STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

California Energy Commission
DOCKETED
11-AFC-2
TN # 69474
FEB 11 2013

In the Matter of:

DOCKET NO. 11-AFC-2

APPLICATION FOR CERTIFICATION FOR
THE HIDDEN HILLS SOLAR ELECTRIC
GENERATING SYSTEM (SEGS)

REBUTTAL TESTIMONY OF INTERVENOR THE COUNTY OF INYO

February11, 2013

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BIOLOGICAL RESOURCES

I. INTRODUCTION

A. Names: George Milovich & Nathan Reade, Inyo/Mono County Agriculture Commissioner

B. Qualifications: The qualifications and declarations of Mr. Milovich and Mr. Reade are noted in Appendix A.

C. Prior Filings: In addition to the statements filed herein, this testimony includes the prior filings included in the County of Inyo's opening testimony.

II. SUMMARY OF TESTIMONY

The County of Inyo fully supports and concurs with Conditions of Certification BIO-18 included in the FSA. The modifications to BIO-18 proposed by the applicant are insufficient for the following reasons:

1. The proposed modified BIO-18 plan does not adequately address the threat of invasive plant introduction from outside California. Weed seeds and plant fragments hitchhike easily from location to location on vehicles as well as in construction materials such as aggregate and fill dirt. These fragments and seeds may be deposited along the roadside prior to reaching the HHSEGS plant location. Monitoring for and control of these pioneer infestations are not adequately mitigated proposed modified BIO-18. If the modifications are adopted by the Commission, the Agricultural Commissioner's Office will be required to conduct far more survey and management activities in southeastern Inyo County than is currently required.

2. Washing of vehicles as they enter and leave the HHSEGS site is appropriate preventative mitigation that minimizes the threat of weed transmission from within the site, but this does little to prevent the spread of weeds from Nevada to California. Frequent inspections and eradication efforts are the most effective means to minimize the spread of noxious weeds into California absent an inspection station. Unfortunately, the network of California Agricultural Inspection Stations does not include a location on any of the likely construction vehicle approaches to California from Nevada. These stations are the first line of defense protecting California's $43.5 billion agricultural industry from pest damage, which provides the United States with 11.6% of all agricultural products. These figures highlight the significance of protecting this valuable industry, and why it is important that the weed management plan proposed for this site accounts for both threats to the environment as well as threats to agriculture. The potential for significant impact to California's agriculture industry, coupled with the significant increase in traffic from Nevada to the project site, requires more frequent inspections by the Inyo/Mono Agriculture Commissioner's office.

3. Although a precedent exists to operate a temporary inspection stations on state and federal highways, this option is not only costly and dangerous relative to permanent state inspection stations, but such stations are also difficult to manage effectively if several routes into an area exist such as with the HHSEGS location. As Inyo County does not have the resources to operate an effective surveillance program for vehicles and construction materials traveling to and from the HHSEGS site, the more feasible alternative is to conduct roadside surveys from time to time to mitigate weeds that do come into Inyo County.

4. Halogeton is prevalent in Nevada, especially along Nevada roadsides. Agricultural Commissioner staff removes infestations spread from Nevada in to California from time to time; however, low traffic levels on most roads near the HHSEGS site has minimized the amount of resources required to eradicate these populations in the past. The construction and operation of the HHSEGS will change traffic patterns significantly with regard to the threat of invasive plant colonization.

5. Any property with a state defined noxious weed on it is viewed in the FAC as creating a public nuisance. California Agricultural Commissioners have the authority through state law to mitigate these threats, including entering the property, inspecting, and removing the threat, requiring payment from the land owner to cover the costs incurred, and placing a lien on the land if payment is not received. If the source of the infestation is readily identifiable, the source may be held responsible for the costs incurred. Therefore, the proposed Conditions of Certification BIO-18, to the extent it requires the applicant to pay all costs related to the activities of this office, is appropriate and consistent with applicable law.

LAND USE

I. INTRODUCTION

A. Names: Joshua Hart, Inyo County Planning Department; Douglas Wilson, Paul Hancock & Bob Brown, Inyo County Public Works Department

B. Qualifications: The qualifications and declarations of Mr. Hart and Mr. Wilson are noted in Appendix A to the County of Inyo's opening testimony; the qualifications of Mr. Hancock and Mr. Brown are noted in Appendix A.

C. Prior Filings: In addition to the statements filed herein, this testimony includes the prior filings included in the County of Inyo's opening testimony.

D. New Filings:

1. Owner's Certificate – Offer of Dedication – Inyo County Official Records, Volume 208, Page 863, Document 2322, Recorded July 1, 1974.

2. Owner's Certificate – Offer of Dedication – Inyo County Official Records, Volume 208, Page 875, Document 2324, Recorded July 1, 1974.

3. Parcel Map No. 86, Recorded July 2, 1974, Book PM1, Page 63 of the Map Records, Inyo County.

4. GIS Map of Project Site with identified roads.

II. SUMMARY OF TESTIMONY

The County of Inyo recommends that proposed Findings and Conditions of Certification provided for in the FSA, as amended by the County's opening testimony. The County objects to the proposed modifications by the applicant, in particular as those findings relate to the Inyo County General Plan and Zoning Code.

A. <u>The Proposed Project is not Consistent with the Inyo County General Plan or the Inyo County Zoning Code</u>.

The applicant requests a modification of Proposed Finding of Fact 3, arguing that the project is consistent with the Inyo County General Plan and Zoning Ordinance. As indicated in the County's Opening Testimony, the project is inconsistent with the General Plan and Zoning Ordinance.

The applicant argues that the Inyo County General Plan Land Use Element designates most of the project site as Rural Protection (RP). This statement is incorrect. The applicant alleges that General Plan Amendment (GPA) No. 2004-06 (and corresponding Resolution No. 2004-61) changed the General Plan Land Use designation for these areas of the site from Open Space and Recreation (OSR) to RP since the introductory sections of Resolution No. 2004-61 indicate that the intent of the GPA is to change the land use designation of all privately-owned parcels designated OSR to RP. However, the resolution

ultimately changes the designations of specific identified properties to RP via a list of parcels, which do not include properties within the project site. The County has historically interpreted this inconsistency to mean that only parcels on the list were redesignated RP by GPA No. 2004-06, as evidenced by the County's proposed County-wide General Plan Update. Regardless, as indicated in the County's Testimony, industrial scale solar power plants are not consistent with the RP designation, and even if portions of the property had been redesignated RP, the project would be inconsistent with the General Plan Land Use Element.

The applicant alleges that the project is consistent with the OSR Land Use designation because of statements in Goal LU-5 and Policy LU-5.1. Furthermore, the applicant argues that the project is conditionally permitted in the Open Space (OS) zoning district and this this furthers the allegation that is consistent with the OSR designation. The applicant provides Goal LU-5 out of context, since this is the general overall goal providing for a variety of land use designations, including the OSR designation, but also a variety of other designations, such as Natural Hazards, Public Facilities, and State and Federal Lands. The applicant's allegations that goals to provide for adequate public facilities and managed production of resources are applicable to industrial scaled power plants in OSR land use designations are misplaced. Furthermore, as discussed below, the project is not permitted or conditionally permitted in the OS zoning district, and the applicant's reference to the OS zoning district is inapplicable.

The applicant alleges that the project is consistent with the General Plan for those portions of the site designated Resort/Recreational (REC) because Policy LU-3.4 indicates that the REC land use designation allows for "… public and quasi-public uses…", and that County General Plan Policy LU-2.16 indicates that uses that constitute "public, quasi-public, and supporting uses" include "utility system components." As indicated in the County's Testimony, industrial scale solar power plants are inconsistent with the REC land use designation. General Plan Policy LU-3.4 is to provide for public and quasi-public uses consistent with the REC designation, such as the St. Therese Mission, not industrial scale solar power plants. The applicant's reference to Policy LU-2.16 is taken out of context and is not relevant. The correct citation is that the County may permit the siting of public facilities and utility system components in lands designated Natural Resources. The project is inconsistent with the REC designation.

The applicant argues that Policy GOV-10.1 provides that renewable energy sources are to be treated as natural resources and hence should be allowed by the General Plan land use designations and zoning for the site. Again, the applicant takes this policy out of context and excludes other relevant references, including the later portions of the Goal Gov-10.1 which state "subject to County planning and environmental jurisdiction….developing environmental and zoning permitting process to ensure efficient permitting or renewable energy project while mitigating negative impacts to County services and citizens…ensuring that citizens of the County benefit from renewable energy development…." Regardless, this Government Element clause is irrelevant to the applicant's argument because it is encouraging appropriate renewable energy development and does not address specific zoning districts or General Plan land use designations.

The applicant alleges the project is consistent with the Inyo County Zoning Ordinance (Title 18) because Inyo County Code (ICC) Section 18.81.020 provides that uses similar to the permitted and conditionally permitted uses of the zoning district may likewise be permitted or conditionally permitted, and that the OS Zoning District (ICC Chapter 18.12) conditionally permits mining and processing of natural resources, which apply to the proposed project. The applicant references ICC Section 18.12.040(I) out of context and excludes the final clause of the subsection, which reads "including borrow pits, subject to the California Surface Mining and Reclamation Act." As indicated by this clause, this subsection applies to mining activities, and not industrial scale solar power plants. Furthermore, ICC Section 18.81.020 is inapplicable because none of the permitted or conditionally permitted uses are similar to the proposed

power plant. The County has previously determined that industrial scale solar power plants are only conditionally permitted in the General Industrial and Extractive (M-1) Zoning District.

The applicant argues that the project is consistent with ICC Title 21. As indicated in the County's Testimony, the project is inconsistent with Title 21.

The applicant argues that the project is consistent with Title 21, and therefore pursuant to ICC Section 21.20.020, the project need not comply with Title 18. However, ICC Section 21.20.020 only applies to certain standards from Title 18, and the applicant's assertion that the project must either comply with Title 21 or Title 18, and not both, is erroneous. Regardless, the project is inconsistent with Title 21, and the provisions of Section 21.20.020 are inapplicable.

The applicant alleges that the Government Code Section 66412(l) makes it exempt from the requirements of the Subdivision Map Act because the project will lease lands. While this aspect of the project is indeed exempt from the Map Act, building structures over property lines, easements, and roads is highly inappropriate and should be avoided. In order to remedy this problem, a mechanism to merge the project parcels and extinguish the easements is needed, and such activities are governed by the Map Act.
The applicant alleges that the project's incompatible scale and massing and related visual impacts are improperly categorized as significant land use impacts. These aspects of the project result in significant conflicts with the Inyo County General Plan; since the General Plan works to avoid impacts from scale, massing, visual compatibility, and neighborhood character, the project's inconsistencies with the relevant General Plan goals, policies, and implementation measures result in significant land use impacts as defined by the State's environmental checklist.

