



AGENDA

Review Building Design & Security Features

Materials Choices

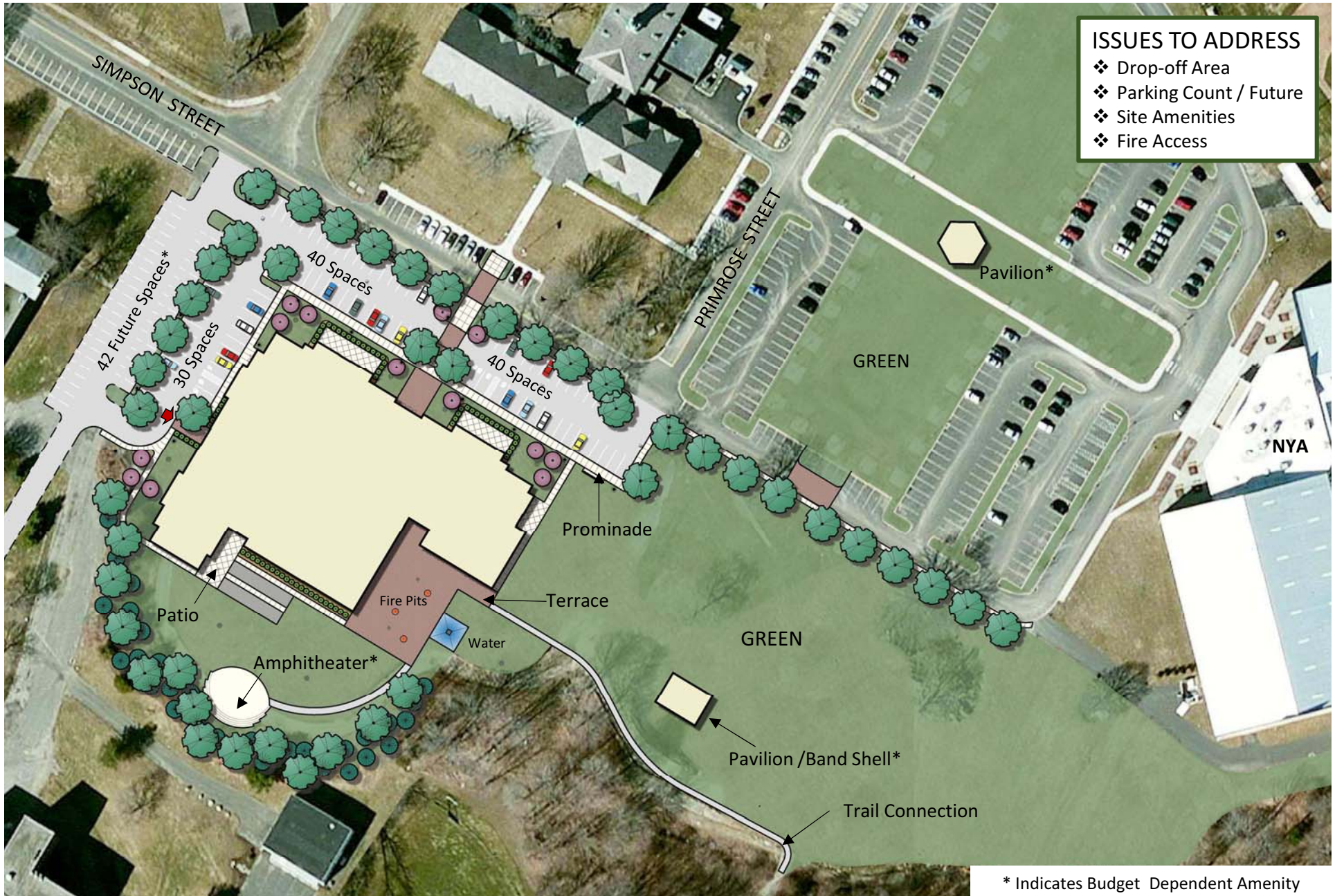
Pools Presentation/Update

Canaan Project Update

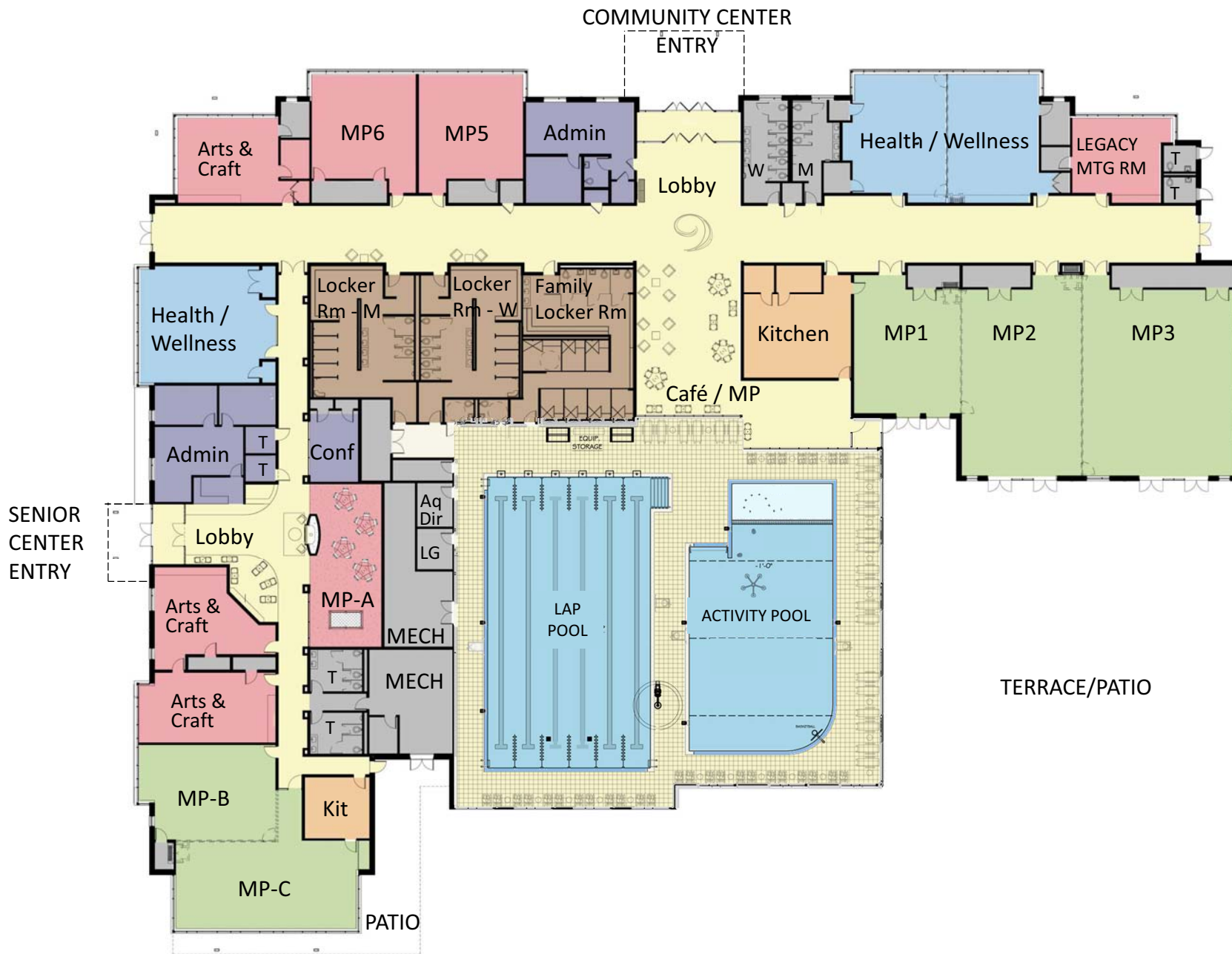


NEWTOWN COMMUNITY & SENIOR CENTER DESIGN DEVELOPMENT

ADVISORY COMMITTEE
