

13034 Play Zone Pilots - Performance Specification

13034-DB3-B0X-XX-SP-A-00002

Date	Revision	Initial	Reason
15/10/19	P1	TL	Tender
18/10/19	P2	TL	5v5 Goals/bowling green note added, Tender

1. Reference Drawings

- 13034-DB3-B01-XX-DR-A-90001 Site Location Plan (SHR)
- 13034-DB3-B01-XX-DR-A-90103 Proposed Site Plan (SHR)
- 13034-DB3-B02-XX-DR-A-90001 Site Location Plan (LBP)
- 13034-DB3-B02-XX-DR-A-90103 Proposed Site Plan (LBP)
- 13034-DB3-B0X-XX-DR-A-90201 Equipment A – Football Panna
- 13034-DB3-B0X-XX-DR-A-90202 Equipment B – Football Tennis
- 13034-DB3-B0X-XX-DR-A-90203 Equipment C – Passing Square
- 13034-DB3-B0X-XX-DR-A-90204 Equipment D – Standard Large Goal
- 13034-DB3-B0X-XX-DR-A-90205 Equipment E – Standard Cross Play Goal
- 13034-DB3-B0X-XX-DR-A-90206 Equipment F – Large Goal + 1v1
- 13034-DB3-B0X-XX-DR-A-90214 Equipment I – Large Goal + 1v1 + Basketball
- 13034-DB3-B0X-XX-DR-A-90209 Equipment J – Run-loop Markers
- 13034-DB3-B0X-XX-DR-A-90210 Equipment K – Linear Bench
- 13034-DB3-B0X-XX-DR-A-90211 Equipment L – Curved Bench
- 13034-DB3-B0X-XX-DR-A-90213 Equipment N – J Shaped Bench
- 13034-DB3-B0X-XX-DR-A-90215 Equipment P – Full Height Fence Panel
- 13034-DB3-B0X-XX-DR-A-90216 Equipment Q – Mini Fence

2. Surfacing

2.1. Main Pitch & Ancillary Spaces

2.2. The Main Contractor is to determine the most appropriate surface finish, base and sub-base for the ground conditions and the sports/play activities that are to be carried out on the main pitch and ancillary spaces.

2.3. Item 2.6 – 2.8 outlines an option to be explored for the re-use of the existing MUGA surfaces. These are outlined on the proposed site drawings for both sites as a red dashed line. Please note:

- Scotland Hall Road – width of existing MUGA is smaller than new pitch area though the length of the existing MUGA is longer.

- Ladybarn Park – existing MUGA is offset from the new pitch area so some of the existing surface may not be to the same standard.
- 2.4. The performance specification outlined is minimum requirements and the main contractor will be required to design and construct the full sub-base, base and surface finish suitable for the activities to be carried out on the surface.
- 2.5. The primary activity will be football, the secondary activities are; play and other ball sports. Other non-prescriptive parameters include:
- All weather
 - Support a multi-coloured design
 - Support heavy usage with various footwear types
 - Low install, maintenance and replacement cost
 - Laid in various sizes
- 2.6. **Overlay (existing MUGA surface finish used as base)**
- 2.7. Main Contractor is to consider re-using the existing tarmac (base layer) and sub-base in the construction of the new main pitch area. The Main contractor is to consider suitability of the existing tarmac surface to overlay with suitable playing surface and shock pad (as required). Main contractor to test condition of existing tarmac, base and sub-base for suitability for re-use prior providing contractors proposals. Main contractor to check the porosity of the surface to enable all surface water to be removed from the proposed playing surface.
- 2.8. Any overlay of an existing surface should be carried out in accordance with the SAPCA Code of Practice for the Construction and Maintenance of Tennis Courts. The existing surface should meet the following requirements:
- Slope/gradient of 0.5 – 1.0%
 - Evenness of existing surface of $\leq \pm 20\text{mm}$ under a 3m straight edge to EN 13036-7
 - Pressure washed
 - Pierced and filled at 450mm centres over the whole area and filled with material (0-20mm to EN 933-1)
 - Drainage to meet requirements of section 2.27 - 2.28
- 2.9. **Existing Bowling Green (Ladybarn Park only)**
- 2.10. Former bowling green to be made good on completion of the construction works. Contractor to allow for minor remedial works to the former bowling green to enable its proposed use as a mini-football pitch.
- 2.11. Minor works to the pitch to be determined by the contractor at Tender. Works such as levelling, re-seeding, cutting and works to the edges may be required. Main Contractor to submit proposals.

