LOS ALAMOS

Los Alamos County
ARTIFICIAL TURF FEASIBILITY STUDY

CONSIDERATION OF OPPORTUNITIES FOR ARTIFICIAL TURF USE, FIELD REALIGNMENT, AND FACILITY IMPROVEMENTS AT NORTH MESA SPORTS COMPLEX AND OVERLOOK PARK.

2025

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ATTACHMENT B

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Los Alamos County, through its Community Services Department, commissioned the following Artificial Turf Feasibility Study to evaluate the feasibility, benefits, trade-offs, and long-term implications of introducing synthetic turf at key athletic facilities—specifically the North Mesa Sports Complex and Overlook Park. Conducted by NV5, Sites Southwest, and R&R Engineers, the study includes detailed site assessments, extensive community engagement, comparative analysis of turf systems, and conceptual framework plans to guide future investments in recreation infrastructure.

The study was driven by increasing demand for high-quality, multi-use athletic fields capable of supporting a growing number of teams, leagues, and year-round programming. Key goals included identifying opportunities to improve field safety and playability, address maintenance challenges, optimize site layouts, and extend field usability through artificial turf installation where appropriate.

Community input played a central role in the study process. Over 350 responses were gathered across two digital surveys, in addition to five public meetings, interviews with field user groups, and ongoing collaboration with County staff. Across all methods, residents expressed strong interest in improving field conditions, expanding access, and addressing safety issues such as gopher damage and poor drainage. While artificial turf was generally supported for its durability, weather resistance, and reduced maintenance demands, some residents voiced environmental and health concerns—underscoring the need for a balanced approach.

Field assessments revealed widespread maintenance and accessibility challenges at both sites, including outdated lighting, non-compliant ADA features, inefficient and limited parking, and deteriorating infrastructure. These findings informed a phased improvement strategy and two conceptual layout options per site. The phased plan prioritizes (1) immediate infrastructure and ADA upgrades, (2) strategic field reconfiguration and circulation improvements, and (3) long-term amenities, synthetic turf installation, and site enhancements.

The study compares natural and synthetic turf systems across multiple criteria—cost, maintenance, injury risk, environmental impact, and playability—and presents context-specific recommendations tailored to sport type, level of use, and community preference. While synthetic turf may offer operational benefits for high-use, multi-sport fields, natural grass remains appropriate for lower-intensity use and offers sustainability advantages when properly maintained. However, these choices are nuanced and should be considered comprehensively.

Conceptual framework plans for each complex were developed to address circulation, co-location of facilities, accessibility, parking, lighting, site amenities, and the integration of durable and tournament-capable fields. The recommendations reflect a clear vision for modernizing both facilities in a fiscally responsible, environmentally conscious, and community-centered manner. Recommendations are summarized in the table on the following page and further elaborated upon in the report.

Ultimately, this study provides Los Alamos County with a flexible, data-informed roadmap for improving its athletic field infrastructure. It supports long-term planning, funding applications, and public decision-making while laying the groundwork for sustainable, inclusive recreational spaces that serve the County's needs well into the future.

Summary of Recommendations		
Recommendations	North Mesa Sports Complex	Overlook Park
Artificial Turf	Synthetic turf for high-use fields. Recommended installation for Bomber field and Lou Caveglia field. Synthetic turf product: Recycled tufted turf with a resilient recycled infill (cooling effect optional), permeable cradle to cradle pad, with a gopher resistant wire mesh installed at the turf foundation.	Synthetic turf for high-use fields. Recommended installation for Hope Field, X Lovato, and Dara Jones field. Synthetic turf product: Recycled turf with a resilient recycled infill (cooling effect optional), permeable cradle to cradle pad, with a gopher resistant wire mesh installed at the turf foundation.
Accessibility Improvements	Implement phased upgrades. **Short-term Goals:** Improved parking surfaces, ADA-compliant ramps, pedestrian connectivity, accessible site furnishings and updated lighting systems. **Long-term Goals:** field realignments, centralized accessible walkways, grade adjustments for accessibility, accessible site furnishings and Improved lighting systems.	Implement phased upgrades. **Short-term Goals:** Improved parking surfaces, ADA-compliant ramps, pedestrian connectivity, accessible site furnishings and updated lighting systems. **Long-term Goals:** field realignments, centralized accessible walkways, grade adjustments for accessibility, accessible site furnishings and Improved lighting systems.
Circulation and Vehicular Access	Concentrate parking near the highest-use fields, add a secondary access from San Ildefonso Rd., and relocate overflow parking to a central, larger footprint to improve access, navigation, and event capacity.	Enhance vehicle and pedestrian connectivity between the north and south areas with more defined entrances, reorganized and expanded parking layouts, and improved signage to optimize usability and navigation.
Lighting Systems	**Short-term goals:** Update existing lighting systems **Long-term goals:** Install new Light-Structure System with Total Light Control for Lou Caveglia, Senior, Bun Ryan, and Bomber fields, using shared poles to illuminate adjacent fields.	**Short-term goals:** Update existing lighting systems **Long-term goals:** Install new Light-Structure System with Total Light Control for Hope, Byers, X Lovato, Virchow, Fields 1-3, and Dara Jones, using shared poles to illuminate adjacent fields.
Field Maintenance	**Natural Turf:** Maintain natural fields through regular mowing, aeration, fertilization, seeding, and infield care for baseball/softball, with more intensive mid-season top dressing to reduce compaction and promote healthy turf. **Artificial Turf:** Redistribute infill every 2–3 hours of play, weekly grooming, and routine debris removal to ensure consistent performance and longevity.	**Natural Turf:** Maintain natural fields through regular mowing, aeration, fertilization, seeding, and infield care for baseball/softball, with more intensive mid-season top dressing to reduce compaction and promote healthy turf. **Artificial Turf:** Redistribute infill every 2–3 hours of play, weekly grooming, and routine debris removal to ensure consistent performance and longevity.
Renewable Energy Technology	Provide 4 EV parking spaces in the primary lot, incorporate solar panels on all new shade structures and buildings, and equip irrigation systems with solar controllers to enhance sustainability and future adaptability.	Provide 4 EV parking spaces in the primary lot, incorporate solar panels on all new shade structures and buildings, and equip irrigation systems with solar controllers to enhance sustainability and future adaptability.
Amenities and Enhancements	Provide new restrooms, a concessions/equipment facility, playground with shade, pedestrian seating, EV and ADA parking, food truck and bus zones, batting cages, dugouts, player benches, bleachers with shade, announcer booths, and maintenance/equipment sheds	Provide new restrooms, a concessions facility, playground with shade, pedestrian seating, perimeter walking trail, EV and ADA parking, food truck and bus zones, batting cages, dugouts, player benches, bleachers with shade, announcer booths, equipment sheds, and basketball courts
Realignment of Fields	Reorient Minor, T-ball, Lou Caveglia, and Senior fields into a clover-leaf layout with enlarged field sizes, and provide centralized pedestrian areas between fields.	Reorient Byers and X Lovato fields with expanded field sizes, create a larger central parking area, centralized pedestrian corridors, and relocate the dog park and training areas to reduce user conflicts.
Artificial Field Player Equipment	Athletes must use artificial-turf-appropriate shoes with rubber or soft plastic cleats instead of metal cleats.	Athletes must use artificial-turf-appropriate shoes with rubber or soft plastic cleats instead of metal cleats.
Artificial Field Equipment	Maintain artificial turf using sweepers and groomers every 1–2 weeks, with targeted infill redistribution in high-use areas, supported by an appropriate utility vehicle.	Maintain artificial turf using sweepers and groomers every 1–2 weeks, with targeted infill redistribution in high-use areas, supported by an appropriate utility vehicle.

SECTION 1
INTRODUCTION

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NV5, Sites Southwest, and R&R Engineers are pleased to present this **Artificial Turf Feasibility Study**, aimed at evaluating the potential for artificial turf installation at athletic fields located within the North Mesa Sports Complex and Overlook Park. The team was engaged by Los Alamos County's Community Services Department in September 2024, toward the ultimate objective of evaluating the feasibility of transitioning certain fields—currently surfaced with natural turf for baseball, softball, and soccer—into artificial turf surfaces that would meet the growing needs of the local community. In addition, the team evaluated options for field re-alignment and improvements to site amenities and pedestrian and vehicular circulation at both North Mesa Sports Complex and Overlook Park.

This study is a result of the County's initiative to modernize its sports facilities and ensure they are sustainable, durable, and capable of supporting the increasing demand for athletic spaces. As part of this comprehensive analysis, the team worked collaboratively with Los Alamos County staff and community members to explore different turf solutions and assess the environmental, economic, and operational considerations of artificial turf installations, as well as site layouts and amenity upgrades.

This study directly supports Los Alamos County's 2025 Strategic Leadership Plan by addressing key objectives across four pillars:

- Quality Governance: Through robust community engagement and interdepartmental collaboration, the study ensures transparency, responsiveness, and alignment with resident needs. Multiple public meetings, digital surveys, and stakeholder interviews were conducted to inform every stage of the process.
- Operational Excellence: By evaluating site conditions, field usage patterns, and maintenance capabilities, the study offers a data-driven framework for optimizing facility operations. It recommends phasing strategies that address immediate infrastructure needs while enabling long-term functionality
- Economic Vitality: The study identifies opportunities to enhance the County's sports tourism potential through field upgrades that support tournaments and year-round play. Capital cost analysis, maintenance implications, and usage flexibility inform fiscally responsible investment decisions.
- Environmental Stewardship: With careful consideration of water use, stormwater impacts, material life cycles, and public health concerns, the report evaluates both the benefits and trade-offs of synthetic turf systems. Natural resource conservation and environmental risk management are integral to the recommendations.

Lacrosse at Overlook Park, Photo courtesy of LA Daily Post

An extensive program of community engagement allowed the team to collect valuable input from a wide range of stakeholders, including County staff, youth athletic groups, adult athletic leagues, neighborhood residents, and the general public. The team also conducted thorough site assessments to evaluate the existing conditions of each facility, including terrain, drainage, and field orientation, which inform recommendations for potential field configurations and turf installations at North Mesa Sports Complex and Overlook Park.

Throughout the project, the consultant team presented key findings to the County's Parks and Recreation staff and the Los Alamos community, and refined the study based on feedback obtained via community meetings, interviews, and digital surveys. The following comprehensive report outlines community engagement activities performed, the technical specifications, cost estimates, and maintenance requirements for artificial turf fields, and recommendations for conceptual future field layouts that meet the needs of the community while complying with applicable standards.

This **Artificial Turf Feasibility Study** serves as a planning tool for Los Alamos County to make informed, future-facing decisions that enhance recreational access, support efficient operations, and reflect the County's commitment to sustainable, community-centered development.

Graphic from Los Alamos County's 2025 Strategic Leadership Plan

SECTION 2
COMMUNITY ENGAGEMENT

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2.1 How We Engaged the Community

A critical component of the evaluation of the potential for installation of artificial turf and other critical improvements at North Mesa Sports Complex and Overlook Park, a structured and methodical community engagement program was undertaken. The purpose of this engagement was to collect meaningful, representative input from the public and field users, ensure transparency in the planning process, and incorporate community values into the final recommendations. This process aligns with best practices for public infrastructure planning and ensures that decision-making is informed by both technical analysis and social context.

Kick-Off, Site Visits, and Progress Meetings with County Staff

- **Community Meetings:** 5 hybrid in-person/virtual meetings held
- **Focused Group Interviews:** Interviews conducted with Los Alamos Public Schools (LAPS) and Los Alamos Youth Soccer League (LAYSL)
- **Community Survey:** 216 responses (Closed February 7th)
- **Follow-up Feedback Survey:** 141 responses (Closed March 31st)
- **Insights shared by the following groups:**
  - Los Alamos Public Schools
  - Los Alamos Youth Soccer League
  - Los Alamos Little League
  - Los Alamos Youth Lacrosse
  - Los Alamos Softball Association
  - Los Alamos Extreme (youth football)
  - Athletes, parents, and supporters of youth, LAPS, and adult sports
  - Dog park users and dog training community
  - Residents of surrounding neighborhoods and LA County generally
  - Residents of Espanola, Pojoaque, Santa Fe, Nambe, and surrounding areas

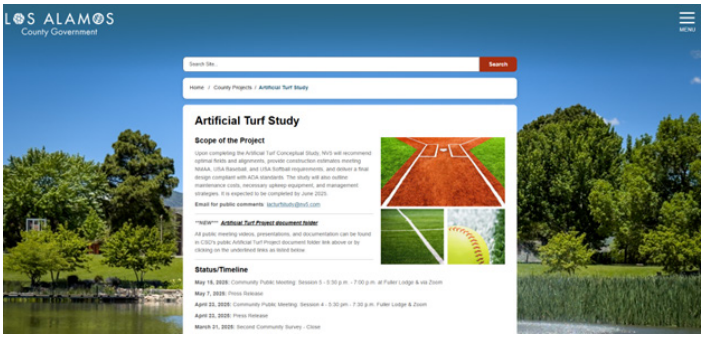
Critical input and strategic guidance for this study were provided by Los Alamos County staff throughout the planning and engagement process. Early and ongoing collaboration with key representatives of the Community Services Department and Parks Division ensured that the study's goals, scope, and engagement methods aligned with local priorities and operational realities.

The project officially commenced in September 2024 with a kickoff meeting involving these and other County representatives. Evaluation of existing conditions and further clarification of study objectives took place during staff-led site visits at both North Mesa Sports Complex and Overlook Park. To ensure continued alignment with County goals and ongoing collaboration, the consultant team met with County staff biweekly throughout the duration of the project, and meeting minutes and monthly reports were generated to document progress.

Input from County staff was instrumental in refining the study's objectives, identifying key field user groups, and shaping the format and content of community engagement activities. County staff also played an active role in reviewing technical materials, coordinating outreach, and supporting data collection. This collaborative approach helped ensure that the study reflected both the operational needs of the County and the broader interests of the Los Alamos community.

Communication Infrastructure

To facilitate accessible and ongoing communication, the consultant team established a *dedicated project web page* and project-specific email address. The web page served as a centralized platform to disseminate project-related information, including timelines, background materials, survey links, and meeting announcements, presentations and summary notes. It was updated regularly to reflect progress and provide transparency.



The email address allowed residents, field users, and interested parties to submit questions, express concerns, and offer suggestions directly to the project team throughout the engagement period.

Interviews

Recognizing that some field user groups have specific operational or subject-matter knowledge, the engagement strategy included a series of targeted interviews. Interviews were conducted with representatives from the Los Alamos Youth Soccer League (LAYSL) and with coaches and student athletes from Los Alamos Public Schools (LAPS). Interviews were semi-structured to allow flexibility while still capturing consistent data across themes such as field usage patterns, maintenance challenges, and user preferences. Interviews were conducted early in the process of community engagement, such that information gathered could guide study questions and initial site plan concepts. Summary notes from each of these interview sessions can be found in Appendix A.

Community Meetings

A series of open community meetings were conducted to provide opportunities for two-way dialogue and structured input. These meetings were advertised via multiple channels to ensure broad awareness, including the county's official website, local social media, and through field user mailing lists. The format of these meetings typically included a presentation on the scope and objectives of the study, review of what the team had heard so far through interviews, survey, and public meetings, followed by facilitated Q&A sessions, open discussion periods, and opportunities for participants to submit written feedback. In-person and virtual options were provided for each meeting, and attendance was tracked and meeting summaries compiled to document the range of perspectives expressed.

A total of five public community meetings were conducted as part of the engagement process, all hosted at Fuller Lodge in downtown Los Alamos. These meetings were designed to foster in-depth dialogue, gather local knowledge, and collaboratively shape the evolving conceptual plans for North Mesa Sports Complex and Overlook Park. Although lightly attended, the community meetings provided valuable input, which was enhanced through interviews and digital surveys.

Listening Sessions (Meetings 1 & 2)

The first two meetings functioned as Listening Sessions. The project team, in partnership with Los Alamos County staff, developed a targeted set of questions designed to surface community priorities, concerns, and aspirations. These questions were posed to attendees in small and large group settings, with responses captured through Zoom recording, written notes, and facilitated discussion. Input from these sessions provided the foundational guidance used to develop the initial conceptual framework plans for both park sites.

Concept Review and Refinement (Meetings 3–5)

The final three meetings presented preliminary design options and concepts for public feedback. These meetings focused on proposed field configurations, potential realignment of amenities, improved circulation, parking considerations, and opportunities for enhanced recreational features. Attendees reviewed large-format maps, presentation boards, and 3D visualizations, then provided direct feedback through surveys, sticky-note comments, and facilitated discussion groups.

Community Meeting at Fuller Lodge

Table 2.1 Summary of Meeting Dates and Focus			
Meeting	Date	Focus/Format	Key Topics
Meeting 1	October 30, 2024	Listening Session 1	Initial community values, experiences, needs and priorities
Meeting 2	January 30, 2025	Listening Session 2	Field usage patterns, concerns, desires, and preferences
Meeting 3	February 27, 2025	Concept Presentation	Field layout options, co-location of facilities, field re-orientation, parking and circulation, flex fields
Meeting 4	April 23, 2025	Concept Refinement	Refinement of field layout options, amenity concepts
Meeting 5	May 15, 2025	Final Framework Review	Full plan review, prioritization, and lighting concepts

Participants offered constructive critiques that helped the project team refine design elements, reconsider spatial layouts, and identify key trade-offs—such as balancing sports field optimization with natural open space preservation. Several refinements to the framework plans were directly informed by attendee input at these sessions. And of course, all of these comments and critiques were weighed with the comments of staff and their important needs for ease of maintenance of the sports complexes.

Digital Surveys

To broaden outreach and collect quantitative data, two digital surveys were designed and distributed. The surveys included a combination of multiple-choice, Likert-scale, and open-ended questions to assess community attitudes, priorities, and perceived trade-offs associated with the installation of artificial turf, with facility layout and amenities, and with field usage patterns. The first survey focused on baseline awareness and initial perceptions, while the second, distributed after preliminary framework plan options were shared, sought feedback on specific facility layout scenarios and conceptual design considerations. Survey distribution utilized online platforms, local newsletters, and targeted outreach to field user networks to ensure a high and diverse response rate. A total of 358 responses were received across both surveys. Data collected through the surveys were analyzed using descriptive statistics and thematic coding of open responses. Results are summarized below, and complete response data can be found in Appendices D and E.

2.2 What We Heard

Through this comprehensive community engagement process, the project team gathered valuable input from users of the fields at North Mesa Sports Complex and Overlook Park. Across all engagement methods, community members consistently expressed concern about field conditions. Common issues included gopher holes, uneven grading, drainage challenges, and general maintenance shortcomings. In addition, field users reported frequent scheduling conflicts, contributing to a perception that the number of available fields is insufficient to meet growing demand, particularly during the busiest seasons. However, in terms of scheduling conflicts, it was noted by the Parks and Recreation Department that teams and participants in sports at the complexes do not communicate very well about schedules to Parks and Recreation and it will be important in the future to provide a user friendly and robust scheduling application for use by sports teams in order to abate these conflicts.

Community members also expressed interest in a variety of improvements that would enhance the usability and safety of the facilities. Suggestions included co-locating baseball and softball fields for high school athletes, improving dugouts and batting cages, creating year-round restrooms and changing areas, adding weatherproof and pest-resistant storage, expanding and updating lighting infrastructure, and addressing issues related to accessibility, circulation, and parking.

The idea of introducing artificial turf received generally positive feedback from both public meeting participants and survey respondents. Many saw benefits in its ability to extend the playing season, offer a safer and more consistent playing surface, reduce maintenance demands, improve aesthetics, and increase the potential for hosting tournaments. At the same time, some users voiced concerns. These included the higher surface temperatures associated with turf during the summer months, the possibility of abrasions or discomfort, restrictions on items like sunflower seeds, environmental considerations, and a desire to preserve some natural grass playing fields. Additionally, several respondents expressed worry that installing artificial turf could increase competition for access to the upgraded fields.

Included below are summaries of feedback received from Community Meetings and Surveys. Please find summary interview notes, Community Meeting presentations and Q/A notes, and full survey data in Appendices A through E.

Draft Realignment Plans presented at one of five Community Meetings

Summary of Feedback Received at Community Meetings

Below is a summary of feedback received at public meetings during the community engagement process. Presentations and complete Q/A notes are provided in Appendices B and C.

Table 2.2 Summary of Feedback Received at Community Meetings

Field User Experiences:
Concern about the number of injuries attributable to the current condition of natural turf at North Mesa and Overlook.
Due to conditions on all fields, overuse on particular fields, and scheduling conflicts, the number of existing fields cannot accommodate the demand for games and practices.
Grass at soccer fields is often too high for effective play.
Gopher holes are particularly an issue at Bomber and Senior fields but are present at all fields.
Fields are used seven days / week, but much more frequently Monday through Friday.
Not enough options for youth football and lacrosse (sharing facilities with soccer).

Desired Improvements:
Options for flex / multiuse fields should be considered when evaluating field realignment, consolidation, and artificial turf renovations.
Consider dugout improvements, more batting cages, athlete changing rooms, better storage for teams, more bathrooms, safety netting, shade structures for spectators and players, and scoring booths.
Co-locating baseball and softball game fields would be more convenient for families, would increase attendance, and create more opportunities for new programs, concessions / fundraising.
Parking and circulation needs improvement at both North Mesa and Overlook.
Install or upgrade lighting at more fields –this will increase playing time.
Consider improved/expanded transportation options to/from facilities.
Expand/improve access to drinking water.
Higher (15-ft) fencing behind goals at soccer fields, extending 30 ft on both sides of goal.
Retain as many trees as possible at the facilities (provide much needed shade).
Accessible pathways, parking, restrooms, seating all need improvement.

Artificial Turf – Potential Benefits:
Extending playing seasons is a high priority, and artificial turf would accomplish this.
Safety of players is of utmost importance, and artificial turf would reduce injuries.
Artificial turf fields are appealing and inspiring to players and supporters.
Artificial turf fields have been very well received and popular at LAPS facilities.
Artificial turf fields create an opportunity for tournaments.
Games are more competitive on artificial turf fields.
Younger kids are less afraid of sliding on artificial turf than on natural turf.
Easier to maintain, less water use, reduced need for pest management.
Reduced travel for players in the colder months when there are more away games where other teams have artificial turf fields.
Artificial turf fields would allow LA and WR players to have facilities of comparable quality to competitor teams.
There are advantages of artificial turf at both North Mesa and Overlook Park (no clear location preference).

