

1. List of Sites Vulnerable to Incursion

Officers have drawn up a list of parks and open spaces which may be the target of an illegal incursion by vehicles, based on experience of previous incursions. The likely target for any incursion is an open space, probably greater than 0.5ha, with a fairly open access route (or one which can be created by removing an obstacle) which permits vehicular access.

Recent experience has shown that sites with an existing public vehicle access such as a car park are a more likely choice for an incursion. Timber or steel posts alone often do not present a significant defence, and in the past have been removed to create an access route. Previous incursions have typically occurred on sites where access routes do not have significant levels of overlooking from neighbouring properties and businesses, however trespassers do not appear to have been discouraged from our more popular, busier parks.

The sites considered as potentially at risk of incursions are as follows:

Alphington Playing Fields	Grace Road Playing Fields	Merrivale Park
Arena Park & Saracens Rugby Club	Grandisson Court Play Area & Open Space	Northbrook Park
Belmont Pleasure Ground	Hamlin Lane Playing Fields	Northernhay & Rougemont Gardens
Bettysmead Playing Fields	Heavitree Pleasure Ground	Pinhoe Station Road
Cowick Barton Playing Field & Pines Gardens	Honeylands Open Space	St Thomas Pleasure Ground
Digby Open Space	Horseguards Play Area & Open Space	Summerway Play Area & Open Space
Ducks Marsh	King George V Playing Fields	Topsham Recreation Ground
Eastern Fields	Kings Heath Open Space	West Garth Road Park
ECC Green Tip	Lakeside Avenue Open Space	Wonford Playing Fields
Exwick & Flowerpots Playing Fields	Library Fields Open Space	Wyvern Park

2. Site Assessments

The access routes and public boundaries of each of the sites above were assessed by officers, including with site walkovers where necessary. Each of the sites was then assigned a risk score to indicate the likelihood of vehicular incursion, and the need for strengthening works to reduce this risk.

