TEN-YEAR FACILITIES MASTER PLAN



PREPARED FOR THE GOLDEN RAIN FOUNDATION

June 2022

ROSSMOOR
WALNUT CREEK

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Executive Summary

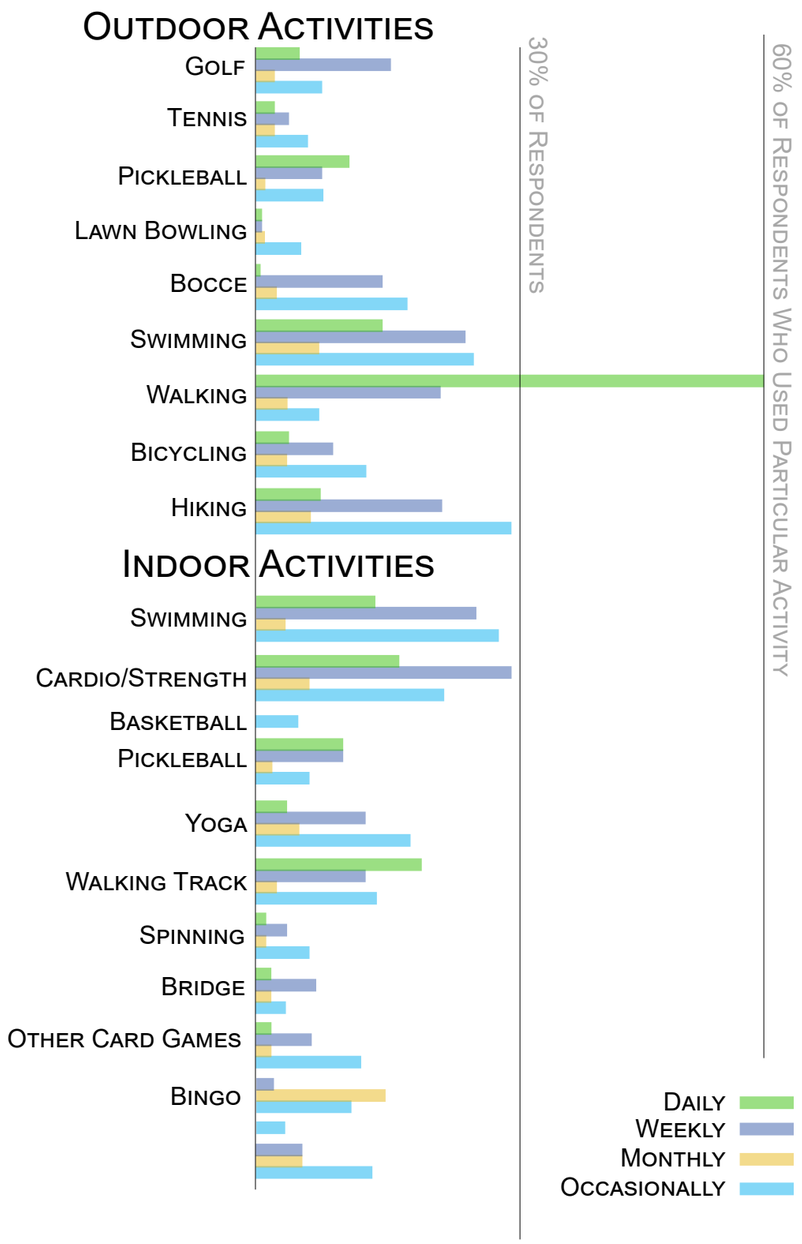
In July 2021, the Golden Rain Foundation engaged the ELS Architecture Team to produce ten-year capital improvements plan that is informed through a robust stakeholder process to ensure that all voices were given the opportunity for feedback. The goal of this plan is to provide a road map for capital improvements that is tied to the available financial funds over the ten-year period, and one that is adaptable over time by the GRF. It is the intent that this document and the associated Microsoft Excel tool will be revisited and adjusted yearly by the Rossmoor Planning Committee and Board of Directors to best meet the needs of the community. Rossmoor has an impressive collection of recreational and service facilities that make it competitive with the best adult communities that we researched. It will be important for the GRF to keep up with trends and check in on facility use and wear over time which will likely shift priorities over the next decade.

The design team's evaluation and outreach process included a tour of all GRF facilities under consideration, meetings with individual stakeholder groups, including residents that represented indoor activities, those that used outdoor facilities and administrative staff that crucially ensure the ongoing delivery of services to the community. The team sent out a survey that was distributed through the community newspaper – results regarding use of indoor and outdoor activities can be seen at right - and we had two in-person community meetings in the Events Center where residents could weigh in on their goals and the progress of the project.

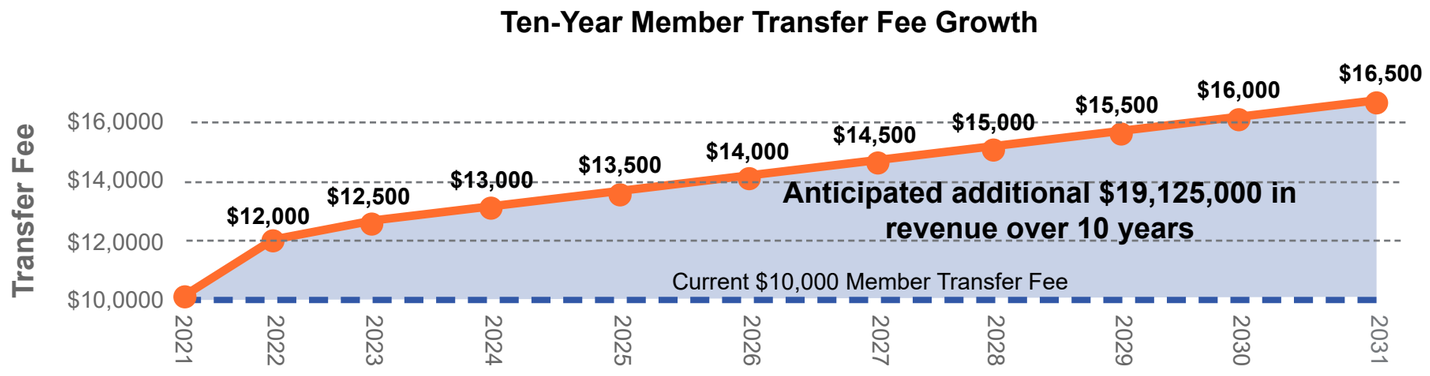
The final project list as shown in this summary is the result of this process, and numerous meetings with the Planning Committee, Finance Committee and Board of Directors to provide direction. The final leg of the process involved the Finance Committee deciding on providing some additional funding over the next decade through an increase in the Transfer Fee from $10,000 per unit sale to $12,000 in September 2022, followed by an additional $500 each year through 2031. This modest increase over time is anticipated to generate approximately an additional $19 million dollars of revenue assuming a yearly transfer volume of 450 per year.

With the budget in hand, the Planning Committee adjusted the recommended projects to align with the

Resident Participation in Activities



Ten-Year Member Transfer Fee Growth



Executive Summary

Selected Projects
$21,623,547

Pipeline Projects
$33,264,899

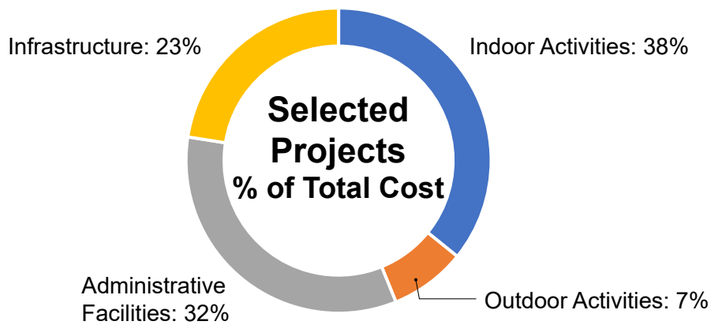
Maintenance Projects
$1,155,000

All Projects
$56,043,446

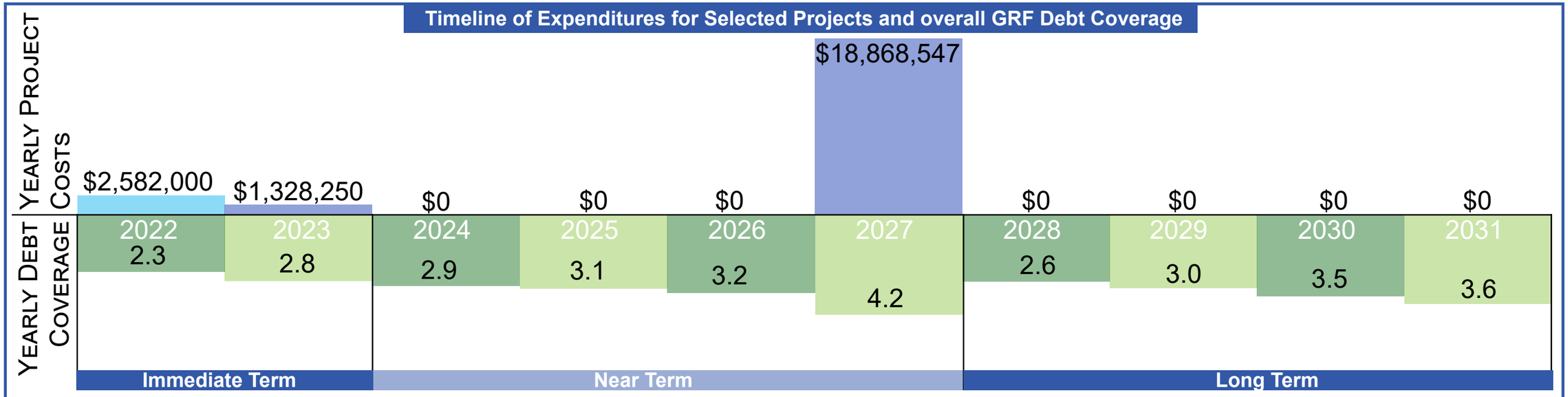
budget and current need, moving some projects to a wish list in the event that additional funds become available, acknowledging current projects already in the pipeline and identifying smaller projects as part of the overall yearly maintenance budget.

The recommended project list is broken into a timeline of four groups: projects that should be taken up immediately (0-2 years), projects to be completed in the near term (3-6 years), pipeline projects that are currently in process and projects moved into a maintenance category. Economic conditions at the time of this report are unusual in the extreme cost of both labor and materials; the assumption over the next ten years is that the GRF should assume between 5-10% cost escalation year over year. These assumptions should be revisited each year to ensure the GRF is working off the best possible information in a changing economy. The current inflationary conditions make pushing projects to later phases result in a significant cost increase; however, this may not always be as significant as it is today due to unusually high inflationary conditions. At the writing of this plan, the term-adjusted cost of the selected projects is $21,623,547. The pipeline projects total $33,264,899 in 2022 dollars, and the maintenance projects come to a

Allocation of Dollars for Non-Wishlist Projects



Timeline of Expenditures for Selected Projects and overall GRF Debt Coverage



Executive Summary

total of $1,155,000.

The projects moved into the wishlist category combine for a total 2022 value of $11,098,600.

The allocation of funds over the next ten years focuses on much needed improvements in the MOD facilities, accounting for 34% of the funds approved for the three groups (excluding the wishlist). As shown in the ten-year cost timeline there are seven years when no improvements are planned – 2024-2026 and 2028-2031. This may open the door to moving a project forward or taking on an additional project if money becomes available.

The projects that were not selected but remain on the wish list include replacing the aging Las Trampas room and along with several outdoor improvements. The division of budget shows that 84% of the projected cost in 2022 dollars of the wish list projects goes towards the Hillside East Wing replacement.

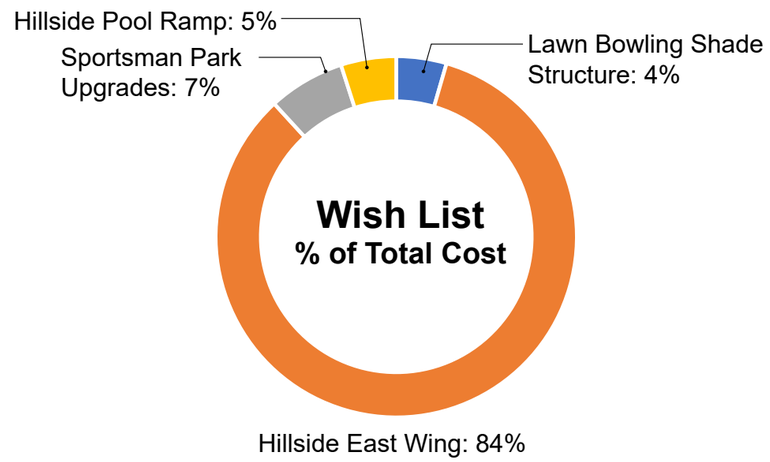
Within this report you will find detailed descriptions of the selected projects and the process that derived them, along with a review of your existing facilities and the funding mechanisms and cost estimates that the GRF will use moving forward. Integral to the future use of this report is the digital Microsoft Excel spreadsheet that will continue to be maintained by the GRF to study financing and project scenarios over the next decade.

This process would not have been possible without the great community response and comments which helped shape the path forward. In the depths of the pandemic we received fantastic feedback in a public forum with engaged residents that we did not see in other planning projects at the same time, a testament to the community and their ongoing interest in helping Rossmoor provide best -in-class facilities and services.

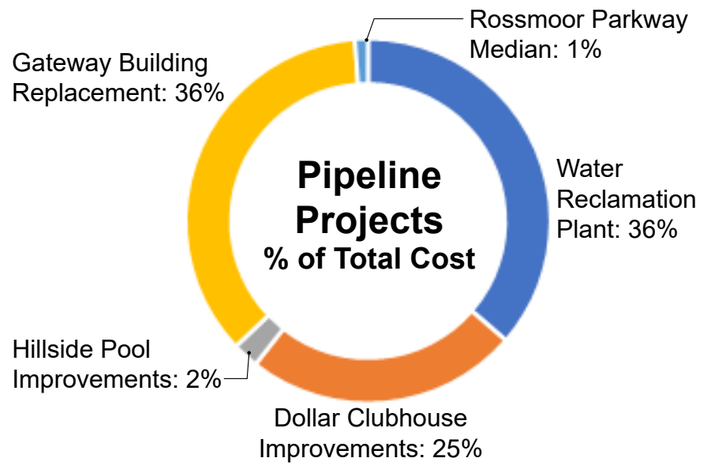
We look forward to seeing what the next ten years holds for Rossmoor its' fantastic community resources and we remain excited to see the conversation continue.

Wishlist Projects
$11,098,600

Allocation of Dollars Proposed for Wish List

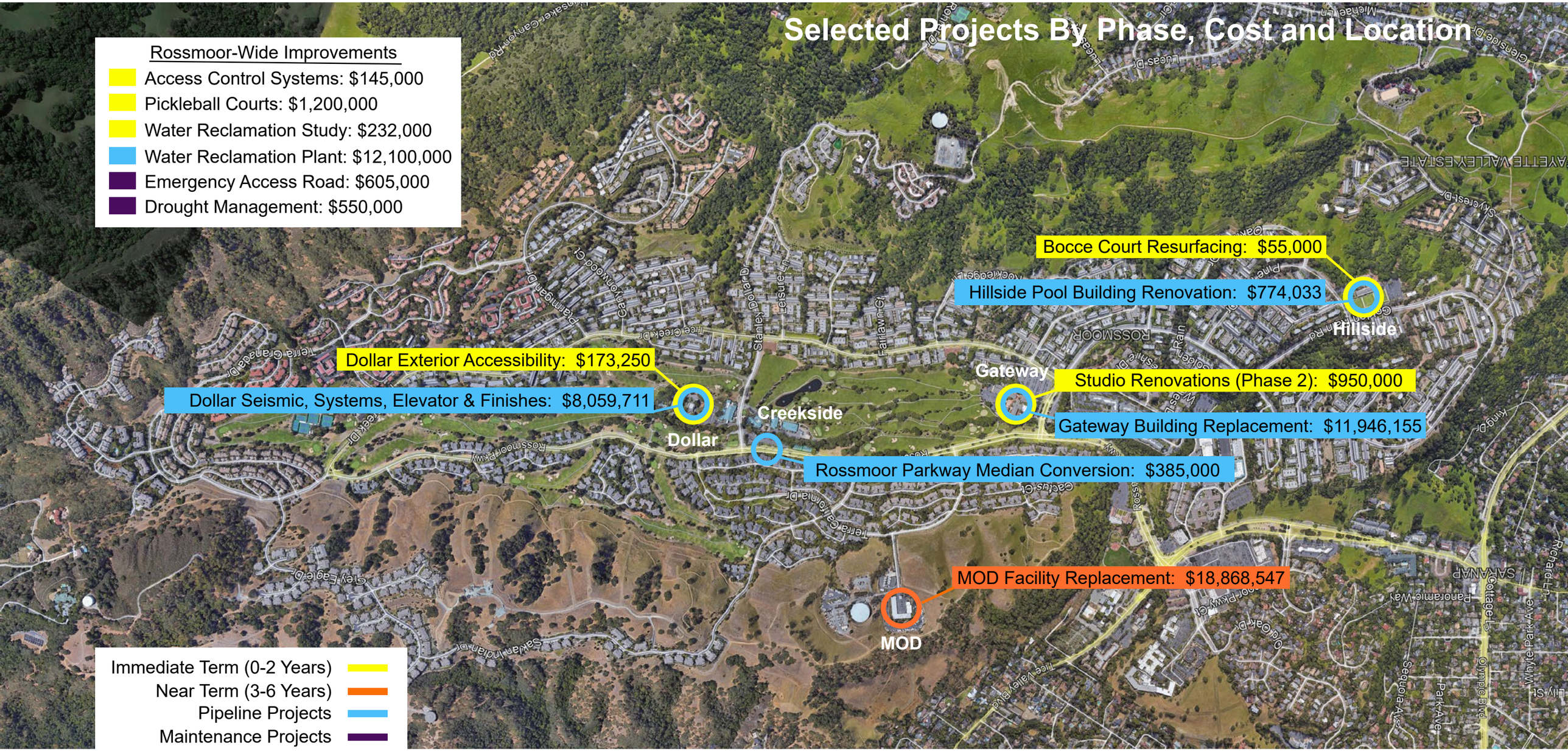


Allocation of Dollars Proposed for Pipeline Projects

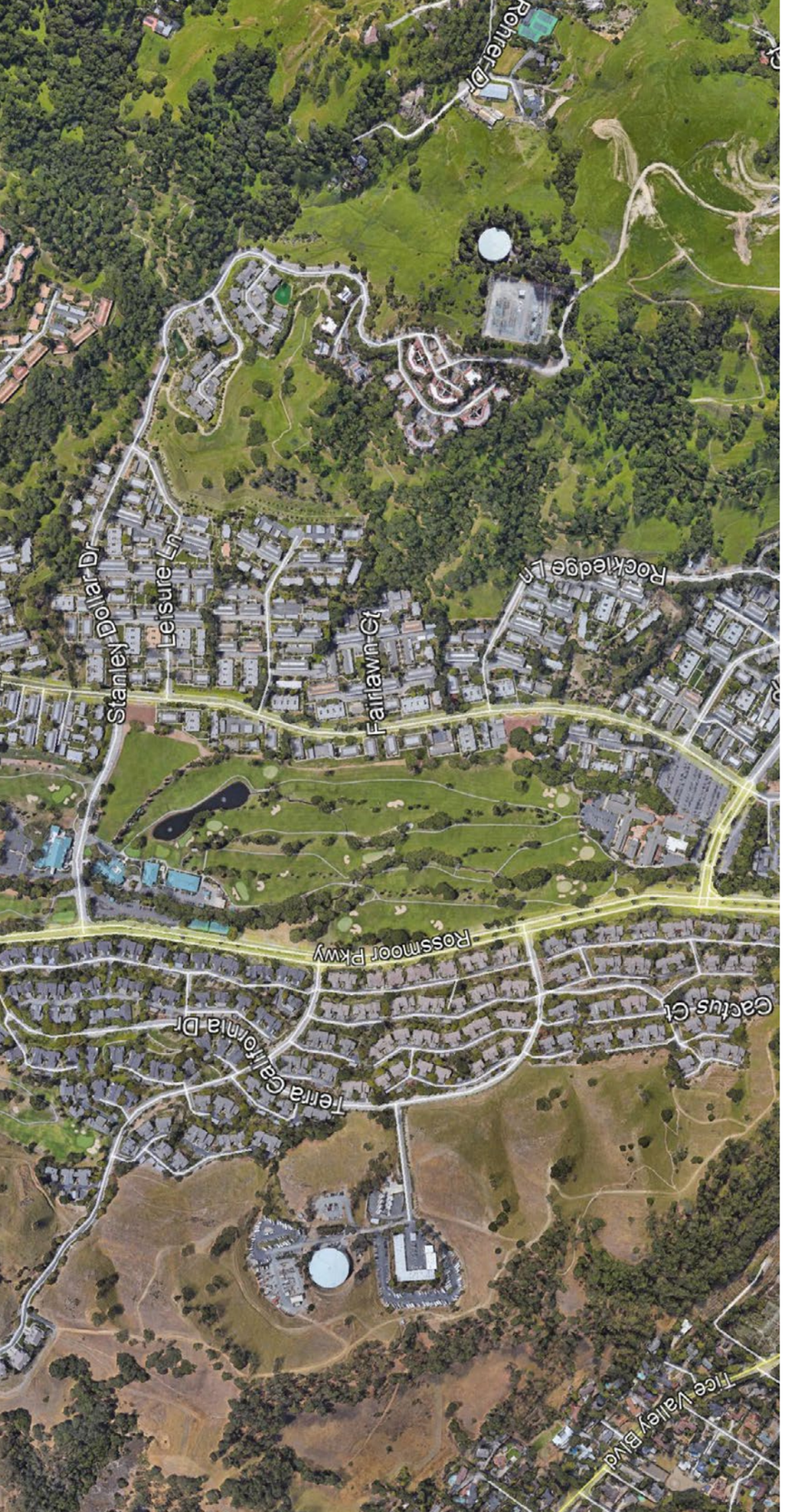


Executive Summary

Selected Projects By Phase, Cost and Location




Rohrer Dr
Lucas Ct
Lucas Dr
Rockledge Ln
Oakmont Dr
Pine Knoll Dr
Rain Rd
ROSSMOOR
Rain
Lower Golden
Lakeshire Dr
Wales Dr
Stanley Dollar Dr
Leisure Ln
Fairlawn Ct
Canyonwood Ct
Ptarmigan Dr
Tice Creek Dr
Terra Granada Dr
Tice Creek Dr
Rossmoor Pkwy
Rossmoor Pkwy
Rossmoor Pkwy
Cactus Ct
Terra California Dr
Grey Eagle Dr
Sakian Indian Dr
Rossmoor Pkwy Ct
Old Oak Dr
Tice Valley Blvd



Introduction

In 2021, the Board of Directors of the Golden Rain Foundation agreed that the process for selecting which capital projects would be chosen for improvement had been a haphazard one, with those having the most vocal advocates often being selected over those that might provide a greater overall service to the Rossmoor Community. The Foundation issued a request for proposals, and selected ELS Architecture and Urban Design to facilitate a study leading to a Ten-Year Capital Improvements Plan.

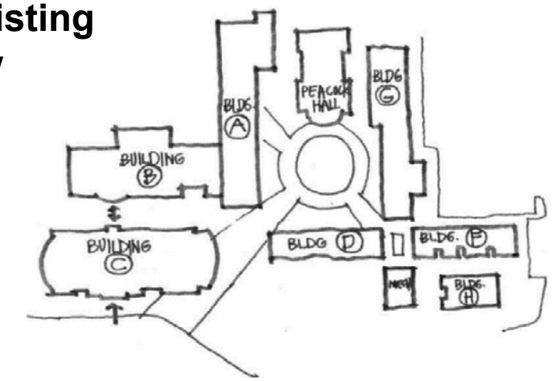
The following document contains the findings of that master plan study. The report includes a summary of the team's evaluation of existing programs and facilities, community outreach efforts, review of funding options with the Finance Committee, and recommendations. The assessment also included a review of programs and facilities at comparably sized active adult communities, as well as new and emerging trends.

The outreach process included two community wide meetings, a series of focus groups, and a survey that was distributed in the local paper and online. The initial meetings discussed current and desired program offerings, and the ability of existing facilities to provide appropriate accommodation for each. Based on these discussions, the design team proposed a series of alternatives for improvements at the various existing buildings and outdoor study areas, as well as for a number of new facilities. These options were reviewed with the Planning Committee, modified based on their recommendations, and prioritized based on a number of factors.

These recommendations with their associated costs were further reviewed with the Planning Committee, Finance Committee and Board of Directors who gave input and made the final decisions as to the projects to be included, and their prioritization. Adjustments to the initial project list and priorities were made to accommodate the available annual funding based on the recommendations from the Finance Committee.

This report, along with the associated financial model is intended to be a working document, which can be modified annually based on changes in community priorities, funding, and other factors.

Gateway Existing MEP Review



Systems	Equipment	Age/Year Installed	Expected Life
Building A – Fireside Room, Kitchen			
Heating/Cooling	VAV, Chiller, Boiler	2020	20 years
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	1200A, 480/277V, 3p4w	2003	25 years
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
BUILDING A RECOMMENDATION: Upgrade branch circuits and incorporate electrical upgrades required for kitchen improvements.			
Building B- Office, Library, and Meeting	**Equipment**	**Age/Year Installed**	**Expected Life**
Heating/Cooling	Ducted VRV	Less than 10 years	20 years
Domestic Hot Water	100gal gas atmospheric tank	Less than 10 years	10 years
Plumbing	Reported plumbing issues	Further Investigation Required	Further Investigation Required
Electrical Power	Served from Bldg A	N/A	N/A
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
BUILDING B RECOMMENDATION: Replace domestic hot water heater as required. Investigate plumbing issues and evaluate solutions.			

Existing Conditions

The ELS Team toured the Rossmoor facilities over the course of several visits. The first visit included the largest review of facilities, looking at all of the major clubhouses; a subsequent visit provided further insight to outdoor facilities and mechanical, electrical and plumbing (MEP) systems, and a final visit allowed BKF to review civil engineering issues in the community, including a re-evaluation of the golf course crossing bridges.

The following is a brief synopsis of the review by facility.

Gateway

The Gateway complex of buildings at Rossmoor is typically the first stop for visitors to the Rossmoor community. Some administrative functions and offices for the Golden Rain Foundation (GRF) are housed here. The surrounding buildings host a plethora of activities and meeting spaces. The buildings at Gateway are typically shingle-covered gable-roofed, wood-framed single-story structures except for the Peacock Theatre building and second-story mechanical spaces.

Commons

Peacock Plaza is a central and unifying component of the Gateway area. Improvements have been made to the hard scape areas between the buildings with integral colored concrete, landscaped areas with trees and plants, and furnishings including tables, chairs, benches, and sunshade umbrellas. The buildings in this complex are generally connected by relatively flat pedestrian walkways. Planted areas are irrigated and the Gateway buildings are surrounded by old-growth trees which provide additional shading around the perimeter. Sidewalks shaded by building roof eaves connect the meeting spaces to the main plaza and each other. Tice Creek runs adjacent to the site and is culverted under the sidewalk and parking lot. At the intersection of Building D, E, F, and G is a shaded outdoor space with landscape features and opening above.

Parking

There is one main parking lot at Gateway for visitors and additional lots serving each of the office buildings for staff and visitor use. There are accessible parking spaces in all of the parking lots surrounding the buildings at Gateway and walkways to each entrance. In the summer months there is a farmers' market every Friday in the main parking lot.

Building A - Fireside Room and Kitchen

Building A and B are connected, and the footprint is in an 'L' configuration with each representing one leg. They have been renovated several times since original construction in 1963. The most recent renovation of these buildings is the HVAC system completed in 2020. Most of the finishes in these buildings were renovated in 2001. The grand space in Building A is known as the Fireside Room is one of the larger meeting spaces in the Rossmoor community. The meeting space is adjacent to and

Gateway Existing MEP Review Continued

Systems	Equipment	Age/Year Installed	Expected Life
Building C – Library, Oak Room, Redwood Room, Computer Room, and Café Space	**Equipment**	**Age/Year Installed**	**Expected Life**
Heat/Cooling	AHU	2002	25 years
Domestic Hot Water	Gas fired	2019	10 Years
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	Served from Bldg A	N/A	N/A
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
BUILDING C RECOMMENDATION: Replace domestic hot water heater as required.			
Building D – Activity Rooms and studio spaces	**Equipment**	**Age/Year Installed**	**Expected Life**
Heating/Cooling	Mitsubishi Split System	2015	20 Years
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	Served from Bldg A	N/A	N/A
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
Building E-Mechanical	**Equipment**	**Age/Year Installed**	**Expected Life**
Heating/Cooling	Abandoned chiller and boilers	N/A	N/A
Domestic Hot Water	N/A	N/A	N/A
Plumbing	N/A	N/A	N/A
Electrical Power	Most equipment abandoned to be removed	N/A	N/A
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
BUILDING E RECOMMENDATION: Remove abandoned chiller and boilers. Replace feeds to shop buildings with a new distribution board. Existing board and equipment past useful life.			

opens directly into Peacock Plaza. The Fireside Kitchen is connected and available for commercial catering setup and food service. Adjacent to the kitchen are storage rooms and loading dock to facilitate catering. At the east end of Building A are stairs up to a second-floor space that houses mechanical HVAC equipment. The kitchen has known plumbing and electrical issues.

Building B – Offices and Meeting

Building B contains Golden Rain Foundation offices, reception, conference, and board room. The south end of the building is connected to the Fireside Room. At this juncture is a stair up to a second story space or mezzanine that houses mechanical HVAC equipment.

Building C – Offices, Library and Redwood Room

With the building's main entry opening towards the large parking lot, Building C is typically a centralized meeting place for visitors. This building contains the Oak Room, a multi-purpose meeting room which routinely hosts weekly card games, the library, the Redwood Room social lounge, a computer room, and a small cafe. The cafe has a limited size kitchen space and there is a resulting in a consistent turnover with commercial vendors.

Building D, E, G, F, & H Studios and Activity Rooms

These buildings are situated on perpendicular axes. Building F contains small meeting spaces available for reservation by residents. The other buildings have spaces established for activities and clubs such as: woodshop, art studio, photography dark room, lapidary, billiards, sewing, and ceramics. Building E has mechanical equipment that has been disconnected and replaced by recent renovations.