June 9, 2017

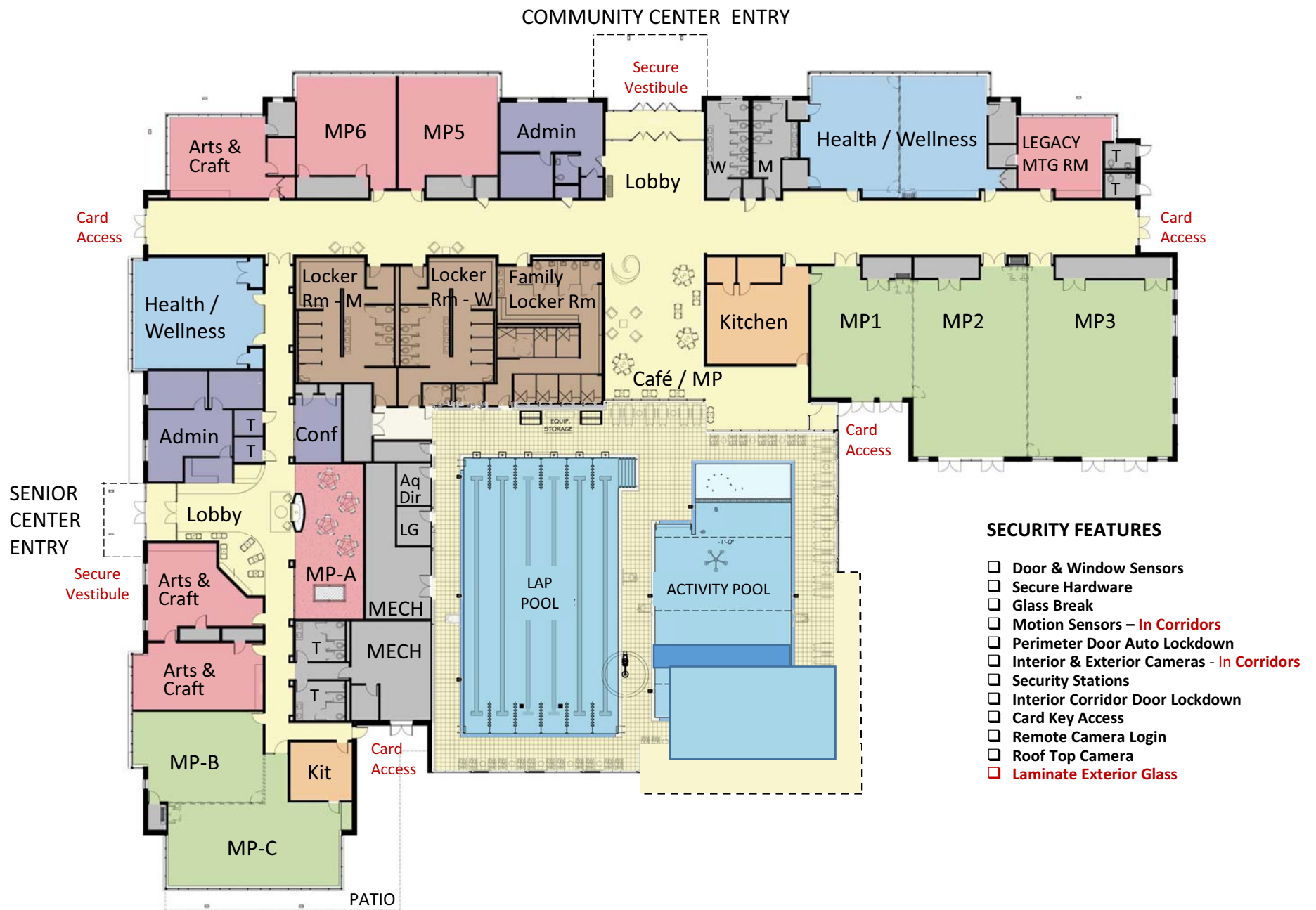


NEWTOWN COMMUNITY & SENIOR CENTER SITE MASTER PLAN



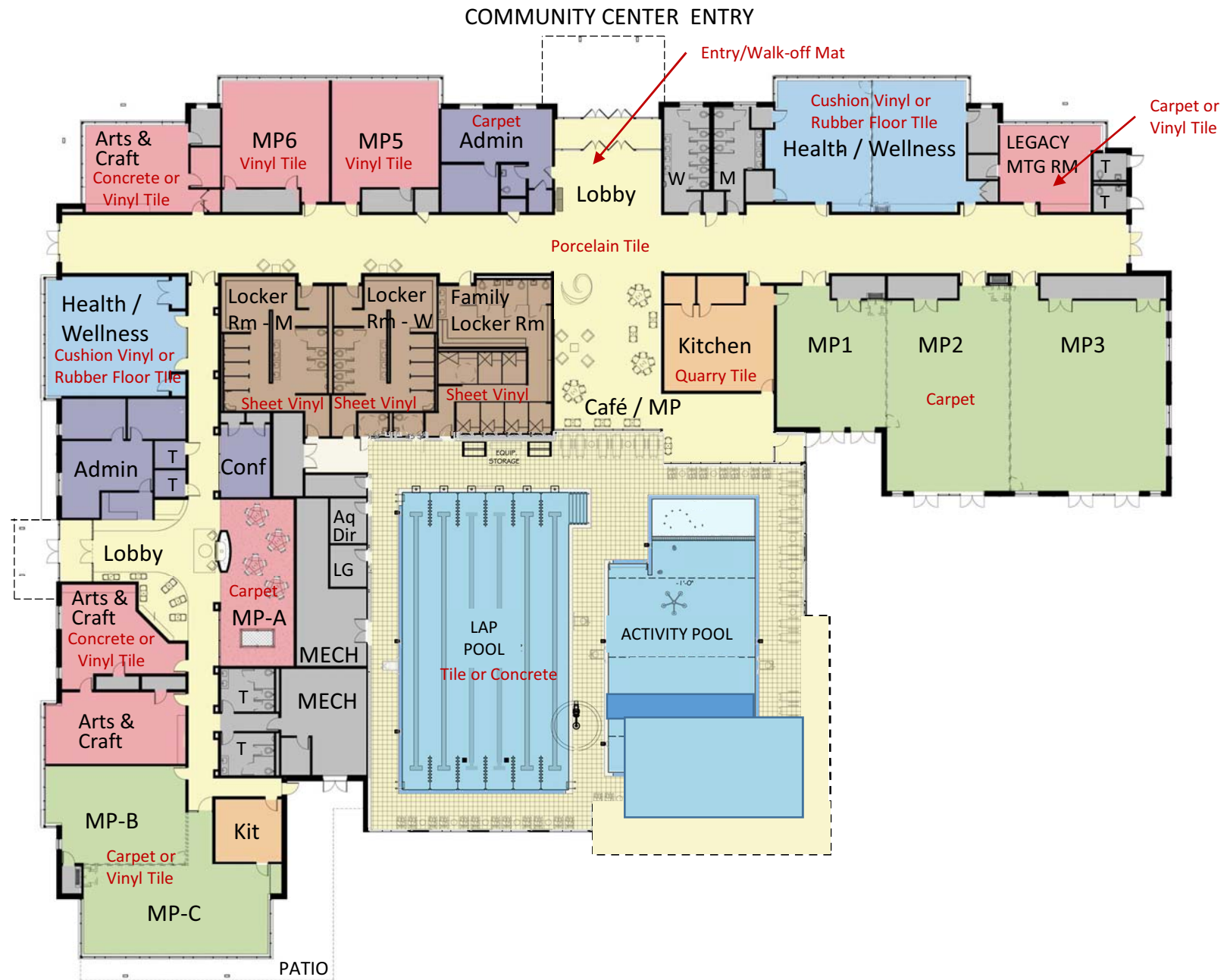
NEWTOWN COMMUNITY & SENIOR CENTER

BUILDING PLAN



NEWTOWN COMMUNITY & SENIOR CENTER

BUILDING SECURITY



NEWTOWN COMMUNITY & SENIOR CENTER

MATERIAL CHOICES



NEWTOWN CT PRELIMINARY POOL CONCEPTS

JUNE 2017





- Multi-disciplinary engineering firm that has been in existence for over 118 years serving primarily the municipal market
- We have over 460 employees in offices from Vermont to Florida, including Rocky Hill, CT.