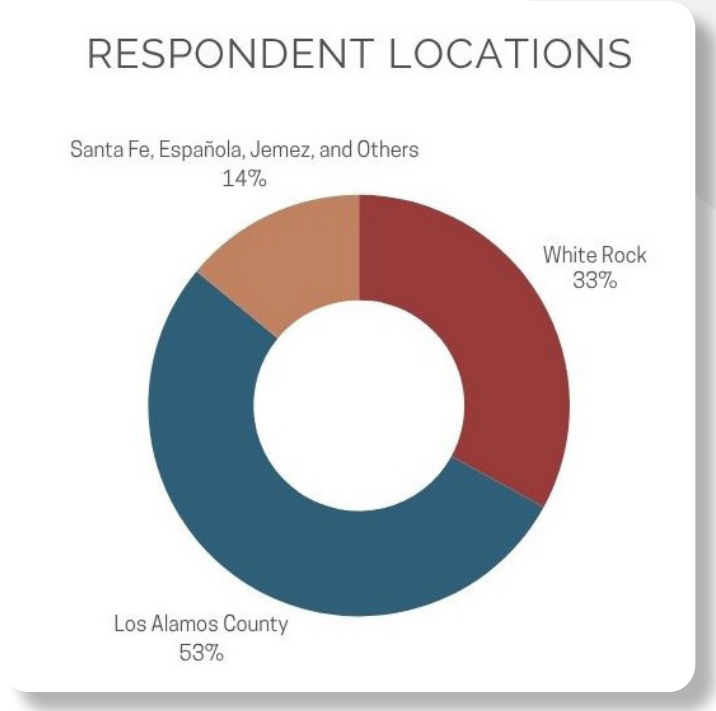
Artificial Turf – Potential Drawbacks:
Artificial turf is not the complete answer to issues with the fields.
Artificial turf will make fields more desirable but will also lead to more competition for use.
Artificial turf fields are hot in the summer months.
Baseball/softball players will need two sets of equipment (this is likely already true).
Players can't eat sunflower seeds on artificial turf due to difficulty of cleaning the shells.
Concern that there will be more abrasions and skin infections with artificial turf fields.
Desire to retain some natural turf fields.
Concerns about environmental and human impacts due to fears about toxicity of materials.

Summary of Community Survey Results

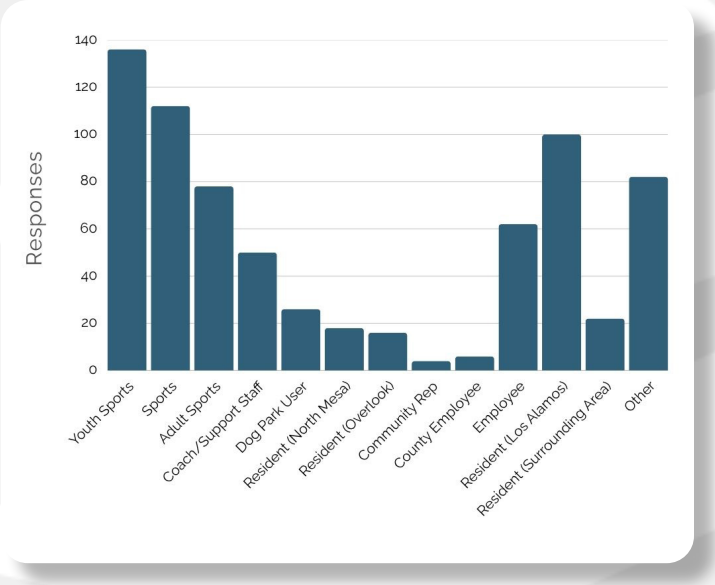
As stated above, the initial Community Survey focused on field user experiences, usage patterns, preferences between the two facilities in the study, opinions about artificial turf, and desires for facility and amenity improvements. Quantitative data was analyzed using frequency and cross-tabulation. Open-ended responses were coded for themes such as field usage patterns, field condition concerns, improvement preferences, accessibility, and environmental concern. Complete survey data is attached in Appendix D, and a summary of responses is provided below.

Respondent Profile:

A total of 216 individuals participated in the survey. The majority of respondents (53%) were residents of Los Alamos County, with 33% from White Rock. The remaining respondents represented communities in the surrounding region, including Santa Fe, Española, and Jemez.



Survey participants identified with a variety of roles. A majority (63%) were affiliated with youth sports as parents, athletes, or supporters. Nearly half (49%) were involved in Los Alamos Public Schools (LAPS) athletics. Adult sports participants made up 36% of respondents, and 31% identified as residents not directly connected to organized sports. Additional stakeholder perspectives included coaches, users of nearby dog parks, and Los Alamos National Laboratory (LANL) employees.



Field Usage Patterns: North Mesa Recreation Area

The North Mesa fields were used frequently by 53% of respondents, who reported visiting 20 or more times per season. Another 21% used the fields between 5 and 19 times per season, while 11% indicated they rarely used the facility and 15% reported never visiting. Half of the respondents used the fields on any day of the week, and 31% reported usage primarily from Monday to Friday. The majority (83.5%) traveled to North Mesa by personal vehicle, with only a small percentage walking, biking, or using public transportation.

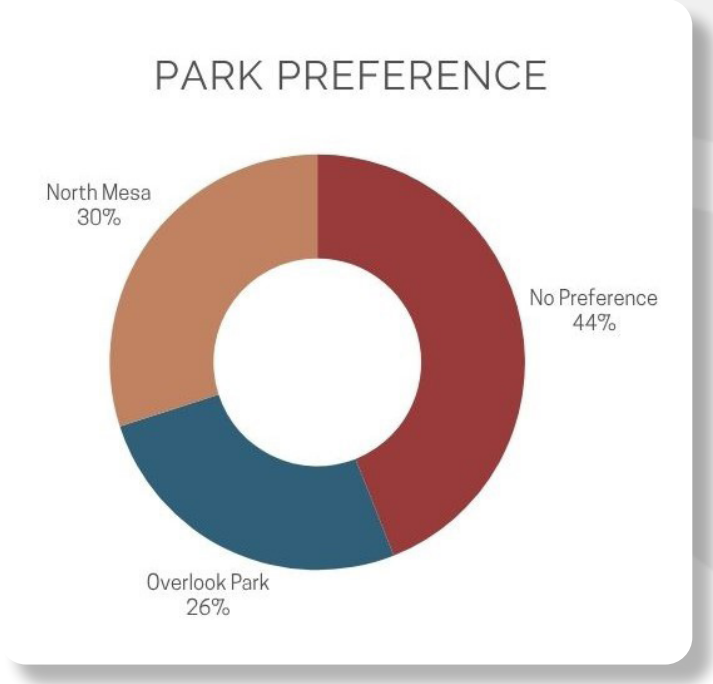
Respondents expressed several common concerns regarding North Mesa, including the presence of gopher holes, uneven field surfaces, insufficient lighting, a general lack of restroom facilities, and overall field maintenance.

Field Usage Patterns: Overlook Park

Overlook Park showed a similar usage pattern, with 49% of respondents identifying as frequent users. Usage occurred throughout the week for 52.7% of participants, while 31.2% reported weekday-only use. Personal vehicles were the dominant mode of transportation (90.2%). The top concerns for Overlook Park mirrored those reported for North Mesa, particularly in terms of field conditions, lighting, and restroom availability.

Preference Between Parks:

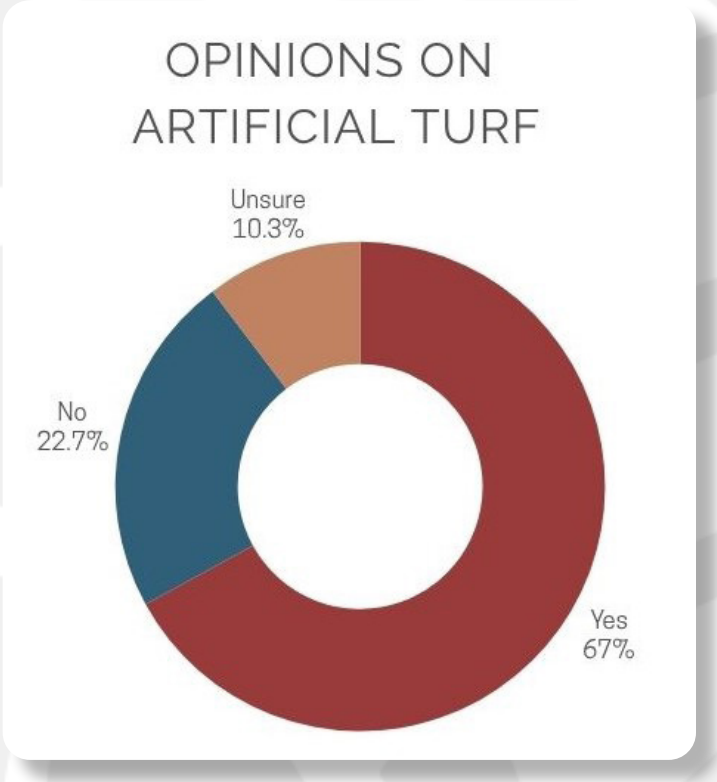
When asked to express a preference between the two parks, responses were fairly evenly distributed: 30% favored North Mesa, 26% preferred Overlook Park, and 44% indicated no strong preference. The most common factors influencing these preferences included proximity to home or schools, perceived field quality and availability, weather conditions, and safety—especially in relation to youth athletic use.



Opinions on Artificial Turf:

The proposal to install artificial turf generated significant interest. A majority of respondents (67%) expressed support for turf, while 22.6% opposed it and 10.3% were undecided. Supporters emphasized perceived benefits such as safer playing surfaces (due to the elimination of gopher holes and other hazards), reduced maintenance requirements, lower water usage, consistent field availability year-round, and fewer cancellations caused by weather.

Concerns voiced by those opposed to turf included the potential environmental impacts, particularly regarding PFAS and microplastics, excessive heat retention during summer months, risk of certain injuries (e.g., turf burns and abrasions), aesthetic and ecological drawbacks, and potential high costs associated with installation and eventual replacement.



Field Condition & Facility Feedback: North Mesa Recreation Area

Only 28% of respondents believed that the fields at North Mesa were in good condition, while nearly 45% disagreed, citing persistent maintenance issues and safety concerns such as gopher holes. Shade was a major shortcoming, with only 9% expressing satisfaction and nearly 70% indicating the need for improvement. Opinions on restroom facilities and accessibility were mixed: approximately 37% found restrooms adequate, while over 31% disagreed. Accessibility, particularly in terms of parking and pathways, fared somewhat better, with about 35% expressing satisfaction. Lighting received mixed reviews, with roughly 30% reporting it was adequate and 36% stating otherwise. Perception of field availability was generally seen as acceptable, with 51% noting that fields were accessible when needed. However, the field scheduling system saw limited use—only 22% of respondents reported using it, and most others were either neutral or unaware of its existence.

Field Condition & Facility Feedback: Overlook Park

Conditions at Overlook Park were perceived more negatively than at North Mesa. Only 20% of respondents agreed that the fields were in good condition, compared to over 62% who disagreed. Shade coverage was also viewed poorly, with only 18% finding it adequate and more than half indicating dissatisfaction. Restroom facilities received relatively better feedback, with 48% of respondents expressing satisfaction, and accessibility via parking and pathways was seen positively by 46%. Lighting conditions again received mixed reviews—32% were satisfied, while nearly 40% were not. Perception of field availability was on par with North Mesa, with 52% of respondents saying they could access the fields as needed. Use of the field scheduling system remained low, with only 23% reporting use and 56% expressing neutrality or non-engagement.

Community Priorities for Future Improvements

Survey responses revealed a clear set of priorities for future investments and improvements. The community expressed a strong desire for low-maintenance fields that offer extended usability throughout the year, while minimizing water consumption. Adequate lighting and shade were frequently requested, as was improved accessibility. There was also a notable preference for co-locating baseball and softball facilities to enhance convenience and efficiency for users.

Overall Observations / Community Comments

Open-ended survey responses underscored the need to address field maintenance issues and to ensure greater equity across youth sports programs. Many participants emphasized the importance of considering the long-term environmental and health implications associated with artificial turf, should it be implemented.

Dozens of open comments reiterated widespread dissatisfaction with current field conditions and amenities. Specific issues included poor maintenance, hazardous field surfaces caused by gophers, and the lack of essential infrastructure such as shade, lighting, and restrooms. Respondents called for improvements in these areas and voiced both enthusiastic support and strong opposition to artificial turf, reflecting a community divided on the issue. Overlook Park was generally viewed as being less well-maintained, while North Mesa was seen as more accessible but still in need of improvement. Lastly, the field scheduling system was noted as being underutilized, with scheduling generally not meeting user expectations.

Summary of Framework Plan Feedback Survey Results

The second digital survey was developed to gather additional input specifically on the draft Framework Plan concepts for the North Mesa Sports Complex and Overlook Park. As with the initial community survey, quantitative data was analyzed through frequency distributions and cross-tabulation, while qualitative responses were coded thematically. Recurring themes included field configuration, proposed artificial turf locations, traffic circulation and parking, the integration of multi-use fields, and the redesign of dog park areas. Complete survey data is available in Appendix E, and a summary of key findings is outlined below.

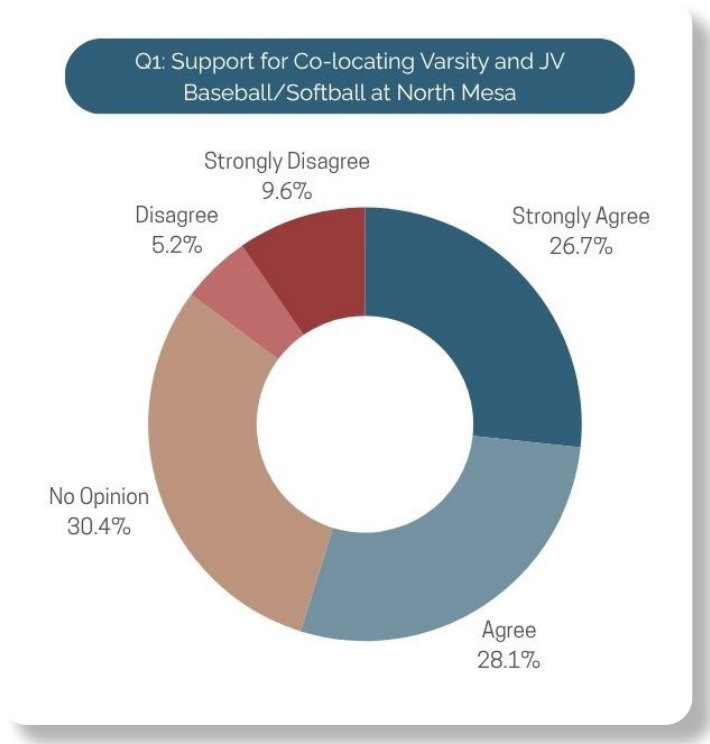
Field Configuration & Facility Consolidation

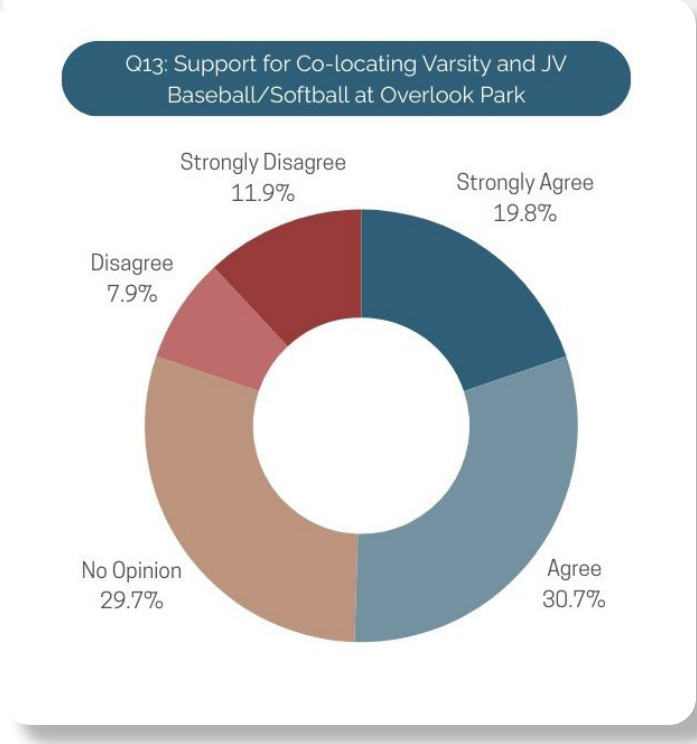
There was notable support for consolidating varsity and junior varsity baseball and softball facilities at both parks. At North Mesa, 55% of respondents agreed or strongly agreed that such co-location would be beneficial, while approximately 30% had no opinion and 15% disagreed or strongly disagreed. A similar trend was observed at Overlook Park, where 50% supported co-location, nearly 30% were neutral, and about 20% opposed the idea.

Support was also expressed for reorienting the Hope, Byers, and X Lovato fields at Overlook Park, with agreement levels ranging from 53% to 57%. While many respondents preferred that baseball and softball maintain separate fields, there was consensus that these should be located within the same facility. Some respondents raised concerns about ensuring equitable access for all user groups and voiced reservations about potential field shortages resulting from reconfiguration.

Consideration of Multi-Purpose Fields

A majority of respondents—approximately 52%—supported replacing Minor Field with a multi-purpose natural turf field. However, this proposal also elicited concerns. Some respondents emphasized the need to preserve dedicated Little League fields and expressed frustration that field maintenance, rather than layout, was the more pressing issue. Others were apprehensive about introducing mixed uses at facilities like Dara Jones and Spirio, citing the potential for conflicting sports needs.





New Youth Soccer Field at North Mesa

Opinions about the addition of a youth soccer field at North Mesa were mixed. While 46% of respondents supported the proposal, many raised objections, particularly concerning the potential removal of existing trees and the displacement of RV parking to accommodate the new field. Additional concerns included gopher hole infestations, drainage problems, and a general sense that the site was already approaching overdevelopment.

RV Storage Relocation at North Mesa

The idea of relocating RV storage to make room for new sports fields also drew a divided response. Just over half of respondents (51%) supported the move, while others objected on the basis of neighborhood proximity, the loss of mature trees, and negative impacts on aesthetics.

Dog Facility Reconfiguration at Overlook Park

Proposals to redesign the dog facilities at Overlook Park received significant community feedback. A majority (63%) supported separating dog areas from athletic fields to improve functionality and reduce conflicts. Additionally, 43% supported converting Field 4 into an expanded dog park. However, this concept was somewhat controversial. Some respondents emphasized that Field 4 is vital for local softball leagues, while others highlighted health and hygiene concerns related to dog waste near play areas. Many respondents expressed a preference for dedicated dog facilities that do not interfere with active sports areas.

Possible Roundabout at Overlook Park

The potential addition of a roundabout at Overlook Park generated little support, with only 38% in favor and 40% opposed or unsure. Many respondents considered it unnecessary and questioned whether the investment would be an appropriate use of public funds.

Overall Preferences for Framework Plan Options

North Mesa Sports Complex: Regarding the proposed options for North Mesa, community opinion was nearly evenly divided. Option 1 was supported by 36% of respondents, while Option 2 was favored by 35%. Approximately 28% of participants were neutral or expressed mixed feelings. Those who supported Option 1 appreciated its minimal impact on existing RV storage, while Option 2 was praised for improving connectivity and reconfiguring the fields in a more functional layout.

Overlook Park: At Overlook Park, opinions similarly varied. Option 2 emerged as the more favored of the two, receiving 39% of responses compared to 26% for Option 1. Roughly 15% of respondents had no preference, while 23% indicated that they appreciated and disliked elements of both options. Supporters of Option 2 particularly noted the benefits of improved field orientation and parking redesign, though some objected to the proposed conversion of Field 4 into a dog facility.

Common Suggestions and Overarching Themes

Throughout the survey, respondents consistently advocated for improved maintenance of natural turf fields. There was a strong desire for more amenities catering to younger children, including additional restrooms, playgrounds, and benches. Many respondents urged planners to avoid redundant or unnecessary redevelopment—particularly the removal of fields that had been recently improved. Calls for increased shade, thoughtful environmental conservation, and efficient site layouts were also frequent.

Overall, the community expressed general support for updates that consolidate recreational uses, enhance safety, and modernize park infrastructure. However, several potentially contentious issues emerged—particularly around the possible relocation of RV storage at North Mesa and the proposed expansion of the dog park at Overlook—highlighting areas where opinions were divided.

2.3 How We Utilized Feedback

Throughout the duration of the study, the project team systematically collected, reviewed, and synthesized input gathered through the full range of engagement methods, including interviews, community meetings, public surveys, and direct email correspondence. This feedback played a central role in shaping the direction of the study. It informed the identification of key themes and areas of concern, helped refine the guiding questions and objectives of the analysis, and influenced the development of preliminary site concepts within the broader framework plans. Ultimately, the insights gained from community members, field users, and County staff directly contributed to the formation of targeted recommendations that respond to the community's priorities, operational needs, and long-term vision for athletic field use in Los Alamos.

