

REACH conformity of infill granules for artificial turf for sports and leisure turf and landscaping purpose

All granules supplied by Biosafe – Indústria de Reciclagens, S.A. to Polytan GmbH comply with all requirements contained in Regulation 1907/2006/EC on the Registration, Evaluation, Authorisation and restriction of Chemicals („REACH - Regulation“).

Granules supplied by us constitute mixtures according to the REACH-Regulation. These mixtures comply with current restrictions of use contained in the REACH - Regulation, in particular concentration limits pursuant to Annex XVII No.28 REACH-Regulation are not exceeded. This applies for the following infill granules supplied by us:

Article number	Description
10000060	BioRG 0,0-0,8 mm
10000062	BioRG 0,8-2,5 mm
10000064	BioRG 2,5-4,0 mm
10000066	BioRG 4,0-7,0 mm

In order to verify these declarations, continuously we will take weekly composite samples, which will be analysed by an independent testing institute, which has been determined by Polytan, in particular with regard to compliance with limits contained in the REACH-Regulation for polycyclic aromatic hydrocarbons (PAH).

Sampling complies with CEN TS 14243:2010 – Materials produced from end of life tyres. Specification of categories based on their dimension(s) and impurities and methods for determining their dimension(s) and impurities.

Testing complies with testing instructions contained in the GS Specification Testing and assessment of polycyclic aromatic hydrocarbons (PAHs) in the course of awarding the GS mark („GS Spezifikation AfPS GS 2014:01 PAK“). In particular, all 18 PAH listed therein must be assessed.

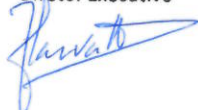
Biosafe will forward testing results to Polytan within a week after reception from the testing institute.

If any changes should occur (for example due to a new composition of our products or an amendment of the REACH – Regulation affecting our products), we will inform you immediately.



BIOSAFE – Indústria de Reciclagens, S.A.

Diretor Executivo



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NIPC: 503 846 279
Registo na C.R.C. de Ovar
Capital Social 1.550.000 euros




SMART. EASY. COOL.

H[°]
HYDROCHILL™

— HOME —
EVAPORATIVE COOLING SYSTEM

PROUDLY BROUGHT TO YOU BY APT ASIA PACIFIC
IN CONJUNCTION WITH SOUTHWEST GREENS



We're proud to deliver turf that saves families and businesses time and money - allowing you to focus on the things that matter most. With our advanced HydroChill Home cooling technology we've taken on summer-time heat in a smart and easy way. A simple addition to the turf's infill provides an average cooling range of 16-28 degrees Celsius and works naturally when hydrated by irrigation, rainfall and dew! Feet and paws appreciate the difference APT and Southwest Greens delivers.

2013

was the hottest year on record in Australia.

7^{of the} 10

hottest summers on record have occurred since 2000

2013 and 2014 were the

1st & 3RD

hottest summers on record in Australia

More than 90% of Australians experience temperatures of

37° Celsius

during the summer months

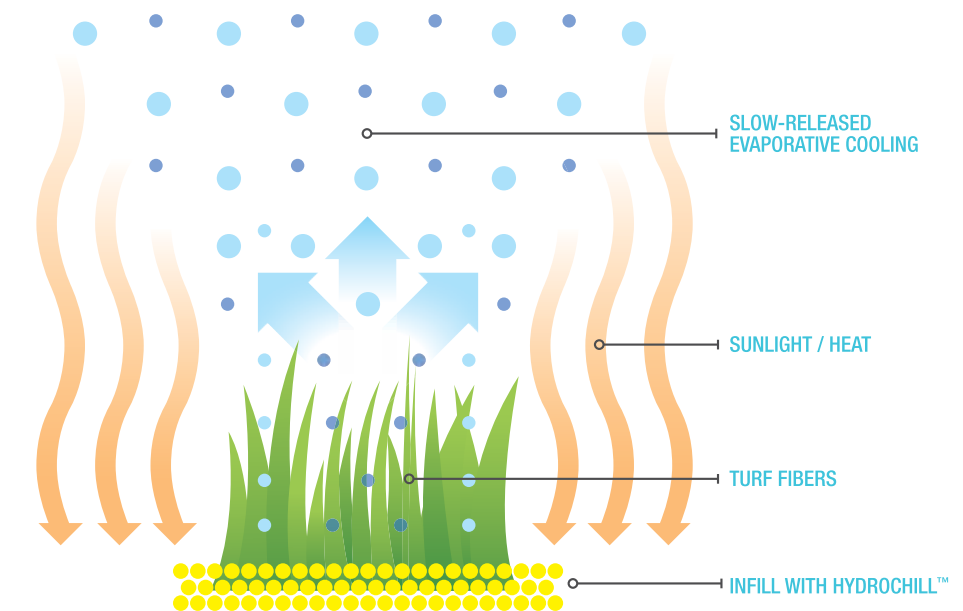
Of the energy absorbed into turf from solar radiation,

90%

is released as heat while only 10% is conducted into the ground

So, how does HydroChill™ Home work?

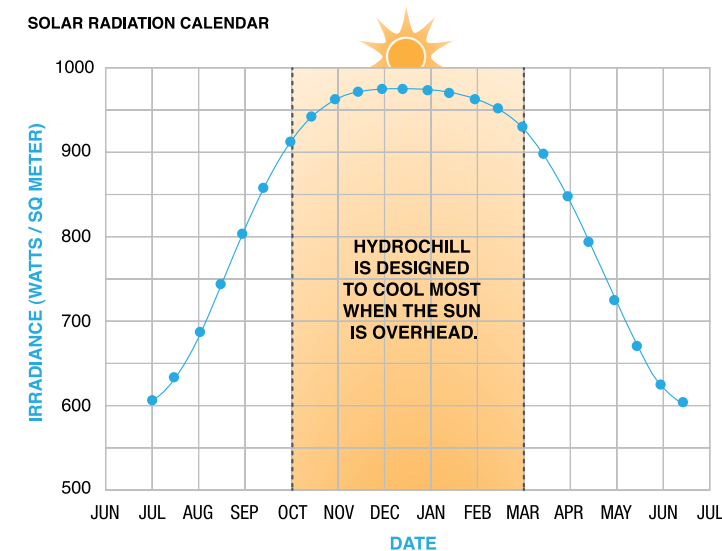
It cools your lawn like nature cools your body.