The applicant alleges that the GPA/Zoning Reclassification application was deemed complete by the County on July 10, 2012. In fact, the application was deemed incomplete by the County on August 10, 2012.

Based on the foregoing, the applicant's recommendations regarding land use findings and COCs should be rejected and the County's Testimony and recommendations regarding land use should be affirmed.

B. <u>The network of roads running through the project site are the subject of offers of dedication which have been accepted by the public.</u>

The County concurs with Finding of Fact 5 in the FSA and disagrees with the applicant's "testimony" contesting the appropriateness of such finding[1].

The network of roads located on the project site are the subject of a subdivision map recorded on July 2, 1974.[2] As noted on that map, offers of dedication of each of the roads were recorded prior to the recordation of the final map.[3] In addition, included as Attachment 4 is a GIS map which notes the roads which were the subject of the dedications.

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[1] This testimony only addresses the facts surrounding the roads and the offers of dedication recorded in 1974. To the extend the applicant's "testimony" addressed the legal significance of the offers and usage of those roads, the County will not address those legal arguments in this rebuttal testimony. The legal significance of the facts surrounding the roads and the jurisdictional issues raised in applicant's "testimony" is more appropriately addressed in the parties' respective briefs.
[2] Attachment 3.
[3] Attachments 1 and 2 include two "Owner's Certificate – Offer of Dedication" recorded in the Inyo County Official records and referenced on the map included as Attachment 1. These "Owner's Certificate – Offer of Dedication"

The offers of dedication of the roads offered "to the public use" the private street subject to each offer of dedication. As indicated in the attached Affidavit of Bobby Bills, during the period from 2006 to 2011, the roads were not only open at the intersection with Old Spanish Trail, Mr. Bills regularly witnessed the public freely traveling on the roads.

The County contends that the roads were long ago accepted by the public, creating a property interest which may only be abandoned by the Inyo County Board of Supervisors. For this reason, Finding of Fact 5 is appropriate and necessary.

C. Noise

The County objects to the applicant's proposal to allow noisy construction operations during nights and other noise-sensitive times and otherwise relax the CEC's staff's recommended COCs. Charleston View is a relatively quiet residential community, and the project's heavy industrial scale construction noise will significantly alter the community character for several years, and will disturb residents. The adverse health effects of noise, especially for long-term noise, are well-understood and should avoided. For typical projects in residential areas, noisy construction activities cease after several weeks. In this case, significant high noise levels that will be audible and disturbing in the Charleston View community will persist for months, if not years. The project's noisy construction activities should be limited to 7:00 a.m. to 7:00 p.m. Monday through Saturday as specified by the County General Plan at the very least, and the CEC should require additional mitigation to reduce interior noise levels at residences in Charleston View if the project-related construction noise is disturbing to those residents. The applicant's proposal to only investigate legitimate complaints provides a means for the project owner to avoid investigating complaints, and should be rejected. Steam blowing and pile driving can be particularly disturbing, and the County believes that staff's proposed COC Noise 7 and Noise-8 should be retained. For COC Noise 4, the applicant's proposal to move the survey requirement for long-term noise to the verification phase reduces the effectiveness of the COC; the other proposals to allow for exceptions to the noise standards are inappropriate. Accordingly, the County recommends that the applicant's requested modifications to the noise COCs be rejected, and that the following additional noise COC be required for the project:

If a resident or residents in Charleston View notify the CPM of disturbing construction noise and request mitigation, the project owner shall immediately cease the disturbing construction activities and work with the resident to install noise-reduction features on the primary residential structure, such as noise reducing windows, walls, ventilation systems, and/or other features determined in consultation with the resident. Once the features have been installed, the disturbing construction activities may recommence.

Verification: Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

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language used in each Offer of Dedication identified in Attachment 3. Due to the number of recorded dedications, the County has not provided each and every dedication identified on the map. The County will provide pdf copies of each dedication if requested by any party.

SOCIOECONOMIC

I. INTRODUCTION

A. Name: Kevin Carunchio, Inyo County Administrator and Budget Officer

B. Qualifications: The qualifications and declarations of Mr. Carunchio are noted in Appendix A to the Opening Testimony of the County of Inyo.

C. Prior Filings: In addition to the statements filed herein, this testimony includes the prior filings included in the County of Inyo's opening testimony.

D. New Filings:

5. Letter to John Woolard, CAO, BrightSource Energy, and proposed agreement, Dated February 6, 2013

B. SUMMARY OF TESTIMONY

The Testimony of the applicant and the proposed deletion and modifications to the proposed Findings of Fact and Conditions of Certification are addressed by the County in its Opening Testimony. In addition, the position now taken by the applicant that it is not required to compensate the County for impacts is not only disingenuous, it directly contradicts prior commitments to both the Committee and the Inyo County Board of Supervisors to assure that Inyo County is made whole as a result of this project. Further, the FSA bases the Conditions of Certification on the applicant and the County reaching agreement, which despite the County's efforts has not occurred[4].

Moreover, as noted in the County's Opening Testimony, both the FSA and the applicant's testimony fail to identify Inyo County Codebook of Ordinances, Title 21 as an applicable LORS. The failure to include such analysis is a fatal flaw in both the FSA and applicant's testimony.

[4] Attachment 5

TRAFFIC AND TRANSPORTATION

I. INTRODUCTION

A. Name: Douglas Wilson, Interim Director, Inyo County Public Works Department

B. Qualifications: The qualifications and declarations of Mr. Wilson are noted in Appendix A to the County of Inyo's Opening Testimony.

C. Prior Filings: In addition to the statements filed herein, this testimony includes the prior filings included in the County of Inyo's opening testimony.

II. SUMMARY OF TESTIMONY

A. Old Spanish Trail

In both the FSA and applicant's testimony the road which fronts the project site to the south is incorrectly referred to as Tecopa Road instead of Old Spanish Trail. The proposed project site does not touch Tecopa Road, which sits in the State of Nevada. Instead, the proposed project sits exclusively in the State of California and is located along Old Spanish Trail. The incorrect references to Old Spanish Trail as "Tecopa Road" are confusing and likely to lead to problems in the future. The County request that references to Old Spanish Trail be correctly noted as such.

B. Intersection Analysis

The updated workforce analysis anticipates high volumes of traffic along Highway 127 to Old Spanish Trail and the project site. The volumes anticipated by applicant strongly suggests that that the intersection of Highway 127 and Old Spanish Trail and the traffic over Emigrant Pass should be included in the Intersection Analysis. The steady stream of cars both at the intersection of Highway 127 and Old Spanish Trail, which will then travel over Emigrant Pass, could prevent entrance on to Old Spanish Trail and inhibit two way traffic on Emigrant Pass. The analysis is necessary to determine whether traffic mitigation measure are necessary to prevent impacts to non-project related travel.

C. Proposed Mitigation Measures

1. Traffic Monitoring Program: As noted above, the anticipated volume of workforce traffic will impact both the intersection at Highway 127 and Old Spanish Trail and Emigrant Pass. For that reason, monitors should be posted at each of these locations. Moreover, those monitors should be independent monitors paid for by the applicant. The County objects to the use of monitors employed by the applicant.

D. Proposed Conditions of Certification

1. TRANS-2 – Right-of-Way

The County objects to the proposed revisions to TRANS-2 in that the proposed revisions. The County has identified the need for right-of-ways in order to provide for necessary acceleration/deceleration lanes. The County objects to any modification of this condition which fails to specifically require the installation of such lanes at the entrances of the project site. The County does not object to the preparation of a traffic study so long as that study is for the purpose of analyzing the right of way dedication. The County objects to the attempted use of a study by the applicant to argue against the installation of acceleration/deceleration lanes at the project entrances and, as the County has noted in previous communications with the CEC, such lanes are necessary. Any design for improvements along Old Spanish Trail should be provided to and approved by the County.

2. TRANS-3 – Restoration of All Public Roads

The County objects to the requested modification by the applicant and concurs with the Condition of Certification TRANS-3 as recommended in the FSA. The significant increase in traffic estimated in the updated workforce analysis will impact Old Spanish Trail, particularly through the area of Emigrant Pass. Such impacts will likely include deterioration from the road edges, which the applicant should be responsible for repairing. Moreover, should the prohibitions in TRANS-4 be violated, the applicant must be responsible for those damages. For these reasons, the County requests that the proposed modifications be rejected and TRANS-3 adopted as set forth in the FSA.

3. TRANS-4 – Truck Route

The County objects to the requested modifications by the applicant and concurs with the Condition of Certification TRANS-4 as recommended in the FSA. The County remains concerned that use of Old Spanish Trail from the Highway 127 intersection to the project site will not only significantly damage the roadway, but is unsafe. The proposed modification fails to include the appointment of an independent spotter to assure that truck traffic does not enter the site after traveling from the west. Moreover, the proposed modifications weaken the complaint process by reducing the obligations to investigate complaints to only those deemed by the applicant as "legitimate", which lacks any definition. In its responses to the PSA, the County requested the issuance of a $10,000 per truck fine for violation of this condition. The County understands staff's reasoning for not including the County's request, however, in order to adequately address the County's concerns, monitoring must be independent and any complaint investigated.

WATER SUPPLY

I. INTRODUCTION

A. Name: Robert Harrington, Ph.d, R.G., Director, Inyo County Water Department

B. Qualifications: The qualifications and declarations of Dr. Harrington are noted in Appendix A to the Opening Testimony of the County of Inyo.

C. Prior Filings: In addition to the statements filed herein, this testimony includes the prior filings included in the County of Inyo's opening testimony.

D. Current Filings:

1. Memorandum Dated February 8, 2013 re: Hidden Hills Solar Electric Generating System – Rebuttal to Applicant's comment on Water Supply Section of the California Energy Commission Final Staff Assessment

II. SUMMARY OF TESTIMONY

Attachment 1 sets forth the County's comments to the applicant's comments and requested modifications to the Findings of Fact and Conditions of Certification contained in the FSA. As the County noted in its Opening Testimony, with the minor modifications requested by the County, the County supports the Findings and Conditions proposed by staff in the FSA.

ATTACHMENT 1 –

WATER SUPPLY

(760) 878-0001

FAX: (760) 878-2552

EMAIL: mail@inyowater.org

WEB: http://www.inyowater.org

COUNTY OF INYO
WATER DEPARTMENT

Memorandum

Date: February 8, 2013

To: Dana Crom, Deputy County Counsel

From: Bob Harrington, Water Director

Subject: Hidden Hills Solar Electric Generating System – Rebuttal to Applicant's comments on Water Supply section of the California Energy Commission Final Staff Assessment.

