide an important resource to insects.
- There is greater than 9 species per meter squared.

Management:

- For the first year of growth, cut to 5cm in May, then cut every 2 months or when sward reaches approximately 15cm. Stop cutting by August to allow wildflowers to seed. Final cut to 5cm will be in October.
- From the second year onwards, cut to 5cm in March or April, then make a second cut to 5cm in October.
- From the second year onwards, designate some areas to receive a cut to 5cm during August in order to produce a more varied habitat that will encourage different species of wildflower.
- Remove all arisings from the area, dispose of in designated areas such as a compost heap.
- Remove encroaching scrub and bracken manually using hand tools.
- Annually create areas of bare ground or 'scrapes' covering 1% to 5% of total habitat area by manually scraping away vegetation with hand tools. These scrapes should be located in sunny areas such as south facing embankments, if possible.

Monitoring:

- Habitat will be monitored for controlled and/or invasive species annually and appropriate action taken to remove if found.
- Monitor for damage, cover of bracken and scrub.
- Monitor bare ground cover.
- Check sward height throughout the first year and cut when it reaches 15cm.

5. Conclusions

5.1 The results of the BNG calculation are indicated below.

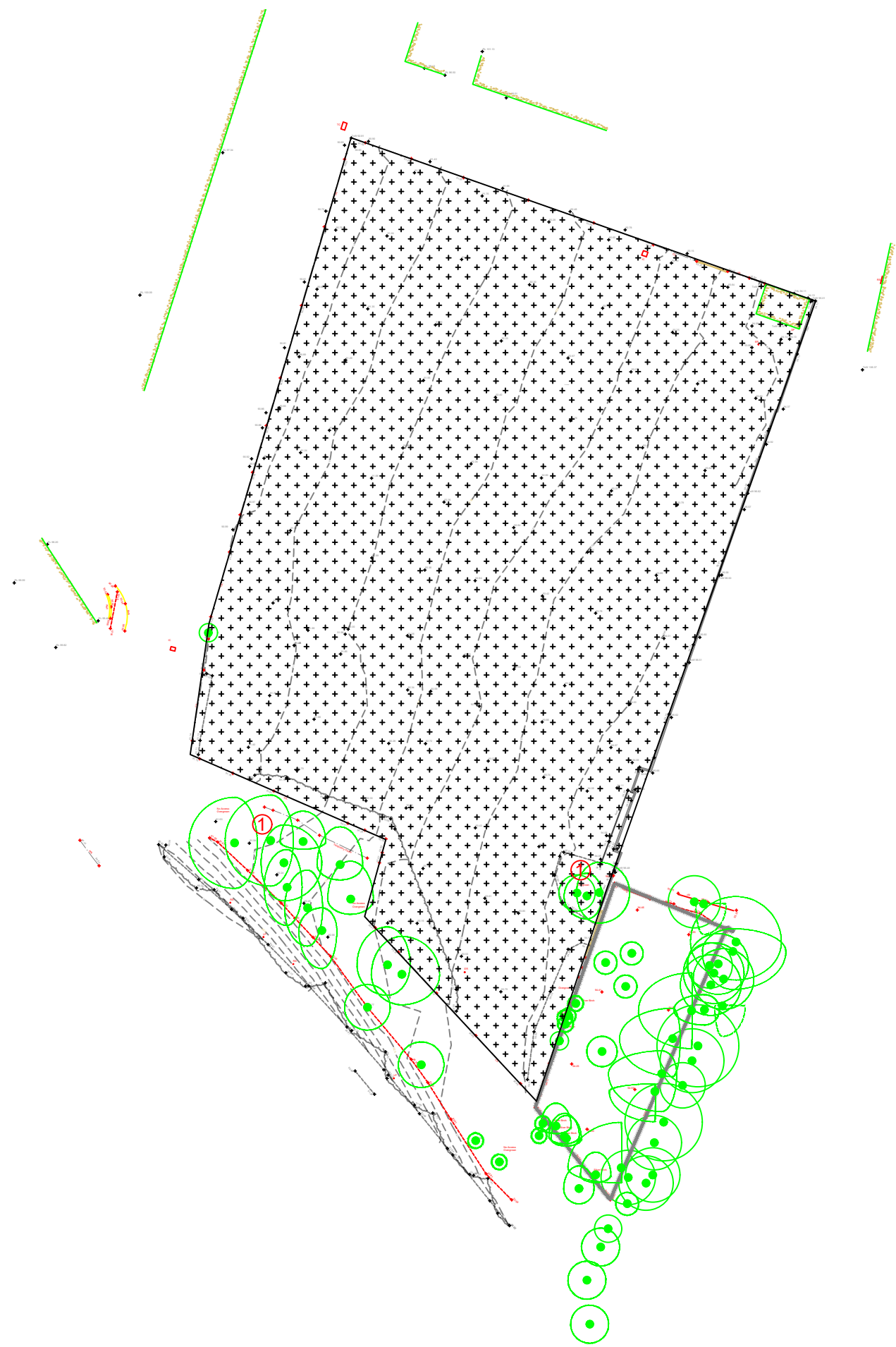
On-site baseline	<i>Habitat units</i>	0.76
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	1.44
	<i>Hedgerow units</i>	0.69
	<i>Watercourse units</i>	0.00
On-site net change (units & percentage)	<i>Habitat units</i>	0.68
	<i>Hedgerow units</i>	0.69
	<i>Watercourse units</i>	0.00
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Off-site net change (units & percentage)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.68
	<i>Hedgerow units</i>	0.69
	<i>Watercourse units</i>	0.00
Spatial risk multiplier (SRM) deductions	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.68
	<i>Hedgerow units</i>	0.69
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	88.85%
	<i>Hedgerow units</i>	N/A
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

