Noise Study
Technical Report

The Detroit River International Crossing Study

MDOT
Michigan Department of Transportation

November 2007

Table of Contents

i:\projects\3600\wp\reports\noise\text noise.doc

LIST OF FIGURES

LIST OF TABLES

SUMMARY

The Detroit River International Crossing (DRIC) Study is a bi-national effort to complete the environmental study processes for border crossing improvements between the United States and Canada. The study will identify solutions for border crossing infrastructure that supports the region, state, provincial and national economies while addressing civil and national defense and homeland security needs of the busiest trade corridor between the United States and Canada (Figure S-1).

Figure S-1
Detroit River International Crossing Study
Existing Detroit River International Crossings

The purpose of the Detroit River International Crossing Project is to: (for the foreseeable future, i.e., at least 30 years):

- Provide safe, efficient and secure movement of people and goods across the Canadian-U.S. border in the Detroit River area to support the economies of Michigan, Ontario, Canada and the U.S.

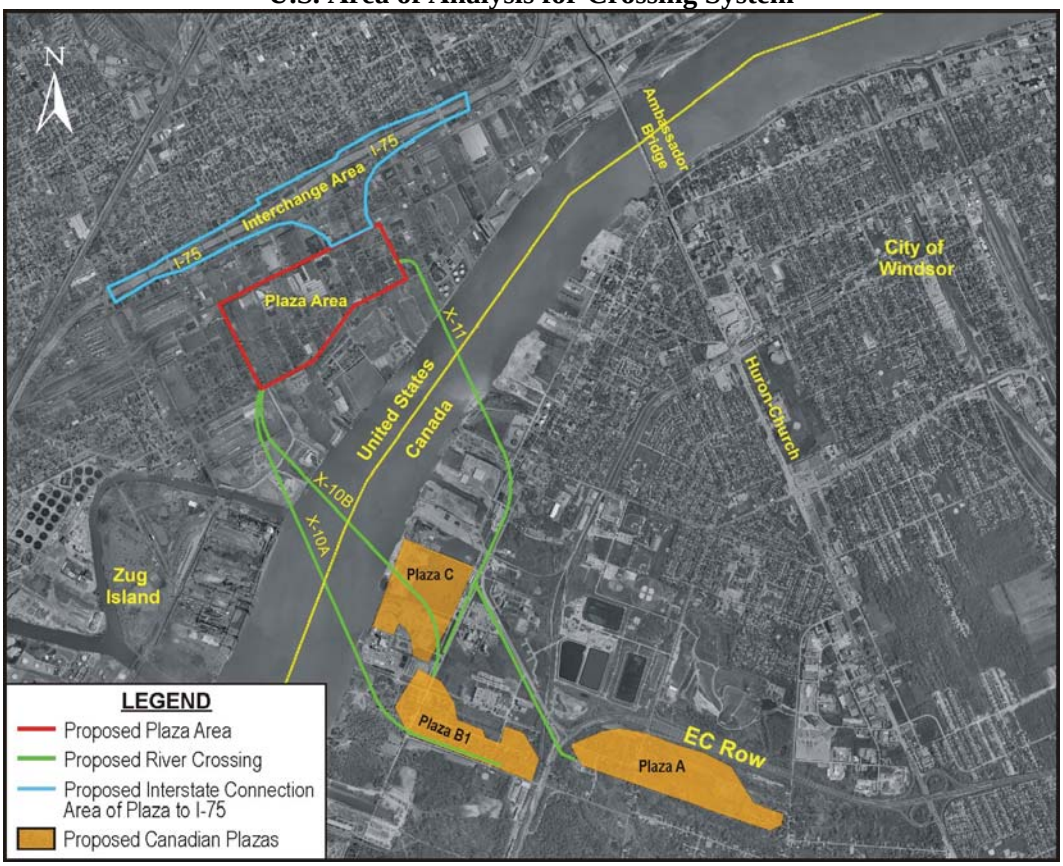
- Support the mobility needs of national and civil defense to protect the homeland.

To address future mobility requirements (i.e., at least 30 years) across the Canada-U.S. border, there is a need to:

- Provide new border crossing capacity to meet increased long-term demand;
- Improve system connectivity to enhance the seamless flow of people and goods;
- Improve operations and processing capability; and,
- Provide reasonable and secure crossing options in the event of incidents, maintenance, congestion, or other disruptions.

The Detroit River International Crossing Study (DRIC) Draft Environmental Impact Statement (DEIS) analyzes issues/impacts on the U.S. side of the crossing system over the Detroit River between Detroit, Michigan, and Windsor, Ontario, Canada. The alternatives are comprised of three components: the crossing, plaza (where tolls are collected), and interchange connecting the plaza to I-75 (Figure S-2).

Figure S-2
Detroit River International Crossing Study
U.S. Area of Analysis for Crossing System



Source: The Corradino Group of Michigan, Inc.

Purpose of the Report

The purpose of the report is two-fold: 1) to provide insight into the differences among the Practical Alternatives consistent with the National Environmental Policy Act (NEPA); and 2) to abide by the policy and procedures for traffic noise analysis and abatement as indicated in Federal Regulations (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and Michigan's State Transportation Commission policy on noise abatement (Policy 10136, July 31, 2003), which includes MDOT's *Procedures and Rules for Implementation of State Transportation Commission Policy 10136 Noise Abatement* (Appendix A).

This *Noise Study Technical Report* summarizes existing and future noise conditions and indicates where noise walls were considered under the Practical Alternatives. It supports the DRIC Environmental Impact Statement.

Findings

This study used the Federal Highway Administration's (FHWA) Traffic Noise Model version 2.5 (TNM2.5) computer model to determine the need for noise mitigation for the crossings, plazas, and I-75.

The crossings are far enough removed from any sensitive receivers (such as dwelling units, churches, schools, and the like) that no noise mitigation is warranted. Sensitive receivers around the plazas would not experience noise with the project that would approach or exceed established noise abatement criteria, assuming walls are built around the plazas as part of the project to secure the U.S Customs and Border Protection operations.

The feasibility and reasonableness of 12-foot noise walls were tested along the north side of I-75 for each of the Practical Alternatives to guide analysis of the Preferred Alternative. The alternatives depend on six unique interchange configurations. Each of these was examined from the standpoint of its three dimensional geometry, traffic, and receivers that would remain after alternative implementation. A series of conclusions is reached in Section 4.3 for each interchange. The general conclusions reached in performing the noise analysis along I-75 are:

- The feasibility of noise walls along the north side of I-75 is highly dependent on the amount of traffic on the service drive. Traffic intervening between a noise wall and houses along the service drive negates the effects of walls. Traffic volumes on the service drive will be a function of how traffic is routed when roads that cross over I-75 today are closed and how ramps are rearranged. Alternative #14 causes the least increase in traffic (and hence noise) on the service drive. So, it is the best prospect for feasible and reasonable noise wall justification (Table S-1) because the noise reduction from walls along I-75 would not be interfered with by noise from the service drive.

- The plaza ramps shield areas north of I-75 to various degrees such that, in a number of situations, a noise wall to provide further mitigation is not feasible, meaning it could not achieve a further 5-dBA noise reduction (see Section 3.3). For several alternatives the Beard Early Education Center could not be protected by a wall considered to be "feasible."

- Alternatives #3 and #11 with Interchange C would shift the mainline lanes of I-75 away from the residential area to the north of I-75 so fewer receivers would be affected by

noise levels above the 66-dBA criterion. The effect is most significant between Dragoon and a point east of Junction. With Alternatives #3 and #11, noise levels north of I-75 where the sensitive receivers are located would actually be lower than experienced today.

- Building noise walls at a reasonable cost is more difficult in the segments at either end of I-75 (west of Green and east of Junction). These segments have houses oriented parallel, rather than perpendicular, to the I-75 service drive and are more spread out than other segments.

The analysis performed here used 12-foot walls to test the differences among the alternatives. Work for the Preferred Alternative will optimize wall heights, lengths and positions, and each benefiting receiver will be re-examined to ensure that mitigation reduces the noise level to 66 dBA or below.

Reasonable and feasible noise walls are listed in Table S-1. During the design phase, the specific locations and configurations of noise walls are specifically defined and changes in the project may occur that may warrant the alteration or elimination of any noise walls recommended in this technical report and the EIS.

Table S-1
Detroit River International Crossing Study
Practical Alternatives
Feasible and Reasonable Noise Walls

	Location/Designation	Length (Feet)	Cost	Benefiting Receivers	Cost per Ben. Rec.
Interchange C Alternatives #3 and #11	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	23	$33,800
Interchange E Alternative #5	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	23	$33,800
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Crawford	830	$457,000	15[a]	$30,500
Interchange G Alternative #14	**Springwells to Green**				
	Wall 1 – Btwn Service Drive and I-75 off-ramp	330	$184,000	25[b]	$25,800
	Wall 2 – Along Service Drive to Green	840	$462,000		
	Green to Waterman				
	Wall 1 – Along Service Drive	1310	$724,000	23	$31,500
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Crawford	1340	$745,000	32[a]	$23,300
	Dragoon to Junction				
	Wall 1 – Along Service Drive Calvary to Junction	1110	$615,000	16	$38,060
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1600	$885,000	44	$20,100
Interchange I Alternative #16	**Springwells to Green**				
	Wall 1 – Btwn Service Drive and I-75 off-ramp	330	$184,000	25[b]	$25,800
	Wall 2 – Along Service Drive to Green	840	$462,000		

[a] Counting Beard EEC as ten benefiting receivers.
[b] Calculation combines Walls 1 and 2.
Source: The Corradino Group of Michigan, Inc.

1. INTRODUCTION

The Detroit River International Crossing (DRIC) Study is a bi-national effort to complete the environmental study processes for the United States, Michigan, Canada and Ontario governments. The study proposes solutions that support the region, state, provincial and national economies while addressing civil and national defense and homeland security needs of the busiest trade corridor between the United States and Canada (Figure 1-1).

Figure 1-1
Detroit River International Crossing Study
Existing Detroit River International Crossings

The purpose of the Detroit River International Crossing Project is to: (for the foreseeable future, i.e., at least 30 years):

- Provide safe, efficient and secure movement of people and goods across the Canadian-U.S. border in the Detroit River area to support the economies of Michigan, Ontario, Canada and the U.S.

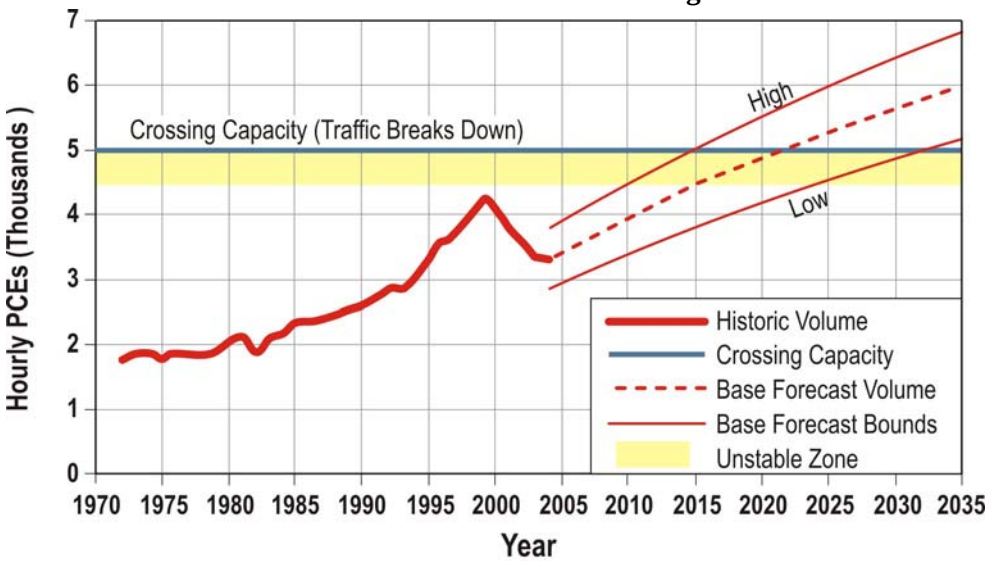
- Support the mobility needs of national and civil defense to protect the homeland.

To address future mobility requirements (i.e., at least 30 years) across the Canada-U.S. border, there is a need to:

- Provide new border crossing capacity to meet increased long-term demand;
- Improve system connectivity to enhance the seamless flow of people and goods;
- Improve operations and processing capability; and,
- Provide reasonable and secure crossing options in the event of incidents, maintenance, congestion, or other disruptions.

Over the next 30 years, Detroit River area cross-border passenger car traffic is forecast to increase by approximately 57 percent, and movement of trucks by 128 percent. Traffic demand could exceed the "breakdown" cross-border roadway capacity as early as 2015 under high growth scenarios. Even under "low" projections of cross-border traffic, the "breakdown" roadway capacity of the existing Detroit River border crossings (bridge and tunnel combined) will be exceeded by 2033 (Figure 1-2). Additionally, the capacity of the connections and plaza operations will be exceeded in advance of capacity constraints of the roadway. Without improvements, this will result in a deterioration of operations, increased congestion and unacceptable delays to the movement of people and goods in this strategic international corridor.

Figure 1-2
Detroit River International Crossing
Travel Demand vs. Capacity:
Combined Detroit River Crossings



Note: Figure 1-2 is from the DRIC Travel Demand Forecast Working Paper (September 2005), prepared by the IBI Group. The Passenger Car Equivalent factor (PCE) used in that report, and in Figure 1-2, is 3.0 cars per truck. SEMCOG calculates PCEs at a rate of 2.5 cars per truck in its regional roadway system. The DEIS calculates, on the ramps, the interstate system and other roadways, PCEs at 2.5 cars per truck.

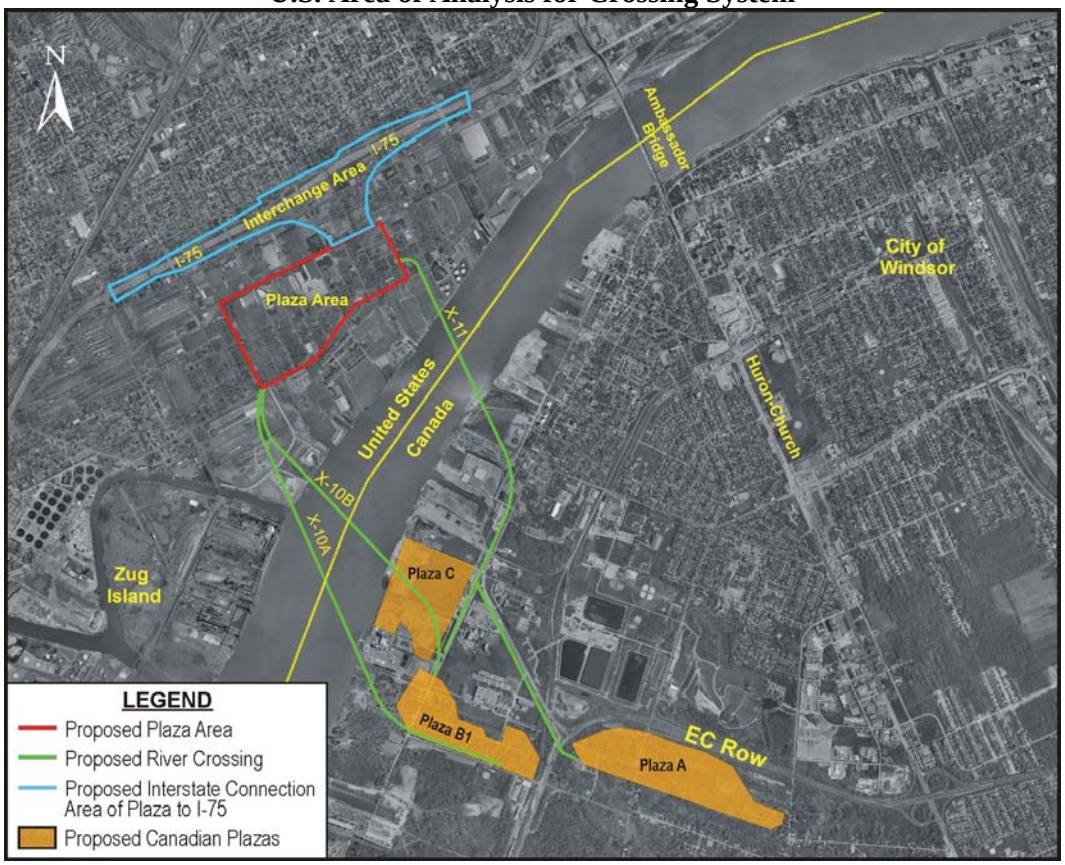
Source: IBI Group

The forecast of capacity indicates that there will be inadequacies in: 1) the roads leading to the existing bridge and tunnel; 2) the ability to process vehicles through customs and immigration; and, 3) the capacities (number of lanes) of the Ambassador Bridge and Detroit-Windsor Tunnel themselves. So, even though incremental adjustments can and will be made to the plazas and, even though there is adequate border crossing capacity today (bridge and tunnel combined), the planning, design and construction of any major international crossing takes time. Therefore, it is

prudent to address, now, how and when the capacity need is to be satisfied at the crossing itself as well as the connecting roads.

The DRIC Draft Environmental Impact Statement (DEIS) analyzes issues/impacts on the U.S. side of the border of the end-to-end crossing system over the Detroit River between Detroit, Michigan, and Windsor, Ontario, Canada. The alternatives are comprised of three components: the crossing, plaza (where tolls are collected and Customs inspections take place), and interchange connecting the plaza to I-75 (Figure 1-3). Nine alternatives exist in the U.S. These options are listed on Table 1-1 and schematically presented in Figures 1-4 and 1-5.

Figure 1-3
Detroit River International Crossing Study
U.S. Area of Analysis for Crossing System



Source: The Corradino Group of Michigan, Inc.

Table 1-1
Detroit River International Crossing Study
Crossing System Alternatives Included in DRIC DEIS

Alternative	Interchange	Plaza	Crossing	Proposed Status
#1	A	P-a	X-10	Analyzed in DEIS
#2	B	P-a		Analyzed in DEIS
#3	C	P-a		Analyzed in DEIS
#5	E	P-a		Analyzed in DEIS
#14	G	P-a		Analyzed in DEIS
#16	I	P-a		Analyzed in DEIS
#7	A	P-c	X-11	Analyzed in DEIS
#9	B	P-c		Analyzed in DEIS
#11	C	P-c		Analyzed in DEIS

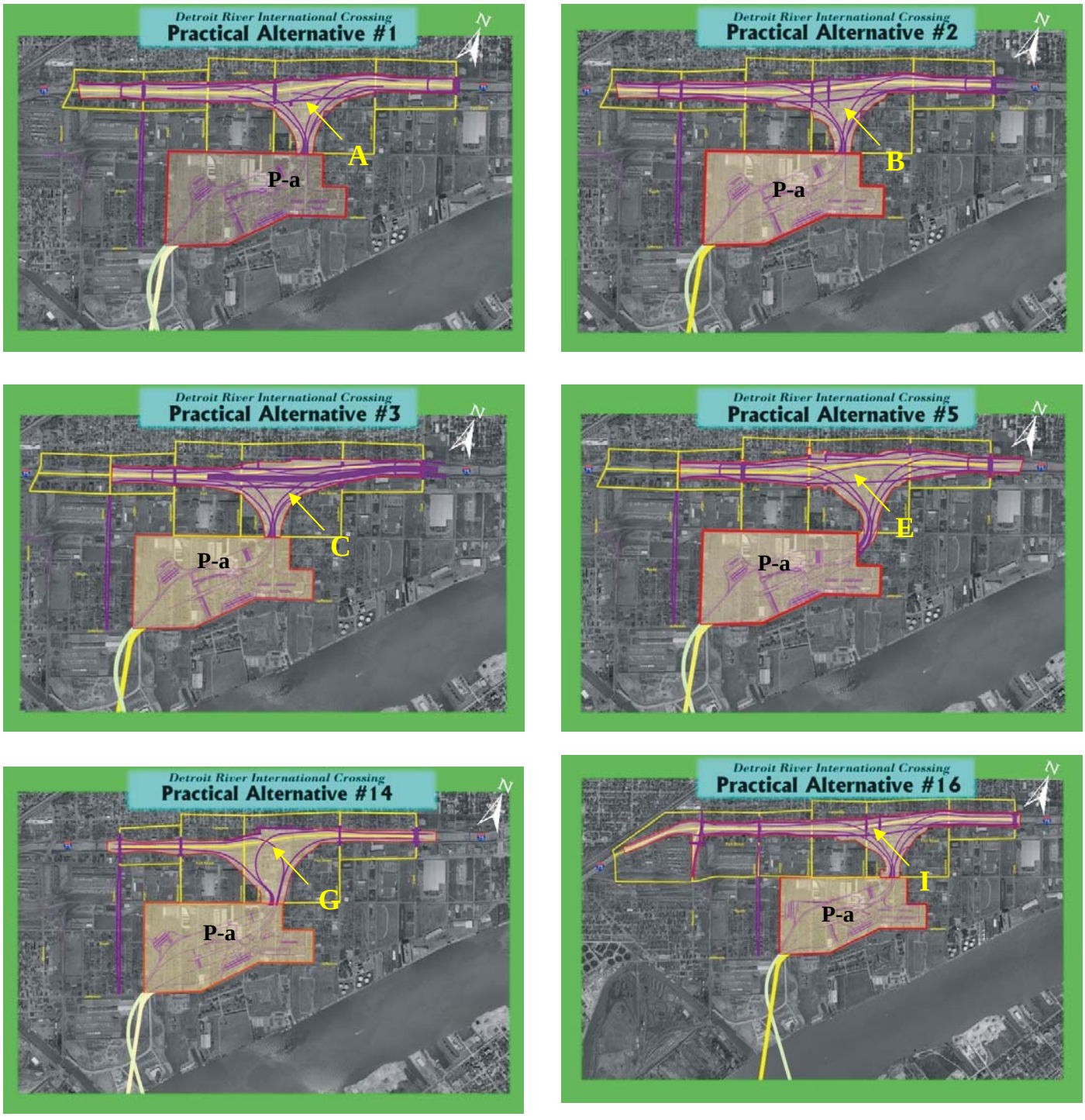
Source: The Corradino Group of Michigan, Inc.

1.1 Purpose of the Report

The purpose of the report is two-fold: 1) to provide insight into the differences among the Practical Alternatives consistent with the National Environmental Policy Act (NEPA); and 2) to abide by the policy and procedures for traffic noise analysis and abatement as indicated in Federal Regulations (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and Michigan's State Transportation Commission policy on noise abatement (Policy 10136, July 31, 2003), which includes MDOT's *Procedures and Rules for Implementation of State Transportation Commission Policy 10136 Noise Abatement* (Appendix A).

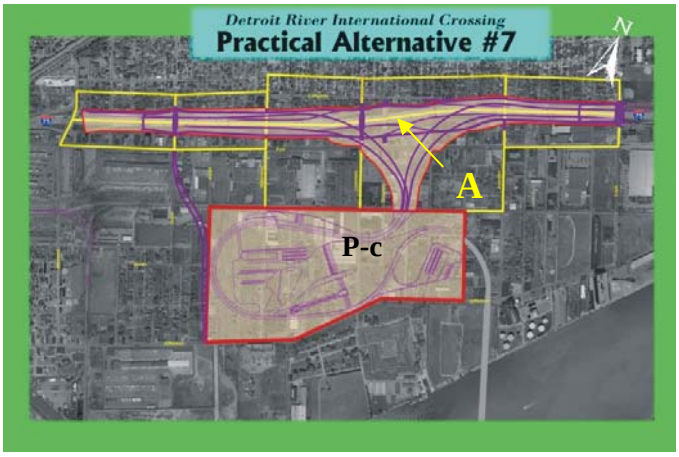
This *Noise Study Technical Report* summarizes existing and future noise conditions and indicates where noise walls should be considered under the Practical Alternatives. It supports the DRIC Environmental Impact Statement.

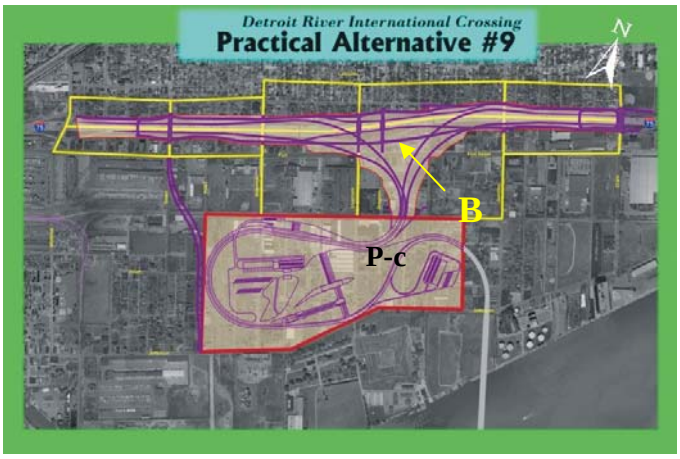
Figure 1-4
Detroit River International Crossing Study
Schematic Representation
of
X-10 Crossing Alternatives #1 through #3, #5, #14 and #16

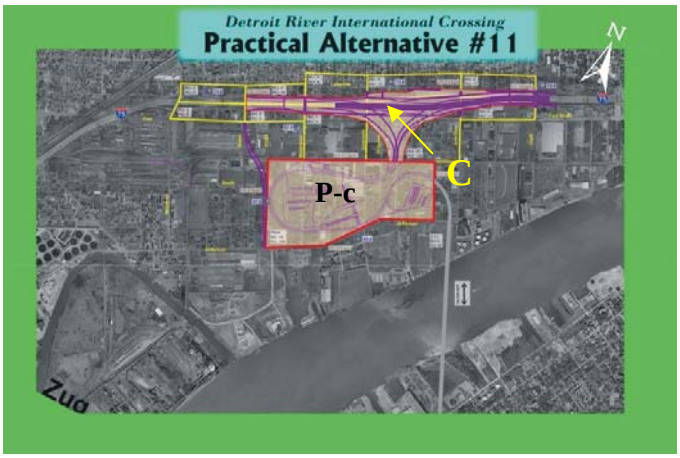


Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

Figure 1-5
Detroit River International Crossing Study
Schematic Representation
of
X-11 Crossing Alternatives #7, #9, #11







Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

2. BACKGROUND

This technical report covers existing noise levels, potential future noise levels and how levels above specifically-defined criteria would be addressed, if the project were implemented. Noise levels were measured at key locations. A computer technique known as the Traffic Noise Model (Version TNM2.5) was then used to predict future noise conditions, once the model was shown to properly replicate the existing measured noise levels. Where noise levels are projected to exceed certain defined levels, noise abatement was considered. For the Practical Alternatives this is done within the TNM with 12-foot-high walls, the lengths of which take into consideration the potential effectiveness of the walls (based on the presence, position, and density of receivers) and engineering considerations such as sight distance (clear field of view) at intersections and ramps. The focus with the Practical Alternatives analysis is to differentiate among the alternatives with respect to how many houses (and other sensitive receivers translated to "equivalent dwelling units") can be reasonably protected from excessive noise levels. The alternatives vary because the location of ramps and roads that cross over I-75 vary and these dictate where walls can be placed and how effective they can be. Also, Alternatives #3 and #11 would shift the mainline of I-75 away from the residential area on the north side of I-75.

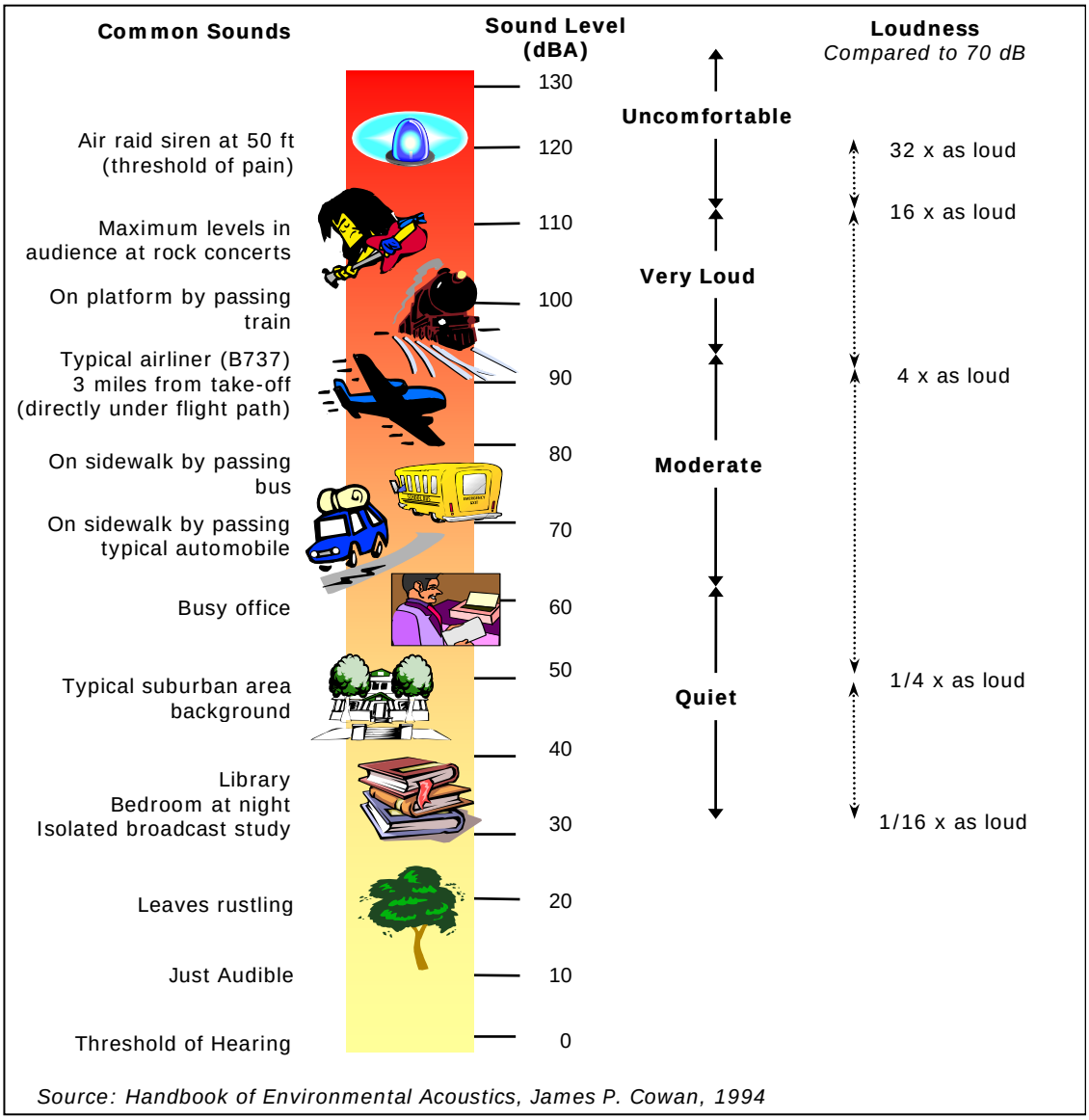
This study assumes that walls/berms will be incorporated into the engineering of the plaza for security purposes related to the border crossing and Federal Inspections Services. While these walls/berms will mitigate noise, they are not considered Type I walls under MDOT's *Noise Policy*. They are considered a part of the plaza's development costs to address security needs. Walls associated with I-75 are considered Type I walls, meaning their costs would be eligible for normal federal highway funding.

The noise unit used here is the decibel (dB). The sound spectrum is expressed for human hearing in terms of an A weighting, so the unit is called dBA. Noise levels for common sounds are expressed in dBA in Figure 2-1. A 10-dBA increase is a ten-fold increase in sound energy, but is perceived as a doubling of loudness. A 5-dBA increase is considered readily perceptible. A 3-dBA increase is a two-fold increase in sound energy and is barely perceptible to most people. This is an important relationship when discussing noise and its impacts.

In simple terms, a perceptible increase in noise is related to a doubling in traffic, or the distance between a sound source and receiver must be reduced by half. For the most part, neither will be the case with the DRIC project on I-75, but changes in traffic patterns could result in substantial changes in traffic along the southbound service drive. Many homes face the service drive or side streets that connect to the service drive.

Also, and importantly, traffic on I-75 is at a point that noise criteria are now exceeded along most of its length between Springwells Street and Clark Avenue, i.e., the footprint of the study (refer to Figure 1-3). So, even though the increase in noise resulting from the DRIC-related traffic on I-75 would not trigger the need for mitigation, noise mitigation must be considered if the DRIC project is undertaken, because noise levels already exceed the criteria.

Figure 2-1
Detroit River International Crossing Study
Noise Levels for Common Sounds



Source: Handbook of Environmental Acoustics, James P. Cowan, 1994

2.1 Definition of Impact Criteria

FHWA has promulgated Noise Abatement Criteria (NAC), which have been incorporated into MDOT's Noise Policy (Table 2-1). Federal regulations and MDOT policy focus on exterior areas, except where there are noise levels of 80 dBA (which would not occur with the DRIC). Of greatest concern are residences, churches, hospitals, parks, and libraries. Normally, mitigation is not considered in commercial areas, because commercial locations typically want their customers to be able to see their businesses, rather than being hidden from view behind a wall. For the sensitive receivers, FHWA has established an exterior noise guideline of 67 decibels (dBA), measured as an average of sound over a one-hour period (referred to as $L_{eq}(1h)$).[1] This level is not to be approached or exceeded. Should the guideline level at these sensitive receivers be approached or exceeded, noise abatement measures must be considered. "Approach" is defined in Michigan as a 1-dBA reduction from the maximum of 67 dBA. So, the effective criterion for considering mitigation is 66 dBA during the loudest hour of the day. Mitigation must also be considered if a project results in a substantial increase (10 dBA or more) in noise levels (which would not occur with the DRIC).

Along its "north" side (the side away from the Detroit River), the frontage of I-75 between Springwells and Clark Streets is predominantly occupied by single-family residential uses with some apartment buildings, an early-childhood education center, a church and some commercial uses. The 66-dBA criterion applies to all but the commercial areas. Many houses are exposed to noise levels exceeding abatement criteria today (see next section). Generally, these same areas will continue to exceed criteria with or without the project. Mitigation must be considered where new ramps would be built, the mainline of I-75 would change in horizontal and/or vertical profile, or traffic would increase on the southbound service drive, changing noise.

Table 2-1
Detroit River International Crossing Study
FHWA - Noise Abatement Criteria
Hourly A-Weighted Sound Level-decibels (dBA)

Activity Category	Description of Activity Category	$L_{eq}(1h)$	$L_{10}(1h)$
A	Lands on which serenity and quiet are of extraordinary significance and where the preservation of those qualities is essential, if the area is to continue to service its intended purpose.	57 (Exterior)	60 (Exterior)
B	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)	70 (Exterior)
C	Developed lands, properties, or activities not included in Categories A and B above.	72 (Exterior)	75 (Exterior)
D	Undeveloped lands.	--	--
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.	52 (Interior)	55 (Interior)

Note: $L_{eq}(1h)$ is used in this analysis. $L_{10}(1h)$ was used in the past, but not now. It is the sound level exceeded ten percent of the time period.
Source: State Transportation Commission Policy 10136 – Noise Abatement, Appendix A

[1] Title 23, Code of Federal Regulations (CFR), Part 772, revised April 1998.

3. IDENTIFICATION OF NOISE-SENSITIVE LAND USES AND EXISTING NOISE LEVELS

This section describes the steps leading up to the analysis of noise barriers: 1) noting the existing noise levels at sensitive land uses around the plaza area and at the Detroit River bridge crossings; 2) providing similar information for the I-75 interchange area; 3) indicating anticipated future noise levels in these locations with and without the project; and, 4) providing background information on when noise mitigation meets the criteria set out in MDOT's Noise Policy.

3.1 Existing Noise Conditions

Existing noise conditions were considered at the crossings, plazas, and along I-75. Also, noise measurements were made around the existing Ambassador Bridge plaza and bridge to provide a basis to define expectations at a new plaza and bridge one to two miles away.

3.1.1 Existing Crossings and Plaza Area

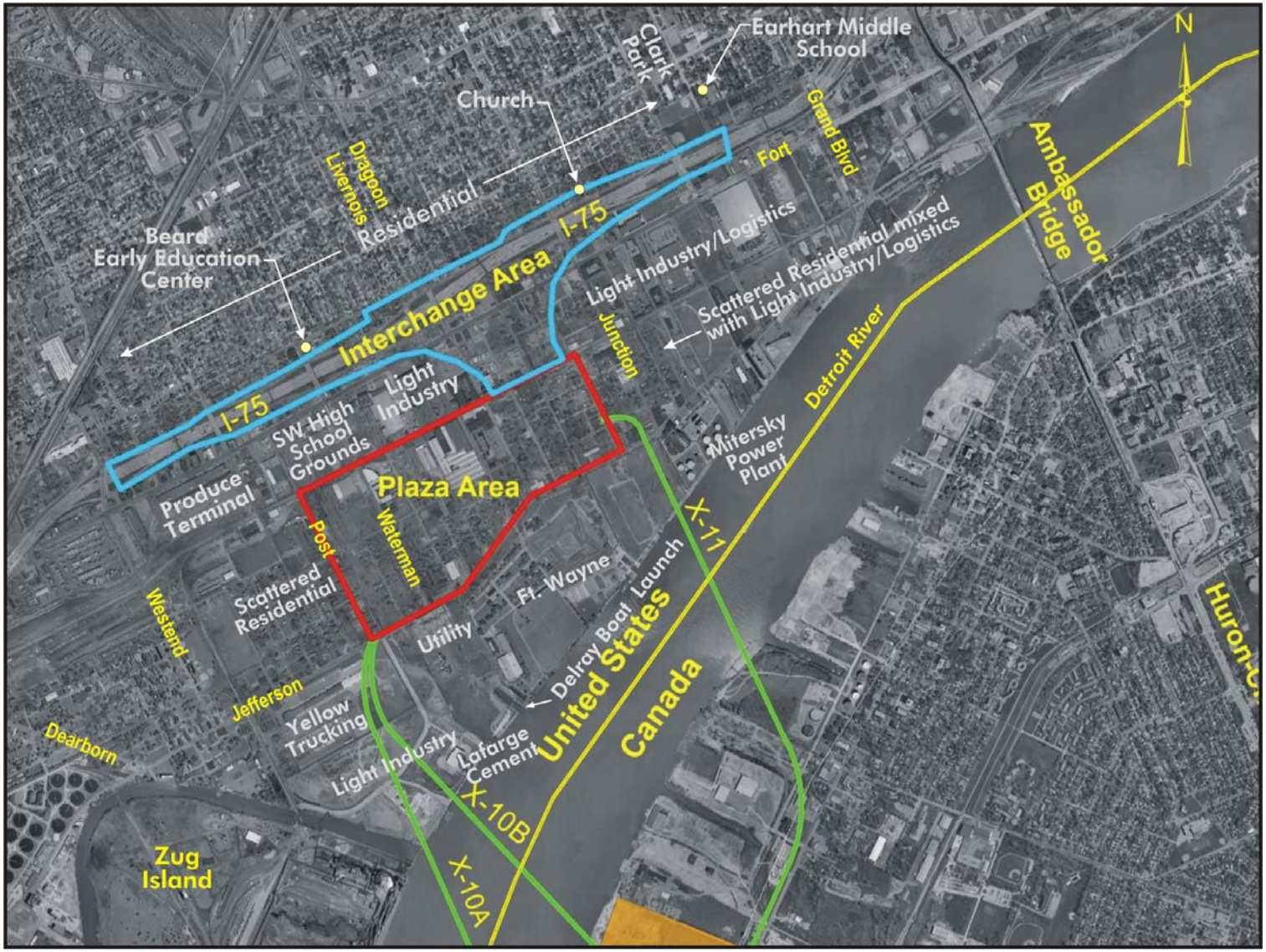
The proposed Detroit River bridges pass over industrial areas in the U.S. near the river's edge (Figure 3-1). An X-10A or X-10B bridge would cross the U.S. shoreline south of the Lafarge cement silo on Springwells Court. It would be grade-separated over Jefferson Avenue near the east end of the Yellow Trucking terminal at Post Street and come to grade level within the plaza. Several houses on the west side of Post Street would remain if Crossing X-10A or X-10B were built. Noise measurements were made in this and other areas to profile existing conditions. Detailed views of individual measurement sites and the noise data of the field work are included in Appendix B.[2] The noise levels around the proposed plazas are shown in the context of occupied dwelling units to provide a sense of residential density (Figure 3-2).

In the X-11 crossing corridor, the bridge would pass over Jefferson Avenue between Fort Wayne and the Mitersky Power Plant. The X-11 crossing would require the acquisition of houses along Campbell Street, but the houses on the east side of Junction Street, a block to the east, could remain. Measurements made at two locations east of the proposed plaza found noise levels of 55 dBA and 63 dBA on Campbell Street (Receiver P2) and Junction Street (Receiver P3), respectively (Figure 3-2). The principal noise source in each case is an occasional truck serving businesses in the area.

If corridor X-11 were chosen, an improved street, known as the Gateway Boulevard, on the west side of the plaza, would require acquisition of houses on Post Street (refer to the purple lines on Figure 3-2), but houses could remain a block further west on Harrington Street. So, the sensitive receivers are different, depending on the alternative. To gauge noise in this area, a measurement was made in a mid-block location on Post Street (Receiver P6) (Figure 3-2). The measurement was 58 dBA.

[2] Measurements were made in conformance with *Measurement of Highway Noise*, U.S. Department of Transportation, May 1996, and MDOT practice. A RICON NL21 noise meter was used for measurements. It was calibrated before measurements.

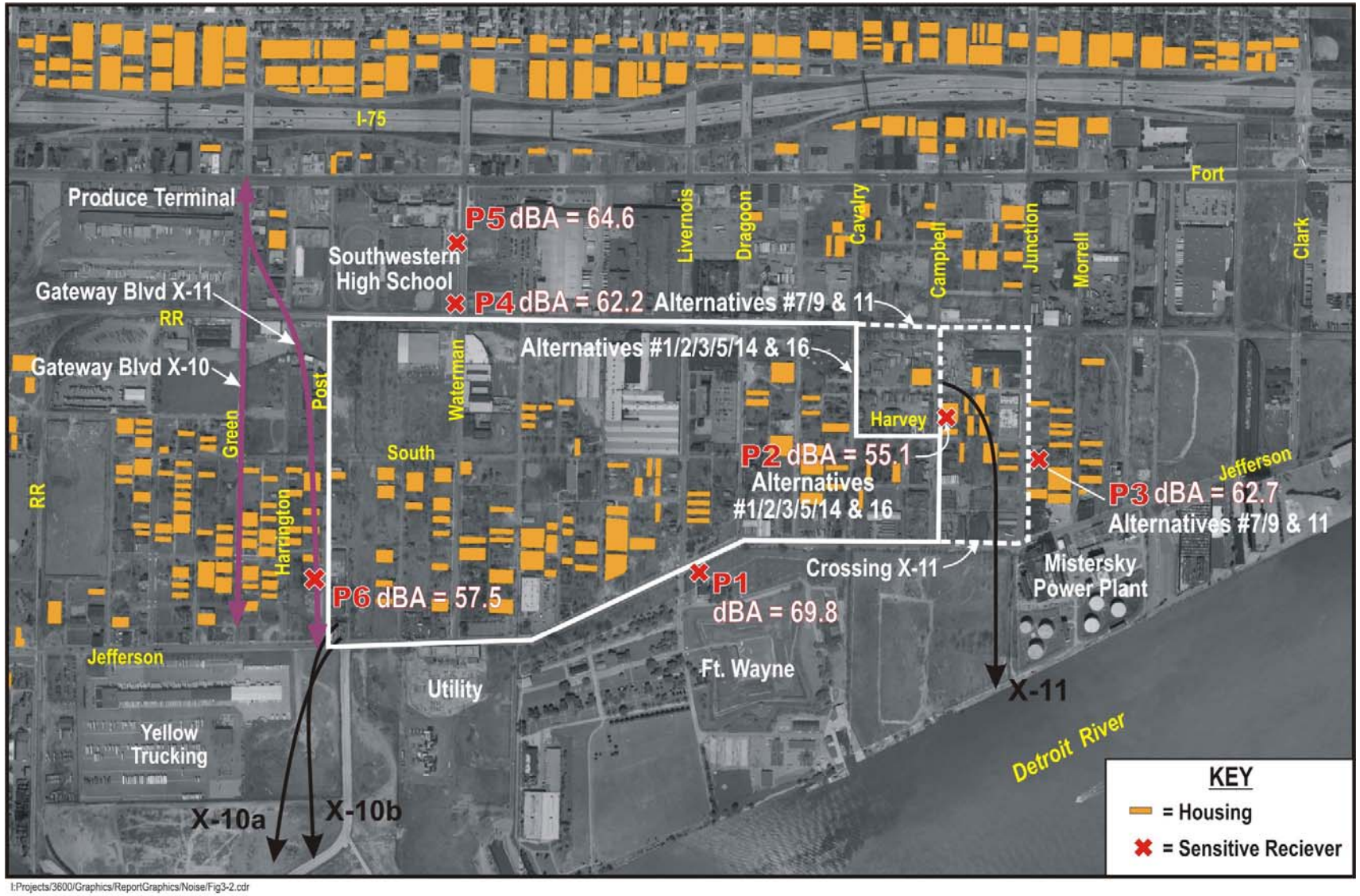
Figure 3-1
Detroit River International Crossing Study
Project Area and Noise Sensitive Receivers



I:Projects/3600/Graphics/ReportGraphics/Noise/Fig3-1.cdr

Source: The Corradino Group of Michigan, Inc.

Figure 3-2
Detroit River International Crossing Study
Existing Noise in Plaza Area – L_{eq}(1h)



I:Projects/3600/Graphics/ReportGraphics/Noise/Fig3-2.cdr

Fort Wayne is a sensitive receiver common to both crossings. The nearest X-10 crossing would be approximately 400 yards away. The X-11 crossing would be approximately 300 yards away. Fort Wayne is on the *National Register of Historic Places* (NRHP) and is subject to review for impacts under Section 106 of the Historic Preservation Act. The Fort Wayne site is relatively quiet today. The primary noise source is the truck traffic on Jefferson Avenue, where a noise level reading of 70 dBA was measured on the sidewalk of Jefferson Street at the Fort's entrance (Receiver P1) (Figure 3-2). Interior to the Fort, low-level background noise can be heard from industrial processes downriver on Zug Island. There are overflights from Detroit Metropolitan Airport, ranging from the upper 50s dBA to the lower 60s dBA.

Southwestern High School is north and west of the proposed plaza areas. Its main academic building fronts onto Fort Street, with approximately 800 feet from the center of the building to the edge of the plaza area. Its gymnasium and cafeteria are adjacent to Waterman Street. Its track, ball fields and tennis courts extend further south to the railroad property that borders the school's property. Under all alternatives, the proposed plaza area would be south, across the railroad property from the school grounds. The primary noise source today at the school is truck traffic on Fort Street, which is a Michigan state trunkline (M-85). I-75, a block north, contributes background noise. The noise level measured on Waterman Street at the school's setback from Fort Street (Receiver P5 on Figure 3-2) was 65 dBA. At the south edge of the school property (Receiver P4), the measured noise level was 62 dBA. Both measurements are below the land use category B criterion of 66 dBA. Trains use the railroad tracks at the south edge of the school property and sound their horns at roadway crossings, including Post and Waterman streets. No trains were present when the noise level was measured. One feature of the proposed project would be to reroute once-a-day trains going to Zug Island so they no longer pass the school.