EVAPORATIVE COOLING TECHNOLOGY

Perspiration is a natural means of thermoregulation called evaporative cooling. Evaporation of moisture from the skin's surface has a cooling effect. Similarly, HydroChill™ has been shown to cool synthetic turf surfaces by working on the same principle. As the turf surface is heated by solar radiation, moisture stored in the HydroChill turf is released. Evaporating moisture removes heat, leaving a cooler more comfortable surface for the users.

SOLAR RADIATION CALENDAR



WHEN HYDROCHILL IS MOST EFFECTIVE

Ambient temperature outside doesn't necessarily dictate surface temperature. The solar radiation time period, sun's angle, cloud cover, wind and other elements all contribute to the temperature of the surface.

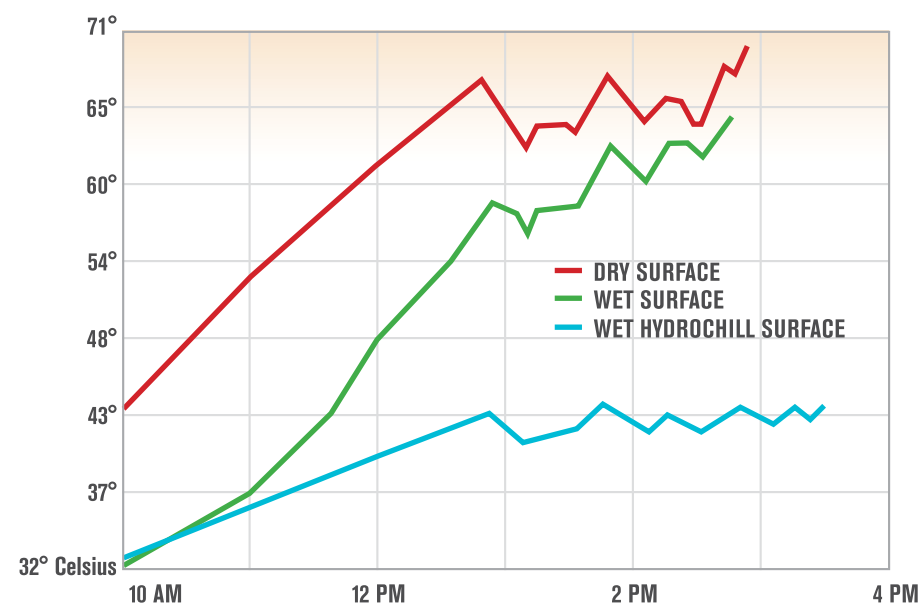
HydroChill provides maximum benefit when the sun is nearest the Earth, as shown in the solar radiation calendar. During the summer months in Australia, the sun is positioned overhead causing surfaces to absorb more energy resulting in hotter temperatures. The rotation of the Earth is also responsible for hourly variations in sunlight thus making HydroChill most effective during the hotter part of a clear day when most needed.

- > HydroChill utilizes moisture to provide a cooling effect. Rainfall, dew and irrigation can help keep your lawn cool for days, depending on local conditions
- > HydroChill can be incorporated into all of APT's infilled lawn systems
- > HydroChill will not affect the durability or warranty of APT's products
- > HydroChill is UV-resistant and should be re-treated every two years for maximum effectiveness

HydroChill™ patented technology has been developed through years of turf system research. It has been vetted with laboratory testing and, more importantly, outdoor lawn testing.

Bottom line—the HydroChill system has been shown to work in actual outdoor settings by providing a cooler lawn.

THERMOCOUPLE TEST READINGS
FROM OUTDOOR SYNTHETIC TURF LAWNS

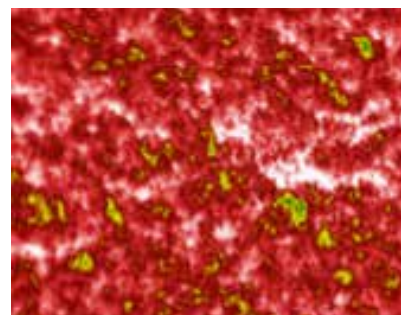


A standard lawn with a wet surface will cause some cooling, but temperatures can quickly rise and may exceed uncomfortable levels of heat. A HydroChill lawn has been shown to create a substantial temperature differential in real-world applications.

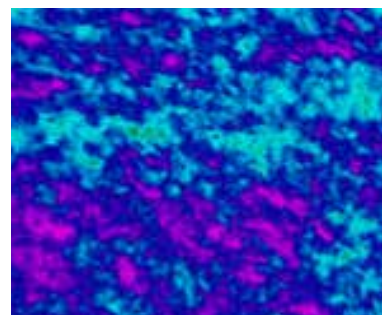
Based on actual lab and outdoor lawn thermocouple testing, HydroChill has achieved 16°-28° Celsius lower surface temperatures compared to a standard synthetic turf system.

FLIR (FORWARD LOOKING INFRARED) READING:
STANDARD SYNTHETIC SURFACE VS. HYDROCHILL

Further testing was performed by a FLIR-Certified Thermographer using the most advanced camera imagery and technology. The FLIR camera was calibrated for emissivities of various materials used in the turf system so additional accurate temperature measurements could be obtained.



DRY SURFACE



HYDROCHILL

How is HydroChill™ Home applied?

Hydrochill is a pre-coated sand infill that can be added to new or existing synthetic lawns. HydroChill naturally holds moisture and can be activated through irrigation systems or a simple water hose. Either way, the effectiveness can last for days as the moisture is released. HydroChill is non-toxic and does not have negative environmental effects. Now you can control surface temperatures for your family and pets.