Cc: Kevin Carunchio, CAO
Randy Keller, County Counsel
Greg James, Special Counsel
Josh Hart, Planning Director

The follow are comments on the Applicant's opening testimony concerning the California Energy Commission Final Staff Assessment (FSA) for the Hidden Hills Solar Electric Generating System (Project). These comments pertain to the section titled Water Supply of the Applicant's Exhibit 71, (Docket Log #69215).

Aquifer parameters and interpretation of aquifer tests. The Applicant's claim that the transmissivity values used in the FSA are unrepresentative is unfounded. While the aquifer tests provide useful estimates of aquifer parameters, they are not conclusive because of their short duration and the limited area affected by the tests. The aquifer tests conducted by the applicant were for short time periods relative to the life of the project – days versus decades – so the aquifer test affected a small volume of aquifer material relative to that which may be affected over the life of the project. Predictions based on extrapolating the results of these short duration tests over the life of the project contain large uncertainties. These uncertainties are unrecognized in the Applicant's testimony. The Applicant argues that the assumptions made in the FSA concerning aquifer properties are "unsupportable and extreme" resulting in a wide range in predicted drawdown in the FSA. The FSA properly recognizes the uncertainty

present in conducting such an analysis and properly uses a range of values and conditions to bracket the potential effects of the project.

The Applicant argues that the FSA errs in treating the aquifer as a confined aquifer. The Applicant's opening testimony (Water Supply Figure 2) provides a cross section of the aquifer at the Project site, showing the aquifer as bound above and below by fine-grained clayey material, which would be the typical stratigraphy of a confined aquifer. The Applicant is correct in asserting that the data from the aquifer tests are consistent with leaky aquifer models; however, the Applicant greatly overstates their case when characterizing the FSA's aquifer analysis as invalid.

The principal flaw in the Applicant's analysis of the aquifer test results is their reasoning that because the test stabilized over a period of days, it would remain stable over the life of the project. They interpret that leakage from adjacent confining units provided a source of water that stabilized water levels in the aquifer. This is a reasonable interpretation of the effects observed during the test, but when extrapolating these results to the life of the project, it must be determined whether the withdrawal of leakage from the confining units is sustainable for the life of the project. The Applicant criticizes the FSA's estimate of drawdown at the Stump Spring well of 0 to 19 feet as being "extremely large and results from the use of insupportable and extreme aquifer property assumptions" (Water Supply p. 18). The Applicant makes the unequivocal statement that "No drawdown will occur beyond the site boundaries" (Water Supply p. 18), i.e., there will be no drawdown at the Stump Spring well. The FSA's range of 0 to 19 feet includes the Applicant's claim of no drawdown, but also places an upper bound on drawdown that may occur.

<u>Effect of the State Line Fault on groundwater flow.</u> The applicant argues that the State Line Fault, northeast of the project site is "a barrier to groundwater flow and therefore disconnects variations in groundwater conditions on the southwest side (where HHSEGS site is located from the northeast side (where Stump Springs and other groundwater related resources exist)" (Water Supply p.5) and that it is "a flow barrier, separating the HHSEGS site from the water related resources on the Nevada side of the border" (Water Supply p. 6). The Applicant also testifies that "groundwater flows in a southwest direction in the southern part of the basin" (Water Supply p. 13) and "The valley-fill aquifer that would be used by the project is primarily recharged in the eastern portion of the basin from runoff in the Spring Mountains" (Water Supply p. 13). Elsewhere, in a presentation from the Applicant titled "Analysis of Groundwater Conditions" (Docket Log # 65767) the Applicant argued that the regional gradient results in groundwater flow from northeast to southwest, and that this regional flow needs to be considered when interpreting aquifer test data from the site. Figure 1 is from the applicant's presentation, showing contours of groundwater hydraulic head running from northwest to southeast. Groundwater flows in the direction perpendicular to these contours, from higher values to lower, that is, Figure 1 implies that groundwater flows from northeast to southwest, crossing the State Line Fault.

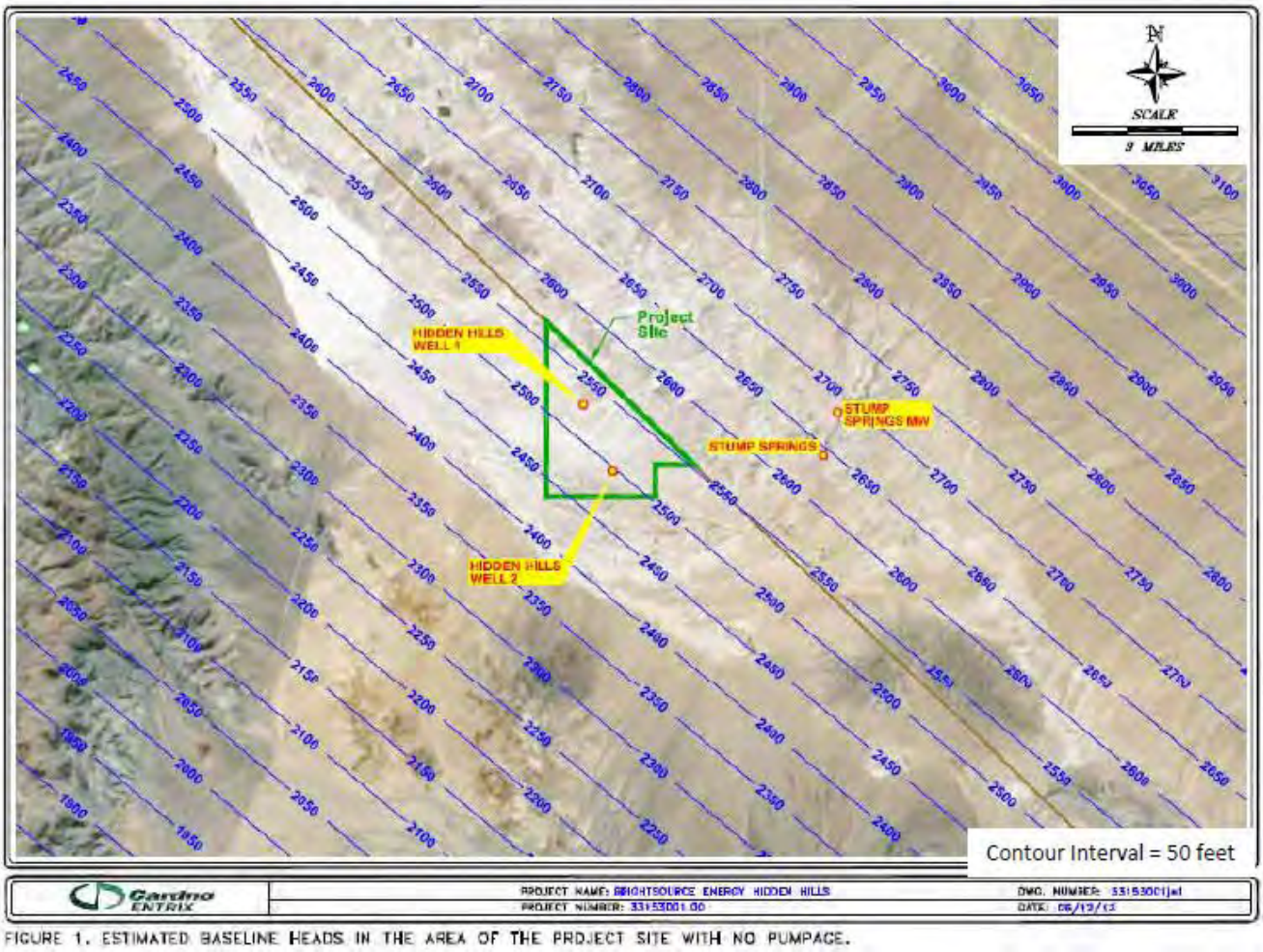


Figure 1. Pre-project groundwater contours from the Applicant's June 14, 2012 presentation (Docket Log #65767).

A hydraulic head map similar to Figure 1 was produced by a US Geological Survey study (Harrill, 1986, Figure 7) and is shown here as Figure 2.

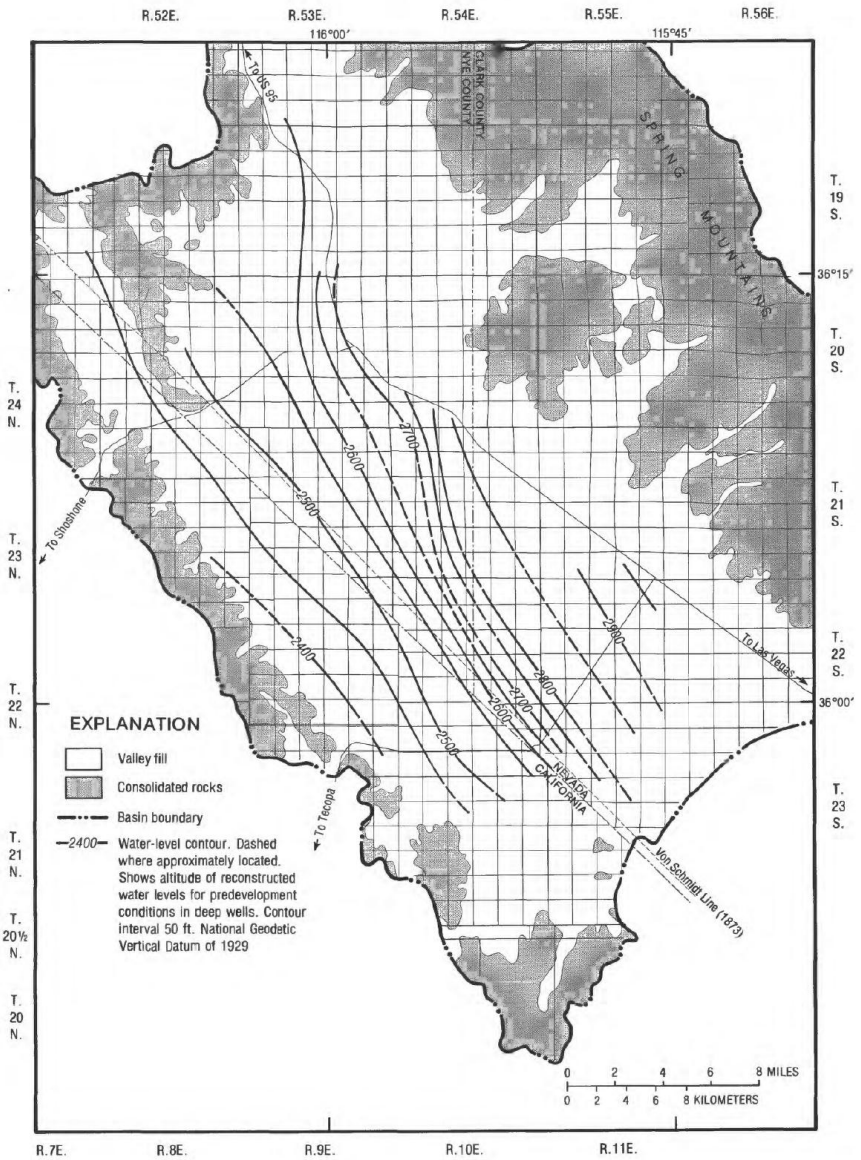


Figure 7. Water-level contours for deep wells under predevelopment conditions.

