

Place Scrutiny Committee
In-depth Scrutiny Project 2015/16

20 mph speed restrictions in residential streets



Final Report & Recommendations

20 mph Speed Restrictions in Residential Streets

1. Background

- 1.1 At its meeting on 13th July 2015, the Place Scrutiny Committee agreed that its in-depth study for the year should be “20mph in residential streets” (Minute 125 refers). The project plan was approved by the Place Scrutiny Committee at its meeting on 12th October 2015 (Minute 312 refers). The study was undertaken on behalf of the Scrutiny Committee by the project team whose membership comprised:

Councillors Habermel (Chairman), Assenheim, Callaghan, Cox, Evans, Kenyon, Mulroney and Ware-Lane.

- 1.2 The project team considered a variety of research documentation, legislation and national guidance. It also heard from a variety of witnesses through presentations and written submissions. These included the Council’s transport policy officers, representatives from the Safer Essex Roads Partnership and the Council’s Public Health Team. It also had regard to Council policies and the evidence from the existing 20mph zones and limits in the Borough.

- 1.3 The project team was supported in its investigations by the following officers:

Cheryl Hindle-Terry, Adrian Watling and Lewis Pearmain (Technical Support) and Tim Row (Project Co-ordinator).

2. Framework for the Study

- 2.1 It was agreed that the framework for the study should be:

- (i) To investigate and consider the feasibility of introducing 20mph speed restrictions in “residential streets”;
- (ii) To investigate the potential benefits of 20 mph speed restrictions on road safety in terms of reducing vehicle speeds, casualty numbers and injury severity and the implications;
- (iii) To investigate whether reductions in traffic speeds and improvements in road safety are likely to be achieved without the need for physical calming measures and regulated by signage and road markings (20 speed limits) or whether such calming features are necessary to reduce traffic speeds to 20 mph (20 mph zones);
- (iv) To consider the potential consequences of any displacement of traffic as a result of introducing lower speed limits and encourage the appropriate and efficient use of the road network; and
- (v) To consider and compare the potential costs and/or savings of implementing 20 mph restrictions including environmental impacts.

3. Definition of “Residential Streets”

- 3.1 For the purposes of this scrutiny study, the term “residential street” was defined as a road fully or predominantly made up of residential dwellings excluding distributor and local distributor routes, unless there was a clear and valid reason for their inclusion. This definition is consistent with the Department for Transport’s (DfT) guidance.

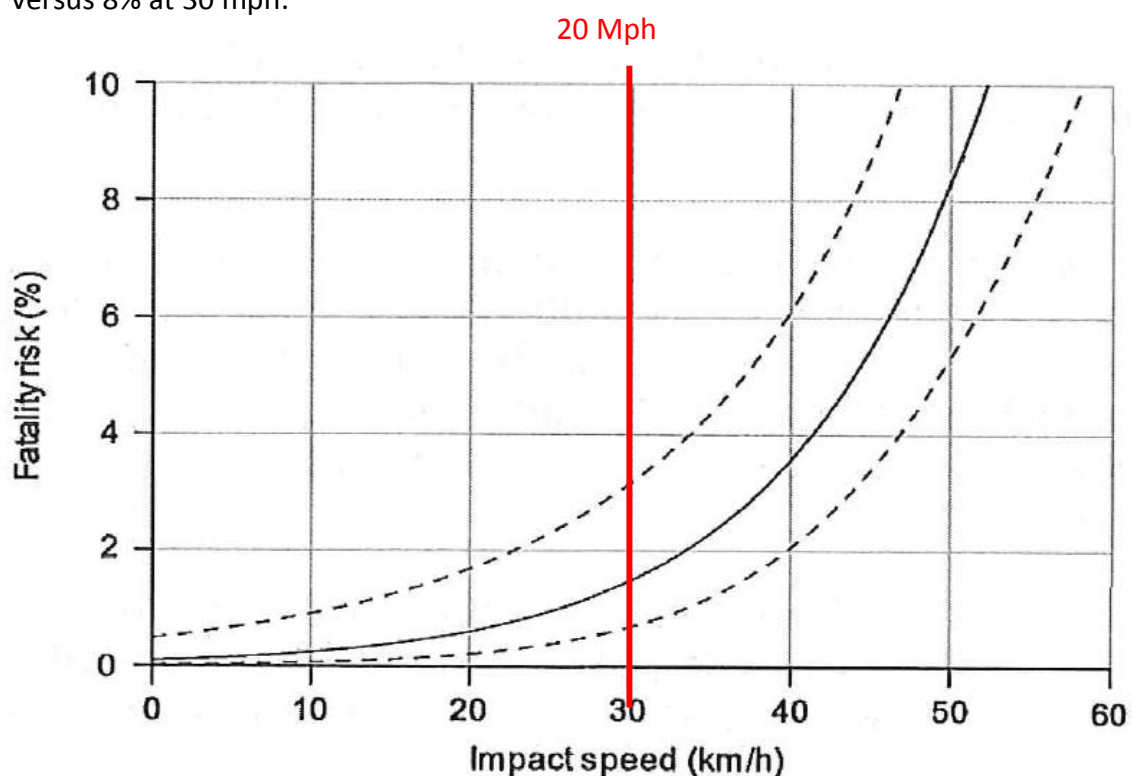
4. Context and Drivers

- 4.1 The key drivers for the study to be undertaken included road safety, the potential to safely increase traffic levels, the environmental benefits in terms of air and noise pollution levels, the development of safe shared spaces and the perception of safety by the public/residents.
- 4.2 It is evident that the demand for the default speed limit to be reduced from 30 mph to 20 mph has increased in recent years. This has essentially been in response to national and local campaigns by local residents, pressure groups, etc. As a result, a number of local authorities have now implemented or are investigating the implementation of 20 mph schemes.
- 4.3 ‘Brake’ is a road safety charity that works with communities and organisations across the UK to stop the tragedy of road deaths and injuries, making streets and communities safer for everyone. It also supports people bereaved and seriously injured on roads. One of their campaigns is GO20, which seeks safe walking and cycling for all, through slower speeds in communities and changing the default urban speed limit to 20 mph.
- 4.4 ‘20s Plenty for Us’ is a “not for profit” organisation which campaigns for the default speed limit on residential and urban roads to be reduced to 20 mph. It has been a driver for many communities to seek a reduction of the default to 20 mph.
- 4.5 Traffic travelling at speeds less than 20mph gives the driver a shorter stopping distance and gives more room and time to react. This is illustrated in the diagram below, which has been taken from the official driving theory test.



- 4.6 These braking and overall stopping distances greatly increase depending on the weather/road conditions. In wet conditions, the braking and overall stopping distance will be at least doubled. In icy conditions, these can increase to up to ten times.

- 4.7 The project team heard that the risk of death, or serious injury, when an adult pedestrian is hit by a motor vehicle follows a curve. Speed significantly increases the chance of being injured in a collision. Evidence from the Royal Society for the Prevention of Accidents stated that research had shown that the risk of death for pedestrians struck by cars increases at higher impacts speeds, although the exact risk levels varied between the studies. One of the first studies of pedestrian injury and car impact speed¹ found that at 20mph there was a 2.5% chance of being fatally injured, compared to a 20% chance at 30mph, although this study is now regarded as having overestimated the risks. A recent review identified the studies which had produced the most reliable modern estimates². The results from one of these studies is presented in the table below, which shows a fatality risk of 1.5% at 20 mph versus 8% at 30 mph.



The solid line is the most likely estimate and the dotted lines show the 95% confidence limits

5. Local Transport Policy

- 5.1 The Project Team noted that the Council has a variety of policies and plans that support the principles of 20mph schemes. Policies CP3 and CP4 of the Council's Core Strategy 2001-2021 are particularly relevant to this study. These are set out below:

¹ Ashton S J and Mackay G M **Some characteristics of the population who suffer trauma as pedestrians when hit by cars and some resulting implications** 4th IRCOB International Conference, Gothenborg. 1979

² Erik Rosén, Helena Stigson, Ulrich Sander, **Literature review of pedestrian fatality risk as a function of car impact speed**, Accident Analysis and Prevention Volume 43, 2011

Policy CP3: Transport and Accessibility - safeguarding and enhancing the environment of 'Environmental Rooms', as defined in the Southend Local Transport Plan

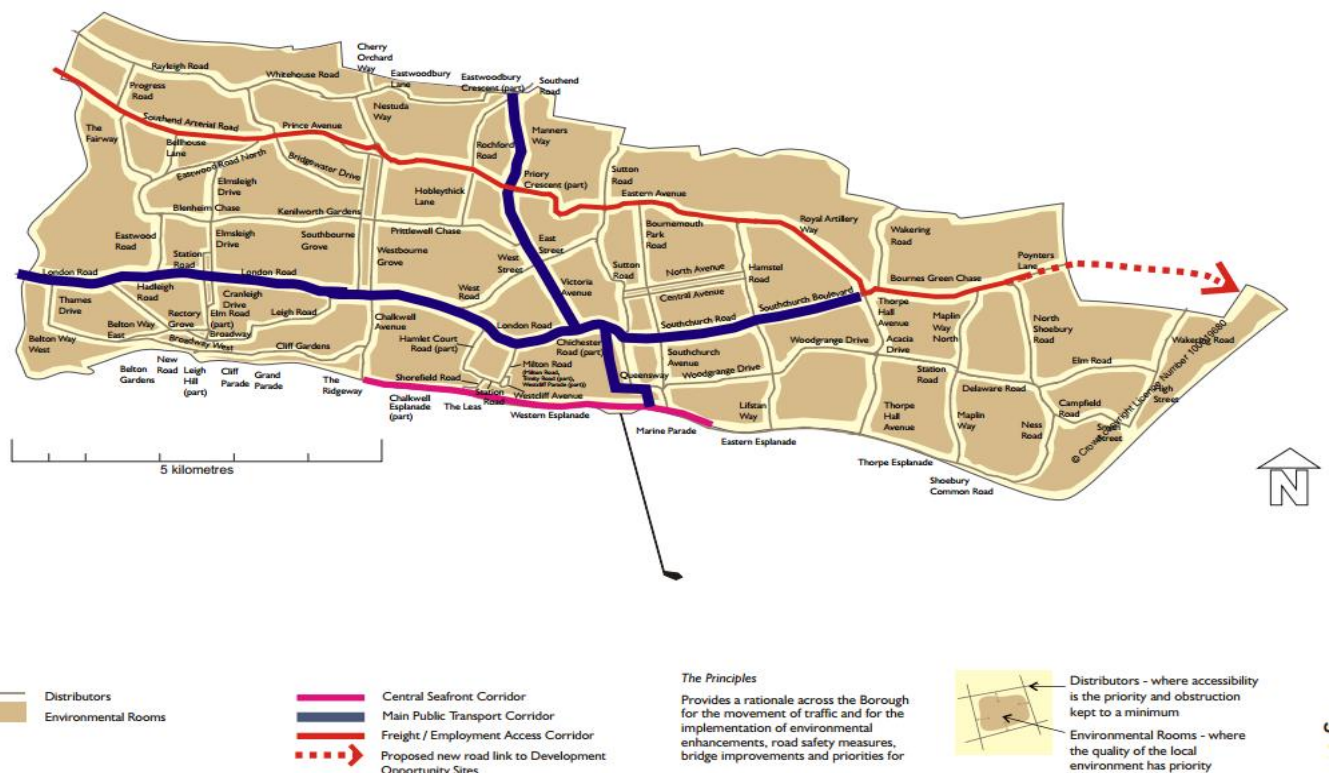
Policy CP4: The Environment and Urban Renaissance - creating safe, permeable and accessible development and spaces that encourage walking and cycling within 'Environmental Rooms'.

5.2 The Local Transport Plan (LTP) is a vital tool in ensuring that the transport policies are part of a holistic approach to deliver the objectives of a "Safe, Clean, Healthy, and Prosperous Southend".

5.3 The Local Transport Plan 2 established the principle, which provided a rationale across the Borough, for the movement of traffic and the implementation of environmental enhancements, road safety measures, bridge improvements and priorities for Distributors, where accessibility and the quality of the environment is the priority and obstruction is kept to a minimum.

5.6 A plan illustrating the concept and layout of the environmental rooms and distributor routes for the Borough is shown below.

Environmental Rooms and Distributors



5.7 This concept had been further developed in the Local Transport Plan 3, which aims to encourage healthier lifestyles by providing environments that promote good physical and mental health (e.g. through promotion of active modes of travel, improvement of local air quality and tranquillity levels). It set out an undertaking that the Council

would consider the introduction of residential 20 mph limits in the Borough after their potential impact has been assessed; not just on road safety but also wider impacts such as congestion, wider economic impacts, and CO₂ emissions. It identified the potential of 20mph speed limits in residential streets giving modal priority to pedestrians, bicycles, buses and cars. This is illustrated in the relevant excerpt from the Local Transport Plan 3 below.