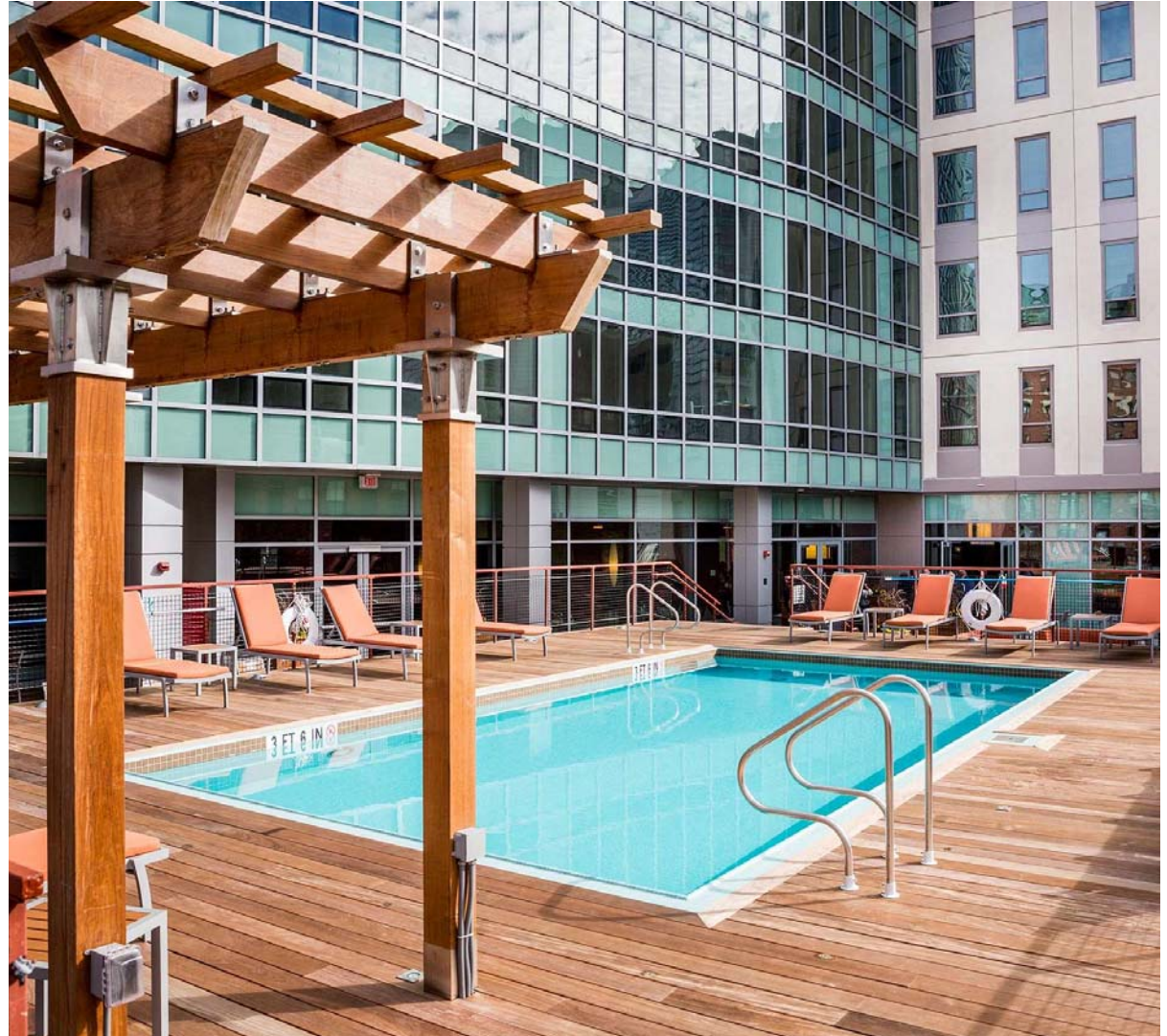
Creative staff of designers and engineers specializing in the design, engineering, and permitting of all types of aquatic design: pools, water parks, splash pads, water features, etc.

Our aquatics staff have been involved in the design and construction of over 600 pool and waterpark projects, including over 40 miles of waterslides, 100 wave pools, 135 lazy rivers, 80 play structures or decks, and 3000 indoor aquatic facilities.

Supported by our overall engineering staff as well as our CMR division, which specializes in the installation and CPO services for pools.

