Cedar Pond Recreation Area Improvements

Amenities

- **Town Playground**
- **Town Beach**
- **Athletic Courts**
- **Public Pavilion**

Programs

- **Summer Rec Program**
- **Outdoor Classes**
- **Girl Scout Meeting Location**
- **Cheer Practice**
- **Pickleball**
- **Young Adult Leagues**

Fields in Sturbridge

Town Controlled:

Town Barn, 3 New Boston Rd Ext.

- 1 Softball Field (Outfield used for Soccer, LAX, TY Football & Cheer)
- 1 Little League Baseball

Turners Field, 529 Main St

- 1 Legion Sized (JR/SR Baseball, 15-19 yr olds) and hosts Adult Leagues

  (Outfield used for LAX, TY Football & Cheer practice)

The Town of Sturbridge does not own or control one regulation sized multipurpose field.

Youth Soccer, Football, Cheer, and Lacrosse do NOT have a home field and must out source for all games and majority of practices.

Out of Recreation's Control, District Fields:

Burgess Elementary:

- 2 Softball Fields
- 2 Little League Fields

Tantasqua Junior High:

- 2 Multipurpose
- 1 Softball
- 1 Little League

Tantasqua High School:

- 1 Softball
- 4 Multipurpose

A. Rt 148 Field (JV/V LAX, JV Soccer)

B. Stadium (JV/V Football, Track, V Soccer)

C. The Cage (JV/V Lax, JV Soccer)

D. William Emrich Field (JV/V Baseball, Field Hockey)

Sports Teams in Numbers

Organization	Sturbridge Girls Softball	Sturbridge Rec Soccer	Youth Football & Cheer	Sturbridge Youth Basketball	Sturbridge Little Leagues	Legion Ball Leagues	Youth LAX
# of Participants	130	440	330	424	216	18	145
# of Teams	8	27	29	43	24	1	7
% of Sturbridge Participants	90%	100%	75%	100%	100%	100%	75%
Weekly Hours of Play	Plays 30 weekly, Town Barn, Games & Practices	Reserves 24 weekly, Town Barn, Practices	Plays 76 hours weekly, All Possible Locations, Games & Practices	(Indoor)	Reserves 42 hours weekly, Town Barn, 40 hours weekly at Turners	20 hours weekly at Turners	Reserves 20 hours weekly, Town Barn, Practices

Total Players: 1,703 Total Teams: 139

*Does not include Adult Baseball League (LBCBL, 11 Teams, Turners Field)

Recreation Area Discussions

2018 Recreation approached Sturbridge Board of Selectmen recognizing the need for Recreation Area Enhancements.

2019 Annual Town Meeting received funding to perform a study for the expansion of the existing recreation facility at 60 Cedar Street with the hope to design a multipurpose field and parking.

With these funds Recreation hired McClure Engineers and JCLA Design Team and began design of the field. This design led us to the need of broader improvements for the full Recreation Site.

Improvements needed

- As wonderful as our Cedar Recreation Area may be, the facility requires accessibility upgrades.
- There is no ADA compliant parking or pathways on site. There are no sidewalks or crosswalks throughout the Recreation Area.
- Current parking along roadways and grass is not safe for Rec Area attendees or passing traffic. Safe, controlled parking is needed for this public park and all programs.
- There is no waterfront ADA compliant accessibility
- The Town Playground requires an upgrade for ADA and safety measures
- As an existing Recreation Area, there is significant room for amenity improvements as well

Cedar Pond Road Recreation Area Improvements

- Design Team:

- Pete Engle P.E.
- McClure Engineering
- Charlton MA.

- Joe Coan, RLA
- Joseph Coan Landscape Architecture Sturbridge MA.

McCLURE
ENGINEERING, INC

JCLA
JOSEPH COAN LANDSCAPE ARCHITECTURE

Brief Comparison of Natural Turf vs. Synthetic Turf Fields

Health & Environmental Studies of Synthetic Turf Field Components

Cedar Lake Recreation Area Concept Plans

- Current Concept
- Ongoing Design Elements
- Lighting Concept

Field Construction Process

Questions & Comments

Why Choose Synthetic Turf Over A Natural Turf Field?

Field Design Goals:

Player Safety

Maximize Useability

Maintenance and Environmental Concerns

Aerial images from Google Earth 2021

Why Choose Synthetic Turf Over A Natural Turf Field?

Player Safety

Natural turf fields at the recreation through high school levels are typically overused leading to degradation which leads to safety issues.