PERFORMANCE ENHANCING SURFACE TECHNOLOGY

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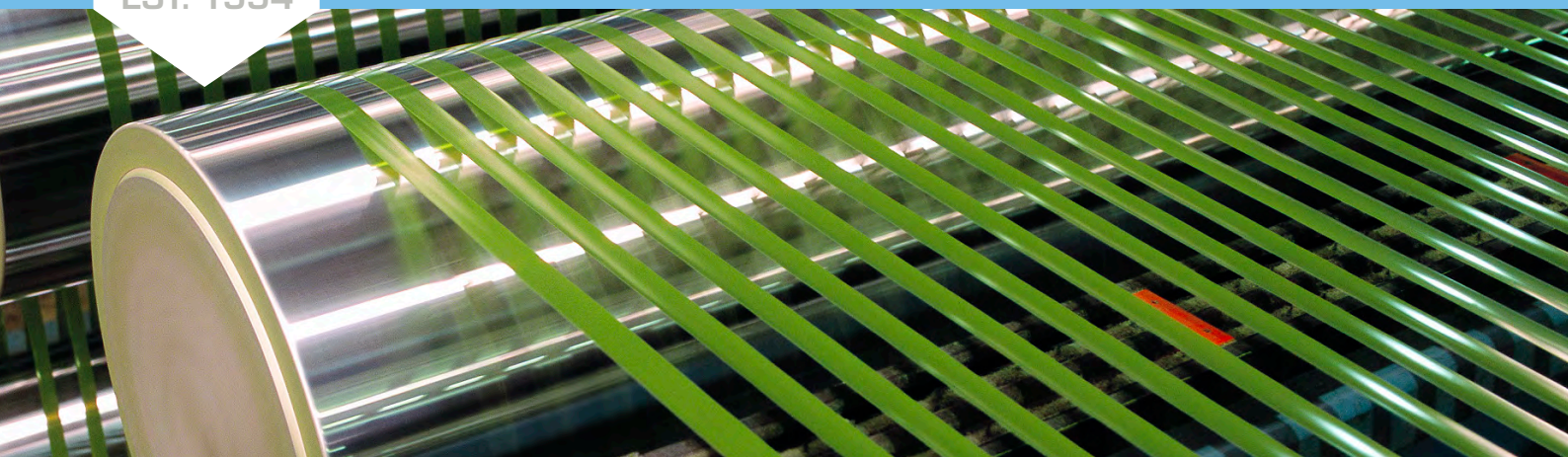
@APTWorldwide



SOUTHWEST GREENS®
GOLF & GRASS

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A Berkshire Hathaway Company.

THE SMART MONEY IS ON AUSTRALIAN YARNS



APT Asia Pacific is one of the world's foremost synthetic yarn manufacturers. Our yarns are made in Australia and ideally suited for Australian conditions. APT yarns have inbuilt proprietary features not found in other yarns. They are purpose suited, manufactured with ISO quality assurance, proven by continuous testing going back 25 years and backed by a generous warranty.



CONTAMINANT FREE POLYMERS

APT polymers are clean and safe. There are no contaminants that could cause ongoing reactions and ultimately mechanical failure of the yarn.



DESIGNER AESTHETICS THAT SUIT THE AUSTRALIAN ENVIRONMENT

We work closely with sports administrators, stadium owners and landscape designers. We offer them an unmatched set of grass types, colour palette and other aesthetic options.



UV STABILISED

APT's proprietary, in-house masterbatch formulation empowers our yarns with unmatched resistance to the degrading effects of light. For Australian use this is vitally important.



HEAT STABILISED

APT yarns are also heat stabilised by exclusive proprietary methods. They will survive many hot Australian summers with no visible change or mechanical breakdown.



PRECISE SYNERGISTIC FORMULA

APT uses up to 24 unique components to produce a stable and long-lasting formulation.



SAFE PIGMENTS

APT uses only safe pigments that meet global standards and do not pose a health risk. They are a safe alternative to inorganic pigments, which can pose a health risk if they contain heavy metals.



COMPATIBLE PIGMENTS

The pigments we use are a stable mix. They cannot act as catalysts causing ongoing reactions resulting in colour changes and physical degradation.



RESEARCH AND DEVELOPMENT

By processing feedback and responding to new ideas and custom requests, APT have developed a product range comprising exactly what our Australian customers want. It's survival of the fittest, on harsh playing fields.



QUALITY ASSURANCE

APT quality is certified by the International Standards Organisation (AS/NZS ISO 9001:2008)



APT WARRANTY

APT yarns are the quality benchmark in many markets. We stand behind everything we make with a comprehensive, generous warranty.



FIRST QUALITY RAW MATERIALS

APT uses the highest grade raw materials, rejecting anything that doesn't meet internal quality standards.

NO OTHER YARN MANUFACTURER CAN CLAIM 25 YEARS OF CONTINUOUS EXPOSURE TESTING IN AUSTRALIAN TROPICS

At the Allunga Exposure laboratory in Townsville, where the tropical heat is high and the UV content of natural light is extreme, we monitor fading and tensile strength loss. We also run simultaneous accelerated testing on APT yarns as well as yarns sourced from other manufacturers around the world.

We know whose yarns will last when put to the test. We know whose yarns are most at risk of failure, and what will make them fail. We know in precise commercial terms the advantages of using yarns that are designed for, and proven in, the Australian environment.

SOME YARNS ARE NO BARGAIN AT ANY PRICE!

The lure of lower price can be tempting. Yarns that imitate ours do not behave in the same way, nor do they have the same endurance.

Customers are entitled to rely on a supplier's assertion that theirs is a quality product, one that will live to expectations and deliver a long service life.

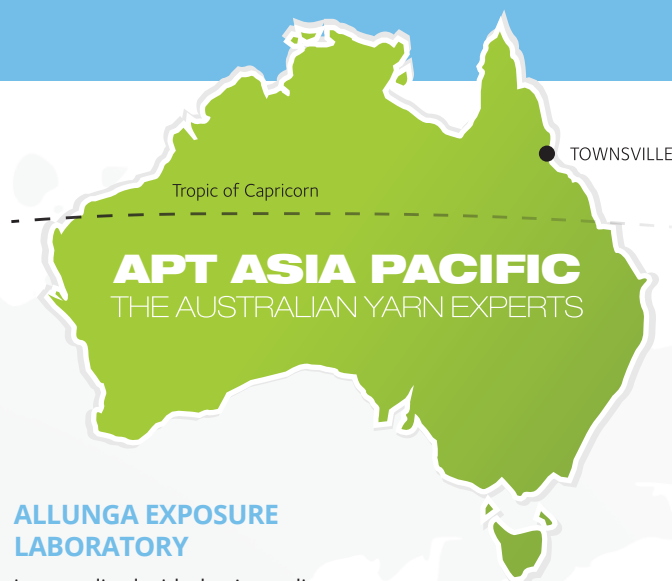
APT gives that assurance and stands by it.

PRE PURCHASE CHECKLIST

Use this checklist to rate how other manufacturers yarns stack up against APT.