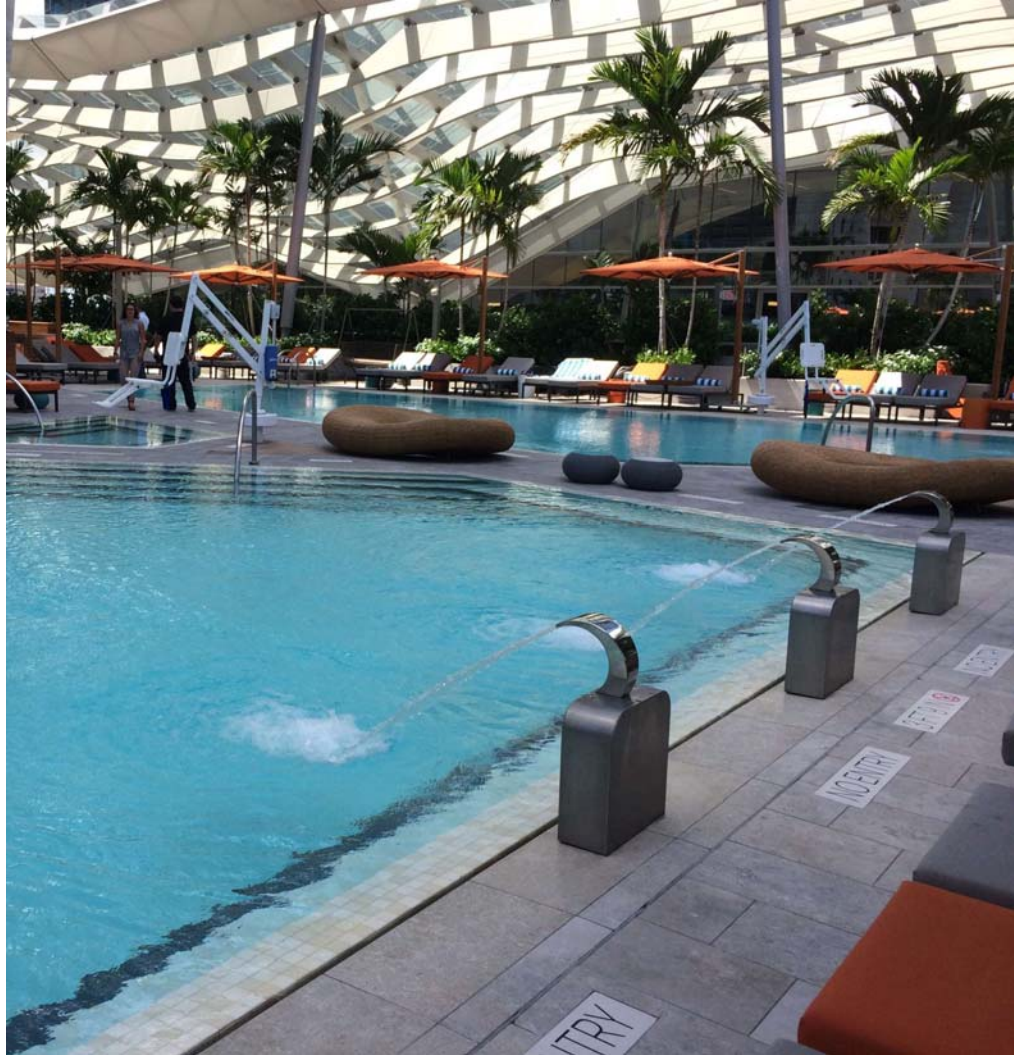


The Kensington
Luxury Apartments
Boston, Massachusetts



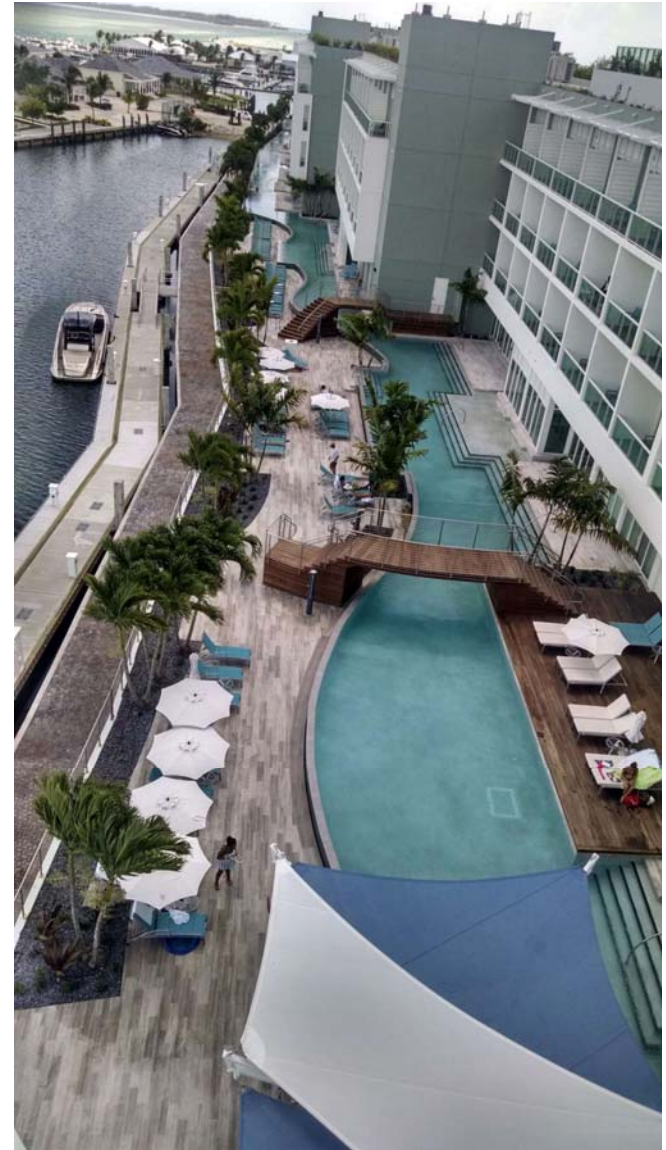


Brickell City Centre
East Tower Amenity Pools
Miami, FL





Resorts World Bimini
Amenity Pools
Bimini, Bahamas





Millennium Tower Condominium
Amenity Pool & Hot Tub
Boston, MA





Therapy Pools
Lambeau Field
Green Bay, Wisconsin



Therapy Pools
Bruins Warrior Arena
Boston, Massachusetts





Lake Compounce
Amusement Park
Bristol, Connecticut





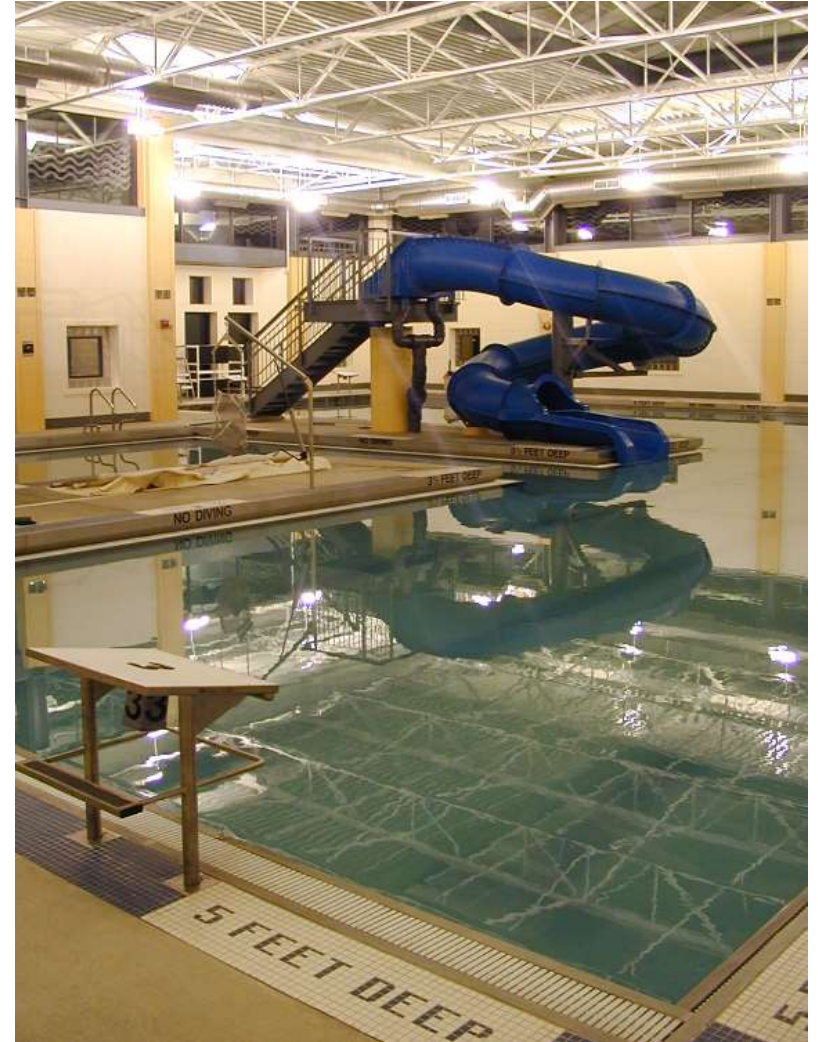
Water Country
Portsmouth, NH



Chelsea Piers CT
Stamford, Connecticut



Ridgefield Pool
Ridgefield, CT





Jewish Home for the Elderly
Bridgeport, Connecticut



Round Hill Aquatic Facility
Round Hill, Virginia





Crompton Park Pool
Worcester, MA





Rosendale Pool
Rosendale, NY



White's Park Pool
Rutland, VT



PROGRESS PHOTO



Byram Park Pool
Greenwich, CT

NEWTOWN COMMUNITY CENTER

POOL #1: LAP POOL



LAP SWIMMING



WATER AEROBICS



SWIM CLASSES



WATER POLO

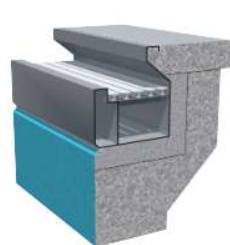


SCUBA CLASSES

Competition Pool compared to Recreational Lap Swimming Pool

Additional required components for competition pools:

- Spectator seating (significant architectural requirements)
- Competitor locker room and shower areas, ideally separated from day users
- Peak load system requirements to deal with maximized bather load; i.e. turn-over rate
- Starting blocks (could be in either scenario)