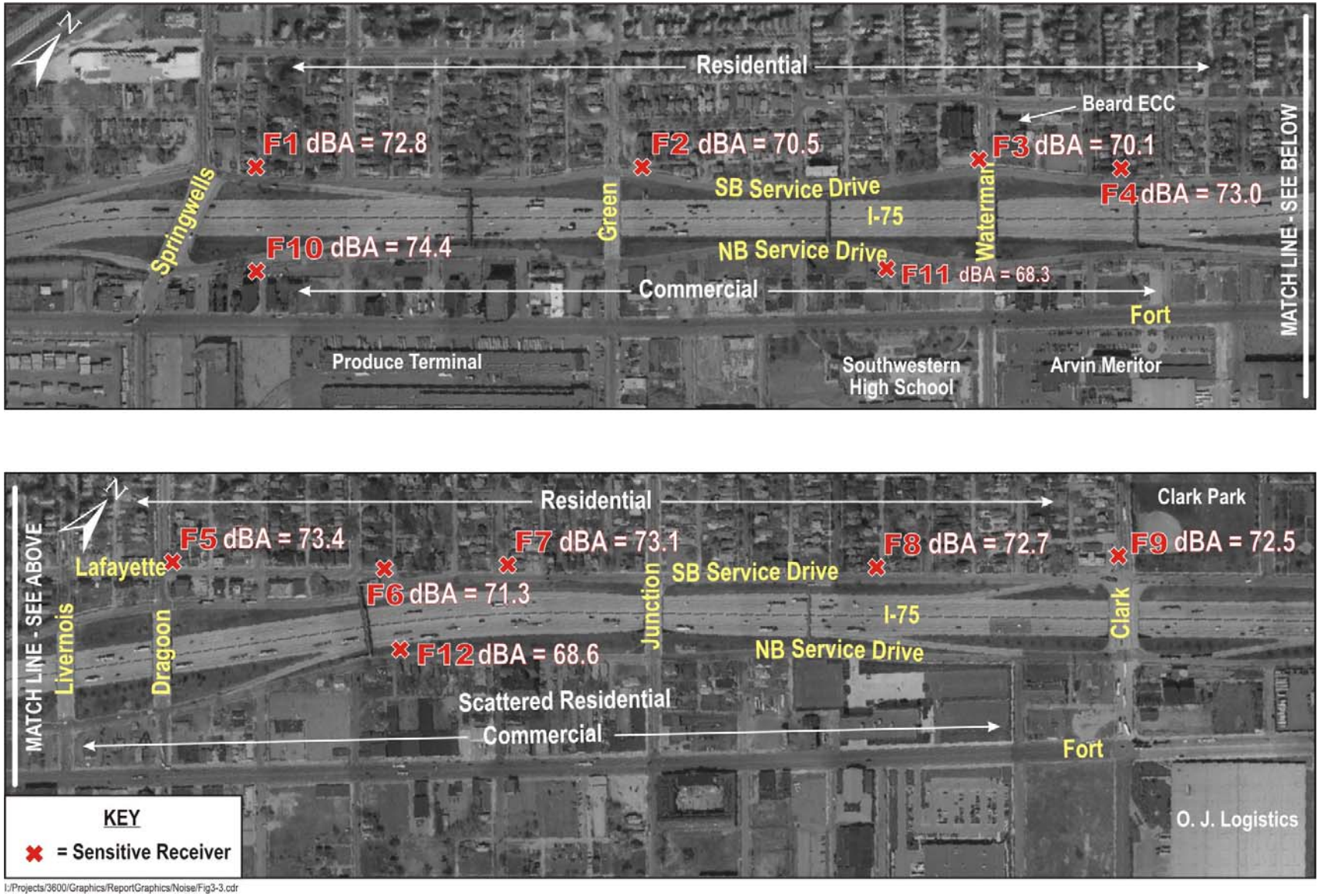
To aid in understanding future plaza noise in Delray, existing noise levels at the Ambassador Bridge were recorded (Appendix C) at a number of locations around the existing plaza during a period when truck activity was heavy, but not so heavy that trucks were standing at idle, which is a quieter condition. The highest noise level recorded was 66 dBA at a location within 100 feet of the plaza's truck activity, with only a chain link fence separating the noise meter from the trucks. On the other side of the plaza, where there is a 15-foot-high wall, the loudest noise level recorded was 60 dBA. Measurements taken at about 225 yards from the Ambassador Bridge, where the bridge is elevated between Fort Street and the river's edge, found the noise to be 59 dBA. As a point of reference, Fort Wayne would be at least 300 yards from the proposed X-10 and X-11 bridges.

While the bridges and plazas would generate little noise of consequence, I-75 and its heavy traffic present a different noise situation.

3.1.2 Existing I-75

The 1.7-mile section of I-75 between Springwells Street and Clark Street is densely residential on its north side (Figure 3-3). All build alternatives would change I-75 and/or its ramp system over virtually this entire distance. Noise measurements made at all nine locations on the north side (see noise data sheets and close-up aerial photography in Appendix B) exceeded the applicable criterion for land use Category B as defined in Table 2-1. Measurements of existing noise ranged from 70 to 73 dBA, versus the criterion of 66 dBA.

Figure 3-3
Detroit River International Crossing Study
Existing Noise along I-75 – L_{eq}(1h)



I:/Projects/3600/Graphics/ReportGraphics/Noise/Fig3-3.cdr

Source: The Corradino Group of Michigan, Inc.

All Saints Catholic Church is on Fort Street east of Springwells Street, south of I-75. The rear of the church is on the northbound I-75 service drive. It experiences noise well above the criterion for churches (Receiver F10 – 74 dBA) (Figure 3-3). Olivet Presbyterian/Old Landmark Church of God in Christ, seven blocks to the east on Fort Street at Lewerenz is in a similar situation (Receiver F11 – 68 dBA).

Also on the south side of I-75 there is scattered single-family housing present east of Cavalry Street, centered on Campbell Street. A number of houses front on the northbound I-75 service drive between Cavalry and Junction Streets. There is a five-story, 64-unit apartment building on Campbell Street also. A measurement of existing noise along the northbound I-75 service drive in this vicinity (Receiver F12) found a noise level of 69 dBA.

Overall, these existing noise measurements would change in the future.

3.2 Future Noise Conditions

The Traffic Noise Model version 2.5 (TNM2.5), available through FHWA, was used to predict noise levels based on: roadway geometry, the location of sensitive receivers, and traffic information, such as speed and the mix of vehicles. Computer model runs were made for existing, no-build, and build conditions. Model runs of existing conditions were compared to actual field measurements to ensure the accuracy of the input to the model. Anticipated noise levels at crossings and plazas are discussed next, followed by a discussion of I-75 and its southbound service drive, which is north of the mainline freeway.

3.2.1 Future Noise Levels at Crossings and Plazas

In the absence of the DRIC project, there is little to suggest any substantial noise changes in Delray near the proposed crossings or plazas. Local noise levels would be a function of development that might occur in the vicinity of the bridge and/or plaza and truck travel patterns. Because Fort Street and/or Jefferson Avenue would not experience a doubling or halving of traffic, no noticeable change in noise is expected along either. Changes would, most likely, be on low-volume local streets that experience development of a kind that generates substantial new traffic.

With the DRIC project, an X-10 crossing is expected to generate a maximum noise level of 58 dBA (Table 3-1) at its nearest approach to Fort Wayne (400 yards), similar to the 59-dBA noise level measured at the Ambassador Bridge (Appendix C). An X-11 crossing would be 300 yards away from Fort Wayne, so it is expected to generate a higher noise level – 62 dBA. These relatively low noise levels (akin to an office) are partly attributable to the relationship of vehicular noise to speed. As speed decreases, noise decreases. The bridge, plaza and connection to I-75 would comprise a relatively low-speed system, certainly when compared to the interstate system. The bridge and ramps to I-75 would be signed at 35 miles per hour (until the point on the on ramps when the driver starts to merge onto I-75), while vehicle operations on the plaza would be slower.

Table 3-1
Detroit River International Crossing Study
Plaza Area Noise Levels – L_{eq}(1h)

Rec.	Receiver Location	Existing Measured	No Action	Alts #1/2/3/ 5/14/16	Alts #9/7/11
P1	Fort Wayne near Entrance	70	70	64	65
P2	East Side Campbell St.	55	55	57	NA
P3	East Side Junction St.	63	63	NA	63
P4	Southwestern High School near Fort Street	65	65	60	62
P5	Southwestern High School near Railroad	62	62	58	64
P6	Post Street	58	58	65	NA
P7	Harrington Street	NA	NA	59	62

Source: The Corradino Group of Michigan, Inc.

Around the plaza, "build condition" noise levels would also be relatively low (Table 3-1). It is noted that Plaza P-a, the plaza of Alternatives #1, #2, #3, #5, #14 and #16, was modeled with safety barriers only on the bridge structure itself. These are the common 42-inch-high safety barriers used on interstate highways to keep vehicles from leaving the road. Besides providing a safer road, they reduce tire/pavement noise. Even with no other barriers than these, noise levels would fall within the criteria at the closest receivers to the plaza boundaries. The planned security walls around Plaza P-a, which were not taken into account, would reduce noise further than the levels shown in Table 3-1.

Plaza P-c, the plaza used by Alternatives #7, #9, and #11, was modeled with safety barriers on the bridge structure itself and walls along Jefferson Avenue and the railroad tracks. The layout of Plaza P-c routes traffic closer to the plaza edge than occurs with Plaza P-a, and traffic with Plaza P-c would approach Fort Wayne and the Southwestern High School grounds close enough that noise levels would warrant consideration of walls, if they were not already part of the plaza's construction. Modeling indicates if the walls that would be built with Plaza P-c were 10- to 12-feet high, noise levels outside the plaza would fall within establish noise abatement criteria. Neither Southwestern High School nor Fort Wayne would meet the reasonability criteria under MDOT's Noise Policy (see Section 3.3).

3.2.2 Future (2035) Noise Levels along I-75

Modeling of noise along I-75 is considerably more complex than modeling noise around the plaza area. The mainline of I-75 has low points where it passes beneath cross streets. Between these points, I-75's roadbed rises to a level closer to the surrounding ground elevation in order to better connect to the ramp system. Receivers near the higher sections of I-75 are exposed to more noise, because the noise propagates more directly from roadway to receiver.

Noise modeling is further complicated by the presence of service drives, which also carry traffic and contribute noise to adjacent houses. Likewise, several cross streets carry sufficient traffic today to contribute to the noise levels of 66 dBA, or above, at receivers on those streets. Receivers on those cross streets were not included in the analysis because it is not feasible to protect them from the multiple sources of noise around them. In other words, while these receivers could be shielded from I-75 noise, walls would not be built on the sidewalks in front of

them to shield noise emanating from cross streets that connect to the I-75 service drives. Carrying that concept further, Lafayette Street parallels the southbound service drive between Green and Cavalry Streets. It contributes noise to the "back side" of houses in the service drive area. So, receivers that are within two to three lots of Lafayette were not analyzed, as they receive noise from Lafayette, which would continue even if mitigation of I-75 noise were successful.

Similarly, All Saints Catholic Church, on Fort Street near Springwells, and the Old Landmark Church, west of Waterman Street, were not included in the analysis because they are surrounded by traffic noise from Fort Street that will continue with or without the project. The churches would experience negligible noise changes from the project and would not qualify for special (sound insulation) noise mitigation because exterior noise levels are below 80 dBA.

The housing present on the south side of I-75 at the east end of the project was not included in the analysis because the dwelling units there, including the 64-unit apartment house on Campbell Street, would be acquired by all the build alternatives, if the project were approved.

The travel demand model used to generate future traffic shows the volumes on I-75 increasing about three percent between 2004 and 2035, which translates to a negligible change in noise.[3] As noted earlier, it takes a doubling or halving of traffic to get a 3-decibel noise level change. So, a three percent traffic change is small. Specifically, the equation showing the change in noise related to changes in traffic volumes is shown as:

$$10 \times \log (\text{new volume}/\text{old volume}) = \text{Noise level change}$$

When examining PM peak hour, two-way traffic volumes on I-75 for 2035 (new volume = 10,852) and 2004 (old volume = 10,503) near Springwells and putting those volumes into the equation, the result would be:

$$10 \times \log (10852/10503) = 0.14 \text{ dBA change}$$

Travel modeling shows traffic on local roads in 2035 to be lower than today's.

Project changes generally would not subject new or different dwelling units to noise from I-75, as traffic would change so little. (I-75's alignment is shifted south under Alternatives #3 and #11 and that has been taken into account.) The factors that differentiate alternatives are:

- The number of dwelling units possibly subject to acquisition;
- How an alternative affects traffic on the southbound I-75 service drive; and,
- The effects of the flyover ramps to and from the plaza.

If an alternative requires acquisition of dwelling units, they are no longer included in the noise analysis. When a cross street or ramp is closed and traffic takes a new route using the southbound service drive, the potential exists to increase noise levels for some receivers. The position of flyover ramps to and from the plaza affects how receivers are shielded from I-75 noise.

Taking all the above into consideration, the three-dimensional roadway geometry and associated traffic were entered into the TNM. The results are a determination of the ranges of noise along I-

[3] The Corradino Group of Michigan, Inc., *DRIC Traffic Analysis Report*, December 2007.

75 and the number of sensitive receivers experiencing noise levels at or above the 66-dBA criterion, today and in the future (Table 3-2).

Table 3-2
Detroit River International Crossing Study
Existing and Future (2035) Alternative Noise Conditions – No Mitigation
L_{eq}(1h) Noise Levels

Key Data Elements \ Segment		Springwells to Green	Green to Waterman	Waterman to Livernois	Dragoon to Junction	Junction to Clark	Total
Modeled Receivers [a]		23	29	21	64	48	185
# DUs Represented		26	61	23	94	51	255
Schools/Churches		NA	NA	Beard EEC	Military Avenue Church	NA	NA
Modeled Noise Levels	**Existing (2006)**	67-76	65-72	68-76	64-74	65-77	NA
	No Build (2035)	67-76	65-72	68-76	64-74	65-77	NA
	Alts #1/#7	68-74	66-73	68-77	63-72	64-78	NA
	Alts #2/#9	68-74	66-72	66-71	64-73	64-78	NA
	Alts #3/#11	67-74	66-71	69-74	61-67	63-77	NA
	Alt #5	69-76	66-69	71-75	63-70	65-78	NA
	Alt #14	67-75	66-71	68-78	63-74	66-78	NA
	Alt #16	67-76	65-72	66-71	64-73	65-77	NA
# DU over 66 dBA	**Existing (2006)**	26	49	33 [b]	70 [c]	46	224[b,c]
	No Build (2035)	26	49	33 [b]	70 [c]	46	224[b,c]
	Alts #1/#7	25	43	21	62	47	198
	Alts #2/#9	25	35	18	72	48	198
	Alts #3/#11[d]	25	43	32	23	38	161
	Alt #5	25	40	17	45	41	168
	Alt #14	25	52	32	66	47	227
	Alt #16	25	35	18	72	48	198

[a] Build alternatives have somewhat fewer modeled receivers and DUs represented, as some receivers would be acquired by the project.
[b] Counting the Beard Early Child Center as 10 DUs, per MDOT's *Noise Policy*.
[c] Counting the Military Avenue Church as 10 DUs.
[d] Given the shift in the I-75 alignment, there are considerably fewer impacted receivers between Dragoon and Junction and a portion of the segment between Junction and Clark.

Source: The Corradino Group of Michigan, Inc.

Under existing and No Build conditions, the analysis found that approximately 224 dwelling units between Springwells Street and Clark Street along the north side of I-75 would be exposed to noise levels exceeding the 66-dBA criterion. This figure counts the Beard Early Education Center (EEC) and Military Avenue Church as the equivalent of ten dwelling units each, consistent with MDOT's noise policy (see next subsection and Appendix A). The All Saints Catholic Church and Old Landmark Church do not so qualify because they are not associated with adjacent residential use. Alternative #14 would result in the greatest noise exposure (227 dwelling units, prior to mitigation).

Though the build alternatives all would require acquisition of dwelling units, none of the alternatives is expected to require acquisition of the Beard EEC building. It must be avoided because it is on the *National Register of Historic Places* (23 U.S. Code 138), and because there would be a prudent and feasible alternative to use of this property.

3.3 Noise Mitigation Considerations

The test of whether noise mitigation should be pursued under MDOT's *Noise Policy* rests on whether such mitigation is feasible and reasonable. The "feasible" test relates to whether mitigation is physically or institutionally possible and can achieve the desired noise reduction of at least five decibels. Feasible solutions can generally be achieved, but not always. For example, there are engineering limitations on noise wall height, especially on bridges. Some noise sources cannot be controlled with a noise wall, or noise may be pervasive from several roadway sources. Additionally, noise wall construction must adhere to safety criteria, i.e., walls must be clear of intersections and be positioned in ramp merge areas so that motorists have a clear field of view.

The "reasonable" test addresses whether noise mitigation is cost-effective. This involves examination of how many sensitive receivers can benefit per dollar invested in building the wall. The current inflation-adjusted value allowed per benefiting dwelling unit is $38,060 (2007 dollars). This applies to those units that would experience at least a 5-decibel reduction in the loudest hour. The current cost to construct a noise wall includes $25.00 per square foot, plus $250.00 per linear foot for wall foundation, drainage, and other considerations. So, for example, a ten-foot high wall would cost, in total, $500 per liner foot and a twelve-foot wall would cost $550 per linear foot for a typical installation.

Noise mitigation falls into two general project categories. "Type I" projects involve new roadway construction of a type that increases roadway capacity, i.e., projects that could serve greater traffic volumes and hence generate more traffic noise. These are eligible for federal funding through FHWA as a normal part of project construction. "Type II" projects may be described as retrofits associated with independent noise mitigation not related to any roadway capacity increase.

With the Practical Alternatives, noise mitigation along I-75 would be Type I and be included as a normal part of the I-75 project's federal funding (subject to local review and approval of property owners). With the No Build Alternative, any mitigation would not be Type I. It would be considered Type II. While MDOT does undertake Type II projects, funding is limited:

> "MDOT will construct Type II sound walls only in years when MDOT's Road and Bridge Program, excluding maintenance, exceeds $1.0 billion, adjusted to the Consumer Price Index (CPI) using 2002 as the base year. MDOT will not spend more than one half of one percent of the budget on sound walls. MDOT will give priority to those communities where the freeway was constructed through an existing neighborhood and where 80 percent or more of the existing residential units were there prior to the construction of the freeway. Communities must make application to MDOT and provide a local match of 10 percent of the cost of the sound wall." [4]

[4] Michigan State Transportation Commission Policy, *Noise Abatement*, July 31, 2003.

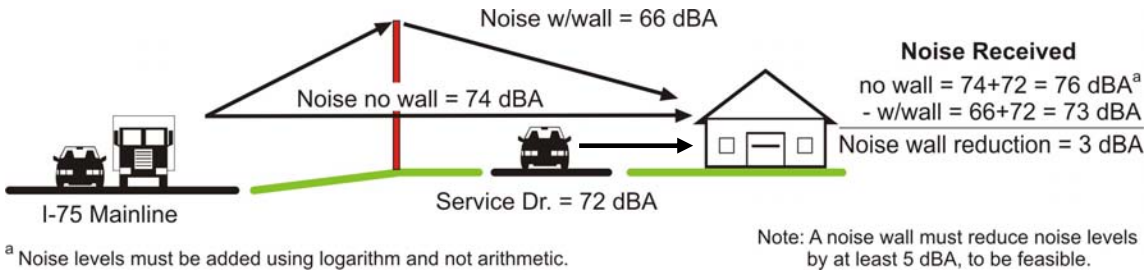
A number of potential mitigation measures may be considered to reduce noises levels. These include lowering the roadway profile, restricting or prohibiting truck traffic, reducing traffic speeds, insulating public use or nonprofit institutional structures, and constructing noise berms or walls. Some lowering of the roadway will occur in the depressed section of I-75 to gain more clearance under bridges. But, connections to the numerous ramps, and the grades and tapers associated with these ramps, prevent lowering the freeway any more than it would be with the project. For these reasons, lowering the roadway profile in any substantial way is not considered feasible or reasonable.

Restricting or prohibiting truck traffic is not feasible because I-75 is an interstate highway specifically designed to accommodate commercial traffic. Similarly, lowering the speed limits for noise reduction is counter to the purpose of moving people and goods in an efficient manner over the interstate highway system. MDOT is committed to maintaining speed limits that allow safe and efficient travel, which means, maintaining a 55 mph speed limit in this section of I-75.

Noise barriers consist of earthen berms or walls, or combinations of the two. Berms occupy considerable space. In the I-75 corridor, space is at a premium due to needs for drainage and service drives and the presence of dense development. Construction of berms could also require property acquisition, meaning additional relocations and local tax base loss. Generally, if new land is needed, berms are not reasonable. This leaves noise walls as the preferred mitigation. Under special circumstances, insulating public use or nonprofit institutional structures can be considered.

A primary challenge to successful noise abatement along I-75 is the potential increase in traffic on the southbound service drive of I-75. Traffic here would reduce the effectiveness of noise walls placed in their preferred location between the I-75 mainline lanes and the service drive. The schematic provided in Figure 3-4 illustrates this point. Even though the noise wall cuts I-75 noise by 8 dBA, noise from the service drive is not reduced. Overall, the noise at the receiver is reduced by only 3 dBA. For a wall to be feasible, it must reduce noise 5 dBA. This is thoroughly reviewed in the next section.

Figure 3-4
Detroit River International Crossing Study
Why Noise Walls Are Not Always Feasible



Source: The Corradino Group of Michigan, Inc.

4. NOISE BARRIER ANALYSIS

4.1 General Considerations

Noise mitigation was examined for all sensitive (primarily residential) areas along the corridor where traffic-generated noise was expected to be 66 dBA or higher. Noise walls were modeled for placement between the I-75 mainline lanes and the southbound service drive, or between ramps and the service drive. In this position, they are on MDOT property and are effective in reducing noise. Effectiveness is compromised if service drive traffic becomes excessive. The service drive is signed at 35 mph and vehicles generally operate at this speed or below. At such speeds engine noise predominates over road and tire noise. Where service drive traffic reduces the effectiveness of walls between I-75 and the service drive, the use of sound absorbing material could be used on the residential side of the wall to reduce reflected noise.

Where ramps would be present, mainline and ramp walls were overlapped in the modeling to minimize gaps. The walls in this analysis were positioned with sight distance and clear-view angle distances taken into account in ramp areas and at intersections of the service drives with cross streets. Walls must end some distance away from intersections. Sometimes commercial uses are at these intersections. So, ending walls in these areas does not always limit the protection afforded to residential receivers.

Where traffic on the southbound service drive erodes the feasibility of noise walls located between mainline I-75 and the service drive, noise walls could be positioned at the edge of the service drive nearest the adjacent houses. The service drives are local Detroit streets, not MDOT-maintained roads. This means that any such walls would ultimately be "owned" by the city of Detroit. So, wall construction would require an agreement with the City to accept ownership of the walls. Based on an agreement signed at the time of construction, MDOT would maintain the structural integrity of the walls for five years, at which time Detroit would accept ownership and maintenance of the walls. Other factors are also involved:

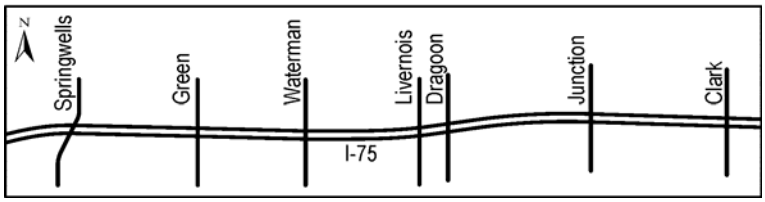
- Many local roads and alleys access the service drive. Any breaks in the noise wall for such roads will reduce the wall's effectiveness. Many of the roadways would have to be closed to be able to construct a feasible noise wall along the service drive.

- The acquisition of properties along the service drive for the purpose of building a noise wall would reduce the number of dwelling units benefiting from the walls and possibly eliminate the reasonableness of the abatement.

Placement of walls in this position has not been analyzed for the Practical Alternatives because of the conditions noted above, and others. Nonetheless, this option does remain, if the local community wishes to pursue it, the City of Detroit is willing to accept ownership of the noise walls, and a better overall solution cannot be reached. So, when a Preferred Alternative is identified, an analysis will be done to determine whether wall positioning of this type has merit.

The noise wall analysis examined five segments demarcated by streets that cross I-75. The sections considered are listed below. Except under Interchange #5/Alternative #14, the section between Livernois and Dragoon was not considered a feasible location for a noise wall due to traffic noise on Livernois Avenue, Dragoon Street, and Lafayette.

- Springwells to Green
- Green to Waterman
- Waterman to Livernois
- Dragoon to Junction
- Junction to Clark



4.2 Segment-by-Segment Considerations - Traffic

A schematic diagram of the ramp positions and the streets that would remain open across I-75 is provided in Figure 4-1 for each Practical Alternative. The discussion focuses on the southbound service drive and the ramps to and from it, as this is where walls could be placed to potentially benefit sensitive receivers. It is noted that all alternatives, except Alternatives #14 and #16, which are associated with Interchanges G and I, respectively, would eliminate the ramps on the north side of Springwells and on the south side of Clark. (Alternatives #14 and #16 would leave the Springwells ramps.) Closing those ramps results in more traffic on the service drive. Springwells, the Livernois/Dragoon one-way pair and Clark Street are the primary routes into Delray to the south and Southwest Detroit to the North.

The following discussion of traffic, noise and walls for mitigating noise is organized around the interchange designs, each of which has one or more alternatives associated with it. Likely traffic shifts are noted for each interchange.

4.2.1 Interchange A – Alternatives #1 and #7

Interchange A would replace southbound I-75 off-ramps at Dragoon and Springwells with an off-ramp in the vicinity of Junction that would serve traffic wishing to use Dragoon. The southbound on-ramps at Clark and Livernois would be replaced by a new Livernois ramp.

Springwells to Green – With the off-ramp to Springwells eliminated, there would be no noise from that ramp; however, Springwells-bound traffic would exit sooner, between Junction and Dragoon, and follow the service drive south, which would place the traffic closer to homes, over a longer distance.

Green to Waterman – Traffic on the southbound I-75 service drive would increase for the same reason.

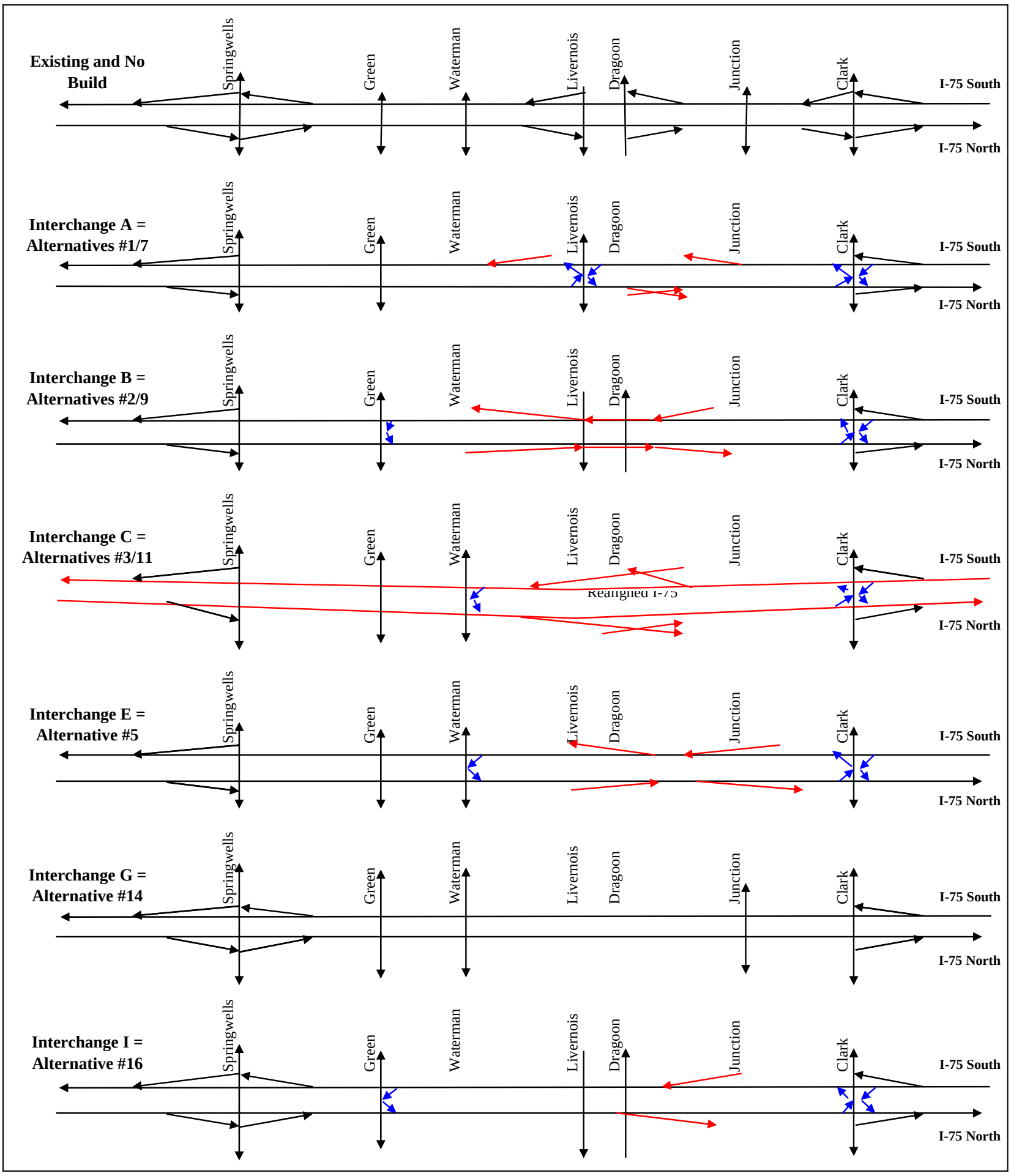
Waterman to Livernois - Traffic on the southbound I-75 service drive would increase for the same reason, plus traffic that now accesses I-75 at Clark Street would proceed south to the Livernois on-ramp.

Dragoon to Junction – Traffic now exiting I-75 at Springwells would exit sooner at Dragoon. Traffic that now accesses I-75 at Clark would proceed south to the Livernois on-ramp.

Junction to Clark – Traffic that now accesses I-75 at Clark would proceed south to the Livernois on-ramp.

In summary, traffic on the southbound I-75 service drive would likely increase over its entire length between Clark and Springwells.

Figure 4-1
Detroit River International Crossing Study
Local Road and Ramp Closures and Additions



If a link is gone, it is not in future scenario
= new or revised ramp
= new crossover u-turn

Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

4.2.2 Interchange B – Alternatives #2 and #9

Interchange B would provide a southbound I-75 off-ramp past Livernois and an on-ramp before Dragoon.

Springwells to Green - With the I-75 off-ramp to Springwells eliminated, there would be no noise from that ramp; however, Springwells-bound traffic would exit east of Waterman and follow the service drive south. With the Livernois on-ramp to I-75 closed, traffic from Livernois would proceed on the southbound service drive to Springwells, adding traffic along the service drive.

Green to Waterman – The same comments apply as with the Springwells-to-Green section.

Waterman to Livernois – With the Livernois on-ramp to I-75 closed, traffic that now accesses I-75 at Livernois would proceed on the southbound service drive to Springwells, adding traffic along the service drive.

Dragoon to Junction – Traffic would be reduced on this section as it would access I-75 prior to this area and there would be no off-ramp.

Junction to Clark – Traffic that now leaves I-75 at Clark would proceed south to the Junction on-ramp.

In summary, traffic on the southbound I-75 service drive would increase over most of its length between Clark and Springwells, except between Dragoon and Junction where traffic would be reduced.

4.2.3 Interchange C – Alternatives #3 and #11

Interchange C would include "braiding" the off-ramp to Dragoon with the on-ramp near Cavalry Street. Braiding means one ramp bridges over another so the ramps can fit more tightly into a space along the freeway.

Springwells to Green – Traffic that now accesses I-75 at Livernois would travel south to access the freeway at Springwells.

Green to Waterman - The comment for the Springwells-to-Green section applies here.

Waterman to Livernois - The comment for the Springwells-to-Green section applies here.

Dragoon to Junction – A portion of this section would experience reduced traffic, as traffic could access I-75 near Cavalry and there would be no exit at this location.

Junction to Clark – All the traffic now accessing I-75 at Clark would proceed south on the service drive.

In summary, traffic on the southbound I-75 service drive would increase over most of its length between Clark and Springwells. Removing the Livernois and Dragoon bridges over I-75 would reduce the interaction of traffic with Fort Street and generally decrease traffic in the area.

4.2.4 Interchange E – Alternative #5

Interchange E would operate in a similar manner to Interchange B, except that Waterman would continue to cross I-75 and Livernois and Dragoon would not.

Springwells to Green – With the off-ramp to Springwells eliminated there would be no noise from that ramp; however, traffic would exit I-75 east of Waterman and follow the service drive south to Springwells, which would place the traffic closer to houses. Traffic that now accesses I-75 at Livernois would proceed on the southbound service drive to Springwells, adding traffic.

Green to Waterman – The comments for the Springwells-to-Green section apply here.

Waterman to Livernois – The comments for the Springwells-to-Green section apply here.

Dragoon to Junction – Traffic on the southbound service drive from west of Livernois to east of Junction would be reduced, as it would enter I-75 prior to this section and exit from I-75 after this section.

Junction to Clark – Traffic now accessing I-75 at Clark would proceed south on the service drive to Junction.

In summary, traffic on the southbound I-75 service drive would increase over most of its length between Clark and Springwells, except between Junction and Livernois where traffic would be reduced. Removing the Livernois and Dragoon bridges over I-75 would reduce the interaction of traffic with Fort Street and generally decrease traffic in the area.

4.2.5 Interchange G - Alternative #14

Interchange G would remove all on- and off-ramps to the local street network between the Springwells interchange, which would remain intact, and the Clark interchange.

Springwells to Green – All the traffic wishing to enter southbound I-75 would accumulate between Clark and Springwells, increasing traffic on the service drive.

Green to Waterman – The comment for the Springwells-to-Green section applies here.

Waterman to Livernois – The comment for the Springwells-to-Green section applies here.

Dragoon to Junction – The comment for the Springwells-to-Green section applies here.

Junction to Clark – The comment for the Springwells-to-Green section applies here.

In summary, traffic on the southbound I-75 service drive would increase over its entire length between Clark and Springwells. But, removing the Livernois and Dragoon bridges over I-75 would reduce the interaction of traffic with Fort Street and generally decrease traffic in the area. The lack of ramps in the area would also reduce overall traffic on the service drive.

4.2.6 Interchange I – Alternative #16

Interchange I would shift the southbound on-ramp from Clark to the Junction Street area. There would be no off-ramp between Clark and Springwells, but Springwells would have a full interchange with all ramps.

Springwells to Clark – All the traffic wishing to enter southbound I-75 would accumulate between Campbell and Springwells, increasing traffic on the service drive.

Green to Waterman – The comment for the Springwells-to-Green section applies here.

Waterman to Livernois – The comment for the Springwells-to-Green section applies here.

Dragoon to Junction – Traffic on this segment would be similar to No Build conditions.

Junction to Clark – The traffic getting on at Clark in the future would travel another five blocks over this section to get on at Junction, and Dragoon traffic would exit early at Clark Street.

In summary, traffic would increase between Junction and Clark as the on-ramp is shifted and Dragoon traffic would exit early at Clark Street. The Livernois and Dragoon bridges would remain for local access.

4.3 Noise Wall Analysis

Because the ramp positions would vary by alternative, so would noise wall locations and effectiveness. For the Practical Alternatives, the effects of uniform 12-foot-high walls were tested for each alternative. Such walls typically provide reasonable noise abatement along depressed freeways when placed at the top of the bank between the mainline lanes and the service drive. For purposes of this analysis, the Beard Early Education Center (EEC) and the Military Avenue Church were each counted as the equivalent of 10 dwelling units.

It is noted that this analysis is based on preliminary traffic estimates. Conclusions may change when more refined data are available.

Walls that were analyzed by alternative are listed in Table 4-1 and are shown on Figures 4-2a to 4-2e. The results by alternative are presented next.

4.3.1 Interchange A – Alternatives #1 and #7

Alternative #1 is the same as Alternative #7 along I-75, except the latter has slightly lower volumes on the ramps to and from the plaza. There is a negligible difference between the alternatives when background traffic is considered, so the discussion below applies to both.

Between Springwells and Green a noise wall does not prove reasonable, as the cost per benefiting dwelling unit is $43,200 (Table 4-1), above the criterion that limits the unit cost to $38,060. The reason for this conclusion is the low-density of housing along this section, as many lots face cross streets and present their long dimension to the freeway.

Table 4-1
Detroit River International Crossing Study
Noise Wall Analysis
(12-foot Walls) (See Figures 4-2a to 4-2f)

	Location/Designation	Length (Feet)	Cost	Benefiting Receivers	Cost per Ben. Rec.
Interchange A Alternatives #1 and #7	**Springwells To Green**				
	Wall 1 – Along Service Drive	1400	$777,000	18	$43,200
	Green to Waterman to Livernois				
	Wall 1 – Along Service Drive to E of Casgrain	1750	$965,000	20	$48,200
	Wall 2 – Along Plaza Ramp to SB I-75	450	$214,000	0	Not feasible
	Wall 3 – Livernois ramp to SB I-75	210	$118,000	1	$118,000
	Dragoon to Junction				
	Wall 1 – Campbell area	380	$208,000	0	Not feasible
	Wall 2 – Along Ramp from SB I-75 to Plaza	520	$253,000	0	Not feasible
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1740	$960,000	24	$40,000
Interchange B Alternatives #2 and #9	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	18	$43,200
	Green to Waterman to Livernois				
	Wall 1 – Along Service Drive to E of Waterman	1720	$949,000	22	$43,100
	Wall 2 – Along Ramp to SB I-75	900	$424,000	0	Not feasible
	Dragoon to Junction				
	Wall 1 –Along Service Drive near Campbell	690	$381,000	0	Not feasible
	Wall 2 – Along Ramp from SB I-75, then to Junction	540	$302,000	0	Not feasible
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1740	$961,000	21	$45,800
Interchange C Alternatives #3 and #11	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	23	$33,800
	Green to Waterman				
	Wall 1 – Along Service Drive	1310	$725,000	3	$241,700
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Casgrain	520	$290,000	1	$290,000
	Wall 2 – Along Ramp to SB I-75	740	$348,000	0	Not feasible
	Dragoon to Junction				
	Wall 1 – Along Ramp from SB I-75	660	$368,000	0	Not feasible
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1730	$956,000	24	$39,800
Interchange E Alternatives 5	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	23	$33,800
	Green to Waterman				
	Wall 1 – Along Service Drive	1310	$724,000	10	$72,400
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Crawford	830	$457,000	15[a]	$30,500
	Dragoon to Junction				
	Wall 1 – Along Service Drive Cavalry to Morell	1630	$905,000	1	$905,000
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1470	$811,000	10	$81,100

Table 4-1 (continued)
Detroit River International Crossing Study
Noise Wall Analysis
(12-foot Walls) (See Figures 4-2a to 4-2f)

Interchange G Alternative #14	**Springwells to Green**				
	Wall 1 – Btwn Service Drive and I-75 off-ramp	330	$184,000		
	Wall 2 – Along Service Drive to Green	840	$462,000	25	$25,800[b]
	Green to Waterman				
	Wall 1 – Along Service Drive	1310	$724,000	23	$31,500
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Crawford	1340	$745,000	32[a]	$23,300
	Dragoon to Junction				
	Wall 1 – Along Service Drive Cavalry to Junction	1110	$615,000	16	$38,060
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1600	$885,000	44	$20,100
Interchange I Alternative #16	**Springwells to Green**				
	Wall 1 – Btwn Service Drive and I-75 off-ramp	330	$184,000		
	Wall 2 – Along Service Drive to Green	840	$462,000	25	$25,800[b]
	Green to Waterman to Livernois				
	Wall 1 – Along Service Drive to E of Waterman	1720	$949,000	22	$43,000
	Wall 2 – Along Ramp to SB I-75	900	$424,000	0	Not feasible
	Dragoon to Junction				
	Wall 1 –Along Service Drive near Campbell	690	$381,000	0	Not feasible
	Wall 2 – Along Ramp from SB I-75, then to Junction	540	$302,000	0	Not feasible
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1740	$961,000	21	$45,800

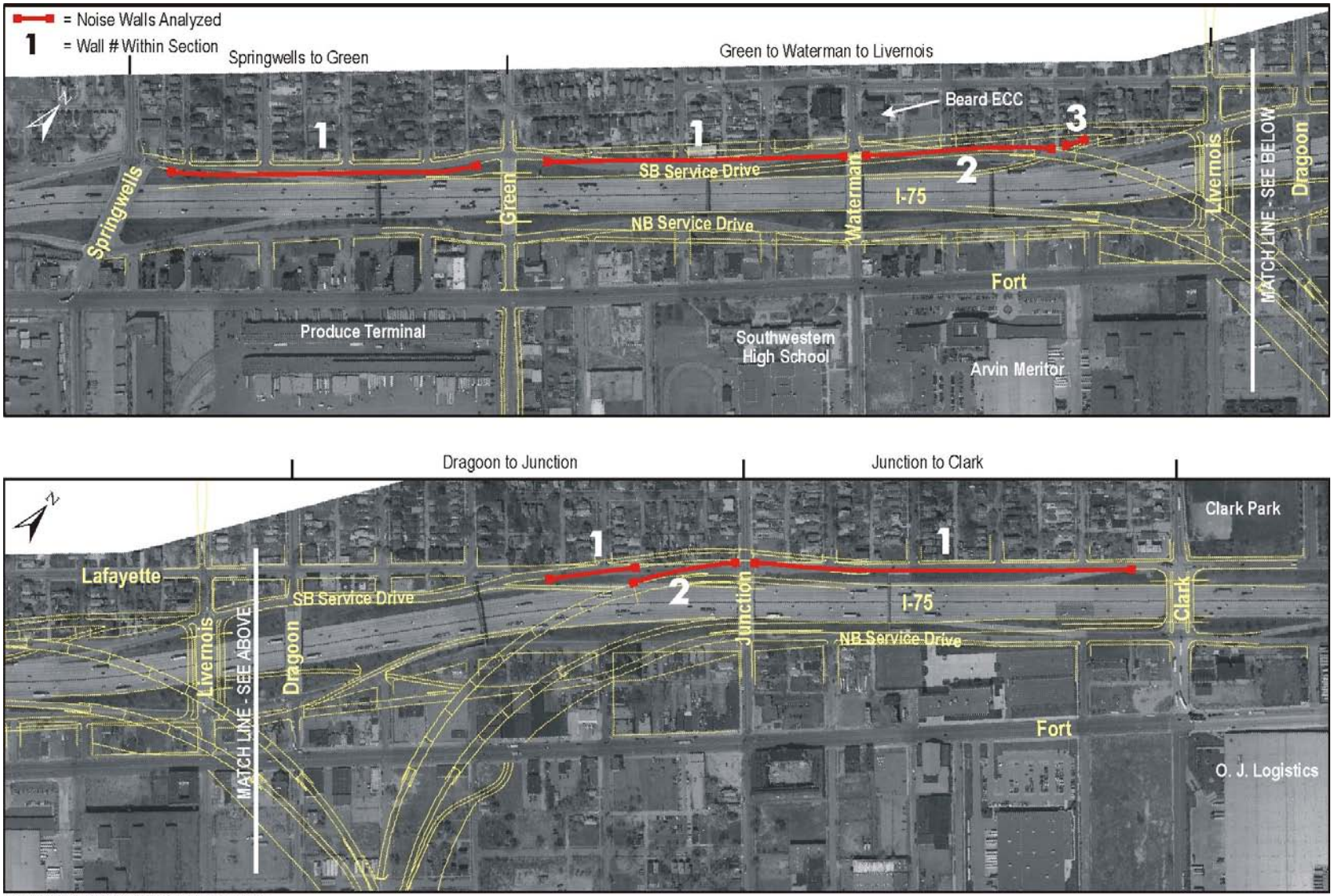
[a] Counting Beard EEC as ten benefiting receivers.
[b] Calculation combines Walls 1 and 2.

Source: The Corradino Group of Michigan, Inc.

Between east of Green and Livernois a wall was tested that would parallel the service drive to a point past Waterman (which would be closed) then would transition to a second wall related to the flyover ramp connecting the plaza to southbound I-75. This would maintain a wall at the high point in the area of the flyover. A third wall would extend farther along the service drive to shield noise from the Livernois on-ramp to southbound I-75. The flyover ramp was assumed to be on fill material once it crosses the Livernois southbound on ramp to I-75.

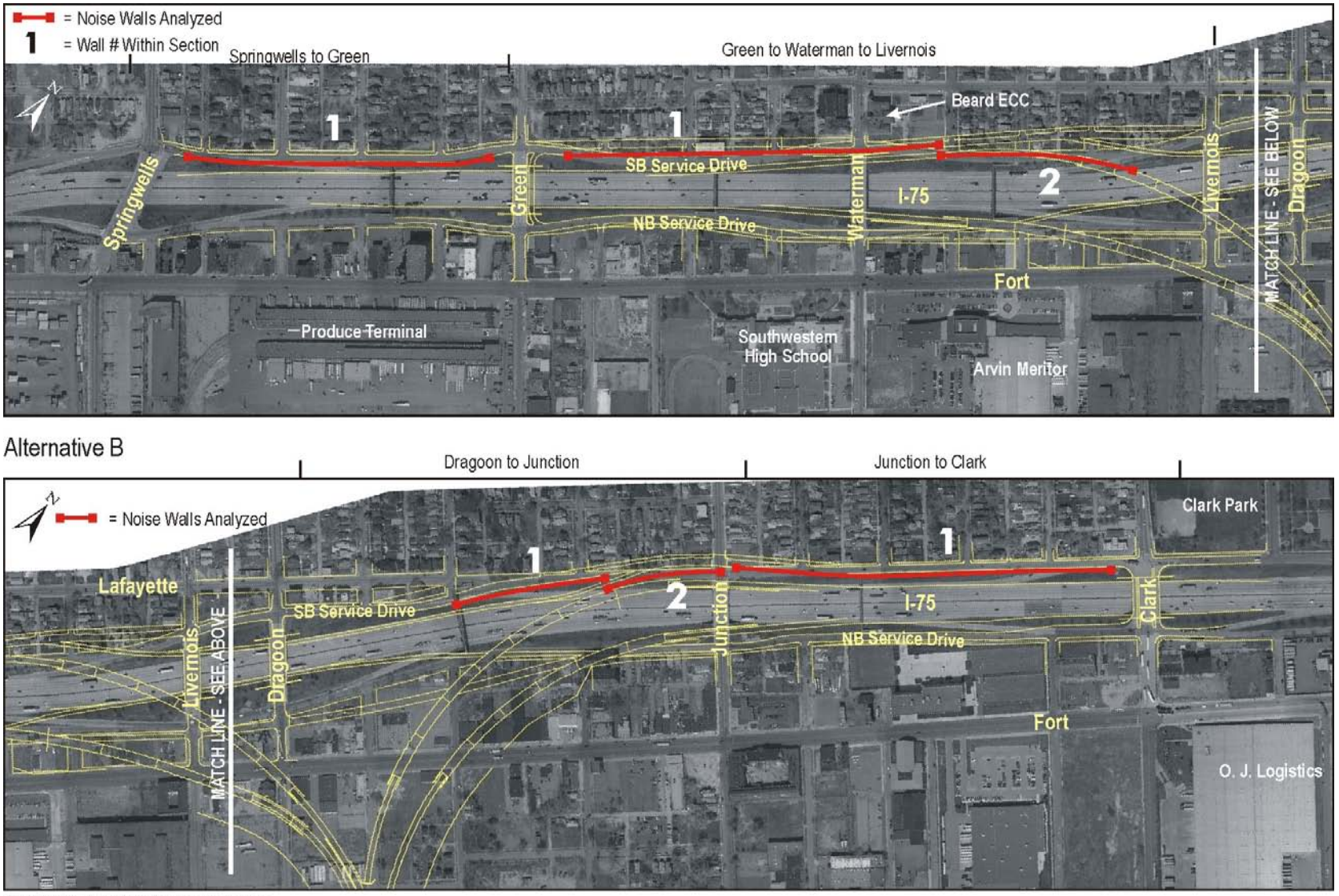
The cost of each of the three walls in this section, divided by the potential benefiting receivers, renders the walls not reasonable collectively. It is noteworthy that the new ramp from the plaza to I-75 would block enough noise to the Beard EEC that a wall does not prove feasible, either. A wall is only considered feasible if it reduces noise by 5 dBA. The shielding of the ramp cuts the noise level to the point that a noise wall cannot reduce it an additional 5 dBA. Therefore, it is not considered feasible. A wall extending only as far as the Beard EEC that includes the solid concentration of benefiting receivers to the west of Waterman, is reasonable, assuming two thirds of the $965,000 wall cost would benefit 20 sensitive receivers for about $32,300 per benefiting receiver. Note that some of the 20 benefiting receivers would still experience noise above 66 dBA in this 12-foot wall test. Future work with the Preferred Alternative would optimize wall heights to try to reduce noise levels to below 66 dBA for as many receivers as possible. Also, per the *Noise Policy*, at least one of the receivers should experience a noise reduction of 10 dBA.

