PORT OF IVORY
&
RICHARD BEST
TRANSFER

Master Site Plan

Operational Statement

& Landscaping Plan

PORT OF IVORY

&

RICHARD BEST TRANSFER

MASTER SITE PLAN

MASTER SITE PLAN FOR
THE PORT OF IVORY INDUSTRIAL PARK
Revised - April 2016

OVERVIEW

The Port of Ivory LLC ("POI") and Richard Best Transfer, Inc. ("RBT") were required to prepare a Master Site Plan as a condition of a Settlement Agreement and Mutual Release of Claims dated April 4, 2012 ("Settlement Agreement"), by and between Petitioners, Dinuba Citizens for Responsible Planning, a California non-profit unincorporated association, Roger Wazdatskey and Ruben Navarro Sr., individuals (collectively "Petitioners"), and Real Parties in Interest Richard Best Transfer Inc, a California corporation, and Port of Ivory, LLC.

The subject site is located at 6801 Avenue 430, Reedley CA 93654, on the south side of Avenue 430 between Road 68 and Road 72, west of the City of Dinuba. The site is in the M-2-SR (Heavy Manufacturing – Site Review Combining) Zone. (See Zoning Map Attachment #1.) The site is approximately 1,000 feet west of the Dinuba City Limits and within the City of Dinuba's 20-year Urban Boundary, although not within the County-adopted Urban Area Boundary or Urban Development Boundary. (See Dinuba General Plan Attachment #2.) The City of Dinuba does not plan to annex the site in the foreseeable future. The project is consistent with the City's Development Standards and the City has no objection to the Master Site Plans for RBT or POI. (See letter attached to Response to Comments for 5/11/16 Planning Commission meeting.)

The Master Site Plan shows the development on the Port of Ivory Industrial Park as of January 2016 and establishes a baseline. The Master Plan will have no impact on the environment and will not require conditions of approval as the improvements are intended to fulfill the conditions of the Settlement Agreement. The needs and plans of future tenants are not known and would be speculative; therefore, plans for future buildings, rail expansion, or parking, etc. are not included. RBT's future plans are included in a separate Operational Statement

SETTLEMENT AGREEMENT REQUIREMENTS

The Settlement Agreement was in response to noise and dust complaints regarding industrial activities on the site, specifically from RBT's freight forwarding yard. The Settlement Agreement required the following:

1. A Master Site Plan for review by the County – *Completed.* The Plan includes a map of businesses currently operating on the site, structures, and infrastructure. (*See Exhibit "A.")* Operational statements for current businesses are below.
2. An updated Operational Statement for RBT - *Completed. (See Exhibit "B" for RBT site plan.)*
    a. A Noise Study – *Completed in December 2014-January 2015.* Traffic volumes, truck mix, and vehicle speeds were added to Project-related on-site noise generators. Results of the analysis show that the noise levels adjacent to the Project's eastern boundary, in combination with the noise generated by the proposed NPK hard railcar system, will not exceed Tulare County's Land Use Compatibility for Community Noise Environments for sensitive receptors. Four residences currently exist within 900 to 1700 feet east of the

planned location of the free span barn and the hard railcar unloading system. In order to reduce potential short-term construction noise impacts reaching 60 dBA Lmax, conditions of approval are included in the RBT Final Site Plan project (PSR 14-005), for Planning Commission approval.

b. A Traffic Impact Study (TIS) – *Completed in December 2014-January 2015.* The TIS concluded that RBT will generate 76 ADT, with 50% (28 ADT) classified as truck traffic and the remaining 50% generated by 25 employees and visitors. A total 11 ADT will occur during A.M. and P.M. peak hours. The TIS concluded that the existing road network is adequate to accommodate the Project through the year 2040 and no mitigation is recommended.

c. Prioritized construction of a hard car unloader over the tracks and a commodities barn building – *The building permit was issued for the NPK hard car unloader equipment in October 2015 and installation should be completed within four months of approval. The commodities building will be constructed when RBT is economically able to do so.*

The Agreement also required the following:

1. Construction of an earthen berm to a height not less than 8 feet higher than the Alta Irrigation canal, from approximately Mr. Don Guy's property south to the approximate location where the berm tapers – *Completed.* (See separate Operational Statement for RBT.)
2. Additional landscaping on the berm with trees, oleanders and other species identified in a vegetation plan – (See Exhibit "C" - Landscape/Vegetation Plan, revised April 2016.)
3. County-conducted noise assessment, with the cooperation of RBT/POI - *Completed in May 2012*
4. Interim measures, until final approval of the Master Site Plan review – *All Implemented*
   a. No unloading on eastern-most or second-most eastern middle tracks, except past existing red barn.
   b. Hammer cars on middle two tracks only.
   c. Reduce on-site railcar speed.
   d. Eliminate on-site vehicle backing beeper noise at night.

The Agreement included an Operating Statement with the following POI Site operating hours:

a. Office: 8 A.M. to 5 P.M. Monday through Friday
b. Scale: 7 A.M. to 4 P.M. Monday through Friday
c. Operational Activities: 6 A.M. to 8 P.M. Monday through Friday, and as needed on Saturday between 6 A.M. and 8 P.M.
d. Delivery of Railcars: San Joaquin Valley Railroad delivers railcars to the Ivory site on Sunday through Thursday, from 8 P.M. to 8 A.M. (subject to any changes implemented by the SJV Railroad).

Conditions of approval for RBT's Final Site Plan No. PSR 14-005 will limit operations to 6,300 cars per year and a volume of 550,000 tons (as specified in San Joaquin Valley Unified Air Pollution Control District Authority to Construct No. S-7291-1-3). The operating hours for the office and scale will not change from those cited in the agreement. A condition of approval for operational activities will state that unloading and loading may take place between 6 A.M. to 8 P.M. on Monday through Friday, and as needed on Saturday and Sunday between 6 A.M. and 8 P.M. Railcars may be moved around the freight forwarding yard with the RBT diesel track mobile after 6 A.M. Unloading methods featuring the use of vibrators, excavators and/or hammers (or in combination) are prohibited until after 7 A.M., in order to reduce noise impacts. SJVR trains may deliver railcars 24 hours per day on Monday

through Saturday. Conditions of approval will determine the location of future unloading operations, the use of hammering of railcars to loosen hardened material, train speed, and the use of beepers sounding (as vehicles travel in reverse) during operations on the subject site.

MASTER SITE PLAN

Existing structures on the 110-acre Port of Ivory (POI) site include the following:

- A front office building with 5 hexagonal modules;
- A 20-space asphalt parking area;
- 20 asphalt parking spaces by Mission Agriculture's leased building;
- A 2,650 foot long, 60-foot wide asphalt paved Private Vehicular Access Easement across the contiguous parcels;
- Eight rail siding tracks;
- A 13,280 square foot truck shop and storage building, a 480 square foot storage building, and a shade canopy for an existing closed loop outside equipment wash area, with truck and employee parking area for Miramonte Sanitation's trucking terminal;
- A 440 square foot scale house with two 11'x70' commercial truck scales;
- A 30,000± square foot warehouse building with office;
- Four major covered structures/pole barns (a 101,150± square foot barn, a 27,200 square foot storage building, a 14,400 square foot storage building);
- Five smaller sheds, including a pump and fire system building and a 4,000 square foot "red barn";
- A separate restroom building;
- Five 1,000 gallon septic tanks/leach line systems;
- Eight water wells, with storage tanks and underground supply lines;
- Fire hydrants (9) and associated underground water supply lines;
- 5± light poles;
- 4,000 gallon above-ground diesel fuel tank;
- Storm water drainage pond/ponding basin, with associated underground drainage lines and above ground ditch;
- An 8 foot high, 1,200 foot long earthen berm with landscaping adjacent to the Alta Irrigation District's California Vineyard Ditch on the eastern side of the property;
- A 6 foot high chain link fence topped with barbed wire around most of site's perimeter, along Avenue 432, Road 68 and Avenue 430;
- Screening oleander bushes along Avenue 430 and Road 68;
- Signs - A freestanding 12 foot round by the front office and business identification signs;

See Attachment #5, a 1995 aerial photo of the site and Attachment #3, a 2015 Google Earth aerial showing existing structures and storage areas. It should be noted that many large storage buildings erected by the former saw mill were demolished in 2006-2007.

Manifest train railcars are stored on the "South Track" alongside the main SJVR track for unloading. The railcars carrying wood chips are stored on Track No. 1, which reaches the storage areas leased by Green's Best and ALW Enterprises. The animal feed railcars are stored on Tracks A, B, C, & D and

unloaded on Tracks #1- #4. RBT plans to build an additional rail spur link to the South Track to expedite removal of empty rail cars. (See Attachment #9 for track layout in 2012.)

The improvements were installed over the course of the past 70 years by a succession of different owners. Building permits and engineered plans before the 1990s are not available. The properties first began operating as a saw mill in the late 1940s and closed in 2000. (See Attachment #4 – 1948 & 1967 use permit site plans and Attachment #5 – 1995 aerial photo of site with saw mill.)

Although RBT operates mostly on APN 012-260-069, some facilities are shared among the Port of Ivory Industrial Park tenants, such as the truck scale and loading dock, employee restrooms, two storage sheds; two wells, and three fire hydrants on APN 012-250-018. In addition, RBT shares storage space with Green's Best and ALW. Two storage buildings, one well, and two fire hydrants are located on APN 012-250-017.

The parties to the 2012 Settlement agreement agreed to allow the County to issue a building permit in October 2015 for RBT to prepare a foundation and to install an electric-powered NPK hard car unloader over the tracks. Future plans for RBT involve the installation of an electric-powered drag conveyor and a bucket elevator plus the construction of a commodities pole barn for covered storage of the materials, and a rail tie-in to the "South Track," alongside the main train track. At the request of neighboring property owner, Roger Wazdatskey, the applicant agreed to change the location of the commodities barn approximately 500 feet north and to shorten its length by 200 feet. The barn's roof will cover the conveyor equipment and will be extended to hang over the NPK hard car unloader in order to reduce noise impacts. At some time in the future, the applicant plans to enclose the barn with dust screens, install a bag house to filter dust, and install solar panels on the roof. The solar panels will power the electric hard car unloader and conveyor equipment. (See details in the separate RBT Operational Statement.) No other structures are planned for RBT or other tenants.

WATER AND WASTEWATER

As the project is not a new facility, the County does not require a site drainage plan or a water system master plan for the POI Master Site Plan or for the RBT Final Site Plan. The County of Tulare Public Works Department does not typically require a site drainage plan for existing facilities that are outside floodplains. Although the southernmost portion (approximately 600 feet) of the subject site is located in Flood Zone A, most of the site is located within Flood Zone X. Structures proposed in Zone A require an elevation certificate or mitigation measures, while those in Zone X do not. In 2011, rail spurs were constructed in the Flood Zone A. JD McGee Engineering designed the tracks with a culvert and certified that the track would not result in any increase to the 100-year flood elevation in the vicinity. (See separate RBT Operational Statement's Attachment #11.)

Much of the site remains unsurfaced, except for access roads, storage areas and structures. The soil on most of the site is moderately well drained Delhi loamy sand. The northernmost parcel contains Hanford sandy loam, which is also moderately well drained, and San Joaquin Loam, which has a hardpan layer and is not as permeable.

As noted earlier, the property was developed as a saw mill in the 1940s, and drainage improvements were added through the decades, until the saw mill closed in 2000. A pond is included in site plans for the 1948 and 1967 M-2 Manufacturing Use Permits. (See Attachment #4, of 1948 and 1967 use permit site plans.) The site currently contains one ponding basin (in the center of the site) and another in the southern Flood Zone A. During storm events, ditches direct water to the ponds. (See Exhibit "A.")

The eight wells noted on the site plan are 150 feet or farther from restroom facilities that utilize septic systems. The only restrooms are in the office, a separate restrooms building, and in the area leased by Miramonte Sanitation. RBT employees utilize restrooms in the separate building or portable toilets provided further south on the subject site, closer to the unloading/loading area. The portable toilets are regularly serviced and pumped by a licensed company.

The site operators use dust control measures recommended by the Air District's Rule No. 2201 (New and Modified Stationary Source Review Rule) and cited in the 2014 Authority to Construct. These measures include use of water or chemical/organic stabilizers/suppressants. As noted earlier, bulk materials handled outside an enclosed building are protected with suitable covers, in compliance with District Rules 8011 (General Requirements) and 8031 (Bulk Materials). Trucks and other transport vehicles must obey posted vehicular speed limits on the site. Loads of bulk materials are required to be covered with tarps or to have water applied to the top. The existing 2,650-foot long, 60-foot wide private road from the site entrance at Avenue 430 and Road 68 is paved with asphalt.

LANDSCAPING

Per the 2012 Settlement Agreement, the applicant is required to increase the density of existing vegetation on the earthen berm along the eastern border of the RBT site and the Alta Irrigation District ditch, by planting oleanders, trees and/or other species of plants. The Landscape Plan revised in April 2016 shows existing vegetation by the ditch and more details on where oleanders and pine trees will be planted, as well as how many will be required to increase vegetative density. The oleanders will reach maturity in three years, with a 20 foot height and 20 foot diameter. The pines will reach a 40 foot height and 30 foot diameter, with low branches intertwined and touching ground, in five years. Spacing will exceed Caltrans standards of 10-20 foot spacing.

The Plan also shows the irrigation system's proposed water source and irrigation lines. A condition of approval for Final Site Plan No. PSR 14-005 requires the applicant to provide for convenient irrigation in the form of hose bibs and/or a drip, bubbler or sprinkler system. The contractor will be required to install the landscape to meet California Model Landscape Water Efficient Landscape Ordinance standards.

Conditions of approval for Final Site Plan No. PSR 14-005 also require the applicant to ensure that all landscaped areas contain fertile, friable soils with adequate subsurface drainage and to permanently maintain the areas in a neat and viable condition.

FIRE SAFETY

The existing fire suppression system on the site was developed for the saw mill, which included storage of wood chips and lumber. Adequate fire suppression was, and remains, in the operators' best interests. There are no proposed new uses that would require extensive engineered plans for a new system. The County Fire Department is aware of the former and current uses and did not request additional information or provide comments regarding fire hydrant pipe diameters or flow rates for either the Project Review Committee preliminary review (PRC 14-041) or the Final Site Plan No. PSR 14-005 (per correspondence dated 11/24/14 and 12/22/14). It is the property owner's responsibility to have private fire hydrants inspected and tested in accordance with N.F.P.A. 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," Title 19 & CFC, Section 904.

Wood chips are stored within the lease sites of the two companies on the POI Industrial Park that handle them, Green's Best and ALW Enterprises. (See Exhibit "A" for POI Master Site Plan.) The Tulare County Fire Department created a flier on combustibles such as wood pallets, which are comparable wood products. Stacks shall be separated by at least eight feet and be limited to fifteen feet in height and coverage no greater than 400 square feet. There shall be a minimum of 20 feet separation between stacks fronting fire lanes with proper turnarounds. The minimum distance for storage next to a building is 50 feet from a wood building without sprinklers. No combustible material shall be stored beneath a non-sprinklered building or structure. The storage area currently complies with the above-noted standards. Conditions of approval are included in the RBT Final Site Plan No. PSR 14-005 Resolution to ensure fire safety.

COMMODITIES

The commodities handled by Richard Best Transfer on the site are not hazardous, and include bran feed pellets, canola meal and pellets, corn germ and gluten, whole cotton seed, cotton seed hull pellets and meal, dairy beet pulp pellets, dried distillers grain, hominy, linseed pellets, soy hull pellets, sunflower meal and pellets, urea, sodium chloride, phosphate, and barley. An inspector from the California Department of Food and Agriculture takes bimonthly samples for the animal feed commodities. Test results are available upon request from the RBT office.

Other products received at the Port of Ivory site via the San Joaquin Valley Railroad include ornamental bark and lumber for POI tenants Green's Best and ALW and for various off-site businesses and sodium bicarbonate for POI tenant Mission Ag.

ENVIRONMENTAL REVIEW & COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The POI tenants were considered in the RBT Final Site Plan No. PSR 14-005's Addendum to a Previous Negative Declaration (Addendum) Prepared for Change of Zone No. PZ 07-010. The Addendum was prepared for RBT in 2015, in compliance with CEQA Guidelines Section 15164, because only minor technical changes or additions were necessary and none of the conditions

described in CEQA Guidelines Section 15162 had occurred. As noted earlier, the improvements to RBT are a direct result of fulfilling the terms (conditions) of the Settlement Agreement. It is reasonable to infer that neither party to the Settlement Agreement would propose or agree to conditions that would exacerbate an impact to any resource identified in Appendix G of the CEQA Guidelines. The Addendum is available upon request, and is included as an attachment to the Response to Comments prepared for the Planning Commission meeting.

The 2007 Initial Study/Negative Declaration for Change of Zone No. PZ 07-010 frequently noted that future Projects – those requiring a Final Site Plan land use permit triggered by a building permit as required in the SR (Site Review Combining) Zone overlay - would be reviewed by the County, providing the opportunity to impose project specific conditions of approval and mitigation measures as any impacts are identified.

The previous Negative Declaration for PZ 07-010 was signed by County's Environmental Coordinator, approved by the Planning Commission on December 12, 2007 via Resolution No. 8287 and certified by the Board of Supervisors on January 29, 2008 via Resolution No. 2008-0043. A Notice of Determination was filed February 5, 2008. (The PZ 07-010 Negative Declaration is available upon request, and is included as an attachment to the Response to Comments prepared for the Planning Commission meeting.)

ENTITLEMENTS

The businesses leasing space from the Port of Ivory are allowed by right in the M-2-SR (Heavy Manufacturing – Site Review Combining) Zone. No Special Use Permits are required for POI's current tenants. The M-2 Zone allows by right wood and lumber processing, such as tenants Green's Best and ALW Enterprises, and feed mills, such as Mission Ag Resources. The M-2 Zone also allows any use permitted in the M-1 (Light Manufacturing) and C-3 (Service Commercial) Zones. The C-3 Zone allows by right freight forwarding terminals and yards, which are equivalent to RBT's railroad/trucking transloading facility. The C-3 Zone also allows by right trucking terminals including repairing and overhauling, such as Miramonte Sanitation. A Final Site Plan is required for projects in an SR (Site Review Combining) Zone and is for a use that complies with zoning, but requires additional review, findings and conditions of approval. Preliminary and Final Site Plan Reviews are triggered by permits for buildings or relocation and/or for grading or construction work. (Zoning Ordinance Sections 14, 13, 12.5, 16.4 and 16.2 are available on the County website and are attached to the Response to Comments prepared for the Planning Commission meeting.)

OPERATIONAL STATEMENTS

Operational Statements were procured from the current tenants of the Port of Ivory, as the Master Site Plan was developed.
Richard Best Transfer, Inc. – *See separate document.*

Miramonte Sanitation operates a trucking terminal on a 5± acre leased portion of 18-acre APN 012-250-005 in the POI Industrial Park. The site is used for truck parking, servicing, fueling and cleaning. Clean roll off bins and carts are also stored on the site. The lease area contains parking areas, a 400

square foot storage building, a 17,540 square foot shop and truck repair building, a 4,000 gallon above ground fuel storage tank, and a 300 square foot concrete pad with a closed loop system and sump for cleaning equipment.

The County Zoning Ordinance allows a trucking terminal with repairing and overhauling in the M-2 (Heavy Manufacturing) Zone by right. Currently, Miramonte operates ten trucks from the facility and two may be added. Drivers arrive on site at 5:30 A.M. and leave for their routes by 6:00 A.M. Trucks return between 3:00 P.M. and 3:30 P.M. The trucks operate Monday through Friday and occasionally on Saturdays. A total of 19 Miramonte employees currently work on the subject site, with a possible increase to 23 at some point in the future, per Miramonte's separate Operating Statement.

There are currently three mechanics and two managers working out of the shop building, possibly increasing by two mechanics in the future. Two full time and two part time staff plus a manager work in the main Industrial Park office and may add two additional employees in the future, per Miramonte's separate Operating Statement. Office hours are 8:00 A.M. to 4:30 P.M. Monday through Friday. Final Site Plan No. PSR 15-003 is being processed for Miramonte to secure approved building permits for a metal storage/shop building and for additional storage area inside the main shop building. The company is also required to upgrade the employee restroom to comply with State and Federal ADA requirements for persons with disabilities.

Miramonte is a POI tenant and has no plans to amend their operation(s) on the site in any manner beyond what is allowed by right in the M-2-SR (Heavy Manufacturing-Site Review Combining) Zone. No Miramonte trucks transport waste material to or from this site and no waste material is stored on the site. If Miramonte were to expand, a Final Site Plan would be required.

Mission Ag Resources LLC operates on 2.73-acre APN 012-260-021 with 14 full time employees and occasional temporary staff. The company provides dairy base mineral mixes and supplements to local dairies. Raw materials are not hazardous and are stored in drums, totes and other containers under shelter. Mixing and packaging is done inside a structure. Soybean oil is used for dust control. Mission Ag has one 40-foot flatbed truck and trailer, but contracts out most deliveries to independent trucking companies. Truck deliveries total eight per day, per the company manager, Deborah Mize in 6/2/15 phone conversation.

ALW Enterprises operates an agricultural wood screening yard on a 5-acre portion of 19± acre APN 012-260-017. One employee works on the site to operate screening equipment, unload and load materials and complete paperwork. Occasionally others from the company's Fresno headquarters assist. California Air Resources Board (CARB)–certified equipment is utilized to screen already processed orchard chips to provide four separated sizes of mulch for landscaping, biomass wood fuel, bedding, ground covers, etc. The wood chips are stored within the 5-acre lease area noted on the Master Site Plan, in piles that are safe distances apart, in compliance with County Fire Marshall requirements. No grinding or composting takes place on the site. Sales are wholesale and usually in large semi-load quantities. Truck trips average a maximum ten (10) per day, most by independent trucking companies, per Tim Weaver of ALW in a 6/1/15 phone conversation. No vehicles are stored on the subject site.

Green's Best operates on a 5-acre portion of a 19± acre APN 012-250-017 with two full time employees and temporary staff. The wood chips are stored within the 5-acre lease area noted on the

Master Site Plan, in piles that are safe distances apart, in compliance with County Fire Marshall requirements. The company supplies orchard removal wood mulches to local school districts, Caltrans and different landscapers. The company has one company vehicle, a Chevy Avalanche pickup, and contracts with outside trucking companies for deliveries. Truck trips average a maximum ten (10) per day. No grinding or composting takes place on the site.

VEHICLE TRAFFIC

Trucks and automobiles access the Port of Ivory (POI) Industrial Park from a single entrance on Avenue 430 at Road 68. The most efficient truck routes were outlined by RBT Facilities and Building Materials Manager, Gary Rogers, in 2012. (See Attachment #6 for RBT truck routes.) Trucks exiting the POI to the north drive north on Road 68, west on Avenue 432/Floral Avenue, and then south along Road 64 to Avenue 416/El Monte Way and west to State Route 99. Alternatively, trucks exiting the POI to travel south drive east on Avenue 430, then south on Road 80/Alta Avenue. The order is reversed for trucks traveling to the POI. Traffic through Dinuba follows the City's designated truck routes on Alta Avenue and El Monte Avenue. (See Attachment #7 for Dinuba truck routes.) Few if any large trucks travel from the POI along Road 72 or Avenue 424, per the applicant. According to County's 2010 Pavement Management System (PMS), Road 72's pavement is approximately 21.4 feet wide between Avenue 424 and Avenue 432, which is narrow for large trucks. (Note: The Traffic Impact Study did not include Road 72 or Avenue 430 in its analysis.)

The RBT facility (on APN 012-260-069 (formerly APNs 012-260-019 and -067)), Mission Ag (on APN 012-260-021) and Green's Best and ALW Enterprises (on APN 012-250-017) have indirect access to Avenue 430 via an existing 2,650-foot long, 60-foot wide, asphalt paved Private Vehicular Access Easement (PVAE) across contiguous parcels to the west and north. Per a County Engineering/Public Works Branch comment letter dated March 10, 2003 for Tentative Parcel Map No. PPM 02-025 (which created APN 012-260-067 and -068), the PVAE is improved to a higher standard than required. Because the improvements necessary to achieve the conditions specified in the Settlement would not result in additional truck traffic, the Public Works/Engineering Branch did not require any conditions of approval for RBT's Final Site Plan No. PSR 14-005.

The Port of Ivory Industrial Park has five tenants, whose employees, visitors, deliveries and shipments generate an estimated total 282 Average Daily Trips (ADT) (see the break down in the table below)**.** Approximately 164 of the 282 daily trips are truck trips.

Business Tenant	Number of Employees	Employee Trips	Daily Deliveries/ Shipments	Total Daily Trips
Richard Best Transfer	20	38	38	76
Miramonte Sanitation	19 -23	46	70	116
Mission Ag Resources LLC	14	28	36	64
Green's Best	2	4	10	14
ALW Enterprises	1 on site	2	10	12
TOTAL	**60**	**118**	**164**	**282**

A Traffic Impact Study (TIS) was prepared in December 2014-January 2015 by VRPA Technologies for the Project applicant as required by the 2012 Settlement Agreement between petitioners Dinuba Citizens for Responsible Planning and Real-Parties-in-Interest, Richard Best Transfer Inc. and Port of Ivory LLC. (See TIS in the 9/23/15 Planning Commission Agenda packet and attached to the response to comments for the Planning Commission meeting.) The "General Light Industrial" land use code from the Institute of Transportation Engineers (ITE) Trip Generation Handbook was used for the analysis.

Operations on four intersections were analyzed – Buttonwillow Avenue/Floral Avenue, Road 68/Floral Avenue, Road 72/Avenue 430 and Road 80/Avenue 430. Results of the analysis show that none of the study intersections will fall below acceptable levels of service through the year 2040. Year 2040 is used, as this is the Tulare County Association of Government's forecast horizon.

Operations on two road segments near the facility were analyzed – Floral Avenue from Buttonwillow Avenue to Road 68 and Avenue 430 from Road 72 to Road 80. Results of the analysis show that none of the roadway segments will fall below acceptable levels of service through the year 2040.

The TIS concluded that the RBT project will generate 76 average daily trips, with 50% (38 Average Daily Trips) classified as truck traffic and 50% generated by 25 employees and visitors. A total 11 average daily trips will occur during A.M. and during P.M. peak hours. Truck traffic from the POI is calculated at 50% of 282 daily trips, or 141 daily truck trips. Multiplied by 260 days (52 weeks x 5 days/week), the POI generates approximately 36,660 total truck trips per year.

The TIS concluded that the existing road network is adequate to accommodate the Project through the Year 2040 and no mitigation is required or recommended.

MAP EXHIBITS

A. Master Site Plan for POI
B. RBT – PSR 14-005 Site Plan
C. Landscape Plan for RBT and POI (Exhibit "B" of RBT Operational Statement)

ATTACHMENTS

1. Zoning Map
2. Dinuba General Plan Map
3. 2015 Google Earth Aerial of POI, showing product storage areas
4. Site Plans for 1948 & 1967 use permits for saw mill on site.
5. 1995 Aerial photo of saw mill operations
6. RBT Truck Routes
7. Dinuba designated truck routes
8. Assessor map pages 012-25 and 012-26 for POI and vicinity
9. RBT track layout - 2012

MAP EXHIBITS

Exhibit A – Master Site Plan Map for POI

Master Site Plan Map for POI PSR 14-005

Exhibit B – RBT Site Plan Map - PSR 14-005

Exhibit C – POI and RBT Landscape Plan Map

Exhibit A – Master Site Plan Map for POI

Master Site Plan Map for POI PSR 14-005

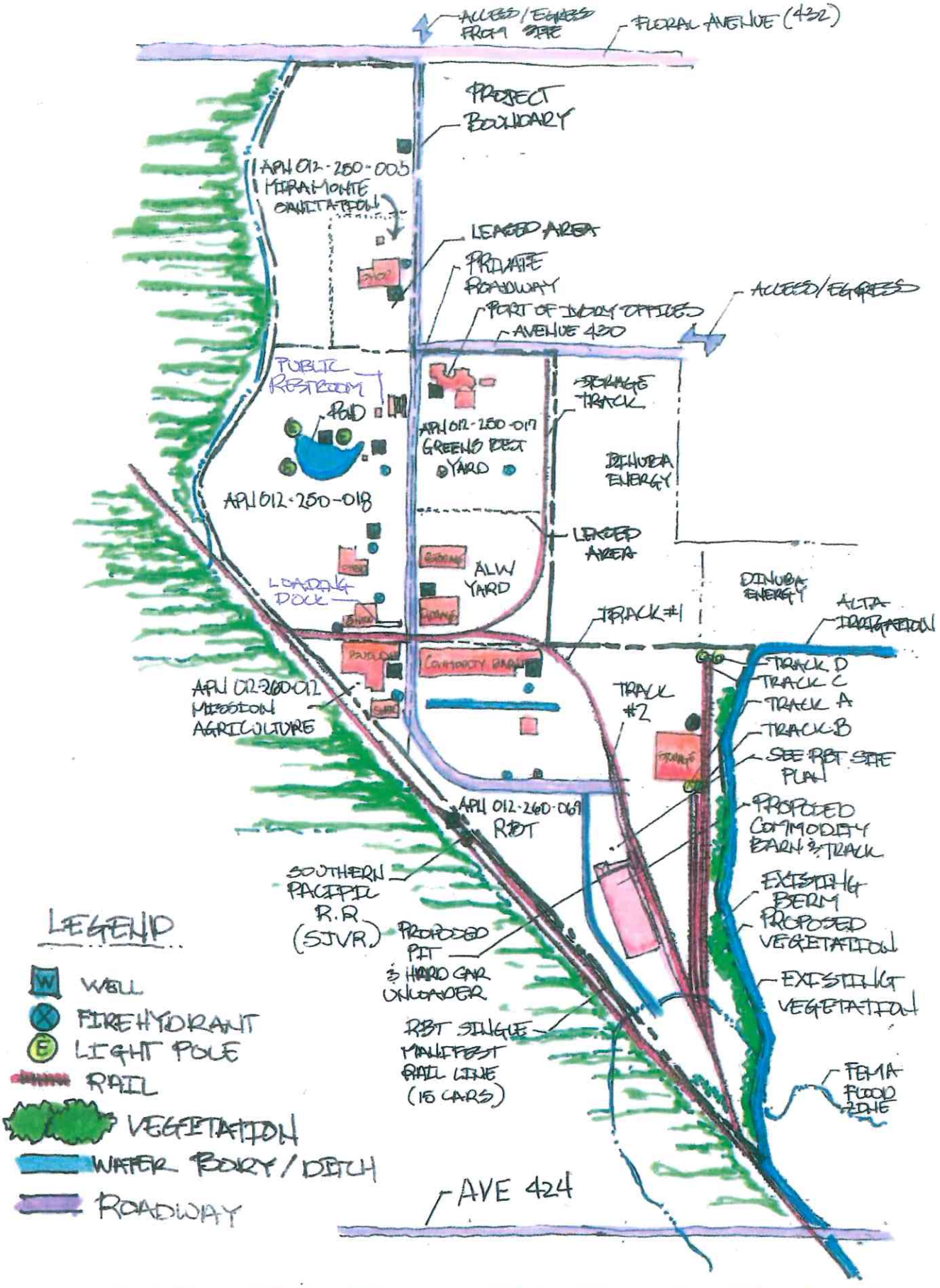
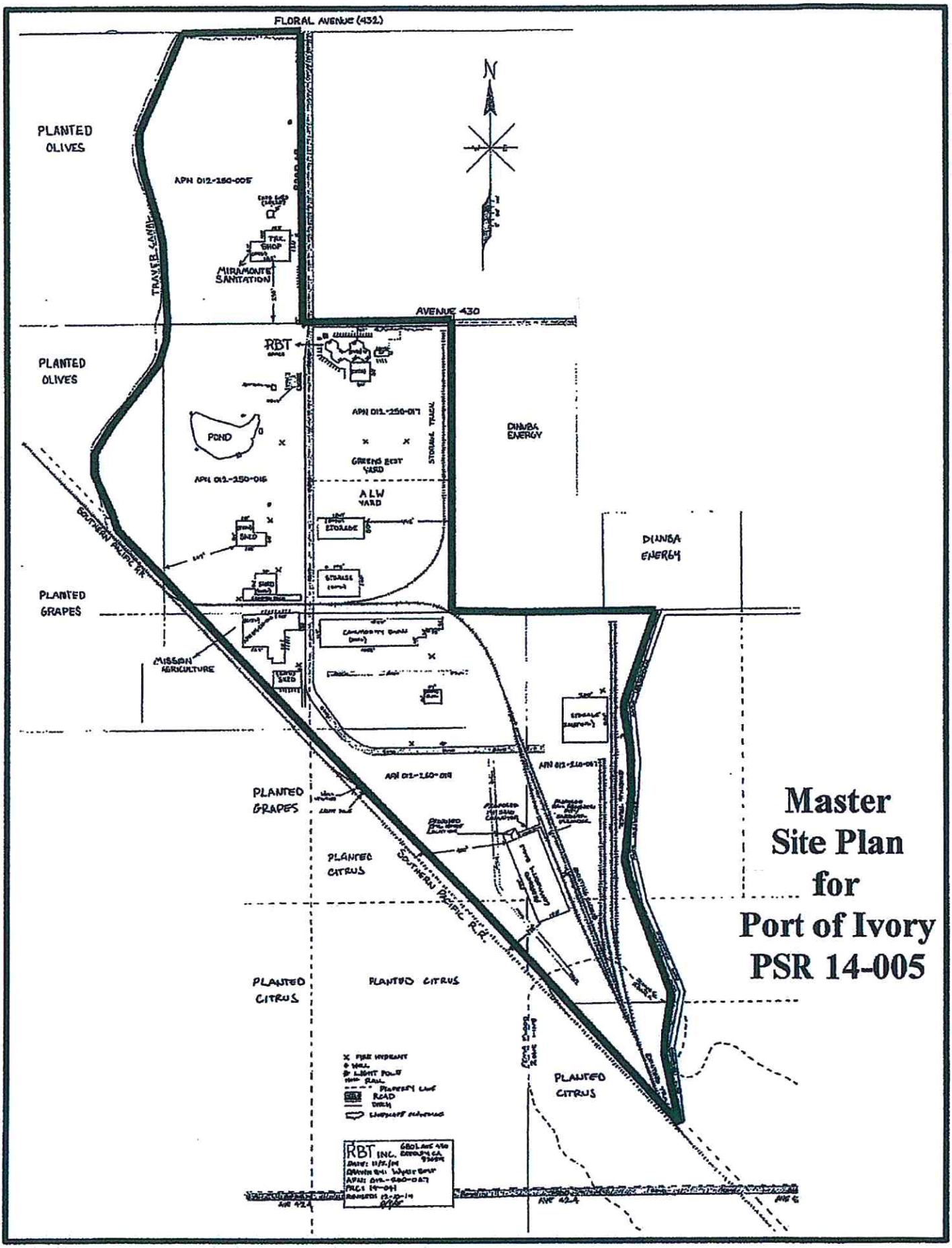
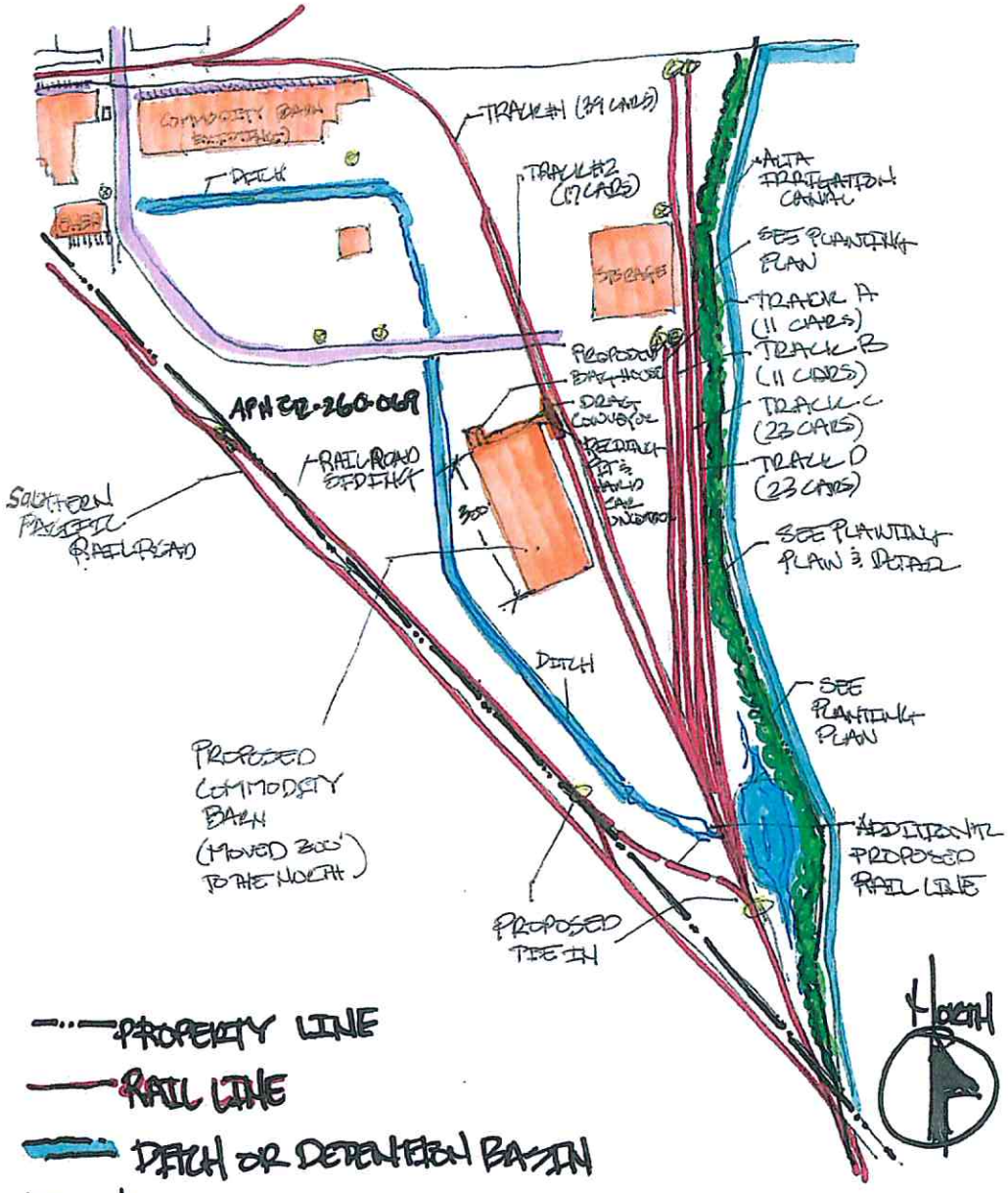