Route Hierarchy Category	Mode Priority	Special Characteristics (see Footway Hierarchy below)	General Characteristics	Traffic Flows (Annual Average Daily Traffic Flows)
Strategic Primary A127 and A1159	HGV Bus *Car/Bicycle /Walking	High Quality Streetscape Cycle Route Pedestrian Focus	Top Priority traffic route	> 20,000
Primary Distributor including A13	Bus HGV *Car/Bicycle /Walking	High Quality Streetscape Cycle Route Pedestrian Focus	Second Priority traffic routes	15,000 to 19,999
Secondary Distributor	Bus LGV *Car/Bicycle /Walking	High Quality Streetscape Cycle Route Pedestrian Focus	Link the top and 2 nd priority routes to local areas of the town. All 30 mph	10,000 to 14,999
Local Distributors	Bus *Car/Bicycle /Walking LGV	High Quality Streetscape Cycle Route Pedestrian Focus	Local traffic – 30 mph	5,000 to 10,000
Residential Roads	Walk Bicycle Bus Car	High Quality Streetscape Cycle Route Pedestrian Focus	Local traffic – 20mph?	< 5,000

5.8 The LTP3 also seeks to contribute to an improvement of road safety for users of all modes of transport through measures such as:

- Traffic management e.g. 20mph zones, traffic calming and signing;
- Accident investigation including accident databases and road safety audits;
- Engineering schemes and enforcement;
- Education, training and publicity;
- Safe paths for walking and cycling.

5.9 The design of traffic calming needs to be carefully considered to avoid negative effects on the effective operation of public transport, e.g. road humps may adversely affect operation of low floor buses. The LTP also3 indicates that a more radical approach to street design with people oriented understanding of public space, known as “shared space” or “Home Zones” should be given serious consideration where appropriate. Such design of streets and other public spaces allows tackling not only safety but also congestion, economic vitality and community severance.

- 5.10 The following policies within the Local Transport Plan support the principles of establishing 20 mph speed restrictions in residential streets in the Borough:

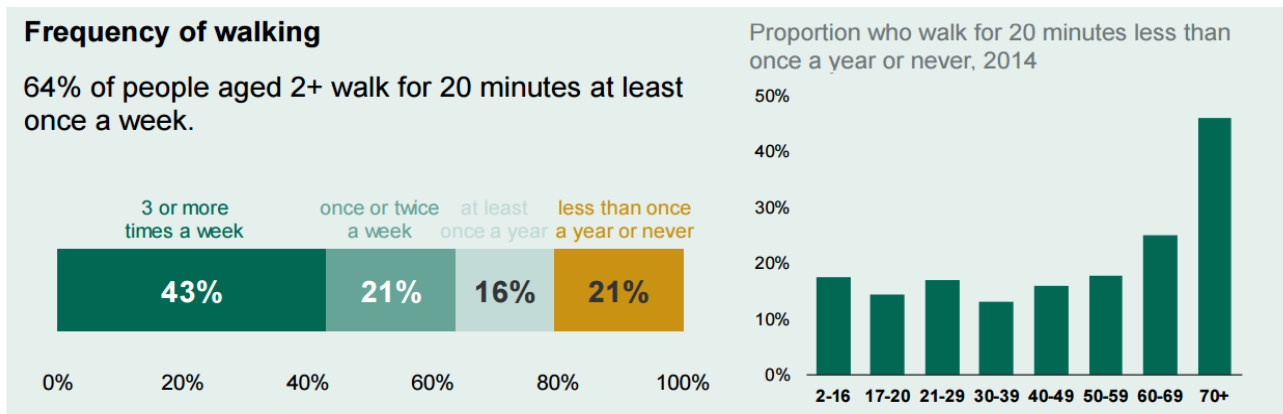
Policy 15: Support safety partnerships and promote safer communities includes:
'The consideration of residential areas within the Borough to have 20 mph limits'

Policy 21: Tackle health inequalities by increasing the number of adults and children who walk and cycle for work, education and leisure

Policy 22: Ensure all public transport is fully accessible by 2017 includes:
'Seek to ensure pavements and pedestrianised areas are maintained to a good standard to aid ease of mobility for vulnerable road users'.

- 5.11 Nationally, the annual British Social Attitudes Survey (BSA) continues to report that public opinion is pro-20mph. For example, research in 2010 showed that 71% of British people support 20mph. This was 72% when the BSA reported last on the issue in 2012.
- 5.12 The National Travel Survey (NTS) is a household survey designed to monitor long-term trends in personal travel and to inform the development of policy including a DfT business plan indicator. It is the primary source of data on personal travel patterns by residents of England within Great Britain.
- 5.13 The survey collects information on how, why, when and where people travel as well as factors affecting travel (e.g. car availability and driving licence holding). The 2014 National Travel Survey (NTS) is the latest in a series of household surveys designed to provide a consistent source of data on personal travel behaviour across England. It shows, in general terms, that walking trends are declining.





6. Public Health

6.1 Policies in the Local Transport Plan have clear linkages with public health, aside from the obvious target of reducing and preventing accidents. Although the numbers of those killed or seriously injured on roads is a nationally recognised target, these numbers are relatively small on a local scale so can be skewed heavily by a single incident. Trend data can be used to identify outliers and give a clearer picture of the burden of injuries.

6.2 There are a wide range of associated public health benefits that relate to transport and street environments and the slowing of vehicle speeds. These can support the public health outcomes identified in the tables below:

High level outcomes	Wider determinants	Health improvements	Healthcare improvements
<ul style="list-style-type: none"> • Healthy life expectancy • Health inequalities 	<ul style="list-style-type: none"> • Children in poverty • Pupil absence • 16–18 year old NEET • Employment for people with a LTC • Sickness absence rate • Killed and seriously injured on the road • Violent crime • Population affected by noise • Use of green space for exercise • Social connectedness • Older people's perception of safety 	<ul style="list-style-type: none"> • Low birth rate • Breastfeeding • Early childhood development • Childhood obesity • Wellbeing of looked after children • Diet • Adult obesity • Physical inactivity • Diabetes • Self-reported wellbeing • Falls and fall injuries in the over-65s 	<ul style="list-style-type: none"> • Preventable deaths • Premature deaths from cardiovascular disease • Premature deaths from all cancers • Early death from respiratory disease • Suicide • Quality of life for older people • Hip fractures in the over-65s • Dementia
Health protection			
<ul style="list-style-type: none"> • Air pollution • Sustainable development plans for public sector organisations 			

Overarching indicators:

Outcome 1: Increased healthy life expectancy

Outcome 2: Reduced differences in life expectancy and healthy life expectancy between communities

- Killed and seriously injured casualties on England's roads
- The rate of complaints about noise
- Percentage of physically active and inactive adults
- Hospital admissions caused by unintentional and deliberate injuries in under 18s
- Fraction of mortality attributable to particulate air pollution
- Mortality rate from causes considered preventable

- Health related quality of life for older people
- Hip fractures in people aged 65 and over

6.3 Guidance issued by National Institute for Health and Core Excellence (NICE) also supports the introduction of a 20mph speed limit. This is reflected in the following points:

- ensuring that people can easily access local services on foot or bicycle
- ensuring that new developments prioritise physically active lives, including walking and cycling
- prioritising pedestrians and cyclists by restricting motor vehicle access, reallocating road space, traffic calming
- safe and attractive walking and cycling networks accessing public facilities, workplaces, shops, social destinations, public open spaces
- new sites are laid out to encourage walking and cycling

6.4 The Project Team heard that being more active is about lifestyle change. It is not solely about joining a gym, it can include active travel, such as walking and or cycling instead of using the car. Creating safer, more attractive walking and cycling routes through a reduction of the speed limit to 20mph could significantly increase numbers of walkers and cyclists and contribute to a shift to active travel. It can also create safer access to parks and public spaces creating home zones and play streets. Cyclists feel safer in quieter, residential areas than on distributor roads. This was evident when we compare the plans illustrating the environmental rooms with the Cycle Southend travel maps. By reducing speed limits in these roads, numbers of people choosing to walk or cycle may increase. Such initiatives can support the ambitions of the Southend-on-Sea Physical Activity Strategy (2016-2021). This is reflected in the British Heart Foundation's position statement which states:

"Areas with slower vehicle speeds are associated with increased opportunities for walking and cycling. Taking into account the wide health benefits of physical activity, including protection against the risk factors of cardiovascular disease, the National Heart Forum supports a reduction in the default speed limit for built up areas to 20 mph."

6.5 Walking and cycling not only makes a very positive contribution to improving health and increasing physical activity levels, it can also contribute positively to improving accessibility and tackling congestion, and reducing carbon emissions and improving the local environment. Engines of vehicles travelling at lower speeds and at a steady pace essentially use less fuel and therefore generate less pollution from particulates. These environmental benefits can also have a positive impact on respiratory problems and other associated health issues.

6.6 Older People feel safer in environments where the speed of traffic is low. They are therefore more likely to use streets where vehicle speeds are low to visit neighbours creating a form of exercise and increasing their social contact. It is recognised that there is an increased risk of injury when older people or the more-frail fall, however, the other public health benefits outweigh this risk.

7 20 mph Limits and 20 mph Zones

- 7.1 20 mph zones and limits are now relatively wide-spread, with more than 2,000 schemes in operation in England, the majority of which are 20 mph zones³.
- 7.2 The setting of local speed limits is the responsibility of local Highway Authorities, taking account of national guidance and legislation. In its circular 01/2013, the Department for Transport (DfT) published a draft revised circular entitled “Setting Local Speed Limits”. It included new advice and guidance to local Highway Authorities on the implementation of 20mph schemes.
- 7.3 The guidance recommends that whilst the standard speed limit in urban areas is 30 mph, which represents a balance between mobility and safety factors, for residential streets and other town and city streets with high pedestrian and cyclist movement, local traffic authorities should consider the use of 20 mph schemes. However, where they do so, general compliance needs to be achievable without an excessive reliance on enforcement.
- 7.4 A summary of the Government’s guidance on the implementation of 20mph schemes is set out below:-
- Successful 20mph limits and zones are those that are generally self-enforcing.
 - Self-enforcement can be achieved either, by the existing road conditions or using measures such as signing or traffic calming to attain mean speeds compliant with the speed limit.
 - To achieve compliance there should be **no** expectation on the police providing additional enforcement unless explicitly agreed.
 - The full range of options should be considered before introducing 20mph schemes.
 - Zones should not include roads where motor vehicle movement is the primary function.
 - While the Government has reduced the traffic calming requirements in zones they must be self-enforcing and include at least one physical traffic calming feature such as a road hump or build out.
 - 20mph limits are generally only recommended where existing mean speeds are already below 24mph.
- 7.5 There are two different methods of implementing 20mph speed restrictions; 20mph limits, which rely solely on signing, and 20mph zones which require traffic calming to reduce speeds. Highway Authorities also have the powers to introduce 20mph speed limits that apply only at certain times of day. These variable limits may be particularly relevant where a school is located on a major through road that is not suitable for a full-time 20 mph zone or limit.
- 7.6 A local traffic authority may introduce a 20 mph speed limit or 20mph zone without obtaining consent from the Secretary of State. A consultation process must be

³ Setting Local Speed Limits – DfT circular 01/2013

followed before implementing a new speed limit or zone as an essential part of the implementation process and needs to include local residents, local government, the police and emergency services and any other relevant local groups.

- 7.7 It is for local authorities to determine whether a speed limit is appropriate to the area but they must have regard to national guidance. National guidance on all local speed limits, including national guidance on 20mph limits and zones, is set out in the DfT Circular 01/2013 'Setting local speed limits'

8. 20mph Speed Limits

- 8.1 20mph speed limits cover areas where the speed limit has been reduced to 20mph in a similar way to other local speed limits including 30mph or 40mph. 20mph speed limits do not require physical traffic calming measures, such as road humps or speed cushions, but may do so. 20 mph speed limit areas are signed on entry on both sides of the road, with corresponding 30mph signs on exit, and include further 20mph speed limit repeater signs or markings within the area. According to government guidelines, 20 mph limits can be introduced where there are significant numbers of vulnerable road users.
- 8.2 Research shows that 20mph speed limits are most appropriate for roads where average speeds are already low. This is consistent with the guidance from the DfT which suggests that average speeds should already be below 24mph. The layout and use of the road must also give the clear impression that a 20mph speed or below is appropriate. This is generally the case for the majority of local access residential roads, particularly where the roads are narrow thorough engineering or where on-street parking is available. The early evidence suggests that 20 mph limits without any traffic calming reduce mean speeds by about 1 mph on average.
- 8.3 There is generally less resident opposition to the use of 20 speed limits in comparison to 20 mph zones as no other physical features are required to reduce the speed of traffic. Achieving compliance with 20mph limits however, can be a challenge. Nevertheless, 20mph limits (as opposed to 20mph zones) are now the more common approach, due to their lower implementation cost and because they do not require physical traffic calming measures which can be controversial.