Injury considerations: 2 Main types field designers consider:

- Body and head impact with playing surface
- Rotational and bio-mechanical injuries (ankle, knees, etc.) caused by shoe-surface interface.

Natural Turf Field-Weather is main factor.

- Rain/mud, quality of grass cover, etc. effect shoe-surface interface which leads to rotational injuries.
- Field compaction from overuse, cold weather/frost effect impact injuries.
- Other considerations include: Dust, Pesticides/Fertilizers, turf height, animals such as geese.

Synthetic turf fields have consistent carpet, infill, and base material. They drain immediately, do not freeze, or degrade due to overuse.

Synthetic fields are held to industry standards for safety and playability and require testing upon initial installation and throughout the life of the field. Standards include:

- HIC (Head Injury Criterion) ASTM F1292
- Gmax (Ratio of max. acceleration experienced during impact vs. normal rate of acceleration due to gravity) ASTM F355 & F1936

https://plantscience.psu.edu/research/centers/ssrc/research/synthetic-turf-research-penn-state

Why Choose Synthetic Turf Over A Natural Turf Field?

Maximize Useability

Natural Turf

- Natural turf fields can be used roughly 200 events (practice/games) per year. A field's season occurs from when it dries out in the spring to when the frost comes in late fall. Weather can render fields unplayable after heavy rain events during the season.
- Fields are closed for aeriation, mowing, fertilizer applications
- Fields are supposed to "rest" in-between uses.
- Damage to turf requires longer rest for re-establishment.
- Upon initial installation, the turf needs 1-2 years for the grass to grow in.

Synthetic Turf

- Synthetic Turf fields can be used as soon as the snow melts in the spring.
- Typical field usage is upward of 700 events per year.
- No rest required
- Field drains immediately and is playable as soon as a rain event is over.
- Field will not become hard due to frost.

Why Choose Synthetic Turf Over A Natural Turf Field?

Maintenance & Environmental Concerns

Natural Turf Maintenance

- Requires mowing weekly
- Requires aeration and fertilizers
- Irrigation
- Turf repairs and reseeding

Synthetic Turf Maintenance

- Brush every 100 hours of use
- De-compact once a year as necessary
- Requires top-dressing infill approximately every 1-2 years.

Benefits

- Groundwater recharge: field is designed to infiltrate a 100-yr. storm event
- No irrigation-saves approximately 50,000 gallons of water per year.
- No fertilizer (no nitrogen or phosphorus entering groundwater)
- End of life considerations: Field carpet is 100% recyclable, geo-fill infill is compostable.

Health and Environmental concerns of synthetic field components

MA Department of Public Health, Needham, 2011 & 2013: The town of Needham contracted with an environmental testing firm to conduct tests including air measurements of VOC's and heavy metals. Their review and conclusions for the testing did not indicate exposures of health concern.

Haley & Aldrich, 2015: Four years quarterly monitoring at the Fenn School confirms that there is no credible evidence to suggest that either new or weathering synthetic turf results in metals and organic compounds in the groundwater at concentrations above the safe drinking water standard.