Exhibit "A" - Master Site Plan for Port of Ivory



Master Site Plan for Port of Ivory PSR 14-005

Exhibit B – RBT Site Plan Map - PSR 14-005



RBT SITE PLAN

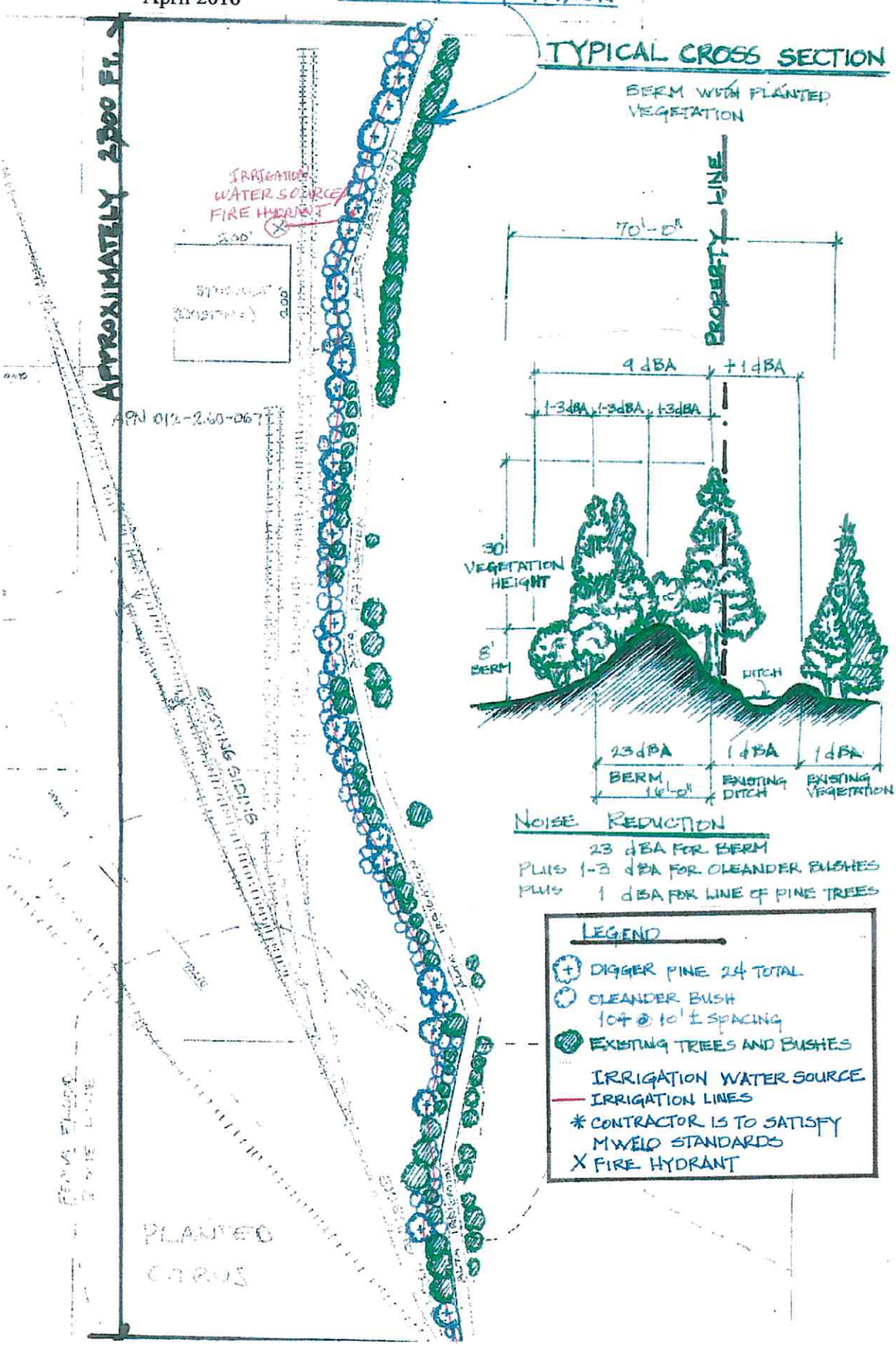
APRIL 1, 2016

TULARE COUNTY RMA

Exhibit C – RBT and POI Landscape Plan Map

LANDSCAPE PLAN
Richard Best Transfer Inc. and
Port of Ivory, LLC

April 2016



POI MASTER SITE PLAN ATTACHMENTS

Attachment 1 – Zoning Map

Attachment 2 – Dinuba General Plan Map

Attachment 3 – 2015 Google Earth Aerial – POI

Attachment 4 – Site Plans Maps

a) **1948**
b) **1967**

Attachment 5 – 1995 Aerial of Saw Mill Operation

Attachment 6 – RBT Truck Routes

Attachment 7 – Dinuba Circulation Element Map (Designated Truck)

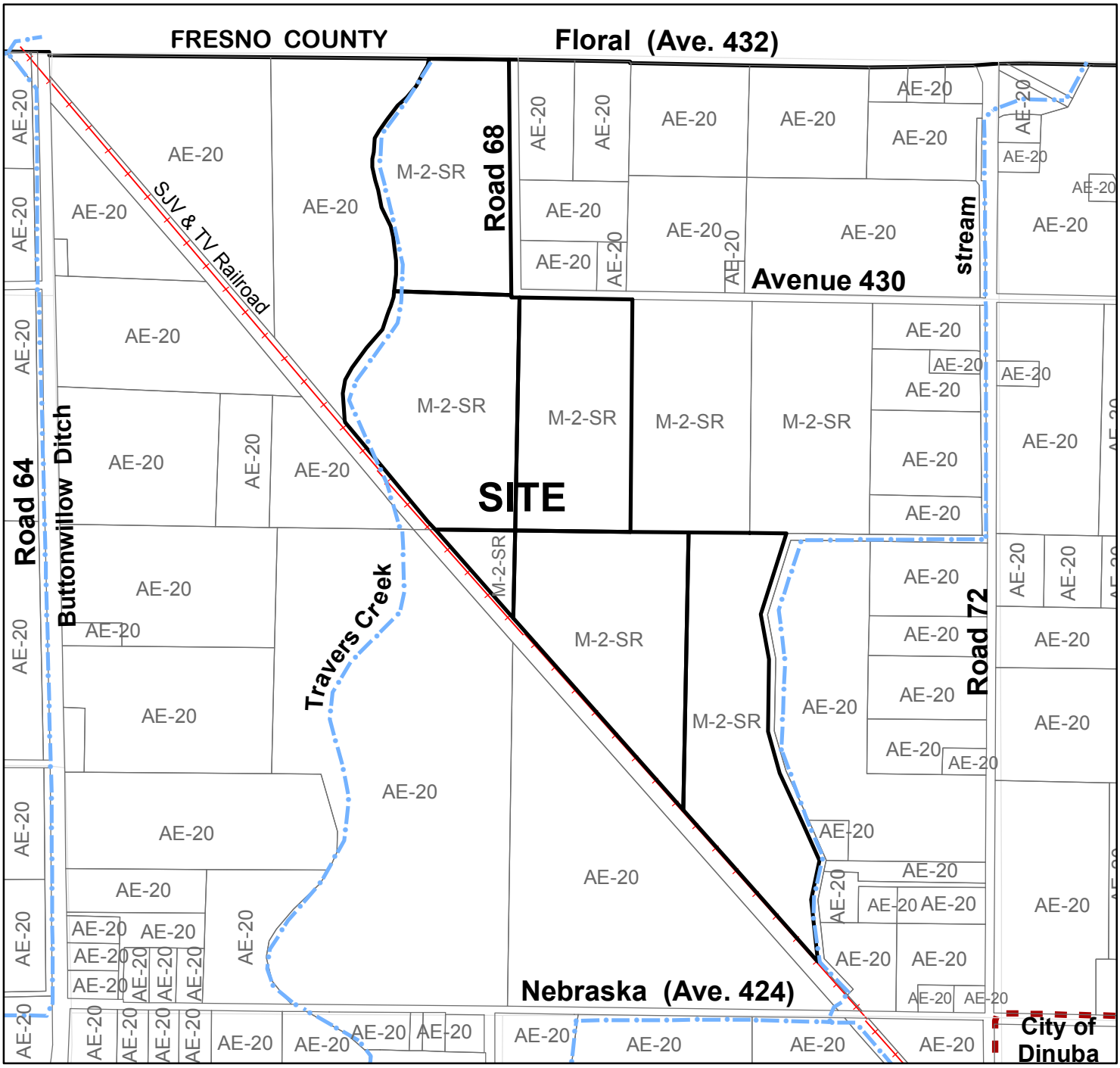
Attachment 8 – Assessor Parcel Maps

a) **012-25**
b) **012-26**

Attachment 9 – RBT Track Layout - 2012

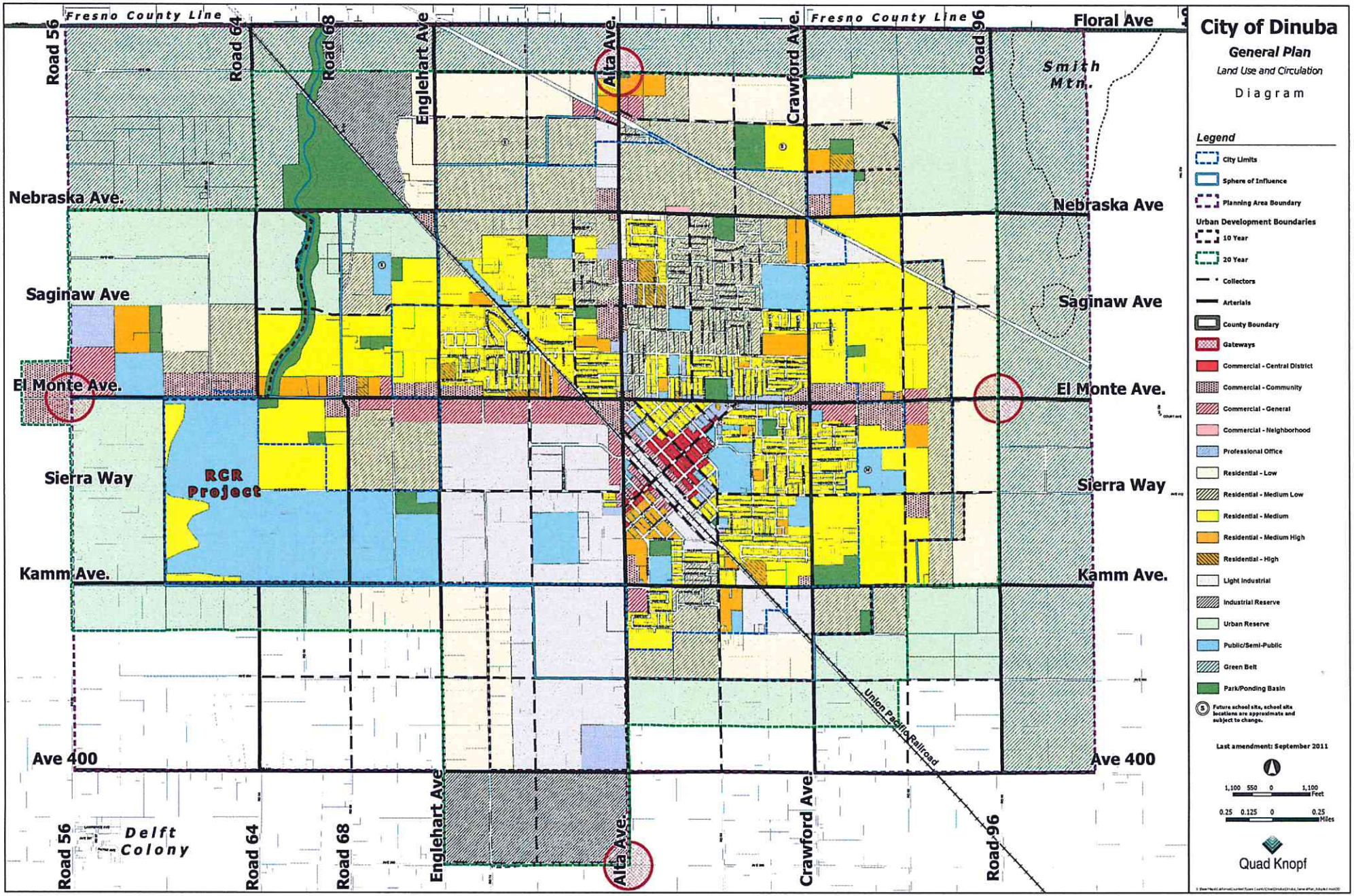
Attachment 1 – Zoning Map

Existing Zoning Map
For
PSR 14-005

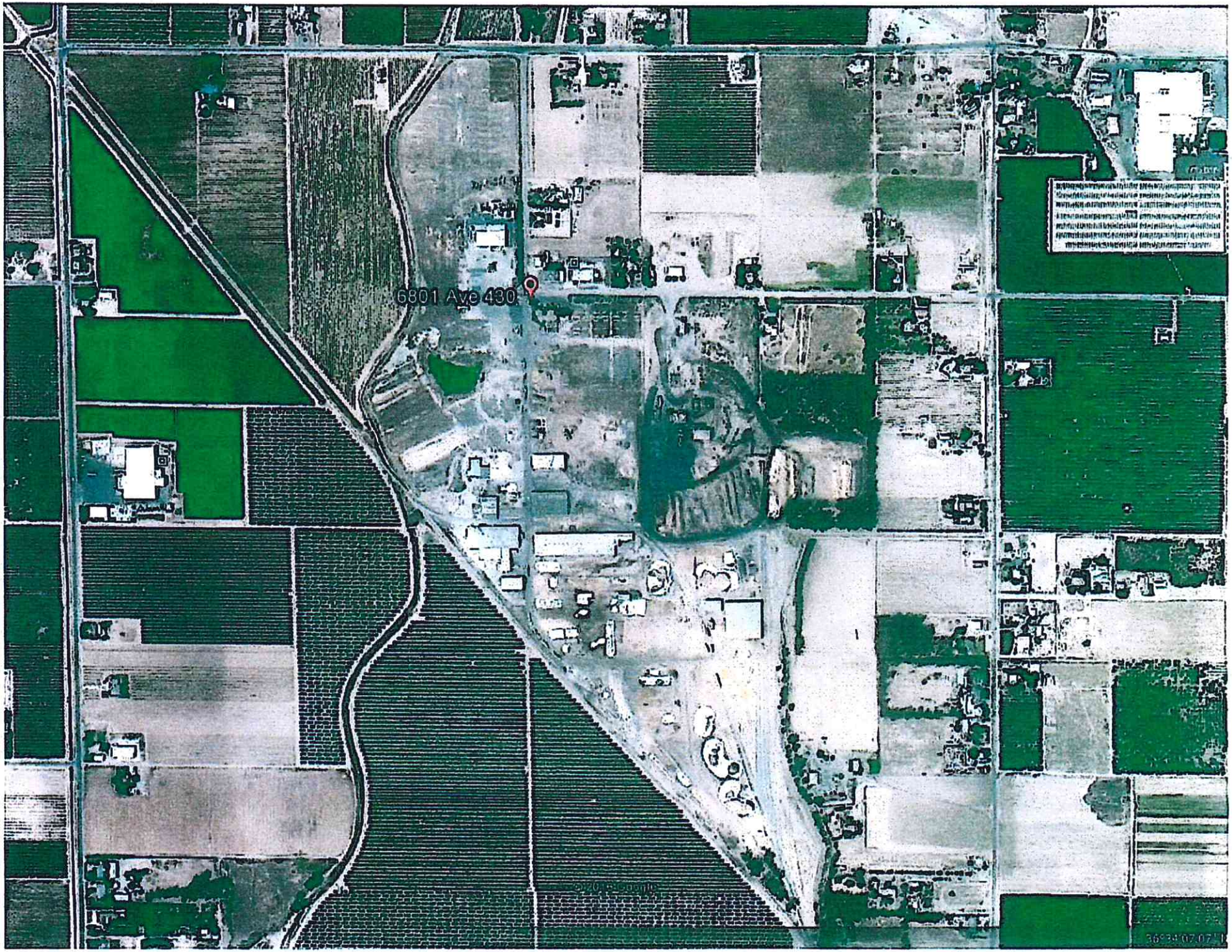


Owner: Port of Ivory LLC
Address: 6801 Ave 430
City, State, ZIP: Reedley
Applicant: Richard Best Transfer, Inc
Agent: n/a
Supervisorial District: 4
Assessors Parcel: 012-260-019 & -067

Attachment 2 – Dinuba General Plan Land Use Map


Fresno County Line
Fresno County Line
Road 56
Road 64
Road 68
Englehart Ave
Alta Ave.
Crawford Ave.
Road 96
Floral Ave
Smith Mtn.
Nebraska Ave.
Nebraska Ave
Saginaw Ave
Saginaw Ave
El Monte Ave.
El Monte Ave.
Sierra Way
Sierra Way
RCR Project
Kamm Ave.
Kamm Ave.
Union Pacific Railroad
Ave 400
Ave 400
Delft Colony
Road 56
Road 64
Road 68
Englehart Ave
Alta Ave.
Crawford Ave.
Road 96
City of Dinuba
General Plan
Land Use and Circulation
Diagram
Legend
City Limits
Sphere of Influence
Planning Area Boundary
Urban Development Boundaries
10 Year
20 Year
Collectors
Arterials
County Boundary
Gateways
Commercial - Central District
Commercial - Community
Commercial - General
Commercial - Neighborhood
Professional Office
Residential - Low
Residential - Medium Low
Residential - Medium
Residential - Medium High
Residential - High
Light Industrial
Industrial Reserve
Urban Reserve
Public/Semi-Public
Green Belt
Park/Ponding Basin
Future school site, school site locations are approximate and subject to change.
Last amendment: September 2011
1,100 550 0 1,100 Feet
0.25 0.125 0 0.25 Miles
Quad Knopf

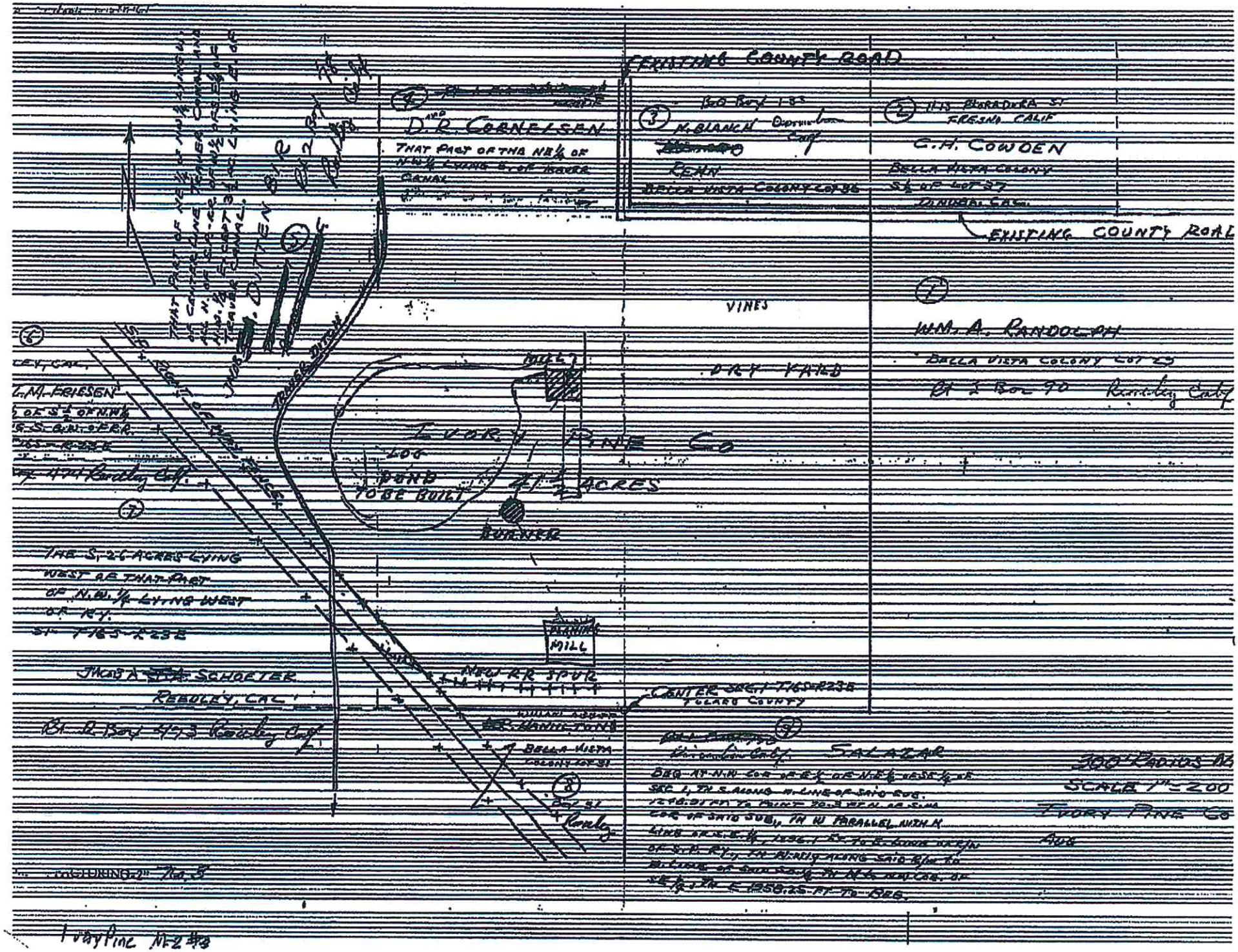
Attachment 3 – 2015 Google Earth Aerial – POI


6801 Ave 430

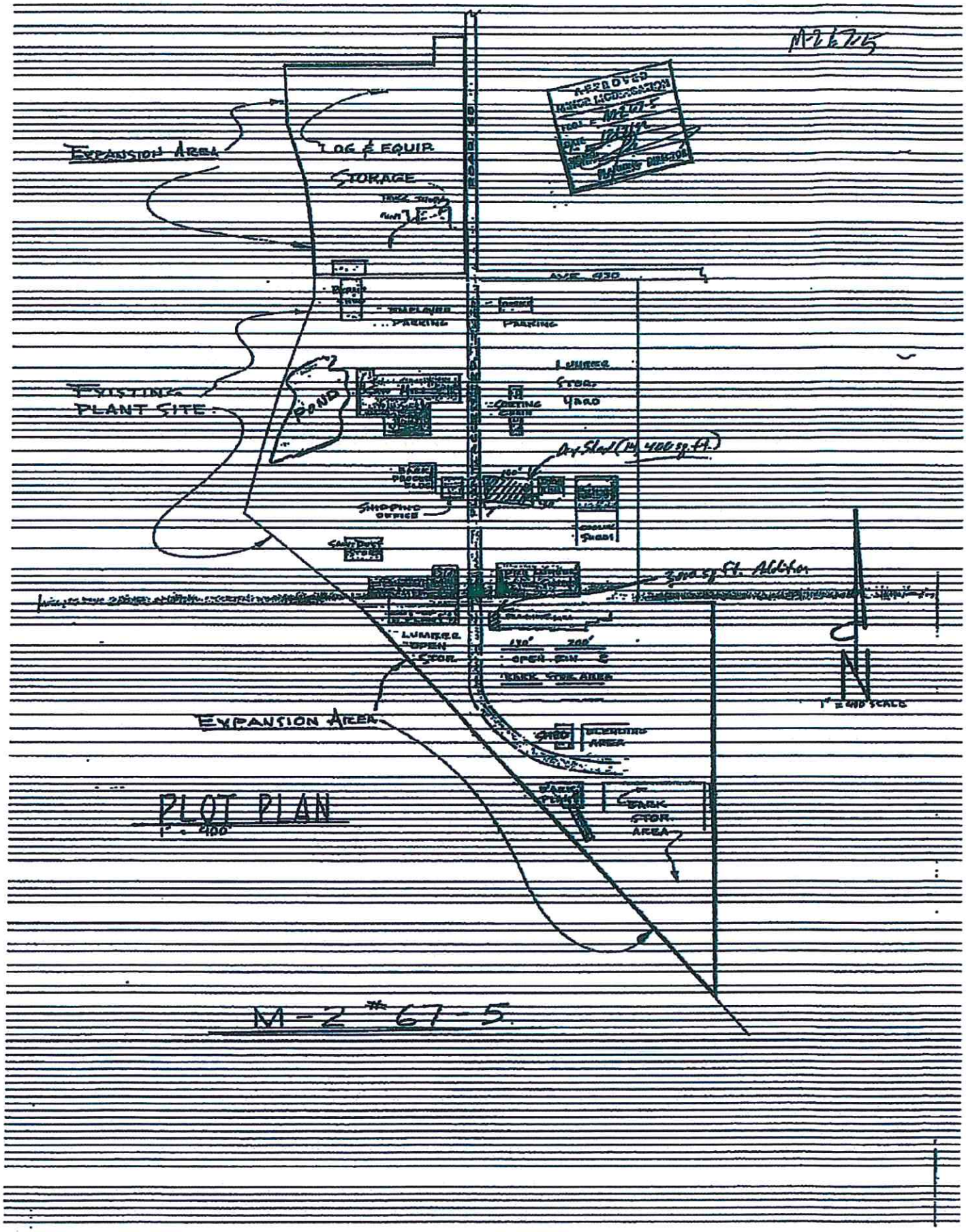
Attachment 4 – Site Plans Maps

- **Use Permit M-2 #3**
- **Special Use Permit M-2 #67-5**
- **Special Use Permit M-2 #67-12**

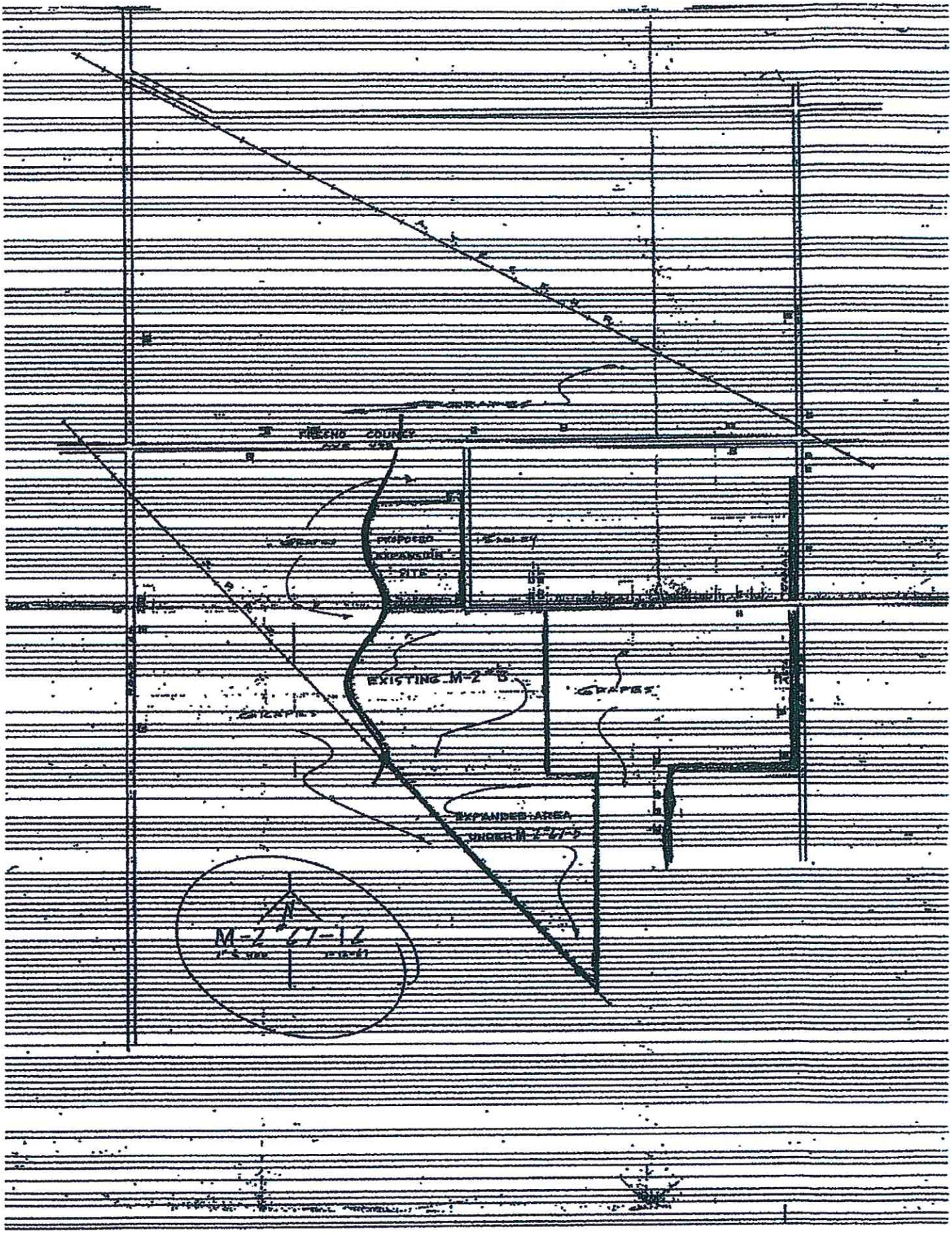
Use Permit M-2 #3, Site Plan Map



Special Use Permit M-2 #67-5 Site Plan Map1967



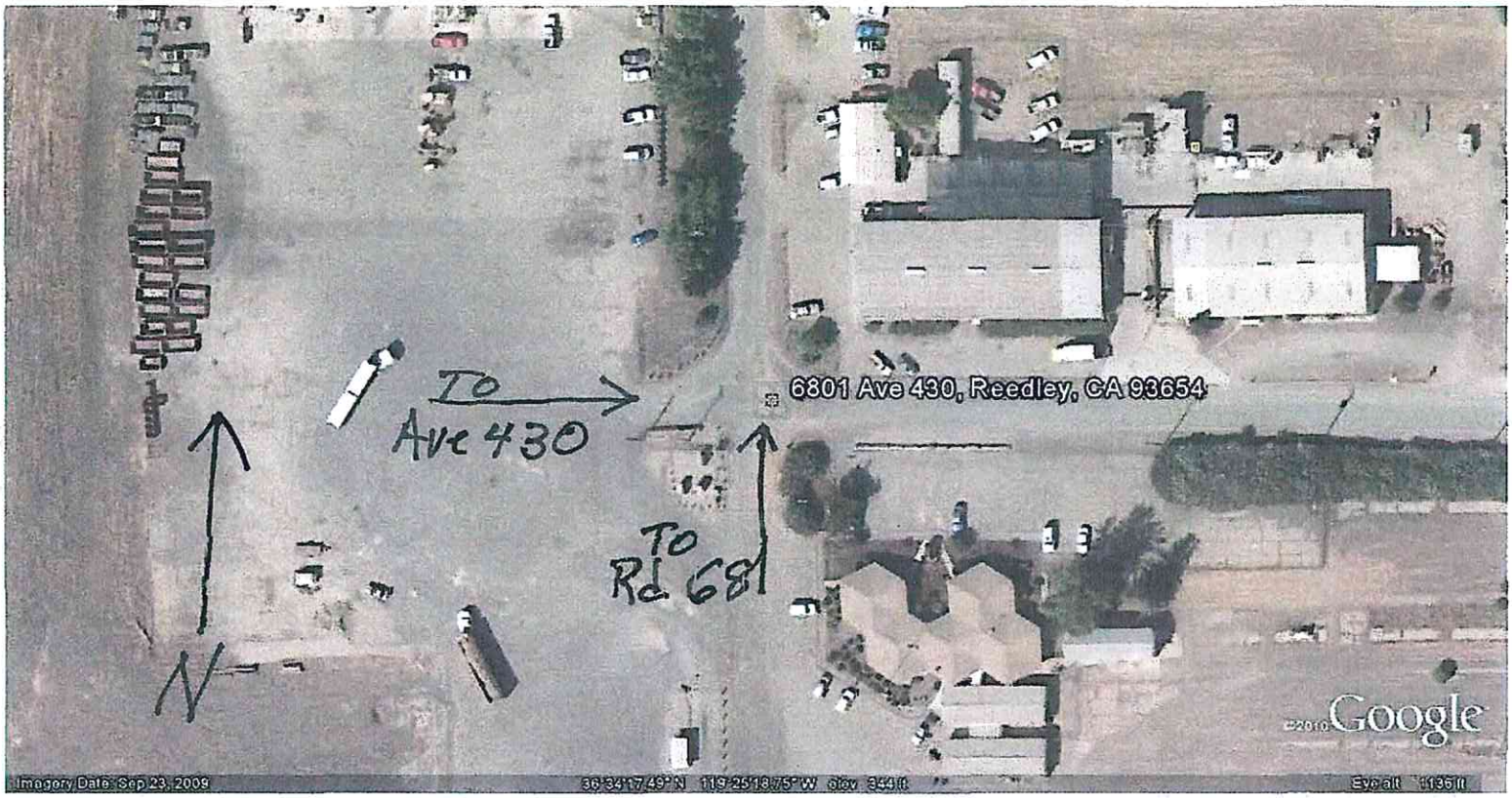
Special Use Permit M-2 #67-12 "Site Plan Map"

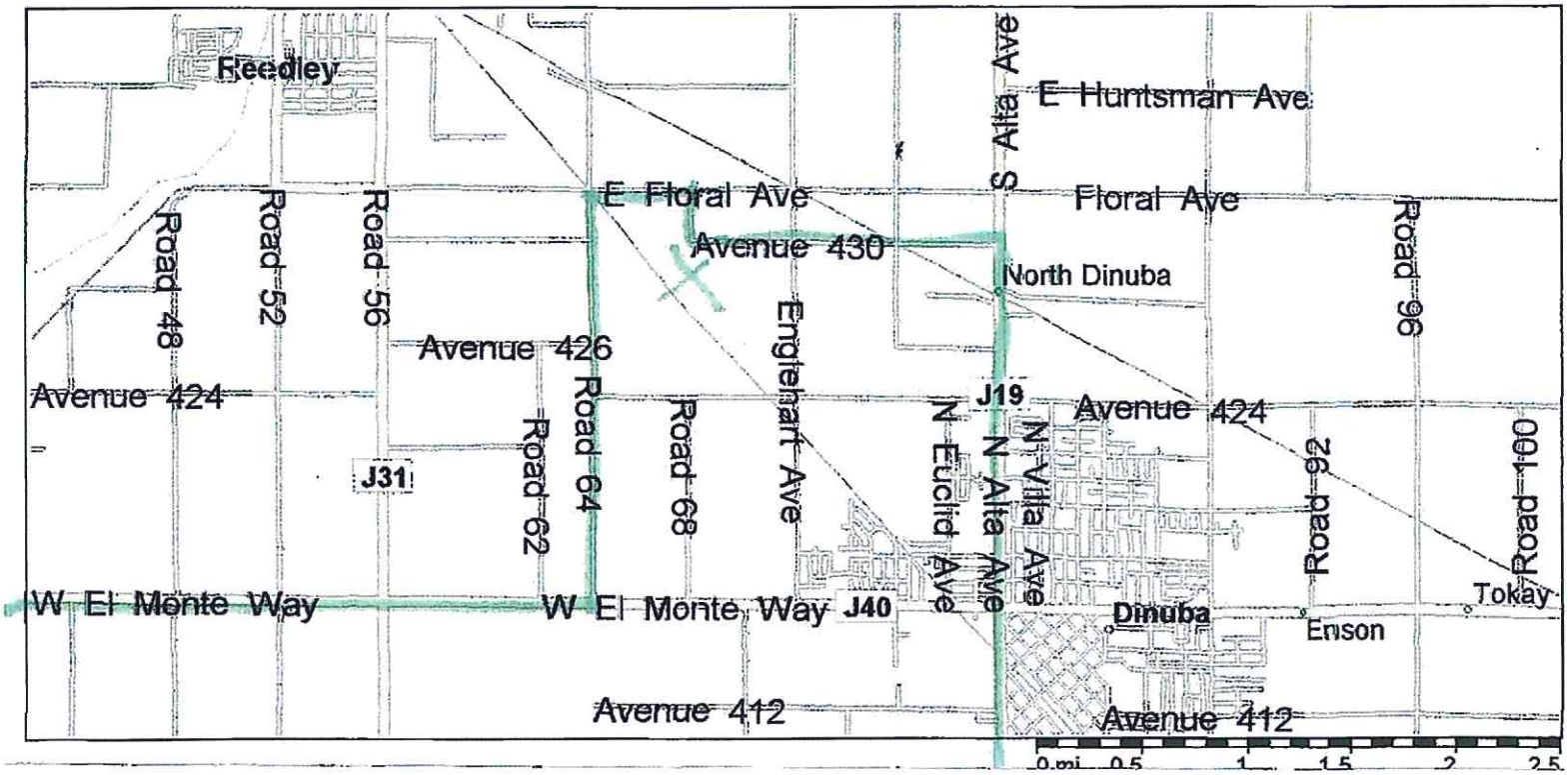


Attachment 5 – 1995 Aerial of Saw Mill Operation

1995 Aerial of saw mill operations

Attachment 6 – RBT Truck Routes

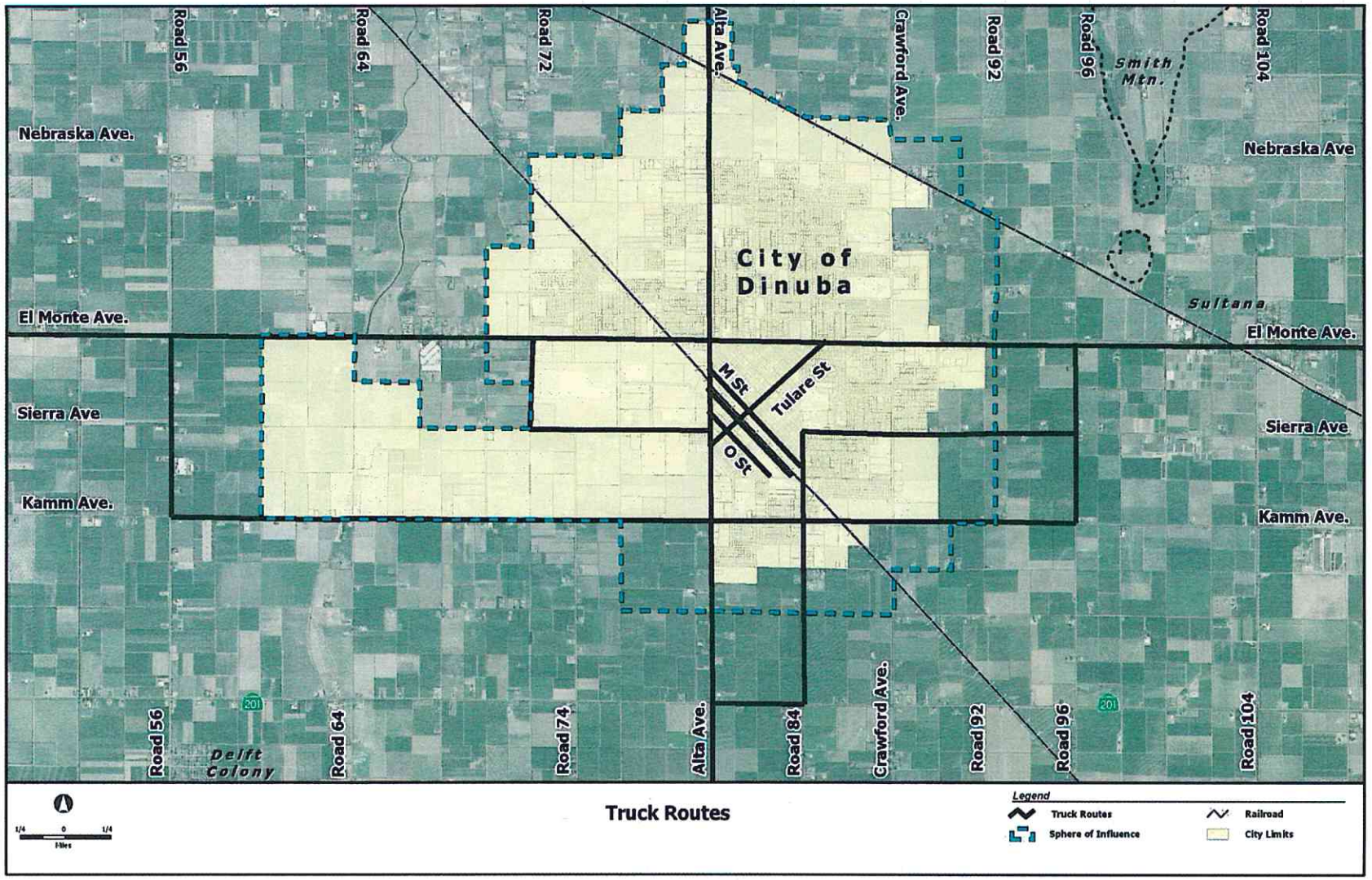

6801 Ave 430, Reedley, CA 93654
To Ave 430
To Rd. 68
N
Google
Imagery Date: Sep 23, 2009
36°34'17.49" N 119°25'18.75" W elev 344 ft
Eye alt 1135 ft


Reedley
E Huntsman Ave
S Alta Ave
E Floral Ave
Floral Ave
Avenue 430
North Dinuba
Road 48
Road 52
Road 56
Road 96
Avenue 426
Englehart Ave
Avenue 424
J19
Avenue 424
J31
Road 62
Road 64
Road 68
N Euclid Ave
N Alta Ave
N Villa Ave
Road 92
Road 100
W El Monte Way
W El Monte Way
J40
Dinuba
Tokay
Enson
Avenue 412
Avenue 412
0 mi 0.5 1 1.5 2 2.5

ATTACHMENTS

Attachment 7 – Dinuba Circulation Element Map (Designated Truck)

Figure 2-5


Road 56
Road 64
Road 72
Alta Ave.
Crawford Ave.
Road 92
Road 96
Smith Mtn.
Road 104
Nebraska Ave.
City of Dinuba
Sultana
El Monte Ave.
M St
Tulare St
O St
Sierra Ave
Kamm Ave.
Road 56
Delft Colony
Road 64
Road 74
Alta Ave.
Road 84
Crawford Ave.
Road 92
Road 96
Road 104
201
1/4 0 1/4
Miles
Truck Routes
Legend
Truck Routes
Railroad
Sphere of Influence
City Limits

Attachment 8 – Assessor Parcel Maps

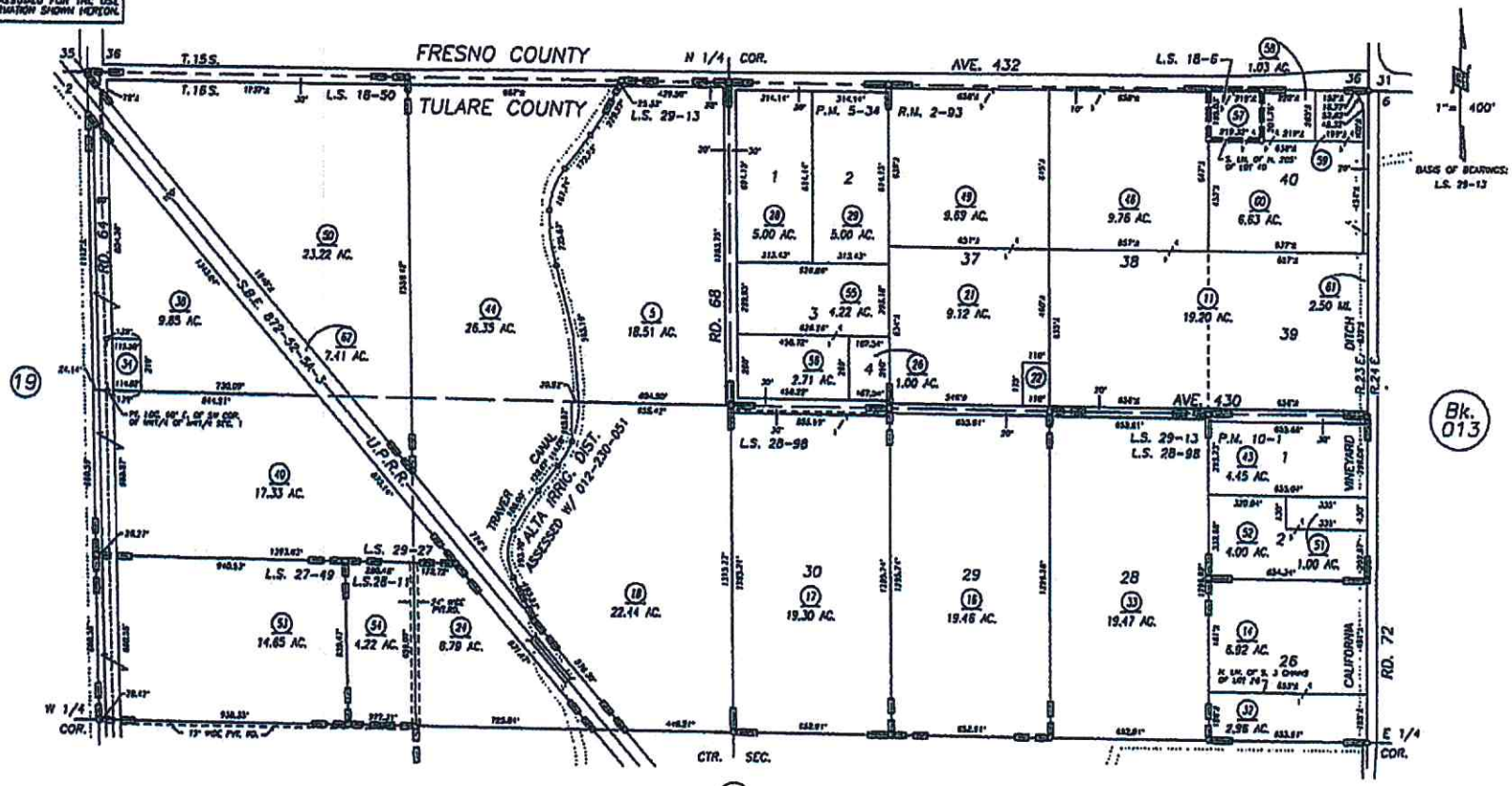
- **012-25**
- **012-26**

DISCLAIMER

THIS MAP WAS PREPARED FOR LOCAL PROPERTY ASSESSMENT PURPOSES ONLY AND THE PARCELS SHOWN HEREON MAY NOT COMPLY WITH STATE AND LOCAL SUBDIVISION ORDINANCES, AND NO LIABILITY IS ASSUMED FOR THE USE OF THE INFORMATION SHOWN HEREON.