Figure 4-2a
Detroit River International Crossing Study
Noise Walls Analyzed
Interchange A – Alternatives #1 and #7



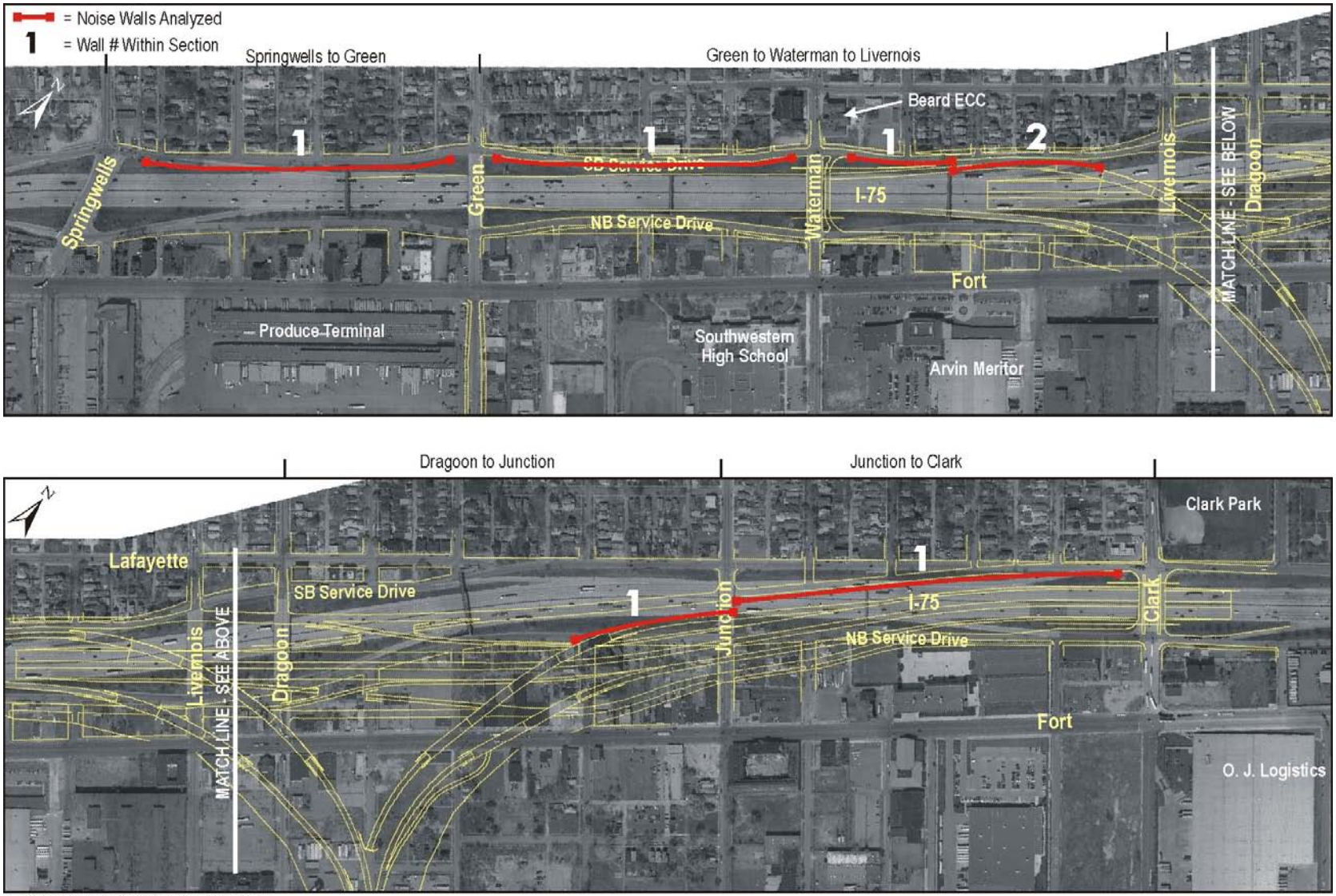
I:\Projects\0800\Graphics\ReportGraphics\NoiseInterchanges.cdr
Source: The Corradino Group of Michigan, Inc.

Figure 4-2b
Detroit River International Crossing Study
Noise Walls Analyzed
Interchange B – Alternatives #2 and #9



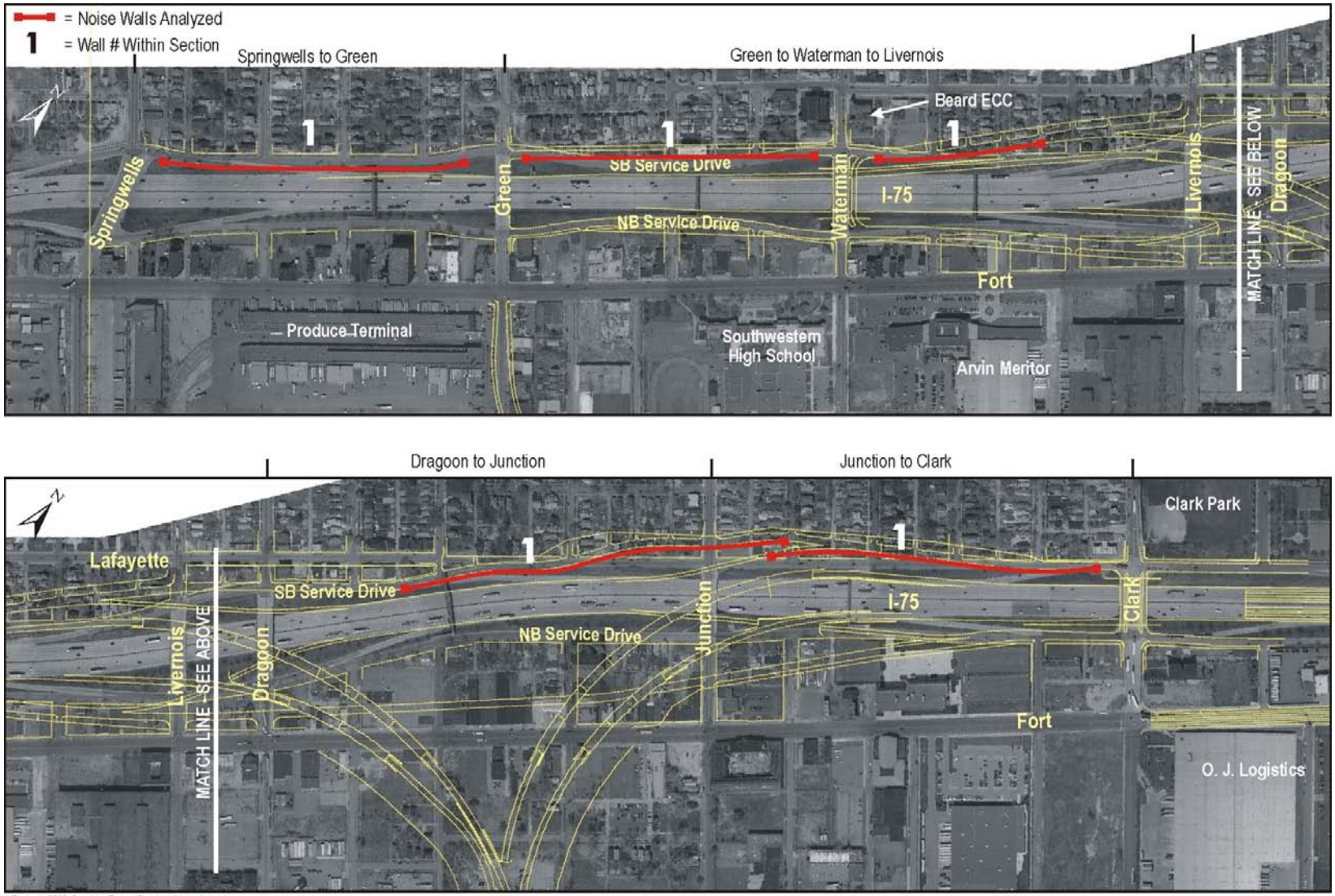
I:/Projects/3800/Graphics/ReportGraphics/Noise/Interchanges.cdr
Source: The Corradino Group of Michigan, Inc.

Figure 4-2c
Detroit River International Crossing Study
Noise Walls Analyzed
Interchange C – Alternatives #3 and #11



I:/Projects/3800/Graphics/ReportGraphics/Noise/Interchanges.cdr
Source: The Corradino Group of Michigan, Inc.

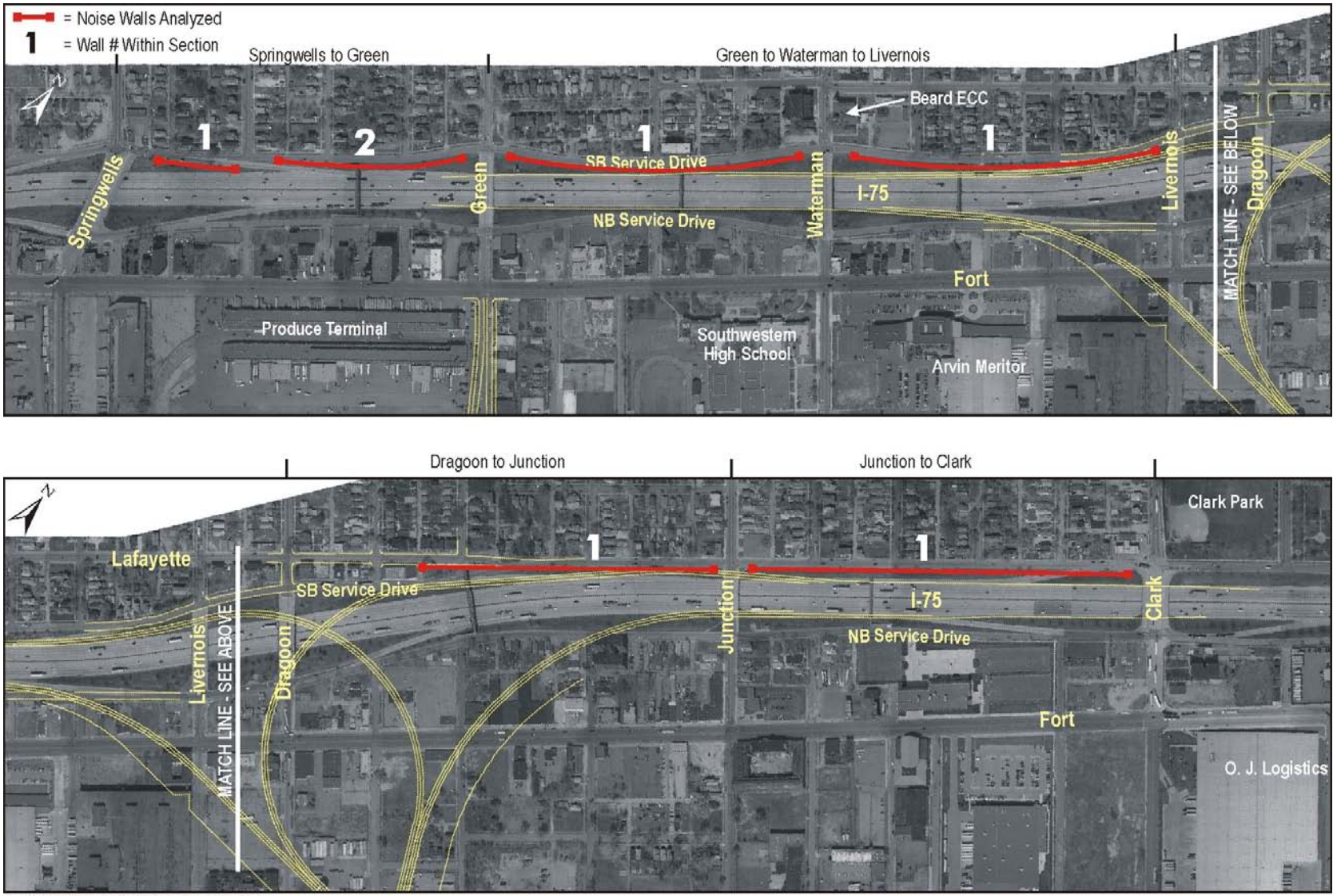
Figure 4-2d
Detroit River International Crossing Study
Noise Walls Analyzed
Interchange E – Alternative #5



I:\Projects\3600\Graphics\ReportGraphics\Noise\Interchanges.cdr

Source: The Corradino Group of Michigan, Inc.

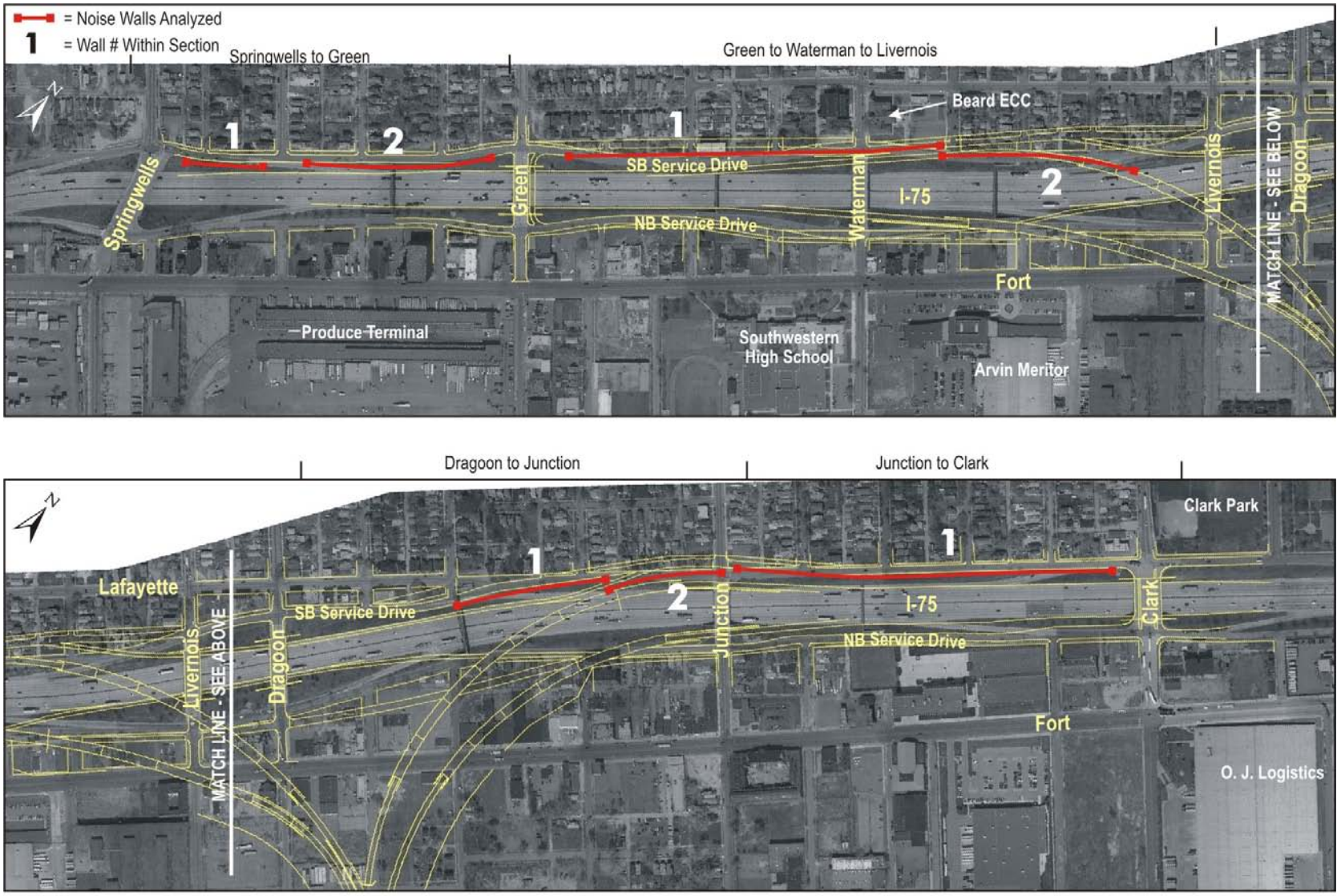
Figure 4-2e
Detroit River International Crossing Study
Noise Walls Analyzed
Interchange G – Alternative #14



I:/Projects/3800/Graphics/ReportGraphics/Noise/Interchanges.cdr

Source: The Corradino Group of Michigan, Inc.

Figure 4-2f
Detroit River International Crossing Study
Noise Walls Analyzed
Interchange I – Alternative #16



I:/Projects/3600/Graphics/ReportGraphics/Noise/Interchanges.cdr
Source: The Corradino Group of Michigan, Inc.

Dragoon to Junction presents a number of challenges. The Military Avenue Church is on record as not wanting a wall, and the presence of Lafayette Boulevard traffic makes a noise wall infeasible in any case under Alternative #1. The point at which the off-ramp meets the southbound service drive in this area cannot be protected due to sight limitations, even though traffic on this off-ramp would be heavy. The first opportunity for protection is near Campbell Street, but the traffic on the service drive is too great for a wall between the service drive and I-75 to be feasible.

Junction to Clark is a section of relatively low-density housing. Building a noise wall to potentially benefit 24 dwelling units would cost $40,000 per receiver (Table 4-1), above the criterion that limits the unit cost to $38,060.

4.3.2 Interchange B – Alternatives #2 and #9

Alternative #2 is the same as Alternative #9 along I-75, except the latter has slightly lower volumes on the ramps to and from the plaza. There is a negligible difference when background traffic is considered, so the discussion below applies to both alternatives.

Between Springwells and Green a noise wall does not prove reasonable, as the cost per benefiting dwelling unit would be $43,200 (Table 4-1), above the criterion that limits the unit cost to $38,060.

Between east of Green and Livernois a wall was tested that would parallel the service drive past Waterman (which would be closed) to transition to a second wall on the flyover ramp connecting the plaza to southbound I-75. The flyover ramp was assumed to be on fill material once it crosses the Livernois southbound on-ramp. This means the flyover ramp itself would block noise, without a noise wall. As a consequence, Wall 2 in this section is not feasible, as tested (Table 4-1).

Wall 1, which extends beyond the Beard EEC, does not prove reasonable (Table 4-1). A wall limited to the west of Waterman is reasonable, assuming two-thirds of the $949,000 cost would benefit 22 receivers, or $28,900 per benefiting receiver.

Dragoon to Junction under Alternative #2 presents similar challenges as Alternative #1. The presence of Lafayette and the volume of traffic on the service drive would be too great for a wall between the service drive and I-75 to be feasible, i.e. it would not achieve a 5-dBA noise reduction.

Junction to Clark is a section of relatively low-density housing. Building a noise wall to potentially benefit 21 sensitive receivers would cost $45,800 per receiver (Table 4-1), above the criterion that limits the unit cost to $38,060. So, a noise wall here would not be reasonable.

4.3.3 Interchange C – Alternatives #3 and #11

Alternative #3 is the same as Alternative #11 along I-75, except the latter has slightly lower volumes on the ramps to and from the plaza. There is a negligible difference when background traffic is considered, so the discussion below applies to both alternatives.

Between Springwells and Green a noise wall proves reasonable, as the cost per benefiting dwelling unit would be $33,800 (Table 4-1), below the criterion that limits the unit cost to $38,060.

Between Green and Waterman a wall was tested that parallels the service drive. Building a noise wall at a cost of $725,000 to benefit three sensitive receivers would cost $241,700 per unit (Table 4-1), above the criterion that limits the unit cost to $38,060. So, a wall here would not be reasonable.

Between Waterman and Livernois a wall was tested along the service drive east to near Casgrain Street where a second wall would pick up and follow the elevated alignment of the ramp from the plaza to southbound I-75. The shielding provided by the ramp and the traffic on the service drive with Alternatives #3 and #11 is so great that a wall could not achieve a 5-dBA reduction, rendering it not feasible.

Dragoon to Junction under Alternative #3 and #11 would involve no benefiting receivers, so a wall would not be feasible.

Junction to Clark is a section of relatively low-density housing. Building a wall to potentially benefit 24 dwelling units would not be reasonable at a cost per benefiting receiver of $39,800.

4.3.4 Interchange E – Alternative #5

Alternative #5 shifts the plaza interchange to the east, so the relationship of the plaza ramps to the sensitive receivers north of I-75 is different than the other alternatives.

Between Springwells and Green a noise wall does prove reasonable, as the cost per benefiting dwelling unit would be $33,800 (Table 4-1), less than the criterion that limits the unit cost to $38,060.

Between Green and Waterman a wall was tested that parallels the service drive. Building a wall at a cost of $724,000 to potentially benefit ten sensitive receivers would cost $72,400 (Table 4-1), which exceeds the criterion that limits the unit cost to $38,060.

Between Waterman and Livernois a wall was tested east along the service drive to near Crawford Street. Alternative #5 would remove the sensitive receivers east of this point. With this alternative, the ramp from the plaza to southbound I-75 would have a lower elevation than some other alternatives because it passes under Waterman. So, it would provide less shielding. As a result, the opportunity for a wall to be feasible is greater. Data in Table 4-1 are shown with the Beard EEC counted as ten dwelling units. A noise wall would be feasible in this case.

Dragoon to Junction under Alternative #5 would involve only one benefiting receiver. A wall is not considered feasible.

Junction to Clark is a section of relatively low-density housing. Building a wall to potentially benefit ten sensitive receivers would not be reasonable at a cost of $81,100 per benefiting unit.

4.3.5 Interchange G – Alternative #14

Alternative #14 preserves all the receivers along the north side of I-75. The more receivers that remain close to I-75, the more likely it is to meet the reasonability criterion.

Between Springwells and Green the two tested noise walls taken together prove reasonable, as the cost per benefiting dwelling unit would be $25,800, compared to the criterion that limits cost to $38,060 per benefiting unit.

Between Green and Waterman a wall placed between the service drive and I-75 would be reasonable. Protection can be afforded to 23 benefiting receivers at a cost of $31,500 each (Table 4-1).

Between Waterman and Livernois a wall was tested east along the service drive to near Crawford Street. With this alternative, the ramp from the plaza to southbound I-75 would have a lower elevation than some alternatives because it would pass under Waterman. So, it would provide less shielding. Data in Table 4-1 are shown with the Beard EEC counted as ten dwelling units. A noise wall would be reasonable in this area as the $38,060 criterion is met.

Dragoon to Junction under Alternative #14 would involve 16 benefiting receivers. This puts the cost per benefiting receiver, as tested, just over the criterion (Table 4-1).

Junction to Clark would experience more benefiting receivers under Alternative #14 than any other alternative. The cost per benefiting receiver of $20,100 meets the criterion.

4.3.6 Interchange I – Alternative #16

Interchange I/Alternative #16 preserves more of the existing road network than any other Build Alternative.

Between Springwells and Green the two tested noise walls taken together prove reasonable, as the cost per benefiting dwelling unit would be $25,800, compared to the criterion that limits cost to $38,060 per benefiting unit.

Between east of Green and Livernois a wall was tested that would parallel the service drive past Waterman (which would be closed) to transition to a second wall on the flyover ramp connecting the plaza to southbound I-75. The flyover ramp was assumed to be on fill material once it crosses the Livernois southbound on-ramp. This means the flyover ramp itself would block noise, without a noise wall. As a consequence, the walls in this section are not feasible, as tested (Table 4-1).

It is noteworthy that the new ramp from the plaza to I-75 would block enough noise to the Beard EEC that a wall does not prove feasible.

A wall limited to the west of Waterman is reasonable, assuming two-thirds of the $949,000 cost would benefit 22 receivers, or $29,000 per benefiting receiver.

Dragoon to Junction under Alternative #2 presents similar challenges as Alternative #1. The presence of Lafayette and the volume of traffic on the service drive would be too great for a wall between the service drive and I-75 to be feasible, i.e. it would not achieve a 5-dBA noise reduction.

Junction to Clark is a section of relatively low-density housing. Building a noise wall to potentially benefit 21 sensitive receivers would cost $45,800 per receiver, above the criterion that limits the unit cost to $38,060. So, a noise wall here would not be reasonable.

5. CONSTRUCTION NOISE AND VIBRATION IMPACTS AND MITIGATION

Construction generates noise and vibration impacts. Barrier walls for security purposes, included in plaza design, will be installed first, to the extent practicable, to minimize such noise in Delray, including Southwestern High School.

Construction noise also will be minimized by measures such as requiring that construction equipment have mufflers; that portable compressors meet federal noise-level standards for that equipment; and, that all portable equipment be placed away from or shielded from sensitive noise receptors, if at all possible. A local noise ordinance will be honored.

Where pavement must be fractured, structures must be removed, and/or piling or steel sheeting must be driven, care will be taken to prevent vibration damage to adjacent structures. In areas where construction-related vibration is possible, basement surveys will be offered. These areas will be identified during the design phase, and surveys will be conducted before construction begins to allow documentation of pre-construction conditions so any damage caused by MDOT construction can be determined. Geotechnical analysis conducted for the project will aid in the understanding of potential vibration impacts and mitigation. Vibration impacts are not anticipated at this time. That position will be reviewed during the design phase.

6. FINDINGS

This study used the Federal Highway Administration's (FHWA) Traffic Noise Model version 2.5 (TNM2.5) computer model to determine the need for noise mitigation for the crossings, plazas, and I-75.

The crossings are far enough removed from any sensitive receivers that no noise mitigation is warranted. Sensitive receivers around the plazas would not experience noise with the project that would approach or exceed established noise abatement criteria, assuming walls are built around the plazas as part of the project to secure the U.S Customs and Border Protection operations.

The feasibility and reasonableness of noise walls were tested along the north side of I-75 for each of the Practical Alternatives to guide analysis of the Preferred Alternative. The Practical Alternatives include six unique interchange configurations. Each of these was examined from the standpoint of its three-dimensional geometry, traffic, and receivers that would remain after alternative implementation. Twelve-foot noise walls were tested for each interchange and its related Practical Alternatives. A series of conclusions is reached in Section 4.3 for each interchange.

Broad conclusions reached in performing the noise analysis along I-75 are:

- The plaza ramps shield areas north of I-75 to various degrees such that, in a number of situations, a noise wall to provide further mitigation is not feasible, meaning it could not achieve a further 5-dBA noise reduction.

- For several alternatives the Beard Early Education Center could not be protected by a wall considered to be "feasible."

- Interchange C (Alternatives #3 and #11) would shift the mainline lanes of I-75 away from the residential area to the north of I-75 so that fewer receivers would be affected by noise levels above the 66-dBA criterion. The effect is most significant between Dragoon and a point east of Junction. With Interchange C, noise levels north of I-75 where the sensitive receivers are located would actually be lower than experienced today.

- The feasibility of noise walls along the north side of I-75 is highly dependent on the amount of traffic on the service drive. Traffic intervening between a noise wall and houses along the service drive negates the effects of walls. Traffic volumes on the service drive will be a function of how traffic is routed when roads that cross over I-75 today are closed and how ramps are rearranged. Alternative #14 has the least effect on traffic volumes on the service drive and is the best prospect for feasible and reasonable noise wall justification.

- The segments at either end of I-75 (west of Green and east of Junction) have houses oriented parallel, rather than perpendicular, to the I-75 service drive and of lower density than other segments. Building noise walls at a reasonable cost is more difficult in these segments.

- The analysis performed here used 12-foot walls to test the differences among the alternatives. Work for the Preferred Alternative will optimize wall heights, lengths and

positions, and each benefiting receiver will be re-examined to ensure that mitigation reduces the noise level to 66 dBA or below.

Reasonable and feasible noise walls are listed in Table 6-1. During the design phase, the specific locations and configurations of noise walls are specifically defined and changes in the project may occur that may warrant the alteration or elimination of any noise walls recommended in this technical report and the EIS.

Table 6-1
Detroit River International Crossing Study
Feasible and Reasonable Noise Walls

	Location/Designation	Length (Feet)	Cost	Benefiting Receivers	Cost per Ben. Rec.
Interchange C Alternatives #3 and #11	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	23	$33,800
Interchange E Alternative #5	**Springwells to Green**				
	Wall 1 – Along Service Drive	1400	$777,000	23	$33,800
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Crawford	830	$457,000	15[a]	$30,500
Interchange G Alternative #14	**Springwells to Green**				
	Wall 1 – Btwn Service Drive and I-75 off-ramp	330	$184,000	25[b]	$25,800
	Wall 2 – Along Service Drive to Green	840	$462,000		
	Green to Waterman				
	Wall 1 – Along Service Drive	1310	$724,000	23	$31,500
	Waterman to Livernois				
	Wall 1 – Along Service Drive to Crawford	1340	$745,000	32[a]	$23,300
	Dragoon to Junction				
	Wall 1 – Along Service Drive Cavalry to Junction	1110	$615,000	16	$38,060
	Junction to Clark				
	Wall 1 –Along Service Drive to Clark	1600	$885,000	44	$20,100
Interchange I Alternative #16	**Springwells to Green**				
	Wall 1 – Btwn Service Drive and I-75 off-ramp	330	$184,000	25[b]	$25,800
	Wall 2 – Along Service Drive to Green	840	$462,000		

[a] Counting Beard EEC as ten benefiting receivers.
[b] Calculation combines Walls 1 and 2.
Source: The Corradino Group of Michigan, Inc.

Appendix A

MDOT Highway Traffic Noise Analysis and Abatement Policy

JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

KIRK STEUDLE
DIRECTOR

The enclosed package contains the State Transportation Commission's Policy on Noise Abatement (Guidance Document 10136), as well as the Michigan Department of Transportation's (MDOT) *Procedures and Rules for Implementation* of this policy. The *Procedures and Rules for Implementation* defines the requirements for a site to be considered for noise abatement under both the Type I and Type II Noise Mitigation Programs. This new policy went into effect on July 19, 2002 (revised on July 31, 2003), and includes changes in both mitigation programs from the 1996 policy. One change delineated in both programs will **require** local authorities to have compatible land use zoning and/or building regulations in-place precluding future noise abatement needs before they will be considered for a current noise abatement project. This is the only major change to the Type I Program, a federally mandated program, which requires MDOT to consider noise mitigation for new construction and capacity improvement projects. The policy states that MDOT must follow all federal laws, regulations and guidelines for Type I noise abatement, and the promulgated rules define the exact operating parameters MDOT has established to meet federal guidelines.

The Type II Program is a voluntary program in which MDOT participates. It has changed substantially. Please review all the rules to be sure the site for which you are applying meets the requirements. For example, local governments or authorities are required to provide 10 percent of the total cost for noise abatement. Local authorities will be required to apply annually for a specific site and provide data on that site. From those applications, a formula will be used to assign a priority number to each site. The derived formula provides potential mitigation to the greatest number of the most severely affected residences, using the least amount of money. The higher the priority number, the more likely mitigation may be provided. The application form referred to in the *Procedures and Rules for Implementation*, along with instructions for completing it, is available at http://www.mdot.state.mi.us/webforms/public/1871.pdf. Application forms must be received by October 1, 2007, to be considered for fiscal year 2010 funding. Once the evaluation process has been completed, you will be notified of your eligibility.

If you have any questions or require additional information, please do not hesitate to contact our Construction and Technology Support Area's Environmental Noise Group at 517-322-6138 or 517-322-1651.

Sincerely,

Brenda J. O'Brien, P.E.
Engineer of Construction and Technology

CONSTRUCTION AND TECHNOLOGY BUILDING • P.O. BOX 30049 • LANSING, MICHIGAN 48909
www.michigan.gov • 517-322-1087

LH-LAN-0 (01/03)

MDOT 3903 (3/98)		Page 1 OF 2	
MDOT Michigan Department of Transportation	**COMMISSION POLICY**	IDENTIFIER: 10136	EFFECTIVE DATE: July 31, 2003
		SUPERCEDES DATED: July 19, 2002	
RESPONSIBLE OGANIZATION: Executive Bureau			
SUBJECT: Noise Abatement			

Federal environmental regulation 23 CFR 772 defines two types of projects. Type I is "a proposed federal or federal-aid highway project for the construction of a highway on new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes" (23 CFR 772.5[h]). If noise impacts are identified, noise abatement measures must be considered and implemented where reasonable and feasible. The Michigan Department of Transportation (MDOT) follows all Federal laws, regulations, and guidelines for Type I noise abatement.

Type II, or voluntary, abatement is a proposed federal or federal-aid highway project for noise abatement on an existing highway.

This policy addresses Type II noise abatement to limit the intrusion of highway noise into adjacent residential areas to reasonably achievable levels consistent with the U.S. Department of Transportation's Code of Federal Regulations (CFR), and taking into consideration MDOT's life-cycle cost analysis and safety requirements, as well as other technical and financial implications. To achieve this objective the Michigan State Transportation Commission (Commission) supports the following four approaches to alleviate traffic noise impacts:

1. ***Reduction of Noise at the Source***. Reduction of traffic noise by design or treatment of the road surface is the most cost-effective noise control available to MDOT. Within the group of noise abatements that are reasonable and feasible under 23 CFR 772, and after MDOT's life-cycle cost analysis has selected a pavement type and other technical and financial constraints, MDOT will use the quietest surface texture available when repaving/reconstructing a freeway in residential areas.

2. ***Noise Abatement***. MDOT will attempt to locate, design, construct and operate state highways to minimize the intrusion of traffic noise into adjacent areas. When noise impacts occur, they may be attenuated by the most reasonable and prudent means.

   MDOT will construct Type II sound walls only in years when MDOT's Road and Bridge Program, excluding maintenance, exceeds $1.0 billion, adjusted to the Consumer Price Index (CPI) using 2002 as the base year. MDOT will not spend more than one half of one percent of the budget on sound walls. MDOT will give priority to those communities where the freeway was constructed through an existing neighborhood and where 80 percent or more of the existing residential units were there prior to the construction of the freeway. Communities must make application to MDOT and provide a local match of 10 percent of the cost of the sound wall.

3. ***Encouraging Compatible Adjacent Land Use***. Cities and counties have the power to control development by adoption of land-use plans and zoning, and by subdivision, building or housing regulations. The Commission encourages those who plan and develop land, and local governments controlling development or planning land use near known freeway locations, to exercise their powers and responsibility to minimize the effect of highway vehicle noise through appropriate land-use control. Where such land-use regulations are not in place, cities, townships and counties will not be eligible for MDOT noise mitigation assistance.

4. ***Noise Abatement by Others***. The Commission encourages developers and local governments to coordinate their efforts to mitigate highway noise. This effort must be done without encroachment of MDOT's property right-of-way unless it is determined to be necessary, and authority granted to permit others to construct a sound barrier in the state's right-of-way. The barrier's design must meet MDOT's geometric, structural, safety and maintenance standards. MDOT shall assume no review authority or responsibility of any kind for the structural integrity or the effectiveness of a sound barrier constructed by others.

MDOT will monitor noise mitigation best practices in other states and provide an activity report to the Commission annually.

The Department shall develop instructions for the implementation of this policy.
Adopted by the Michigan State Transportation Commission on July 31, 2003.

MICHIGAN DEPARTMENT OF TRANSPORTATION'S
Procedures and Rules for Implementation
of
State Transportation Commission Policy 10136
Noise Abatement

The following contains the procedures and rules for implementation of the Michigan Department of Transportation (MDOT) Commission Policy 10136, dated July 31, 2003. These rules are based on the Federal Highway Administration's (FHWA) *Highway Traffic Noise Analysis and Abatement Policy and Guidance* document of June 1995.

Definitions

Application

The request for Type II noise abatement.

Benefiting Dwelling Unit

A dwelling unit receiving 5 dBA Leq noise reduction or more.

Date of Public Knowledge

The date that the freeway construction project's final environmental analysis and documentation (i.e., Categorical Exclusion [CE], Finding of No Significant Impact [FONSI], or Record of Decision [ROD]) was approved by FHWA.

dBA

An A-weighted sound level on the logarithmic scale.

Dwelling Unit

Any room or set of rooms used as a living space by one or more persons. Public use areas such as parks, schools, libraries, and churches shall be counted as 10 dwelling units for each occurrence when they are within or adjacent to residential dwelling unit boundaries.

Feasible

This term refers to engineering considerations, such as can a noise barrier be built given the topography of the location; can a substantial noise reduction be achieved given certain access, drainage, safety, or maintenance requirements; are other noise sources present in the area? While every reasonable effort should be made to obtain a substantial noise reduction, a noise abatement measure is not feasible if it cannot achieve at least a 5 dBA noise reduction.

Leq

The ambient or steady state sound level. An averaging technique is used to produce an equivalent continuous sound level, Leq. For example, if a one hour sound measurement were taken and all the higher levels that occurred were used to fill in all the lower levels so the sound level would be the same for the whole hour, the result would be an equivalent sound level for one hour or Leq 1 h.

Noise Abatement Criteria (NAC)

See Appendix A.

Noise Impact

Where noise levels are one dBA below or greater than the federal noise abatement criteria, as shown in Appendix A, or are expected to increase 10 dBA above existing noise levels for existing conditions, as measured with a sound level meter.

Planned Development

A planned, designed, and programmed development where a building permit has been issued.

Reasonable

A noise mitigation project will be considered reasonable if the comparative construction cost will be $38,060 or less (in 2007 dollars) per benefiting dwelling unit. Additionally, the local jurisdiction(s) must have entered into the required agreements with MDOT regarding maintenance, land use policy, and funding participation. A majority of the affected residents must be in favor of abatement.

If during final design, the project cost becomes not reasonable (construction costs exceed the total benefited amount of $38,060 per unit), the local jurisdiction(s) will be asked if they wish to increase their financial participation in the noise abatement project to cover the excess cost per dwelling unit (the amount over $38,060 per unit), or have noise abatement dropped from further consideration.

Substantial Noise Reduction

A ten dBA Leq sound level reduction for at least one receptor.

Type I Projects

A Type I project is a proposed federal-aid project for the construction of a highway on a new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. State highway agencies are then required by federal regulations to perform a noise analysis and mitigate noise impacts where feasible and reasonable.

Type II Projects

A Type II project is a federal-aid project for noise abatement along existing highways at residential locations that were in existence prior to 1976. The following conditions must exist:

- Eighty percent of the dwelling units within 500 feet of a limited access highway preceded the highway or the last pre-1976 major capacity improvement.
- Zoning and building regulations are in place to preclude future noise abatement needs.
- The majority of the residents are in favor of noise abatement.

If noise abatement measures were previously determined to be unreasonable or unfeasible as part of a Type I project, the application will not be considered. Participation by MDOT is subject to State Transportation Commission Policy 10136, dated July 31, 2003.

Type I Projects Procedures and Rules

1. For a proposed highway project, a traffic noise analysis will be performed to determine if noise abatement is feasible and reasonable for developed land, undeveloped lands at planned development locations, and for local community land use planning.

2. Public meetings will be advertised in local news media and held in local facilities during the route location and planning stages of a roadway or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes, for the purpose of discussing the present and future environmental, social and economic impacts.

3. Comments on noise concerns will be solicited at public meetings from local residents, and officials of the jurisdiction(s) affected by the project. MDOT will use this information to draft the final environmental document. Once the final environmental document (i.e. CE, FONSI, or ROD) is approved by the FHWA, it is distributed to the local officials affected by the project to notify them of location approval. The FHWA approval date is the date of public knowledge.

4. If during final design the noise mitigation project is determined to be not reasonable, the local jurisdiction(s) will be asked if they wish to increase their financial participation in the noise abatement portion of the project to cover the cost per residence by the amount greater than $38,060 as set forth in this document, or have noise abatement dropped from further consideration.

5. Noise abatement will only be provided when feasible and reasonable for residential land use locations, public land use (parks), and non-profit institutional facilities such as hospitals, libraries, schools, and churches. (Public use facilities will be equated to ten dwelling units each.)

6. All sites will be considered. However, it is generally known that commercial and industrial sites prefer that there be no interference with the view to their establishments. Therefore, when commercial and residential sites expected to convert to a commercial or industrial land use (e.g., some of the residential units have converted to commercial/industrial, or the area has been rezoned commercial) are found to be reasonable and feasible, they will be asked if they want noise abatement. If they do not want it, it will not be provided.

7. Where negative noise impacts are expected to occur, noise abatement will be considered and will be implemented if found feasible and reasonable for existing developments, and future developments were approved before the date of public knowledge. After the date of public knowledge, MDOT will not be responsible for providing noise abatement for

new developments. The provision of noise abatement for new developments becomes the responsibility of local governments and private developers.

8. All noise abatement will follow MDOT design standards.

9. MDOT will maintain the structural integrity of the noise abatement structure and will be responsible for the aesthetic condition of the structure on the freeway side only. The exception being that when the structure is on the residential side of a service road, MDOT will maintain the structural integrity for five years, but will not be responsible for either side of structure's aesthetic condition, including the surrounding grounds.

10. Local authorities must agree, through agreements, resolutions, or ordinances, to provide:

    - A share of the state and local funding based on population (per State of Michigan Act 51).
    - Aesthetic maintenance on the residential side of the structure, or on both sides when the structure is on the residential side of a service road.
    - Structural maintenance after five years when the structure is on the residential side of a service road.

    Explanation of bullets two and three: These statements have been included because there is no right of way access to these walls for maintenance purposes.

    Failure to meet all of the above requirements will make the noise abatement project unreasonable.

11. Where an extreme noise impact is identified (80 dBA Leq or greater), special consideration may be warranted. These sites will be considered on an individual basis.

12. The type of noise abatement feature must provide the benefiting dwellings with a reduction of 5 dBA Leq.

Type II Project Procedures and Rules

1. Applications (available at http://www.mdot.state.mi.us/webforms/public/1871.pdf) for Type II noise abatement projects will be considered by MDOT for each fiscal year when the road and bridge program exceeds $1 billion, excluding routine maintenance. Applications must be renewed annually.

2. MDOT will analyze the area to determine the number of dwelling units impacted per guidelines defined in this document and estimate the cost of noise abatement. MDOT will furnish results of all noise analyses to local authorities.

3. A prioritized eligibility list will be developed using the following formula to rank sites for consideration.

$$\frac{\text{dBA above the NAC (see Appendix A) X number of impacted dwelling units}}{\text{Total Cost / \$100,000}}$$

4. MDOT will develop noise abatement projects for the highest priority locations from the above annual list, within available funding limitations.

5. All noise abatement will follow MDOT design standards. Noise abatement will be provided along the shoulder only where a roadside barrier would otherwise be present.

6. MDOT will maintain the structural integrity of the noise abatement structure and will be responsible for the aesthetic condition of the structure on the freeway side only. The exception being that when the structure is on the residential side of a service road, MDOT will maintain the structural integrity for five years, but will not be responsible for either side of the structure's aesthetic condition.

7. If the project meets MDOT policy criteria, based on total project cost estimates, then local authorities, through agreements, resolutions, and/or ordinances, must agree to provide:

    - Ten percent of the cost of the noise abatement at the time of construction.
    - Aesthetic maintenance on the residential side of the structure or both sides when structure is on the residential side of a service road.
    - Structural maintenance after five years when the structure is on the residential side of a service road.
    - Have compatible land use zoning and/or building regulations in place precluding future noise abatement needs.

    Failure to meet all of the above requirements will make the noise abatement project unreasonable.

Appendix A

Noise Abatement Criteria (NAC)[1] Hourly A-Weighted Sound Level - decibels (dBA)*			
Activity Category	**Leq(h)**	**L10(h)**	**Description of Activity Category**
A	57 (Exterior)	60 (Exterior)	Lands of which serenity and quiet are of extraordinary significance, serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	70(Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	--	Undeveloped lands.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.
* Either L10 (h) or Leq(h), but not both, may be used on a project.			

[1] Copied from FHWA publication *Highway Traffic Noise Analysis and Abatement Policy and Guidance* by the U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch, Washington, D.C., June 1995.

Appendix B

Noise Measurement Locations

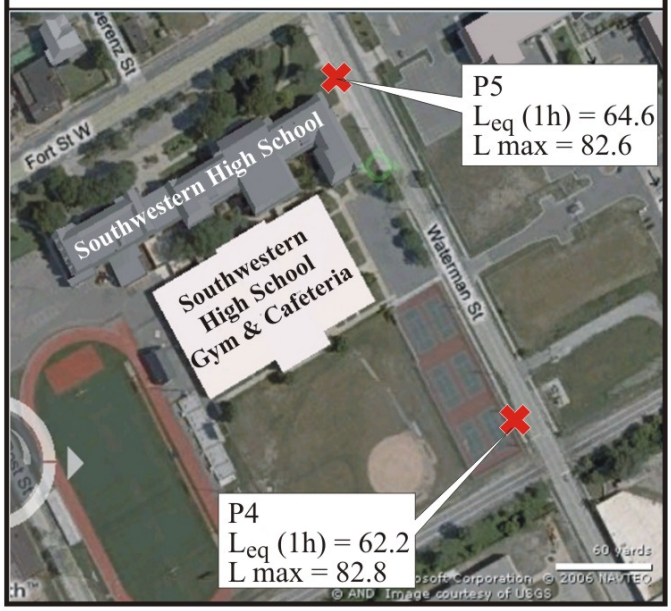
Site Aerials

SITE P1: Southwest corner Livernois Ave. & Jefferson Ave. (Ft. Wayne)

SITE P2:
East side Campbell St. North of Harvey St.

SITE P3:
East Side Junction St. South of Harvey St.

SITE P4: Southeast corner of SWHS property
SITE P5: Front of SWHS off Waterman St.



I:Projects/3600/Graphics/ReportGraphics/Noise/Monitor Locations.cdr

Leq (1h) is the equivalent or "average" sound level over one hour.
Lmax is the maximum noise level.

Leq (1h) is the equivalent or "average" sound level over one hour.
Lmax is the maximum noise level.

SITE F1
West side Central St. @ SB Service Drive

SITE F2
East side Green St. @ SB Service Drive

SITE F3:
West side Waterman St. @ SB Service Drive

SITE F4: West side alley east of
Rademacher St. @ SB Service Drive

I:Projects/3600/Graphics/ReportGraphics/Noise/Monitor Locations.cdr

Leq (1h) is the equivalent or "average" sound level over one hour.
Lmax is the maximum noise level.

SITE F5
Lafayette Blvd. @ Dragoon St.

SITE F6
Alley east of Cavalry St. @ SB Service Drive

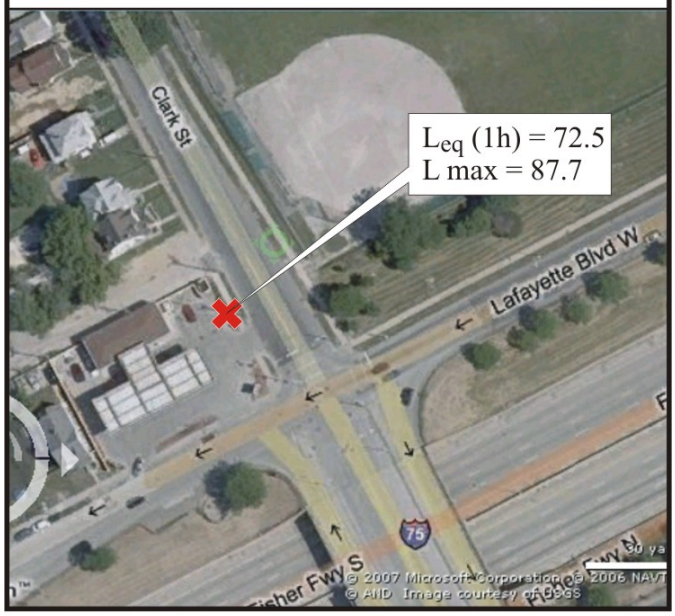
SITE F7
East Side Campbell St. @ SB Service Drive

SITE F8
Alley east of Ferdinand St. @ SB Service Drive

I:Projects/3600/Graphics/ReportGraphics/Noise/Monitor Locations.cdr

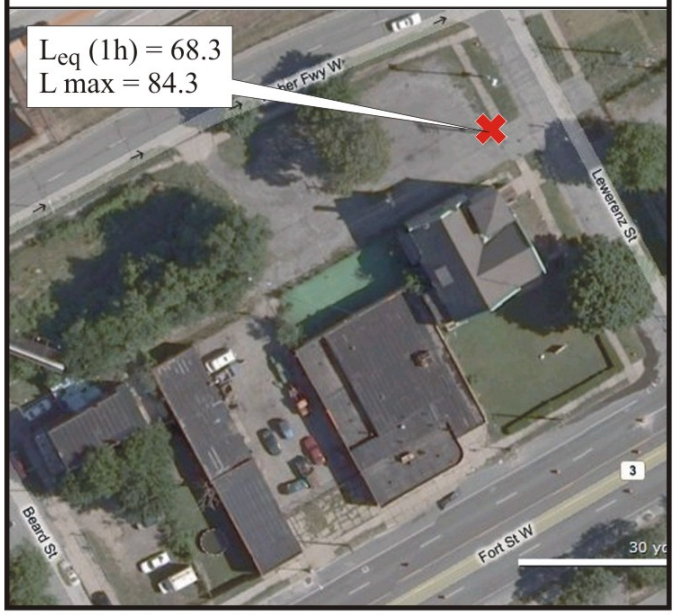
Leq (1h) is the equivalent or "average" sound level over one hour.
Lmax is the maximum noise level.

SITE F9
West Side Clark St. @ SB Service Dr.



SITE F10
All Saints Catholic Church

SITE F11
Olivet Presbyterian - Old Landmark Church



SITE F12
NB Service Dr. west of Campbell St.

