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Tree moving How much and how big?

This month, James de Havilland offers advice on how best to move trees

Simple question: What is the largest size of tree that can be moved and transplanted and how much will it cost to do the job?

Although there will always be a degree of debate, the answer will typically depend upon a range of factors, not least being the likelihood that the moved tree will survive. So where do you start?

There will always be occasions when a tree or trees will be growing in a position where they are in the way'. Similarly, modern impatience will often want a tree to be established in a particular spot, with the expectation that the new arrival looks like a pretty mature tree from day one; a stand of freshly planted whips may well develop into small saplings in under ten years, but that sometimes is just not fast enough.

On golf courses, it is now common practice to move small saplings growing on one part of the course to another. This can be to remove them to allow remodelling of an approach, tee or green. It is also handy to be able to add or replace a tree without having to wait for it to grow.

Although moving small trees with a specialist tree spade is not difficult, it follows that the job should be carried out by someone who knows what they are doing; a potential problem is attempting to transplant a tree that is too large for the tree spade used to move it. Transplanted trees will also need looking after, secure staking also proving essential.

That said, transplanting smaller trees and shrubs with a modest tree spade should be well within the abilities of course staff. A diminutive skidsteer loader mounted tree spade can be hired in for perhaps as little as £250 a week.

These smaller units can move trees with a girth of up to around 200mm, the rootball diameter approaching 850mm at its widest point.

In practice, the size of tree that can be moved this way will be typically smaller than most would imagine. The key is to ensure the tree rootball is large enough to support the tree. Although this is pretty obvious, it is all too easy to under estimate just how large the rootball should be to ensure a successful transplant.

When it comes to moving larger trees, it is again possible to move these successfully as long as the job is carried out at the right time. October through to March is the best time for deciduous trees, but extreme cold and wet weather should be avoided, especially for Evergreen species, which are best moved early or late in the season.

Evergreens move well even in April when the warmer grounds allows then to re-establish before wind dries them out.

TOP RIGHT:

A good specimen tree can be easily extracted from a location where it is less likely to be appreciated. Note how the roots are not all removed by the tree spade. A transplanted tree will take a while to adjust to its new , and must be securely

BELOW TOP RIGHT: A large tree spade makes moving trees and shrubs much easier, a large rootball being one of the keys to a successful transplant. The pictured unit is used by The Belfry.

ABOVE BOTTOM RIGHT: Tree movement specialists have the ability to move existing trees both locally and further afield. The picture shows a 1.1m tree spade lifting a 350mm girth beech.

BOTTOM BIGHT The tree spade will drop the tree to be transplanted into a hole that it has first been us to open up. The waste soil will typically be returned to the hole vacated by the moved tree

With thanks to tree moving specialist, Alastair Bedda Practicality Brown Ltd Tel: 01753 652 022 (www.pracbrown.co.uk)





Larger trees may also benefit from having the roots 'cut' a season prior to them being lifted. It is too easy to generalise on this subject, the best advice remaining to talk to a tree specialist.

Calling in a professional to do the job will not be cheap. As a guide, calling in a pro using a 1100mm diameter spade will cost upwards of £750; up to 15 trees may be moved a day, but a lot will depend upon distances between moves and the terrain. Staking and feeding costs at around £50 per tree should also be considered. The larger the tree, the more it will cost to move. As a very broad guide, allow £170 to move a tree of up to 350mm based on 15 trees moved in a good day. Trees above 1000mm in diameter can be moved, but expect costs to start at £2000 per tree.

Generally, rootball size and watering are the cause of any transplant failures.

The British Standard guide is that the rootball size should be 10x that of stem Diameter. This is an excellent rule of thumb although some species and soil types will adjust this either way.

To complicate matters, stem size is measured in Inches Diameter in the USA and in Centimetre Girth in Europe.

It is always better to have too large a rootball than the other way around. In most cases, the trunk girth is typically measured about a metre from ground level.

Also consider tree height. Although there are no published guidelines, it follows that a relatively fast growing and slender species, such Black Poplar (Populus nigra) will perhaps demand a larger rootball than an English Oak (Quercus Robur) of similar transplant girth. The larger the tree, the more important it becomes to seek professional advice.



Preparing for kany Dav

Scott MacGregor describes life working on a course construction in Kuala Lumpar

Having grown up in St Andrews, I started my golf industry work during the construction of the Duke's course, overlooking the town where I learned many aspects of what is involved in building a golf course

to be given the chance to join the Duke's greenkeeping team and was eventually given responsibility for running the irrigation system. During this time I also studied Greenkeeping and Course Management, part-time at nearby Elmwood College. Then I worked for an irrigation installation contractor installing systems throughout the UK.