FEATURES	APT Yarn	Supplier 2	Supplier 3
 Contaminant free polymers	✓		
 First quality raw materials	✓		
 Precise synergistic formula	✓		
 UV stabilised	✓		
 Heat stabilised	✓		
 No heavy metals in pigments	✓		
 Compatible pigments	✓		
 Developed for the Australian ports and landscaping market	✓		
 25 years exposure testing in Australian environment	✓		
 ISO Quality Assurance	✓		
 Warranty	✓		
 Do you know where your yarn comes from?	✓		

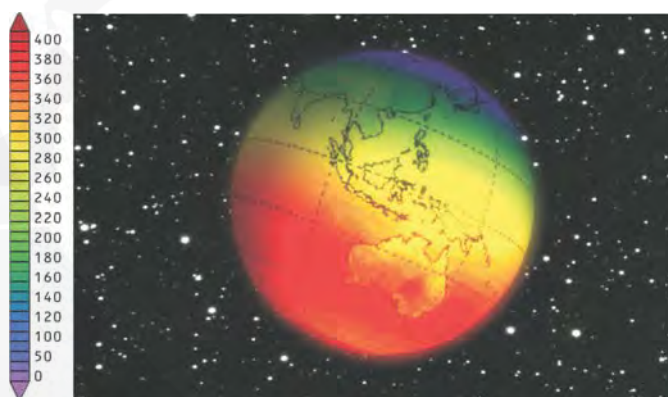
Any price comparison with competitors' yarns should be made with this checklist in mind. Every feature marked 'yes' adds value, every 'no' or 'not sure' or 'unconfirmed' reduces the value of that supplier's product.



ALLUNGA EXPOSURE LABORATORY

is accredited with the Australian National Association of Testing.

Authorities, specialising in materials testing and durability evaluation. Allunga is a global reference for natural and accelerated exposure testing. At latitude 19° South, the sun passes directly overhead twice each year. The region has a harsh tropical climate that is ideal for weathering and durability testing.



MONTHLY RADIATION FALLOUT IN W/M2

Those who live in the northern hemisphere can only imagine the high levels of Ultraviolet radiation that bombard Australia in summer. It's no accident that APT have developed the world's best ways of standing up to it.



APT ASIA PACIFIC
THE SYNTHETIC
YARN EXPERTS

HB 250

LigaTurf HB250 is based on the **LigaTurf HB260** system with 10mm less pile; also incorporating a shock pad layer and reduced rubber infill.

LigaTurf HB250 solution performs to the criteria set by FIFA Quality Program One & Two Star, and AFL / Cricket Australia. **LigaTurf HB250** fibre, infill and shock pad combination is the same as what was independently Lisport tested (simulated wear) to 150,000 cycles attesting to its true durability.



Areas of Use
Training facilities
Professional and amateur clubs



FIFA certified



AFL/CA certified



'Entanglement Technology'



COOLplus® function



100 % PE formulation



Bicolour



Resource conservation



Multisport



Force reduction



Energy return



Heavy metal free



No toxic fumes or V.O.C's



Recycled rubber used

KEY BENEFITS

LigaTurf HB250 synthetic turf is designed with both fibrillated and monofilament sports yarns. The combination of monofilament and fibrillated into the one football turf product allows it to offer the advantages of each yarn: fibrillated for durability, monofilament for resilience.

Safety: Performance benefits of the underlying Proplay shock pad incorporate shock absorption with drainage capabilities meeting shock absorption and critical fall height measures for all ages and standards of play.

Functionality: Infill ratio 6-parts sand to 1-part rubber is designed for the sand to stabilise and firm the grass system to take advantage of the performance characteristics of the shock pad. The lower SBR infill content reduces heat build-up and surface radiation.



Usage	Heavy	Moderate	Light
Hours per week	60	40	20
Recommended resurface time (yrs)	7-9	9-10	10+

OUR DIFFERENCE

LigaTurf HB250 has been developed to meet the performance criteria for football turf combining durability and resilience of the turf fibres complimented by reduced SBR infill content for reduced splash and surface heat.

The modular shock pad layer is instrumental for shock absorption and promotes critical fall height performance, is re-useable in future turf replacements and has vertical drainage capabilities.

LigaTurf HB250 football turf system design incorporated with the unique and innovative rigid flow cell ensures vertical drainage to a horizontal cell reservoir allowing water to be channeled laterally to a perimeter storm water system. The investment benefit removes all drainage infrastructure under the field that will encounter differential settlement over time. This strong focus on system development provides confidence for our clients that our surfaces are not only built to look good and play well, but are also built to last.



Accelerated testing confirms that LigaTurf HB250 yarn has set unmatched new standards for resilience and durability.



Fibre shape



SYSTEM STRUCTURE LAYERS



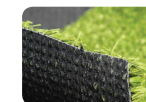
- 1 50mm pile height combination of fibrillated tape for durability and monofilament for resilience.



- 2 Recycled SBR proven performance infill.
Kiln dried silica sand stabilising infill.



- 3 Exclusive Qualiback 'Hybrid Emulsion' secondary backing; for superior seam strength.



- 4 Proplay modular shock pad layer for sports performance absorption and fall height.



Optional Patented System: drainage cell layer under shock pad & synthetic turf eliminates all infrastructure required in base construction



COMPONENT	MANUFACTURER	DESCRIPTION	% OF COMPONENT		
			RECYCLABLE	RECYCLED	REUSABLE
SHOCK PAD	Schmitz Foam Products Distributed by Australia via APT Asia Pacific Pty Ltd	ProPlay Sport 23 is designed as a sport technical layer of artificial grass sports fields. Proplay Sport 23 consists of thermal bonded [closed-cell] cross-link Polyethylene foam [PEX]. This foam comes from production residue and contains no contaminants rendering the product made from recycled materials. With a 25 year guarantee and a life expectancy of over 100 years, the Proplay Sport range of shock pads have a higher return on investment than any other sport technical underlayer being suitable for reuse on multiple turf life-cycles.	100%	100%	100%
SYNTHETIC TURF	APT Asia Pacific Pty Ltd	Ligaturf HB 250 is designed as a football turf system for AFL and Soccer field applications. Ligaturf HB 250 consists of both fibrillated and monofilament sports fibres extruded in-house at APT Yarns, Dandenong VIC from Polyethylene polymer technology. The combination of monofilament and fibrillated into the one football turf product allows it to offer the advantages of each yarn: fibrillated for durability, monofilament for resilience.	60%	0%	100%
STABILISING INFILL	Various approved suppliers	Stabilising Infill is designed with washed and kiln dried sand to act as a stabilising layer supporting the synthetic turf layer to the base reducing expansion and contraction as well as a product creep over the life of the surface.	100%	100%	100%
PERFORMANCE INFILL	SBR: Various approved suppliers	SBR Performance Infill The most popular and most cost effective choice in the Asia Pacific region, derived from recycled motor vehicle tyres. The crumbed rubber is normally 0.5mm-2mm in size. The colour is black, which means that there is tendency to retain heat compared to Bionic Infill.	100%	100%	100%
	Bionic Infill: Melos Distributed in Australia by APT Asia Pacific	Bionic Performance Infill takes mature as its template and combines many advantages of natural materials with the sustained safety proven, crosslinked EPDM infill granules. Made from virgin tested material the bionic fibre is available in cooler colour backed by German reliability and quality.	100%	0%	100%