Summary conclusion

The site has an increase in biodiversity as demonstrated by the metric primarily because of the proposed landscaping within the development scheme. The proposal contains the introduction of urban trees, small areas of introduced shrub and neutral grassland all of which increase the proposed baseline in comparison to the existing baseline.

Trading rules have been satisfied.

Appendix 3 Habitat Condition Assessments and BNG Metric



PHASE ONE HABITAT MAP

KEY

- A.1.2 Plantation woodland
- J1.3 Ephemeral perennial

① Target Notes. Refer to Preliminary Ecological Appraisal

Client:
Exemplar

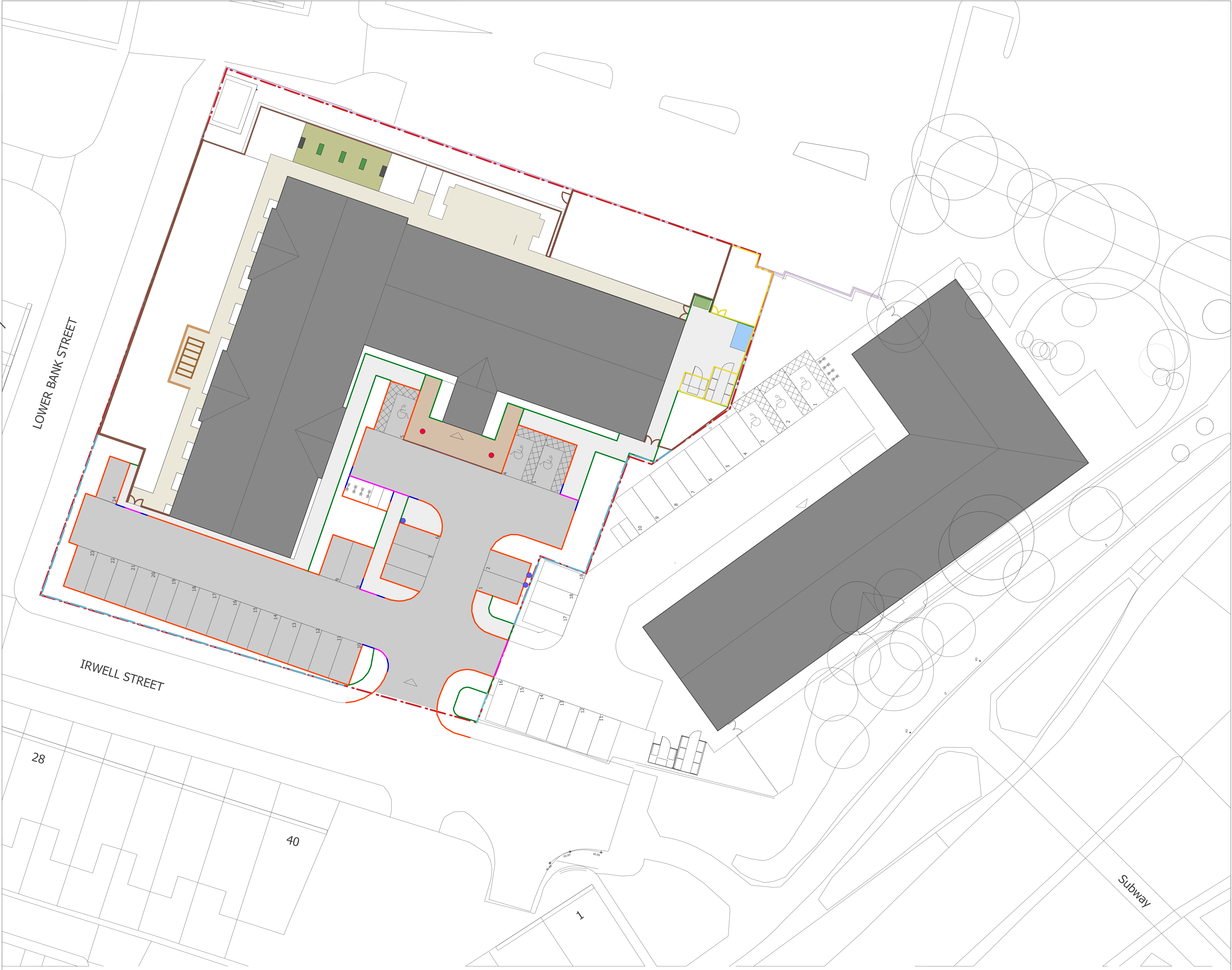
Project:
Bury

Detail:
HABITAT PLAN - Overview

Drawn By: SB Date: 18.01.2024 Scale: 1:500@A3

Drg No: TR-01 Revision: V1

Appendix 2 Proposed development and landscape enhancements

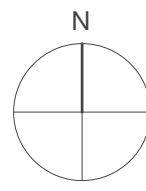


EXEMPLAR HEALTH CARE
BURY, BL9 0HD

AMENITYTREE
ENVIRONMENTAL PLANNING CONSULTANTS

KEY

- SITE BOUNDARY**
- SECURE PERIMETER FENCE - DOUBLE SIDED BOARDING**
2.1m CLOSE BOARDED TIMBER FENCE, CLOSEBOARD / 3 RAILS / WEATHERED COPING / P7SW / PAR / 25 YEAR GUARANTEE / DOUBLE SIDED BOARDING.
- SECURE PERIMETER FENCE - SINGLE SIDED BOARDING**
1.8m CLOSE BOARDED TIMBER FENCE, CLOSEBOARD / 3 RAILS / WEATHERED COPING / P7SW / PAR / 25 YEAR GUARANTEE / DOUBLE SIDED BOARDING.
- ESTATE ROAD / PARKING**
BLACK MACADAM TO ENGINEERS DETAILS.
- FOOTPATHS**
BLACK MACADAM TO ENGINEERS DETAILS.
- INTERNAL PATHS & PATIOS**
TOBERMORE MAYFAIR SILVER PAVOIRS 400x400x40mm