Later, while visiting friends in Kenya, I played several courses and spoke to some of the local staff. I was told that one course in Nairobi was about to start reconstruction and that the South African designer was looking for

a Construction Manager. I was lucky enough to be in the right place at the right time and was offered the job.

After several very enjoyable and interesting years in Kenya (Giraffes walking across the fairways), I was offered the same After grow in, I was delighted role working for a Malaysian golf course construction contractor. The move was then made to Kuala Lumpur to start the reconstruction of the Royal Selangor Golf Club.

> The 45 hole Royal Selangor Golf Club is a private club based in the centre of Kuala Lumpur and is the oldest golf club in the country. It was established in 1893 by coffee planters and currently has an area of 137 Ha.

Since 1998 most areas of the golf course have stunning views of the Petronas twin towers which until 2004 were the tallest building in the world at 452m. The

clubhouse is located only two km from the base of these towers.

The club regularly hosted the Malaysian Open with the last event held there in 2002. With many other new courses opening in the area and in Malaysia as a whole, the members decided a redesign was required.

Another major reason for undertaking the redesign was to alleviate the serious drainage problems experienced on the site, especially during the traditional monsoon seasons. Yearly rainfall in Malaysia averages 2500mm (4262mm fell during construction in 2006) and with the monsoon rains sometimes dropping over 100mm in less than one hour, a membership of 6000. It covers the course would be unplayable and maintenance impossible for many hours after the rains had stopped.

The Kuala Lumpur City Council also have a six metre wide monsoon drain which runs through





ISET ABOVE TOP: SET ABOVE: Tee filling

FEATURE

this drain from the course was palum (Paspalum Vaginatum) on deliberately designed as a bottle neck so that the golf course would act as a "holding pond" during heavy rain. This was to help avoid the city and nearby roads from flooding, but was obviously not a popular situation with the members.

The result of this for the golf club was that many areas of the course were underwater, and when the storm water drained away the course would be covered in much upstream rubbish.

The request made of the Architect, was to raise the quality, playing conditions and strategies of both courses.

Prior to the reconstruction of the Royal Selangor Golf Club, the greens were Tifdwarf and the tees, fairways and roughs were Cow grass.

The new courses consist of Tifeagle (Cynodon Dactylon) on

parts of the course. The exit of the greens and Seashore Pasthe tees and fairways. The roughs remain Cow grass (Paspalum Conjugatum).

CONSTRUCTION

Work commenced in August 2005 and the programme was such that at all times the members would have 18 holes to play on. Planning on a redesign as opposed to a new build is completely different. **Consideration of the members** who are still playing golf within the site is obviously critical.

Delivery and storage of materials, safety for golfers and construction staff (from stray golf balls), heavy vehicle access and dust and silt control have to all be planned in an alternate way. Many a time, to keep on schedule after rain delays, work would continue under spotlights late into the night.

Greens

The greens (sizes from 371m²-910m²) were constructed to USGA specifications with 5% peat and 3% Zeolite mixed in. (Total area of greens, 2.5Ha)

Tees

3 Tees per hole were constructed either square or rectangular with subsurface drainage and 300mm of sand rootzone. (2 Ha)

Fairways

Fairways were first sod cut to retain the existing Cow grass for relaying in the roughs. Top soil was then stripped and stockpiled in suitable locations. After shaping was completed, the top soil was brought back and a 200mm compacted layer spread on the sub grade. (47Ha)

Bunkers

The bunkers, which proved the trickiest for the experienced MAIN: The aftermath of a heavy downpour of rain on the splendid course



construction team, were to "have regular irregularities" in the faces and edges. This was to retain the feel and character of the previous bunkers. A total of 167 bunkers were built on the 36 holes. (Bunkers 2.1Ha)

The bunkers were rough shaped by Excavators, D3 dozer and Bobcat, then the regular irregularities and fine shaping would be finished by hand tools. It took several holes of shaping and reshaping before this was mastered and the architect was satisfied.

Sod and Stolon Nursery The existing 9 hole course within the site had its Bermuda grass fairways converted to Seashore Paspalum, to be used as a nursery for sodding the surrounds of the Greens, Tees, Bunkers and lake slopes. This was intensively top dressed and fertilised after sod cutting and after approx 12-14 weeks could be sod cut again. (Nursery 4Ha)

Lakes

One existing lake was enlarged and four new lakes were excavated (Total area of new lakes 4 Ha) thus increasing the water storage capacity by 120,000,000 litres. Despite the very high annual rainfall, periods of drought had been experienced in the past and this additional capacity will be crucial in the future.