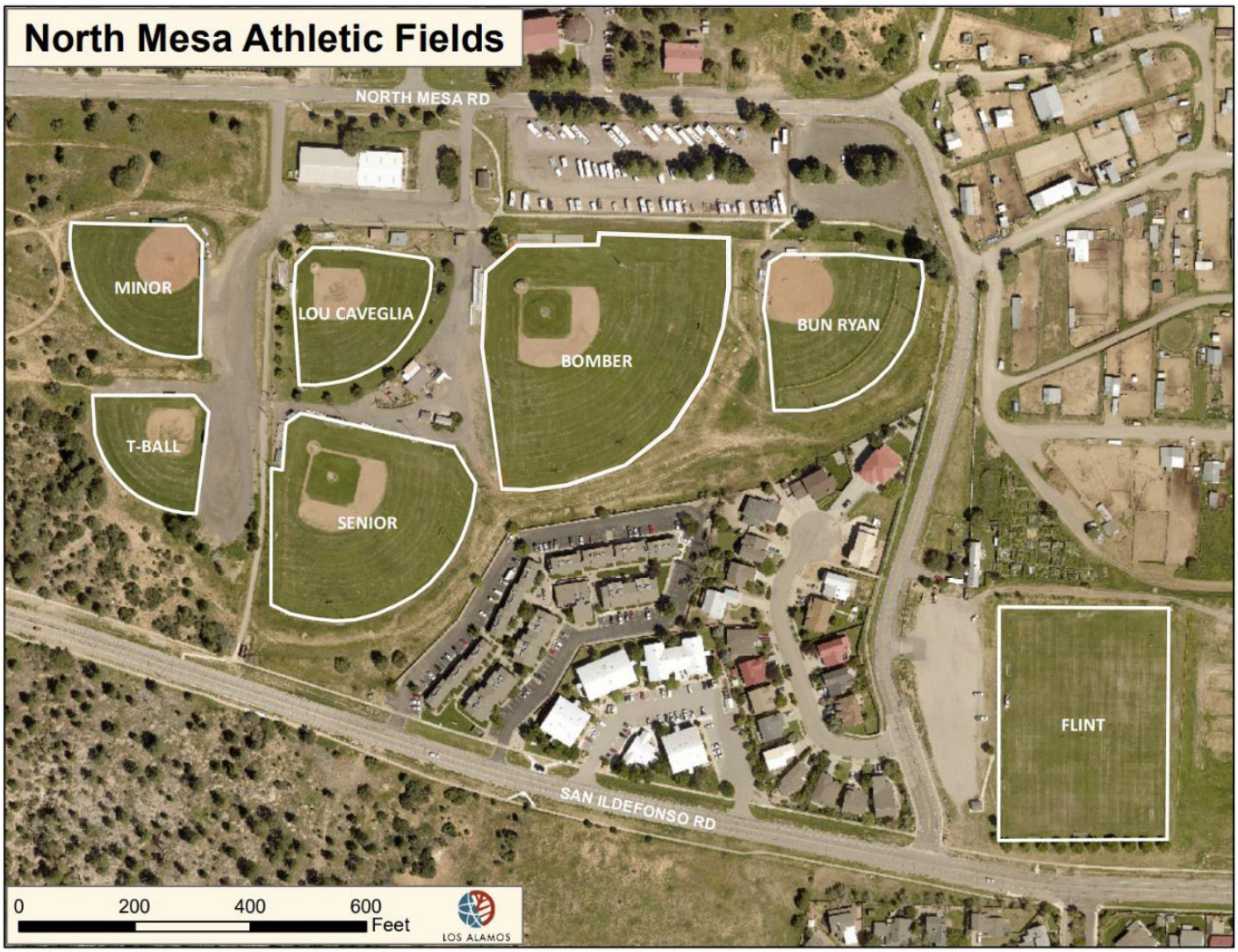
SECTION 3
EXISTING CONDITIONS

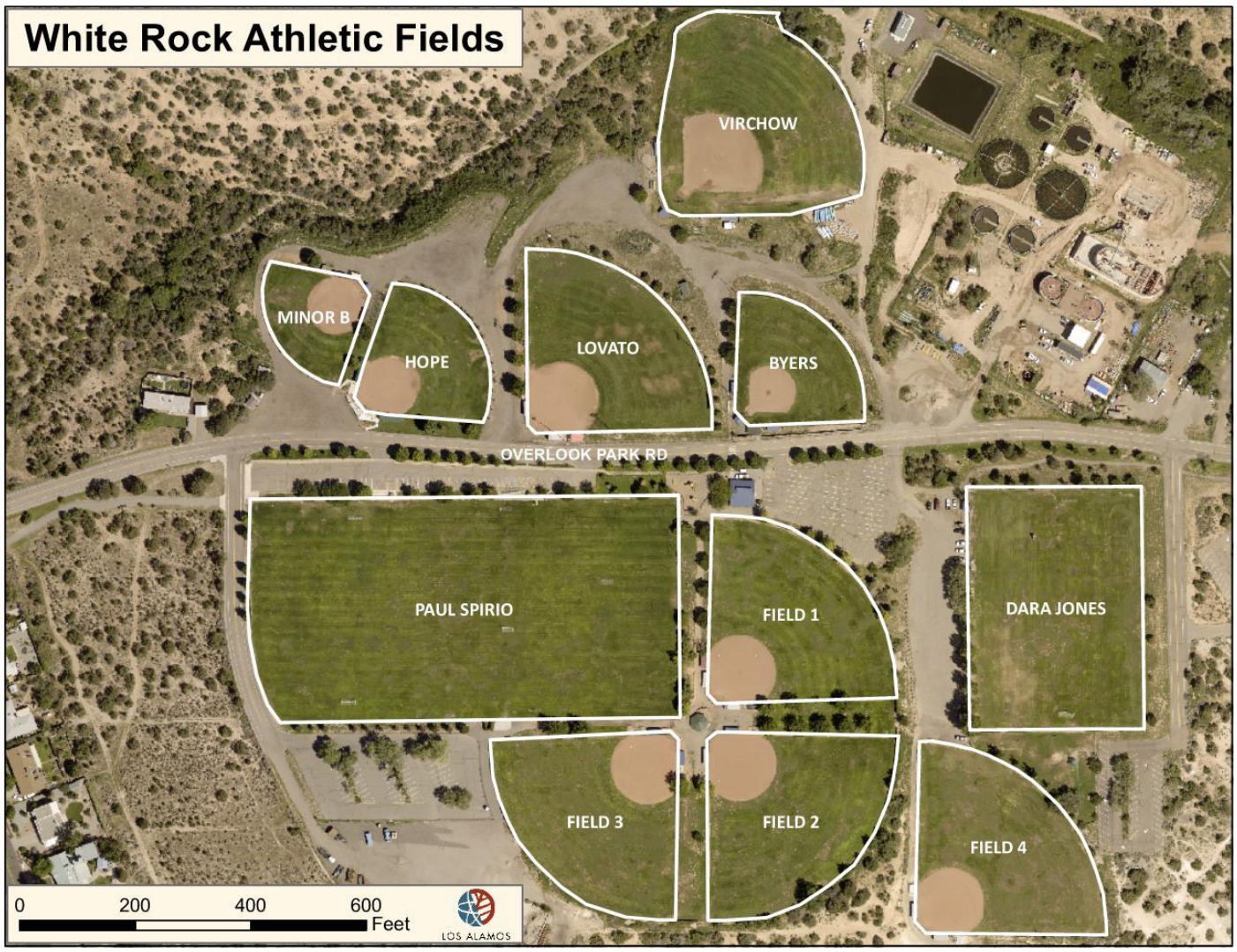
SECTION 3 EXISTING CONDITIONS

3.1 Fieldwork Summary

Fieldwork for this study was conducted during the fall of 2024 at two key locations: the North Mesa Sports Complex in Los Alamos and Overlook Park in White Rock. The project team performed detailed site visits at both facilities to document existing conditions and evaluate infrastructure and field use. Activities during these visits included reviews of field layouts, a visual inventory of amenities, activation of irrigation systems for functional observation, and comprehensive photographic documentation.

Each field and facility was assessed individually, with observations captured across a range of attributes related to use, condition, and operational characteristics. Site visits also included direct annotation of field maps and discussions with Los Alamos County Parks and Recreation staff to record firsthand observations and concerns.




White Rock Athletic Fields
VIRCHOW
MINOR B
HOPE
LOVATO
BYERS
OVERLOOK PARK RD
PAUL SPIRIO
FIELD 1
DARA JONES
FIELD 3
FIELD 2
FIELD 4
0
200
400
600
Feet
LOS ALAMOS

The following table summarizes the key site attributes documented during fieldwork:

Table 3.1 Site Attributes Observed	
Field Use Characteristics	Infrastructure and Amenities
Field Use Type (sport)	Amenities Present
Field Dimensions	Irrigation Type
Level of Field Use (light, moderate, heavy)	Age of Irrigation Heads
Field Use Duration (season/months)	Age of Irrigation Network
Sod Condition (poor, fair, good, offline)	Outfield Fencing
Sod Renovation Schedule	Backstop Fencing
Grading Patterns	Temporary Fencing
Drainage Patterns	Pest Management
Drainage Capacity	Wildlife Risk
Lighting Type (if present)	Accessibility Compliance
Lighting Age (if present)	Circulation and Connectivity
Lighting Operation (remote, manual)	Parking

These observations helped establish a clear baseline for evaluating existing field conditions and infrastructure performance. The data collected informed the team's recommendations regarding the suitability and prioritization of artificial turf conversion, as well as other site improvements. Summaries of findings for each site are provided in the following sections.

3.2 Overview of Site Observations

A comprehensive assessment of existing conditions was conducted at both the North Mesa Sports Complex and Overlook Park. Observations focused on field quality, infrastructure, ADA accessibility, circulation, and overall functionality. Key issues were recorded and organized into a detailed Site Assessment Matrix for each facility. These matrices, included in Appendix F, informed the development of proposed improvements and priorities for future investment.

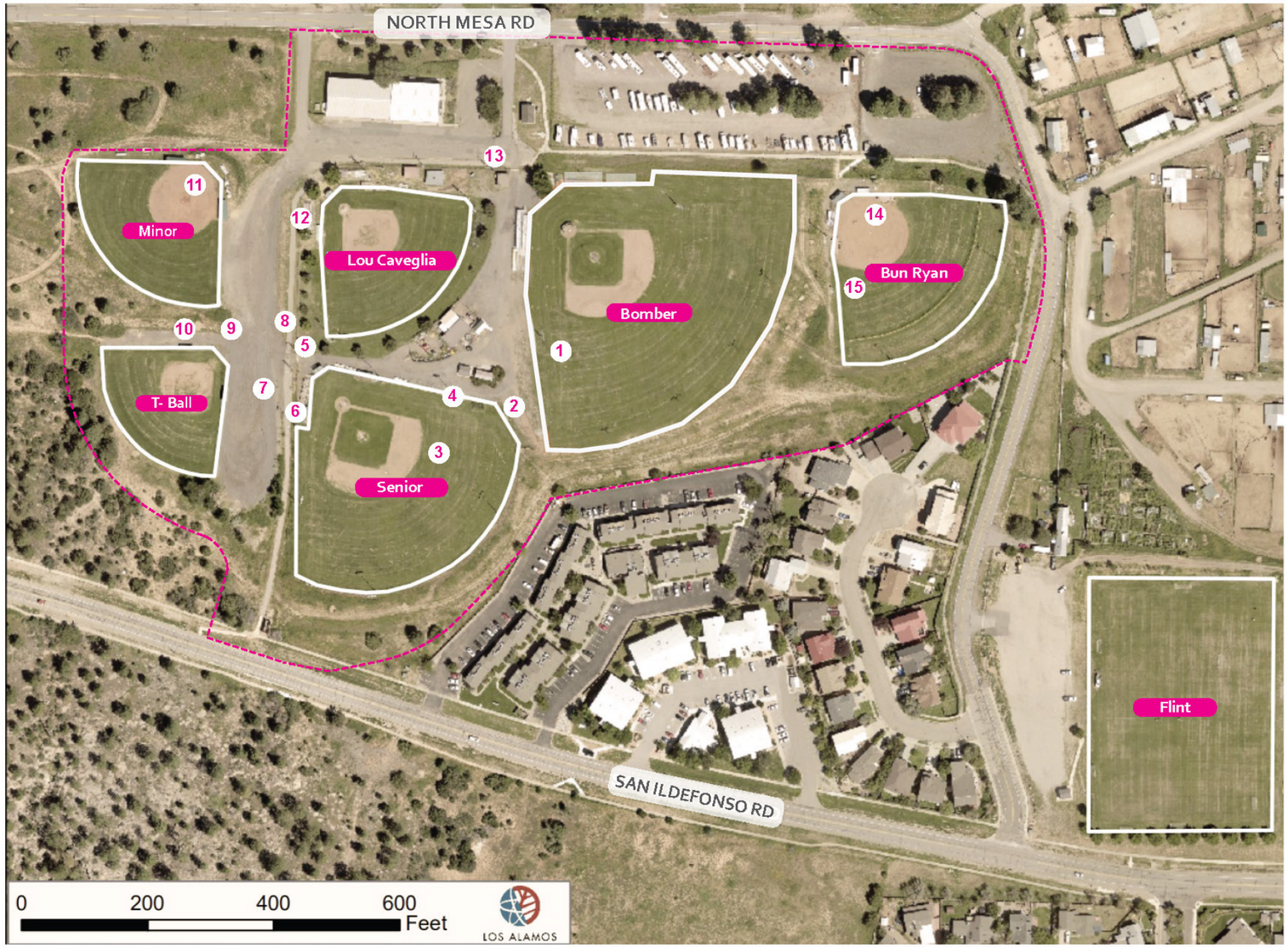
North Mesa Sports Complex

The site visit revealed a range of infrastructure and maintenance concerns that limit the functionality and accessibility of the complex. Observations included:

- Turf across multiple fields was in poor condition.
- Lighting infrastructure is outdated, with some light poles located within field boundaries, posing safety hazards.
- Grading and parking facilities do not meet full ADA accessibility standards.
- Widespread gopher activity and other pest-related damage were observed throughout the site.
- The complex lacks dedicated storage for athletic equipment.
- Parking availability is limited and insufficient during peak usage periods.
- Poor connectivity exists between parking areas and key amenities, such as bleachers and fields.
- Dugouts were found to be in poor condition and in need of repair or replacement.
- Bleacher areas and access routes are not ADA compliant.
- Backstop placement on several fields deviates from standard field design guidelines.
- There is no central plaza or gathering space to serve as a focal point for the complex.
- Maintenance facilities are currently located within areas intended for pedestrian/public use, creating potential safety and circulation conflicts.

North Mesa Senior Baseball Field

North Mesa Site Conditions Photo Map

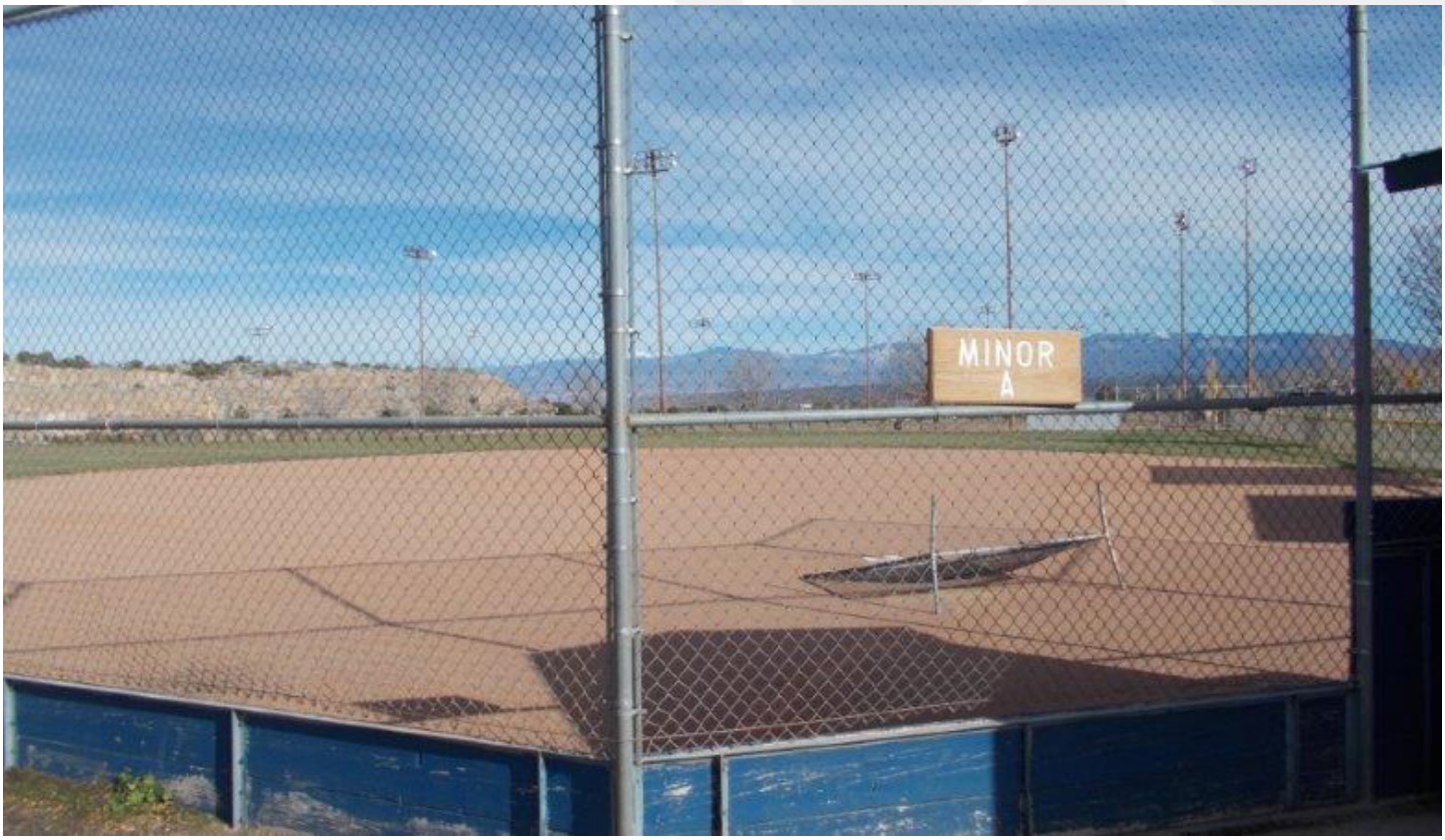


Overlook Park

Similar to North Mesa, Overlook Park exhibits a number of infrastructure deficiencies and areas requiring improvement. Key observations include:

- Turf conditions were poor across the majority of fields.
- Gopher damage and pest activity were visible and widespread.
- Several infrastructure and maintenance needs were identified throughout the complex.
- Dugouts were found to be in deteriorating condition.
- Bleacher seating and access routes do not meet ADA compliance standards.
- Backstop placements do not conform to standard configurations, impacting play quality and safety.
- There is no designated equipment storage, creating operational inefficiencies.
- Parking capacity is inadequate, particularly during high-use events.
- Site circulation is problematic, with poor connections between parking, bleachers, and key field areas.
- The north and south sections of the complex lack adequate pedestrian connectivity.
- Wayfinding signage is limited, creating confusion about field locations and parking.
- The northern portion of the complex lacks a central plaza or gathering space to support community use.
- Conflicts between shared-use areas—particularly between dog walkers and athletic field users—were noted.
- Lighting is either outdated or absent in several areas, limiting evening and early morning use.

Overlook Park Hope Minor A Baseball Field



Overlook Site Conditions Photo Map

3.3 Literature and Document Review

As part of the study, the project team evaluated a range of factors associated with both natural grass and synthetic turf, with a particular focus on accessibility, maintenance and management, human health, and environmental impacts. Areas of investigation included maintenance and management best practices for natural and artificial turf, injury risk and frequency, potential exposure to petrochemicals found in artificial turf systems, heat-related hazards due to increased surface temperatures, and the influence of surface type on stormwater runoff and downstream drainage effects. These considerations inform not only the suitability of turf conversion at specific locations but also potential design, material, and operational recommendations.

Site Accessibility Evaluation

Los Alamos County staff provided reports documenting recent assessment reports prepared by WT Group evaluating site accessibility and Americans with Disabilities Act (ADA) compliance for both the North Mesa Sports Complex and Overlook Park. The ADA assessments identified widespread and systemic non-compliance across both facilities. Key findings and recommendations from the evaluations are provided below.

North Mesa Sports Complex – Accessibility Findings

The Site Accessibility Evaluation of North Mesa Sports Complex revealed significant barriers to accessibility across the site. The findings are detailed by location and feature, with priority concerns outlined below:

- **Parking:** Most parking areas lack designated accessible stalls with proper surface treatment, signage, or striping. Van-accessible spaces are not provided or do not meet dimensional and clearance requirements. Improvements should include installing van-accessible stalls with proper access aisles, signage, and hard-surfaced paths to amenities.
- **Accessible Routes and Field Access:** None of the key recreational features—including Bomber Field, Bun Ryan Field, Lou Caveglia Field, and Senior Field—have compliant accessible routes connecting them to bleachers, dugouts, batting cages, announcer booths, water fountains, or scorekeeper areas. Common route violations include excessive slopes, missing or inadequate handrails, noncompliant landing areas, and the absence of edge protection. Ground surfaces frequently include loose gravel, abrupt level changes, and gaps in flooring—all of which prevent safe and accessible navigation.

Existing Accessibility Issues at North Mesa Complex

- **Bleachers and Seating:** Most bleacher systems lack designated wheelchair seating and associated companion seating. Despite field capacities that exceed seat count thresholds requiring accessible seating, many bleacher areas remain noncompliant.
- **Restrooms:** Restroom facilities often lack compliant routes and internal clearances. Violations include:
  - Missing or incorrectly placed grab bars.
  - Mirror heights exceeding ADA standards.
  - Inadequate maneuvering clearance for wheelchairs.
  - Improperly installed paper towel dispensers and uninsulated plumbing.
  - Lack of Braille signage or tactile features.
- **Other Site Elements:** Additional concerns include outdated lighting systems (with poles located inside playing areas), poorly maintained dugouts, inadequate connectivity between amenities, and maintenance areas located within public pedestrian paths.

According to the WT Group Site Accessibility Evaluation, the North Mesa Sports Complex exhibits broad and systemic ADA deficiencies. The report recommends corrective actions for each noncompliant feature, with references to applicable sections of the ADA and ABAAS standards. In some cases, where improvements may be infeasible, the designation of alternative compliant fields elsewhere in the county is suggested.