SWMS 200: Synthetic Grass Surfacing



1. Project Details

Project Name:	Gardiner Park	Project Number:	94000220
Address:	Wolli Creek Road, Banksia, NSW	Start Date:	
Project Manager:	Steve Williams	Phone (M):	0408 236 273
Client Name:	Bayside Council		
Client Contact:	Faisal Nadeem	Phone (M):	0447 383 373
Email:	Faisal.nadeem@bayside.nsw.gov.au	Phone (O):	

2. Safe Work Method Statement (SWMS) Details











SWMS Name:	Synthetic Grass Surfacing	SWMS Number:	SWMS 200
SWMS Scope: (work task identification)	General (all staff to be signed off on SWMS 000); Installation of Drainage Cell and Prefabricated Shockpad; Installation of Synthetic surface; Infilling Synthetic Surface; Grooming Synthetic Surface.		
Review Team:	L Graham	Review Due:	09/09/2019
Approved By:	S Williams	Last Reviewed	09/03/2020
		Revision:	1

3. Risk Assessment Tools

Risk Consequence				Risk Likelihood			Risk Matrix						
		Health & Safety	Environmental	Financial				A	B	C	D	E	
E	Catastrophic	One or more fatalities or near misses	Major impact	Loss above \$10M	5	Certain	Possibility of repeated events	5	Sig.	Sig.	High	High	Ex.
D	Major	Serious lost time injury (LTI)	Medium impact outside site boundary	Loss \$1M-\$10M	4	Probable	Possibility of isolated incidents	4	Mod.	Sig.	High	High	Ex.
C	Moderate	Disabling injury (DI) or LTI	Medium impact within site boundary	Loss \$50,000-\$1M	3	Possible	Possibility of sometimes occurring	3	Low	Mod.	Sig.	High	High
B	Minor	Single medical treatment injury (MTI)	No or low impact	Loss \$5K-\$50K	2	Unlikely	Not likely to occur	2	Low	Low	Mod.	Sig.	High
A	Insignificant	Single first aid injury (FAI)	No impact	Loss below \$5K	1	Rare	Rare occurrence	1	Low	Low	Mod.	Sig.	Sig.
Hierarchy of Controls					Applicable Legislation								
Preferred		Elimination	physically removing the hazard		ACT: Work Health and Safety Act 2011 (ACT), Work Health and Safety Regulation 2011 (ACT); NSW: Work Health and Safety Act 2011 (NSW), Work Health and Safety Regulation 2011 (NSW); NT: Work Health and Safety (National Uniform Legislation) Act 2012 (NT), WH&S Regulations 2012 (NT); QLD: Work Health and Safety Act 2011 (QLD), Work Health and Safety Regulation 2011 (QLD); SA: Work Health and Safety Act 2012 (SA), Work Health and Safety Regulations 2012 (SA); TAS: Work Health and Safety Act 2012 (TAS), Work Health and Safety Regulations 2012 (TAS); VIC: Occupational Health and Safety Act 2007 (VIC), OHS Regulations 2004 (VIC); WA: Occupational Safety and Health Act 1984 (WA), Occupational Safety and Health Regulations 1996 (WA);								
		Substitution	replacing the hazardous activity										
		Engineering	Isolating people from the hazard										
		Administrative	changing the way people work										
Minimum	Personal Protective Equipment		using PPE										

SWMS 200: Synthetic Grass Surfacing



4. Compulsory PPE		5. Additional PPE							
Footwear	High Vis	Hard Hat	Safety	Gloves	Hearing	Dust Mask	Respirator	Barrier Cream	Face Shield
									
FW	HV	HH	EW	GV	HP	DM	RR	BC	FS
		Sunscreen	Sun Hat						
		SS	SH						

6. Hazard Checklist

General					
<input checked="" type="checkbox"/>	Overturning of Plant	<input checked="" type="checkbox"/>	Toxic Gases/Fumes		High pressure fluid
<input checked="" type="checkbox"/>	Struck by objects		Drowning	<input checked="" type="checkbox"/>	Slipping/Tripping
	Striking objects		Suffocation	<input checked="" type="checkbox"/>	Noise
<input checked="" type="checkbox"/>	Vehicle traffic		Confined spaces	<input checked="" type="checkbox"/>	Vibration
	Falling from height		Excavation and Trenching	<input checked="" type="checkbox"/>	Fatigue
	Electrical		Asbestos/Synthetic Mineral Fibre		Biological/Animals
<input checked="" type="checkbox"/>	Fire/Explosions	<input checked="" type="checkbox"/>	High/Low Temperatures/object	<input checked="" type="checkbox"/>	Cutting/Stabbing/Puncturing
<input checked="" type="checkbox"/>	Chemicals	<input checked="" type="checkbox"/>	Radiation (Sun)		Occupational Violence
<input checked="" type="checkbox"/>	Public Safety	<input checked="" type="checkbox"/>	Manual Handling	<input checked="" type="checkbox"/>	Environment
Other					