Earthworks

The first nine holes were constructed during the wettest period in Kuala Lumpur for 40 years so progress was frustratingly slow and most of the initial shaping had to be carried out by Excavators. During one prolonged wet period when tipper trucks could not operate we had six excavators in a line passing excavated material to fill fairway mounds.

Not the most economically way to construct but under the monsoon conditions, progress, albeit slow, had to continue.

Drainage

The subsurface drainage pipes ranged in size from 100mm perforated HDPE to 150mm - 600mm solid HDPE and reinforced concrete pipes.

All surface drainage led to 300mm greenside or 600mm fairway catch basins. Due to the very high rates of rainfall and slow discharge of water on this relatively flat site, all catch basin surrounds as well as many other areas such as landing zones etc were "sand capped", which is

basically a network of subsurface 100mm drainage pipe installed in the sub grade soil with 200mm of tested sand laid on top.

Where budgets allow, fully sand capped courses are very common in this region.

Machinery & Staff

Machinery and staff numbers would change greatly at different times of the project, at peak times

there would be: 3-4 Dozers of varying sizes (D6, D5, D4 or D3). 8 Excavators.10 Tipper trucks. 120 General workers comprising of 30-45 Indonesian workers experienced in golf course construction and the remaining inexperienced workers were from Thailand, Vietnam, Philippines and Bangladesh.

GROW IN

Greens

The greens were grassed with an Ultra dwarf Bermuda grass, Tifeagle. This was shipped in refrigerated containers from neighbouring Thailand. The Tifeagle would be spread on

a moist root zone preferably in the late afternoon or early evening.

With some greens 900m² plus, and grass (in transit for many days and then delayed clearing





NSET ABOVE TOP: Gravel lavering gree INSET ABOVE: Green cutting



Customs and Agricultural inspections) being unloaded in the heat of midday, we would commence hand watering the root zone immediately as the Tifeagle hit the sand. Daily temperatures are fairly constant in Malaysia at about 33-36°C, all year round. This temperature is taken in the shade, and one particular day when a thermometer was left on a green, the temperature hit 44°C.

A Sand pro with disc harrow attachment would immediately travel over the green to insert the sprigs into the root zone.

Hand watering almost constantly would be necessary for the first few weeks. Rolling would then begin before the first cut at 8mm, usually about 15 to 18 days after the stolons were spread.

Height of cut would gradually be reduced to about 3.5mm although at the lower heights any sign of stress and the cutting height would be raised.

It is generally recognised that Tifeagle needs eight hours of full sunlight in ideal growing condi-tions. Kuala Lumpur, however, is located in a valley and as such had many overcast days and combined with the heavy rainfall and very high humidity (Ave 80- 90%), disease problems were never far away. There was also an annual

period of one to two months when burning to clear land across the Malacca Straits in Indonesia would cause a haze which also reduced visibility and sunlight.

Weekly heavy topdressing after the first cut, reducing to

fortnightly lighter topdressings were carried out by hand. Infestations of Army worms were also common so a granular pesticide applied occasionally with the weekly fertiliser or a curative spray was also required. Regular slicing of the edges was

Regular slicing of the edges was required to stop the Paspalum encroaching onto t encroaching onto the green.

Tees & Fairways The tees and fairways were stolo-nised with Seashore Paspalum which was either imported from Thailand or harvested from the nursery.

The steeper slopes and swales would then have shade cloth spread over the stolons and pinned. All catch basins would have a vertical mesh barrier about 400mm high installed around them.

The mesh barrier was necessary rior to the laying of the shade cloth and the stolons rooting, any of the regular rains could and very often did wash away a whole fairway of newly spread grass. At least this way you could collect

most of the grass from around the catch basins and spread again and again until rooting.

Heavy initial top dressings by hand then by machine, weekly fertilising for the first six weeks then fortnightly would soon give

uniform coverage. Army worms were again a prob-lem and could destroy areas in an evening if not spotted early. Many times after spraying, on would come the rain and the process

would have to be repeated. As Paspalum is a high salt toler-ant grass, diluted salt was sprayed regularly as a selective weed killer and also to keep the cow grass from encroaching at the fairway edge.

Handover to Course Superintendent

All areas had a 12 week grow in afterwhich time they were handed back to the club. This allowed the clubs staff to start their own maintenance programs ready for reopening to the members.

I am now working in South Africa, on a Gary Player design 18 hole new build golf course estate. With an annual rainfall of only 500mm it is great to no longer worry about heavy rain regularly disrupting planning and destroy-ing days of work.