- ENTRANCE PAVOIRS**
TOBERMORE MANHATTAN MIX / GRAPHITE, MID GREY, SILVER, RATIO TO SUPPLIERS RECOMMENDATION / 600x150x80mm.
- STANDARD KERB**
PCC KERB / 125x255x9115mm / NATURAL.
- STANDARD TRANSITION KERB**
PCC TRANSITION KERB / 152x55x150-915mm / natural.
- STANDARD ROPPED KERB**
PCC DROPPED KERB / 125x150x915mm / NATURAL.
- EDGING KERB**
PCC EDGING KERB / 150x50x915MM / NATURAL.
- GARDEN SEATING**
3 SEAT TEAK GARDEN SEAT / ARM & BACK RESTS.
- RAISED PLANTERS**
VEG TRUG OUTDOOR MEDIUM PLANTER / 1830mm LONG / FSC CERTIFIED CEDAR / NATURAL / PAR.
- STAFF SMOKING SHELTER**
TOBERGAL SMOKING SHELTER / 2200(L)x1650(W)x2400(H)mm / SOLAR LED LIGHTING / WASTE BIN & ASH TRAY FIXED / MODEL SBL800 / FRAME & ROOF GALVANISED STEEL FINISHED BLACK / 3 SIDES VANDAL PROOF PLOYCARBONATE.
- RESIDENTS SMOKING SHELTER**
TOBERGAL SMOKING SHELTER / 2200(L)x1650(W)x2400(H)mm / SOLAR LED LIGHTING / WASTE BIN & ASH TRAY FIXED / MODEL SBL800 / FRAME & ROOF GALVANISED STEEL FINISHED BLACK / 3 SIDES VANDAL PROOF PLOYCARBONATE / EMERGENCY CALL / LIGHTING / E-CIG LIGHTER CHARGER.
- GARDEN SHELTER**
DANCOVER LEAN TO SHED-ARROW / 2200(L)x1650(W)x2080(H) / ANTHRACITE GALVANISED STEEL / GROUND FIXED.
- ILLUMINATED BOLLARDS**
MARINISALLS GEO ILLUMINATED BOLLARD / BLACK FINISH / LED / ROOT FIXED.
- EV CHARGE POINT**
- LOW RETAINING EDGE**
200MM HIGH PAR SOFTWOOD SLEEPER RETAINING EDGE
- METAL RAILINGS**
1200mm HIGH BOWTOP FENCE / BLACK
- KITCHEN GARDEN**
TOBERMORE HYDROPRAVE REGULAR - DUO HEATHER / 208X173X60 & 173X173X60
- PERGOLA**
TIMBER PERGOLA DETAILS TBC