2.12. New Build

2.13. Sub base

2.14. Sub-base to be constructed over compacted subsoil and geo-synthetic layer suitable for the intended usage and purpose of the new pitch. Stone sub-base of graded material MOT Type 1, depth to be determined by specialist sub-contractor following review of Site Investigation reports and CBR test results.

2.15. Formation stabilisation; if the CBR is less than 5% then a method should be used to bring the formation to greater than 5%. This method should comply with the SAPCA Code of Practice for the Design, Specification and Testing of Bases for Outdoor Synthetic Sport Areas. Evidence will be required that the formation is able to meet the 5% CBR requirement.

2.16. Sub-base should meet the following requirements:

- Preferred slope/gradient range of 0.5 – 1.0%
- Evenness of existing surface of $\leq \pm 30\text{mm}$ under a 3m straight edge to EN 13036-7
- Not less than 150mm (minimum) in depth
- Stiffness to be not less than 30MPa measured with the LWD (minimum)
- Infiltration of not less than 1000mm/hr to EN 12616 method C
- Material type to be Highways Agency's Specification for Highway Works, Clause 803 (SHW 803) to EN 933-1
- Material fines content, diameter less than 0.063mm should not exceed 10% of material total mass (EN 933-1)

2.17. Base / wearing Course

- Preferred slope/gradient range of 0.5 – 1.0%
- Evenness of existing surface of $\leq \pm 20\text{mm}$ under a 3m straight edge to EN 13036-7
- Not less than 50mm (minimum) in depth
- Stiffness to be not less than 35MPa measured with the LWD (minimum)
- Infiltration of not less than 500mm/hr to EN 12616 method C
- All material to be in the range of 0 – 20mm to EN 933-1
- Material fines content, diameter less than 0.063mm should not exceed 5% of material total mass (EN 933-1)
- All bases should be designed for a minimum of 25 years enabling multiple resurfacing

2.18. Surface and Shockpad

2.19. Artificial playing surface to meet the requirements for small sided football (BS EN 15330-1), recreational football and multi-use playing surface (BS EN 15330-1 – Multi-sport). The Main Contractor is to determine the most suitable (all weather) playing surface for the pitches

2.20. Surface Type(s)

- Synthetic turf with rubber or sand infill, filled length 30-40mm (BS EN 15330-1 (football) & BS EN 15330-2 (multi-use))
- Synthetic turf with sand, filled length 10-30mm

- (BS EN 15330-1 (football) & BS EN 15330-2 (multi-use))
 - Synthetic turf non-filled, 10-40mm length
(BS EN 15330-1 (football) & BS EN 15330-2 (multi-use))
 - Polymeric texturised
(BS EN 14877 Surfaces for Sports Areas)
 - Polymeric smooth
(BS EN 14877 Surfaces for Sports Areas)
 - Macadam
(SAPCA Code of Practice for the Construction and Maintenance of Tennis Courts)
 - Painted macadam
(SAPCA Code of Practice for the Construction and Maintenance of Tennis Courts)
- 2.21. There are multiple options within each surface finish; some of the options have a mixture of the finishes. Surface finishes such as needle punched fall in to that category.
- 2.22. Surface suitability is to be based on the preference of the sport being played and is to meet safety requirements, including BS EN 15330-1 & 2, BS EN 14877, BS 7144 & EN 1177/1176
- 2.23. The life expectancy of the surface finish will vary from finish to finish and to the amount and suitability of regular maintenance. Main Contractor to outline the life expectancy of the surface finishes proposed for each area.
- 2.24. Additional surface finish requirements:
- Infill depth (if required) to be $\geq 85\%$ declaration combined performance stabilising (average) to EN 1969
 - Joint strength to the requirements of EN 12228 – M1 Joint, with a seam strength of $\geq 100\text{N}/100\text{mm}$
 - No joint or roll of synthetic turf should be greater than 3mm apart at the backing
 - Gradient/levels of surface to be between 0.5 – 1.0%
 - Dimensions of pitches and ancillary spaces as per proposed site plan and equipment drawings outlined in Section 1.
 - If synthetic turf/needle punch surface is proposed then lines and joints are to be tufted. An alternative would be for the markings to be cut in if synthetic. The pitch markings are as indicated in the drawings outlined in Section 1.
 - The lines and markings are to be white. The pitch and ancillary surface colours are outlined on the drawings in Section 1. The colour references are located in Section 6 below.
 - The fire resistance of the whole system is to meet the requirements of BS 4790:1987 Hot Nut Test Classification Low & Radius $< 35\text{mm}$
 - Product identification and material verification is required and evidence is to be submitted in line with the requirements of Section 7.1.