Site	Risk of Incursion	Justification
Alphington Playing Fields	Low	Well overlooked site, access routes are limited to a lockable gate off the car park, trees inside gate will make access for towing vehicles difficult.
Arena Park & Saracens Rugby Club	High	Previous incursions at the site, publicly accessible site with numerous potential access routes.
Belmont Pleasure Ground	Low	Well overlooked site, no existing on-site car parks. The 2 potential vehicle access routes are protected by steel gates, and gateways are relatively narrow with masonry columns making access more difficult.
Bettysmead Playing Fields	Medium	Previous incursions at the site, however subsequent works (concrete filled bollards) have improved security). Plans by DCC to widen the entrance to improve cycle access could increase the risk of an incursion.
Cowick Barton Playing Field & Pines Gardens	Medium	All access routes are via narrow, terraced streets making access for wider vehicles and towing vehicles difficult. Car park is bounded by post and chain fencing, however a route into the site remains via the cycle path which would permit vehicular entry.
Digby Open Space	Low	Following a previous incursion, works were carried out to defend the site including installation of gates and fencing off Van Buren Place. Other entrances offer a difficult access for wider and towing vehicles.
Ducks Marsh	Medium	Only vehicular access is via Salmonpool Lane bridge, limited width on approach and on bridge. No measures are provided beyond the bridge to prevent access onto playing fields.
Eastern Fields	Medium	Previous incursions, however access points have been subsequently strengthened. Access still permitted via Arena Park & Saracens Rugby Ground.
ECC Green Tip	Medium	Northern entrance protected by sturdy steel gate. Southern access protected by a steel gate, exposed padlock means that this could be opened. Site very overgrown so only southern extent could be occupied.
Exwick & Flowerpots Playing Fields	High	Numerous unsecured access routes for vehicles are present around this very large site.
Grace Road Playing Fields	Medium	Gates on access routes, however one of these is outside of ECC control and is frequently left open. Access to the playing fields is difficult for larger vehicles due to the hairpin bend on access route, and regular waterlogging of the site.
Grandisson Court Play Area & Open Space	High	50m frontage along Bishop Westall Road has no formal boundary, allowing vehicles to drive straight on and across the site.
Hamlin Lane Playing Fields	High	Previous incursions via public car park, bollard was removed to allow access onto grass. Other entrances have been protected with boulders, posts and gates.
Heavitree Pleasure Ground	Medium	Large site. Significant length of unprotected boundary along Lymeborne Avenue. Other boundaries are well protected.
Honeylands Open Space	High	Frontage along Lamacraft Drive is open to vehicular traffic with level access from highway. Easy access for all vehicles onto the green.
Horseguards Play Area & Open Space	Low	Site mostly occupied by a play area, which is continuously fenced around its perimeter. 6m buffer strip around the perimeter is unlikely to offer a desirable site for an incursion, but is wide enough for parking.
King George V Playing Fields	High	Large site on which there have been previous incursions via the public car park. A bollard was removed to permit access on the last incursion.
Kings Heath Open Space	Medium	North-east entrance via Cumberland Drive only protected by timber posts. Limited defences provided at Walsingham Road entrance permits access to vehicles, cars often parked at end of road preventing access.
Lakeside Avenue Open Space	High	Over 350m of unfenced boundary allows easy access to vehicles from Lakeside Avenue. Low kerb edges mean that the verge is easily accessed and can be parked on.
Library Fields Open Space	Medium	Combination of posts and fencing makes access from Sanders Road very difficult. Steel gate at Lower Harrington Lane is secured by exposed padlock – can be easily cut.
Merrivale Park	Low	Well overlooked site. All access routes are very narrow (approx. 3m) with tight turns in which makes access for wider vehicles and towing vehicles very difficult.
Northbrook Park	Medium	When site is closed, lockable gate at entrance is secured by exposed padlock – can be easily cut. Once inside car park there is easy access for vehicles onto open space of golf course.
Northernhay & Rougemont Gardens	Low	Overlooked access routes, site in city centre. Gates kept locked when not in use.
Pinhoe Station Road	Low	Site secured by steel gate with exposed padlock, concrete block also placed at entrance for additional resilience. Other entrances are narrow and would not easily permit vehicular access
St Thomas Pleasure Ground	Low	Access routes well overlooked. Most access routes narrow with tight turns making access for towed vehicle difficult.
Summerway Play Area & Open Space	Low	Willow Way entrance is well overlooked. Protected by steel posts and gates.
Topsham Recreation Ground	Low	All access roads are very narrow, site is fenced around the perimeter
West Garth Road Park	Low	Access from highway. Steel gate secured by exposed padlock, however access is well overlooked.
Wonford Playing Fields	High	Access available direct from Chestnut avenue onto playing fields near play area.
Wyvern Park	Low	All access routes well overlooked, and are protected by trees and boulders

3. Design Considerations

Average Vehicle Dimensions

	Width (mm)	Length (mm)	Height (mm)
Motorcycle	800	2100	1100 (1800)
Small Hatchback Car	1750	4100	1500
Family Saloon Car	1800	4750	1500
MPV	1900	4750	1700
Land Rover	2000	5200	2000
Transit Van	2050	5600	2100
Caravan	2100	5600 (7000 with towing frame)	2600