N1/2 SEC.1, T.16R., R.23E., M.D.B.&M.

Tax Area Codes 012–25
077–001
072–000

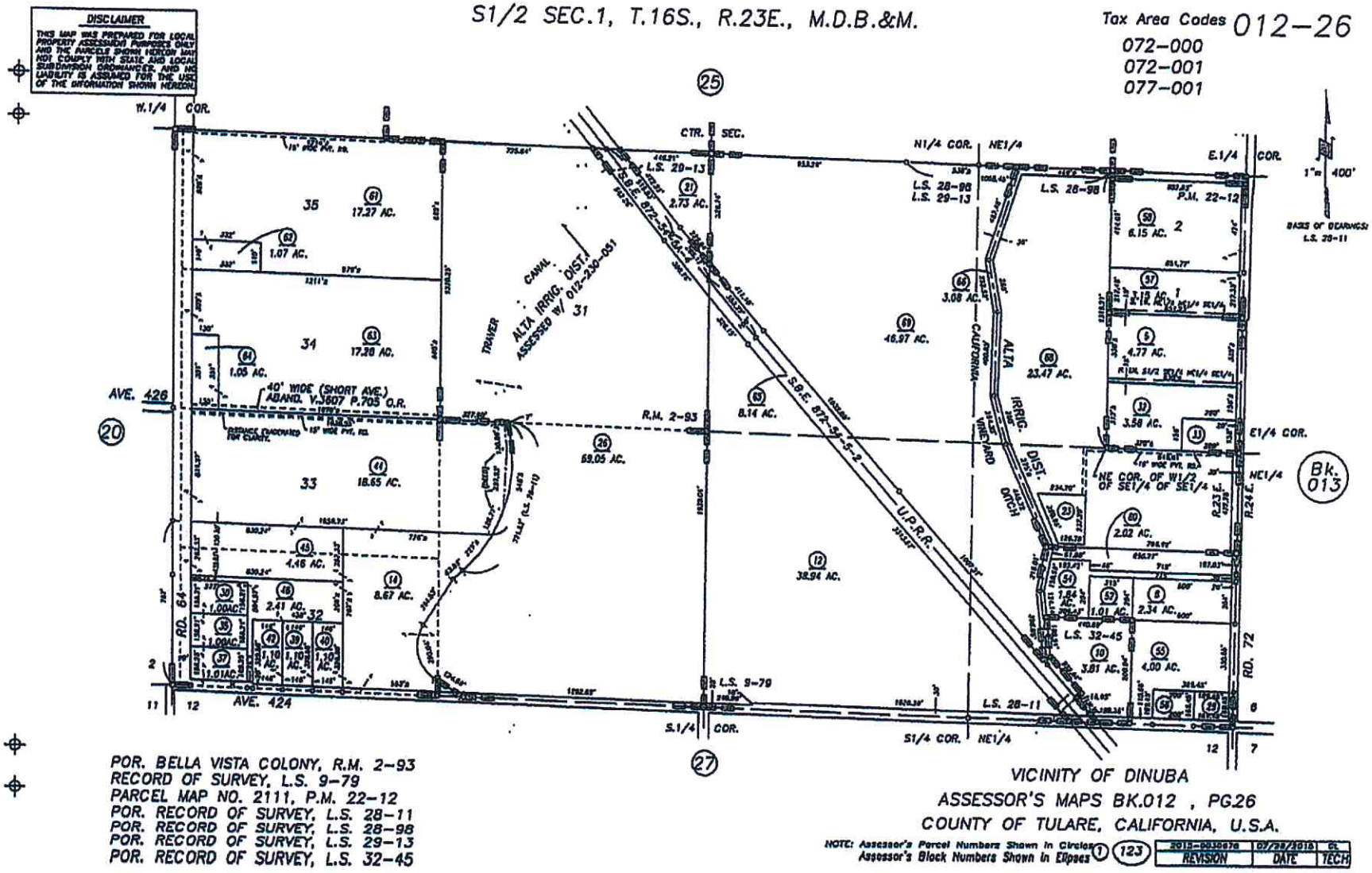


POR. RECORD OF SURVEY, L.S. 1–98 (SEC. 1, ETC.)
POR. BELLA VISTA COLONY, R.M. 2–93
PARCEL MAP NO. 434, P.M. 5–34
PARCEL MAP NO. 900, P.M. 10–1
RECORD OF SURVEY, L.S. 18–6
RECORD OF SURVEY, L.S. 18–50
RECORD OF SURVEY, L.S. 27–49
POR. RECORD OF SURVEY, L.S. 28–11
POR. RECORD OF SURVEY, L.S. 28–98
POR. RECORD OF SURVEY, L.S. 29–13
RECORD OF SURVEY, L.S. 29–27

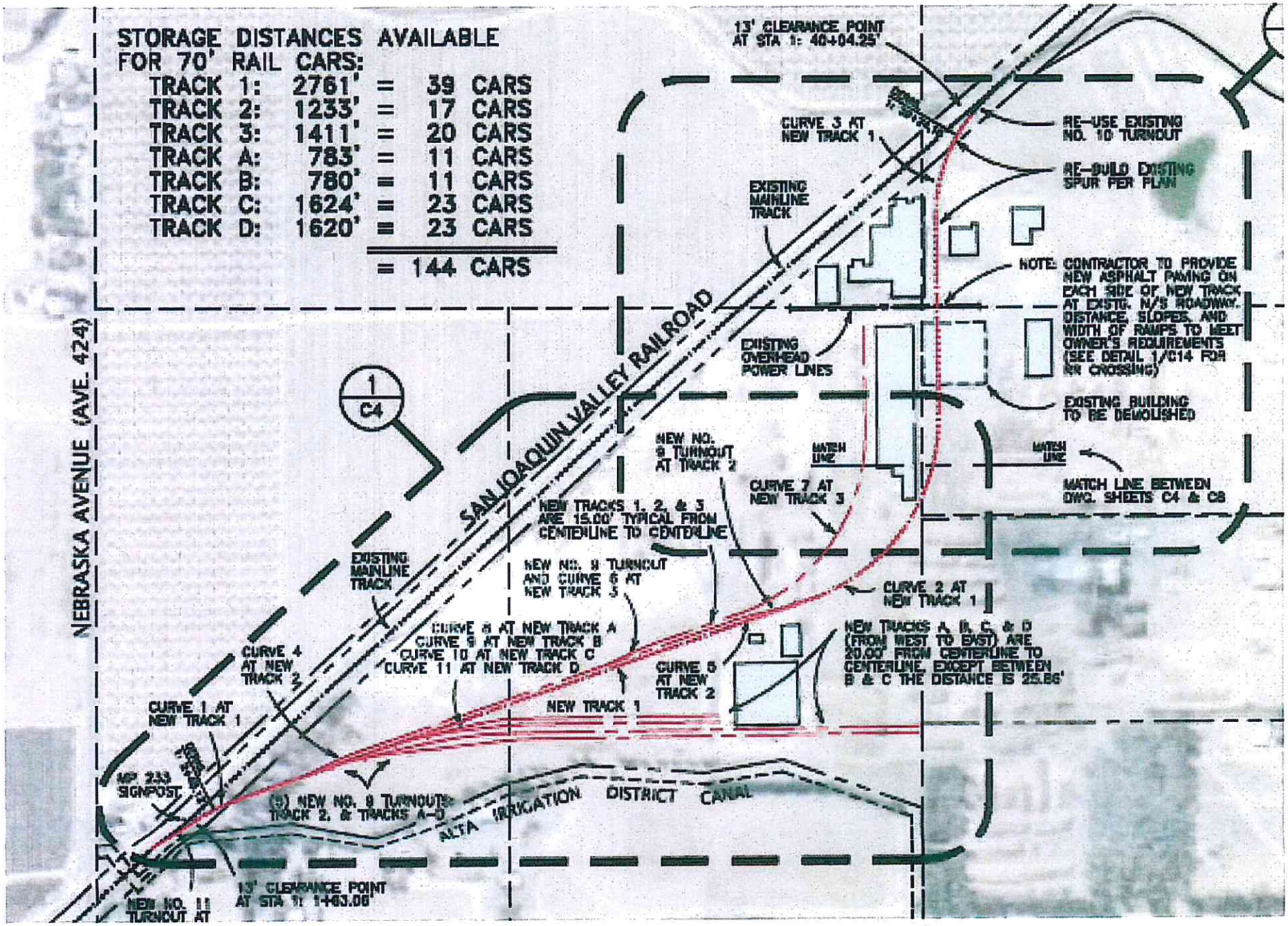
VICINITY OF DINUBA
ASSESSOR'S MAPS BK. 012 , PG. 25
COUNTY OF TULARE, CALIFORNIA, U.S.A.

NOTE: Assessor's Parcel Numbers Shown in Circles (1)
Assessor's Block Numbers Shown in Ellipses (123)

REVISION	DATE	TECH
2009-0047018	08/27/2011	LLD


DISCLAIMER
THIS MAP WAS PREPARED FOR LOCAL PROPERTY ASSESSMENT PURPOSES ONLY AND THE PARCELS SHOWN HEREON MAY NOT COMPLY WITH STATE AND LOCAL SUBDIVISION ORDINANCES, AND NO LIABILITY IS ASSUMED FOR THE USE OF THE DIFORMATION SHOWN HEREON.
S1/2 SEC.1, T.16S., R.23E., M.D.B.&M.
Tax Area Codes 012-26
072-000
072-001
077-001
25
W.1/4 COR.
CTR. SEC.
N1/4 COR.
NE1/4
E.1/4 COR.
1"= 400'
BASIS OF BEARINGS: L.S. 28-11
L.S. 29-13
L.S. 28-98
P.M. 22-12
35
17.37 AC.
2.73 AC.
6.15 AC.
2
1.07 AC.
3.08 AC.
9.12 AC.
1
46.97 AC.
4.77 AC.
34
17.28 AC.
1.05 AC.
23.47 AC.
TRAVER CANAL
ALTA IRRIG. DIST. ASSESSED W/ 31
CALIFORNIA
ALTA IRRIG. DIST.
VINEYARD
DITCH
AVE. 426
40' WIDE (SHORT AVE.) ABAND. V.3607 P.705 O.R.
R.M. 2-93
8.14 AC.
3.58 AC.
E1/4 COR.
20
59.05 AC.
NE COR. OF W1/2 OF SE1/4 OF SE1/4
Bk. 013
33
18.65 AC.
2.02 AC.
R.23 E.
R.24 E.
4.46 AC.
38.94 AC.
8.67 AC.
2.41 AC.
32
1.00AC
1.00AC
1.01AC
1.10 AC.
1.10 AC.
1.01 AC.
2.34 AC.
L.S. 32-45
3.81 AC.
4.00 AC.
RD. 64
RD. 72
L.S. 9-79
AVE. 424
L.S. 28-11
S.1/4 COR.
S1/4 COR. NE1/4
27
POR. BELLA VISTA COLONY, R.M. 2-93
RECORD OF SURVEY, L.S. 9-79
PARCEL MAP NO. 2111, P.M. 22-12
POR. RECORD OF SURVEY, L.S. 28-11
POR. RECORD OF SURVEY, L.S. 28-98
POR. RECORD OF SURVEY, L.S. 29-13
POR. RECORD OF SURVEY, L.S. 32-45
VICINITY OF DINUBA
ASSESSOR'S MAPS BK.012 , PG.26
COUNTY OF TULARE, CALIFORNIA, U.S.A.
NOTE: Assessor's Parcel Numbers Shown in Circles (1) (123)
Assessor's Block Numbers Shown in Ellipses
2015-0030676
07/29/2015
CL
REVISION
DATE
TECH

Attachment 6 – 2012 Site Plan Showing Storage Track Layout for 144 Railcars


STORAGE DISTANCES AVAILABLE
FOR 70' RAIL CARS:
TRACK 1: 2761' = 39 CARS
TRACK 2: 1233' = 17 CARS
TRACK 3: 1411' = 20 CARS
TRACK A: 783' = 11 CARS
TRACK B: 780' = 11 CARS
TRACK C: 1624' = 23 CARS
TRACK D: 1620' = 23 CARS
= 144 CARS
13' CLEARANCE POINT AT STA 1: 40+04.25'
CURVE 3 AT NEW TRACK 1
RE-USE EXISTING NO. 10 TURNOUT
RE-BUILD EXISTING SPUR PER PLAN
EXISTING MAINLINE TRACK
NOTE: CONTRACTOR TO PROVIDE NEW ASPHALT PAVING ON EACH SIDE OF NEW TRACK AT EXISTG. N/S ROADWAY. DISTANCE, SLOPES, AND WIDTH OF RAMPS TO MEET OWNER'S REQUIREMENTS (SEE DETAIL 1/C14 FOR RR CROSSING)
EXISTING OVERHEAD POWER LINES
EXISTING BUILDING TO BE DEMOLISHED
1/C4
SAN JOAQUIN VALLEY RAILROAD
NEW NO. 9 TURNOUT AT TRACK 2
MATCH LINE
MATCH LINE
MATCH LINE BETWEEN DWG. SHEETS C4 & C8
CURVE 7 AT NEW TRACK 3
NEW TRACKS 1, 2, & 3 ARE 15.00' TYPICAL FROM CENTERLINE TO CENTERLINE
NEBRASKA AVENUE (AVE. 424)
EXISTING MAINLINE TRACK
NEW NO. 9 TURNOUT AND CURVE 6 AT NEW TRACK 3
CURVE 2 AT NEW TRACK 1
CURVE 8 AT NEW TRACK A
CURVE 9 AT NEW TRACK B
CURVE 10 AT NEW TRACK C
CURVE 11 AT NEW TRACK D
NEW TRACKS A, B, C, & D (FROM WEST TO EAST) ARE 20.00' FROM CENTERLINE TO CENTERLINE, EXCEPT BETWEEN B & C THE DISTANCE IS 25.86'
CURVE 4 AT NEW TRACK 2
CURVE 5 AT NEW TRACK 2
CURVE 1 AT NEW TRACK 1
NEW TRACK 1
MP 233 SIGNPOST
(9) NEW NO. 9 TURNOUTS TRACK 2, & TRACKS A-D
ALTA IRRIGATION DISTRICT CANAL
13' CLEARANCE POINT AT STA 1: 1+63.06'
NEW NO. 11 TURNOUT AT

RICHARD BEST TRANSFER

OPERATIONAL STATEMENT

OPERATIONAL STATEMENT
RICHARD BEST TRANSFER, INC.
Final Site Plan No. PSR 14-005
Revised - April 2016

OVERVIEW

Per the 2012 Settlement Agreement ("the Settlement") by and between Richard Harriman representing his client, the Dinuba Citizens for Responsible Planning (DCFRP), and Michael Slater representing his client, Richard Best Transfer and Port of Ivory, the below Operational Statement and Master Site Plan was made in fulfillment of the terms therein.

In fulfillment of Paragraphs (b) and (d) of the Settlement Agreement, Richard Best Transfer Inc. (RBT) requests approval by the Tulare County Planning Commission for the RBT Final ("Master") Site Plan in order to increase efficiencies by siting a commodities barn, hard car un-loader, and additional rail siding spurs (+/-1,000 feet) on the existing full service railroad/trucking transloading facility. (See Exhibit "A".)

The RBT facility operates on a 20-acre portion of a ± 47 acre APN 012-260-069, in the 110-acre Port of Ivory (POI) industrial park. The Master Site Plan for the Port of Ivory is made reference to as "Master Site Plan for Port of Ivory" Operational Statement. (See Attachment #1.)

Various agricultural commodities are delivered to the RBT site by rail car via the San Joaquin Valley Railroad or truck and are then transported by truck to dairies and other agricultural sites or businesses. The empty rail cars are picked up by the SJVR.

The subject site is located at 6801 Avenue 430, Reedley, CA 93654, approximately 1,000 feet west of the Dinuba City Limits. Administrative offices are located at 1630 E. Manning, #312, Reedley CA 93654. The POI is outside any County-adopted Urban Area Boundary or Urban Development Boundary, subject to the Rural Valley Lands Plan, and designated for "Valley Agricultural." However, the entire POI site is considered as non-viable and not suitable for productive agriculture, per the Tulare County General Plan Land Use Element. Zoning on the property is M-2-SR (Heavy Manufacturing – Site Review Combining). (See Zoning Map Attachment #2.)

The site is within the City of Dinuba's 20-year Urban Boundary, and the City's General Plan designates it as "Industrial Reserve." Per the City's consultation response dated 1/6/15, the General Plan designates areas to the east as "Residential – Low", to the south as "Urban Reserve" and "Commercial – Community, to the west as "Park/Ponding Basin", and to the north as "Industrial Reserve." (See Dinuba General Plan Map Attachment #3.)

Additionally, in compliance with the Settlement, RBT and POI constructed an earthen berm (16 feet wide and 8 feet high) alongside the California Vineyard Ditch, which is managed by the Alta Irrigation District (providing another 15 feet of separation), on the east side of the property, in order to reduce noise, dust and odors. (See Figures 1-4 for Photos of the Site).

Increasing the density of vegetation existing on the earth berm and west ditch bank will decrease noise. This determination is supported by noise reducing estimations using the Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol. The maximum noise reduction from an earthen berm is 23 dBA (Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol, September 2013. (See Attachment #13.) Furthermore, in the landscaping plan discussed below, a continuous strip of oleander (or equivalent shrubs), at least 8 feet high and 15 to 20 feet wide provides additional noise attenuations of 1 – 3 dBA at a distance of up to 50 feet from the edge of vegetation. A single line of pine trees provides noise attenuations of 0 – 1 dBA. (Caltrans Traffic Noise Attenuation As a Function of Ground and Vegetation, June 1995.) (See Attachment #14.)

Figure 1:

Earthen berm constructed next to California Vineyard Ditch

Figure 2-4

Existing vegetation by red storage building in north, and mid-site on berm, which screen residential properties and also aid in noise reduction.

PHASING

Phase I of the Master Site Plan: The first phase of the Master Site Plan calls for the excavation of a receiving pit, with an electric-powered drag conveyor, the construction of rail siding spur tracks, and the installation of an electric-powered NPK hard car unloader (per the Addendum to the 2012 Settlement Agreement, which was agreed to on October 9, 2015 in a meeting with County Staff, RBT, and the DCFRP, and memorialized on or about November 12, 2015). The building permit for the NPK hard car unloader equipment was issued on October 15, 2015 and installation should be completed within four months of approval. (The Settlement Agreement and a screen shot of the building permit are attached to the Response to Comments for the 4/13/16 Planning Commission meeting.)

Phase II of the Master Site Plan will involve the construction of a freespan commodities barn with a bucket elevator and the addition of approximately 1,000 feet of spur track by the "South Track" adjacent to the main railroad line, to store empty rail cars and facilitate faster quicker, more efficient, removal of empty railcars by the SJVR; thereby reducing noise and additional impacts to SJVR's associated rail facilities. At the request of neighboring property owner, Roger Wazdatskey, the applicant agreed to change the location of the commodities barn approximately 500 feet north of its originally planned location and to shorten its length by 200 feet. The barn's roof will cover the conveyor equipment and will be extended to hang over the NPK hard car unloader in order to reduce noise impacts. At some time in the future, the applicant plans to enclose the barn with dust screens, install a bag house to filter dust, and install solar panels on the roof. (Note: Enclosing the barn with solid walls would require installation of a sprinkler system for fire suppression that, if triggered, would ruin any stored grain product.) The solar panels will power the electric hard car unloader and conveyer equipment. (Note: To "spot" is to switch a freight car into a particular location for loading/ unloading. To "pull the pin" is to uncouple a car. A bag house is a generic name for air pollution control equipment or device that is designed around the use of engineered fabric filter tubes, envelopes or cartridge in the dust capturing, separation or filtering process.)

OPERATIONAL CHARACTERISTICS

The property was originally a saw mill from the 1940s until closing in 2000. The first rail spur from the main railroad line was installed in 1948, with a second spur installed in 1963.

The transloading rail facility has been operating on the subject site since 2001. Volume has increased from approximately 2,000 cars in 2001 to 6,300 cars in 2015. Volume of animal feed unloaded from railcars will not exceed 550,000 tons annually, or 10,000 tons in any one day, to comply with limits of a 2014 Authority to Construct (ATC) permit from the San Joaquin Valley Unified Air Pollution Control District (Air District). (See Attachment #4 for RBT's 2014 ATC No. S-7291-1-3.) The Air District previously issued Permit to Operate No. S-7291-1-2 to RBT. Various agricultural commodities are delivered to the site by rail and shipped out in trucks to San Joaquin Valley agriculture users and producers. A condition of approval for RBT's Final Site Plant No. PSR 14-005 will limit operations to 6,300 cars per year and a volume of 550,000 tons of all products received at the site.

RBT utilizes a combination of skip loaders, excavators, fork lifts, pneumatic equipment, and hammers to unload various non-hazardous agricultural commodities, lumber and landscape materials from railcars and to load them onto trucks and trailers.

STORAGE

Commodities are currently stored as piles on asphalt paving on the subject site until being loaded onto trucks for delivery to local customers. Tarps are used to cover the materials to protect them from weather (rain, sun or wind). As noted earlier, Phase II of the project includes the construction of a freespan commodities barn, where materials may be sheltered. (See 2015 Google Aerial Attachment #5, showing where on the site products are typically stored.)

COMMODITIES

The commodities handled by Richard Best Transfer on the site include bran feed pellets, canola meal and pellets, corn germ and gluten, whole cotton seed, cotton seed hull pellets and meal, dairy beet pulp pellets, dried distillers grain, hominy, linseed pellets, soy hull pellets, sunflower meal and pellets, urea, sodium chloride, phosphate, and barley. Other products received at the site are ornamental bark and lumber and sodium bicarbonate. An inspector from the California Department of Food and Agriculture takes bimonthly samples of the animal feed products. Test results are available upon request from the RBT office.

Most of the cattle feed commodities are transported by railcar from Canada and the Midwest United States and are ultimately destined for local dairies. As noted earlier, after the railcars are unloaded, they are returned empty to their points of origin. Trucks with empty specialized walking floor trailers arrive at the site to be loaded with the commodities noted earlier and are then delivered directly to the dairies.

Railcars of lumber originate in the Pacific Northwest. Approximately 200 railcars of bark were delivered in 2015. Trucks with empty flat bed truck trailers come arrive at the site to be loaded with lumber and delivered to local lumber yards. The bark rail cars are stored on Track No. 1, which reaches the storage areas leased by Green's Best and ALW Enterprises. Each box car has a capacity of approximately 7,580 cubic feet, the equivalent of approximately 3.5 truckloads.

Bark is also delivered to the site by trucks with "dry van" truck trailers from the Pacific Northwest. After unloading, those truck trailers leave empty and are not reloaded with any other products. At some point, trucks with empty walking floor trailers arrive at the site to be loaded with bark and are delivered to surrounding customers (for example, to state highway projects for landscaping purposes).

A total of approximately 700 trucks per year carry bark and wood products from the site. Based on a box car capacity of approximately 7,580 cubic feet, approximately 1,516,000 cubic feet of wood products were received, handled and trucked off the site.

The commodities and products received at the site are not limited to the products noted earlier, but are determined by market demands and prices for the products. Per a phone conversation in February 2016 with Air District engineer, Ramon Norman, lumber and wood chips are not regulated by the Air District.

TRAIN SERVICE

Local railroads are part of the interstate network and are subject to the Federal Surface Transportation Board, Federal Railroad Administration, and California Public Utilities Commission (CPUC) regulations.

The San Joaquin Valley Railroad (SJVR) services the rail line from Exeter to Fresno six days per week, Monday through Saturday. The SJVR delivers railcars to the subject POI site whenever there are railcars to be delivered. The SJVR has a limited capacity for storing railcars, and schedules deliveries as soon as possible. The train arrivals are at the discretion of the SJVR and usually arrive at night, but are subject to the railroad's scheduling discretion.

The SJVR is responsible for pulling the railcars onto the site and putting them away onto rail spurs of different lengths on the POI Industrial Park property. After RBT workers unload the cars, the SJVR returns to RBT where it is also responsible for removing empty railcars from the spurs, reassembling the train and pulling it off the site. Railcars from single manifest trains are stored separately from unit trains as much as possible.

Most SJVR trains come from Fresno, enter the site from the north and pull south towards Avenue 424. The trains pull past the Avenue 424 at-grade highway crossing and then back into the subject site's railroad spurs, one at a time. (Note: The CPUC refers to roadways as "highways," although Avenue 424 is a two-lane local road, not a State route, freeway, collector road or arterial, per County's General Plan 2030 Update.) The trains delivering and picking up railcars at RBT may temporarily block Avenue 424 and Road 72. However, Federal law (specifically the Interstate Commerce Commission Termination Act (ICCTA; 49 U.S.C. §10101 et seq.)) pre-empts California Public Utilities Commission General Order No. 135, which limited the length of time a stopped railroad train may block public grade crossings to 10 minutes. Neither the State nor local jurisdictions are permitted to enforce General Order No. 135, per People v. Burlington Northern Santa Fe Railroad, in an October 16, 2012 ruling by the First Appellate District Court.

Records indicate that the rail crossing equipment installed on Avenue 424 have enhanced public safety. County records of collisions with trains on Avenue 424 show four (4) in the 5.75 years between 1/1/10-9/30/15 and none (0) since the at-grade highway-rail crossing equipment was installed. (See Attachment #15 for collision reports.)

UNIT TRAINS

For unit trains, one group of cars is uncoupled, and then the train pulls south and switches to the

next spur to unload another group. To uncouple the cars for unloading takes two to five passes, depending on the length of the cars and how many can be stored on the available spurs. Per the applicant, unit trains are more efficient (to deliver and uncouple) than manifest trains because all the cars are the same and contain the same products. This allows for the train to be unloaded in solid blocks and, usually, sequentially.

Unit train rail cars are pulled into the facility's interior for storage and unloading on separate tracks. The rail spurs in the facility's interior were built in 2011, more recently than the "South Track" beside the main railroad line, which was built in the 1960s. Track 1 can accommodate 39 rail cars, Track 2 can accommodate 17 cars, Track 3 can accommodate 20 cars, Track A can accommodate 11 cars, Track B can accommodate 11 cars, Track C can accommodate 23 cars and Track D can accommodate 23 cars, for a total capacity of 144 cars. RBT plans to build an additional rail spur link to the South Track to expedite removal of empty railcars. After RBT workers unload the cars, the SJVR removes the cars from the interior tracks. (See Attachment #6, a diagram of rail spurs on site in 2012, showing storage for 144 railcars. The new track planned for construction [in approximately 2016] is not shown on the 2012 plan.)

Railcars with dried distiller's grain are unloaded on Tracks 1, 2 and 3 and will also be unloaded from the planned new track by the hardcar unloader and commodities barn. Tracks A, B, C, and D are storage tracks. Cars of different commodities get unloaded at different times, depending on customer preference.

The 2012 Settlement Agreement included interim measures for storing railcars on easternmost rail spur (Track D), in order to buffer the noise from cars being unloaded on the middle spurs. The Agreement allowed RBT to unload railcars on the second most easterly track (Track C) as it passes the existing red barn, as shown in Attachment #7 (the Agreement's Exhibit "A".) Conditions of approval for PSR 14-005 will require continued use of noise reduction practices.

SINGLE MANIFEST TRAINS

The SJVR receives their single manifest trains as they are interconnected by the Union Pacific (UP) and the Burlington Northern Santa Fe (BNSF) yards. The trains are not blocked out by station order or customer location, but for all SJVR customers' traffic on this main line. The SJVR does not have a rail yard available to them for yard classification by station. For example, in a 100-car train of single manifest, RBT might have 12 cars, but they could be scattered from one end of the train to the other. When the SJVR arrives at the Port of Ivory, they could have as many as 12 different switches in their train from front to back and could be there over two hours, just switching. The same situation occurs as trains travel south from Fresno or travel north from Exeter.

Single manifest trains are pulled onto RBT's "South Track" for switching, storage and unloading. The south track is adjacent to the main line, but on the applicants' property. This track was originally built in the late 1940s for the saw mill and can store approximately 15 railcars. Cars are moved to designated unloading areas by the South Track. Products are unloaded with front-end loaders.

The process for switching manifest trains on the south track from the north is described as follows: The SJVR will pull up even to the north switch. They will pull out all of the empty cars and set back the loads. They will then cut off the engine and go into the track. In a simple example of manifest train switching illustrated in Attachment #8, there might be 9 cars (nine loads and four empties). The Conductor will walk all the way to the #8 car and separate it and all of the other cars from #1-#8 and pull them out onto the SJVR Main line. They will then switch cars #8 and #7 to their train and shove cars #6 – #1 all the way back into the track until the #6 loaded car comes against #9. They will then make a cut on #5, leaving #6 and #5 against #9, then pull all the way out to the main track again and set #4 back to their train. They will then take #1 - #3 back into the track until #3 rests against #5, pull out again, placing #2 to the train, then take #1 and put it against #3. Their engine will then come against the train and depart. This process will take at least one hour to complete. The process is the same with the southbound trip.

The manifest trains delivered to POI range between 1 and 46 railcars in size (average 12). Switching movements may intermittently block Avenue 424, resulting in intermittent locomotive horn-blowing and crossing bells.

Single manifest trains will be unloaded in blocks, so that all empties will be together, in order to facilitate the move and to reduce switching as much as possible.

NUMBER OF TRAINS

The schedule for delivering railcars to the subject site is not controlled by RBT or POI, but is dictated by the San Joaquin Valley Railroad. In 2014, as noted above in the Operations section, 6,300 railcars were moved on and off the subject site. A condition of approval for RBT's Final Site Plant No. PSR 14-005 will limit operations to a maximum 6,300 carloads per year and a volume of 550,000 tons.

The SJVR data on trains stopping at POI/RBT between September 19, 2015 and October 17, 2015 recorded 20 single manifest trains, with an average of 12 cars being delivered to the POI. Four (4) unit trains with an average 90 cars stopped at the site.

The SJVR data regarding the dates above indicated that 53% of the trains arrived in daylight hours, between 7:25 A.M. and 6:15 P.M. Approximately 47% arrive at night, between 10:15 P.M. and 6:25 A.M. No arrivals were logged as arriving between 6:15 PM and 10:15 PM during the above dates.

The single manifest trains arrived between 4:30 A.M. and 6:00 P.M. Most unit trains arrived between 11:30 A.M. and 7:30 P.M. However, trains may be delivered at any time in the evening, depending upon the San Joaquin Valley Railroad's scheduling needs.

Arrival and departure times indicate that trains averaged 1.83 hours (one hour fifty-three minutes), or a median 1.42 hours (one hour twenty-five minutes), moving railcars onto rail spurs on the site.

UNLOADING FROM TRAIN RAIL CARS

Manifest train rail cars are stored on the "South Track" alongside the main SJVR track for unloading. The bark rail cars are stored on Track No. 1, which reaches the storage areas leased by Green's Best and ALW Enterprises. The animal feed railcars are stored on Tracks A, B, C, & D and unloaded on Tracks #1- #4. (See Attachment #6.)

Once rail cars are on the different rail spurs, RBT uses a diesel "trackmobile" to move rail cars within the yard for unloading.

The State Department of Industrial Relations requires railcars to be equipped with warning devices that operate automatically while the vehicle is backing. Per the California Code of Regulations (CCR), Title 8, Section 1592, Subchapter 4 – Construction Safety Orders, Article 10. Haulage and Earth Moving, the warning sound shall be of such magnitude that it will normally be audible from a distance of 200 feet and will sound immediately on backing. (See Attachment #48 for §1592, Warning Methods.)

Unloading and loading activities take place between 5 A.M. to 8 P.M. Monday through Friday and as needed on Saturdays and Sundays. However, unloading methods featuring the use of vibrators, excavators and/or hammers or in combination are prohibited by condition of approval until after 7 A.M. to reduce noise impacts.

One product, dried distillers grain, tends to "cake" and stick to the inside of the hopper railcars during the summer months because of higher temperatures. Different methods are used to loosen the grain from the "hard cars". RBT staff currently must pound on the cars with sledge hammers and use specially adapted vibrating equipment to gradually loosen the grain. As such, the hammering is limited to, and only occurs, during the summer months when dried distillers grain sticks inside the rail cars.

As noted earlier in the Phases description, a building permit application has been submitted for a device that will greatly reduce the need for vibrators and hammers for unloading hard material, such as dried distiller grains, and will result in a significant reduction of noise at site. The electric-powered NPK hard car unloader will be erected over the tracks by the proposed commodities pole barn. Equipment will scrape the products off the inside walls of the hopper cars and augers will be used to move the products upward to a conveyor belt. The conveyor belt will move the products to separate piles. The current method using vibrating equipment and hammers will be limited to instances when the hard car unloader is unavailable due to maintenance or repair.

As noted earlier, future plans involve construction of a pole barn for covered storage of the materials, thereby eliminating the need for tarping. The unloader and conveyor equipment will be located under a roof overhang and partially enclosed which will also reduce noise impacts.

Again, as noted earlier, single manifest trains will be unloaded in blocks, so that all empties will be together, in order to facilitate train movements and to reduce switching as much as possible.

After RBT workers unload the rail cars, they prepare the empty cars for removal from the site by the SJVR. RBT staff use a diesel "trackmobile" to move cars together, couple the cars into groups, and pressurize the brakes. When the SJVR trains arrive to pick up empty cars, their crews are able to couple the groups of cars into a full train more quickly and efficiently. The SJVR and RBT crews must move the groups of rail cars together with sufficient force that the cars couple together securely.

LOADING ONTO TRUCKS

Products are loaded onto trucks that are operated by independent trucking businesses not associated with RBT other than for contract hauling. The majority of delivery trucks come to the site between 7 A.M. and 4 P.M. daily, with the exception of Sunday. Trucks with empty flatbed trailers come in empty, get loaded with cattle feed, lumber or bark and are delivered to local customers.

VEHICLE TRAFFIC

Trucks and automobiles access the Port of Ivory (POI) Industrial Park from a single entrance on Avenue 430 at Road 68. The most efficient truck routes were outlined by RBT Facilities and Building Materials Manager, Gary Rogers, in 2012. (See Attachment #9 for RBT truck routes.) Trucks exiting the POI to the north drive north on Road 68, west on Avenue 432/Floral Avenue, and then south along Road 64 to Avenue 416/El Monte Way and west to State Route 99. Alternatively, trucks exiting the POI to travel south drive east on Avenue 430, then south on Road 80/Alta Avenue. The order is reversed for trucks traveling to the POI. Traffic through Dinuba follows the City's designated truck routes on Alta Avenue and El Monte Avenue. (See Attachment #10 for Dinuba truck routes.) Few if any large trucks travel from the POI along Road 72 or Avenue 424, per the applicant. According to County's 2010 Pavement Management System (PMS), Road 72's pavement is approximately 21.4 feet wide between Avenue 424 and Avenue 432, which is narrow for large trucks. (Note: The Traffic Impact Study did not include Road 72 or Avenue 430 in its analysis.)

The RBT facility in the Port of Ivory Industrial Park site has indirect access to Avenue 430 via an existing 2,650-foot long, 60-foot wide, asphalt paved Private Vehicular Access Easement (PVAE), across contiguous parcels to the west and north. Per a County Engineering/Public Works Branch comment letter dated March 10, 2003 (for Tentative Parcel Map No. PPM 02-025, which created APN 012-260-067 and -068), the PVAE is improved to a higher standard than required. Because the improvements necessary to achieve the conditions specified in the Settlement would not result in additional truck traffic, the Public Works/Engineering Branch did not require any conditions of approval for RBT's Final Site Plan No. PSR 14-005.

Truck traffic from RBT is calculated at 38 daily truck trips representing 50% of 76 daily trips, per the conclusions contained in VPRA's Traffic Impact Study (TIS) conducted in December 2014-January 2015. Multiplied by 260 days (52 weeks x 5 days/week), the total number of RBT truck trips each year is approximately 19,760.

A total of approximately 700 trucks per year carry bark and wood products from the site (based on 200 rail cars X 3.5 trucks per car). As noted earlier, approximately 1,516,000 cubic feet of wood products were received, handled and then transported off-site via trucks.

