San Ignacio Heights Street Maintenance Plan

A Roadmap for Uniform Pavement Maintenance

November 2026



San Ignacio Heights Subdivision Boundary and Streets.

EXECUTIVE SUMMARY ---------- Page 3

- General
- Findings
- Conclusions

INTRODUCTION ---------- Page 4

PAST STREET MAINTENANCE ACTIVITIES ---------- Page 5

SAN IGNACIO STREETS ---------- Page 6

- Table 1. San Ignacio Heights Street Inventory and Status as of January 2022

SAN IGNACIO HEIGHTS SURFICIAL GEOLOGY AND SOILS ---------- Page 7

FRANK CIVIL CONSULTING REPORT ---------- Page 9

SUMMARY of POTENTIAL REPAIR OPTIONS ----------Page 10

SIH MAINTENANCE PLAN---------- Page 12

ONGOING RISKS----------Page 12

CONCLUSION----------Page 12

REFERENCES----------Page 13

APPENDIX----------Page 13

EXECUTIVE SUMMARY

GENERAL

San Ignacio Heights is located in Green Valley AZ, an unincorporated community in Pima County. Each of the 80 subdivisions in Green Valley has an HOA. Many of these are responsible for street maintenance. Each HOA is represented by the Green Valley Council. It incorporated as an Arizona 501(c)(4) Corporation in 1973. The Council is an all-volunteer organization that serves as the community's "Civic Voice." It acts as Green Valley's liaison for governmental relations with local municipalities, the City of Tucson, Pima County, the State of Arizona, as well as Federal and Tribal governments.

San Ignacio Heights (SIH) was developed by Fairfield Homes beginning in 1990. The Community was constructed in four phases, with portions of the Community being built in 1990, 1991, 1992, and 1997. This makes the infrastructure, streets, sidewalks, sewer and water lines nearly 40 years old.

There are 159 homeowners in the subdivision. The subdivision is about 55 acres in size. There are about 20 acres of common areas. About 14 acres of common area are routinely maintained. There are about 2.3 miles of 26 feet wide streets and about 0.2 miles of 42 feet wide Desert Jewel. SIH does not own the first 700 feet of Desert Jewel off Camino Del Sol. Desert Jewel receives much traffic from San Ignacio Golf Estates, the development immediately to our south. There are about 65 two-foot sewer access points with manhole covers and about 65 water access covers and survey monuments 8-10 inches in size. These require special attention during street maintenance operations. Paving companies charge to lower, then raise and reset them when repaving.

FINDINGS

SIH streets were constructed by Fairfield Homes, the developer, at a time when standards and inspections were different in our, at the time, rural area. Minimal standards were required. There was only limited inspection by Pima County. The average life expectancy of an asphaltic concrete in this geographic region is approximately 25-35 years depending on how well they are maintained. SIH streets have been fairly well maintained. SIH streets were built on soils that are a good road base except where deep cuts were made. SIH streets are beyond their designed service life. Based on a detailed study reported on April 6, 2022 by Frank Civil Consulting **1/** most if not all of the streets should be milled and replaced with new asphalt. These findings are similar to those of other HOA's of similar age in Green Valley. In about 2019 Desert Hills II HOA completed a mill and replace with a special assessment for each of their 600 homeowners. Canoa Seca to our immediate north has homes built in 1988–1989-time frame. Canoa Seca is using a PolyChip overlay about every 10 years with a crack and fog seal every 5 years. If left untreated, asphalt will break up and fail completely to a surface with potholes and broken asphalt.

CONCLUSIONS

Based on finding SIH passed a special assessment of $500 on each household and Sunland completed a PolyChip overlay in 2026. Sunland did an impeccable job. This 2026 PolyChip Seal Overlay should extend the life of our original asphalt to 2036 with intermediate crack and seal. Based on the experience of other HOA's it may be acceptable to do another PolyChip seal in 2036 depending on how our streets hold up. The SIH Roads Committee believes that the HOA roads will eventually need to be completely replaced to the standard asphalt depth of 2.5 inches for streets and 3 inches for cul-de-sacs.