Building I - Peacock Hall

Building I, known as Peacock Hall, houses the movie theatre with seating for 150. Movies are shown daily in the theatre. This structure was added to the Gateway complex in 2002.



Gateway complex.


Peacock Hall Theatre

Gateway Existing MEP Review Continued

Building F – Activity Rooms and studio spaces	Equipment	Age/Year Installed	Expected Life
Heating/Cooling	Mitsubishi Split System	2015	20 Years
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	Served from Bldg A	N/A	N/A
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
Building G – Activity Rooms and studio spaces	**Equipment**	**Age/Year Installed**	**Expected Life**
Heating/Cooling	Mitsubishi Split System	2015	20 Years
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	Further Investigation Required	Further Investigation Required	Further Investigation Required
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
Building H – Activity Rooms and studio space	**Equipment**	**Age/Year Installed**	**Expected Life**
Heating/Cooling	Mitsubishi Split System	2015	20 Years
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	Further Investigation Required	Further Investigation Required	Further Investigation Required
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required

Gateway Existing MEP Review Continued

Building H – Activity Rooms and studio space	Equipment	Age/Year Installed	Expected Life
Heating/Cooling	Mitsubishi Split System	2015	20 Years
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	Further Investigation Required	Further Investigation Required	Further Investigation Required
Lighting	Further Investigation Required	Further Investigation Required	Further Investigation Required
Building I – Peacock Hall Theater	**Equipment**	**Age/Year Installed**	**Expected Life**
Heating/Cooling	Carrier RTU, VAV	2002	20 Years
Domestic Hot Water	Tank type gas water heater	Further Investigation Required	10 Years
Plumbing	Further Investigation Required	2002	40 Years
Electrical Power	400A, 277/480V, 3ph, 4w from Main Switchboard 'MSC'	2002	25 Years
Lighting	Mix of compact fluorescent and incandescent lamped luminaires.	2002	5-10 years based on usage
BUILDING I RECOMMENDATION: Replace roof top unit and VAV boxes with new. Replace domestic hot water heater as required. Upgrade all light fixtures to LED for energy savings. Upgrade branch circuit and panels.			



Peacock Plaza at Gateway.



A sewing studio in the Gateway complex.

Hillside Existing MEP Review

Systems	Equipment Type	Age/Year Installed	Expected Life
Heating/Cooling	Ducted VRV with wall fan coils	2020	20 years
Domestic Hot Water	Tank type gas water heater	2017 Bldg C, unknown Bldg B	10 years
Plumbing	Further Investigation Required	2017	Further Investigation Required
Electrical Power	800A, 120/208V, 3ph, 4w metered switchboard	1967	25 Years
Lighting	Mix of compact fluorescent and incandescent lamped luminaires.	1967	5 to 10 years based on usage.
HILLSIDE CLUBHOUSE RECOMMENDATION: Replace domestic water heater in buildings B and C as required. Upgrade all light fixtures to LED for energy savings. Upgrade switchboard and panelboards.			

Sportsman Park Existing MEP Review

Systems	Equipment Type	Age/Year Installed	Expected Life
Heating/Cooling	N/A	N/A	N/A
Domestic Hot Water	N/A	N/A	N/A
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	350A Panel T fed from Building C switchboard	2012	25 Years
Lighting	Mix of LED and compact fluorescent lamped luminaires.	2012	5 to 10 years based on usage.
SPORTSMAN PARK RECOMMENDATION: Upgrade all light fixtures to LED for energy savings.			

Hillside

The Hillside complex is a mix of buildings, park areas, and athletic courts situated over a widely varying topography on Golden Rain Road.

Shady Glen, Sportsmen's' Park, Rest room Building, and Bocce Courts

There are two outdoor picnic areas at Hillside. Shady Glen is located south of the main parking lot and has several picnic tables and charcoal grills. Most of the surfacing is natural dirt and grass, but there is a concrete sidewalk and pad in the center of the park. As the name implies, this rustic park is shaded by many surrounding trees. Sportsmen's Park is a more developed open space with a large concrete pad, Rotary Pavilion, large charcoal grill, and outdoor lighting. This space hosts many outdoor gatherings and picnics. There is a small storage structure with electrical service. Just west of this park are six bocce courts. This space is home to the Rossmoor Bocce Club. This area is served by a drinking fountain.

Parking Lots

There is a main parking lot with accessible parking spaces near the path leading to the new Table Tennis facility and the main Building A. This lot is accessed from Pine Knoll Drive. An upper parking lot is accessed from a small driveway leading to Golden Rain Road and is higher up the hillside which is primarily used for the pool building. This parking lot also has accessible parking spaces. The accessible parking spaces will likely require upgrade with any substantial improvements to the buildings.

Lawn Bowling Courts

There are three grass covered lawn bowling greens located at Hillside. The greens are accessed from stairs down from sidewalk adjacent to the main building. Each green is approximately 120-feet square. Before the addition of a third central green and major construction upgrade of the other two in the mid-eighties, there were two flanking bowling greens around a central plaza with grass and pedestrian walkway. The greens are surrounding by sidewalks on all four sides with benches for spectators and waiting players.

Building B and C Main, Storage, and Rotary Shelter

Building B and C compose the main clubhouse at the Hillside complex. These buildings have deep eaves which provide shade on both long sides of the building and are designed to appear as one continuous building. There are meeting rooms of various sizes in this building. The east Building B wing houses the Las Trampas and Vista meeting rooms. Las Trampas has a portable platform and contains sound system equipment as it is frequently used as a musical practice space. There is kitchen in this building and older rest rooms. The west Building C wing contains the Diablo and Pine meeting rooms. There is a kitchen connected to the Diablo room which is the largest meeting space at Hillside. Building C rest rooms and flooring were recently renovated. There is a small storage building located to the



The pathway leading up to the Hillside.



The Diablo room at Hillside.

Creekside Existing MEP Review

Systems	Equipment Type	Age/Year Installed	Expected Life
Heating/Cooling	Rooftop unit, ERV, MAU, VRV split system heat pump and CU, branch controllers	2009	20 years
Domestic Hot Water	3 gas water heaters, instantaneous water heater, circ pump	2009	10 years
Plumbing	Further Investigation Required	2009	40 Years
Electrical Power	800A, 120/208V, 3ph, 4w switchboard fed from Main Switchboard MSA	2009	25 Years
Lighting	Mix of compact fluorescent and incandescent lamped luminaires.	2009	5-10 years based on usage.
CREEKSIDE CLUBHOUSE RECOMMENDATION: Replace rooftop unit, VRV units, split system heat pump and CU, and kitchen hood exhaust and make up air unit. Replace domestic water heaters and circ pump as required. Upgrade all light fixtures to LED for energy savings. Upgrade main switchboard and panelboards.			

west of the main building. In front of this building is a small covered shelter waiting space known as the Rotary Shelter. At the rear of the main buildings is an older ramp leading up to the Hillside pool and locker room building level. The grade change is significant. Although this ramp is older and not compliant with current code it is not on an accessible path, so although upgrades are recommended they are voluntary.

Pool and Locker Room Building

The main locker and rest room building have not received any significant renovations since they were first built. The pool and deck surface were replaced and the maintenance room in the main building received some equipment upgrades in 2010. There is a small building near the pool entry which is used for storage and sign-in. There is a large wood framed pergola to provide shade on the pool deck. The building is served by a packaged HVAC unit located on grade to the west. Adjacent to this building is an open space that drops in grade moving towards the parking lot and Shady Glen picnic area.

Lawn Bowling Club Building A

The Lawn Bowling Club Building is home to the Rossmoor Bowling Club. The building is a modest one-story structure located north of the main building. The building was originally constructed in 1968 and expanded from a maintenance and storage facility in 1974 with an addition that doubled the size of the footprint in 1974 and added the locker room extension in 1988. There is an open grassy space with HVAC units between this building and east Building B wing.

Table Tennis Building

The Table Tennis building is one of the newer buildings at Rossmoor constructed in 2014. It is in the northwest corner of the Hillside site near the main access road. The building is situated on a sloping site and houses five standard table tennis courts with a spectator area provided.

Creekside

The Creekside area is the home to golf at Rossmoor, one of the most popular attractions. There are 27 holes including a driving range, practice greens, and a pitch/sand shot area. Also located at the Creekside complex is a full-service restaurant, Creekside Grill, three pickleball courts, and a large parking lot serving the area. Office, equipment, and maintenance functions are housed in Building A and B with dedicated parking lots for staff. The buildings at Creekside were constructed in 2011.

Building A - Offices and Equipment Maintenance

Building A is the farthest north in the complex. There is a large equipment storage bay for golf course maintenance. This building also contains offices and support spaces for staff.



The Creekside Grill.

MOD Existing MEP Review

Systems	Equipment Type	Age/Year Installed	Expected Life
Heating/Cooling	Daikin VRV with wall mount & ceiling cassette	Less than 5 years	20 years
Ventilation	Natural	N/A	N/A
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Reported Plumbing Issues	Further Investigation Required	Further Investigation Required
Electrical Power	Further Investigation Required	Further Investigation Required	Further Investigation Required
Lighting	Fluorescent	Further Investigation Required	Further Investigation Required
MOD RECOMMENDATION: Investigate plumbing issues and evaluate solutions.			

The facility has a propane tank that serves the emergency generator for the IT equipment – need to review what other loads. There is also an above ground diesel tank and pump to serve the maintenance trucks and vehicles.

Solar Farm and RV Solar Covered Parking

There is a 1 MW solar PV system across from the MOD and solar covered RV parking storage above the MOD. There are overhead lines in the area but meter was not located during our visit.

Building B - Offices and Cart Storage

Building B has a large storage bay and maintenance area for golf carts. This building also contains offices and staff support spaces.

Building C - Pro Shop, Meeting Rooms, and Creekside Grill

Building C is located for direct access to the golf course. A bridge over Tice Creek provides a path from the parking lot to the structure. There are two large and two smaller meeting rooms. Creekside Grill has a full commercial kitchen, indoor and outdoor seating, and a small bar area. The building is timber-framed and covered by a standing seam metal roof with a vaulted ceiling in the main room of the restaurant.

Golf Course Crossings

The golf courses at Rossmoor include an 18-hole course called Dollar Ranch and a 9-hole course called Creekside. There are ten crossings on these golf courses. Two of the crossings are bridges and the rest are concrete culverts. The crossings provide for foot and golf cart traffic and have existing side-mounted steel tube guardrails in place.

Pickleball Courts

The three pickleball courts at Creekside were converted from tennis courts in fall of 2017. These courts are served by the adjacent main parking lot and are located flanked by Tice Creek and Rossmoor Parkway. North of the courts is an open grassy space buffered by the golf course.

MOD (Mutual Operations Department) Offices

Offices, Receiving, and Equipment Maintenance Garage
The Mutual Operations Department offices are situated at the top of the hill. These offices house the MOD property management arm of the Golden Rain Foundation. Workers that report to these offices include carpenters, painters, roofers, MEP technicians, and landscape crews. Departments include Information Technology (IT), accounting, human resources, purchasing, and vehicle maintenance. The unit alterations and resale department is open to resident visitors. The office spaces were originally a large warehouse that was reconfigured into office space.

The vehicle and equipment garage and receiving warehouse make up the rest of this one-story 'U' shaped building with a small parking lot between the wings. This parking lot is mainly reserved for visiting contractors and visitors. There is a small fuel dispensing station covered by a steel shade structure. The automotive garage includes purchasing, bus transit, and mechanic's office. There is a small unimproved outdoor space at the south end of the building.

The upper corporation yard is an area for storage and staging building materials and equipment.

Dollar Clubhouse Existing MEP Review



Systems	Equipment Type	Age/Year Installed	Expected Life
Heating/Cooling	Hydronic. Boiler/Chiller	1997	Near end of Life
Heating/Cooling	Split System	Less than 5 years	20 years
Ventilation	Natural	N/A	N/A
Domestic Hot Water	Further Investigation Required	Further Investigation Required	Further Investigation Required
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	600A 120/240V, 1ph, 3w metered service – serves bldg. and feed over to the pool house	Mfg Date 2001	25 years
Lighting	Mix of compact fluorescent and incandescent lamped luminaires.	1965 and remodels in 1988 and 2001	5 to 10 years based on usage
DOLLAR CLUBHOUSE RECOMMENDATION: Replace hydronic boiler/chiller. Upgrade all light fixtures to LED for energy savings. Upgrade branch circuit and panels.			

Work vehicles can also park here. Adjacent to the MOD office building is a photovoltaic solar panel array on this hillside. There is a nursery behind the warehouse. Above the warehouse/office building is an RV parking lot with solar panels installed on shade structures. Between the upper corporation yard and office building is a large water storage tank.

Stanley Dollar Clubhouse

The Dollar Clubhouse is on the National Register of Historic Places and a gathering place for many residents at Rossmoor. The house was constructed in 1933 and originally used by the Dollar family as both a summer home and later a permanent residence. The exterior of the building is clad in painted wood board and batten with a brick pyramidal topped tower at the building entry. Many of the interior wall and opening locations remain original. There are two floors accessed only by one interior and another exterior stair. There are meeting rooms on both floors and the main room in the house is a cathedral type two-story space with a large glass window looking into the rear yard. The east wing houses the more utilitarian spaces including two kitchens, a storage room, and a garden meeting room. The home is frequently rented out for weddings and other social events. There is a large parking lot that is shared with the Event Center and EV charging station.

Dollar Pool and Locker Room

The Dollar pool is a popular place to visit and swim. The ‘L’ shaped pool can be accessed by stairs on each side and is surrounded by red-tinted integral color scored concrete, verdant landscaping, and a wrought iron fence. Tables with umbrellas and chairs provide places to enjoy the surroundings. The pool can be accessed along a sidewalk in the rear yard of the main clubhouse or through the locker room. The pool locker room building, also known as the bath house, has been modified and expanded from the original structure. The building is accessed pool side or from a parking lot. There are locker room and rest room facilities for men and women. This building has not been renovated in the last thirty years.

Grounds, Picnic Area, and Rest room Outbuilding

The Dollar Clubhouse is surrounded by a lush landscape that includes lawns, manicured beds, patio, sidewalks, and mature full-grown trees for shade. The rear yard has a wood arbor and trellis and tables for casual meet-ups and more formal events. There is a large, long, relatively flat grassy space to the east and south of the clubhouse. This space is bordered on the east by Tice Creek. Large oak trees along the perimeter of the space provide partial shade. At the south end of the space is a semi-permanent platform to facilitate performances and dancing at outdoor events. Grounds at the west and south of this space are filled with several picnic tables, charcoal grills, and an exterior water faucet. At the south end of the Dollar grounds is a small wood-framed gable-roof outbuilding with rest rooms. Behind the rest room building is a small fenced in area for equipment and landscape material

Dollar Pool House Existing MEP Review

Systems	Equipment Type	Age/Year Installed	Expected Life
Heating/Cooling	Reznor Gas Furnace and Evaporative Cooler; Carrier Split System	2001	20 years
Domestic Hot Water	Tank type gas water heater	Further Investigation Required	10 Years
Plumbing	Further Investigation Required	Further Investigation Required	Further Investigation Required
Electrical Power	100A, 1ph panel Dollar Clubhouse	2001	25 years
Lighting	Mix of compact fluorescent and incandescent lamped luminaires.	2001	5 to 10 years based on usage.
DOLLAR POOLHOUSE RECOMMENDATION: Remove furnace and evaporative cooler and replace in-kind. Replace office split system. Replace domestic hot water heater as required. Upgrade all light fixtures to LED for energy savings. Upgrade branch circuit and panels.			

storage. The Dollar Grounds are bordered on the south and west by the golf course.

Additional Facilities

Entrance Control Facility

The entrance control facility is a small building along Rossmoor Parkway south of Tice Valley Boulevard with drive-through capability. Sliding glass windows allow for incoming visitors to check-in with staff as a security measure. Manually operated gates allow visitors to proceed after identification is processed.

Event Center

The Event Center is one of the newest buildings at Rossmoor, completed at the beginning of 2014. The main event space has a large stage and can seat up to 450 people for performances and 450 people for dining. The Tahoe and Echo pre-function rooms, along with the large lobby, can facilitate breakout space and provide support space for large events. There is a full catering kitchen with space to handle large events. There is a large outdoor patio connected to the main event space. The building is served by a large parking lot with another lot at Creekside a short walk away.

Fitness Center

A complete renovation of the Fitness Center was finished in 2018. There is cardio and strength training exercise equipment, a large gymnasium and lounge. There are several studios for aerobics, Pilates, yoga, dance, and meditation. There is a lap pool, exercise pool, and spa.

Drop Structure

The outfall drop structure is part of a modification project to Tice Creek located west and south of the entry gate on Rossmoor Parkway. In addition to bank treatment and removal of the previous structure, a rock weir vortex was constructed in 2018 to provide grade control, create a variety of creek water flow velocities, and hinder erosion.

Electric Vehicle (EV) Charging Stations

There are three groups of Level 2 electric vehicle (EV) charging stations available for resident use at Rossmoor. There is increasing interest to adding fast chargers which are becoming more prevelant. There are ten parking spaces with charging connectors at each location: the Gateway parking lot across from the bus stop, the west side of the Fitness Center parking lot, and the Event Center parking lot. Each location includes two accessible stations. The fleet of vehicles in use by the Golden Rain Foundation is not electric but there are plans to purchase electric vehicles soon.

Dog Park

The dog park is located at the rear corner of the Tice Creek Fitness Center parking lot at the north end of Tice Creek Drive. It was upgraded with new synthetic grass surfacing covering approximately 5600 sq. feet in 2014. There is an existing chain-link fence surrounding the well shaded park.

Community Gardens

Access to the community gardens serving Rossmoor residents is located outside the main gate along Tice Valley Boulevard through a secure gate. The gardens are mostly raised beds that are tended by individual members of the garden club who rent out each space comprised of two beds annually. There is an asphalt-paved access road and a small parking lot. The area for gardens is almost five-acres and one-hundred forty-four lots. There are shared garden tools available and an outdoor wood deck for gatherings. There are two small greenhouses for propagating and seedlings.

Undeveloped Parcels

In addition to some smaller open spaces adjacent to existing buildings and parking lots, there are two parcels within the Rossmoor boundary that have not yet been developed. One area known as Cactus Gardens is adjacent to the Rossmoor community garden and south of Rossmoor Parkway near the entrance control facility. The other parcel is at the far end of the complex at the intersection of Terra



Pickleball Courts Near Creekside Center



One of Three Lawn Bowling Greens at Hillside Clubhouse

Existing Conditions

Outdoor Activity Areas

JETT Landscape Architecture + Design, as part of the ELS Architecture | Urban Design group of consultants, engaged in the information gathering phase outdoor and recreation facilities found throughout the award-winning Rossmoor Senior Adult Community, located in the beautiful Tice Valley in Walnut Creek, CA. Operated and maintained by the Golden Rain Foundation of Walnut Creek, outdoor recreational facilities include tennis courts, pickleball courts, trails and walking paths, lawn bowling, 18-hole and 9-hole golf courses, bocce ball courts, a dog park, three swimming pool complexes, an informal lawn area used for outdoor performances, picnic grounds located in small park-like settings, and a large outdoor dining patio also used for outdoor performances.

Informal or unstructured outdoor activities that do not require specialized facilities but are important to Rossmoor's lifestyle offerings and appeal were described by residents and facilities managers. These include a weekly farmer's market, a Raku pottery kiln, art, dancing, walking, biking, and picnicking.

The information gathering phase included an initial meeting with facilities managers to visit the facilities and understand their long-term improvements goals. This meeting was followed by a stakeholders' meeting with representatives from several activities clubs to better understand each related facility's popularity, use, demand and upgrade requirements. Clubs represented at the meeting included: the walking/hiking club, represented by Chloe Camperof; the Garden Club, represented by Pat Ranagan; Garden Club, represented by Ted Bentley; Pickleball represented by Frank Reynolds; Tennis Club, represented by Larry Barclay; Lawn Bowling represented by Mary Collins; and the Bocce Ball Club represented by Alan Petersen, Club President. Several of the above individuals identified themselves as members of the Boomers Club, a group involved in organizing various social activities throughout Rossmoor. The meeting was also attended by Brian Pennebaker, Golden Rain Foundation's Recreation Department coordinator.

With greater understanding of the current and future user patterns and needs, JETT visited several of the facilities for a detailed understanding of their existing condition, use, challenges and opportunities. The following discussion provides our understanding and assessment of the facilities.

The following notes are the result of interviews with representatives of outdoor activities clubs, Golden Rain Foundation representatives, and other interested parties taken on June 15, 2021, and in-field tours of the facilities on June 10, and June 25, 2021.

Pickleball

Described as a combination of tennis, badminton and ping-pong, pickleball is a popular activity in the Rossmoor complex, with a club membership of about 500 people. This parallels the national trend, in which places to play have grown 385% since 2010, with over 5,000 venues, 15,000 courts, and 2.85 million people now enjoying the sport, according to the Sports and Fitness Association. Noted as needing a "permanent home" (Frank Reynolds), there are three outdoor courts, noted as in poor condition, and two indoor courts at Tice Creek. Plans for four additional outdoor courts where the three existing courts are located near the Creekside Center have been studied. Parking is shared with the Creekside Center and can be challenging. There is no club house or gathering area for post-game activities adjacent to or near the courts. It is clear the demand can accommodate several additional courts. Recently the GRF has studied additional sites including converting two exsiting tennis courts at the Buckeye Tennis Center into four pickleball courts and a potential site between the Events Center and golf course. No decision has been made at the time of this report.

Lawn Bowling

Another popular sport, lawn bowling has three greens with three courts each located at Hillside Clubhouse on the northwest side of Tice Valley. With 130 members, the sport is reported to be growing by about 25-30 members per year while attracting participants from a wide age range. The world



Hiking Trail Near Saklan Indian Drive



Swimming Pool at Hillside Club House



Bocce Ball Courts

class complex was described as host to competitions and tournaments that draw clubs from throughout the region to play on the natural grass courts. Tournaments are held from April through October. Maintenance is ongoing with one of the three fields taken out of play on a rotating basis, except for competitive events. Other needs include shade coverings for spectators and players, and access from the parking lot to both the courts and the clubhouse, and improved lighting.

Walking and Hiking

Walking is important to the lifestyle, sense of community, and well-being of Rossmoor's residents. Trails Club members come from a wide range of ages and mobility, with many in the 85-95-year age range. Enhanced by the natural beauty of Tice Valley's oak woodland hillside setting many walking/hiking opportunities were described as either more appropriate for residents with strong hiking abilities due to steep hillside trails or constrained to narrower sidewalks adjacent to roadways for those requiring flatter surfaces. Over 12 miles of hiking trails are offered to residents, but strength, balance and endurance is required due to the steep hills and challenging trail head access. The golf course was opened to walkers for a brief period while golf activities were curtailed due to the COVID-19 pandemic. This offered relatively flat, car-free walking. The need for minimized inclines for walkers of various mobility was highlighted by this interim use of the golf course. Narrower sidewalks and noise were identified as incompatible with conversations and experiencing nature in a relaxed setting away from vehicular traffic. Other concerns include conflicts with bicyclists, and improved connections to Rossmoor's pocket parks. A walking path concept plan has been discussed to guide further development of walking paths throughout the Tice Valley neighborhoods.

Swimming

Accommodating another popular activity, Rossmoor's three swimming pools are in use almost daily, offering a great workout to residents of all ages. All three facilities were described as adequate with no real need for upgrades, except for improved access paths for mobility challenged individuals at Dollar and Hillside. Pool accessibility is accommodated via poolside lifts. Some swimmers expressed the desire for a sloping beach-style access in lieu of lifts or steps.

Community Gardens

The Community Gardens are located on approximately 5 acres that accommodate 144 plots. Garden Club members tend to be invested in the activity for long periods of time. The gardens' popularity increased dramatically during COVID-19, resulting in a current waiting list of 6-7 years. Pre-COVID waiting lists were more typically reported to be in the two-year range. The gardens are fenced and gated, and include a small gathering area, and an orchid greenhouse managed by one resident. Events include an annual Tomato Festival which is quite popular with many other Rossmoor residents.

Softball

As an organized activity, softball is not represented by a club for Rossmoor residents. A City softball field is located outside the main gates in Tice Valley Park. Players join outside organizations to participate in league play and often travel to Heather Farms Park on Ygnacio Valley Road in northeastern Walnut Creek.

Tennis

Located at the Buckeye Tennis Center, Tennis Club members enjoy 8 courts, and a BBQ and picnic area. All 8 courts are in use daily, and court-time is limited to 1 hour for singles play and 90 minutes for doubles play. League play is accompanied by a men's league and 2 women's leagues. The courts are well maintained.

Bocce Ball

Rossmoor's three-court Bocce Ball facility is enjoyed by over 250 people participating in league play across five different leagues – three club leagues, and two non-club leagues. The courts are surfaced with the traditional ground oyster shell base with an oyster shell topping. Demand for the sport is high with the Club adding playing times on Mondays. The Club offers a Boot Camp for those who want to learn the game. Courts are maintained twice per week, are covered with tarps in the winter. Downhill from the courts, rest rooms, outdoor BBQ's, a shade pavilion, and picnic tables are found at Sportsman's Park. Access is a challenge due to the steepness



Ceramic Sculptures near Gateway



Stage at Peacock Plaza



Patios at Dollar Clubhouse

of the access path that winds its way from the parking lot at Hillside through Sportsman's Park to the courts. Shade for players is currently accommodated with temporary farmer's market style tents at the ends of each court.

Dog Park

The recently refurbished faux turf surfaced dog park is well used, but not over-populated. Based upon workshop comments, the dog park does not separate large and small dogs.

Ceramics

The Ceramics Club has plans to construct a Raku kiln near the Gateway Clubhouse. Ceramic sculptures donated by groups and residents are found near Gateway.

Dancing and Outdoor Performances

Dancing and outdoor performances are popular activities with many Rossmoor residents. Dancing offers physical exercise for people of all ages, and outdoor performances are seen as opportunities by some to bring families along to enjoy the show. There are two venues: the lawn adjacent to Dollar Clubhouse for concerts, movie nights, and shows, and the plaza outside of Gateway Clubhouse. Both venues utilize temporary stages. The Dollar facility is set up on a relatively level lawn area and has picnic tables and BBQ's nearby for groups and families to get together before, during and after performances. Accessibility for the mobility impaired at Dollar is an issue due to lawn surfacing. Dancing takes place on the lawn surface.

The plaza at Gateway is usually populated by dining tables and chairs, with impromptu dancing occurring where space allows along the sides and behind the tables. No food is served, but residents are welcome to bring their own during performances. Occasionally, BBQ facilities are set up for specific events. Storage is limited and an issue for the stage, shade umbrellas, BBQ's and other equipment, with the lack of shade itself being a primary concern.

Outdoor Picnicking and Dining

Outdoor dining and picnic areas are found throughout Rossmoor. Shaded patios around Dollar Clubhouse, the large plaza at Gateway are used for more formal dining and playing card games or chess and checkers. Picnic facilities with multiple tables and BBQ counters are located at Sportsman's Park and Shady Glen are among the many. A social area with a small patio, a shade structure and BBQ counter has been recently added adjacent to the tennis courts at Buckeye. These facilities create opportunities for get-togethers over lunch or early evening meals. Access is often limited for the mobility impaired due to abrupt grade changes, sloped paths and rough walking surfaces. Some of these areas such as Gateway, shade is in short supply. All BBQ facilities are charcoal fired triggering storage, clean up and maintenance issues.

Bicycling

There are no designated bike paths in Rossmoor, and very few cyclists were observed on the roads. During discussions with the stakeholders, cycling was noted as unsafe or dangerous with conflicts with pedestrians/vehicles cited as the primary problem.

Existing Conditions Civil Engineer Review

BKF visited Rossmoor on 5/25/21 to review potential project locations along with Jeff Matheson of Golden Rain Foundation (GRF) and ELS Architecture and Design, and visited again on 6/7/21 to review the existing golf cart crossing structures for cursory assessment. The following is a discussion of our findings.

Hillside Clubhouse

BKF visited the Hillside Clubhouse to take note of accessibility issues from the parking lot to the buildings as well as to the lawn bowling fields. The fields are about 2'± below the grade of the parking lot near the accessible stalls, and about 3'± below the building elevations and separated from the building walkway by about 8'. Generally speaking, in order to provide an accessible path to the lawn bowling fields a minimum 5' wide (outer width) ramp would need to be provided, running approximately 40'-50' to provide the required slopes and landings. It would need to be located within the current landscape separation between the buildings and field or within the concrete sidewalk between the parking stalls and field. This could be integrated into the existing walkway without impact to the field or parking lot footprint but would require the use of retaining walls and may not be the user experience desired by the residents.

The existing parking stalls do not appear to be compliant with current accessible stall dimensions. Because they are angled stalls, the shortest length of the stall must be 18' as measured from where the car is stopped and be provided a full access aisle. Preliminarily, we estimate this would add 8-9' of encroachment into the drive aisle as currently configured. We suggest a further study to determine potential configurations that can minimize the impact (reducing the walkway to provide more stall length, parallel accessible stalls to reduce width, etc.) Additionally, the walkway from the accessible parking aisle to the buildings should be further studied to determine if the grades require a ramp that is compliant with the California Building Code inclusive of the required handrails, landings etc.

Creekside Pickleball Courts

BKF walked from the pickleball court parking lot along the Rossmoor Parkway sidewalk to the open space just north of the existing pickleball courts. It is our understanding the GRF is interested in the feasibility of two potential projects that would expand parking in this location if the pickleball courts remain in the current footprint. The first is expanding parking capacity by adding parking stalls to the existing open space north of the existing courts and on the west side of Rossmoor Parkway. The second is to add parallel or angled parking to Rossmoor Parkway by re-configuring the street median (narrowing) and re-aligning the two southbound travel lanes to create space for the parking.

applicability to C.3 requirements. Stand-alone parking projects that create or replace 5,000 square feet or more of impervious surfaces (paving, roof structures, etc.) are subject to stormwater treatment requirements, and these stormwater treatment requirements may add cost to the project by requiring additional space and utility infrastructure (storm drainage and irrigation).

Cart Crossings

On 6/7/21, BKF performed a site visit to provide a cursory assessment in order to compare the current condition of the golf course cart crossings with the 10/23/2009 assessment previously prepared by BKF Engineers. Below is a summary of our findings. For more detail on the crossings, including specifications and general conditions in 2009, please refer to **Exhibit A** and **Appendix C**.