2.25. Some ancillary spaces have a primary and secondary surface finish (i.e. panna); the Main Contractor is to determine the most suitable finish for the playing section (primary) and the perimeter (secondary). An example would be as follows:

- Primary area to be needle punch finish with coloured finish
- Secondary area to be porous tarmac with coloured finish

2.26. The type and depth of construction is to be determined from the existing site information provided within the tender, including the type of sub-soil present and the climatic conditions that each site offers.

2.27. Drainage will be required to playing surfaces, Main Contractor to provide drainage design as part of their works.

2.28. Branding and graphics are to be provided and allowed for in the tender. The location, type, material and size are to be determined prior to the planning application being submitted with the Client and Design Team.

2.29. The requirements outlined in this specification will be evidenced via an independent test report from an ISO 17025 accredited laboratory.

2.30. Drainage

2.31. The main pitch area and ancillary spaces should have a suitable drainage scheme or be of porous construction to ensure the following.

- All surface water is removed from the playing surface at a rate which will safeguard against surface flooding occurring.
- Not allow excess water to remain present in the construction which might result in a reduction of the load-bearing capacity of the formation or in any frost damage to the construction
- Protect the installation from the effects of ground or surface water from the surrounding areas
- Any collector or interceptor drains proposed would require silt/inspection chambers where drains change direction and provide rodding eyes at the head of the collector drain runs for ease of access for maintenance.

2.32. Gradient

2.33. Maximum gradient for the playing pitch and surface is to be 1:100 from diagonally opposite corners. A preferred range of slope/gradient is 0.5 - 1.0%.

2.34. Kerb edging detail

2.35. Pre-cast concrete (PCC) edgings to BS EN 1339:2003 to be installed on a concrete bed and haunch to BS EN 206:2013+A1:2016.

2.36. Kerb to finish on the surround to link with the fencing system, flush with ground level to associated pitch surface, ancillary space surface, coloured or standard tarmacadam finishes. No gap greater than 10mm is permitted, the maximum gap between kerb edging and fencing is to be less than 10mm.

2.37. Footpath

2.38. All proposed footpaths are to be designed and constructed to meet Manchester City Council Highways Standards for a public footpath construction. The sub-base is to be designed to allow for suitable maintenance and emergency vehicles and to suit results of Phase 1 and 2 Site Investigation reports and ground CBR ratings.

2.39. The surface finish is to be of a good quality tarmacadam with a 50mm pre-cast concrete kerb edging.

2.40. Gradients and falls are to be carefully designed to match in with existing footpath levels and are to meet the requirements of Approved Document Part M and BS 8300 and any existing drainage system.

2.41. The ancillary spaces should have suitable drainage scheme or be of porous construction to ensure the following:

- All surface water is removed from the playing surface at a rate which will safeguard against surface flooding occurring.
- Protect the installation from the effects of ground or surface water from the surrounding areas
- Any collector or interceptor drains proposed would require silt/inspection chambers where drains change direction and provide rodding eyes at the head of the collector drain runs for ease of access for maintenance.

3. Fencing

3.1. The fencing system will include the foundations, fencing posts and panels, rebound boards, goals, nets and ancillary equipment as outlined in the equipment drawings listed in section 1. The system has non-standard colours are outlined in section 6 and on the equipment drawings listed in Section 1.

3.2. The fencing system is based on a 2.00m module and is to have a smooth, flat and consistent finish with no deviation, less than $\geq \pm 5\text{mm}$ over a 1.00m straight edge.

3.3. The goal dimensions given below outline design intent, final dimensions are to be agreed between Client, Architect and Main Contractor prior to starting on site following detail design.