INTRODUCTION

Arizona is the sunniest state in the United States. In Tucson there are an average of 3852 hours of sunlight per year (of a possible 4383) with an average of 10 hours and 32 minutes of sunlight per day. All that sun and heat are the leading cause of deterioration for asphalt. This is not unlike the asphalt underlayment on the roofs of our homes. It also deteriorates, becomes brittle and leaks.

Asphalt concrete or hot mix asphalt is made up of specified crushed rock and sand (mineral aggregates), asphalt liquid binder and mineral fillers. The harsh UV rays of Arizona's sunshine erode the surface of asphalt. UV rays combine with oxygen in the air to create a chemical effect — or "oxidation" — on asphalt. Oxidation steadily breaks down the asphalt's binders (or the refined petroleum product that gives asphalt its spreadable, watertight features), which leads it to become brittle and disintegrate.

While the sun is-on the whole-damaging to asphalt, Arizona's sunny climate does have its benefits. In other climates that experience longer, colder winters, a continuous "freeze-thaw" temperature cycle can seriously damage asphalt. When temperatures regularly dip below freezing and rise again, ice and warm, expanding air can cause deep cracks in asphalt's surface. Arizona avoids this cycle which is good for asphalt's lifespan. However, because of the wide variation between daytime and night time temperatures in the desert, our asphalt is affected by these extreme fluctuations.

Seal coating asphalt acts as a form of sunscreen for asphalt. Arizona asphalt should be seal coated periodically. Seal coats provide a wearing surface to reduce the impact of sun and storm water and help to keep asphalt from becoming brittle and fills small cracks to keep water, dirt and debris out. Seal coating and chip seal can optimize the life of asphalt pavement when appropriately used.

Starting in mid-June and running through the end of September, Arizona's monsoon season brings heavy downpours. If an asphalt roadway is degraded enough these sudden intense rainfalls can erode damaged pavement and pond water, allowing water to infiltrate to the road base and causing it to lose its structural integrity. The base course becomes soft because of moisture and traffic loads cause the pavement to crack more and eventually break up. Where there are alligator cracks, when one piece of asphalt pops out of the matrix others quickly follow and a pothole forms.

Because of the dry, warm environment, asphalt can be laid during most of the year (temperatures 45 degrees and rising). However, because of hot summers and monsoon season, October through May are the best months to complete work. This is also the time when seasonal owners and renters and year-round residents are absent. However, May through July can also be the most expensive time to do work as contractors are solicited during those times when residents are absent.

As would be expected with changing board and committee members, San Ignacio Heights has had different types of pavement remediation over the last 30 plus years. This has created a lack of uniformity in pavement conditions.

The purpose of this plan is to provide "A Roadmap for Uniform Pavement Maintenance".

This plan is a living document, a blueprint that the HOA board, roads committee and homeowners use to maintain the roads that we own in common. This helps us maintain and protect the investment each homeowner has in our streets. It provides future boards and roads committees with baseline and

historical information on what has been done, when, where and why it was done and provides a basis for sound funding.

PAST STREET MAINTENANCE

Listed below are the major street maintenance projects conducted by the HOA. Records **2/** that include bids and billings have been maintained by the HOA Board and Roads Committee.

2026 – Sunland – in February repaired, removed and replaced sections of pavement, in 11 areas (see attached map in appendix) for about $63,000 dollars. In May crack sealed all the streets for about $42,000 dollars. Note that many areas that were crack sealed in 2023 were still good. In August PolyChip sealed all streets for about $280,000 dollars and in October fog sealed for about $42,000. The complete job cost about $427,000.

2023 – Bates Paving – Crack seal all roadways except Desert Jewell. Fog Seal areas repaved in 2016. Repainted street markings. - $40,000.

2022 - Frank Civil Consulting - $4,675 Streets condition evaluation and recommended action.

2017 - Bates Paving and Sealing - $62,877 Crack sealing and overall sealing of all roadways except Desert Jewell

2016 - Bates Paving and Sealing - $137,850 included; Wescotta Ct, W. Mariquita (below Wescotta Dr.), S Anastasia Ct., West Circulo de la Piñata, W. Acala, S. Campina Ct., W. Mariquita (at Ramada) and intersection of Acala and Marquita. Crack seal Desert Jewell from Camino del Sol to below Emelita Dr.

2016- $4,870 Ace Asphalt - Repair Westcott Dr. & Wescotta Ct.