9. 20 mph Zones

- 9.1 20mph zones must use physical or physiological traffic calming measures throughout the area to enhance conformity and encourage compliance with the speed limit. Zones can include a range of traffic calming measures such as road humps, raised tables, speed cushions, traffic chicanes, road narrowing, coloured surfacing and other physical or visual measures to emphasise the nature of the road. Signage is required on both sides of the road at the entry and exit points of the zone, which do not need to be illuminated. Repeater signs within the zone are not required. Research shows that 20 mph zones are on the whole more effective in reducing vehicle speed (typically 9mph reduction) and casualty numbers. This is largely due to the inclusion of the physical traffic calming measures.

- 9.2 Some calming measures can be unpopular due to the inconvenience and discomfort caused to road users, including the emergency services and public service vehicles. It can also lead to road users accelerating between the calming features. The introduction of physical traffic calming measures also leads to a significant increase in costs, in terms of installation and on-going maintenance. This ultimately results in a smaller number of areas being treated from any available budget. The *Institute of Advanced Motorists* has confirmed that there is significant engineering investment in bringing in zones while speed limits were cheaper.

10. Variable 20mph Limits

- 10.1 The Council, as a local traffic authority, may also introduce 20 mph speed limits that apply only at certain times of day. To indicate these limits, variable message signs can be used. These variable limits may be particularly appropriate in areas where a school is located on a road that is not suitable for a full-time 20 mph zone or limit, such as a major through road. To help reduce costs and sign clutter, the Department has confirmed it will consider authorising the placing of a single variable message sign on the approaching traffic lane (rather than signs on both sides of the road) on a case by case basis.
- 10.2 The Secretary of State has provided a special authorisation for every English traffic authority to place an advisory part-time 20mph limit sign, with flashing school warning lights. This can be a more cost-effective solution, where appropriate, and reduces the requirement for signing.
- 10.3 If signage is only active at certain times, it is more likely that drivers will actually see it and take note. One of the issues identified in general safety areas is local drivers not “seeing” signs due to familiarity.

11. Enforcement

- 11.1 Essex Police, in common with other police forces, are supportive of 20mph limits or zones where appropriate. They point out however, that it is important, in line with DfT guidance, and ACPO policy, that these limits ‘stand on their own 2 feet’, essentially that they are self-enforcing, through site conditions such as signing or traffic calming leading to a mean traffic speed which is compliant. Police intervention should be minimal if any scheme is to be a success, the reality is that if enforcement is required, then the scheme is essentially a failure, as if it is to achieve its aims and be truly safe, it must work 24 hours per day, with or without police presence. There should be no expectation on the police to provide additional enforcement beyond routine activity. It must therefore be appreciated that in reality, that the police will not be in a position to enforce 20 limits or zones.
- 11.2 According to revised ACPO guidelines (October 2013), enforcement will be considered in all clearly posted limits, given other priorities, and this will be by:
1. Targeted enforcement where there is deliberate offending/disregarding and the limits are clear;

2. Where limits are not clear (they don't feel like/look like the limit or are on inappropriate roads), they will not be routinely enforced but may be targeted where there is intelligence of obvious deliberate disregard
- 11.3 Since November 2013, the National Driver Offender Retraining Scheme (NDORS) have introduced a speed awareness course specifically tailored to speeding offences in 20mph limits where, at the discretion of the police, offenders who are either "mistaken or simply unaware of the limit" would benefit from education. Speeding in a properly marked/engineered limit or zone may not be suitable for a course.

12. ACPO Guidelines for Speed Limit Enforcement

- 12.1 ACPO guidelines have been formulated taking into account, amongst other things, the need for targeting in order to maximise the potential of scarce police resources and to make a substantial contribution to the multi-agency road death and injury reduction effort.
- 12.2 It goes on to say that "driving at any speed over the limit is an offence and the police are not restricted and may prosecute. In deciding on enforcement means and deployment, one of the factors will be how unclear or confusing the relevant signage is or how a site simply does not feel like a road of that speed. Although this is not an excuse and any driver may be prosecuted, it will be considered when deciding on the prosecution and amount of police enforcement. The enforcement of speed limits is generally related and proportionate to the risks to all road users using that road and availability of resources but not restricted in any way."
- 12.3 "Where police officers consider that an offence has been committed, there will be no restriction on proceedings, however, they should consider whether it is appropriate to take enforcement action in that case, taking into account such facts as the level of signing and engineering to support the limit and whether it was clear to the motorist that there was a limit and what that limit was."
- 12.4 "The guidance to police officers is that, when they feel enforcement is necessary, it is anticipated that, other than in most exceptional circumstances (arrest), the issue of fixed penalty notices or summonses are likely to be the minimum appropriate enforcement action (with certain offenders offered a course of education at the lower and less harmful speeds."
- 12.5 "The guidance is that enforcement by prosecution should not be considered when it is lower than the speeds reached in accordance APCO guidelines. These guidelines do not replace police officer discretion."

13. Local Context - Existing Schemes

- 13.1 There are currently thirteen 20 mph zones (comprising areas and/or individual roads) and five 20 mph limit areas in the Borough. A list detailing the 20mph zones and 20mph speed limit areas is attached at **Appendix 1**. Plans illustrating the 20mph

schemes within the Borough are attached at **Appendix 2**. Of the five speed limit areas, one is enforced by average speed cameras; one is a short service road for the Southend Victoria Station; one is a short length of road in the town centre; and two are small residential areas. These have been introduced on an ad-hoc basis in response to public demand and road safety.

- 13.3 The speed data for these areas supports the principle that compliance with the 20mph speed restriction requires a physical or psychological traffic calming feature or that they have been implemented in areas where the speed of traffic is already below 24mph. This is particularly evident some of the roads in the areas around West Leigh School (20mph speed limit) and Darlington School (20mph zone) where the average speed of traffic in West Leigh Avenue and Pavilion Drive is 17mph and 20mph respectively. Equally average vehicle speeds in Cromwell Road and Tunbridge Road are 17mph and 23 mph respectively. Most of these roads are quite narrow and experience high levels of on-street parking on both sides.
- 13.4 Conversely, although the speed of traffic in Caulfield Road (which is part of the Shoebury High School 20mph Zone) and Boston Road (which is in the St Mary's School 20mph zone) is 23mph, 73% and 77.7% of vehicles exceeded the speed limit in those roads respectively, despite the introduction of physical traffic calming measures.
- 13.5 The average speed of traffic in Tunbridge Road, which is within a 20mph speed limit area, is also 23 mph, but again 70% of vehicle exceeded the speed limit. This is probably due to the nature of the road.
- 13.6 The most effective 20 mph speed limit area in Southend is the Marine Parade "City Beach shared space" area. The average speed of traffic is 20 mph, with only 0.5% of vehicles exceeding the speed limit. This area is enforced by average speed cameras. This scheme was funded externally by KeyMed through its road safety initiative fund. Although highly successful, the use of average speed enforcement cameras is an extremely expensive option to ensure compliance.

14. Safer Essex Roads Partnership (SERP)

- 14.1 The Safer Essex Roads Partnership (SERP) has brought together the three local authority areas of Essex County Council, Southend-on-Sea Borough Council and Thurrock Council to provide a road safety service across 'Greater Essex'. The other SERP partners are Essex Police, Essex Fire and Rescue Service, Highways England, The Essex and Herts Air Ambulance Trust, The East of England NHS Trust and The Safer Roads Foundation.
- 14.2 The partnership's purpose is to reduce death and serious injury on Essex roads to zero. It is recognised that this is an extremely ambitious vision and one cannot be tackled alone: each road user plays a part. The partnership promotes road safety and casualty reduction through a number of activities, interventions, programmes and products which involve a combination of education, engagement, engineering

and enforcement. The Partnership's Joint Road Safety Delivery Plan (JRSDP) details the activities each partner is to deliver with partnership support and funding.

- 14.3 The Project Team noted the work currently being undertaken by the Partnership to identify wards in Essex where the highest number of collisions are generated by residents. From the information provided, it showed that whilst not all the collisions happen in the ward in which the residents lived, approximately 78% of the collisions did happen in Southend. The Partnership would therefore be targeting the home environment of people causing collisions. Vulnerable road users continue to provide a challenge and it would be essential to target these if future targets are to be achieved. Investment in education of vulnerable road users will never be wasted.
- 14.4 SERP supports the idea of blanket 20mph speed restrictions and would help wherever possible. However, it is recognised that 20mph restrictions are hard to justify on casualty grounds, as the costs involved in making them enforceable and look 'nice' are invariably much higher than the first year rate of return or even life time savings. If speeds are genuinely lowered (or kept low) then more people are more than likely to choose to walk and cycle, making the environment a nicer place in which to live.
- 14.5 It is extremely difficult/expensive to retro fit zones and much consultation and engagement would be necessary. Camera enforcement is a possibility and SERP would be happy to take on the enforcement should this be the route followed. 20mph zones and limits can be mixed to reduce costs but community buy in and a good-looking result are essential for success.
- 14.6 SERP therefore feels it might therefore be more appropriate to lobby central government to introduce a default speed limit of 20mph where there are street lights, unless signs show otherwise. This supports the SERP's target of "Vision Zero" and the aims of the SERP to reduce casualties to zero.

15. Royal Society for the Prevention of Accidents' (RoSPA) Policy Position on 20mph Speed Limits

- 15.1 RoSPA state that 20mph zones are very effective at preventing injuries and would like to see their wider use in residential areas. 20mph zones significantly decrease the risk of being injured in a collision and their greater use, especially in residential areas, would help to reduce the number of traffic injuries in the UK.
- 15.2 RoSPA supports and encourages the wider use of 20mph limits. They believe 20mph limits are most appropriate for roads where average speeds are already low, below 24mph, and the layout and use of the road also gives the clear impression that a 20mph speed or below is the most appropriate. Although a high proportion of urban roads are suitable for 20mph limits, RoSPA does not believe that 20mph speed limits are suitable for every road in a local authority area. They should be targeted at roads that are primarily residential in nature and on own or city streets where pedestrian and cyclist movements are high (or potentially high), such as around schools, shops, markets, playgrounds and other areas. Roads which are not suitable

for 20mph limits are major through routes. This is entirely consistent with the guidance by the DfT in its circular “Setting Local Speed Limits”.

- 15.2 They believe Local Authorities are responsible for determining where 20mph zones and limits should be introduced but should take advantage of opportunities to introduce them where they are needed.
- 15.3 Consultation and engagement with local communities and other stakeholders is vitally important, to ensure that safer roads are prioritised where needed and that local communities have input into the schemes development.

16. The AA

- 16.1 The AA supports the setting up of 20mph speed limits where residents along those roads want them. They state that “a headlong rush towards blanket 20mph zones in many UK towns and cities needs to slow down and take into account the views of residents.”
- 16.2 “Neighbourhoods face differing challenges from traffic: some may need to slow down their own residents and reduce the risk of accidents; others have a 'rat-running' problem that a 20mph speed limit on its own won't address.”
- 16.3 “The case for lowering speed outside vulnerable locations, such as schools and hospitals, is generally accepted. However, sweeping 20mph restrictions that slow down commuters, business deliveries and services, and the pace of a town or city in general are not.”
- 15.4 An AA-Populus survey of 24,351 AA members undertaken between 21st February and 3rd March 2014 showed that, if a 20mph speed limit is set along a road, support for speed camera enforcement is evenly split between those who agree (41%) and those who disagree (38%). Targeted speed camera enforcement, when and where a specific problem emerges, receives much greater support (61%).
- 16.5 There is a lot of fear among drivers that, with 20mph being a relatively unfamiliar speed, widespread speed camera use will make them look more at their speedometers than at what is happening on populated streets in front of them.
- 1.6 Use of speed-indicating signs may help to educate and familiarise drivers with the lower speeds, while proven urban road engineering features may also influence behaviour - while deterring rat-running.

17. Costs

- 17.1 The costs for implementing a 20mph scheme differ drastically depending on the size, scale, method of enforcement, compliance and environmental measures.
- 17.2 For example, in Bristol, a pilot 20mph programme has already been extended city-wide in a £2.3m sign-only scheme.

- 17.3 In Portsmouth, where signage was utilised alone, the total scheme cost £0.57 million for a population of 200,000, whilst in Haringey where traffic calming measures were proposed, the estimated cost was £10 million for a population of 225,000.
- 17.4 Notably, the London Borough of Islington also utilised a signage only scheme at a cost of £1.6 million for a population of 200,000: the increased cost in comparison to Portsmouth was attributed to the lighting for the signs (Haringey Local Authority, 2011).
- 17.5 In Brighton, approximately £1.5 million was set aside for the whole 20mph project to be rolled out over four years. The actual budget spend for 2012/13 and 2013/14 was £326,134.68 and £333,245.36 respectively.