SWMS 200: Synthetic Grass Surfacing



7. Chemical Register

Product Name	Classification	UN	Packing Group	Hazard Class	Application
Diesel	DG, Haz	UN 3082	PG III	9 – Misc DG	Fuel
LP Gas	DG	UN 1075	-	2 – Flammable Gas	Fuel
Petrol	DG, Haz	UN 1203	PG II	3 – Flammable Liquid	Fuel
Qualipur 2501	Haz	-	-	-	Adhesive
Qualipur 2650 A	-	-	-	-	Adhesive
Qualipur 2650 B	Haz	-	-	-	Adhesive
Everstick	DG, Haz			-	Adhesive
Wetlay 690	DG, Haz			-	Adhesive
Solvent 40/100	DG, Haz	UN 1268	PG III	3 – Flammable Liquid	Cleaning Agent
Butyl Acetates	DG, Haz	UN 1123	PG III	3 – Flammable Liquid	Cleaning Agent

SWMS 200: Synthetic Grass Surfacing



8. Hazard Assessment

Potential Hazards	Risk Rating Before	Control Measures	Risk Rating After	Responsible Officers
General				
· General	-	All personnel to be signed off on SWMS 000.	-	Site Manager Site Safety officer All employees
Storage and Handling of Bulk Materials				
· Unloading products with forklifts/cranes	4D	Operators of forklifts/cranes are to be trained and competent to operate machinery. Dogmen to be engaged as required for materials movement. Forklifts only to operate on suitable terrain for the forklift type; and in line with manufacturer's recommendations. Forklifts not to be operated in wet or slippery conditions.	3B	Site Manager Site Safety officer All employees
· Working around operating forklifts/cranes	4D	Ensure adequate hi-visibility clothing is worn. All staff to stand clear of forklifts and cranes during operation. All staff to be made aware of lifting machinery movements during unloading of materials.	2C	
· Toppling of stacked bulk materials	3D	All products to be stacked safely and away from general working area. All materials to be stored on flat terrain within the secure compound. SBR and EPDM pallets are to be stored no more than <u>one</u> pallet high. Adhesive pallets are to be stacked no more than <u>two</u> pallets high. Synthetic grass to be stored no more than <u>three</u> rolls high.	2C	
Storage and Handling of Hazardous Materials				
Any hazardous materials to be used on site must be listed on the SWMS Chemical Register. Relevant MSDS must also be located on site.				
· Explosion	4D	All hazardous materials/fuels to be stored in appropriate dangerous goods compound/container. No smoking around hazardous materials. Combustible fuels are only to be used in well ventilated areas. Fire extinguisher is to be kept on site at all times. Location is to be sign posted and staff to be made aware.	2C	Site Manager Site Safety officer All employees
· Inhalation	3C	Adhesives and fuels are only to be used in well-ventilated areas. Appropriate PPE to be used as required by MSDS.	2C	
· Damage/vandalism to adhesive storage drums	3E	Site to be secured with temporary fencing. Hazardous materials to be stored within secure compound only.	2E	

SWMS 200: Synthetic Grass Surfacing



Potential Hazards	Risk Rating <i>Before</i>	Control Measures	Risk Rating <i>After</i>	Responsible Officers
<ul style="list-style-type: none">· Infiltration of hazardous material into stormwater/waterways	3D	All surrounding stormwater collection devices to be protected/bunded in case of spillage. Wherever possible, all materials to be stored downhill from waterways in case of spillage. All storage of materials will be subject to site-specific Environmental management plan.	2B	Site Manager Site Safety officer All employees
<i>Use of Cutting Implements</i>				
<ul style="list-style-type: none">· Cutting/damage to body	4C	Only trained personnel to use cutting implements. Cutting implements to be stored in protective covers when not in use. Cutting implements not to be used for anything other than their intended use. Cut away from the body whenever possible. Spare blades to be made available to facilitate easy cutting and reduce risk.	2C	Site Manager Site Safety officer All employees
<i>Cleaning of Equipment</i>				
<ul style="list-style-type: none">· Inhalation of solvent	4D	All equipment to be cleaned in well ventilated area. Appropriate PPE to be worn as set out by relevant MSDS.	2D	Site Manager Site Safety officer All employees
<ul style="list-style-type: none">· Skin reaction to solvent or PU material	3C	Appropriate PPE to be worn. Refer to relevant MSDS for medical treatment.	2C	
<ul style="list-style-type: none">· Electrocution	4E	Ensure equipment is switched off and disconnected from the generator.	2E	
<ul style="list-style-type: none">· Explosion	4D	No smoking during cleaning process. Ensure cleaning is carried out in a well ventilated area. Ensure all gas bottles and burning equipment is stored well clear of designated cleaning area.	2C	
Elastic Layer Construction				
Loading and Operation of SMG Mixer				
<ul style="list-style-type: none">· Loading using a forklift	4D	Forklift operators are to be trained and hold relevant local licences. Forklifts are to operate on flat terrain, and not in wet or slippery conditions outside manufacturer's recommendations. Forklift is to be appropriate for the site conditions.	3C	Site Manager Mixing Technician All employees
<ul style="list-style-type: none">· Manual movement of drums	4D	Minimum two people to move 210kg binder drums Mechanical lifting options to be used for any other movement of drums.	2D	

SWMS 200: Synthetic Grass Surfacing



Potential Hazards	Risk Rating Before	Control Measures	Risk Rating After	Responsible Officers
· Injury due to heavy objects pinning personnel	4D	All staff to stand clear of forklifts during movement of SBR rubber bags into hopper. All staff to be made aware of lifting machinery movements during loading of materials. No staff to enter the hopper at any times to cut open bags. When bags are opened, ensure no part of the body except the arm is under the bag. Where possible use mechanical bag handling devices to assist with loading.	2C	
· Vehicle movements	3C	All vehicle movements are to be undertaken in strict accordance with the traffic management plan.	2C	
· Knocking over the mixer when loading the hopper	4D	Ensure the mixer is set up on flat terrain. Proceed slowly with the forklift while working around the hopper.	2D	
· Contact of materials with skin	4C	Use appropriate PPE at all times. All personnel to read and understand the SDS for materials they will be working with. SDS to be maintained on-site at all times.	2C	
· Electrocution	4E	Machine, generator and all electrical leads are to be tested and tagged to local requirements. Only trained and authorised personnel are to operate electrical equipment. Power to be supplied via portable electric generator Generator is to be fitted appropriate protection. Standard PPE to be worn at all times. A minimum of two personnel is to be on site during use, and a working mobile phone on site at all times. No work with electrical equipment is to be undertaken during inclement weather.	2D	Site Manager Mixing Technician All employees
· Getting hand caught in SMG Mixer auger	3C	All staff to stand clear of operating auger. Only trained personnel to use mixer in line with manufacturer's recommendations. Machine to be disconnected (isolated) from power supply prior to disassembly and cleaning. Safety grate to be installed at all times. Machinery is not to operate without all enclosures installed.	2C	
· Getting struck by folding lid on SMG Mixer	3C	Lid to be securely fastened by rag bolts when mixer is in use. All personnel to stand clear during folding and unfolding of lid.	2C	
· Machine falling over	4D	Machine to be stored and operated on flat terrain. Machine to be transported securely using manufacturer approved lifting methods.	2D	