2015 - $13,286 Bates Paving and Sealing - Repair intersection of Wescotta Dr. and Mariquita, and cul de sac on Anastasia Ct.

2015 - $5,522 Bates Paving and Sealing - Anastasia Ct.

2014 - $4,414 Bates Paving and Sealing Asphalt Repairs - Anastasia Ct. & intersection of Wescotta and Mariquita

2012 - $58,665.09 Bates Paving and Sealing - Road repair, crack sealing and overall road sealing

2008 - SIH HOA received a bid from Bates to pulverize and process and reuse onsite 4 to 6 inches of all the streets for a proposed cost of $704,267. Excluding a list of items.

2008 - $36,613 Bates Paving and Sealing - Repairs and Seal coating

2007 - $38,613 Bates Paving and Sealing - Anastacia and Campina cul de sacs & Crack Seal all Streets.

2004 - $28,511 Ace Asphalt - Sealing and Repair Various locations

2002 - $9,816 Sunland - Crack Seal and Repair

1999 - $20,832 Sunland Crack Seal & Seal Coating

1996 - $13,165 Saguaro - Seal Coating

Total Streets Maintenance 1996 to 2026 equals about $907,000.

SAN IGNACIO STREET CONDITION RATING

To manage the street network, a condition rating of very good to failed has been adopted. This rating is based on visible distress. All sections of a street may not have all types of distress listed for each condition rating. They may only have one or two types. These standards are utilized in determining strategies and alternatives for maintenance, rehabilitation, and reconstruction activities to meet our goal of good or better.

General Description of the driving surface

Very Good - No longitudinal cracks except at pavement joints. Occasional widely spaced transverse cracks spaced 40 feet or more. All cracks sealed or tight (less than ¼ inch). Recent overlay (less than 5 years).

Good - Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open ¼ to ½ inch). Some spaced less than 10 feet. First signs of block cracking. Sight to moderate flushing or polishing. Occasional patching in good condition. Shows signs of aging. Sound structural condition. Can extend life with sealant.

Fair - Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal and transverse cracks (open ½ inch) show first signs of raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking over the surface. Slight rutting or distortions (less than ½ inch). Extensive and severe flushing or polishing. Some patching or edge wedging in good condition. Surface aging but sound structural condition. Can extend life with a PolyChip or equivalent seal.

Poor - Closely spaced longitudinal and transverse cracking. Often showing raveling and crack erosion. Severe block cracking. Alligator cracking on less than 25 percent of the surface. Patches in fair to poor condition. Moderate rutting or distortion (1 to 2 inches deep). Needs milling and replacement in 5 to 10 years.

Failed - Alligator cracking over 25 percent of the surface. Severe rutting or distortion (over 2 inches). Extensive patching in poor condition. Potholes. Needs immediate (less than 2 years) milling and replacement and may need base course repairs.

Current Pavement Conditions after the Polychip Seal are very good. The table 1. shows each street, the sq. yds. of surface area and the current street condition. This condition is updated annually by the Roads Committee with expertise from outside experts as required.

Table 1. San Ignacio Heights Street Inventory and Status as of October 2026.

Street Name	Square Yds.*	Current Level
Acala St	3675	Very Good
Amulet PL	2004	Very Good
Anastacia Ct	2447	Very Good
Champia Ct	2527	Very Good
Circulo de la pinata	4366	Very Good
Constancia	1684	Very Good
Emelita Dr	3921	Very Good
Manolita Dr	1884	Very Good
Mariquita St	9815	Very Good
Westcotta Dr	3505	Very Good
Wescotta Ct	2007	Very Good
Desert Jewell SIH Section	7056	Very Good
Total	**44891**	