18. Conclusions

- 18.1 Many local authorities have implemented blanket 20mph schemes for their areas the outcomes of which have added to the evidence base. However, do they achieve their purpose and what can we actually conclude from the evidence?
- 18.2 Research into the impacts of 20mph speed limits and zones has been undertaken by Steer Davies Gleave for London Borough of Merton on behalf of the London Environment Directors' Network (LEDNet). The purpose of the study was to conduct desktop research, in order to examine the available evidence and inform future 20mph policy in London. Whilst the study focused on London, by bringing together the available evidence it can help other authorities around the UK in their decision making regarding 20mph speed limits. The conclusion of the report dated November 2014 found that reducing vehicle speeds can result in fewer and less severe collisions, particularly for vulnerable road users.
- 18.3 It also found that whilst 20mph zones appear to have been reasonably successful at reducing speeds by using physical traffic calming measures, limited resources and relaxed regulations mean that signed-only 20mph limits are now preferred. These tend to achieve smaller decreases in vehicle speeds and therefore smaller improvements in road safety. The challenge is therefore to identify imaginative and effective ways to achieve larger reductions in speeds in signed-only 20mph limits, so that road safety benefits are maximised. Undoubtedly, enforcement is required to ensure compliance, but this is only part of the solution. The key to achieving sustained and meaningful speed reductions is to change drivers' attitudes to urban driving speeds. This suggests that education and other supporting measures to change driver culture need to be an integral part of all 20mph schemes.
- 18.4 The risk of being killed or seriously injured if hit by a car travelling at 20 mph rather than 30 mph reduces significantly. What is less evident is whether the introduction of a Boroughwide 20mph speed limit on residential roads would actually achieve this aim and whether vehicles would actually comply with the new limit.

- 18.5 Statistics collected by Islington Council do suggest traffic has slowed, but only marginally. Before 20mph limits were introduced, 85% of the traffic on Islington's main roads was travelling at an average of 28mph. After the limits were introduced, this average decreased by just 1mph to 27mph. However, before and after surveys covered less than a year all told. Results from Bristol and Brighton's pilots of 20mph limits tell a similar story, with daytime speeds in Bristol dropping by around 1mph to an average of 23mph. In Brighton, the Council saw a 1mph decrease a year after 20mph speed limits were introduced in 2013, although the average speed of traffic on central roads was already 20mph.
- 18.6 The data from the current 20mph schemes in the Borough also show a mixed picture, except where the average vehicle speeds were already in the low 20mph or where there is vigorous enforcement through average speed cameras. Data from the DfT shows that the average speed on locally managed 'A roads' in Southend has been between approximately 18-19 mph for the last 7-8 years. However, these roads would not be included in a blanket 20 mph scheme and serious accidents do still occur.
- 18.7 When it comes to speeding behaviour, many people do not necessarily feel and do the same things. Data also shows that the majority of the traffic exceeds the speed limit in some of the roads within the existing 20mph zones where traffic calming features have been introduced. This is essentially a result from vehicles increasing speed between calming features. Such driver behaviour can in turn lead to more noise for local residents in the street, increased fuel consumption and detrimental effects to the environment. Moreover, other vulnerable road users become more at risk due to the perceived safety of using a road with a 20mph speed limit.
- 18.8 According to the analysis of Government data by the Institute of Advanced Motorists (IAM), the number of serious accidents on 20mph roads increased by 26% in 2014 and that the number slight accidents on 20mph roads also increased by 17%. The IAM also state that the number of serious casualties in 20mph zones also increased by 29% while slight casualties went up by 19%. This could be due to an increase in the diversity of road users now using roads within 20mph area as they have a perception that the roads are safer to use.
- 18.9 Government guidance (DfT circular 01/2013 – Setting Local Speed Limits) states that “unless a speed limit is set with support from the local community, the police and other local services, with supporting education, and with consideration of whether engineering measures are necessary to reduce speeds; or if it is set unrealistically low for the particular road function and condition, it may be ineffective and drivers may not comply with the speed limit.”
- 18.10 “A comprehensive and early consultation of all those who may be affected by the introduction of a 20 mph scheme is an essential part of the implementation process. This needs to include local residents, all tiers of local government, the police and emergency services, public transport providers and any other relevant local groups (including for example, groups representing pedestrians, cyclists, drivers, or equestrians).”

- 18.11 “It is important to consider the full range of options and their benefits, both road safety and wider community and environmental benefits and costs, before making a decision as to the most appropriate method of introducing a 20 mph scheme to meet the local objectives and the road conditions.”
- 18.12 Different road users perceive risks and appropriate speeds differently, and drivers and riders of motor vehicles often do not have the same perception of the hazards of speed as do people on foot, on bicycles or on horseback.
- 18.13 Also attitudes and actions of road users can be at odds – what people say and what they actually do can differ drastically. There is no evidence of modal shift resulting from the implementation of signed only 20 mph limits, although those that do not cycle and walk think it might make people feel safer, or that modal shift will happen as a result. There is also no evidence that people ARE safer in signed only 20mph limit areas, although there is some evidence that people may FEEL safer.
- 18.14 There is no doubt that a reduction in the speed of traffic from 30mph to 20mph and below in areas where there are high level of accidents would save lives. 20mph zones reduce speeds, directly related to the amount of traffic calming included. Thus providing they are robust they will reduce speeds, which in turn may reduce casualties, where there have been speed related casualties before. The implementation and on-going maintenance, together with public resistance to traffic calming features, significantly increases the cost of any scheme. 20 mph limits on the other hand are cheaper and only reduce speeds by a very small margin, but will not bring speeds to under 20mph, unless the pre-scheme speeds were at or below 20mph or if there is constant rigorous enforcement.
- 18.15 A blanket 20mph speed limit on residential roads will not guarantee that traffic speeds will reduce to the desired levels and should not be seen as a perfect solution to reduce the numbers of those killed or seriously injured. It should also not be seen as a tool to establish a modal shift to active travel. It could also potentially have an adverse effect due to the perception that vehicles in a 20 speed limit are actually travelling at that speed, giving a false sense of safety with an increase in more vulnerable users. Additionally, a substantial level of funding would need to be identified from existing budgets and is unclear where the additional funding will come from, particularly given the levels of savings the Council are having to make year on year.
- 18.16 The Council could consider consulting its residents, Leigh Town Council, the Police and other emergency services, local transport providers etc. on the feasibility of introducing a blanket 20 mph speed restriction in residential streets to help inform the debate. However, as mentioned above no budget provision has been identified for this. Furthermore, should there be general overall support for a blanket 20mph speed limit in residential streets, further additional funding would need to be identified from existing decreasing budgets.

18.17 The Department for Transport has commissioned a three-year, £715,000 study on their effectiveness, which will bring together data from different regions as well as new research carried out on the roads. The results of this study are due in 2017.

19. Recommendations

19.1 That Cabinet be recommended:

- (i) To note the outcome of the study;
- (ii) To wait until the results of the study by the DfT are published before considering undertaking any consultation on the introduction of a Borough wide 20mph speed restriction in all residential streets;
- (iii) To work with SERP and other agencies to reduce death and serious injury on roads in Southend;
- (iv) To consider the introduction and prioritisation of 20mph schemes, including the use of variable speed limits within the Borough where and when necessary, particularly around local schools and other appropriate locations; and
- (v) To write to the Secretary of State for Transport to suggest that they consider the merits of reducing the default urban speed limit in roads with street lighting be reduced from 30mph to 20mph.

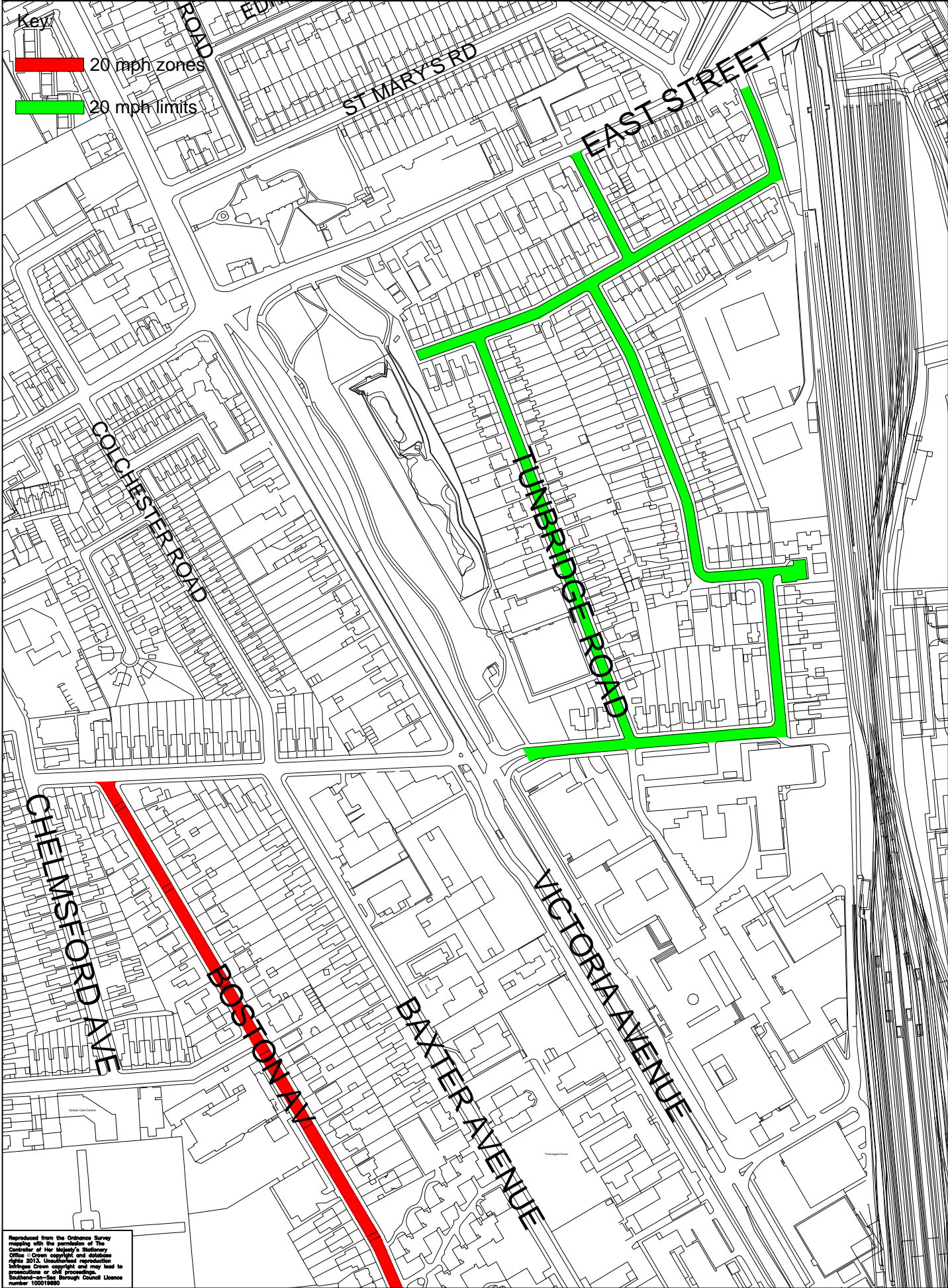
LIST OF EXISTING 20mph SCHEMES IN THE BOROUGH

Location / Area	20mph ZONE	20mph LIMIT
Boston Avenue Area	X	
High Street - Old Leigh	X	
Milton Area	X	
Caulfield Road	X	
Chalkwell Esplanade Area	X	
Cromwell Road	X	
Westborough Area	X	
Greenways	X	
Wentworth Road	X	
Windermere Road	X	
Westcliff High Schools Area	X	
Edwards Hall School Area	X	
Temple Sutton School Area	X	
Marine Parade City Beach Area		X
Westleigh School Area		X
Tunbridge Road Area		X
Victoria Station		X
Chichester Road		X

