



TOWN OF
VICTORIA PARK



CROSSOVER INSTALLATION PACKAGE



WE'RE OPEN
VIC PARK

Purpose:

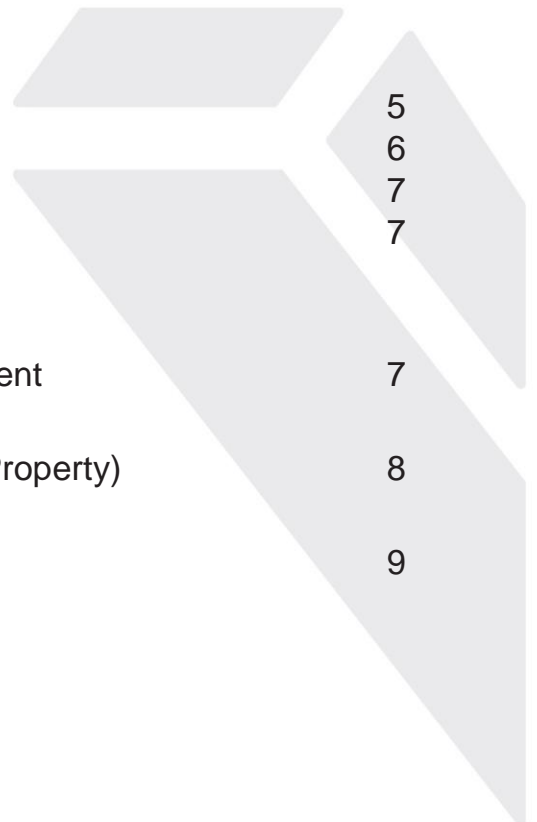
To provide information to property owners, developers and builders that will ensure a common understanding of how a crossover should be installed within the Town of Victoria Park.

Definition:

A crossover is the part of the driveway that crosses over the verge area fronting a property i.e. from the kerb line to the property boundary line.

CONTENTS

Residential Specification for Brick Paved Crossovers and Insitu Concrete Crossovers	2
Preamble	2
Specifications – Residential	
• Insitu Concrete Crossovers	5
• Brick Crossovers	6
• Insitu Limecrete	7
• Insitu Exposed Concrete	7
Specifications – Residential/Commercial/Industrial with mesh reinforcement	7
Special Driveway Level Considerations (Inside Private Property)	8
Diagrams	9



Residential Specification for Bricked Paved Crossovers and Insitu Concrete Crossovers

Should you require any technical information relating to the construction of your crossover, please contact the Town's Infrastructure Compliance Officer, on 9311 8111, who will be happy to meet you on site to discuss this matter further.

Preamble

1. Definitions

- 1.1 The Town's Infrastructure Compliance Officer shall be the Officer responsible for the inspection of the work.
- 1.2 The Contractor shall mean the person responsible for the construction of the crossover.
- 1.3 A crossover is an extension of the driveway that crosses over the verge area fronting a property i.e. from the kerb line to the property boundary line.

2. Procedure

- 2.1 Application – An owner of a property or their agent, wishing to construct their own vehicle crossover, is to apply by filling in the crossover application form. Approval / non-approval and specifications to construct a crossover will then be issued by the Town.

Note: Applications for crossovers for any new developments are only to be submitted at the time of lodgement for final Building License.

- 2.2 Pay application fee of an amount indicated in the Schedule of Fees and Charges contained within the current budget.
- 2.3 Assessment – Following receipt of an application to construct a crossover, the site may be inspected by the Town's Infrastructure Compliance Officer to determine any conditions, which will apply to the approval, at the request of the contractor.
- 2.4 Final Inspection – Final inspection will be made following advice from the applicant that construction is complete. The crossover shall be inspected and approved by the Town's Infrastructure Compliance Officer prior to payment of subsidy, if applicable.
- 2.5 Crossovers shall be constructed in in situ concrete or brick / block paving. Insitu Limecrete, exposed aggregate, and other proposed material shall require a separate written approval from the Manager Technical Services.
- 2.6 The Visual and physical continuity of the footpath is to be maintained (or reinstated) through the Crossover. The footpath is to take priority over the crossover.
- 2.7 Crossover shall provide unobstructed vehicle access to the individual lots and motorist must be able to enter or reverse from the lot in a single movement.
Note: Based on MRWA Road Hierarchy requirements and for roads with more than 5,000vpd all vehicles must be able to exit in forward gear only.
- 2.8 The maximum width of any crossover and/or adjoining crossover shall be 6 metres or to a maximum of 40% of the property frontage whichever is lesser, except for commercial/industrial premises.
- 2.9 Crossovers shall be constructed perpendicular to the Road edge and shall align with the internal access onto the property. Other proposed alignments will require written approval from the Town.
- 2.10 The location of crossovers shall be no closer to an intersection than (refer drawings attached):
 - a. the point of intersection between a standard truncation and the street alignment; or
 - b. 7.3 metres from the intersection of the street alignments; or whichever is furthest from the corner.

- 2.11 Crossover levels shall comply with Australian Standards 2890 and are to be established by the contractor to ensure stormwater from the road reserve will not enter the property. At the request of the contractor, advice may be sought from the Town's Infrastructure Compliance Officer.
- 2.12 All elements of the Crossover shall be located at a minimum distance to obstructions (including straight and radii wings) as follows:

Obstructions	Minimum Clearance's
Street Verge Trees (to edge of tree trunk)	1.50m
Bus Shelter	1.5m
Bus Stops	1.0m
Pram Ramps	1.0m
Regulatory Road Signage	1.0m
Storm Water Drainage Pits	1.0m
Power Poles and Street Light Poles	1.0m
Utility Boxes in Verge Area	0.75m
Parking Signage	0.75m

If crossover must be constructed within this distance, the obstruction shall be relocated wherever possible. In special cases where relocation of obstructions is unfeasible, justification is to be provided to the Town with the crossover application and a decision will be made on a case by case basis.