- Main goal dimensions: 3.975m (w) x 2.0m (h)*
- Cross play goal dimensions: 1.95m (w) x 1.3m (h)*

* Depth of goals to be determined during detailed design development.

- 3.4. Standard fence panel height: 1.20m
- 3.5. Fence panel height behind goal: 4.50m
- 3.6. The system should be designed to allow for the various elements to be free standing as outlined on the proposed site plans. Open sections of the pitch are designed for maximum visibility and access to the pitches. The system should be capable of withstanding player loads, wind loads, ball impacts and other forces reasonably expected of such a system to withstand during normal use. The design should take in to account these loads and meet the requirements of BS EN 15312, free access multi-sports equipment.
- 3.7. The design of the fencing system is to remove or reduce the risk of entrapments to BS EN 15312, provide recommended TUFF certification.
- 3.8. No gap greater than 10mm is permitted between the fencing and the ground, kerb or surface finish.
- 3.9. The fencing is to be designed to meet the requirements of the FA Guidance on fencing for small sided football.
- 3.10. All materials should be flame and fire resistance, contractor to submit certification
- 3.11. Mesh fencing panels to be manufactured using twin bar super rebound galvanised steel mesh and plastic coated with reinforced section to a height of +1.20m with extra reinforcement to the bottom 0.35m, or equal approved. Where possible reduce the impact of noise where practical, contractor to submit certification.
- 3.12. All fencing and fence post framing to be manufactured using galvanised steel, powder coated to colours as specified on drawings. The galvanised coating is to be suitable for external exposed environment, polyester powder coating thickness to meet requirements of fencing standards. All elements to be designed to meet the relevant standards, guidance and codes of practice as outlined in Section 6.
- 3.13. Branding may be required on the rebound boards and/or fencing, this is to be at the discretion of the Client and will be confirmed prior to the planning application(s) being submitted.

- 3.14. All materials (including any printed branding, if required) shall be weatherproof and have a minimum 10 years warranty for UV (colour), rust resilience and other factors affecting the weathering of the products.

4. Equipment (general)

- 4.1. Equipment is to be designed, manufactured and installed in accordance with all relevant standards, guidance and codes of practice as outlined in Section 6 and in particular BS EN 1176 and all supplementary technical reports.
- 4.2. Design intent drawings have been provided as part of this tender based on a development of a concept design.
- 4.3. All equipment framing to be manufactured using galvanised steel, powder coated to colours as specified on drawings. The galvanised coating is to be suitable for external exposed environment, polyester powder coating with a thickness to meet requirements of all play equipment standards. All elements to be designed to meet the relevant standards, guidance and codes of practice as outlined in Section 6.
- 4.4. Cargo net goal netting (all goals on artificial pitches/surfaces) – narrow gauge cargo net goal netting (to BS EN 1176) to take the ball/cushion the impact prior to the ball rebounding.
- 4.5. Main Contractor to mark out former bowling green at Ladybarn Park for small sided football pitch.
- 4.6. Main Contractor to include for one pair of 3.66 x 1.83m (12' x 6') socketed mini-football goals and nets. Material to be extra heavy duty galvanised PPC steel posts, sockets and net brackets in white. To be located on the mini-football pitch on the former bowling green at Ladybarn Park.
- 4.7. Branding and graphics are to be provided and allowed for in the tender. The location, type, material and size are to be determined prior to the planning application being submitted with the Client and Design Team.

5. Lighting and services

- 5.1. See Electrical Engineers performance specification and drawings:
- 13034-DB3-B01-XX-DR-E-63001
 - 13034-DB3-B01-XX-DR-E-63002
 - 13034-DB3-B02-XX-DR-E-63001
 - 13034-DB3-B02-XX-DR-E-63002
 - 13034-DB3-B0X-XX-SP-E-60001 Services Specification

6. Colour Palette:

6.1. Equipment, fencing and surfacing

- City Sky Blue: Pantone 284 / C55 M19 Y0 K0 / R108 G173 B223 / #Caddf
- Obsidian Blue: Pantone 282 / C100 M72 Y0 K56 / R0 G40 B94 / #00285e
- Yellow: Pantone 142 / C0 M23 Y76 K0 / R255 G199 B88 / #ffc758
- White: R255 G255 B255