Overlook Park – Accessibility Findings

Similar to North Mesa, Overlook Park presents numerous ADA compliance challenges across parking areas, pedestrian routes, fields, amenities, and restroom facilities. The key issues identified include:

- **Parking:** Many lots, especially gravel surfaces, lack any marked accessible stalls. Where stalls do exist, they often fail to meet slope, signage, or surfacing requirements. Van-accessible spaces are frequently absent or dimensionally noncompliant. Surface conditions—including cracked asphalt, loose gravel, and uneven grades—create significant mobility barriers.
- **Accessible Routes:** Most routes between parking areas, restrooms, and fields are either missing or fail to comply with ADA requirements. Common violations include:
  - Steep slopes and excessive cross-slopes.
  - Vertical level changes greater than ½ inch.
  - Loose or degraded surfaces, such as gravel or natural overgrowth.
  - Missing connections between key amenities like dugouts, scorekeeper boxes, bleachers, and restrooms.
- **Field Access and Amenities:** The evaluation covered Fields 2, 3, 4, Hope Field, Virchow Field, Byers Field, Minor B Field, and X Lovato Slowpitch Field. The majority of these lacked accessible connections to core amenities. In many cases, the recommendation was either to construct new accessible pathways or to designate alternative compliant fields elsewhere in the county.
- **Stairs and Ramps:** Stairs throughout the site are noncompliant due to inconsistent riser heights, inadequate tread depth, and the absence of visual edge contrast or slip-resistant surfacing. Many handrails are missing, incorrectly configured, or installed at improper heights. Ramps frequently exceed maximum allowable slopes and lack landings or intermediate level sections for extended runs.
- **Fixtures and Overhead Hazards:** Drinking fountains do not comply with height or stream specifications. Overhead obstructions—such as dugout roofs—pose hazards due to low clearance.

Overlook Park requires significant ADA upgrades to meet current accessibility standards. The report outlines specific corrective actions, including the installation of compliant parking stalls, reconstruction of accessible routes and ramps, retrofitting of stairs and fixtures, and regular maintenance to address ongoing issues such as debris accumulation and surface wear.

Existing Accessibility Issues at Overlook Complex

Turf Maintenance and Management

As part of the study, the project team evaluated current turf maintenance practices and capacity in Los Alamos County. The analysis included a review of maintenance staffing and resources, comparisons with industry best practices, and a consideration of the benefits, limitations, and potential health and environmental impacts of both natural and synthetic turf systems.

Current Maintenance Capacity

Based on site observations and discussions with Los Alamos County Parks and Recreation staff, the study team found that the County currently lacks sufficient staffing to adequately maintain all 11 fields at Overlook Park and the 7 fields at the North Mesa Sports Complex. In addition to routine turf care, staff are responsible for a broad range of maintenance tasks across both facilities, including trash removal, upkeep of parking areas, management of trees and landscaping, fence and gate repairs, restroom servicing, and the maintenance of retaining walls, rails, dugouts, and shade structures. County staff also reported recent challenges in recruiting and retaining maintenance personnel, which has further limited their capacity to meet the growing needs of these facilities.

Despite these constraints, the study team—drawing on over 30 years of experience working with counties, school districts, and recreation departments across New Mexico, the Rocky Mountain region, the Southwest, and nationally—found that Los Alamos County Parks and Recreation staff demonstrate a higher-than-average level of professionalism, organization, and dedication to best practices. That said, maintenance deficiencies are not solely an issue of staffing numbers. In many cases, field conditions that fall below the expectations of certain user groups are the result of multiple interrelated factors, including original field construction quality, available maintenance personnel, and the intensity of field usage. Overuse in particular places added strain on natural turf systems and contributes to wear that is difficult to address within existing resource constraints. This analysis reinforces the importance of aligning field maintenance strategies with the realities of available resources, expected levels of use, and appropriate turf system selection.

Artificial/Synthetic Turf Considerations

Industry literature consistently highlights notable operational advantages of synthetic turf over natural grass, particularly in high-use environments. Synthetic turf fields are designed to withstand intensive scheduling with little to no rest between games, making them an especially attractive option for Los Alamos County Parks and Recreation Division, which manages the user demands of multiple sports programs across a limited number of fields. Synthetic systems are also highly weather-resistant, remaining usable in rain, snow, and during nighttime hours. Routine maintenance tasks such as mowing, irrigation, and pesticide application are eliminated, potentially reducing daily staff labor demands and ongoing maintenance costs.

However, synthetic turf fields are not maintenance-free. Proper upkeep includes regular grooming to maintain fiber integrity, periodic top-ups of infill materials, and infrequent spot cleaning and disinfection to prevent the buildup of bacteria such as MRSA. Infill materials—especially crumb rubber—raise environmental and health concerns, including potential exposure to PFAS chemicals, microplastic runoff, and excessive heat retention. While surface temperatures on synthetic turf can reach upwards of 160°F in some regions, the cooler climate and elevation of Los Alamos may moderate this effect. Nevertheless, users may still require access to hydration stations and appropriate footwear, and heat advisories may still be necessary during summer months.

From a liability and insurance perspective, the County should consult its legal and risk management advisors to assess potential concerns related to injury risks (such as “turf toe” and joint strain) and chemical exposures. Synthetic turf systems also carry significantly higher initial capital costs—typically around $1 million per field compared to approximately $500,000 per field for natural grass—and require full replacement every 8 to 10 years. Environmental drawbacks include challenges with end-of-life disposal, limited recycling options, and the potential for surface runoff to carry pollutants.

Recent research and product innovation in the synthetic turf industry reveal important developments in environmental sensitivity, recyclability, and life-cycle performance. While the term "AstroTurf" originates from a brand introduced in the 1960s, the materials and systems used in modern synthetic turf have evolved significantly—particularly over the last 15 years. Today's leading manufacturers have engineered turf systems that incorporate recyclable and cradle-to-cradle design principles, reducing waste and mitigating environmental pollutants throughout the product life cycle.

In terms of chemical composition, newer synthetic turf products contain far fewer "forever chemicals" and microplastics than earlier generations. In fact, studies suggest that the level of chemical exposure from synthetic turf is comparable to, or less than, that of many common household items encountered daily. While scrutiny of materials such as crumb rubber continues, newer infill options and backing systems are being developed to further limit environmental and health impacts.

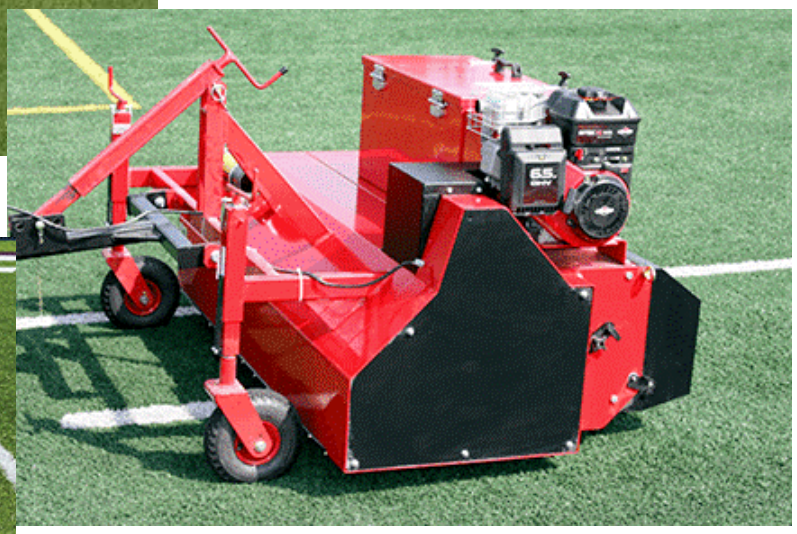
From a resource use perspective, synthetic turf offers substantial advantages over natural grass in terms of water conservation. Maintaining a single small softball field with natural turf can require over 700,000 gallons of water per irrigation season. For larger fields, the numbers increase dramatically—over 2.2 million gallons per season for a full-size baseball field and more than 1.5 million gallons for a full-size soccer field. In contrast, synthetic fields generally require little to no irrigation, aside from occasional surface cooling in hot weather.

Additionally, natural turf maintenance relies heavily on gasoline-powered equipment, leading to higher emissions and labor demands compared to synthetic turf. Regular mowing, fertilization, and pesticide application not only increase maintenance costs and staffing needs, but also carry the risk of chemical runoff that can impact nearby water sources. In contrast, synthetic systems eliminate most of these inputs, reducing both environmental and operational burdens.

Images of typical synthetic field maintenance equipment:

Groomer/Infill Brush

Combination Groomer/Trash Sweeper



Trash Sweeper with Magnet

As product lines continue to improve, the life-cycle profile of synthetic turf is becoming more favorable—particularly for high-use, multi-sport fields where overuse and weather variability limit the performance of natural grass. These considerations play a critical role in long-term planning, especially in regions facing water scarcity and climate-related challenges.

Natural Grass Considerations

When properly maintained and free from gopher damage, grading deficiencies, and drainage issues, natural grass fields offer a cooler, more forgiving playing surface that can help reduce the risk of heat-related stress and impact injuries. While areas of bare or compacted turf can harden over time, natural grass is generally thought to be associated with lower rates of abrasions and joint injuries—an important advantage for youth and recreational athletes.

Natural turf offers strong community support and aligns with sustainability objectives. Grass fields filter stormwater, sequester carbon, and avoid the microplastic and PFAS concerns associated with synthetic systems. However, maintaining healthy turf in Los Alamos' high-desert climate presents challenges. Water usage is a key concern, and prolonged dry periods or restrictions can compromise turf quality and usability. In addition, gopher damage to fields has led to high reports of injuries, as County staff struggle to keep up with gopher control and damage repair, as noted above.

Routine maintenance for grass fields includes mowing, irrigation, fertilization, and pest control—typically handled by in-house crews unless staffing becomes insufficient. Unlike synthetic turf, natural fields require rest between periods of heavy use, limiting weekly play hours. However, they do not require total surface replacement; instead, spot repair, seasonal renovation, and ongoing care can extend field life indefinitely. In some cases, life-cycle costs may be more predictable or favorable than synthetic turf, particularly if maintenance is well-managed. Natural turf is also biodegradable, compostable, and less problematic to dispose of, further supporting its sustainability profile.

Images of typical natural sports field maintenance equipment:

Reel Mower or "triplex"

"Cone" or Granular Fertilizer Spreader

Foliar/spray fertilizer

Aerator or Slicer

Top Dresser

Drill Seeder

Table 3.2 Turf System Comparison – Maintenance and Management Considerations		
Criteria	Synthetic Turf	Natural Grass
Use Frequency	High – no rest needed between games	Moderate – requires rest to recover (20 hours per summer week, and 10-15 hours per week in spring and fall)
Weather Tolerance	All-weather, year-round, night use	Limited in wet or freezing conditions, night use
Surface Temperature	Can exceed 160°F; may require advisories	Stays much cooler
Injury Risk	Potentially higher risk of abrasions, joint strain and turf toe, but material selection is critical in minimizing this risk.	Lower (softer, natural shock absorption); but dependent upon conditions (gophers, etc)
Maintenance Tasks	Grooming, disinfection, infill top-up, pest control	Mowing, watering, fertilization, aeration, top dressing, pest control
Health/Environmental Concerns	Concerns over PFAS, microplastics, heat, runoff pollutants; however, newer products are far less hazardous than in the past.	Minimal; no synthetic chemicals, biodegradable; but fertilization and pest control pose potential hazards.
Capital Cost (Install)	~$1 million per field	~$500K per field
Replacement Cycle	Minimum of 8–10 years, up to 15 years, depending on conditions and use intensity.	Every 10- 20 years; depending upon local conditions and use intensity.
Disposal/Recycling	Modern synthetic turf components are increasingly recyclable.	Compostable/biodegradable
Community Perception	Generally positive, but concerns over potential human and environmental impacts.	Generally positive, but concerns over field conditions, gopher damage, water usage.
Sustainability Fit	High embodied carbon, increase in stormwater runoff	Supports green goals, stormwater absorption
Insurance & Liability	May be higher	Generally lower
Water Use	Little except for cooling turf as needed	Higher water use

Human and Environmental Impacts

Over the course of the study, the team heard multiple concerns regarding human health and environmental impacts of artificial turf. In response to questions and concerns raised in community meetings, in open ended survey responses, and in direct emails, the team assembled a list of credible sources of information regarding the testing and analysis of synthetic turf products and materials currently on the market. These resources are included in Appendix G.

Over the past several decades, questions have periodically arisen regarding the potential health and environmental impacts of synthetic turf. Some concerns trace back to early turf products from the 1960s and 1970s, which differed significantly in composition from current materials. Modern systems—particularly those manufactured in the United States and Europe—have evolved through substantial improvements in chemistry, manufacturing processes, and recycling practices, especially since the late 1990s. In the past decade, industry innovation has increasingly focused on "Cradle-to-Cradle" design principles, emphasizing complete material recovery rather than simple recyclability.

Today, a secondary industry has emerged to reclaim used fields, separating turf fibers, backing, and infill materials for recycling or repurposing. Many synthetic turf products now meet recognized standards for material health, product circularity, and environmental stewardship. Importantly, certain chemicals cited in critiques of synthetic turf—such as PFAS compounds, lead, or zinc—are present in far higher concentrations in common consumer goods, food packaging, and personal care products, often within safety limits established by regulatory agencies.

When evaluating potential risks, it is essential to consider **exposure pathways, bioavailability, and comparative risk** relative to background levels found in everyday life.

The team has compiled key findings from over 100 independent studies into the following summary table, which addresses common questions and misconceptions about synthetic turf.

Table 3.3 Artificial Turf: Myths vs. Facts

Myth	Fact
Myth: Artificial turf contains dangerous chemicals at harmful levels.	**Fact:** While synthetic turf can contain trace amounts of substances like PFAS or heavy metals, levels are far below regulatory limits and often lower than everyday items such as cosmetics, food packaging, or cookware.
Myth: PFAS in turf are the same as the most harmful PFAS compounds.	**Fact:** Of ~10,000 PFAS types, only ~30 pose health concerns. Turf typically contains far fewer and at much lower levels than many common household products.
Myth: Lead in turf is the same as lead in old paint.	**Fact:** Turf uses encapsulated lead chromate, which is insoluble and not absorbed by the body, unlike lead carbonate in old paints.
Myth: Artificial turf sheds large amounts of harmful microplastics.	**Fact:** Most microplastic release is preventable through proper maintenance and field design. Levels are comparable to textiles, tires, and packaging materials.
Myth: Natural grass is always better for the environment.	**Fact:** Natural grass requires significant water, fertilizers, pesticides, and fuel for maintenance. Turf needs minimal irrigation, no chemical treatments, and supports more hours of use year-round.
Myth: Artificial turf increases infection risk.	**Fact:** Studies show bacteria like staph can survive longer on natural grass than on turf. Turf's higher surface temperatures can also reduce microbial survival.
Myth: Turf cannot be recycled.	**Fact:** 100% recycling options now exist, saving oil and energy. Some products meet Cradle-to-Cradle standards with no end-of-life waste.

3.4 Scheduling

Coordinated scheduling is fundamental to managing athletic field usage in a way that preserves surface quality and ensures long-term functionality. Without careful oversight, high-demand periods can result in overuse, leading to turf compaction, surface degradation, and heightened safety risks for players. Establishing a structured scheduling system that distributes play equitably across fields, incorporates planned rest periods, and prioritizes field rotation can significantly extend the service life of both natural and synthetic surfaces. Scheduled downtime also provides essential opportunities for maintenance, turf recovery, and the mitigation of pest or drainage issues. This is particularly critical for natural grass fields, which are more vulnerable to wear and seasonal stress.

Improved participation in County-led scheduling is essential to ensuring that athletic fields are managed fairly and sustainably. Greater consistency and accountability in scheduling would help distribute demand more evenly across facilities and reduce the risk of overuse. To support this effort, systematic data tracking is recommended to monitor both the duration of use (hours per day) and the frequency of use (days per week) for each field. Collecting and analyzing this information will provide the County with a clearer picture of actual demand, highlight patterns of heavy or underutilization, and guide decisions about maintenance and investment priorities. Modern online scheduling platforms are widely used in recreation management and provide a practical tool for Los Alamos County. Such systems not only facilitate data collection, but also streamline reservations, increase transparency among user groups, and generate real-time reporting to support responsive and equitable management.

A well-coordinated approach not only protects the County's investment in high-quality playing surfaces but also ensures fair access for the community's many user groups. The primary leagues that participate in scheduling and use of both the North Mesa Sports Complex and Overlook Park include a mix of public and private organizations based within Los Alamos County. These leagues are listed below, followed by typical calendars of seasonal field usage at North Mesa Sports Complex and Overlook Park.

Table 3.4 Leagues who Utilize North Mesa Sports Complex and Overlook Park Fields

League	Abbreviation
Los Alamos Public Schools – High School Soccer	LAPS-S
Los Alamos Public Schools – High School JV/Varsity Softball	LAPS-SB
Los Alamos Public Schools – High School JV/Varsity Baseball	LAPS-BB
Los Alamos County Little League	LACLL
Los Alamos Youth Soccer League	LAYSL
Los Alamos Youth Lacrosse	Lacrosse
Los Alamos Extreme (youth football)	Extreme
Los Alamos Softball Association (adult softball)	ASB

Table 3.5 North Mesa Sports Complex

SEASONAL FIELD USAGE BY USER GROUP

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BUN RYAN	LACLL, LAPS-SB											
BOMBER	LAPS-BB, LACLL											
SENIOR	LAPS-BB											
MINOR	LACLL, LAPS-SB							LACLL				
LOU CAVEGLIA	LACLL							LACLL, Extreme				
T-BALL	LACLL											

Table 3.6 Overlook Park

SEASONAL FIELD USAGE BY USER GROUP

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SPIRIO	LAYSL, Lacrosse, LAPS-S							LAYSL, Extreme				
DARA JONES	LAYSL, Lacrosse, EWDC, LAPS-S							LAYSL, Extreme, EWDC				
FIELD 1	ASB							ASB				
FIELD 2	ASB							ASB				
FIELD 3	ASB							ASB				
FIELD 4	ASB							ASB				
X LOVATO	ASB, LAPS-SB, EWDC							ASB, LAPS-SB, EWDC				
HOPE	LAPS-SB, LACLL											
MINOR B	LACLL							LACLL				
BYERS	LACLL, Lacrosse							LACLL, Extreme				
VIRCHOW	ASB, LAPS-SB, EWDC, LACLL							ASB, EWDC				

SECTION 4
ANALYSIS

SECTION 4 ANALYSIS

4.1 Standards

Throughout the site analysis and feasibility planning process, the team referenced multiple sets of relevant standards to guide decisions and ensure functional, safe, and sustainable outcomes. These included national and regional parks and recreation sports field standards, New Mexico Activities Association (NMAA) guidelines for field dimensions and competitive play requirements, and applicable environmental standards related to stormwater management, turf materials, and site development practices. These standards provided a consistent framework for evaluating existing conditions and shaping design recommendations at both North Mesa Sports Complex and Overlook Park.

Parks and Recreation Sports Field Standards

While there are no standards for sports complexes from the National Recreation and Parks Association (NRPA), field construction resources are available through the American Sports Builders Association (ASBV). Additionally, there are relative standards from the National Federation of State High School Associations (NFHS), the National Collegiate Athletic Association (NCAA), and sport-specific bodies. We have reviewed these and have followed the general standards that they provide for the design of sports fields and complexes.

NMAA Standards

The New Mexico Activities Association (NMAA) not only organizes and oversees athletics across New Mexico but leverages a network of dedicated athletic complexes including its Albuquerque headquarters, university stadiums, and municipal venues. Although the NMAA does not directly govern the standards of county athletic facilities, NMAA-sanctioned events must follow the association's rules, which cover safety, emergency preparedness, and sportsmanship. The study team is familiar with NMAA standards, and recommendations made in this report are in alignment.

Environmental Standards

In New Mexico, while there are no synthetic turf–specific environmental standards uniquely mandated at the state level, several commonly adopted national standards and local environmental considerations guide the specification and installation of synthetic turf systems for athletic fields. These standards typically focus on chemical safety, stormwater management, heat mitigation, and sustainable material use. The most commonly referenced environmental standards in New Mexico for synthetic turf are as follows:

1. ASTM Standards (Nationally Recognized, Widely Used in NM Projects)
   - ASTM F3188 – Specification for Synthetic Turf Systems
   - ASTM F1936 – Gmax testing for impact attenuation
   - ASTM F2765 – Water permeability testing

   These are often required in municipal RFPs and school district projects for safety and drainage performance.

2. Environmental Protection Agency Guidance (for Crumb Rubber and PFAS Concerns)

   While New Mexico does not currently restrict the use of specific infill types, agencies often refer to EPA's Federal Research Action Plan on recycled tire crumb for decision-making related to health and environmental exposure risks.
   - Many jurisdictions in NM use this to limit or avoid crumb rubber and prefer alternative infill types like EPDM, TPE, cork, or organic mixes.

3. Stormwater Management – Local MS4 Compliance

   Because Los Alamos County is governed by Municipal Separate Storm Sewer System (MS4) permits, synthetic turf fields must be designed with proper drainage systems to prevent runoff carrying infill or contaminants into stormwater infrastructure.

4. New Mexico Environment Department (NMED) General Guidance

   While NMED does not issue turf-specific regulations, projects must follow:
   - Ground and surface water protection standards
   - Solid waste regulations (especially for end-of-life turf disposal)
   - Air quality permits if infill or adhesives release volatile organic compounds (VOCs) during installation

5. Leadership in Energy and Environmental Design and Cradle-to-Cradle (When Pursuing Sustainability Goals)

   For school, municipal, or state-funded projects in New Mexico with sustainability goals, project teams may voluntarily pursue:

   - LEED v4/v4.1 credits related to sustainable materials, stormwater design, and heat island reduction
   - Cradle to Cradle Certified™ materials for environmental transparency and safer product chemistry

6. Regional Sustainability Practices

   Some New Mexico agencies and school districts also use guidelines from:

   - U.S. Green Building Council (USGBC)
   - Environmental Product Declarations (EPDs)
   - Health Product Declarations (HPDs) to evaluate turf materials for low-VOC, low-PFAS, and recyclability.