Note: Where an existing tree is within 1.5 metres of a crossover, advice shall be obtained from Parks Services on the future size of the tree and the advisability of it being retained.

- 2.13 Crossovers to be constructed within close proximity of a signalised intersection shall be individually assessed by the Town's Infrastructure Compliance Officer, in accordance with the requirements of Main Roads Western Australia (MRWA).
- 2.14 Where a proposed crossover is located on a road reserve controlled by Department of Planning or MRWA (including Shepperton Road, Orrong Road, and Canning Highway), approval for the crossover shall in the first instance, be sought from the Department of Planning or Commissioner Main Roads Western Australia. Where a crossover connects a property with a blue road (as defined by the Metropolitan Region Plan) the Town and the Department of Planning are to issue joint approval for the crossover.
- 2.15 The owner of the property to which the crossover is being constructed shall bear the cost of any public utility service or infrastructure adjustments required as a result of constructing the vehicle crossover. In this regard, the location of the crossover is subject to approval by the relevant authorities (Western Power, Water Corporation, Telstra, etc.)

3. Details

- 3.1 Specification and Drawings – All works associated with the construction of the crossover shall be carried out in accordance with the specification and drawings contained herein and to the satisfaction of the Town's Infrastructure Compliance Officer.
- 3.2 Insurance – The works shall be covered by insurance policies (including workers compensation and public risk affecting person and property). The latter policy shall provide sufficient cover for all claims arising from the construction of the crossover.
- 3.3 Obstruction and Safety Precautions – The work shall be carried out with minimum disruption to pedestrian and vehicular traffic. Every precaution shall be taken to ensure the safety of persons and property.

All excavations, materials, plant and equipment must be made safe, barricaded and

provided with warning lights, during the hours of darkness to the satisfaction of the Town's Infrastructure Compliance Officer.

Temporary alternative footpath to accommodate wheelchairs, prams and motorised mobility devices (gophers) shall be provided around the disturbed site until the footpath portion of the new crossover has been completed.

A Traffic Management Plan may be required for busy roads carrying a volume of more than 1,000 vehicles per day.

All works shall be carried out in accordance with the current Occupational Health Safety Welfare Act and other relevant Regulations as amended.

- 3.4 Testing – Testing of concrete and compaction of limestone/sand/gravel shall be carried out in accordance with relevant Australian Standards.
- 3.5 Making Good – Any reinstatement necessary, caused as a result of the contractor's work, shall be carried out by the contractor, at the contractor's cost, and complying with the specifications of the Town of Victoria Park and the relevant utility providers Code of Practice approved by the Town.
- 3.6 Public Utilities – It is the responsibility of the contractor to apply to the relevant public utility authorities for approval to alter any utility service that is in conflict with the proposed crossover. This includes relocation of poles and pits and the temporary insulation of above ground electrical cables. Any costs incurred in the alteration of any service and subsequent reinstatement of the verge to original shall be borne by the contractor or the applicant.
- 3.7 Verge Trees – The responsibility of verge trees or tree roots which intrude into the proposed crossover rests with the Town of Victoria Park's Technical Services Department. The contractor shall arrange for the Parks Service area to approve or otherwise, the removal of any trees or roots affected by the crossover. Any costs incurred in this regard will be the responsibility of the contractor or the applicant and will be carried out by the Town of Victoria Park.
- 3.8 Levels – It is necessary for the levels at the street alignment to comply with those of the existing footpath in grade and level. Where there is no footpath or any doubt as to the correct levels, the Town's Infrastructure Compliance Officer is to be notified at least 24 hours prior to the commencement of the works so that the levels can be established.
All kerbing at the junction of the crossing and road pavement must be removed. The crossing must be constructed so that the crossing rises from the road edge to a height no less than 125mm above the road gutter level or the top of the adjacent existing kerbing whichever is the greater, at a point 2 metre's behind the kerb line.
If this is not done, the crossover may allow the entry of the road drainage runoff into ratepayer's private property.
- 3.9 Disposal of Unwanted Materials – Any surplus material arising from the construction of the crossover shall be removed or disposed of by the contractor.
Pre-cast barrier kerbing and concrete footpaths which are affected by the crossover shall be neatly cut with a concrete saw and disposed of by the contractor.

4. Materials

- 4.1 Limestone – Crushed limestone shall be free from all deleterious materials and graded to the following grading envelope:-
Passing 75.00mm 100% Passing 19.50mm 50 – 75% Passing 2.36mm 30 – 50%
Limestone / Sub-base to be placed to a depth of 100mm and to be compacted to 95% density.
- 4.2 Screed Sand – Screed sand shall be well graded, free from deleterious materials and

- organic matter and must not contain soluble salts that may cause efflorescence.
- 4.3 Jointing Sand – Jointing sand shall be well graded, pass a 2.36mm sieve and be free from deleterious materials likely to cause staining.
 - 4.4 Expansion Joints – An expansion jointing strip shall be placed between the internal driveway and the crossover and mountable road kerbing and the crossover and the adjoining footpath as shown on attached drawing.
 - 4.5 Control Cracking Joints – Control cracking joints shall be made with an approved jointing tool at 1.5 metre intervals as show on attached drawing. The edges of the concrete and joints shall be smooth trowelled in a 25mm band.
 - 4.6 Redundant Crossovers – Vehicle crossovers that are no longer required or no longer connect with an internal driveway shall be removed at the cost of the property owner. The new kerb that is to go across this redundant crossover is to be done by a professional kerber to a standard equal to the existing kerb each side of the old crossover. The verge and any existing footpaths are to be reinstated to the specifications of the Town of Victoria Park.
 - 4.7 Final Inspection – The work shall be inspected after completion and any defects shall be made good by the contractor to the satisfaction of the Town's Infrastructure Compliance Officer (9311 8111).