***Based on the Frank Report

San Ignacio Heights Geology and Soils

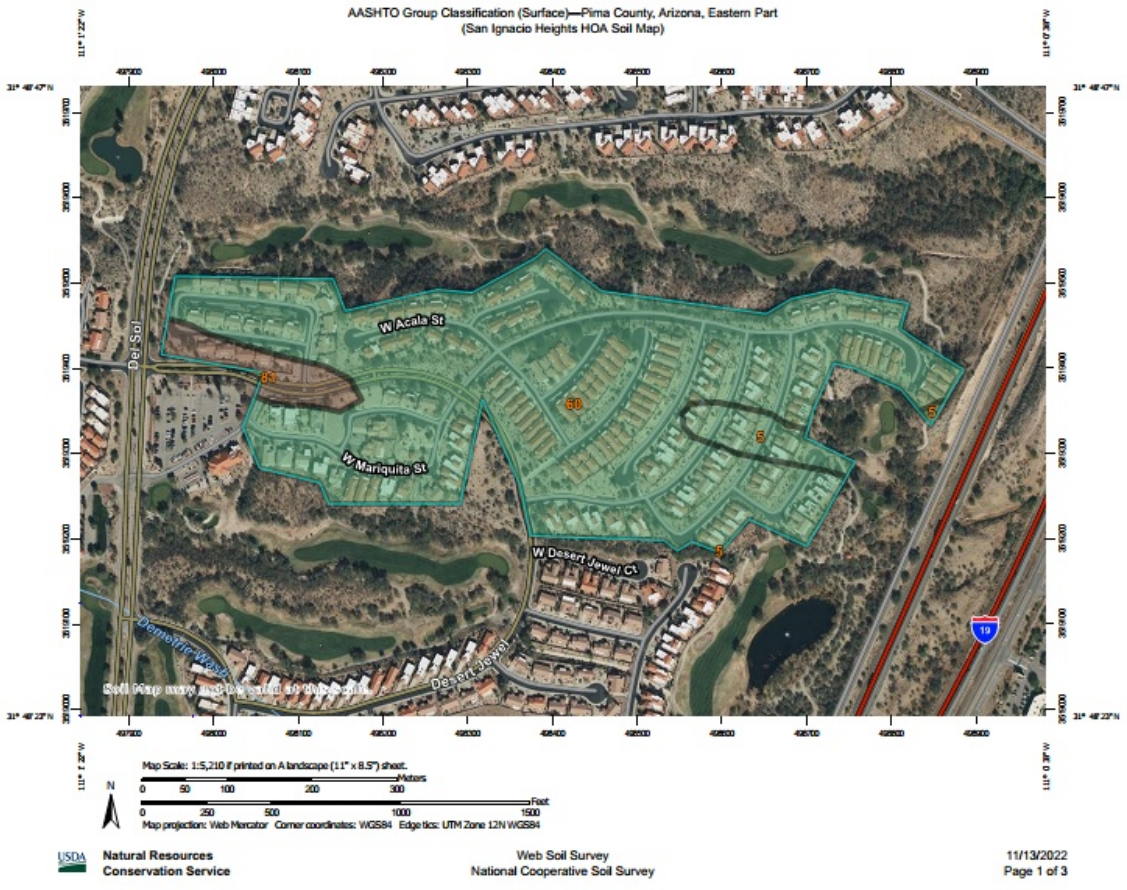
Green Valley sits in the huge geologic Basin and Range Province that extends from southern Oregon to central Mexico. This mountain-valley topography results from an earth plate tectonic period of extension from about 15 to 5 million years ago that broke the crustal rocks of western North America into blocks, separated by steeply dipping faults. Some of these crustal blocks were uplifted to form ranges; other blocks subsided as much as 2.4 mi to form deep basins. Streams cut deep canyons into the rising ranges and transported eroded boulders, cobbles, gravel, sand and clay to aprons of sediment - alluvial fans and bajadas - in nearby subsiding basins. **3/** Green Valley sits in a basin trough. Sediments eroded over millions of years from the sides of the Sierrita and Santa Rita Mountains were and are carried north by the Santa Cruz River like a conveyor belt. The frontage road and I-19 are the western edge of the conveyor belt.

The streets and homes in SIH are built on 1- to 5-million-year-old dissected alluvial fan remnants and are at an elevation of about 3000 feet. These materials eroded from the ancient Sierrita Mountains to the west. McGee Ranch development is at the base of these mountains. Keystone Peak 6188 feet and Samaniego Peak 6000 feet are two prominent peaks that remain. The SIH streets and houses are on these very old stable non-flooding tops or flat terraces of these alluvial fan remnants. Because of these flat terraces, cuts and fills were minimized in development of SIH. These terraces are armored by a large amount of gravel, cobble and boulders that have prevented erosion. The soils that formed in this alluvium are very old and stable. They have been further cemented by CaCO3 that has, over millions of years, blown from salt rich dust in surrounding playas. The San Ignacio Golf Course fairways and greens are located, for the most part, on the bottoms of these alluvial fan remnants which are not armored and have thus allowed for erosion or dissection. These bottoms occasionally flood.