INDEX TO PLANS OF EXISTING 20mph SCHEMES IN THE BOROUGH

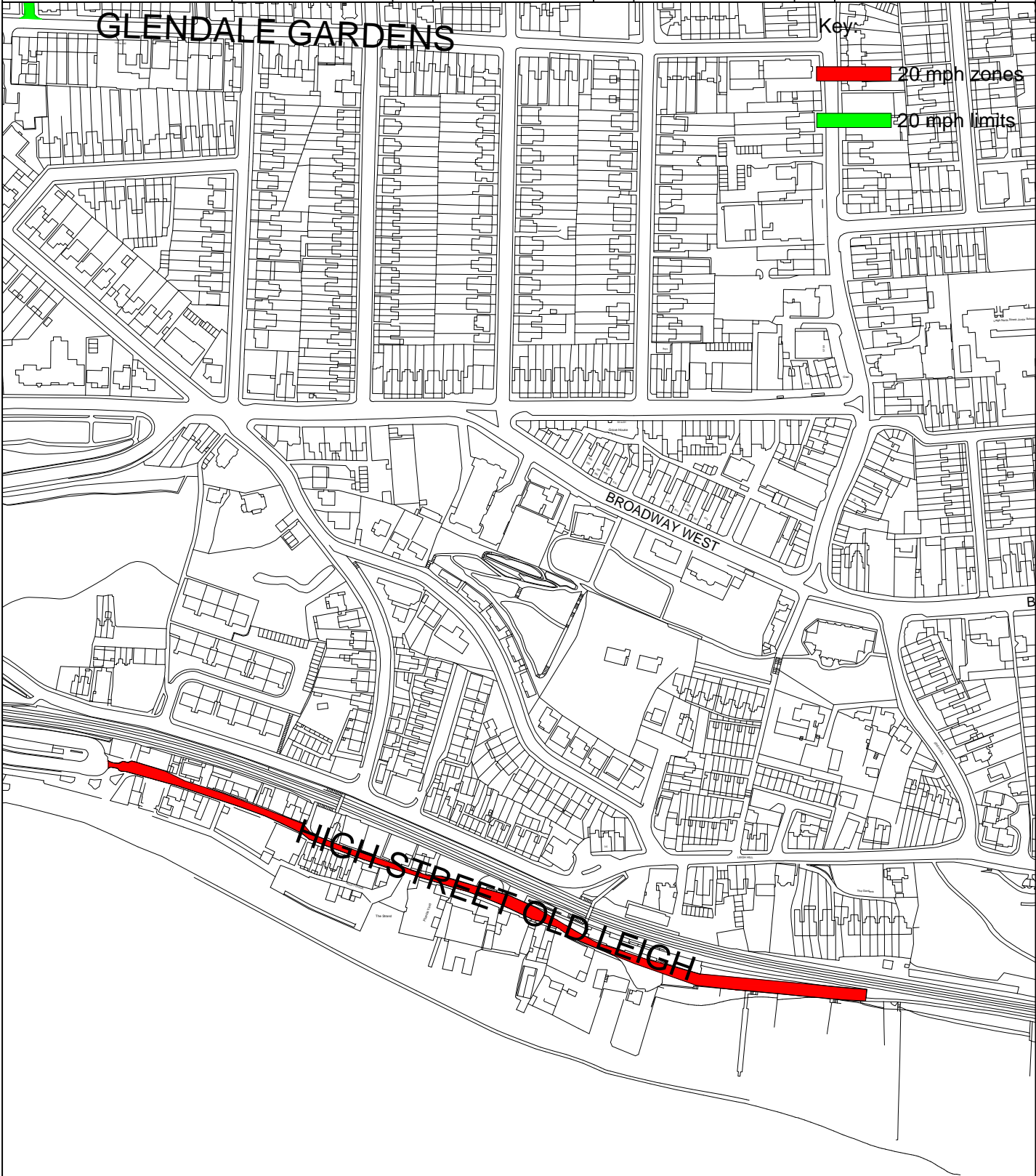
Plan 1	Boston Avenue Area 20mph Zone and Tunbridge Road Area 20mph Speed Limit
Plan 2	High Street Old Leigh 20mph Zone
Plan 3	Milton Area 20mph Zone, Victoria Station and Chichester Road 20mph Limits
Plan 4	Caulfield Road 20mph Zone
Plan 5	Chalkwell Esplanade Area 20mph Zone
Plan 6	Cromwell Road, Wentworth Road and Temple Sutton Area 20mph Zones
Plan 7	Westborough Area 20mph Zone
Plan 8	Greenways 20mph Zone
Plan 9	Windermere Road 20mph Zone
Plan 10	Westcliff High Schools Area 20mph Zone
Plan 11	Edwards Hall School Area 20mph Zone
Plan 12	Marine Parade City Beach Area 20mph Limit
Plan 13	West Leigh School Area 20mph Limit

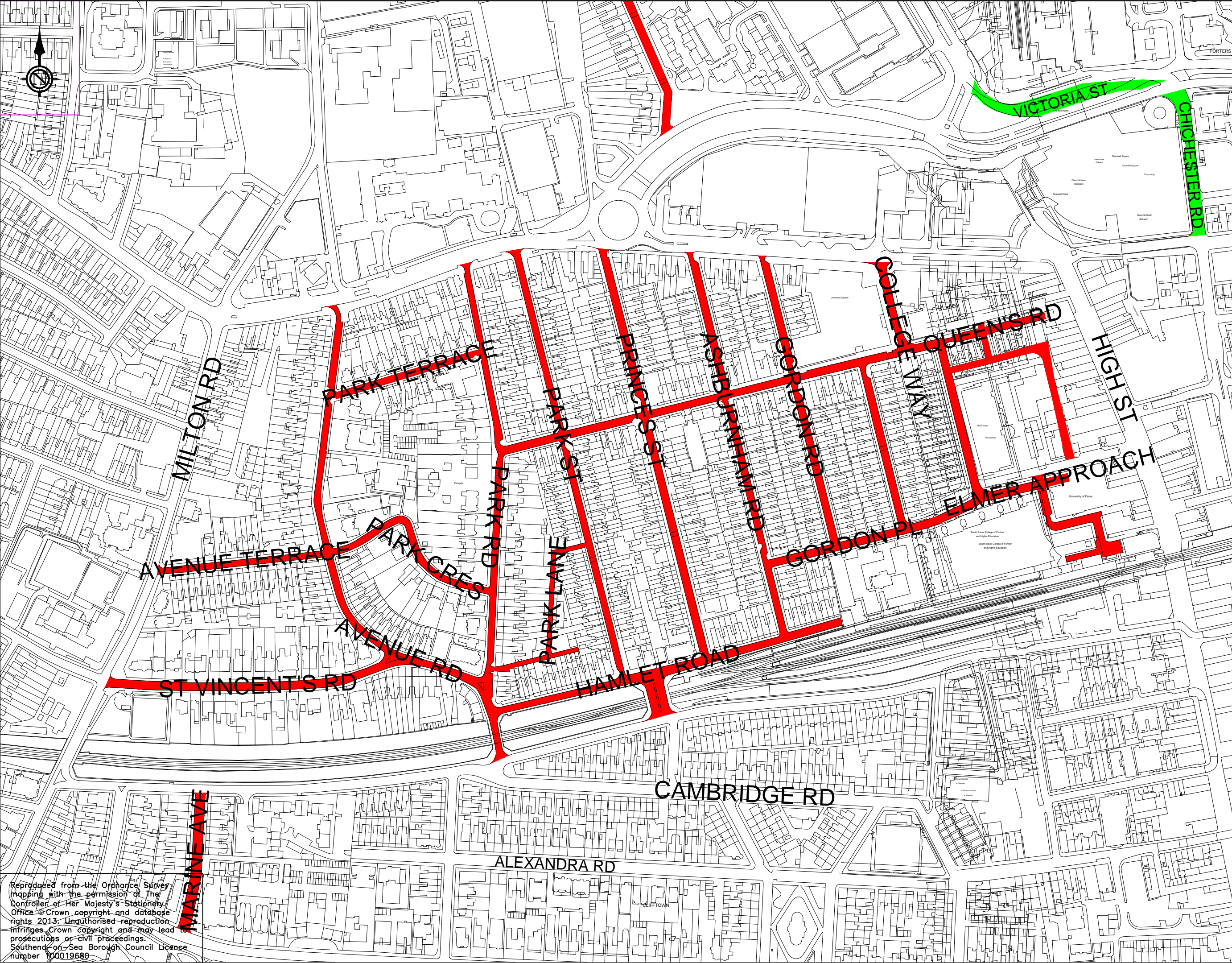
Southend on Sea Borough Council Enterprise, Tourism and the Environment PO Box 5560, Civic Centre Victoria Avenue, Southend on Sea, SS2 6ZQ			Project Title Existing 20 mph zone & limits		Date 15/08/16
			Drawing Title Various Roads		Quality Project No.
			Designed	Drawn by L.PEARMAIN	Checked by NTS
Drawing Status			Approved by		Drawing Number
Preliminary		Tender		Working	As Constructed



Southend on Sea Borough Council Enterprise, Tourism and the Environment PO Box 5560, Civic Centre Victoria Avenue, Southend on Sea, SS2 6ZQ	Project Title			Existing 20 mph zone		Date	15/08/16
	Drawing Title			High Street, Old Leigh		Quality Project No.	
	Designed			Drawn by	Checked by	Approved by	Scale
				L.PEARMAIN			NTS
					Drawing Number		

Drawing Status	Preliminary		Tender		Working		As Constructed	
----------------	-------------	--	--------	--	---------	--	----------------	--





Key:

20 mph zones

20 mph limits

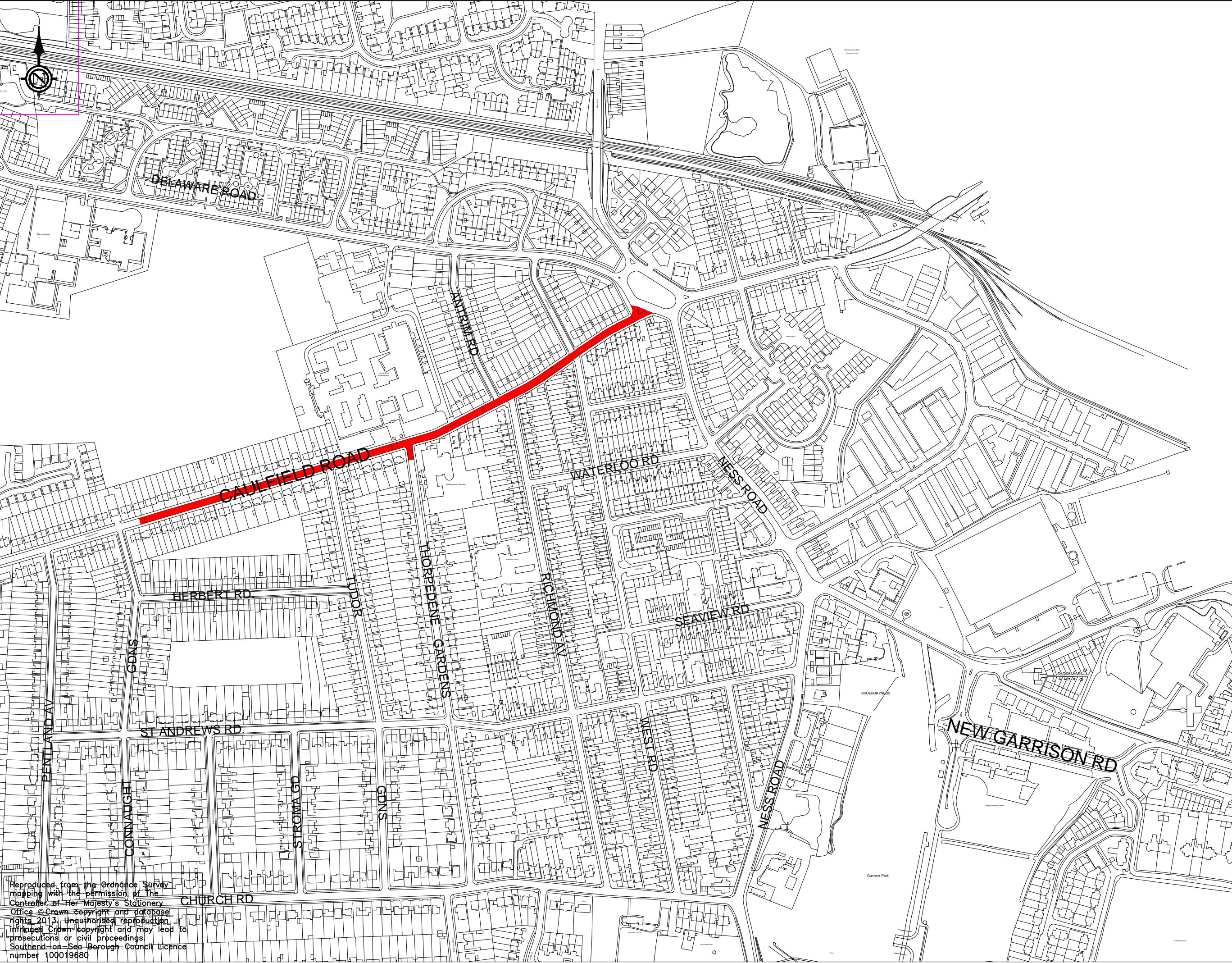
Southend-on-Sea
Borough Council

Enterprise, Tourism
and the Environment

PO Box 5560, Civic Centre
Victoria Avenue, Southend on Sea,
SS2 6ZQ

Quality Project No. :		PROJECT_No	
Project Title			
Existing 20 mph zones & limit			
Drawing Title			
Various Roads			
Designed by L.PEARMAN		Scales © A3	
Drawn	Date	NTS	
Drawn	15/08/16		
Checked	Date		
Approved	Date	Issued	Date
/	/		
Drawing Status			
Preliminary		Working	
Tender		As Constructed	
Drawing Number			