Specifications – Residential In Situ Concrete

Crossovers General

The conditions relating to the construction of brick paved crossovers contained in Clauses 2.0 to 3.0 inclusive of the specification for brick crossovers are to be read in conjunction with the details for in situ concrete crossovers contained hereunder.

Construction

1. Formation

The crossover formation shall be boxed out and constructed in accordance with the details shown on attached drawing. Boxing out for the formation shall be carried out taking due care to protect the surrounding verge, road surface, public utility services, vegetation and footpath if applicable.

The subgrade generally consists of sand, which is adequately compacted provided it is compacted to a density of 7 blows per 300mm as determined by a standard penetrometer. Where the subgrade has been disturbed or has failed, the old material shall be removed and the contractor shall replace the defective material with suitable sand which is to be compacted to a minimum density of 7 blows per 300mm as determined by a standard penetrometer.

Concrete footpath constructed to the satisfaction of Manager Technical Services, will take precedence over crossover construction.

1.1 Concrete

All concrete used shall develop a minimum compressive strength of 25mpa and have a maximum slump of 90mm using 20mm aggregate. Additives shall be used in accordance with the manufacturer recommendations.

1.2 Surface Finish

The concrete shall be screeded to correct levels and finished with a wood float or broom to produce a non-slip dense fine textured surface free from defects such as depressions, honeycomb sections or the accumulation of fine dusty accretions.

Brick Crossovers

2. Bricks

Bricks shall be new, solid, manufactured in clay or concrete and have sharp or true bevelled arises. They shall have nominal dimensions of 230 x 115 x 76mm and have an equivalent transverse strength of 2.5Mpa as determined by AS1226.3

The Town's Infrastructure Compliance Officer will only permit bricks with a lesser thickness of 76mm if it can be demonstrated that the transverse strength is not less than 2.5Mpa and that the built product will support tyre load of service trucks including crane trucks and rubbish trucks.

2.1 Brick Samples

The contractor shall supply the Town's Infrastructure Compliance Officer if requested, with manufacturer specifications at least 24 hours before the commencement of work. This requirement will only apply if the Engineering Supervisor is not satisfied with the proposed brick to be used for the crossover.

2.2 Concrete

All concrete used shall be pre-mixed with a minimum compressive strength of 25mpa at 28 days and a maximum slump of 90mm using 20mm aggregate. Additives if approved shall be used in accordance with the manufacturer's recommendations.

3. Formation – Brick Crossover

The crossover formation shall be constructed in accordance with the details indicated on the drawings attached herein.

Concrete footpath shall preferably take precedence over crossover and constructed to the satisfaction of Manager Technical Services.

Boxing out for the formation shall be carried out taking due care to protect the surrounding verge, road surface, utility services, vegetation and footpath (if applicable).

The subgrade generally consists of a sand base. The contractor must ensure that compaction of subgrade and base is in accordance with listed specifications as below. Where the subgrade has failed the contractor shall replace the defective material with suitable sand, which is to be compacted to a minimum density of 7 blows per 300mm as determined by a standard penetrometer.

3.1 Base Construction

The base material (limestone) shall be placed at optimum moisture content and spread such that the final compacted thickness is a minimum of 100mm. The materials shall be worked to the correct lines and levels and thoroughly compacted. Alternative base materials such as rock base and cement stabilised sand may be permitted, subject to approval by the Town's Infrastructure Compliance Officer.

3.2 Bedding Sand Placement

Bedding sand shall be placed screeded at optimum moisture content. The finished thickness of the sand shall be 30mm (< or > 5mm).

3.3 Placement of Bricks

Brick crossovers shall be constructed in accordance with the details indicated on the attached drawings. Bricks shall be laid in either a 45° or 90° herringbone pattern, leaving a space of 2 - 3mm between each brick.

Immediately after the laying of the bricks, a minimum of three passes shall be made over the surface with a suitable vibrating plate compactor. During compaction, the paving shall be protected from damage by utilising a suitable protective medium between the surface of the plate compactor and the paving units.

As soon as practicable after compaction, the bricks shall be set by brooming the jointing sand into the joints. To ensure that the joints are completely filled, the pavement shall receive one or more passes of the plate compactor and the joints refilled.

3.4 Edge Restraints

The edges of the crossover are to be restrained as shown on Drawing No TVP.1-08. A single row of header bricks shall be set on the beam using a mortar mix of four parts bricklayer's sand and one part cement.

3.5 Concrete Apron

Where the crossover has required the removal of a precast barrier kerb, the contractor shall construct a concrete beam / apron as per Drawing No TVP.1-08.

3.6 Redundant Crossovers

VEHICLE CROSSOVERS THAT ARE NO LONGER REQUIRED OR NO LONGER CONNECT WITH AN INTERNAL DRIVEWAY SHALL BE REMOVED AT THE COST OF THE PROPERTY OWNER. THE VERGE AND ANY EXISTING FOOTPATHS, KERBING, ROAD BITUMEN AND VERGE LANDSCAPING ARE TO BE REINSTATED TO THE SPECIFICATIONS OF THE TOWN OF VICTORIA PARK.