Figure 2. Pre-development groundwater hydraulic head contours from Harrill (1986).

Harrill concluded that groundwater "left the valley by evapotranspiration from areas of shallow groundwater and <u>by subsurface outflow beneath the Nopah Range</u>" (emphasis added). This is contrary to the Applicant's testimony that the State Line Fault disconnects the Project site (and, consequently, the Nopah Range, at the southwestern margin of the basin) from the northeastern part of the basin. The steepening of the gradient in the vicinity of the fault indicates that the fault is a low permeability zone; however, the continuity of the gradient across the fault indicates that the fault does not wholly disconnect the basin. Moreover, the Applicant makes contradictory claims that, on one hand, the State Line Fault disconnects the

southwest and northeast sides of the basin, and on the other hand, that the project site is recharged from the Spring Mountains and regional flow across the fault is important to consider. In the event that the Applicant is correct that the Project site is disconnected from sources of recharge in the Spring Mountains, the aquifer system at the site is isolated from the Spring Mountains, which is the most significant recharge zone in the basin, further justifying the cautionary approach used in the FSA.

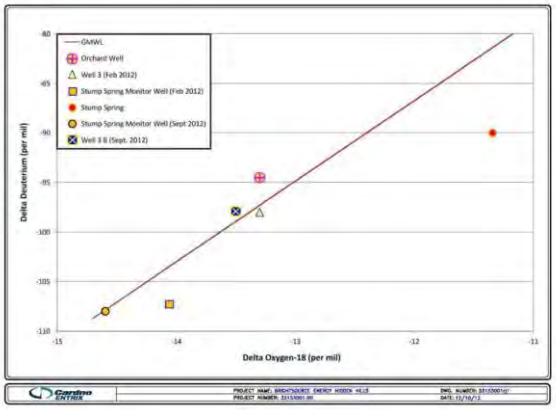
The Applicant asserts that groundwater mounding is present along the State Line Fault due to upward flow of groundwater along the fault. They cite their Figure 2 (Harrill's Figure 6) as evidence for this claim. It is clear from the locations of monitoring wells in the Applicant's Figure 1 that the existing monitoring network is insufficient to actually observe the purported groundwater mounding. Further, the Applicant's reliance on their Figure 2 as evidence for mounding is misplaced. The Applicant's Figure 2 shows contours of depth to water, not water table elevation, and the contour pattern that the Applicant claims as evidence for mounding could also be produced simply by the interaction between sloping topography, a sloping water table, and the fault acting as a partial barrier to groundwater flow. This memo's Figure 2 (Harrill's Figure 7), a map of water table elevation, does not show any evidence of mounding at the fault. Upward flow along the fault plane from a deep source is a possibility that at present is unsubstantiated.

Concerning the State Line Fault, Harrill (1986) concluded that "Springs and stands of mesquite along the northeast side of this feature suggest that if forms a partial barrier to ground-water flow." The State Line Fault impedes flow across the fault, but does not completely disconnect the portions of the basin on either side of the fault; therefore, it is necessary for the Project conditions of certification to address the possibility of effects to groundwater dependent habitat east of the fault.

<u>Geochemistry.</u> The Applicant argues that geochemical results indicate that Stump Springs water is from a different source than the basin fill aquifer. They argue that the higher concentration of major ions in Stump Springs water and the deviation of Stump Springs water from the isotope meteoric water line indicate a different source of water for Stump Springs than the valley fill aquifer. The most obvious, simple, and likely explanation for the higher concentration of major ions in Stump Springs is that that the spring water is affected by evaportranspiration in the vicinity of the spring. When the water table is shallow enough that water is taken up by plant roots or by evaporation from the soil surface, salts (ions) are left behind resulting in a higher concentration of salts in the groundwater.

The Applicant argues that their stable isotope data (their Figure 5) indicate that groundwater at the Project site and water supplying groundwater-dependent resources are from different sources. Figure 3 is a plot showing how hydrologic processes affect stable isotopes: precipitation plots along the meteoric water line with the position of a sample depending on the temperature of air mass from which the precipitation fell, and samples affected by evaporation plot along lines of lesser slope to the right of the meteoric water line. Applicant's

Figure 5 plots stable isotopes from wells near the Project and Stump Springs. A straightforward interpretation of the data presented by the Applicant is that the water from Stump Springs is derived from a similar source as the samples from monitoring wells, but has been affected by evapotranspiration.



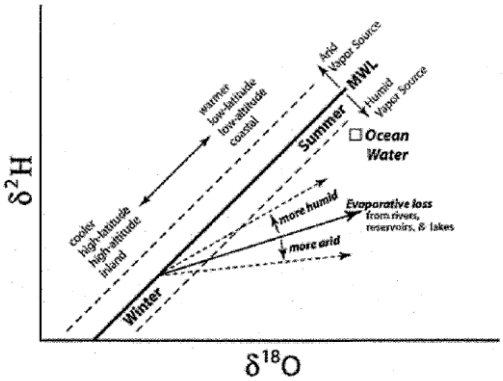


Figure 6. Summary diagram of how hydrologic processes affect oxygen and hydrogen isotopic composition of water.

Figure 3. At left, the Applicant's stable isotope data (their Water Supply Figure 5); at right, a summary of how hydrologic processes affect stable isotopes, (from the isotope hydrology web page of SAHRA (Sustainability of Semi-Arid Hydrology and Riparian Areas).
(http://web.sahra.arizona.edu/programs/isotopes/oxygen.html)

Water level triggers to protect off-site groundwater dependent resources. The Applicant raises a number of issues concerning the assessment of background water level trends and the detectability of pumping-induced changes in groundwater elevations. As an alternative to the FSA's use of the Mann-Kendall test, the Applicant proposes that the methods described in USGS SIR 2006-5024 be used to filter out background effects from hydrographs to more reliability detect effects from Project pumping. This method may be applicable here, but since it is relatively new and not widely applied, the Compliance Project Manager (CPM) should have some discretion and flexibility as to what method is used to determine background trends and baseline water levels. The Mann-Kendall test is much more widely known and applied than the method proposed by the Applicant; nevertheless, the CPM should be afforded access to multiple analytical tools.

The Applicant proposes that if water level triggers are exceeded, mitigation measures would be implemented; however, these mitigation measures do not include reductions in pumping. The Applicant makes the unequivocal claim that "No drawdown will occur beyond the site boundaries" (Water Supply p. 18). Given this certitude and the FSA's allowance for the Applicant to show that water level declines are due to other factors than their pumping, the FSA's condition of certification that pumping be reduced under certain circumstances is reasonable and necessary to protect groundwater-dependent habitat.

Protection of neighboring wells. The mitigation measures proposed by the Applicant for neighboring wells are inadequate. The Applicant proposes that neighboring pumps will be lowered or wells will be deepened if "groundwater is lowered enough as a result of Project pumping that well screens and/or pump intakes are exposed under static-non-pumping conditions…" These protections should be for while the neighboring well is pumping, not under static-non-pumping conditions. Figure 4 shows how the static water level differs from the pumping water level. Mitigation is necessary when the neighboring well's pump intake or screen is exposed while it is pumping. The mitigation proposed by the Applicant is grossly unfair to neighboring well owners. It is of little use to well owners to know that water levels are above their well screens and pump intake as long as they do not attempt to operate their well.

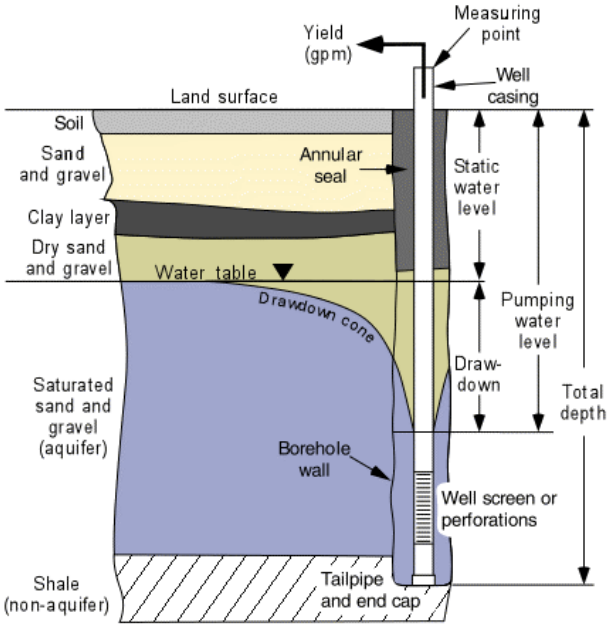


Figure 4. Water levels in a pumping well (Montana Groundwater Information Center, http://mbmggwic.mtech.edu/sqlserver/v11/help/welldesign.asp).

The Applicant suggests that the water level monitoring program may be revised or eliminated based on "the consistency of data collected" (Water Supply p. 34). It is unclear what this means – consistency with what? What inconsistencies would motivate continuation of the monitoring program? Any modifications to the monitoring programs should be based on what the monitoring program is revealing about the likelihood of negative impacts.

References

Harrill, J.R., Ground-Water Storage Depletion in Pahrump Valley, California-Nevada, USGS Water Supply Paper 2279, 1986.

APPENDIX A

GENERAL STATEMENT OF QUALIFICATIONS, RESUMES AND DECLARATIONS

1. Department Heads and Employees:

a. Doug Wilson, P.E., Interim Director, Inyo County Public Works: Mr. Wilson has served as Interim Public Works Director for the County on two occasions. The first from 2008 to 2009 and again, commencing 2010 to the present.

b. Bob Brown, Road Superintendent, Inyo County Road Department: Mr. Brown has served as Road Superintendent for Inyo County since 2008.

c. Paul Hancock, Engineering Assistant II, Inyo County Public Works Department: Mr. Hancock has worked as an Engineering Assistant II since August of 2000.

d. George Milovich, Inyo/Mono Agriculture Commissioner: Mr. Milovich has served as the Inyo/Mono Agriculture Commissioner since 1997.

e. Nathan Reade, Deputy Inyo/Mono Agriculture Commissioner: Mr. Reade has served as the Deputy Inyo/Mono Agriculture Commissioner since 2012.