- Timing systems; touch pads, time display board, pace clocks, score board.
- Microphone/Speaker system
- Pool depth to conform to USA swimming requirements; 6'-7" depth for racing start, 4' depth for flip turns.
- Minimum lane width of 7', ideally 2.5 meters (8' 2-1/2")
- Racing flags over pool
- 100 foot candle illumination over entire pool
- Gutter profile



Semi-Recessed

Ideal for a wide range of teaching and recreation activities. Preferred by many instructors and coaches.



Fully Recessed

An ideal configuration for a serious competition facility requiring a fully vertical gutter face.

POOL #2: RECREATIONAL POOL



MIXED USES: LAZY RIVER, SPORTS, SEATING, OPEN AREA



BEACH ENTRY WITH SPRAY FEATURES



WATER SLIDES



BALANCE COURSE



CLIMBING WALL



WATER VOLLEYBALL



WATER BASKETBALL

**POOL
EQUIPMENT
CONSIDERATIONS**

Chlorine vs. Salt vs. Bromine

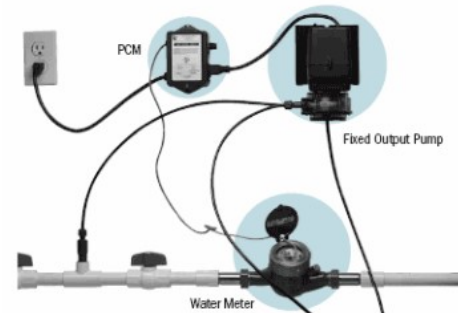
The primary chemical used in pools to kill bacteria is chlorine:

- Liquid/Tablet Chlorine: Sodium Hypochlorite
Least expensive and most widely used

Salt is different source of chlorine:

- NaCl: Sodium Chloride
broken apart using electrolysis
pH closer to human tears
More labor intensive. Salt must be added.
- Bromine: Sodium bromide
Supposedly softer on skin
Least used

PROPORTIONAL FEED SYSTEM INSTALLATION



cleanwaterstore.com



CHEMICAL TREATMENT



SAND FILTERS

How they work:

Water forced through sand media to filter out debris.

