

field of the year

# STMA Complex of the Year is a "Surprise"

## Joe Kennedy III is winning turf manager

**N**estled 40 miles northwest of Phoenix is one of the fastest growing communities in the state, Surprise. Its Surprise Recreation Campus, a 170-acre, \$73 million gem of recreational amenities, includes a 37 acre community park with a 5 acre lake, stocked for fishing; 13,500 square foot recreation center; 23,000 square foot library; \$4 million dollar aquatics center; and the centerpiece, Surprise Stadium and its surrounding baseball features. This baseball complex is the spring training home and player development facility for both the Kansas City Royals and Texas Rangers.

### Irrigation system

The irrigation system was designed to accommodate the ever-increasing demand on potable water in the Southwest. We currently use non-potable water that fills our 5-acre lake. The system was designed to give the ability to use non-potable, potable, effluent, or a blend. The water is drawn from a 24-inch inlet with two 30-hp pumps. This has the ability to provide 1500 gallons/minute. A 10-inch mainline loop supplies the water from the pump house around the Recreation Campus.

Each field then has a 3-inch mainline loop that provides water to 12 2-inch valves. Each field has a 3-inch master valve and the ability to isolate any of the 12 valves and still supply water to the rest of the field. Each playing field is equipped with an average of 90 sprinkler heads and (10) 1 1/2-inch quick couplers.

We are a Hunter Irrigation facility with the following components:

- \*Genesis III Computer Central system, hand-held radio capability
- \* Campbell Scientific Weather station; 16 Genesis 60 station controllers
- \* 17 Master valves; 18 Flow meters
- \* 483 isolation valves; 353 automated scrubber valves
- \* 185 quick couplers; 2,268 sprinkler heads
- \* 73,000 total linear feet of sprinkler irrigation pipe
- Sub-grade drainage systems

The Stadium field is a sand-based soil system. This is a USGA sand/peat blended field, with organic material added to the soil profile. The drainage system includes the standard

extensive subsurface drainage system with a pump located approximately 30 feet beyond the left field foul pole. The field is gravity-drained into a pit, and then excess water within the stadium can then be pumped into a retention area on the west side of the facility approximately 440 yards away.

The Major League practice fields with a percolation rate of 12-18 inches per hour are designed similarly a geotextile layer separates the old sub-grade from the new sub-grade. Four- and six-inch drain tiles 20 feet on center run through the 4-inch gravel layer and connect into a dry well outside of the center field fence. The central tile is equipped with flapper-style backflow valve to prevent backup onto the field during a flooding situation. The gravel layer is topped with 10 inches of USGA sand/peat blended sand. The minor league practice fields with a percolation rate of 18-20 inches per hour are similar with the only differences being an 8-inch sand cap with a larger gradation of sand and no peat mix.

### Maintenance issues

The playing fields were designed to handle the high pH and salt content of the water used for irrigation by allowing us to easily flush the fields. This combined





with a demanding schedule of events contributed to serious maintenance issues. The sand based fields provided us with little or no organics this combined with the inability to retain moisture and nutrients made us an unhealthy turf environment, the perfect target for drought, fungus, and stress related disease. We discovered that the plant was unable to uptake the nutrients from our granular fertilizer applications due to the high filtration rate of the soil profile. Our soil analysis showed us "poor" growing conditions while our drywells were abundantly fertile. We have since concentrated on our microbial environment and with the help of a fertigation system and foliar applications we have improved our organic profile.

#### Maintenance Program

##### Fertilization (Granular)

- \* 10-2-8 Organic (Nature Safe)- once every 6-8 weeks (Jan-March)
- \* 8-3-5 Organic (Nature Safe)- once every 6-8 weeks (April- September)
- \* 5-6-6 Organic (Nature Safe)- once every 6-8 weeks (Oct- Dec)

##### Fertilization (Liquid)

- \* Bi-weekly program - carbohydrates, complete amino acids, mature proteins, Micronutrients, biostimulants, and humic acid.
- \* Liquid Organic fertilizer blended according to soil and tissue analysis for N-P-K and minor nutrients
- \* Foliar applications of iron and urea as needed through winter season.
- \* N-phuric acid to aid in pH control.