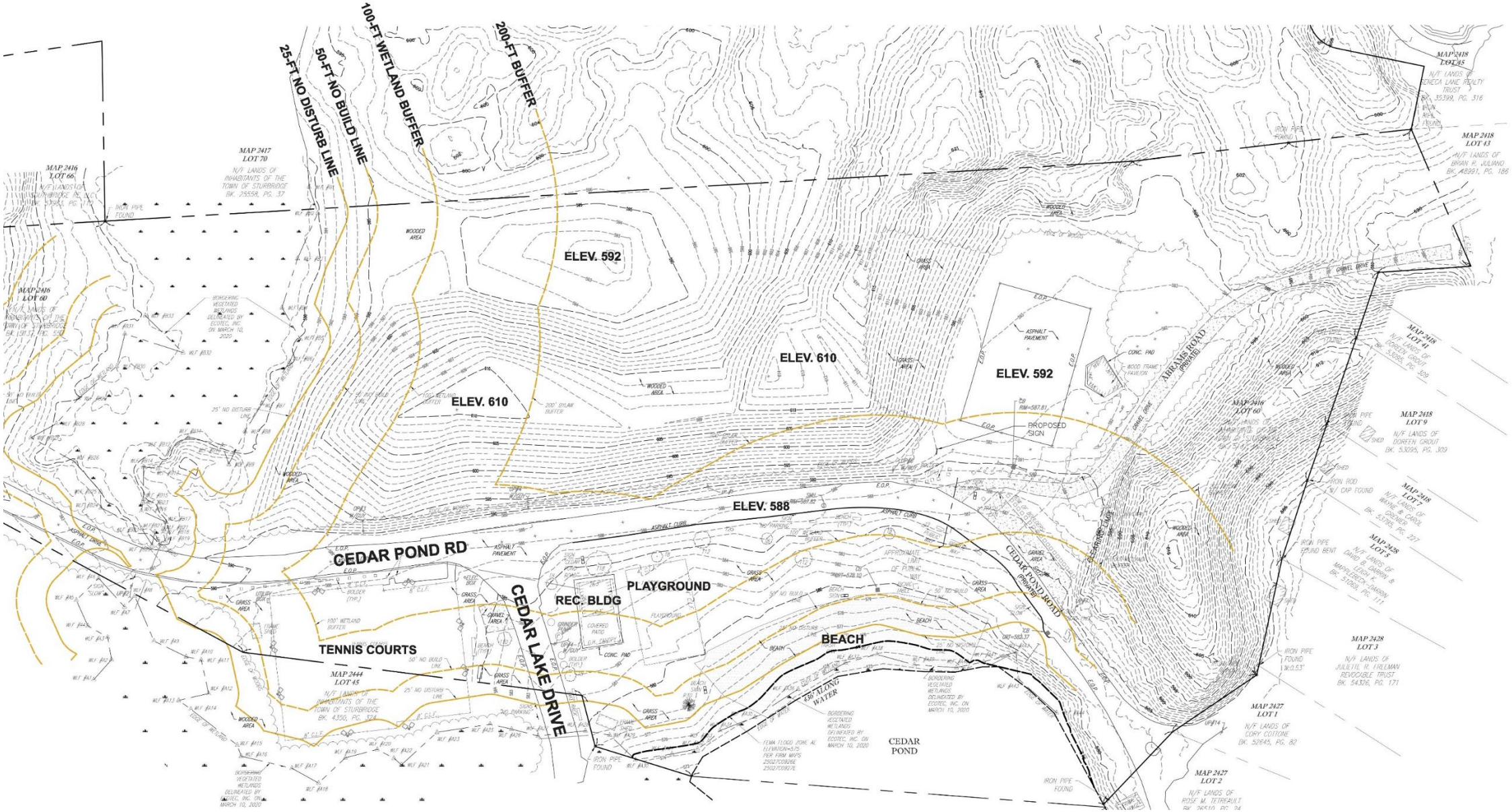
Rutgers Robert Wood Johnson Medical School, New Jersey, 2014:A study was conducted that simulated body fluids and their ability to be transmitted and absorbed into the body. Researchers found that PAHs and SVOCs were below the detectable limit, thus posing no health risk.

PFAS (perfluoroalkyl and polyfluoroalkyl substances) chemicals are found in synthetic turf carpets however current industry standard is to recycle the carpets thus preventing the chemicals from entering the groundwater as they might if the carpet was disposed in a landfill. More research is being done currently concerning PFAS.

All manufacturers are required to certify that the synthetic turf products are lead free.

Other concerns typically stem from the use of crumb rubber infill material which is not being recommended for this project.

EXISTING CONDITIONS SURVEY



EXISTING CONDITIONS SURVEY

DESIGN ELEMENTS

- SYNTHETIC TURF MULTI-PURPOSE FIELD
- 2.25” PILE HEIGHT, GEOFILL INFILL, SHOCKPAD
- 10-FT HIGH PERIMETER FENCE, BALL NETTING
- FIELD LIGHTING WITH LED FIXTURES
- SPECTATOR AREAS
- ACCESSIBLE WALKWAYS
- PARKING LOT
- RAIN GARDEN