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Potential Hazards	Risk Rating <i>Before</i>	Control Measures	Risk Rating <i>After</i>	Responsible Officers
· Auger and chute falling/striking persons	3C	Auger and chute to be securely fastened and checked after reattachment each day. All personnel to stand clear during reattachment.	2C	
· Infiltration of hazardous material into stormwater/waterways and immediate areas	4B	Use mixer in line with Polytan standard methodology. All personnel working in mixing station to be monitoring refilling totes at all times. Approved personnel with adequate training only to be mixing technicians. Mixer to be sealed with appropriate hardware when being transported and at the end of each work day.	1B	
Loading and Operation of SMG Paver/Dumper				
· Get hand caught in hydraulic lift mechanism	3C	Ensure all personnel are clear of dumper during lifting process. Only trained and authorised personnel to operate dumper	2C	Site Manager Paving Technicians All employees
· Collision with dumper	4D	Only trained and competent personnel to operate the dumper at all times. All vehicle movements to be undertaken in strict accordance with Vehicle Movement Plan. Path of dumper to paver to be kept clear at all times. All staff to be made aware of dumper movements and maintain adequate segregation distances.	2D	
· Falling from dumper	3C	Ensure three points of contact with machine when mounting and dismounting. Do not jump when exiting machine Only trained and competent personnel to operate the dumper at all times.	2C	
· Roll-over accident	4E	Dumper to be operated on flat terrain at all times. Ensure roll over protection devices are erected at all times. Seat belt to be worn at all times. Dumper to be operated at appropriate speeds by trained and competent personnel only.	2D	
· Tipping of shockpad material on to persons	4C	All personnel to keep clear of tipping dumper at all times. Dumper to be driven with bucket in lowest position and relevant to conditions.	2C	
Hot Trowel Paving				
Hot works including Hot Trowel paving is not to be undertaken on days of high fire risk. Local regulations to be monitored at all times.				

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Potential Hazards	Risk Rating Before	Control Measures	Risk Rating After	Responsible Officers
· Burns from gas torch	4D	Correct PPE to be worn & maintain safe working distances. All employees must wear cotton PPE Clothing. Only trained personnel to operate the gas torch and use the gas torch. All personnel to be aware of the gas torch prior to use on site. When not in use, gas torch to be turned off at the bottle. One person to hold gas torch at all times and to protect the hot end.	2D	Site Manager All employees
· Explosion	4D	Ensure gas torch is not ignited around any combustible fuels. No smoking during operation of gas torch. No smoking within the vicinity of the gas bottles. Gas bottle to be stored away from combustible fuels.	2D	
· Fire spread	4E	Gas torch to be monitored and turned off when not in use. Local weather conditions to be monitored prior to hot work, ensuring bushfire risk is appropriate. If conditions are inappropriate, no hot trowel paving is to be undertaken. Regardless of local conditions, open flames to be monitored at all times, and area cleared of flammable goods, materials and other combustibles.	2D	
Installation of Drainage Cell/Prefabricated Shockpad				
· Unloading Cell & Pad pallets using forklift	4D	Trained forklift or crane drivers must be used. Dogmen to be engaged for materials movements as required. Forklifts only to be operated on flat terrain. Forklifts shall not be operated in wet or slippery conditions	3C	Site Manager Site Safety officer All employees
· Manual handling / installation of Cell & Pad	4D	Toolbox all staff on correct installation methodology of pad & cell Ensure all staff are wearing correct PPE including Hi-Visibility clothing, safety boots & safety gloves. Staff are recommended to wear knee pads when bending while installing the pad & cell products.	2B	
Laying Synthetic Surface				
Operation of SMG Turf Wheels, Unrolling Turf				
· Getting hand caught in hydraulic lift mechanism	3C	Ensure all personnel hands are clear during lifting process. Only operate machine by the designated handles.	2C	Site Manager Site Safety officer All employees
· Physical strain pulling/pushing turf wheels	3C	Minimum of two staff to pull/push turf wheels at all times.	2C	
· Physical strain manually pushing rolls into position for turf wheels	3C	Minimum of three staff to manually roll turf into position. Only push rolls far enough to be in position for the turf wheels. Push from the knees while leaning on the roll and keeping back in a stable position (all labourers to have this action demonstrated prior to pushing rolls).	2C	

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Potential Hazards	Risk Rating Before	Control Measures	Risk Rating After	Responsible Officers
· Having foot run over by turf wheels	3B	Keep feet clear of wheels at all times. Steel toe boots to be worn at all times.	2B	
Operation of Graco Spray Machine				
· Explosion during refuelling	3E	Ensure no fuel is spilt during refuelling. Allow machine to cool prior to refuelling. No smoking or naked flames during refuelling. Always switch machine off during refuelling. Make sure refuelling is carried out away from adhesives and solvents. Always refuel machine in well ventilated area	2D	Site Manager Site Safety officer All employees
· Getting hand caught in piston	3C	Keep hands well clear of piston while machine is operating. Only suitably trained personnel to apply throat protectant to the piston.	2C	
· Burning hand / body on exhaust	4C	Only trained personnel to operate strip glue machine. Keep well away from exhaust during operation of machine Ensure machine is turned off prior to swapping hoses between drums of adhesive.	2C	Site Manager Site Safety officer All employees
· Blow back of adhesive on to face/skin	4D	Only trained personnel to swap hoses between drums of adhesive. Only trained personnel to carry out cleaning or routine maintenance of machine.	2C	
· Physical injury from tripping on hoses	4C	Ensure all hoses are kept in an orderly during operation of machine and only the spray gun hose is in the immediate work site. One labourer to always be responsible for movement of the spray gun hose during spraying.	2C	
· Noise	4C	Keep spray machine away from immediate work site to reduce noise. Hearing protection to be worn during cleaning and close quarter use of the machine.	2C	
Operation of Strip Gluing Machine				
· Explosion during refuelling	3E	Ensure no fuel is spilt during refuelling. Allow machine to cool prior to refuelling. No smoking or naked flames during refuelling. Always switch machine off during refuelling. Make sure refuelling is carried out away from adhesives and solvents. Always refuel machine in well ventilated area.	2D	Site Manager Site Safety officer All employees
· Physical strain during movement / lifting of machine	3C	Always team lift machine on to vehicles or into storage container. Keep hoses clear of machine during use to avoid snags	2C	
· Getting hand caught in belts	3C	Ensure all guards are in place and operational prior to starting machine. Keep hands well clear of belts while machine is operating	2C	