- **Crossing 1**: The general condition of this crossing appears consistent with the 2009 assessment. We noted that there appeared to be additional erosion of the base material along the edges of the concrete path approaches to the bridge (due to the steeps slopes adjacent to the path). We also noted that the hand rails appear to be loose.
- **Crossing 2**: The general condition of this bridge appears to be good and consistent with the 2009 assessment. There has likely been additional erosion on the left bank (look downstream). We observed that weed trimming had recently occurred along the creek bank and slopes, and it is possible that removal of this vegetation has played a role in downstream erosion. Based on discussion with GRF staff, we understand that there is a potential plan to re-align the approaches to this bridge that has not yet developed.
- **Crossing 3**: The general condition of this crossing appears to be good and consistent with the 2009 assessment. We noted a lot of debris within the upstream junction box, which was contributing to an uneven distribution of flow two each culver barrel. The debris consistent mainly of large branches, plant growth, and a few golf balls. It appears that a significant amount of erosion has occurred downstream of the culverts. GRF staff indicated the erosion of the bank has been occurring over many years.
- **Crossing 4**: The general condition of this crossing appears to be generally consistent with the 2009 assessment, which the exception of the culvert barrels and splash block. Cracks in the culvert barrel result in water not actually discharging from the culvert barrel, but running underneath the structure, resulting in significant erosion of the crossing structure and the concrete apron (the apron appears to have deteriorated significantly since 2009). We suggest GRF have a structural engineer review the existing condition to provide recommendations for mitigating further deterioration of the structure.
- **Crossing 5**: The general condition of this crossing appears to be consistent with the 2009 assessment. The concrete apron is noticeably undermined, but it is unclear if the condition has worsened from 2009. On the upstream end there is a metal mesh screen that appears to be used to catch debris. This should be cleared of debris and adjusted to have a uniform depth of submersion, as currently one side is at a higher elevation and therefore causing more water to enter the left culvert barrel at a higher flowrate than the right barrel, increasing the velocity of the flow of water.
- **Crossing 5A:** Approximately 140' upstream/southwest of Crossing 5 there is a cart crossing that is not connected on either end to a concrete path that was not discussed in the 2009 memo. We observed cracking in the concrete on the upstream side of the culvert, poor guard rail support, and some separating of the top slab from the culvert face. We recommend generally consistent with crossing 5 for mitigation.
- **Crossing 6**: The general condition of this crossing appears to be good and consistent with the 2009 assessment. We observed the same erosion concerns from the 2009 report, and in particular the concrete apron's base has large voids that appear to have water discharging, leading us to believe that there is leaking from the culver barrel or water flowing under the culvert structure completely. This should be addressed per the recommendations in the 2009 memo.

- **Crossing 7**: The general condition of this crossing appears to be consistent with the 2009 assessment. We observed that the outlet of the culvert and the apron appears to be separating from the crossing structure, for which we suggest GRF have a structural engineer review the existing condition to provide recommendations for mitigating further deterioration of the structure. It was verbally relayed to us that this crossing is one of the narrower crossings, which combined with the loose handrails is a potential safety issue between multiple carts and/or pedestrians.
- **Crossing 8**: The general condition of this crossing appears to be good and consistent with the 2009 assessment, and made no additional observations. Note: "Crossing 9" per the 2009 report's Figure 1 does not appear to be a separate crossing from Crossing 8, and was not discussed in the 2009 memo.
- **Crossing 10**: The general condition of this crossing appears to be good and consistent with the 2009 assessment. One additional observation is that a tree recommend for removal in the 2009 memo appears to have been removed. Additionally, there are surface cracks that should be filled with a joint sealant to minimize the inflow of water.
- **Crossing 11**: The general condition of this crossing appears to be good and consistent with the 2009 assessment. One additional observation is that we observed plant growth within the culverts that should be cleared. GRF staff relayed the observation that during very heavy rain events, it's not uncommon for the crossing to be flooded. This is not inherently an issue if GRF anticipates this in the programming of facility access, but should be noted for any future work on the cart crossing.
- **Fountain Pond Spillway**: The 2009 memo did not discuss the crossing of the fountain pond's spillway, approximately 100' north/downstream of the pond. We observed the spillway itself to be seeping water through cracks in the concrete, some of which was discharging under pressure. With no discernable source of water except for the nearby fountain pond, we recommend that GRF investigate into the source of this with the aid of a geotechnical engineer.

Emergency Access Road Improvements

Based on discussion with GRF staff, we understand that Rossmoor has a strong interest in improving existing emergency access. Currently the only way in and out of the community is through Rossmoor Parkway to Tice Valley Road. Please refer to **Exhibit B** for an exhibit demonstrating three potential opportunities that appear possible from an engineering perspective, but that should be explored in further detail for feasibility. Please note that this is a cursory evaluation, and that all alternatives require access to private properties and private access agreements.

Trends and Precedents

The consultant team researched many successful adult communities as part of the engagement preparation. This allowed a better understanding of the widest breadth of options while identifying potential trends in the near-future that the Rossmoor community should consider as part of the 10-year plan. The emphasis of this work was on amenities and activities what would fall under the Golden Rain Foundation capital improvements budget.

Our research was focused on two areas: identified trends in popular senior/adult community literature, and reviewing the amenities in successful adult communities around the country, comparing their offerings with those currently at Rossmoor.

Top 10 Retirement Community Trends to look out for in 2021 (From seniorlifestyle.com)

1. Focus on location
    a. Demand for shopping, culture, fine dining
    b. Aligned with resident location desires

2. Days made simpler through technology
    a. Online program scheduling, activity opt-ins, and menus
    b. Integrated wearables that track vital statistics
    c. User-friendly platforms to ensure new tech enriches resident experiences

3. Thoughtful design and architecture
    a. Warm, welcoming, functional
    b. More daylight, open layouts, green spaces, and improved unit plans

4. Access to healthcare
    a. On-site healthcare clinics for routine exams and urgent care
    b. Physician visits by podiatrists, dentists, and audiologists

5. Pet friendly spaces
    a. Off leash dog parks
    b. Walking trails
    c. Daily social pet programs

6. Sophisticated dining (this is more directed at continuing care facilities)
    a. Fresh approach to dining
    b. More restaurant style options
    c. Emphasis on nutrition

7. Outdoor and boutique fitness
    a. Tai chi, yoga, walking clubs, hiking excursions, golf and tennis

8. Community Involvement and volunteerism
    a. Involve seniors in the broader community
    b. More diverse social opportunities
    c. Imbue a sense of purpose through volunteering with local agencies

9. Trips of a lifetime and exciting excursions
    a. Crossing off bucket lists!
    b. Coordinating national and international travel opportunities
    c. Outside the box excursions like skydiving and kayaking

10. Personal Expression and Growth
    a. Education and programming options to help explore unrealized interests and untapped creative pursuits
    b. Arts centers, music lessons, college courses and book clubs

Top Senior Housing Trends for 2021 (Senior Housing News)

1. New health care paradigm – top priority is health and wellness – covid shifted value proposition completely. Investments in clinical capabilities – hiring medical director, and focusing on care and safety.

2. Improved appeal and increased occupancy – now that covid is less of a threat, should be an initial period of recovery, but followed by return to weakening market. Weaker providers might fail.

3. Disruptive environment – new players like co-housing, more

work from home.

4. Increase in owner-operator tensions and impatient capital with private equity exiting projects early.

5. Digital age of sales and marketing.

6. Market consolidation.

7. New generation of CEO's.
8. Smaller cities becoming development hotbeds.

9. Active living outshining independent living.

10. Trial and error period for new models of senior living – Watermark aiming to be the Tesla of senior housing with precision wellness model, Atria aiming to be community of the future.

a. New reliance on technologies – robust infrastructure to support stable connectivity in all locations.
b. Tech baked into all aspects of design – monitoring for contact tracing, touchless systems, voice activated resident engagement tech.
c. Rooms devoted to telehealth visits.
d. More smaller houses – check out Cantina Communities, and Minka tiny houses.
e. Co-housing and co-ops

Future-proof your Senior Living Community – ICAA Forum 2020 (McKnight's Senior Living – News, perspective and analysis)

1. Redefine meaning of Community

a. Open more services and amenities to non-residents – helps with staffing problems and income generation.
b. Need to provide nearby affordable housing for staff and families.

2. Expand built and unbuilt environment.

a. More outdoor features like walkways, gardens, paths, and recreation.
b. Indoor spaces becoming more flexible and multi-use.
c. Virtual healthcare spaces with technology and privacy.
d. More private outdoor spaces.

3. Integrate technology through all operations.
a. Tech enables spaces for staff and residents.
b. Indoor and outdoor access.
c. Wearable technologies.
d. Rooms outfitted with smart utilities, remote monitoring, voice activated systems, and in-house channels.

4. Emphasize wellness culture and lifestyle.

a. This is the sales pitch attracting future residents
b. Healthcare component has become more important during covid.

5. Strengthen workforce quality, growth and retention.

a. Staff initiatives.
b. Onsite healthcare, dining and amenities for staff as well as residents.
c. Flexible work schedules.
d. Nearby affordable housing.

Trends for Senior Living in the 2020's (Legacy Senior Communities)

1. Catering to active seniors.

a. The baby boomers are here.
b. Lock and leave lifestyle with chef prepared meals, concierge services, opportunities for travel, exercise, hobbies and a full calendar of social activities.

2. Emphasizing hospitality.

a. Combine resort and hotel amenities with inspiring living spaces and outdoor environments
b. More access to care and healthcare services.

3. Honing in on dining.

a. Multiple dining venues to provide more choice
b. More casual dining.

4. Smartsizing living choices.

a. 55-65 year olds now called Zoomers. Prefer housing linked with amenities.
b. Golf courses, nature trails, aquatic centers, hobby facilities.
c. More urban locations.

5. Adding smart technology.

a. Smart lights, thermostats, appliances, security, and 5G networks.
b. Predictive tracking devices – warn for irregular heartbeats, audio signals at trip hazards – going beyond step trackers.
c. Access to telemedicine.

6. Fresh and energizing interiors – more layering of textures, patterns, and colors.

Amenities at other 55+ communities

Trilogy – Rio Vista – 3,000 homes

a. The Vista Club – 27,000 sf
Includes cyber café, fitness center, indoor pool, walking track, aerobic/dance studio, ballroom, Diablo room, massage studio, business center, center for learning, billiards room, card room, locker rooms, grand living room, walking and biking trails

b. Delta Club – 7,000 sf
Fitness center, library, games rooms, arts and crafts, outdoor pool and spa, BBQ area

c. Rio Vista Golf club
18 hole course, full service restaurant, golf pro shop

d. Eight bocce ball courts, four tennis and pickleball courts, one indoor and one outdoor pool, a fitness center, a library, a dog park, and other amenities.

The Villages – the villages, FL – 70,000 homes

a. 35 neighborhood recreation centers, 17 village rec centers and 8 regional rec centers
b. 200+ retail stores
c. 120+ restaurants
d. 80+ outdoor pools
e. Numerous state of the art fitness centers
f. 2 bowling alleys
g. 202 pickleball courts!
h. 201 bocce courts
i. 174 shuffle-board courts
j. 9 softball fields
k. Lifelong learning college
l. Hospital and health care centers
m. Gardening plots
n. Playground for grand kids
o. 12 championship golf courses plus 41 executive golf courses and a miniature golf course
p. 9 worship centers

Solivita – Kissimee, FL – 5,900 homes

a. Palms amenity complex – 19,000 sf
Fitness center, aerobics studio, members club room, multi-purpose room, business center, 2 tennis, 4 pickleball, 2 bocce, heated lap pool, 2 spas

b. Riviera Spa and Fitness Center – 32,000 sf
Exercise studio, dance studio, indoor walking track, indoor pool, heated outdoor pool, 2 spas, scenic waterways

c. Waterfront galleries – 16,000 sf
Art studios, game room, billiards, library, 3 computer labs, 5 tennis courts, pickleball, bocce, horseshoes, softball diamond, outdoor pavilion

d. Starlite Ballroom – 17,000 sf

e. 2 other neighborhood centers – 3,200 sf each with outdoor pools

f. Stonegate Gold Club
Restaurant, bistro, grille, 2-18 hole courses

g. Freedom Park – 18 acre sports complex
Pickleball court, 5 tennis, 4 bocce, 2 shuffle-board, softball, outdoor pavilion, dog park

Sun City – Palm Desert, CA – 4,949 homes

a. Mountain View clubhouse – 78,000 sf
Indoor lap pool and spa, fitness center, golf pro shop, coffee house, pub, 2 restaurants, ballroom, 8 meeting/activity rooms, art studios, wood shop, 2-18 hole golf courses, 10 tennis, 4 pickleball, driving range, outdoor pool and spa

b. Sunset View Clubhouse – 25,000 sf
Restaurant and bar, aerobic/dance studio, speakers hall, library, pro shop, billiards room, 3 meeting/activity rooms, outdoor pool and spa, 8 bocce, pavilion, ponds and lake

c. Lakeview clubhouse – 16,000 sf
Fitness center, indoor track, gathering room, 4 meeting/activity rooms, library, Olympic size outdoor pool and spa
d. Main thing to note is 3 full service restaurant/bars on-site

This research provided great insight into what is popular with regards to amenities, style and activities. With the advent of Covid, there is a strong emphasis in providing safe, health-focused amenities. Adult communities are also meeting a higher bar of quality, materials and finishes, creating hospitality-level experiences for residents.

Residents in these communities have a high-level of amenities and service which often includes multiple full-service restaurants, integrated technology, more urban environments with walk-ability between numerous amenities in a single location and growing fitness opportunities. Just as Rossmoor has seen growth in the pickleball club, other communities are likewise seeing an increase in outdoor activities opportunities that emphasise fitness.

Our review of the Golden Rain Foundation facilities in comparison with those of other like-communities found that Rossmoor is well-positioned in comparison with many similar communities. This study provided a good roadmap as we began our community engagement process, providing a valuable roadmap to what opportunities may lie ahead







Community Outreach

The design team has facilitated an extensive community engagement process for the proposed long term master plan project. To date, there have been three focus groups, an in-person community meeting with break-out groups, an online and print survey, and multiple publicly noticed meetings with the planning and finance committees.

Focus Group Meetings

The first two focus group meetings were held on June 11th, 2021. The first meeting addressed the Mutual Operations Division (MOD) facilities. The participant group consisted of representatives of the various Golden Rain Foundation teams who are currently housed at the facility, and other employees of the organization. The design team reviewed the scope and goals of the current Capital Improvement Plan study and then delved into a specific discussion of the MOD complex.

In general, the feeling was that the existing buildings are aged out and are no longer sufficiently serving the purposes for which they are being used. Everyone present agreed that the existing facilities were no longer suitable for their current uses. It should be noted that the building currently housing offices was originally a second warehouse space. The building is 60 years old, and has outlived its intended lifespan.

While most of the activities do not involve direct communication with residents, they do come to the site to meet with staff to discuss unit alterations and resale administration. We discussed options of relocating the staff who do need to interact with residents on a regular basis to new offices within the Gateway Complex, near the main offices of the foundation, but most of the participants felt that the existing synergy between the various groups housed at the MOD worked very well for all involved.

The general consensus was that the facilities should be replaced at the same site, but split into two separate buildings – the first to house the auto repair shop and workshop/storage facility, and the second for all of the offices. The offices would be at the current site, with a parking lot in front that retains the existing fuel island, and the auto/workshop building would be in the old triangular RV lot.

In addition to providing equivalent spaces to those in the existing building, the new facility should also include a third, larger conference room to enable training for groups of up to 30 employees, a lobby/waiting area for residents, and more room for the public safety manager.

The staff participants also gave the design team their feedback on the operational issues of the existing clubhouse and outdoor facilities onsite.

The second meeting dealt with the spaces currently available for indoor activities at the various clubhouses, how they are currently being used, and how they might be improved to better serve current and future program needs. This was an in-person meeting with a group of 14 leaders and other representatives of numerous special activity groups including theatre, music, dance, boomer club, card players, fitness groups, and others.

We reviewed how these various groups use all of the clubhouses on site, and what type of improvements they think would benefit their groups and the community at large. We got a lot of detailed feedback on how the groups use the different spaces in each clubhouse, and a sense of what type of improvements might remedy deficiencies that they've experienced. We also looked at potential opportunities to expand on the types of activities currently available.

Our discussion addressed each of the individual buildings at the Gateway Complex, as well as the different rooms used by residents at Creekside, Dollar, Hillside, and the Event Center. We also talked about the programs at the Tice Center, but no improvements at that facility are being covered in the scope of this current study, since the facility was so recently upgraded. One interesting issue that came up was that some of the spaces are reserved but not actually used, so we talked about better systems for tracking the actual use and access to the spaces.

We also discussed a broad range of ideas raised by the participants for improving and expanding on the existing spaces. Some of the suggestions included improved accessibility at the Dollar Clubhouse including an elevator





so the second floor spaces can be better used, adding a café and more activity rooms at Gateway, and expanding the Las Trampas room at Hillside to better serve the performing arts organizations, with a real stage, more seating area, and expanded storage. It was noted that all of the kitchens need updating, and that there are other general concerns such as poor outdoor lighting and the need for some HVAC improvements.

A common theme amongst all of the participants was that there are not enough places to eat within the Rossmoor campus. There is currently only the one restaurant at Creekside, and that is often full. There was previously a café in Building C at the Gateway Complex, but this has not been successful, mainly due to the minimal area available for food preparation, which limited food service to things brought in from outside. Participants said that they felt additional food service facilities or cafés at other clubhouses could be very popular for residents.

The third focus group met on June 15th to discuss the spaces available for outdoor activities. This was another in-person meeting that was attended by 9 residents and 2 staff members, with representatives from the various outdoor clubs including golf, tennis, pickleball, lawn bowling, bocce, gardening, swimmers, walkers, and once again the boomer club. It was very clear that the abundance of outdoor activity choices was a real asset to the residents of Rossmoor and maintaining and enhancing these is a high priority.

Some of the items we discussed had to do with public safety, such as the limited egress from Rossmoor as a whole, and the conditions of the bridges over the creek on the golf course. Bicycling was noted as being quite hazardous due to the high speed of drivers on the main roads through the site.

One of the most popular ideas that was brought up was providing a protective cover over Peacock Plaza at the Gateway Complex. This would enable the space to better serve the needs of residents for outdoor dining, gathering, and small performances, and it would serve to create a “town square” for the site. Someone raised the possibility of bringing food trucks to this and other sites within Rossmoor, and all agreed that this was a great idea.

Other discussion topics included the lawn bowling and bocce courts at Hillside; the size and location of the community garden, which is working well now; the proposed expansion of the pickleball facilities; and the high demand for separated walking paths through the entire site.

Community Programming Workshop

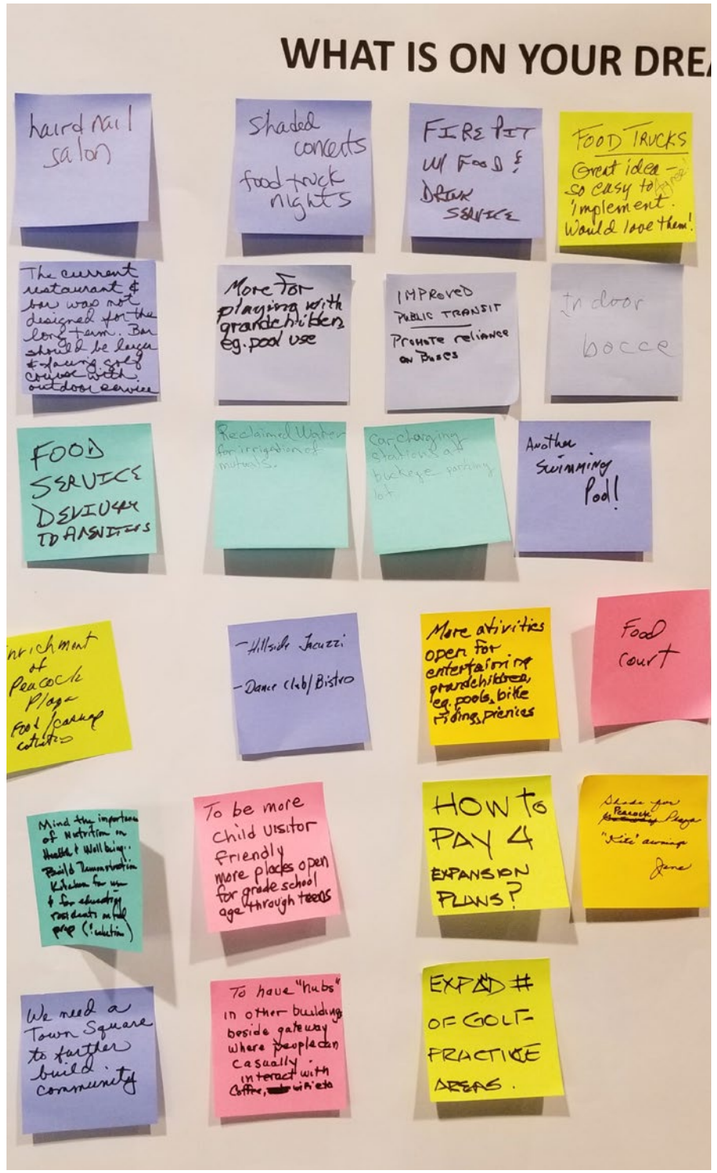
Later that afternoon, the design team facilitated a large community meeting at the Events Center. Approximately 45 residents attended, some who had previously participated in one of the focus groups, but most who were present to discuss the project for the first time as a group.

Following a slideshow presentation that reviewed the types of programs currently available for residents and the facilities that will be addressed within the scope of the overall study, participants were able to meet with design team members and foundation staff at three separate break-out stations to discuss the indoor and outdoor activity areas and their dreams for future programs that could be made available for residents. This was followed by a general discussion.

Participants had the chance to respond to plans and image boards that were presented at each break-out station, and to write down their comments and wishes at each one. Many of the issues raised concurred with those expressed in the focus groups, but there were some new ideas as well. They were also given dots to put next to photos to convey which activities or spaces they felt were most important to them and the community as a whole.

At the outdoor activities station participants shared their thoughts on issues that included separated walking paths, and potentially also bike trails through the site; public transportation; parking; outdoor performance venues; swimming; dog park; a playground for grandchildren; and expanded opportunities for outdoor dining.

The indoor activities station generated a lot of comments about all of the various clubhouse facilities, with specific topics including accessibility; more options for dining; improved sound and audio-visual systems in the meeting rooms; better ventilation and temperature control; improved access to



technology; and covering Peacock Plaza to create a town square.

Participants seemed to really enjoy having the opportunity to think outside of the box at the dreams station. A wide range of new ideas were generated including a fire pit with food and drink service; Uber style on-demand transportation; food service delivery to individual homes; the town square; more child friendly for visiting families with features like a playground and miniature golf; an expanded golf practice area; more reclaimed water for the mutuals; and an RV dump station at the MOD near their parking lot.

During the general discussion, a lot of the ideas generated support, but some residents also raised financial questions regarding how this would be paid for, paying off the current debt, and concern about raising the coupon costs.

Research on Amenities in Similar Communities and Emerging Trends

Simultaneously with this outreach effort, the design team conducted research on what types of amenities were provided at comparable active adult communities throughout California and the Western United States, and also studied articles on emerging trends in these communities.

Rossmoor currently has 6,676 homes, so the team looked at 19 other 55+ communities that were mostly in the range of 3,000 – 15,000 homes, with a couple of larger projects thrown in to see what other types of facilities they might have. Most of the projects studied in this research are located in California and Arizona, with a few in Florida, which is the state with the most and largest active adult communities. A number of the complexes were specifically recommended to be studied by GRF staff members.

The study shows that Rossmoor already has some of the best and most diverse amenities for residents. These include 2 golf courses, 8 tennis courts, a movie theatre, arts complex, three clubhouses, an aquatics/fitness center, and an events center and courts for lawn bowling, bocce, and pickleball.

The team studied the other sites to see what additional types of amenities they are providing that might also be appropriate for future inclusion at Rossmoor. Some of the features we found include multiple options for on-site dining and drinking, extensive separated walking and biking trails, outdoor performance venues, retail stores, and amenities for visiting grandchildren such as playgrounds.

A second research study was made to help assess current trends in senior living. This was not a scientific study, but rather involved an internet search for recent articles in trade publications that looked at these trends, and specifically identified some of the things that might be changing as we move forward from the unique circumstances that have been experienced during the Covid pandemic and associated constraints on social interaction.

Some of the trends that seemed appropriate in discussions of the future of Rossmoor included:

- Expanded access to and use of new technology, both for staff and residents – this includes updating to “smart” technologies with voice activation and touchless operation.
- Better access to healthcare – this includes providing for telemedicine and/or onsite clinics.
- More varied and sophisticated options for dining.
- Increased emphasis on personal fitness – better access to outdoor walkways, gardens, paths, and recreation.
- More options for on-site entertainment and continuing education.

While these haven’t been main points of discussion in the development of this plan, the proposed improvements that are under consideration would all support these trends through their development.

A summary of these findings was presented at the community design workshop.





Community Survey

Following the focus groups and the large community meeting, the team generated a survey to solicit outreach from a much wider representative group of residents. The online survey was made available through the Rossmoor website, and was publicized in the Rossmoor News. In addition, the team also generated a print version, which was distributed at the various clubhouses and the administrative offices, and published in the Rossmoor News. Staff input the responses from the handwritten surveys into the online document, so that all of the results could be collated as a single group.

The first section of the survey addressed how residents are currently using the various facilities within the campus. Questions were broken into sections on indoor and outdoor activities. The indoor activities included performing arts, visual arts and crafts, indoor games, indoor recreation, classes and clubs, dining, religious services, other large gatherings, and other activities. In addition to asking how often people participated in each of the activities grouped into these categories, we also asked what other types of activities they might be interested in participating in.

Similar questions were raised in the second section, which dealt with outdoor activities. The categories here included recreation, arts and cultural events, social gatherings and other activities.

Sections 3 and 4 dealt with accessibility, transportation and infrastructure. The transportation section actually generated the most responses, with 194 written comments and suggestions regarding ways to improve public transportation, parking, and walking throughout the site.

We received 553 responses from a potential pool of 9,641 residents. This is a response rate of 5.5% of the total population. Of these, 384 were completed online, and 169 were done by hand.

Indoor and outdoor recreational activities topped the list, with swimming, cardio, and walking proving the most popular activities. Social clubs and other large gatherings such as movies, concerts and dining at Creekside, were the most popular indoor activities other than those related to fitness, and outdoor concerts and club gatherings followed swimming and walking for outdoor popularity.

Very little concern was expressed over issues of accessibility, and other than at the Dollar clubhouse, most of the facilities already address this very well. However, as already noted, the transportation section generated a lot of comments. Most residents travel around the site by walking and in their personal cars. However, a desire was expressed for an improved bus system, and better access to car-share services like Uber and Lyft. Some of this can be expressed through more public education, but improvements were also suggested.

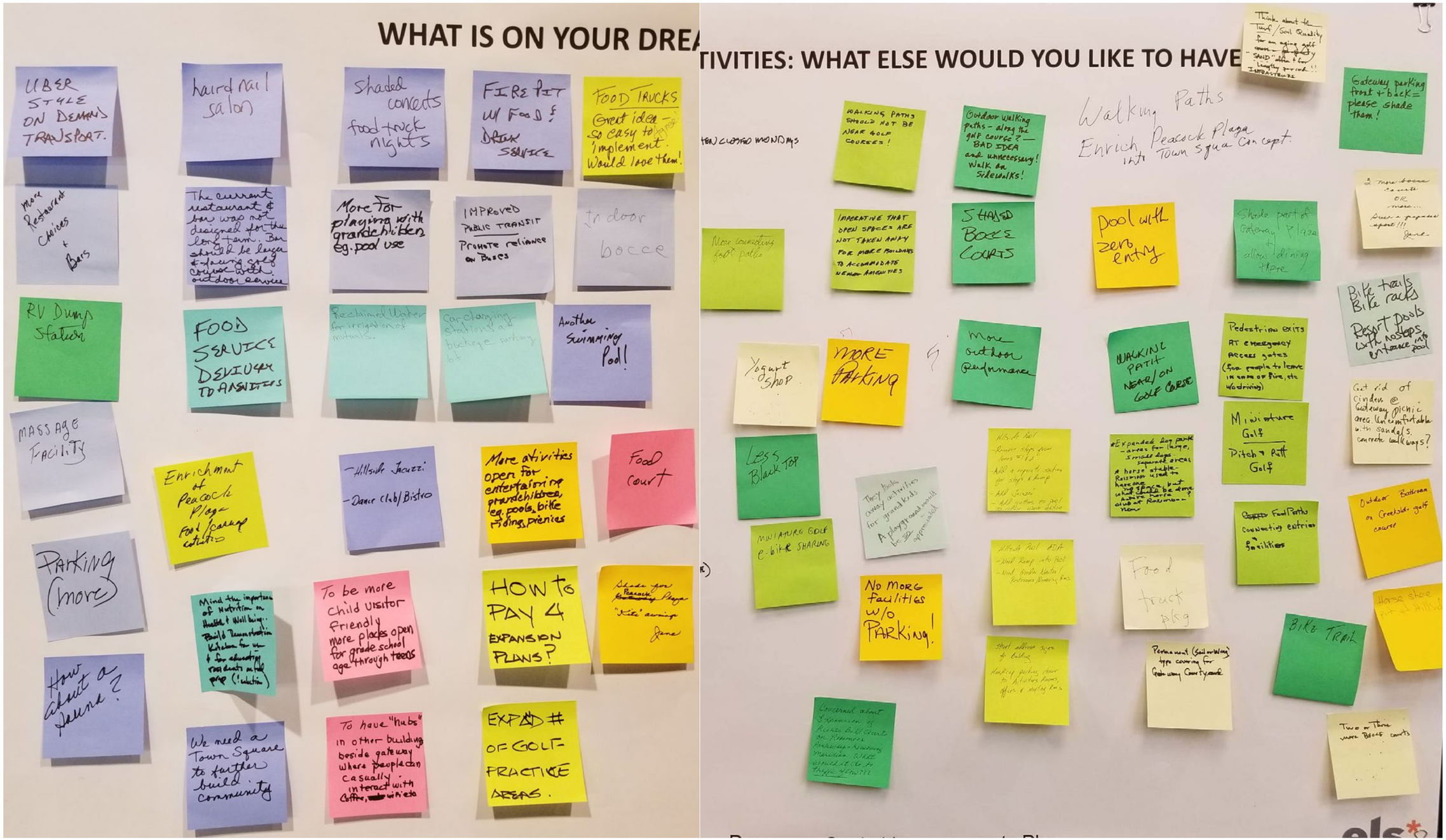
Once again, the full survey results are included in the appendices.