I:Projects/3600/Graphics/ReportGraphics/Noise/Monitor Locations.cdr

Leq (1h) is the equivalent or "average" sound level over one hour.
Lmax is the maximum noise level.

Noise Data Sheets

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # P1
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	SE corner of Ft. Wayne entrance at fenceline @ Livernois					Temp.	45 F
Receptor Represents	Ft. Wayne Historic Site					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	Jefferson					Humidity	60 %
Secondary Source	Livernois					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 / Calm –1 to +1 / Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	2 w/p	20	–	35	30
Secondary Road	3	12	–	35	20

Test 1 – 15 min.	From	4:25 p.m.	To	4:40 p.m.
Decibel Reading	69.8	LAeq	81.5	L max

Lmin 54.1
L90 57.2

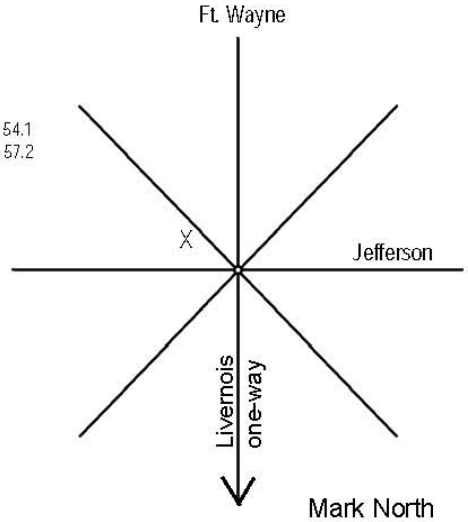
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

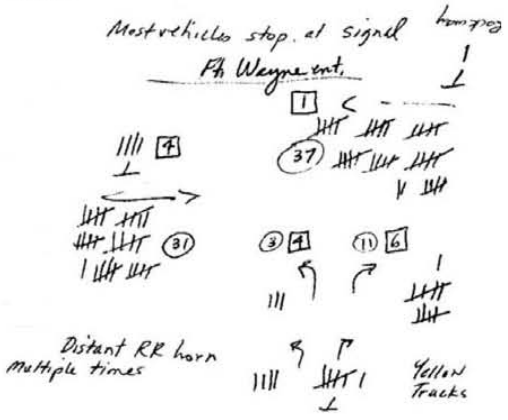
Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes



I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # P2
Project: DRIC						Date: 03 AUG 07	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	E side Campbell north of Harvey @ setback of homes					Temp.	85 F
Receptor Represents	Homes on E side of Campbell that would remain after Alternative #1/2/3/5 & 14 Plaza construction					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	Local truck traffic					Humidity	60 %
Secondary Source	Trucks on Jefferson, 1 block to S.					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 / Calm -1 to +1 / Downwind +1 to +5

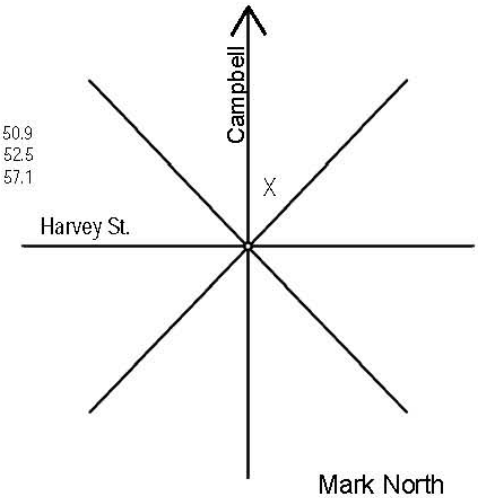
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	2	12	–	25	25
Secondary Road	none				

Test 1 – 15 min.	From	3:50 p.m.	To	4:05 p.m.
Decibel Reading	55.1	LAeq	69.6	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	1	1		
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Lmin 50.9
L90 52.5
L10 57.1

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Notes

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # P3
Project: DRIC						Date: 03 AUG 07	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	E side Junction south of Harvey St. @ setback of homes					Temp.	85 F
						Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Receptor Represents	Homes on E side of Junction that would remain after Alternative #7/9/11 Plaza construction						
Major Noise Source	I-75 in Distance, RR on Delray spur					Humidity	60 %
Secondary Source	Trucks on Jefferson, 1 block to S.					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5
							Calm –1 to +1
							Downwind +1 to +5

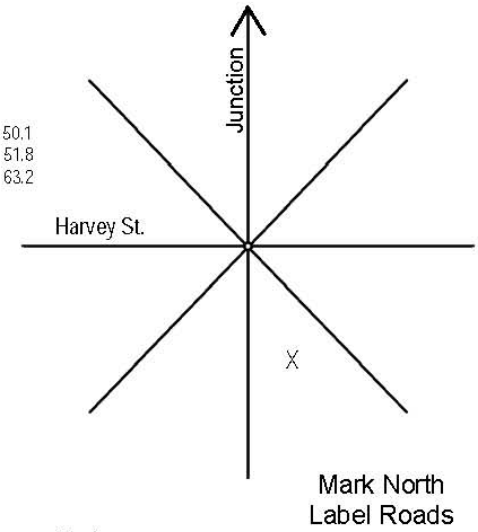
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	2	12	–	25	25
Secondary Road	none				

Test 1 – 15 min.	From	4:15 p.m.	To	4:30 p.m.
Decibel Reading	62.7 LAeq		85.0 Lmax	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	9	9		
Medium Trucks (3-axle)				
Heavy Trucks		1		
Buses		1		
Tractors		***2***		

Lmin 50.1
L90 51.8
L10 63.2

Test 2 – 15 min.	From		To	
Decibel Reading	LAeq		Lmax	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading	LAeq		Lmax	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Notes

Loud Tractor drove by twice

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

						AM/PM	Site # P4
Job Number: 3600						Date: 3 AUG 07	
Project: DRIC						Day of Week	M T W T F
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3						
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Southeast Corner of SWHS on the sidewalk 100' from Existing Railroad					Temp.	85 F
						Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Receptor Represents	Southwestern High School – south limit of grounds.						
Major Noise Source	Waterman					Humidity	60 %
Secondary Source						Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5
							Calm –1 to +1
							Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	2	12	–	25	25
Secondary Road			–		

Test 1 – 15 min.	From	5:20 p.m.	To	5:35 p.m.
Decibel Reading	62.2	LAeq	82.8	L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	9	12		
Medium Trucks (3-axle)				
Heavy Trucks				
Buses		1		
Motorcycles				

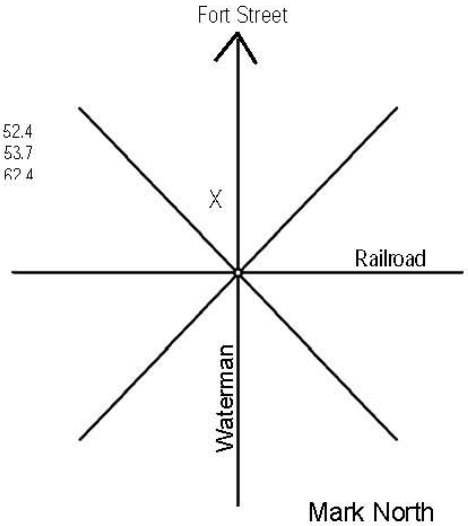
Lmin 52.4
L90 53.7
L10 62.4

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

Old loud car with no muffler passed by

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # P5
Project: DRIC						Date: 03 Aug 07	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Front of SWHS Off Waterman St. property - Sidewalk					Temp.	85 F
Receptor Represents	Southwestern High School Academic Building					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	Fort Street					Humidity	60 %
Secondary Source	I-75					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 / Calm -1 to +1 / Downwind +1 to +5

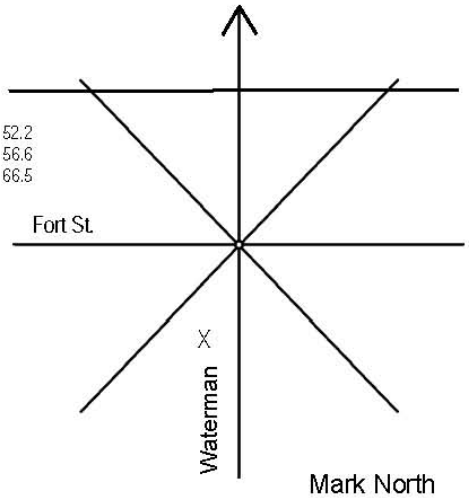
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	4	12	–	35	35
Secondary Road	2	12	-	30	30

Test 1 – 15 min.	From	4:55 p.m.	To	5:10 p.m.
Decibel Reading	64.6	LAeq	82.6	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	78	121	16	9
Medium Trucks (3-axle)				
Heavy Trucks	2	3		
Buses	3	1		
Motorcycles				

Lmin 52.2
L90 56.6
L10 66.5

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Notes

Arvin Meritor Beeping Gate across the street

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

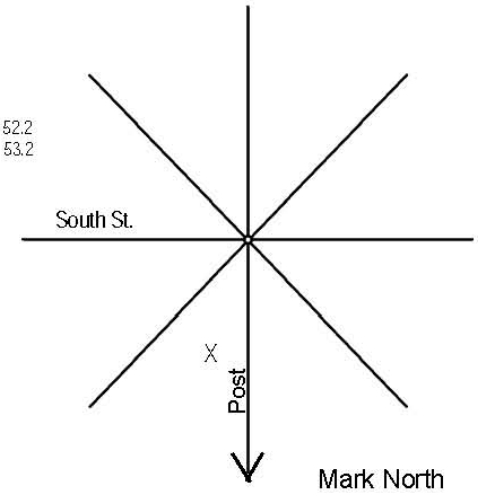
Job Number: 3600						AM/PM	Site # P6
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes No
Location	W side Post south of South St. @ setback of homes					Temp.	45 F
Receptor Represents	Homes on W side of Post that would remain after Plaza construction					Heavy Overcast/ Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75 in Distance, RR on Delray spur					Humidity	60 %
Secondary Source	Trucks on South St. ½ block to N. RR on Delray spur					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 Calm –1 to +1 Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	2	14	–	25	25
Secondary Road	none				

Test 1 – 15 min.	From	4:45 p.m.	To	5:00 p.m.
Decibel Reading	57.5 LAeq		75.2 L max	Lmin 52.2 L90 53.2
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 2 – 15 min.	From		To	
Decibel Reading	LAeq		L max	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading	LAeq		L max	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Notes

One semi on South with jostling frame.
Several other trucks on South St. Birds.
Train horn, clanking of crossing warnings.
Virtually no traffic.

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

						AM/PM	Site # F1
Job Number: 3600						Date: 1 NOV 06	
Project: DRIC						Day of Week	M T W T F
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3						
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	W side Central @ bldg. setback from SB Service Dr. @ roadway edge of Central					Temp.	45 F
Receptor Represents	Houses fronting SB Service Dr.					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75					Humidity	60 %
Secondary Source	Central – light traffic SB Service Drive SB ramp to Springwells					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 Calm –1 to +1 Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed	
Major Road	8	12	12	55		3.5' median barrier
Secondary Road	Central 2 SB Service 2	16 12	– –		10 20	Stop condition Stop condition

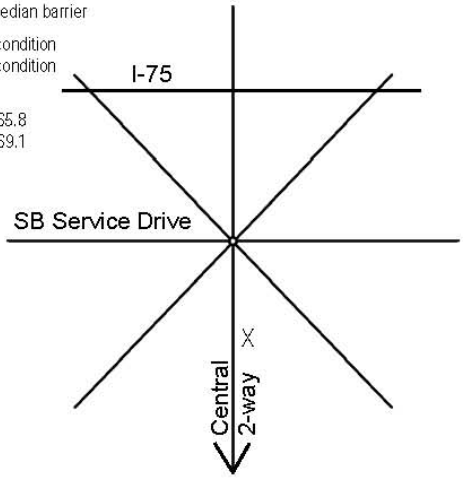
Test 1 – 15 min.	From	1:40 p.m.	To	1:55 p.m.
Decibel Reading	72.8	LAeq	78.4	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	Not counted	610	2	15
Medium Trucks (3-axle)		34	0	0
Heavy Trucks		148	0	0
Buses		0	0	0
Motorcycles		0	0	0

792 HT = 19%
MT = 4%

Lmin 65.8
L90 69.1

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

Counted SB I-75 only.
I-75 4' depressed.
Treated ramp as I-75.
Service Dr. traffic light, autos only, slow & lost in I-75 noise.
SB SD est. <100/hr.

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # F2
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Vacant lot E of Green @ rear set back of garages on alley					Temp.	45 F
Receptor Represents	Back yards of houses facing Lafayette					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75					Humidity	60 %
Secondary Source	SB Service Drive and Green					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 / Calm -1 to +1 / Downwind +1 to +5 / Quartering wind @ 10mph

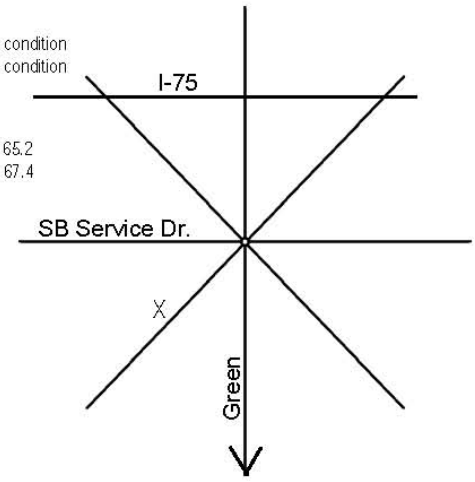
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed	
Major Road	8	12	12	55		
Secondary Road SD	2	15		35	20	Stop condition
Green	2	15	–	35	20	Stop condition

Test 1 – 15 min.	From	2:10 p.m.	To	2:25 p.m.
Decibel Reading	70.5	LAeq	87.9	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars			25	16
Medium Trucks (3-axle)				
Heavy Trucks			1	4
Buses				
Motorcycles				

Lmin 65.2
L90 67.4

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

Light @ Green and SB S Drive is blinking red.
3-way stop.
Autos inaudible against background I-75 truck noise.
School buses.
SB SD ~ 80 veh/hr.

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

						AM/PM	Site # F3
Job Number: 3600						Date: 1 NOV 06	
Project: DRIC						Day of Week	M T W T F
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3						
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Across Waterman from Beard School at setback from SB SD to sidewalk of school					Temp.	45 F
						Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Receptor Represents	Beard School						
Major Noise Source	I-75					Humidity	60 %
Secondary Source	SB Service Dr. and Waterman					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind +1 to –5
							Calm –1 to +1
							Downwind +1 to +5
							Quarter wind from W

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed	
Major Road Water	2	20	–	35	20	Stop condition
Secondary Road	2	12	–	35	20	Stop condition

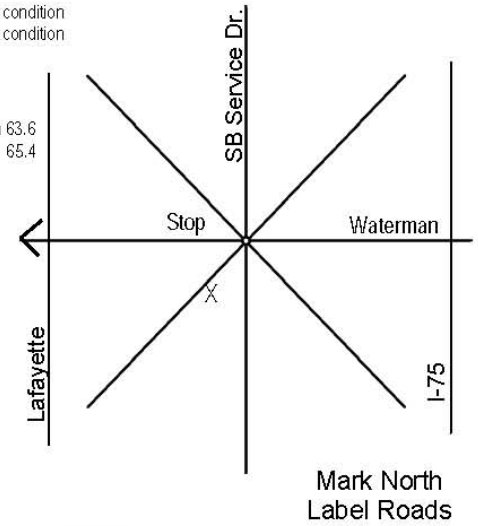
Test 1 – 15 min.	From	2:35 p.m.	To	2:50 p.m.
Decibel Reading	70.1	LAeq	86.5	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars			16	48
Medium Trucks (3-axle)				2
Heavy Trucks			1	
Buses				
Motorcycles				

Lmin 63.6
L90 65.4

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc



Notes

I-75 depressed under Waterman.
Distant train horn.
SB SD ~116/hr

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # F4
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Alley between Rademacher and Casgrain W side @ sidewalk edge.					Temp.	F
Receptor Represents	Homes along SB Service Drive & Beard School					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75					Humidity	60%
Secondary Source	Service Dr.					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 Calm -1 to +1 Downwind +1 to +5
							Quarterly from W

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	8	12	12	55	60
Secondary Road	2	15	–	35	30

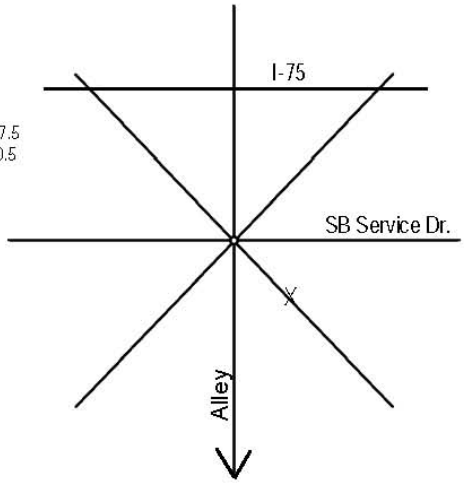
Test 1 – 15 min.	From	3:00 p.m.	To	3:15 p.m.
Decibel Reading	73.0	LAeq	79.7	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	No counts	817		
Medium Trucks (3-axle)		23		
Heavy Trucks		151		
Buses				
Motorcycles				

Lmin 67.5
L90 70.5

991 HT = 15%
MT = 2%

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

Very little Service Drive traffic <100/hr.

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # F5
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Dragoon @ Lafayette NE corner @ property lines = edge of sidewalks					Temp.	50 F
Receptor Represents	Houses along Lafayette					Heavy Overcast/Light Overcast/ Sunny/Clear Night/ Overcast Night	
Major Noise Source	Heavy trucks on Dragoon					Humidity	60%
Secondary Source	Lafayette, SB Service Drive, I-75 depressed					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 / Calm -1 to +1 / Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	3	11	–		
Secondary Road	2	20	–		

Dragoon is one-way
Lafayette is two-way

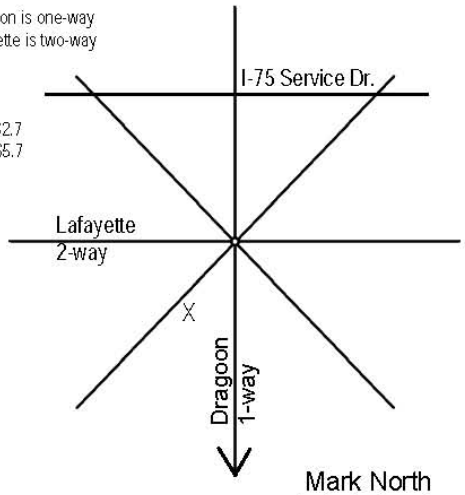
Test 1 – 15 min.	From	12 noon	To	12:15 p.m.
Decibel Reading	73.4 LAeq		85.1 L max	
Traffic Volumes	Major Road Drag		Secondary Road Laf	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	81	N/A	17	22
Medium Trucks (3-axle)	6		0	1
Heavy Trucks	15		0	0
Buses	1		0	0
Motorcycles	0		0	0

Lmin 62.7
L90 65.7

Test 2 – 15 min.	From		To	
Decibel Reading	LAeq		L max	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading	LAeq		L max	
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc



Notes

Noise came from Dragoon, espec. Heavy truck passbys @ 80+ dBA.
~ ½ of heavy trucks on Dragoon were hauling containers.

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # F6
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Alley E of Calvary @ setback of sidewalk facing SB Service Dr.					Temp.	45 F
Receptor Represents	Houses along SB Service Dr.					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75					Humidity	60 %
Secondary Source	SB Service Dr.					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 / Calm –1 to +1 / Downwind +1 to +5

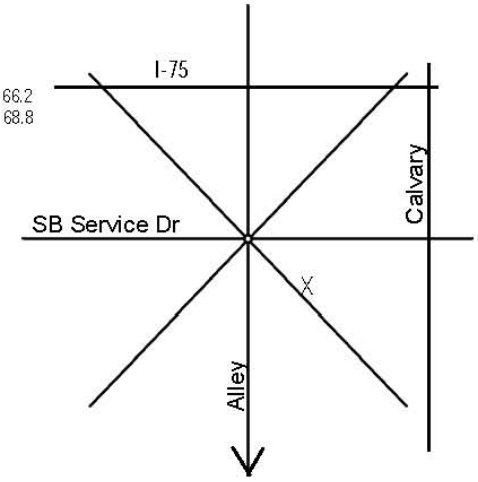
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	8	12	12	55	
Secondary Road	2	15	–	35	30

Test 1 – 15 min.	From	3:30 p.m.	To	3:45 p.m.
Decibel Reading	71.3	LAeq	80.6	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				65
Medium Trucks (3-axle)				2
Heavy Trucks				
Buses				
Motorcycles				

Lmin 66.2
L90 68.8

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

SB SD = 268 v/hr

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

						AM/PM	Site # F7
Job Number: 3600						Date: 1 NOV 06	
Project: DRIC						Day of Week	M T W T F
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3						
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	E side Campbell @ setback of houses from SB Service Dr.					Temp.	45 F
						Heavy Overcast/Light Overcast Sunny/ Clear Night/ Overcast Night	
Receptor Represents	Houses fronting side streets to Service Dr.						
Major Noise Source	I-75					Humidity	60 %
Secondary Source						Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 / Calm -1 to +1 / Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	8	12	12	55	
Secondary Road Camp.	2	12	–		
SB Svc Dr	2	15	–	35	35

Stop Condition

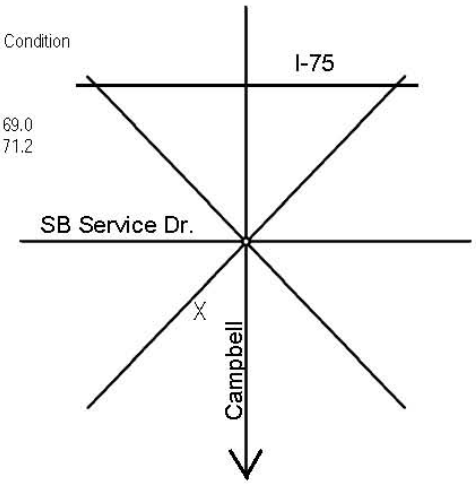
Test 1 – 15 min.	From	3:55 p.m.	To	4:10 p.m.
Decibel Reading	73.1	LAeq	80.2	L max
Traffic Volumes	Major Road – I-75		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars		870		
Medium Trucks (3-axle)		11		
Heavy Trucks		128		
Buses		2		
Motorcycles		0		

Lmin 69.0
L90 71.2

1011 HT = 13%
MT = 1%

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

SB SD downstream ~ 180 v/hr

I:\Projects\3600\WP\Reports\Noise\Append B Noise Data Sheets.doc

NOISE DATA SHEET

Job Number: 3600					(AM)/PM	Site # F8
Project: DRIC					Date: 1 NOV 06	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3				Day of Week	M T (W) T F
	RICON Calibrator NC73			Calibration Confirmed		(Yes) No
Location	Alley E of Ferdinand @ property line = edge of sidewalk Freeway only 8 feet depressed at this point				Temp.	50 F
Receptor Represents	SB Service Dr. Homes				(Sunny)/ Clear Night/ Overcast Night	
Major Noise Source	I-75				Humidity	60 %
Secondary Source	SB Service Drive				Pavement	(Dry)/Wet
Land Use Category	A-57dBA Serene Park	(B-67dBA Rec/Park/Res/Church/Hosp)	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind: Upwind -1 to –5 / (Calm –1 to +1) / Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road I-75	8	12	12	55	
Secondary Road					

* ¼ of trucks were entering freewway @ Clark on-ramp.

Test 1 – 15 min.	From	10:20 p.m.	To	10:35 p.m.
Decibel Reading	72.7	LAeq	85.1	L max

Lmin 66.5
L90 69.7

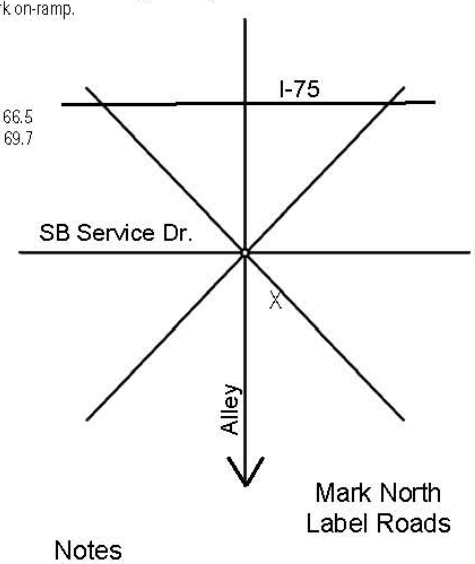
Traffic Volumes	Major Road		Secondary Road	
	(NB/EB)	(SB/WB)	NB/EB	(SB/WB)
Cars				22
Medium Trucks (3-axle)				1
Heavy Trucks	149	168		1
Buses				
Motorcycles				

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max

Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Notes

Counted trucks on I-75 as a ck against separate counts.

SB SD ~ 96 v/hr.

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # F9
Project: DRIC						Date: 1 NOV 06	
Instrumentation	RICON NL21 slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	Clark & SB Service Dr.					Temp.	50 F
Receptor Represents	Clark Park					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75, Clark turns turning to SB I-75 on ramp					Humidity	60 %
Secondary Source	Clark thru Service Dr. SB					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 / Calm –1 to +1 / Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road Clark	3 (1L, 1 thru, 1R)	12	–	35	20
Secondary Road SD	3	12	–	35	20

Most vehicles operating from stopped condition

one-way

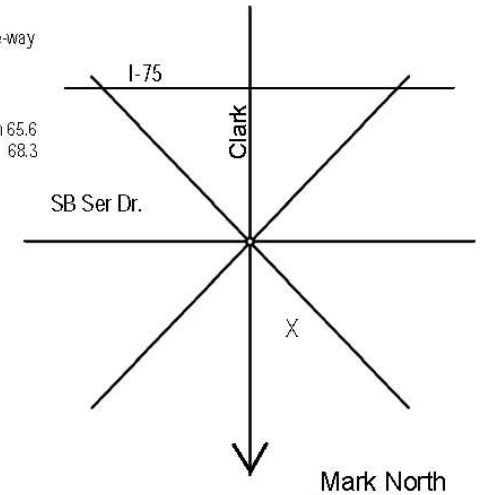
Test 1 – 15 min.	From	10:55 a.m.	To	11:10 a.m.
Decibel Reading	72.5 LAeq		87.7	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Lmin 65.6
L90 68.3

SEE NOTES

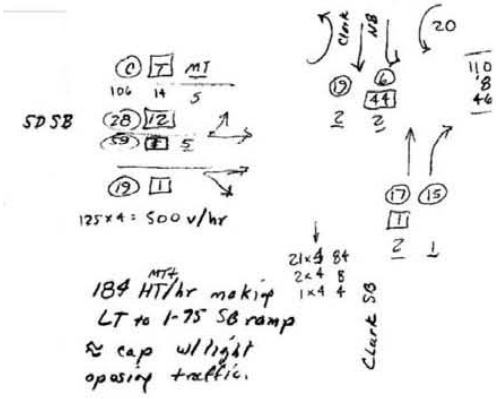
Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes



NOISE DATA SHEET

Job Number: 3600					AM/PM	Site # F10
Project: DRIC					Date: 8 AUG 07	
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3				Day of Week	M T W T F
	RICON Calibrator NC73			Calibration Confirmed		Yes/No
Location	S side of SB Service Drive @ back of sidewalk corner of Glinnan				Temp.	85 F
Receptor Represents	Back of All Saints Catholic Church				Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75				Humidity	90 %
Secondary Source	SB Service Drive Fort Street				Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to -5 Calm -1 to +1 Downwind +1 to +5

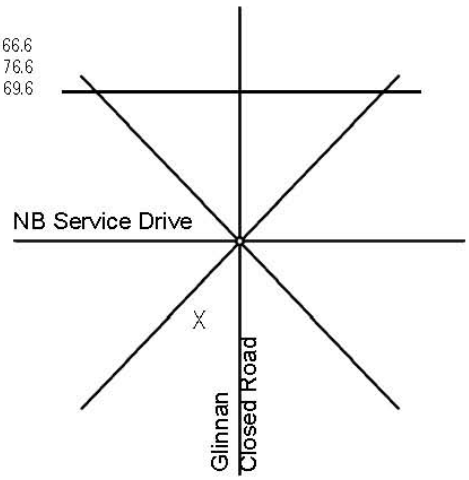
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	I-75				
Secondary Road	SB Service/Ramp	30	– –	35	35

Lmin 66.6
L10 76.6
L90 69.6

Test 1 – 15 min.	From	3:00 p.m.	To	3:15 p.m.
Decibel Reading	74.4	LAeq	89.2	L max
Traffic Volumes	Ramp		Service Drive	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	117		30	
Medium Trucks (3-axle)	2			
Heavy Trucks	15		1	
Buses				
Motorcycles				

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

Glinnan Road Closed

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

NOISE DATA SHEET

Job Number: 3600						AM/PM	Site # F11
Project: DRIC						Date: 8 AUG 07	
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3					Day of Week	M T W T F
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	W side Lewernze @ sidewalk setback @ 85' from northbound Service Drive					Temp.	85 F
Receptor Represents	Back of OLD Landmark Church					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75					Humidity	90 %
Secondary Source	SB Service Drive Fort Street					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 Calm –1 to +1 Downwind +1 to +5

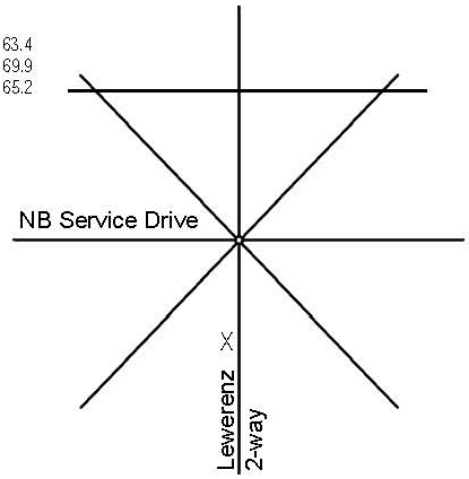
	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	2	12			
Secondary Road	NB Service	12	–		

Lmin 63.4
L10 69.9
L90 65.2

Test 1 – 15 min.	From	2:30 p.m.	To	2:45 p.m.
Decibel Reading	68.3	LAeq	84.3	L max
Traffic Volumes	I-75		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	Not counted	Not counted	18	
Medium Trucks (3-axle)	25	20		
Heavy Trucks	120	92	1	
Buses				
Motorcycles				

Test 2 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading		LAeq		L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				



Mark North
Label Roads

Notes

Counted Trucks I-75

No cars on Lewerenz

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

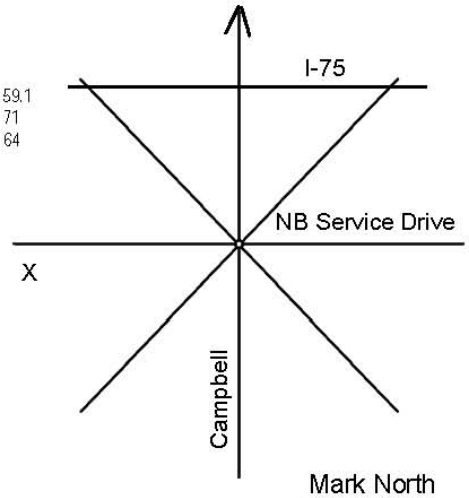
NOISE DATA SHEET

						AM/PM	Site # F12
Job Number: 3600						Date: 30 MAY 07	
Project: DRIC						Day of Week	M T W T F
Instrumentation	RICON NL21, slow response, A-weighting, exchange rate = 3						
	RICON Calibrator NC73				Calibration Confirmed		Yes/No
Location	S side of NB SD at home facades. ½ blk W of Campbell.					Temp.	85 F
Receptor Represents	Homes on NB Service Drive					Heavy Overcast/Light Overcast/ Sunny/ Clear Night/ Overcast Night	
Major Noise Source	I-75					Humidity	90 %
Secondary Source	NB Service Drive					Pavement	Dry/Wet
Land Use Category	A-57dBA Serene Park	B-67dBA Rec/Park/Res/Church/Hosp	C-72dBA Developed Lands	D-NA Undevel. Lands	E-52dBA Interior	Wind	Upwind -1 to –5 / Calm –1 to +1 / Downwind +1 to +5

	# Lanes	Lane Width	Median Width	Posted Speed	*Observed Speed
Major Road	8	12	12	55	55
Secondary Road	2	14	–	35	30

Test 1 – 15 min.	From	11:20 a.m.	To	11:35 a.m.
Decibel Reading	68.6 LAeq		84.8	L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars	390	387		
Medium Trucks (3-axle)	28	27		
Heavy Trucks	160	154		
Buses				
Motorcycles				

Lmin 59.1
L10 71
L90 64



Notes

Test 2 – 15 min.	From		To	
Decibel Reading	LAeq			L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

Test 3 – 15 min.	From		To	
Decibel Reading	LAeq			L max
Traffic Volumes	Major Road		Secondary Road	
	NB/EB	SB/WB	NB/EB	SB/WB
Cars				
Medium Trucks (3-axle)				
Heavy Trucks				
Buses				
Motorcycles				

I:\Projects\3600\WP\Reports\Noise\Append B NoiseDataSheets.doc

Appendix C

Existing Noise at Ambassador Bridge

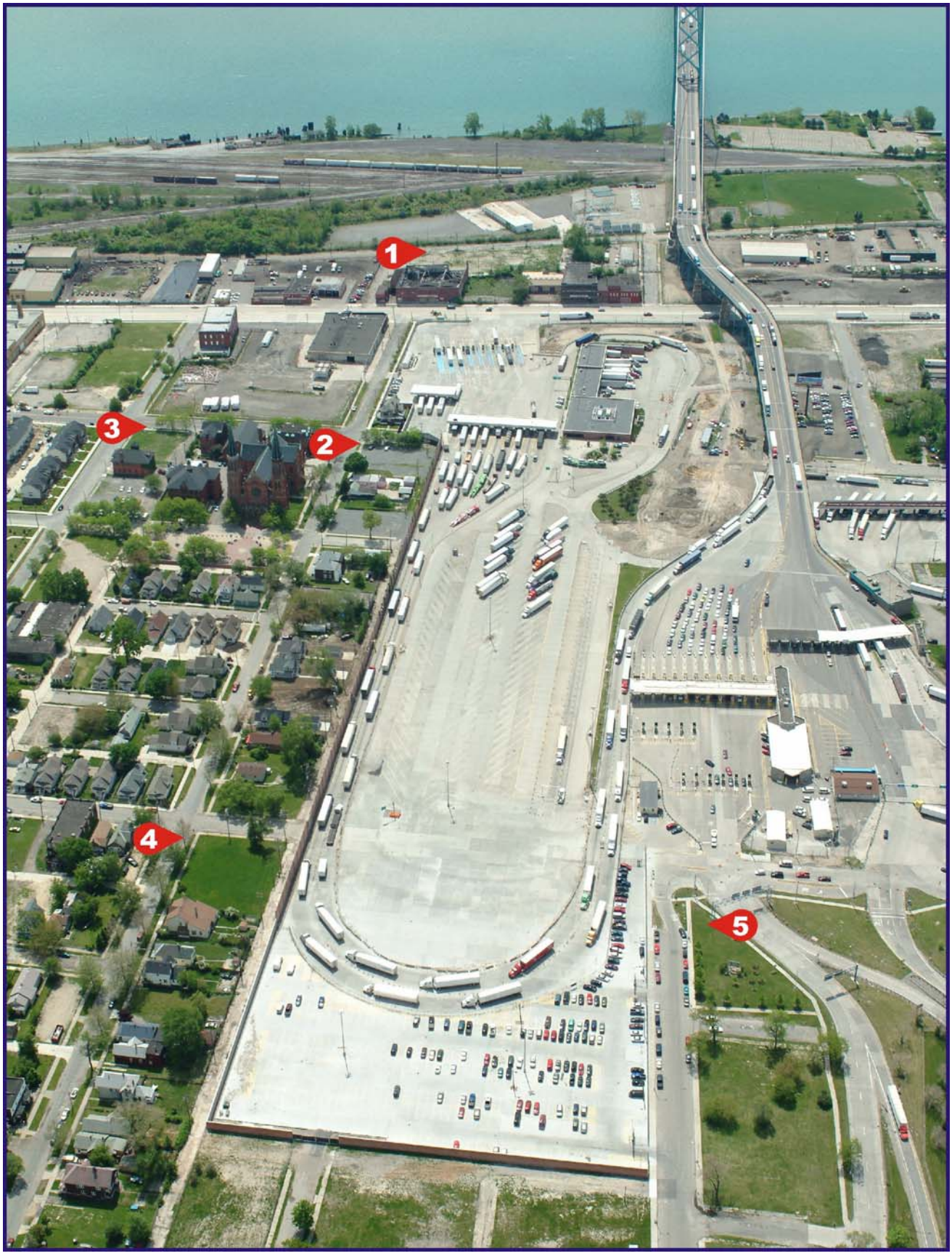
Noise Analysis Near the Ambassador Bridge

Noise levels were recorded for playback at this meeting to give an idea of noise conditions at the existing bridge. This helps understand what to expect at a new bridge.

1. **Noise was measured three times during the day at five locations.**
2. **There was, at most, a 2 decibels (dBA) change during the day.**
3. **10-minute average sound levels ranged between 57 and 66 dBA.**
4. **The noisiest location was the truck plaza (Site 5).**
5. **By comparison most people find noises of 65 dBA or higher interfere with conversation or watching TV, and noise mitigation must be considered on highway projects when noise is at 66 dBA or higher.**

Noise Measurement Results
(10-min Average Sound Level, dBA)

Location	Morning (7:30 – 9:30 AM)	Mid-day (10:00 AM – Noon)	Early Afternoon (1:00 – 3:00 PM)
1	58	59	59
2	61	62	61
3	58	57	58
4	59	60	58
5	64	66	64


1
2
3
4
5

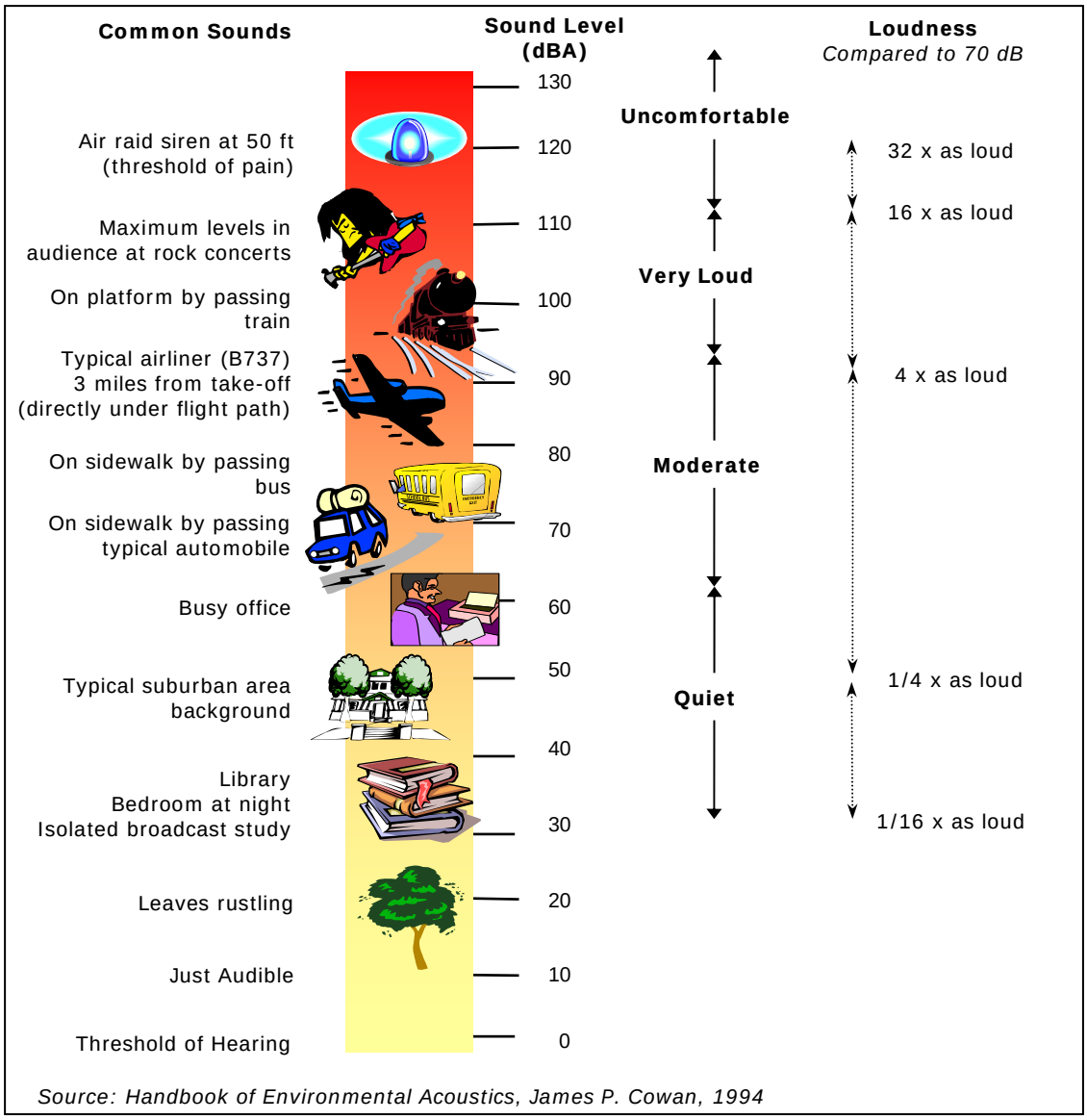

1
STOP
ROAD CLOSED


2


3
Ste. Anne


4


5
FedEx

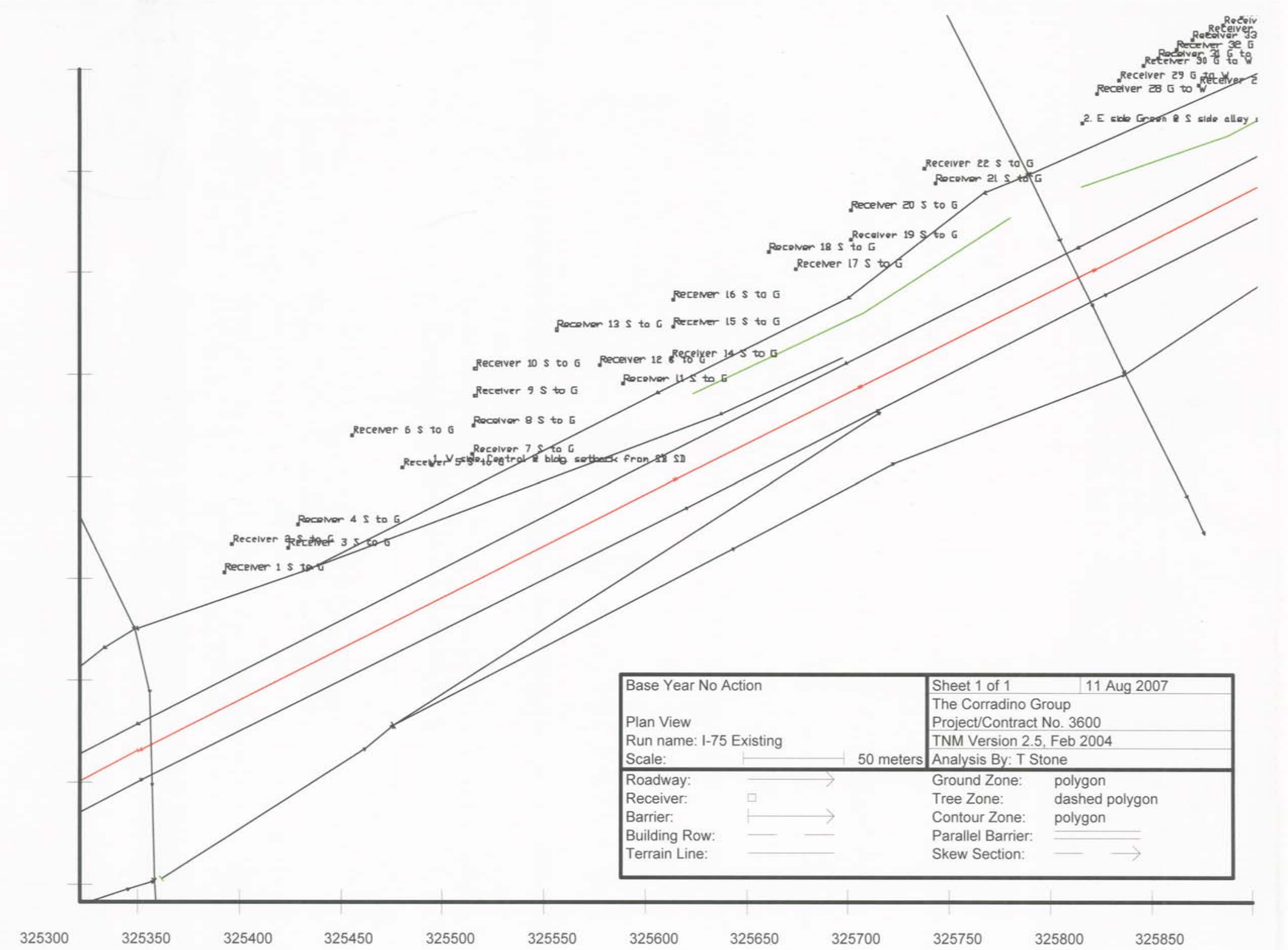


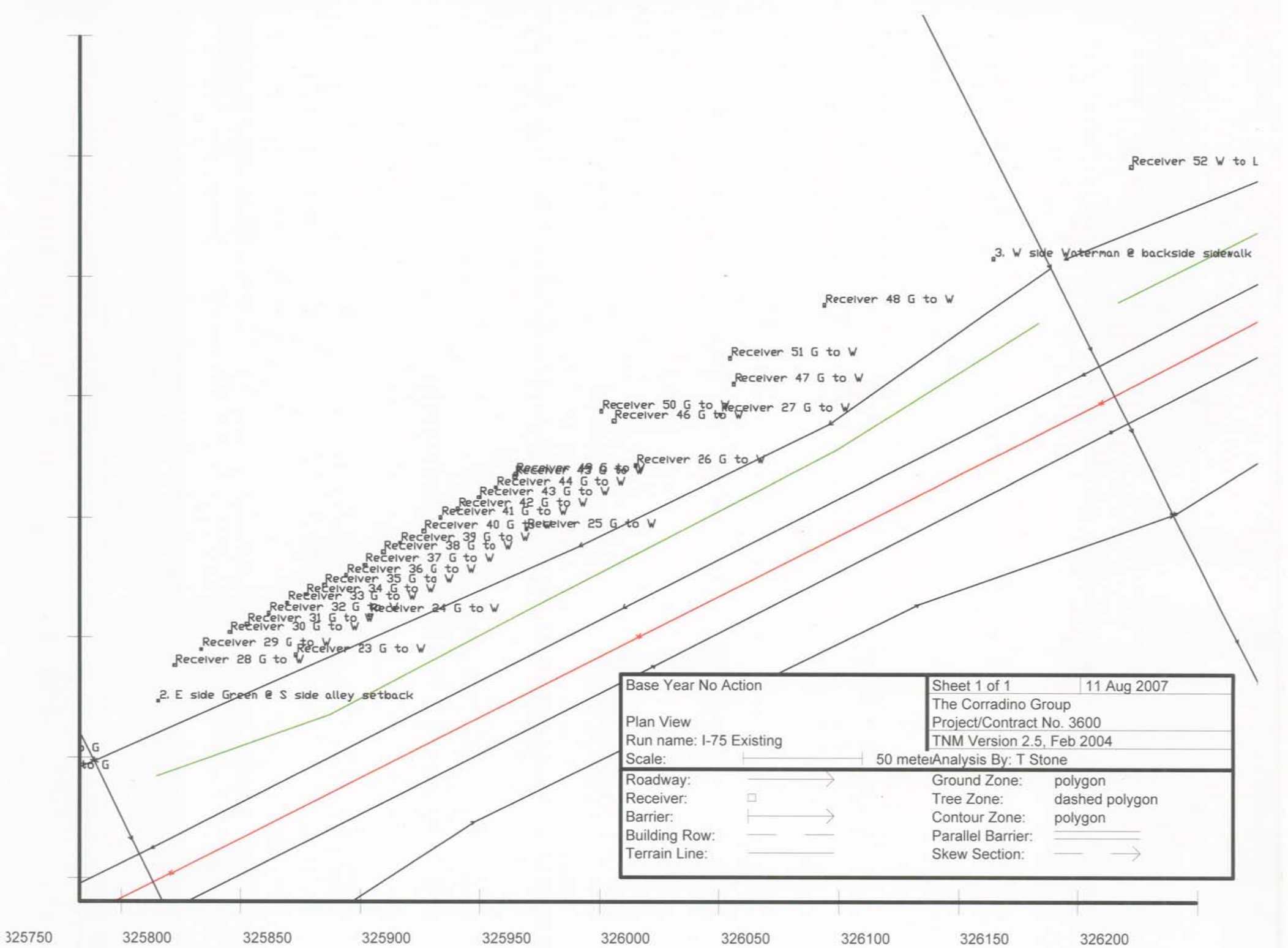
Source: Handbook of Environmental Acoustics, James P. Cowan, 1994