A total of approximately 8,660 trucks per year carry animal feed from the site (this estimate is based on subtracting 700 bark trucks from the 19,760 truck trips calculated from the TIS annual trips estimate). The quantity of animal feed transported by trucks is limited by the San Joaquin Valley Air Pollution Control District 2014 Authority to Construct (ATC No. S-7291-1-3), to no more than 550,000 tons per calendar year, or 3,750 tons per day unloaded from railcars. (See Attachment #4 for RBT's 2014 ATC.) The previously approved Permit to Operate (PTO No. S-7291-1-2) limited the RBT facility to 360,000 tons per calendar year or 5,000 tons per day unloaded from railcars. (See attachment in Response to Comments for 5/11/16 Planning Commission meeting.)

STRUCTURES - Existing

The RBT facility on APN 012-260-069 currently contains a ±59,500 square foot commodities barn; a 2,091 square foot storage building; three fire hydrants; one well, a 40,000 storage building; and rail sidings. (See Exhibit "A".)

RBT also utilizes a truck scale and loading dock on APN 012-250-018 that is shared by other Port of Ivory (POI) Industrial Park tenants. Other structures on APN 012-250-018 include an employee restrooms building; a 9,114 square foot shed; a 7,200 square foot shed; two wells; and three fire hydrants. (See Attachment #1 for POI Master Site Plan.)

RBT shares storage space with Green's Best and ALW. A 27,200 square foot storage building, 14,400 square foot storage building, one well, and two fire hydrants are located on APN 012-250-017.

WATER AND WASTEWATER

As the project is not a new facility, the County does not require a site drainage plan or a water system master plan. The County of Tulare Public Works Department does not typically require a site drainage plan for existing facilities that are outside floodplains. The soil on most of the RBT site is moderately well drained Delhi loamy sand. Much of the site remains unsurfaced, except for access roads, storage areas and structures. Although the southernmost portion (approximately 600 feet) of the subject site is located in Flood Zone A, most of the site is located within Flood Zone X.

In 2011, rail spurs were constructed through the southern portion of the site (which is in Flood Zone A). JD McGee Engineering designed the tracks with a culvert and certified that the track would not result in any increase to the 100-year flood elevation in the vicinity. (See Attachment #11.)

As noted earlier, the property was developed as a saw mill in the 1940s, and improvements were added through the decades, until closing in 2000. A pond is included in site plans for the 1948 and 1967 Manufacturing use permits. (See Attachment #12, site plans of 1948 and 1967 use permits for

the saw mill.) The site currently contains one ponding basin (in the center of the site) and another in the southern Flood Zone A. During storm events, ditches direct water to the ponds.

The eight wells noted on the POI Master Site Plan (Attachment #1) are 150 feet or farther from restroom facilities that utilize septic systems. The only restrooms are in the office, a separate restrooms building, and in the area leased by Miramonte Sanitation. RBT employees utilize restrooms in the separate building or portable toilets provided further south on the subject site, closer to the unloading/loading area. The portable toilets are regularly serviced and pumped by a licensed company.

The existing fire suppression system on the site was developed for the saw mill, which included storage of wood chips and lumber. The County Fire Department is aware of the past and current uses and did not request additional information regarding fire hydrant pipe diameters or flow rates for either the Project Review Committee preliminary review (PRC 14-041) or the Final Site Plan No. PSR 14-005 (per correspondence dated 11/24/14 and 12/22/14).

DUST AND ODOR CONTROL

The site operators use dust control measures recommended by the Air District's Rule No. 2201 (New and Modified Stationary Source Review Rule) and cited in the 2014 Authority to Construct. These measures include use of water or chemical/organic stabilizers/suppressants. As noted earlier, bulk materials handled outside an enclosed building are protected with suitable covers, in compliance with District Rules 8011 (General Requirements) and 8031 (Bulk Materials). Trucks and other transport vehicles must obey posted vehicular speed limits on the site. Loads of bulk materials (both railcars and trucks) are required to be covered with tarps or to have water applied to the top. The existing 2,650-foot long, 60-foot wide private road from the site entrance at Avenue 430 and Road 68 is paved with asphalt.

The 2014 Authority to Construct (ATC) allowing RBT to increase the amount of animal feed being unloaded from railcars and loaded onto trucks required the Air District to prepare an Engineering Evaluation (EE) and a Preliminary Environmental Assessment/Notice of Exemption. The EE demonstrated that the project will not result in emission increases exceeding the District's thresholds of significance and determined no impact from objectionable odors affecting a substantial number of people. (See Attachment #4 for the 2014 ATC. The District's Preliminary Environmental Assessment is attached to the Response to Comments for the 4/13/16 Planning Commission meeting.)

LANDSCAPING AND DIRT BERM

As noted above, in fulfillment of the 2012 Settlement Agreement, RBT and POI constructed an earthen berm alongside the California Vineyard Ditch on the east side of the property. The berm is approximately 1,200 feet long, 8 feet tall, 6 feet wide at the top, and 16 feet wide at the base. Trees and bushes exist on the berm and both sides of the ditch bank. The Settlement Agreement required the applicant to increase the density of existing landscaping along the canal, by planting and

maintaining a dense barrier of oleanders, trees and/or other species on their property. The new vegetation shall be planted within six months of project approval. The applicant shall be required to provide for convenient irrigation in the form of hose bibs and/or a drip, bubbler or sprinkler system. The applicant shall ensure that all landscaped areas contain fertile, friable soils with adequate subsurface drainage, and shall permanently maintain the areas in a neat and viable condition.

The RBT/POI Landscape Plan illustrates a 70± foot wide buffer between the railyard and properties on the east side of the Ditch. (See attached Exhibit "B" - Landscape Plan for RBT and POI," revised in April 2016.) To increase the density of existing vegetation on the RBT/POI property, new vegetation will be planted. Approximately 104 oleander bushes (nerium oleander) and approximately 24 digger pines (pinus sapiniana) will be planted in 2016-17 on the dirt berm on the POI property. Plants will be spaced to Caltrans standards, but will not interfere with existing vegetation. Container sizes will be 15 gallons. The oleanders should reach maturity and a 7-20 foot height in three years. The pines should reach a 40 foot height in five years. Oleanders require little to moderate water and pines require little water. As noted earlier, all landscaped areas will be maintained in a neat and viable condition.

The Landscape Plan provides details on where vegetation exists and where oleanders and pine trees will be planted. The April 2016 revision also shows the proposed irrigation water source from lines supplying a fire hydrant (near an existing storage building) and the irrigation lines to be placed along existing and proposed vegetation. The contractor will be required to install the irrigation lines to meet California Model Water Efficient Landscape Ordinance (MWELO) Standards.

Caltrans technical noise documents indicate that an earthen berm is more effective in reducing noise than a sound wall of the same height because of additional diffraction (around obstacles), ground absorption (over soft surfaces), and path length effects. Placing a wall on top of a berm "destroys the benefit of the berm", according to the Caltrans prediction models. In general, the maximum noise reduction from a berm is 23 dBA, or an extra 1-3 dBA of attenuation more than a wall would. Landscaped earth berms acoustically perform slightly better, or up to 3dBA. (Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol, September 2013.) (See Attachment #13.)

A continuous strip of oleander or equivalent shrubs (at least 8 feet high and 15 to 20 feet wide) results in noise attenuations of 1 – 3 dBA at a distance of up to 50 feet from the rear edge of vegetation. A single line of pine trees (at least 40 feet tall and 30 feet in diameter) spaced 10 – 20 feet apart (with low branches intertwined and touching ground) provides noise attenuations of 0 – 1 dBA at distances of up to 60 feet from the rear edge of vegetation. (Traffic Noise Attenuation As a Function of Ground and Vegetation, June 1995.) See Attachment #14.)

To summarize, noise from the RBT site is reduced by approximately 33 dBA total, with 23 dBA reduction from the earth berm, approximately 1-3 dBA from existing vegetation on the west side, approximately 1 dBA from existing vegetation on the west side, approximately 1 dBA from the existing ditch banks, approximately 1-3 dBA from the proposed oleander shrubs, and approximately 1-3 dBA from the proposed pine trees. The additional benefits of vegetation is that it can also reduce the impact wind entrained dust and enhance aesthetics.

EMPLOYEES

Four RBT staff work in the office located on APN 012-250-017 at the POI site. The office operating hours are 8:00 A.M. to 5:00 P.M. Twenty (20) employees work in the yard unloading products from railcars and loading products into trucks. The yard employees work one 10-hour shift on Mondays through Fridays (and as needed on Saturdays and Sundays). As noted earlier, unloading and loading activities take place between 5 A.M. to 8 P.M. Monday through Friday (and as needed on Saturdays and Sundays if the SJVR delivers a train on Friday or Saturday evening). However, unloading methods featuring the use of vibrators, excavators and/or hammers (or in combination of these methods) are prohibited by condition of approval until after 7 A.M. to reduce noise impacts.

VEHICLES AND EQUIPMENT

RBT personnel use one diesel trackmobile for moving railcars, four Case front-end loaders, three Case Bobcats, four mini-excavators (3 Caterpillars and 1 Case) with a vibrating attachment, one service truck, four KCI belt unloaders, four electric battery powered golf carts, one electric service truck, two McClusky radial stackers, and one fork lift.

MAP EXHIBITS

A. Site Plan of RBT
B. Landscape Plan for RBT and POI

ATTACHMENTS

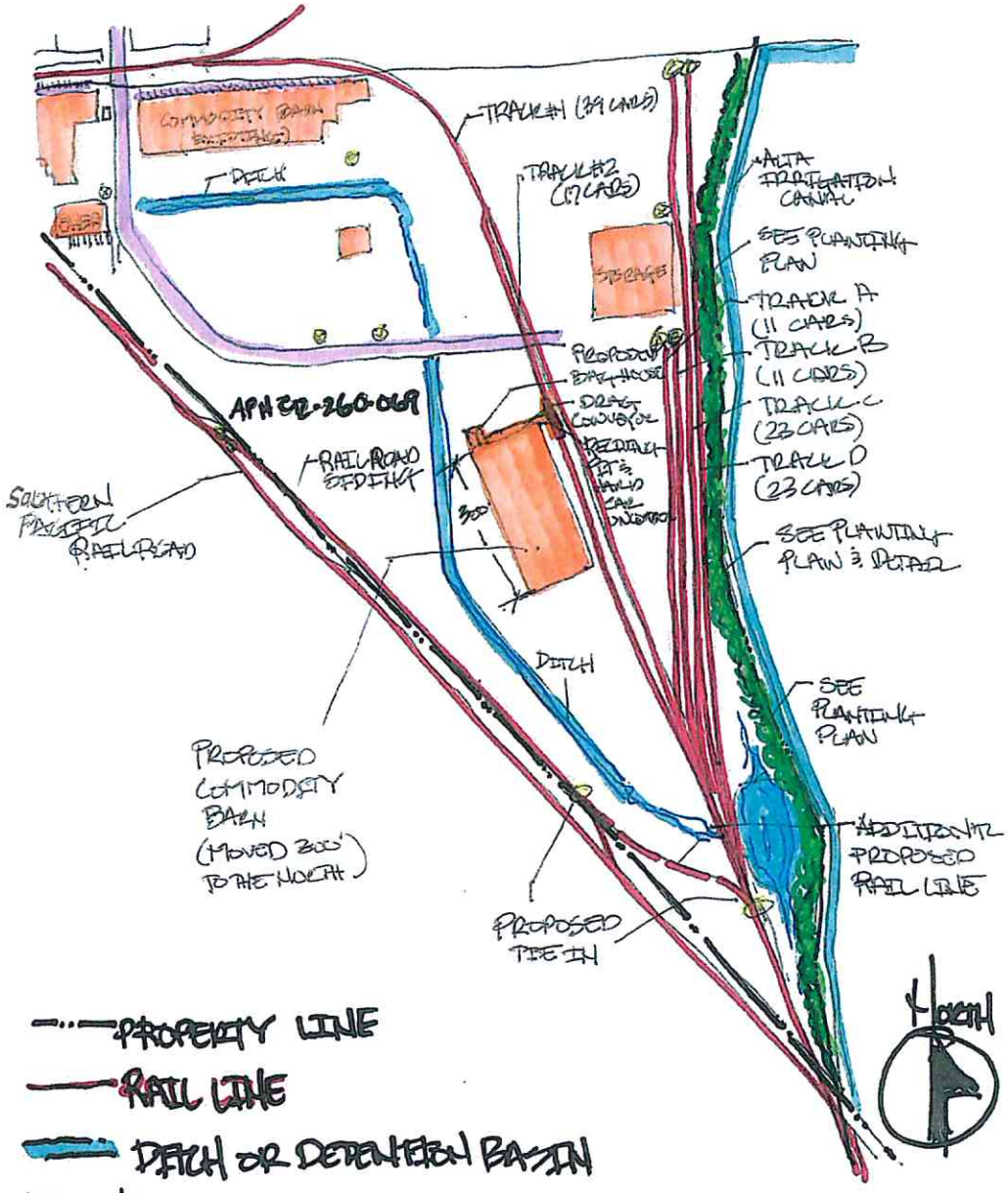
1. POI Master Site Plan (Maps)
2. Zoning Map
3. Dinuba General Plan Map
4. Air District 2014 Authority to Construct Permit for RBT
5. Google Earth Aerial of POI illustrating product storage areas
6. Diagram of rail spurs on site in 2012, showing storage for 144 railcars.
7. 2012 Settlement Agreement Agreement's Exhibit "A," a map of the POI property showing rail spurs where hammering and unloading are allowed
8. Manifest Train Switching Description and diagram
9. RBT Truck Routes
10. Dinuba designated truck routes
11. JD McGee Engineering Railspurs Design - 2011
12. Site Plans from conditionally approved Use Permits from 1948 (M-2 #3) and 1967 (M-2 #67-5 & M-2 #67-12)
13. "Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol", 9/2013
14. Caltrans "Traffic Noise Attenuation As a Function of Ground and Vegetation", 6/1995
15. RMA Collision Reports – Avenue 424 by Road 72

Map Exhibits:

Exhibit A – RBT Site Plan Map

Exhibit B - Landscape Plan for RBT and POI

Exhibit A – RBT Site Plan Map



RBT SITE PLAN

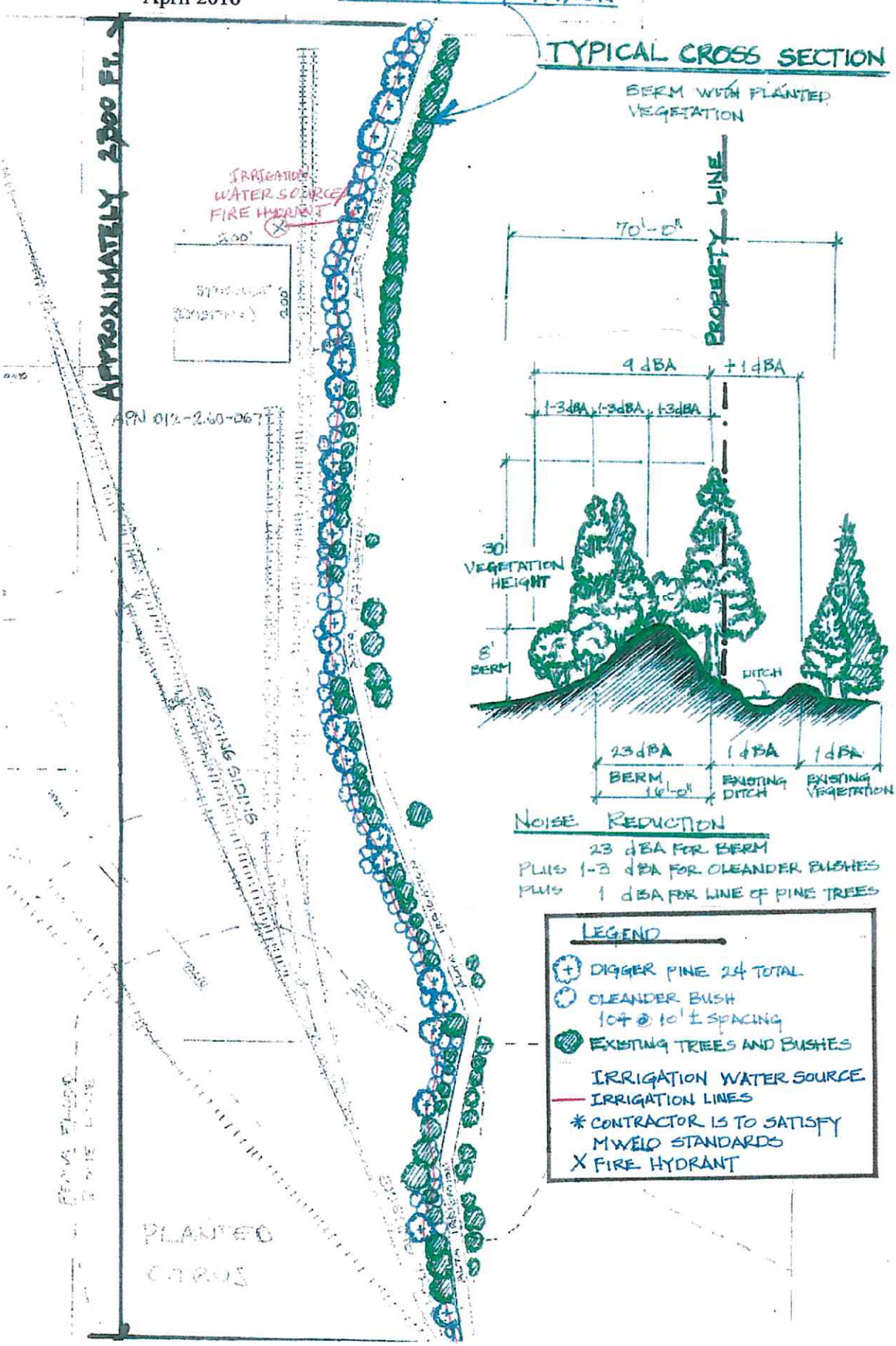
APRIL 1, 2016

TULARE COUNTY RMA

Exhibit B – RBT and POI Landscape Plan Map

LANDSCAPE PLAN
Richard Best Transfer Inc. and
Port of Ivory, LLC

April 2016



RBT Operational Statement Attachments

Attachment 1 – Master Site Plan Map for POI
Master Site Plan Map for POI, PSR 14-005
Attachment 2 – Zoning Map
Attachment 3 – Dinuba General Plan Land Use Map
Attachment 4 – SJVAPCD 2014 Authority to Construct Permit
Attachment 5 – 2015 Google Earth Aerial of POI
Attachment 6 – Diagram of Rails On-Site in 2012, Showing Storage for 144 Railcars
Attachment 7 – 2012 Settlement Agreement Map of POI Property Showing Rail Spurs When Hammering and Unloading are Allowed
Attachment 8 – Manifest Train Switching Description and Diagram
Attachment 9 – RBT Track Routes
Attachment 10 – Dinuba Circulation Element Map
Attachment 11 – JD McGee 2011 Engineering Rail Spurs Design
Attachment 12 – Site Plans for Conditionally Approved Use Permit's from

- **M-2 #3**
- **M-2 #67-5**
- **M-2 #67-12**

Attachment 13 – "Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol" 9/2013
Attachment 14 – Caltrans "Noise Attenuation as a Function of Ground and Vegetation" 6/1995
Attachment 15 – Tulare County Collision Reports – Avenue 424 – Road 72

Attachment 1 – Master Site Plan Map for POI

Master Site Plan Map for POI, PSR 14-005

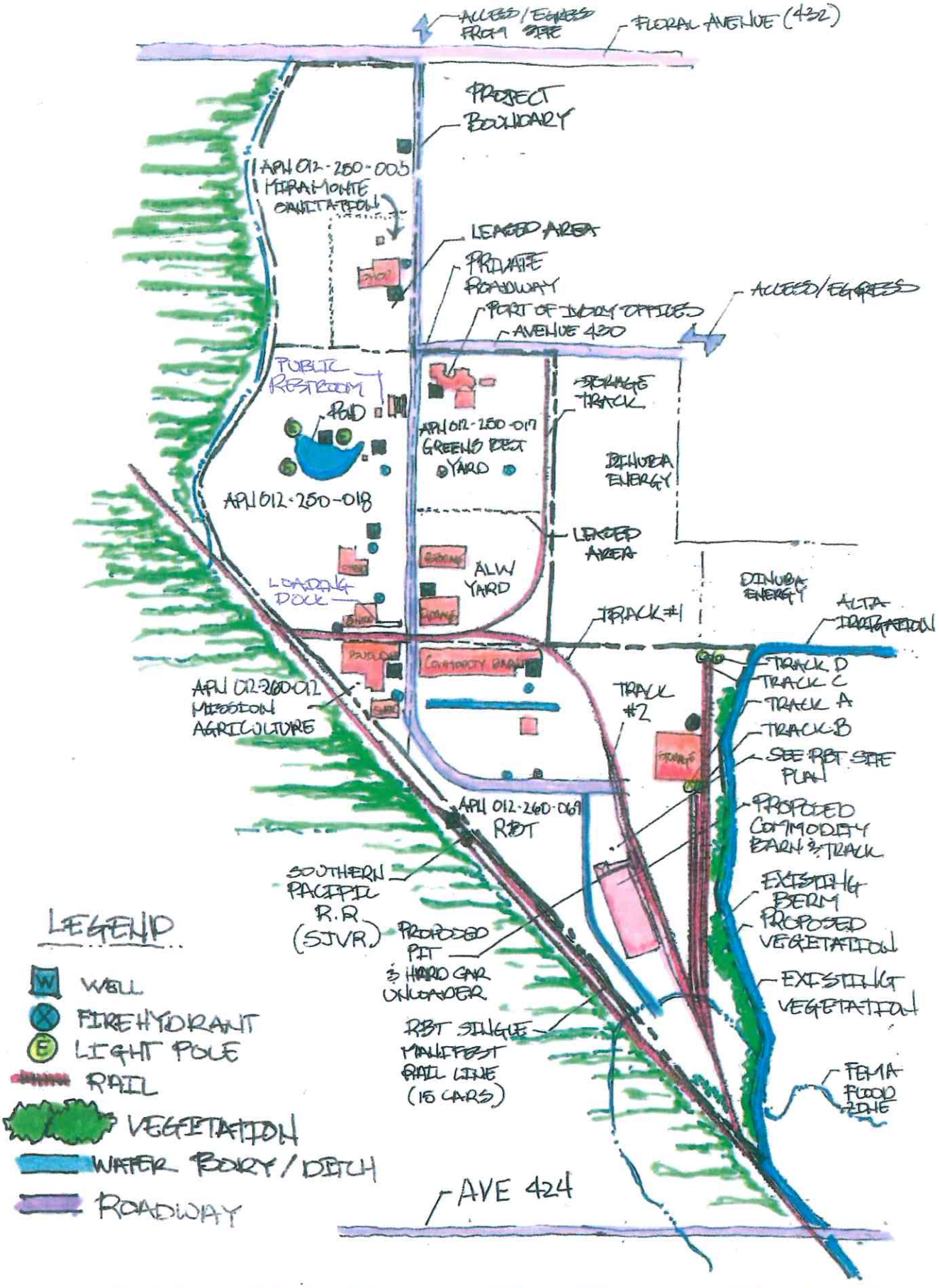
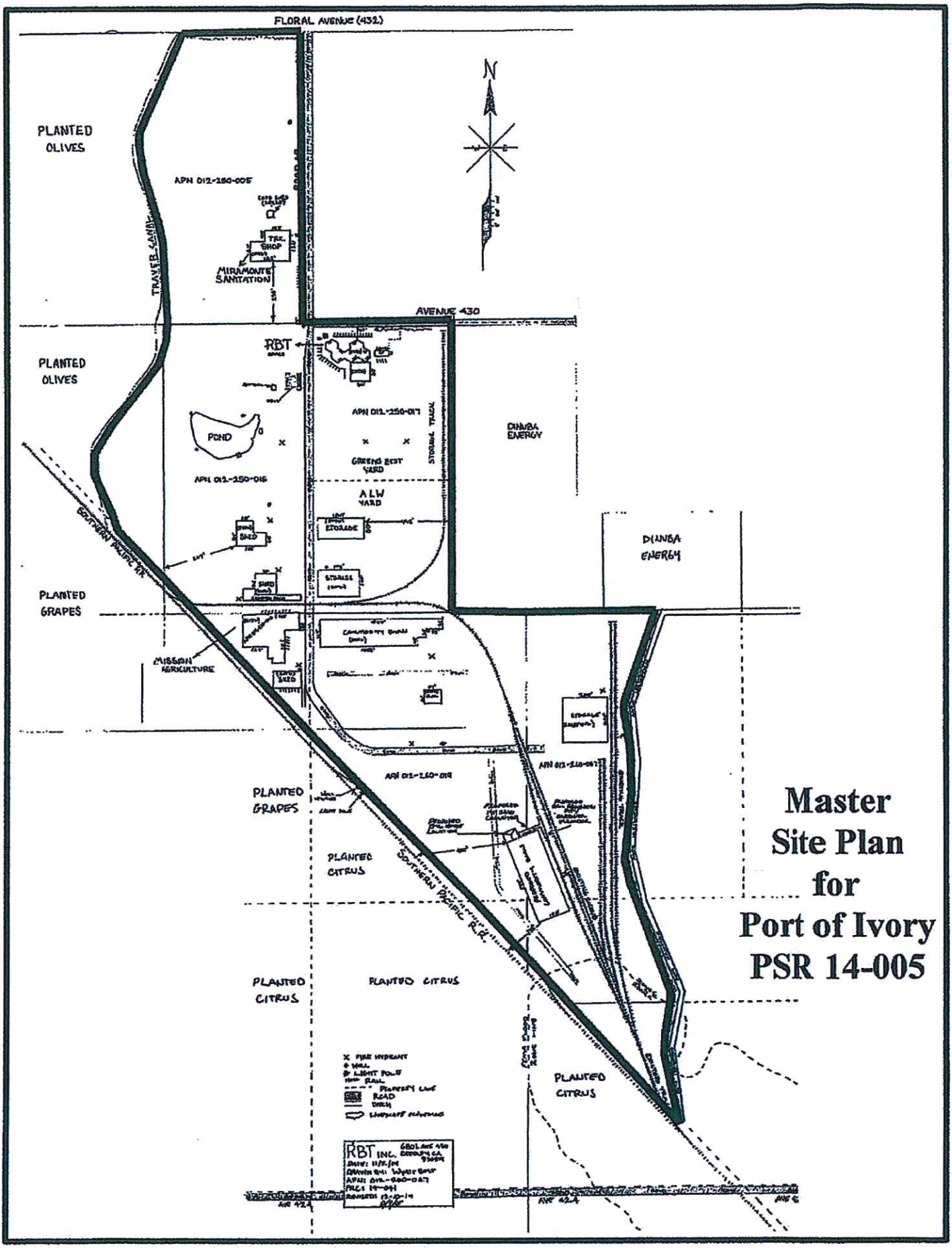


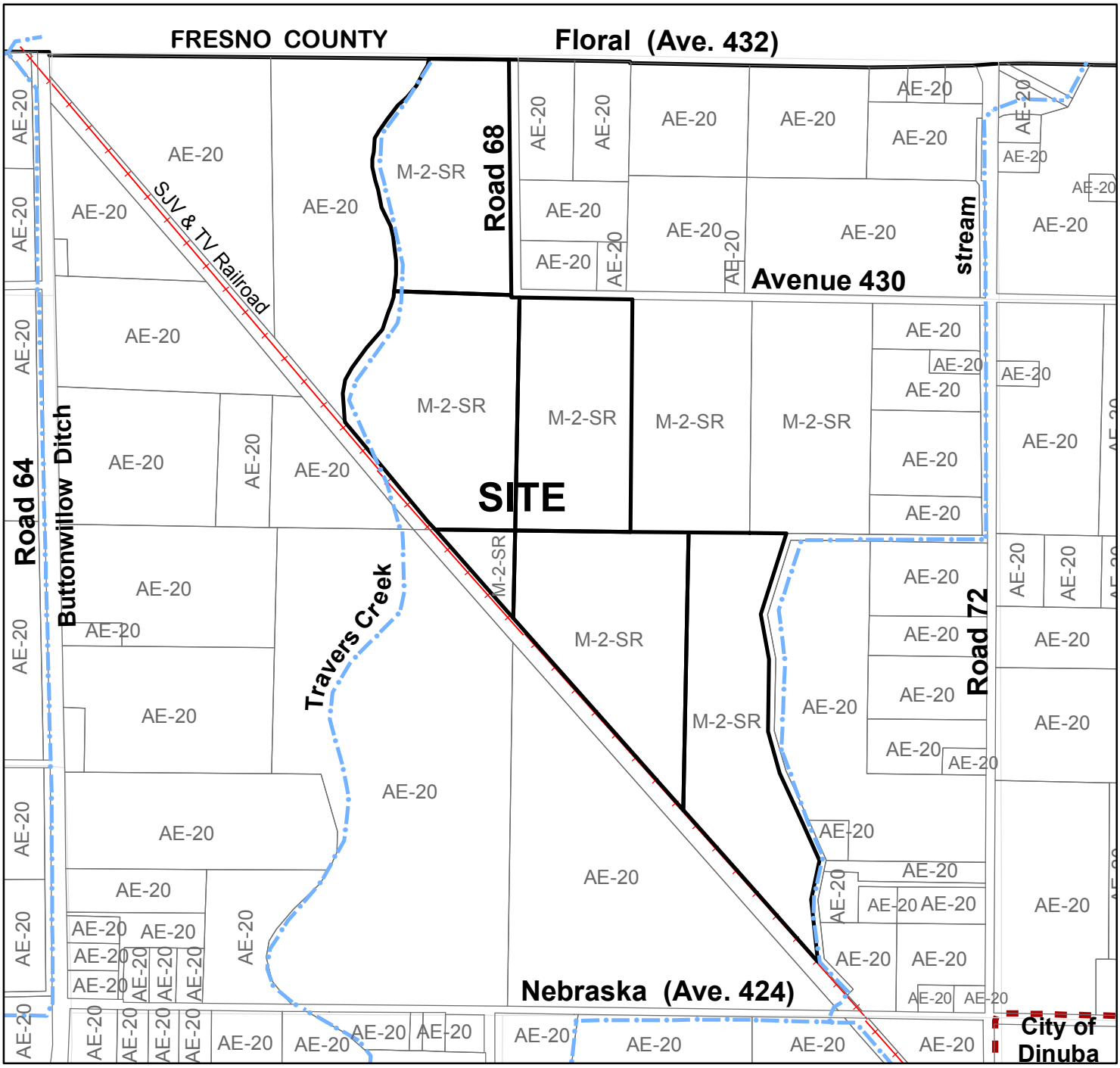
Exhibit "A" - Master Site Plan for Port of Ivory



Master Site Plan for Port of Ivory PSR 14-005

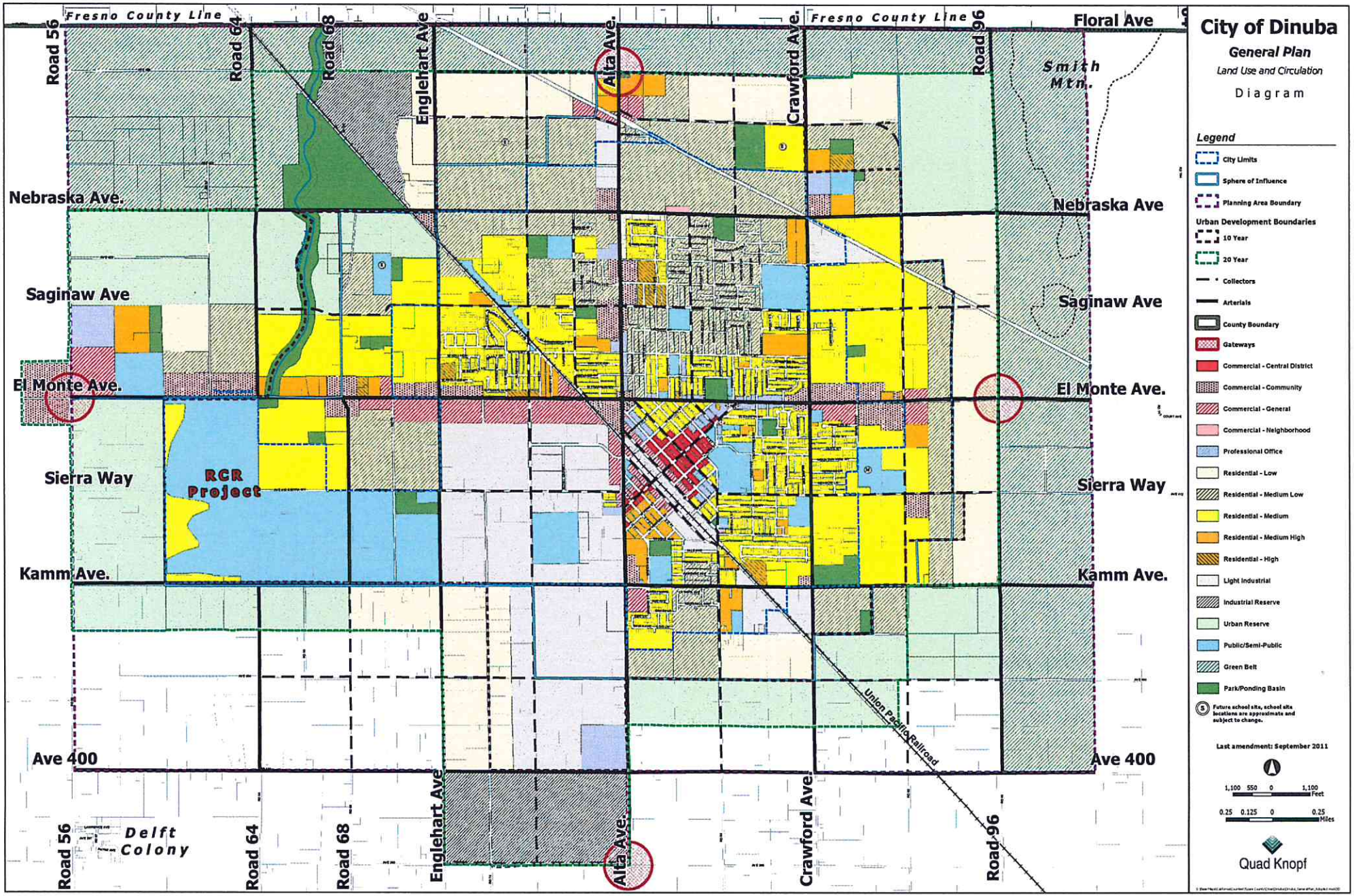
Attachment 2 – Zoning Map

Existing Zoning Map
For
PSR 14-005



Owner: Port of Ivory LLC
Address: 6801 Ave 430
City, State, ZIP: Reedley
Applicant: Richard Best Transfer, Inc
Agent: n/a
Supervisorial District: 4
Assessors Parcel: 012-260-019 & -067

Attachment 3 – Dinuba General Plan Land Use Map


Fresno County Line
Fresno County Line
Road 56
Road 64
Road 68
Englehart Ave
Alta Ave.
Crawford Ave.
Road 96
Floral Ave
Smith Mtn.
Nebraska Ave.
Nebraska Ave
Saginaw Ave
Saginaw Ave
El Monte Ave.
El Monte Ave.
Sierra Way
Sierra Way
RCR Project
Kamm Ave.
Kamm Ave.
Union Pacific Railroad
Ave 400
Ave 400
Delft Colony
Road 56
Road 64
Road 68
Englehart Ave
Alta Ave.
Crawford Ave.
Road 96
City of Dinuba
General Plan
Land Use and Circulation
Diagram
Legend
City Limits
Sphere of Influence
Planning Area Boundary
Urban Development Boundaries
10 Year
20 Year
Collectors
Arterials
County Boundary
Gateways
Commercial - Central District
Commercial - Community
Commercial - General
Commercial - Neighborhood
Professional Office
Residential - Low
Residential - Medium Low
Residential - Medium
Residential - Medium High
Residential - High
Light Industrial
Industrial Reserve
Urban Reserve
Public/Semi-Public
Green Belt
Park/Ponding Basin
Future school site, school site locations are approximate and subject to change.
Last amendment: September 2011
1,100 550 0 1,100 Feet
0.25 0.125 0 0.25 Miles
Quad Knopf

Attachment 4 – SJVAPCD - Authority to Construct Permit for RBT

AUTHORITY TO CONSTRUCT

PERMIT NO: S-7291-1-3 **ISSUANCE DATE:** 11/17/2014

LEGAL OWNER OR OPERATOR: RICHARD BEST TRANSFER INC
MAILING ADDRESS: 1630 E MANNING #312
REEDLEY, CA 93654

LOCATION: 6801 AVE 430
DINUBA, CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF ANIMAL FEED RAILCAR UNLOADING AND TRUCK LOADING OPERATION INCLUDING ONE RADIAL STACKER CONVEYOR USED TO UNLOAD PRODUCT INTO BUILDINGS POWERED BY A PERMIT EXEMPT DIESEL-FIRED IC ENGINE (SELF-PROPELLED EQUIPMENT) AND EIGHT MULTIPLE SPECIFIED LOCATIONS PORTABLE BELT CONVEYORS WITH FLEXIBLE LOADOUTS TO TRUCKS WITH DUST SOCKS/CHUTES ON DISCHARGES: INCREASE DAILY AND ANNUAL THROUGHPUT LIMITS FOR THE RAILCAR UNLOADING AND TRUCK LOADING OPERATIONS AND REMOVE MULTIPLE LOCATIONS CONDITION FOR CONVEYORS

CONDITIONS

1. Permittee shall only handle and store animal feed at this facility. If permittee wants to handle and store any material other than animal feed, the permittee shall obtain an Authority to Construct (ATC) prior to commencing such operation. [District Rule 4101]
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Animal feed unloaded from railcars shall be by one of the following methods: (1) choke feed unloading, or (2) a material drop distance not greater than 12 inches. Chutes or enclosures may be used to comply with the drop distance requirement. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-7291-1-3 : Oct 7 2015 4:32PM – DIAZN : Joint Inspection NOT Required

6. Conveyor drop points shall be equipped with a dust sock or chute. Opacity from conveyor drop points shall not exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District Rules 2201, 4101, 8011, and 8031]
7. PM10 emissions from railcar unloading operation shall not exceed 0.0078 lb/ton. [District Rule 2201]
8. PM10 emissions from truck loading operation shall not exceed 0.029 lb/ton. [District Rule 2201]
9. The amount of animal feed unloaded from railcars shall not exceed 10,000 tons in any one day and 550,000 tons per calendar year. [District Rule 2201]
10. The amount of animal feed loaded out into the trucks shall not exceed 3,750 tons in any one day and 550,000 tons per calendar year. [District Rule 2201]
11. When handling bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, wind barriers with less than 50% porosity shall also be used. [District Rules 8011 and 8031]
12. When storing bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, all bulk material piles shall also be either maintained with a stabilized surface as defined in Section 3.58 of District Rule 8011, or shall be protected with suitable covers or barriers as prescribed in Table 8031-1, Section B, of District Rule 8031. [District Rules 8011 and 8031]
13. When transporting bulk materials outside an enclosed structure or building, all bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031]
14. All empty transport trucks leaving the facility shall be sufficiently clean to limit Visible Dust Emissions to 20% opacity or the cargo compartment shall be covered. [District Rules 8011 and 8031]
15. All transport trucks shall be designed and maintained to prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate. [District Rules 8011 and 8031]
16. Off-site bulk material transport vehicles shall be loaded with not less than 6 inches freeboard space and either water shall be applied or the load shall be covered with a tarp or other suitable cover, sufficient to limit Visible Dust Emissions to 20% opacity. [District Rules 8011 and 8031]
17. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011(8/19/04). [District Rules 8011 and 8041]
18. Water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]
19. Where dusting materials are allowed to accumulate on paved surfaces, the accumulation shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rule 8011 and 8071]
20. Whenever any portion of the site becomes inactive, permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071]