0 8 16
m

R.04	12.03.24	Scheme amended - WBA GA 06.03.24	AC
R.03	05.03.24	Scheme amended - WBA GA 06.03.24	AC
R.02	28.02.24	Additional tree added	AC
R.01	22.02.24	First issue	AC
REV NO.	DD.MM.YY	DESCRIPTION OF REVISION	INITIALS

PREPARED BY
AMENITY TREE
STATUS
FOR COMMENT

TITLE
HARDWORKS AND BOUNDARY TREATMENTS

DWG.NO	REVISION
AT.24.11879.101	R.04

SCALE	DRAWN	APPROVED	DATE
1:200 @ A1	AC	SD	12.03.24

EXEMPLAR HEALTH CARE
BURY, BL9 0HD

AMENITYTREE
ENVIRONMENTAL PLANNING CONSULTANTS

KEY

-  **TREE PLANTING**
SEE SCHEDULE FOR DETAILS
-  **MULTISTEM / FEATURE SHRUBS**
SEE SCHEDULE FOR DETAILS
-  **NATIVE HEDGE**
SEE SCHEDULE FOR DETAILS
-  **NATIVE HEDGE**
SEE SCHEDULE FOR DETAILS
-  **SHRUB / ORNAMENTAL GRASSES**
SEE SCHEDULE FOR DETAILS
-  **LAWNS**
SEE SCHEDULE FOR DETAILS
-  **WILDFLOWER**
SEE SCHEDULE FOR DETAILS

PLANTING NOTES

- 1 - All planting shall be in accordance with BS.4428. 1989.S7.
2 - Trees shall conform to BS.3095:1.1992
3 - Tree pits shall be 1200x1200x750mm.
4 - Multi stem pits shall be 1000x1000x500mm.
5 - Backfill material 70% certified sandy loam / 30% Approved tree compost (by volume).
6 - No peat products permitted.
7 - Striking as indicated in plant schedules.
8 - Install GreenTech Mono watering systems to trees.
9 - Shrub planting: 450mm depth of free draining topsoil to BS.3882.
10 - Lawns: 150mm 450mm depth of free draining topsoil to BS.3882.
11 - Wildflower: Once clean unimproved free draining subsoil to BS.8601.