7. Los Alamos County Climate Action Plan

   Los Alamos County's Climate Action Plan emphasizes sustainable water use, stormwater management, and reduced exposure to harmful materials. It promotes water conservation through efficient irrigation, native landscaping, and reduced potable water use. The County is regulated under an MS4 permit, requiring best practices to minimize pollutant runoff into local waterways. While PFAS isn't specifically addressed in turf materials, the plan supports avoiding persistent chemicals in public infrastructure. Overall, the plan encourages low-water, low-impact design solutions that align with environmentally responsible turf system choices.

Table 4.1: Environmental Standards Commonly Applied in Synthetic Turf Projects

Standard / Practice	Focus	Applies To
ASTM F3188 / F1936 / F2765	Safety, drainage, performance	Turf system specification
EPA Guidance on Crumb Rubber	Chemical exposure, PFAS	Infill selection
Local MS4 Stormwater Requirements	Runoff, filtration, erosion control	Drainage and base system
LEED v4 / Cradle to Cradle	Sustainability, low impact materials	Optional, project-specific
NMED Water / Air Quality Rules	Environmental protection during construction	Site prep, infill, adhesives
EPD / HPD / REACH Compliance	Product health transparency	Turf fibers, infill, backing

4.2 Site Analysis Overview

The current field layouts at both the North Mesa Sports Complex and the Overlook Park are the result of incremental development over time. Located on the limited space of the mesa tops of this northern New Mexico municipality, these facilities evolved gradually as space, funding, and demand allowed. Without a comprehensive master plan from the outset, fields and amenities were added in a piecemeal fashion—baseball, softball, soccer, and other sports facilities emerged as needs arose rather than according to a cohesive plan.

This organic growth has led to a number of challenges: disconnected layouts, inefficient circulation patterns, and facilities that no longer meet the expectations of today's school athletes, families, and other recreational users. What once functioned adequately now struggles to keep pace with evolving standards and increased community use of today's Los Alamos.

This portion of the study provides an opportunity to reimagine both of the sports complexes that are included in this study using contemporary best practices. Modern planning for sports facilities incorporates a wide range of considerations—from field orientation and lighting to amenities, accessibility, and sustainability. Standards such as the Americans with Disabilities Act (ADA), water-use regulations from the New Mexico Office of the State Engineer, and Los Alamos County, as well as current space planning, landscape architecture and engineering principles guide both the technical and experiential aspects of the reimagining.

Future planning should consider:

- Efficient vehicular and pedestrian circulation
- Compliance with ADA and other accessibility standards
- Modern amenities like concessions, restrooms, playgrounds, and athletic field houses
- Sports team infrastructure such as batting cages, practice areas, and storage
- Shaded seating areas and bleachers
- Lighting and safety upgrades, including scoreboards and surveillance
- Sustainable water and turf management, including the appropriate use of synthetic and natural surfaces for water conservation
- Mixed uses like the use of Spirio Fields for community events such as the Fourth of July celebration or Kite festival
- The current emergence of food trucks and desirable concessions
- Modern charging stations in parking areas for electric vehicles

To move forward, the study team evaluated not just what currently exists, but what is possible: a more logically organized, accessible, and functional system of sports facilities that serves the needs of athletes and the broader Los Alamos community—now and into the future.

Community Event at Overlook Park

4.3 Opportunities and Constraints

To begin the process of re-imagining what the complexes in Los Alamos County could be, two draft realignment options per complex were presented to the community to demonstrate and test community preferences regarding the opportunities and constraints at each site. The considerations were based on the existing conditions analysis, field reports, as well as the analysis of future needs and considerations identified by County staff.

The draft realignment options also explored the most urgent or desirable opportunities and constraints that were identified from community feedback. From these opportunities and constraints, a design spectrum was generated between two options for each site studied. One option featured a minimal realignment plan, and one option featured a major reconfiguration plan. The summaries below describe highlights of the proposed enhancements and concerns that were considered in the draft options for North Mesa Sports Complex and Overlook Park. Community and County feedback on these options was used to generate the final, proposed Framework Plans for each site, which follow in Section 5.

North Mesa Sports Complex: Opportunities and Constraints Summary

Option 1 – Minimal Realignment

Focus: Improve pedestrian access, accessibility, field connections, and parking with limited changes to existing site configuration.

- **Opportunities:** Enhanced quality of play on synthetic turf fields, increased storage, pedestrian corridors, improved amenities and parking, possibility of shared use fields.
- **Constraints:** Scheduling conflicts for shared use fields, concerns related to synthetic turf fields, transportation limitations, connectivity limitations based on current site layout.

Option 2 – Major Realignment

Focus: Significantly reconfigure site configuration to improve primary entrances, accessibility, parking, and pedestrian safety.

- **Opportunities:** Enhanced quality of play on synthetic turf fields, expanded tournament capacity in parking areas, centralized pedestrian corridors, co-location of fields, re-location of facilities, improved field lighting and amenities.
- **Constraints:** Concerns related to synthetic turf fields, transportation limitations, site work and grading requirements, traffic from San Ildefonso Rd, relocation of RV parking.

Overlook Park: Opportunities and Constraints Summary

Option 1 – Minimal Realignment

Focus: Improve pedestrian access, accessibility, parking, circulation, and connectivity with limited changes to existing site configuration.

- **Opportunities:** Defined entrance with roundabout access, enhanced quality of play on synthetic turf fields, shared use fields, defined pedestrian center, co-location of sports, parking locations in close proximity to sport fields, expanded tournament capacity in parking areas.
- **Constraints:** Concerns related to synthetic turf fields, concerns about roundabout access, scheduling conflicts, and balancing potential conflicts between users (e.g., dog training vs. soccer).

Option 2 – Major Realignment

Focus: Reconfigure field layouts to improve connectivity across Overlook Rd, identify primary entrances, improve accessibility, and provide parking areas that can accommodate tournaments and/or events.

- **Opportunities:** enhanced quality of play on synthetic turf fields for multiple sports (baseball/softball/soccer), stronger tournament-hosting capacity, consolidated facilities and pedestrian corridors, centralized amenities, improved lighting conditions and field availability.
- **Constraints:** Concerns related to synthetic turf fields, site work and grading requirements, reduced trail/dog park space

After several rounds of community input in which the potential draft options were evaluated, developed, and revised, the proposed framework realignment plans were created, as discussed in detail in Section 5 below.

4.4 Context-Based Comparison: Synthetic Turf vs. Natural Grass

The decision to use synthetic turf or natural grass on either North Mesa Sports Complex or Overlook Park has been framed in broad terms prior to this section of the report based on the environmental consequences, maintenance, water, and other factors. The choice also depends on the type of sport, level of play, community priorities, aforementioned environmental factors, and maintenance resources that were also described prior in this report. The following outlines circumstances where one surface may be more appropriate than the other.

Sport Type

Baseball and Softball: Natural grass is typically preferred, particularly for youth and high school levels. These sports rely heavily on the natural behavior of the ball on turf—speed, bounce, and ground conditions—which are best replicated on grass. Infield play and pitching are particularly sensitive to surface conditions. Of course this varies based on community preference and trend – synthetic turf is the fastest growing turf alternative; this may be preference or trend or both. That said, community engagement activities revealed a strong preference for the installation of synthetic turf, particularly on high school game fields, for adult recreational leagues, and high-turnover tournaments due to its durability and faster recovery after use and for its advantages in extending the playing seasons.

Soccer, Lacrosse, and Football: Synthetic turf is often more suitable, especially on fields that are used intensively throughout the year. These sports benefit from a consistent playing surface, and synthetic turf allows for greater scheduling flexibility and higher field availability without recovery time between uses. However, community feedback expressed a strong preference to retain natural grass options for soccer, lacrosse, and football, in addition to introducing a synthetic turf field.

Level of Play and Intensity of Use

High School Multi-Sport Fields: Synthetic turf is frequently favored in this context. Schools with one or two primary fields must accommodate multiple sports and events. Synthetic turf allows for continuous use without damage or rest periods, making it a cost-effective solution over time.

Youth Leagues and Practice Fields: Where usage is lighter and maintenance resources (equipment or staffing) exist; natural grass may be more appropriate. It offers a softer surface, is cooler in hot weather, and reduces health concerns related to synthetic materials.

Adult Recreational Leagues and Tournament Play: Synthetic turf often proves advantageous due to its durability and resistance to wear. These users typically value consistent field availability over play-specific characteristics.

Public Perception and Safety

Where health, safety, or environmental concerns are prominent, natural grass may be preferred. Communities with concerns about surface temperatures, chemical exposure, or the aesthetics of natural materials often advocate for grass. Additionally, natural turf is perceived as safer in terms of heat stress and injury risk for younger players.

Where public demand emphasizes maintenance efficiency and year-round usability, synthetic turf may be more accepted, particularly when positioned as a solution that reduces water use, cancels fewer games, and increases access to athletic facilities.

Climate Conditions

Arid or drought-prone climates: Synthetic turf can significantly reduce irrigation demand, but its surface temperatures in summer months can be extreme, Los Alamos may not have this complication. Hybrid solutions or the use of shade needed if synthetic turf is selected. Again Los Alamos may be the exception.

High snowfall regions: Synthetic turf is often the superior choice in snowier climates where grass fields are frequently unplayable due to the impacts of long lasting snowfall on natural grass fields. Also, synthetic turf systems with built-in drainage allow for near-continuous play.

Cost and Maintenance

Low-use municipal recreation areas: Natural grass remains more economical where field use is low and maintenance can be scheduled without conflicts. It has a lower upfront cost and fewer concerns about end-of-life disposal.

High-use school and community fields: Synthetic turf becomes cost-effective when high-intensity usage demands more playable hours than a grass field can support. Maintenance is more predictable, and fewer interruptions due to weather or recovery periods increase scheduling efficiency.

Blended and Hybrid Approaches

Many communities now employ a strategic mix of surfaces:

- Natural grass for baseball and softball outfields, where ball play and aesthetics are important.
- Synthetic turf for infields, where wear is concentrated.
- Synthetic turf for rectangular multi-sport fields used by football, soccer, and lacrosse teams.
- Synthetic turf for batting cages, bullpens, and high-wear walkways
- Natural soils for infields on baseball fields and synthetic turf for outfields.

This context-driven approach provides a framework for selecting field materials that are responsive to both the practical and perceptual needs of the community.

Typical Maintenance and Management Considerations

The design and installation of athletic fields—whether natural or synthetic—should account for long-term maintenance requirements to ensure safety, playability, and asset longevity. Likewise, management of field usage should take into account seasonal capacity limits and operational restrictions for the particular climate and infrastructure of Los Alamos County.

Natural grass fields have strict seasonal and daily usage limits due to their biological growth and recovery needs. In Los Alamos, peak season (June–September) allows for about 20 hours of play per week (3–4 hours/day, five days/week) under ideal growing conditions. Shoulder seasons (April and October) typically permit 6–10 hours/week, while White Rock fields have a slightly longer high-use window (May–mid-October).

Grass growth is optimal between 50°F and 80°F; outside this range, turf becomes dormant and cannot repair wear damage. Frost, waterlogged soils, or soft turf conditions further restrict use, as play under these conditions can cause severe damage to grass blades, roots, and soil structure, leading to unsafe playing surfaces.

By contrast, synthetic turf fields can be used year-round, including during frost, snow, or wet conditions, without seasonal downtime. There are no fixed daily or weekly hour limits; the primary operational requirement is routine infill maintenance in high-wear zones (goal mouths, lacrosse creases, pitching/batting areas, base paths). This typically involves periodic redistribution of infill to maintain a consistent, safe playing surface.

The tables below provide a visual comparison of both seasonal usability and restrictions for field management, as well as maintenance requirements, for both natural turf fields and synthetic turf fields.

Table 4.2: Seasonal Usability & Restrictions		
Factor	Natural Turf	Synthetic Turf
Seasonal Availability	April–October (varies by site)	Year-round
Peak Season Capacity	~20 hrs/week (3–4 hrs/day, 5 days/week)	Unlimited (maintenance-based)
Shoulder Season Capacity	6–10 hrs/week	Unlimited
Winter Use	Not recommended (Nov–Mar)	Full use permitted
Use During Frost	Not permitted	Permitted
Use on Wet/Soft Surfaces	Not permitted	Permitted (with proper drainage)
Key Limitation	Biological recovery time	Infill maintenance in high-wear areas

Table 4.3: Typical Maintenance Requirements		
Maintenance Task	Natural Turf Fields	Synthetic Turf Fields
Mowing	Weekly; remove no more than 1/3 of blade height	Not applicable
Infield Care	Drag & water after every 3 hrs of play; apply Turface as needed	Redistribute infill in high-wear areas every 2–3 hrs of play
Aeration	Bi-weekly; drag in cores or slice to reduce compaction	Not required
Granular Fertilization	Bi-weekly; 5-5-5 fertilizer at 1 lb/1,000 sq ft	Not required
Foliar Fertilization	Monthly; high-nitrogen, 1–2% solution	Not required
Seeding	Every 2 months; 80% Kentucky Blue / 20% Rye at 3–4 lbs/1,000 sq ft	Not required
Topdressing	Mid-summer; ½ cubic yard/1,000 sq ft after aeration	Not required
Grooming	Not applicable	Weekly; groom infill to maintain consistency
Debris Removal	As needed during mowing or infield care	Weekly; remove trash and organic debris

SECTION 5
RECOMMENDATIONS

SECTION 5 RECOMMENDATIONS

After the turf field realignment options at both the North Mesa Sports Complex and Overlook Park locations were evaluated through the methods of community engagement, surveys, resource review, and County staff review, the study team distilled core design ideas and features into recommended framework plans. Similar to a master plan, the framework plans illustrate new site layout options that include potential facility updates, field realignments, and proposed amenities. The framework plans are not conducive to the same level of planning and detail involved in a master planning process; however, they do provide a conceptual depiction of site planning as well as guidelines for improvements that are sufficient for this study.

The following recommendations aim to promote a sustainable future and the longevity of a community that prioritizes long-term environmental health, economic stability, and social well-being. These recommendations consider supporting renewable energy, promoting local economies, and encouraging inclusive decision-making. By addressing the interconnected needs of the athletic and recreational community, as well as the larger community of Los Alamos County, these strategies help to address the necessary adaptations for changing conditions and ensure that future generations have places to enjoy and cherish. Sustainability-oriented recommendations recognize that true progress comes from the collective support and vitality of the entire community.

5.1 Field realignment and Reorientation

In order to achieve the desired project goals of improving overall site layout, connectivity, and improved field use and accessibility, both major and minor grading changes were proposed in the framework plans for each complex. The feasibility of grade changes and drainage patterns were considered in the proposed realignments through conceptual renders. Given the conceptual nature of the grade changes in this study, a formal study in the future is necessary to evaluate actual design potential and appropriate site layouts.

North Mesa Sports Complex Realignment:

The proposed design layout at North Mesa sports complex involves the reorientation of the fields Minor, T-ball, and Lou Caveglia into a clover leaf layout, including Senior field as the fourth field in the clover leaf. This re-orientation is beneficial as it provides a formalized structure to the complex that is currently absent.

The proposed structure creates a new centralized pedestrian area that has access to basic amenities and proximity to multiple fields, with vehicles located at the perimeter of the fields. In addition, Minor field is extended to a 225’ field size and Senior field is extended to a 350’ field size. By increasing field sizes, the availability of fields becomes more flexible, so that both softball and little league users can now use Minor field as a playing surface, and JV and Varsity can now use Senior field.

Accessible and centralized parking is an essential design element considered in the development of the framework plans. In the proposed layout, the overflow parking area is reoriented closer to the central complex, which proposes the relocation of the RV rental facilities to the outer northeast corner of the site. This reorientation better organizes the site to have sufficiently sized parking areas that are accessible at multiple points within the complex. This benefits the site from a transportation perspective, with an increased ease of access, as well as from a pedestrian perspective as the pedestrian corridors improve safety and connectivity throughout the complex.

Several grade changes result in the proposed reorientation at both the overflow parking area as well as at the smaller parking area off of San Ildefonso Road, to create an easier and more accessible transition between parking areas and the complex.

Overlook Park Realignment:

The proposed design layout at Overlook Park involves the reorientation of the fields Byers and X Lovato. By relocating X Lovato to the eastern perimeter and moving Byers field closer to Hope field, it is now possible to have a larger central parking area that can accommodate games, and potentially tournaments, held within the northern portion of the complex. This reorientation also promotes accessible sidewalk connections that connect to a central pedestrian corridor, which runs between the north and south portions of the complex.

In addition to being relocated, X Lovato is also extended to a 325' size field. By increasing the field size, the field use becomes more flexible, so that both adult softball and JV/ Varsity softball users can now use X Lovato. Field 2 is also extended to a 350' size field, which increases the field flexibility for adult softball users.

Creating designated areas for various site users helps to reduce conflict and improve overall site organization, which are both design considerations included in the development of the framework plans. In the proposed plan, the dog park is relocated further south of Dara Jones field and extended into a larger area of 30,000 SF. The new location accommodates more amenities such as shade structures, benches, and berms for dogs and dog users. In addition, the dog training area is relocated into its own designated area south of the dog park and the new basketball courts. The dog training facility is bordered by a wall and tree barrier to reduce potential noise from the adjacent dog park. This new location offers the opportunity to create fewer conflicts between site users by reducing the need for a shared use field. The trailhead parking adjacent to the proposed dog park and basketball courts is also extended to accommodate a potential increase of user access in the southern area of the complex.

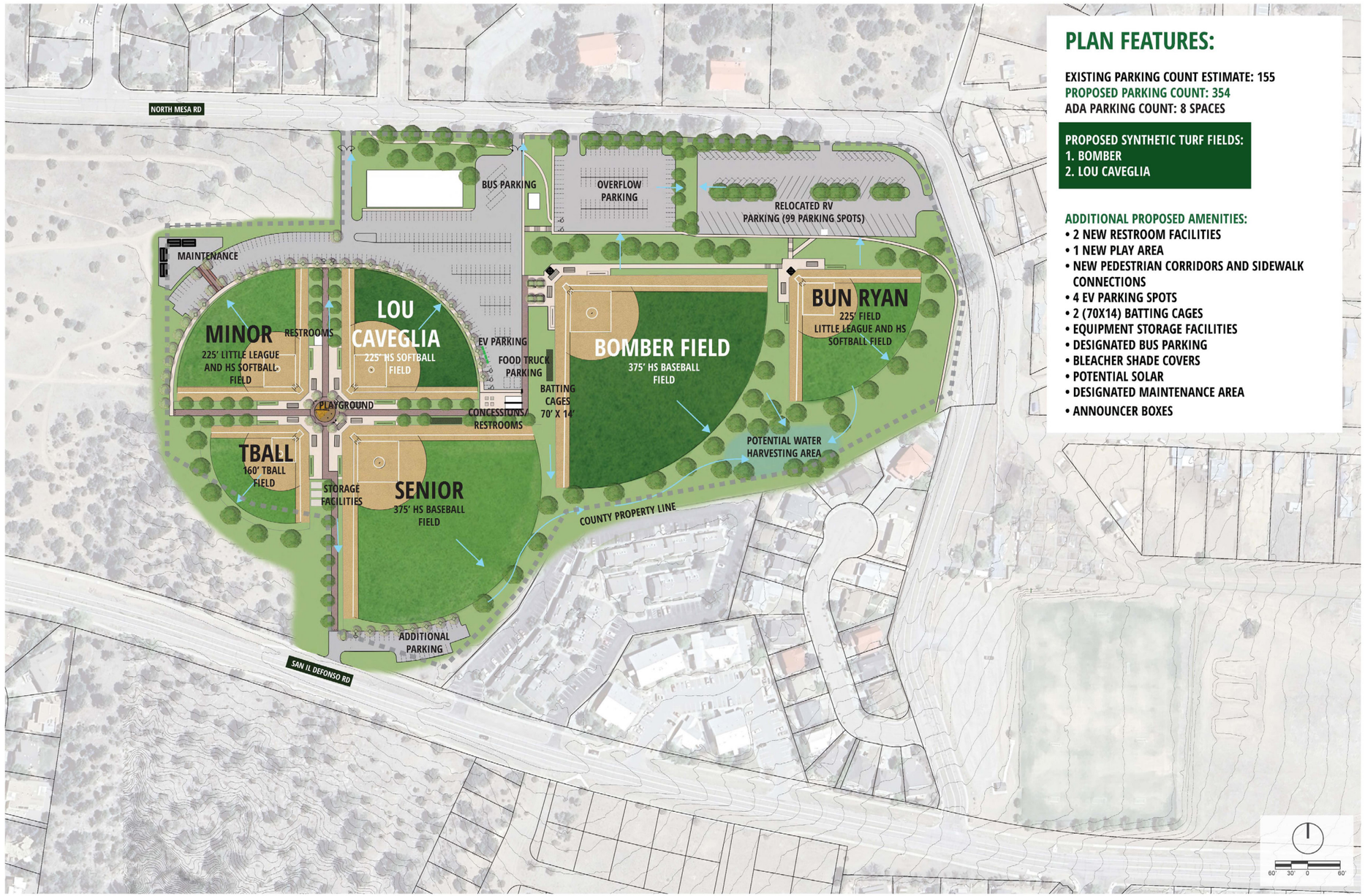
5.2 Framework Plans

Informed by the realignment and reorientation strategies discussed above to create an improved site layout for each complex, the framework plans provide a recommended structure for future possibilities and the ultimate potential for each facility. The primary attributes of each framework plan include recommendations for lighting, improved amenities, circulation and pedestrian access, equipment needs, grading and drainage, accessibility, co-location of facilities, and new technologies. Recommendations for each site are reviewed in detail below.

North Mesa Sports Complex - Recommended Framework Plan:

The proposed framework plan for the North Mesa Sports Complex includes an recommended overall site layout with proposed realignments, an improved pedestrian access and plaza, field connections and connectivity, improved lighting, centralized parking, and improved amenities. Potential synthetic turf field options are identified for Bomber and Senior field, as their demonstrated levels of field use and corresponding user groups represent the highest need for overall improvements out of the fields in question.