CONDITIONS CONTINUE ON NEXT PAGE

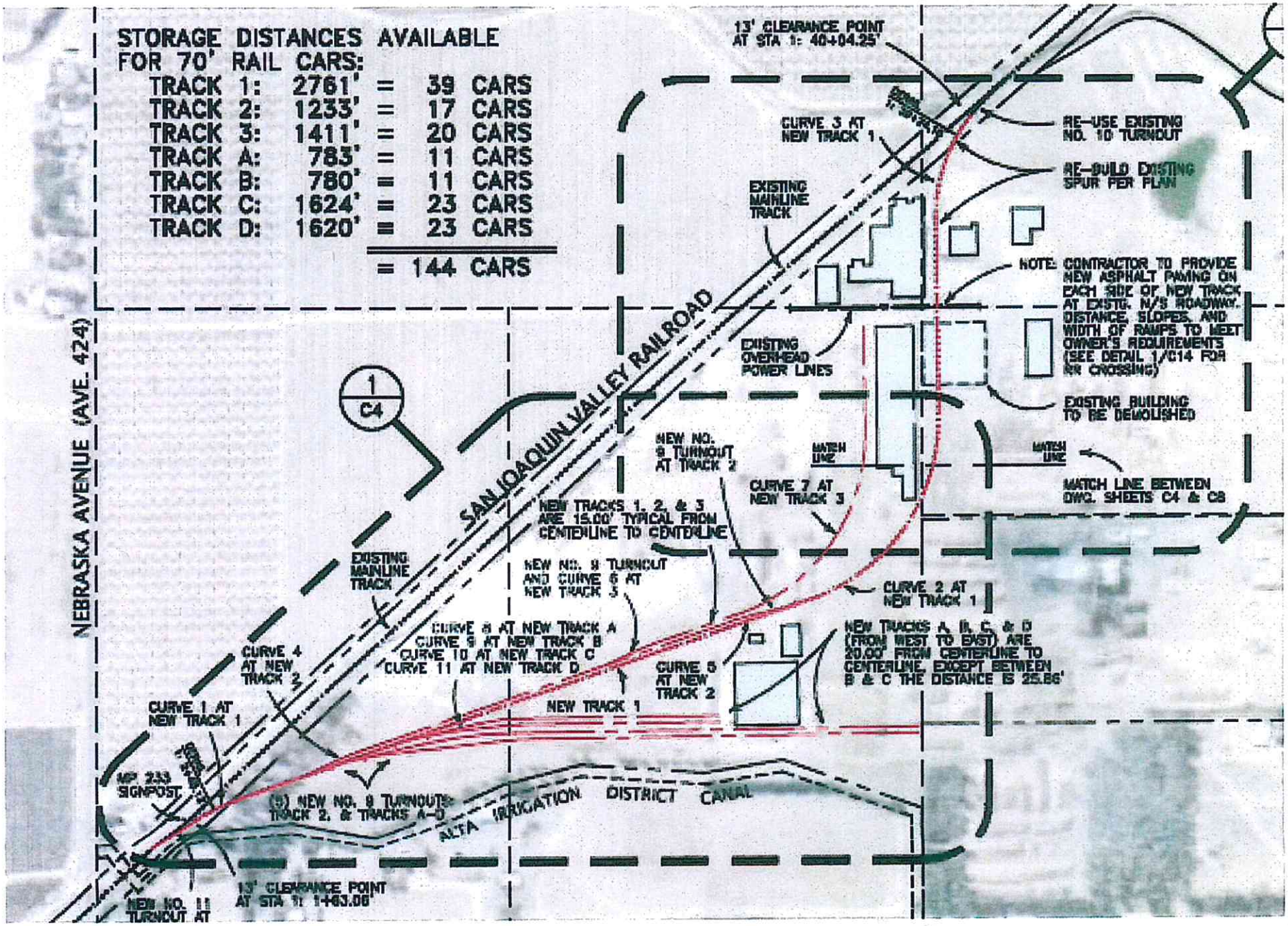
21. Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

22. Daily and annual records of the tons of animal feed unloaded from railcars and loaded into truck trailers shall be maintained. [District Rules 1070 and 2201]

23. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

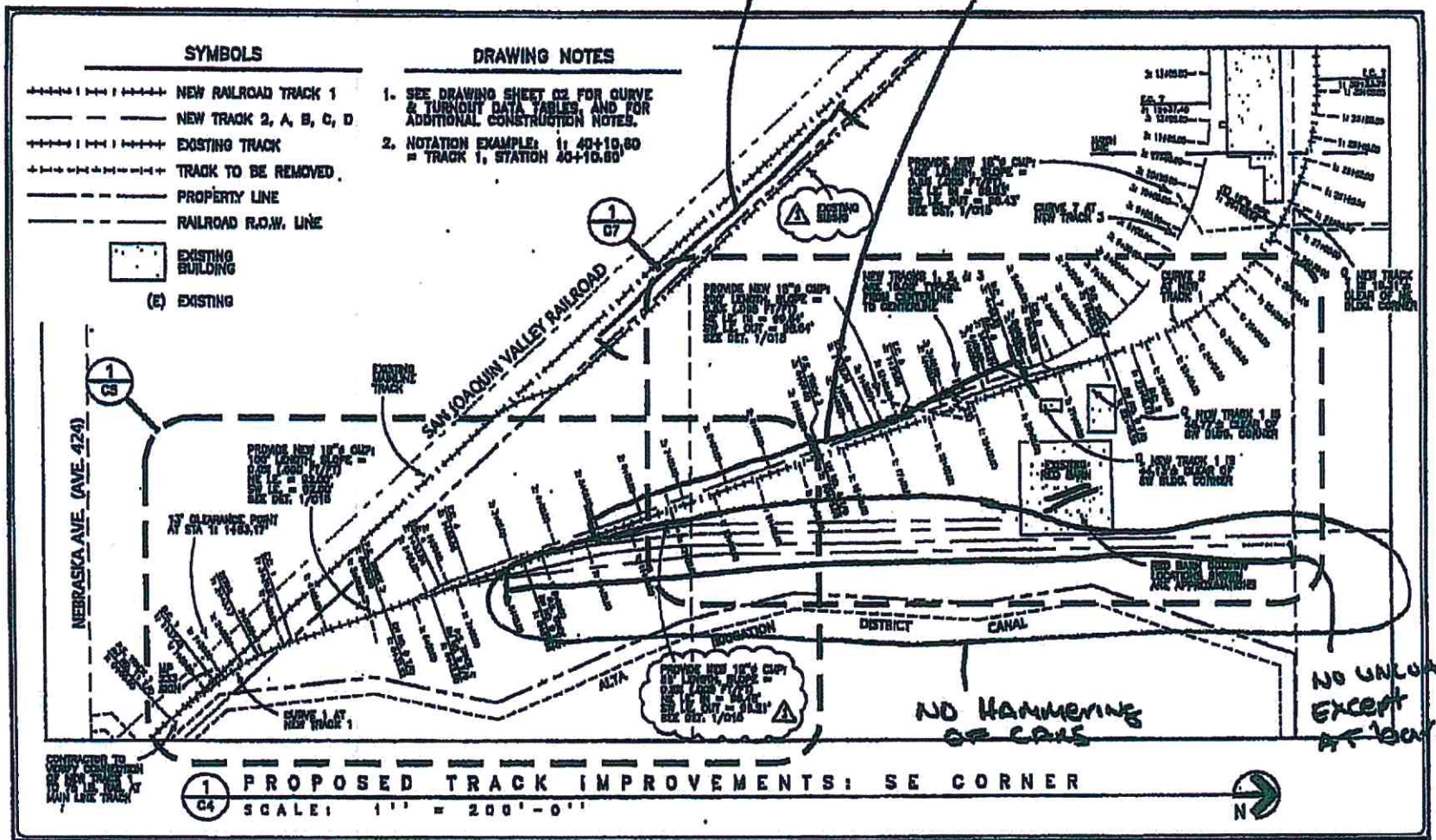
Attachment 5 – Google Earth Aerial of POI

Attachment 6 – 2012 Site Plan Showing Storage Track Layout for 144 Railcars


STORAGE DISTANCES AVAILABLE
FOR 70' RAIL CARS:
TRACK 1: 2761' = 39 CARS
TRACK 2: 1233' = 17 CARS
TRACK 3: 1411' = 20 CARS
TRACK A: 783' = 11 CARS
TRACK B: 780' = 11 CARS
TRACK C: 1624' = 23 CARS
TRACK D: 1620' = 23 CARS
= 144 CARS
13' CLEARANCE POINT AT STA 1: 40+04.25'
CURVE 3 AT NEW TRACK 1
RE-USE EXISTING NO. 10 TURNOUT
RE-BUILD EXISTING SPUR PER PLAN
EXISTING MAINLINE TRACK
NOTE: CONTRACTOR TO PROVIDE NEW ASPHALT PAVING ON EACH SIDE OF NEW TRACK AT EXISTG. N/S ROADWAY. DISTANCE, SLOPES, AND WIDTH OF RAMPS TO MEET OWNER'S REQUIREMENTS (SEE DETAIL 1/C14 FOR RR CROSSING)
EXISTING OVERHEAD POWER LINES
EXISTING BUILDING TO BE DEMOLISHED
1/C4
SAN JOAQUIN VALLEY RAILROAD
NEW NO. 9 TURNOUT AT TRACK 2
MATCH LINE
MATCH LINE
MATCH LINE BETWEEN DWG. SHEETS C4 & C8
CURVE 7 AT NEW TRACK 3
NEW TRACKS 1, 2, & 3 ARE 15.00' TYPICAL FROM CENTERLINE TO CENTERLINE
NEBRASKA AVENUE (AVE. 424)
EXISTING MAINLINE TRACK
NEW NO. 9 TURNOUT AND CURVE 6 AT NEW TRACK 3
CURVE 2 AT NEW TRACK 1
CURVE 8 AT NEW TRACK A
CURVE 9 AT NEW TRACK B
CURVE 10 AT NEW TRACK C
CURVE 11 AT NEW TRACK D
NEW TRACKS A, B, C, & D (FROM WEST TO EAST) ARE 20.00' FROM CENTERLINE TO CENTERLINE, EXCEPT BETWEEN B & C THE DISTANCE IS 25.86'
CURVE 4 AT NEW TRACK 2
CURVE 5 AT NEW TRACK 2
CURVE 1 AT NEW TRACK 1
NEW TRACK 1
MP 233 SIGNPOST
(9) NEW NO. 9 TURNOUTS TRACK 2, & TRACKS A-D
ALTA IRRIGATION DISTRICT CANAL
13' CLEARANCE POINT AT STA 1: 1+63.06'
NEW NO. 11 TURNOUT AT

Attachment 7 – 2012 Settlement Agreement Agreement's Map of POI Property Showing Rail Spurs When Hammering and Unloading are Allowed

#6



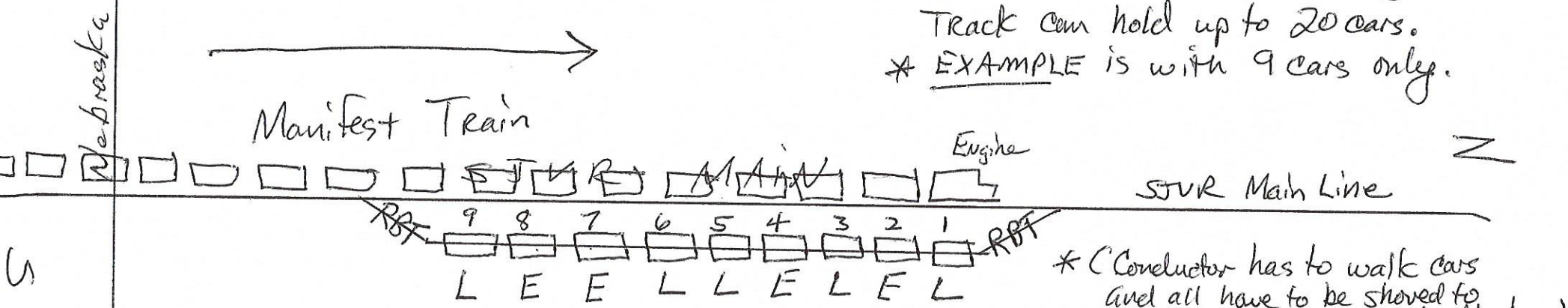
ALL AMERICAN TRACK TAMPING, INC. P.O. BOX 186 ASH FORK, AZ. 86320	Richard Best Transfer Inc. 6801 Avenue 430 Reedley, CA. 93654 www.rbtinc.com	Proposed Improvements: SE Corner Sheet C4 4 of 17

Attachment 8 – Manifest Train Switching Description and Diagram

L - Loads
E - Empties

M-W-F - North Operation
T-TH - South Operation

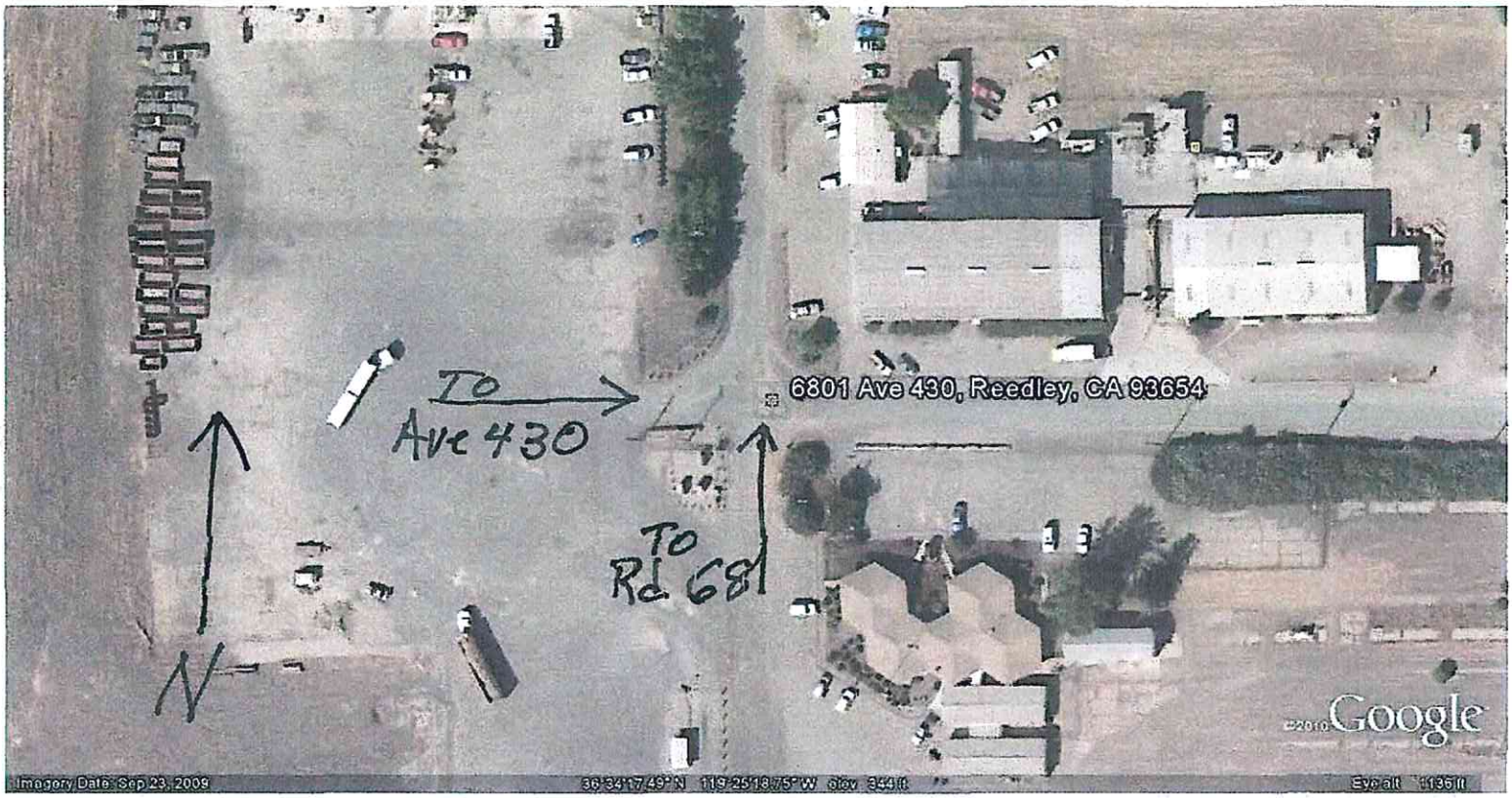
* (This process will take at least 1 hour to complete)
Process is same on Southbound Trip. Could take longer.
Track can hold up to 20 cars.
* EXAMPLE is with 9 cars only.

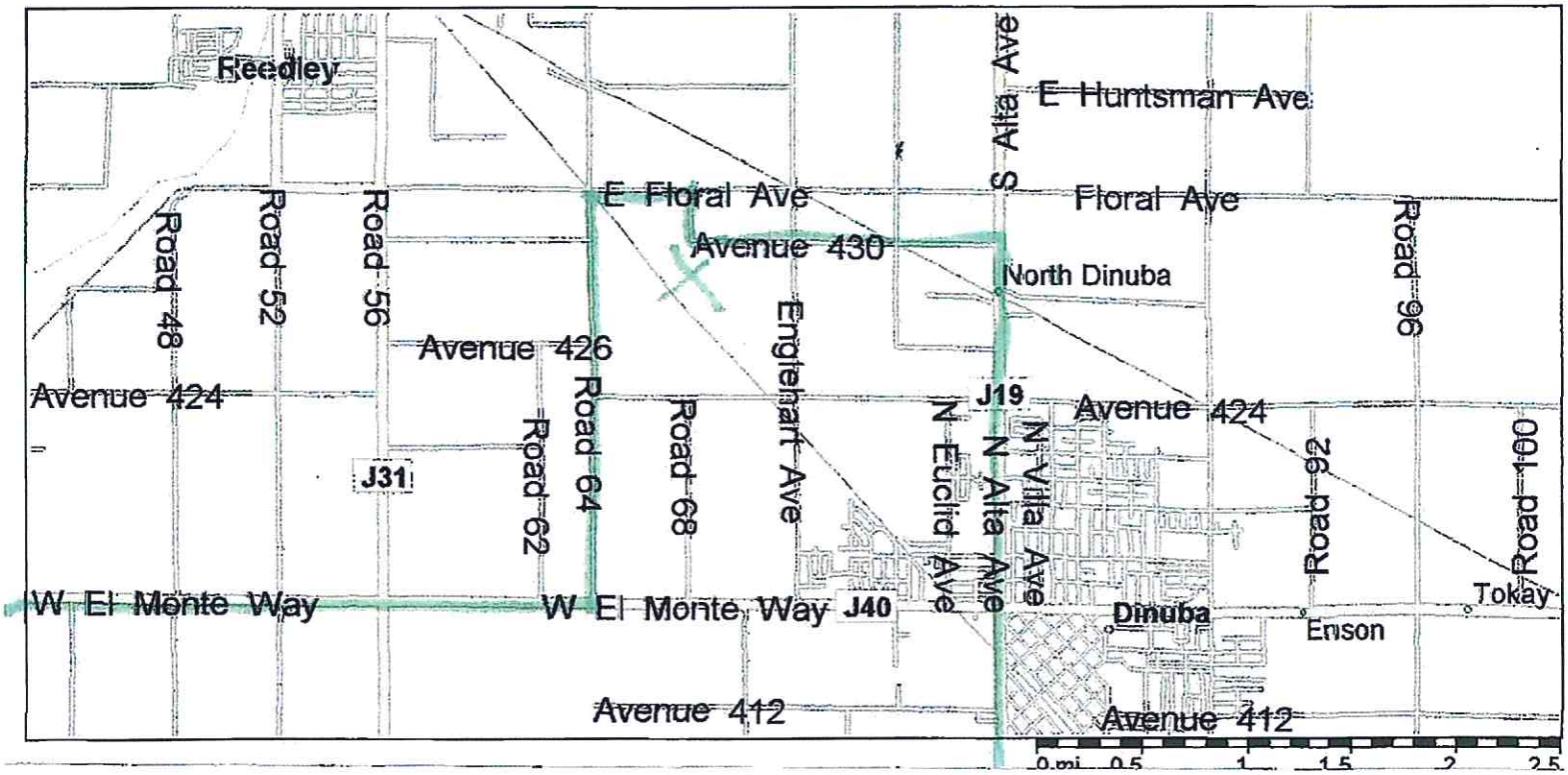


* (Conductor has to walk cars and all have to be shoved to rest and secured with Hand brakes.)

1. SJVR will pull up even to N. Switch. They will pull out all of the empty cars and set back the loads. They will then cut off engine and then go into track. In this simple example there are 9 cars (5 loads + 4 mpty) The Conductor will walk all the way to the number 8 car and seperate it and all of the other cars from 1-8 and pull them out onto the SJVR Main. They will then switch cars 8 + 7 to their train. Then shove cars 6-1 all the way back into the track until #6 Load comes against #9. They will then make a cut on #5, leaving car 5 against #9 and then pull all the way out to main again and then set #4 back to their train. They will then take 1-3 back in to track until #3 rests against #5. Pull out again placing #2 to TRAIN and then take #1 and put against #3. Their engine will then come against train + depart.

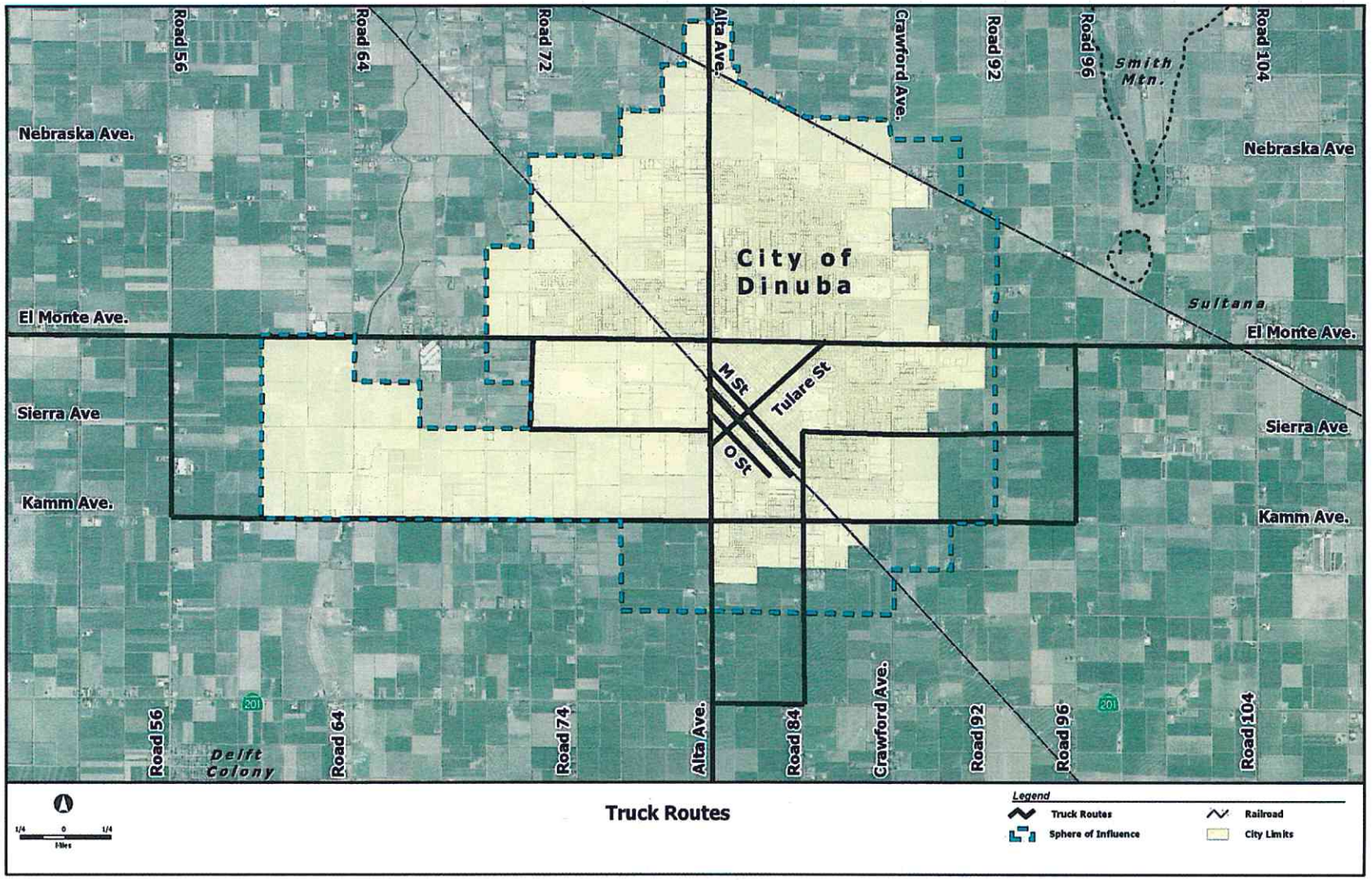
Attachment 9 – RBT Track Routes


6801 Ave 430, Reedley, CA 93654
To Ave 430
To Rd. 68
N
Google
Imagery Date: Sep 23, 2009
36°34'17.49" N 119°25'18.75" W elev 344 ft
Eye alt 1135 ft


Reedley
E Huntsman Ave
S Alta Ave
E Floral Ave
Floral Ave
Avenue 430
North Dinuba
Road 48
Road 52
Road 56
Road 96
Avenue 426
Englehart Ave
Avenue 424
J19
Avenue 424
J31
Road 62
Road 64
Road 68
N Euclid Ave
N Alta Ave
N Villa Ave
Road 92
Road 100
W El Monte Way
W El Monte Way
J40
Dinuba
Tokay
Enson
Avenue 412
Avenue 412
0 mi 0.5 1 1.5 2 2.5

Attachment 10 – Dinuba Circulation Element Map

Figure 2-5


Road 56
Road 64
Road 72
Alta Ave.
Crawford Ave.
Road 92
Road 96
Smith Mtn.
Road 104
Nebraska Ave.
City of Dinuba
Sultana
El Monte Ave.
M St
Tulare St
O St
Sierra Ave
Kamm Ave.
Road 56
Delft Colony
Road 64
Road 74
Alta Ave.
Road 84
Crawford Ave.
Road 92
Road 96
Road 104
201
1/4 0 1/4
Miles
Truck Routes
Legend
Truck Routes
Railroad
Sphere of Influence
City Limits

Attachment 11 - JD McGee 2011 Engineering Rail Spurs Design

JDMcGee, Inc.

ENGINEERING & SURVEYING

PO Box 1472
1215 Main Street
Philomath, OR 97370

"Solving Problems for You"

Ph: (541) 929-4226
Fax: (541) 929-4227

February 24, 2011

JD McGee Inc Project No. 11-31 A

Craig Anderson
Tulare County
5961 South Mooney Blvd
Visalia, CA 93277
Email: canderso@co.tulare.ca.us

Subject: Richard Best Transfer – Industry Track Design in FEMA Flood Zone
6801 Avenue 430
Reedley, CA 93654
Assessor Parcel No. 67
SE 1/4, Section 1, T16S, R23E, MDM

Dear Mr. Anderson:

The industry track that is planned for the subject project passes through a FEMA flood A Zone (no Base Flood Elevations determined) as shown on Flood Insurance Rate Maps (FIRM) 06107C, Panel numbers 0310E and 0320E.

The work involved with construction of the new track in the floodplain, as shown on the accompanying plans, will be limited to minor grading consisting of balanced cuts and fills of approximately 3,334 cubic yards of material. I am including volume calculations with this letter to demonstrate the balance between cuts and fills.

To alleviate differential hydrostatic pressures, an 18-inch culvert will be installed near the low point along the track alignment. Since the purpose of the culvert is water surface equalization and not storm drainage, the culvert will be installed without slope.

In addition to describing the project, this letter is intended to certify that the proposed industry track will not create any increase to the 100-year flood elevation in the vicinity of the proposed development.

If you have any questions about the design or the content of this letter, please feel free to call me at 541-929-4226.

Sincerely,

John McGee, P.E., P.L.S.

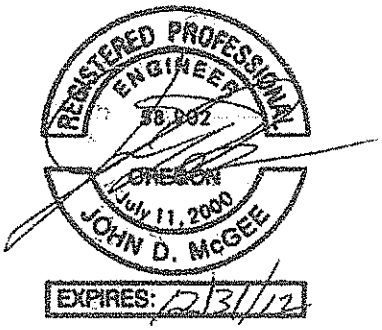
REGISTERED PROFESSIONAL ENGINEER
56,902
OREGON
July 11, 2000
JOHN D. McGEE
EXPIRES: 12/31/12

Cc.: Chuck Littlefield, Richard Best Transfer

Encl.: Industrial RR Track Design Plans
Volume calculations

JDMcGee, Inc.
"Solving Problems for You"
PO Box 1472, 1215 Main Street , Philomath, OR 97370
Ph: (541) 929-4226 Fax: (541) 929-4227

RBT– INDUSTRY TRACK DESIGN
FEMA FLOOD "A" ZONE – BALANCED FILL CALCULATIONS
6801 AVENUE 430
REEDLEY, CA 93654



Prepared By: John McGee, P.E.
JD McGee, Inc.
P.O. Box 1472
Philomath, OR 97370

Client: Richard Best Transfer

Project No.: 11-31 A

Date: February 24, 2011

Contents:

NOTE: Calculations and details provided herein are intended to represent the completed project. The contractor is responsible for all construction temporary bracing and shoring.

JDMcGee, Inc. ENGINEERING & SURVEYING

PO Box 1472
1215 Main Street
Philomath, OR 97370

"Solving Problems for You"

Ph: (541) 929-4226
Fax: (541) 929-4227

Project : Richard Best Transfer - Industrial Track Design - FEMA Flood "A" Zone fill balance — Sheet 1 of 5
Project No. 11-31 A — Date: 2/24/2011 — Computed by: JDM

Situation: A portion of the industry track design falls within a FEMA Flood "A" zone which does not have a designated Base Flood Elevation. In order to obtain construction approval from Tulare County, the floodplain manager, calculations for balance cut and fill are required.

Assumptions/ conditions:

A. The highest water level would be at the intersection of the highest contour and the FEMA A Zone boundary overlay (98-ft).
B. Cuts and fills are determined based on the existing ground surface below the highest water level (98-ft).
C. Elevations shown on the drawings are base on an arbitrary datum, which was established at random for this particular project.
D. All volumes are computed as "in-place". Soil or fill porosity is considered to be insignificant.
E. The RR section is symmetrical and level at the top.
F. Volume calculations are based on stationing for Track 1 and Track C centerlines. Track 1 Station 8+57.66 and Track C Station 2+00 are at approximately the same position. From those stations and higher, Track 1 calculations include Tracks 1 & 2 only while Track C calculations include tracks A through D only.

Calculations:

TRACK 1 SECTIONS

STATION	FILL AREA (SF)	FILL VOLUME (CF)	CUT AREA (SF)	CUT VOLUME (CF)	
320.91	0		0		
400.00	256	10123.52	0	0	
500.00	325	29050	0	0	
535.52	217	9625.92	0	0	
565.69	111	4947.88	0	0	
600.00	71	3122.21	0	0	
642.90	96	3582.15	0	0	
673.07	114	3167.85	0	0	
700.00	133	3325.855	0	0	
800.00	84	10850	5	250	
857.66	*27*	3200.13	*14*	547.77	*Similar to Track C Station 2+00*
887.83	24	769.335	12	392.21	
900.00	23	285.995	14	158.21	
1000.00	0	1150	23	1850	
1100.00	0	0	18	2050	
1200.00	0	0	8	1300	
1250.00	0	0	0	200	
		83201 Cu. Ft.		6748	Cu. Ft.
		3082 Cu. Yd.		250	Cu. Yd.

TRACK C SECTIONS

STATION	FILL AREA (SF)	FILL VOLUME (CF)	CUT AREA (SF)	CUT VOLUME (CF)	
200.00	*26*		*15*		*Similar to Track 1 Station 8+57.66*
300.00	55	4050	11	1300	
400.00	0	2750	24	1750	
500.00	0	0	53	3850	
600.00	0	0	85	6900	
700.00	0	0	104	9450	
800.00	0	0	54	7900	
900.00	0	0	16	3500	
1000.00	0	0	2	900	
1050.00	0	0	0	50	
	0	0		0	
		6800 Cu. Ft.		35600	Cu. Ft.
		252 Cu. Yd.		1319	Cu. Yd.

total fill required 90001 fill available 42348

Additional fill required 47653 Cu. Ft.
1765 Cu. Yd.

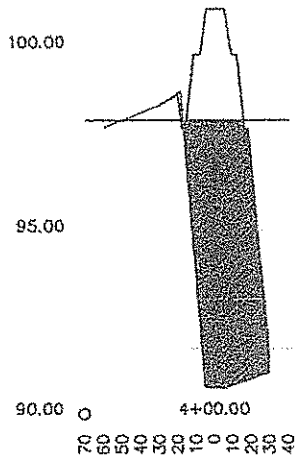
VOLUME	DEPTH	BASE AREA	BASE LENGTH	BASE WIDTH	TOP AREA	TOP LENGTH	TOP WIDTH
50872	4	9750	325	30	15686	341	46

CONE REDUCTION	NET VOLUME	
268	50604	Cu.Ft.
	1874	Cu. Yd.

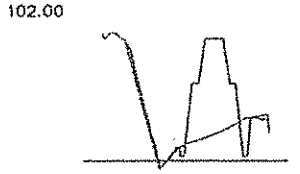
GREATER THAN 47653 Cu.Ft. OK

PROJ No 11-31A

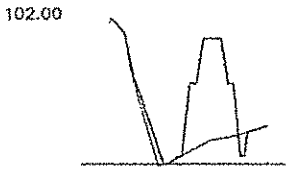
TRACK 1



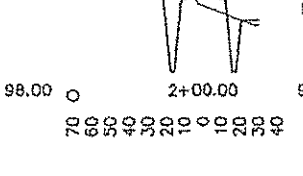
CUT AREA: 0 SF
FILL AREA: 256 SF



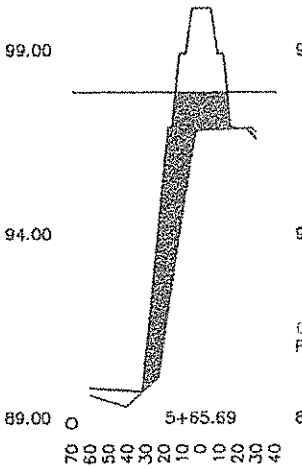
CUT AREA: 0 SF
FILL AREA: 0 SF



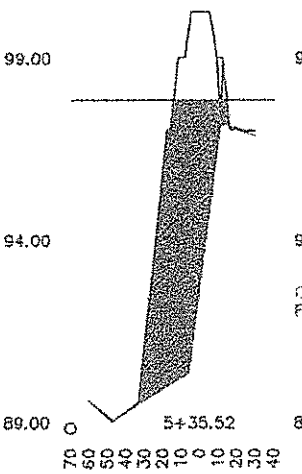
CUT AREA: 0 SF
FILL AREA: 0 SF



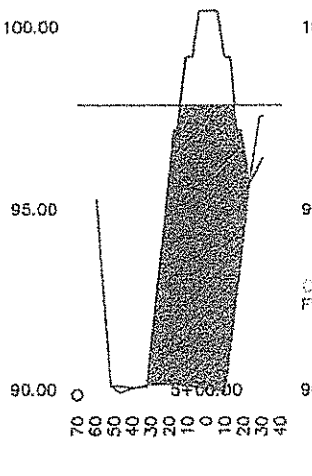
CUT AREA: 0 SF
FILL AREA: 0 SF



CUT AREA: 0 SF
FILL AREA: 111 SF



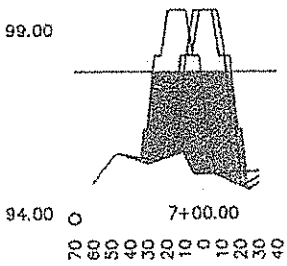
CUT AREA: 0 SF
FILL AREA: 217 SF



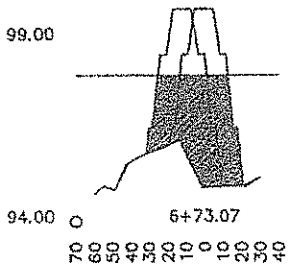
CUT AREA: 0 SF
FILL AREA: 325 SF

PROJ No 11-31A

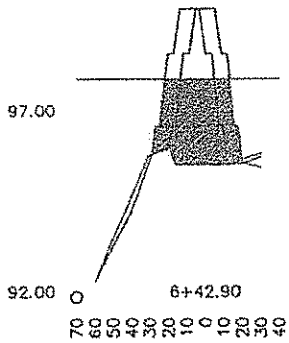
TRACK 1



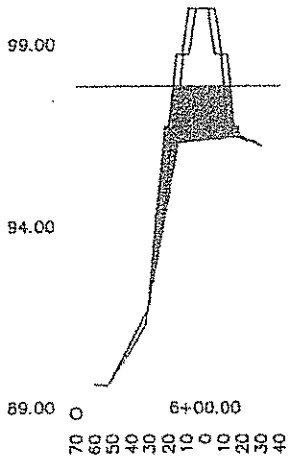
CUT AREA: 0 SF
FILL AREA: 133 SF



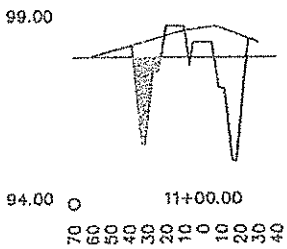
CUT AREA: 0 SF
FILL AREA: 114 SF



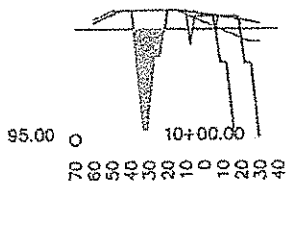
CUT AREA: 0 SF
FILL AREA: 96 SF



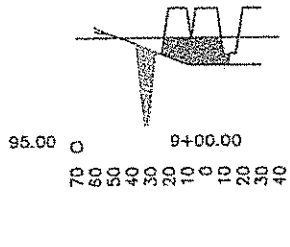
CUT AREA: 0 SF
FILL AREA: 71 SF



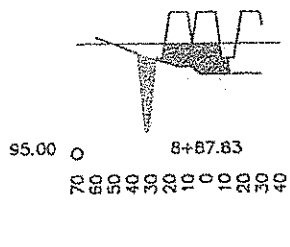
CUT AREA: 18 SF
FILL AREA: 0 SF



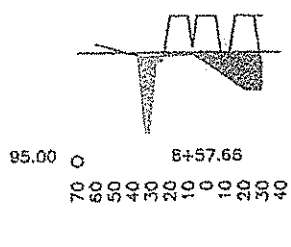
CUT AREA: 23 SF
FILL AREA: 0 SF



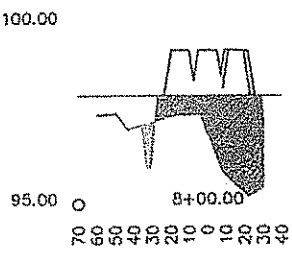
CUT AREA: 14 SF
FILL AREA: 23 SF



CUT AREA: 12 SF
FILL AREA: 24 SF

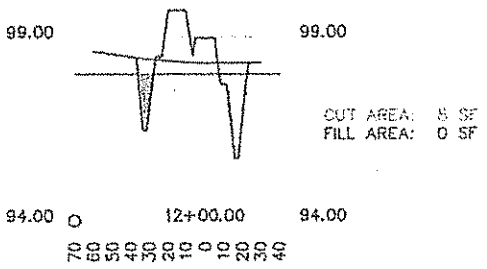


CUT AREA: 14 SF
FILL AREA: 27 SF

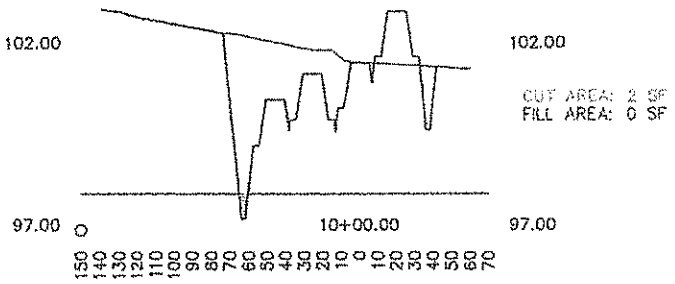


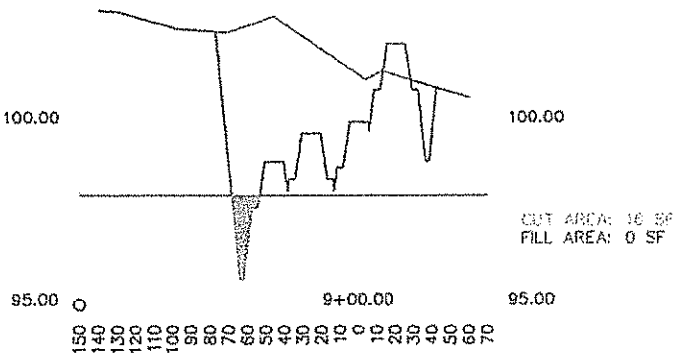
CUT AREA: 5 SF
FILL AREA: 84 SF

TRACK 1



TRACK C





PROJ No 11-31A

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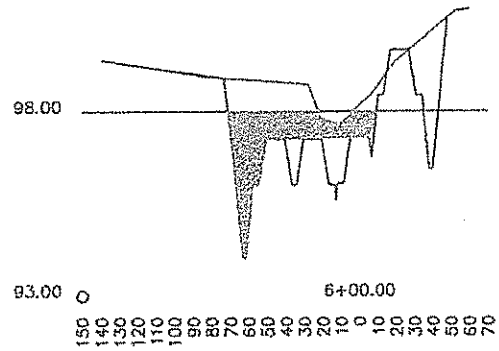
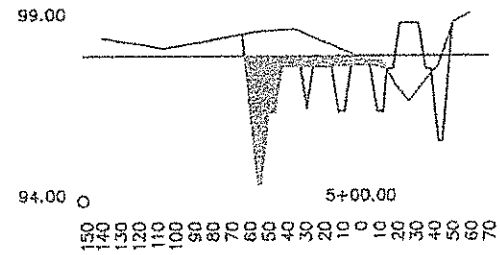
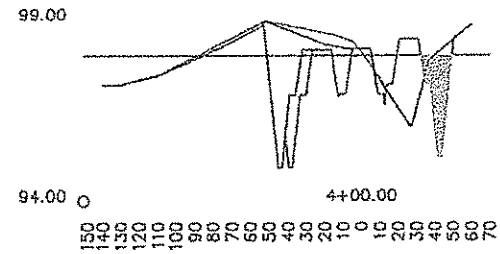
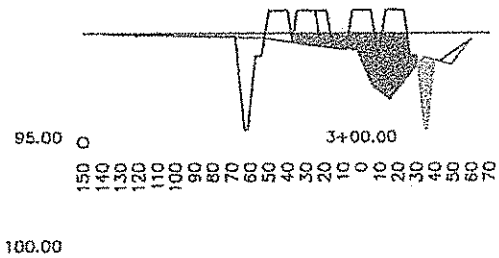
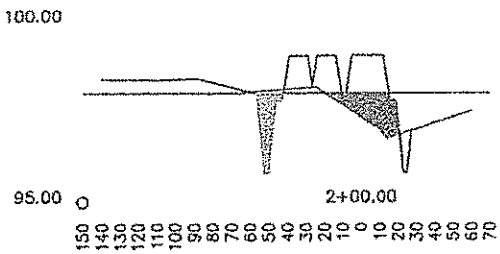
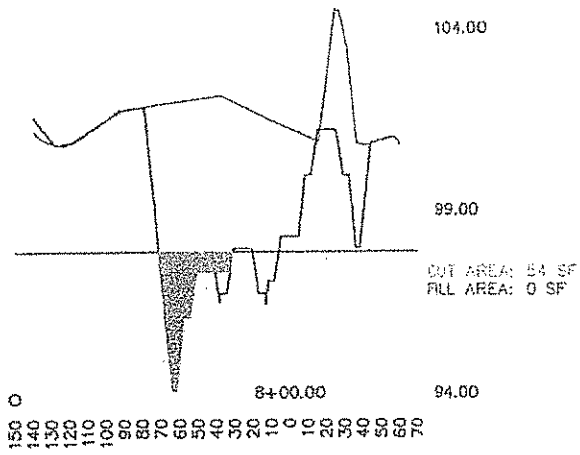