3.7 Jointing Sand

Jointing sand shall be well graded, pass a 2.36 mm sieve and be free from deleterious materials likely to cause staining.

3.8 Final Inspection

The work shall be inspected after completion and any defects shall be made good by the Contractor to the satisfaction of the Town's Infrastructure Compliance Officer.

Residential In Situ Limecrete

General

The specification of proposed materials and testing methods associated with strength, slip resistance, and abrasion shall be submitted to the Town for approval.

In Situ Exposed Concrete

General

The specification of proposed materials and testing methods associated with strength, slip resistance, and abrasion shall be submitted to the Town for approval.

Specifications – Residential/Commercial/Industrial – with Mesh Reinforcement

General

1. Concrete shall be 150mm thick
2. Steel mesh shall be a minimum of mild steel F-62
3. Used in the discretion of property owner (especially those properties on a steep landscape or those exposed to ongoing use by heavy vehicles).

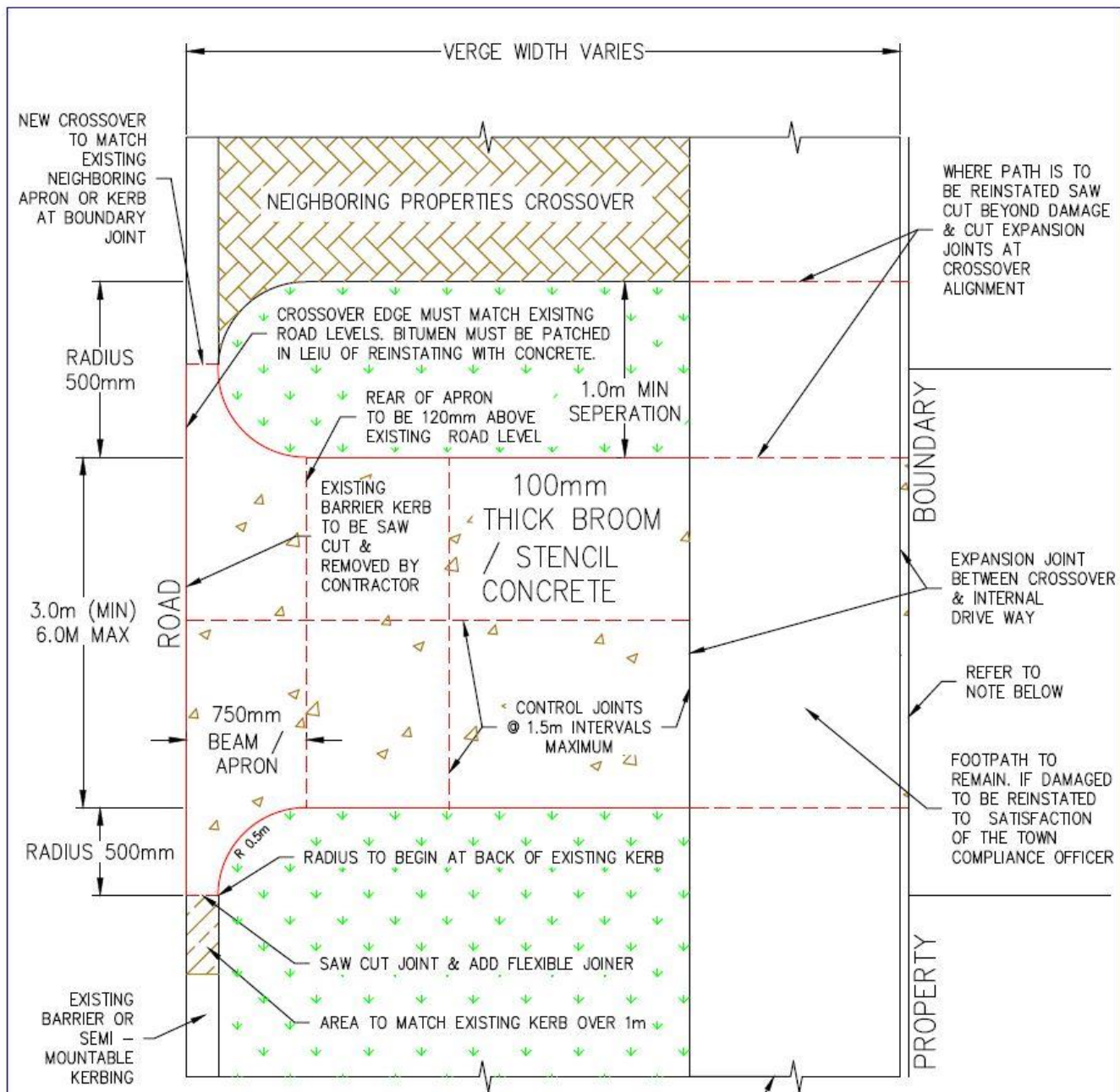
Special Driveway Level Considerations (Inside Private Property)

For properties abutting a verge or footpath that is at a level below that of the road, the following is required:

1. The first 2m strip of land within the private lot abutting the road reserve boundary shall have a positive +6% gradient rising up away from the road reserve boundary.
2. Minimum level of driveway shall be as shown on the table below:

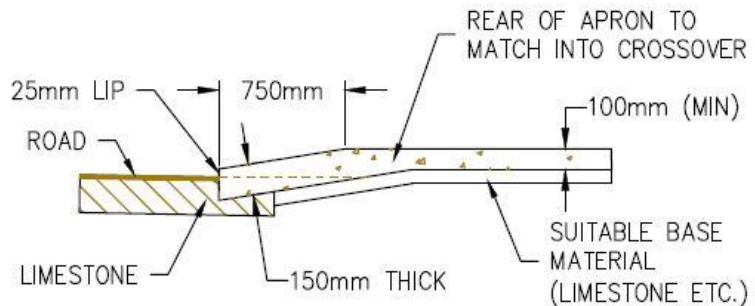
Distance from Boundary (m)	Minimum Pad level/ lowest acceptable pad level below verge/footpath level (mm)		
0	0	mm	above verge/footpath level
0.5	30	mm	above verge/footpath level
1	60	mm	above verge/footpath level
1.5	90	mm	above verge/footpath level
2	120	mm	above verge/footpath level





NOTE

1. LEVELS AT BOUNDARY SHOULD MATCH EXISTING VERGE OR FOOTPATH LEVELS.
2. FOOTPATH IS TO REMAIN FOR PURPOSES OF CONTINUITY AND DELINIATION.
3. RECORDS/PHOTOS SHOULD BE KEPT OF CONDITION OF FOOTPATH PRIOR TO CONSTRUCTION. SHOULD DAMAGE OCCUR DURING CONSTRUCTION, PATH MUST BE REINSTATED TO SATISFACTION OF THE TOWN COMPLIANCE OFFICER
4. CONTACT TOWN COMPLIANCE OFFICER FOR FURTHER DETAILS OR QUERIES.



TYPICAL CROSSOVER SECTION

(SUPERCEDES: 7992-04)