The Surficial Geology Map **4/** describes two units in SIH. Qo2 – Early Pleistocene alluvium (~1 to 2 million years old), highly dissected alluvial fan remnants with moderately well-preserved fan surfaces and strong soil development. QTs - Early Pleistocene to Pliocene alluvium (~1 to 5 million years old). Unit QTs consists of very old, deeply dissected and highly eroded alluvial fan deposits. QTs surfaces are alternating ridges and deep valleys, with ridge crests typically 10 to 30 meters above adjacent active channels. The thickness of QTs deposits is not known. QTs surfaces are drained by deeply incised tributary channel networks. QTs deposits are dominated by gravel ranging from boulders to pebbles. Deposits are moderately indurated and are quite resistant to erosion because of the large clast size and carbonate cementation.

San Ignacio Heights Streets Subgrade (Soils Information)

The original soils in the SIH HOA are an excellent road base. This is a main reason why our streets held up so well. They are a great mix of cobble, gravel, sand, silt and clay that is further cemented in areas with CaCO3 (lime) the same stuff used in concrete. The ratings on the USDA Soil Survey **5/** show that you can drive heavy military vehicles on them with little effect. The majority (47 acres) of the soils in the approximately 50 acre area delineated in the map below have an American Association of State Highway and Transportation Officials (AASTHO) rating of A-1 (excellent) for subgrade.



AASHTO Group Classification (Surface)—Pima County, Arizona, Eastern Part San Ignacio Heights HOA Soil Map

AASHTO Group Classification (Surface)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
	Arizo-Riverwash complex, 0 to 3 percent slopes	A-1	2.2	4.4%
60	Pinaleno-Stagecoach complex, 5 to 16 percent slopes	A-1	44.9	90.8%
81	Tubac gravelly loam, 1 to 8 percent slopes	A-4	2.4	4.8%
Totals for Area of Interest			**49.4**	**100.0%**

AASHTO group classification is a system that classifies soils specifically for geotechnical engineering purposes that are related to highway and airfield construction. It is based on particle-size distribution and Atterberg limits, such as liquid limit and plasticity index. This classification system is covered in AASHTO Standard No. M 145-82. The classification is based on that portion of the soil that is smaller than 3 inches in diameter.

Group A-1. The typical material of this group is a well-graded mixture of stone fragments or gravels, coarse sand, fine sand, and a non-plastic or slightly plastic soil binder. This group also includes stone fragments, gravels, coarse sand, volcanic cinders etc., without a well-graded binder of fine material. General Rating Subgrade Excellent to Good. Road base material used in road construction is classified as A-1. Thus, the original surface soils in SIH qualify as road base. **However, not all of the SIH streets are built on the original soil surface. The developer made deep cuts to make the north-south streets including Anastasia, Campina, Emelita and Westcotta and on parts of Mariquita. In these areas the developer exposed materials that are a very poor sandy clay (likely AASHTO Group A-6, or A-7) road base.** In 2026 the Aggregate Base Course (ABC) was examined in most of the areas where the asphalt was replaced. A very good ABC of at least A-4 was found in each area examined. The ABC in all but one of these areas examined was 6 or more inches thick. In one area near the west end of Mariquita the ABC was only 3 inches thick. Based on this somewhat surprising finding we consider there to be a very good ABC under the HOA streets.

Detailed Street and Sidewalk Network Condition (Frank Civil Consulting Report)

Frank Civil Consulting completed an investigation of the existing asphalt conditions present in SIH. The purpose of this investigation was to evaluate existing pavement, drainage and related components and recommend remediation options. Visual examination of the site took place on Wednesday, March 2, 2022. During this examination, the existing pavement surfaces were reviewed and existing drainage and conveyance systems evaluated. Frank bored holes in the streets at select locations to measure the thickness of the pavement and to observe its condition. Based on 6 borings the thickness of the Asphalt Concrete (AC) is about 2 ¼ inches. The Aggregate Base Course (ABC) is 3 plus inches thick. Frank recommended mill and replace for about 2/3 of the area for a total cost of about $1.25 million. This included considerable overhead to Frank Civil Consulting.