INSET ABOVE: Bunker shaping



about the author

nformation about



Continuing Professional Development

BIGGA introduced its Continuing Professional Development (CPD) scheme for Full Members of BIGGA on 1 July 2000.

Our mission statement includes BIGGA is dedicated to the continuing professional development of its members...' and the introduction of the scheme was a step towards maintaining and enhancing the professionalism of greenkeepers.

Your questions answered:

What is Continuing Professional Development (CPD)?

CPD is a personal commitment to keeping your professional knowledge and skills up to date. Most of you are probably already doing CPD on an informal basis, but by formally recording your learning you'll show that you're actively committed to developing your career.

What are the benefits of CPD?

- Show employers that greenkeepers are true professionals
- Show current and prospective employers that you are committed to continuing your learning and development beyond a minimum level
- Update and adapt skills on a regular basis
- Record of your learning
- Provide you with the skills to cope with change
- Increase your chances of career development

What counts towards CPD?

- National, Regional and Section Events Conferences, Workshops, Seminars
- Formal Qualifications NVQ's, HNC, HND, Foundation Degree, MSc
- On-the-job Training on new machinery, health and safety
- Presentations and Articles
- Online Learning
- Events run by the GCMA, CMAE, PGA and any other relevant body
- Night classes relevant to your job as a greenkeeper (IT, languages, science etc)

This list is not exhaustive; please contact the L&D Department for further details.

How do I join the BIGGA CPD Scheme?

- Complete a Registration Form available on the website www.bigga.org.uk/education
- Contact the L&D Department for a Registration Form
- Sign the CPD Register at an event (if available)

How much does it cost to join the CPD Scheme?

The CPD Scheme is Free of Charge to Full BIGGA Members thanks to the support of the Gold and Silver Key members' contributions to the Learning and Development Fund.

How many credits do I have to claim and in what time period?

To receive your Certificate of Continuing Professional Development you need to gain 10 CPD credits between 1 July and 30 June each year.

How do I claim CPD Credits?

• Sign the event register (if available)

• Complete a CPD Credits Claim Form and have it signed by the event organiser or lecturer

What do I get for my CPD Credits?

When you accumulate 10 or more Credits within the CPD Year (July 1 to June 30) you will receive a Certificate of Continuing Professional Development. If you receive 5 consecutive CPD Certificates you will receive a Diploma of Continuing Professional Development. CPD Diplomas are awarded at Harrogate Week each year.

If you have any further questions about the CPD scheme, please contact either Rachael or Sami in the Learning and Development Department on 01347 833800 and select Option 3.

DECOMPANY OF CONTROLLED The latest products on the market reviewed

RESCUE ME!

Rescue is a new highly selective herbicide from Syngenta which removes Ryegrass and some other coarse weed grasses, while leaving fine turf grasses unaffected.

Launched at St Andrews last month Rescue is approved for the control of weed Ryegrass on all areas of the course, including greens, green surrounds, tees, fairways and roughs. The product has been extensively trialled by greenkeepers across the UK over the past two years - successfully controlling Ryegrass and other coarse grass weeds on links, heathland and parkland courses.

Syngenta UK Turf Manager, Simon Elsworth, explained that Rescue solves the previously intractable problem of invasive Ryegrass, which can ruin the consistent playability of fine turf greens and the visual appearance of fairways.

"Now they have the opportunity to quickly and effectively reduce the damaging effects of clumpy Ryegrass. Rescue is an entirely new class of selective herbicide chemistry for the turf sector, with UK golf Course Managers the first in the World to be able to use it," he said.

"The Rescue Programme has been created drawing on the



experience of on-course trials by Course Managers. They have identified the best and most reliable control can be achieved starting the Programme in the autumn, typically in September to October.

This targets actively growing weed grasses and gives time for over sown seedlings to establish," said Syngenta UK Technical Manager, Dr Simon Watson.

"Programmes can also be started in the spring - from April to June - to minimise summer growth of Ryegrass and weaken plants, making them more susceptible to a follow up autumn application.

Rescue is approved for up to two applications per season, at a rate of 1 l/ha in the autumn or 1 - 1.33 l/ha in spring and can be applied by conventional golf course sprayers, pedestrian sprayers or knapsack.

To help turf managers get the best possible results with the Rescue Programme, Syngenta has produced a range of support tools and information, including a novel Grass Identification Guide – which uniquely focuses on identifying grasses in a tightly mown sward situation typically encountered on the golf course.

Other tools include a presentation kit to help explain to the Green Committee why treatment is required and a Clubhouse poster to explain to members what they will see after treatment.

• www.greencast.co.uk