NORTH MESA RECREATION AREA
TURF FIELD REALIGNMENT AND FRAMEWORK PLAN



PLAN FEATURES:

EXISTING PARKING COUNT ESTIMATE: 155
PROPOSED PARKING COUNT: 354
ADA PARKING COUNT: 8 SPACES

PROPOSED SYNTHETIC TURF FIELDS:
1. BOMBER
2. LOU CAVEGLIA

ADDITIONAL PROPOSED AMENITIES:
- 2 NEW RESTROOM FACILITIES
- 1 NEW PLAY AREA
- NEW PEDESTRIAN CORRIDORS AND SIDEWALK CONNECTIONS
- 4 EV PARKING SPOTS
- 2 (70X14) BATTING CAGES
- EQUIPMENT STORAGE FACILITIES
- DESIGNATED BUS PARKING
- BLEACHER SHADE COVERS
- POTENTIAL SOLAR
- DESIGNATED MAINTENANCE AREA
- ANNOUNCER BOXES

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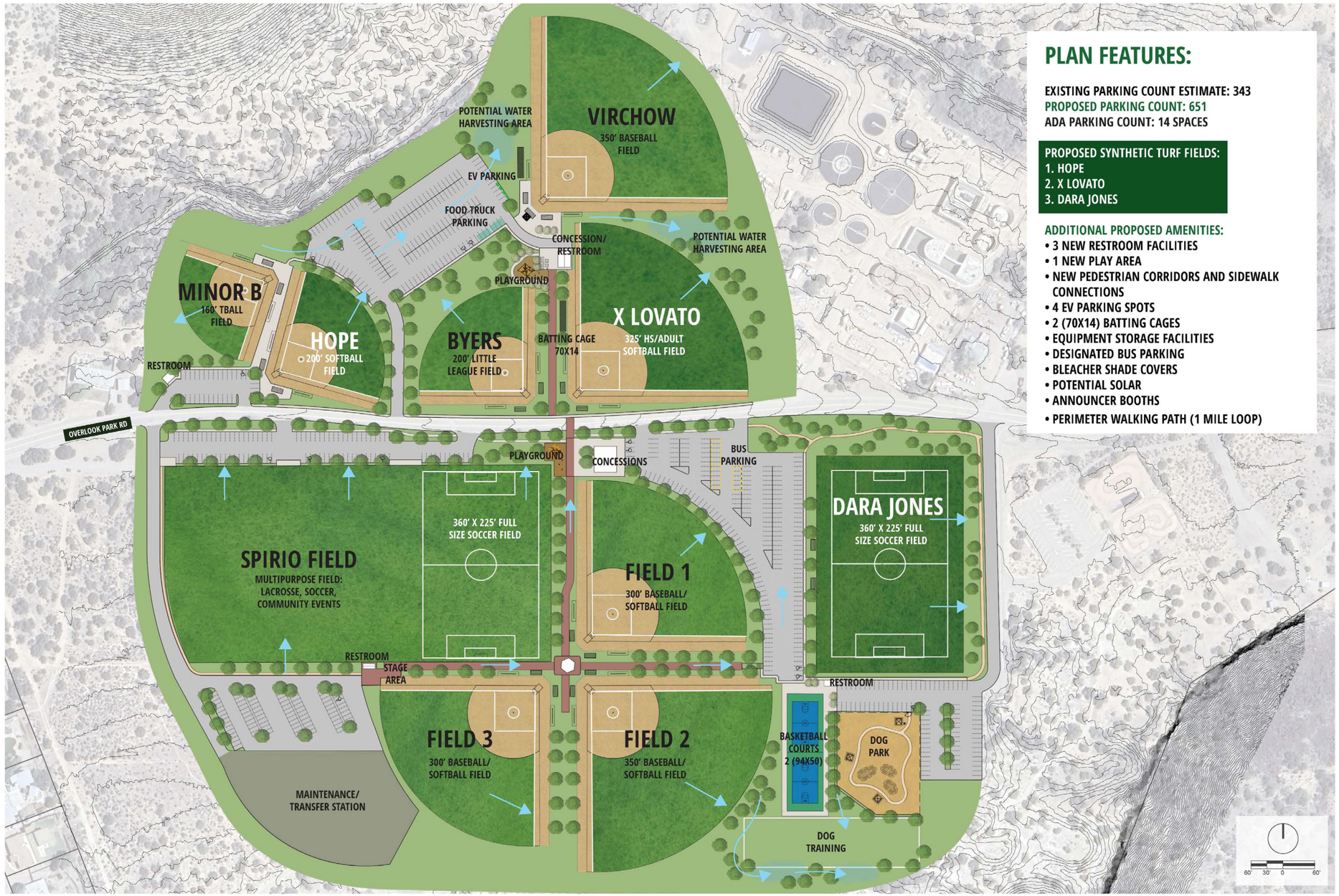
Overlook Park – Recommended Framework Plan:

The proposed framework plan for the Overlook complex includes an overall site layout with proposed realignments, an improved pedestrian access and plaza, field connections and connectivity, improved lighting, centralized parking, and improved amenities. Potential synthetic turf field options are identified for Hope, X Lovato, and Dara Jones Field. These fields have been selected as their demonstrated levels of field use and corresponding user groups represent the highest need for overall improvements out of the fields in question.

OVERLOOK PARK RECREATION AREA
TURF FIELD REALIGNMENT AND FRAMEWORK PLAN



PLAN FEATURES:

EXISTING PARKING COUNT ESTIMATE: 343
PROPOSED PARKING COUNT: 651
ADA PARKING COUNT: 14 SPACES

PROPOSED SYNTHETIC TURF FIELDS:
1. HOPE
2. X LOVATO
3. DARA JONES

ADDITIONAL PROPOSED AMENITIES:
- 3 NEW RESTROOM FACILITIES
- 1 NEW PLAY AREA
- NEW PEDESTRIAN CORRIDORS AND SIDEWALK CONNECTIONS
- 4 EV PARKING SPOTS
- 2 (70X14) BATTING CAGES
- EQUIPMENT STORAGE FACILITIES
- DESIGNATED BUS PARKING
- BLEACHER SHADE COVERS
- POTENTIAL SOLAR
- ANNOUNCER BOOTHS
- PERIMETER WALKING PATH (1 MILE LOOP)

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5.3 Lighting

North Mesa Sports Complex:

The park's abilities to accommodate users are hindered by lack of lighting to extend spring and fall season play past 6pm. Lack of lit fields allows barely one game per field per night. Lighting could easily double or triple the usability to 8pm or 9pm.

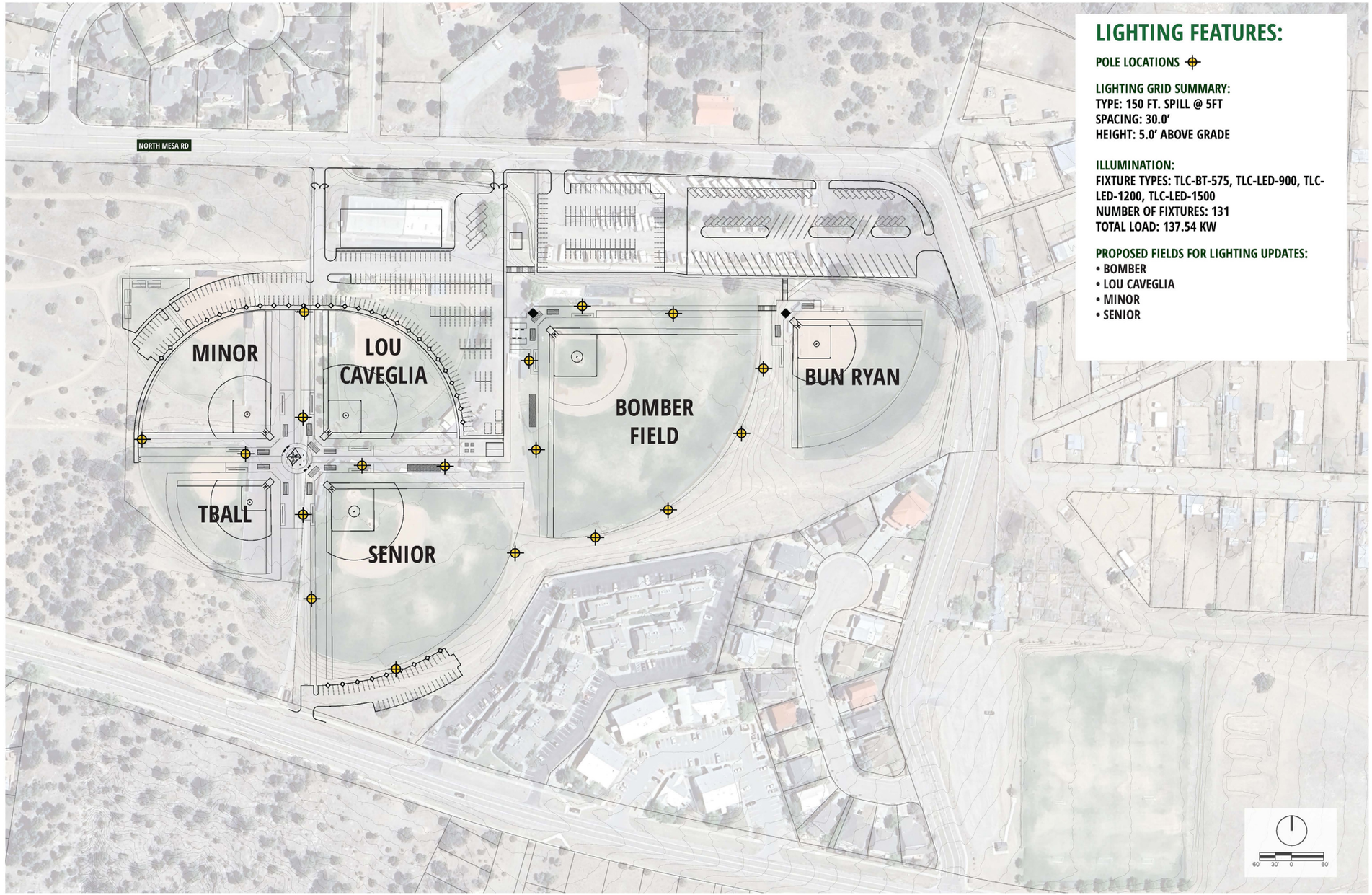
Lighting recommendations at North Mesa Complex were prepared by a representative from MUSCO lighting who evaluated the site and gave recommendations based on the proposed framework plan in correspondence to the existing site conditions. The recommendation includes a new Light-Structure System with Total Light Control for the primary use fields, which were identified as Lou Caveglia, Senior, and Bomber fields.

The lighting design utilizes common poles at the primary use fields so that additional fixtures can be added to provide lighting for adjacent fields, such as Minor field and potentially the T-ball field. The plan also includes a lighting update for Bun Ryan field.

Modern sport field lighting increasingly incorporates energy-efficient LED technology and smart control systems, significantly enhancing sustainability by reducing energy consumption and light pollution. The recommended system uses controlled lighting technology to maximize the targeted light direction and reduce light candles, so that periphery lighting is limited and player lighting is optimized. The new system also includes a smart control-link operating system for improved maintenance, monitoring, and accessibility to lighting controls.

The demolition of outdated poles as well as poles that conflict with the revised locations of proposed fields are also included in the recommendations.

NORTH MESA RECREATION AREA
TURF FIELD REALIGNMENT AND FRAMEWORK PLAN - LIGHTING LAYOUT



LIGHTING FEATURES:

POLE LOCATIONS

LIGHTING GRID SUMMARY:
TYPE: 150 FT. SPILL @ 5FT
SPACING: 30.0'
HEIGHT: 5.0' ABOVE GRADE

ILLUMINATION:
FIXTURE TYPES: TLC-BT-575, TLC-LED-900, TLC-LED-1200, TLC-LED-1500
NUMBER OF FIXTURES: 131
TOTAL LOAD: 137.54 KW

PROPOSED FIELDS FOR LIGHTING UPDATES:
- BOMBER
- LOU CAVEGLIA
- MINOR
- SENIOR

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Overlook Park:

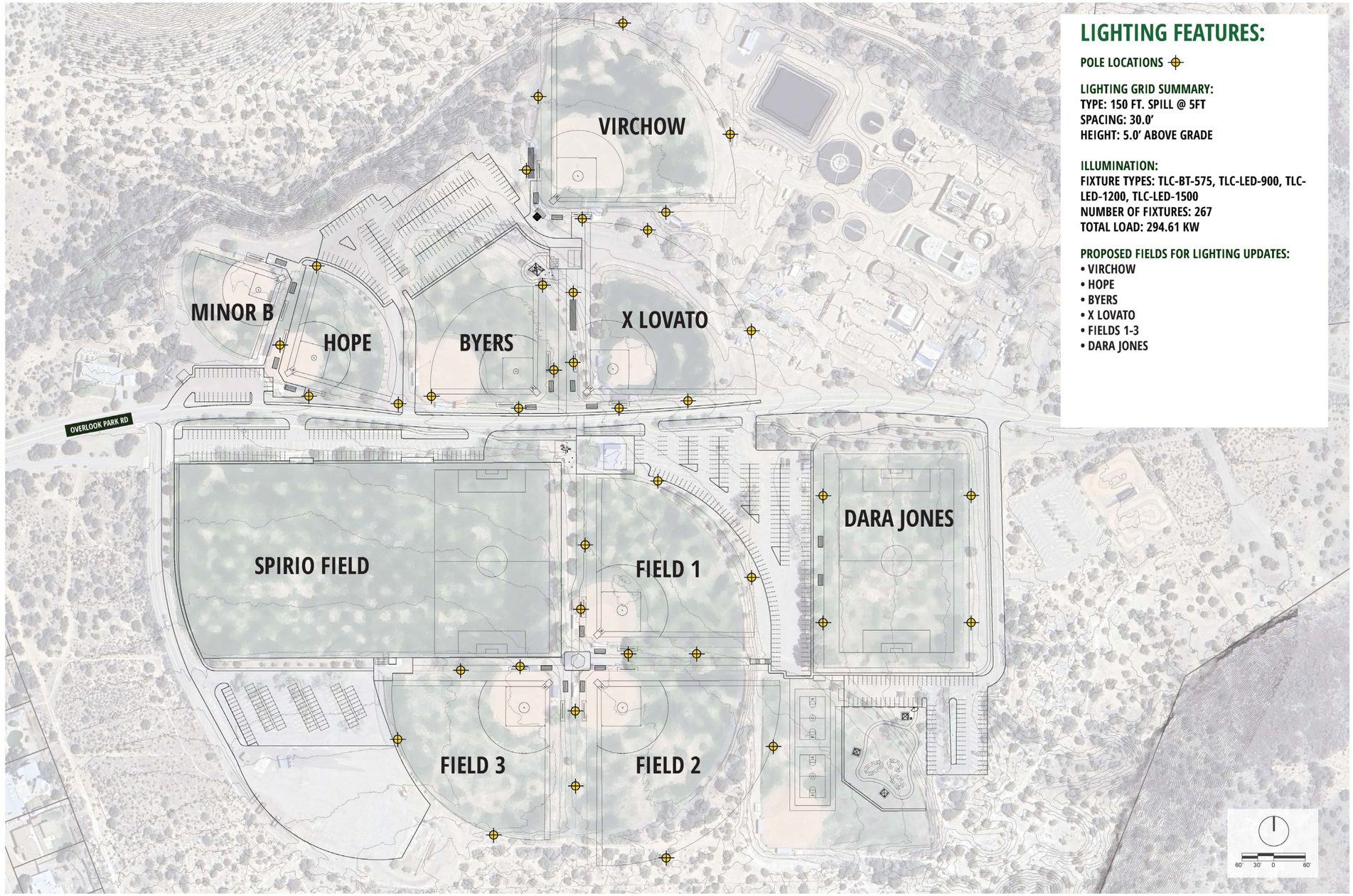
As with North Mesa, Overlook Park's abilities to accommodate users are hindered by lack of lighting to extend spring and fall season play past 6pm. Lack of lit fields allows barely one game per field per night. Lighting could easily double or triple the usability to 8 or 9pm. Lighting recommendations at Overlook Park were prepared by a representative from MUSCO lighting who evaluated the site and gave recommendations based on the proposed framework plan in correspondence to the existing site conditions. The recommendation includes a new Light-Structure System with Total Light Control for the primary use fields, which were identified as Hope, X Lovato, Dara Jones, Field 1, Field 2, and Field 3.

The lighting design utilizes common poles at the primary use fields so that the quantity of poles can be reduced between fields 1, 2, and 3, and so additional fixtures can be added to provide lighting for adjacent fields, such as Byers. The plan also includes a lighting update for Virchow field.

Modern sport field lighting increasingly incorporates energy-efficient LED technology and smart control systems, significantly enhancing sustainability by reducing energy consumption and light pollution. The recommended system uses controlled lighting technology to maximize the targeted light direction and reduce light candles, so that periphery lighting is limited and player lighting is optimized. The new system also includes a smart control-link operating system for improved maintenance, monitoring, and accessibility to lighting controls.

The demolition of outdated poles as well as poles that conflict with the revised locations of proposed fields are also included in the recommendations.

OVERLOOK PARK RECREATION AREA
TURF FIELD REALIGNMENT AND FRAMEWORK PLAN - LIGHTING LAYOUT



LIGHTING FEATURES:

POLE LOCATIONS

LIGHTING GRID SUMMARY:
TYPE: 150 FT. SPILL @ 5FT
SPACING: 30.0'
HEIGHT: 5.0' ABOVE GRADE

ILLUMINATION:
FIXTURE TYPES: TLC-BT-575, TLC-LED-900, TLC-LED-1200, TLC-LED-1500
NUMBER OF FIXTURES: 267
TOTAL LOAD: 294.61 KW

PROPOSED FIELDS FOR LIGHTING UPDATES:
- VIRCHOW
- HOPE
- BYERS
- X LOVATO
- FIELDS 1-3
- DARA JONES

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5.4 Amenities

The following proposed amenities are identified for inclusion in future improvements at the North Mesa Sports Complex and Overlook Park. Amenities are intended to enhance user experience, improve accessibility, and support multi-sport programming.

Table 5.1: Recommended Amenities

Amenity	North Mesa Sports Complex	Overlook Park
Restroom Facilities	1 new restroom facility	2 new restrooms (south) + 1 combined concessions/restroom (north)
Concessions	1 combined concessions/restroom/ equipment storage facility	1 combined concessions/restroom (north)
Playground Area	Centralized playground with shade cover	Centralized playground with shade cover (north)
Pedestrian Benches	8	8
EV Charging Stations	4	4
ADA Parking Spaces	8	14
Food Truck Parking	Designated parking for 3 food trucks	Designated parking for 2–3 food trucks
Bus Parking	Yes	Yes
Batting Cages	2 standard (14’ x 12’ x 55’)	2 standard (14’ x 12’ x 55’)
Dugouts	12 (40’ x 10’) with roofs	16 (40’ x 10’) with roofs
Player Benches	12 backless (15’)	16 backless (15’)
Bleachers (4-row)	9 with shade covers	9 with shade covers
Bleachers (3-row)	6 with shade covers	10 with shade covers
Announcer/Scoring Booths	3	3
Maintenance/Equipment Sheds	2 maintenance sheds (20’ x 20’)	2 equipment sheds (20’ x 20’)
Basketball Courts	N/A	2
Walking Trail	N/A	Perimeter trail (~1-mile loop)

5.5 Pedestrian and Vehicular Circulation

The proposed layouts offer significant design benefits that enhance overall functionality, safety, and user experience at each complex. Enhanced pedestrian pathways are at the center of the design recommendations, which create seamless and accessible routes that encourage foot traffic, reduce congestion, and promote healthier, more sustainable transportation choices.

It is recommended that the proposed pedestrian corridors remain primarily for pedestrians, and that the removable bollards for maintenance vehicles remain in place except for when maintenance vehicles need access. This separation of circulation allow for a greater sense of safety on site.

From a vehicular user experience, the recommended design improves vehicular access by the use of designated drop-off zones, clear signage, and efficient parking layouts to minimize traffic bottlenecks while enhancing the flow of vehicles during highly attended events.

By integrating pedestrian and vehicular connections more thoughtfully, the proposed complexes become more user friendly and welcoming, which encourages a stronger sense of place while also supporting operational efficiency and future growth within the community.

North Mesa Sport Complex:

The proposed and recommended parking areas at North Mesa are concentrated around the highest-use ball fields to ensure minimal travel and to provide clear access routes across the complex. The design also provides a secondary access point off of San Ildefonso Road to increase access to the southernmost ball fields.

Overflow parking is shown in a more convenient location that is more central to the complex as well as being a larger footprint so as to accommodate high-trafficked events such as tournaments. This also improves navigation to the site as all facilities related to the site are now concentrated into one area.

Overlook Park:

The recommended parking areas at Overlook are also concentrated around the highest-use ball fields to ensure minimal travel and to provide clear access routes across the complex. As Overlook Park is a larger complex that is divided by an arterial road, vehicle access should be considered for both portions of the complex (north and south).

The design recommends that there are more defined entrances to both parts of the complex, so that there is a greater ease of connection between them. The framework plan also proposed the redevelopment of several of the existing parking areas so that parking aisles are more clearly organized and capable of holding a greater quantity of vehicles. There is an addition of a larger, main parking area in the northern section of the complex adjacent to Virchow field. This proposed parking area creates a centralized parking location that has clear and accessible access to the new plaza area and a majority of the adjacent fields.

While it is recommended that many of the existing parking areas remain in place, the design captures how to make improvements to optimize the functionality of vehicle usability throughout the space. Navigation within the site should also become easier as the improvements listed above are made, due to the simplified connectivity of the design. It is recommended that improved signage be included in the implementation so that further improvements to navigation can be made.

5.6 Accessibility

Site improvements and updates to the existing facilities should consider accessibility to ensure an equitable site experience for all users. An equitable space should include experiences of inclusivity, safety, and comfort for all users, regardless of physical ability. Based on the review of the Site Accessibility Evaluation document, as well as in the fieldwork performed in 2024, neither complex in its current state is equipped to meet the appropriate performance standards for accessibility as defined by the Americans with Disabilities Act (ADA).