DECLARATION OF

INYO COUNTY INTERIM PUBLIC WORKS DIRECTOR

DOUGLAS WILSON, P.E.

I, DOUGLAS WILSON, declare as follows:

1. I am the Interim Public Works Director for Inyo county.

2. My qualifications are outlined on Attachment A.

3. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

4. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 6, 2013 Signed: _____

At: Independence, California

DECLARATION OF

INYO COUNTY ROAD SUPERINTENDENT

BOB BROWN

I, BOB BROWN, declare as follows:

1. I am the Road Superintendent for Inyo County.

2. My qualifications are outlined on Attachment A.

3. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

4. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 8, 2013 Signed: Bob Brown

At: Independence, California

DECLARATION OF

ENGINEERING ASSISTANT II – PUBLIC WORKS DEPARTMENT

PAUL HANCOCK

I, PAUL HANCOCK, declare as follows:

1. I am the Engineering Assistant II in the Public Works Department

2. My qualifications are outlined on Attachment A.

3. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

4. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 8, 2013 Signed: Paul Hancock

At: Independence, California

DECLARATION OF

INYO/AG COMMISSION/COMMISSIONER OF WEIGHTS AND MEASURES

GEORGE MILOVICH

I, GEORGE MILOVICH, declare as follows:

1. I am the Inyo/Mono County Agricultural Commission and Director of Weights and Measures.

2. My qualifications are outlined on Attachment A.

3. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

4. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 7, 2013 Signed: _____

At: Bishop, California

DECLARATION OF

INYO AND MONO COUNTIES DEPUTY AGRICULTURAL COMMISSIONER/DEPUTY DIRECTOR OF WEIGHTS & MEASURES

NATHAN READE

I, NATHAN READE, declare as follows:

1. I am the Deputy Inyo/Mono County Agricultural Commissioner and Deputy Director of Weights and Measures.

2. My qualifications are outlined on Attachment A.

3. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

4. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 4, 2013 Signed: _____

At: INDEPENDENCE, California

AFFIDAVIT OF BOB BILLS

Affidavit of Bobby Bills

I, Bobby Bills, declare as follows:

1. I am a resident of Inyo County and a former employee of the Inyo County Road Department.

2. I was employed with the Inyo County Road Department and a Road Supervisor in District 4, which includes the proposed Hidden Hills site.

3. I have reviewed a map of the proposed Hidden Hills site and the various roads running through the site, specifically, Gold, Zircon, Topaz, Silver and Quartz. I am familiar with the location of both the proposed project site and these roads. A copy of the map I was provided is attached to this affidavit.

4. In regards to roads intersecting with Old Spanish Trail; I have reviewed the map provided to me by the County of Inyo; During my time as Road Supervisor of District 4, April, 2006 to my retirement April 2011, I inspected Old Spanish trail on a weekly bases, during this time, I never witnessed any barriers or signage placed on roads intersecting from Old Spanish Trail. These roads appeared to be open and well-traveled by the public, as I witnessed vehicles entering and exiting roads frequently.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated this 8 date of February, 2013 at Bishop, California

BOBBY BILLS, AFFIANT

NEW FILINGS

BOOK 208 PAGE 863

2322

RECORDED AT REQUEST OF
County of Tuolumne
MAR 2 1 PM 3 46
Official Records
Mrs. [illegible]
RECORDER

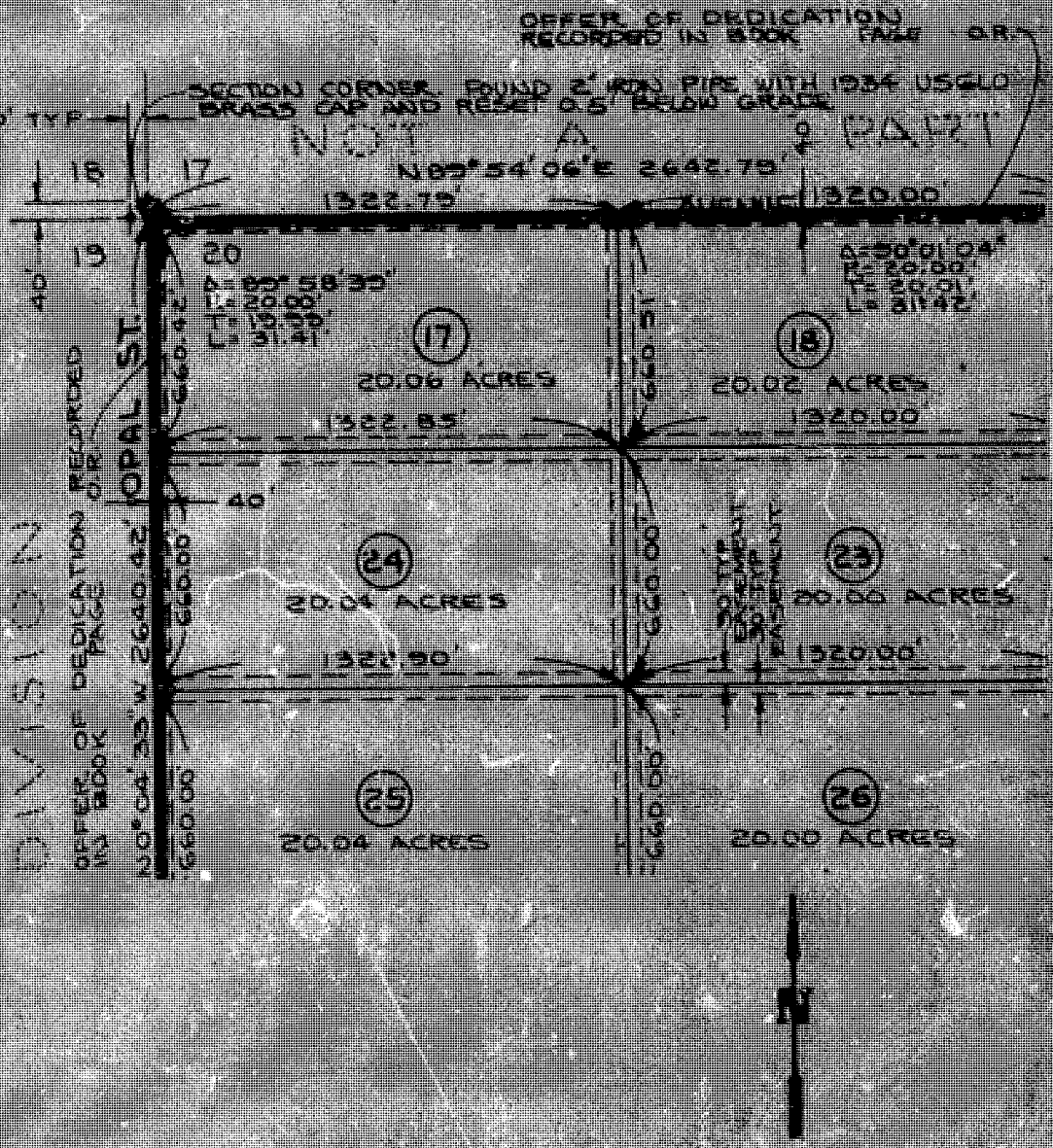
OWNER'S CERTIFICATE - OFFER OF DEDICATION

I hereby certify that I am the owner of or am interested in the land included within the division shown on the attached map marked Exhibit "A", and I consent to the preparation and filing of said map and division. I hereby offer to the public use the Private Street shown on said map, which may be accepted by the governing body at such time as the street shall have ceased to remain so physically closed or posted and shall have been open to the public travel for a period of one year or more, being more particularly described as follows:

The westerly 40 feet of Section 20, Township 2S North, Range 10 East, San Bernardino Meridian.

As owner of said property:

Attachment 1



A PORTION OF SECTION 20, T.22N, R.10E., S.B.M.,
COUNTY OF INYO, CALIF.

EXHIBIT "A"

2324

RECORDED AT REQUEST OF
County of San Diego
1976 JUL 1 PM 3 56
OFFICIAL RECORDS
SAN DIEGO COUNTY, CALIF.
FRED L. KILGORE, RECORDER

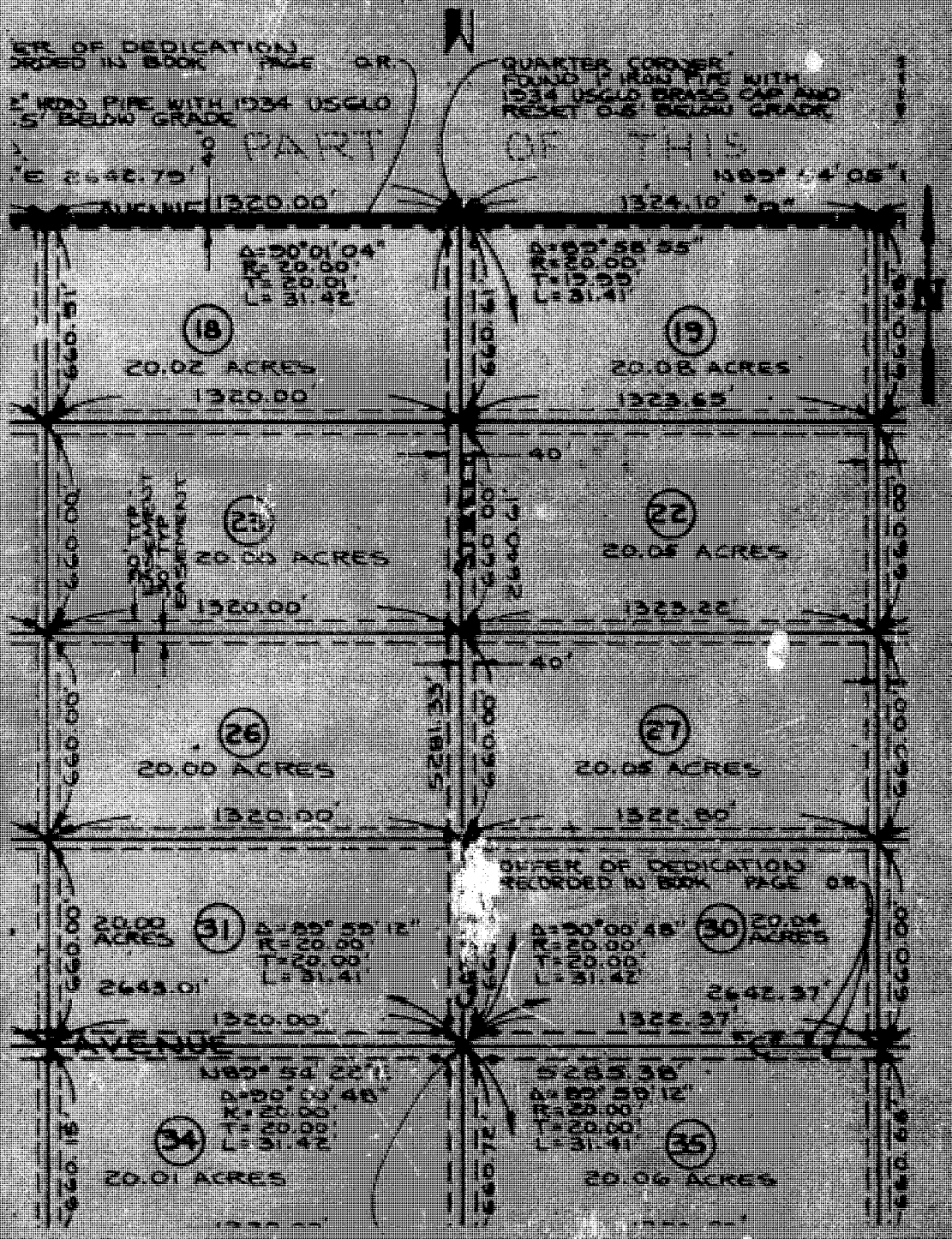
OWNER'S CERTIFICATE - OFFER OF DEDICATION