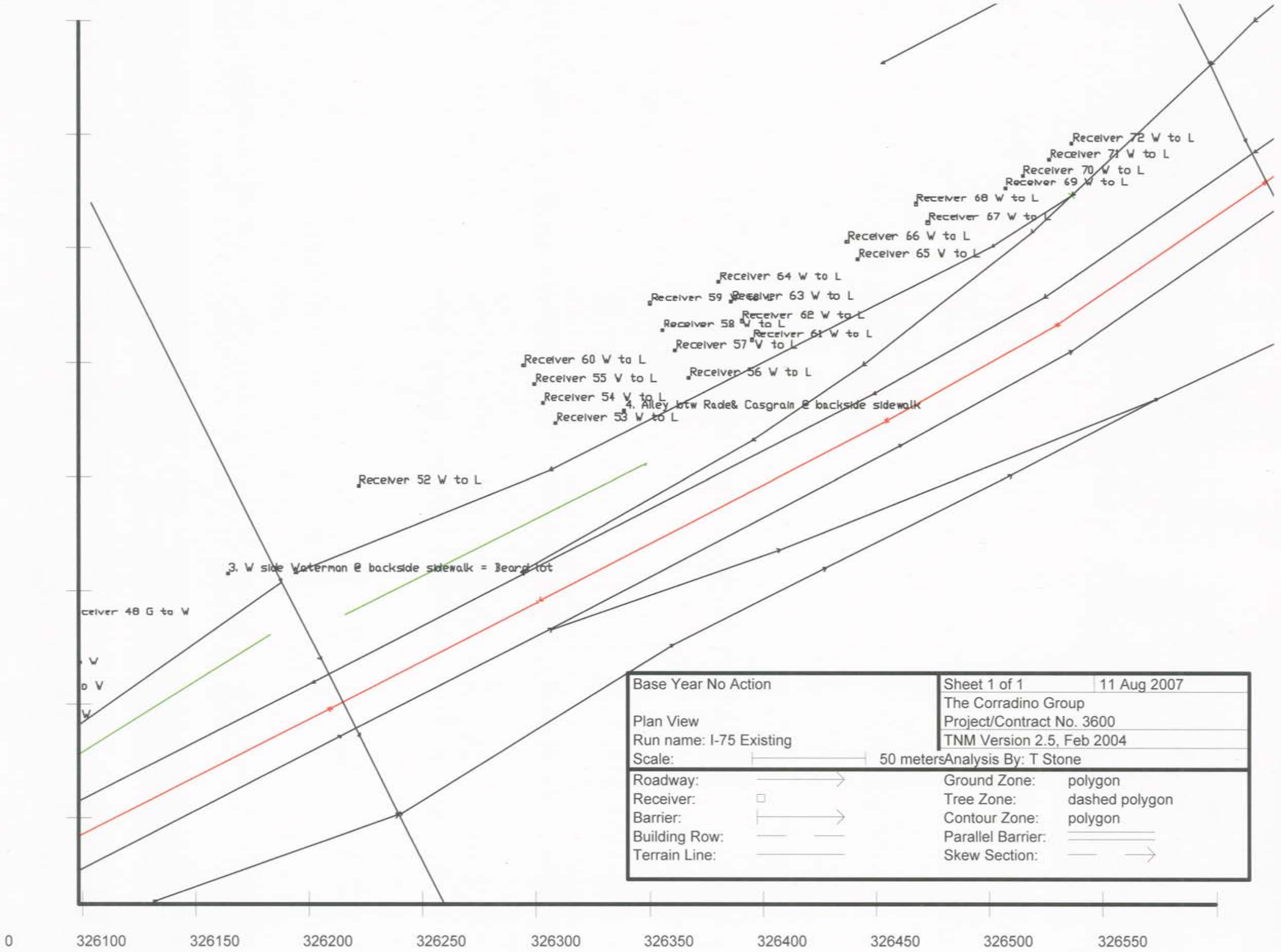
Appendix D

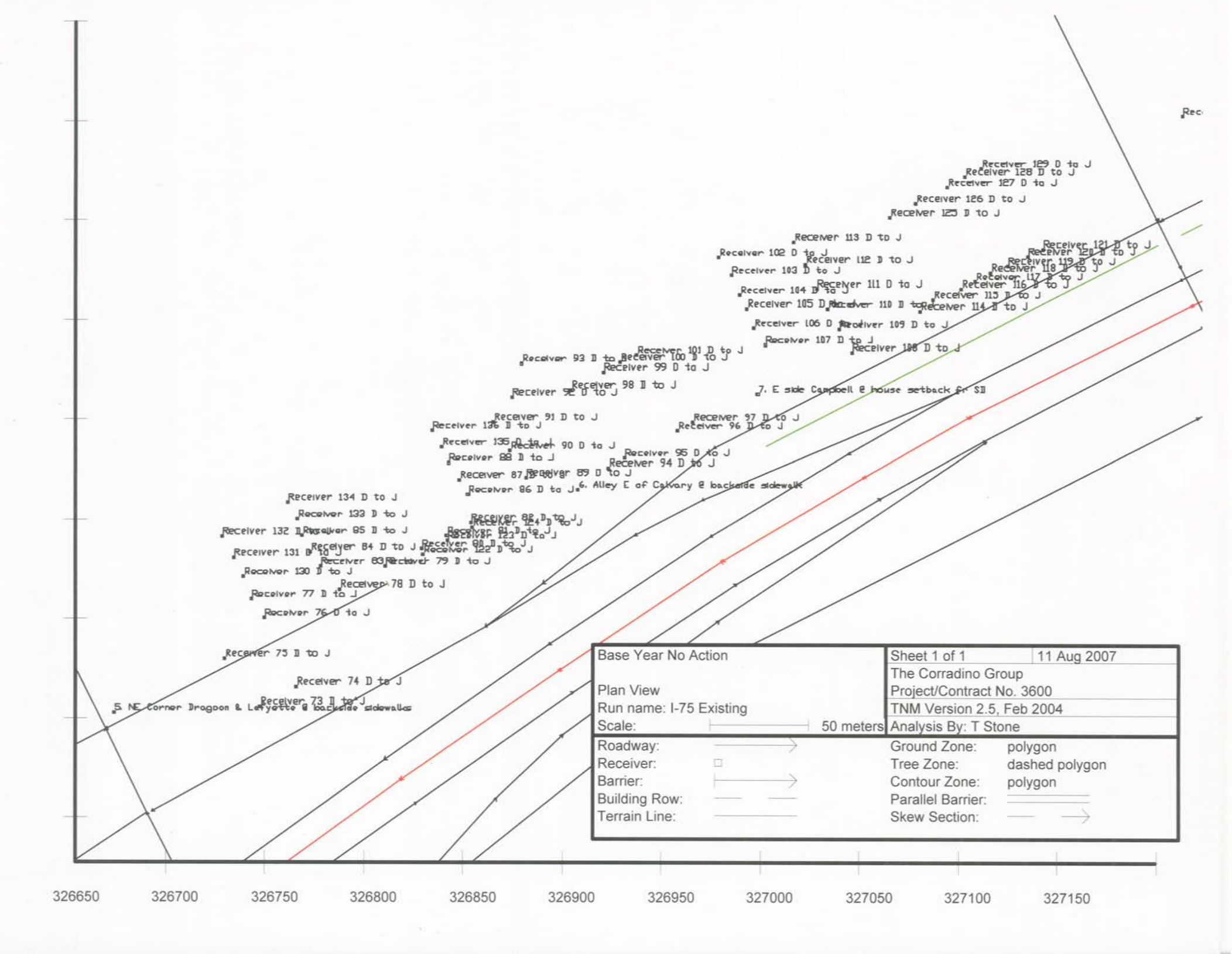
TNM Output

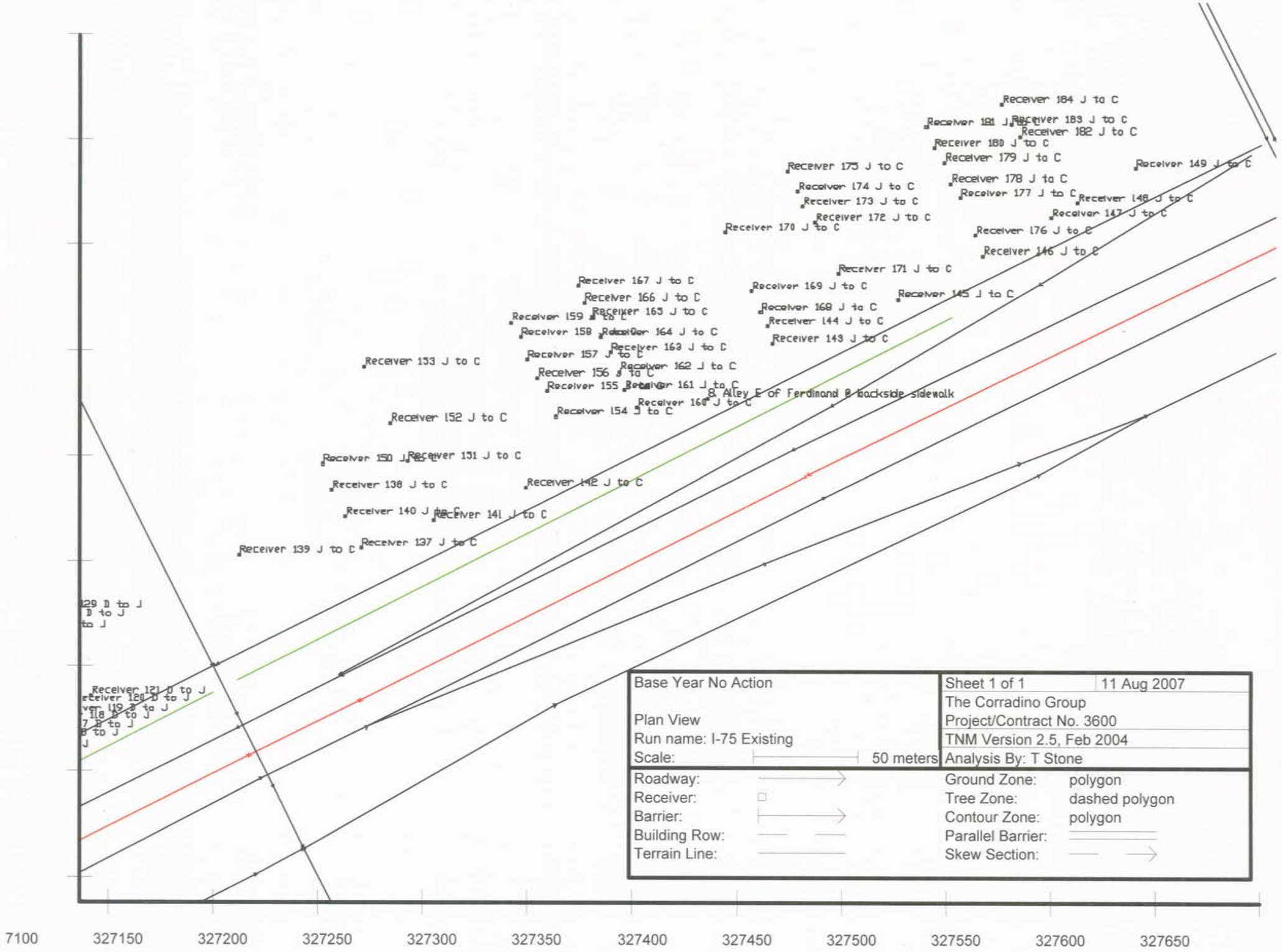
Base Year No Action


Receiver 33
Receiver 32 G
Receiver 31 G to
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
Receiver 2
2. E side Green @ S side alley
Receiver 22 S to G
Receiver 21 S to G
Receiver 20 S to G
Receiver 19 S to G
Receiver 18 S to G
Receiver 17 S to G
Receiver 16 S to G
Receiver 13 S to G
Receiver 15 S to G
Receiver 14 S to G
Receiver 10 S to G
Receiver 12 S to G
Receiver 11 S to G
Receiver 9 S to G
Receiver 8 S to G
Receiver 6 S to G
Receiver 7 S to G
Receiver 5 S to G
S side Central @ bldg setback from 8th St
Receiver 4 S to G
Receiver 2 S to G
Receiver 3 S to G
Receiver 1 S to G
Base Year No Action
Plan View
Run name: I-75 Existing
Scale: 50 meters
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325300
325350
325400
325450
325500
325550
325600
325650
325700
325750
325800
325850


Receiver 52 W to L
3. W side Waterman @ backside sidewalk
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 26 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 25 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 24 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 23 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
Base Year No Action
Plan View
Run name: I-75 Existing
Scale:
50 meter
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325750
325800
325850
325900
325950
326000
326050
326100
326150
326200


Receiver 72 W to L
Receiver 71 W to L
Receiver 70 W to L
Receiver 69 W to L
Receiver 68 W to L
Receiver 67 W to L
Receiver 66 W to L
Receiver 65 V to L
Receiver 64 W to L
Receiver 59
Receiver 63 W to L
Receiver 62 W to L
Receiver 58 V to L
Receiver 61 W to L
Receiver 57 V to L
Receiver 60 W to L
Receiver 56 W to L
Receiver 55 V to L
Receiver 54 V to L
4. Alley btw Rade& Casgrain & backside sidewalk
Receiver 53 W to L
Receiver 52 W to L
3. W side Waterman @ backside sidewalk = Beard lot
celver 48 G to W
Base Year No Action
Plan View
Run name: I-75 Existing
Scale: 50 meters
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
0
326100
326150
326200
326250
326300
326350
326400
326450
326500
326550


Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D to J
Receiver 110 D to J
Receiver 106 D to J
Receiver 109 D to J
Receiver 107 D to J
Receiver 108 D to J
Receiver 101 D to J
Receiver 93 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback fr SB
Receiver 91 D to J
Receiver 136 D to J
Receiver 97 D to J
Receiver 96 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 88 D to J
Receiver 95 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
Receiver 86 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 134 D to J
Receiver 133 D to J
Receiver 85 D to J
Receiver 84 D to J
Receiver 131 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
5. NE Corner Dragoon & Lafayette @ backside sidewalks
326650
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150
Base Year No Action
Plan View
Run name: I-75 Existing
Scale: 50 meters
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 173 J to C
Receiver 148 J to C
Receiver 172 J to C
Receiver 147 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 145 J to C
Receiver 166 J to C
Receiver 168 J to C
Receiver 165 J to C
Receiver 159 J to C
Receiver 144 J to C
Receiver 158 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 157 J to C
Receiver 133 J to C
Receiver 162 J to C
Receiver 156 J to C
Receiver 155 J to C
Receiver 161 J to C
8 Alley E of Ferdinand E backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 150 J to C
Receiver 151 J to C
Receiver 138 J to C
Receiver 142 J to C
Receiver 140 J to C
Receiver 141 J to C
Receiver 139 J to C
Receiver 137 J to C
Receiver 121 D to J
Base Year No Action
Plan View
Run name: I-75 Existing
Scale: 50 meters
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
7100
327150
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Base Year No Action
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.9	66	72.9	10	Snd Lvl	72.9	0.0	8	-8.0
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	75.6	66	75.6	10	Snd Lvl	75.6	0.0	8	-8.0
7. E side Campbell @ house setback fr SL	36	1	0.0	72.8	66	72.8	10	Snd Lvl	72.8	0.0	8	-8.0
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	71.8	66	71.8	10	Snd Lvl	71.8	0.0	8	-8.0
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
4. Alley btw Rade& Casgrain @ backside s	48	1	0.0	75.6	66	75.6	10	Snd Lvl	75.6	0.0	8	-8.0
3. W side Waterman @ backside sidewalk	53	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
2. E side Green @ S side alley setback	55	2	0.0	71.5	66	71.5	10	Snd Lvl	71.5	0.0	8	-8.0
1. W side Central @ bldg. setback from SE	58	4	0.0	74.6	66	74.6	10	Snd Lvl	74.6	0.0	8	-8.0
Receiver 1 S to G	60	1	0.0	75.1	66	75.1	10	Snd Lvl	75.1	0.0	8	-8.0
Receiver 2 S to G	61	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	62	1	0.0	75.5	66	75.5	10	Snd Lvl	75.5	0.0	8	-8.0
Receiver 4 S to G	63	1	0.0	73.7	66	73.7	10	Snd Lvl	73.7	0.0	8	-8.0
Receiver 5 S to G	64	1	0.0	73.3	66	73.3	10	Snd Lvl	73.3	0.0	8	-8.0
Receiver 6 S to G	65	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
Receiver 7 S to G	66	1	0.0	75.1	66	75.1	10	Snd Lvl	75.1	0.0	8	-8.0
Receiver 8 S to G	67	1	0.0	72.9	66	72.9	10	Snd Lvl	72.9	0.0	8	-8.0
Receiver 9 S to G	68	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0
Receiver 10 S to G	69	2	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
Receiver 11 S to G	70	1	0.0	75.6	66	75.6	10	Snd Lvl	75.6	0.0	8	-8.0
Receiver 12 S to G	71	1	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0
Receiver 13 S to G	72	2	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0
Receiver 14 S to G	73	1	0.0	74.8	66	74.8	10	Snd Lvl	74.8	0.0	8	-8.0

Receiver 15 S to G	74	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 16 S to G	75	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Receiver 17 S to G	76	2	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
Receiver 18 S to G	77	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
Receiver 19 S to G	78	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
Receiver 20 S to G	79	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
Receiver 21 S to G	80	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
Receiver 22 S to G	81	1	0.0	67.3	66	67.3	10	Snd Lvl	67.3	0.0	8	-8.0
Receiver 23 G to W	82	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 24 G to W	83	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
Receiver 25 G to W	84	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
Receiver 26 G to W	85	16	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Receiver 27 G to W	86	2	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0
Receiver 28 G to W	87	4	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0
Receiver 29 G to W	88	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 30 G to W	89	2	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
Receiver 31 G to W	90	1	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
Receiver 32 G to W	91	1	0.0	66.7	66	66.7	10	Snd Lvl	66.7	0.0	8	-8.0
Receiver 33 G to W	92	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0
Receiver 34 G to W	93	2	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Receiver 35 G to W	94	2	0.0	67.1	66	67.1	10	Snd Lvl	67.1	0.0	8	-8.0
Receiver 36 G to W	95	2	0.0	67.5	66	67.5	10	Snd Lvl	67.5	0.0	8	-8.0
Receiver 37 G to W	96	2	0.0	67.4	66	67.4	10	Snd Lvl	67.4	0.0	8	-8.0
Receiver 38 G to W	97	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0
Receiver 39 G to W	98	1	0.0	66.5	66	66.5	10	Snd Lvl	66.5	0.0	8	-8.0
Receiver 40 G to W	99	2	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
Receiver 41 G to W	100	1	0.0	66.4	66	66.4	10	Snd Lvl	66.4	0.0	8	-8.0
Receiver 42 G to W	101	2	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
Receiver 43 G to W	102	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	0.0	8	-8.0
Receiver 44 G to W	103	1	0.0	65.8	66	65.8	10	----	65.8	0.0	8	-8.0
Receiver 45 G to W	104	2	0.0	66.5	66	66.5	10	Snd Lvl	66.5	0.0	8	-8.0
Receiver 46 G to W	105	2	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
Receiver 47 G to W	106	1	0.0	66.8	66	66.8	10	Snd Lvl	66.8	0.0	8	-8.0
Receiver 48 G to W	107	2	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
Receiver 49 G to W	108	2	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
Receiver 50 G to W	109	2	0.0	66.6	66	66.6	10	Snd Lvl	66.6	0.0	8	-8.0
Receiver 51 G to W	110	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
Receiver 52 W to L	111	10	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
Receiver 53 W to L	112	1	0.0	72.2	66	72.2	10	Snd Lvl	72.2	0.0	8	-8.0
Receiver 54 W to L	113	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Receiver 55 W to L	114	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0

Receiver 56 W to L	115	1	0.0	76.9	66	76.9	10	Snd Lvl	76.9	0.0	8	-8.0
Receiver 57 W to L	116	2	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 58 W to L	117	2	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
Receiver 59 W to L	118	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
Receiver 60 W to L	119	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0
Receiver 61 W to L	120	1	0.0	76.7	66	76.7	10	Snd Lvl	76.7	0.0	8	-8.0
Receiver 62 W to L	121	1	0.0	72.9	66	72.9	10	Snd Lvl	72.9	0.0	8	-8.0
Receiver 63 W to L	122	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
Receiver 64 W to L	123	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
Receiver 65 W to L	124	1	0.0	73.0	66	73.0	10	Snd Lvl	73.0	0.0	8	-8.0
Receiver 66 W to L	125	1	0.0	71.2	66	71.2	10	Snd Lvl	71.2	0.0	8	-8.0
Receiver 67 W to L	126	1	0.0	73.1	66	73.1	10	Snd Lvl	73.1	0.0	8	-8.0
Receiver 68 W to L	127	1	0.0	71.1	66	71.1	10	Snd Lvl	71.1	0.0	8	-8.0
Receiver 69 W to L	128	1	0.0	74.9	66	74.9	10	Snd Lvl	74.9	0.0	8	-8.0
Receiver 70 W to L	129	1	0.0	74.8	66	74.8	10	Snd Lvl	74.8	0.0	8	-8.0
Receiver 71 W to L	130	1	0.0	74.8	66	74.8	10	Snd Lvl	74.8	0.0	8	-8.0
Receiver 72 W to L	131	1	0.0	74.7	66	74.7	10	Snd Lvl	74.7	0.0	8	-8.0
Receiver 73 D to J	132	6	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
Receiver 74 D to J	133	10	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0
Receiver 75 D to J	134	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 76 D to J	135	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 77 D to J	136	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 78 D to J	137	10	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
Receiver 79 D to J	138	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
Receiver 80 D to J	139	3	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Receiver 81 D to J	140	2	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Receiver 82 D to J	141	2	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
Receiver 83 D to J	142	1	0.0	68.1	66	68.1	10	Snd Lvl	68.1	0.0	8	-8.0
Receiver 84 D to J	143	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 85 D to J	144	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 86 D to J	145	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0
Receiver 87 D to J	146	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Receiver 88 D to J	147	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	0.0	8	-8.0
Receiver 89 D to J	148	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0
Receiver 90 D to J	149	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Receiver 91 D to J	150	1	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
Receiver 92 D to J	151	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0
Receiver 93 D to J	152	4	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 94 D to J	153	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
Receiver 95 D to J	154	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
Receiver 96 D to J	155	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0

Receiver 97 D to J	156	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
Receiver 98 D to J	157	1	0.0	66.0	66	66.0	10	Snd Lvl	66.0	0.0	8	-8.0
Receiver 99 D to J	158	1	0.0	66.0	66	66.0	10	Snd Lvl	66.0	0.0	8	-8.0
Receiver 100 D to J	159	1	0.0	66.0	66	66.0	10	Snd Lvl	66.0	0.0	8	-8.0
Receiver 101 D to J	160	1	0.0	66.0	66	66.0	10	Snd Lvl	66.0	0.0	8	-8.0
Receiver 102 D to J	161	4	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
Receiver 103 D to J	162	1	0.0	64.5	66	64.5	10	----	64.5	0.0	8	-8.0
Receiver 104 D to J	163	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0
Receiver 105 D to J	164	1	0.0	66.0	66	66.0	10	Snd Lvl	66.0	0.0	8	-8.0
Receiver 106 D to J	165	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Receiver 107 D to J	166	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
Receiver 108 D to J	167	1	0.0	73.7	66	73.7	10	Snd Lvl	73.7	0.0	8	-8.0
Receiver 109 D to J	168	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
Receiver 110 D to J	169	1	0.0	67.9	66	67.9	10	Snd Lvl	67.9	0.0	8	-8.0
Receiver 111 D to J	170	1	0.0	66.6	66	66.6	10	Snd Lvl	66.6	0.0	8	-8.0
Receiver 112 D to J	171	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0
Receiver 113 D to J	172	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0
Receiver 114 D to J	173	1	0.0	72.7	66	72.7	10	Snd Lvl	72.7	0.0	8	-8.0
Receiver 115 D to J	174	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 116 D to J	175	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
Receiver 117 D to J	176	1	0.0	72.2	66	72.2	10	Snd Lvl	72.2	0.0	8	-8.0
Receiver 118 D to J	177	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 119 D to J	178	1	0.0	72.1	66	72.1	10	Snd Lvl	72.1	0.0	8	-8.0
Receiver 120 D to J	179	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
Receiver 121 D to J	180	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
Receiver 122 D to J	181	3	0.0	71.8	66	71.8	10	Snd Lvl	71.8	0.0	8	-8.0
Receiver 123 D to J	182	2	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 124 D to J	183	2	0.0	72.2	66	72.2	10	Snd Lvl	72.2	0.0	8	-8.0
Receiver 125 D to J	184	1	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0
Receiver 126 D to J	185	2	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0
Receiver 127 D to J	186	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 128 D to J	187	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 129 D to J	188	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 130 D to J	189	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 131 D to J	190	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 132 D to J	191	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 133 D to J	192	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 134 D to J	193	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 135 D to J	194	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 136 D to J	195	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 137 J to C	196	1	0.0	72.8	66	72.8	10	Snd Lvl	72.8	0.0	8	-8.0

Receiver 138 J to C	197	1	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
Receiver 139 J to C	198	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 140 J to C	199	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
Receiver 141 J to C	200	1	0.0	74.3	66	74.3	10	Snd Lvl	74.3	0.0	8	-8.0
Receiver 142 J to C	201	1	0.0	76.1	66	76.1	10	Snd Lvl	76.1	0.0	8	-8.0
Receiver 143 J to C	202	2	0.0	74.0	66	74.0	10	Snd Lvl	74.0	0.0	8	-8.0
Receiver 144 J to C	203	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0
Receiver 145 J to C	204	1	0.0	76.3	66	76.3	10	Snd Lvl	76.3	0.0	8	-8.0
Receiver 146 J to C	205	2	0.0	76.9	66	76.9	10	Snd Lvl	76.9	0.0	8	-8.0
Receiver 147 J to C	206	1	0.0	76.9	66	76.9	10	Snd Lvl	76.9	0.0	8	-8.0
Receiver 148 J to C	207	1	0.0	76.7	66	76.7	10	Snd Lvl	76.7	0.0	8	-8.0
Receiver 149 J to C	208	2	0.0	76.4	66	76.4	10	Snd Lvl	76.4	0.0	8	-8.0
Receiver 150 J to C	209	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
Receiver 151 J to C	210	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0
Receiver 152 J to C	211	1	0.0	66.3	66	66.3	10	Snd Lvl	66.3	0.0	8	-8.0
Receiver 153 J to C	212	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 154 J to C	213	1	0.0	71.2	66	71.2	10	Snd Lvl	71.2	0.0	8	-8.0
Receiver 155 J to C	214	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
Receiver 156 J to C	215	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
Receiver 157 J to C	216	1	0.0	67.3	66	67.3	10	Snd Lvl	67.3	0.0	8	-8.0
Receiver 158 J to C	217	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	0.0	8	-8.0
Receiver 159 J to C	218	1	0.0	65.4	66	65.4	10	----	65.4	0.0	8	-8.0
Receiver 160 J to C	219	1	0.0	73.5	66	73.5	10	Snd Lvl	73.5	0.0	8	-8.0
Receiver 161 J to C	220	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Receiver 162 J to C	221	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
Receiver 163 J to C	222	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
Receiver 164 J to C	223	1	0.0	68.1	66	68.1	10	Snd Lvl	68.1	0.0	8	-8.0
Receiver 165 J to C	224	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0
Receiver 166 J to C	225	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	0.0	8	-8.0
Receiver 167 J to C	226	1	0.0	65.4	66	65.4	10	----	65.4	0.0	8	-8.0
Receiver 168 J to C	227	1	0.0	71.3	66	71.3	10	Snd Lvl	71.3	0.0	8	-8.0
Receiver 169 J to C	228	1	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0
Receiver 170 J to C	229	1	0.0	66.3	66	66.3	10	Snd Lvl	66.3	0.0	8	-8.0
Receiver 171 J to C	230	1	0.0	71.2	66	71.2	10	Snd Lvl	71.2	0.0	8	-8.0
Receiver 172 J to C	231	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0
Receiver 173 J to C	232	1	0.0	66.8	66	66.8	10	Snd Lvl	66.8	0.0	8	-8.0
Receiver 174 J to C	233	1	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
Receiver 175 J to C	234	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0
Receiver 176 J to C	235	1	0.0	74.6	66	74.6	10	Snd Lvl	74.6	0.0	8	-8.0
Receiver 177 J to C	236	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Receiver 178 J to C	237	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0

Receiver 179 J to C	238	1	0.0	67.9	66	67.9	10	Snd Lvl	67.9	0.0	8	-8.0
Receiver 180 J to C	239	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Receiver 181 J to C	240	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
Receiver 182 J to C	241	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0
Receiver 183 J to C	242	1	0.0	67.6	66	67.6	10	Snd Lvl	67.6	0.0	8	-8.0
Receiver 184 J to C	243	1	0.0	66.5	66	66.5	10	Snd Lvl	66.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	285	0.0	0.0	0.0
All Impacted	232	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

The Corradino Group 12 August 2007
T Stone TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Base Year No Action

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
N I-75/Springwells Off-Ramp	point345	438	158	40	6	40	12	40	1	40	1	40

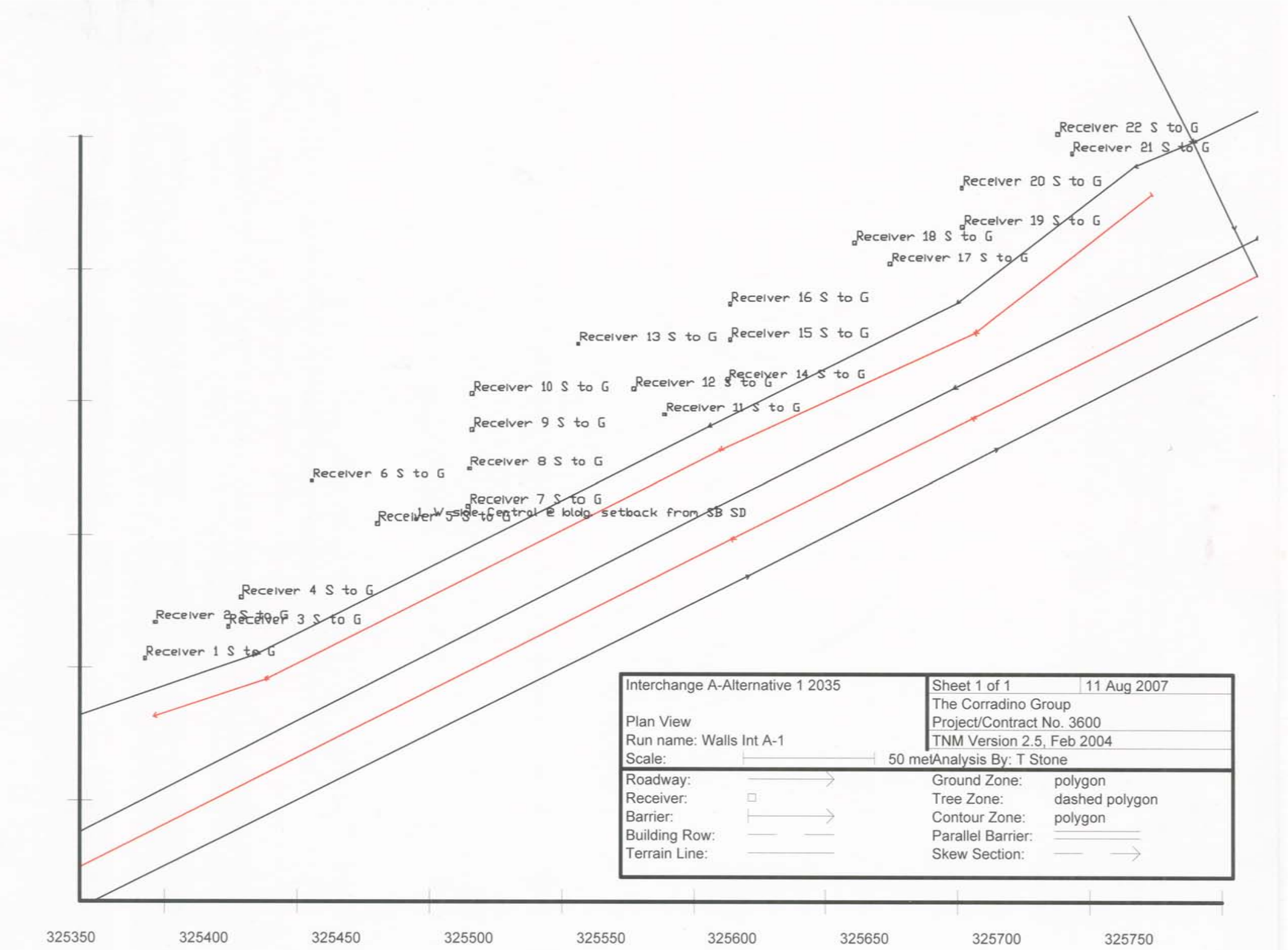
	point353	446	158	40	6	40	12	40	1	40	1	40
	point359	452	158	40	6	40	12	40	1	40	1	40
	point360	453										
N I-75 Service Drive - 1	point361	454	482	40	28	40	57	40	1	40	1	40
	point367	460	482	40	28	40	57	40	1	40	1	40
	point368	461										
Springwells/N I-75 On-Ramp	point369	462	397	97	23	97	47	97	1	97	1	97
	point372	465										
N I-75 Service Drive - 2	point373	466	80	40	5	40	15	40	1	40	1	40
	point377	470	80	40	5	40	15	40	1	40	1	40
	point379	472	80	40	5	40	15	40	1	40	1	40
	point382	475	80	40	5	40	15	40	1	40	1	40
	point386	480	80	40	5	40	15	40	1	40	1	40
	point393	487	80	40	5	40	15	40	1	40	1	40
	point397	491	80	40	5	40	15	40	1	40	1	40
	point633	492	80	40	5	40	15	40	1	40	1	40
	point401	496	80	40	5	40	15	40	1	40	1	40
	point403	498	80	40	5	40	15	40	1	40	1	40
	point405	500	80	40	5	40	15	40	1	40	1	40
	point406	501										
N I-75/Livernois Off-Ramp	point407	502	160	40	10	40	30	40	1	40	1	40
	point409	504	160	40	10	40	30	40	1	40	1	40
	point413	508										
Dragoon/N I-75 On-Ramp	point414	509	362	97	23	97	72	97	1	97	1	97
	point416	511	362	97	23	97	72	97	1	97	1	97
	point418	513	362	97	23	97	72	97	1	97	1	97
	point965	965	362	97	23	97	72	97	1	97	1	97
	point419	514										
N I-75 Service Drive - 4	point420	515	160	40	10	40	30	40	1	40	1	40
	point421	516	160	40	10	40	30	40	1	40	1	40
	point426	521	160	40	10	40	30	40	1	40	1	40
	point430	525	160	40	10	40	30	40	1	40	1	40
	point431	526	160	40	10	40	30	40	1	40	1	40
	point643	527	160	40	10	40	30	40	1	40	1	40

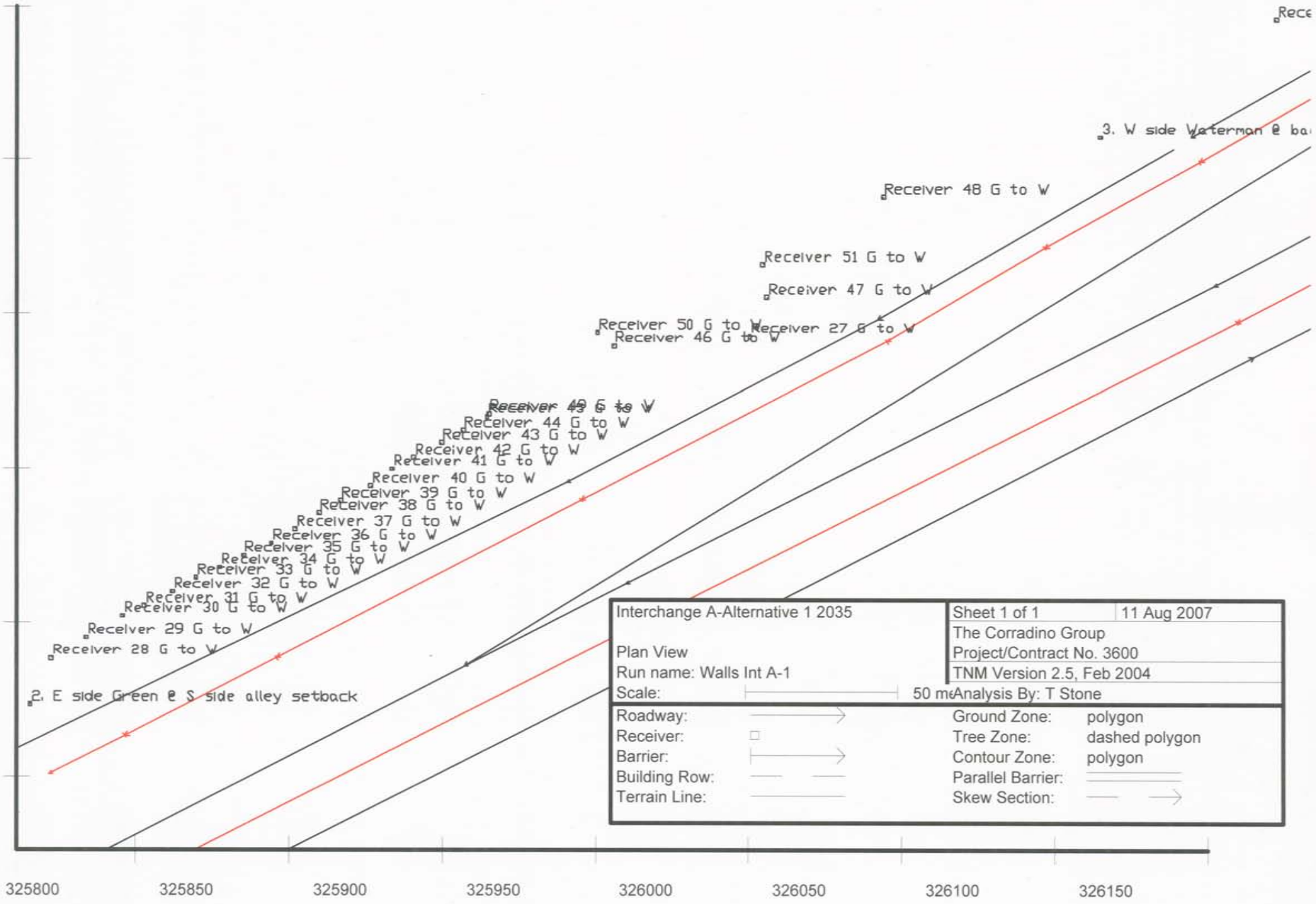
	point435	531	160	40	10	40	30	40	1	40	1	40
	point443	539	160	40	10	40	30	40	1	40	1	40
	point445	541										
N I-75 Service Drive - 3	point446	542	160	40	10	40	30	40	1	40	1	40
	point447	543	160	40	10	40	30	40	1	40	1	40
	point449	545	160	40	10	40	30	40	1	40	1	40
	point450	546										
N I-75/Clark Off-Ramp	point451	547	560	40	35	40	105	40	1	40	1	40
	point452	548	560	40	35	40	105	40	1	40	1	40
	point454	549	560	40	35	40	105	40	1	40	1	40
	point453	550										
N I-75 Service Drive - 5	point455	551	720	40	45	40	135	40	1	40	1	40
	point456	552	720	40	45	40	135	40	1	40	1	40
	point650	553	720	40	45	40	135	40	1	40	1	40
	point457	554										
Clark/N I-75 On-Ramp	point458	555	720	40	45	40	135	40	1	40	1	40
	point460	557										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40
	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
Clark/S I-75 On-Ramp	point471	571	440	97	32	97	184	97	1	97	1	97
	point472	572	440	97	32	97	184	97	1	97	1	97
	point473	573	440	97	32	97	184	97	1	97	1	97
	point474	574										
S I-75 Service Drive - 2	point475	575	90	56	50	56	5	56	1	56	1	56
	point476	576	90	56	50	56	5	56	1	56	1	56
	point644	577										
S I-75/Dragoon Off-Ramp	point481	585	120	56	5	56	5	56	1	56	1	56
	point483	587	120	56	5	56	5	56	1	56	1	56
	point484	588	120	56	5	56	5	56	1	56	1	56
	point485	589										
S I-75 Service Drive - 4	point638	594	300	48	15	48	15	48	1	48	1	48

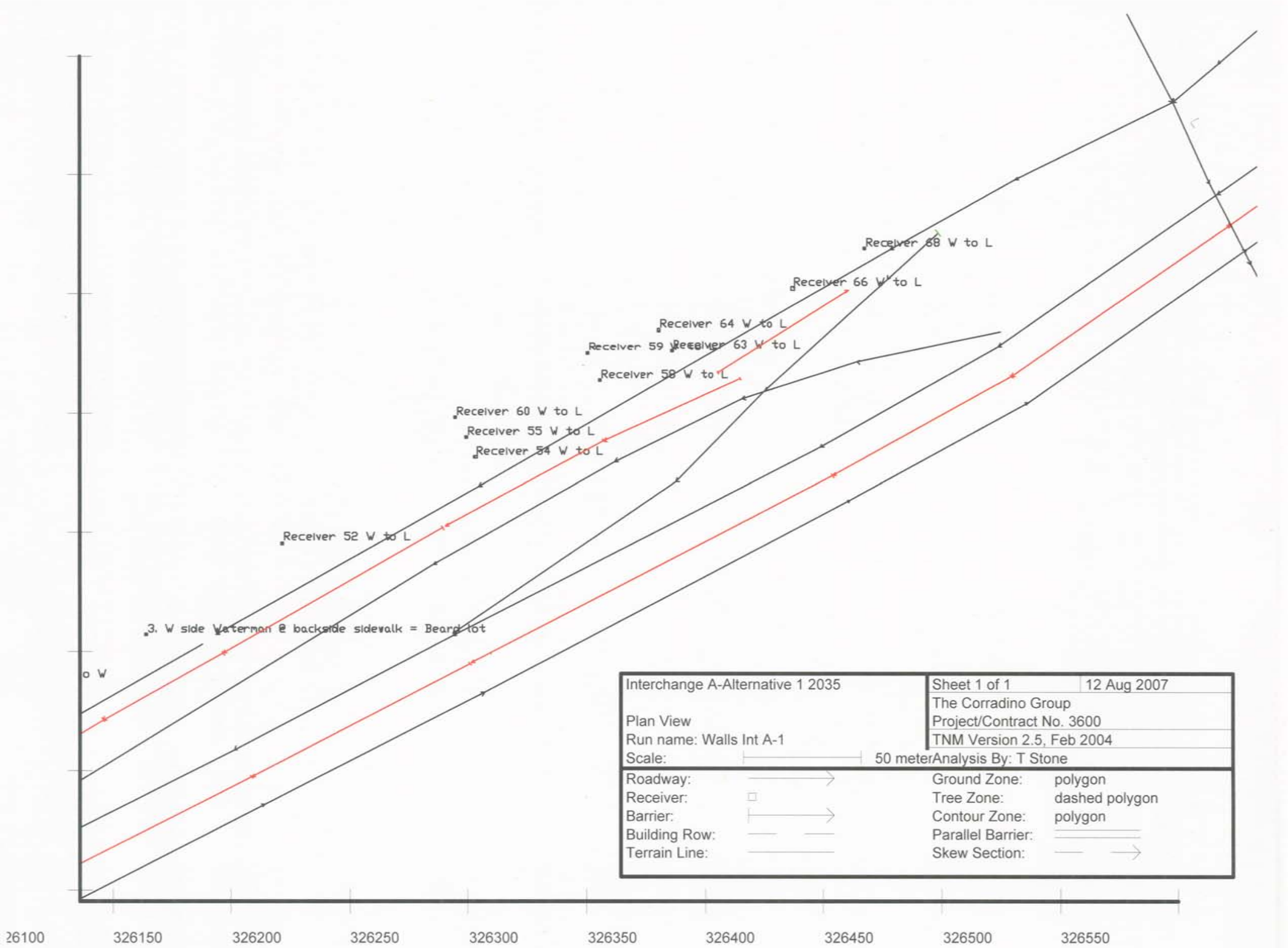
	point489	595	300	48	15	48	15	48	1	48	1	48
	point490	596	300	48	15	48	15	48	1	48	1	48
	point491	597										
Livernois/ S I-75 On-Ramp	point497	600	270	97	15	97	40	97	1	97	1	97
	point498	601	270	97	15	97	40	97	1	97	1	97
	point500	603	270	97	15	97	40	97	1	97	1	97
	point501	604	270	97	15	97	40	97	1	97	1	97
	point503	606										
S I-75 Service Drive - 5	point491	971	370	56	20	56	45	56	2	56	2	56
	point504	607	100	56	5	56	5	56	1	56	1	56
	point505	608	100	56	5	56	5	56	1	56	1	56
	point975	975	100	56	5	56	5	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	360	40	15	40	20	40	1	40	1	40
	point531	638	450	40	30	40	80	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97
	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	30	40	30	160	30	1	30	1	30
	point687	687	700	30	40	30	160	30	1	30	1	30
	point943	943	700	30	40	30	160	30	1	30	1	30
	point688	688	700	40	40	40	160	40	1	40	1	40
	point690	690	700	40	40	40	160	40	1	40	1	40
	point691	691	700	40	40	40	160	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48
	point960	960	85	48	5	48	10	48	1	48	1	48
	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Waterman - N&SB	point761	761	85	56	5	56	15	56	1	56	1	56