By updating the facilities with enhancements recommended in the framework plans as well as the recommendations included in the Site Accessibility Evaluation, it is possible to not only meet legal requirements and ADA standards but also to demonstrate a commitment to embracing universal design principles and facilitating a shared user experience. This promotes a more welcoming environment that supports a diverse range of visitors, no matter the size or type of event.

Los Alamos County considers making accessible improvements to both complexes an immediate need. The proposed recommendations are therefore outlined in both short-term and long-term improvements so as to make this goal more tangible. For a deeper understanding and to compare short-term recommendations along with long-term recommendations, refer to the phasing plan and cost estimates provided in Section 6 of this report.

Making each complex more accessible cannot be done without also considering the proper site work necessary to make these improvements possible. A study of both drainage and grading techniques have been considered in the layout of the framework plans to make sure the plans are plausible and to give a big picture approach to how fields might be relocated and where accessible ramps and pedestrian access paths will most likely be needed. For the purpose of this report, a limited study of grading and drainage was conducted. For future site design it is recommended that a complete grading and drainage plan be provided.

North Mesa Sport Complex:

The short-term recommendations for accessibility improvements at North Mesa aim to improve the existing site layout without the realignment of fields. Some of the recommendations include the regrading of existing parking areas and providing designated accessible parking stalls with appropriate surfacing and signage, providing sidewalk connections between parking areas, fields, restrooms, and access to drinking fountains, improving site furnishings including access ramps to bleachers that are ADA compliant, and updating light fixtures on fields that have existing lighting infrastructure.

The short-term recommendations will involve some necessary site work to ease transitions between higher and lower field areas. It is recommended that accessible ramps and walkways be provided between all field areas where grade changes are not ADA compliant.

The long-term recommendations for accessibility improvements refer to the proposed framework plan. By adjusting the layout of the complex through field realignments and facility updates, the design provides a consistent and lasting outline to achieve an accessible complex. Some of the recommendations featured in the framework plan include accessible pedestrian walkways between re-graded and existing field areas, accessible ramps at all entrances and site transitions, designated accessible parking stalls with appropriate surfacing and signage in all parking areas, providing sidewalk connections between parking areas, fields, restrooms, and access to drinking fountains, and improving access to site furnishings in all field areas (dugouts, bleachers, and plaza). It is also recommended that all future playground facilities and site furnishings be selected with accessible user access in mind.

In order to make the desired site accessibility improvements, the framework plan considers the grading adjustments necessary to re-align several major field areas. The grading study considered preserving as many fields in their existing locations and elevations as possible, however, many of the fields will need to change in elevation in order to make cleaner connections throughout the framework plan. Both Minor field and the T ball field are recommended to change in elevation, most likely decreasing in grade, so as to be in closer proximity to the existing elevations of both Lou Caveglia and Senior fields. Similarly, it is recommended the Bun Ryan raise in elevation to become more easily accessible to both adjacent parking areas as well as the adjacent Bomber field.

It is also recommended that the elevation of all major parking areas be considered so that any ramp or sidewalk connections needed to transition between parking and various program areas on site can be accessible pedestrian corridors.

Overlook Park:

The short-term recommendations for accessibility improvements at Overlook aim to improve the existing site layout without the realignment of fields. Some of the recommendations include the regrading of existing parking areas and providing designated accessible parking stalls with appropriate surfacing and signage, providing sidewalk connections between parking areas, fields, restrooms, and access to drinking fountains, improving site furnishings including access ramps to bleachers that are ADA compliant, and updating light fixtures on fields that have existing lighting infrastructure.

Due to the layout of the property at Overlook Park, which is divided by an arterial road and features significant elevation changes across the site, the short-term recommendations will involve necessary site work to ease transitions between higher and lower field and/or parking areas. It is recommended that accessible ramps and walkways be provided between all field areas where grade changes are not ADA compliant.

The long-term recommendations for accessibility improvements refer to the proposed framework plan. Significant site work is required to achieve the reconfiguration, field realignments, and to make the appropriate accessibility improvements that have been proposed.

Some of the recommendations in the framework plan include accessible pedestrian walkways and corridors in multiple centralized locations (North and South areas) that provide connectivity between parking areas and all fields and facilities, new defined parking areas with designated accessible parking stalls with appropriate surfacing and signage, improved existing parking areas with designated accessible parking stalls and appropriate surfacing and signage, pedestrian accessible ramps at all entrances and site transitions, and improving access to site furnishings in all field areas (dugouts, bleachers, plazas), and lighting improvements for all fields except for Minor B field. It is also recommended that all future playground facilities and site furnishings be selected with accessible user access in mind.

In order to make the desired site accessibility improvements, the framework plan considers the grading adjustments necessary to re-align several major field areas between the two areas of the complex (North and South). The grading study considered preserving as many fields in their existing locations and elevations as possible, however, many of the fields will need to change in elevation in order to make more accessible connections throughout the framework plan.

Beginning in the western portion of the complex, it is recommended that fields Minor B and Hope remain in place without change in grade. A reoriented Byers field should have minimal grade changes appropriate for standard field drainage (1-2%) and to maintain connectivity to Overlook Rd and adjacent fields. Virchow field and X Lovato will need significant grade changes to meet the existing road plane, adjacent fields, and to accommodate the extension of X Lovato's field size into a larger field.

South of Overlook Rd. in the other western portion of the complex, it is recommended that fields Spirio and Field 3 remain in place without change in grade. Fields 1 and 2 should have minimal grade changes appropriate for standard field drainage (1-2%) and to lessen the transition between fields 1-3 and the lower parking area. It is recommended that Dara Jones field and the adjacent parking area have significant elevation changes to ease the transition between fields 1-3 and Dara Jones. The proposed dog park should use the existing grades to its advantage in creating a more dynamic area while also providing a barrier to the adjacent proposed site programming.

5.7 Co-Location of Facilities

The ability to have sport fields co-located at a singular location improves the user experience for both athletes and parents. Having field access for high school JV and Varsity teams to both softball and baseball fields reduces transportation time for parents who may have youth athletes in multiple sports who might otherwise have to split time between two complexes, and it also encourages more flexibility in field use.

North Mesa Sport Complex:

The proposed design for the North Mesa Sports Complex features extended field sizes which allows for more flexibility and meets the co-locating capabilities for softball and baseball JV/Varsity teams.

Overlook Park:

The proposed design for Overlook Park features extended field sizes which allows for more flexibility and creates co-locating capabilities for soccer, lacrosse, basketball, softball and baseball JV/Varsity teams. The facility also allows for co-locating adult leagues with youth sports, for participants who may be athletes with athlete children, such as adult softball with youth lacrosse.

5.8 Alternative Energy and Technology

To meet evolving transportation trends and sustainability goals, it is recommended that the complex should hold space for alternative energy transit needs such as EV parking. Providing dedicated electric vehicle charging stations encourages eco-friendly travel and supports guests who drive electric vehicles. Strategically located EV parking also enhances the site's appeal and accessibility for a broader, future-focused audience.

It is recommended that future planning and design of EV parking meets specific requirements, including adequate electrical infrastructure, compliance with ADA guidelines, and clear signage. Future compatibility with emerging charging technologies should also be considered, so that the needs of the community can remain adaptable as EV adoption grows.

It is also recommended that potential solar technology opportunities be considered when selecting improved site features for the complex. Solar enhancements can be added as fixtures to modern irrigation technology, modern lighting technology, and can also be added in the form of solar panels to the surface of structures, which can contribute to electricity demands across the site.

Providing accessible WIFI at both complex facilities should be included in any future updates, due to the WIFI requirements for modern technology that enables the use of mobile/automated control for both irrigation and lighting components.

North Mesa Sport Complex:

The proposed layout includes 4 EV parking spaces that are located within the primary parking area. It is also recommended the all new shade structures and other new buildings have solar panels installed to improve the sites performance from a sustainability perspective. All irrigation equipment should also consider a solar controller for optimum savings.

Overlook Park:

The proposed layout includes 4 EV parking spaces that are located within the primary parking area. It is also recommended the all new shade structures and other new buildings have solar panels installed to improve the sites performance from a sustainability perspective. All irrigation equipment should also consider a solar controller for optimum savings.

5.9 Maintenance Demands and Staffing Requirements

Based on input from industry experts, parks and recreation professionals, and school district facility managers, the general consensus is that a natural turf athletic field can sustainably support no more than 20 hours of play per week during optimal growing conditions. This assumes periods without recent rain or snow, minimal drought stress, and an adequate maintenance budget and equipment resources.

Maintaining a typical 80,000-square-foot natural turf field (roughly the size of a football or soccer field) at high standards requires the equivalent of one full-time maintenance staff member performing approximately eight hours of work per day, five days a week. This includes tasks such as mowing, fertilizing, irrigating, adjusting and repairing systems, managing weeds and pests, overseeding, aerating, edging, and topdressing.

These labor demands increase significantly—by an estimated 40–50%—for fields that include "skinned" infields and warning tracks, which require additional tasks such as dragging and raking, watering, re-shaping mounds and batter's boxes, and maintaining infield lips.

Given these benchmarks and the current staffing of two full-time and four part-time staff members, the following table displays how recommended staffing needs scale by turf type:

Table 5.2: Staffing Needs by Turf Type

Facility	Fields	Estimated Staff – Natural Turf	Estimated Staff – Synthetic Turf
North Mesa Sports Complex	6 softball/baseball fields + 1 soccer field	~10 full-time staff	2–3 full-time staff
Overlook Park	9 softball/baseball fields + 4 soccer fields	~16 full-time staff	4–5 full-time staff

For comparison, RGCU Field at Isotopes Park in Albuquerque employs four full-time groundskeepers, with staff levels doubling on game days. The field is a high-performance facility constructed with an advanced drainage mat and a 92% sand-based growing medium—allowing precision management of water and nutrients. However, such systems cost nearly 15 times more than a standard soil-based field and are not open to the public, limiting hours of use and strictly controlling activity types.

It's also important to note that field maintenance responsibilities extend beyond County staff. User behavior significantly affects field longevity and safety. This includes proper footwear selection (e.g., metal cleats on skinned areas, rubber cleats on turf), pet waste management, and refraining from use during saturated or excessively hot conditions. For natural grass, metal cleats can tear grass at the roots, while for synthetic turf, they can damage the backing system. Rubber cleats generally perform better across synthetic surfaces and reduce surface wear.

5.10 Management and Scheduling

General management recommendations for the Los Alamos County sports complexes address climate and seasonal constraints, turf-specific care, supporting facility upkeep, equipment utilization, labor management, event coordination, and budget planning. Together, these practices ensure the long-term safety, playability, and sustainability of both natural and synthetic turf facilities.

Climate and Seasonal Constraints

Los Alamos's climate imposes distinct seasonal limitations on field use and maintenance. Turf surfaces enter dormancy from late October through early May, restricting natural grass fields during these months. At North Mesa, snow removal will be a recurring requirement for parking lots, roadways, and pedestrian access. For synthetic turf, snow should not be allowed to accumulate, and specialized equipment is required to clear fields without damaging the surface.

The spring thaw often delays field openings until soil and surface conditions are firm enough to support safe play and equipment use. Thawing may also cause surface heaves or irregularities in turf, trails, and pavements, necessitating localized repairs. Peak growing conditions for natural turf occur during the summer months of June through September, when fields require intensive mowing, irrigation, fertilization, and infield care. In the fall, irrigation systems must be winterized and fields prepared for closure. Fertilization and overseeding during this period are critical to strengthen turf health and promote recovery heading into dormancy.

Turf Maintenance Schedules

Maintenance requirements differ significantly between natural and synthetic turf fields. Natural grass requires regular mowing from May through September, typically one to three times per week depending on growth. Aeration is conducted in spring and fall, while overseeding is recommended in late summer or early fall. Fertilization should occur three times annually—during spring start-up, mid-summer, and again in fall as part of winterization. Irrigation schedules must be closely managed to align with weather conditions, and weed, pest, and disease control should be applied as needed. Baseball and softball fields also require consistent infield dragging and leveling after play.

Synthetic turf fields demand less frequent but specialized care. Brushing and grooming should occur monthly or after periods of heavy use, with additional attention given to redistributing or topping up infill in high-wear areas such as goal mouths, lacrosse creases, and base paths. Regular seam inspections and minor repairs are necessary to maintain safe play conditions. Debris should be removed promptly after events or storms to prevent contamination of the surface.

Other Complex Facilities
In addition to turf maintenance, the broader sports complexes require year-round facility care. Roadways and parking lots must be plowed in winter and undergo crack sealing, surface repairs, drainage work, and pothole filling during the summer. Trails and gravel paths require grading and leveling after snowmelt or heavy rains, along with weed control and occasional gravel topdressing. Playgrounds should be inspected annually, with surfacing top-dressed as needed and fasteners or connections repaired prior to peak summer use.

Sports lighting requires regular inspections and bulb replacement, as well as timer adjustments for daylight savings time. Landscaping care includes pruning trees and shrubs in late winter or early spring, mulching and planting during summer, and weed control and litter removal throughout the year. Irrigation systems should be activated in spring, winterized in fall, and regularly monitored for leaks or failures.

Equipment Utilization and Scheduling
Efficient use of equipment is critical to the long-term care of both natural and synthetic turf. Essential machinery includes seeders, spreaders, aerators, mowers, levelers, tillers, and rotary cutters. These tools must be deployed on seasonal schedules that align with turf care needs. Preventive servicing should be completed prior to spring deployment and again before fall storage to ensure reliability.

Labor and Crew Management
Seasonal hiring is necessary to meet the peak demands of summer maintenance. Staff should be cross-trained to perform tasks for both natural and synthetic turf systems, ensuring flexibility in scheduling and reducing reliance on specialized crews. Crew rotations should be coordinated to balance workloads across complexes and align with event calendars.

Event Coordination
Maintenance scheduling must be carefully coordinated with sports programming. Mowing, grooming, and repair activities should be adjusted around games and tournaments to minimize disruptions. Where feasible, field rest and rotation schedules should be implemented to extend turf longevity. Quick-repair protocols should also be in place to address surface issues between scheduled events.

Budgeting and Resource Planning
Financial planning must account for both recurring and long-term needs. Budgets should include allocations for seed, fertilizer, infill, gravel, and other seasonal supplies, as well as costs for snow removal and spring recovery work. As new fields are added to the system, funding requirements will expand accordingly. Contingency reserves should be included to cover weather-related delays, emergency repairs, and other unexpected expenses.

At-a-Glance Management & Maintenance Schedule
The following seasonal calendar summarizes key management and maintenance activities for natural and synthetic turf fields, as well as supporting facilities, across Los Alamos County's sports complexes.

Table 5.3: At-a-Glance Management and Maintenance Schedule				
Task Category	Spring (Mar–May)	Summer (Jun–Aug)	Fall (Sep–Nov)	Winter (Dec–Feb)
Natural Turf Fields	Aeration; Overseeding; Fertilization; Irrigation start-up; Mowing begins	Peak mowing (1–3x/ week); Irrigation; Fertilization; Infield dragging	Aeration; Overseeding; Fertilization; Irrigation winterization	Dormant; No field use
Synthetic Turf Fields	Brushing/grooming; Infill top-ups; Seam inspection	Brushing/grooming (monthly); Infill top-ups after heavy use; Debris removal	Brushing/grooming; Infill redistribution; Seam inspection	Year-round use; Snow removal with specialized equipment; Grooming as needed
Roadways & Parking Lots	Crack sealing; Surface repairs	Drainage repairs; Pothole filling	Surface inspections; Prepare for snow season	Snow plowing; Ice management
Trails & Paths	Grading/leveling after thaw; Weed control	Gravel topdressing; Weed control	Grading after storms; Weed control	Snowmelt monitoring; Limited access
Playgrounds	Inspect structures; Repair fasteners; Topdress surfacing	Peak use; Ongoing inspections	Safety checks; Prep for winter	Low use; Structural inspections if accessible
Sports Lighting	Inspection; Timer adjustment for DST	Routine inspection; Bulb replacement	Inspection; Timer adjustment for DST	Minimal use; Preventive maintenance
General Landscaping	Tree/shrub pruning; Mulching; Planting	Bed maintenance; Weed control; Litter removal	Mulching; Leaf cleanup; Winter prep	Dormant; Litter removal as needed
Equipment	Service and prep for season	Peak use; Ongoing maintenance	End-of-season service; Prep for storage	Stored; Preventive maintenance
Labor & Crew	Seasonal hiring; Cross-training	Peak staffing; Crew rotations	Adjust staffing; Prep for off-season	Minimal staff; Snow/ ice crews only

Table 5.4: Summary of Study Recommendations		
Recommendations	North Mesa Sports Complex	Overlook Park
Artificial Turf	Synthetic turf for high-use fields. Recommended installation for Bomber field and Lou Caveglia field. Synthetic turf product: Recycled tufted turf with a resilient recycled infill (cooling effect optional), permeable cradle to cradle pad, with a gopher resistant wire mesh installed at the turf foundation.	Synthetic turf for high-use fields. Recommended installation for Hope Field, X Lovato, and Dara Jones field. Synthetic turf product: Recycled turf with a resilient recycled infill (cooling effect optional), permeable cradle to cradle pad, with a gopher resistant wire mesh installed at the turf foundation.
Accessibility Improvements	Implement phased upgrades. **Short-term Goals:** Improved parking surfaces, ADA-compliant ramps, pedestrian connectivity, accessible site furnishings and updated lighting systems. **Long-term Goals:** field realignments, centralized accessible walkways, grade adjustments for accessibility, accessible site furnishings and Improved lighting systems.	Implement phased upgrades. **Short-term Goals:** Improved parking surfaces, ADA-compliant ramps, pedestrian connectivity, accessible site furnishings and updated lighting systems. **Long-term Goals:** field realignments, centralized accessible walkways, grade adjustments for accessibility, accessible site furnishings and Improved lighting systems.
Circulation and Vehicular Access	Concentrate parking near the highest-use fields, add a secondary access from San Ildefonso Rd., and relocate overflow parking to a central, larger footprint to improve access, navigation, and event capacity.	Enhance vehicle and pedestrian connectivity between the north and south areas with more defined entrances, reorganized and expanded parking layouts, and improved signage to optimize usability and navigation.
Lighting Systems	**Short-term goals:** Update existing lighting systems **Long-term goals:** Install new Light-Structure System with Total Light Control for Lou Caveglia, Senior, Bun Ryan, and Bomber fields, using shared poles to illuminate adjacent fields.	**Short-term goals:** Update existing lighting systems **Long-term goals:** Install new Light-Structure System with Total Light Control for Hope, Byers, X Lovato, Virchow, Fields 1-3, and Dara Jones, using shared poles to illuminate adjacent fields.
Field Maintenance	**Natural Turf:** Maintain natural fields through regular mowing, aeration, fertilization, seeding, and infield care for baseball/ softball, with more intensive mid-season top dressing to reduce compaction and promote healthy turf. **Artificial Turf:** Redistribute infill every 2–3 hours of play, weekly grooming, and routine debris removal to ensure consistent performance and longevity.	**Natural Turf:** Maintain natural fields through regular mowing, aeration, fertilization, seeding, and infield care for baseball/ softball, with more intensive mid-season top dressing to reduce compaction and promote healthy turf. **Artificial Turf:** Redistribute infill every 2–3 hours of play, weekly grooming, and routine debris removal to ensure consistent performance and longevity.

Table 5.4: Summary of Study Recommendations		
Recommendations	North Mesa Sports Complex	Overlook Park
Renewable Energy Technology	Provide 4 EV parking spaces in the primary lot, incorporate solar panels on all new shade structures and buildings, and equip irrigation systems with solar controllers to enhance sustainability and future adaptability.	Provide 4 EV parking spaces in the primary lot, incorporate solar panels on all new shade structures and buildings, and equip irrigation systems with solar controllers to enhance sustainability and future adaptability.
Amenities and Enhancements	Provide new restrooms, a concessions/ equipment facility, playground with shade, pedestrian seating, EV and ADA parking, food truck and bus zones, batting cages, dugouts, player benches, bleachers with shade, announcer booths, and maintenance/equipment sheds	Provide new restrooms, a concessions facility, playground with shade, pedestrian seating, perimeter walking trail, EV and ADA parking, food truck and bus zones, batting cages, dugouts, player benches, bleachers with shade, announcer booths, equipment sheds, and basketball courts
Realignment of Fields	Reorient Minor, T-ball, Lou Caveglia, and Senior fields into a clover-leaf layout with enlarged field sizes, and provide centralized pedestrian areas between fields.	Reorient Byers and X Lovato fields with expanded field sizes, create a larger central parking area, centralized pedestrian corridors, and relocate the dog park and training areas to reduce user conflicts.
Artificial Field Player Equipment	Athletes must use artificial-turf-appropriate shoes with rubber or soft plastic cleats instead of metal cleats.	Athletes must use artificial-turf-appropriate shoes with rubber or soft plastic cleats instead of metal cleats.
Artificial Field Equipment	Maintain artificial turf using sweepers and groomers every 1–2 weeks, with targeted infill redistribution in high-use areas, supported by an appropriate utility vehicle.	Maintain artificial turf using sweepers and groomers every 1–2 weeks, with targeted infill redistribution in high-use areas, supported by an appropriate utility vehicle.

SECTION 6
COST ESTIMATES & PHASING

SECTION 6 COST ESTIMATES & PHASING

Recommendations for site improvements at both sports field complexes can be better understood using a cost comparison perspective. The costs provided include both a Base Cost and Phased Cost approach so as to balance immediate needs with long-term goals. The Base Cost reflects the investment required to address essential upgrades from an accessibility perspective, which would ensure that existing facilities are safe, functional, and meet current performance standards defined by the American with Disabilities Act.

The Phased Costs include a breakdown of the investment required to meet accessibility improvements as well as other site improvements such as field re-alignments and other site enhancements outlined in the proposed framework plans. Due to the higher cost items included in the framework plan, these costs are recommended to be implemented in stages as the funding, community priorities, and usage demands permit it. Both methods allow for a clear financial outline to ensure resource allocation for the proposed improvements.

It is assumed that for each complex, project construction costs will start no sooner than 3 years from preparation date (2028 starting cost). Due to some data limitations for existing field conditions and utilities, for the purpose of this report these costs should be considered as probable and not definite.