PLANT SCHEDULE 1.1									
REF.	TREE PLANTING	NO.	GIRTH CM	%	HEIGHT M	TYPE	DENSITY PER HA	NOTES	
1.0 TREE PLANTING									
T1	Aster compactus Bonania	5	18-20	NA	400-450	RB	NA	Underground geyed / GreenMax - Aulius & Aquilula Systems to be installed as specified	
T2	Betula pendula	4	18-20	NA	375-450	RB	NA	Underground geyed / GreenMax - Aulius & Aquilula Systems to be installed as specified	
T3	Pinus sylvestris	8	18-20	NA	400-450	RB	NA	Underground geyed / GreenMax - Aulius & Aquilula Systems to be installed as specified	
2.0 HEDGES									
H1	Cornus batulus	55	NA	100	100	BR	NA	125cm Black / grow tube / stake	12
H2	Cornus batulus	105	NA	100	100	BR	NA	125cm Black / grow tube / stake	23
H3	Cornus batulus	10	NA	100	100	BR	NA	125cm Black / grow tube / stake	2
H4	Cornus batulus	10	NA	100	100	BR	NA	125cm Black / grow tube / stake	3
H5	Cornus batulus	105	NA	100	100	BR	NA	125cm Black / grow tube / stake	37
H6	Aster compactus	10	NA	5	30-45	BR	NA	125cm Black / grow tube / stake	31
H7	Aster compactus	30	NA	20	100	BR	NA	125cm Black / grow tube / stake	
H8	Betula pendula	30	NA	20	100	BR	NA	125cm Black / grow tube / stake	
H9	Cornus batulus	44	NA	30	100	BR	NA	125cm Black / grow tube / stake	
H10	Cornus batulus	30	NA	20	100	BR	NA	125cm Black / grow tube / stake	
H11	Tilia tomentosa	10	NA	5	100	BR	NA	125cm Black / grow tube / stake	
H12	Cornus batulus	10	NA	100	100	BR	NA	125cm Black / grow tube / stake	
H13	Cornus batulus	55	NA	100	100	BR	NA	125cm Black / grow tube / stake	
Inspecimens to be planted in double staggered rows @ 40cm c/s.									TOTAL LM
									132
3.0 MULTISTEM SHRUBS									
MS1	Aster poliflorus Blood Red	1	NA	NA	150-175	RB	NA	Underground geyed / Min. 5 Breaks	
MS2	Betula jacquemontii Dorenbos	3	NA	NA	150-175	RB	NA	Underground geyed / Min. 5 Breaks	
MS3	Pinus sericea Borko	2	NA	NA	150-175	RB	NA	Underground geyed / Min. 5 Breaks	
4.0 SHRUBS / GROUNDCOVER PLANTS / ORNAMENTAL GRASSES / HERBACEOUS PERENNIALS									
S1	Cornus alba autumn Red	47	NA	NA	45	3L	4		
S2	Euonymus alatus 'Alatus Queen'	10	NA	NA	20	3L	5		
S3	Heuchera Purple Palace	112	NA	NA	45	3L	5		
S4	Leucodermis intermedia Phaeococcine	100	NA	NA	20	3L	5		
S5	Penstemon villosus	200	NA	NA	20	3L	5		
S6	Silene acaulis	200	NA	NA	20	3L	4		
S7	Veronica bonariensis	41	NA	NA	30	2L	7		
SM11 Anthriscus biocolor Bononia									
SM11	Anthriscus biocolor Bononia	5	NA	5	NA	2L	7		
SM12	Baccharis spicata	2	NA	5	NA	2L	4		
SM13	Carduus conopsea	3	NA	10	30-45	3L	2		
SM14	Carduus conopsea	3	NA	5	NA	2L	7		
SM15	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM16	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM17	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM18	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM19	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM20	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM21	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM22	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM23	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM24	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM25	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM26	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM27	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM28	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM29	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM30	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM31	Anthriscus biocolor Bononia	16	NA	5	NA	2L	7		
SM32	Baccharis spicata	10	NA	5	NA	2L	4		
SM33	Carduus conopsea	10	NA	10	30-45	3L	2		
SM34	Carduus conopsea	10	NA	5	NA	2L	7		
SM35	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM36	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM37	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM38	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM39	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM40	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM41	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM42	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM43	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM44	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM45	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM46	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM47	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM48	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM49	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM50	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM51	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM52	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM53	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM54	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM55	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM56	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM57	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM58	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM59	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM60	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM61	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM62	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM63	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM68	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM69	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM70	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM71	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM72	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM73	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM74	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM75	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM76	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM77	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM78	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM79	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM80	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM81	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM82	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM83	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM84	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM88	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM90	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM92	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM93	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM94	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM95	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM96	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM97	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM98	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM99	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM100	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM101	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM102	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM103	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM104	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM105	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM106	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM107	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM108	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM109	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM111	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM112	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM114	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM115	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM116	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM118	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM122	Heuchera Green Spire	10	NA	5	15-20	2L	5		
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SM125	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM126	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM127	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM128	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM129	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM130	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM131	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM132	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM133	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM134	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM135	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM136	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM137	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM138	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM139	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM140	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM141	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM142	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM143	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM144	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM145	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM146	Heuchera Green Spire	10	NA	5	15-20	2L	5		
SM147	Heuchera Green Spire	10	NA	5	15-20	2L	5		

Appendix 3 Habitat Condition Assessments and BNG Metric