TOWN OF VICTORIA PARK
99 SHEPPERTON ROAD, VICTORIA PARK

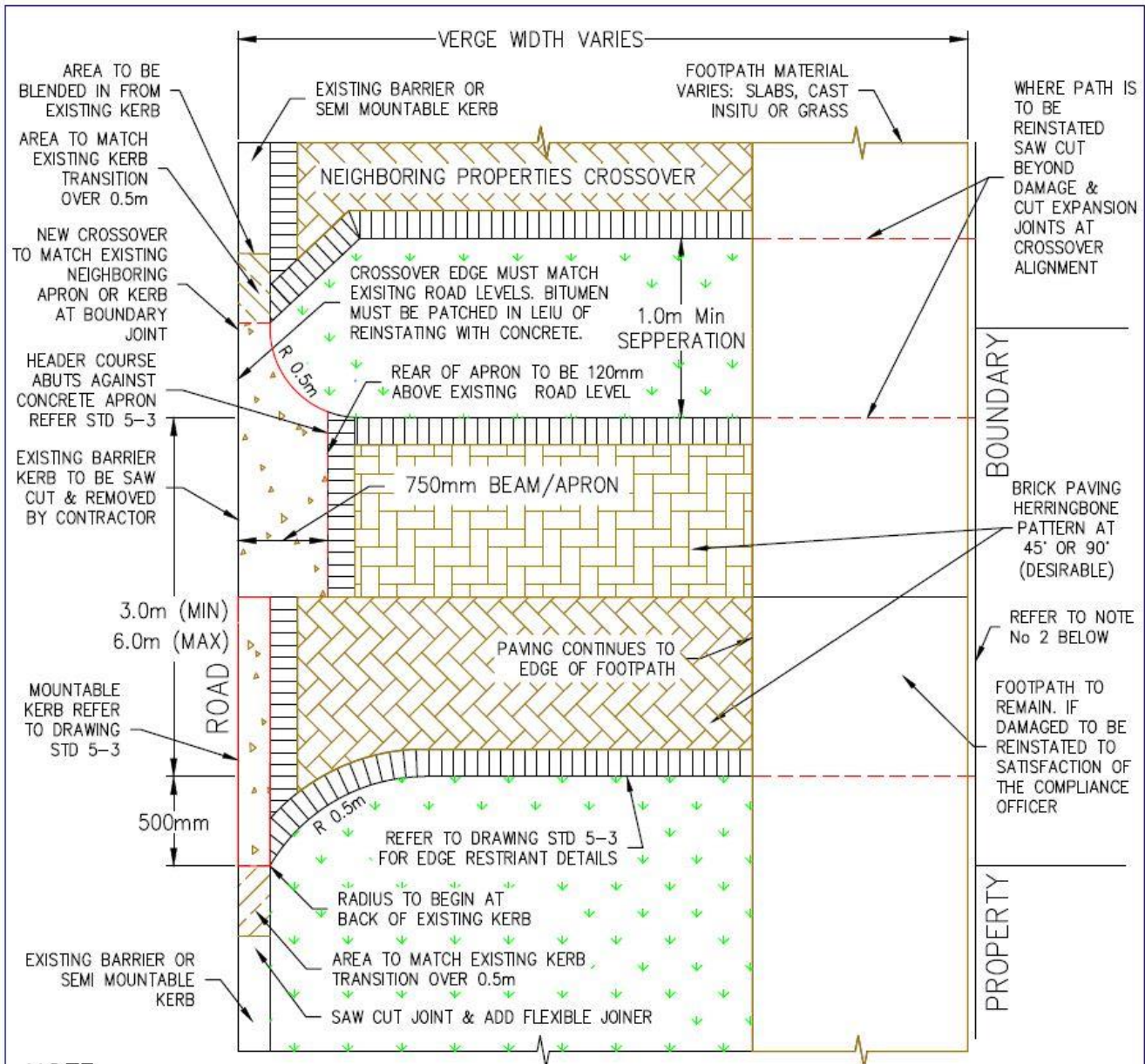


DESIGNED	N. MOLYNEUX	02/17	SCALE	N.T.S.
DRAWN	N. MOLYNEUX	02/17	DATUM	
CHECKED	F. SQUADRITO	02/17	APPROVED	
RECOMMENDED				

**CROSSOVER AND VERGE
STANDARD CONCRETE CROSSOVER
AND CONCRETE CROSSOVER REQUIREMENTS**

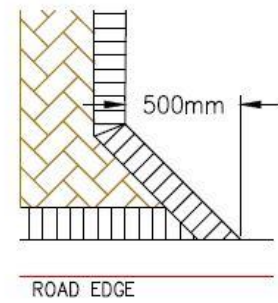
SHEET	1 OF 5	A 4
DRAWING No.	TVP.1-05	
Rev Date.	2/2/2017	

THIS DRAWING REMAINS THE PROPERTY OF THE TOWN OF VICTORIA PARK AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE AUTHORITY OF THE DIRECTOR TECHNICAL SERVICES



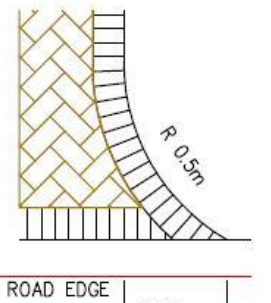
NOTE

1. REFER TO (A4) DRAWING TVP.1-08 FOR BRICK PAVING DETAILS.
2. LEVELS AT BOUNDARY SHOULD MATCH EXISTING VERGE OR FOOTPATH LEVELS.
3. FOOTPATH IS TO REMAIN FOR PURPOSES OF CONTINUITY AND DELINIATION.
4. RECORDS/PHOTOS SHOULD BE KEPT OF CONDITION OF FOOTPATH PRIOR TO CONSTRUCTION. SHOULD DAMAGE OCCUR DURING CONSTRUCTION, PATH MUST BE REINSTATED TO SATISFACTION OF THE COMPLIANCE OFFICER
5. CONTACT COMPLIANCE OFFICER FOR FURTHER DETAILS OR QUERIES.



TYPICAL STRAIGHT WING

N.T.S.