CURRENT CONCEPT PLAN

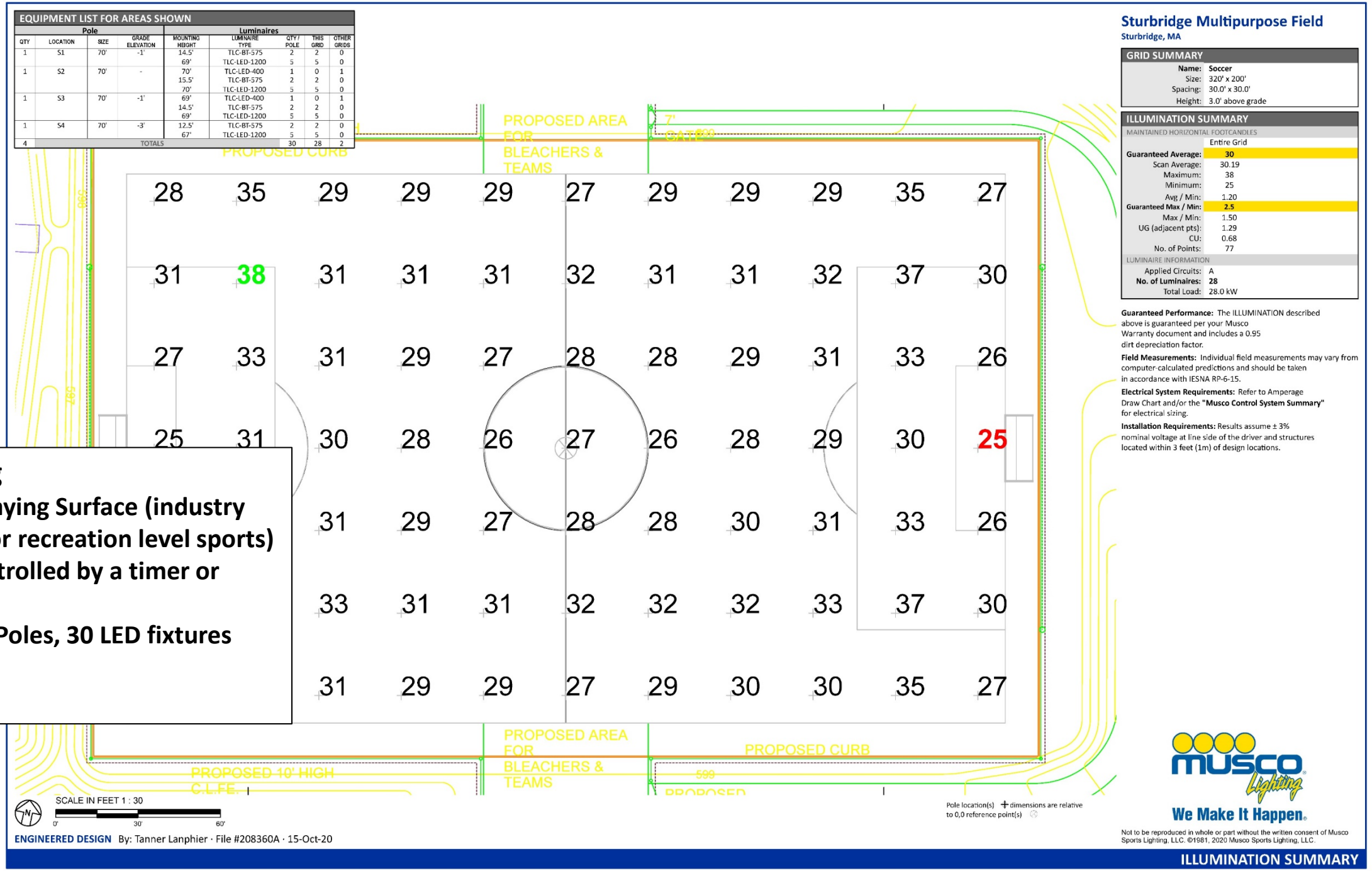
ONGOING DESIGN ELEMENTS

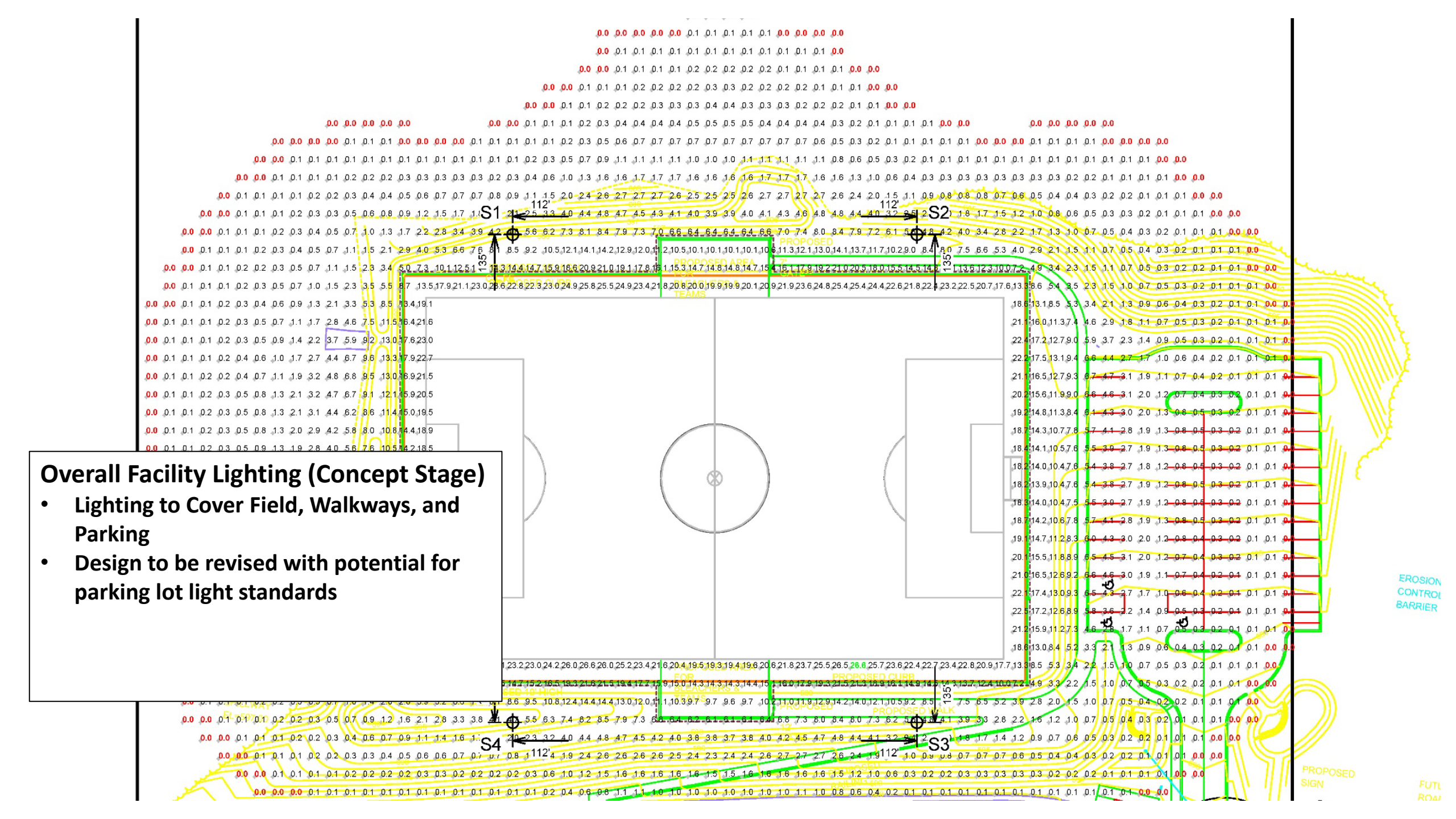
- ROADWAY IMPROVEMENTS
- ROUNDABOUT
- SIDEWALK IMPROVEMENTS
- PARKING LOT LIGHTING
- SITE AMMENITIES

ONGOING DESIGN ELEMENTS

Field Lighting

- **30FC on Playing Surface (industry standard for recreation level sports)**
- **Can be controlled by a timer or manually**
- **Four 70-Ft Poles, 30 LED fixtures**