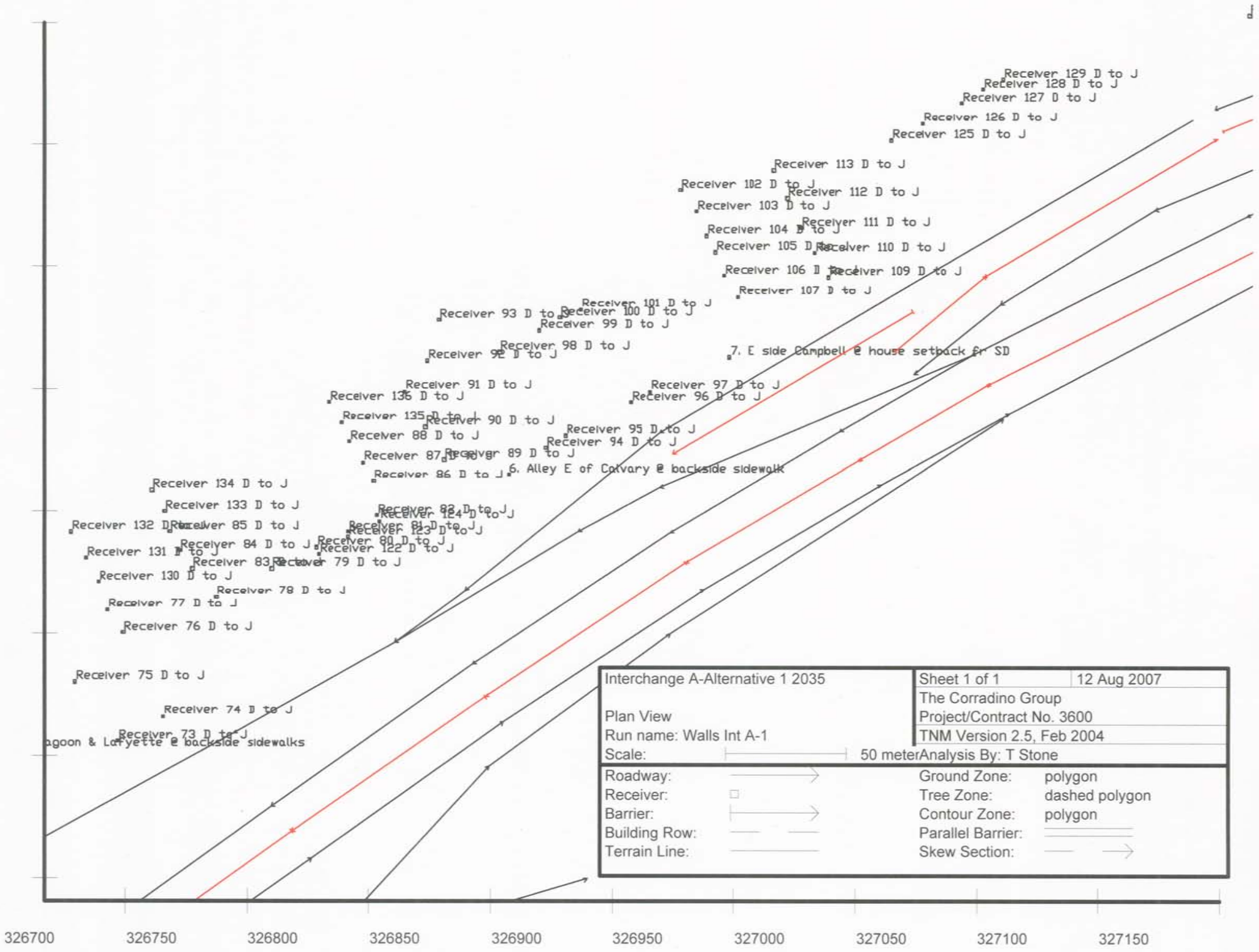
	point762	762	85	48	5	48	15	48	1	48	1	48
	point957	957	85	48	5	48	15	48	1	48	1	48
	point958	958	85	48	5	48	15	48	1	48	1	48
	point764	764	85	56	5	56	15	56	1	56	1	56
	point765	765	85	56	5	56	15	56	1	56	1	56
	point769	769										
Junction - N&SB	point801	801	125	48	5	48	20	48	1	48	1	48
	point802	802	125	48	5	48	20	48	1	48	1	48
	point951	951	125	48	5	48	20	48	1	48	1	48
	point952	952	125	48	5	48	20	48	1	48	1	48
	point803	803	85	56	5	56	15	56	1	56	1	56
	point804	804	85	56	5	56	15	56	1	56	1	56
	point805	805										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	12	40	1	40	1	40
	point819	819	120	40	4	40	25	40	1	40	1	40
	point961	961	120	40	4	40	25	40	1	40	1	40
	point962	962	120	40	4	40	25	40	1	40	1	40
	point820	820	120	40	4	40	25	40	1	40	1	40
	point821	821	120	40	4	40	25	40	1	40	1	40
	point822	822										
Dragoon	Fort WB	911	162	56	12	56	30	56	4	56	1	56
	NB SD	913	162	56	12	56	30	56	4	56	1	56
	point941	941	162	56	12	56	30	56	4	56	1	56
	point955	955	162	56	12	56	30	56	4	56	1	56
	point956	956	162	56	12	56	30	56	4	56	1	56
	SB SD	914	162	56	12	56	30	56	4	56	1	56
	point919	919	324	56	24	56	60	56	4	56	1	56

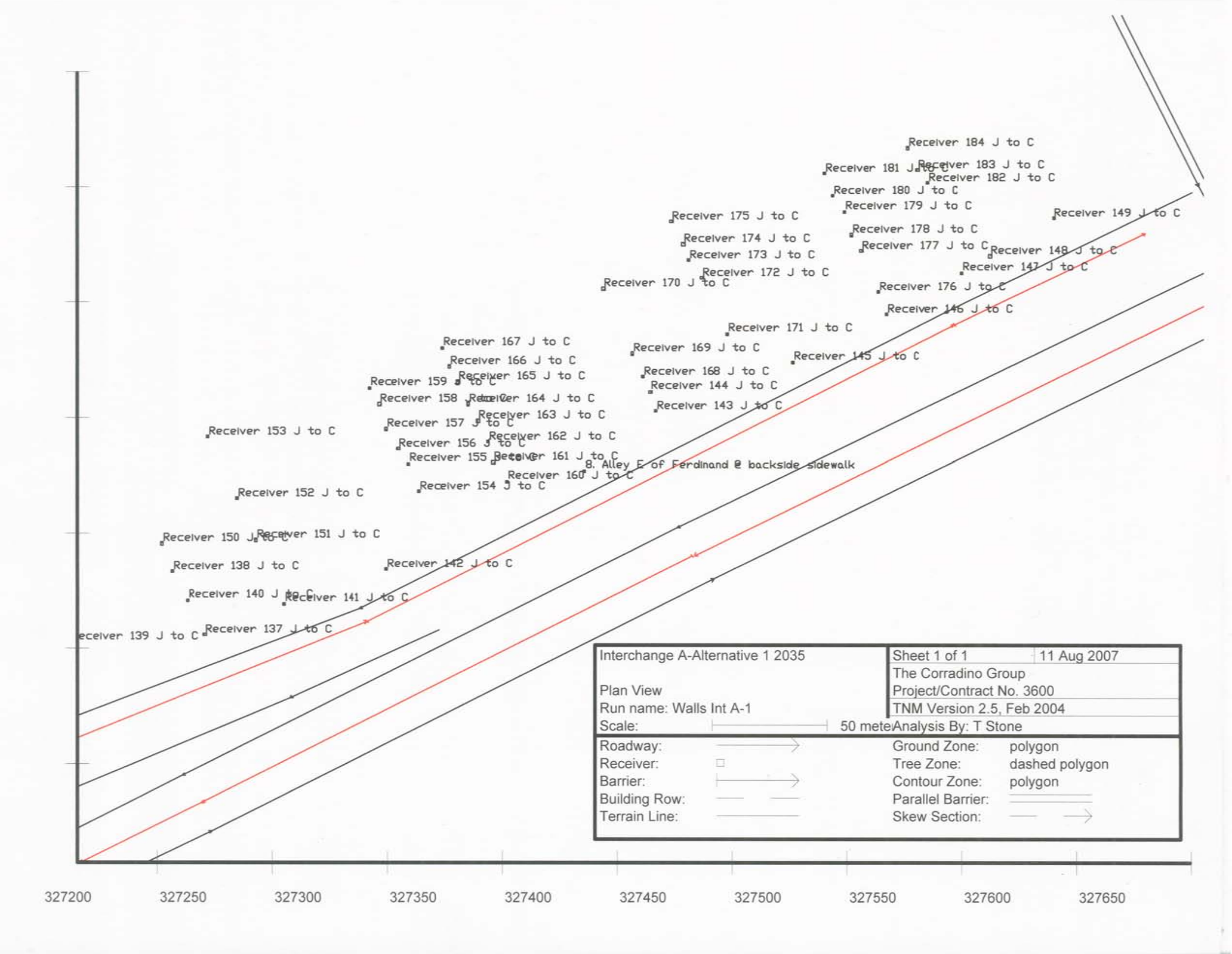
Interchange A – Alternative 1 – 2035


Receiver 22 S to G
Receiver 21 S to G
Receiver 20 S to G
Receiver 19 S to G
Receiver 18 S to G
Receiver 17 S to G
Receiver 16 S to G
Receiver 13 S to G
Receiver 15 S to G
Receiver 10 S to G
Receiver 12 S to G
Receiver 14 S to G
Receiver 11 S to G
Receiver 9 S to G
Receiver 8 S to G
Receiver 6 S to G
Receiver 7 S to G
Receiver 5 S to G
W side Central E bldg setback from SB SD
Receiver 4 S to G
Receiver 2 S to G
Receiver 3 S to G
Receiver 1 S to G
Interchange A-Alternative 1 2035
Plan View
Run name: Walls Int A-1
Scale:
50 met
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325350
325400
325450
325500
325550
325600
325650
325700
325750


Rece
3. W side Waterman @ ba
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
Interchange A-Alternative 1 2035
Plan View
Run name: Walls Int A-1
Scale:
50 m
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325800
325850
325900
325950
326000
326050
326100
326150


Receiver 68 W to L
Receiver 66 W to L
Receiver 64 W to L
Receiver 59
Receiver 63 W to L
Receiver 58 W to L
Receiver 60 W to L
Receiver 55 W to L
Receiver 54 W to L
Receiver 52 W to L
3. W side Waterman @ backside sidewalk = Beard lot
o W
Interchange A-Alternative 1 2035
Plan View
Run name: Walls Int A-1
Scale:
50 meter
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
26100
326150
326200
326250
326300
326350
326400
326450
326500
326550


Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D to J
Receiver 110 D to J
Receiver 106 D to J
Receiver 109 D to J
Receiver 107 D to J
Receiver 101 D to J
Receiver 93 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback fr SD
Receiver 91 D to J
Receiver 97 D to J
Receiver 136 D to J
Receiver 96 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 95 D to J
Receiver 88 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
Receiver 86 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 134 D to J
Receiver 133 D to J
Receiver 82 D to J
Receiver 124 D to J
Receiver 132 D to J
Receiver 85 D to J
Receiver 81 D to J
Receiver 123 D to J
Receiver 84 D to J
Receiver 80 D to J
Receiver 131 D to J
Receiver 122 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
agoon & Lafyette @ backside sidewalks
Interchange A-Alternative 1 2035
Plan View
Run name: Walls Int A-1
Scale: 50 meter
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 148 J to C
Receiver 173 J to C
Receiver 147 J to C
Receiver 172 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 145 J to C
Receiver 166 J to C
Receiver 168 J to C
Receiver 165 J to C
Receiver 159 J to C
Receiver 144 J to C
Receiver 158 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 157 J to C
Receiver 153 J to C
Receiver 162 J to C
Receiver 156 J to C
Receiver 155 J to C
Receiver 161 J to C
8. Alley E of Ferdinand @ backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 151 J to C
Receiver 150 J to C
Receiver 138 J to C
Receiver 142 J to C
Receiver 140 J to C
Receiver 141 J to C
Receiver 139 J to C
Receiver 137 J to C
Interchange A-Alternative 1 2035
Plan View
Run name: Walls Int A-1
Scale:
50 mete
Sheet 1 of 1
11 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange A-Alternative 1 2035
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.7	66	72.7	10	Snd Lvl	72.3	0.4	8	-7.6
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	78.0	66	78.0	10	Snd Lvl	68.9	9.1	8	1.1
7. E side Campbell @ house setback fr SI	36	1	0.0	72.9	66	72.9	10	Snd Lvl	69.3	3.6	8	-4.4
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	66.5	66	66.5	10	Snd Lvl	66.4	0.1	8	-7.9
3. W side Waterman @ backside sidewalk	58	1	0.0	72.2	66	72.2	10	Snd Lvl	66.5	5.7	8	-2.3
2. E side Green @ S side alley setback	60	2	0.0	72.3	66	72.3	10	Snd Lvl	69.8	2.5	8	-5.5
1. W side Central @ bldg. setback from SE	61	4	0.0	73.7	66	73.7	10	Snd Lvl	66.4	7.3	8	-0.7
Receiver 1 S to G	62	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 2 S to G	63	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	64	1	0.0	74.2	66	74.2	10	Snd Lvl	68.0	6.2	8	-1.8
Receiver 4 S to G	65	1	0.0	72.4	66	72.4	10	Snd Lvl	69.3	3.1	8	-4.9
Receiver 5 S to G	66	1	0.0	71.6	66	71.6	10	Snd Lvl	66.2	5.4	8	-2.6
Receiver 6 S to G	68	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 7 S to G	69	1	0.0	73.7	66	73.7	10	Snd Lvl	66.3	7.4	8	-0.6
Receiver 8 S to G	70	1	0.0	71.1	66	71.1	10	Snd Lvl	65.1	6.0	8	-2.0
Receiver 9 S to G	71	1	0.0	69.3	66	69.3	10	Snd Lvl	64.4	4.9	8	-3.1
Receiver 10 S to G	72	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 11 S to G	73	1	0.0	74.3	66	74.3	10	Snd Lvl	66.6	7.7	8	-0.3
Receiver 12 S to G	74	1	0.0	71.1	66	71.1	10	Snd Lvl	64.8	6.3	8	-1.7
Receiver 13 S to G	75	2	0.0	68.2	66	68.2	10	Snd Lvl	62.7	5.5	8	-2.5
Receiver 14 S to G	76	1	0.0	73.9	66	73.9	10	Snd Lvl	66.4	7.5	8	-0.5
Receiver 15 S to G	77	1	0.0	70.7	66	70.7	10	Snd Lvl	64.7	6.0	8	-2.0

Receiver 16 S to G	78	1	0.0	69.3	66	69.3	10	Snd Lvl	63.5	5.8	8	-2.2
Receiver 17 S to G	79	2	0.0	70.3	66	70.3	10	Snd Lvl	64.5	5.8	8	-2.2
Receiver 18 S to G	80	1	0.0	68.7	66	68.7	10	Snd Lvl	63.5	5.2	8	-2.8
Receiver 19 S to G	81	1	0.0	69.7	66	69.7	10	Snd Lvl	64.6	5.1	8	-2.9
Receiver 20 S to G	82	1	0.0	68.1	66	68.1	10	Snd Lvl	63.4	4.7	8	-3.3
Receiver 21 S to G	83	1	0.0	67.9	66	67.9	10	Snd Lvl	64.8	3.1	8	-4.9
Receiver 22 S to G	89	1	0.0	67.5	66	67.5	10	Snd Lvl	64.0	3.5	8	-4.5
Receiver 27 G to W	95	2	0.0	73.0	66	73.0	10	Snd Lvl	65.6	7.4	8	-0.6
Receiver 28 G to W	96	4	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 29 G to W	97	2	0.0	66.2	66	66.2	10	Snd Lvl	63.8	2.4	8	-5.6
Receiver 30 G to W	98	2	0.0	67.4	66	67.4	10	Snd Lvl	64.2	3.2	8	-4.8
Receiver 31 G to W	99	1	0.0	67.2	66	67.2	10	Snd Lvl	64.3	2.9	8	-5.1
Receiver 32 G to W	100	1	0.0	67.0	66	67.0	10	Snd Lvl	64.0	3.0	8	-5.0
Receiver 33 G to W	101	1	0.0	67.2	66	67.2	10	Snd Lvl	63.9	3.3	8	-4.7
Receiver 34 G to W	102	2	0.0	67.4	66	67.4	10	Snd Lvl	64.0	3.4	8	-4.6
Receiver 35 G to W	103	2	0.0	67.9	66	67.9	10	Snd Lvl	64.0	3.9	8	-4.1
Receiver 36 G to W	104	2	0.0	68.0	66	68.0	10	Snd Lvl	64.0	4.0	8	-4.0
Receiver 37 G to W	105	2	0.0	68.3	66	68.3	10	Snd Lvl	64.0	4.3	8	-3.7
Receiver 38 G to W	106	1	0.0	68.4	66	68.4	10	Snd Lvl	63.9	4.5	8	-3.5
Receiver 39 G to W	107	1	0.0	68.6	66	68.6	10	Snd Lvl	63.8	4.8	8	-3.2
Receiver 40 G to W	108	2	0.0	69.0	66	69.0	10	Snd Lvl	63.9	5.1	8	-2.9
Receiver 41 G to W	109	1	0.0	68.8	66	68.8	10	Snd Lvl	63.7	5.1	8	-2.9
Receiver 42 G to W	110	2	0.0	69.1	66	69.1	10	Snd Lvl	63.7	5.4	8	-2.6
Receiver 43 G to W	111	1	0.0	69.3	66	69.3	10	Snd Lvl	63.7	5.6	8	-2.4
Receiver 44 G to W	112	1	0.0	69.3	66	69.3	10	Snd Lvl	63.7	5.6	8	-2.4
Receiver 45 G to W	113	2	0.0	69.4	66	69.4	10	Snd Lvl	63.7	5.7	8	-2.3
Receiver 46 G to W	115	2	0.0	69.8	66	69.8	10	Snd Lvl	63.7	6.1	8	-1.9
Receiver 47 G to W	116	1	0.0	71.1	66	71.1	10	Snd Lvl	64.5	6.6	8	-1.4
Receiver 48 G to W	119	2	0.0	69.4	66	69.4	10	Snd Lvl	63.8	5.6	8	-2.4
Receiver 49 G to W	120	2	0.0	70.0	66	70.0	10	Snd Lvl	63.9	6.1	8	-1.9
Receiver 50 G to W	121	2	0.0	69.4	66	69.4	10	Snd Lvl	63.4	6.0	8	-2.0
Receiver 51 G to W	124	1	0.0	69.5	66	69.5	10	Snd Lvl	63.7	5.8	8	-2.2
Receiver 52 W to L	125	10	0.0	70.0	66	70.0	10	Snd Lvl	66.4	3.6	8	-4.4
Receiver 54 W to L	139	1	0.0	70.5	66	70.5	10	Snd Lvl	66.6	3.9	8	-4.1
Receiver 55 W to L	140	1	0.0	68.7	66	68.7	10	Snd Lvl	65.2	3.5	8	-4.5
Receiver 58 W to L	143	2	0.0	69.6	66	69.6	10	Snd Lvl	66.4	3.2	8	-4.8
Receiver 59 W to L	144	1	0.0	67.6	66	67.6	10	Snd Lvl	64.8	2.8	8	-5.2
Receiver 60 W to L	145	1	0.0	67.8	66	67.8	10	Snd Lvl	65.3	2.5	8	-5.5
Receiver 63 W to L	148	1	0.0	71.5	66	71.5	10	Snd Lvl	67.5	4.0	8	-4.0
Receiver 64 W to L	149	1	0.0	69.4	66	69.4	10	Snd Lvl	65.6	3.8	8	-4.2
Receiver 66 W to L	151	1	0.0	76.0	66	76.0	10	Snd Lvl	70.7	5.3	8	-2.7

Receiver 68 W to L	153	1	0.0	76.8	66	76.8	10	Snd Lvl	76.3	0.5	8	-7.5
Receiver 73 D to J	158	6	0.0	72.7	66	72.7	10	Snd Lvl	72.7	0.0	8	-8.0
Receiver 74 D to J	159	10	0.0	72.9	66	72.9	10	Snd Lvl	72.9	0.0	8	-8.0
Receiver 75 D to J	160	2	0.0	67.9	66	67.9	10	Snd Lvl	67.8	0.1	8	-7.9
Receiver 76 D to J	161	1	0.0	67.3	66	67.3	10	Snd Lvl	67.2	0.1	8	-7.9
Receiver 77 D to J	162	1	0.0	66.2	66	66.2	10	Snd Lvl	66.1	0.1	8	-7.9
Receiver 78 D to J	163	10	0.0	68.3	66	68.3	10	Snd Lvl	68.2	0.1	8	-7.9
Receiver 79 D to J	164	1	0.0	68.7	66	68.7	10	Snd Lvl	68.6	0.1	8	-7.9
Receiver 80 D to J	165	3	0.0	69.0	66	69.0	10	Snd Lvl	68.9	0.1	8	-7.9
Receiver 81 D to J	166	2	0.0	69.2	66	69.2	10	Snd Lvl	69.1	0.1	8	-7.9
Receiver 82 D to J	167	2	0.0	69.3	66	69.3	10	Snd Lvl	69.2	0.1	8	-7.9
Receiver 83 D to J	168	1	0.0	66.9	66	66.9	10	Snd Lvl	66.8	0.1	8	-7.9
Receiver 84 D to J	169	1	0.0	66.1	66	66.1	10	Snd Lvl	65.9	0.2	8	-7.8
Receiver 85 D to J	170	1	0.0	65.5	66	65.5	10	----	65.3	0.2	8	-7.8
Receiver 86 D to J	171	1	0.0	67.8	66	67.8	10	Snd Lvl	67.7	0.1	8	-7.9
Receiver 87 D to J	172	1	0.0	67.0	66	67.0	10	Snd Lvl	66.8	0.2	8	-7.8
Receiver 88 D to J	173	1	0.0	66.1	66	66.1	10	Snd Lvl	65.9	0.2	8	-7.8
Receiver 89 D to J	174	1	0.0	68.6	66	68.6	10	Snd Lvl	68.5	0.1	8	-7.9
Receiver 90 D to J	175	1	0.0	67.1	66	67.1	10	Snd Lvl	66.8	0.3	8	-7.7
Receiver 91 D to J	176	1	0.0	65.6	66	65.6	10	----	65.3	0.3	8	-7.7
Receiver 92 D to J	177	1	0.0	65.1	66	65.1	10	----	64.7	0.4	8	-7.6
Receiver 93 D to J	178	4	0.0	64.4	66	64.4	10	----	63.7	0.7	8	-7.3
Receiver 94 D to J	179	1	0.0	71.8	66	71.8	10	Snd Lvl	71.6	0.2	8	-7.8
Receiver 95 D to J	180	1	0.0	71.8	66	71.8	10	Snd Lvl	71.6	0.2	8	-7.8
Receiver 96 D to J	189	1	0.0	72.1	66	72.1	10	Snd Lvl	71.1	1.0	8	-7.0
Receiver 97 D to J	190	1	0.0	72.3	66	72.3	10	Snd Lvl	70.8	1.5	8	-6.5
Receiver 98 D to J	191	1	0.0	66.0	66	66.0	10	Snd Lvl	65.5	0.5	8	-7.5
Receiver 99 D to J	193	1	0.0	65.9	66	65.9	10	----	65.3	0.6	8	-7.4
Receiver 100 D to J	194	1	0.0	65.8	66	65.8	10	----	65.0	0.8	8	-7.2
Receiver 101 D to J	195	1	0.0	65.8	66	65.8	10	----	64.9	0.9	8	-7.1
Receiver 102 D to J	196	4	0.0	63.8	66	63.8	10	----	62.0	1.8	8	-6.2
Receiver 103 D to J	197	1	0.0	64.5	66	64.5	10	----	62.7	1.8	8	-6.2
Receiver 104 D to J	199	1	0.0	65.2	66	65.2	10	----	63.4	1.8	8	-6.2
Receiver 105 D to J	201	1	0.0	65.7	66	65.7	10	----	64.0	1.7	8	-6.3
Receiver 106 D to J	202	1	0.0	66.7	66	66.7	10	Snd Lvl	65.2	1.5	8	-6.5
Receiver 107 D to J	203	1	0.0	68.1	66	68.1	10	Snd Lvl	65.9	2.2	8	-5.8
Receiver 109 D to J	205	1	0.0	69.6	66	69.6	10	Snd Lvl	66.6	3.0	8	-5.0
Receiver 110 D to J	206	1	0.0	67.7	66	67.7	10	Snd Lvl	65.3	2.4	8	-5.6
Receiver 111 D to J	207	1	0.0	66.1	66	66.1	10	Snd Lvl	64.3	1.8	8	-6.2
Receiver 112 D to J	208	1	0.0	65.1	66	65.1	10	----	63.3	1.8	8	-6.2
Receiver 113 D to J	209	1	0.0	64.3	66	64.3	10	----	62.3	2.0	8	-6.0

Receiver 122 D to J	218	3	0.0	72.0	66	72.0	10	Snd Lvl	71.9	0.1	8	-7.9
Receiver 123 D to J	219	2	0.0	72.1	66	72.1	10	Snd Lvl	72.0	0.1	8	-7.9
Receiver 124 D to J	220	2	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
Receiver 125 D to J	221	1	0.0	64.7	66	64.7	10	----	63.2	1.5	8	-6.5
Receiver 126 D to J	222	2	0.0	64.9	66	64.9	10	----	63.3	1.6	8	-6.4
Receiver 127 D to J	223	1	0.0	65.0	66	65.0	10	----	63.5	1.5	8	-6.5
Receiver 128 D to J	224	1	0.0	65.0	66	65.0	10	----	63.4	1.6	8	-6.4
Receiver 129 D to J	225	1	0.0	65.0	66	65.0	10	----	63.5	1.5	8	-6.5
Receiver 130 D to J	226	1	0.0	64.7	66	64.7	10	----	64.5	0.2	8	-7.8
Receiver 131 D to J	227	1	0.0	63.8	66	63.8	10	----	63.6	0.2	8	-7.8
Receiver 132 D to J	228	1	0.0	63.0	66	63.0	10	----	62.8	0.2	8	-7.8
Receiver 133 D to J	229	1	0.0	64.2	66	64.2	10	----	64.0	0.2	8	-7.8
Receiver 134 D to J	230	1	0.0	63.4	66	63.4	10	----	63.2	0.2	8	-7.8
Receiver 135 D to J	231	1	0.0	65.1	66	65.1	10	----	64.9	0.2	8	-7.8
Receiver 136 D to J	232	1	0.0	64.4	66	64.4	10	----	64.1	0.3	8	-7.7
Receiver 137 J to C	233	1	0.0	75.1	66	75.1	10	Snd Lvl	68.1	7.0	8	-1.0
Receiver 138 J to C	234	1	0.0	68.5	66	68.5	10	Snd Lvl	64.6	3.9	8	-4.1
Receiver 139 J to C	235	1	0.0	69.6	66	69.6	10	Snd Lvl	65.8	3.8	8	-4.2
Receiver 140 J to C	236	1	0.0	70.8	66	70.8	10	Snd Lvl	66.1	4.7	8	-3.3
Receiver 141 J to C	237	1	0.0	76.0	66	76.0	10	Snd Lvl	68.3	7.7	8	-0.3
Receiver 142 J to C	238	1	0.0	78.4	66	78.4	10	Snd Lvl	69.1	9.3	8	1.3
Receiver 143 J to C	239	2	0.0	76.2	66	76.2	10	Snd Lvl	67.6	8.6	8	0.6
Receiver 144 J to C	240	1	0.0	74.1	66	74.1	10	Snd Lvl	66.4	7.7	8	-0.3
Receiver 145 J to C	241	1	0.0	78.2	66	78.2	10	Snd Lvl	69.0	9.2	8	1.2
Receiver 146 J to C	242	2	0.0	78.1	66	78.1	10	Snd Lvl	69.2	8.9	8	0.9
Receiver 147 J to C	243	1	0.0	77.3	66	77.3	10	Snd Lvl	68.5	8.8	8	0.8
Receiver 148 J to C	244	1	0.0	76.5	66	76.5	10	Snd Lvl	68.4	8.1	8	0.1
Receiver 149 J to C	245	2	0.0	75.3	66	75.3	10	Snd Lvl	68.6	6.7	8	-1.3
Receiver 150 J to C	246	1	0.0	66.9	66	66.9	10	Snd Lvl	63.3	3.6	8	-4.4
Receiver 151 J to C	247	1	0.0	69.3	66	69.3	10	Snd Lvl	64.8	4.5	8	-3.5
Receiver 152 J to C	248	1	0.0	66.8	66	66.8	10	Snd Lvl	62.8	4.0	8	-4.0
Receiver 153 J to C	249	1	0.0	64.2	66	64.2	10	----	60.7	3.5	8	-4.5
Receiver 154 J to C	250	1	0.0	71.4	66	71.4	10	Snd Lvl	65.7	5.7	8	-2.3
Receiver 155 J to C	251	1	0.0	69.5	66	69.5	10	Snd Lvl	64.4	5.1	8	-2.9
Receiver 156 J to C	252	1	0.0	68.6	66	68.6	10	Snd Lvl	63.7	4.9	8	-3.1
Receiver 157 J to C	253	1	0.0	67.5	66	67.5	10	Snd Lvl	62.8	4.7	8	-3.3
Receiver 158 J to C	254	1	0.0	66.5	66	66.5	10	Snd Lvl	61.9	4.6	8	-3.4
Receiver 159 J to C	255	1	0.0	65.7	66	65.7	10	----	61.3	4.4	8	-3.6
Receiver 160 J to C	256	1	0.0	75.3	66	75.3	10	Snd Lvl	67.3	8.0	8	0.0
Receiver 161 J to C	257	1	0.0	72.1	66	72.1	10	Snd Lvl	66.1	6.0	8	-2.0
Receiver 162 J to C	258	1	0.0	70.7	66	70.7	10	Snd Lvl	65.1	5.6	8	-2.4

Receiver 163 J to C	259	1	0.0	69.3	66	69.3	10	Snd Lvl	64.1	5.2	8	-2.8
Receiver 164 J to C	260	1	0.0	68.3	66	68.3	10	Snd Lvl	63.4	4.9	8	-3.1
Receiver 165 J to C	261	1	0.0	67.2	66	67.2	10	Snd Lvl	62.4	4.8	8	-3.2
Receiver 166 J to C	262	1	0.0	66.5	66	66.5	10	Snd Lvl	61.8	4.7	8	-3.3
Receiver 167 J to C	263	1	0.0	65.8	66	65.8	10	----	61.2	4.6	8	-3.4
Receiver 168 J to C	264	1	0.0	71.7	66	71.7	10	Snd Lvl	65.6	6.1	8	-1.9
Receiver 169 J to C	265	1	0.0	70.1	66	70.1	10	Snd Lvl	64.6	5.5	8	-2.5
Receiver 170 J to C	266	1	0.0	66.7	66	66.7	10	Snd Lvl	61.9	4.8	8	-3.2
Receiver 171 J to C	267	1	0.0	71.6	66	71.6	10	Snd Lvl	66.8	4.8	8	-3.2
Receiver 172 J to C	268	1	0.0	68.0	66	68.0	10	Snd Lvl	62.9	5.1	8	-2.9
Receiver 173 J to C	269	1	0.0	67.1	66	67.1	10	Snd Lvl	62.2	4.9	8	-3.1
Receiver 174 J to C	270	1	0.0	66.4	66	66.4	10	Snd Lvl	61.8	4.6	8	-3.4
Receiver 175 J to C	271	1	0.0	65.6	66	65.6	10	----	61.2	4.4	8	-3.6
Receiver 176 J to C	272	1	0.0	75.1	66	75.1	10	Snd Lvl	66.9	8.2	8	0.2
Receiver 177 J to C	273	1	0.0	70.3	66	70.3	10	Snd Lvl	65.5	4.8	8	-3.2
Receiver 178 J to C	274	1	0.0	69.2	66	69.2	10	Snd Lvl	63.9	5.3	8	-2.7
Receiver 179 J to C	275	1	0.0	68.0	66	68.0	10	Snd Lvl	63.4	4.6	8	-3.4
Receiver 180 J to C	276	1	0.0	67.0	66	67.0	10	Snd Lvl	62.4	4.6	8	-3.4
Receiver 181 J to C	277	1	0.0	66.1	66	66.1	10	Snd Lvl	61.8	4.3	8	-3.7
Receiver 182 J to C	278	1	0.0	68.2	66	68.2	10	Snd Lvl	63.5	4.7	8	-3.3
Receiver 183 J to C	279	1	0.0	67.3	66	67.3	10	Snd Lvl	63.1	4.2	8	-3.8
Receiver 184 J to C	280	1	0.0	66.2	66	66.2	10	Snd Lvl	62.4	3.8	8	-4.2

Dwelling Units	# DUs	Noise Reduction Min dB	Avg dB	Max dB
All Selected	244	0.0	3.5	9.3
All Impacted	199	0.0	4.1	9.3
All that meet NR Goal	11	8.0	8.7	9.3

The Corradino Group 12 August 2007
T Stone TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange A-Alternative 1 2035

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
N I-75/Livernois Off-Ramp	point407	502	274	40	2	40	21	40	1	40	1	40

	point1054	1054	274	40	2	40	21	40	1	40	1	40
	point409	504	274	40	2	40	21	40	1	40	1	40
	point413	508										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40
	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	300	56	3	56	27	56	1	56	1	56
	point476	576	300	56	3	56	27	56	1	56	1	56
	point1056	1056	300	56	3	56	27	56	1	56	1	56
	point644	577										
S I-75/Dragoon Off-Ramp	point481	585	274	56	2	56	21	56	1	56	1	56
	point483	587	274	56	2	56	21	56	1	56	1	56
	point484	588	274	56	2	56	21	56	1	56	1	56
	point485	589										
S I-75 Service Drive - 4	point638	594	574	48	5	48	48	48	1	48	1	48
	point489	595	574	48	5	48	48	48	1	48	1	48
	point490	596	574	48	5	48	48	48	1	48	1	48
	point491	597										
Livernois/ S I-75 On-Ramp	point497	600	1399	97	6	97	56	97	1	97	1	97
	point498	601	1399	97	6	97	56	97	1	97	1	97
	point500	603	1399	97	6	97	56	97	1	97	1	97
	point501	604	1399	97	6	97	56	97	1	97	1	97
	point503	606										
S I-75 Service Drive - 5	point491	971	200	56	3	56	27	56	1	56	1	56
	point504	607	200	56	3	56	27	56	1	56	1	56
	point505	608	200	56	3	56	27	56	1	56	1	56
	point975	975	200	56	3	56	27	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	360	40	15	40	20	40	1	40	1	40
	point531	638	450	40	30	40	80	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	40	40	40	60	40	1	40	1	40
	point687	687	700	40	40	40	60	40	1	40	1	40
	point943	943	700	40	40	40	60	40	1	40	1	40
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48
	point960	960	85	48	5	48	10	48	1	48	1	48
	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	12	40	1	40	1	40
	point819	819	120	40	4	40	12	40	1	40	1	40
	point961	961	120	40	4	40	12	40	1	40	1	40
	point962	962	120	40	4	40	12	40	1	40	1	40
	point820	820	120	40	4	40	12	40	1	40	1	40
	point821	821	120	40	4	40	12	40	1	40	1	40
	point822	822										
Livernois	Lafayette	929	324	56	35	56	60	56	1	56	1	56
	SB SD	930	162	56	12	56	30	56	1	56	1	56
	point953	953	162	56	12	56	30	56	1	56	1	56
	point954	954	162	56	12	56	30	56	1	56	1	56

	NB SD	933	162	56	12	56	30	56	1	56	1	56
	WB Fort	934	162	56	12	56	30	56	1	56	1	56
	EB Fort	935										
S I-75 Service Drive - 3	point645	579	574	56	5	56	48	56	1	56	1	56
	point478	581	574	56	5	56	48	56	1	56	1	56
	point494	583	574	56	5	56	48	56	1	56	1	56
	point480	584	574	56	5	56	48	56	1	56	1	56
	point495	968	574	56	5	56	48	56	1	56	1	56
	point488	969										
S I-75 Service Drive - 6	point631	612	200	56	3	56	27	56	1	56	1	56
	point509	613	200	56	3	56	27	56	1	56	1	56
	point510	614	200	56	3	56	27	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	200	56	3	56	27	56	1	56	1	56
	point514	620	200	56	3	56	27	56	1	56	1	56
	point515	621	200	56	3	56	27	56	1	56	1	56
	point516	622	200	56	3	56	27	56	1	56	1	56
	point518	624	200	56	3	56	27	56	1	56	1	56
	point525	978	200	56	3	56	27	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	225	74	27	74	238	74	1	74	1	74
	point1058	1058	225	74	27	74	238	74	1	74	1	74
	point1006	1006	225	76	27	76	238	76	1	76	1	76
	point1007	1007	225	78	27	78	238	78	1	78	1	78
	point1008	1008	225	89	27	89	238	89	1	89	1	89
	point1010	1010										
Inbound from SB I-75	point1012	1012	792	89	15	89	131	89	1	89	1	89
	point1013	1013	792	85	15	85	131	85	1	85	1	85
	point1014	1014	792	83	15	83	131	83	1	83	1	83
	point1015	1015	792	81	15	81	131	81	1	81	1	81
	point1016	1016										
Dragoon/N I-75 On-Ramp	point1063	1063	274	97	2	97	21	97	1	97	1	97
	point1064	1064	274	97	2	97	21	97	1	97	1	97
	point1065	1065	274	97	2	97	21	97	1	97	1	97

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point1066	1066	274	97	2	97	21	97	1	97	1	97
	point1067	1067	274	97	2	97	21	97	1	97	1	97
	point1068	1068										

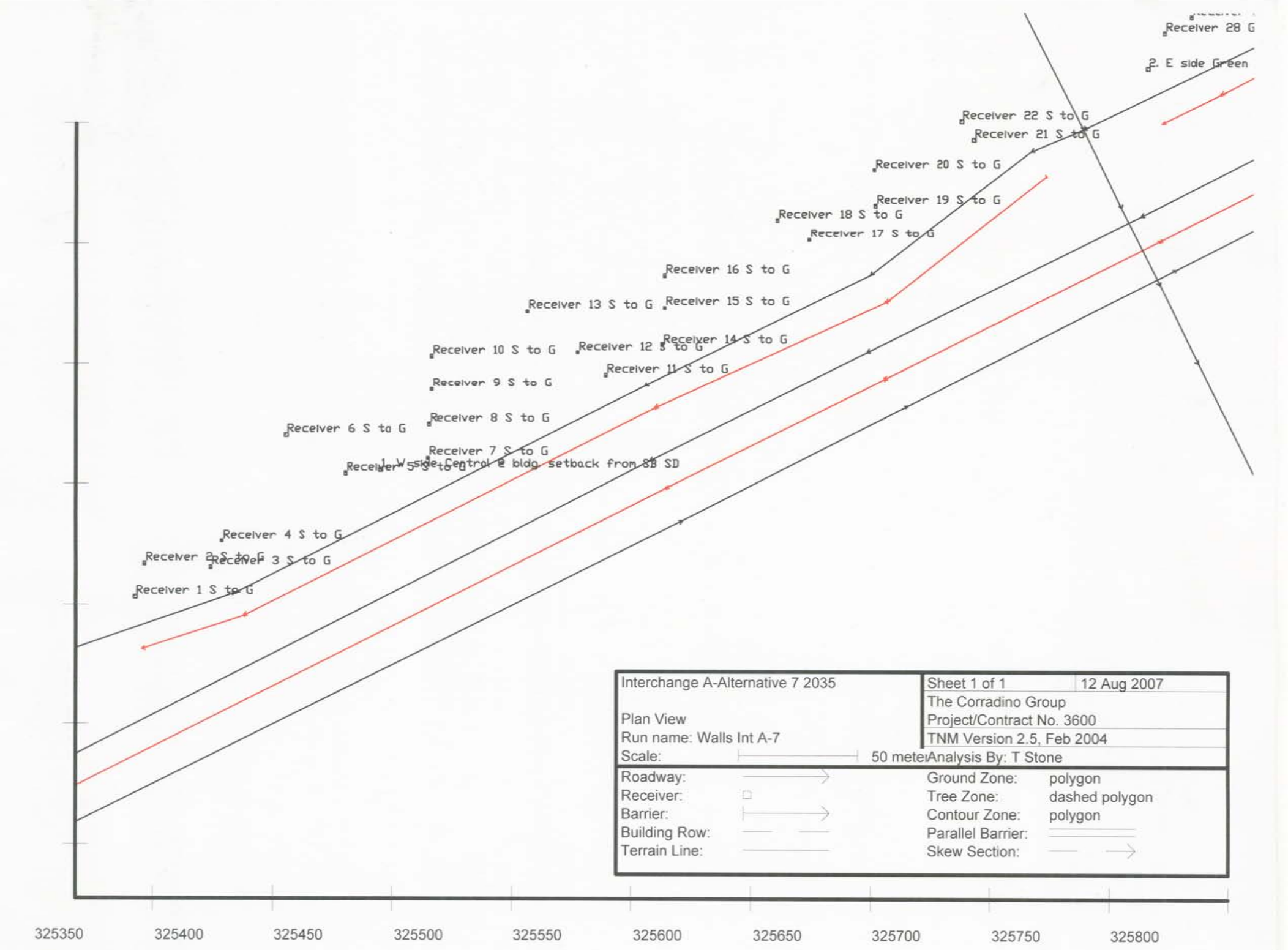
The Corradino Group 15 August 2007
T Stone TNM 2.5

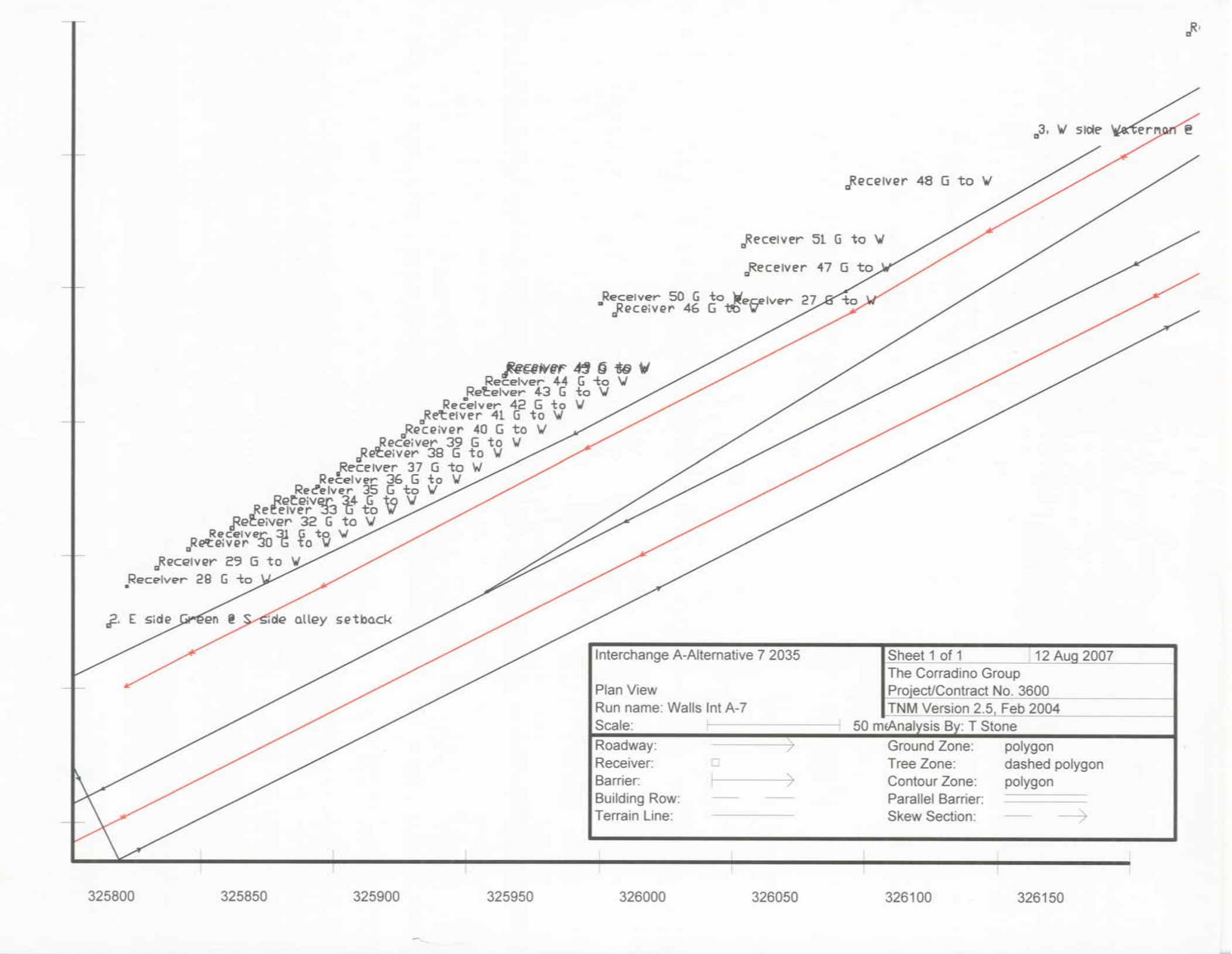
RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange A-Alternative 1 2035
BARRIER DESIGN: INPUT HEIGHTS

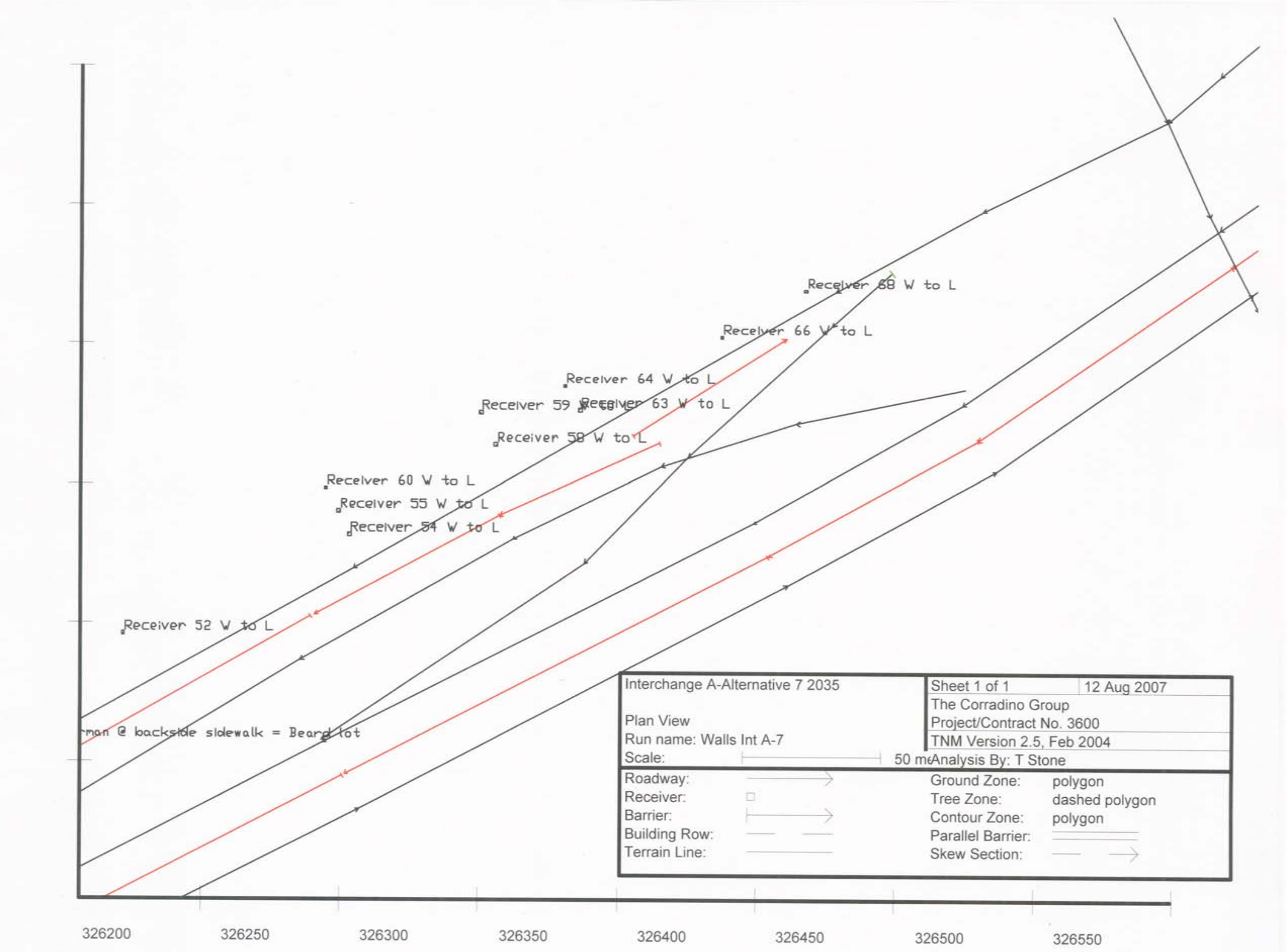
Barriers

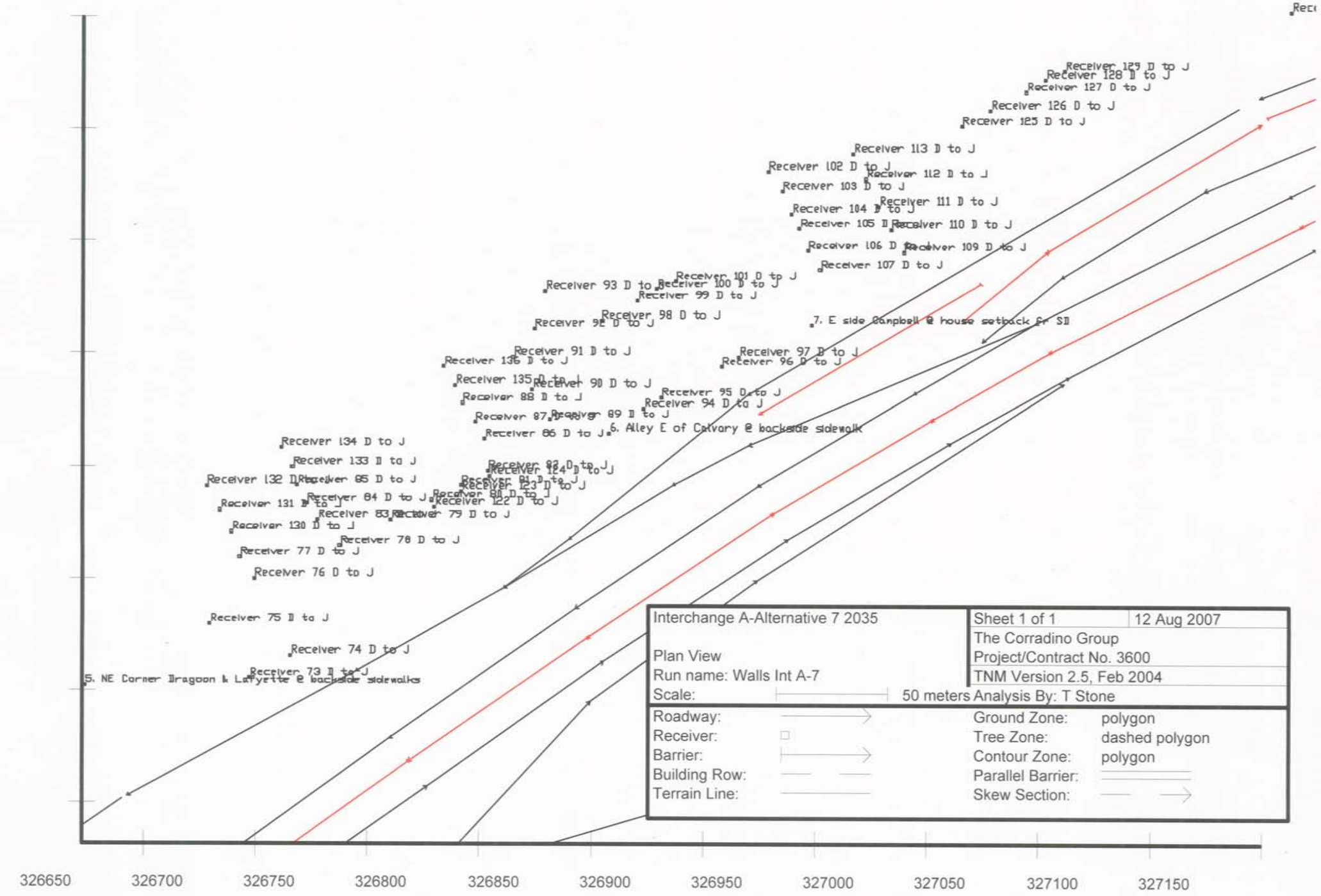
Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	267	293				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1373	1510				0
Barrier to SB I-75	W	2.70	2.70	2.70	139	374				214496
Barrier from SB I-75	W	2.70	2.85	3.70	159	454				252909
Dragoon to Junction	W	3.70	3.70	3.70	115	424				208072
Green to Waterman to Casgrain	W	3.70	3.70	3.70	532	1967				965189
Springwells to Green	W	3.70	3.70	3.70	428	1584				777488
Junction to Clark	W	3.70	3.70	3.70	529	1957				960389
Livernois ramp to SB I-75	W	3.70	3.70	3.70	65	241				118046
									Total Cost:	3496591