Meetings with Committees

In addition to the meetings outlined above, the design team has met with the Planning Committee four times and twice with the Finance Committee to discuss the progress of the study, and to begin the conversations around funding and phasing options for the projects addressed in the long term capital improvement plan.

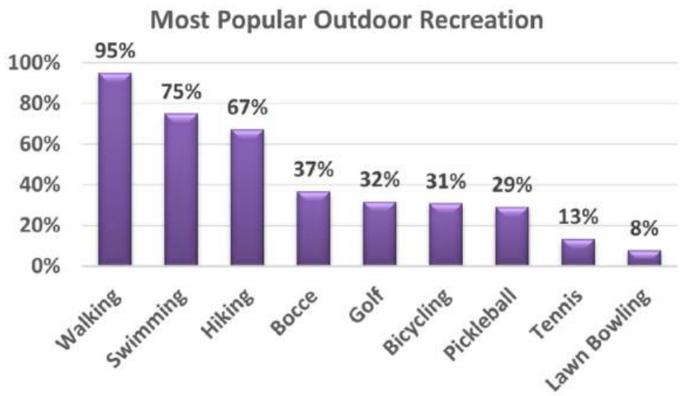
Second Community Meeting

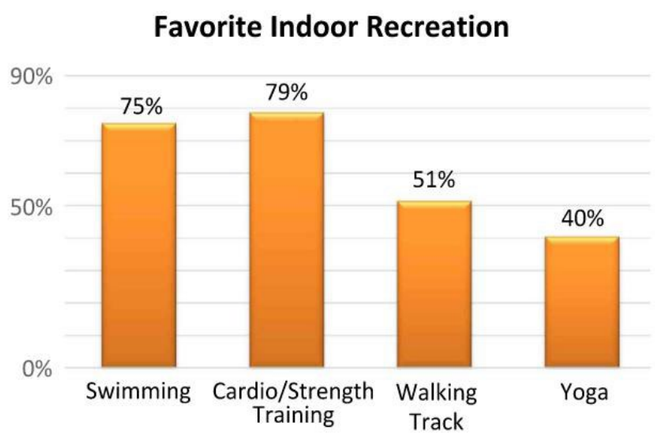
A second community meeting will be held in coming months to present the findings of this study and the proposed priorities of the long term capital improvement to residents, and to get their additional input to help move the project forward. This meeting has yet to be scheduled, but will be one of the final efforts in the study.



Idea and Dream Boards from the community outreach session







Survey

Quick numbers

(Note: not all questions were answered by all respondents, so percentage responses for each question varies.)

- Total number of potential respondents: 9,641
- Total number of respondents: 553
- Total number of surveys completed as a percentage of total population: 5.5%
  - Online respondents: 384
  - Hard copy respondents: 169
- Total number of survey questions: 23
- Four sections of survey
  - Indoor Activities
  - Outdoor Activities
  - Accessibility
  - Transportation and Infrastructure

What We Learned

- Percentages rounded to the nearest whole number.
- For a response rate of at or near 5% with a population of 10,000, the margin of error is +/-5%.

Indoor Activities

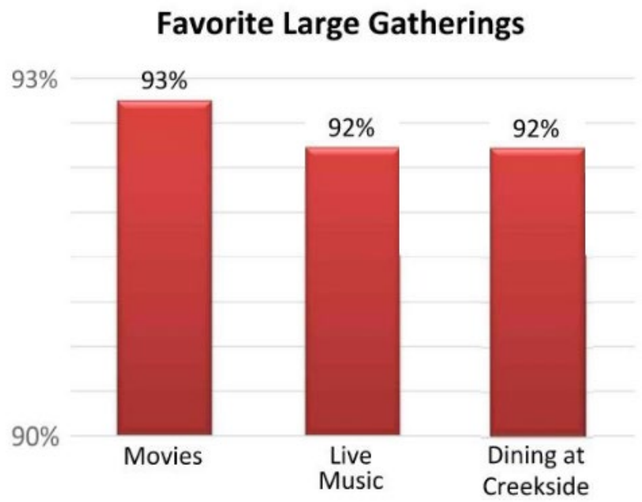
- 75% of respondents swim indoors at least occasionally
- 79% of respondents participate in cardio/strength training at least occasionally
- 79% of respondents participate in cardio/strength training at least occasionally
- Next most popular indoor games/recreation are the walking track, yoga, and playing cards
- For the activities that can take place in the gymnasium, and are the most popular
- For indoor classes and clubs, the two most popular activities are social clubs (74% at least occasional) and education classes (69% at least occasional)
- Most popular larger gathering indoor activities are attending Movies, Concerts, and Creekside Dining all with 92% at least occasionally
- 91% of respondents would occasionally casually dine out if this option was available, over 50% of respondents would dine out at least once a month

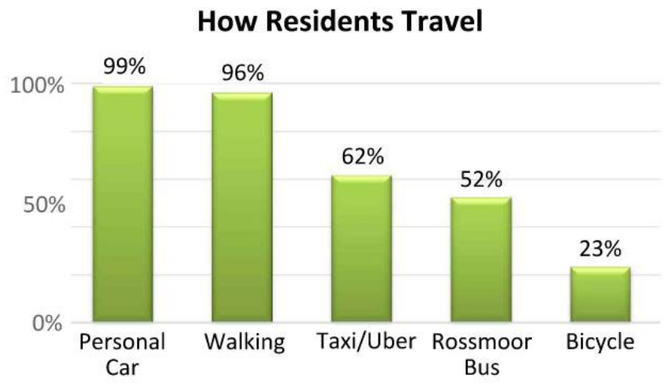
Outdoor Activities

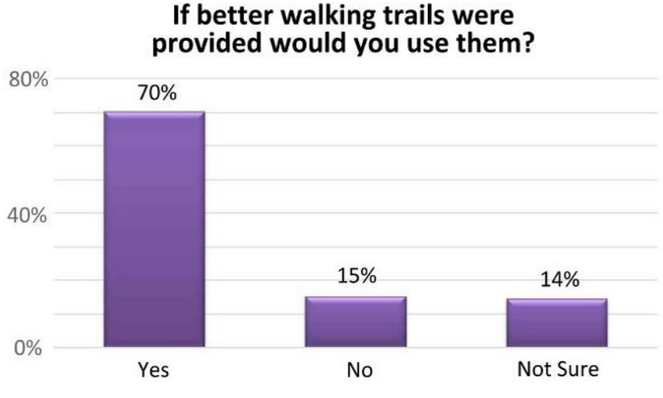
- Walking (95%) and swimming(75%) are the most popular outdoor recreational activities
- Bocce, golf, and pickleball are all about equally popular, and tennis much less so
- Outdoor concerts and club gatherings are among the most popular outdoor social gatherings; outdoor gatherings are all very popular with popularity over 50% for all except religious gatherings
- Farmers Market is very popular, with 90% attending at least occasionally. Casual gatherings in the shade are also popular at 78%
- Additional popular outdoor amenities include Walking Paths (90%), an Amphitheater (71%), and a Miniature Golf Course (58%)

Accessibility

- Residents overall don't seem to be very concerned about accessibility overall at Gateway and the Event Center
- At Hillside, between 10% to 14% of the respondents cited issues with parking, indoor spaces, bocce, Sportsmen's Park, the swimming pool, and restrooms
- Residents feel particularly challenged with accessibility issues at the Dollar Clubhouse. Spaces that need improvement are the first and second floor rooms, picnic area and stage, and restrooms; dissatisfaction ranged from 15% to 33%
- At Creekside, the areas that need accessibility improvement include parking, bar/grille, and pickleball courts







Transit

- Personal car (99%) and walking (96%) are easily the most popular ways to get around Rossmoor; over half of the residents occasionally take the bus or an uber
- For those that would like to see changes with the bus service, the most cited issue is the schedule (41%) and that it is convenient to medical care (26%).
- Note, for this question only 331 answered and 223 skipped. Respondent rate below 5% which increases margin of error. This question received 194 written comments, which is almost twice as many comments as any other question.
- Interest in an e-bike share is split, with 50% of people not interested, and the other 50% either interested or not sure
- If more level walking trails were added, 70% of residents state they would use them

Comments

Total number of comments: 1314. Of 23 total questions 18 invited comments.

Questions that received the most comments:

- Q. 23: What other improvements would you like to see made regarding transportation at Rossmoor? Comments: 197
- Q. 18 How well does the bus service work for you? Comments: 194

Other comment sections numbered between 33 - 98

Most repeated single words and count:

- bus, 119
- parking, 102
- club, 82
- golf, 79
- walking, 67
- bike or bicycle, 59
- food, 49
- square, 44
- RV, 42
- pool, 42
- Most repeated two-word phrases
- town square, 29
- golf cart, 27
- walking paths, 23
- golf course, 19
- dump station, 18
- Peacock Plaza, 17
- event center, 16
- parking lot, 14
- dial bus, 13
- food trucks, 12

Capital Improvements Projects

Introduction

Following is a list and description of proposed projects at Rossmoor over the next ten years. The list is organized by geographical area within Rossmoor or complex and includes both existing planned projects and proposed concepts. Some of these projects include concept sketches to illustrate basic design features.

GRF provided our team with a plethora of documents for our study including but not limited to: as-built drawings, project drawings, reports and studies. Existing project lists and budgets were also shared with us. Project development is informed additionally by guided site visits and photo-documentation. We were met with and discussed projects with various GRF staff such as Landscape Manager, Rebecca Pollon and Public Safety Manager, Tom Cashion to gain further insight. ELS and our consultant team worked with the Planning Committee and Jeff Matheson, the Director of Resident Services, to develop the details of each project.

Sustainability

GRF has invested in sustainable initiatives and continues to include green components in the rehabilitation and construction of the common buildings. While the Capital Improvement Plan (CIP) does not include any specific sustainable projects, we understand that GRF continues to develop plans for additional photovoltaic solar arrays. Because solar arrays may include leasing arrangements that minimize capital expenditures, these projects do not rise to a level that requires inclusion in this CIP.

We encourage and strongly support the inclusion of sustainable and energy-efficient components as these projects are developed. Overall areas for improving the sustainable aspects of built projects include moving towards electrification and away from natural gas, energy use reduction, water conservation, using renewable and recycled materials of Some specific strategies that could be considered in this climate are cool roofs, installing heat pumps, shading devices, and insulated envelope.

Accessibility

Recommendations for overall accessibility improvements may or may not be tied to a specific project. When the cost of construction for a rehabilitation project reaches a certain threshold as described in the California Building Code, it is required that accessibility improvements are provided from the right of way (ROW) to the area of improvement. It is important to understand how these required improvements might impact the budget of the project early in the planning process. With the average age of Rossmoor residents, accessibility needs a close look to ensure the paths are convenient and easy to traverse and meet all universal design criteria.

Project Narratives

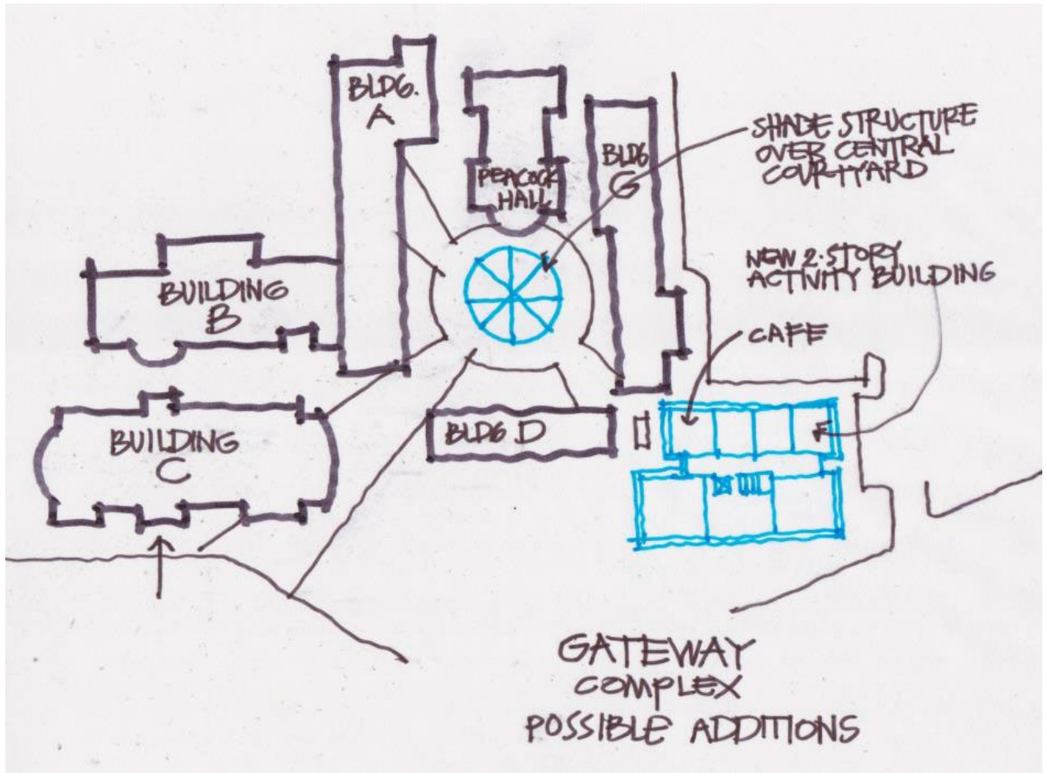
Gateway Complex

Gateway Studio Buildings

Phase 2 of renovation of additional studio spaces. Includes minor modifications to full renovation including rest room and accessibility upgrades.

Peacock Plaza at Gateway: shade structure and hardscape improvements in existing plaza

New self-supporting, tensile fabric structure supported by steel cables and steel posts in concrete foundation. Include limited hard scape improvements around posts. Footprint of shade structure to be roughly equal to area inside stamped concrete circular border, approximately 3000 SF. Minimum height of bottom of canopy equivalent to height of entry canopy into Building I Peacock Theatre, approximately 15-18 feet above grade. Provide in-ground electrical connection to support amplifier and other minimal sound equipment for small performances on temporary stage.



Gateway Complex Improvements Diagram

Peacock Plaza Alternates

Project can be reduced in scope to include a limited number of posts topped by canvas sails and commercial outdoor furniture for seating. Portable stage can be set up to take advantage of existing electrical at Building A for performances. No landscape improvements required.

Gateway Building A - Fireside Kitchen: kitchen and storage renovation

Renovation of commercial kitchen and prep area north of Fireside Meeting Room in Gateway Building A. Upgrades include plumbing, electrical, light fixtures, floor, wall, and ceiling finishes, kitchen equipment and specialties. Floor drain frequently back up, replace drain piping within footprint of kitchen. Expansion of kitchen footprint not required. Existing commercial hood to be upgraded. New equipment includes reach-in freezer, two reach-in coolers, upsized commercial hood, 8-burner gas range with integral griddle and two lower ovens, fryer, two convection ovens, ice-maker, two prep tables, and wall racks. New prep table with integral sink. New refrigerated salad prep table. New work station with lower storage and two commercial coffee makers to be included. New cleaning equipment includes dishwasher, associated manual dish tables, and spray down area. Existing area of kitchen is approximately 1000 SF and storage rooms approximately 1500 SF. HVAC chiller, boiler, VAV, and distribution system updated in 2020 so renovations made only on as-needed basis to support other upgrades.

Gateway Fireside Kitchen Alternates

To control costs in this renovation, replacement of existing equipment should be thoroughly reviewed. Some of the existing appliances and equipment may be serviceable and adequate for event needs.

Gateway Building E and H

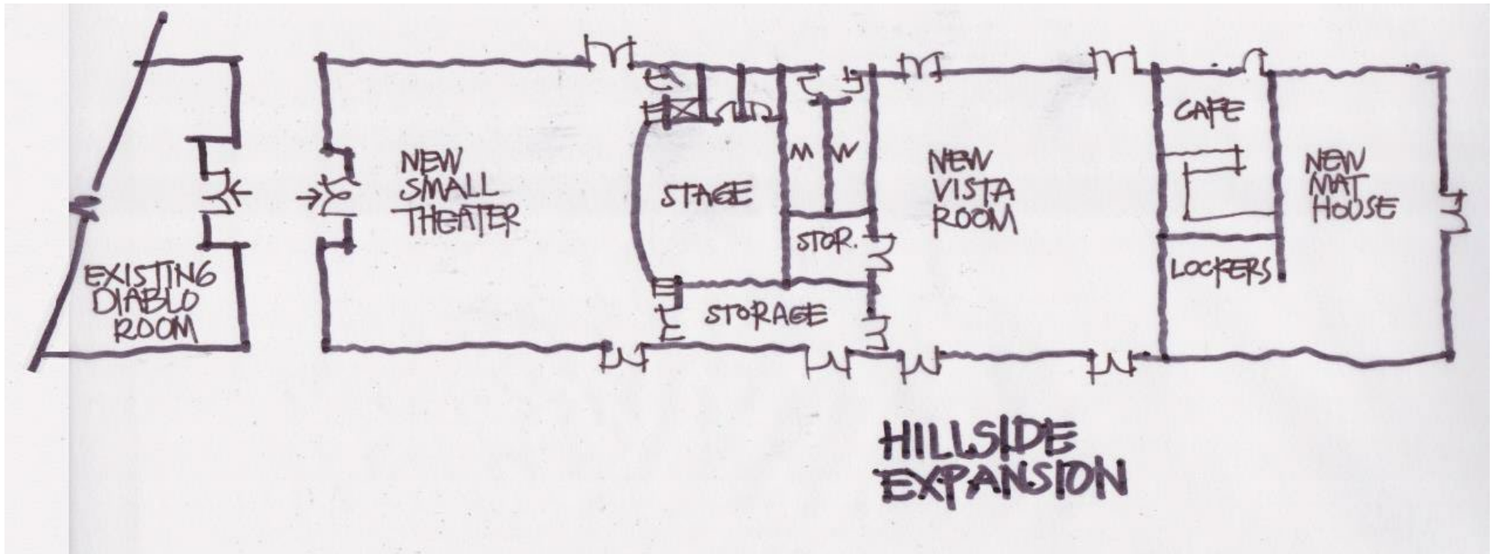
Option A: replacement with new building

Include cost for demolition of existing one-story Building E, F, and H. At Building E remove abandoned chiller, boiler, and electrical equipment. Existing gas meter to be relocated and electrical distribution system to be reinstalled for continued use in other buildings. See annotated drawing for approximate size of buildings. New building with café, meeting rooms, and storage to replace Building E and H. See sketch for proposed new building. Existing electrical transformer to remain. New

building to be two-stories and take up entire footprint of existing buildings and space between. Approximate footprint area of new building to be 11,250 SF. Vertical conveyance to include two stairs and elevator. First floor will contain two large meeting rooms, relocated billiards room, ceramics storage, and two medium-sized meeting rooms. Second floor will be medium-sized meeting rooms. First floor contains a café approximately 1200 SF in size. Include small commercial kitchen with grease trap, hood, and kitchen equipment and furnishings for seating.

Option B: renovation of existing buildings

At Building E remove abandoned chiller and boilers and unused electrical equipment. Renovate main mechanical room into meeting space with new HVAC, electrical, and finishes. Existing storage area to be renovated for building entry or continued use as ceramics storage. Existing gas meter and entry into building to remain. Existing electrical transformer and electrical service to remain. Existing electrical distribution system to be modified for continued use. Existing Building E footprint is 1200 SF.



Hillside Clubhouse Improvements Diagram

Hillside

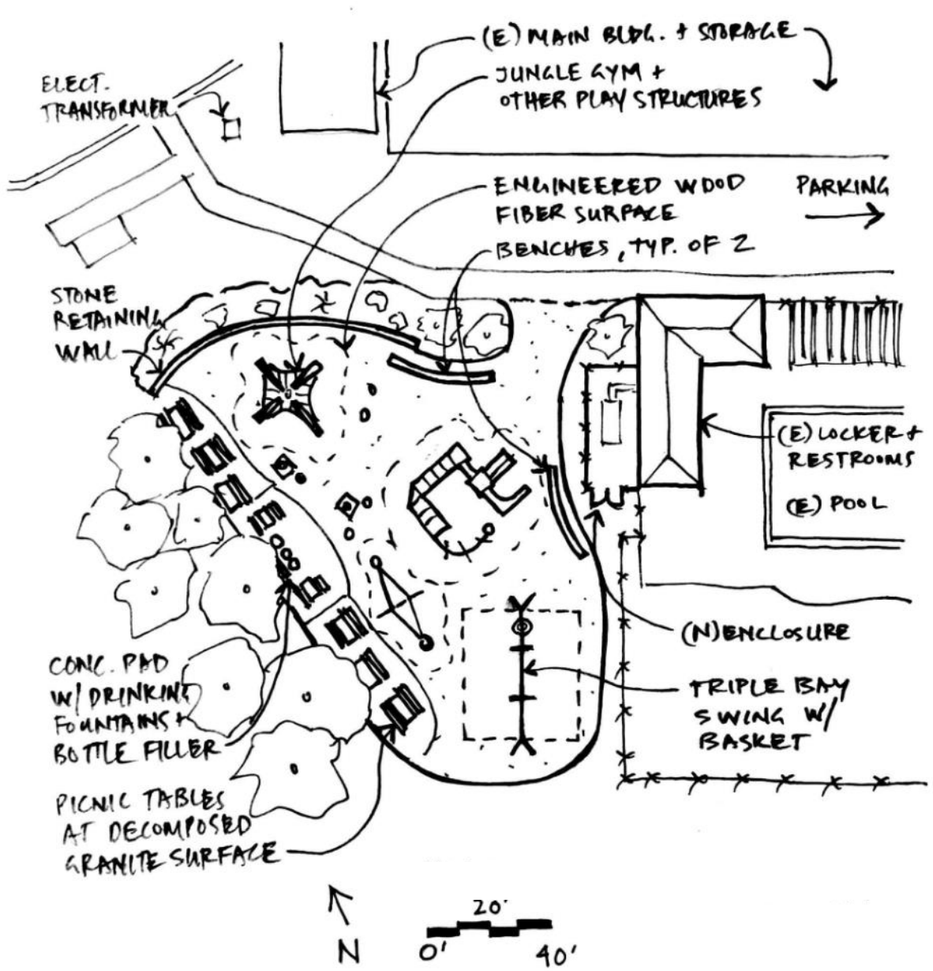
Building A Main Building East and Mat House

Demolish existing east wing of Main Building and Mat House. In footprint of both buildings, new one-story building with small theatre, stage, and sound system. New adjacent rehearsal space with sound system to replace the former Vista Room. Also included in this building will be meeting space, lockers, and storage for the Lawn Bowling Club. Provide new café with non-commercial kitchen. Existing sanitary, sewer, and electrical lines to be extended within original footprint to new rest rooms and kitchen space. Additional storage space with access to new Vista Room to be included. Deep eaves along walkway at north side of building similar to original building with slightly sloped shingle-covered gable roof will be provided. See below for accessibility improvements. Approximate area of new building addition is 8000 SF. See sketch and existing site plan for additional information.

Accessibility improvements at Hillside

Accessibility improvements described below are recommended to be included with a new Building A east wing addition:

- The lawn bowling fields are about 2-feet below the grade of the parking lot near the accessible stalls, about 3-feet below the building walkway and finish floor elevations, and separated from the building walkway by about 8-feet. Generally speaking, in order to provide an accessible path to the lawn bowling fields a minimum 5-feet wide (outer width) ramp would need to be provided, running approximately 40 to 50-feet to provide the required slopes and landings. It would need to be located within the current landscape separation between the buildings and field or within the concrete sidewalk between the parking stalls and field. This could be integrated into the existing walkway without impact to the field or parking lot footprint but would require the use of retaining walls and may not be the user experience desired by the residents.



Hillside Playground Concept

- The existing parking stalls do not appear to be compliant with current accessible stall dimensions. Because they are angled stalls, the shortest length of the stall must be 18-feet as measured from where the car is stopped and be provided a full access aisle. We estimate this will add 8 to 9-feet of encroachment into the drive aisle as currently configured. We suggest a further study to determine potential configurations that can minimize the impact (reducing the walkway to provide more stall length, parallel accessible stalls to reduce width, etc.)

- Additionally, the walkway from the accessible parking aisle to the buildings should be further studied as a ramp is likely to be required including landings, slope at or below 1/12 maximum rise over run, handrails, and curbs on both sides.

- The existing ramp between the Main Building and the pool area does not comply with current code. This ramp is not considered an accessible path because it connects two areas that both have separate parking. Due to the existing non-compliant width and lack of handrails on both sides, we recommend improving this path either with another project or as a stand-alone barrier removal project. Cost for ramp replacement is not part of this study.

Sportsmen's Park and Bocce Court Improvements

Resurface three bocce courts. Provide permanent shade structures at each end of three bocce courts to provide shade for both active players and spectators. Provide shade structure at concrete pad in Sportsmen's Park adjacent to and similar size and height to the existing Rotary Pavilion structure with lighting. Update lighting along sidewalk from parking lot up to bocce courts and provide new lighting at bocce courts. See below for accessibility improvements.

Accessibility improvements at Sportsmen's Park

Substantial upgrades or improvements at Sportsmen's Park such as installing a new structure or light fixtures will require a new accessible path be provided to the location of improvement or a percentage of the construction cost be dedicated to improving accessibility. Accessibility upgrades described below are recommended to be included with any other substantial upgrades, and will likely be required by code. Note that cosmetic and maintenance improvements to Sportsmen's Park, such as painting or re-roofing the pavilion structure will not trigger California Building Code required accessibility upgrades.

- Accessible path improvements should connect to the restroom building serving the area. Grade difference between the parking lot (419.5) and the Rotary Pavilion (433) is approximately 13.5-feet. Concrete ramps to accommodate this change in slope will be at least 162-feet long plus landings. There is space available between the Table Tennis Building and the restroom outbuilding to install ramps. The natural grade of the site will accommodate efficient use of concrete for the project.

Building B Pool Locker Room and Rest room

Renovate locker rooms and rest rooms with new showers, fixtures, benches, lockers, finishes, and light fixtures. Replace existing mechanical system and site screening along west side of building. Demolish existing drinking fountain at pool deck mounting to building and provide new accessible high low drinking fountain in same location. Existing pool equipment room to remain with no modifications. Add a low-slope entry ramp to the pool to facilitate easier access. Pool is scheduled to be re-plastered in fall of 2021 but this project is not included in this study.

Hillside Pool Improvements

The existing pool at Hillside is a popular destination. The pool is mainly used for leisurely swimming, exercise and refreshment. Residents frequently take advantage of the lanes in the pool to swim laps. The pool is equipped with a permanent lift chair installed at the edge of the pool. Residents have voiced an interest in adding an accessible entry ramp to enable easier access. This ramp could be a portable or permanent type. Advantages to using a portable type ramp would be lower cost and the ability to setup temporarily as needed. A permanent ramp will be higher cost and significantly impact the available space in the pool for swimming. A permanent ramp should include handrails and minimum slope of 1:12. Based on the existing depth of the pool, a permanent ramp will also require a minimum of one landing. The addition of a permanent ramp will require further study to develop.

New Playground at Upper Hillside

New playground with play structures and picnic area at existing open space adjacent to the open area west of the pool locker and rest room building. As the site slopes away from the building, some regrading and fill will be required to provide a level, accessible surface. A retaining wall will be needed at the north end of the site to maintain a level, accessible surface. Surface to be engineered wood or poured in place recycled rubber safe surfacing. Picnic tables to be located at southwest edge of site to take advantage of natural shade provided by existing trees. See sketch for more information. See below for associated accessibility improvements.

The upper parking lot at the east side of the Hillside site provides relatively direct and level access to the pool area, and locker/rest room building. A new playground added to the open space west of the pool will require regrading and partial reconstruction of the sidewalk between the pool area and playground entry. There are two accessible spaces at the upper parking lot, but the path behind the reserved parking space in the corner of the lot does meet current code requirements. In addition to modification of parking signage and some re-striping, reconstruction of the concrete sidewalk apron where it connects to the asphalt lot will be required to provide a level accessible path from parking space to the pool area.

Lawn Bowling Greens: shade structures along edges

Shade structures to be provided at the ends of each bowling green. There are three existing bowling greens laid out in east-west proximity. There will be a total of six structures approximately 10-feet x 6-feet wide x 12-feet high . Design to be a tensile structure supported by steel cables and posts with concrete footing. Alternate construction could be wood posts and cantilevered beams similar to the main building overhang at the main walk north of the building. Intent of structures is not provide shade to players on the bowling green, but provide a shaded place along side of green for player breaks, spectators, and players in queue. Outdoor benches to be provided under structures. See Main Building section above for accessibility requirements to lawn bowling greens that will be required with shade structure additions.

Creekside

Golf Course Crossing Handrail and Other Repairs

See Rossmoor Long-Range CIP Feasibility Study Memo (Draft) provided by BKF Engineers dated June 21, 2021. The section on Cart Crossings updates repairs recommended in included Appendix A Conditions Assessment Rossmoor Golf Course dated October 23, 2009. The last page of the Report (Appendix A in current Memo) outlines recommended priorities from year 2009. Cost estimate provided in 2009 will be updated for present market conditions. Work is recommended in two different phases for planning and funding purposes. Repairs in the first phase recommended to take place immediately include replacement or structurally securing handrails at all crossings. Other repairs that should be addressed soon are those that mitigate further erosion around the crossings as described in the original report. Note that the

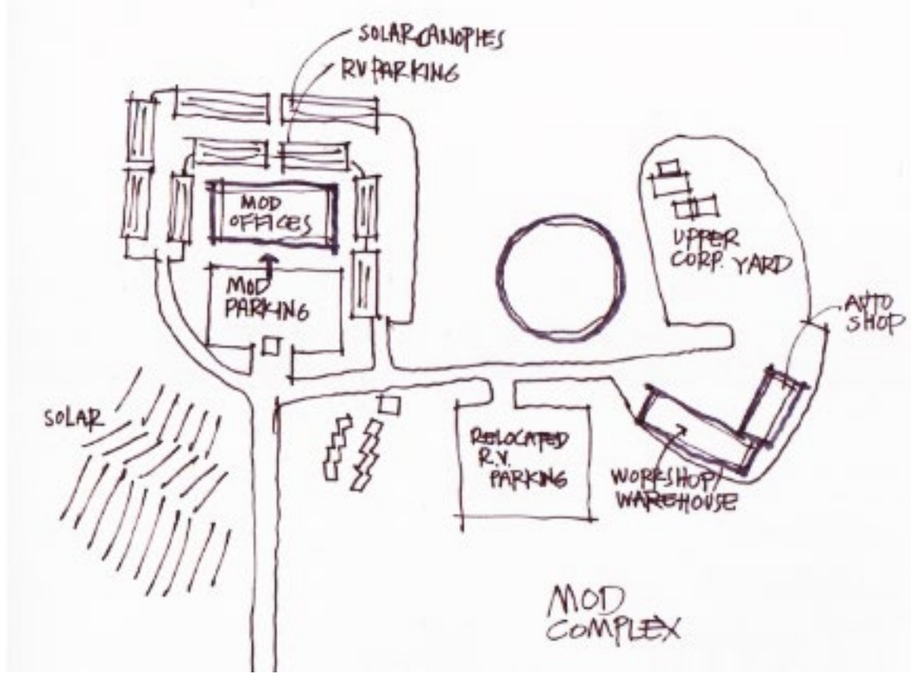
replacement of concrete drop structure near the entrance to Rossmoor with a rock weir vortex has been completed. No additional work at this site near the entrance is required.