Advantages:

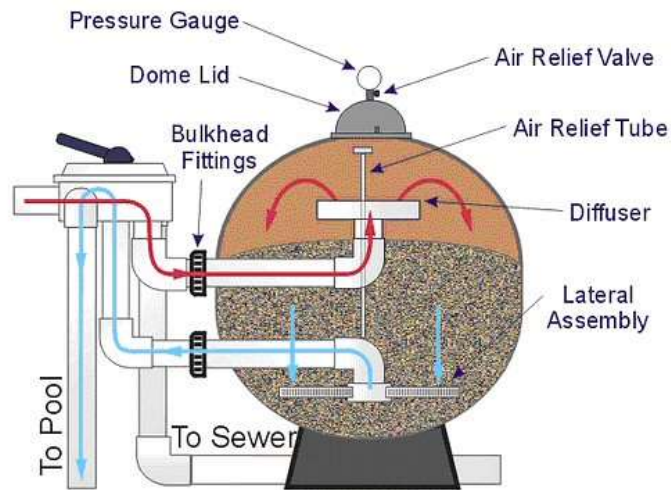
Most inexpensive

Disadvantages:

Large footprint

Only Filters down to 15-20 microns

Lots of backwash water required



SAND FILTRATION



REGENERATIVE FILTERS

How they work:

Perlite media that gets affixed to flex-tubes. This media then gets 'bumped' off to remove debris .

Advantages:

- Amount of Backwash
- Filters down to 2-3 microns
- Counts towards LEED points

Disadvantages:

- Cost compared to sand filtration

REGENERATIVE FILTRATION



2012 APC



CARTRIDGE FILTERS

How they work:

Water forced through fabric media

Advantages:

Compact size

Filters down to 5 microns

Disadvantages:

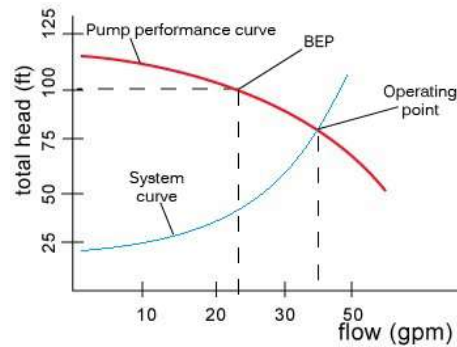
Only for small bodies of water

Maintenance/replacement of filters

CARTRIDGE FILTRATION

PUMPS

Ideally pumps are lower than pool water level to allow for flooded suction. Less expensive than self priming pumps and quieter



PUMP SYSTEMS

CO₂ is used in pool systems to lower the pH of the water.

Safer to use than liquid muriatic/hydrochloric acid to control pH because of dangerous fumes.



CARBON DIOXIDE



Why we use it:

Not all bacteria are killed by chlorine. UV eliminates the chlorine-resistant bacteria and viruses.

Advantages:

Kills all bacteria including cryptosporidia which is not automatically killed with chlorine.
Providing for lower chloramine levels.

Disadvantages:

Upfront cost

Maintenance: Expensive bulb replacement

ULTRAVIOLET TREATMENT



Ozone generator located on-site and designed to treat a portion of the total flow.

Why we use it:

Secondary treatment to help oxidize organics and minerals, resulting in reduced need for chemicals

Advantages:

Reduces chloramines
Improved air quality
Reduced chlorine usage

Disadvantages:

Cost
Maintenance



OZONE TREATMENT

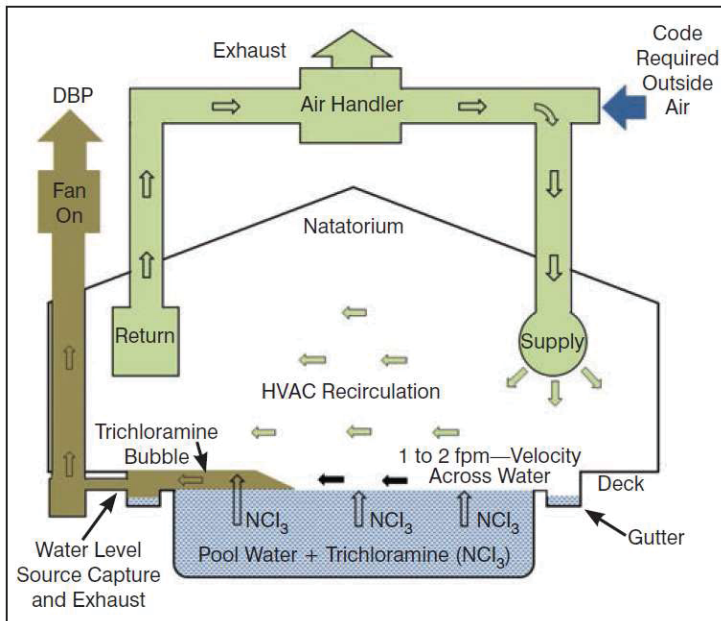


A properly designed dehumidification system is a critical component of any successful natatorium design.