I hereby certify that I am the owner of or am interested in the land included within the division shown on the attached map marked Exhibit "A", and I consent to the preparation and filing of said map and division. I hereby offer to the public use the Private Street shown on said map, which may be accepted by the governing body at such time as the street shall have ceased to remain so physically closed or posted and shall have been open to the public travel for a period of one year or more, being more particularly described as follows:

The westerly 40 feet of the east half and the easterly 40 feet of the west half of Section 20, Township 22 North, Range 10 East, San Bernardino Meridian.

As owner of said property:

Attachment 2



A PORTION OF SECTION 20, T.22N., R.10E., S.B.M.,
COUNTY OF INYO, CALIF.

EXHIBIT "A"

EASI FILE CORP IRVINE CA HANGER EFH24

20163	PM
BK. 1 Pg. 63	1 of 6

SCALE: 1" = 400'

SHEET 1 OF 6 SHEETS

PARCEL MAP NO. 86

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA

BEING A DIVISION OF PORTIONS OF SECTIONS 15, 16, 20, 21, 22, 23, 27 AND 28, TOWNSHIP 22 NORTH, RANGE 10 EAST, SAN BERNARDINO MERIDIAN

RECORDED
AT REQUEST OF OWNER
DATE JULY 2, 1974
12 MIN.
PAST 9:00 A.M.
DOCUMENT 2330
IN BOOK PM 1
AT PAGE 63
OF MAP RECORDS
INYO COUNTY, CALIF.
Fred Flowers
COUNTY RECORDER
BY Mary Lou Stomah
DEPUTY

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS BASED UPON A FIELD SURVEY IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AT THE REQUEST OF ROLAND H. WILEY ON DECEMBER 29, 1973. I HEREBY CERTIFY THAT IT CONFORMS TO THE APPROVED TENTATIVE MAP AND THE CONDITIONS OF APPROVAL THEREOF; THAT ALL PROVISIONS OF APPLICABLE STATE LAW AND LOCAL ORDINANCES HAVE BEEN COMPLIED WITH.

Edward L. Gorton
EDWARD L. GORTON RCE 20930

This map has been examined this 1st day of July, 1974, for conformance with the requirements of Section 11575 of the Subdivision Map Act.
Signed Roger W. Glidden
County Surveyor

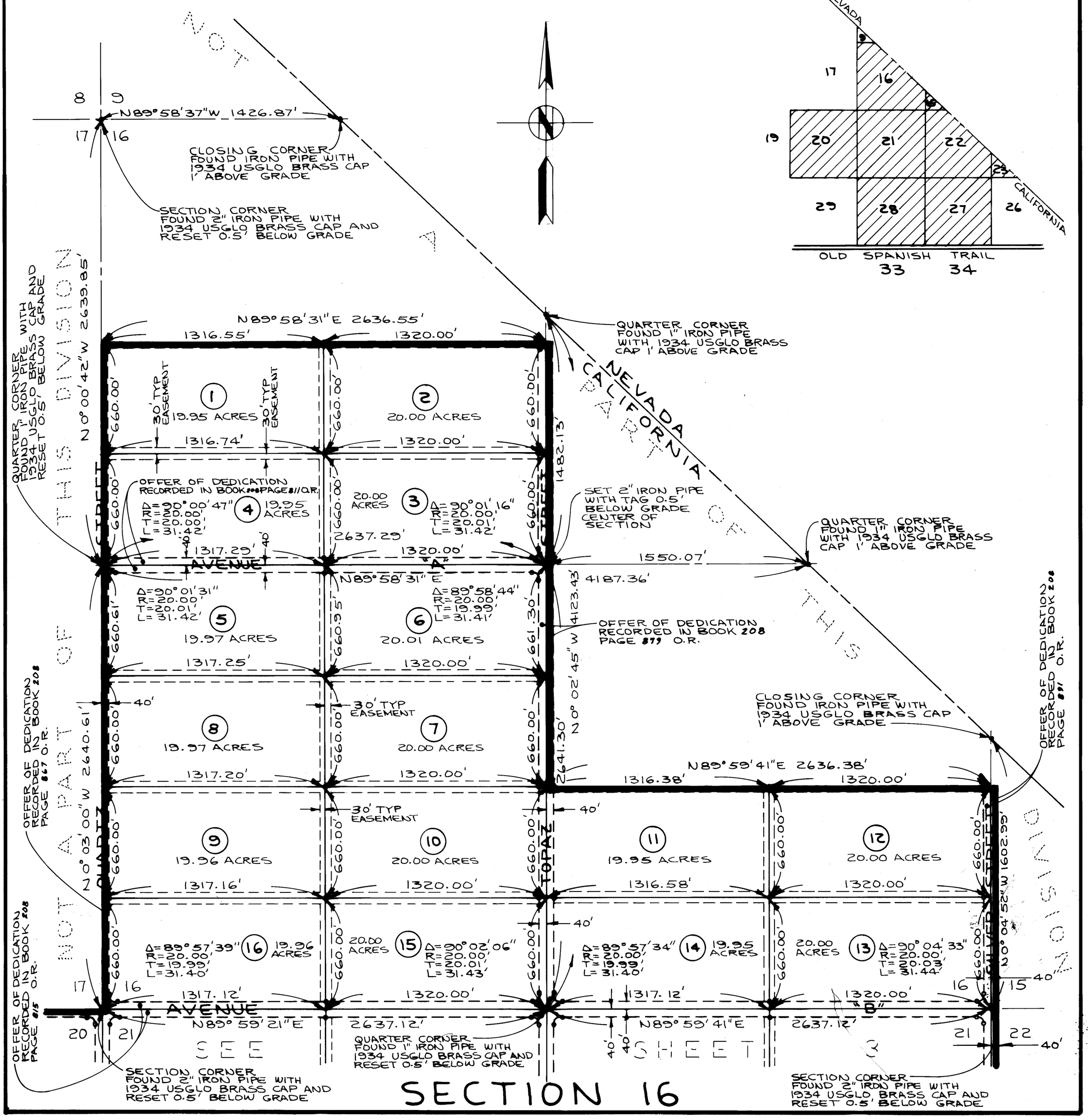
THE BEARING OF N 0° 03' 00" W BETWEEN THE SOUTH EAST CORNER OF SECTION 29 AND THE EAST QUARTER CORNER OF SECTION 29 AS SHOWN ON R.S.M.B. 7 PAGE 39 WAS USED AS THE BASIS OF BEARINGS FOR THIS MAP.

NOTES:

• INDICATES 1" IRON PIPE WITH TAG SET 0.3' ABOVE GRADE EXCEPT AS NOTED

EASEMENTS TO BE RESERVED IN DEEDS

THE FOLLOWING ARE PRIVATE STREETS: AVENUE "A", AVENUE "B", QUARTZ STREET, TOPAZ STREET, SILVER STREET



BOOK PM1 PAGE 63

EASI FILE CORP IRVINE CA HANGER EFH24

20164	PM
BK. 1 Pg. 64	2 of 6

SCALE: 1" = 400'

SHEET 2 OF 6 SHEETS

PARCEL MAP NO. 86

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA

BEING A DIVISION OF PORTIONS OF SECTIONS 15, 16, 20, 21, 22, 23, 27 AND 28, TOWNSHIP 22 NORTH, RANGE 10 EAST, SAN BERNARDINO MERIDIAN