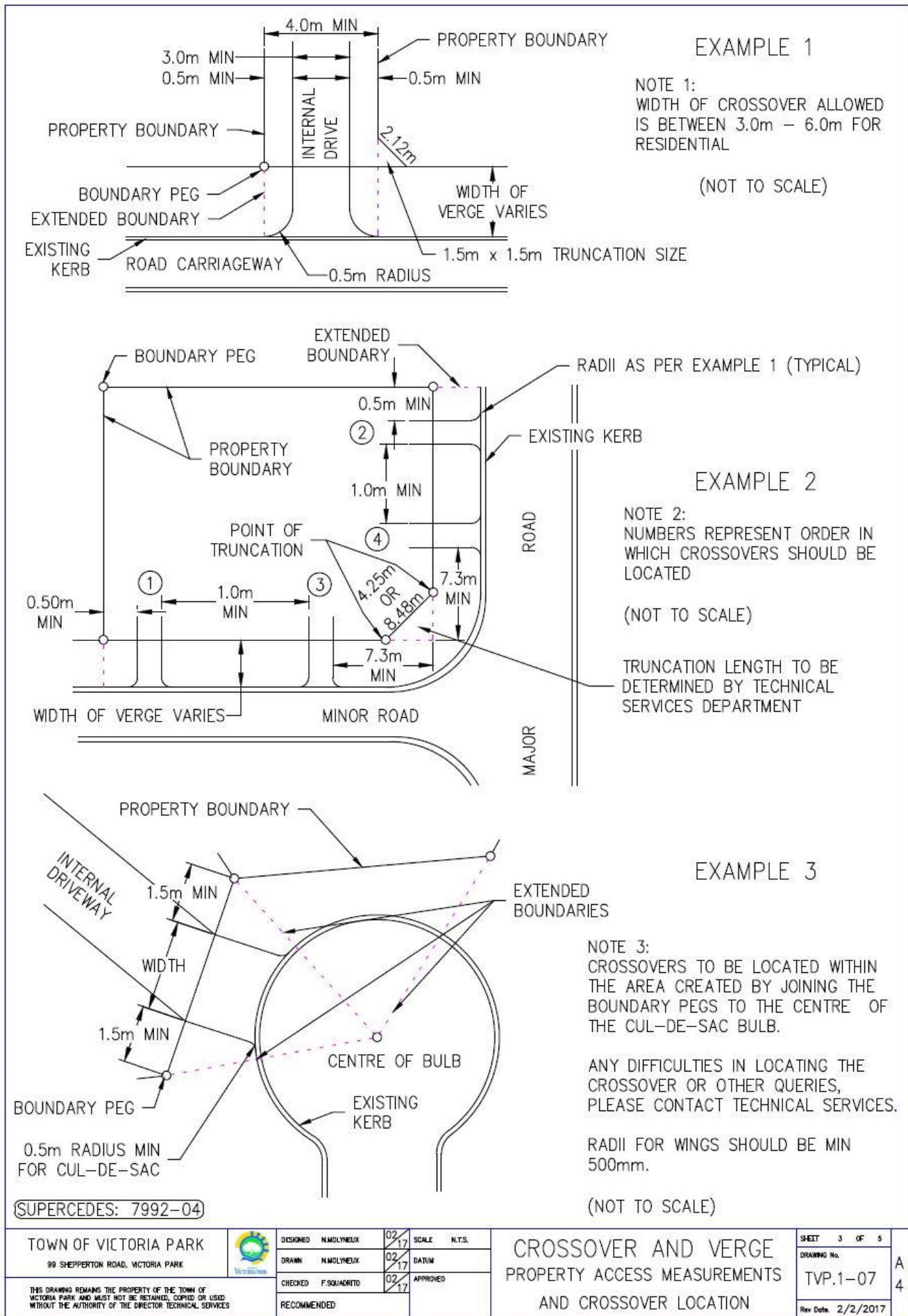


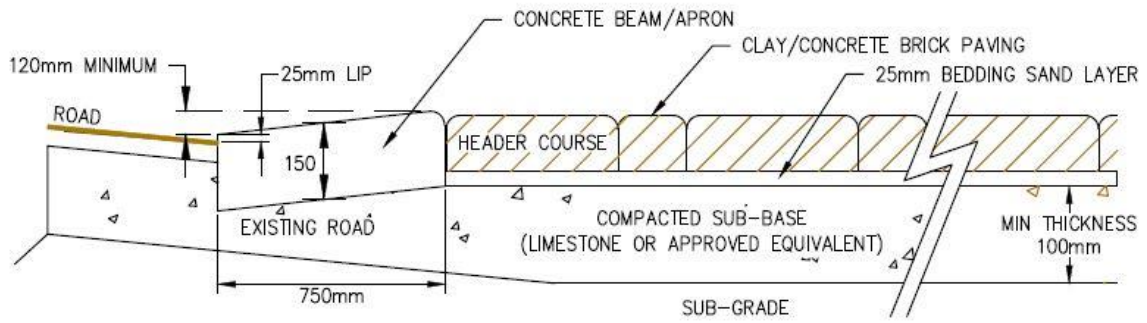
TYPICAL RADIUS WING

N.T.S.

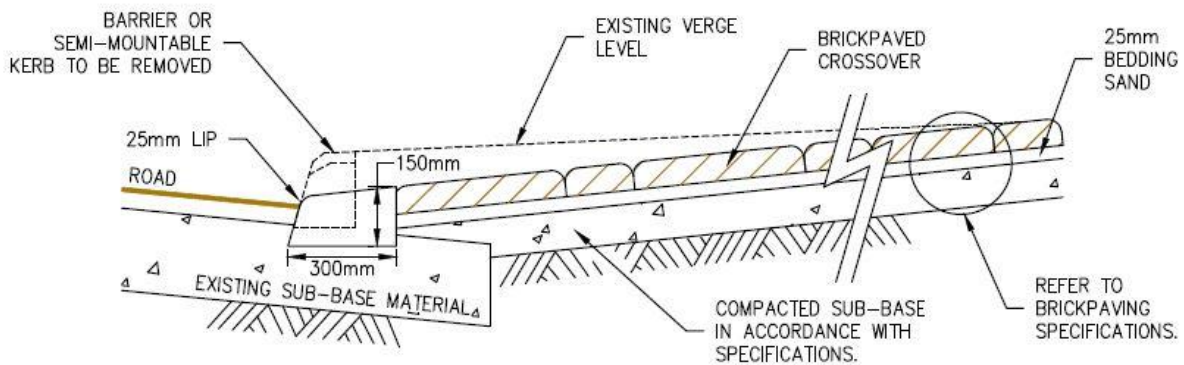
(SUPERCEDES: 7992-02)

TOWN OF VICTORIA PARK 99 SHEPPERTON ROAD, VICTORIA PARK 	DESIGNED N.MOLYNEUX 01/17 DRAWN N.MOLYNEUX 01/17 CHECKED F.SQUARITO 02/17 RECOMMENDED	SCALE N.T.S. DATUM APPROVED	CROSSOVER AND VERGE STANDARD BRICK-PAVED CROSSOVER WITH A CONCRETE KERB OR CONCRETE APRON OPTIONS	SHEET 2 OF 5 DRAWING No. TVP.1-06 Rev Date: 1/2/2017	A 4
	THIS DRAWING REMAINS THE PROPERTY OF THE TOWN OF VICTORIA PARK AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE AUTHORITY OF THE DIRECTOR TECHNICAL SERVICES				

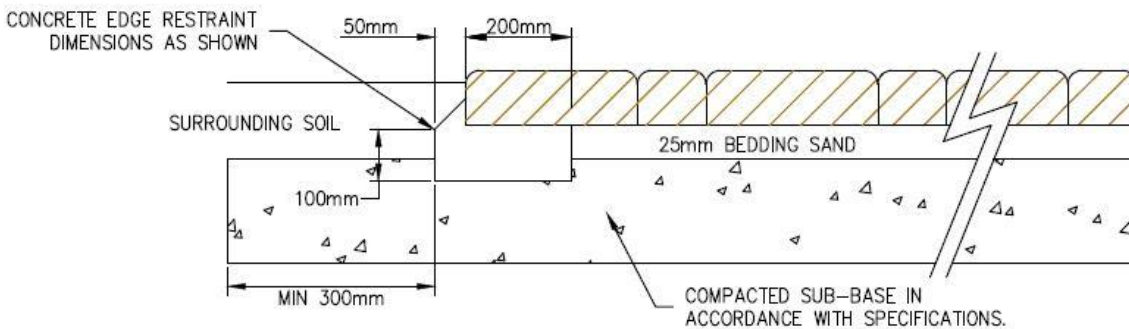




BRICK CROSSOVER ABUTTING A CONCRETE APRON.