Reproduced from the Ordnance Survey
mapping with the permission of The
Controller of Her Majesty's Stationery
Office © Crown copyright and database
rights 2013. Unauthorised reproduction
infringes Crown copyright and may lead to
prosecutions or civil proceedings.
Southend-on-Sea Borough Council Licence
number 100019680



Key:

20 mph zones

20 mph limits

Southend-on-Sea
Borough Council

Enterprise, Tourism
and the Environment

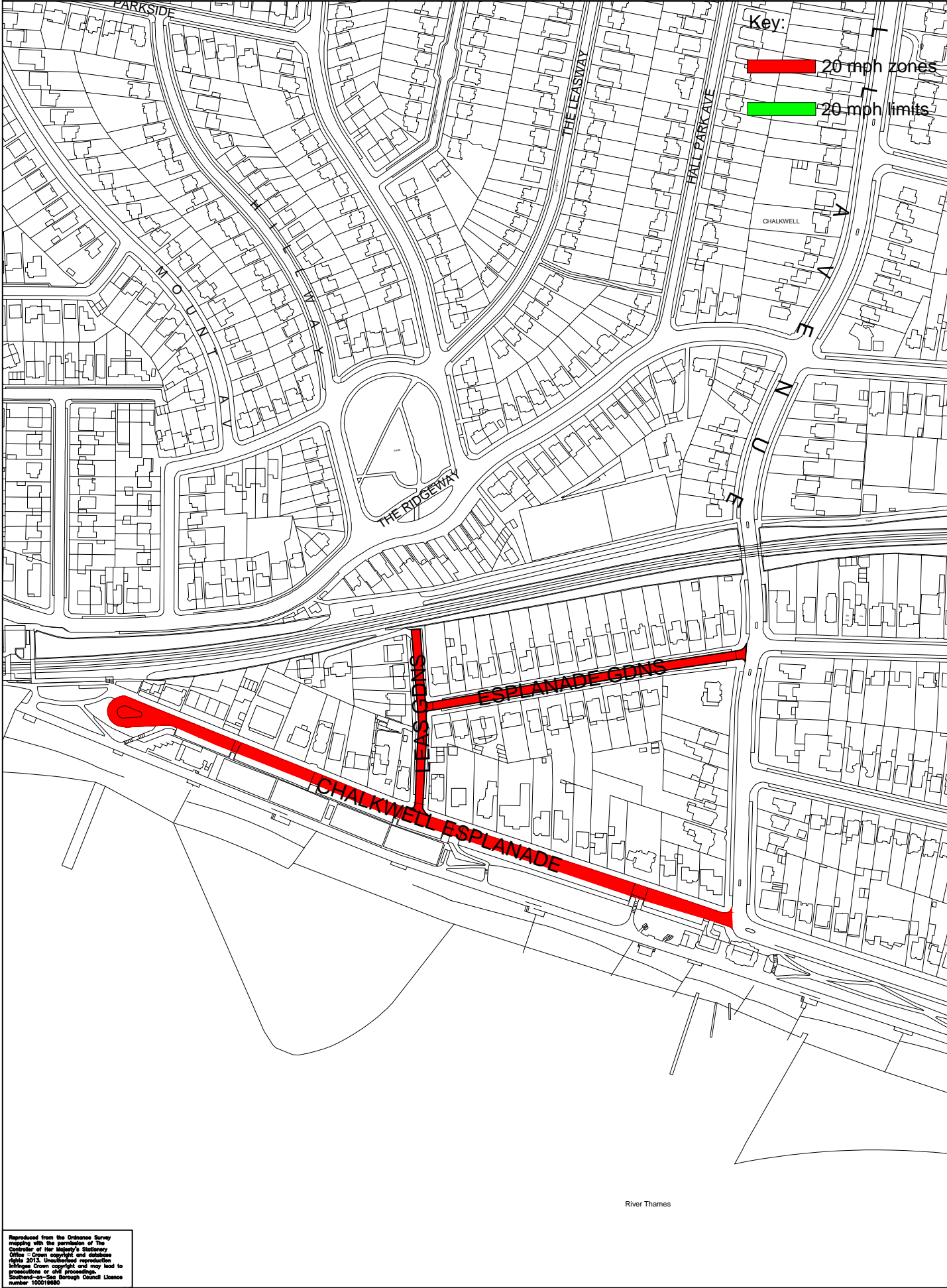
PO Box 5560, Civic Centre
Victoria Avenue, Southend on Sea,
SS2 6ZQ

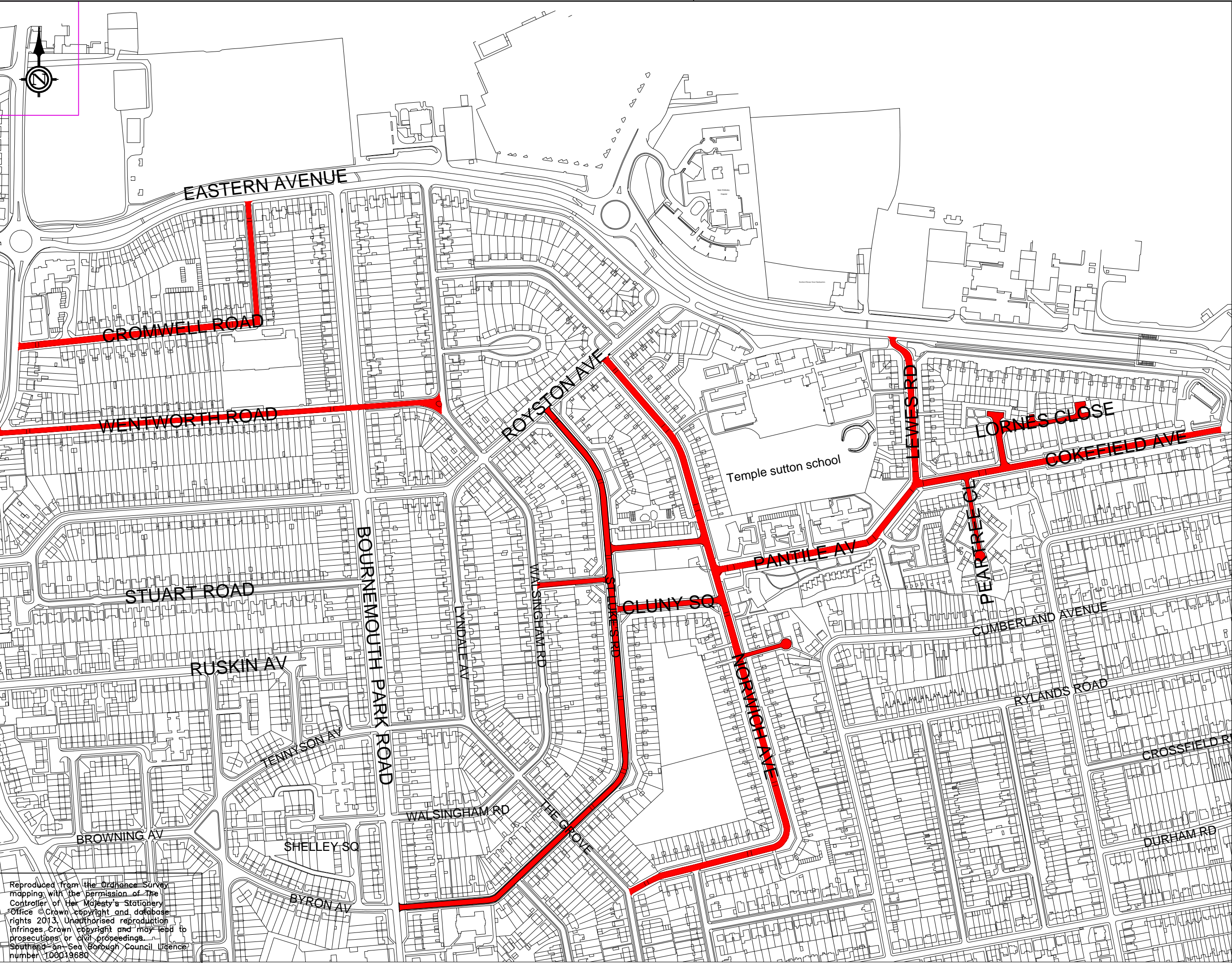
Quality Project No. :	PROJECT_No		
Project Title			
Existing 20 mph zones			
Drawing Title			
Caulfield Rd, Shoeburyness			
Designed by L.PEARMAN		Scales ⌚ A3	
Drawn	Date	NTS	
Drawn	15/08/16		
Checked	Date		
Approved	Date	Issued	Date
	/ /		
Drawing Status			
Preliminary	Working		
Tender	As Constructed		
Drawing Number			

Reproduced from the Ordnance Survey
mapping with the permission of The
Controller of Her Majesty's Stationery
Office. Crown copyright and database
rights 2013. Unauthorised reproduction
infringes Crown copyright and may lead to
prosecutions or civil proceedings.
Southend-on-Sea Borough Council Licence
number 100019680

Southend on Sea Borough Council Enterprise, Tourism and the Environment PO Box 5560, Civic Centre Victoria Avenue, Southend on Sea, SS2 6ZQ	Project Title Existing 20 mph zone			Date 22/08/16
	Drawing Title Chalkwell Esplanade Area			Quality Project No.
	Designed	Drawn by L.PEARMAN	Checked by	Approved by

Drawing Status	Preliminary		Tender		Working		As Constructed	
----------------	-------------	--	--------	--	---------	--	----------------	--





Reproduced from the Ordnance Survey mapping with the permission of The Controller of Her Majesty's Stationery Office © Crown copyright and database rights 2013. Unauthorised reproduction infringes Crown copyright and may lead to prosecutions or civil proceedings. Southend-on-Sea Borough Council Licence number 100019680

Key:

20 mph zones

20 mph limits

Southend-on-Sea Borough Council

Enterprise, Tourism and the Environment

PO Box 5560, Civic Centre
Victoria Avenue, Southend on Sea,
SS2 6ZQ

Quality	Project No. :	PROJECT_No	
Project Title			
Existing 20 mph zones			
Drawing Title			
Temple Sutton School Area			
Designed by L.PEARMAN		Scales ④ A3	
Drawn	Date	NTS	
Drawn	23/08/16		
Checked	Date		
Approved	Date	Issued	Date
/	/		
Drawing Status			
Preliminary		Working	
Tender		As Constructed	
Drawing Number			



Key:

20 mph zones

20 mph limits

Southend-on-Sea
Borough Council

Enterprise, Tourism
and the Environment

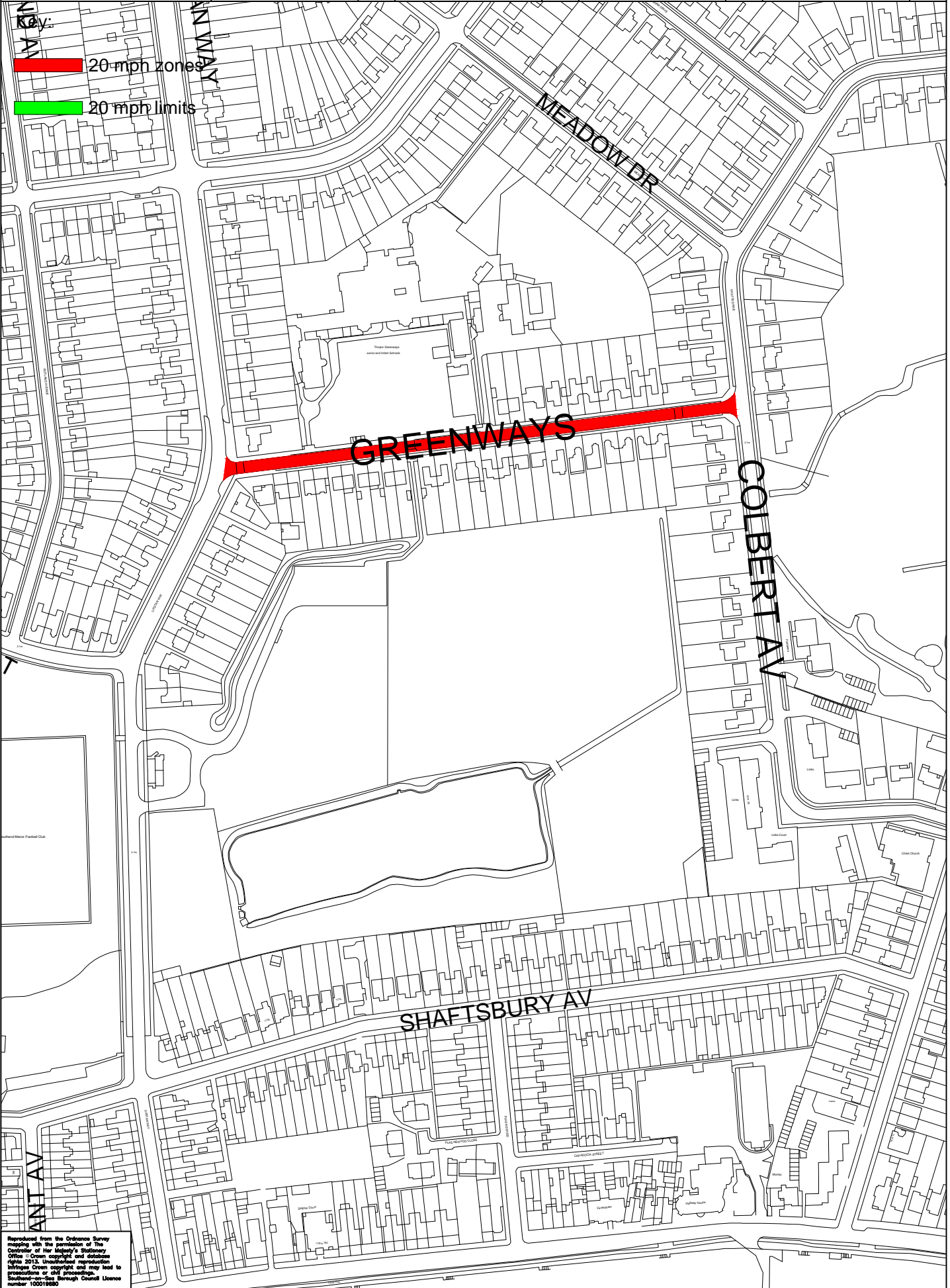
PO Box 5560, Civic Centre
Victoria Avenue, Southend on Sea,
SS2 6ZQ

Quality Project No. :		PROJECT_No	
Project Title			
Existing 20 mph zones			
Drawing Title			
Westborough area			
Designed by L.PEARMAIN		Scales ⑥ A3	
Drawn	Date	NTS	
Drawn	22/08/16		
Checked	Date		
Approved	Date	Issued	Date
Drawing Status			
Preliminary		Working	
Tender		As Constructed	
Drawing Number			

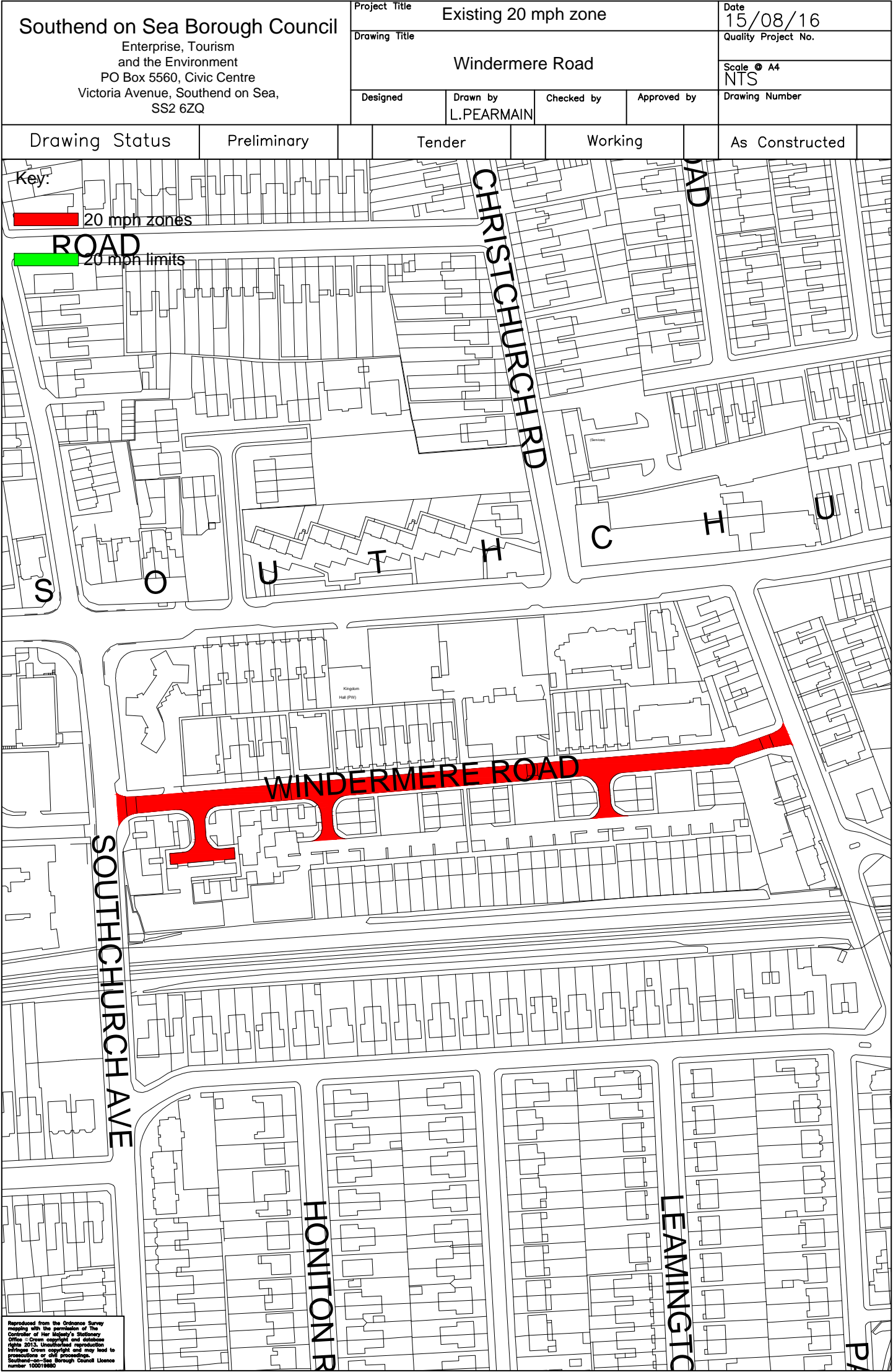
Reproduced from the Ordnance Survey
mapping with the permission of The
Controller of Her Majesty's Stationery
Offices. © Crown copyright and database
rights 2013. Unauthorised reproduction
infringes Crown copyright and may lead to
prosecutions or civil proceedings.
Southend-on-Sea Borough Council Licence
number 100019680

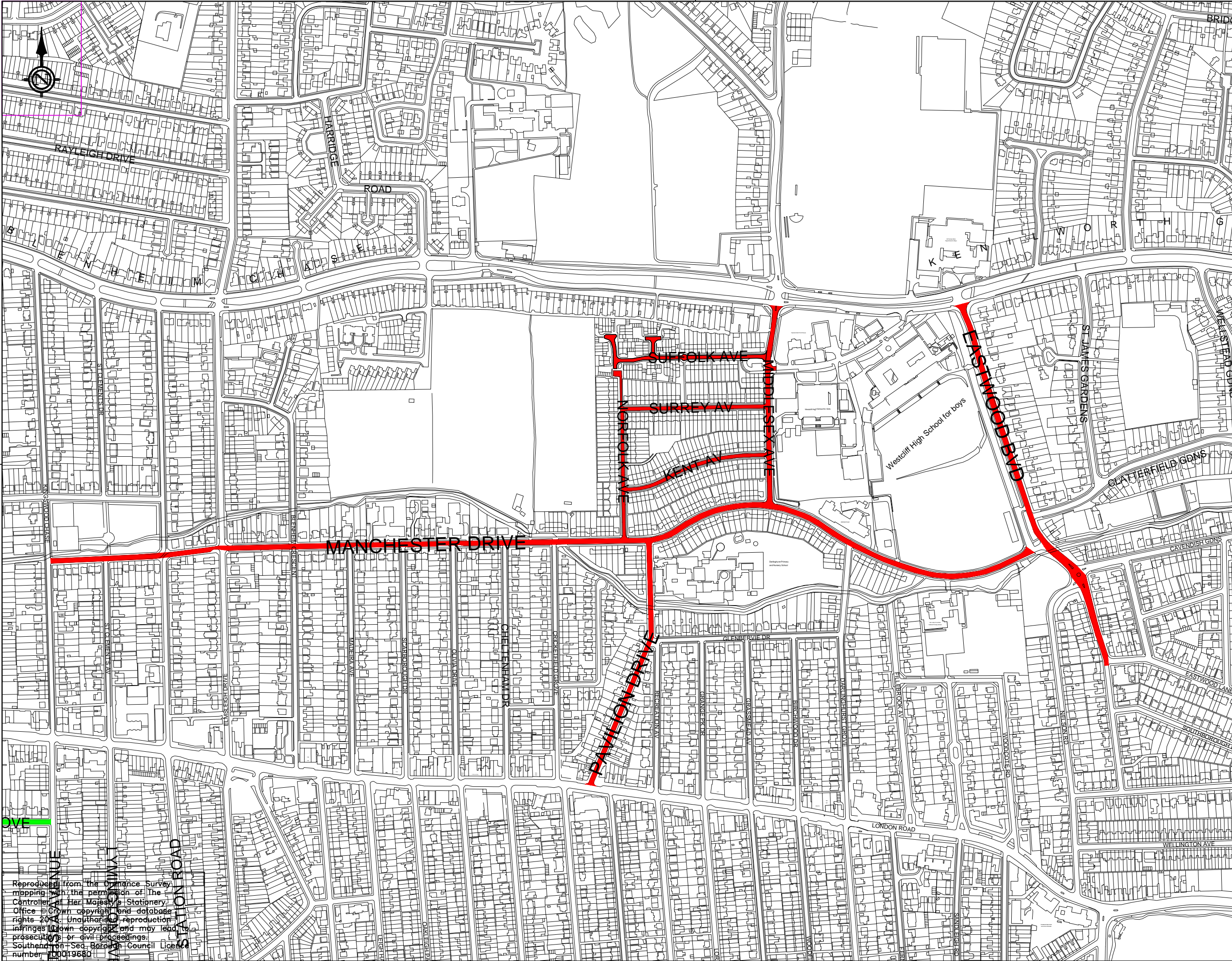
Southend on Sea Borough Council Enterprise, Tourism and the Environment PO Box 5560, Civic Centre Victoria Avenue, Southend on Sea, SS2 6ZQ	Project Title Existing 20 mph zone				Date 15/08/16
	Drawing Title Greenways				Quality Project No.
	Designed	Drawn by L.PEARMAN	Checked by	Approved by	Scale NTS A4 Drawing Number

Drawing Status	Preliminary		Tender		Working		As Constructed	
----------------	-------------	--	--------	--	---------	--	----------------	--



Reproduced from the Ordnance Survey
mapping with the permission of the
Controller of Her Majesty's Stationery
Office. Crown copyright and database
rights 2015. Unauthorised reproduction
infringes Crown copyright and may lead to
prosecution or civil proceedings.
Southend-on-Sea Borough Council Licence
number 100016880





Key:

20 mph zones

20 mph limits

Southend-on-Sea
Borough Council

Enterprise, Tourism
and the Environment

PO Box 5560, Civic Centre
Victoria Avenue, Southend on Sea,
SS2 6ZQ

Quality Project No. :PROJECT_No

Project Title
Existing 20 mph zones

Drawing Title
Westcliff High for Boys Area

Designed by
L.PEARMAIN
Drawn Date
22/08/16
Checked Date
/ /
Approved Date
/ /

Scales ⌚ A3
NTS
Issued Date

Drawing Status

Preliminary

Working

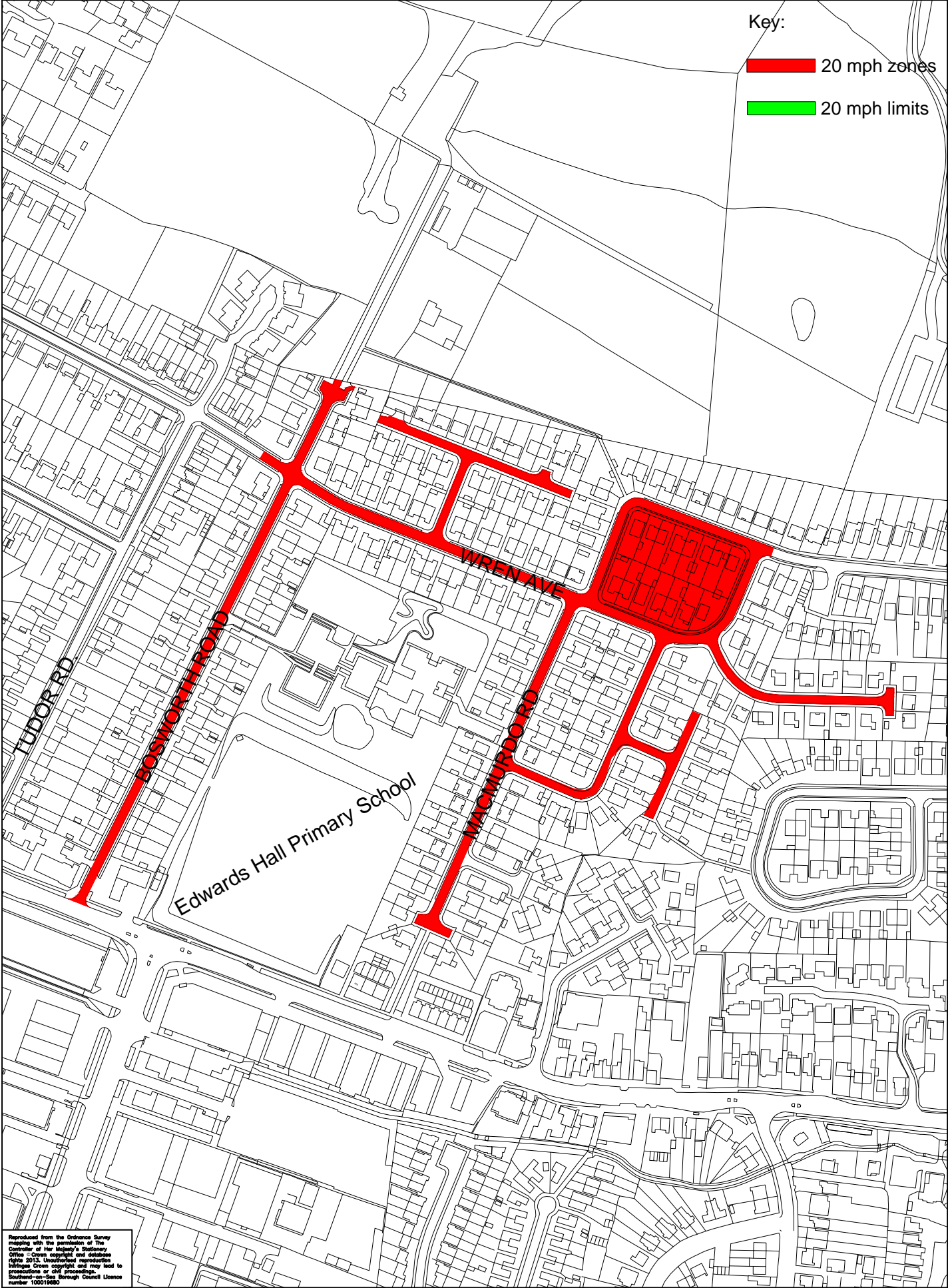
Tender

As Constructed

Drawing Number

Reproduced from the Ordnance Survey mapping with the permission of The Controller of Her Majesty's Stationery Office © Crown copyright and database rights 2014. Unauthorised reproduction infringes Crown copyright and may lead to prosecutions or civil proceedings.
Southend-on-Sea Borough Council Licence number: 100019680

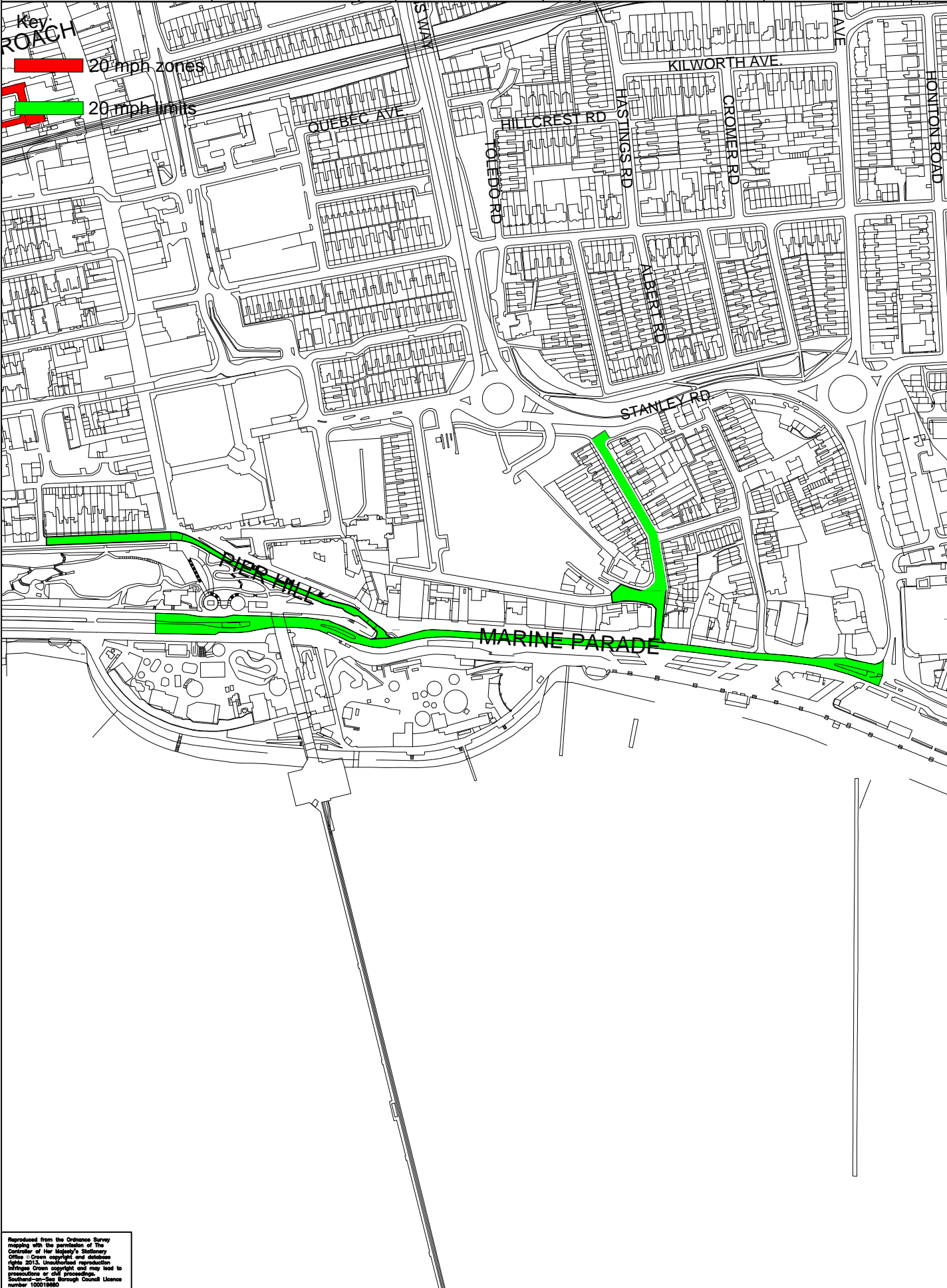
Southend on Sea Borough Council Enterprise, Tourism and the Environment PO Box 5560, Civic Centre Victoria Avenue, Southend on Sea, SS2 6ZQ		Project Title Existing 20 mph zone				Date 15/08/16	
		Drawing Title Edwards Hall Primary School				Quality Project No.	
		Designed	Drawn by L.PEARMAN	Checked by	Approved by	Scale A4 NTS	
						Drawing Number	
Drawing Status	Preliminary		Tender		Working		As Constructed

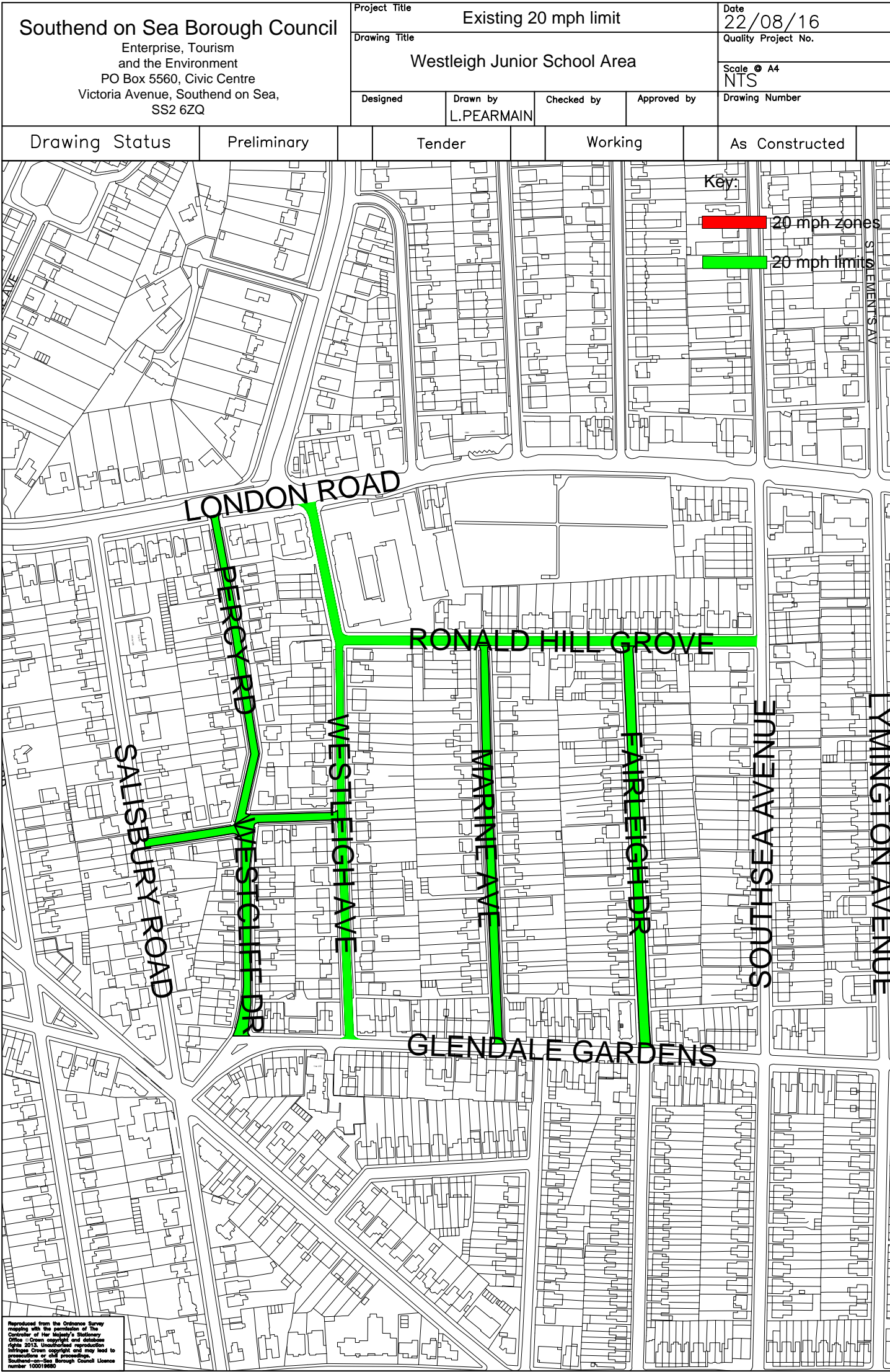


Reproduced from the Ordnance Survey map with the permission of The Controller of Her Majesty's Stationery Office. Crown copyright and database rights 2013. Unauthorised reproduction infringes Crown copyright and may lead to prosecutions or civil proceedings. Southend-on-Sea Borough Council Licence number 100019850

Southend on Sea Borough Council Enterprise, Tourism and the Environment PO Box 5560, Civic Centre Victoria Avenue, Southend on Sea, SS2 6ZQ	Project Title Existing 20 mph Limit				Date 22/08/16	
	Drawing Title Marine Parade				Quality Project No.	
					Scale @ A4 NTS	
	Designed	Drawn by L.PEARMAIN	Checked by	Approved by	Drawing Number	

Drawing Status	Preliminary		Tender		Working		As Constructed	
----------------	-------------	--	--------	--	---------	--	----------------	--







Department for Corporate Services | Legal & Democratic Services
PO Box 6 | Civic Centre | Victoria Avenue Southend-on-Sea | Essex SS2 6ER