##### Weed Control

- \* Barricade pre-emergent for POA control.
- \* Post-emergent for broadleaf weeds
- Fungicide/Insecticides
- \* Preventive applications February through October, curative applications when disease is present - fungicides used vary with season, matched to degree of potential susceptibility
- \* As needed if insects present

##### Wetting Agent

- \* Used to aid water efficient for irrigation, overseeding germination, and syringing

##### Mowing

- \* Height of cut maintained at 7/8 " - 1" Through Spring Training Season, 5/8" through the summer months.

- \* Frequency - every day during Spring Training Season, every other day through out the rest of the year.

##### Aerification

- \* Core - once in spring, twice in fall, if possible - drag in cores and top dress 1/16-inch

- \* Slice - each month during playing season - topdress if possible

##### Infield Maintenance

- \* Incorporate 50 lbs. raw Stabilizer

in the top 4-inches of infield using tiller in December. Use laser level on the infield, roll with 5-ton roller

\* Spike drag once daily and compact infield with laser gannon and roller every day during 45 game spring training season.

\* Spike drag every day and Re-level infield once every quarter throughout the rest of the year.

# Durability. Reliability. Performance.

## Ultimate Family Traits.





5500



7005



8005

### Install Confidence. Install Rain Bird® Commercial Rotors.

Built to withstand the harsh conditions and vandalism often associated with commercial applications, this Rain Bird rotor family has been designed and tested to consistently deliver a level of satisfaction that's unmatched.

**Durability**—Commercial-grade construction minimizes downtime and reduces replacement costs.

**Reliability**—Tamper-resistant trip mechanism with Memory Arc® returns rotor to original arc setting; non-strippable drive mechanism and brass reinforced nozzle turret-to-riser connection provide enhanced protection from vandalism and side-impacts.

**Performance**—Exclusive Rain Curtain™ Nozzle Technology produces larger water droplets that are far less susceptible to wind, effective close-in watering around the head eliminates dry spots, and even distribution over the entire radius of throw assures superior green grass results.

For additional information see your Rain Bird distributor, or visit [www.rainbird.com](http://www.rainbird.com).



Circle 148 on card or [www.oners.ims.ca/5060-148](http://www.oners.ims.ca/5060-148)



## Striping Made Easy



Eco-Liner II

### ...With Newstripe Eco-Liners

- Easiest cleaning machines on the market
- Pump paint directly from 5 gallon pails
  - Gas or Battery powered units
- Bi-Directional spray heads make bright lines in just one pass
  - Continuous Paint Agitation
  - Will not damage turf or roots



NewRider 2000

### ...NewRiders

- 30 & 55 gallon models
- Built in purge systems
- Bi-Directional spray heads
- 5 speed & hydrostatic drives

## Field Maintenance



Dirt Doctor

- Nail Drags
- Drag Mats
- ProLine Field Layout System
- Dirt Doctor Infield Groomer 4' & 6' Models
- 3 pt. Hitch or Tow

**NEWSTRIPE**  
INC.

1700 Jasper St., #F  
Aurora, CO 80011

[www.newstripe.com](http://www.newstripe.com)  
**1 800-624-6706**

Circle 150 on card or [www.oners.ims.ca/5060-150](http://www.oners.ims.ca/5060-150)

## field of the year



- \* Cover with 1/4-inch soil conditioner
- \* Screen infield with nail drags and drag mats for pre-game preparations
- \* 3rd & 6th inning drags using 5-2-foot by 8-foot stiff mat drags and change bases each time.
- \* Rake and sweep out edges after each game use power broom if necessary.
- \* Blow out edges with hose once a month.
- \* Edge field every other week.
- \* Mound and Homeplate Maintenance
- \* Recondition mounds and homeplates to MLB specs every quarter.
- \* Remove daily excess clay, clean, and replace with Hilltopper clay and compact. Broom finish.
- \* Add soil conditioner if needed.
- \* Clean off excess clay and soil conditioner every week and replace with new.
- \* Re-level homeplate area with laser gannon every week during season and as needed throughout the rest of the year.
- Miscellaneous
- \* Conduct water analysis twice per year and soil and

- tissue analysis quarterly
- \* Overseed in fall using 34,000 pounds Chaparral perennial ryegrass seed
- \* Pre-germinate seed during Spring Training season for use as needed
- \* Use practice fields as sod farms as needed.