BRICK CROSSOVER ABUTTING A MOUNTABLE KERB.

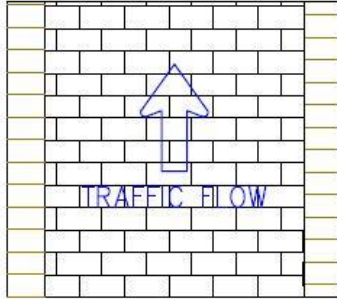


EDGE RESTRAINT DETAIL – BRICK PAVED CROSSOVER

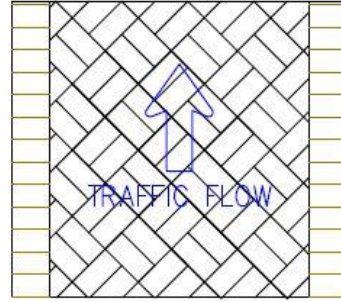
SUPERCEDES: 7992-03

TOWN OF VICTORIA PARK 99 SHEPPERTON ROAD, VICTORIA PARK		DESIGNED N.MOLYNEUX 02/17	SCALE N.T.S.	SHEET 4 OF 5 DRAWING No. TVP.1-08 Rev Date: 2/2/2017
		DRAWN N.MOLYNEUX 02/17	DATUM	
THIS DRAWING REMAINS THE PROPERTY OF THE TOWN OF VICTORIA PARK AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE AUTHORITY OF THE DIRECTOR TECHNICAL SERVICES		CHECKED F.SQUARITO 02/17	APPROVED	A 4
		RECOMMENDED		

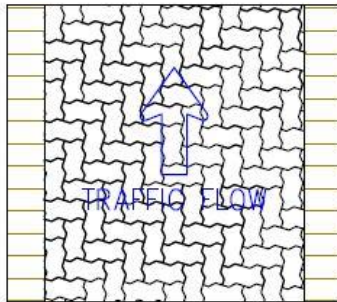
CROSSOVER AND VERGE
TYPICAL DESIGN FOR BRICK-PAVED
CROSSOVER EDGE RESTRAINTS



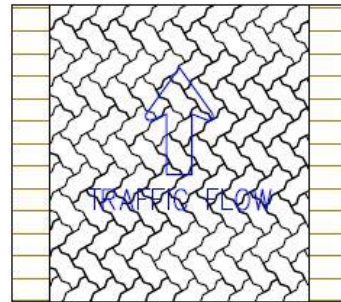
STRETCHER BOND
(RECTANGULAR)
(230mm x 115mm STANDARD)



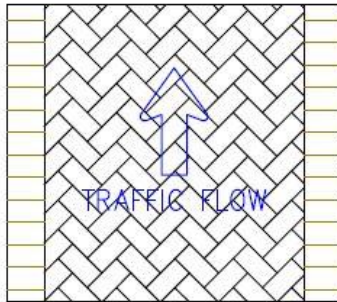
45° BASKET WEAVE BOND
(230mm x 115mm STANDARD)



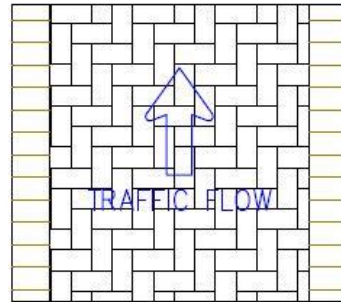
90° HERRINGBONE
239mm x 105mm INTERLOCK



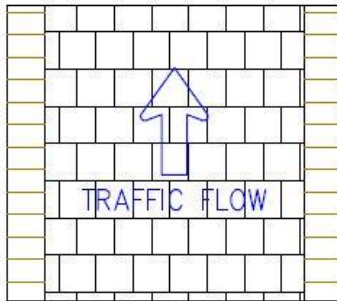
45° HERRINGBONE
239mm x 105mm INTERLOCK



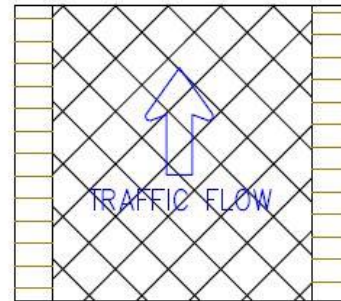
45° HERRINGBONE
(230mm x 115mm STANDARD &
230mm x 152mm PAVERS)



90° HERRINGBONE
(230mm x 115mm STANDARD &
230mm x 152mm PAVERS)




STRETCHER BOND (BLOCKS)
(190mm x 190mm BLOCKS)



45° DIAMOND
(190mm x 190mm BLOCKS)

SUPERCEDES: 7992-05

TOWN OF VICTORIA PARK 99 SHEPPERTON ROAD, VICTORIA PARK 	DESIGNED	N.MOLYNEUX	02/17	SCALE	N.T.S.	SHEET 5 OF 5 DRAWING No. TVP.1-09 Rev Date: 2/2/2017
	DRAWN	N.MOLYNEUX	02/17	DATUM		
THIS DRAWING REMAINS THE PROPERTY OF THE TOWN OF VICTORIA PARK AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE AUTHORITY OF THE DIRECTOR TECHNICAL SERVICES	CHECKED	F.SQUADRITO	02/17	APPROVED		A 4
	RECOMMENDED					

CROSSOVER AND VERGE
CROSSOVERS
RESIDENTIAL BRICK PAVING PATTERNS
APPROVED LAYING PATTERNS