Existing System - Summary Of Problems

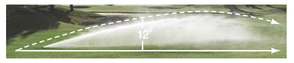
- Poor system hydraulics: Pump station at one end of site and small pipes at far end is resulting in low pressure and long run time to complete irrigation cycle.. System has to run during day-time hours to complete a cycle and apply adequate amounts water
- Old impact-driven sprinklers; unreliable and high-maintenance
- Full-circle sprinklers on fairways waste water into rough
- Excessive sprinkler spacing is resulting in poor uniformity of application especially in windy conditions
- Block-operated sprinklers afford no precision of control
- All tees (Ladies, Mens, Medal) are operated by the same valve so there is no independent control of tee watering despite different size and requirements
- Crude irrigation controller does not allow for efficient, precise management of water or scheduling of irrigation

Proposed New System

- Improved system hydraulics. Central location of pumping plant for optimised system hydraulics giving sufficient pressure for optimal sprinkler performance and sufficient capacity to complete a full irrigation cycle within 9 hours.
- PC-based control system with weather station for precise scheduling of irrigation
- Gear-driven sprinklers with large droplet size and low trajectory nozzles (where applicable) for performance in windy conditions
- Valve-in-head sprinklers on greens, approaches & fairways for precise targeting of water
- Individual solenoid valve for each tee to give independent tee control
- Part-circle sprinklers located on edge of semi-rough to avoid overthrow and improve efficiency
- Selected high-traffic areas, carries, surrounds and walk-offs irrigated
- Spare capacity available for greens staff to add irrigation to bunker mounds as they are renovated
- Head-to-head sprinkler spacing for uniform coverage
- Pipe network of looped sub-mains for hydraulic optimisation and flexibility of operation

Pipes and cables to be installed by vibratory mole-plough to avoid disruption to golf course

Use of low trajectory nozzles with large droplet size for performance in windy conditions



Standard trajectory 25°,
low angle nozzles 12-15° depending on manufacturer

LEGEND

	Pumping Plant
	Tank
	Ø160mm PE100 SDR17
	Ø90mm PE100 SDR17
	Ø90mm PE100 SDR17
	Ø63mm PE100 SDR17
	Ø32-50mm PE100 SDR17
	Ø110-90mm Existing PE pipe
	"Pipe-hop" - pipe cross but are not connected
	Main isolation valve 4" - DN100
	Main isolation valve 3" - DN80
	Sub-main isolation valve - twin
	Sub-main isolation valve - single
	Solenoid valve assembly - single
	Solenoid valve assembly - double
	Solenoid valve assembly - triple
	Block-operated sprinkler: 7-14m
	Valve-in-head sprinkler: 17-20m
	Valve-in-head sprinkler: 28m
	Control PC
	Weather station

Client: Royal West Norfolk Golf Club

Project: Irrigation

Drawing Title: Concept Design

Notes:
This is merely a concept design and is not to be used for the purposes of tendering or construction.

Drawn by	Date	Scale	Drawing No.	Rev. No.
GW	03.08.11	1:2,500	622_C	A

IrriPlan®
consulting engineers
Irrigation Drainage Water Supply Reservoirs
Irriplan Limited, Shackerdale Farm, NOTTS. NG15 8JB. UK.
www.irriplan.net

Glossary of terms

"Head-to-head": when sprinkler spacing is the same as the radius of throw of the sprinkler.

"Valve-in-head" sprinkler: A sprinkler with an integral solenoid valve to facilitate individual operation of each sprinkler.

"Block-system": A system whereby a group or "block" of sprinklers are operated by a common solenoid valve.