### Surprise Recreation Campus

- Notable details
- \* Both the clubhouse entrances and batting cages sit on the main concourse
- \* Below-grade playing field offers arriving fans a view straight to the outfield
- \* Outfield clubhouses provide direct access to the stadium by tunnel
- \* Jumbotron used for movie nights in the off-season
- Site
- \* 124 acres
- \* 7 practice fields with lights
- \* 5 practice fields without lights
- \* 8 acres of multipurpose soccer/football fields w/ lights







- \* 2 football fields (used for agilities)
- \* 1 bunting field (artificial turf)
- \* 2 outfield clubhouses
- \* 8 covered batting tunnels
- \* 8 open batting tunnels
- \* 32 pitching practice mounds and homeplates
- \* Library, aquatic center, five-acre lake
- \* 1,000 paved parking spaces
- \* 800 grass parking spaces

**Dimensions**

- Total Square Feet: 516,399 square feet
- \* Ballpark: 409,292 square feet
- \* Royals Clubhouse: 53,569 square feet
- \* Rangers Clubhouse: 53,538 square feet
- \* 29-foot wide main concourse

**Ballpark capacity**

- 10,500 seats
  - \* 7,000 lower bowl armchairs
  - \* 3,000 lower bowl outfield berm seats
  - \* 500 upper deck seats with 2 adjoining
  - \* Party decks including 6 private suites
- Ballpark amenities, including clubhouses**
- \* 40 restrooms (140 toilets, 134 lavatories)
  - \* 24 concession points-of-sale in ballpark
  - \* 8 concession points-of-sale in center field
  - \* 1,000 square feet of retail

**Ballpark materials**

- \* 12,756 cubic yards of concrete
- \* 580 tons of steel
- \* 1.5 million square feet of sod

- \* 155,000 Linear Feet of field drainage pipe
  - \* 65,000 tons of root zone sand
  - \* 9,750 total tons of pea gravel
  - \* 5,200 tons of Stabilizer infield mix
  - \* 525 tons of Hilltopper mound clay
  - \* 5,900 tons of warning track mix
  - \* 38 total acres of sports related turf areas
  - \* 17.57 total acres of common turf areas, "non-athletic use turf"
  - \* 45.94 acres of decomposed granite landscape area
  - \* 847 shrubs
  - \* 853 trees
  - \* 347,600-gallon swimming pool w/ 2 water slides and play structures
- Playing field**
- \* Bull's-eye Bermuda grass
  - \* Left Field Line: 350 feet
  - \* Left Field Power Alley: 379 feet
  - \* Center Field: 400 feet
  - \* Right Field Line: 350 feet
  - \* Right Field Power Alley: 379 feet
  - \* Fence: 8 feet

**Project team**

- \* Ballpark Architect: HOK Sport
- \* Design Build Entity: Barton Mallow, HOK Design Build **ST**

*This information edited from materials submitted to STMA by Joe Kennedy III, Surprise Recreation Campus.*

## You're Always Ahead of the Game with a COVERMASTER®

**"Excellent Quality.. Competitive Prices..."**

wrote **Johnson Bowie**, Associate AD, **Drexel University**, Philadelphia, PA

Johnson's comments confirm what we hear from the many groundskeepers who use a COVERMASTER® raincover to keep their fields dry and ready for play. Call us and we'll gladly tell you more.

### The COVERMASTER® Advantage...

- Superior in strength and UV resistance
- Outstanding heat reflective properties
- Light weight - easy to handle
- Widest materials for least number of seams
- Largest choice of weights and colors
- Backed by truly dependable warranties

### TARP MACHINE VIDEO!

Call, fax or e-mail for a free video, material samples and a brochure.



Covers for football and soccer fields are also readily available.



TARP MACHINE™ lets you roll the cover on and off in minutes.



TARPMATE™ roller comes in 3 lengths with safety end caps.

**COVERMASTER™**  
**COVERMASTER**  
**COVERMASTER**

MASTERS IN THE ART OF SPORTS SURFACE COVERS

**CALL TOLL FREE**  
**1-800-387-5808**

**covermaster.com**

E-MAIL: [info@covermaster.com](mailto:info@covermaster.com)

COVERMASTER INC., 100 WESTMORE DR. 11-D, REXDALE, ON, M9V 5C3 TEL 416-745-1811 FAX 416-742-6837

Circle 155 on card or [www.oners.ims.ca/5060-155](http://www.oners.ims.ca/5060-155)