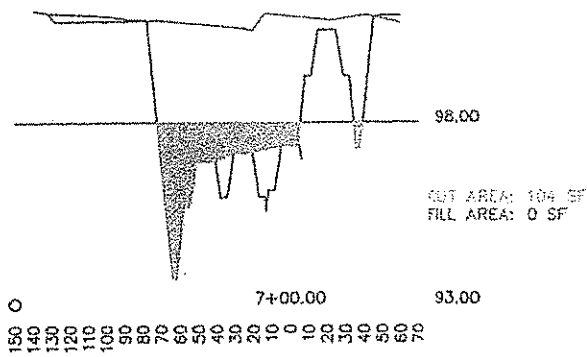






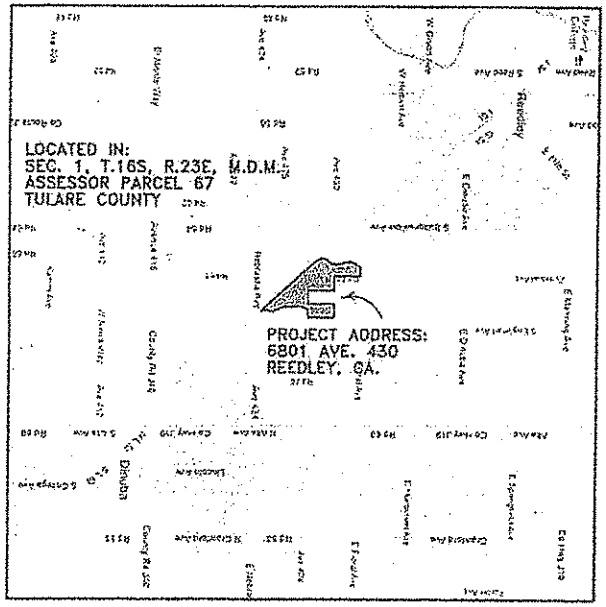


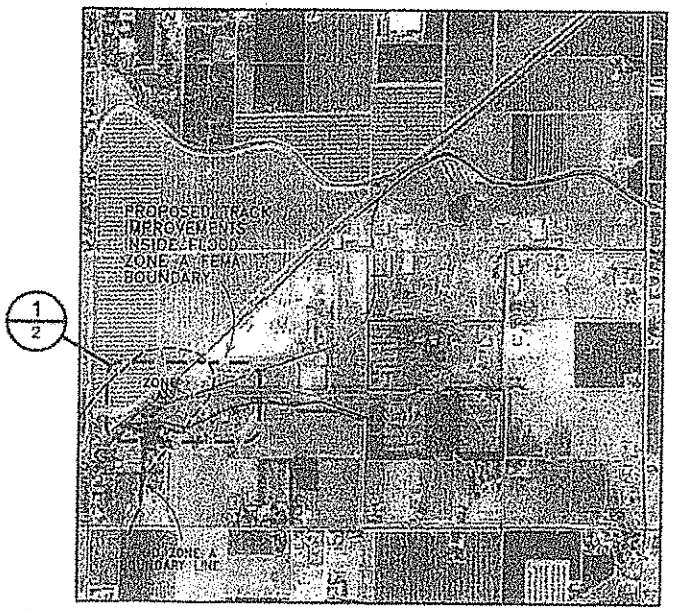




INDUSTRIAL RR TRACK DESIGN

RICHARD BEST TRANSFER INC.
6801 AVENUE 430
REEDLEY, CA. 93654





PROJECT SHEET INDEX

FLOOD INSURANCE RATE MAP:
- PANEL 310 OF 2550
  MAP# 06107C0310E
- PANEL 320 OF 2550
  MAP# 06107C0320E
- EFFECTIVE DATE:
  JUNE 16, 2009

1/C1 VICINITY MAP
NO SCALE

2/C1 PROPERTY MAP
NO SCALE

Drawings submitted to:
Tulare County, CA.
Building Dept.

ALL AMERICAN TRACK TAMPING, INC.
P.O. BOX 186
ASH FORK, AZ. 86320

Richard Best Transfer Inc.
6801 Avenue 430
Reedley, CA. 93654
www.rbtincca.com

Date	By	Revisions

JDMcGee, Inc.
Engineering & Surveying
Land Use Planning
Wastewater Design
Delivery Services for You
PO Box 1472
1215 Main Street
Phone: (661) 920-4200
Fax: (661) 920-4227

Job #	11-31-A
Date	2/25/11
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Vicinity Map
Property Map
Sheet Index

Sheet 1

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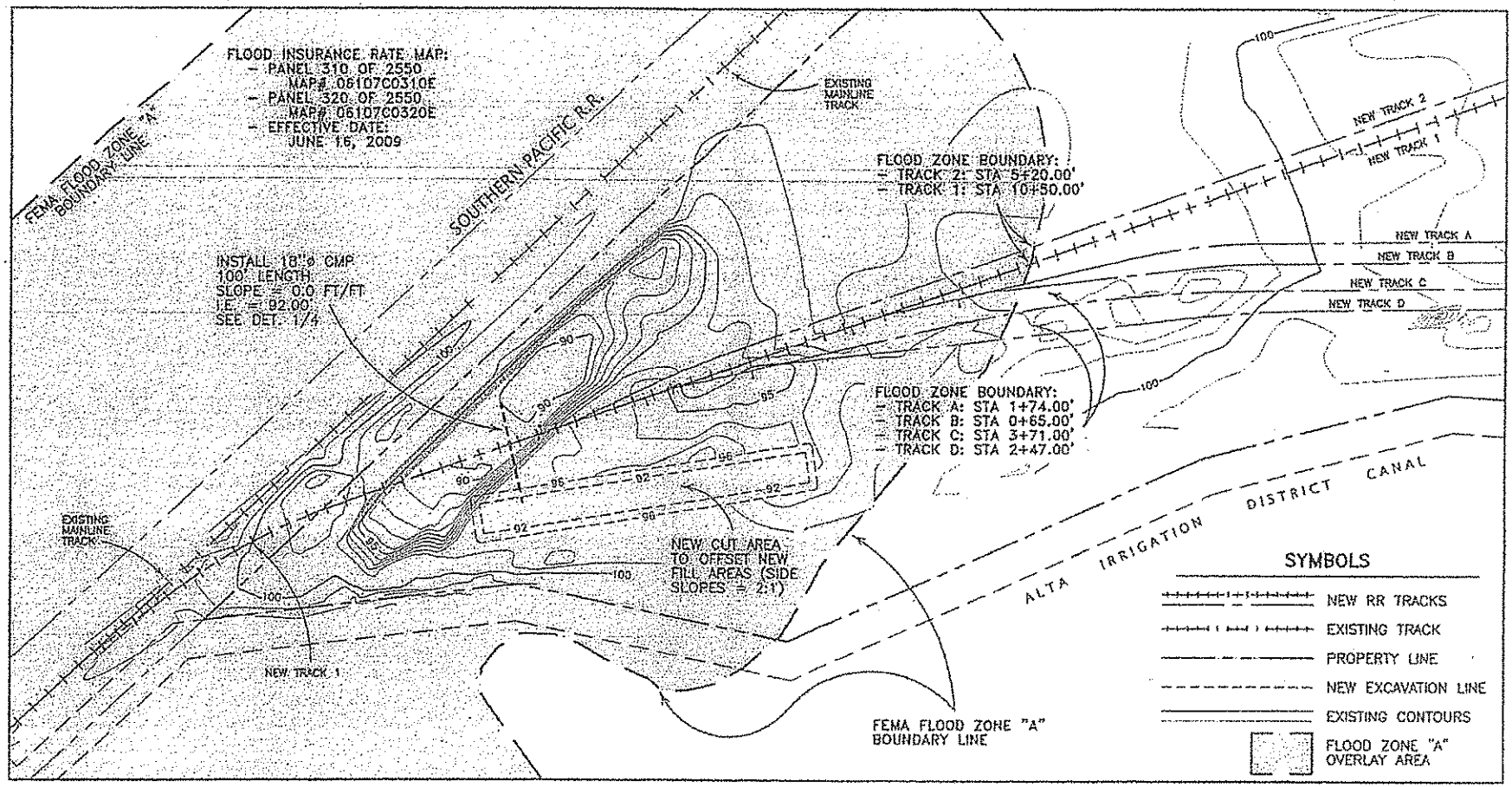

1/2 PROPOSED TRACK IMPROVEMENTS INSIDE FEMA FLOOD ZONE "A"

SCALE: 1'' = 100'-0''

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Land Use Planning
Wastewater Design
PO Box 1472
1215 Main Street
Phone: (541)923-1225
(541)923-1226 fax

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Proposed Improvements: FEMA Zone A

Sheet 2

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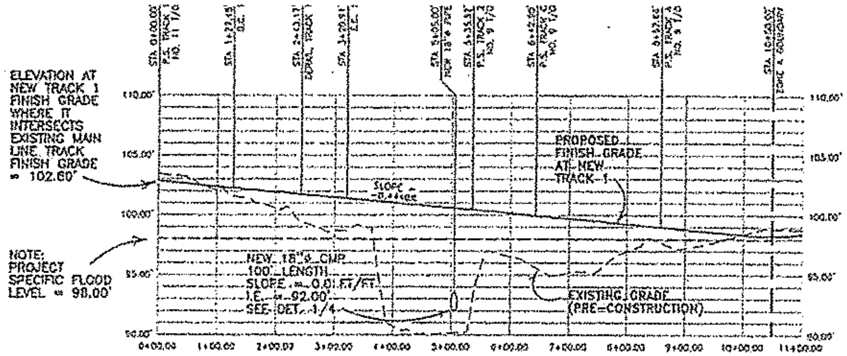

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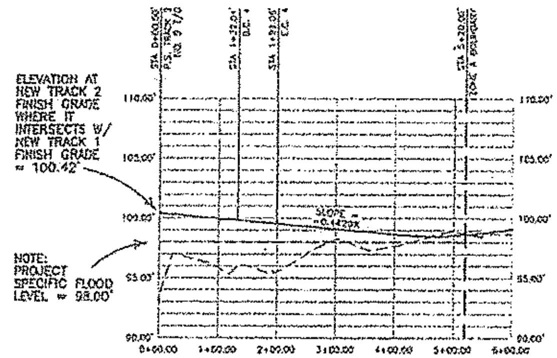

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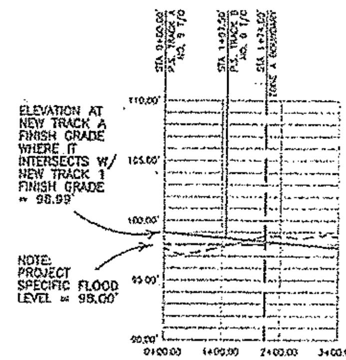

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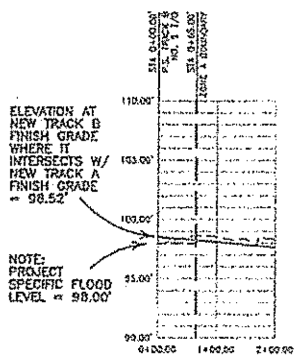

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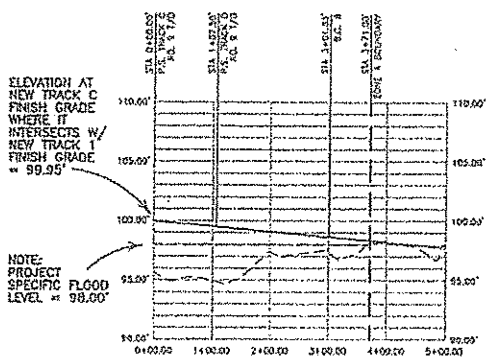

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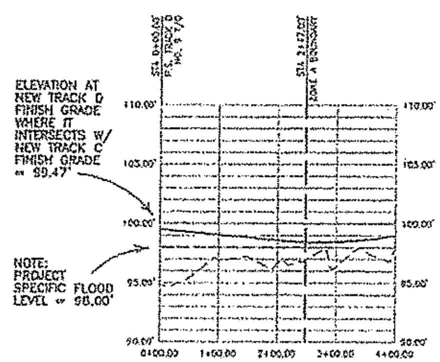

6/3 TRACK D

1" = 200.00' HORIZ.
1" = 10.00' VERT.

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Wastewater Design

Job #	11-31-A
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Profile:
Track 1 T/R

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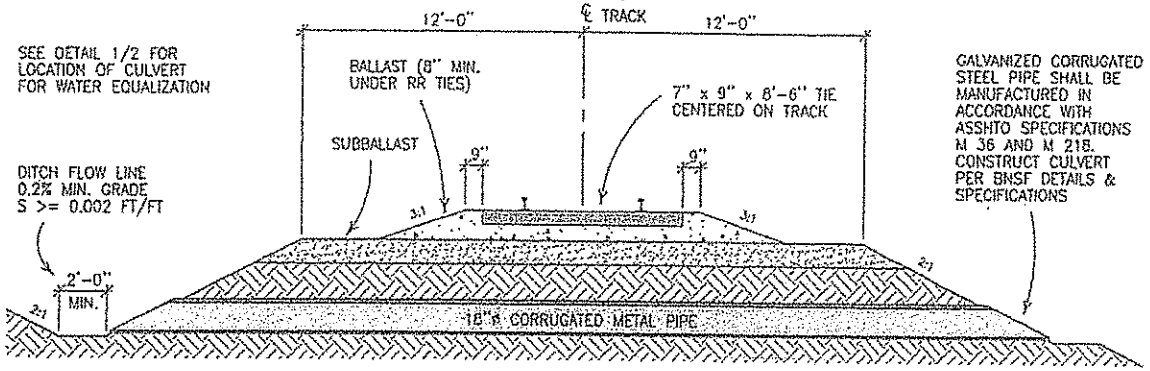

1/4 CULVERT AT TRACK ROADBED

SCALE: 1'' = 5'-0''

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Building Dept.

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PO Box 1472
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(559) 529-4297 fax

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Date	7/25/11
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Culvert detail

Sheet 4

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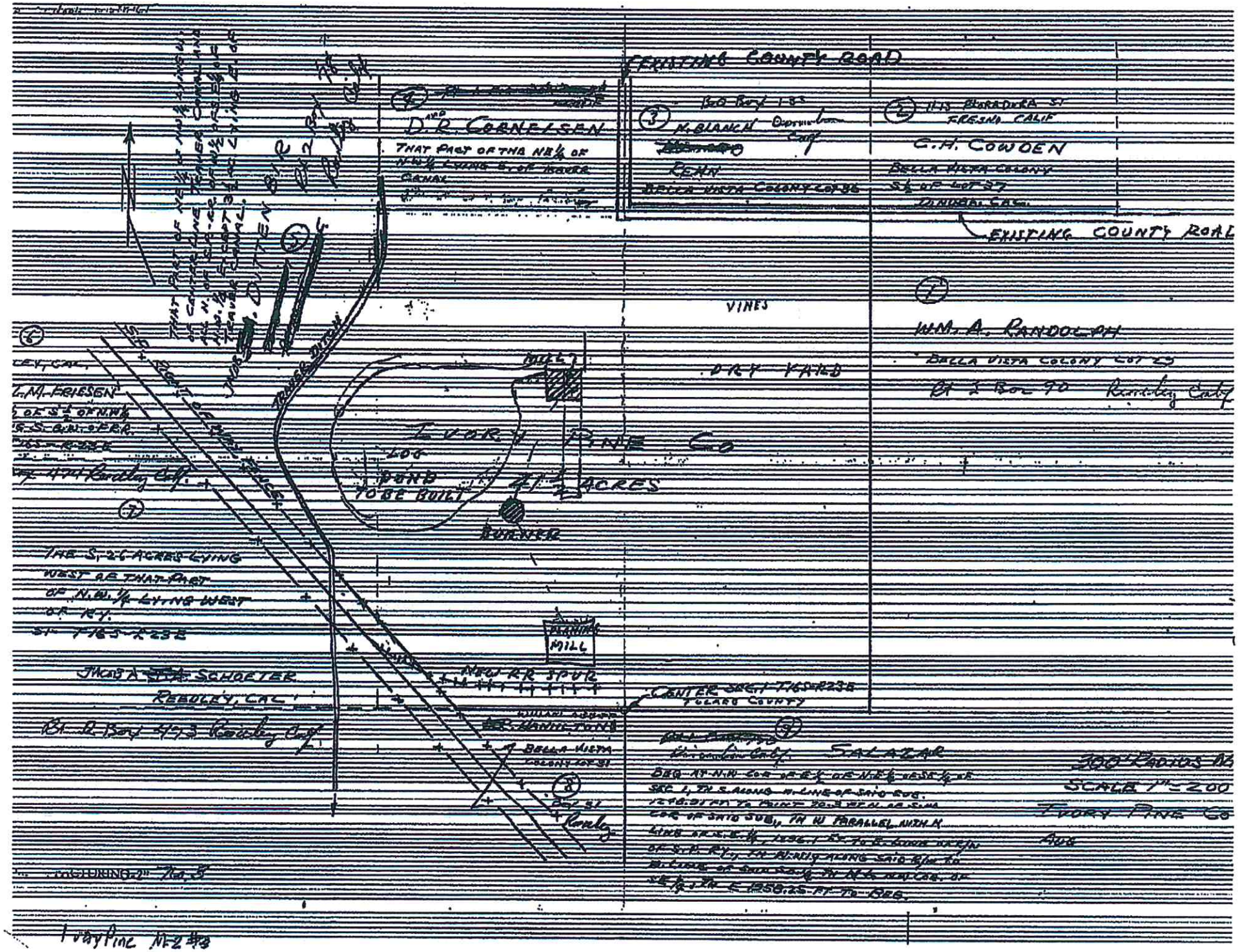
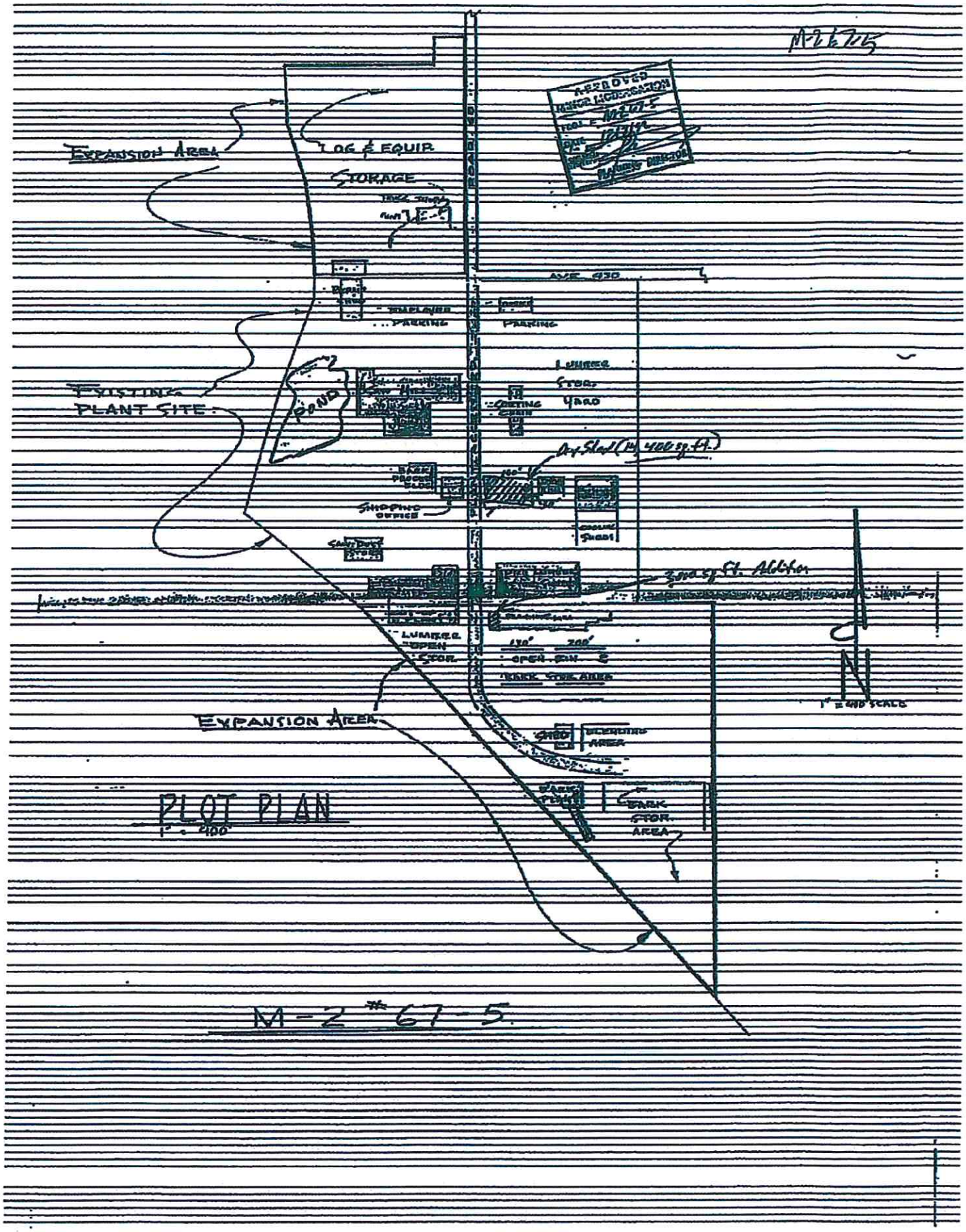
Attachment 12 – Site Plan Maps

- **Use Permit M-2 #3**
- **Special Use Permit M-2 #67-5**
- **Special Use Permit M-2 #67-12**

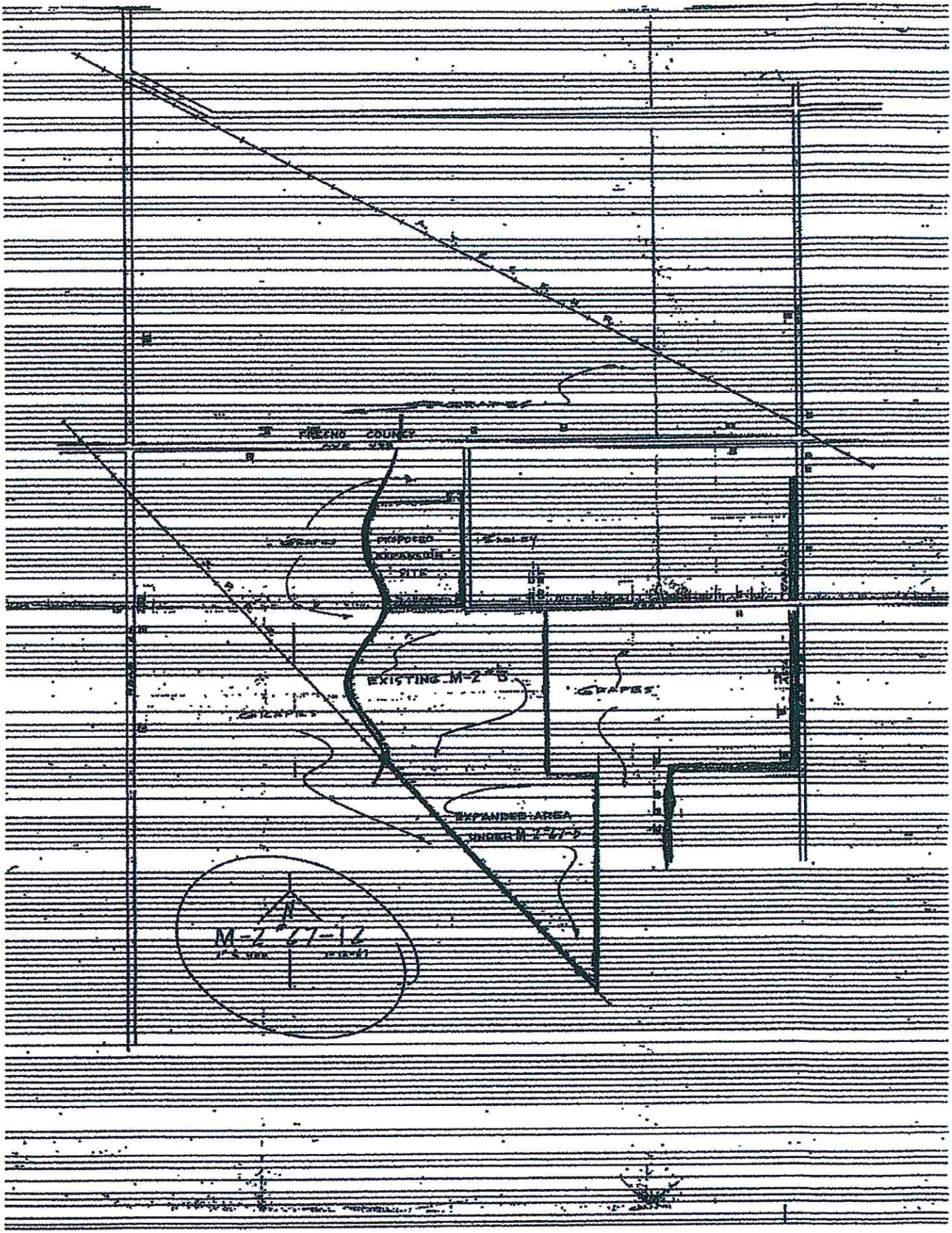
Use Permit M-2 #3, Site Plan Map



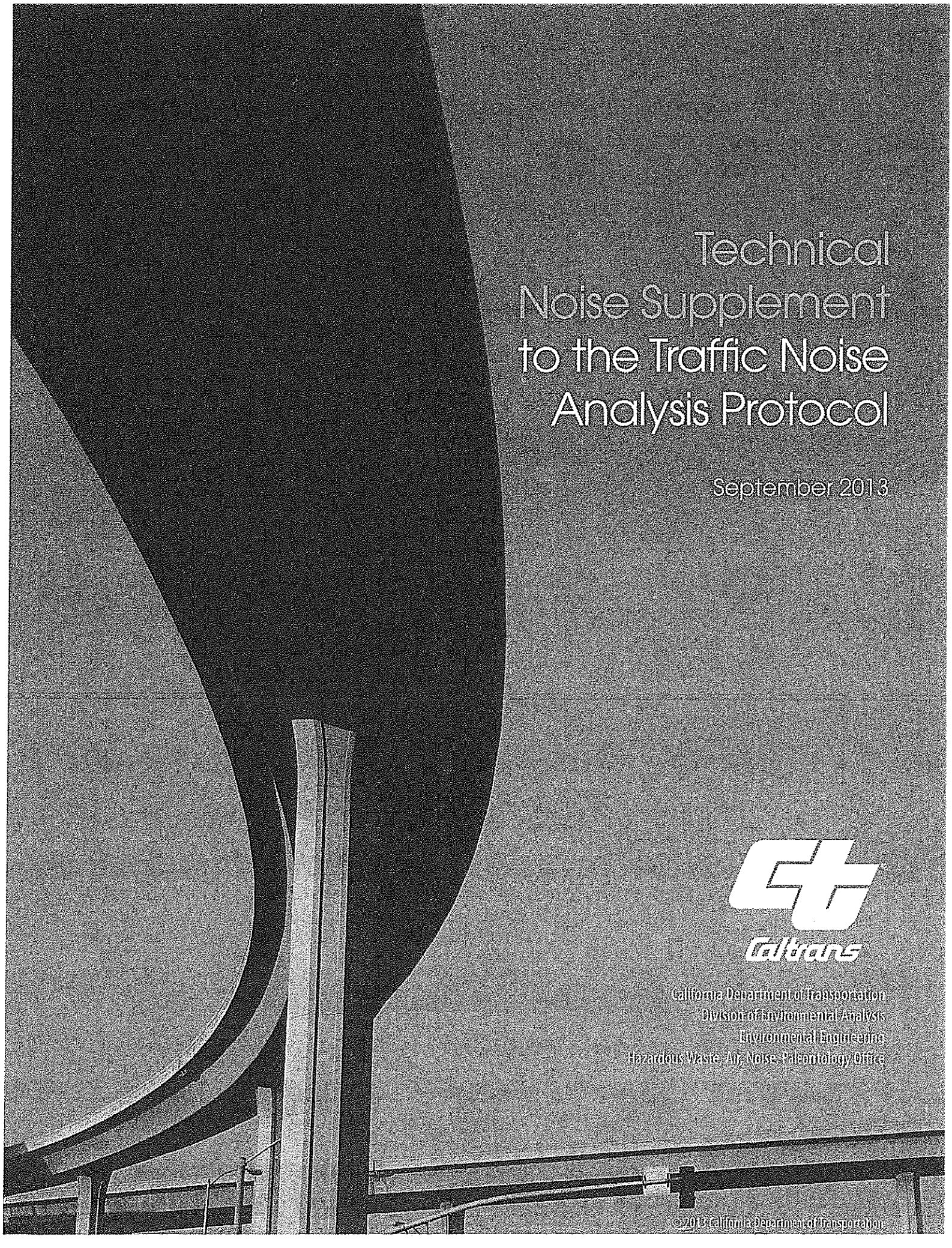
Special Use Permit M-2 #67-5 Site Plan Map1967



Special Use Permit M-2 #67-12 "Site Plan Map"



Attachment 13 – "Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol" 9/2013



Technical Noise Supplement to the Traffic Noise Analysis Protocol

September 2013

Caltrans

California Department of Transportation
Division of Environmental Analysis
Environmental Engineering
Hazardous Waste, Air, Noise, Paleontology Office

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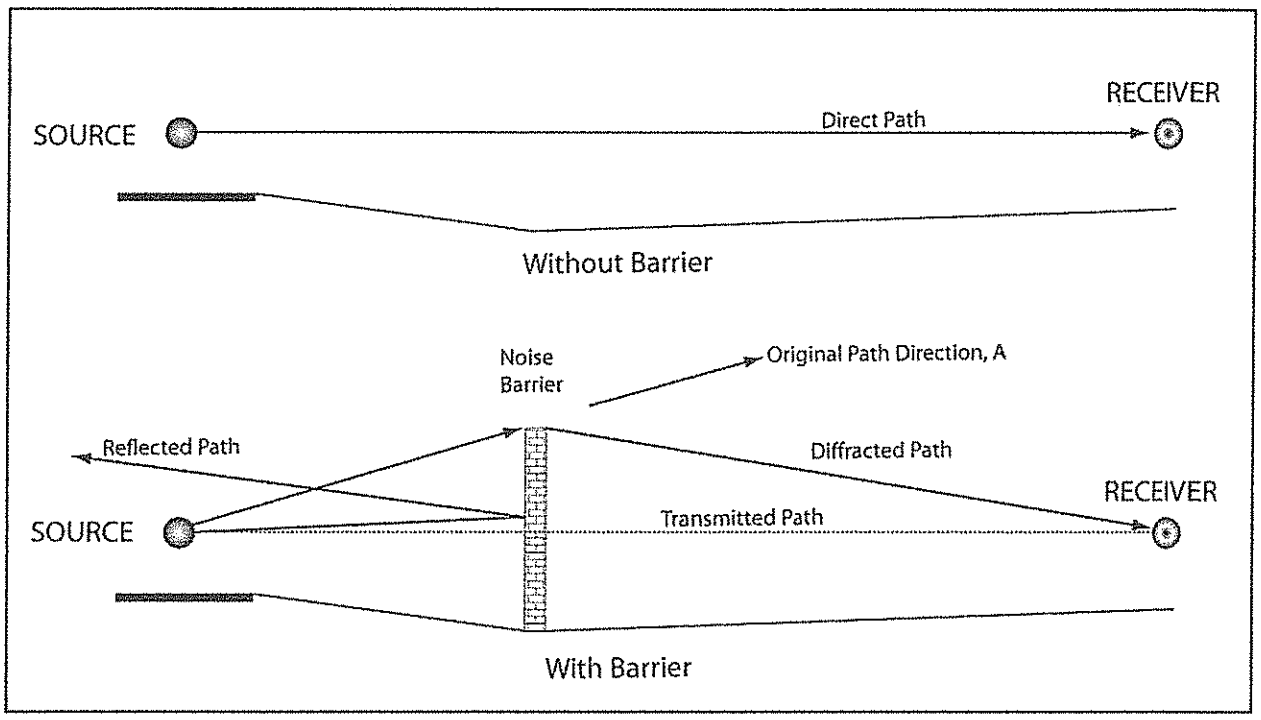

Figure 5-1. Alteration of Noise Paths by a Noise Barrier

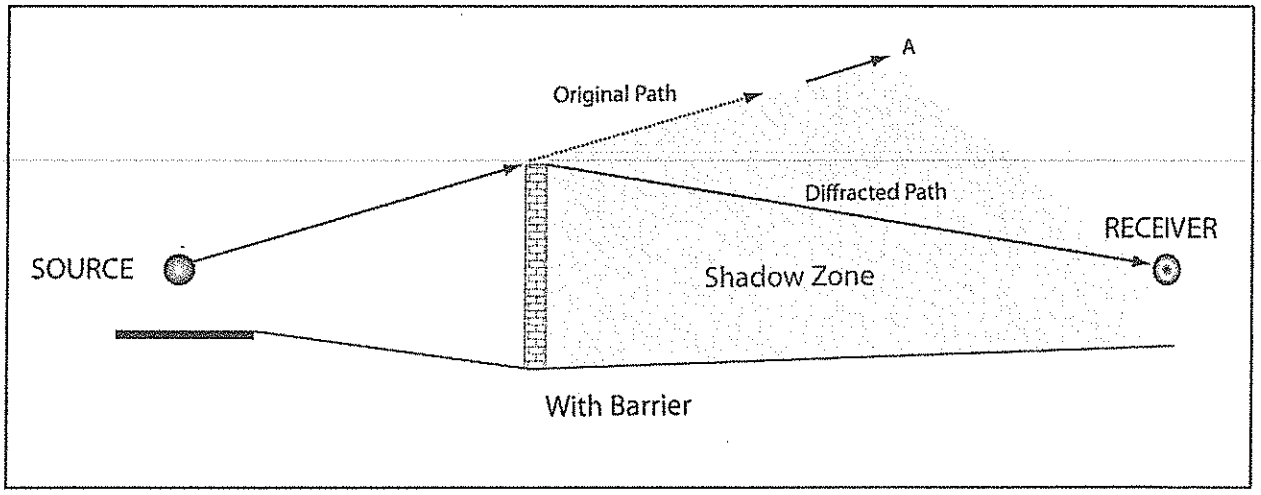

Figure 5-2. Barrier Diffraction

5.1.1 Barrier Material and Transmission Loss

For acoustical purposes, any material may be used for a barrier between a noise source and a noise receiver as long as it has a TL of at least 10 dBA more than the desired noise reduction. This ensures that the only noise path to be considered in the acoustical design of a noise barrier is the

diffracted noise path. For example, if a noise barrier is designed to reduce the noise level at a receiver by 8 dBA, the TL of the barrier must be at least 18 dBA. The transmitted noise may then be ignored because the diffracted noise is at least 10 dBA more.

As a general rule, any material weighing 4 pounds per square foot or more has a transmission loss of at least 20 dBA. Such material would be adequate for a noise reduction of at least 10 dBA due to diffraction. Please note that this weight can be attained by a variety of material types. The denser a material is, the thinner it may be. TL also depends on the stiffness of the barrier material and frequency of the source.

In general the maximum noise reduction that can be achieved from a barrier is about 20 dBA for thin screens (walls) and 23 dBA for berms. Therefore, a material that has a TL of 33 dBA (23 + 10) or more would be adequate for a noise barrier in most situations.

Table 5-1 gives approximate TL values for some common materials, tested for typical A-weighted traffic frequency spectra. They may be used as a rough guide in acoustical design of noise barriers. For accurate values, material test reports by accredited laboratories should be consulted. These product specifications can usually be provided by the manufacturer.