Air flow, relative air pressures, and overall humidity, if improperly designed, can result in significantly reduced material lifespans of the natatorium materials including structural framing, window components, and pool area hardware.

Air temperature should be roughly 2 degrees above pool water temperature and air should be blown across the surface of the water to help eliminate dangerous chloramines from collecting over the surface of the water.

Air flow and temperatures also need to be analyzed to prevent condensation on windows and other cold surfaces particularly in cold New England winters.



HVAC/DEHUMIDIFICATION

REGENERATIVE FILTRATION

Significantly reduced water wasted during backwash cycles. A few hundred gallons, compared to thousands.

HEAT EXCHANGER

If a boiler or other significant heat source available on a project, a heat exchanger is usually specified in place of a gas heater to save on energy costs.

VFD

A Variable Frequency Drive is used on most pumps to regulate motor speed to save energy as compared to either just on/off.

RENEWABLE ENERGIES

Where available & cost effective energy supplementation by solar, wind, geothermal, or other techniques are analyzed. (Often not used because of upfront costs)

COST & ENERGY SAVING TECHNOLOGIES



LANE LINE ROLLERS



HANDICAP LIFTS



GUARD CHAIRS



STARTING BLOCKS



SAFETY EQUIPMENT



CLASS/PLAY EQUIPMENT



BLEACHERS



AND ALL THE
OTHER STUFF.....

CURRENT CONCEPT PLANS





CONCEPT A FEATURES

6 LANE LAP POOL

- STAIRS
- LANE LINES & FLOATS
- HANDICAP LIFT

RECREATION POOL

- STAIR ENTRY
- 3'TO 4'-6" DEPTH
- OPEN LEARN TO SWIM AREA
- BASKETBALL
- VOLLEYBALL
- HANDICAP LIFT



**Newtown Community Center
Pool Area**

Weston & SampsonSM

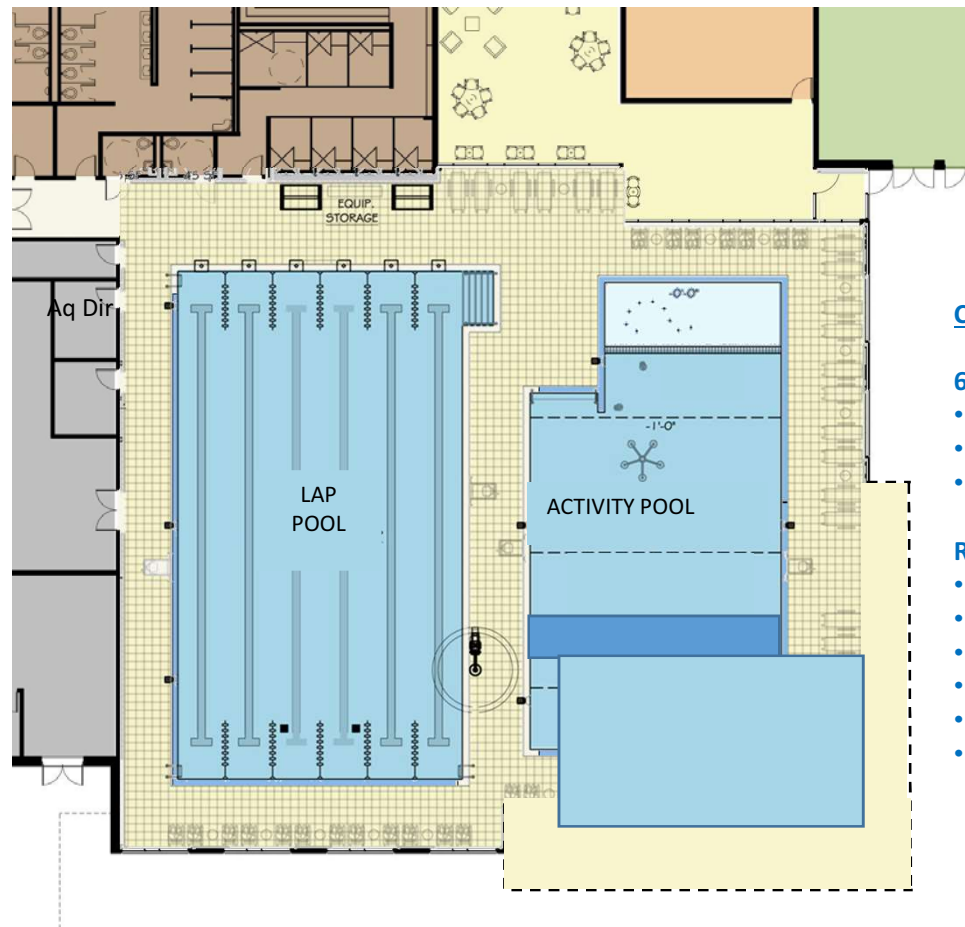
CONCEPT D FEATURES

6 LANE LAP POOL

- STAIRS
- LANE LINES & FLOATS
- HANDICAP LIFT

RECREATION POOL

- RAMP ENTRY
- 2.6' TO 3'-6" DEPTH
- OPEN LEARN TO SWIM AREA
- SEATING AREA
- BASKETBALL
- VOLLEYBALL



CONCEPT D FEATURES

6 LANE LAP POOL

- STAIRS
- LANE LINES & FLOATS
- HANDICAP LIFT

RECREATION POOL

- BEACH ENTRY
- 0' TO 4' DEPTH
- OPEN LEARN TO SWIM AREA
- SEATING AREA
- BASKETBALL
- VOLLEYBALL