6.1 Base Costs

The following costs represent the minimal and base cost elements required to make improvements at both complexes that highlight improved accessibility as well as field connectivity improvements. When reviewing the base costs, it assumed that all existing fields will remain in place in their current configuration, and will have a new field surface renovation for each field by the year 2027, which is included in the overall cost. Other improvements include accessible furnishings at or around fields, hardscaping between fields for improved connectivity, and lighting improvements for fields with existing lighting infrastructure.

Table 6.1: North Mesa Complex – Base Costs

OPINION OF PROBABLE COSTS FOR CURRENT FIELD CONFIGURATION

Item Description	Quantity	Unit	Unit Price	Total
CONSTRUCTION MOBILIZATION, STAKING				*$400,000.00*
PARKING LOTS - REGRADING AND ACCESSIBLE PARKING				*$800,000.00*
GRADING, DRAINAGE, HARDSCAPING, ELECTRICAL				*$1,850,000.00*
GEOTECH				*$50,000.00*
DESIGN/CA FEES				*$1,063,900.00*
SYNTHETIC TURF FIELD 1 (no irrigation)				*$1,520,000.00*
Lou Caveglia (Softball/Little league Field) w/ lighting updates	1	LS	$1,520,000.00	$1,520,000.00
SYNTHETIC TURF FIELD 2 (no irrigation)				*$1,570,000.00*
Bomber (Softball/Little league Field) w/ lighting updates	1	LS	$1,570,000.00	$1,570,000.00
NATURAL TURF FIELD 1				*$951,720.00*
Senior (high school field) w/ lighting updates	1	LS	$951,718.00	$951,720.00
NATURAL TURF FIELD 2				*$745,040.00*
Bun Ryan(Softball/little league field) w/ lighting updates	1	LS	$745,035.00	$745,040.00
NATURAL TURF FIELD 3				*$625,000.00*
Minor field (little leaugue)	1	LS	$625,000.00	$625,000.00
NATURAL TURF FIELD 4				*$398,651.00*
Tball field (tball)	1	LS	$398,651.00	$398,651.00
STRUCTURES - ACCESSIBLE BATHROOM				*$75,000.00*
	1	LS	$75,000.00	$75,000.00
SITE FURNITURE - ADA PICNIC TABLES				*$25,000.00*
	1	LS	$25,000.00	$25,000.00
SUBTOTAL				$10,074,311.00
35% Contingency				$3,526,009.00
GRT 7.07%				$961,543.00
TOTAL COST AT 2028 START DATE				$16,380,115.46
5 YEAR COST AT 4% CPI INCREASE				$19,928,914.98
10 YEAR COST AT 4% CPI INCREASE				$29,499,577.11

Table 6.2: Overlook Complex – Base Costs

OPINION OF PROBABLE COSTS FOR CURRENT FIELD CONFIGURATION

Item Description	Quantity	Unit	Unit Price	Total
CONSTRUCTION MOBILIZATION, STAKING				**$800,000.00**
PARKING LOTS - REGRADING AND ACCESSIBLE PARKING AREAS				**$1,040,000.00**
GRADING, DRAINAGE, HARDSCAPING, ELECTRICAL				**$2,150,000.00**
GEOTECH				**$80,000.00**
DESIGN/CA				**$2,124,045.00**
SYNTHETIC TURF FIELD 1 (no irrigation)				**$1,495,000.00**
Hope (Softball/Little league Field) w/ lighting	1	LS	$1,495,000.00	$1,495,000.00
SYNTHETIC TURF FIELD 2 (no irrigation)				**$1,545,000.00**
X-Lovato (Softball/Little league Field) w/ ada furnishings and lighting	1	LS	$1,545,000.00	$1,545,000.00
SYNTHETIC TURF FIELD 3 (no irrigation)				**$1,500,000.00**
Dara Jones (Soccer Field) w/ ada furnishings	1	LS	$1,500,000.00	$1,500,000.00
NATURAL TURF FIELD 1				**$592,180.00**
Virchow (high school baseball field) re-aligned w/ ada furnishings/lighting (assumes existing field improvements)	1	LS	$592,180.00	$592,180.00
NATURAL TURF FIELD 2				**$640,340.00**
Byers (Softball/little league field) re-aligned w/ ada furnishings/lighting (assumes existing field improvements)	1	LS	$640,339.00	$640,340.00
NATURAL TURF FIELD 3				**$388,660.00**
Minor B (little league) w/ ada furnishings (assumes existing field improvements)	1	LS	$388,651.00	$388,660.00
NATURAL TURF FIELD 4				**$318,670.00**
Field 1 (baseball/softball) w/ada furnishings (assumes existing field improvements)	1	LS	$318,666.00	$318,670.00
NATURAL TURF FIELD 5				**$325,750.00**
Field 2 (baseball/softball) w/ada furnishings (assumes existing field improvements)	1	LS	$325,742.00	$325,750.00
NATURAL TURF FIELD 6				**$304,200.00**
Field 3 (baseball/softball) w/ada furnishings (assumes existing field improvements)	1	LS	$304,191.00	$304,200.00
NATURAL TURF FIELD 7				**$301,800.00**
Spirio Field (soccer field/events) w/ ada furnishings (assumes existing field improvements)	1	LS	$301,798.00	$301,800.00
STRUCTURES - 2 ACCESSIBLE BATHROOMS				**$150,000.00**
SITE FURNITURE - ADA PICNIC TABLES				**$24,650.00**
SUBTOTAL				$13,780,295.00
35% Contingency				$4,823,103.25
GRT 7.07%				$1,315,261.00
TOTAL COST AT 2025 START DATE				$22,804,136.38
5 YEAR COST AT 4% CPI INCREASE				$27,744,718.73
10 YEAR COST AT 4% CPI INCREASE				$33,754,610.97

6.2 Phased Costs

The following costs represent the investment required to achieve the recommendations and improvements outlined in the framework plans for each complex. The phases have been divided between a total cost sum of approximately 5 million dollars so as to outline a strategy for implementation. Furthermore, both a 5-year and 10-year cost are included for each phase to account for a change in price over time.

The phasing recommendations thoughtfully consider both grading and demolition construction costs so as to maximize efforts while reducing loss of site access by co-locating a phased area as much as possible. Cost elements required to make improvements at both complexes highlight the proposed re-alignments of fields and adjacent hardscape plazas, site connectivity, parking improvements, as well as improved accessability features and other site enhacements. Costs included in field improvements consider field furnishings that are ADA-compliant as well as lighting improvements, fencing, and field surfacing if it is a field that has been re-aligned. It should be assumed that if a field is to remain in place, the existing surface renovations that are to be completed by the year 2027 are included in the overall cost.

NORTH MESA RECREATION AREA
PHASING PLAN

Table 6.3: North Mesa Recreation Area – Phased Reconfiguration Costs

OPINION OF PROBABLE COSTS FOR PHASED FRAMEWORK RECONFIGURATION PLAN

PHASE 1 - INITIALIZATION, BASEBALL INFRASTRUCTURE AND SOME PARKING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$100,000.00
SITE DEMO, DRAINAGE, AND GRADING				$800,000.00
PARKING AND HARDSCAPE				$600,000.00
SYNTHETIC TURF FIELD				$1,420,000.00
Lou Caveglia re-aligned w/ lighting updates	1	LS	$1,420,000.00	$1,420,000.00
NATURAL TURF FIELD				$500,000.00
Tball field (tball)	1	LS	$500,000.00	$500,000.00
SUBTOTAL				$3,120,000.00
35% Contingency				$1,092,000.00
GRT 7.07%				$220,584.00
TOTAL COST AT 2028 START DATE				$4,986,054.17
5 YEAR COST AT 4% CPI INCREASE				$6,066,297.24
10 YEAR COST AT 4% CPI INCREASE				$8,979,575.84

PHASE 2 - BASEBALL INFRASTRUCTURE AND HARDSCAPING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$50,000.00
SITE DEMO, DRAINAGE, AND GRADING				$450,000.00
PARKING AND HARDSCAPE				$200,000.00
NATURAL TURF FIELD				$1,700,000.00
Senior (high school field) re-aligned w/ lighting updates	1	LS	$1,700,000.00	$1,700,000.00
NATURAL TURF FIELD				$920,000.00
Minor (Softball/Little league Field) re-aligned w/ lighting updates	1	LS	$920,000.00	$920,000.00
SUBTOTAL				$3,320,000.00
35% Contingency				$1,162,000.00
GRT 7.07%				$234,724.00
TOTAL COST AT 2028 START DATE				$5,308,673.03
5 YEAR COST AT 4% CPI INCREASE				$6,455,162.47
10 YEAR COST AT 4% CPI INCREASE				$9,555,189.70

PHASE 3 - BASEBALL INFRASTRUCTURE AND HARDSCAPING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$100,000.00
SITE DEMO, DRAINAGE, AND GRADING				$725,000.00
PARKING AND HARDSCAPE				$800,000.00
SYNTHETIC TURF FIELD 2 (no irrigation)				$1,550,000.00
Bomber (Softball/Little league Field) re-aligned w/ lighting updates and accessible site furniture/dugouts	1	LS	$1,550,000.00	$1,550,000.00
SUBTOTAL				$3,175,000.00
35% Contingency				$1,111,250.00
GRT 7.07%				$224,473.00
TOTAL COST AT 2028 START DATE				$5,073,949.92
5 YEAR COST AT 4% CPI INCREASE				$6,173,235.88
10 YEAR COST AT 4% CPI INCREASE				$9,137,870.68

PHASE 4 - SOFTBALL FIELD, EXTRA ENHANCEMENTS AND OVERFLOW PARKING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$100,000.00
SITE DEMO, DRAINAGE, AND GRADING				$400,000.00
HARDSCAPE				$300,000.00
SITE FURNITURE - EXTRA ENHANCEMENTS				$1,000,000.00
LANDSCAPE ENHANCEMENTS				$150,000.00
NATURAL TURF FIELD				$720,040.00
Bun Ryan (Softball/Little league Field) re-aligned w/ lighting updates	1	LS	$720,035.00	$720,040.00
SUBTOTAL				$2,670,040.00
35% Contingency				$934,514.00
GRT 7.07%				$254,842.00
TOTAL COST AT 2028 START DATE				$4,341,295.62
5 YEAR COST AT 4% CPI INCREASE				$5,281,849.91
10 YEAR COST AT 4% CPI INCREASE				$7,818,405.51

OVERLOOK PARK RECREATION AREA
PHASING PLAN

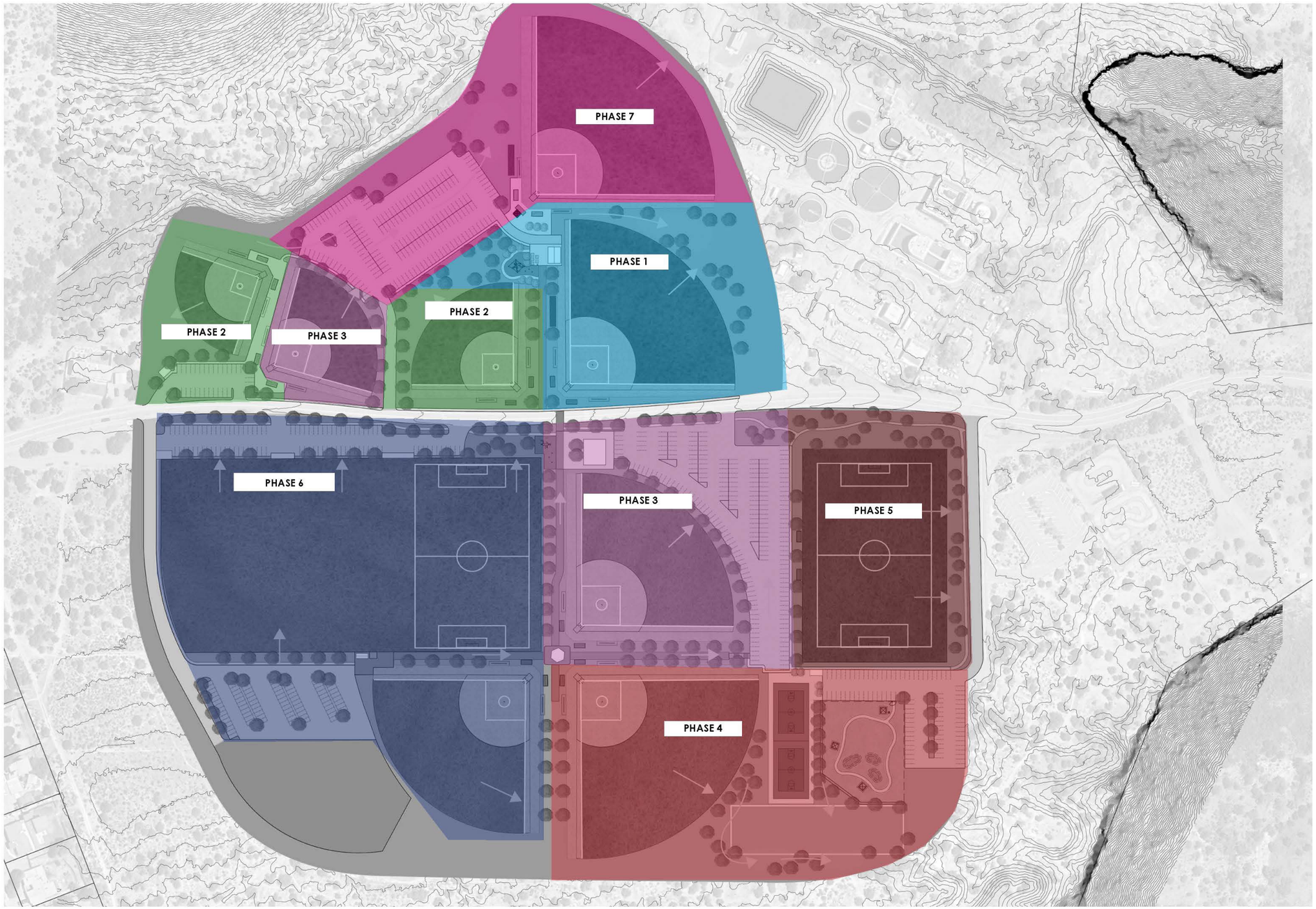

Table 6.4: Overlook Park Recreation Area – Phased Reconfiguration Costs

OPINION OF PROBABLE COSTS FOR PHASED FRAMEWORK RECONFIGURATION PLAN

PHASE 1 - INITIALIZATION, BASEBALL INFRASTRUCTURE AND SOME PARKING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$1,200,000.00
SITE DEMO, DRAINAGE, AND GRADING				$300,000.00
SYNTHETIC TURF FIELD 1 (no irrigation)				$1,545,000.00
X Lovato (Adult Softball) w/ lighting updates	1	LS	$1,545,000.00	$1,545,000.00
SUBTOTAL				$3,045,000.00
35% Contingency				$1,065,750.00
GRT 7.07%				$290,631.00
TOTAL COST AT 2028 START DATE				$4,950,955.04
5 YEAR COST AT 4% CPI INCREASE				$6,023,593.80
10 YEAR COST AT 4% CPI INCREASE				$8,916,364.49

PHASE 2 - BASEBALL INFRASTRUCTURE AND SOME PARKING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$500,000.00
SITE DEMO, DRAINAGE, AND GRADING				$900,000.00
PARKING AND HARDSCAPE				$300,000.00
Natural Turf Field				$795,000.00
Byers (Softball/little league field) re-aligned w/ lighting updates and accessible site furniture/dugouts and irrigation	1	LS	$795,000.00	$795,000.00
Natural Turf Field				$388,660.00
Minor B (Little League field) accessible site furniture/dugouts w/ irrigation	1	LS	$388,651.00	$388,660.00
SUBTOTAL				$2,883,660.00
35% Contingency				$1,009,281.00
GRT 7.07%				$275,231.00
TOTAL COST AT 2028 START DATE				$4,688,626.63
5 YEAR COST AT 4% CPI INCREASE				$5,704,431.18
10 YEAR COST AT 4% CPI INCREASE				$8,443,927.22

PHASE 3 - BASEBALL INFRASTRUCTURE AND SOME PARKING

Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$500,000.00
SITE DEMO, DRAINAGE, AND GRADING				$500,000.00
PARKING AND HARDSCAPE				$600,000.00
Synthetic Turf Field (no irrigation)				$1,200,000.00
Hope (Softball/Little league Field) w/ lighting updates	1	LS	$1,200,000.00	$1,200,000.00
NATURAL TURF FIELD				$318,670.00
Field 1 (high school softball field) re-aligned w/ lighting updates and accessible site furniture/dugouts w/ irrigation	1	LS	$318,666.00	$318,670.00
SUBTOTAL				$3,118,670.00
35% Contingency				$1,091,534.50
GRT 7.07%				$297,662.00
TOTAL COST AT 2028 START DATE				$5,070,736.74
5 YEAR COST AT 4% CPI INCREASE				$6,169,326.56
10 YEAR COST AT 4% CPI INCREASE				$9,132,083.95

PHASE 4- BASEBALL INFRASTRUCTURE AND SOME PARKING				
Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$500,000.00
SITE DEMO, DRAINAGE, AND GRADING				$400,000.00
PARKING AND HARDSCAPE				$400,000.00
Dog Park and Basketball Courts				*$200,000.00*
NATURAL TURF FIELD				*$1,500,000.00*
Field 2 (high school softball field) re-aligned w/ lighting updates and accessible site furniture/dugouts	1	LS	$1,500,000.00	$1,500,000.00
SUBTOTAL				$3,000,000.00
35% Contingency				$1,050,000.00
GRT 7.07%				$286,335.00
TOTAL COST AT 2028 START DATE				$4,877,787.13
5 YEAR COST AT 4% CPI INCREASE				$5,934,573.86
10 YEAR COST AT 4% CPI INCREASE				$8,784,593.61

PHASE 5- BASEBALL INFRASTRUCTURE AND HARDSCAPE				
Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$700,000.00
SITE DEMO, DRAINAGE, AND GRADING				$400,000.00
PARKING AND HARDSCAPE				$250,000.00
Synthetic Turf Field				*$1,695,000.00*
Dara Jones (Soccer Field)	1	LS	$1,695,000.00	$1,695,000.00
SUBTOTAL				$3,045,000.00
35% Contingency				$1,065,750.00
GRT 7.07%				$290,631.00
TOTAL COST AT 2028 START DATE				$4,950,955.04
5 YEAR COST AT 4% CPI INCREASE				$6,023,593.80
10 YEAR COST AT 4% CPI INCREASE				$8,916,364.49

PHASE 6- BASEBALL INFRASTRUCTURE AND HARDSCAPE				
Item Description	Quantity	Unit	Unit Price	Total
SITE UTILITY INFRASTRUCTURE				$300,000.00
SITE DEMO, DRAINAGE, AND GRADING				$800,000.00
PARKING AND HARDSCAPE				$600,000.00
Natural Turf Field				*$800,000.00*
Spirio Field (soccer field/events)	1	LS	$800,000.00	$800,000.00
Natural Turf Field				*$600,000.00*
Field 3 (baseball/softball)	1	LS	$600,000.00	$600,000.00
SUBTOTAL				$3,100,000.00
35% Contingency				$1,085,000.00
GRT 7.07%				$295,880.00
TOTAL COST AT 2028 START DATE				$5,040,380.60
5 YEAR COST AT 4% CPI INCREASE				$6,132,393.67
10 YEAR COST AT 4% CPI INCREASE				$9,077,414.41

PHASE 7- BASEBALL INFRASTRUCTURE AND HARDSCAPE				
Item Description	Quantity	Unit	Unit Price	Total
SITE DEMO, DRAINAGE, AND GRADING				$1,000,000.00
PARKING AND HARDSCAPE				$600,000.00
Natural Turf Field				*$842,180.00*
Virchow (high school baseball field) re-aligned w/ lighting updates	1	LS	$842,180.00	$842,180.00
SUBTOTAL				$2,442,180.00
35% Contingency				$854,763.00
GRT 7.07%				$233,094.00
TOTAL COST AT 2028 START DATE				$3,970,811.54
5 YEAR COST AT 4% CPI INCREASE				$4,831,099.38
10 YEAR COST AT 4% CPI INCREASE				$7,151,186.54

The costs provided aim to balance immediate compliance requirements with long-term community aspirations. Both the Base Cost and Phased Cost approach are meant to provide a clear path forward, considering both sports field complex recommendations in a fiscally smart manner.

While the presented costs are probable estimates that may be refined as additional site data becomes available, they offer a solid framework for budgeting and funding allocation. It is ultimately recommended that accessibility and safety needs are considered first, followed by enhancement improvements that can be implemented over time.

SECTION 7
CONCLUSIONS

CONCLUSIONS

The **Artificial Turf Feasibility Study** provides Los Alamos County with a comprehensive foundation for evaluating the future of athletic field improvements at the North Mesa Sports Complex and Overlook Park. Through an integrated process that combined field assessments, community engagement, and technical analysis, the study highlights the urgent need for infrastructure upgrades, strategic reconfiguration, and sustainable turf management.

Key findings confirm that while both complexes are valuable, well-used, and well-loved community assets, they each face significant maintenance and accessibility challenges that affect field safety, playability, and user experience. Natural turf fields, while valued by the community for their environmental and health benefits, are subject to overuse, water constraints, and maintenance limitations. Meanwhile, synthetic turf offers greater durability, extended seasonal use, and operational efficiency—but also raises concerns around environmental impact, upfront cost, and long-term disposal.

The conceptual framework plans developed for each site offer phased improvement strategies that respond directly to the County's resource capacity and community priorities. These phases begin with immediate ADA and infrastructure needs, continue with strategic field and circulation redesigns, and conclude with long-term amenities, turf conversions, and enhanced site functionality.

Ultimately, the study equips Los Alamos County with a clear, actionable roadmap that balances field performance, fiscal responsibility, community values, and sustainability goals. With thoughtful phasing and continued engagement, the County is well-positioned to transform these key recreational assets into inclusive, resilient facilities that serve the needs of current and future generations.

Los Alamos Youth Soccer League (LAYSL)

APPENDICES