Anti-Incursion Measures Available

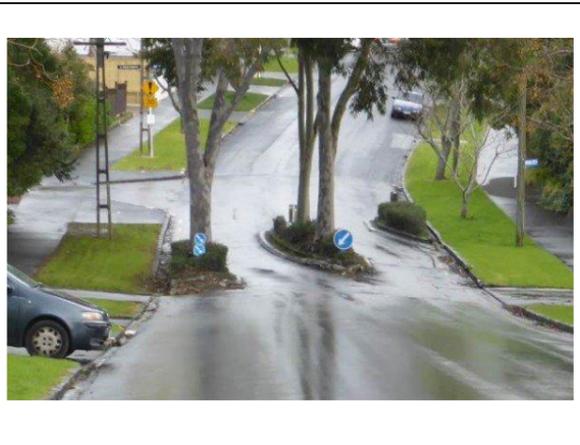
Boundaries

Measure	Pros	Cons	Est. Cost	Example Photo
Bund (could include ditch)	<p>Low Cost.</p> <p>Low carbon option if material on-site.</p> <p>Preserves limited pedestrian access.</p>	<p>Visually obtrusive due to height, exacerbated if not turfed (see example photo).</p> <p>Susceptible to erosion in well-trodden areas which reduces protection.</p>	<p>£15/metre (£25/metre if turfed afterwards)</p>	
Tree & Hedge Planting	<p>Low Cost</p> <p>Low Carbon</p> <p>Environmental Benefits (habitat creation, air quality improvements)</p> <p>Can easily follow natural topography</p>	<p>Takes time to establish, risk of damage whilst new. Risk reduced using established plants.</p> <p>Maintenance costs associated with hedge cutting.</p> <p>Potential to exacerbate anti-social behaviour if large areas with no overlooking are created.</p>	<p>£20/metre if using small whips, £50/metre for established plants</p>	
Post / post & chain	<p>Lower carbon costs can be achieved through use of recycled materials.</p> <p>Long life span.</p> <p>If posts only, boundary remains porous to pedestrians and cyclists.</p>	<p>Susceptible to being hit by vehicles and damage through mis-use resulting in additional maintenance costs.</p> <p>Chains present a trip hazard to park users trying to cross them.</p>	<p>£35/metre - £75/metre</p>	
Steel Barriers	<p>Variety of styles available, can be selected to match character of POS, minimising visual impact.</p> <p>Fencing can alternate to reduce cost and to maximise permeability for legitimate park users.</p>	<p>Low-level fencing can create trip and vehicle collision hazards.</p> <p>Some fencing arrangements can limit access for legitimate site users.</p> <p>Painted barriers need to be maintained, labour intensive job to re-paint long lengths</p>	<p>£50/metre - £150/metre (varies based on spacing between panels)</p>	

Steel Post & Rail Fencing	Variety of styles available, can be selected to match character of POS.	Limits permeability of site boundaries to formal openings. Painted fencing needs to be maintained, labour intensive job to re-paint long lengths	£200/metre	
Boulders	Natural looking. Low carbon cost Provide some limited play / seating value. Tamper proof. Very difficult to move or damage.	Availability based on quarry blasting regime. Expensive to move once placed.	£250/metre	

Gateways & Openings

Measure	Pros	Cons	Est. Cost	
Lockable Droppable/ Removable Bollards	Permits free movement of cyclists and pedestrians.	Susceptible to being hit by vehicles resulting in additional maintenance costs. Some versions are locked by padlocks, easy to break to gain entry. Others need a key which will need to be provided to external contractors to gain access.	£400/ea	
Lockable Steel Gates	Provides visible obstruction to access, may provide a low level of deterrence.	Typically locked by padlock, these can be easily broken to permit access. Provides obstruction to cyclists, can obstruct pedestrians.	£2,000/ea	
Tamper-proof steel gate	Provides visible obstruction to access. Locks are either tamper-proof, or else padlocks are shielded to make it hard to break in.	Tamper-proof locks require more frequent maintenance, specialist component makes this relatively expensive.	£3,000/ea	

Concrete Blocks	<p>Low Cost Option.</p> <p>Permits free movement of cyclists and pedestrians.</p>	<p>Visually obtrusive, though could be mitigated through painting etc.</p> <p>Difficult for permitted access as needs to be moved by excavator or similar.</p> <p>Can be dragged away by powerful car or van, needs to be used in combination with other measures</p>	£150/ea	
Height Barrier	<p>Permits free movement of pedestrians and cyclists.</p> <p>Allows free movement of smaller cars into the site.</p> <p>Maintains access for tractors and other large vehicles when opened.</p>	<p>Some designs still susceptible to padlocks being cut.</p> <p>Will inconvenience legitimate site users who may drive vehicles above the height limit.</p>	£4,000/ea	
Highway Modifications (e.g. Chicane)	<p>Most versions are tamper-proof, can't be damaged to gain access (bollards are the exception).</p> <p>Can be designed to limit visual impact or event improve look of site entrance</p>	<p>Difficult to both prevent unwanted access whilst preserving an access for maintenance and emergency vehicles.</p> <p>Bollards etc. used to remove turning circle are liable to be hit resulting in replacement costs and potential claims.</p> <p>Typically a very expensive option.</p>	Location Specific	

4. Proposals

Proposals have been developed for all sites which are considered to be medium or high risk of an incursion by vehicles.