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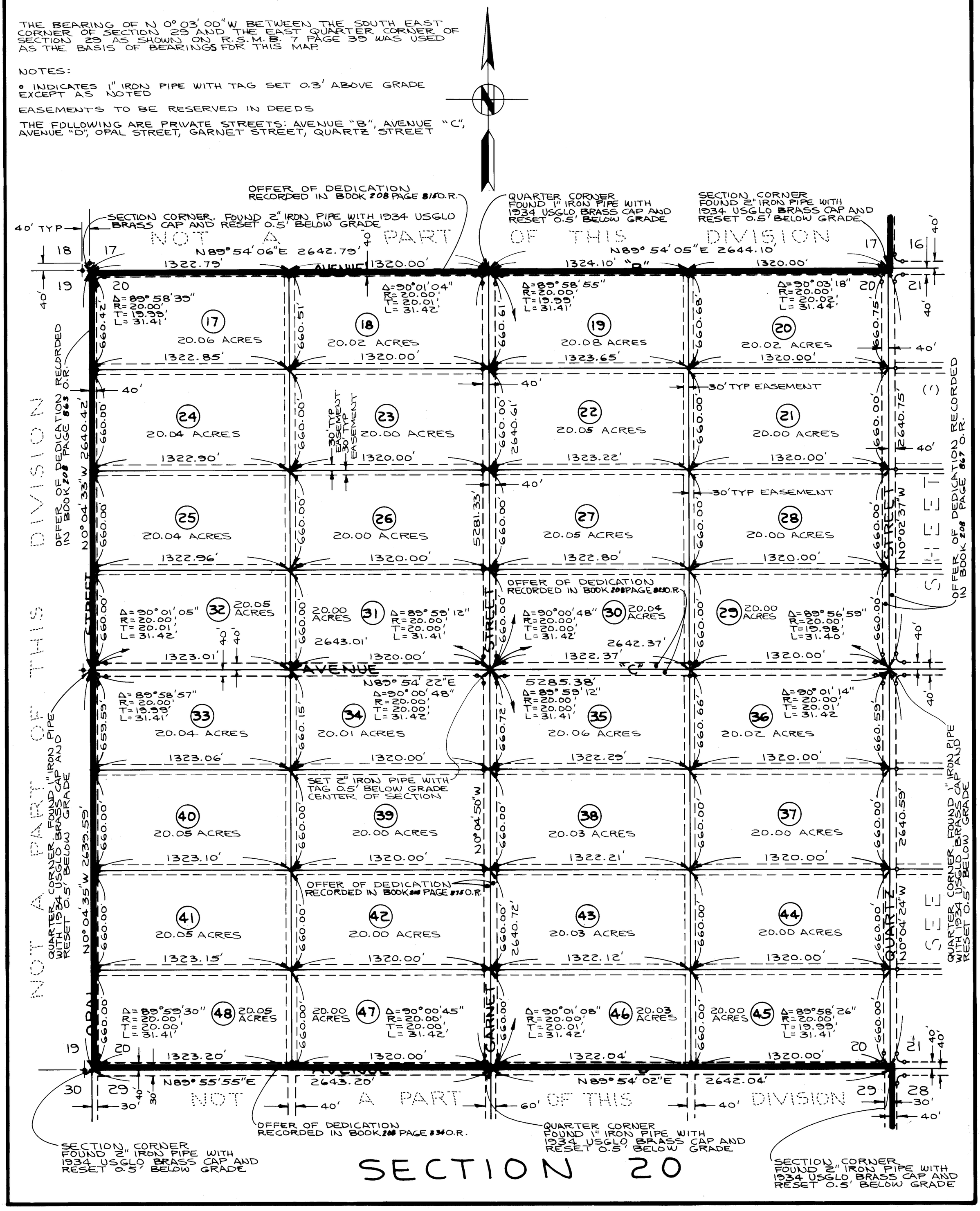
EASEMENTS TO BE RESERVED IN DEEDS

THE FOLLOWING ARE PRIVATE STREETS: AVENUE "B", AVENUE "C", AVENUE "D", OPAL STREET, GARNET STREET, QUARTZ STREET



BOOK PM1 PAGE 64

EASI FILE CORP IRVINE CA HANGER EFH24

20165	PM
BK. 1 Pg. 65	3 of 6

SCALE: 1" = 400'

SHEET 3 OF 6 SHEETS

PARCEL MAP NO. 86

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA

BEING A DIVISION OF PORTIONS OF SECTIONS 15, 16, 20, 21, 22, 23, 27 AND 28, TOWNSHIP 22 NORTH, RANGE 10 EAST, SAN BERNARDINO MERIDIAN

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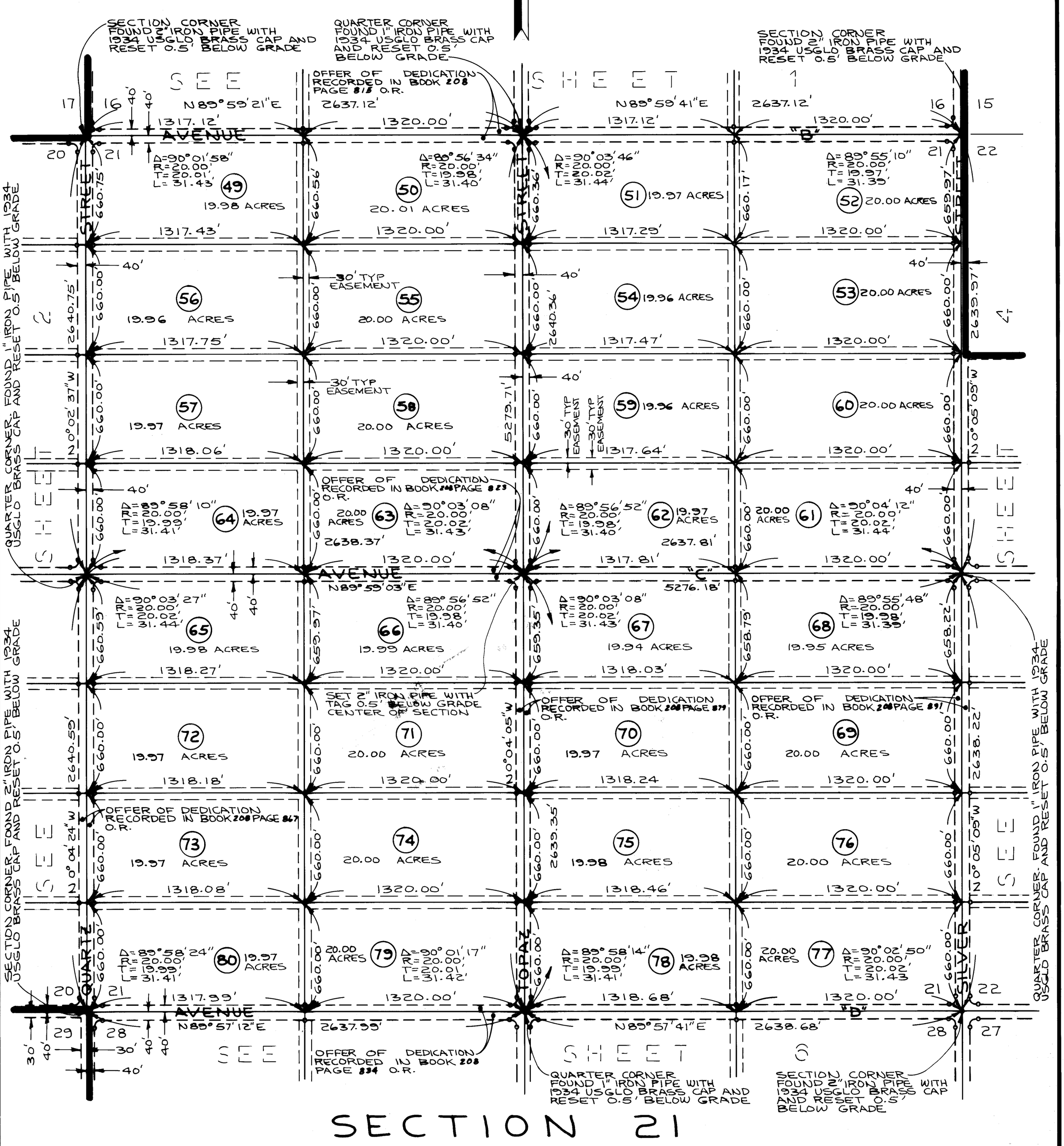
THE FOLLOWING ARE PRIVATE STREETS: AVENUE "B", AVENUE "C", AVENUE "D", QUARTZ STREET, TOPAZ STREET, SILVER STREET



BOOK PM1 PAGE 65

EASI FILE CORP IRVINE CA HANGER EFH24

20166	PM
BK. 1 Pg. 66	1 of 6

SCALE: 1" = 400'

SHEET 4 OF 6 SHEETS

PARCEL MAP NO. 86

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA

BEING A DIVISION OF PORTIONS OF SECTIONS 15, 16, 20, 21, 22, 23, 27 AND 28, TOWNSHIP 22 NORTH, RANGE 10 EAST, SAN BERNARDINO MERIDIAN

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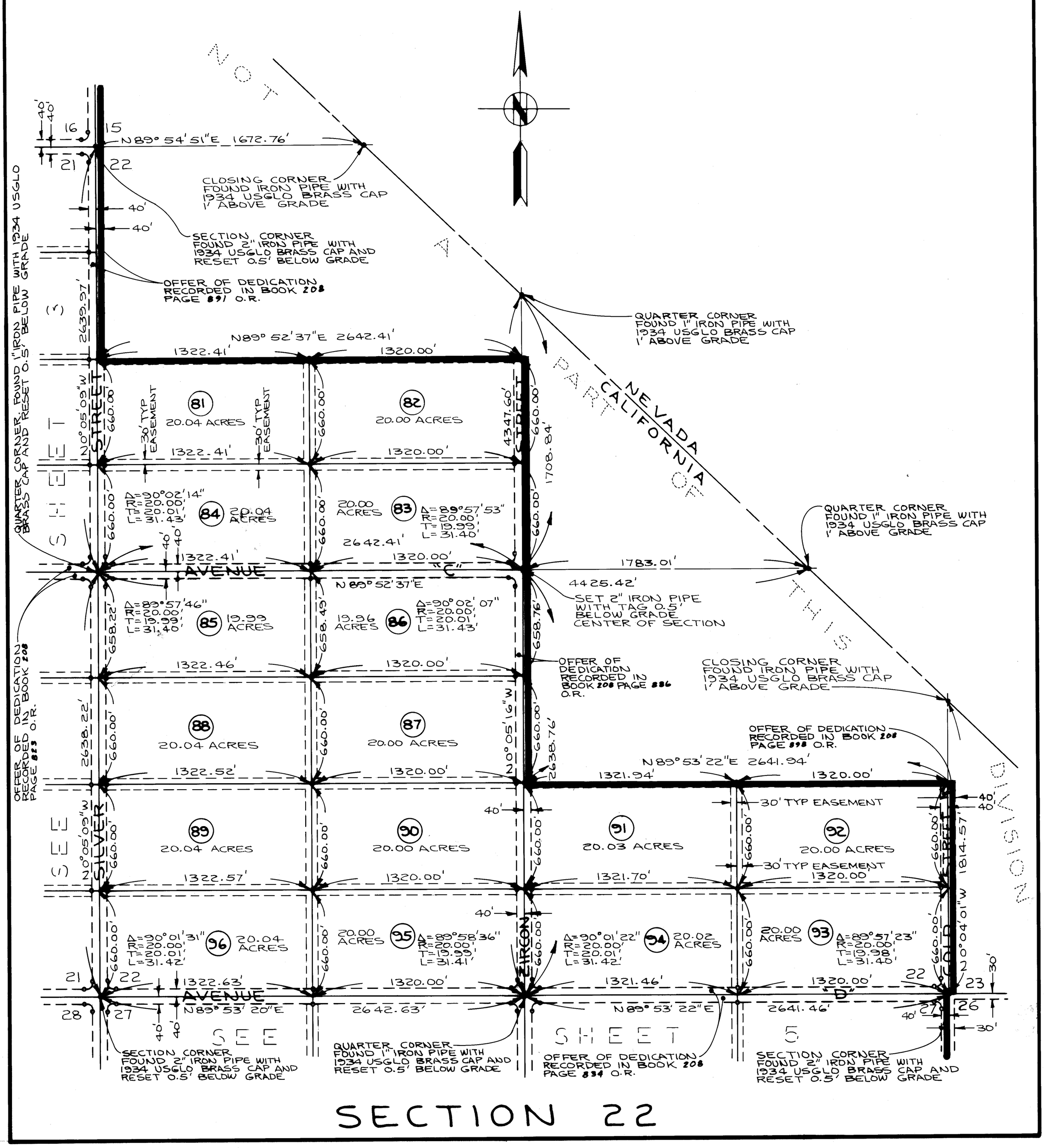
NOTES:

• INDICATES 1" IRON PIPE WITH TAG SET 0.3' ABOVE GRADE EXCEPT AS NOTED

EASEMENTS TO BE RESERVED IN DEEDS

THE FOLLOWING ARE PRIVATE STREETS: AVENUE "C", AVENUE "D", SILVER STREET, ZIRCON STREET, GOLD STREET



BOOK PM1 PAGE 66

EASI FILE CORP IRVINE CA HANGER EFH24

SCALE: 1" = 400'

SHEET 5 OF 6 SHEETS

PARCEL MAP NO. 86

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA

BEING A DIVISION OF PORTIONS OF SECTIONS 15, 16, 20, 21, 22, 23, 27 AND 28, TOWNSHIP 22 NORTH, RANGE 10 EAST, SAN BERNARDINO MERIDIAN

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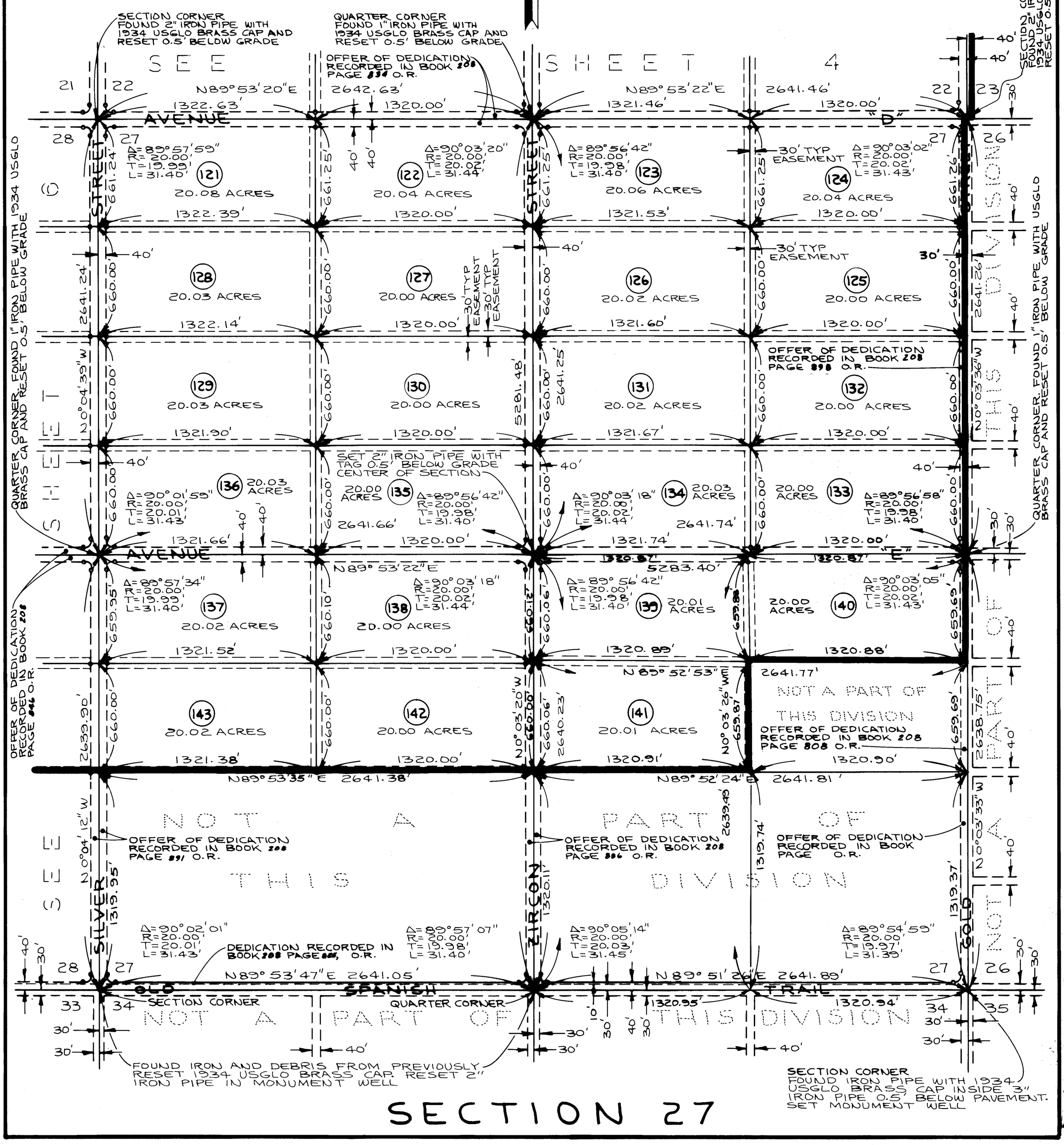
EASEMENTS TO BE RESERVED IN DEEDS

THE FOLLOWING ARE PRIVATE STREETS: AVENUE "D", AVENUE "E", SILVER STREET, ZIRCON STREET, GOLD STREET



EASI FILE CORP IRVINE CA HANGER EFH24

20168	PM
BK. 1 Pg. 68	6 of 6

SCALE: 1" = 400'

SHEET 6 OF 6 SHEETS

PARCEL MAP NO. 86

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF INYO, STATE OF CALIFORNIA

BEING A DIVISION OF PORTIONS OF SECTIONS 15, 16, 20, 21, 22, 23, 27 AND 28, TOWNSHIP 22 NORTH, RANGE 10 EAST, SAN BERNARDINO MERIDIAN

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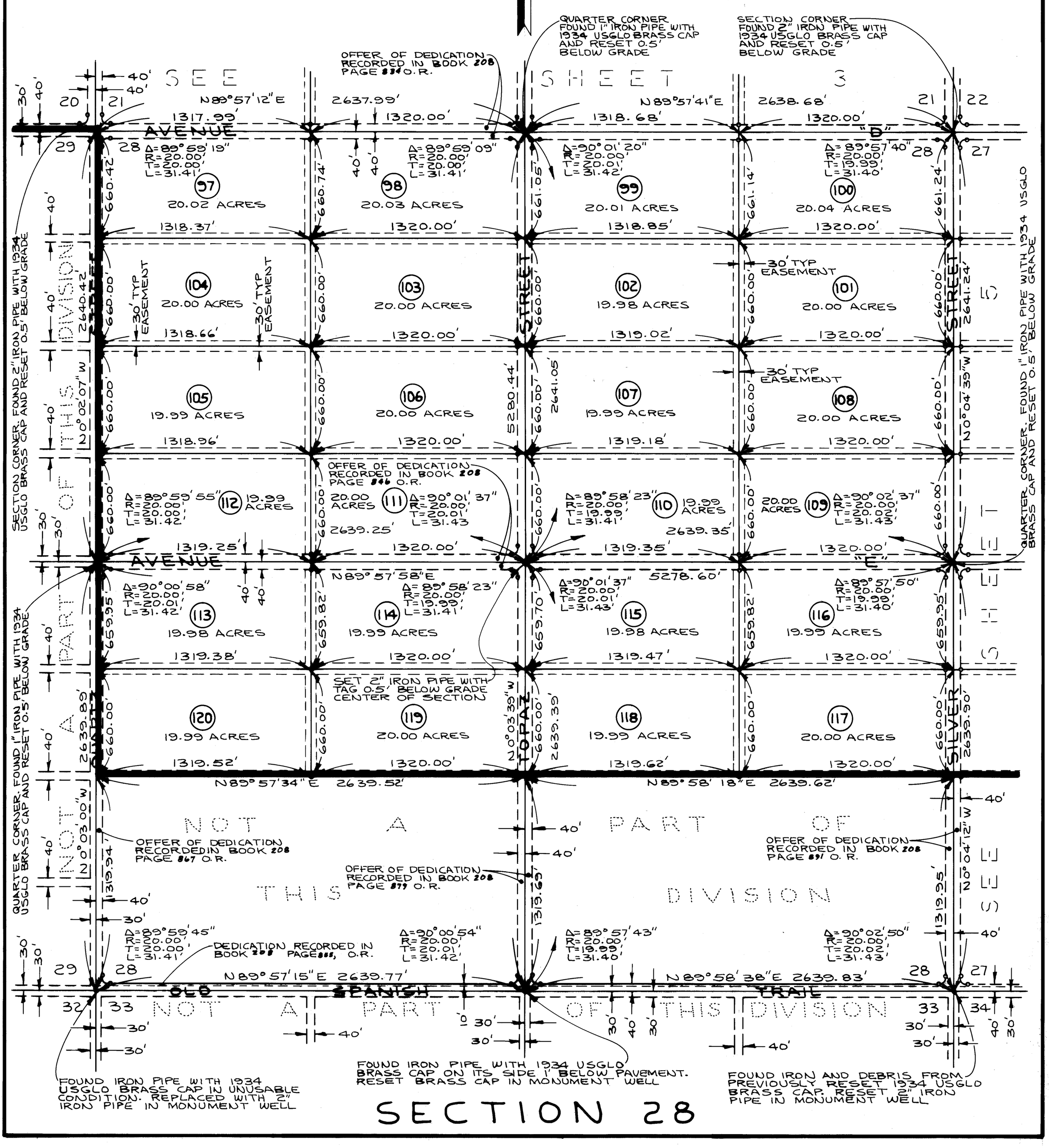

BOOK PM1 PAGE 68


Hidden Hills
Roads
N
0
0.25
0.5 Miles
Nevada
California
AVE A
AVE B
AVE C
AVE D
AVENUE E
QUARTZ ST
OPAL ST
GARNET ST
TOPAZ ST
SILVER ST
ZIRCON ST
GOLD ST
OLD SPANISH TRAIL HWY
E CRYSTAL RD
E HALL LN
W HALL LN
E LEY LN
W LEY LN
E FAITH LN
W FAITH LN
E CHARLESTON LN
W CHARLESTON LN
E MABEL LN
BADGER WAY
CREOSOTE WAY
DESERT TRAIL WAY
DEMING WAY
ROSE WAY
CARPENTER WAY
OWL WAY
QUAIL WAY
ANDERSON WAY
CHEEFER WAY