Table 5-1. Approximate Transmission Loss Values for Common Materials

Material	Thickness (Inches)	Weight (Pounds per Square Foot)	Transmission Loss (dBA)
Concrete block, 8 by 8 by 16 inches, light weight	8	31	34
Dense concrete	4	50	40
Light concrete	6	50	39
Light concrete	4	33	36
Steel, 18 gage	0.050	2.00	25
Steel, 20 gage	0.0375	1.50	22
Steel, 22 gage	0.0312	1.25	20
Steel, 24 gage	0.025	1.00	18
Aluminum, sheet	0.0625	0.9	23
Aluminum, sheet	0.125	1.8	25
Aluminum, sheet	0.25	3.5	27
Wood, fir	0.5	1.7	18
Wood, fir	1	3.3	21
Wood, fir	2	6.7	24

Material	Thickness (Inches)	Weight (Pounds per Square Foot)	Transmission Loss (dBA)
Plywood	0.5	1.7	20
Plywood	1	3.3	23
Glass, safety	0.125	1.6	22
Plexiglas	0.25	1.5	22

Table 5-1 assumes no openings or gaps in the barrier material. However, some materials such as wood are prone to develop openings or gaps because of shrinkage, warping, splitting, or weathering. These openings decrease the TL values. The TL of a barrier material with openings can be calculated if the ratio of area of openings to total barrier area and TL of the material are known. The following formula can be used to calculate the transmission loss with the openings (TL_o):

$$TL_o = TL - 10\log_{10}(A_o * 10^{TL/10} + A_c) \quad \textbf{(5-1)}$$

Where:

TL_o = transmission loss of material with openings

TL = transmission loss of material without openings

A_o = area of openings as a fraction of the total area of the barrier

A_c = area of closed portion as a fraction of the total area of the barrier = $1 - A_o$

This method of calculation assumes that the openings or gaps are distributed uniformly over the surface of a barrier. For example, a barrier made of 2-inch-thick fir planks has openings that make up about 5% of the total area and are about equally distributed. The transmission loss of the material with these gaps can then be determined. From Table 5-1, the TL for 2-inch fir is 24 dBA. A_o is 5%, or 0.05; A_c is 1 – 0.05 = 0.95. Therefore:

$$TL_o = 24 - 10\log_{10}(0.05 * 10^{2.4} + 0.95) = \textbf{12.7, or about 13 dBA}$$

The reduced TL could affect the barrier's performance. For example, it is assumed that before the barrier the noise level was 75 dBA and the intention was to reduce noise levels by 10 dBA (i.e., the diffracted noise was to be 65 dBA, and the transmitted noise was to be 75 – 24 = 51 dBA). The total noise level would have been 65 + 51 = 65 dBA. With the gaps, however, the transmitted noise is now 75 – 13 = 62 dBA, and the total noise level is 65 + 62 = 66.8 dBA. The effectiveness of the barrier is reduced by almost 2 dBA. Instead of a designed noise reduction of 10 dBA, an actual noise reduction of only 8 dBA will be realized in this case.

Properly treated materials will reduce or eliminate noise leakage. For example, lumber should be treated with preservatives that provide proper penetration and do not interfere with any protective coatings (e.g., paint) to be applied later. The wood also should have a low moisture content, requiring kiln drying after waterborne preservatives have been used. Wood planks should have tongue-and-groove deep enough to allow for shrinkage without gaps to maintain a high TL. Such tongue-and-groove is usually non-standard.

Several other ratings are used to express the ability of materials in specific construction configurations to resist sound transmission. Two of these are the Sound Transmission Class (STC) and Exterior Wall Noise Rating (EWNR). Both are most often used in conjunction with indoor acoustics.

STC is universally accepted by architects and engineers. The rating uses a standard contour against which the TL values in one-third-octave bands are compared in the frequency range between 125 and 4,000 Hz. The standard contour is moved up or down relative to the test curve until the sum of the differences between them is 32 dB or less, and the maximum difference at each one-third-octave center frequency is no more than 8 dB. The STC is the TL value of the standard contour at the 500-Hz center frequency.

The disadvantage of this rating scheme is that it is designed to rate noise reductions in frequencies of normal office and speech noises, not for the lower frequencies of highway traffic noise. The STC can still be used as a rough guide, but it should be pointed out that for frequencies of average traffic conditions, the STC is 5 to 10 dBA more than the TL. For example, material with an STC rating of 35 has a TL of about 25 to 30 dBA for traffic noise.

The EWNR rating scheme is different from the STC in that it uses a standard contour developed from typical highway noise frequencies. Therefore, it agrees closely with the A-weighted TL for traffic noise. The FHWA *Highway Traffic Noise: Analysis and Abatement Guidance* (Federal Highway Administration 2011) provides further useful information for calculating outdoor to indoor traffic noise reductions.

5.1.2 Barrier Location

The previous section indicated that by selecting materials with sufficient TL, noise transmitted through a barrier may be ignored because its contribution to the total noise level is negligible. The only remaining noise of concern is diffracted noise. Sections 2 and 4 discuss the basics of diffraction and barrier attenuation. The principal factor determining barrier

attenuation is the Fresnel number, which is related to the path length difference (PLD) between the original straight line path between the source and receiver (source–receiver) and the diffracted path, described by the source, to top of the barrier, to the receiver (source–top of barrier–receiver). The greater this difference, the greater the barrier attenuation, to a limit of 20 dB for walls and 23 dB for berms. Figure 5-3 shows the PLD concept.

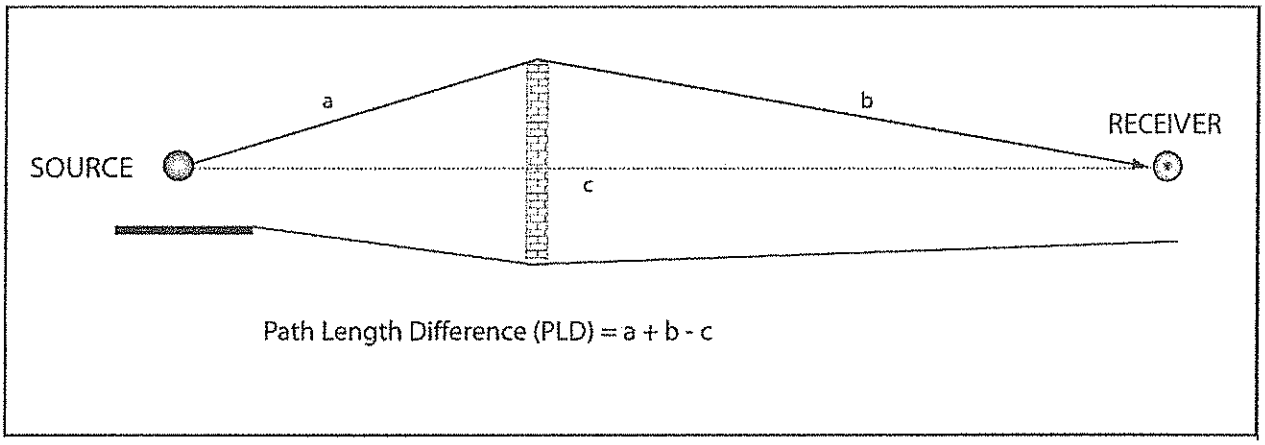

Figure 5-3. Path Length Difference

In level, at-grade roadway-receiver cross sections, a noise barrier of a given height provides greater barrier attenuation when it is placed either close to the source or close to the receiver. The least effective location would be about halfway between the source and receiver. Figure 5-4 shows these situations for two source heights (autos and heavy trucks). Location *b* gives the lowest barrier attenuations for a given barrier height.

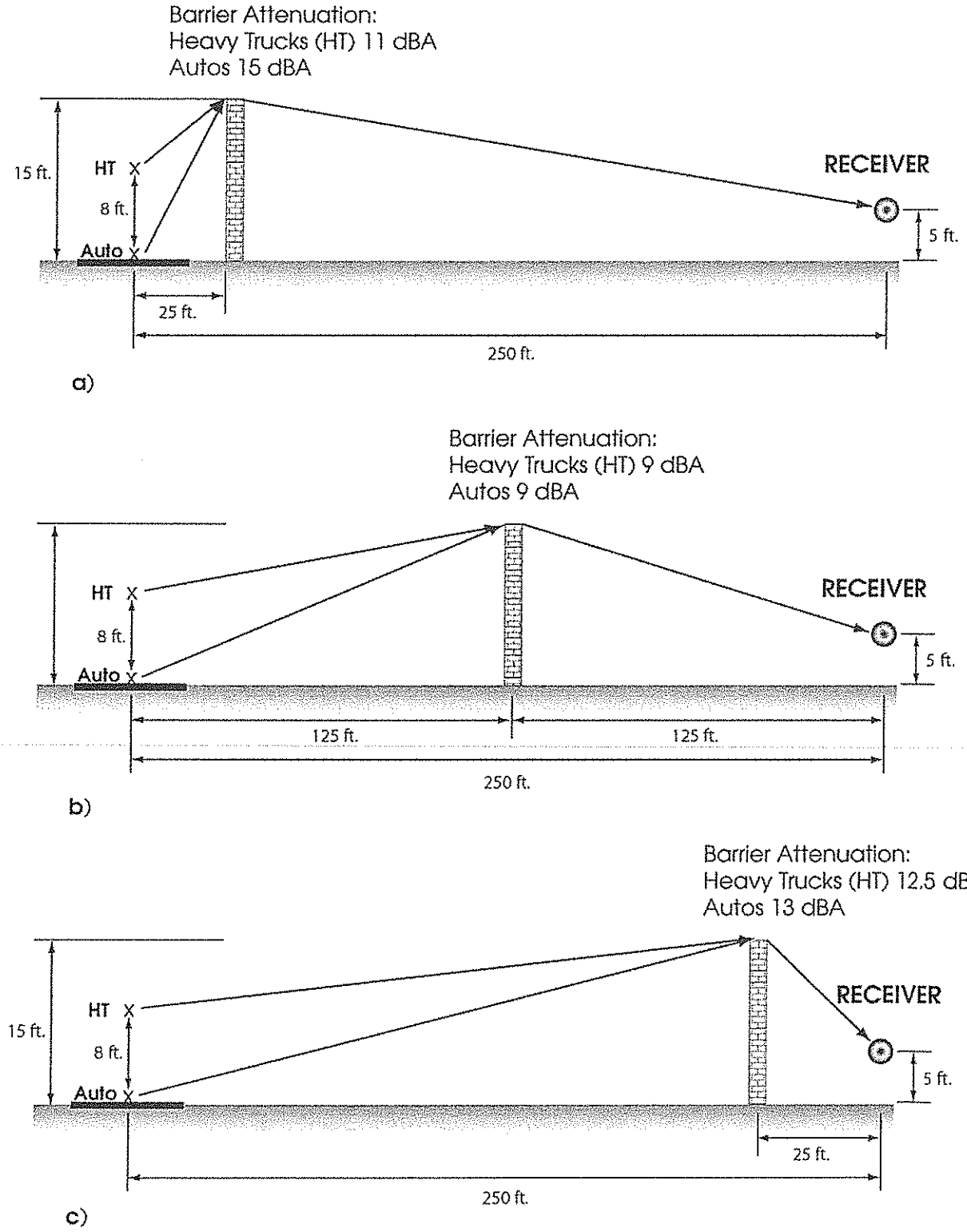

Figure 5-4. Barrier Attenuation as a Function of Location (At-Grade Highway)—Barrier Attenuation is Least When Barrier is Located Halfway between the Source and Receiver *b*; the Best Locations are Near the Source *a* or Receiver *c*

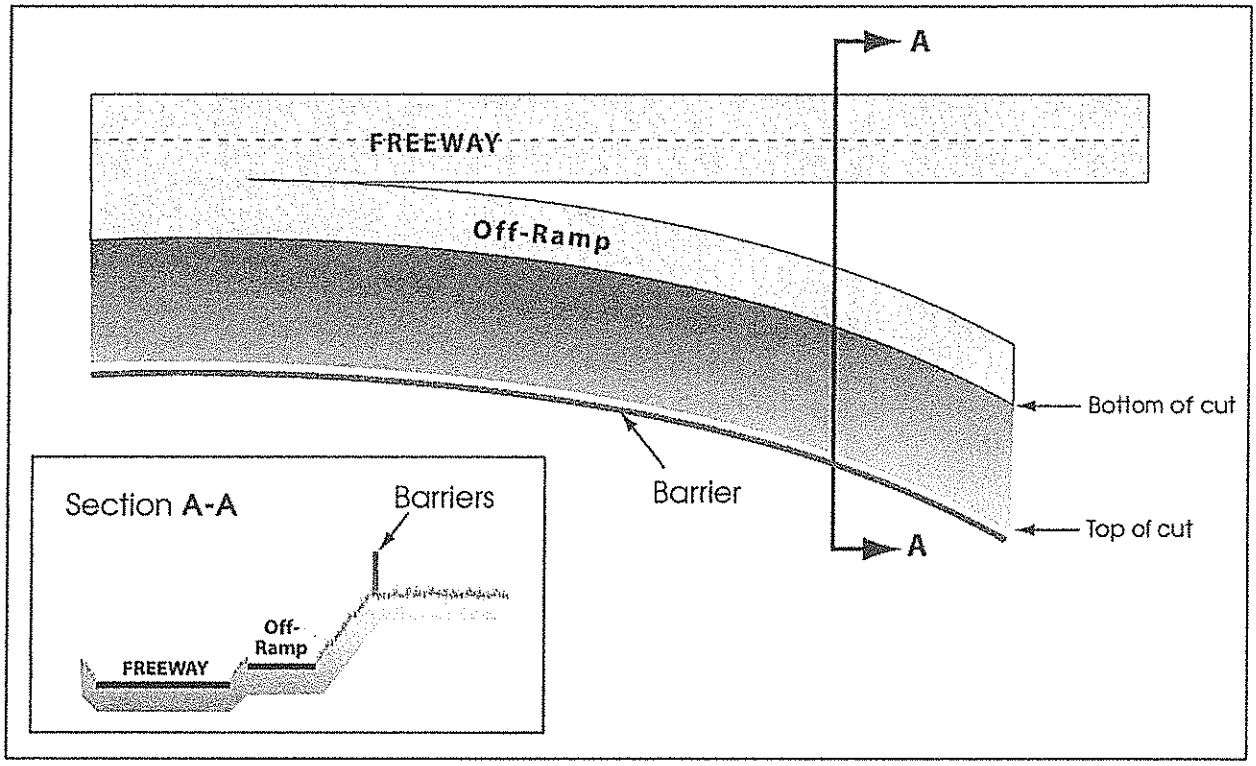

Figure 5-9. Barriers for Highway in Cut with Off-Ramp

5.1.3 Barrier Dimensions

Noise barrier dimensions depend largely on the freeway geometry, topography of the surrounding terrain, location of the noise barrier, and size of the area to be shielded by the barrier. Barrier attenuation depends on the path length difference between the direct (before-barrier) and diffracted (after-barrier) noise paths. Figure 5-3 reviews the concept. Because the location of the bottom of the barrier is not part of the triangle, the highway geometry and terrain topography determine how high the barrier should be for a given barrier attenuation. Figure 5-10 illustrates this concept.

Similarly, the length of the barrier is governed by the extent of the area to be shielded and the site geometry and topography (Figure 5-11).

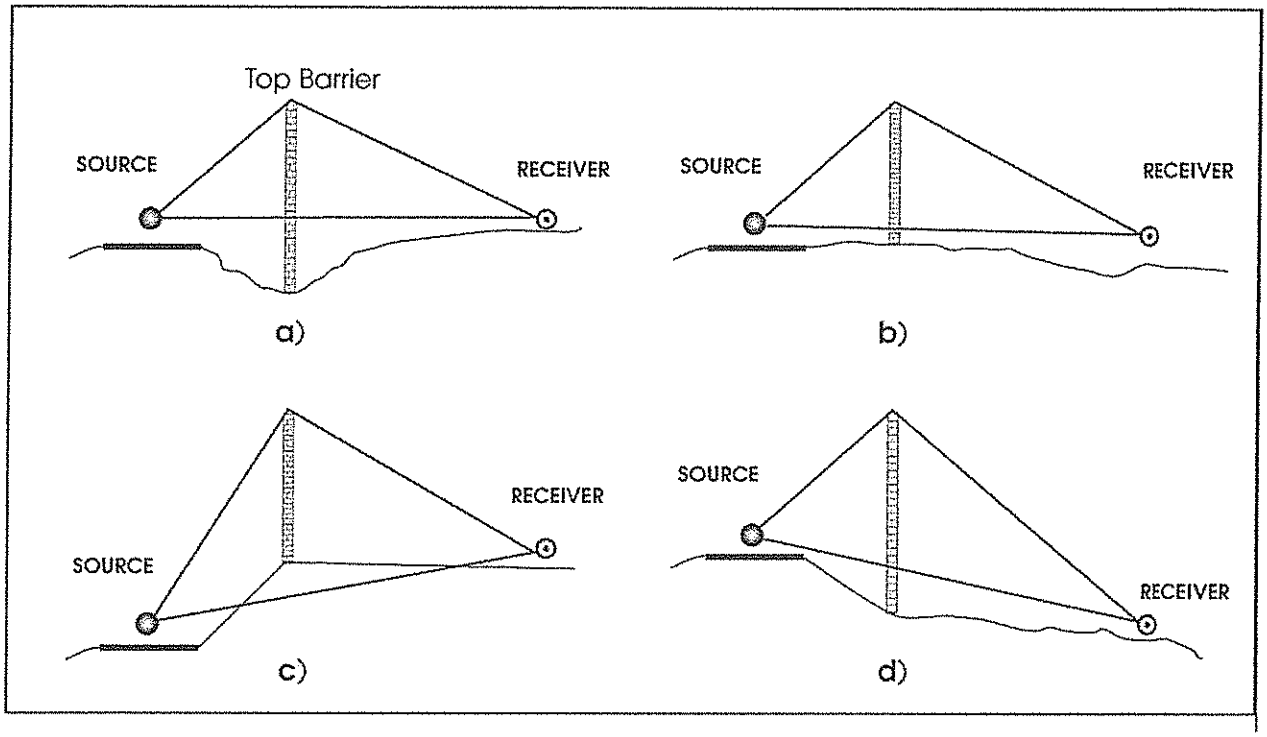

Figure 5-10. Actual Noise Barrier Height Depends on Site Geometry and Terrain Topography (Same Barrier Attenuation for *a*, *b*, *c*, and *d*)

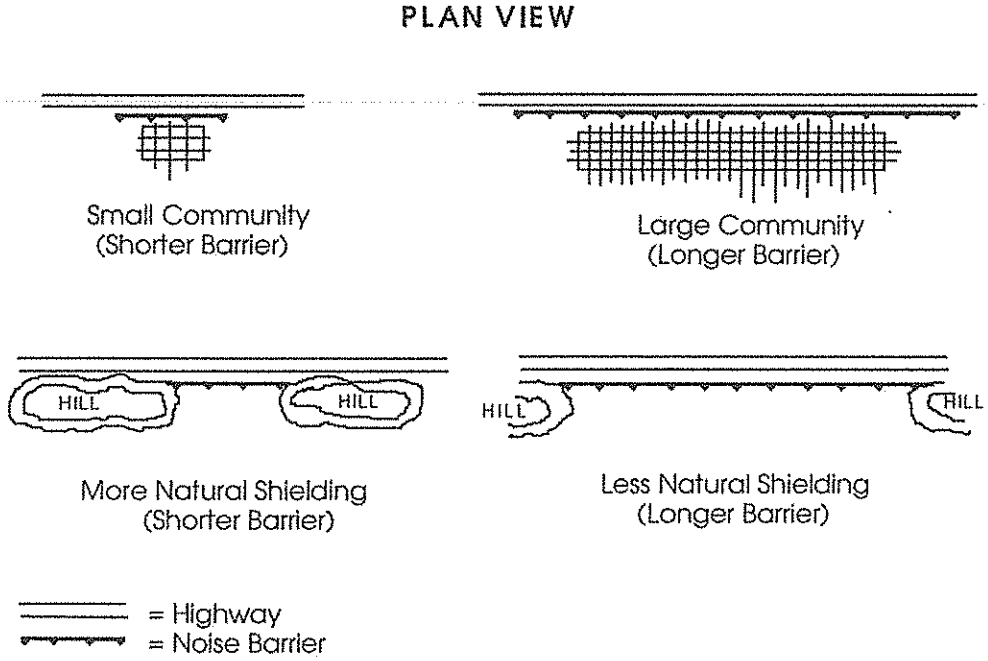

Figure 5-11. Noise Barrier Length Depends on Size of the Area to be Shielded and Site Geometry and Topography

5.1.3.1 Height

Barrier height generally has the most direct influence on the effectiveness of a noise barrier. Figure 5-3 reviews the PLD concept. An increase in height of a noise barrier will result in a greater PLD and therefore greater noise attenuation. This increase in noise attenuation is not linear with the increase in height.

Figure 5-12 shows the barrier attenuation as a function of wall height at a 5-foot-high receiver, 50 feet behind a soundwall located along the right-of-way of a typical urban at-grade eight-lane freeway. The traffic consists of 10% heavy trucks, 5% medium trucks, and 85% autos. Attenuations are plotted for wall heights from 6 to 16 feet, representing minimum and maximum heights identified in the Caltrans *Highway Design Manual* Chapter 1100. Also shown is the height at which the line of sight between an 11.5-foot truck stack and a 5-foot-high receiver is intercepted by the wall. For this particular highway/barrier/receiver geometry, the intercept height is 9 feet and the associated attenuation is 7.5 dB.

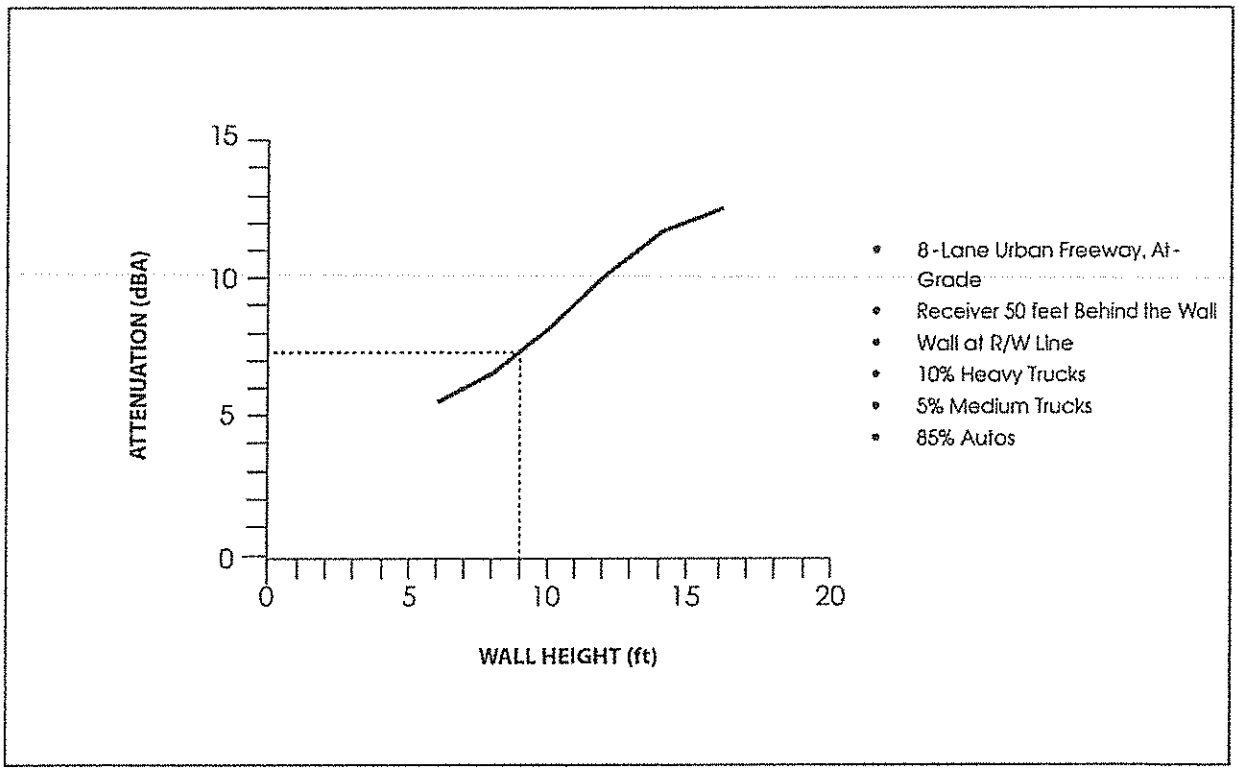

Figure 5-12. Soundwall Attenuation vs. Height for At-Grade Freeway

Please note that in this case the change in attenuation per incremental change in wall height is highest between wall heights of 9 and 11 feet, at 0.9 dBA per 1 foot. Above and below this range, the values are lower.

Once the optimum height has been reached, any further increases in noise barrier height results in diminishing returns in effectiveness. Higher barriers are often necessary to meet design goals.

Noise barriers along depressed freeways are less effective than those along at-grade freeways. In deep cuts, the receiver often is already effectively shielded by the tops of cuts. In some cases, this top-of-cut shielding may not reduce noise levels enough to satisfy barrier design criteria, and an additional barrier behind the top of cut may be necessary to achieve further noise reductions.

When designing such a barrier, the designer should recognize that the without-barrier or before-barrier condition includes the shielding of the existing top of cut. Because of the diminishing-returns effect, a barrier of a given height along a depressed freeway will generally be less effective than a barrier of the same height in an at-grade situation. The diminishing-returns effect, however, is not the only factor to consider.

In general a berm is more effective in reducing noise than a wall of the same height because of additional diffraction, ground absorption, and path length effects. The top of cut associated with a depressed freeway essentially acts like a berm in terms of noise attenuation. Figure 5-13 shows the barrier attenuation vs. height plots for a receiver 50 feet behind a barrier located on the right-of-way of a typical urban eight-lane freeway in a 25-foot-deep depressed section. The traffic mix is the same as that for Figure 5-12, described above. Two attenuation curves are shown.

The upper curve represents attenuation differences between a wall (after-construction condition) and the top of cut (before-construction condition) in which the latter is treated as an existing wall. Such a condition would exist if a soundwall were built on top of an existing retaining wall (i.e., the top of cut would be the top of retaining wall).

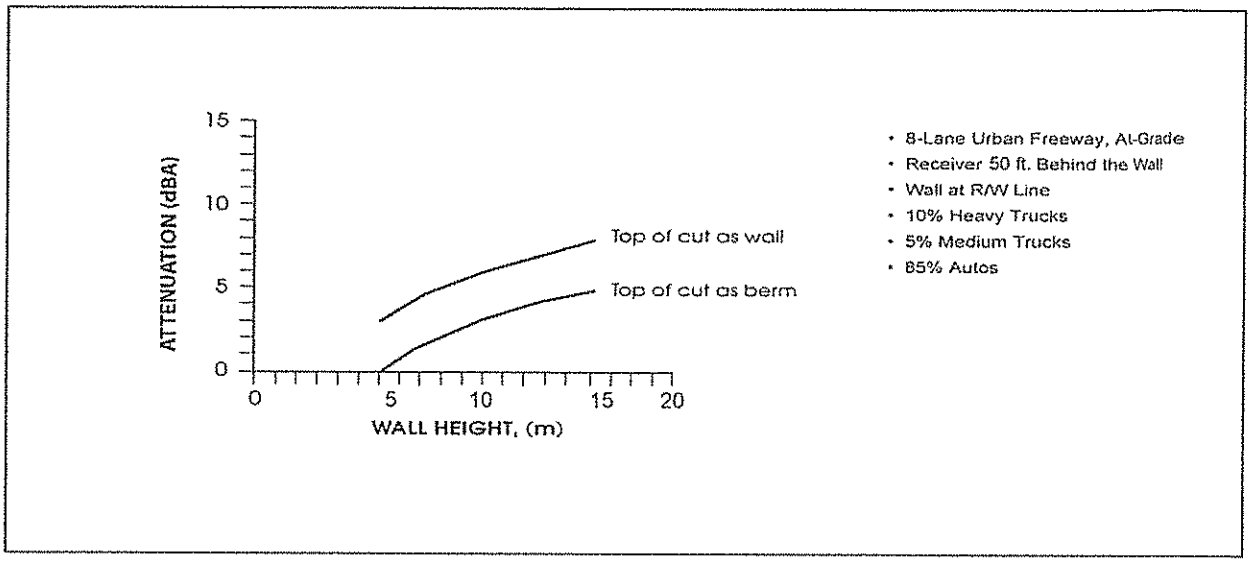

Figure 5-13. Soundwall Attenuation vs. Height for 25-Foot Depressed Freeway

Both the before and after conditions would then involve a wall. Likewise, if the before-and-after-conditions consist of berms (built at or near the top of cut), the upper curve also would be a correct representation. The lower curve consists of attenuation differences between a soundwall and the existing top of cut, with the latter treated as a berm. The additional 3-dBA attenuation provided by the before condition is eliminated by the wall, making it less effective.

A similar phenomenon may also be encountered when freeways are built on embankments. Receivers located near the top of fill may be fully or partially shielded from traffic by the top of fill or hinge point. For these receivers, a wall built on top of the embankment may be less effective than for receivers located farther from the freeway.

The above discussions illustrate the importance of noise source, barrier, and receiver relationships in designing effective noise barriers. These geometries not only affect the barrier attenuation, but also noise propagation in many cases. Section 2.1.4 discusses hard- and soft-site characteristics. The excess noise attenuation provided by a soft site is caused by the noise path's proximity to a noise-absorbing ground surface. If a noise barrier is constructed between a source and receiver, the diffracted noise path is lifted higher off the ground, causing less noise absorption by the ground and a lower rate of noise attenuation with distance. Figure 5-14 illustrates this concept.

In "a," the before-barrier situation shows a noise attenuation rate of 4.5 dBA per doubling of distance. In "b," the after-barrier attenuation is 3

dBA per doubling of distance. The lower attenuation rate reduces the barrier's effectiveness.

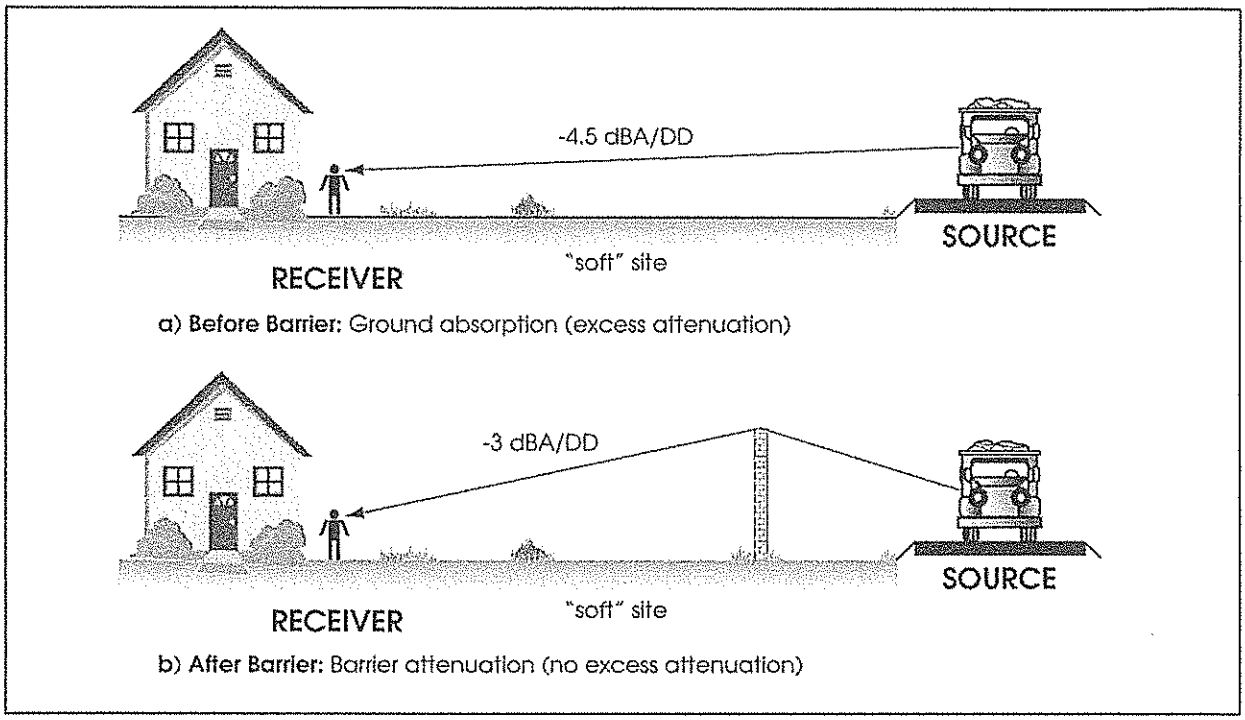

Figure 5-14. Loss of Soft-Site Characteristics from Constructing a Noise Barrier

The potential of a barrier to be less effective than indicated by barrier attenuation alone gave rise to the term insertion loss. Section 5.1.5 discusses the difference between barrier attenuation and insertion loss in detail. The insertion loss of a barrier is the net noise reduction provided by a barrier at a receiver. It includes barrier attenuation and before- and after-barrier differences in noise propagation characteristics (i.e., it is the actual noise reduction caused by inserting a noise barrier between source and receiver). A measured insertion loss is usually referred to as field insertion loss.

Finally, another height consideration in the acoustical design of noise barriers is Caltrans guidance to break the line of sight between an 11.5-foot-high truck exhaust stack and 5-foot-high receiver in the first row of houses. This guideline, detailed in *Highway Design Manual* Chapter 1100, is intended to reduce the visual and noise intrusiveness of truck exhaust stacks at the first-line receivers.

Barrier heights determined by TNM often satisfy the acoustical requirements without shielding high truck exhaust stacks. Although such barriers may reduce noise levels sufficiently to meet feasibility and design goal requirement, they have generated complaints from the public in the

past when truck stacks were visible. The line of sight break criterion occasionally governs the height of a noise barrier.

The 11.5-foot height used for truck stacks was determined to be the average (50th-percentile) height of truck stacks in a 1979 District 7 study, including 1,000 heavy trucks measured at a truck inspection station along I-5. This means that the line-of-sight break will shield first-line receivers from the exhaust stacks of about half of the trucks on the highways.

The 11.5-foot dimension is not related to the noise source heights used for heavy trucks in TNM and therefore should not be used for noise predictions. Determining the line-of-sight break is a separate process from predicting noise and is completed with the line-of-sight module in TNM. Generally, it is desirable to calculate and plot the break profile along the barrier alignment before the acoustical design of the noise barrier. . If more than one barrier alignment is under consideration, the line-of-sight break must be calculated for each alignment alternative.

The line-of-sight break height depends on the three-dimensional locations of the 11.5-foot truck stack, receiver, and bottom of the barrier (interface between barrier and ground). To calculate the height for a certain source, barrier, and receiver combination, the designer needs to determine the critical truck stack lane, which is the lane in which the 11.5-foot truck stack creates the highest line-of-sight break. Figure 5-15 shows a quick method of determining which lane is critical. If the receiver is located above a baseline drawn through far- and near-lane truck stacks, the far lane is critical. If the receiver is located below this line, the near lane is critical. When the receiver is on the line, either lane is critical. Please note that the line does not need to be horizontal or level.

Highway Design Manual Chapter 1100 does not give guidance on whether the entire barrier or only a portion of the barrier should break the line of sight for a certain receiver. On one extreme, a series of line-of-sight intercepts can be calculated from one receiver, covering the entire barrier. On the other extreme, only one intercept can be calculated using a perpendicular line from the receiver to the barrier or highway. In the absence of an official policy, it is recommended that a distance of 2D left and right along the centerline of the critical lane, measured from a perpendicular line from the receiver to the lane, be used (where D = the distance from receiver to the lane). Also, it is recommended that the portion of the barrier evaluated be further constrained by a maximum distance from receiver to truck stack (D_t) of 500 feet. Figure 5-16 shows the recommended constraints.

5.1.3.2 Length

A noise barrier should be sufficiently long to protect the end receivers (see Figure 5-17). If the barrier is not long enough, the exposed roadway segment will contribute a significant portion of noise energy received and sharply reduce the effectiveness of the barrier. For example, if a barrier ends at the receiver, half of the roadway is exposed, and the noise reduction by the barrier is 3 dBA or less.

As a general rule, a noise barrier should extend at least 4D beyond the last receiver (where D = the perpendicular distance from barrier to receiver) (see Figure 5-18). The "4D rule," however, should be considered a starting point, and the FHWA TNM should be used to precisely locate the end of the barrier. Often, the critical end receivers are not in the first row of homes, but several rows farther from the highway (see Figure 5-17). As the barrier-to-receiver distance increases, highway noise becomes lower, but the barrier segment angle is also reduced, making a potential noise barrier less effective. The FHWA TNM is needed to resolve these opposing factors.

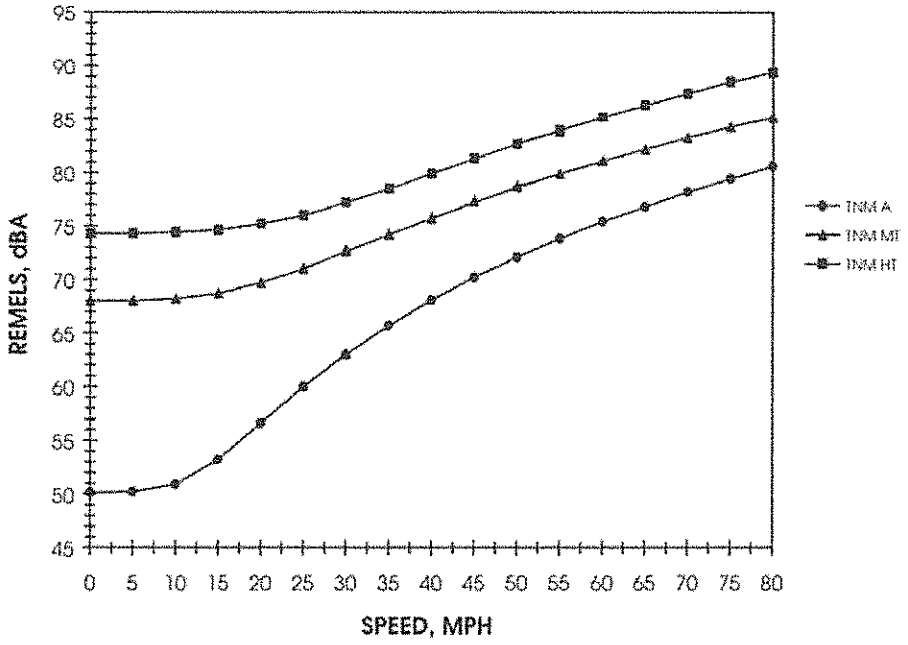

Figure 5-17. Barrier Extended Far Enough to Protect End Receivers

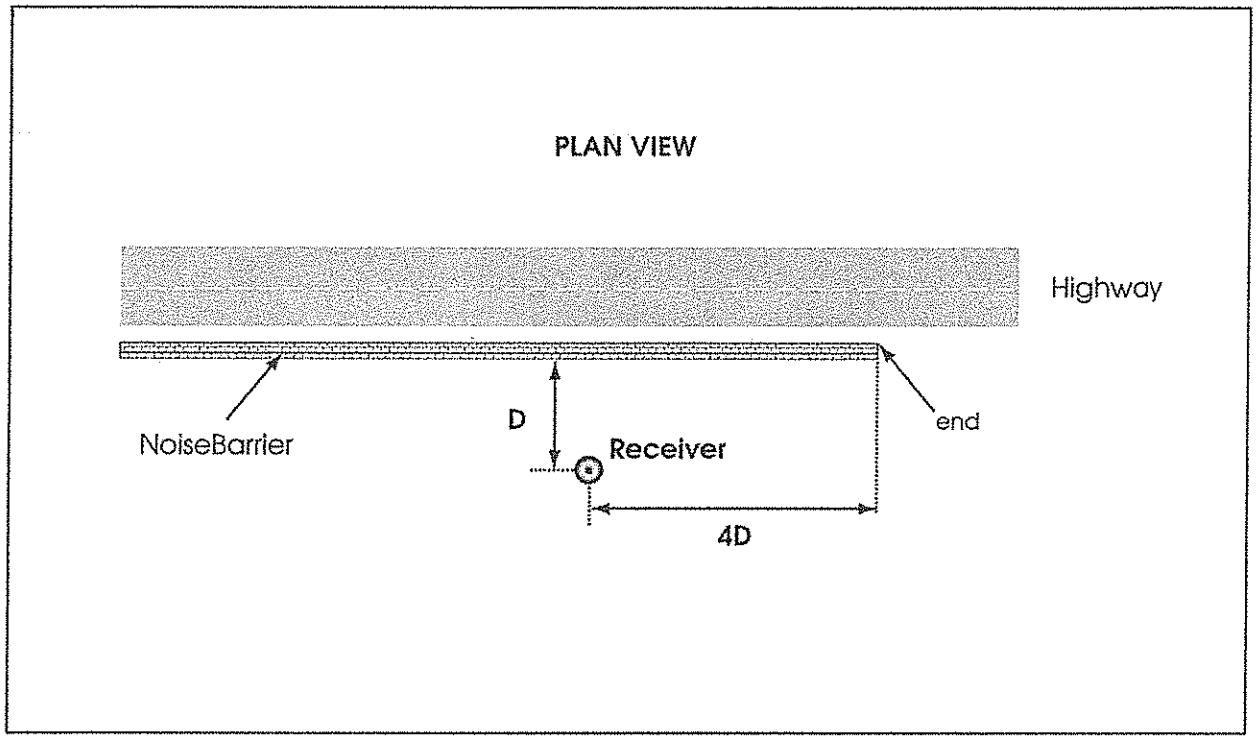

Figure 5-18. 4D Rule

Another way of addressing end receivers is shown in Figure 5-19. The barrier is "hooked" around the critical receivers. The obvious advantage of this design is the shorter barrier length compared to the normal barrier extension. The disadvantage is the need for legal agreements between Caltrans and the private property owners concerning construction easements, barrier maintenance, and responsibilities.