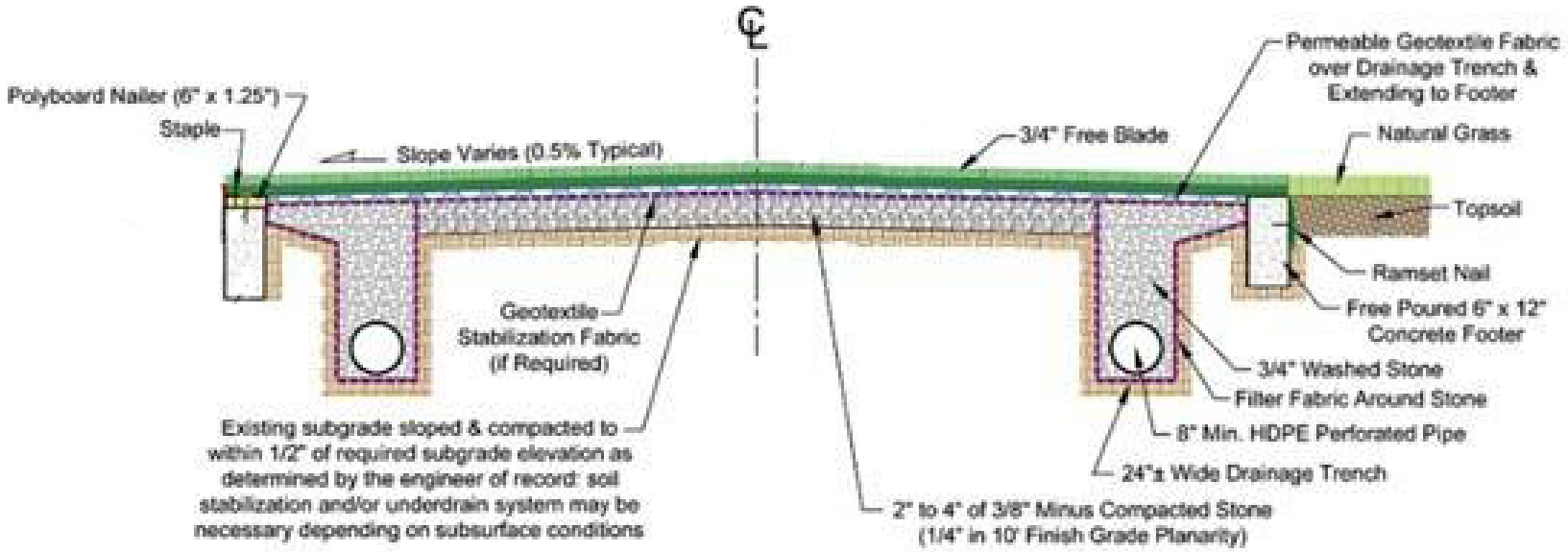


Overall Facility Lighting (Concept Stage)

- Lighting to Cover Field, Walkways, and Parking
- Design to be revised with potential for parking lot light standards

Basic Field Construction Process:

- Topsoil is removed to subgrade elevations.
- Concrete anchor curb is installed around the perimeter of the field.
- Lateral drains are installed and covered with geotextile.
- Subgrade is installed and graded to .5%
- Flat panel drainage pipe is installed every 25-30 feet
- Open graded stone is installed, and laser graded to .5% with a crown down the middle of the field
- Shock pad is installed
- Turf carpet is rolled out and attached to turf anchor curb
- Infill is installed and brushed into the tur
- Field is tested



Project Cost

TOTAL CONSTRUCTION RELATED PROJECT COSTS			60 Cedar St
HARD COST			
General Contractor			
	Base Construction Cost Estimate		$ 2,800,000
	Artifical Turf		$ 800,000
	ADA Improvements		$ 375,000
	Security System & Cameras		$ 30,000
	Electrical Phase 3 Upgrade for Field Lighting		$ 125,000
	Infrastructure Improvements		Other Funds
	Fiber Connection		Other Funds
Furniture, Fixtures & Equipment			
Site Furniture Installed (Benches, Trash Cans, Picnic Tables, etc)			$ 30,000
	Sun Shades (3)		$ 75,000
	Turf Maintenance Equipment		$ 40,000
Hard Cost Subtotal			**$ 4,275,000**
SOFT COST			
Permits & Approvals			
	Building Permit		waived by Town
	Peer Review of Site Plan & Traffic Submission		$ 5,000
Architecture & Engineering			
	Engineer (Additional field work not contracted)		$ 15,000
	Engineer (ADA)		$ 19,000
	Survey & Layout for Construction		$ 7,500
	Engineer for Infrastructure Improvements		Other Funds
Testing & Inspections			$ 5,000
Project Management			$ -
Advertising & Bidding, including Regulatory Hearings			$ 1,500
Legal	Contracts		ni
Other	Bonding Costs		ni
Soft Cost Subtotal			**$ 53,000**
CONTINGENCY			
	Owner's Contingency on Hard & Soft Costs	25%	**$ 1,082,000**
Project Total			**$ 5,410,000**

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How does this cost impact the average homeowner?

Please visit the Town Website, www.sturbridge.gov/recreation within the next several weeks for detailed information on the project cost to be brought forward.

This information will include an explanation on any financial contributions from CPC, if received.

Municipal Americans with Disabilities Act (ADA) Improvement Grant

Any additional applicable grants will be applied for once the Site Plan is completed and the project is grant ready.

ONGOING DESIGN ELEMENTS

- ROADWAY IMPROVEMENTS
- ROUNDABOUT
- SIDEWALK IMPROVEMENTS
- PARKING LOT LIGHTING
- SITE AMMENITIES

ONGOING DESIGN ELEMENTS