Golf Course Crossing Replacement

All crossings including bridges and concrete culverts should be repaired or replaced within 2-6 years. Recommended work noted above for the immediate term that was not completed or deferred should be included in this second phase. See Memo and Report included in Appendix A for additional information.

Pickleball Court Expansion

The Golden Rain Foundation (GRF) is in the process of evaluating sites for additional pickleball courts at Rossmoor. A study by an outside consultant has been undertaken to expand the existing pickleball courts at Creekside, as well as look at other potential sites. At Creekside a more modest proposal has been studied to provide four covered courts largely in the area of the existing courts. If the GRF pursues Creekside further, the City may require accessibility improvements, and must agree that new structures can work within the fifty foot creek setback. Other sites that are under consideration include adjacent to the Events Center and at the Buckeye Tennis Center.



MOD Concept

MOD - Mutual Operations Department

New Office Building

Demolish existing MOD offices, warehouse, and maintenance garage. Existing gas pump and associated shade structure to remain. Provide new one-story offices for MOD office staff including conference rooms, rest rooms, human resources suite, accounting/finance suite, call center, lobby, IT area with separate air conditioning system, and administration area to coordinate work orders, and interact with visitors. MOD will continue to provide a few staff at Gateway to coordinate mutuals and residents. Provide improved covered outdoor area for employee breaks and lunch. Coordinate with or relocate nursery behind existing warehouse. See sketch and existing MOD floor plan with dimensions for additional information. The footprint for the new building is the same area as the original as space needs are projected to be about the same. New building will be approximately 12,050 SF. Cost estimate to be combined with new warehouse and garage work as described below.

New Warehouse and Garage

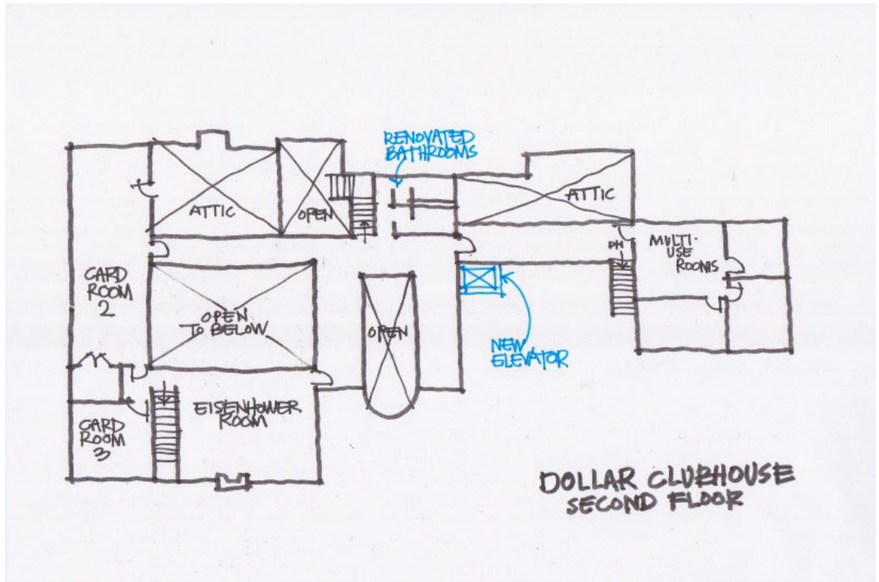
New warehouse and equipment maintenance garage one-story buildings to be located up the hill at existing RV parking lot adjacent to upper corporation yard. Lot formerly at this site to be relocated to the west. Existing RV parking lot with solar panel topped canopies surrounding the office building site below to remain. PV solar array on the hillside to remain. See sketch and existing MOD floor plan with dimensions for additional information. The footprint for the new building is the same area as the original as space needs are projected to be about the same. New building will be approximately 12,600 SF. Note upgrade to electrical system at Corporation Yard is included as part of the annual maintenance scope described below and estimate is not included in this report. As part of these improvements an electric vehicle (EV) charging station is to be included for charging electric vehicles in the GRF fleet of commercial vehicles.

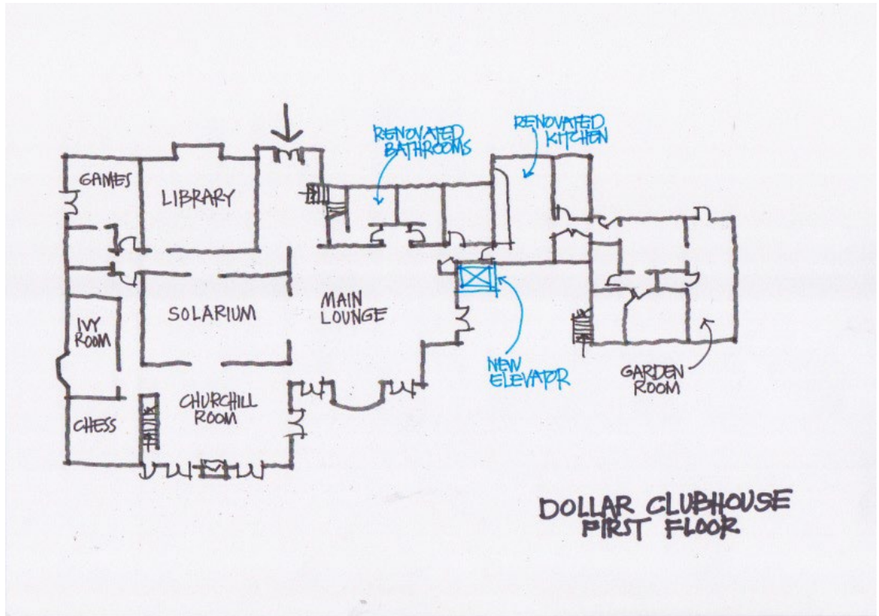
New RV dump station

Provide new dump station at relocated upper RV lot. Expectation is that new sewer line is added and connected to existing line serving MOD offices. Alternately, a holding tank-type dump station could be provided at reduced cost, but would require additional maintenance service contract be arranged. Current number of RVs users to support is 135.

EV Charging Stations

New electric vehicle (EV) charging stations should be considered within the 10-year outlook of this report at the MOD complex for the GRF-owned fleet of vehicles. There are EV charging stations available at the shared parking lot between





Dollar Clubhouse Concepts

Dollar Clubhouse and the Event Center. EV stations were not included in the original cost estimate.

Alternates for MOD Offices, Warehouse, and Garage

GRF could consider retaining the current site of the complex and demolishing only the office building. An office building could be rebuilt in the same location and the existing warehouse and garage can be renovated. Also, a new office building could be re-sited adjacent to the upper corporation yard.

Dollar Clubhouse

Dollar Accessibility Improvements

We recommend addressing accessibility issues noted in the September 2016 Accessibility Report authored by Margen + Associates. An exterior ramp was added to the front of the building for access to the primary entry. Other associated improvements include striped drop-off zone and crosswalk from accessible parking spaces. The extent of updated accessible parking spaces and associated signage is not confirmed and requires further verification. Other improvements recommended in this report include interior path of travel accessibility upgrades and hard scape surfacing improvements to the rear yard. The existing patio area in the rear yard is composed of multiple types of surfaces and most do not have smooth, flush transitions. There are a number of steps in the rear yard including access the kitchen and various patio levels. These conditions are addressed in Section 2.0 Accessible Routes/Exterior Areas of the report. Adding an elevator is excluded from this project. See complete renovation below for added elevator. Interior mens and womens rest rooms to receive updated flooring, finishes, fixtures, and accessories. These rest rooms will not receive complete accessibility upgrades. A gender neutral, accessible, single-occupant rest room will receive new finishes, fixtures, and accessories and comply with accessibility requirements.

Dollar complete renovation including elevator

Although a complete re-evaluation of the Dollar Clubhouse is outside the scope of the Capital Improvements Plan, the Evaluation Report completed by Jacobson Silverstein Winslow Degenhardt Architects in July 2012 provides detailed recommendations for a complete overhaul of the clubhouse including a new elevator, exterior and interior finishes, structural strengthening of the lateral system, plumbing, mechanical, lighting, and electrical upgrades. Hazardous material removal or mitigation steps should be undertaken before or as part of construction projects and are not included in this report. Cost information provided in the report to be updated based on current market rates.

Outdoor amphitheatre at Dollar with hard scape and lighting improvements

The residents at Rossmoor enjoy attending outdoor musical performances. The Fourth of July celebration is the biggest event of the year held in this location. There are typically 15-20 outdoor performances/events held here each year. ELS received feedback in the outdoor activities Focus Group and the Community Meeting that an outdoor amphitheatre at Rossmoor would be very popular with the residents. The green space between the Dollar pool and Tice Creek adjacent to the Clubhouse is used for picnics and has a temporary stage erected for performances and dances. The stage is in poor condition and seating is folding chairs. There is not adequate power, lighting, or sound system to serve these events. This green space is one of the few undeveloped, generally flat areas left at Rossmoor. The sunken amphitheatre would seat approximately 200 people and covered by shade structure. Small backstage building provided for accommodating performers with small storage space. About 1600 SF of hard scape paving north of amphitheatre to be provided for dance floor. Include sound system and assisted listening devices. New electrical service and panel will be needed. Provide site lighting at amphitheatre, dance floor, and along access path to accommodate evening performances. Some additional

program needs around the outdoor amphitheatre to consider are increased parking, expansion or modification of existing rest room outbuilding, hard scape improvements, lighting, and dedicated picnic areas with barbecue grills. Note and locate existing heritage oak trees near the rest room building. See sketch for additional information. Curb ramps and paving noted near the Clubhouse to be included in the accessibility scope of work described above.

Alternates for Dollar Clubhouse

Cost savings can be achieved by combining all renovations at Dollar Clubhouse into one project. This will avoid duplication of contractor staging and mobilization costs for separate projects.

Additional projects

Emergency Access Road Improvements

In addition to the main entry gate along Rossmoor Parkway- there are less developed emergency access roads designated exclusively for use by Public Safety to gain quick entry into the community. There are evacuation roads to be used at the coordination and discretion of public safety agencies. This project involves analysis of how these additional access roads can be improved. Although full-scale evacuation of Rossmoor is unlikely due to wildfires or other natural catastrophe, improvement of one or more existing fire roads is desirable to improve public safety. Three sites have been proposed for further study. See sketch titled Exhibit – Potential Second Point of Access included as Appendix B in Rossmoor Long-Range CIP Feasibility Study Memo (Draft) provided by BKF Engineers dated June 21, 2021. These projects will require further study.

Additional Existing Projects from GRF

Buckeye Rest room Building Renovation

Buckeye tennis complex has 8 tennis courts, picnic/barbecue area, bench seating and a spectator viewing area. The parking lot is located near Tice Creek Drive and there is a recently improved paver path from the parking lot up to the court area. Near the parking lot is the rest room building, which is planned for future renovation.

Water Reclamation Plant

Ranges from above ground to underground facility plus expansion of water storage system. Study is being undertaken and continues with another consultant. Additional review of Water Reclamation Plant study is not included in this study.

Walking paths

Approximately 3-miles of walking paths could be added to the Rossmoor property. Walking paths are proposed to connect existing paths and improve user experience by providing alternate soft surface walking route away from roadways. Park type pathways are also proposed in areas where paths can be routed around the perimeter open space of existing clubhouses such as Dollar.

See Appendix for Parks and Paths presentation document provided by GRF Landscape Director Rebecca Pollon for areas of improvement. New paths with a width of 8-feet and flexi-pave as walking surface are proposed. Flexi-pave should be installed on appropriate bed of compacted aggregate for drainage. Planting along trail to be considered along with irrigation system for plant establishment phase.

It is acknowledged that there are sections of pathway that are eroded, uneven, and steeper than recommended. These sections of path should be included in a walking path project and should be surveyed and studied in further detail. Some sections of trail will benefit from erosion control measures, adding stairs, and/or adding handrails.

New walking trail improvements can be divided into a number of phases both for construction purposes and to control costs. Depending on scope, depth of excavation, and proximity to creek, landscape improvements for new walking trails are not likely to require review and approval by Walnut Creek Building Department, but requirement should be confirmed before construction begins. Repair and maintenance of existing walking paths are not included in this scope of work.

Entry monument signage

Entry monument signage has been considered to welcome residents and visitors to the property at the intersection of Rossmoor Parkway and Golden Rain Road. The project ranges from simple wall design to a lighted monument and may include a water feature. This has not been approved.

Rossmoor Parkway Median Conversion

Project concept is to remove or narrow the median between the two vehicle lanes and provide new parallel or angled parking along the west edge of the new parkway adjacent to the pickleball courts. This project has been approved to renovate one median per year.

Access control for indoor spaces

Access control is being added to the front gate as a project in 2022. GRF plans to add to this system by adding magnetic door hardware connected to card/fob and/or digital readers at all indoor public meeting rooms and spaces in Rossmoor. Frontsteps is software being deployed for front gate and property wide system to be coordinated. It may also be desirable to add access control to all office building main and secondary entries, but scope for offices and worker access to be confirmed.

Most clubhouse buildings are connected by fiber optic data strand. Data and information technology (IT) requirements are typically covered by either annual maintenance or on an as-needed basis. Data improvements as a separate project are not included in this study. Proposed new buildings include data infrastructure accordingly in scope.

Electric Vehicle (EV) Charging Stations

EV charging stations should be considered at future new or significantly renovated parking lots. GRF will be adding electric and/or hybrid vehicles to the commercial fleet over the next ten years.

Other Projects included in Capital Expenditures Budget but excluded from this Study

- Access Control System upgrade for front gate entry
- Vehicle lift and tire replacement rack at MOD Garage
- Gateway Parking Lot PV Solar Array
- Gateway large conference room upgrade
- Gateway flooring replacement in Oak Room
- Hillside restroom and storage buildings roofing
- Hillside Pool plastering
- Testing – Satellite Wastewater Recycling Facility
- MOD Corporation Yard Electrical Upgrade
- Event Center PV Solar Array
- Pedestrian / traffic safety improvements (TJKM)
- Entrance Control Facility Access control improvements
- Walking path maintenance and repair

Buildings and spaces excluded from this Study

Gateway

- Building F – Meeting Rooms
- Building I - Peacock Hall Theatre

Hillside

- Table Tennis Building
- Shady Glen picnic area
- Restroom Building

Creekside

- Building A - Offices and Equipment Maintenance
- Building B - Offices and Cart Storage
- Building C - Pro Shop, Meeting Rooms, and Creekside Grill and Bar

MOD (Mutual Operations Department) Offices

- Fuel pump
- PV Solar Array
- RV Parking Lot with solar panel topped canopies

Dollar Clubhouse

- Pool and Bath House Restroom Building

Event Center

- Tahoe Room, Donner pre-function spaces, and Lobby
- Kitchen

Tice Fitness Center

- Two indoor pools, Equipment Room, and Activity Rooms
- Gymnasium
- Outdoor Dog Park

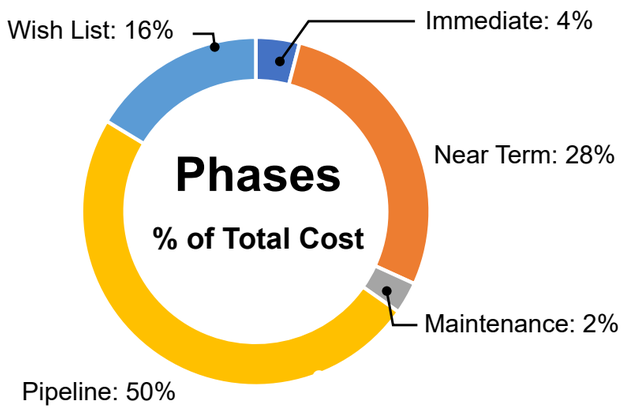
Additional Areas

- Entrance Control Facility
- Rossmoor Community Gardens

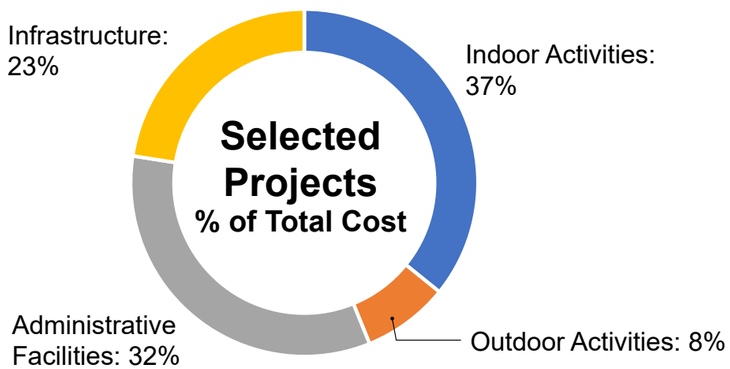
Timelines and Cost

Timelines

Spending By Phase



Allocation of Dollars for Non-Wishlist Projects



The projects for the Capital Improvements Plan were divided into two different timeline groups. Timeline groups are Immediate and Near Term that includes next three to six years. Projects that are currently underway in the study phases have been placed in a different category called Pipeline Projects and two projects were identified as maintenance. For a ten-year study, it is important to understand that some projects have a more immediate need. The MOD project will require more upfront planning, design, and have a larger budget impact; for those reasons it has been moved later than the other established projects. Projects that were proposed and studied that are not currently funded are deemed Wish List projects. Wish List projects are available for special conditions where funds not reserved for another use become available. There are two current and proposed projects that cost less than $1M each, that fall into a Maintenance category but are funded by Capital expenditures.

Projects are listed in specific years in the spreadsheet related to expected construction timeline, but when considering the entire funding, design, and construction process, the GRF should expect to start the design and feasibility stages prior to the year shown to arrange contracts, seek input from the Walnut Creek Planning Department, and arrange for funding approvals.

Over the course of this project ELS and our Consultant team has tried to be both rational and creative to best support development of the project list. We began the process with many funded and unfunded projects provided to us by GRF. The project list swelled after the first community meeting with many ideas inspired by the residents, suggestions from GRF management, and during one of our many site visits to see Rossmoor. Some of the projects have multiple sources, such as the proposed MOD, and come from visiting the site, seeing how it can be improved, hearing about the challenges staff are having using the buildings.

Input from the Planning Committee has been and is instrumental in shaping the list of projects. We were able to take feedback from Planning, organize, and present to

Timelines for Projects

Immediate Need

- Dollar Exterior Accessibility
- Gateway studio renovations (Phase 2)
- Water Reclamation Study
- Pickleball Courts
- Bocce Court Resurfacing
- Access Control System

Maintenance

- Emergency Access Road
- Drought Management Projects

Near Term: next 2-6 years

- New MOD Office Building

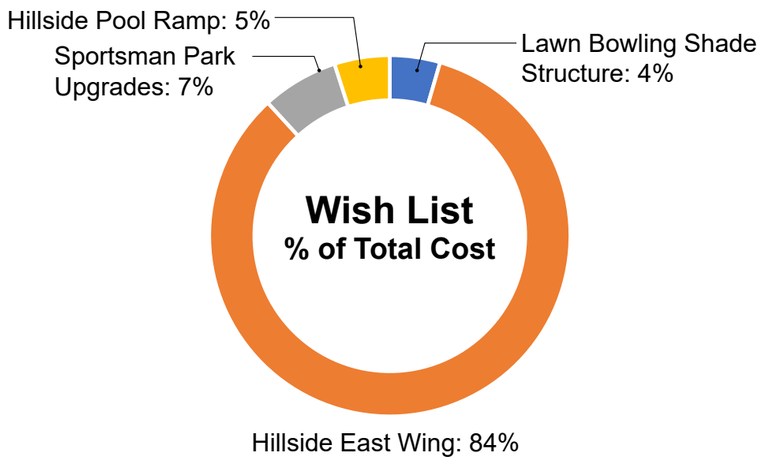
Pipeline Projects

- Water Reclamation Plant
- Dollar Seismic, Systems, Elevator & Finishes
- Hillside Pool Building Renovation
- Gateway Building Replacement with Cafe
- Rossmoor Parkway Median Conversion

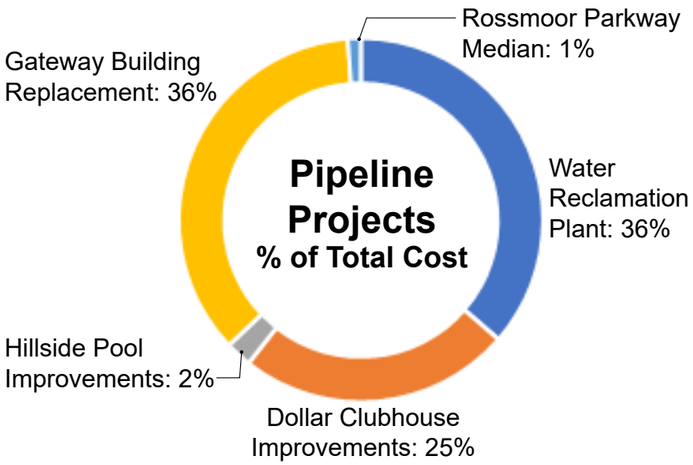
Wishlist

- Hillside Pool Ramp
- Lawn Bowling Shade Structures
- Hillside East Wing and Mat House Replacement
- Sportsman’s Park Improvements

Allocation of Dollars Proposed for Wish List



Allocation of Dollars Proposed for Pipeline Projects



the Finance Committee, who were charged ultimately with reviewing and approving funding mechanisms for the final project list.

One tool that can be used to spread out project cost and manage funding is phasing. Projects such as the walking paths can be divided into larger phases or be undertaken in many small improvements over time. The overall vision is critical when breaking a project into smaller phases. For example, it makes more financial sense to completely replace some of the bridges and culverts on the golf course in the worst condition than to replace all the handrails initially then return in a few years to replace the complete structure.

The projects described in the project narrative are for the most part concept or pre-concept stage. Some of the projects, such as the Gateway Studio Renovations Phase 2, have already gone through a design phase and are in stages of final completion. Other projects, such as a new office building for the Mutual Operations Department, are concepts only. The larger of these projects will undergo months of planning and design. At each phase of project development, the design becomes more detailed, and thus accompanying cost estimates improve in accuracy and present less risk, typically buffered with a shrinking design contingency. Specific years in the timeline are meant to reflect the construction of that project. Planning and design for the larger projects should be planned to allow for arrangement of a contract with the architect, engineer, and consultant team, development of the design, submission for permits, procuring, and selecting the winning bid.

Cost Estimates

Opinions of cost included in Appendix A are rough order of magnitude. Many cost estimates are based on area $/square foot costs for building type and other factors. In some cases, such as the Dollar Clubhouse renovation, detailed reports and studies shared by GRF allow itemized quantities, systems, and elements. In these cases, the cost may be a more accurate reflection of the components in the project.

The cost estimates are organized with a subtotal construction cost for each project. This represents raw cost of materials and labor. This construction cost is adjusted by adding construction and project markups. Construction markups include: general requirements, general conditions, bonds and insurance, contractor's fee, and a design contingency. Project markups include: phasing, soft costs, and a master plan contingency. Phasing includes mobilization and setup of the contractor. Soft costs include architectural and engineering, permits, construction management, and administrative fees.

Key assumptions for the cost estimates include: negotiated construction contract, Type 2 or 3 new building construction, and existing building demolition where necessary. Key exclusions from the cost estimates are: land purchase, escalation, utility hook-up, city connection fee, hazardous material removal, and furniture, fixtures, and equipment (FF&E).

The cost estimates should not be understood to be a final cost, but used as a starting point for budgeting and long-term planning. As these projects continue to be developed, we encourage efforts to revisit and adjust the budget based on the design of each project.

Cost estimates for these projects were completed in September 2021. The timeline noted for each project may have changed as the GRF management continues to evaluate Rossmoor's needs. In order to adjust the project cost to present day numbers, ten-percent has been added in the model spreadsheet to the total project cost.

The recommendation from our cost consultant based on current market conditions is to add 6% each year to the project cost. The increase is year-over-year aggregate. Percent escalation applied to project cost should be revisited quarterly and adjusted based on current market conditions.

Funding Analysis

Rossmoor common assets are owned by the Golden Rain Foundation Trust Estate Fund. New assets (including replacement machinery and equipment) are purchased using cash on hand in the Trust Fund and proceeds from long-term bank loans. Trust Fund revenues are generated by transfers of membership, usually upon the sale of Rossmoor manors, and are used to pay debt service and maintain/replace cash on hand.

The current transfer fee ($10,000/manor) provides sufficient revenues to fund the previously established long-term capital spending projections, replace machinery and equipment as necessary, and pay scheduled debt service. Recognizing that new capital projects would necessitate additional funding sources, the project team created a financial model to evaluate the impact of various scenarios comprising different combinations of new revenues, projects, timing, and pricing.

The model allowed individual projects to be included at various times over a ten-year horizon or not at all, and when included in the future, construction costs were projected to increase by 6% per year over the current estimates. The model also allowed various levels of transfer fees to be considered along with differing amounts of increase in these fees over time. Finally, the model provided for meeting the current schedule of debt service obligations and assumed that the previously established capital spending plans remained in place.

Under each scenario, the model would first pay for new projects using cash on hand, and if that was not sufficient, it assumed that new monies would be borrowed assuming a series of annual fifteen-year constant payment loans at 5% interest rates (approximately replicating the terms of existing Trust Fund debt). Additionally, the model assumed that $250,000 would be set aside each year by the Trust Fund to enhance its reserve funds.

The model assessed the feasibility of the projected additional debt by evaluating the annual ratio of total transfer fee revenues to total debt service (the “debt service coverage ratio”). The existing loan agreements require this ratio to be at least 2.0 to 1, and this level was used as the benchmark minimum for the various scenarios that were modelled. If a scenario resulted in this ratio going below 2.0 to 1, that indicated that transfer fees needed to be increased or the project list deferred or curtailed.

With this tool in hand, the team met with the Finance Committee to outline various combinations of transfer fees and the projects that they would afford. The committee also considered the minimum debt service coverage ratio that it felt comfortable with, recognizing that higher projected coverage ratios implied lower financial risk.

The committee ultimately chose a scenario whereby the transfer fee would be increased by $2,000 in September of 2022, and then increased by $500 annually each January thereafter. In this scenario, some of the desired new projects were removed to a “wish list”, several were deemed “pipeline projects” because they are in process. Most of the new remaining projects are scheduled in the immediate term, with the exception being the new MOD offices which are set for 2027.

As with any financial modelling and projections, all results are based on assumptions that cannot be guaranteed. In particular, these projections assume levels of construction costs, long-term inflation and interest rates that are consistent with current conditions but may not remain so over the planning horizon.

As part of the work associated with creating the Capital Improvements Plan, the Golden Rain Foundation was provided with a financial model that can be adjusted over the next decade to change the term in which projects are completed, adjust financing, add a windfall or add new projects. This allows the package to be a living document that will be revisited yearly by the Planning Committee, Finance Committee and Board of Directors. The following page includes the model at the point of this report with the project assumptions and funding that was identified in the project.