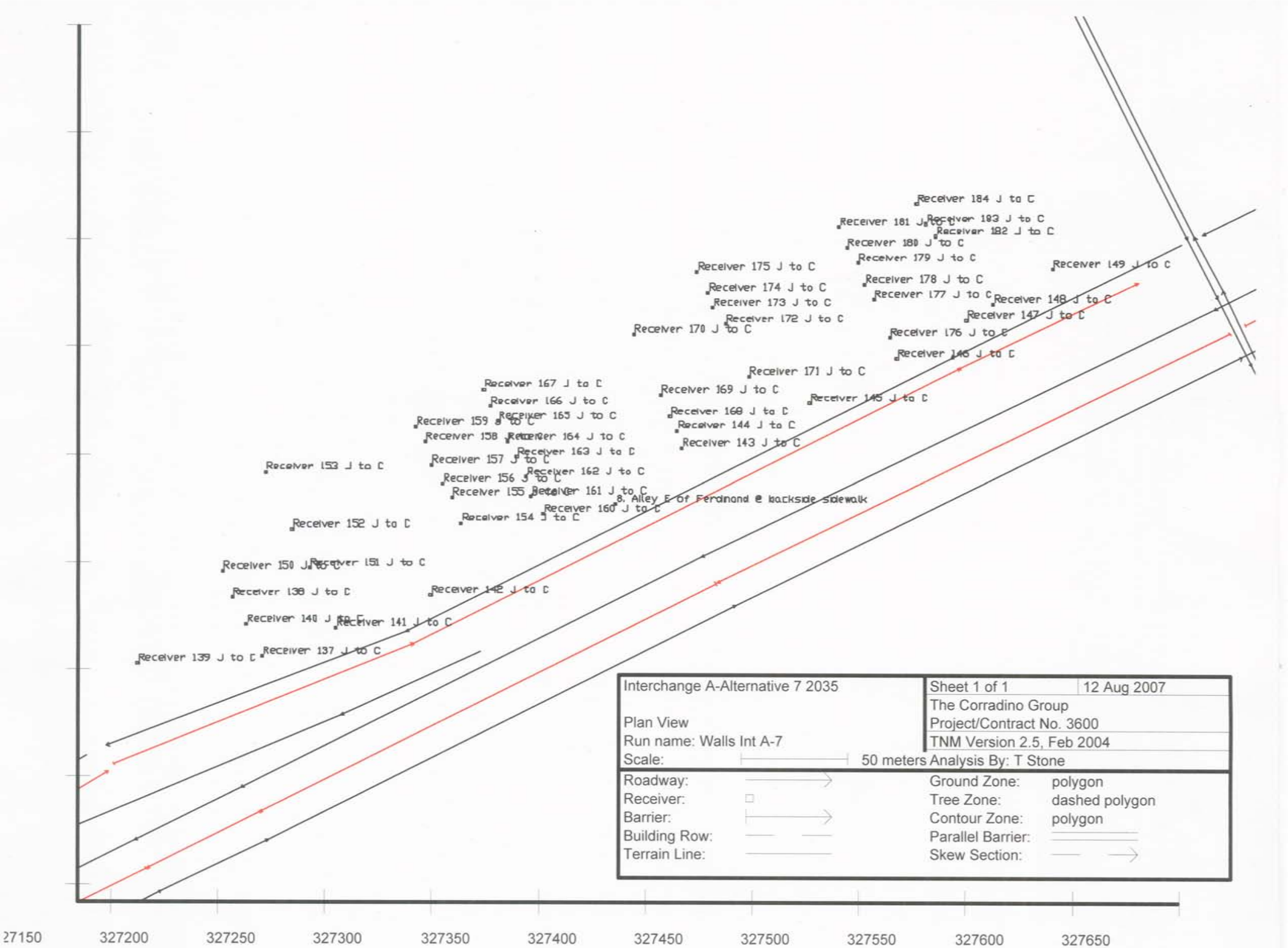
Interchange A – Alternative 7 – 2035


Receiver 28 G
2. E side Green
Receiver 22 S to G
Receiver 21 S to G
Receiver 20 S to G
Receiver 19 S to G
Receiver 18 S to G
Receiver 17 S to G
Receiver 16 S to G
Receiver 13 S to G
Receiver 15 S to G
Receiver 10 S to G
Receiver 12 S to G
Receiver 14 S to G
Receiver 11 S to G
Receiver 9 S to G
Receiver 6 S to G
Receiver 8 S to G
Receiver 7 S to G
1. W side Control E bldg. setback from SB SD
Receiver 5 S to G
Receiver 4 S to G
Receiver 2 S to G
Receiver 3 S to G
Receiver 1 S to G
Interchange A-Alternative 7 2035
Plan View
Run name: Walls Int A-7
Scale:
50 meter
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325350
325400
325450
325500
325550
325600
325650
325700
325750
325800


R
3. W side Waterman @
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
Interchange A-Alternative 7 2035
Plan View
Run name: Walls Int A-7
Scale:
50 m
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325800
325850
325900
325950
326000
326050
326100
326150


Receiver 68 W to L
Receiver 66 W to L
Receiver 64 W to L
Receiver 59
Receiver 63 W to L
Receiver 58 W to L
Receiver 60 W to L
Receiver 55 W to L
Receiver 54 W to L
Receiver 52 W to L
man @ backside sidewalk = Beard lot
Interchange A-Alternative 7 2035
Plan View
Run name: Walls Int A-7
Scale:
50 m
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326200
326250
326300
326350
326400
326450
326500
326550


Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D
Receiver 110 D to J
Receiver 106 D
Receiver 109 D to J
Receiver 107 D to J
Receiver 101 D to J
Receiver 93 D to
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback fr SB
Receiver 91 D to J
Receiver 97 D to J
Receiver 136 D to J
Receiver 96 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 88 D to J
Receiver 95 D to J
Receiver 94 D to J
Receiver 87
Receiver 89 D to J
Receiver 86 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 134 D to J
Receiver 133 D to J
Receiver 132 D
Receiver 85 D to J
Receiver 84 D to J
Receiver 131 D to J
Receiver 83
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
5. NE Corner Dragoon & Lafyette @ backside sidewalks
Interchange A-Alternative 7 2035
Plan View
Run name: Walls Int A-7
Scale: 50 meters
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326650
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 178 J to C
Receiver 149 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 173 J to C
Receiver 148 J to C
Receiver 172 J to C
Receiver 147 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 145 J to C
Receiver 166 J to C
Receiver 165 J to C
Receiver 168 J to C
Receiver 159 J to C
Receiver 144 J to C
Receiver 158 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 157 J to C
Receiver 153 J to C
Receiver 162 J to C
Receiver 156 J to C
Receiver 155 J to C
Receiver 161 J to C
8. Alley E of Ferdinand @ backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 151 J to C
Receiver 150 J to C
Receiver 138 J to C
Receiver 142 J to C
Receiver 140 J to C
Receiver 141 J to C
Receiver 139 J to C
Receiver 137 J to C
Interchange A-Alternative 7 2035
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int A-7
TNM Version 2.5, Feb 2004
Scale:
50 meters
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
27150
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange A-Alternative 7 2035
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.7	66	72.7	10	Snd Lvl	72.3	0.4	8	-7.6
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	77.9	66	77.9	10	Snd Lvl	68.9	9.0	8	1.0
7. E side Campbell @ house setback fr SI	36	1	0.0	72.9	66	72.9	10	Snd Lvl	69.3	3.6	8	-4.4
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	66.4	66	66.4	10	Snd Lvl	66.4	0.0	8	-8.0
3. W side Waterman @ backside sidewalk	58	1	0.0	71.3	66	71.3	10	Snd Lvl	65.9	5.4	8	-2.6
2. E side Green @ S side alley setback	60	2	0.0	72.2	66	72.2	10	Snd Lvl	69.8	2.4	8	-5.6
1. W side Central @ bldg. setback from SE	61	4	0.0	73.7	66	73.7	10	Snd Lvl	66.4	7.3	8	-0.7
Receiver 1 S to G	62	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 2 S to G	63	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	64	1	0.0	74.2	66	74.2	10	Snd Lvl	68.0	6.2	8	-1.8
Receiver 4 S to G	65	1	0.0	72.4	66	72.4	10	Snd Lvl	69.3	3.1	8	-4.9
Receiver 5 S to G	66	1	0.0	71.6	66	71.6	10	Snd Lvl	66.2	5.4	8	-2.6
Receiver 6 S to G	68	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 7 S to G	69	1	0.0	73.7	66	73.7	10	Snd Lvl	66.3	7.4	8	-0.6
Receiver 8 S to G	70	1	0.0	71.1	66	71.1	10	Snd Lvl	65.1	6.0	8	-2.0
Receiver 9 S to G	71	1	0.0	69.3	66	69.3	10	Snd Lvl	64.4	4.9	8	-3.1
Receiver 10 S to G	72	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 11 S to G	73	1	0.0	74.3	66	74.3	10	Snd Lvl	66.6	7.7	8	-0.3
Receiver 12 S to G	74	1	0.0	71.1	66	71.1	10	Snd Lvl	64.8	6.3	8	-1.7
Receiver 13 S to G	75	2	0.0	68.2	66	68.2	10	Snd Lvl	62.7	5.5	8	-2.5
Receiver 14 S to G	76	1	0.0	73.9	66	73.9	10	Snd Lvl	66.4	7.5	8	-0.5
Receiver 15 S to G	77	1	0.0	70.7	66	70.7	10	Snd Lvl	64.7	6.0	8	-2.0

Receiver 16 S to G	78	1	0.0	69.3	66	69.3	10	Snd Lvl	63.5	5.8	8	-2.2
Receiver 17 S to G	79	2	0.0	70.3	66	70.3	10	Snd Lvl	64.5	5.8	8	-2.2
Receiver 18 S to G	80	1	0.0	68.7	66	68.7	10	Snd Lvl	63.5	5.2	8	-2.8
Receiver 19 S to G	81	1	0.0	69.7	66	69.7	10	Snd Lvl	64.5	5.2	8	-2.8
Receiver 20 S to G	82	1	0.0	68.1	66	68.1	10	Snd Lvl	63.4	4.7	8	-3.3
Receiver 21 S to G	83	1	0.0	67.9	66	67.9	10	Snd Lvl	64.8	3.1	8	-4.9
Receiver 22 S to G	89	1	0.0	67.5	66	67.5	10	Snd Lvl	64.0	3.5	8	-4.5
Receiver 27 G to W	95	2	0.0	72.6	66	72.6	10	Snd Lvl	65.4	7.2	8	-0.8
Receiver 28 G to W	96	4	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 29 G to W	97	2	0.0	66.2	66	66.2	10	Snd Lvl	63.8	2.4	8	-5.6
Receiver 30 G to W	98	2	0.0	67.4	66	67.4	10	Snd Lvl	64.2	3.2	8	-4.8
Receiver 31 G to W	99	1	0.0	67.2	66	67.2	10	Snd Lvl	64.2	3.0	8	-5.0
Receiver 32 G to W	100	1	0.0	66.9	66	66.9	10	Snd Lvl	64.0	2.9	8	-5.1
Receiver 33 G to W	101	1	0.0	67.1	66	67.1	10	Snd Lvl	63.9	3.2	8	-4.8
Receiver 34 G to W	102	2	0.0	67.3	66	67.3	10	Snd Lvl	64.0	3.3	8	-4.7
Receiver 35 G to W	103	2	0.0	67.8	66	67.8	10	Snd Lvl	63.9	3.9	8	-4.1
Receiver 36 G to W	104	2	0.0	67.9	66	67.9	10	Snd Lvl	64.0	3.9	8	-4.1
Receiver 37 G to W	105	2	0.0	68.2	66	68.2	10	Snd Lvl	63.9	4.3	8	-3.7
Receiver 38 G to W	106	1	0.0	68.3	66	68.3	10	Snd Lvl	63.8	4.5	8	-3.5
Receiver 39 G to W	107	1	0.0	68.4	66	68.4	10	Snd Lvl	63.8	4.6	8	-3.4
Receiver 40 G to W	108	2	0.0	68.8	66	68.8	10	Snd Lvl	63.8	5.0	8	-3.0
Receiver 41 G to W	109	1	0.0	68.7	66	68.7	10	Snd Lvl	63.6	5.1	8	-2.9
Receiver 42 G to W	110	2	0.0	69.0	66	69.0	10	Snd Lvl	63.6	5.4	8	-2.6
Receiver 43 G to W	111	1	0.0	69.1	66	69.1	10	Snd Lvl	63.6	5.5	8	-2.5
Receiver 44 G to W	112	1	0.0	69.0	66	69.0	10	Snd Lvl	63.6	5.4	8	-2.6
Receiver 45 G to W	113	2	0.0	69.2	66	69.2	10	Snd Lvl	63.6	5.6	8	-2.4
Receiver 46 G to W	115	2	0.0	69.5	66	69.5	10	Snd Lvl	63.5	6.0	8	-2.0
Receiver 47 G to W	116	1	0.0	70.6	66	70.6	10	Snd Lvl	64.3	6.3	8	-1.7
Receiver 48 G to W	119	2	0.0	68.6	66	68.6	10	Snd Lvl	63.4	5.2	8	-2.8
Receiver 49 G to W	120	2	0.0	69.8	66	69.8	10	Snd Lvl	63.8	6.0	8	-2.0
Receiver 50 G to W	121	2	0.0	69.1	66	69.1	10	Snd Lvl	63.2	5.9	8	-2.1
Receiver 51 G to W	124	1	0.0	69.0	66	69.0	10	Snd Lvl	63.4	5.6	8	-2.4
Receiver 52 W to L	125	10	0.0	68.7	66	68.7	10	Snd Lvl	65.4	3.3	8	-4.7
Receiver 54 W to L	139	1	0.0	69.6	66	69.6	10	Snd Lvl	66.2	3.4	8	-4.6
Receiver 55 W to L	140	1	0.0	67.8	66	67.8	10	Snd Lvl	64.7	3.1	8	-4.9
Receiver 58 W to L	143	2	0.0	69.1	66	69.1	10	Snd Lvl	66.2	2.9	8	-5.1
Receiver 59 W to L	144	1	0.0	67.0	66	67.0	10	Snd Lvl	64.5	2.5	8	-5.5
Receiver 60 W to L	145	1	0.0	66.8	66	66.8	10	Snd Lvl	64.6	2.2	8	-5.8
Receiver 63 W to L	148	1	0.0	71.2	66	71.2	10	Snd Lvl	67.3	3.9	8	-4.1
Receiver 64 W to L	149	1	0.0	69.0	66	69.0	10	Snd Lvl	65.4	3.6	8	-4.4
Receiver 66 W to L	151	1	0.0	75.9	66	75.9	10	Snd Lvl	70.6	5.3	8	-2.7

Receiver 68 W to L	153	1	0.0	76.8	66	76.8	10	Snd Lvl	76.3	0.5	8	-7.5
Receiver 73 D to J	158	6	0.0	72.7	66	72.7	10	Snd Lvl	72.7	0.0	8	-8.0
Receiver 74 D to J	159	10	0.0	72.9	66	72.9	10	Snd Lvl	72.9	0.0	8	-8.0
Receiver 75 D to J	160	2	0.0	67.9	66	67.9	10	Snd Lvl	67.8	0.1	8	-7.9
Receiver 76 D to J	161	1	0.0	67.3	66	67.3	10	Snd Lvl	67.2	0.1	8	-7.9
Receiver 77 D to J	162	1	0.0	66.2	66	66.2	10	Snd Lvl	66.1	0.1	8	-7.9
Receiver 78 D to J	163	10	0.0	68.3	66	68.3	10	Snd Lvl	68.2	0.1	8	-7.9
Receiver 79 D to J	164	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
Receiver 80 D to J	165	3	0.0	69.0	66	69.0	10	Snd Lvl	68.9	0.1	8	-7.9
Receiver 81 D to J	166	2	0.0	69.2	66	69.2	10	Snd Lvl	69.1	0.1	8	-7.9
Receiver 82 D to J	167	2	0.0	69.3	66	69.3	10	Snd Lvl	69.2	0.1	8	-7.9
Receiver 83 D to J	168	1	0.0	66.9	66	66.9	10	Snd Lvl	66.8	0.1	8	-7.9
Receiver 84 D to J	169	1	0.0	66.1	66	66.1	10	Snd Lvl	65.9	0.2	8	-7.8
Receiver 85 D to J	170	1	0.0	65.5	66	65.5	10	----	65.3	0.2	8	-7.8
Receiver 86 D to J	171	1	0.0	67.8	66	67.8	10	Snd Lvl	67.7	0.1	8	-7.9
Receiver 87 D to J	172	1	0.0	67.0	66	67.0	10	Snd Lvl	66.8	0.2	8	-7.8
Receiver 88 D to J	173	1	0.0	66.1	66	66.1	10	Snd Lvl	65.9	0.2	8	-7.8
Receiver 89 D to J	174	1	0.0	68.6	66	68.6	10	Snd Lvl	68.5	0.1	8	-7.9
Receiver 90 D to J	175	1	0.0	67.1	66	67.1	10	Snd Lvl	66.8	0.3	8	-7.7
Receiver 91 D to J	176	1	0.0	65.6	66	65.6	10	----	65.3	0.3	8	-7.7
Receiver 92 D to J	177	1	0.0	65.1	66	65.1	10	----	64.7	0.4	8	-7.6
Receiver 93 D to J	178	4	0.0	64.4	66	64.4	10	----	63.7	0.7	8	-7.3
Receiver 94 D to J	179	1	0.0	71.8	66	71.8	10	Snd Lvl	71.6	0.2	8	-7.8
Receiver 95 D to J	180	1	0.0	71.8	66	71.8	10	Snd Lvl	71.6	0.2	8	-7.8
Receiver 96 D to J	189	1	0.0	72.1	66	72.1	10	Snd Lvl	71.1	1.0	8	-7.0
Receiver 97 D to J	190	1	0.0	72.3	66	72.3	10	Snd Lvl	70.8	1.5	8	-6.5
Receiver 98 D to J	191	1	0.0	66.0	66	66.0	10	Snd Lvl	65.5	0.5	8	-7.5
Receiver 99 D to J	193	1	0.0	65.9	66	65.9	10	----	65.3	0.6	8	-7.4
Receiver 100 D to J	194	1	0.0	65.7	66	65.7	10	----	65.0	0.7	8	-7.3
Receiver 101 D to J	195	1	0.0	65.7	66	65.7	10	----	64.9	0.8	8	-7.2
Receiver 102 D to J	196	4	0.0	63.8	66	63.8	10	----	62.0	1.8	8	-6.2
Receiver 103 D to J	197	1	0.0	64.5	66	64.5	10	----	62.7	1.8	8	-6.2
Receiver 104 D to J	199	1	0.0	65.2	66	65.2	10	----	63.4	1.8	8	-6.2
Receiver 105 D to J	201	1	0.0	65.6	66	65.6	10	----	64.0	1.6	8	-6.4
Receiver 106 D to J	202	1	0.0	66.7	66	66.7	10	Snd Lvl	65.2	1.5	8	-6.5
Receiver 107 D to J	203	1	0.0	68.1	66	68.1	10	Snd Lvl	65.9	2.2	8	-5.8
Receiver 109 D to J	205	1	0.0	69.6	66	69.6	10	Snd Lvl	66.6	3.0	8	-5.0
Receiver 110 D to J	206	1	0.0	67.7	66	67.7	10	Snd Lvl	65.3	2.4	8	-5.6
Receiver 111 D to J	207	1	0.0	66.1	66	66.1	10	Snd Lvl	64.3	1.8	8	-6.2
Receiver 112 D to J	208	1	0.0	65.1	66	65.1	10	----	63.3	1.8	8	-6.2
Receiver 113 D to J	209	1	0.0	64.3	66	64.3	10	----	62.3	2.0	8	-6.0

Receiver 122 D to J	218	3	0.0	72.0	66	72.0	10	Snd Lvl	71.9	0.1	8	-7.9
Receiver 123 D to J	219	2	0.0	72.1	66	72.1	10	Snd Lvl	72.0	0.1	8	-7.9
Receiver 124 D to J	220	2	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
Receiver 125 D to J	221	1	0.0	64.7	66	64.7	10	----	63.2	1.5	8	-6.5
Receiver 126 D to J	222	2	0.0	64.9	66	64.9	10	----	63.3	1.6	8	-6.4
Receiver 127 D to J	223	1	0.0	65.0	66	65.0	10	----	63.5	1.5	8	-6.5
Receiver 128 D to J	224	1	0.0	65.0	66	65.0	10	----	63.4	1.6	8	-6.4
Receiver 129 D to J	225	1	0.0	65.0	66	65.0	10	----	63.4	1.6	8	-6.4
Receiver 130 D to J	226	1	0.0	64.6	66	64.6	10	----	64.5	0.1	8	-7.9
Receiver 131 D to J	227	1	0.0	63.8	66	63.8	10	----	63.6	0.2	8	-7.8
Receiver 132 D to J	228	1	0.0	63.0	66	63.0	10	----	62.8	0.2	8	-7.8
Receiver 133 D to J	229	1	0.0	64.2	66	64.2	10	----	64.0	0.2	8	-7.8
Receiver 134 D to J	230	1	0.0	63.4	66	63.4	10	----	63.2	0.2	8	-7.8
Receiver 135 D to J	231	1	0.0	65.1	66	65.1	10	----	64.9	0.2	8	-7.8
Receiver 136 D to J	232	1	0.0	64.4	66	64.4	10	----	64.1	0.3	8	-7.7
Receiver 137 J to C	233	1	0.0	75.0	66	75.0	10	Snd Lvl	68.1	6.9	8	-1.1
Receiver 138 J to C	234	1	0.0	68.4	66	68.4	10	Snd Lvl	64.6	3.8	8	-4.2
Receiver 139 J to C	235	1	0.0	69.5	66	69.5	10	Snd Lvl	65.8	3.7	8	-4.3
Receiver 140 J to C	236	1	0.0	70.8	66	70.8	10	Snd Lvl	66.1	4.7	8	-3.3
Receiver 141 J to C	237	1	0.0	75.8	66	75.8	10	Snd Lvl	68.2	7.6	8	-0.4
Receiver 142 J to C	238	1	0.0	78.3	66	78.3	10	Snd Lvl	69.1	9.2	8	1.2
Receiver 143 J to C	239	2	0.0	76.2	66	76.2	10	Snd Lvl	67.6	8.6	8	0.6
Receiver 144 J to C	240	1	0.0	74.1	66	74.1	10	Snd Lvl	66.4	7.7	8	-0.3
Receiver 145 J to C	241	1	0.0	78.2	66	78.2	10	Snd Lvl	69.0	9.2	8	1.2
Receiver 146 J to C	242	2	0.0	78.0	66	78.0	10	Snd Lvl	69.2	8.8	8	0.8
Receiver 147 J to C	243	1	0.0	77.3	66	77.3	10	Snd Lvl	68.5	8.8	8	0.8
Receiver 148 J to C	244	1	0.0	76.5	66	76.5	10	Snd Lvl	68.4	8.1	8	0.1
Receiver 149 J to C	245	2	0.0	75.3	66	75.3	10	Snd Lvl	68.6	6.7	8	-1.3
Receiver 150 J to C	246	1	0.0	66.9	66	66.9	10	Snd Lvl	63.3	3.6	8	-4.4
Receiver 151 J to C	247	1	0.0	69.2	66	69.2	10	Snd Lvl	64.7	4.5	8	-3.5
Receiver 152 J to C	248	1	0.0	66.7	66	66.7	10	Snd Lvl	62.7	4.0	8	-4.0
Receiver 153 J to C	249	1	0.0	64.1	66	64.1	10	----	60.7	3.4	8	-4.6
Receiver 154 J to C	250	1	0.0	71.3	66	71.3	10	Snd Lvl	65.6	5.7	8	-2.3
Receiver 155 J to C	251	1	0.0	69.5	66	69.5	10	Snd Lvl	64.4	5.1	8	-2.9
Receiver 156 J to C	252	1	0.0	68.5	66	68.5	10	Snd Lvl	63.7	4.8	8	-3.2
Receiver 157 J to C	253	1	0.0	67.4	66	67.4	10	Snd Lvl	62.7	4.7	8	-3.3
Receiver 158 J to C	254	1	0.0	66.4	66	66.4	10	Snd Lvl	61.8	4.6	8	-3.4
Receiver 159 J to C	255	1	0.0	65.6	66	65.6	10	----	61.2	4.4	8	-3.6
Receiver 160 J to C	256	1	0.0	75.3	66	75.3	10	Snd Lvl	67.3	8.0	8	0.0
Receiver 161 J to C	257	1	0.0	72.1	66	72.1	10	Snd Lvl	66.0	6.1	8	-1.9
Receiver 162 J to C	258	1	0.0	70.7	66	70.7	10	Snd Lvl	65.1	5.6	8	-2.4

Receiver 163 J to C	259	1	0.0	69.3	66	69.3	10	Snd Lvl	64.1	5.2	8	-2.8
Receiver 164 J to C	260	1	0.0	68.3	66	68.3	10	Snd Lvl	63.3	5.0	8	-3.0
Receiver 165 J to C	261	1	0.0	67.2	66	67.2	10	Snd Lvl	62.4	4.8	8	-3.2
Receiver 166 J to C	262	1	0.0	66.4	66	66.4	10	Snd Lvl	61.8	4.6	8	-3.4
Receiver 167 J to C	263	1	0.0	65.7	66	65.7	10	----	61.2	4.5	8	-3.5
Receiver 168 J to C	264	1	0.0	71.7	66	71.7	10	Snd Lvl	65.6	6.1	8	-1.9
Receiver 169 J to C	265	1	0.0	70.1	66	70.1	10	Snd Lvl	64.5	5.6	8	-2.4
Receiver 170 J to C	266	1	0.0	66.6	66	66.6	10	Snd Lvl	61.9	4.7	8	-3.3
Receiver 171 J to C	267	1	0.0	71.6	66	71.6	10	Snd Lvl	66.8	4.8	8	-3.2
Receiver 172 J to C	268	1	0.0	68.0	66	68.0	10	Snd Lvl	62.9	5.1	8	-2.9
Receiver 173 J to C	269	1	0.0	67.1	66	67.1	10	Snd Lvl	62.2	4.9	8	-3.1
Receiver 174 J to C	270	1	0.0	66.4	66	66.4	10	Snd Lvl	61.8	4.6	8	-3.4
Receiver 175 J to C	271	1	0.0	65.5	66	65.5	10	----	61.1	4.4	8	-3.6
Receiver 176 J to C	272	1	0.0	75.1	66	75.1	10	Snd Lvl	66.9	8.2	8	0.2
Receiver 177 J to C	273	1	0.0	70.3	66	70.3	10	Snd Lvl	65.5	4.8	8	-3.2
Receiver 178 J to C	274	1	0.0	69.2	66	69.2	10	Snd Lvl	63.9	5.3	8	-2.7
Receiver 179 J to C	275	1	0.0	68.0	66	68.0	10	Snd Lvl	63.4	4.6	8	-3.4
Receiver 180 J to C	276	1	0.0	67.0	66	67.0	10	Snd Lvl	62.4	4.6	8	-3.4
Receiver 181 J to C	277	1	0.0	66.1	66	66.1	10	Snd Lvl	61.8	4.3	8	-3.7
Receiver 182 J to C	278	1	0.0	68.2	66	68.2	10	Snd Lvl	63.5	4.7	8	-3.3
Receiver 183 J to C	279	1	0.0	67.3	66	67.3	10	Snd Lvl	63.1	4.2	8	-3.8
Receiver 184 J to C	280	1	0.0	66.2	66	66.2	10	Snd Lvl	62.4	3.8	8	-4.2

Dwelling Units	# DUs	Noise Reduction Min dB	Avg dB	Max dB
All Selected	244	0.0	3.4	9.2
All Impacted	199	0.0	4.0	9.2
All that meet NR Goal	11	8.0	8.7	9.2

The Corradino Group
T Stone

12 August 2007
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange A-Alternative 7 2035

Roadway	Points		Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
Name	Name	No.	V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
N I-75/Livernois Off-Ramp	point407	502	274	40	2	40	21	40	1	40	1	40

	point1054	1054	274	40	2	40	21	40	1	40	1	40
	point409	504	274	40	2	40	21	40	1	40	1	40
	point413	508										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40
	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	300	56	3	56	27	56	1	56	1	56
	point476	576	300	56	3	56	27	56	1	56	1	56
	point1056	1056	300	56	3	56	27	56	1	56	1	56
	point644	577										
S I-75/Dragoon Off-Ramp	point481	585	274	56	2	56	21	56	1	56	1	56
	point483	587	274	56	2	56	21	56	1	56	1	56
	point484	588	274	56	2	56	21	56	1	56	1	56
	point485	589										
S I-75 Service Drive - 4	point638	594	574	48	5	48	48	48	1	48	1	48
	point489	595	574	48	5	48	48	48	1	48	1	48
	point490	596	574	48	5	48	48	48	1	48	1	48
	point491	597										
Livernois/ S I-75 On-Ramp	point497	600	1399	97	6	97	56	97	1	97	1	97
	point498	601	1399	97	6	97	56	97	1	97	1	97
	point500	603	1399	97	6	97	56	97	1	97	1	97
	point501	604	1399	97	6	97	56	97	1	97	1	97
	point503	606										
S I-75 Service Drive - 5	point491	971	200	56	3	56	27	56	1	56	1	56
	point504	607	200	56	3	56	27	56	1	56	1	56
	point505	608	200	56	3	56	27	56	1	56	1	56
	point975	975	200	56	3	56	27	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	360	40	15	40	20	40	1	40	1	40
	point531	638	450	40	30	40	80	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97

	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	40	40	40	60	40	1	40	1	40
	point687	687	700	40	40	40	60	40	1	40	1	40
	point943	943	700	40	40	40	60	40	1	40	1	40
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48
	point960	960	85	48	5	48	10	48	1	48	1	48
	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	12	40	1	40	1	40
	point819	819	120	40	4	40	12	40	1	40	1	40
	point961	961	120	40	4	40	12	40	1	40	1	40
	point962	962	120	40	4	40	12	40	1	40	1	40
	point820	820	120	40	4	40	12	40	1	40	1	40
	point821	821	120	40	4	40	12	40	1	40	1	40
	point822	822										
Livernois	Lafayette	929	324	56	35	56	60	56	1	56	1	56
	SB SD	930	162	56	12	56	30	56	1	56	1	56
	point953	953	162	56	12	56	30	56	1	56	1	56
	point954	954	162	56	12	56	30	56	1	56	1	56

	NB SD	933	162	56	12	56	30	56	1	56	1	56
	WB Fort	934	162	56	12	56	30	56	1	56	1	56
	EB Fort	935										
S I-75 Service Drive - 3	point645	579	574	56	5	56	48	56	1	56	1	56
	point478	581	574	56	5	56	48	56	1	56	1	56
	point494	583	574	56	5	56	48	56	1	56	1	56
	point480	584	574	56	5	56	48	56	1	56	1	56
	point495	968	574	56	5	56	48	56	1	56	1	56
	point488	969										
S I-75 Service Drive - 6	point631	612	200	56	3	56	27	56	1	56	1	56
	point509	613	200	56	3	56	27	56	1	56	1	56
	point510	614	200	56	3	56	27	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	200	56	3	56	27	56	1	56	1	56
	point514	620	200	56	3	56	27	56	1	56	1	56
	point515	621	200	56	3	56	27	56	1	56	1	56
	point516	622	200	56	3	56	27	56	1	56	1	56
	point518	624	200	56	3	56	27	56	1	56	1	56
	point525	978	200	56	3	56	27	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	204	74	20	74	180	74	1	74	1	74
	point1058	1058	204	74	20	74	180	74	1	74	1	74
	point1006	1006	204	74	20	74	180	74	1	74	1	74
	point1007	1007	204	74	20	74	180	74	1	74	1	74
	point1008	1008	204	74	20	74	180	74	1	74	1	74
	point1010	1010										
Inbound from SB I-75	point1012	1012	559	89	8	89	48	89	1	89	1	89
	point1013	1013	792	85	15	85	131	85	1	85	1	85
	point1014	1014	792	83	15	83	131	83	1	83	1	83
	point1015	1015	792	81	15	81	131	81	1	81	1	81
	point1016	1016										
Dragoon/N I-75 On-Ramp	point1063	1063	274	97	2	97	21	97	1	97	1	97
	point1064	1064	274	97	2	97	21	97	1	97	1	97
	point1065	1065	274	97	2	97	21	97	1	97	1	97

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point1066	1066	274	97	2	97	21	97	1	97	1	97
	point1067	1067	274	97	2	97	21	97	1	97	1	97
	point1068	1068										

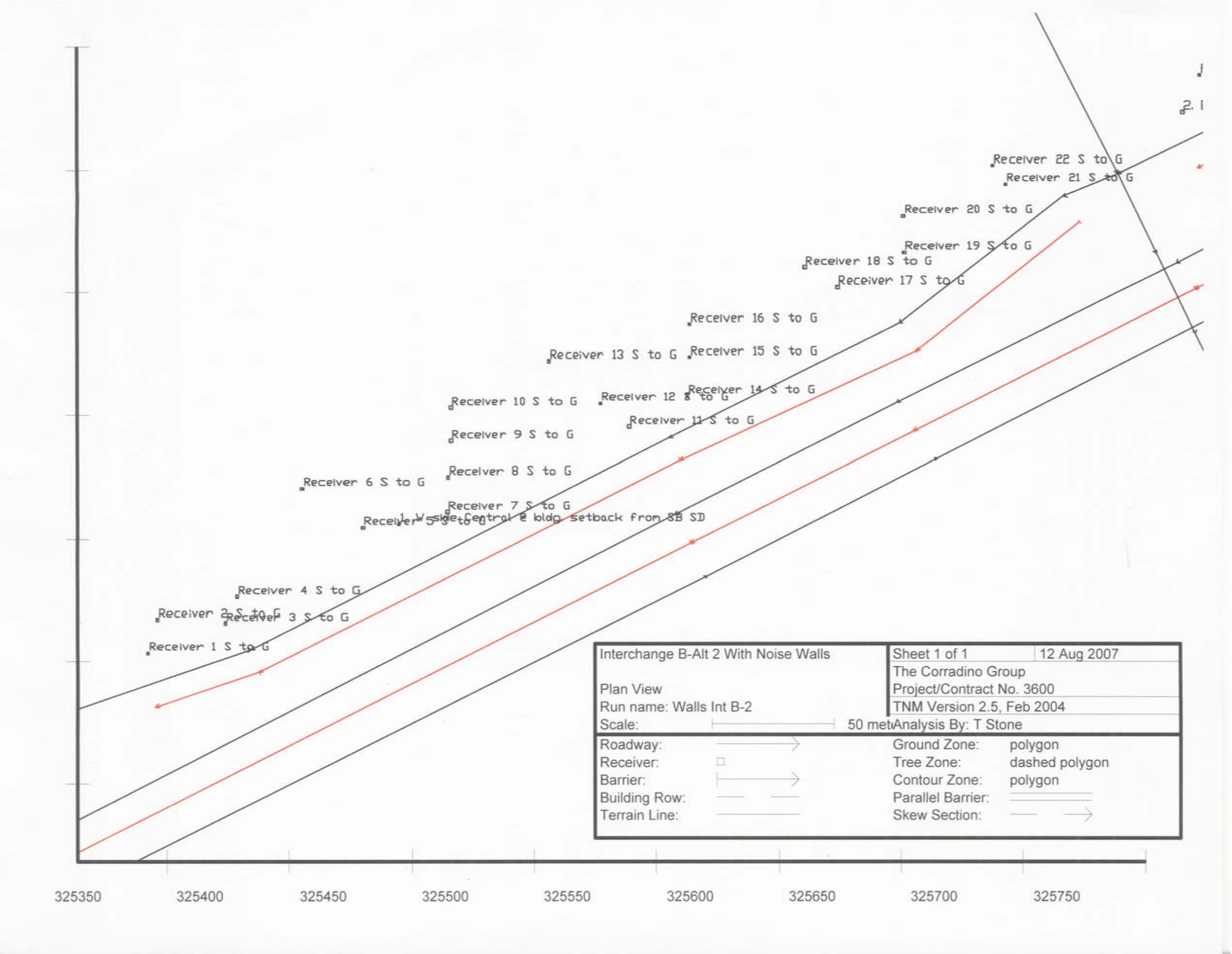
The Corradino Group 15 August 2007
T Stone TNM 2.5

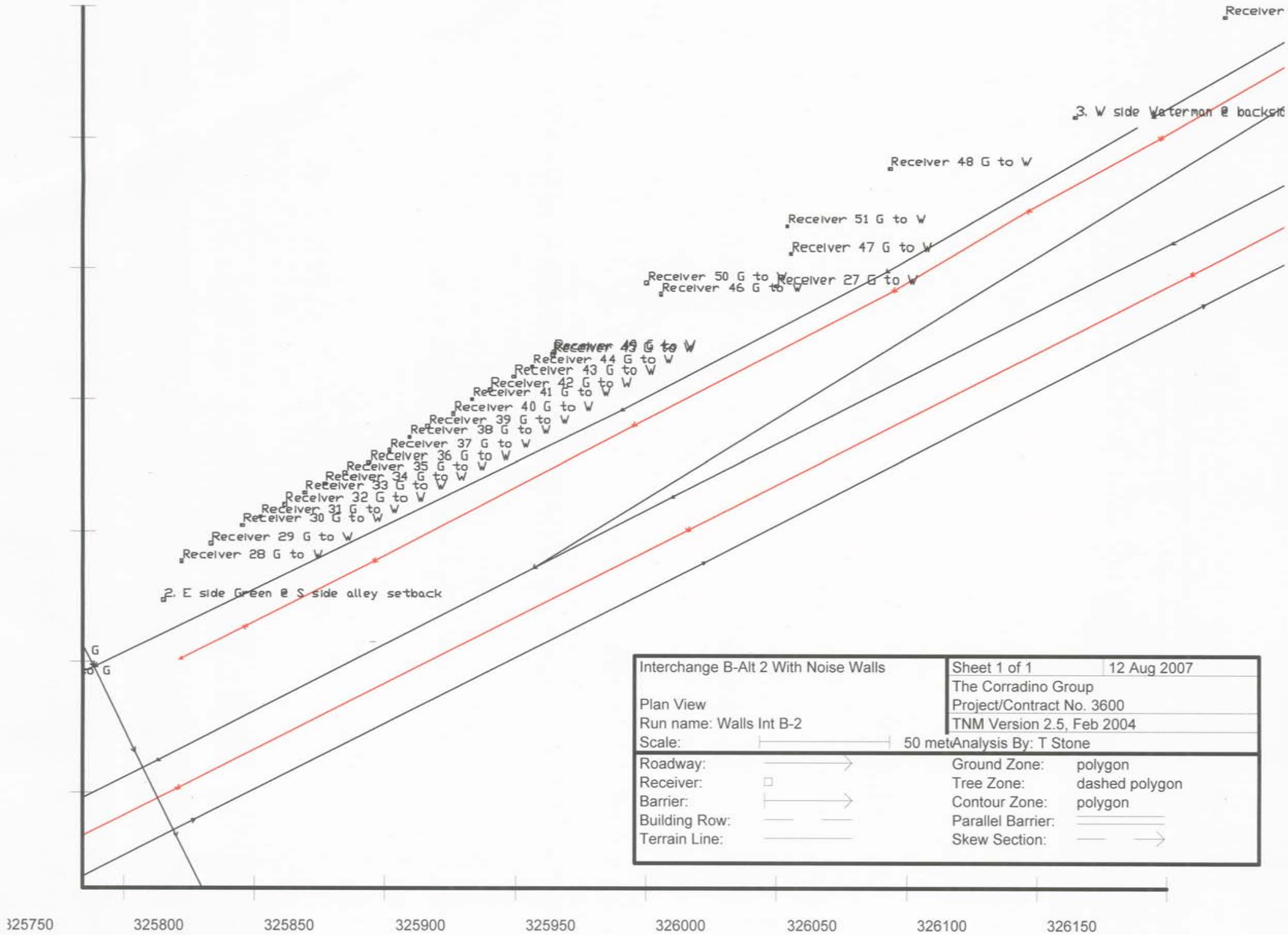
RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange A-Alternative 7 2035
BARRIER DESIGN: INPUT HEIGHTS

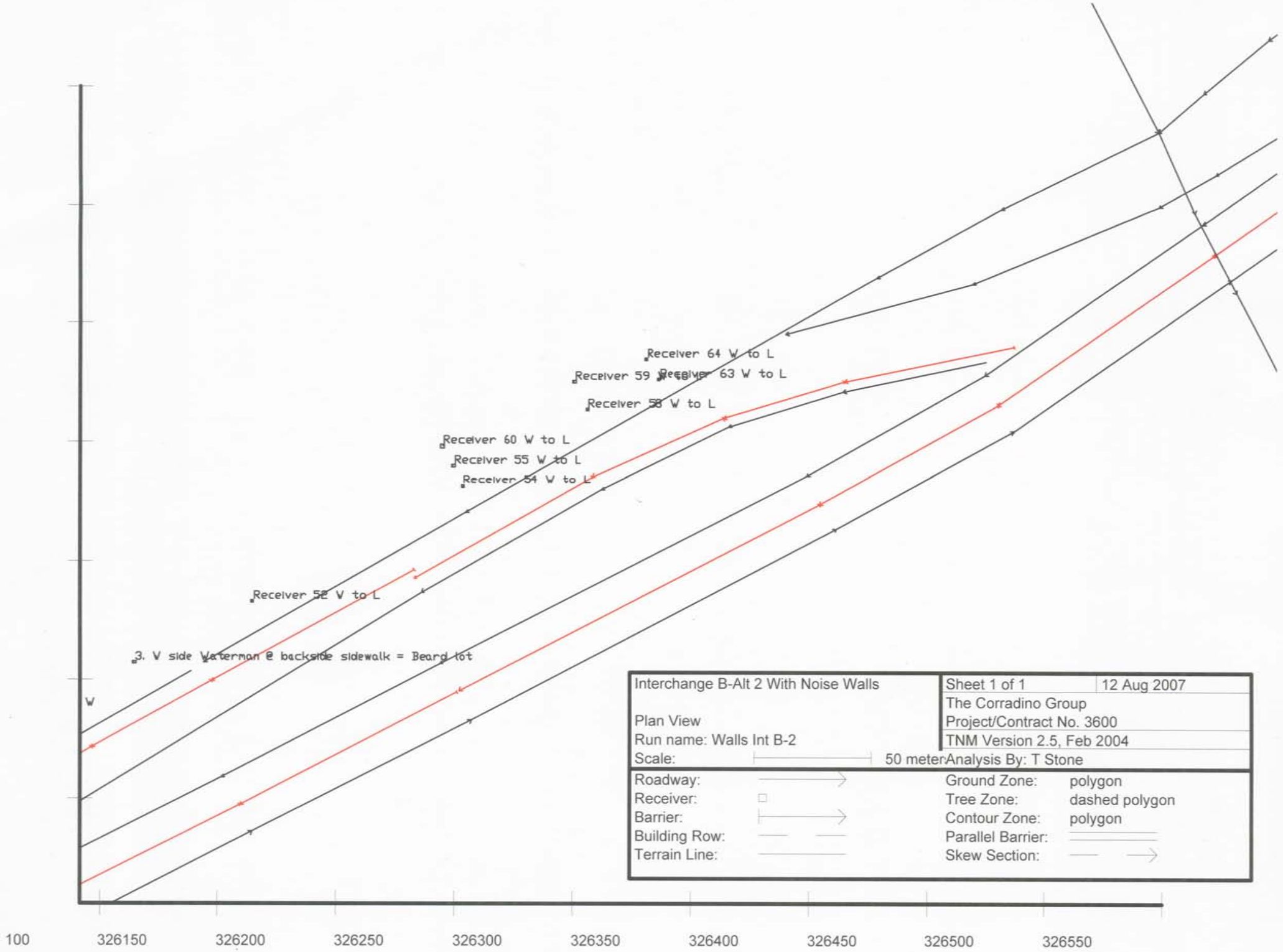
Barriers

Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	267	293				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1373	1510				0
Barrier to SB I-75	W	2.70	2.70	2.70	139	374				214496
Barrier from SB I-75	W	2.70	2.85	3.70	159	454				252909
Dragoon to Junction	W	3.70	3.70	3.70	115	424				208072
Green to Waterman to Casgrain	W	3.70	3.70	3.70	532	1967				965189
Springwells to Green	W	3.70	3.70	3.70	428	1584				777488
Junction to Clark	W	3.70	3.70	3.70	529	1957				960389
Livernois ramp to SB I-75	W	3.70	3.70	3.70	65	241				118046
									Total Cost:	3496591

