





Changes to Mowing of Small and Medium Grass Areas – Appendix 2

EXISTING	Existing Mowing Regime		PROPOSED	Reduced Mowing Regime		Proposed Electric Mower		Proposed Diesel Flail Mower	
	John Deere 1580 – Diesel Mower			John Deere 1580 – Diesel Mower		Ariens Zenith E Series – Electric Mower		Diesel Mower for long grass	
									
	Number of mows/year	11	Number of mows/year	6	Number of mows/year	6	Number of mows/year	6	
	Height of Grass	5-10cm	Height of Grass	10-25cm	Height of Grass	10-25cm	Height of Grass	10-45cm	
	No. of Plants /sqm	<10	No. of Plants /sqm	>11	No. of Plants /sqm	>11	No. of Plants /sqm	>11	
	No. of Insects /sqm	>5	No. of Insects/sqm	>10	No. of Insects/sqm	>10	No. of Insects/sqm	>10	
	Flood alleviation potential	Low	Flood alleviation potential	Medium	Flood alleviation potential	Medium	Flood alleviation potential	High	
	Tonnes of carbon captured in grass CO2 per 1000sqm	3tn	Tonnes of carbon captured in grass CO2 per 1000sqm	6-8 tonne	Tonnes of carbon captured in grass CO2 per 1000sqm	6-8 tonne	Tonnes of carbon captured in grass CO2 per 1000sqm	8tn	
	Noise in decibels	75 db	Noise in decibels	75 db	Noise in decibels	83-103 db	Noise in decibels	85 db TBC	
	Hand Arm Vibration impact level	Low	Hand Arm Vibration impact level	Low	Hand Arm Vibration impact level	Low	Hand Arm Vibration impact level	Low	
	Whole Body Vibration impact level	Low	Whole Body Vibration impact level	Low	Whole Body Vibration impact level	Low	Whole Body Vibration impact level	Low	
	Number of hours used per day	6	Number of hours used per day	6	Number of hours used per day	5.5	Number of hours used per day	6	
	Average fuel consumption /day litres	25lt	Average fuel consumption /day litres	25lt	Average fuel consumption /day litres	N/A	Average fuel consumption /day litres	35lt	
	Diesel cost per litre approx.	£1.50	Diesel cost per litre approx.	£1.50	Diesel cost per litre	N/A	Diesel cost per litre approx.	£1.50	
	Approximately fuel used each day	£37.50	Approximately fuel used each day	£37.50	Approximately energy price per Kilowatt	£0.30	Approximately fuel used each day	£52.50	
	Existing mowing regime		Comparison to existing situation #1		Comparison to existing situation #2		Comparison to existing situation #3		
	<ul style="list-style-type: none"> Existing staff hours No increase in flora diversity No increase in insects diversity Limited flood alleviation Low carbon capture Noise pollution for public and operative ongoing. Fossil fuel consumption Ongoing fossil fuel costs 		<ul style="list-style-type: none"> Approximately 45% reduction in staff visits meaning less mowing. Minor increase in flora diversity due to less mowing visits. Doubling of insects diversity due to less mowing visits. Improved flood alleviation due to denser plants storing more water and absorbing faster. Approximately 60% increase in carbon capture due to greater plant growth. Reduced noise pollution for public and operative due to less mowing. Approximately 45% less vibration exposure to operative due to less mowing. Exhaust fumes reduction by 45% due to less mowing. Fossil fuel consumption due to less mowing. Anticipated 45% reduction in fuel costs due to less mowing. 		<ul style="list-style-type: none"> Approximately 45% reduction in staff visits meaning less mowing. Minor increase in flora diversity due to less mowing. Doubling of insects diversity due to less mowing visits. Improved flood alleviation due to denser plants storing more water and absorbing faster. Approximately 60% increase in carbon capture due to greater plant growth. Increased noise for public and operative due to electric motor configuration than existing mowers. Approximately 45% less vibration exposure to operative due to less mowing and smoother motor. Exhaust fumes completely removed due to no exhaust. Fossil fuel consumption removed. Approximately 97% reduction in fuel/power costs due to electric mower efficiencies. Additional savings made through reduced vehicle maintenance due to less moving parts. 		<ul style="list-style-type: none"> Approximately 45% reduction in staff visits but an increase in staff hours due to a narrower mowing deck, that is less agile so overall it is anticipated a 20% reduction in staff hours. Minor increase in flora diversity due to less mowing visits. Doubling of insects diversity due to less mowing visits. Improved flood alleviation due to denser plants storing more water and absorbing faster. Approximately 60% increase in carbon capture due to greater plant growth. increased noise pollution for public and operative due to power needed to flail longer grass. Approximately 20% less vibration exposure to operative due to less mowing visits but more mowing time. Exhaust fumes reduction by 15% due to less mowing visits but longer operating time. Anticipated 15% reduction in fossil fuel use low reduction. 		

Source of Data: Number of mows per years and height of grass info is from City Parks. Number of plants and insect data has been extrapolated from the Wilder Verge Brighton project which included surveys of 25 BHCC verges during August 2021. Flood alleviation data is qualitative recognising that absorption improves with taller plants which slow the journey of rainwater reaching the soil and absorb more water in the ground using their deeper roots in comparison to grass. Carbon capture calculations used data from the Food Climate Research Networks 2017 Grazed and Confused report. The noise in decibels has been supplied from manufactures information. Vibration levels determined from manufacturers info. Fuel consumption and costs have been calculated from a working knowledge of machines by City Parks or from the manufacturer specifications.