V25 **View 3 Modified: Increase by $2K beginning on Sep 1, 2022, with additional $500 per year**

						10-Year Total	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Increase from Original Cost Estimates		10%															
	Construction Cost Annual Inflation		5%															
Element	Project	Facility	Timeframe	Original Est. Cost	Adjusted Est. Cost	Include												
	Immediate																	
2	Dollar Exterior Accessibility	Dollar	IN	150,000	165,000	X	-	173,250	-	-	-	-	-	-	-	-		
3	Studio Renovations (Phase 2)	Gateway	IN	950,000	1,045,000	X	950,000	-	-	-	-	-	-	-	-	-		
5	Water Reclamation Study	All	IN	210,000	231,000	X	232,000			-	-	-	-	-	-	-		
6	Pickleball Courts	TBD	IN	1,200,000	1,320,000	X	1,200,000	-	-	-	-	-	-	-	-	-		
8	Bocce Surface Improvements	Hillside	M	55,000	60,500	X	55,000			-	-	-	-	-	-	-		
9	Access Control System	All	M	485,000	533,500	X	145,000			-	-	-	-	-	-	-		
	Near Term (3-6 Years)																	
10	New MOD Office Building & Site Improvements	MOD	LT	12,800,000	14,080,000	X	-	-	-	-	-	18,868,547						
	Long Term (7-10 Years)																	
	Maintenance																	
15	Emergency Access Road		IN	550,000	605,000	X		605,000	-	-	-	-	-	-	-	-		
16	Drought Management Projects		IN	500,000	550,000	X		550,000	-	-	-	-	-	-	-	-		
	Pipeline List																	
5	Water Reclamation Plant	All	WL	11,000,000	12,100,000													
12	Dollar Seismic, Systems, Elevator & Finishes	Dollar	LT	7,327,010	8,059,711													
14	Hillside Pool Building Renovation	Hillside	NT	703,666	774,033													
20	Gateway Building Replacement w/Café	Gateway	WL	10,860,141	11,946,155													
22	Rossmoor Parkway Median Conversion	All		350,000	385,000													
	Wish List																	
14	Hillside Pool Ramp	Hillside	NT	500,000	550,000													
18	Lawn Bowling Shade Structure	Hillside	WL	453,997	499,397													
19	Hillside East Wing and Mat House Replacement	Hillside	WL	8,443,764	9,288,140													
21	Sportsman's Park Improvements	All	WL	691,875	761,063													
	Total Project Cost			**57,230,453**	**62,953,498**	**22,778,797**	**2,582,000**	**1,328,250**	-	-	-	**18,868,547**	-	-	-	-		
	Rossmoor Capital Budget/Projection					**21,804,320**	**1,956,504**	**1,800,000**	**1,890,000**	**1,984,500**	**2,083,725**	**2,187,911**	**2,297,307**	**2,412,172**	**2,532,781**	**2,659,420**		
	Rossmoor Mach. and Equip. Budget/Projection					**7,540,963**	**649,360**	**625,000**	**656,250**	**689,063**	**723,516**	**759,691**	**797,676**	**837,560**	**879,438**	**923,410**		
	Total Current Projected Trust Expenditures (Including existing debt service)					**66,915,638**	**7,253,569**	**5,791,909**	**4,558,257**	**4,658,129**	**4,764,760**	**23,363,406**	**4,249,154**	**4,109,579**	**3,998,133**	**4,168,743**		
	Total Current Trust Fund Revenue					**63,525,000**	**4,800,000**	**5,625,000**	**5,850,000**	**6,075,000**	**6,300,000**	**6,525,000**	**6,750,000**	**6,975,000**	**7,200,000**	**7,425,000**		
	Total New Loans					12,959,029	-	-	-	-	-	**12,959,029**	**11,490,937**	**10,022,844**	**8,554,752**	**7,086,659**		
	Total New and Exisiting Loans						**11,240,123**	**9,732,545**	**8,176,937**	**6,568,969**	**4,906,933**	**16,534,330**	**14,073,308**	**11,857,857**	**9,887,079**	**7,889,630**		
	Cumulative Cash Balance after Loans						1,052,431	635,522	1,677,265	2,844,137	4,129,377	-	1,032,754	2,430,082	4,163,857	5,952,021		
	Transfer Fee Revenue/Total Debt Service Should be >2.0						2.3	2.8	2.9	3.1	3.2	4.2	2.6	3.0	3.5	3.6		
	Loan 1						3,019,208	2,401,726	1,754,156	1,074,386	361,147	0						
	Loan 2						3,510,000	2,970,000	2,430,000	1,890,000	1,350,000	810,000	270,000	-				
	Loan 3						4,710,915	4,360,818	3,992,781	3,604,582	3,195,786	2,765,300	2,312,371	1,835,013	1,332,328	802,971	245,633	-
	Total Existing Loans						11,240,123	9,732,545	8,176,937	6,568,969	4,906,933	3,575,300	2,582,371	1,835,013	1,332,328	802,971	245,633	-

Appendix A - Cost Estimates

Rossmoor Capital Improvements Plan
Masterplan
September 22, 2021
21-00949.00





Prepared for ELS Architecture

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Rossmoor Capital Improvements Plan
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Rossmoor Capital Improvements Plan
Walnut Creek, CA **Project # 21-00949.00**
Masterplan **09/22/21**

EXECUTIVE SUMMARY

1.1 Introduction

This estimate has been prepared, pursuant to an agreement between ELS Architecture and Cumming, for the purpose of establishing a probable cost of construction at the masterplan stage.

The project scope encompasses the Rossmoor Capital Improvements Plan for immediate need, near term, and long term projects. We have excluded escalation, but recommend 5% per annum compounded annually.

1.2 Key Assumptions & Exclusions

This document should be read in association with Appendix 1 which outline assumptions, project understanding, approach, and cost management methodology. Key assumptions built into the above cost breakdown include

Construction Markups	
General Requirements:	5%
General Conditions:	15%
Bonds and Insurance:	2%
Contractor's Fee:	8%
Design Contingency:	10%

Project Markups	
Phasing and Make Ready Work	2%
Project Soft Costs	35%
Masterplan Contingency	5%

Key Assumptions
- Negotiated Construction
- Type 2 or 3 New Build Construction
- Existing Building Demolition Included, varies per project

Key Exclusions
- Land Purchase
- Escalation
- Utility Hook-up fees and City connection fees
- Hazmat Abatement
- FF&E

Rossmoor Capital Improvements Plan
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SUMMARY

Element	Construction Total	Project Total
Immediate Need	$13,374,196	$21,587,081
Near Term	$12,772,170	$29,966,642
Long Term	$25,606,539	$37,523,215
Total Estimated Construction Cost	**$51,752,905**	**$89,076,938**

Maintanence Projects	Construction Total	Project Total
Golf Course Crossings Repairs	$334,560	$483,724
Golf Course Crossings Replacement	$1,203,020	$1,739,386
Access Control System	$1,295,000	$1,872,376
RV Dump Station	$102,040	$147,535
Sportsmen's Park, Rotary Pavilion, & Bocce Courts	$1,018,000	$1,471,875

Rossmoor Capital Improvements Plan
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SUMMARY BY TIMELINE - ROSSMOOR MASTER PLAN

Element	Time	Mark's	Construction Total	Area	Cost / SF	Project Total	Area	Cost / SF
Immediate Need								
1 Peacock Plaza	IN		$947,000			$1,369,220		
2 Gateway Studio Renovations (Phase 2)	IN		*Included*			*$850,000*		
3 Dollar Clubhouse and Grounds	IN		$1,546,910			$2,236,600		
4 Dollar Clubhouse	IN		$3,969,500	11,500	$345.17	$5,739,302	11,500	$499.07
5 Dollar Interior Restroom	IN		*Included*			*$100,000*		
6 Buckeye Tennis Complex Restroom	IN		*Included*			*$100,000*		
7 Pickleball Expansion at Creekside	IN		*Included*			*$1,200,000*		
8 Walking Paths	IN		$6,910,786			$9,991,960		
TOTAL ESTIMATED CONSTRUCTION COST - Immediate Need			$13,374,196			$21,587,081		
Near-Term								
1 Building A - Fireside Kitchen	NT		$550,000	2,500	$220.00	$795,218	2,500	$318.09
2 Hillside Building B - Pool Locker and Restroom	NT		$694,170	1,151	$603.10	$1,003,666	1,151	$871.99
3 MOD Office Building and Parking	NT		$6,150,000	12,050	$510.37	$8,891,978	12,050	$737.92
4 MOD Receiving, Auto/Equip Maintenance Garage	NT		$5,378,000	12,600	$426.83	$7,775,781	12,600	$617.13
5 Water Reclamation Plant	NT		*Included*			*$11,500,000*		
TOTAL ESTIMATED CONSTRUCTION COST - Near-Term			$12,772,170			$29,966,642		
Long-Term								
1 Gateway Building E and H	LT		$7,511,250	11,250	$667.67	$10,860,141	11,250	$965.35
2 Lawn Bowling Greens	LT		$314,000			$453,997		
3 Building A East Wing and Mat House	LT		$5,840,000	8,000	$730.00	$8,443,764	8,000	$1,055.47
4 Upper Hillside Playground	LT		$1,522,625	20,250	$75.19	$2,201,487	20,250	$108.72
5 Outdoor Amphitheater at Dollar	LT		$3,171,184	12,000	$264.27	$4,585,057	12,000	$382.09
6 Entry Monument	LT		*Included*			*$150,000*		
7 Miniature Golf Course, 18 holes	LT		$2,640,000			$3,817,044		
8 Additional Vehicular Exit	LT		$4,607,480			$6,661,725		
9 Rossmoor Parkway Median Conversion	LT		*Included*			*$350,000*		
TOTAL ESTIMATED CONSTRUCTION COST - Long-Term			$25,606,539			$37,523,215		
TOTAL ESTIMATED CONSTRUCTION COST			$51,752,905			$89,076,938		
Maintenance Projects								
1 Golf Course Crossings Repairs	IN		$334,560			$483,724		
2 Golf Course Crossings Replacement	IN		$1,203,020			$1,739,386		
3 Access Control System	IN		$1,295,000			$1,872,376		
4 RV Dump Station	NT		$102,040			$147,535		
5 Sportsmen's Park, Rotary Pavilion, & Bocce Courts	LT		$1,018,000			$1,471,875		
TOTAL ESTIMATED CONSTRUCTION COST - Maintanence			$3,952,620			$5,714,896		

Clarifications
IN=immediate need, NT=near term, LT=long term
Items in *blue* have been provided by GRF

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Rossmoor Master Plan

Rossmoor Capital Improvements Plan
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SUMMARY - ROSSMOOR MASTER PLAN

	Element	Time	Mark's	Construction Total	Area	Cost / SF	Project Total	Area	Cost / SF
	Gateway								
01	Peacock Plaza	IN		$947,000			$1,369,220		
02	Building A - Fireside Kitchen	NT		$550,000	2,500	$220.00	$795,218	2,500	$318.09
03	Gateway Studio Renovations (Phase 2)	IN		*Included in Project Total*			*$850,000*		
04	Gateway Building E and H	LT		$7,511,250	11,250	$667.67	$10,860,141	11,250	$965.35
	Hillside								
05	Sportsmen's Park, Rotary Pavilion, & Bocce Courts	LT		*Included on Summary*					
06	Hillside Building B - Pool Locker and Restroom	NT		$694,170	1,151	$603.10	$1,003,666	1,151	$871.99
07	Lawn Bowling Greens	LT		$314,000			$453,997		
08	Building A East Wing and Mat House	LT		$5,840,000	8,000	$730.00	$8,443,764	8,000	$1,055.47
09	Upper Hillside Playground	LT		$1,522,625	20,250	$75.19	$2,201,487	20,250	$108.72
	Creekside								
10	Golf Course Crossings Repairs	IN		*Included on Summary*					
11	Golf Course Crossings Replacement	IN		*Included on Summary*					
	MOD - Mutual Operations Department								
12	MOD Office Building and Parking	NT		$6,150,000	12,050	$510.37	$8,891,978	12,050	$737.92
13	MOD Receiving, Auto/Equip Maintenance Garage	NT		$5,378,000	12,600	$426.83	$7,775,781	12,600	$617.13
14	RV Dump Station	NT		*Included on Summary*					
	Dollar Clubhouse								
15	Dollar Clubhouse and Grounds	IN		$1,546,910			$2,236,600		
16	Dollar Clubhouse	IN		$3,969,500	11,500	$345.17	$5,739,302	11,500	$499.07
17	Outdoor Amphitheater at Dollar	LT		$3,171,184	6,000	$528.53	$4,585,057	6,000	$764.18
18	Dollar Interior Restroom	IN		*Included in Project Total*			*$100,000*		
	Additional Projects								
19	Buckeye Tennis Complex Restroom	IN		*Included in Project Total*			*$100,000*		
20	Access Control System	IN		*Included on Summary*					
21	Pickleball Expansion at Creekside	IN		*Included in Project Total*			*$1,200,000*		
22	Walking Paths	IN		$6,910,786			$9,991,960		
23	Entry Monument	LT		*Included in Project Total*			*$150,000*		
24	Water Reclamation Plant	NT		*Included in Project Total*			*$11,500,000*		
25	Miniature Golf Course, 18 holes	LT		$2,640,000			$3,817,044		
26	Additional Vehicular Exit	LT		$4,607,480			$6,661,725		
27	Rossmoor Parkway Median Conversion	LT		*Included in Project Total*			*$350,000*		
	Ongoing Maintenance Projects								
28	Various projects			*Included on Summary*					
	Subtotal			$51,752,905			$89,076,938		
	Phasing and Make Ready Work		2.00%	$1,035,058					
	Subtotal			$52,787,964					
	Project Soft Costs		35.00%	$18,475,787					
	Subtotal			$71,263,751					
	Master Plan Contingency		5.00%	$3,563,188					
	TOTAL ESTIMATED CONSTRUCTION COST			$74,826,938			$89,076,938		

Clarifications
IN=immediate need, NT=near term, LT=long term
Items in *blue* have been provided by GRF

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DETAIL ELEMENTS - ROSSMOOR MASTER PLAN

Element	Quantity	Unit	Unit Cost	Total
Peacock Plaza				
Demolition for structure	1	ls	$7,000.00	$7,000
Shade Structure Addition	3,000	sf	$260.00	$780,000
Hardscape Improvements at Posts	10	loc	$5,000.00	$50,000
Electrical for Temporary Stage	1	ls	$110,000.00	$110,000
Total - Peacock Plaza				**$947,000**
Building A - Fireside Kitchen				
Kitchen Renovation	1,000	sf	$550.00	$550,000
Storage Renovation				*Excluded*
Total - Building A - Fireside Kitchen				**$550,000**
Gateway Studio Renovations (Phase 2)				
Rossmoor Capital Improvements Plan Budget	1	ls	$850,000.00	$850,000
Total - Gateway Studio Renovations (Phase 2)				**$850,000**
Gateway Building E and H				
Remove Chiller, Boiler, Electrical Equipment	1	ls	$22,000.00	$22,000
Relocate gas meter	1	ls	$8,000.00	$8,000
Demolition of Two Existing Buildings	5,000	sf	$30.00	$150,000
New Single-Story Building	11,250	sf	$625.00	$7,031,250
Add for Café	1,200	sf	$250.00	$300,000
Total - Gateway Building E and H				**$7,511,250**
Sportsmen's Park, Rotary Pavilion, & Bocce Courts				
Demolition for structure	1	ls	$7,000.00	$7,000
Shade Structure Addition	3,000	sf	$260.00	$780,000
Hardscape/Landscape Improvements at Posts	10	loc	$1,000.00	$10,000
Lighting along sidewalk from Parking Lot to Bocce Courts	1	ls	$74,000.00	$74,000
New lighting at Bocce Courts	1	ls	$147,000.00	$147,000
Total - Sportsmen's Park, Rotary Pavilion, & Bocce Courts				**$1,018,000**
Hillside Building B - Pool Locker and Restroom				
Locker Rooms, renovation	828	sf	$560.00	$463,680
Restrooms, renovation	323	sf	$630.00	$203,490
Remove and replace drinking fountain	1	ls	$12,000.00	$12,000
Replace site screening wall along west side of building	1	ls	$15,000.00	$15,000
Total - Hillside Building B - Pool Locker and Restroom				**$694,170**

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DETAIL ELEMENTS - ROSSMOOR MASTER PLAN

Element	Quantity	Unit	Unit Cost	Total
Lawn Bowling Greens				
Shade Structure Additions	400	sf	$260.00	$104,000
Hardscape/Landscape Improvements at Posts	10	loc	$3,000.00	$31,000
Benches at Shade Structures	8	ea	$4,000.00	$32,000
Accessibility upgrades, allowance	1	ls	$147,000.00	$147,000
Total - Lawn Bowling Greens				**$314,000**
Building A East Wing and Mat House				
Demolition of East Wing of Main Building and Mat House	8,000	sf	$30.00	$240,000
New Single-Story Building (office typical, w/ small theater included)	8,000	sf	$700.00	$5,600,000
Total - Building A East Wing and Mat House				**$5,840,000**
Upper Hillside Playground				
Site Demo, Clearing and Preparation	20,250	sf	$8.00	$162,000
Retaining wall, stone	100	lf	$1,650.00	$165,000
Landscape, Engineered Surface, Decomposed Granite, Hardscape	20,250	sf	$36.50	$739,125
Misc. site features/specialties	20,250	sf	$6.00	$121,500
Large Playground Equipment incl. swingset, allowance	1	ea	$140,000.00	$140,000
Enclosure	1,000	sf	$80.00	$80,000
Trees	10	ea	$2,200.00	$22,000
Drinking fountain	1	ls	$12,000.00	$12,000
Site Lighting	1	ls	$81,000.00	$81,000
Total - Upper Hillside Playground				**$1,522,625**
Golf Course Crossings Repairs				
Cart Crossing #1				
Remove and Replace Guardrails	36	lf	$430.00	$15,480
Cart Crossing #2				
Remove and Replace Guardrails	116	lf	$430.00	$49,880
Cart Crossing #3				
Remove and Replace Guardrails	60	lf	$430.00	$25,800
Cart Crossing #4				
Remove and Replace Guardrails	60	lf	$430.00	$25,800
Cart Crossing #5				
Remove and Replace Guardrails	60	lf	$430.00	$25,800
Cart Crossing #6				
Remove and Replace Guardrails	84	lf	$430.00	$36,120
Cart Crossing #7				
Remove and Replace Guardrails	96	lf	$430.00	$41,280
Cart Crossing #8				
Remove and Replace Guardrails	60	lf	$430.00	$25,800
Cart Crossing #9				*Nothing Shown*
Cart Crossing #10				
Remove and Replace Guardrails	60	lf	$430.00	$25,800
Cart Crossing #11				
Remove and Replace Guardrails	60	lf	$430.00	$25,800
Erosion Control Scope, allowance	1	ls	$37,000.00	$37,000

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DETAIL ELEMENTS - ROSSMOOR MASTER PLAN

Element	Quantity	Unit	Unit Cost	Total
Total - Golf Course Crossings Repairs				**$334,560**
Golf Course Crossings Replacement				
***Guardrail repairs excluded, see above for guardrail repair cost				
Cart Crossing #1				
Remove and Replace Bridge	171	sf	$260.00	$44,460
Cart Crossing #2				
Remove and Replace Bridge and Supports	464	sf	$346.21	$160,640
Cart Crossing #3				
Remove and Replace Bridge and Culvert	360	sf	$385.00	$138,600
Cart Crossing #4				
Remove and Replace Bridge and Culvert	360	sf	$385.00	$138,600
Cart Crossing #5				
Remove and Replace Bridge and Culvert	360	sf	$385.00	$138,600
Cart Crossing #6				
Remove and Replace Bridge and Culvert	504	sf	$385.00	$194,040
Cart Crossing #7				
Remove and Replace Bridge and Culvert	288	sf	$385.00	$110,880
Cart Crossing #8				
Remove and Replace Bridge and Culvert	180	sf	$385.00	$69,300
Cart Crossing #9				*Nothing Shown*
Cart Crossing #10				
Remove and Replace Bridge and Culvert	180	sf	$385.00	$69,300
Cart Crossing #11				
Remove and Replace Bridge and Culvert	360	sf	$385.00	$138,600
Total - Golf Course Crossings Replacement				**$1,203,020**

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DETAIL ELEMENTS - ROSSMOOR MASTER PLAN

Element	Quantity	Unit	Unit Cost	Total
MOD Office Building and Parking				
Demolish Existing 1-Story Building	12,050	sf	$30.00	$361,500
Office Building 1-Story, Modular	12,050	sf	$450.00	$5,422,500
Covered outdoor area, improvements	1	ls	$366,000.00	$366,000
Total - MOD Office Building and Parking				**$6,150,000**
MOD Receiving, Auto/Equip Maintenance Garage				
Demolish Existing 1-Story Building	12,600	sf	$30.00	$378,000
Warehouse Building 1-Story	6,700	sf	$350.00	$2,345,000
Garage Building 1-Story	5,900	sf	$450.00	$2,655,000
Total - MOD Receiving, Auto/Equip Maintenance Garage				**$5,378,000**
RV Dump Station				
Make ready for dump station	1	ls	$8,000.00	$8,000
RV Dump Station, allowance	1	ls	$15,000.00	$15,000
Concrete apron	32	sf	$220.00	$7,040
SS line, 4"	100	lf	$190.00	$19,000
Water line, 4"	100	lf	$160.00	$16,000
Upgrade existing lines, connections, misc.	1	ls	$37,000.00	$37,000
Total - RV Dump Station				**$102,040**
Dollar Clubhouse and Grounds				
1.0 Parking	1	ls	$43,896.01	$43,896
2.0 Accessible Routes/Exterior Areas	1	ls	$91,084.21	$91,084
3.0 Entrances	1	ls	$21,582.20	$21,582
4.0 Public Use Areas	1	ls	$77,256.97	$77,257
5.0 Stairs	1	ls	$90,718.41	$90,718
6.0 Restrooms	1	ls	$73,160.01	$73,160
7.0 Evacuation Maps/Signs	1	ls	$14,632.00	$14,632
Miscellaneous drywall repair, paint, etc.	1	ls	$36,580.01	$36,580
New Elevator at Dollar Clubhouse	1	ls	$1,098,000.00	$1,098,000
Total - Dollar Clubhouse and Grounds				**$1,546,910**
Dollar Clubhouse				
Clubhouse Renovation	11,500	sf	$315.00	$3,622,500
New Elevator			*Included in Dollar Clubhouse and Grounds Project*	
New stucco at front tower	1	ls	$37,000.00	$37,000
New covered entry at main entrance	1	ls	$127,000.00	$127,000
New landscaping, site improvements	1	ls	$183,000.00	$183,000
Hazmat demolition				*Not Part of this Budget*
Accessibility Improvements				*Excluded*
Interior Restroom Renovations				*Excluded*
Total - Dollar Clubhouse				**$3,969,500**
Outdoor Amphitheater at Dollar				
Site Clearing/Demolition	6,000	sf	$8.00	$48,000
Amphitheater	6,000	sf		
Concrete walls, incl. footing	230	lf	$2,270.00	$521,192
Ramps	1,323	sf	$103.00	$136,269
Staircases	770	sf	$147.00	$113,190
Amphitheater seating	1,700	sf	$260.00	$442,000
Stage	550	sf	$300.00	$165,000
Miscellaneous railings	6,000	sf	$15.00	$90,000
Shade structure over seating	1,900	sf	$300.00	$570,000
Mobilization	1	ls	$37,000.00	$37,000
Earthwork for sunken theater, assume 12' average	2,667	cy	$176.00	$469,333
Misc. site elements	6,000	sf	$15.00	$90,000
Electrical Scope	1	ls	$183,000.00	$183,000
Theatrical lighting, premium	1	ls	$147,000.00	$147,000
Hardscape paving North of Amphitheater	1,600	sf	$37.00	$59,200
Misc sitework at perimeter	1	ls	$100,000.00	$100,000
Total - Outdoor Amphitheater at Dollar				**$3,171,184**
Dollar Interior Restroom				
Rossmoor Capital Improvements Plan Budget	1	ls	$100,000.00	$100,000
Total - Dollar Interior Restroom				**$100,000**
Buckeye Tennis Complex Restroom				
Rossmoor Capital Improvements Plan Budget	1	ls	$100,000.00	$100,000
Total - Buckeye Tennis Complex Restroom				**$100,000**
Access Control System				
Access Control System for public interior spaces	1	ls	$1,295,000.00	$1,295,000
Total - Access Control System				**$1,295,000**
Pickleball Expansion at Creekside				

Rossmoor Capital Improvements Plan
Walnut Creek, CA
Masterplan

Project # 21-00949.00
09/22/21

DETAIL ELEMENTS - ROSSMOOR MASTER PLAN

Element	Quantity	Unit	Unit Cost	Total
Rossmoor Capital Improvements Plan Budget	1	ls	$1,200,000.00	$1,200,000
Total - Pickleball Expansion at Creekside				**$1,200,000**
Walking Paths				
Rossmoor Capital Improvements Plan Budget, Phase 1, location 1	1	ls	$74,428.57	$74,429
Rossmoor Capital Improvements Plan Budget, Phase 1, location 2	1	ls	$329,285.71	$329,286
Demolition/Make Ready	221,760	sf	$1.50	$332,640
Grading, Earthwork, Erosion Control	221,760	sf	$5.90	$1,308,384
Walking Paths				
Flexi-pave surface, incl. aggregate	126,720	sf	$20.00	$2,534,400
Landscape along path, 3' buffer	95,040	sf	$22.00	$2,090,880
Striping for path	126,720	sf	$0.40	$50,688
Misc elements along path	126,720	sf	$1.50	$190,080
Walking Path Repair Scope				*Excluded*
Link paths to create network, Phase 3				*Not Part of this Budget*
Improve existing infrastructure along paths and roadways, Phase 4				*Not Part of this Budget*
Total - Walking Paths				**$6,910,786**
Entry Monument				
Rossmoor Capital Improvements Plan Budget	1	ls	$150,000.00	$150,000
Total - Entry Monument				**$150,000**
Water Reclamation Plant				
Rossmoor Capital Improvements Plan Budget	1	ls	$11,500,000.00	$11,500,000
Total - Water Reclamation Plant				**$11,500,000**

Rossmoor Capital Improvements Plan
Walnut Creek, CA
Masterplan

Project # 21-00949.00
09/22/21

DETAIL ELEMENTS - ROSSMOOR MASTER PLAN

Element	Quantity	Unit	Unit Cost	Total
Miniature Golf Course, 18 holes				
Mini Golf course, assume size based on average SF	20,000	sf	$132.00	$2,640,000
Total - Miniature Golf Course, 18 holes				**$2,640,000**
Additional Vehicular Exit				
Route 1				
Site prep/demolition	29,740	sf	$6.00	$178,440
Hardscape at road	29,740	sf	$37.00	$1,100,380
Curb and gutter	2,974	lf	$110.00	$327,140
Mobilization	1	ls	$74,000.00	$74,000
Storm Drainage	1,487	lf	$440.00	$654,280
Lighting, allowance	1,487	lf	$520.00	$773,240
Signalization	1	ls	$1,500,000.00	$1,500,000
Route 3				
Site prep/demolition	26,000	sf	*$156,000*	
Hardscape at road	26,000	sf	*$962,000*	
Curb and gutter	2,600	lf	*$286,000*	
Concrete walls, incl. footing, 5' high	650	lf	*$1,072,500*	
Cut for pavement	2,111	cy	*$171,000*	
Total Export	2,400	cy	*$211,200*	
Mobilization	1	ls	*$74,000*	
Storm Drainage	1,300	lf	*$572,000*	
Lighting, allowance	1,300	lf	*$676,000*	
Signalization	1	ls	*$1,500,000*	
Route 3 Total not included in base, only shown for reference			*$5,680,700*	
Total - Additional Vehicular Exit				**$4,607,480**
Rossmoor Parkway Median Conversion				
Rossmoor Capital Improvements Plan Budget	1	ls	$350,000.00	$350,000
Total - Rossmoor Parkway Median Conversion				**$350,000**

APPENDIX 1 - APPROACH & METHODOLOGY

Basis of Estimate

- 2021-08-31 Rossmoor CIP Projects Matrix for CE Rev 1
- 2021-08-19 Rossmoor Projects Narrative for CE

Estimate Format

A component cost classification format has been used for the preparation of this estimate. It classifies costs by building system / element.

Cost Mark Ups

The following % mark ups have been included in each design option:
- Phasing and Make Ready Work (2.00% compound)
- Project Soft Costs (35.00% compound)
- Master Plan Contingency (5.00% compound)

Escalation

All subcontract prices herein are reflective of current bid prices. We have excluded escalation, but recommend 5% per annum compounded annually.

Method of Procurement

The estimate is based on negotiated work.

Bid Conditions

This estimate has been based upon competitive bid situations (minimum of 3 bidders) for all items of subcontracted work.

Basis For Quantities

Wherever possible, this estimate has been based upon the actual measurement of different items of work. For the remaining items, parametric measurements were used in conjunction with other projects of a similar nature.

Basis for Unit Costs

Unit costs as contained herein are based on current bid prices in Walnut Creek, CA. Sub overheads and profit are included in each line item unit cost. Their overhead and profit covers each sub's cost for labor burden, materials, and equipment, sales taxes, field overhead, home office overhead, and profit. The general contractor's overhead is shown separately on the master summary.

Sources for Pricing

This estimate was prepared by a team of qualified cost consultants experienced in estimating construction costs at all stages of design. These consultants have used pricing data from Cumming's database for various types of construction, updated to reflect current conditions in Walnut Creek, CA.

Key Exclusions

The following items have been excluded from our estimate:
- Land Purchase
- Escalation
- Utility Hook-up fees and City connection fees
- Hazmat Abatement
- FF&E

Items Affecting Cost Estimate

Items which may change the estimated construction cost include, but are not limited to:
- Modifications to the scope of work included in this estimate.
- Unforeseen sub-surface conditions.
- Restrictive technical specifications or excessive contract conditions.
- Any specified item of material or product that cannot be obtained from 3 sources.
- Any other non-competitive bid situations.
- Bids delayed beyond the projected schedule.

Rossmoor Capital Improvements Plan
Walnut Creek, CA
Masterplan
Project # 21-00949.00
09/22/21

APPENDIX 1 - APPROACH & METHODOLOGY

Statement of Probable Cost

Cumming has no control over the cost of labor and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. This estimate is made on the basis of the experience, qualifications, and best judgement of a professional consultant familiar with the construction industry. Cumming, however, cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this or subsequent cost estimates.

Cumming's staff of professional cost consultants has prepared this estimate in accordance with generally accepted principles and practices. This staff is available to discuss its contents with any interested party.

Pricing reflects probable construction costs obtainable in the project locality on the target dates specified and is a determination of fair market value for the construction of this project. The estimate is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the construction work for all sub and general contractors with a range of 3 - 4 bidders for all items of work. Experience and research indicates that a fewer number of bidders may result in higher bids. Conversely, an increased number of bidders may result in more competitive bid day responses.

COVID-19 Disclosure

The outbreak of the novel Coronavirus (COVID-19), declared by the World Health Organization as a "Global Pandemic" on 11 March 2020, has impacted global financial markets.

Market activity is being impacted in many sectors and circumstances remain very fluid and variable in different jurisdictions. Accordingly, as of this date, we are concerned with the market related impacts on the deliverables we are furnishing to you as part of our Services including cost estimates, budgets, and schedules ("Deliverable(s)"). Indeed, the current response to this pandemic means that we are faced with an unprecedented set of circumstances on which to base a judgement of the effects on the availability of labor, materials, and access and other impacts, although we are monitoring those on a continuing basis. Particularly including productivity impacts as a result of the CDC directives regarding social distancing.

Our Deliverables must be regarded with a degree of 'material uncertainty, – and a higher degree of caution – than would normally be the case. Given the unknown future impact that the COVID-19 pandemic might have on the construction and real estate markets, we recommend that you keep the Deliverables of this project under frequent review. For your information, we have not added or considered a COVID19 additional contingency within this Deliverable"

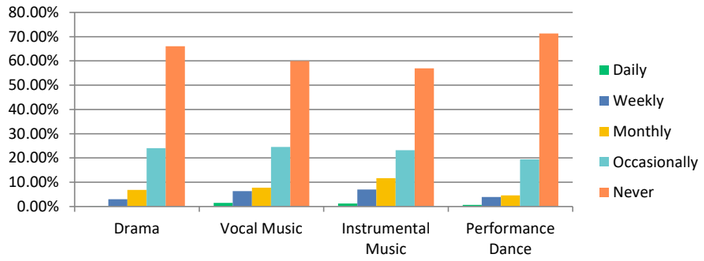
Recommendations

Cumming recommends that the Owner and the Architect carefully review this entire document to ensure it reflects their design intent. Requests for modifications of any apparent errors or omissions to this document must be made to Cumming within ten days of receipt of this estimate. Otherwise, it will be assumed that its contents have been reviewed and accepted. If the project is over budget or there are unresolved budget issues, alternate systems / schemes should be evaluated before proceeding into further design phases.