Summary of Potential Repair Options

In January 2023 the San Ignacio Heights (SIH) Roads Committee, with input from the Board, evaluated street repair options for the homeowners. They interviewed other HOA's and paving contractors. The following options were reviewed and evaluated.

1. Mill and replace all streets - This process, recommended by the Frank report, uses a machine to mill or grind off the old asphalt, haul it off and replace it with new asphalt. This is the tried-and-true method that is most used by cities and counties. It has the least risk of failure but was the most expensive at about $1.2 to $1.5 million.

2. Pulverize and Replace - This process was recommended by Bates Paving and was used in the past on Wescotta Court and the east end of Mariquita. In this process a machine pulverizes the old asphalt and mixes it with 4 -6 inches of the aggregate base underneath the old asphalt. Bates contends that this strengthens the aggregate base. In this process they do not haul away the old asphalt so it saves trips by heavy trucks. They grade and pack the new aggregate base course. They then overlay it with new asphalt. Since the old asphalt is not hauled away, this process raises the street by 2 to 3 inches which may cause issues at the join with the curbs. This method also is the most disruptive and may increase the likelihood of breaking underlying water lines. These lines are supposed to be at least 18 inches below the surface. This was estimated to cost about $1.5 million.

3. PolyChip Seal - Sunland's PolyChip is a unique combination of recycled tire rubber, polymer modified asphalt and coated aggregate which provides a waterproof membrane over the pavement surface. The process begins with a thorough cleaning of the roadway surface utilizing high-speed air blowers and/or mechanical sweepers. Pavement cracks ¼ inch wide or larger are then filled with a hot-applied rubberized crack sealer. PolyChip oil containing recycled tire rubber and polymers is heated and applied to the surface from a distributor truck brought from Phoenix. Immediately following the oil application, ½ inch aggregate is evenly placed using a chip spreader. A rubber tire pneumatic roller is used to help compact the aggregate in place. After curing, loose stones are swept from the pavement surface. The final step is the application of an asphalt emulsion known as "fog seal." Fog sealing provides an attractive appearance while improving surface cohesion. The PolyChip system remains flexible at cold temperatures and maintains integrity at high temperatures to help reduce reflective cracking. The finished surface requires very little maintenance and is extremely durable. Canoa Seca and Canoa Vista II HOA had completed a PolyChip Seal using Sunland. The roads committee looked at both HOA's streets. This was estimated to cost between $400,00 and $500,000.

4. Green Asphalt Overlay - Tucson Asphalt uses a proprietary rubber binder. This rubber (from old tires) increases the viscoelastic properties of the binders used to hold a pavement's components together. Stated Advantages - It gives asphalt flexibility and long-wearing durability to avoid most pavement-cracking issues that occur with the old traditional binders used here in Arizona's extreme weather. Green Asphalt is an overlay so also eliminates the process of removing all the old asphalt, so it reduces dust, noise, and traffic that result from using traditional asphalt binders. Canoa Seca Estates II and San Ignacio Vistas used Tucson Asphalt and have completed a Green Asphalt Overlay. Since SIH streets have so much alligator cracking, this 1 inch of asphalt may crack and break up prematurely. There is more risk with this solution and it is expensive. The Roads Committee looked at both HOA's streets. This was estimated to cost between $700,000 and $800,000.

Pima County Takeover of SIH Streets – On 3-16-23 Green Valley Council hosted staff from Pima County Transportation Department who explained the County's process for taking over private roads. It is important to note that the County said it is not interested in taking over private roads. It is interested in converting (abandoning) county roads. They indicated that the funding they are receiving is declining.