6.2. Lighting and ancillary equipment (data cabinets / feeder pillars etc)

- Cool Grey 11: Pantone Cool Grey 11 / C69 M59 Y51 K34 / R38 G44 B38 / #262C26
- White: R255 G255 B255 (acceptable alternative)

7. Standards, Guidance and Code of Practice

7.1. Standards

- BS EN1176 Playground equipment and surfacing (all parts as below) and HSE Entertainment Information Sheet 11
Part 1: General safety requirements and test methods
Part 2: Additional specific safety requirements and test methods for swings
Part 3: Additional specific safety requirements and test methods for slides
Part 4: Additional specific safety requirements and test methods for cableways
Part 5: Additional specific safety requirements and test methods for carousels
Part 6: Additional specific safety requirements and test methods for rocking equipment
Part 7: Guidance on installation, inspection, maintenance and operation
Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment
Part 11: Additional specific safety requirements and test methods for spatial network
- Including supplementary Technical Reports:
CEN/TR 16879:2016, Siting of playground and other recreational facilities – Advice on methods for positioning and separation.
CEN/TR 16467:2013, Playground equipment accessible for all children;
CEN/TR 16598:2014, Collection of rationales for EN 1176;
CEN/TR 16396:2012, Playground equipment for children, replies to requests for interpretation
- BS EN 1177 Impact attenuating playground surfacing – Determination of critical fall height;
- BS 7188 Impact absorbing playground surfacing
- BS EN 748:2004, BS 8461:2005+A1:2009, BS 8462:2005+A2:2012 (Goal posts)
- BS EN 13198:2003. Precast concrete products. Street furniture and garden products.
- BS 8300 Design of an accessible and inclusive built environment
- Approved Document Part M of the Building Regulations
- Product Identification and material verification
ISO 11357-3 DSC $\pm 3^\circ$ of product declaration
ISO 4919 Tuft Withdrawal $\geq 45\text{N}$
ISO 8543 Total and Pile Weight $\leq 10\%$ of product declaration
ISO 1763 Tuft per Unit Area $\leq 10\%$ of product declaration
ISO 2549 Pile Height $\leq 5\%$ of product declaration
EN 14955 Similar Shape to declaration (stabilising and performance infill)
EN 933-1 Size within ± 1 sieve little d and big D declaration (stabilising and performance infill)
EN 1097-3 Bulk Density $\leq 15\%$ declared (stabilising and performance infill)
EN 12230 Tensile Strength $\geq 0.15\text{MPa}$ (shockpad)

EN 1969 Average thickness $\geq$ 90% declaration (shockpad)
EN 14808 Shock Absorption $\leq \pm$ 5% declaration (shockpad)

7.2. Guidance and Codes of Practice

7.3. Sport England

- Artificial Surfaces for Outdoor Sports Design Guidance Note
- A Guide to the Design, Specification & Construction of Multi-use Games Areas including STPs

7.4. Sports and Play Construction Association (SAPCA)

- Code of Practice for the Maintenance of Synthetic Surfaces
- Code of Practice for the Installation and Maintenance of Wet Pour Surfaces
- Code of Practice for the Design, Construction and Improvement of Natural Turf
- SAPCA Code of Practice for the Construction and Maintenance of Tennis Courts
- SAPCA Code of Practice for the Construction and Maintenance Synthetic Turf Sports Pitches
- SAPCA Code of Practice for the Construction and Maintenance Fencing Systems
- SAPCA Code of Practice for the Construction of Outdoor Multi Use Games Areas

7.5. Football Association

- The FA Guide to Floodlighting

7.6. Charitable Trusts

- The Royal Society for the Prevention of Accidents (RoSPA)
- Child Accident Prevention Trust (CAPT)
- Fields in Trust

7.7. Statute Law

- Health and Safety at Work Act (1974)
- Management of Health and Safety at Work Regulations (1999)
- Personal Protective Equipment at Work Regulations (1992)
- Consumer Protection Act (1987)
- Occupiers Liability Act (1984)
- Unfair Contract Terms Act (1977)
- Children Act (1989)
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995)
- Control of Substances Hazardous to Health Regulations (2002)
- Control of Pesticides Regulations 1986
- Environmental Protection Act (1990)