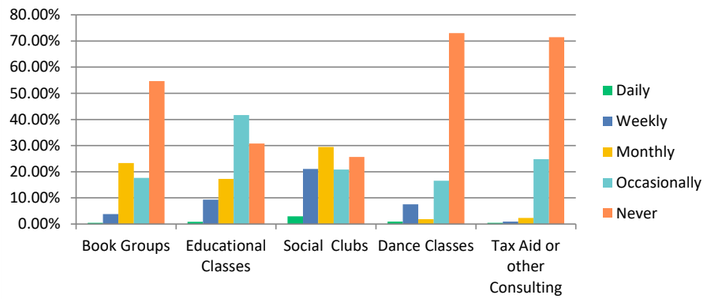
It is recommended that there are preparations of further cost estimates throughout design by Cumming to determine overall cost changes since the preparation of this preliminary estimate. These future estimates will have detailed breakdowns indicating materials by type, kind, and size, priced by their respective units of measure.

Appendix B - Survey Results

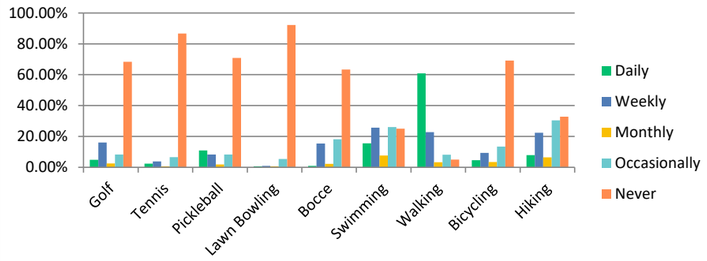
Which types of indoor Performing Arts activities do you currently participate in, and how often do you typically participate in each?



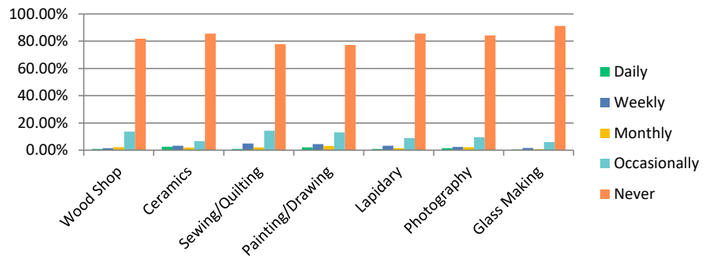
Which types of Classes and Clubs do you currently participate in, and how often do you typically participate in each?



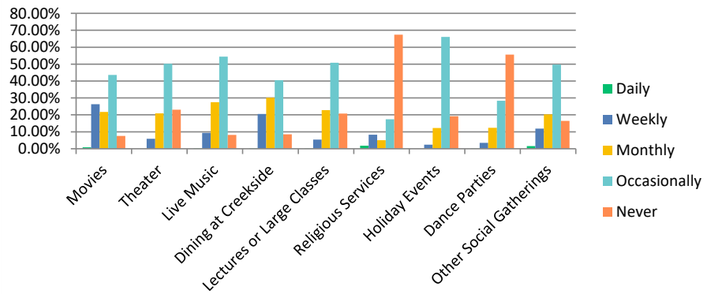
Which types of Outdoor Recreation activities do you currently participate in, and how often do you typically participate in each?



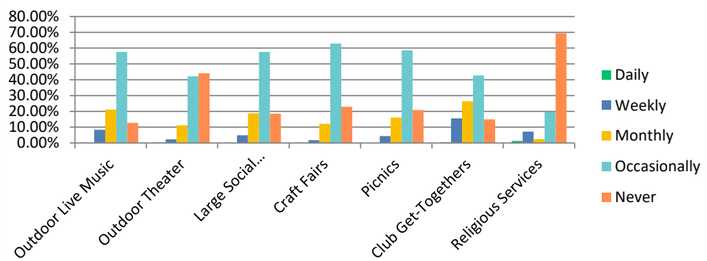
Which types of indoor Visual Arts and Crafts activities do you currently participate in, and how often do you typically participate in each?



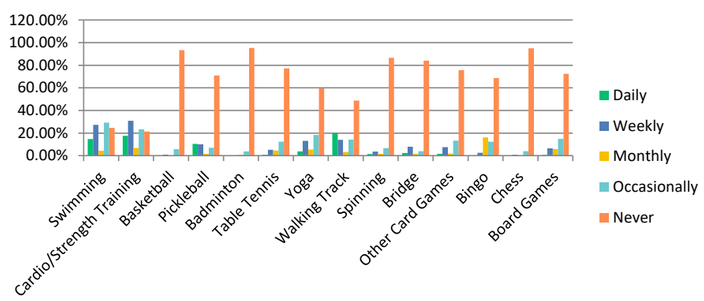
Which types of Large Gatherings do you currently participate in, and how often do you typically participate in each?



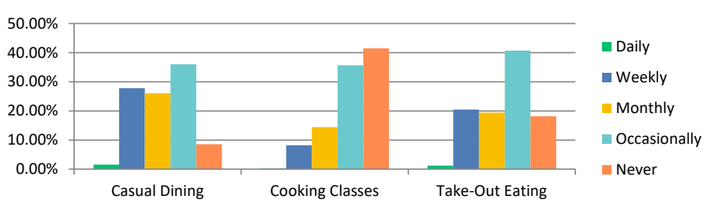
Which types of Outdoor Social Gatherings, Arts and Cultural activities do you currently participate in, and how often do you typically participate in each?



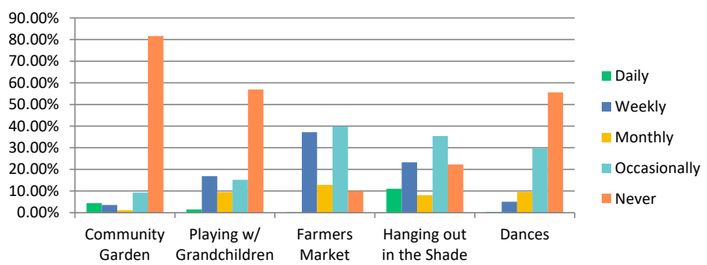
Which types of Indoor Games/Recreation do you currently participate in, and how often do you typically participate in each?



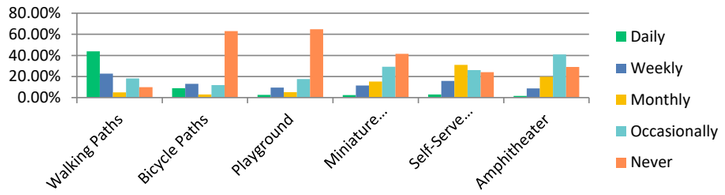
During our community workshops, participants came up with a list of other activities that they were interested in. Would you participate in any of the following activities if they were made available within the Rossmoor…



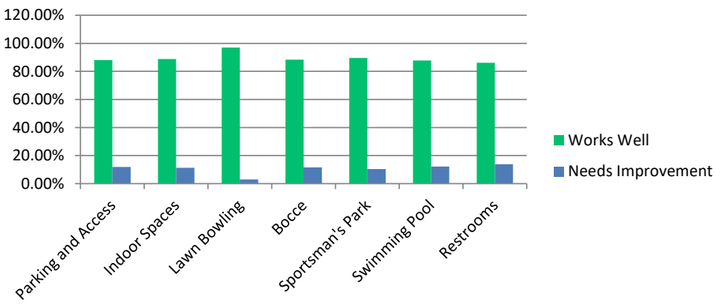
Which types of Outdoor Social Gatherings do you currently participate in, and how often do you typically participate in each?



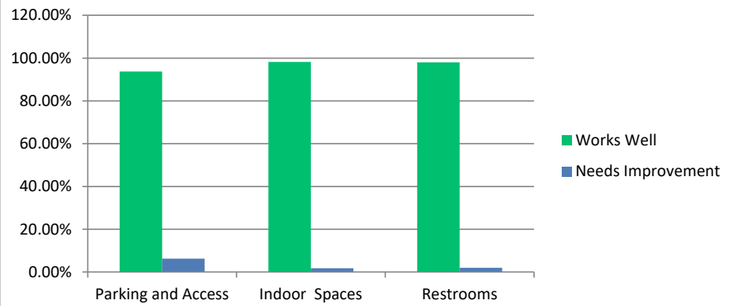
During our community workshops, participants came up with a list of other outdoor activities that they were interested in. This included grandchildren's play area, miniature golf, self-serve car wash, amphitheater, and…



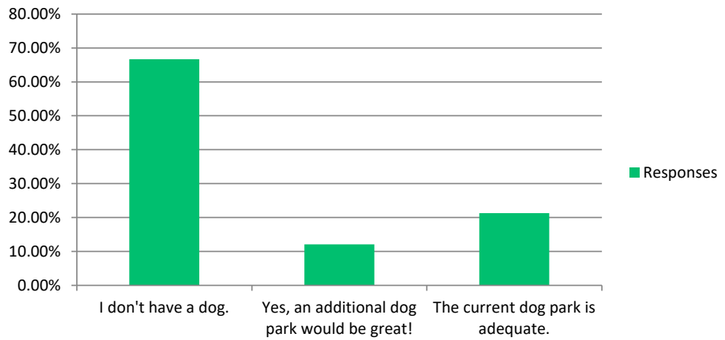
How well is the existing Hillside Complex meeting your personal needs in terms of accessibility?



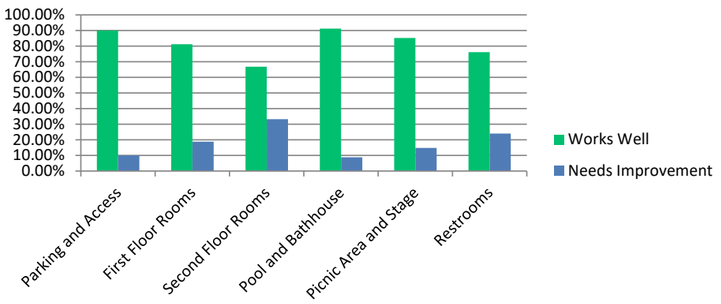
How well is the existing Events Center meeting your personal needs in terms of accessibility?



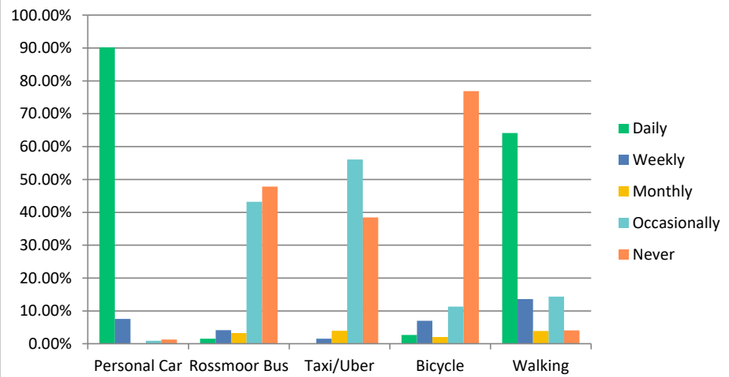
Do you have a dog and would you like an additional dog park?



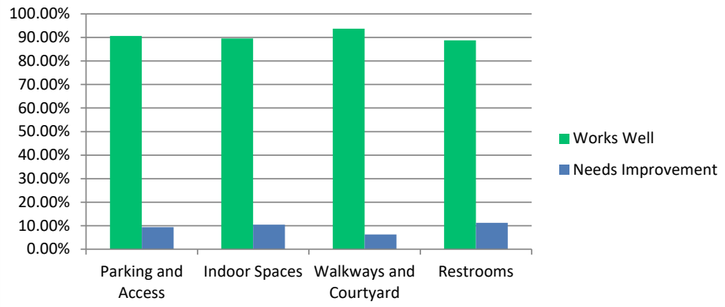
How well is the existing Dollar Complex meeting your personal needs in terms of accessibility?



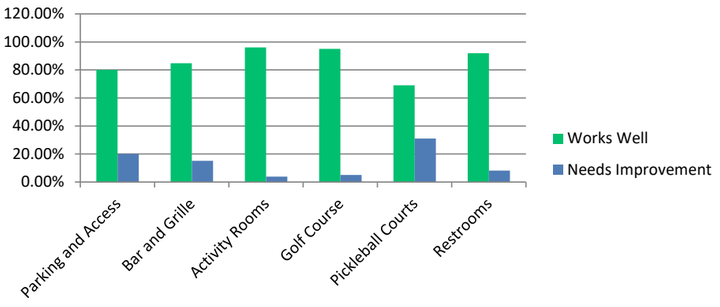
How do you get around?



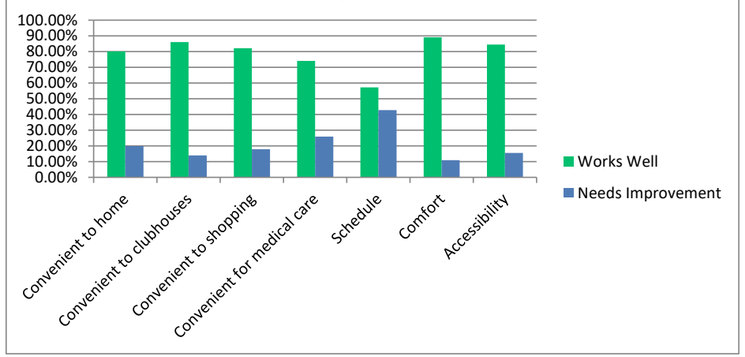
How well is the existing Gateway Complex meeting your personal needs in terms of accessibility?

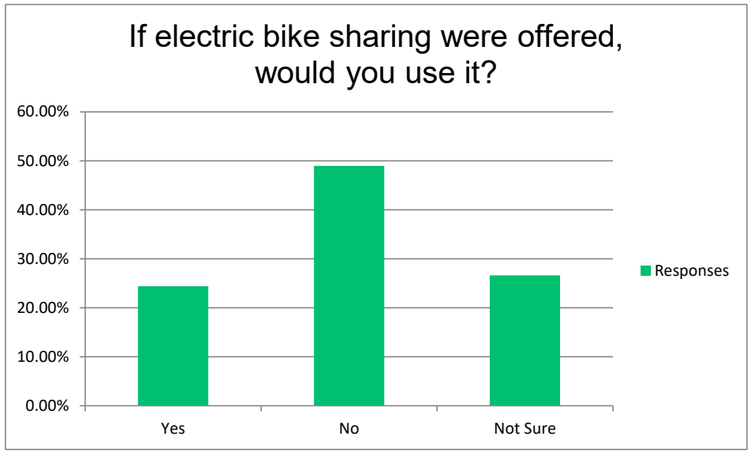


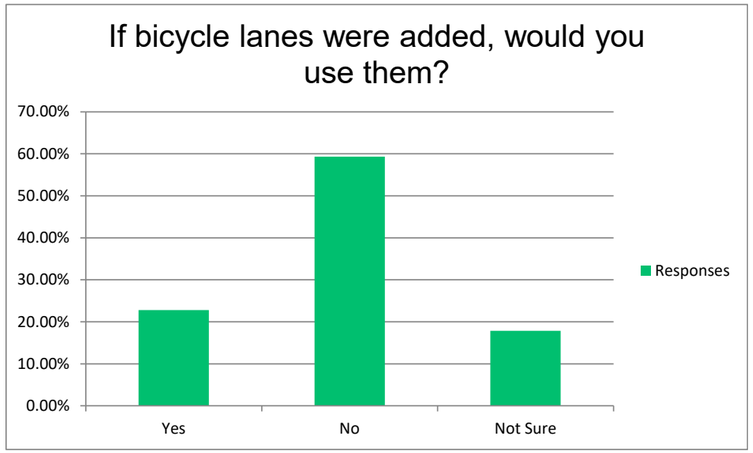
How well is the existing Creekside Clubhouse meeting your personal needs in terms of accessibility?



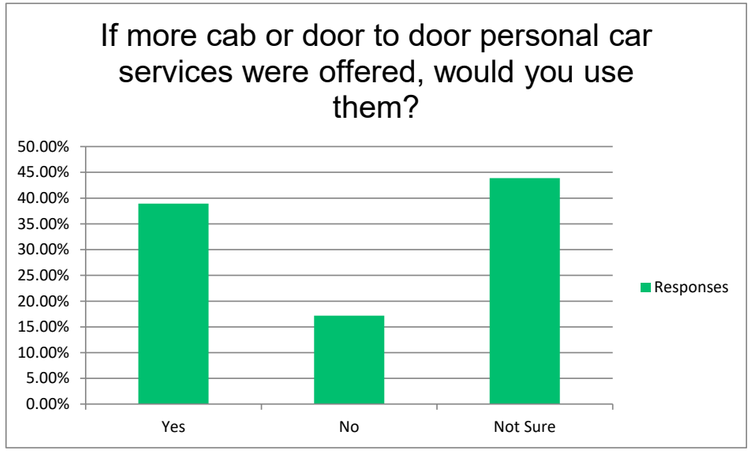
How well does the Bus Service work for you?




If electric bike sharing were offered, would you use it?
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Yes
No
Not Sure
Responses


If bicycle lanes were added, would you use them?
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Yes
No
Not Sure
Responses


If new, more level walking trails were added, would you use them?
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Yes
No
Not Sure
Responses


If more cab or door to door personal car services were offered, would you use them?
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Yes
No
Not Sure
Responses

Appendix C - 2009 Golf Cart Crossings Assessment (Civil Exhibit A for reference only)

CONDITIONS ASSESSMENT
ROSSMOOR GOLF COURSE

CART CROSSINGS AND DROP STRUCTURE



Walnut Creek, California

October 23, 2009

Prepared For:
Golden Rain Foundation
800 Rockview Drive
Walnut Creek, CA 94595
510.661.4013
Contact: Dan Schrantz

Prepared by:
BKF Engineers
2737 North Main, Suite 200
Walnut Creek, CA 94597
925.940.2209
Contact: Robert Stevens

INTRODUCTION
This report assesses the condition of ten crossings of Tice Creek at the golf course in Rossmoor. **Figure 1** illustrates the location of the crossings, which serve golf carts and pedestrian traffic. Two of the crossings are bridge structures while the remaining are culverts. In addition to the crossings, an evaluation of a concrete drop structure located in Tice Creek near the entrance of Rossmoor was performed.

The purpose of this evaluation is to determine the general condition, structural integrity, and hydraulic capacity of the existing bridges and culverts. Additionally, we provide recommendations for repair or replacement of the creek crossings. In all locations, we have assumed the path's alignment and creek are not changed.

A site investigation was performed by BKF Engineers and KPW Structural Engineers on March 30, 2009 with the course not in use allowing for unobstructed visual access. The weather was clear and temperatures were mild.

SCOPE OF SERVICES
Our scope of services includes the following:

- Perform visual observation of the eleven crossing to document structural and hydraulic capacity
- Recommend improvement alternatives
- Review environmental permitting requirements
- Recommend improvements for drop structure

STRUCTURAL ASSESSMENT
The bridges and culverts generally appear to be in good structural condition with some cosmetic defects. However, due to the elevation of the bridges over the creek and deficiencies in the existing guardrails, including connections to the bridge structure, it is recommended that they be strengthened or replaced. The existing side mounted steel tubing is inadequate for resisting potential impacts from golf carts and maintenance vehicles. Any new guardrails should be top mounted to the cart crossing decks and have additional horizontal members for pedestrian fall-under protection.



Figure 2: Example of Deck Mounted Steel Tube Guard Rails (Two-Rail Barrier)

The overall configuration of the culverts clearly indicates flooding and erosion have been consistent in large storm events. This is due to their limited hydraulic capacity and the elevation relative to the creek bed. Although damming occurs at the culverts, which could cause damage, there are no apparent structural deficiencies at these crossings. However, there is evidence of deterioration at the energy dissipation devices.

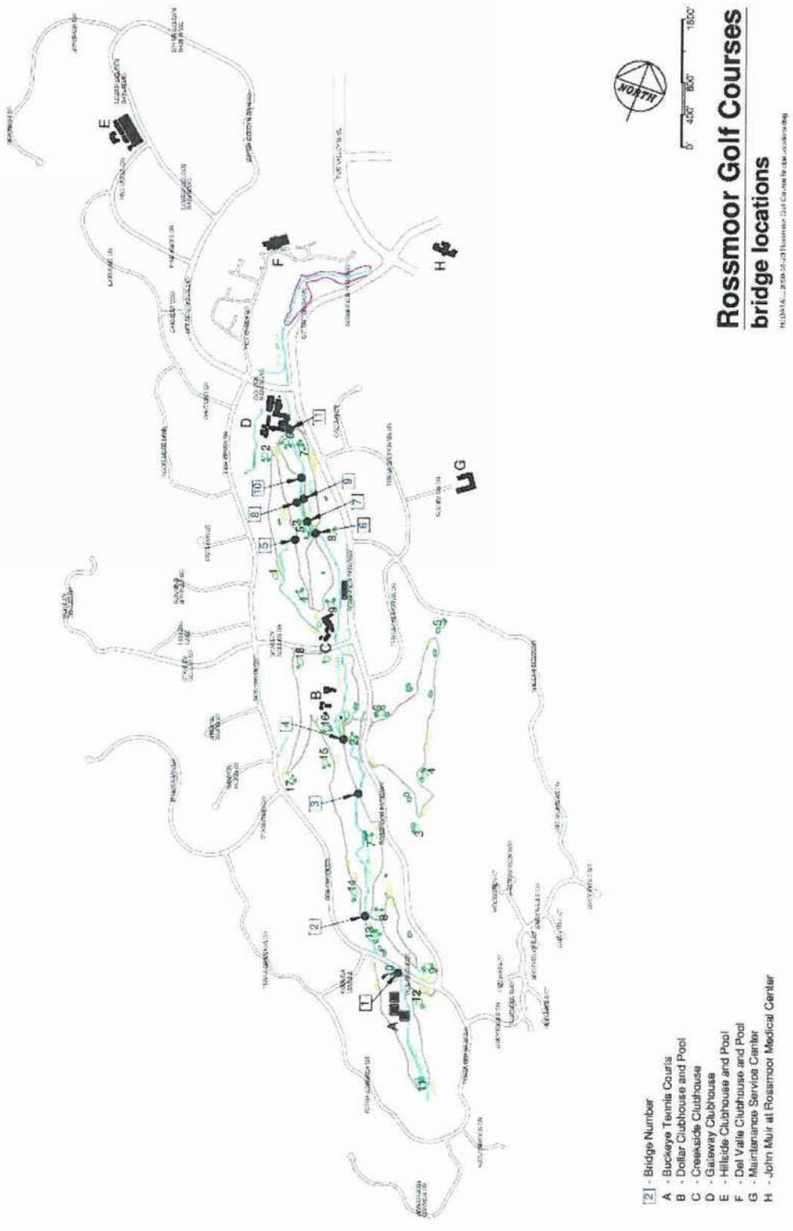


Figure 1: Crossing Location Plan

HYDROLOGY AND HYDRAULICS

Tice Creek is a shallow natural earth channel that collects runoff from the Tice Valley area of southwest Walnut Creek. The drainage area extends from Las Trampas Ridge and Castle Hill on the east to a ridge, which generally follows the west boundary of Rossmoor on the east and from Lilac Drive on the north the northerly boundary of Las Tramps Regional Park on the south. The Contra Costa County Flood Protection and Water Conservation District (CCCFPWCD) have named this watershed Drainage Area 67 (DA 67). Due to flooding in the lower portions of DA 67, improvements have been completed including a detention basin near the intersection of Tice Valley Boulevard and Rossmoor Parkway. The basin was constructed to satisfy a condition of approval for a subdivision within the Rossmoor community. Although the basin aided in reducing the developments increase in stormwater runoff it does not meet the ultimate storage requirements.



Figure 3: At Cart Crossing Number 11 the channel's capacity is 1260 CFS in contrast to the culvert's capacity at 20 CFS.

According to the "Drainage Area 67 Rossmoor Basin Draft Restudy" prepared by the Contra Costa County Flood Control and Water Conservation District in December 1999, the peak flow of Tice Creek for the 25-year storm event is 1080 CFS. While the cross section of Tice Creek within the golf course is highly variable, the existing channel generally conveys the design flow in many locations. The capacity of the existing channel near crossing number 11 is approximately 1260 CFS as referenced in Appendix D of the County's report. However, many of the crossings inhibit flow creating localized inundation. The existing hydraulic capacity of the crossings is summarized as follows:

- Cart Crossing 1: The bridge crossing has a capacity of approximately 800 CFS.
- Cart Crossing 2: The bridge crossing has adequate capacity to discharge the 25-year storm.
- Cart Crossing 3: The upstream condition does not have the capacity to convey a design storm with a frequency of 2 years and a duration of 3 hours leading to frequent overtopping. Due to the outlet's configuration, severe erosion occurs.
- Cart Crossings 4 to 11. The existing twin 18-inch diameter culverts are dramatically undersized having a capacity of approximately 20 CFS. Since the 2-year, 3-hour storm produces a flow of 390 CFS, runoff will overtop the crossings at least once a year. Also, at



Figure 4: Side Drain Erosion

each crossing a scour hole has developed downstream of the culvert and sedimentation is evident upstream of the culvert.

The CCCFPWCD standard for a watershed the size of DA 67 requires 25-year flood protection. To convey the 25-year design flow within a culvert at each crossing along Tice Creek is likely not practical as it would require the culvert to be approximately 20 feet wide by 5 feet tall. Crossings provided by prefabricated bridges would appear to be the preferable option for increased flood protection. However, to convey the design flow while maintaining the existing creek geometry, the clearance from a proposed bridge soffit to the creek's existing flow line should be approximately 72 inches.

While the existing culvert crossings may not have adequate capacity to discharge the design storm, they may act as grade control devices limiting down cutting in the creek. Down cutting is the tendency for a creek to erode along its flow line creating steeper banks, which widen over time. While this condition is documented in the 1998 report, "Evaluation of Tice Creek and its Tributaries" prepared by Bay Engineers, it appears the condition has not dramatically increased. At many of the culvert crossings, the downstream side is deeper than the upstream due to scour. If the scour hole is at the same elevation of next downstream crossing's upstream culvert, the creek is at equilibrium and no addition down cutting should occur.

PERMITTING

Removing the existing golf cart crossings and replacing the existing drop structure at Tice Creek will require work to be performed in the bed of the creek. This would subject the project to a permit from the California Department of Fish and Game (CDFG), the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB). The state permit agencies will require compliance with the California Environmental Quality Act (CEQA) prior to issuing their permit. The CEQA document would include studies for State and federally listed endangered or threatened plants and animals, likely including specific studies to determine the presence/absence of species such as the California red-legged frog (*Rana draytonii)*.

In addition, an application for building permit to the City of Walnut Creek and CDFG is needed due to the tree removal required for construction of the drop structure. The City's municipal code requires planting for removal of trees of nine inches diameter at breast height (DBH) or greater, at a ratio of 1:1 inches of DBH removed. CDFG requires this compensation for the removal of trees of six inches DBH or greater. While this section of Tice Creek is not within the jurisdiction of the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD), the proposed improvements should be presented to assist in their planning efforts.

CART CROSSING NUMBER 1

Cart crossing number 1 as show in **Figure 5** is a bridge that spans Tice Creek lined with grouted river rock. The cart path that approaches from the north is on a slope of approximately 6.8% and has a tight radius curve, causing accidents. In one instance, a cart entered the creek.



Figure 5: Cart Crossing Number 1

Specifications
Length: 18'-0"
Width: 9.5'-0"
Deck to Creek: 4'-11"
Soffit to Creek: 4'-0"
Structure: Heavy 12"x12" timber wood beams spanning the full length see **Figure 6**
Abutments: Concrete on each end of bridge
Bridge Deck: Plywood with asphalt topping bordered by 2"x6" timber

General Condition
The bridge is in good condition with some decay noted in the timbers located at the southeast corner abutment. While the guardrails are intact, they have limited capacity to resist cart impact loads due to vertical member spacing, size, and connection.

Recommendations
All decayed timber should be replaced with new 12"x12" pressure treated members. The guardrail should be replaced or modified with sufficient capacity to resist impact load from carts. A guardrail should be installed adjacent to the path.



Figure 6: Timber Support

Should a new bridge be considered, the following options are available.

1. New galvanized steel pre-fabricated structure with concrete topping slab for roadway surface. Various architectural options are available from suppliers such as Excel Bridge Manufacturing Company. The approximate cost is $35,000.

2. Replace with a pre-cast concrete bridge structure such as a unit from Keystone Concrete Products. While this option offers minimal long-term maintenance, there are limited architectural options. The approximate cost is $29,000.

3. Replace the bridge with a similar unit composed of heavy timber. This option has the least cost initially, but highest long-term maintenance cost. The approximate cost is $18,000.

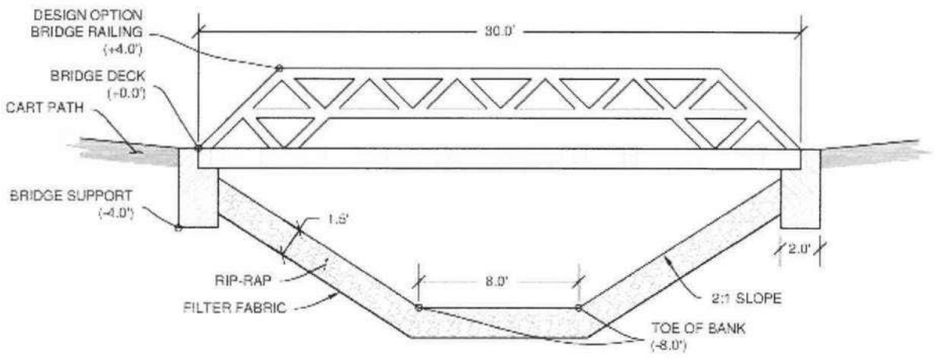


Figure 7: Sample Bridge Installation

To protect the bridge abutments, the creek banks should receive riprap or an engineered fabric. In some instances, the use of riprap is not the preferable option as pests live within the crevices. However, the regulatory agency may require construction that creates a natural riparian habitat.