In summary, in order for the County to take over our streets, the HOA would need to complete several steps. First, we would need to hire an engineering company to complete a legal survey of area to be transferred including the streets, sidewalks, curbs and gutter area at our expense. This area may need to extend beyond the home side of the sidewalk and curb and into the homeowner's lot in order to provide room for maintenance and repair. Each and every homeowner in the HOA would need to deed this property to the County. Next, the HOA would need to hire an engineering firm to evaluate the streets, sidewalks, gutters and any related areas. The County would then evaluate their report. The HOA would need to make the repairs to bring the streets, sidewalks, gutters and related areas up to current county standards "in like new condition". Once these conditions have been met and approved, Pima County would proceed to establish the roads after Board of Supervisors' approval and include it in Pima County's Maintenance System. These streets, sidewalks, gutters and related areas then become public property. The HOA and homeowners would have no say in signage, speed limits, usage, etc.

Pima County has a program where HOA's can apply to form a pavement district. The County would send their expert out to evaluate the streets and determine what was needed. They would bill the homeowners for their share of the fix by their length of street frontage. After the fix, the district would assess each homeowner an amount for ongoing maintenance though a property tax line item. Pima County's representative at this meeting did not know of any pavement districts that had been formed. Most of the HOA's representatives at this meeting showed no interest in Pima County involvement in their streets mostly because of conversion cost and concern over long-term maintenance by the County. The HOA Roads Committee does not recommend pursuing this option with the exception of Desert Jewell. If SIH, San Ignacio Golf Estates and San Ignacio Golf Course could reach an agreement with the county, then this common access street may be worth considering if conversion was not cost prohibitive.

SIH MAINTENANCE PLAN

The table below shows a long-term maintenance schedule and estimated cost. These mill and replace estimates are an average based on the quotes we received from numerous vendors in 2023 and adjusted for inflation. It is difficult to know what this cost may be especially because of the volatile price of oil. Future repair recommendations are made each year by the Roads Committee based on an inspection of the streets. Close inspection will be given to 7 Cul de Sacs where heavy trucks turn. These may need to be treated every 2-3 years.

SIH Asphalt Maintenance Plan*			
Streets Age	**Year**	**Proposed Actions**	**Estimated Cost****
36 yrs	2029	Crack & Fog Seal	$80,000
39 yrs	2032	Crack & Fog Seal	$89,000
43 yrs	2036	Poly Chip Seal Option	$650,000
43 yrs	2036	Mill and Overly Option	$2-2.5 million
46 yrs	2039	Crack & Fog Seal	$115,000
49 yrs	2042	Crack & Fog Seal	$130,000
53 yrs	2046	Mill & Overlay	$3.6 million
*Adjusted for historical average 3.8% rate of inflation			
** Crack and Fog seal recommended at 3-5 yr intervals. If at 5 yrs only one is required in 2031 @est of $86,000, and one in 2041 @est of $125,000. Independent of option chosen in 2036.			

ONGOING RISKS

The Water and sewer lines, that are the same age as the streets, have been dug up and repaired especially under Mariquita. They may have to be dug up and repaired or replaced again. This risk is somewhat mitigated by ensuring that the new pipes are properly bedded and fill is compacted during installation, ABC is reinstalled and the area is repaved according to specifications. However, road repairs made by Green Vally Water to the main water line under Mariquita have been poor. HOA met with them in 2026 prior to the PolyChip Seal and they agreed to pay half of the HOA cost to remove and repair an area of Mariquita that was poorly repaired. Green Vally Water believes that this main water line will eventually need to be replaced. Garbage and other heavy trucks may damage the PolyChip and loosen the chip seal.

CONCLUSION

The homeowners of SIH own the streets in common. The streets are ours to repair and maintain. There is no city government that taxes us to repair and maintain our streets and sidewalks.

The HOA has homeowners with some skill and expertise who currently serve as volunteers to help us all maintain our streets. We do not have a staff of planners, engineers, technicians, contract officers, contract officers' technical representatives, clerical staff, etc.

This plan presents many hours work of these volunteers over the years who did the best they could with the funds they had. This plan is owned by the homeowners and is a living document that is to be used by

future homeowners to maintain our streets. Ideally a plan like this would have been put in place when the HOA was first formed. If funds had been collected over the past 30 years for the required street surface replacement it would have fairly spread the burden to all homeowners over the years. Since that did not happen, now is the time to start so that history does not repeat itself.