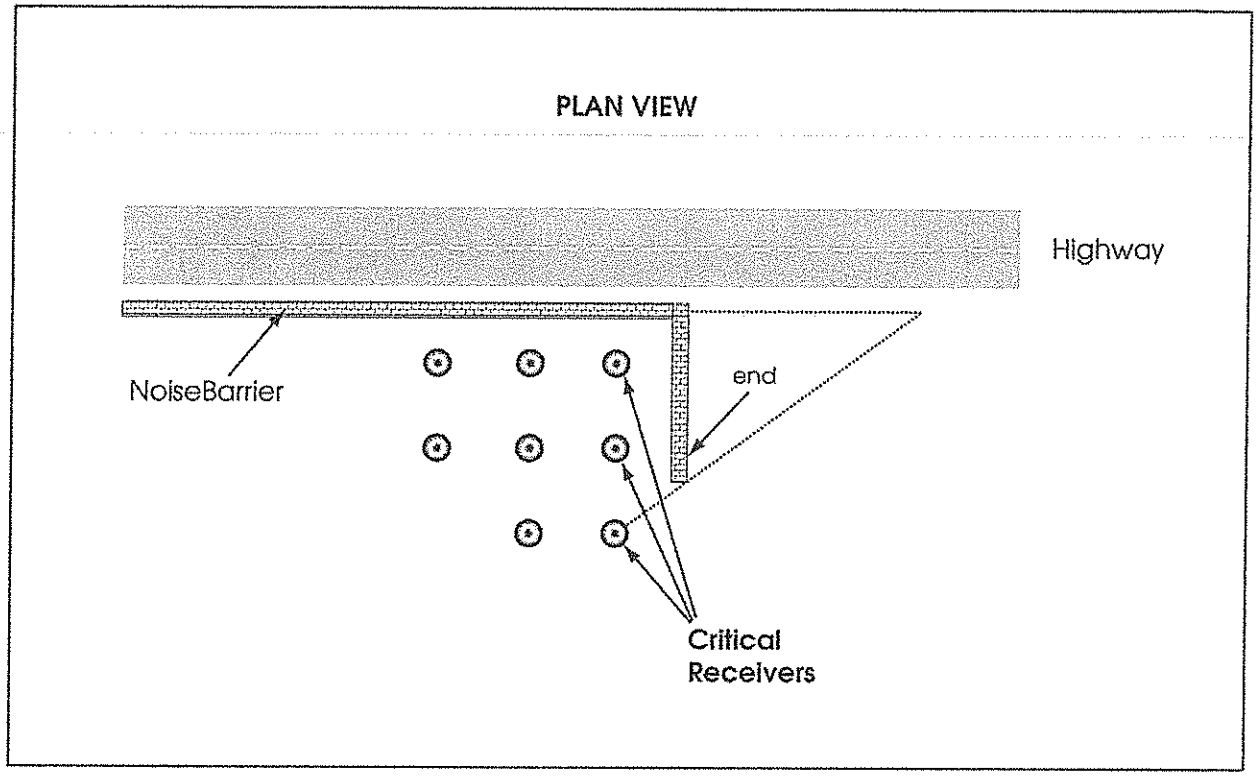

Figure 5-19. Barrier Wrapped around End Receivers, an Effective Alternative

5.1.4 Barrier Shape

Section 4.5.1 indicates that the FHWA TNM distinguishes between two noise barrier shapes: thin screen (wedge) and earth berm. Figure 5-20 shows representations of the two barrier shapes.

Given the same site cross section, distance between source and receiver, and barrier height, a berm allows greater barrier attenuation than the thin screen (wedge), such as a soundwall. In general the actual extra attenuation associated with a berm is somewhere between 1 and 3 dBA.

There are several probable causes for the extra 3-dBA attenuation for a berm. The flat top of the berm allows a double diffraction, resulting in a longer path-length difference. Also, the noise path is closer to the ground (berm surface) than for a thin screen, allowing more ground absorption.

Other barrier shapes have been researched, including "T-tops," "Y-tops," pear-shaped tops, and curved walls. Given the same total wall height, these do little to improve barrier attenuation, usually only about 1 or 2 dBA at most. Figure 5-21 shows some different shapes. The added cost of constructing and complexity of these shapes usually does not justify the small acoustical benefit.

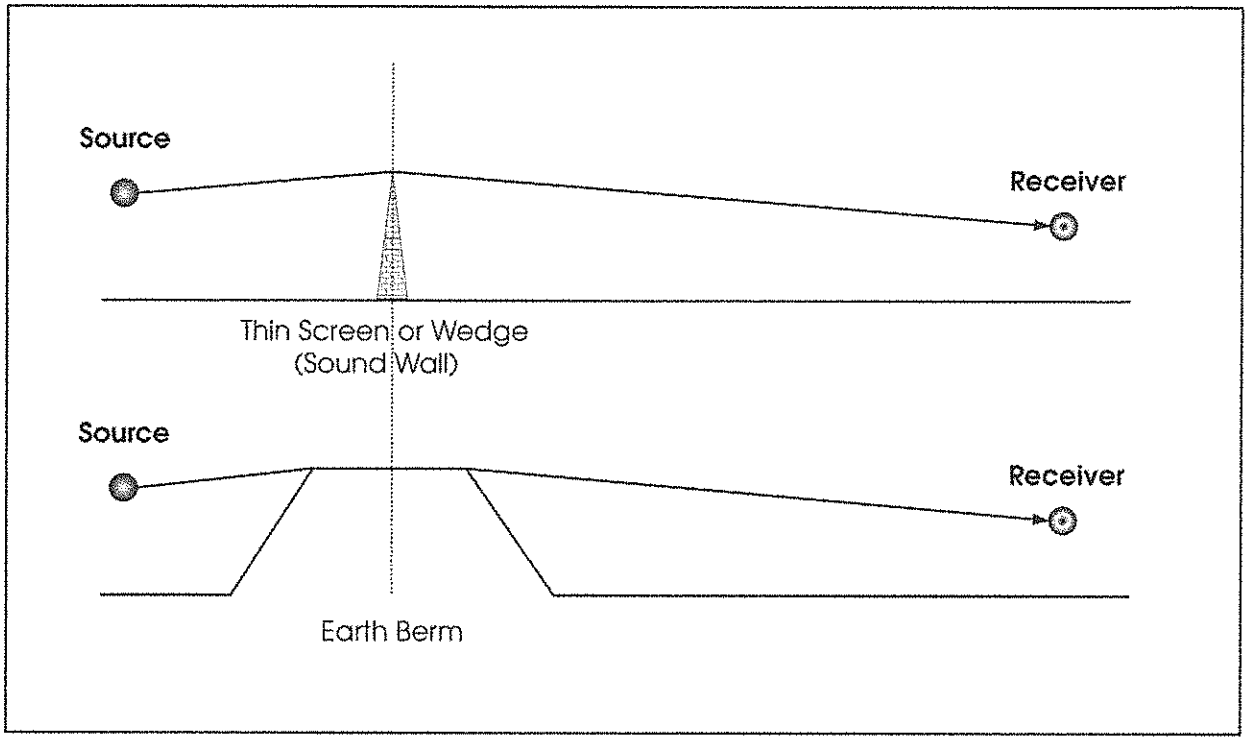

Figure 5-20. Thin Screen vs. Berm (Berm Gives More Barrier Attenuation)

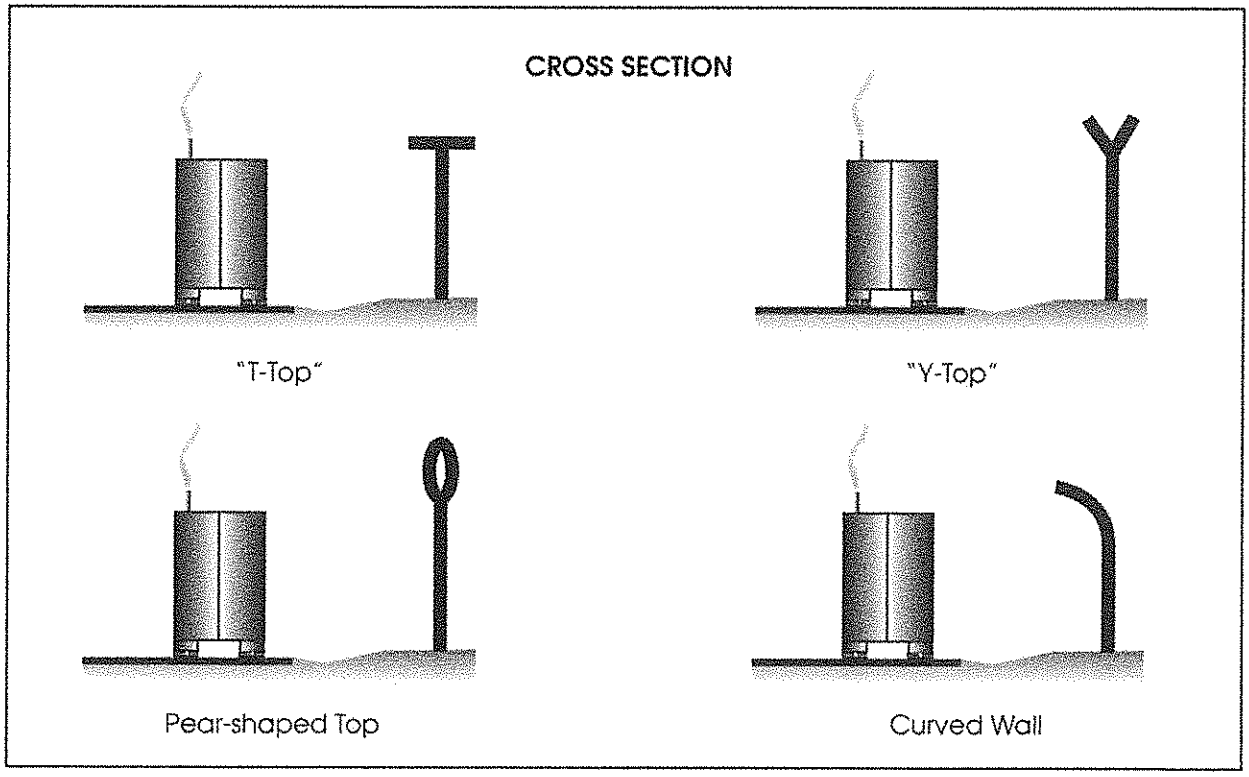

Figure 5-21. Various Wall Shapes (Minimal Benefit for Extra Cost)

5.1.8.4 Vegetation as Noise Barriers

In spite of a general perception of its effectiveness in lowering noise levels, shielding by shrubbery and trees typically used in landscaping along highways provides an imperceptible amount of noise reduction (less than 1 dB) (California Department of Transportation 1995). Such plantings are not effective for reducing highway noise. A possible explanation for the contradiction of objectively measured noise with general perception is that shrubs shielding traffic from the receiver reduce the visual awareness of the traffic. In such cases, the reduction in visual awareness of the traffic is commonly accompanied by a reduction in auditory awareness of the traffic. The role of landscaping and planting in enhancing the aesthetics of a noise barrier and combating graffiti are addressed in the next section.

5.2 Non-Acoustical Considerations

Final selections of materials, locations, heights, lengths, and shapes of noise barriers include non-acoustical considerations such as safety and aesthetics. Although the noise analyst is normally not involved with these decisions, the analyst should be aware that recommended acoustical designs of noise barriers are sometimes altered because of non-acoustical considerations.

5.2.1 Safety

Safety considerations include lateral clearances, sight distance requirements, and guardrail or safety-shaped barrier requirements. These safety considerations are addressed in *Highway Design Manual* Chapter 1100.

The Division of Structure Design has developed standard plans for noise barriers (soundwalls). Standard plans for soundwalls can be downloaded from the Caltrans website:

http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

Other designs, retrofit treatments, and alterations to noise barriers should be approved by the Office of Structure Design. Approved commercial noise barrier products including absorptive barriers are listed on the Caltrans website:

http://www.dot.ca.gov/hq/esc/approved_products_list/pdf/noise_barrier_systems.pdf

The standard plans also include designs for gates that provide emergency access to community fire hydrants, emergency access for stranded motorists, and rapid access to accidents, as discussed in Section 5.1.8.

A minimum height criterion of 6 feet for soundwalls in *Highway Design Manual* Chapter 1100 was partially designed to control pedestrian access to the freeway. The online version of the *Highway Design Manual* at the Caltrans website should be checked for the latest changes and referrals.

5.2.2 Aesthetics

The visual impact of noise barriers on adjoining communities and motorists is a major consideration in the design of noise barriers. A high noise barrier placed close to single-story residences could result in a visual effect. A high barrier also can create shadows, impede natural airflows, or block panoramic views. *Highway Design Manual* Chapter 1100 outlines maximum recommended heights for noise barriers located at distances of 15 feet or less and more than 15 feet from the traveled way.

In general, visual dominance of high walls near residences is reduced when the soundwall is located at least two to four times its height from the nearest receiver. The visual impact is further softened with berms and landscaping (Figure 5-39). Landscaped earth berms are aesthetically superior to soundwalls and acoustically perform equally or slightly better. However, in many locations, they are not suitable because of space limitations.

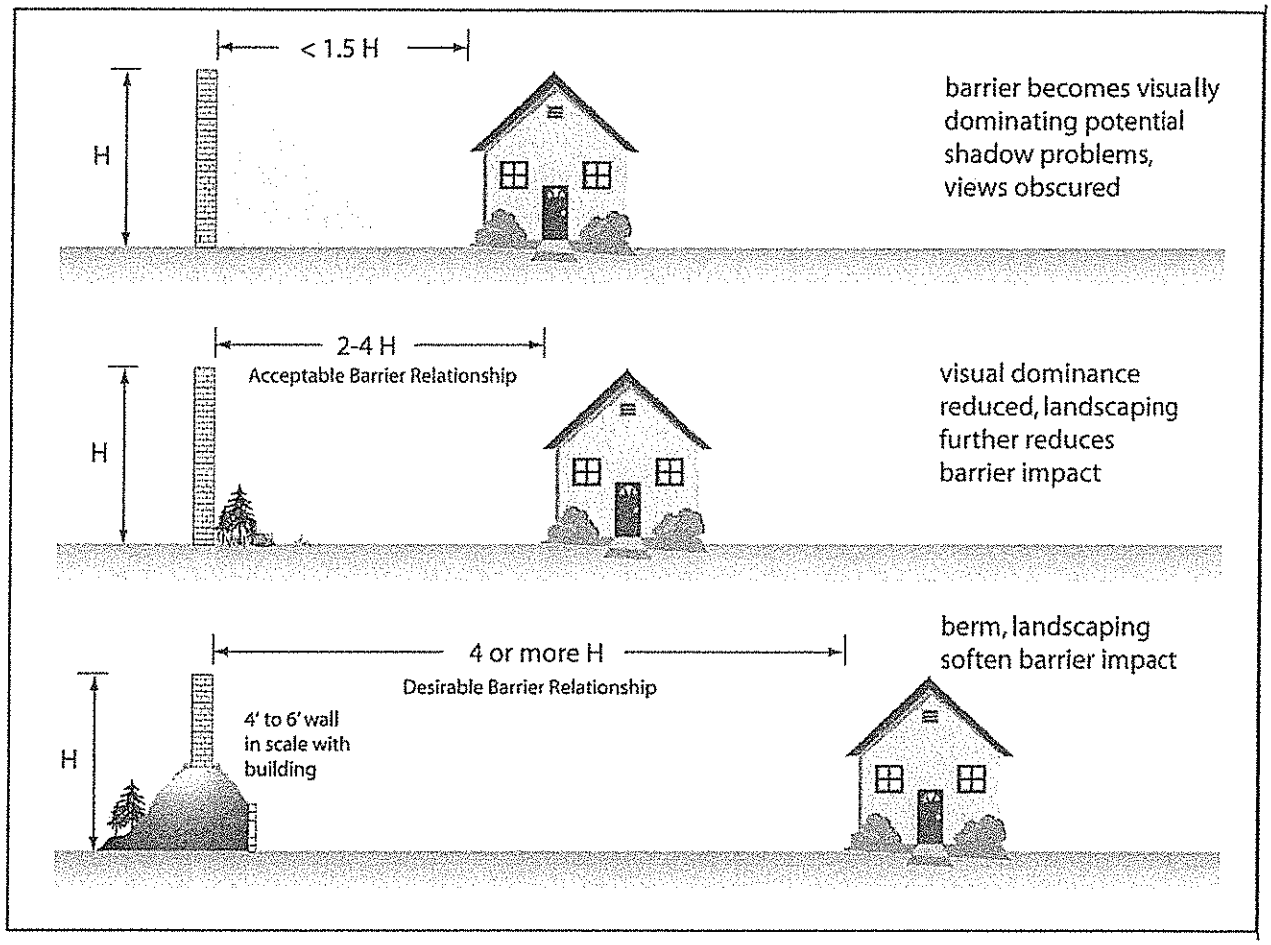

Figure 5-39. Spatial Relationship of Barrier to Adjoining Land Use

Soundwalls should not have abrupt beginnings or endings; they should be tapered or stepped. Aesthetic treatments are normally developed by the Division of Landscaping. If landscaping is to be placed adjacent to the soundwall where it eventually will screen a substantial portion of the wall, only minimal aesthetic treatment is justified.

Walls should reflect the character of the surroundings as much as possible. In cases where the general architecture of a community has a certain character, soundwall material, texture, and color should fit this character at the community side of the wall. Ideally, the community should have some input in the aesthetic design of noise barriers.

On the motorist side of the wall, the emphasis should be on the overall form, color, and texture of the wall. Visual effects on the driver from brick patterns and other forms and shapes should be considered when designing soundwalls. Small details will not be noticed at normal highway speeds. Instead, the emphasis should be on avoiding a tunnel effect through

various forms, and visual treatments. Landscaping can be used effectively to accomplish this goal. As discussed, shrubs and trees used for landscaping along a highway do not provide effective shielding by themselves, but they can enhance the aesthetics of a noise barrier and combat graffiti by denying access to a large smooth surface and reducing its visibility from the highway or community side.

Further guidance on aesthetics can be found in *Highway Design Manual* Chapter 1100. Another useful reference on all aspects of noise barrier design and extensive coverage of aesthetics is the *FHWA Noise Barrier Design Handbook* (Fleming et al. 2011).

Attachment 14 – Caltrans "Noise Attenuation as a Function of Ground and Vegetation" 6/1995

TECHNICAL REPORT STANDARD TITLE PAGE

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7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
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15. SUPPLEMENTARY NOTES

This study was performed in cooperation with the U.S. Department of Transportation, Federal Highway Administration, under the research project titled "Traffic Noise Attenuation as a Function of Ground and Vegetation".

16. ABSTRACT

This final report presents the results of measured excess attenuation rates for traffic noise propagating over acoustically absorptive terrain in terms of the α site parameter, as used in the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The study was part of a federally-funded research project that focussed on two noise propagation phenomena: 1) excess attenuation provided by various ground covers; 2) shielding by shrubs and trees typically used in landscaping along freeways. Results of the latter were published in a 1989 interim report (FHWA/CA/TL-89/09) by the same title and author. A summary is repeated in this report.

Noise levels of single vehicle passbys were measured at distances from 7.5 to 122 m (25 to 400 ft), and at heights from 0.8 to 6 m (2.5 to 20 ft) above the ground. A total of 541 measurements were made using up to ten microphones simultaneously at four acoustically absorptive ("soft") sites. Additional verification measurements were made at four-lane highway sites. Meteorological parameters were measured simultaneously with the noise. Excess attenuation rates in terms of α were calculated from the data.

Final analysis revealed that α is distance, as well as height, dependent. Due to its height dependency, α also proved to be vehicle (source) dependent for a given receiver height and distance. For the purpose of noise propagation, α can be segregated by two vehicle source groups: 1) heavy trucks, and 2) autos and medium trucks (definitions per FHWA-RD-77-108). α vs. distance (D) relationship can be described by hyperbolic equations of the form $\alpha = a - b/D$; α vs. average noise path heights (H) can be expressed as linear equations: $\alpha = a - bH$, where a and b are constants in both cases. The α scheme as presently used in the FHWA Model causes average over predictions of 2 dBA between 30 and 61 m (100 and 200 ft), and 4 dBA between 61 and 122 m (200 and 400 ft). It is recommended that the α scheme be discontinued in future models in favor of better propagation algorithms.

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Highway traffic noise prediction, noise propagation, noise attenuation rates, excess attenuation, noise and vegetation, vehicle noise	No restrictions. This document is available to the public through the National Technical Information Service, Springfield, VA 22161

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State of California
Department of Transportation
New Technology and Research

TRAFFIC NOISE ATTENUATION AS A FUNCTION OF GROUND AND VEGETATION

(FINAL REPORT)

1995

Performed by.....Testing and Technology Services Branch

Supervised by.....P. Benson, P.E.

Project Managers:.....P. Benson, P.E., P. Zaniewski, P.E., S. Lewis, P.E.

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for JOHN WEST, Chief
New Technology and Research

Caltrans
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INTRODUCTION

This is the final report of a Federal Highway Administration (FHWA) - funded research project titled: "Traffic Noise Attenuation as a Function of Ground and Vegetation." An interim report by the same title and author was published in September, 1989 (1), and will from here on in be simply referred to as the "interim report".

The research was performed by the California Department of Transportation (Caltrans), Division of New Technology and Research (DNTMR), formerly called the Office of Transportation Laboratory (TransLab), and later (until the most recent name change to DNTMR), the Office of Transportation Materials & Research. The project focussed on two separate site specific phenomena relating to traffic noise attenuation:

1. Excess attenuation caused by various ground covers as functions of distances up to 122 m (400 ft) from traffic sources and of heights up to 6 m (20 ft) above the ground.

2. Shielding by shrubbery and trees of various thicknesses and density typically used in landscaping along highways (vegetative barriers).

Work on the second phenomenon (vegetative barriers) was completed first, and the final findings and conclusions were presented in the interim report.

Work on the first phenomenon (excess attenuation) was still in progress when the interim report was written. However, most of the field work and some of the data analysis had been performed, and the interim report included some preliminary findings concerning the ground attenuation rates, as well as detailed information on background, sites and methodology.

Although all findings and conclusions (including those of the interim report) were summarized in this report, the author intended to use the latter as a continuation of the interim report. It was inevitable that a certain amount of repetition appeared. However, the author attempted to keep overlap between the two reports to a minimum.

In this report, coverage of the vegetative barrier section (already finalized in the interim report) was limited to the conclusions only. Almost all of the information in this final report therefore pertains to coverage of the excess attenuation portion of this research project.

Since this report frequently refers to pertinent information discussed in detail only in the interim report, the author advises readers interested in the details of this research, to read, or have ready access to, a copy of the interim report.

Background

The need for this research project was thoroughly discussed in the "Background" chapter of the interim report. Earlier Caltrans research (2) produced evidence that the FHWA Highway Traffic Noise Prediction Model (3) (FHWA Model) does not adequately account for ground absorption, or excess attenuation. The site parameter α appears to be too restrictive with its two choices of:

* 0 for an acoustically hard site (reflective)
* 0.5 for an acoustically soft site (absorptive)

Data from the earlier research also indicated that situations where $\alpha > 0.5$ are quite common, and that perhaps higher values should be used for the majority of absorptive sites.

The reason for the vegetative barrier portion of this study stemmed from casual, unreported observations during the earlier Caltrans research project (2) and subsequent measurements. These uncontrolled measurements held some promise that relatively thin strips of vegetation of at least 4.5 m (15 ft) wide and 2.5 m (8 ft) high could provide several dBA attenuation. If true, strategically placed freeway landscaping could be used for traffic noise mitigation measures in lieu of expensive conventional noise barriers.

Objectives

The objectives of this research project as outlined in the original proposal were:

1. Measure traffic noise attenuation rates as a function of distance from source, height above ground, and absorptive characteristics of six ground types, ranging from reflective paved surfaces to soft, plowed dirt and ground covers.
2. Measure traffic noise attenuations provided by four species and three heights or thicknesses of vegetation belts alongside highways, such as ivy covered fences, dense oleander and other shrubbery.
3. Establish improved traffic noise attenuation rates and shielding values to be used as inputs for Caltrans noise prediction methods, based on findings in this study.
4. Develop guidelines for use of evergreen vegetative belts (barriers) in Caltrans noise abatement procedures, if effectiveness were proven in this study.

Although the original objectives of this project have not changed in principle, they have changed in scope. The difficulty in finding suitable sites, logistical and environmental problems were responsible for these changes. Most of the problems were discussed in detail in the interim report.

Findings of the Interim Report

The interim report discussed the final results of the vegetative barrier portion of the research project, and some preliminary results of ground attenuation rates. Following is a short summary of the findings.

Vegetative Barriers

After detailed measurements and analyses at three sites, the principal investigator concluded that vegetative barriers are not an effective highway noise mitigation measure to be used on a routine basis. The site information, measuring procedures, measurement data, analysis results, and conclusions were all finalized in the interim report. The supporting information concerning vegetative barriers is not covered in this report. However, a recap of the final findings is shown in the conclusions of this report.

Excess Attenuation and Ground Attenuation Rates

Preliminary findings showed that the 0.5 soft site α used in the FHWA Model appears to be too low for the sites measured. The preliminary results were based on noise data at four soft sites, gathered at microphones 1.5 m (5 ft) above the ground and 15 and 61 m (50 and 200 ft) from single line sources. The α values averaged well in excess of 1.0 at these distances.

hyperbolic α values (hyp. α) over the conventional soft site α=0.5 (without noise barriers) and α=0 (with noise barriers).

During the verification analyses it was discovered that better agreement with measured values was obtained for sites G-7A, G-8, and PB99 when, for the purposes of calculating α only, the distances between lane groups and receivers were based on the distance from the CL of the near lane group. Presumably, the α between the near and far lane groups can be considered zero, and the excess attenuation begins at the nearest edge of the traveled way. The actual distances to the lane groups were still used to calculate the total distance attenuation.

Sensitivity Study

A comparison of the sensitivity of hyperbolic α vs the conventional soft site α is shown in Appendix D. The following parameters were tested:

1. Traffic mix, at a reference height, at 30, 61, 122 m (100, 200 and 400 ft) from a highway.
2. Distance from highway at reference heights, using a reference traffic mix.
3. Receiver height at distances of 30, 61, 122 m (100, 200, and 400 ft) from a highway, using the reference traffic mix.
4. Noise barrier heights at a barrier distance of 9 m (30 ft) from a highway, at receiver distances of 30, 61, 122 m (100, 200, and 400 ft), using a reference traffic mix.

In all of the above cases noise levels were predicted using both the hyperbolic α and conventional α. Their differences were also shown. In the barrier case, the barrier insertion losses and their differences are also shown.

CONCLUSIONS

The measured noise level data presented and analyzed in this final report and the interim report published in 1989 (1) lead to the following findings concerning traffic noise attenuation as a function of ground and vegetation.

Vegetative Barriers

In this research project, the term "vegetative barriers" refers to shrubs and trees planted in relatively narrow and dense strips along highways for the primary purpose of landscaping. As used in this report, vegetative barriers do not include the specially designed "green" or "living" noise barriers that incorporate vegetation and structural materials for the specific purpose of noise abatement.

The conclusions and supporting information concerning the incidental effectiveness of shrubs and trees in noise abatement were finalized in the interim report (1). A short summary of the conclusions is repeated in this section and follows.

* A continuous strip of oleander or equivalent shrubs, at least 2.4 m (8 ft) high and 4.5 to 6 m (15 to 20 ft) wide, planted along the edge of a highway shoulder, provides noise attenuations of 1 - 3 dBA at distances of up to 15 m (50 ft) from the rear edge of vegetation.

* A single line of pine trees planted about 7.5 m (25 ft) from the edge of a highway shoulder, 12 m (40 ft) tall, 9 m (30 ft) in diameter, spaced 3 - 6 m (10 - 20 ft) apart, low branches intertwined and touching ground, provides noise attenuations of 0 - 1 dBA at distances of up to 18 m (60 ft) from the rear edge of vegetation.

* A combination of a strip of oleander, planted 11 m (35 ft) from the edge of a highway shoulder, 2.7 m (9 ft) high and 3 - 4.5 m (10 - 15 ft) wide, and redwood trees, equally spaced at 9 m (30 ft) in the oleander strip, 15 m (50 ft) tall and 6 m (20 ft) in diameter, provides noise attenuations of 0 to 1 dBA at distances of up to 21 m (70 ft) from the rear edge of the oleander strip.

* Vegetative barriers (as defined in this study) are not an effective highway noise mitigation measure to use on a routine basis.

Attachment 15. RMA Collision Reports – Avenue 424 by Road 72

Tulare County

10/8/2015

Collision Report Summary

Date Range Reported: 1/1/10 - 9/30/15
Total Number of Collisions: 12
Total Numberof Persons Injured 6
Total Number of Persons Killed: 0

Report#	Date	Time	Location	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Dir. of Travel 1	Movement Prec. Coll. 1	Dir. of Travel 2	Movement Prec. Coll. 2	PCF	Inj. K
4615791	2/23/10	17:50	Avenue 424 & Road 72	200'	West	Sideswipe	Other Motor Vehicle	East	Passing Other Vehicle	West	Proceeding Straight	Wrong Side of Road	0
4615779	2/25/10	12:10	Road 72 & Avenue 424	1320'	North	Overturned	Non-Collision	South	Entering Traffic	South	Proceeding Straight	Auto R/W Violation	0
4711815	5/19/10	3:09	Avenue 424 & Road 72	528'	West	Broadside	Train	East	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0
12-06-050	6/9/12	16:50	Road 72 & Avenue 424	1275'	North	Hit Object	Fixed Object	North	Ran Off Road	West	Parked	Improper Turning	1
13-07-086	7/16/13	11:35	Avenue 424 & Road 72	780'	West	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Slowing/Stopping	Following Too Closely	1
13-12-024	12/5/13	11:50	Road 72 & Avenue 424	15'	North	Hit Object	Fixed Object	East	Making Left Turn			Improper Turning	0
14-03-064	3/12/14	11:40	Road 72 & Avenue 424	1056'	North	Hit Object	Fixed Object	South	Ran Off Road			Improper Turning	0
14-03-078	3/15/14	5:05	Avenue 424 & Road 72	716'	West	Other	Train	East	Proceeding Straight	South	Other	Unsafe Speed	1
14-06-047	6/8/14	2:50	Avenue 424 & Road 72	1320'	West	Broadside	Train	East	Proceeding Straight	North	Other	Unsafe Speed	1
15-01-140	1/29/15	6:30	Avenue 424 & Road 72	407'	West	Other	Train	East	Proceeding Straight	South	Other	Unsafe Speed	1
15-1-153	1/30/15	17:00	Road 72 & Nebraska Ave	2640'	North	Hit Object	Fixed Object	North	Ran Off Road			Improper Turning	0
15-03-096	3/18/15	7:00	Avenue 424 & Road 72	300'	West	Sideswipe	Bicycle	West	Ran Off Road	South	Proceeding Straight	Improper Turning	1

Settings Used For Query

Parameter	Setting
Street Name	AVENUE 424
Cross Street	ROAD 72
Starting Date	1/1/2010
Ending Date	9/30/2015
Distance from Intersection	>= 0' for non rear-end collisions
	>= 0' for rear-end collisions

Tulare County

Traffic Collision History Report

Location: Avenue 424 / Road 72
Date Range Reported: 10/1/2015 - 3/1/2016
Total Number of Collisions: 0

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil

Total Number of Collisions: 0

Settings Used For Query

Parameter	Setting
Street Name	AVENUE 424
Cross Street	ROAD 72
Starting Date	10/1/2015
Ending Date	3/1/2016
Intersection	Intersection Related

PORT OF IVORY

&

RICHARD BEST TRANSFER

LANDSCAPING PLAN

LANDSCAPE PLAN
RICHARD BEST TRANSFER, INC.
PORT OF IVORY, LLC.
Revised - April 2016

This Landscape Plan was completed in fulfillment of a Settlement Agreement and Mutual Release of Claims dated April 4, 2012 ("Settlement Agreement"), by and between Petitioners, Dinuba Citizens for Responsible Planning, a California non-profit unincorporated association, Roger Wazdatskey and Ruben Navarro Sr., individuals (collectively "Petitioners"), and Real Parties in Interest, Richard Best Transfer Inc. (RBT), a California corporation and the Port of Ivory, LLC (POI).

In 2012, RBT and POI constructed an earthen berm alongside the California Vineyard Ditch on the east side of the property. The berm is approximately 1,200 feet long, 8 feet tall, 6 feet wide at the top, and 16 feet wide at the base. Trees and bushes exist on the berm and both sides of the ditch bank.

The attached 2016 Landscape Plan illustrates a 70± foot wide buffer between the rail yard on the west side of the Alta Irrigation District ditch and agriculturally-zoned properties containing rural residences on the east side. The Landscape Plan provides details on where vegetation exists and where oleanders and pine trees will be planted.

To increase the density of existing vegetation on the RBT/POI property, new vegetation will be planted. Approximately 104 oleander bushes (nerium oleander) and approximately 24 digger pines (pinus sapiniana) will be planted in 2016-17 on the dirt berm on the POI property. Plants will be spaced to Caltrans standards, but will not interfere with existing vegetation. Container sizes will be 15 gallons. The oleanders should reach maturity and a 7-20 foot height in three years. The pines should reach a 40 foot height in five years. Oleanders require little to moderate water and pines require little water. As noted earlier, all landscaped areas will be maintained in a neat and viable condition. (See Attachment #14 of RBT Operational Statement.)

The April 2016 revision of the Landscape Plan also shows the proposed irrigation water source, from lines supplying a fire hydrant by an existing storage building, and the irrigation lines to be placed along existing and proposed vegetation. The contractor is to will be required to install the irrigation lines to meet California Model Water Efficient Landscape Ordinance (MWELO) Standards. A condition of approval is included for the applicant to provide for convenient irrigation in the form of hose bibs and/or a drip, bubbler or sprinkler system. The applicant shall also ensure that all landscaped areas contain fertile, friable soils with adequate subsurface drainage, and shall permanently maintain the areas in a neat and viable condition.

Caltrans technical noise documents indicate that an earthen berm is more effective in reducing noise than a sound wall of the same height because of additional diffraction (around obstacles), ground absorption (over soft surfaces), and path length effects. Placing a wall on top of a berm "destroys the benefit of the berm", according to the Caltrans prediction models. In general, the maximum noise reduction from a berm is 23 dBA, or an extra 1-3 dBA of attenuation more than a wall would.

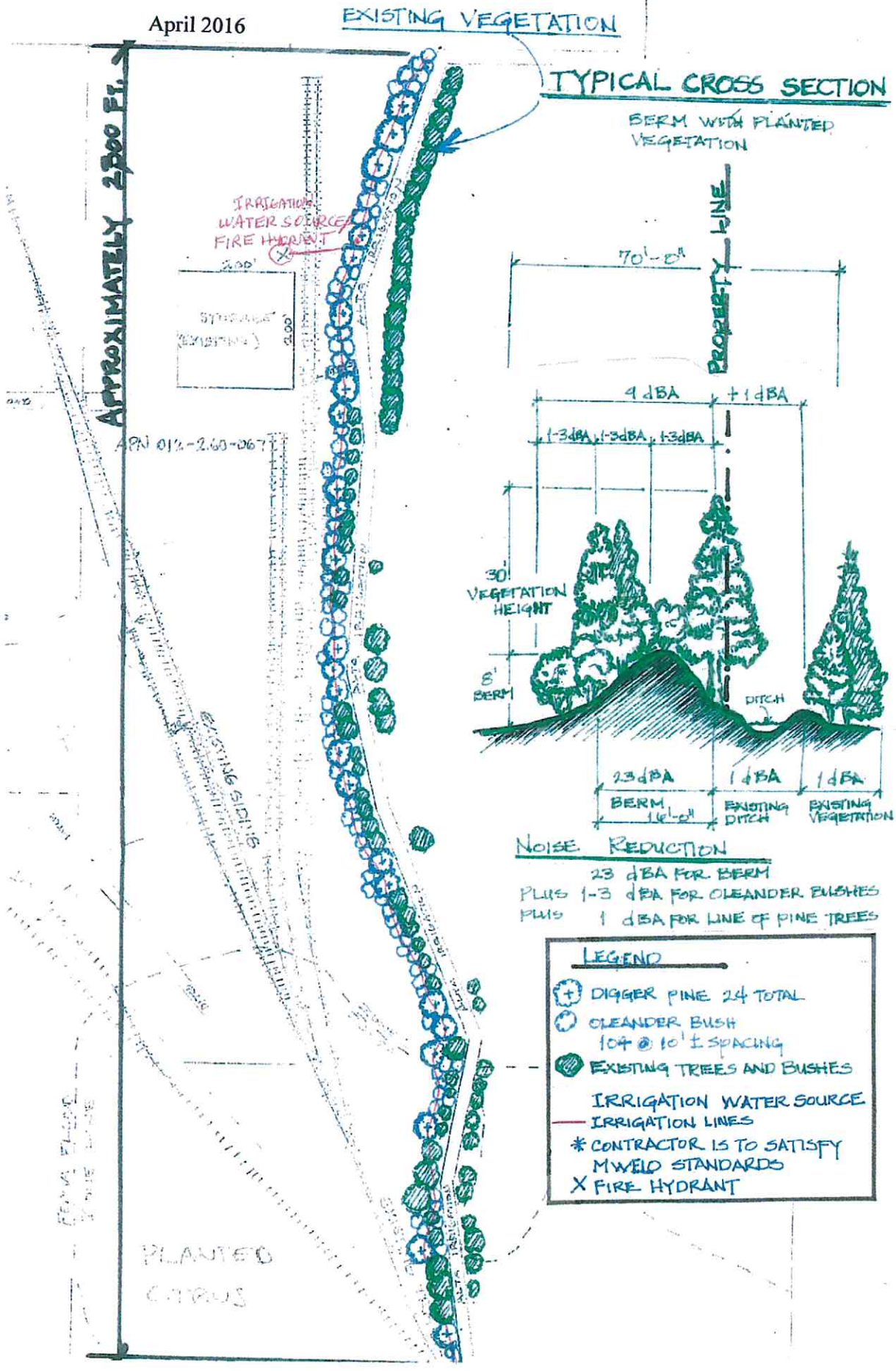
Landscaped earth berms acoustically perform slightly better, or up to 3dBA. (Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol, September 2013.) (See Attachment #13 in the Response to Comments for the 5/11 Planning Commission Meeting.)

A continuous strip of oleander or equivalent shrubs (at least 8 feet high and 15 to 20 feet wide) results in noise attenuations of 1 – 3 dBA at a distance of up to 50 feet from the rear edge of vegetation. A single line of pine trees (at least 40 feet tall and a canopy of 30 feet in diameter) spaced 10 – 20 feet apart (with low branches intertwined and touching ground) provides noise attenuations of 0 – 1 dBA at distances of up to 60 feet from the rear edge of vegetation. (Traffic Noise Attenuation As a Function of Ground and Vegetation, June 1995.) (See Attachment #14 in the Response to Comments for the 5/11 Planning Commission Meeting.)

To summarize, noise from the RBT site is reduced by approximately 33 dBA total, with 23 dBA reduction from the earth berm, approximately 1-3 dBA from existing vegetation on the west side, approximately 1 dBA from existing vegetation on the west side, approximately 1 dBA from the existing ditch banks, approximately 1-3 dBA from the proposed oleander shrubs, and approximately 1-3 dBA from the proposed pine trees. The additional benefits of vegetation is that it can also reduce the impact wind entrained dust and enhance aesthetics.

LANDSCAPE PLAN
Richard Best Transfer Inc. and
Port of Ivory, LLC

April 2016



Google earth

feet 1000

meters 400