CART CROSSING NUMBER 2

Crossing number 2 is a concrete bridge spanning Tice Creek with a drop structure located at the base. Large concrete walls are provided to control the flow of water and a hardened spillway limits scour. The banks upstream of the bridge are in good condition showing limited erosion while the downstream has evidence of erosion likely due to higher stream velocity. In addition, there is a scour hole at the base of the spillway that is approximately 1 foot deep. The existing asphalt path at the bridge abutments is supported on broken segments of concrete.



Figure 8: Cart Crossing Number 2

Specifications
Length: 58'-0"
Width: 8-0"
Deck to Creek: 11'-3"
Soffit to Creek: 10'-5"
Structure: Double pre-stressed pre-cast structural tee concrete beam.
Abutments: Concrete on each end of bridge
Bridge Deck: Concrete slab

General Condition
The bridge is in very good condition with some cracking and spalling noted on the south end abutment. Guardrails are intact but have limited capacity to resist cart impact loads due to vertical member spacing and size. Handrails are removable, but appear to lack capacity and configuration to resist cart impact and penetration. The scour hole that is occurring downstream of the drop structure could be an issue depending on how the energy dissipation device was constructed. If a cutoff wall was not installed below the concrete pad, water flowing in the sub grade could undermine the drop structure causing it to fail.

Recommendations
Repair the existing spalled concrete with epoxy adhered concrete grout. Replace the guardrail with one of sufficient capacity to resist impact load from carts or other vehicles and increase horizontal spacing of the rails to prevent fall conditions. Staff should monitor the concrete backfill to ensure it is not dislocated. Additionally, there is localized erosion on the hillside adjacent to the bridge, likely caused by concentrated flow from surface drainage in that area. Modifications should be made to diffuse the runoff. The scour hole at the base of the drop structure should be filled with rip rap.

CART CROSSING NUMBER 3

Cart crossing number 3 is a culvert consisting of twin 18-inch diameter concrete pipes as shown in **Figure 9**. Approximately 150 feet upstream of the crossing, water is collected in a 24-inch diameter concrete pipe, which flows to a drainage structure located adjacent to the path where it diverges to the twin 18-inch culverts. At the discharge location, the creek takes a sharp bend absorbing the flow and causing severe erosion of the bank as shown in **Figure 10**. As previously discussed, the existing culverts are undersized and the crossing is frequently inundated.



Figure 9: Cart Crossing Number 3

Specifications
Length: 30'-0"
Width: 12'-0"
Deck to Spill Pad: 3'-3"
Spill Pad to Creek Flow line: 2'-0"

Recommendations

As the design flow in Tice Creek is high, replacement of the culvert with the appropriately sized facility is likely not practical. As shown in **Figure 11**, the 18 inch culverts should be replaced with a 24 inch outlet pipe directing flow in line with the creek. The area of the creek with severe erosion should be filled with native materials and the pipe system extended. The existing grated inlet cover should be removed and replaced with a solid, bolted down lid. Energy dissipation devices, such as rip rap, should be installed at the outlet to prevent erosion.



Figure 10: Bank Erosion at Crossing 3

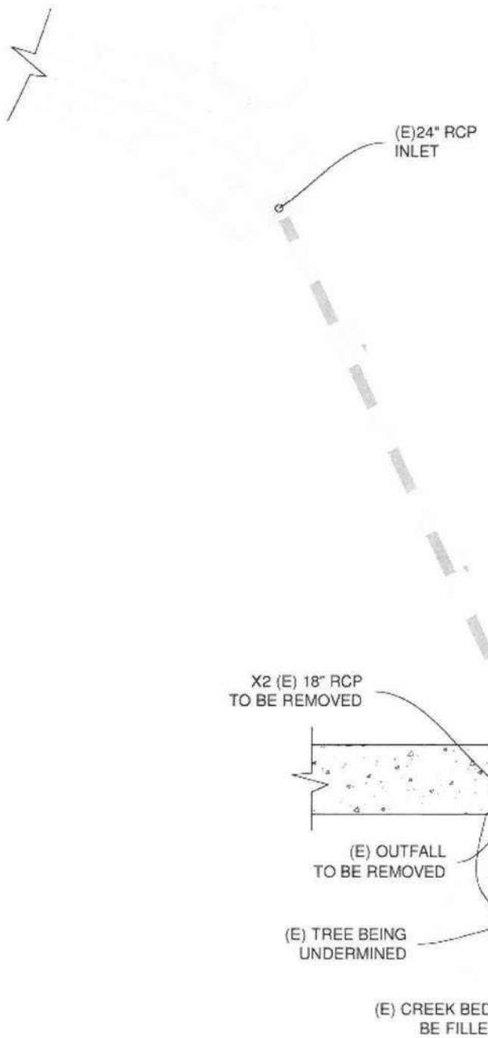


Figure 11: Cart Crossing Number 3 Repair

CART CROSSING NUMBER 4

Cart crossing number 4 is a culvert consisting of twin 18-inch diameter concrete pipes as shown in **Figure 12**. As previously discussed, the existing culverts are undersized and the crossing is frequently inundated. Water flowing over the crossing concentrates at the edge of the spill pad creating erosion. A section of the spill pad has been undermined and has failed.



Figure 12: Cart Crossing Number 4

The pathway approaching the crossing has longitudinal slopes that exceed the Americans with Disabilities Act (ADA) requirements for an accessible path of travel.

Specifications
Length: 30'-0"
Width: 12'-0"
Deck to Creek Flow line (upstream): 2'-3"
Deck to Spill Pad: 2'-6"
Spill Pad to Creek Flow line: 3'-0"

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". To accommodate ADA requirements, the crossing's elevation should be raised to an elevation to limit grades parallel to the path of travel of less than 4.9%. Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek.

If the existing culvert is to remain, improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. The void space below the concrete spill pad and the eroded ground below should be filled with grout applied under pressure or concrete to protect the structure from further undermining.
3. The damaged section of spill pad should be repaired with concrete.
4. All cracks and joints in the spill way should be filled with a joint sealant to minimize the inflow of water.
5. Rip rap, of a larger diameter than existing and suitable for the outfall, should be installed along the edge and downstream of the concrete spill pad.

CART CROSSING NUMBER 5

Cart crossing number 5 is a culvert consisting of twin 18-inch diameter concrete pipes as shown in **Figure 13**. The water from upstream approaches within a concrete lined channel which is a minor tributary from a pond located to the south. At the discharge location, erosion is undermining a tree as shown in **Figure 14**. The concrete apron is undermined from the water that enters the creek from the sides. As previously discussed, the existing culverts are undersized and the crossing is frequently inundated. The crossing's concrete surface contains longitudinal and transverse cracks.



Figure 13: Cart Crossing Number 5

Specifications
Length: 30'-0"
Width: 12'-0"
Deck to Creek Flow line (upstream): 2'-3"
Deck to Spill Pad: 2'-9"
Spill Pad to Creek Flow line: 2'-0"

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek.



Figure 14: Downstream Path of Crossing 5

If the existing culvert is to remain, the crossing will continue to be subject to flow overtopping and inundation. Improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. The void space below the concrete spill pad and the eroded ground below should be filled with grout applied under pressure or concrete to protect the structure from further undermining.
3. All cracks and joints in the concrete surface should be filled with a joint sealant.
4. Rip rap, of a larger diameter than existing and suitable for the outfall, should be installed along the edge and downstream of the concrete spill pad.
5. The bank should be stabilized in the location where the tree is being undermined. The tree's removal may be required.

CART CROSSING NUMBER 6

Cart crossing number 6 is a culvert consisting of twin 18-inch diameter concrete pipes. The culverts are not aligned with the creek's current direction of flow as shown in **Figure 15**. The culvert alignment and concrete slope paving appear to be concentrating flow on the opposing bank creating erosion. The crossing's concrete surface contains longitudinal and transverse cracks.



Figure 15: Cart Crossing Number 6

The pathway approaching the crossing has longitudinal slopes that exceed the Americans with Disabilities Act (ADA) requirements for an accessible path of travel.

Specifications
Length: 42'-0"
Width: 12'-6"
Deck to Creek Flow line (upstream): 2'-6"
Deck to Spill Pad: 3'-6"
Spill Pad to Creek Flow line: 1'-0"



Figure 16: Downstream Condition of Crossing 6

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". To accommodate ADA requirements, the crossing's elevation should be raised to an elevation to limit grades parallel to the path of travel of less than 4.9%. Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek. If a culvert is installed, it should be aligned with the creek's direction of flow.

If the existing culvert is to remain, improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. All cracks in the crossing should be filled with a joint sealant to minimize the inflow of water.
3. The void space below the concrete sloped paving should be filled with grout applied under pressure or concrete to protect the structure from further undermining.
4. Rip rap should be installed along the edge and downstream of the concrete sloped paving to act as energy dissipation and prevent further undermining.
5. Minor grading and installation of willow stakes and erosion control fabric should be completed to stabilize the banks.

CART CROSSING NUMBER 7

Cart crossing number 7 is a culvert consisting of twin 18-inch diameter concrete pipes. The culverts are not aligned with the creek's current direction of flow as shown in **Figure 17**. The culvert alignment and concrete slope paving appear to be concentrating flow on the opposing bank creating erosion. The water passing through this crossing has developed a scour hole that is 2.5' deep.



Figure 17: Cart Crossing Number 7

Downstream of crossing 7 is a small detention pond, as shown in **Figure 18**. This pond contains a pump that provides irrigation water up the hill to the south.

Specifications
Length: 48'-0"
Width: 6'-0"
Deck to Creek Flow line (upstream): 2'-6"
Deck to Creek Spill Pad: 2'-9"
Spill Pad to Creek Flow line: 1'-6"



Figure 18: Pond Downstream of Crossing 7

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek. If a culvert is installed, it should be aligned with the creek's direction of flow.

If the existing culvert is to remain, improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. All cracks in the crossing should be filled with a joint sealant to minimize the inflow of water.
3. The void space below the concrete sloped paving should be filled with grout applied under pressure or concrete to protect the structure from further undermining.
4. Minor grading and installation of willow stakes and erosion control fabric should be completed to stabilize the banks.

CART CROSSING NUMBER 8

Cart crossing number 8 is a culvert consisting of twin 18-inch diameter concrete pipes. The water from upstream exits a small detention pond and flows in an earthen channel as shown in **Figure 19**. The bank on the downstream side of crossing 8 is eroding as shown in **Figure 20**. As previously discussed, the existing culverts are undersized and the crossing is frequently inundated.



Figure 19: Cart Crossing Number 8

The pathway approaching the crossing has longitudinal slopes that exceed the Americans with Disabilities Act (ADA) requirements for an accessible path of travel.

Specifications
Length: 30'-0"
Width: 6'-0"
Deck to Creek Flow line (upstream): 2'-6"
Deck to Spill Pad: 2'-3"
Spill Pad to Creek Flow line: 2'-0"



Figure 20: Cart Crossing Number 8

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". To accommodate ADA requirements, the crossing's elevation should be raised to an elevation to limit grades parallel to the path of travel of less than 4.9%. Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek.

If the existing culvert is to remain, improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. All cracks in the crossing should be filled with a joint sealant to minimize the inflow of water.
3. Minor grading and installation of willow stakes and erosion control fabric should be completed to stabilize the banks and limit further erosion of the creek bed.

CART CROSSING NUMBER 10

Cart crossing number 10 is a culvert consisting of twin 18-inch diameter concrete pipes. The water from upstream flows in an earthen channel and the banks on both sides of crossing 10 are eroding as shown in **Figure 21**. As previously discussed, the existing culverts are undersized and the crossing is frequently inundated. The concrete apron has been severely undermined by the turbulent water flowing over the top of the culvert. The turbulent flow has also developed a scour hole that is 4.5' deep. Additionally, there is a tree on the downstream side that is being undermined, as shown in **Figure 22**.



Figure 21: Cart Crossing Number 10

The pathway approaching the crossing has longitudinal slopes that exceed the Americans with Disabilities Act (ADA) requirements for an accessible path of travel.

Specifications
Length: 30'-0"
Width: 6'-0"
Deck to Creek Flow line (upstream): 2'-1"
Deck to Spill Pad: 2'-6"
Spill Pad to Creek Flow line: 3'-0"



Figure 20: Cart Crossing Number 8

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". To accommodate ADA requirements, the crossing's elevation should be raised to an elevation to limit grades parallel to the path of travel of less than 4.9%. Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek.

If the existing culvert is to remain, improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. The void space below the concrete sloped paving should be filled with grout applied under pressure or concrete to protect the structure from further undermining.
3. Rip rap should be installed along the edge and downstream of the concrete sloped paving to act as energy dissipation and prevent further undermining.
4. The bank should be stabilized in the location where the tree is being undermined. The tree's removal may be required.

CART CROSSING NUMBER 11

Cart crossing number 11 is a culvert consisting of twin 18-inch diameter concrete pipes. The culverts are not aligned with the creek's current direction of flow as shown in **Figure 23**. The culvert alignment and concrete slope paving appear to be concentrating flow on the opposing bank creating erosion. The crossing's concrete surface contains longitudinal and transverse cracks.



Figure 23: Cart Crossing Number 11

The pathway approaching the crossing has longitudinal slopes that exceed the Americans with Disabilities Act (ADA) requirements for an accessible path of travel.

Specifications
Length: 30'-0"
Width: 12'-0"
Deck to Creek Flow line (upstream): 2'-8"
Deck to Spill Pad: 2'-10"
Spill Pad to Creek Flow line: 2'-0"



Figure 24: Rip-Rap Downstream of Crossing 11

Recommendations
If replacement of the crossing is desired with a bridge or culvert, see the section that follows entitled, "General Culvert Replacement Recommendations". To accommodate ADA requirements, the crossing's elevation should be raised to an elevation to limit grades parallel to the path of travel of less than 4.9%. Due to the large elevation difference at the crossing, a grade control device should be considered to limit future down cutting of the creek.

If the existing culvert is to remain, improvements to the structure are required to maintain serviceability, which include:

1. The existing guardrails should be replaced to resist cart impacts.
2. The void space below the concrete spill pad and the eroded ground below should be filled with grout applied under pressure or concrete to protect the structure from further undermining.
3. All cracks and joints in the spill way should be filled with a joint sealant to minimize the inflow of water.
4. Rip rap, of a larger diameter than existing and suitable for the outfall, should be installed along the edge and downstream of the concrete spill pad.

GENERAL CULVERT CROSSING REPLACEMENT RECOMMENDATIONS

As previously noted, the existing crossings cannot convey the flow resulting from a frequent design storm. Assuming the repairs previously recommended are implemented, they should remain in serviceable condition. If replacement is desired, a bridge similar to those discussed for Cart Crossing Number 1 is an option. Alternatively, a culvert or pipe arch designed to convey a storm of higher frequency such as the 10-year event can be considered. The culvert should have a natural bottom similar to the illustration in **Figure 25** to satisfy regulatory agency requirements. The bridge or culvert must be designed to accommodate the large elevation change present at the existing culvert. Given the large elevation change at most of the existing culverts, an evaluation of creek equilibrium must be performed to ensure down cutting is limited. Biological treatments in the creek bed such as willow stake and root balls as shown in **Figure 26** could be used to limit the erosion potential.

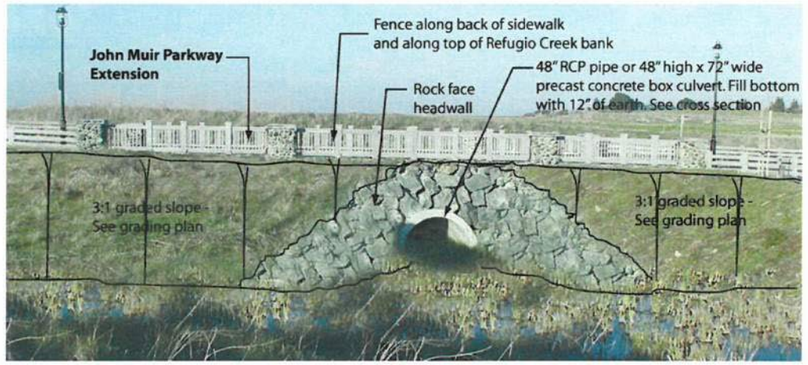
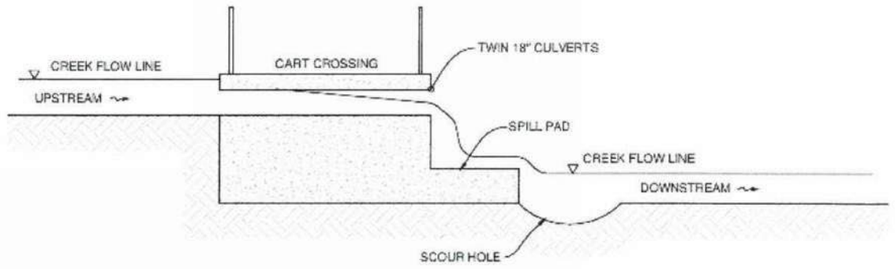


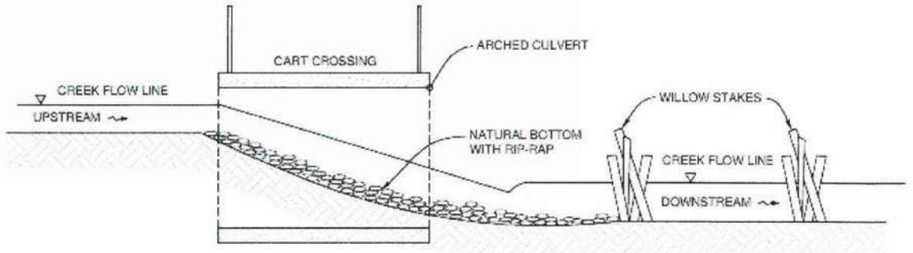
Figure 25: Culvert Crossing

Removal of the culverts will require an evaluation of the following:

1. Due to the grade difference present at the culvert crossings, grouted riprap or other structures may be required. An evaluation of the creek's equilibrium will need to be performed to ensure the structures are placed at the correct elevation to prevent further down cutting.
2. Perform a hydrologic analysis of the watershed to determine flows in the creek.
3. A water surface analysis using HEC RAS will need to be performed along the creek to ensure the proposed crossings' elevations are adequate to prevent inundation.
4. As the new crossings will be at a higher elevation, an evaluation to determine if the path of travel will be within disability access requirements will be required. The maximum grade parallel to the path of travel should be less than 4.9%.
5. The 1999 study completed by the CCCFCWCD determined that a typical culvert reduces the 25-year peak flow by about 2 CFS. While not additive, removing all the culverts will increase flow downstream. Any adjustments to the existing culverts should be discussed with CCCFCWCD to assist in their planning efforts.



EXISTING CULVERT CONDITION



PROPOSED ARCH CULVERT

Figure 26: Arched Culvert Cross-Section

DROP STRUCTURE

The concrete drop structure located near the entrance to Rossmoor contains severe distress as illustrated in **Figure 27**. The structure appears be constructed on a base of concrete debris. Over time, water flowing in the creek's sub grade likely dislodged sediment removing support for the concrete debris. As the debris settled, there was no longer adequate support for the structure inducing stress and eventual failure. Without replacement, the creek's flow line will continue to erode upstream steepening the existing banks, creating instability, and threatening improvements.

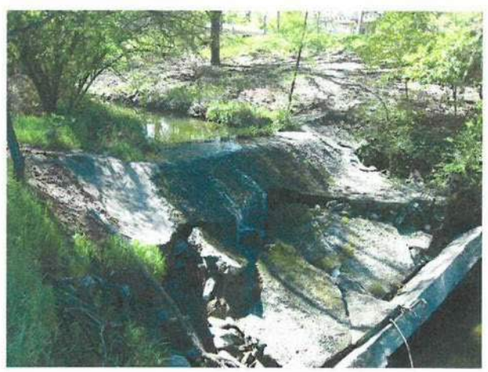


Figure 27: Existing Drop Structure

Recommendations

The following options are potential solutions:

1. Concrete Drop Structure - Install a traditional concrete drop structure with energy dissipation features as shown in **Figure 28.** The structure should be installed in a similar location and grade as the existing structure. It should contain a cut off wall to minimize water flow in the sub grade and energy dissipation bollards to minimize downstream scour.



Figure 28: Proposed Drop Structure

2. Rip Rap Basin – Install a rip rap basin as shown in **Figure 29**. After removal of the concrete debris, appropriately sized riprap is installed along the creek's flow line and banks. The dissipater pool is sized to minimize energy and eliminate a scour hole. This option will require a longer length in the channel affecting vegetation and trees.

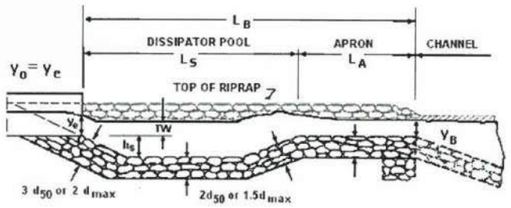


Figure 29: Riprap Basin

3. Rock Vortex Weir - A rock vortex weir is a structure designed to provide grade control and create a diversity of flow velocities. The weir constructed of rock as shown in **Figure 30**, points upstream with the legs angling downstream at anywhere from a 15 to 30 degree angle relative to the stream bank. The legs are carried up the stream bank. The weir stones are separated by about 1/2 of their diameter. Additionally, the stone's height is about 10% that of the bank. To work effectively over large drops in elevation, a series of weirs could be required. This will require a long segment of the channel affecting vegetation and trees.

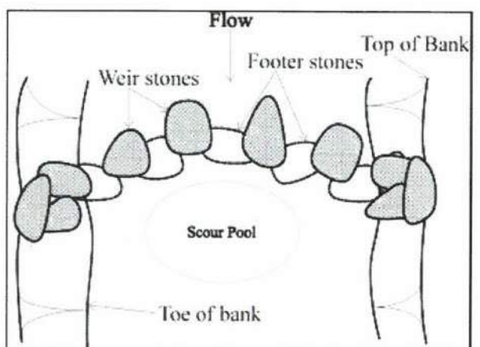


Figure 30: Rock Vortex Weir (Plan View)

IMPROVEMENT PRIORITIES
We recommend the improvements be completed in the following priority

Item	Timeframe
1. Improve guardrails at cart crossings	Within 6 months
2. Remove trees with severely exposed roots at eroded banks	Within 8 months
3. Install erosion control features along creek banks and install energy dissipation devices at side drains	Within 1 year
4. Repair concrete drop structure	Within 2 years
5. Repair cart crossings 1 and 2	Within 2 years
6. Repair cart crossing number 3	Within 3 years

COST ANALYSIS

Cart Crossing	General Crossing Improvements	Culvert Replacement	New Bridge Installation
1	$6,000	N/A	N/A
2	$15,000	N/A	N/A
3	$25,000	N/A	N/A
4	$10,000	$25,000	$60,000
5	$15,000	$25,000	$60,000
6	$15,000	$27,500	$70,000
7	$10,000	$30,000	$75,000
8	$10,000	$25,000	$60,000
10	$15,000	$25,000	$60,000
11	$10,000	$25,000	$60,000

Drop Structure Type	Construction Cost
Concrete Drop Structure	$300,000
Rip Rap Basin	$190,000
Rock Vortex Weir	$150,000

CONCLUSION
The existing creek crossings serving the Rossmoor golf course are generally in serviceable condition. However, each crossing has existing deficiencies which should be addressed as mentioned in the crossing summary sections of this report. Increasing the flow capacity of the crossings will require replacement of the culvert structures. Refer to the General Culvert Crossing Replacement Recommendations section for options that should be considered. Furthermore, the concrete drop structure located near the entrance to Rossmoor has failed. Replacement of the drop structure would require immediate attention as the permit processing time may be lengthy.

Appendix D - Emergency Access Road Improvements (Civil Exhibit B)

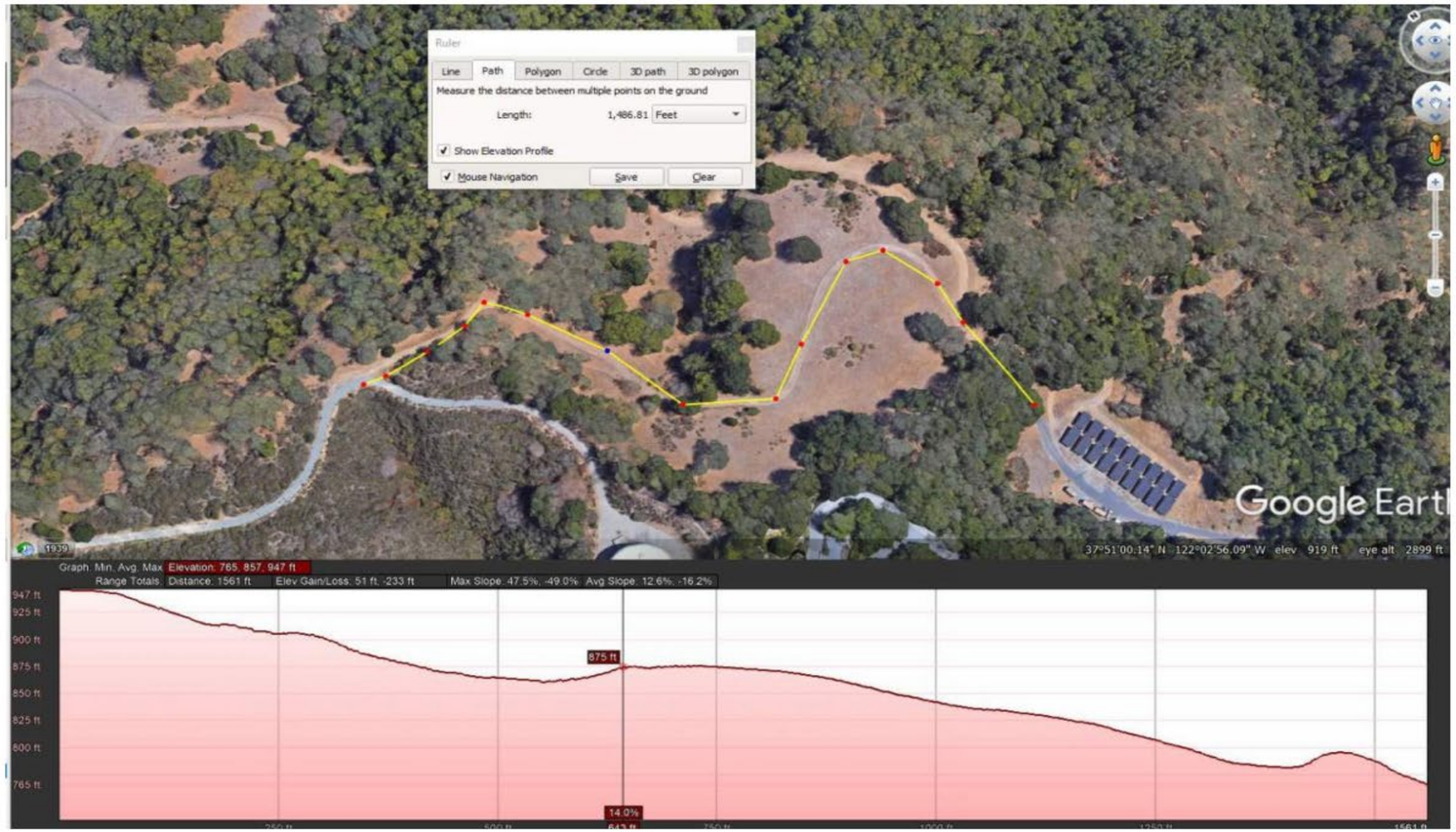


EXHIBIT B - EMERGENCY ACCESS ROAD IMPROVEMENTS Page 1 of 3

ROSSMOOR LONG-RANGE CIP 3/16/22

BKF
1646 N. CALIFORNIA BLVD.
SUITE 400
WALNUT CREEK, CA 94596
(925) 940-2200
www.bkf.com

Appendix D - Emergency Access Road Improvements



	UNIT	ROUTE 2	ROUTE 3
LENGTH OF UNPAVED	LF	1500	1300
ROAD WIDTH	FT	20	20
PAVING SECTION	FT	1.5	1.5
RETAINING WALL LENGTH	LF	750	650
RETAINING WALL HEIGHT	FT	5	5
RETAINING WALL CUT AREA	SF	12	12
LONGITUDINAL CUT	FT	0	3
LENGTH OF LONG CUT	FT	0	200
LONGITUDINAL CUT	CY	0	666.6667
PAVEMENT CUT	CY	1666.667	1444.444
WALL CUT	CY	333	289
TOTAL EXPORT	**CY**	**2000**	**2400**

ROUTE 2
LENGTH: 1500 LF
ASSUME:
1.5:1 SLOPES ON HILL
1/2 THE LENGTH NEEDS RETAINING WALLS
EXISTING WIDTH IS 15'
PAVING SECTION IS 18"
MARGINAL REGRADING FOR PROFILE; I.E. NO CUT/FILL TO ACCOUNT FOR PROFILE GRADES

EXHIBIT B - EMERGENCY ACCESS ROAD IMPROVEMENTS

Page 2 of 3

ROSSMOOR LONG-RANGE CIP

3/16/22

BKF
1646 N. CALIFORNIA BLVD.
SUITE 400
WALNUT CREEK, CA 94596
(925) 940-2200
www.bkf.com

Appendix D - Emergency Access Road Improvements



	UNIT	ROUTE 2	ROUTE 3
LENGTH OF UNPAVED	LF	1500	1300
ROAD WIDTH	FT	20	20
PAVING SECTION	FT	1.5	1.5
RETAINING WALL LENGTH	LF	750	650
RETAINING WALL HEIGHT	FT	5	5
RETAINING WALL CUT AREA	SF	12	12
LONGITUDINAL CUT	FT	0	3
LENGTH OF LONG CUT	FT	0	200
LONGITUDINAL CUT	CY	0	666.6667
PAVEMENT CUT	CY	1666.667	1444.444
WALL CUT	CY	333	289
TOTAL EXPORT	**CY**	**2000**	**2400**

ROUTE 3
LENGTH: 1300 LF
ASSUME:
1.5:1 SLOPES ON HILL
1/2 THE LENGTH NEEDS RETAINING WALLS
EXISTING WIDTH IS 15'. PROPOSED IS 20'.
PAVING SECTION IS 18"
200' OF REGRADING FOR PROFILE, ASSUMING 3' OF CUT ALONG PROFILE.

EXHIBIT B - EMERGENCY ACCESS ROAD IMPROVEMENTS Page 3 of 3

ROSSMOOR LONG-RANGE CIP 3/16/22

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