REFERENCES

1/ Report of Findings San Ignacio Heights Homeowners Association April 6, 2022, Michael Frank, Frank Civil Consulting

2/ SIH Roads Committee 3-ring binder with bids, invoices and records of past activities

3/ Bezy, J.V. and Conway, F.M., 2020. Island Mountains of Southeastern Arizona: Geology, Vegetation & Wildlife. Arizona Geological Survey Down-to-Earth #24, 99 p.

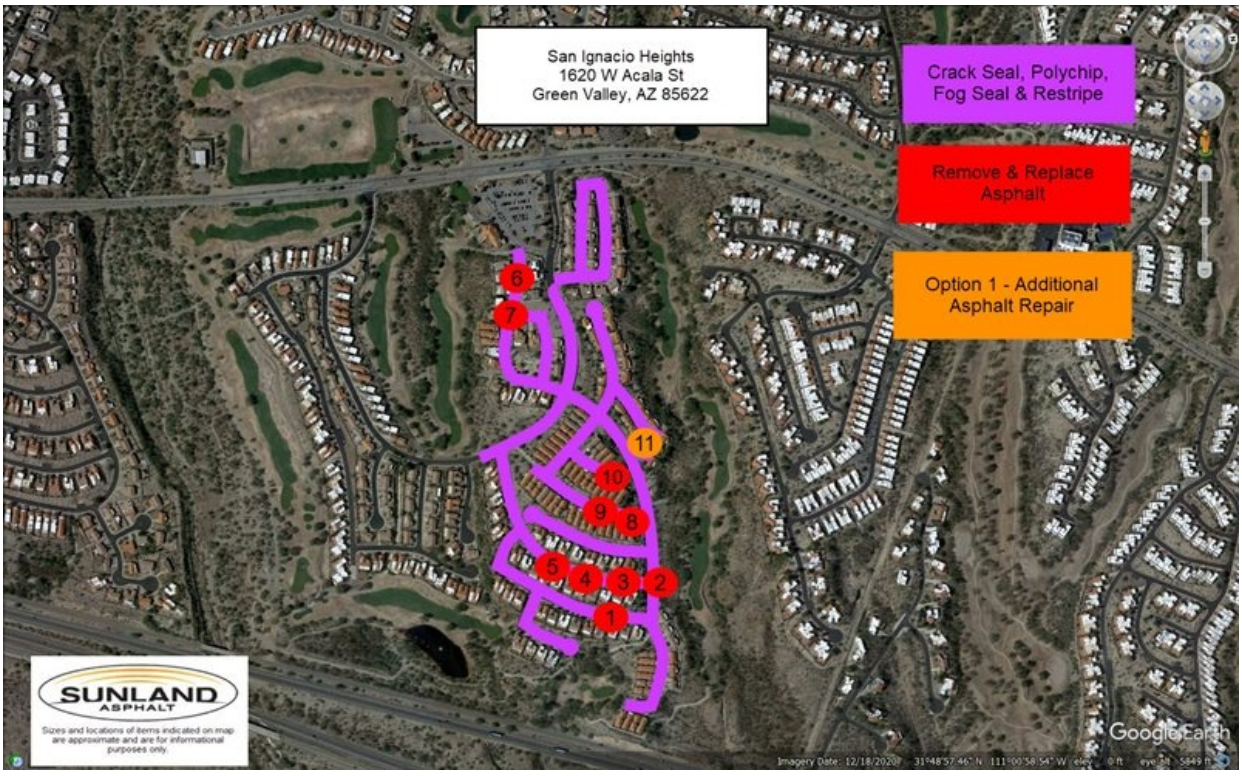
4/ Surficial Geologic Maps and Geologic Hazards of the Green Valley – Sahuarita Area, Pima County, Arizona. By Philip A. Pearthree and Ann Youberg Arizona Geological Survey Digital Geologic Map 3. October, 2000, Arizona Geological Survey 416 W. Congress, Tucson, AZ 85701

5/ USDA Natural Resources Conservation Service, Soil Survey of Pima County Arizona. (https://websoilsurvey.sc.egov.usda.gov)

6/ Roadway and Development Streets Standards Manual. Pima County Transportation, Pima County Arizona 2020

Appendix.

Road Repairs made in 2026 prior to Polychip Seal.



This map is included in the plan so that future HOA members can see where major problems areas were. The following photos document some of the steps in the 2026 Poly Chip seal












VOLVO