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Potential Hazards	Risk Rating <i>Before</i>	Control Measures	Risk Rating <i>After</i>	Responsible Officers
· Burning hand / body on exhaust	4C	Only trained personnel to operate strip glue machine. Keep well away from exhaust during operation of machine	2C	
· Noise	4C	Keep spray machine away from immediate work site to reduce noise. Hearing protection to be worn during cleaning and close quarter use of the machine.	2C	
<i>Gluing Seams with Solvent Based Adhesives</i>				
· Fire – Caused by static discharge	3E	Personnel to wear cotton, (non-synthetic) clothing and gloves, where possible to reduce static build-up and uncontrolled discharge. Personnel to ground themselves regularly to manage static build-up. Personnel to ground themselves prior to approaching push trowel. Any adhesive drums not in use are to have lids replaced and sealed to reduce fuel loads. Local weather conditions to be monitored (static build-up increased in cold, dry, windy weather), and additional measures taken when conditions are likely to increase static build-up, or static build-up is noted. Additional measures may include: <ul style="list-style-type: none">Fire extinguishers (Dry Chemical) to be placed within 20m of seam, at periodic (15m) intervals.Seam adhesive to be poured in short (<30m) lengths.	1E	Site Manager Site Safety officer All employees
Infilling Synthetic Surface				
<i>Loading and Operation of Infill machine (e.g. SMG Sandmatic)</i>				
· Loading product using forklift	4D	Trained forklift drivers must be used. Forklifts only to be operated on flat terrain. Forklifts shall not be operated in wet or slippery conditions. Personnel opening bulk bag lifting eyes to remain clear of forks at all times.	3C	Site Manager Site Safety officer All employees
· Loading product using bobcat	4D	Trained bobcat operators must be used. Bobcats only to be operated on flat terrain. Bobcats shall not be operated in wet or slippery conditions.	3C	Site Manager Site Safety officer All employees
· Injury due to heavy objects pinning personnel	4E	All staff to stand well clear of forklifts during movement of bulk bags into hopper. All staff to be made aware of lifting machinery movements during loading of materials. No staff to enter the hopper at any times to cut open bags. When bags are opened ensure no part of the body except for the arm is under the bag.	2E	

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Potential Hazards	Risk Rating <i>Before</i>	Control Measures	Risk Rating <i>After</i>	Responsible Officers
· Vehicle movements	4E	Implement an approved Traffic Management Plan that is appropriate for the site. Unload/load plant, equipment, and materials, in areas that are cordoned off to the public. Open excavations and manholes are to be barricaded and clearly marked by signs to protect pedestrians and traffic.	2E	
· Inhalation of sand particles	3C	Dust masks to be made available to all personnel in proximity to loading operations. All staff to be made aware of dangers of long term inhaling of sand particles.	2C	
· Collision with spreading equipment	4E	Only trained and licensed personnel to operate the spreading equipment at all times. All vehicle movements to be undertaken in strict accordance with Vehicle Movement Plan. Path of spreading equipment runs to be kept clear at all times. All staff to be made aware of spreading equipment movements.	2E	
· Falling from spreading equipment	3C	Ensure three points of contact with machine when mounting and dismounting.	2C	
· Getting hand caught in spreading mechanism (spinners)	4D	All staff to stand clear of operating spinners. Machine to be disconnected from power supply prior to disassembly and cleaning. Ensure safety guard is installed at all times.	2D	
· Rollover accident	4E	Only trained and licensed personnel to operate the spreading equipment at all times. Spreading equipment to be operated on flat terrain at all times. Ensure roll over protection devices are erected at all times. Seat belt to be worn at all times.	2E	
Grooming Synthetic Surface				
· Collision with grooming equipment	4D	Only trained and licensed personnel to operate the grooming equipment at all times. All vehicle movements to be undertaken in strict accordance with Vehicle Movement Plan. Path of grooming equipment runs to be kept clear at all times. All staff to be made aware of spreading equipment movements.	2D	Site Manager Site Safety officer All employees
· Falling from grooming equipment	3C	Ensure three points of contact with machine when mounting and dismounting.	2C	
· Getting hand caught in brush mechanism	3C	All staff to stand clear of brushes. Machine to be turned off prior to disassembly and cleaning. Ensure safety guard is installed at all times.	2C	

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Potential Hazards	Risk Rating <i>Before</i>	Control Measures	Risk Rating <i>After</i>	Responsible Officers
· Rollover accident	4E	Only trained and licensed personnel to operate the grooming equipment at all times. Grooming equipment to be operated on flat terrain at all times. Ensure roll over protection devices are erected at all times. Seat belt to be worn at all times where fitted.	2E	
· Vehicle movements	4E	Implement an approved Traffic Management Plan that is appropriate for the site. Unload/load plant, equipment, and materials, in areas that are cordoned off to the public. Open excavations and manholes are to be barricaded and clearly marked by signs to protect pedestrians and traffic.	2E	

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9. Signoff Sheet

I, the undersigned confirm that the (1) applicable SWMS have been explained to me; (2) its contents are clearly understood by me; (3) my training is such that I am competent to carry out the task safely; (4) I will comply fully with the SWMS or cease work immediately.

Name	Date	Mark applicable SWMS sections, strike through inapplicable sections. New line for new or additional sign offs.					Signature
		General	Drainage Cell/Prefab. SP	Laying Surface	Infilling Surface	Grooming Surface	
		X					
		X					
		X					
		X					
		X					
		X					
		X					
		X					
		X					
		X					
		X					
		X					
		X					

SIGNOFF SHEET: ____ of ____