Text and costs in purple are potential alternative options.

Site	Proposed Measures	Estimated Cost
Arena Park & Saracens Rugby Club	Replace Saracens access gate with tamper-proof gate or add guard around lock. Additional planting to boundary hedge of Saracens to create 2 rows of plants. Bowling club: hoop fencing to close gap between trees Cycle Path & Car Park: earthworks to steepen slope nearest to skate park to prevent vehicle access NOTE: liaison with leaseholders required.	£6,000
Bettysmead Playing Fields	No works necessary at this time. Continue liaison with DCC regarding proposed cycle improvements and ensure that mitigation measures are implemented.	£ -
Cowick Barton Playing Field & Pincus Gardens	Install 2 drop-bollards at the interface between car park and cycle path. Bollard will need reflectors and cycle path signage. NOTE: liaison with leaseholders required (bowling club).	£750
Ducks Marsh	Install 2 drop-bollards across car park to prevent vehicle access onto site beyond university access track	£1,000
Eastern Fields	Measures provided in Arena Park (see above)	£ -
ECC Green Tip	No works needed at northern entrance. Concrete block to be placed in southern gateway (Bromhams Farm Car Park, currently closed) to improve resilience.	£250
Exwick & Flowerpots Playing Fields	New drop-bollard at Station Road / Cycle path with reflectors and cycle path signage. Install steel post at Old Bakery Close entrance. Install 2 no. drop-bollards at New Valley Road entrance. Install 2 steel post at Ennerdale Way entrance. Install steel post on corner of Hayes Barton Court Improve padlock protection to height barrier at Western Rd entrance.	£2,500
Grace Road Playing Fields	No works proposed at this time. Site to be reviewed in line with proposed Marsh Barton Station, as this may affect the ability to access the site.	£ -
Grandisson Court Play Area & Open Space	Low-level bund with hedge planting along Bishop Westall Road. Provides additional benefit of screening play area from highway to keep children inside.	£2,000
Hamlin Lane Playing Fields	Height Barrier with lockable lower barrier to be provided at car park entrance, in location of existing gate.	£5,000
Heavitree Pleasure Ground	100m new boulders along the length of Lymbourne Ave boundary @ 2.5m centres (to create gaps no wider than 2m)	£15,000
Honeylands Open Space	Install recycled plastic posts around perimeter of open space where level access is presented. Approx. length 105m.	£5,000
King George V Playing Fields	Height Barrier to be provided at Topsham Road car park entrance, approx. 5m inside site. Potential visual impact due to location near ornamental gate. Height limit signage will be required at entrance. Replace rear car park barrier, construct bund around lower car park. Alternative option 150m long Bund around main car park. NOTE: liaison with lease holders required	£8,000 £8,000
Kings Heath Open Space	Boulders to be provided along edge of path at Walsingham Road entrance.	£5,000
Lakeside Avenue Open Space	New steel fencing to be provided along Lakeside Avenue and Glasshouse Lane. Guardrail or hoop with 1.5 – 2.0m spacing between panels leaves an open look but limits vehicle access. Hedge could be provided along Glasshouse Lane and in sections along Lakeside Avenue to reduce cost. Consider bund around this area. Would need to be turfed to reduce visual impact and risk of erosion. NOTE: liaison with local residents required.	£30,000 £10,000
Library Fields Open Space	Upgrade access gate on Lower Harrington Lane to tamper-proof lock. Alternative may be to retrofit a guard around the lock to make illegal access more difficult.	£3,000
Northbrook Park	Earthworks / Bund around car park to tie into existing steeper sloping sections	£1,500
Wonford Playing Fields	8 boulders placed parallel to Chestnut Avenue and install height barrier on Cycle path to permit access to Swan Bungalow.	£8,000
	SUB TOTAL	£93,000
	20% Contingency	£19,000
	TOTAL	£112,000

NOTE: costs are estimates, and based on delivery of each site independently. If works are programmed at multiple sites then materials can be ordered in bulk and it is likely that unit costs can be reduced.

A review of buried services plans will need to be carried out prior to confirmation of proposed works, as the location of these may affect the options available.