Interchange B – Alternative 2 – 2035

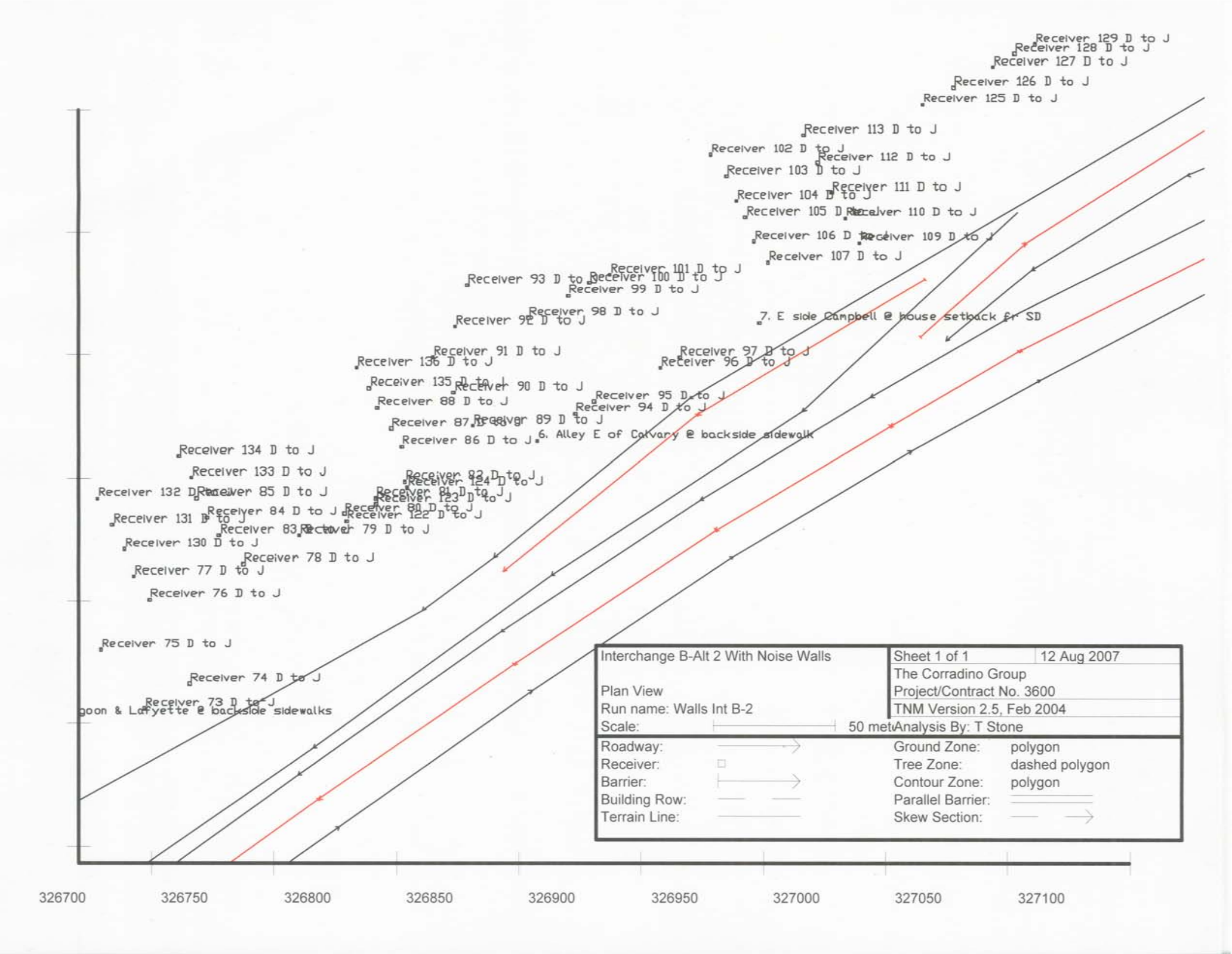

Receiver 22 S to G
Receiver 21 S to G
Receiver 20 S to G
Receiver 19 S to G
Receiver 18 S to G
Receiver 17 S to G
Receiver 16 S to G
Receiver 13 S to G
Receiver 15 S to G
Receiver 14 S to G
Receiver 12 S to G
Receiver 10 S to G
Receiver 11 S to G
Receiver 9 S to G
Receiver 8 S to G
Receiver 6 S to G
Receiver 7 S to G
Receiver 5 S to G
Receiver 4 S to G
Receiver 2 S to G
Receiver 3 S to G
Receiver 1 S to G
325350
325400
325450
325500
325550
325600
325650
325700
325750
Interchange B-Alt 2 With Noise Walls
Plan View
Run name: Walls Int B-2
Scale:
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:

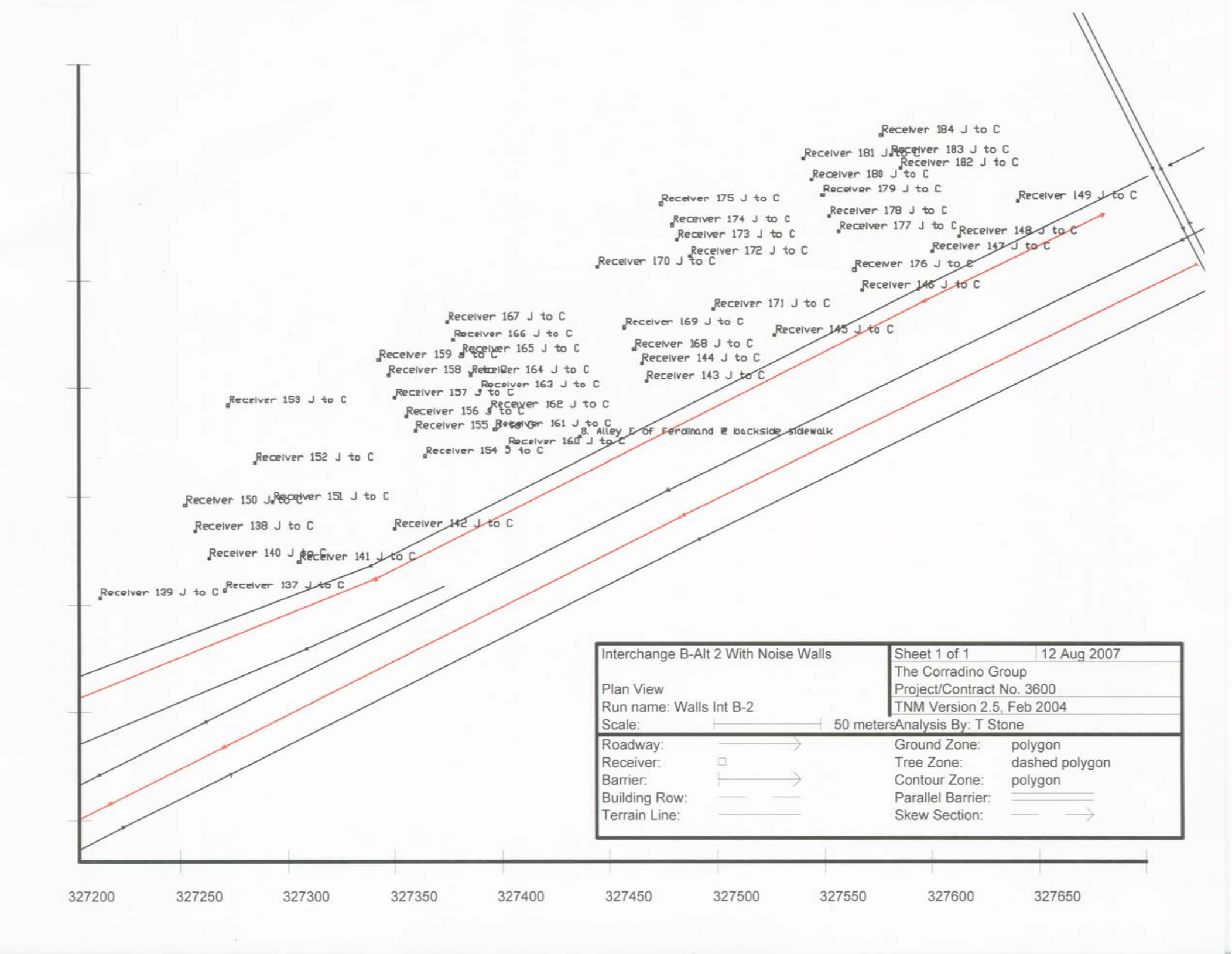

Receiver
3. W side Waterman @ backsit
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
G
G
Interchange B-Alt 2 With Noise Walls
Plan View
Run name: Walls Int B-2
Scale:
50 met
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325750
325800
325850
325900
325950
326000
326050
326100
326150



Interchange B-Alt 2 With Noise Walls		Sheet 1 of 1	12 Aug 2007
		The Corradino Group	
Plan View		Project/Contract No. 3600	
Run name: Walls Int B-2		TNM Version 2.5, Feb 2004	
Scale:	50 meter	Analysis By: T Stone	

Roadway:		Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D to J
Receiver 110 D to J
Receiver 106 D to J
Receiver 109 D to J
Receiver 107 D to J
Receiver 101 D to J
Receiver 93 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback fr SD
Receiver 91 D to J
Receiver 97 D to J
Receiver 136 D to J
Receiver 96 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 95 D to J
Receiver 88 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 86 D to J
Receiver 134 D to J
Receiver 133 D to J
Receiver 82 D to J
Receiver 124 D to J
Receiver 132 D to J
Receiver 85 D to J
Receiver 81 D to J
Receiver 123 D to J
Receiver 84 D to J
Receiver 80 D to J
Receiver 122 D to J
Receiver 131 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
goon & Lafyette @ backside sidewalks
326700
326750
326800
326850
326900
326950
327000
327050
327100
Interchange B-Alt 2 With Noise Walls
Plan View
Run name: Walls Int B-2
Scale:
50 met
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 173 J to C
Receiver 148 J to C
Receiver 172 J to C
Receiver 147 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 145 J to C
Receiver 166 J to C
Receiver 165 J to C
Receiver 168 J to C
Receiver 159 J to C
Receiver 144 J to C
Receiver 158 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 157 J to C
Receiver 153 J to C
Receiver 162 J to C
Receiver 156 J to C
Receiver 155 J to C
Receiver 161 J to C
S. Alley E of Ferdinand E backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 150 J to C
Receiver 151 J to C
Receiver 138 J to C
Receiver 142 J to C
Receiver 140 J to C
Receiver 141 J to C
Receiver 139 J to C
Receiver 137 J to C
Interchange B-Alt 2 With Noise Walls
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int B-2
TNM Version 2.5, Feb 2004
Scale:
50 meters
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange B-Alt 2 With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.7	66	72.7	10	Snd Lvl	72.4	0.3	8	-7.7
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	78.1	66	78.1	10	Snd Lvl	69.8	8.3	8	0.3
7. E side Campbell @ house setback fr SI	36	1	0.0	73.7	66	73.7	10	Snd Lvl	68.6	5.1	8	-2.9
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	70.9	66	70.9	10	Snd Lvl	67.3	3.6	8	-4.4
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	71.3	66	71.3	10	Snd Lvl	71.2	0.1	8	-7.9
3. W side Waterman @ backside sidewalk	55	1	0.0	71.2	66	71.2	10	Snd Lvl	65.3	5.9	8	-2.1
2. E side Green @ S side alley setback	58	2	0.0	71.9	66	71.9	10	Snd Lvl	69.2	2.7	8	-5.3
1. W side Central @ bldg. setback from SE	60	4	0.0	73.7	66	73.7	10	Snd Lvl	66.0	7.7	8	-0.3
Receiver 1 S to G	61	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 2 S to G	62	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 3 S to G	63	1	0.0	74.1	66	74.1	10	Snd Lvl	67.6	6.5	8	-1.5
Receiver 4 S to G	64	1	0.0	72.3	66	72.3	10	Snd Lvl	69.2	3.1	8	-4.9
Receiver 5 S to G	65	1	0.0	71.6	66	71.6	10	Snd Lvl	65.9	5.7	8	-2.3
Receiver 6 S to G	66	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 7 S to G	68	1	0.0	73.7	66	73.7	10	Snd Lvl	65.7	8.0	8	0.0
Receiver 8 S to G	69	1	0.0	71.0	66	71.0	10	Snd Lvl	64.7	6.3	8	-1.7
Receiver 9 S to G	70	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 10 S to G	71	2	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 11 S to G	72	1	0.0	74.2	66	74.2	10	Snd Lvl	65.9	8.3	8	0.3
Receiver 12 S to G	73	1	0.0	71.0	66	71.0	10	Snd Lvl	64.4	6.6	8	-1.4
Receiver 13 S to G	74	2	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 14 S to G	75	1	0.0	73.8	66	73.8	10	Snd Lvl	65.7	8.1	8	0.1
Receiver 15 S to G	76	1	0.0	70.6	66	70.6	10	Snd Lvl	64.2	6.4	8	-1.6

Receiver 16 S to G	77	1	0.0	69.2	66	69.2	10	Snd Lvl	63.2	6.0	8	-2.0
Receiver 17 S to G	78	2	0.0	70.2	66	70.2	10	Snd Lvl	64.0	6.2	8	-1.8
Receiver 18 S to G	79	1	0.0	68.6	66	68.6	10	Snd Lvl	63.1	5.5	8	-2.5
Receiver 19 S to G	80	1	0.0	69.6	66	69.6	10	Snd Lvl	64.0	5.6	8	-2.4
Receiver 20 S to G	81	1	0.0	67.9	66	67.9	10	Snd Lvl	63.0	4.9	8	-3.1
Receiver 21 S to G	82	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 22 S to G	83	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 27 G to W	89	2	0.0	72.5	66	72.5	10	Snd Lvl	64.2	8.3	8	0.3
Receiver 28 G to W	90	4	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 29 G to W	92	2	0.0	65.6	66	65.6	10	----	62.6	3.0	8	-5.0
Receiver 30 G to W	93	2	0.0	66.9	66	66.9	10	Snd Lvl	63.2	3.7	8	-4.3
Receiver 31 G to W	94	1	0.0	66.7	66	66.7	10	Snd Lvl	63.3	3.4	8	-4.6
Receiver 32 G to W	96	1	0.0	66.4	66	66.4	10	Snd Lvl	62.9	3.5	8	-4.5
Receiver 33 G to W	97	1	0.0	66.6	66	66.6	10	Snd Lvl	62.8	3.8	8	-4.2
Receiver 34 G to W	98	2	0.0	66.9	66	66.9	10	Snd Lvl	62.9	4.0	8	-4.0
Receiver 35 G to W	99	2	0.0	67.4	66	67.4	10	Snd Lvl	62.9	4.5	8	-3.5
Receiver 36 G to W	100	2	0.0	67.6	66	67.6	10	Snd Lvl	62.9	4.7	8	-3.3
Receiver 37 G to W	101	2	0.0	67.8	66	67.8	10	Snd Lvl	62.9	4.9	8	-3.1
Receiver 38 G to W	102	1	0.0	68.0	66	68.0	10	Snd Lvl	62.8	5.2	8	-2.8
Receiver 39 G to W	103	1	0.0	68.2	66	68.2	10	Snd Lvl	62.8	5.4	8	-2.6
Receiver 40 G to W	104	2	0.0	68.6	66	68.6	10	Snd Lvl	62.8	5.8	8	-2.2
Receiver 41 G to W	105	1	0.0	68.5	66	68.5	10	Snd Lvl	62.7	5.8	8	-2.2
Receiver 42 G to W	106	2	0.0	68.8	66	68.8	10	Snd Lvl	62.7	6.1	8	-1.9
Receiver 43 G to W	107	1	0.0	69.0	66	69.0	10	Snd Lvl	62.7	6.3	8	-1.7
Receiver 44 G to W	108	1	0.0	68.9	66	68.9	10	Snd Lvl	62.8	6.1	8	-1.9
Receiver 45 G to W	109	2	0.0	69.1	66	69.1	10	Snd Lvl	62.8	6.3	8	-1.7
Receiver 46 G to W	110	2	0.0	69.4	66	69.4	10	Snd Lvl	62.7	6.7	8	-1.3
Receiver 47 G to W	111	1	0.0	70.6	66	70.6	10	Snd Lvl	63.4	7.2	8	-0.8
Receiver 48 G to W	112	2	0.0	68.7	66	68.7	10	Snd Lvl	62.7	6.0	8	-2.0
Receiver 49 G to W	113	2	0.0	69.7	66	69.7	10	Snd Lvl	63.1	6.6	8	-1.4
Receiver 50 G to W	114	2	0.0	69.0	66	69.0	10	Snd Lvl	62.6	6.4	8	-1.6
Receiver 51 G to W	115	1	0.0	68.9	66	68.9	10	Snd Lvl	62.6	6.3	8	-1.7
Receiver 52 W to L	116	10	0.0	71.0	66	71.0	10	Snd Lvl	66.7	4.3	8	-3.7
Receiver 54 W to L	118	1	0.0	69.8	66	69.8	10	Snd Lvl	68.0	1.8	8	-6.2
Receiver 55 W to L	119	1	0.0	67.7	66	67.7	10	Snd Lvl	66.7	1.0	8	-7.0
Receiver 58 W to L	122	2	0.0	70.2	66	70.2	10	Snd Lvl	69.2	1.0	8	-7.0
Receiver 59 W to L	123	1	0.0	68.2	66	68.2	10	Snd Lvl	67.8	0.4	8	-7.6
Receiver 60 W to L	124	1	0.0	66.3	66	66.3	10	Snd Lvl	65.2	1.1	8	-6.9
Receiver 63 W to L	128	1	0.0	72.7	66	72.7	10	Snd Lvl	72.0	0.7	8	-7.3
Receiver 64 W to L	130	1	0.0	71.0	66	71.0	10	Snd Lvl	70.7	0.3	8	-7.7
Receiver 73 D to J	148	6	0.0	72.8	66	72.8	10	Snd Lvl	72.7	0.1	8	-7.9

Receiver 74 D to J	149	10	0.0	72.9	66	72.9	10	Snd Lvl	72.8	0.1	8	-7.9
Receiver 75 D to J	150	2	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 76 D to J	151	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 77 D to J	152	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 78 D to J	153	10	0.0	68.4	66	68.4	10	Snd Lvl	68.1	0.3	8	-7.7
Receiver 79 D to J	154	1	0.0	68.7	66	68.7	10	Snd Lvl	68.3	0.4	8	-7.6
Receiver 80 D to J	155	3	0.0	69.1	66	69.1	10	Snd Lvl	68.4	0.7	8	-7.3
Receiver 81 D to J	156	2	0.0	69.2	66	69.2	10	Snd Lvl	68.3	0.9	8	-7.1
Receiver 82 D to J	157	2	0.0	69.3	66	69.3	10	Snd Lvl	68.1	1.2	8	-6.8
Receiver 83 D to J	158	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 84 D to J	159	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 85 D to J	160	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 86 D to J	161	1	0.0	68.0	66	68.0	10	Snd Lvl	66.5	1.5	8	-6.5
Receiver 87 D to J	162	1	0.0	67.1	66	67.1	10	Snd Lvl	65.7	1.4	8	-6.6
Receiver 88 D to J	163	1	0.0	66.3	66	66.3	10	Snd Lvl	65.0	1.3	8	-6.7
Receiver 89 D to J	164	1	0.0	68.3	66	68.3	10	Snd Lvl	66.4	1.9	8	-6.1
Receiver 90 D to J	165	1	0.0	66.9	66	66.9	10	Snd Lvl	65.2	1.7	8	-6.3
Receiver 91 D to J	166	1	0.0	65.5	66	65.5	10	----	64.0	1.5	8	-6.5
Receiver 92 D to J	167	1	0.0	65.2	66	65.2	10	----	63.4	1.8	8	-6.2
Receiver 93 D to J	168	4	0.0	64.3	66	64.3	10	----	62.4	1.9	8	-6.1
Receiver 94 D to J	169	1	0.0	71.0	66	71.0	10	Snd Lvl	66.9	4.1	8	-3.9
Receiver 95 D to J	170	1	0.0	71.1	66	71.1	10	Snd Lvl	66.8	4.3	8	-3.7
Receiver 96 D to J	171	1	0.0	71.8	66	71.8	10	Snd Lvl	67.3	4.5	8	-3.5
Receiver 97 D to J	172	1	0.0	72.0	66	72.0	10	Snd Lvl	67.4	4.6	8	-3.4
Receiver 98 D to J	173	1	0.0	66.0	66	66.0	10	Snd Lvl	63.7	2.3	8	-5.7
Receiver 99 D to J	174	1	0.0	66.0	66	66.0	10	Snd Lvl	63.6	2.4	8	-5.6
Receiver 100 D to J	175	1	0.0	65.9	66	65.9	10	----	63.5	2.4	8	-5.6
Receiver 101 D to J	176	1	0.0	66.2	66	66.2	10	Snd Lvl	63.5	2.7	8	-5.3
Receiver 102 D to J	177	4	0.0	64.8	66	64.8	10	----	62.4	2.4	8	-5.6
Receiver 103 D to J	178	1	0.0	65.5	66	65.5	10	----	63.1	2.4	8	-5.6
Receiver 104 D to J	179	1	0.0	66.3	66	66.3	10	Snd Lvl	63.8	2.5	8	-5.5
Receiver 105 D to J	180	1	0.0	67.0	66	67.0	10	Snd Lvl	64.4	2.6	8	-5.4
Receiver 106 D to J	181	1	0.0	68.0	66	68.0	10	Snd Lvl	65.3	2.7	8	-5.3
Receiver 107 D to J	182	1	0.0	69.3	66	69.3	10	Snd Lvl	66.0	3.3	8	-4.7
Receiver 109 D to J	184	1	0.0	71.7	66	71.7	10	Snd Lvl	68.7	3.0	8	-5.0
Receiver 110 D to J	185	1	0.0	69.5	66	69.5	10	Snd Lvl	67.2	2.3	8	-5.7
Receiver 111 D to J	186	1	0.0	68.0	66	68.0	10	Snd Lvl	66.0	2.0	8	-6.0
Receiver 112 D to J	187	1	0.0	66.7	66	66.7	10	Snd Lvl	64.7	2.0	8	-6.0
Receiver 113 D to J	188	1	0.0	65.8	66	65.8	10	----	63.7	2.1	8	-5.9
Receiver 122 D to J	197	3	0.0	71.7	66	71.7	10	Snd Lvl	71.0	0.7	8	-7.3
Receiver 123 D to J	198	2	0.0	71.8	66	71.8	10	Snd Lvl	70.7	1.1	8	-6.9

Receiver 124 D to J	199	2	0.0	71.9	66	71.9	10	Snd Lvl	70.5	1.4	8	-6.6
Receiver 125 D to J	200	1	0.0	67.2	66	67.2	10	Snd Lvl	65.8	1.4	8	-6.6
Receiver 126 D to J	201	2	0.0	67.3	66	67.3	10	Snd Lvl	65.9	1.4	8	-6.6
Receiver 127 D to J	202	1	0.0	67.4	66	67.4	10	Snd Lvl	66.0	1.4	8	-6.6
Receiver 128 D to J	203	1	0.0	67.5	66	67.5	10	Snd Lvl	66.0	1.5	8	-6.5
Receiver 129 D to J	204	1	0.0	67.5	66	67.5	10	Snd Lvl	66.0	1.5	8	-6.5
Receiver 130 D to J	205	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 131 D to J	206	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 132 D to J	207	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 133 D to J	208	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 134 D to J	209	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 135 D to J	210	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 136 D to J	211	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Receiver 137 J to C	212	1	0.0	76.1	66	76.1	10	Snd Lvl	69.2	6.9	8	-1.1
Receiver 138 J to C	213	1	0.0	69.3	66	69.3	10	Snd Lvl	65.6	3.7	8	-4.3
Receiver 139 J to C	214	1	0.0	71.3	66	71.3	10	Snd Lvl	68.2	3.1	8	-4.9
Receiver 140 J to C	215	1	0.0	71.7	66	71.7	10	Snd Lvl	67.4	4.3	8	-3.7
Receiver 141 J to C	216	1	0.0	76.5	66	76.5	10	Snd Lvl	69.0	7.5	8	-0.5
Receiver 142 J to C	217	1	0.0	78.7	66	78.7	10	Snd Lvl	69.9	8.8	8	0.8
Receiver 143 J to C	218	2	0.0	76.3	66	76.3	10	Snd Lvl	69.0	7.3	8	-0.7
Receiver 144 J to C	219	1	0.0	74.2	66	74.2	10	Snd Lvl	66.9	7.3	8	-0.7
Receiver 145 J to C	220	1	0.0	78.2	66	78.2	10	Snd Lvl	69.6	8.6	8	0.6
Receiver 146 J to C	221	2	0.0	78.1	66	78.1	10	Snd Lvl	69.6	8.5	8	0.5
Receiver 147 J to C	222	1	0.0	77.3	66	77.3	10	Snd Lvl	69.2	8.1	8	0.1
Receiver 148 J to C	223	1	0.0	76.6	66	76.6	10	Snd Lvl	69.1	7.5	8	-0.5
Receiver 149 J to C	224	2	0.0	75.4	66	75.4	10	Snd Lvl	69.1	6.3	8	-1.7
Receiver 150 J to C	225	1	0.0	67.7	66	67.7	10	Snd Lvl	64.3	3.4	8	-4.6
Receiver 151 J to C	226	1	0.0	69.8	66	69.8	10	Snd Lvl	65.6	4.2	8	-3.8
Receiver 152 J to C	227	1	0.0	67.3	66	67.3	10	Snd Lvl	63.5	3.8	8	-4.2
Receiver 153 J to C	228	1	0.0	64.8	66	64.8	10	----	61.4	3.4	8	-4.6
Receiver 154 J to C	229	1	0.0	71.7	66	71.7	10	Snd Lvl	66.2	5.5	8	-2.5
Receiver 155 J to C	230	1	0.0	69.8	66	69.8	10	Snd Lvl	65.0	4.8	8	-3.2
Receiver 156 J to C	231	1	0.0	68.9	66	68.9	10	Snd Lvl	64.3	4.6	8	-3.4
Receiver 157 J to C	232	1	0.0	67.7	66	67.7	10	Snd Lvl	63.3	4.4	8	-3.6
Receiver 158 J to C	233	1	0.0	66.7	66	66.7	10	Snd Lvl	62.3	4.4	8	-3.6
Receiver 159 J to C	234	1	0.0	66.0	66	66.0	10	Snd Lvl	61.7	4.3	8	-3.7
Receiver 160 J to C	235	1	0.0	75.5	66	75.5	10	Snd Lvl	67.9	7.6	8	-0.4
Receiver 161 J to C	236	1	0.0	72.4	66	72.4	10	Snd Lvl	66.5	5.9	8	-2.1
Receiver 162 J to C	237	1	0.0	71.0	66	71.0	10	Snd Lvl	65.6	5.4	8	-2.6
Receiver 163 J to C	238	1	0.0	69.5	66	69.5	10	Snd Lvl	64.6	4.9	8	-3.1
Receiver 164 J to C	239	1	0.0	68.5	66	68.5	10	Snd Lvl	63.8	4.7	8	-3.3

Receiver 165 J to C	240	1	0.0	67.4	66	67.4	10	Snd Lvl	62.8	4.6	8	-3.4
Receiver 166 J to C	241	1	0.0	66.7	66	66.7	10	Snd Lvl	62.2	4.5	8	-3.5
Receiver 167 J to C	242	1	0.0	66.0	66	66.0	10	Snd Lvl	61.6	4.4	8	-3.6
Receiver 168 J to C	243	1	0.0	71.9	66	71.9	10	Snd Lvl	66.1	5.8	8	-2.2
Receiver 169 J to C	244	1	0.0	70.2	66	70.2	10	Snd Lvl	65.0	5.2	8	-2.8
Receiver 170 J to C	245	1	0.0	66.8	66	66.8	10	Snd Lvl	62.3	4.5	8	-3.5
Receiver 171 J to C	246	1	0.0	71.8	66	71.8	10	Snd Lvl	66.0	5.8	8	-2.2
Receiver 172 J to C	247	1	0.0	68.1	66	68.1	10	Snd Lvl	63.3	4.8	8	-3.2
Receiver 173 J to C	248	1	0.0	67.1	66	67.1	10	Snd Lvl	62.6	4.5	8	-3.5
Receiver 174 J to C	249	1	0.0	66.5	66	66.5	10	Snd Lvl	62.0	4.5	8	-3.5
Receiver 175 J to C	250	1	0.0	65.6	66	65.6	10	----	61.4	4.2	8	-3.8
Receiver 176 J to C	251	1	0.0	75.2	66	75.2	10	Snd Lvl	67.5	7.7	8	-0.3
Receiver 177 J to C	252	1	0.0	70.5	66	70.5	10	Snd Lvl	66.1	4.4	8	-3.6
Receiver 178 J to C	253	1	0.0	69.3	66	69.3	10	Snd Lvl	64.3	5.0	8	-3.0
Receiver 179 J to C	254	1	0.0	68.1	66	68.1	10	Snd Lvl	63.6	4.5	8	-3.5
Receiver 180 J to C	255	1	0.0	67.0	66	67.0	10	Snd Lvl	62.7	4.3	8	-3.7
Receiver 181 J to C	256	1	0.0	66.1	66	66.1	10	Snd Lvl	62.1	4.0	8	-4.0
Receiver 182 J to C	257	1	0.0	68.3	66	68.3	10	Snd Lvl	63.8	4.5	8	-3.5
Receiver 183 J to C	258	1	0.0	67.4	66	67.4	10	Snd Lvl	63.3	4.1	8	-3.9
Receiver 184 J to C	259	1	0.0	66.3	66	66.3	10	Snd Lvl	62.6	3.7	8	-4.3

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	242	0.0	3.6	8.8
All Impacted	197	0.1	4.3	8.8
All that meet NR Goal	11	8.0	8.3	8.8

The Corradino Group
T Stone

12 August 2007
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange B-Alt 2 With Noise Walls

Roadway	Points		Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
Name	Name	No.	V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2482	97	124	97	496	97	1	97	1	97
	point207	314	2482	97	124	97	496	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4486	97	224	97	897	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40

	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	749	56	3	56	30	56	1	56	1	56
	point476	576	749	56	3	56	30	56	1	56	1	56
	point1056	1056	749	56	3	56	30	56	1	56	1	56
	point644	577										
S I-75 Service Drive - 4	point638	594	749	48	3	48	30	48	1	48	1	48
	point489	595	749	48	3	48	30	48	1	48	1	48
	point490	596	749	48	3	48	30	48	1	48	1	48
	point491	597										
S I-75 Service Drive - 5	point491	971	482	56	3	56	32	56	1	56	1	56
	point504	607	482	56	3	56	32	56	1	56	1	56
	point505	608	482	56	3	56	32	56	1	56	1	56
	point975	975	482	56	3	56	32	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	360	40	15	40	20	40	1	40	1	40
	point531	638	450	40	30	40	80	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97
	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	30	40	30	60	30	1	30	1	30
	point687	687	700	30	40	30	60	30	1	30	1	30
	point943	943	700	30	40	30	60	30	1	30	1	30
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48
	point960	960	85	48	5	48	10	48	1	48	1	48

	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	25	40	1	40	1	40
	point819	819	120	40	4	40	25	40	1	40	1	40
	point961	961	120	40	4	40	25	40	1	40	1	40
	point962	962	120	40	4	40	25	40	1	40	1	40
	point820	820	120	40	4	40	25	40	1	40	1	40
	point821	821	120	40	4	40	25	40	1	40	1	40
	point822	822										
Livernois	Lafayette	929	324	56	24	56	60	56	1	56	1	56
	SB SD	930	162	56	12	56	30	56	1	56	1	56
	point953	953	162	56	12	56	30	56	1	56	1	56
	point954	954	162	56	12	56	30	56	1	56	1	56
	NB SD	933	162	56	12	56	30	56	1	56	1	56
	WB Fort	934										
S I-75 Service Drive - 3	point645	579	749	56	3	56	30	56	1	56	1	56
	point478	581	749	56	3	56	30	56	1	56	1	56
	point494	583	749	56	3	56	30	56	1	56	1	56
	point480	584	749	56	3	56	30	56	1	56	1	56
	point495	968	749	56	3	56	30	56	1	56	1	56
	point488	969										
S I-75 Service Drive - 6	point631	612	140	56	1	56	4	56	1	56	1	56
	point509	613	140	56	1	56	4	56	1	56	1	56
	point510	614	140	56	1	56	4	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	269	56	1	56	9	56	1	56	1	56

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point514	620	269	56	1	56	9	56	1	56	1	56
	point515	621	269	56	1	56	9	56	1	56	1	56
	point516	622	269	56	1	56	9	56	1	56	1	56
	point518	624	269	56	1	56	9	56	1	56	1	56
	point525	978	269	56	1	56	9	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	225	74	27	74	238	74	1	74	1	74
	point1058	1058	225	74	27	74	238	74	1	74	1	74
	point1006	1006	225	74	27	74	238	74	1	74	1	74
	point1007	1007	225	74	27	74	238	74	1	74	1	74
	point1008	1008	225	74	27	74	238	74	1	74	1	74
	point1010	1010										
Inbound from SB I-75	point1012	1012	792	89	15	89	131	89	1	89	1	89
	point1013	1013	792	89	15	89	131	89	1	89	1	89
	point1014	1014	792	89	15	89	131	89	1	89	1	89
	point1015	1015	792	89	15	89	131	89	1	89	1	89
	point1016	1016										
Dragoon	Fort WB	1059	240	56	18	56	45	56	6	56	2	56
	NB SD	1060	240	56	18	56	45	56	6	56	2	56
	point941	1061	240	56	18	56	45	56	6	56	2	56
	point955	1062	240	56	18	56	45	56	6	56	2	56
	point956	1063	240	56	18	56	45	56	6	56	2	56
	SB SD	1064	240	56	18	56	45	56	6	56	2	56
	point919	1065	486	56	36	56	90	56	6	56	2	56
	N end Dragoo	1066										
S I-75 Auxiliary Lane	point1068	1068	405	64	23	64	60	64	2	64	2	64
	point1069	1069	904	72	4	72	34	72	1	72	1	72
	point1070	1070	904	80	4	80	34	80	1	80	1	80
	point1071	1071	904	88	4	88	34	88	1	88	1	88
	point1072	1072	453	88	3	88	27	88	1	88	1	88
	point1073	1073	453	86	3	86	27	86	1	86	1	86
	point1074	1074	453	75	3	75	27	75	1	75	1	75
	point1075	1075	453	64	3	64	27	64	1	64	1	64
	point1076	1076										

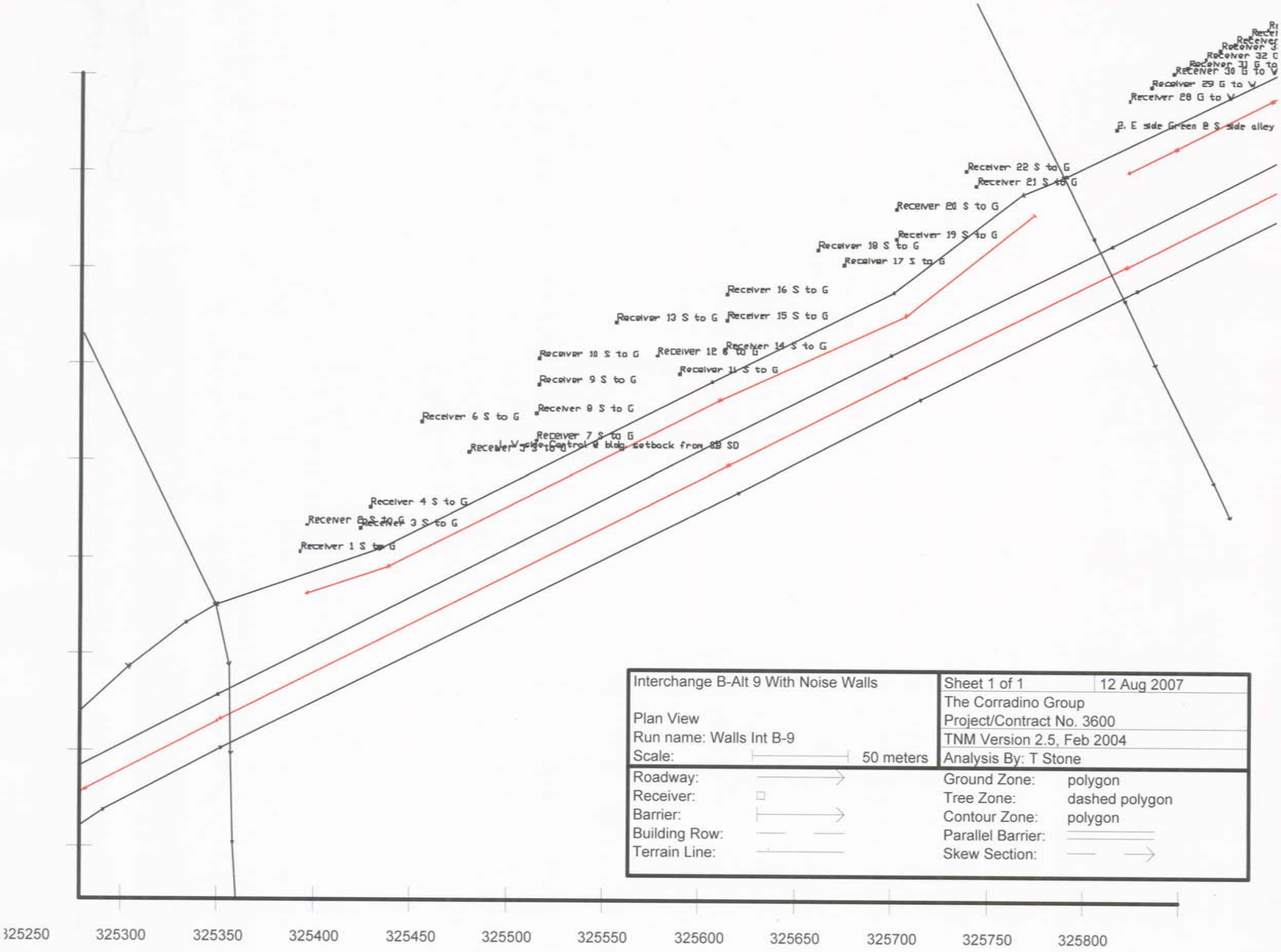
The Corradino Group 15 August 2007
T Stone TNM 2.5

RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange B-Alt 2 With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS

Barriers

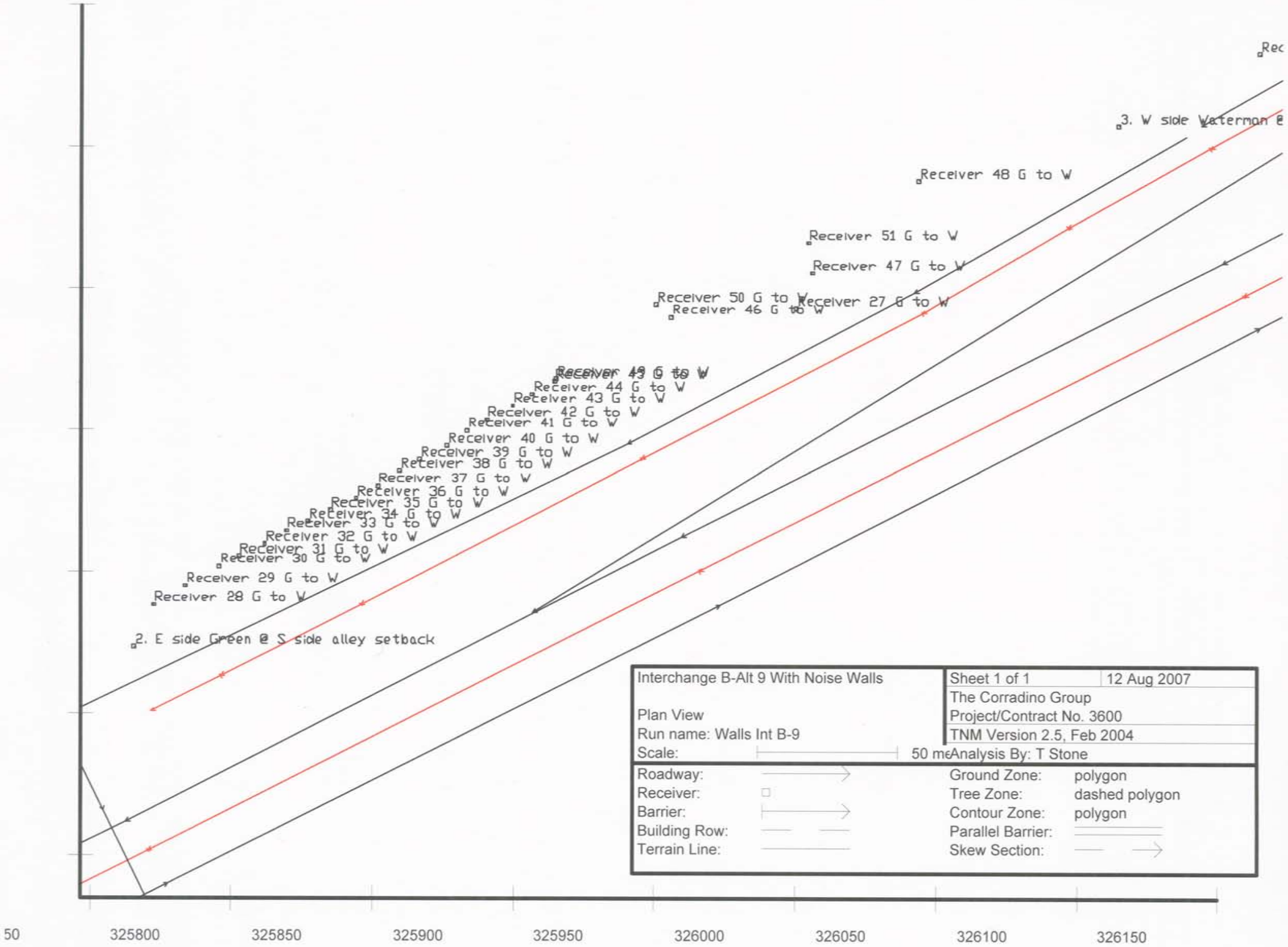
Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	267	293				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1373	1510				0
Barrier to SB I-75	W	2.70	2.70	2.70	274	740				424131
Barrier from SB I-75	W	3.70	3.70	3.70	166	615				301695
Springwells to Green	W	3.70	3.70	3.70	428	1584				777488
Green to east of Waterman	W	3.70	3.70	3.70	523	1935				949491
Calvary to Campbell	W	3.70	3.70	3.70	210	776				380895
Junction to Clark	W	3.70	3.70	3.70	529	1957				960554
									Total Cost:	3794256

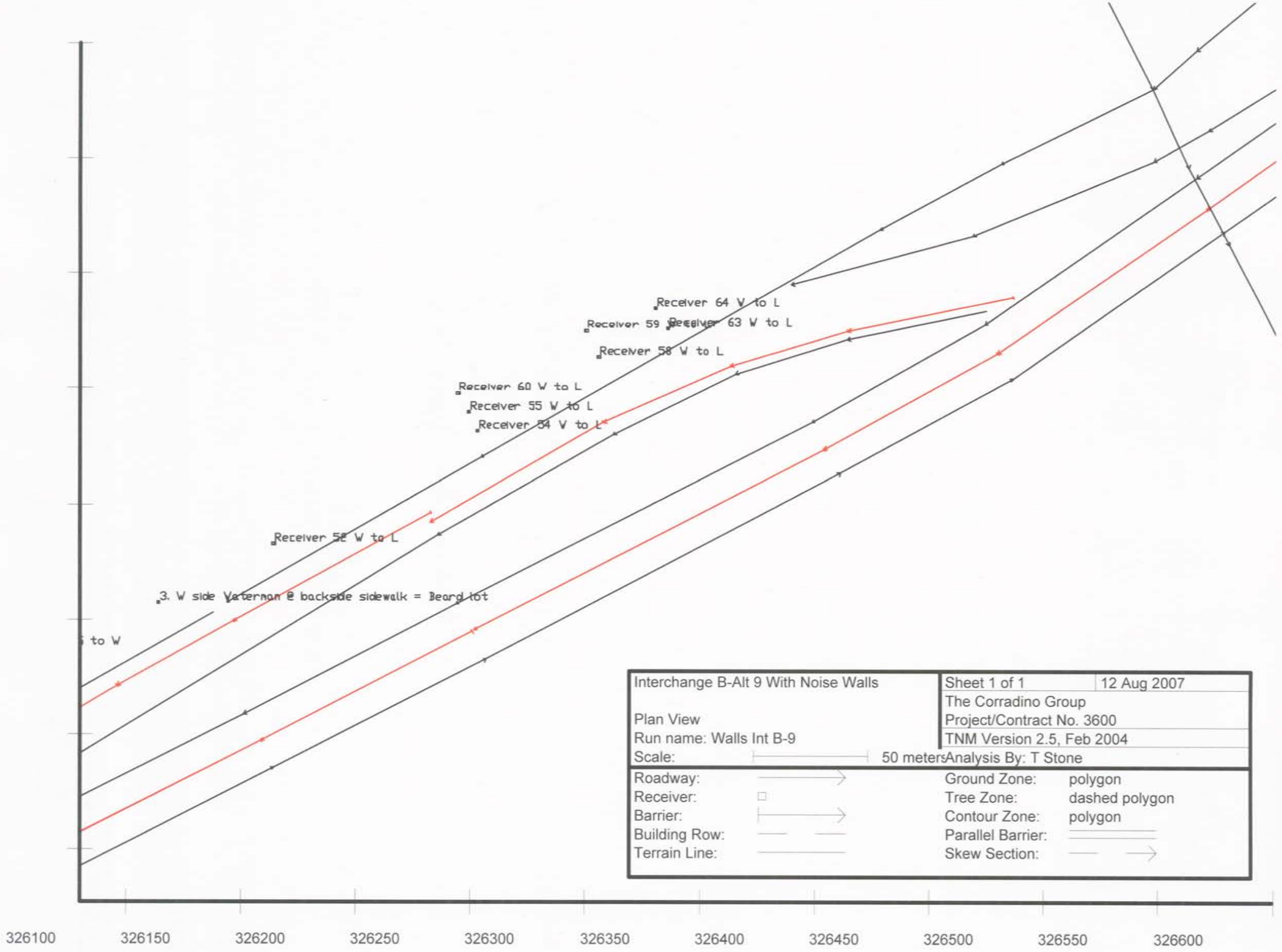
Interchange B – Alternative 9 – 2035



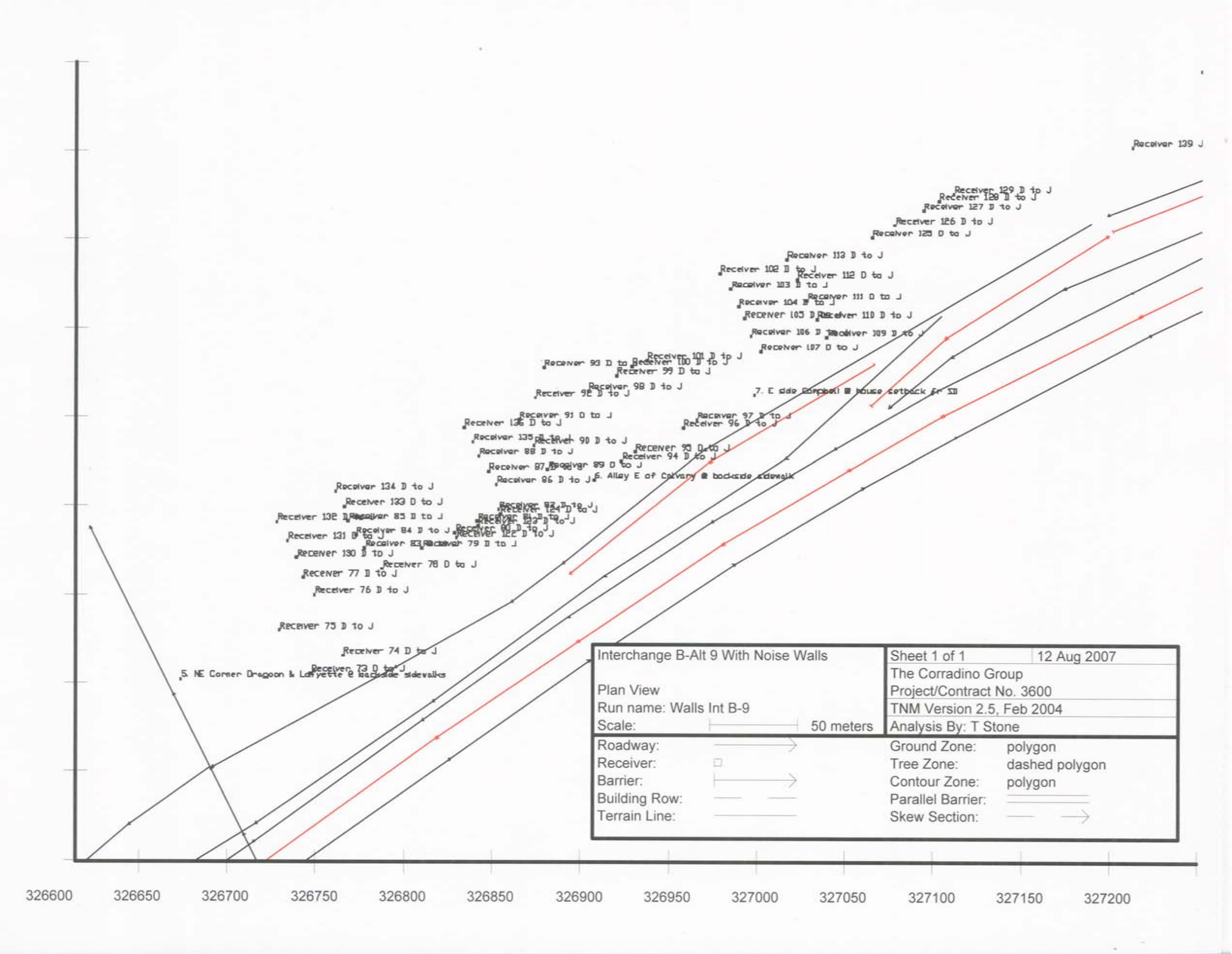
Interchange B-Alt 9 With Noise Walls	Sheet 1 of 1 — 12 Aug 2007
	The Corradino Group
Plan View	Project/Contract No. 3600
Run name: Walls Int B-9	TNM Version 2.5, Feb 2004
Scale: 50 meters	Analysis By: T Stone

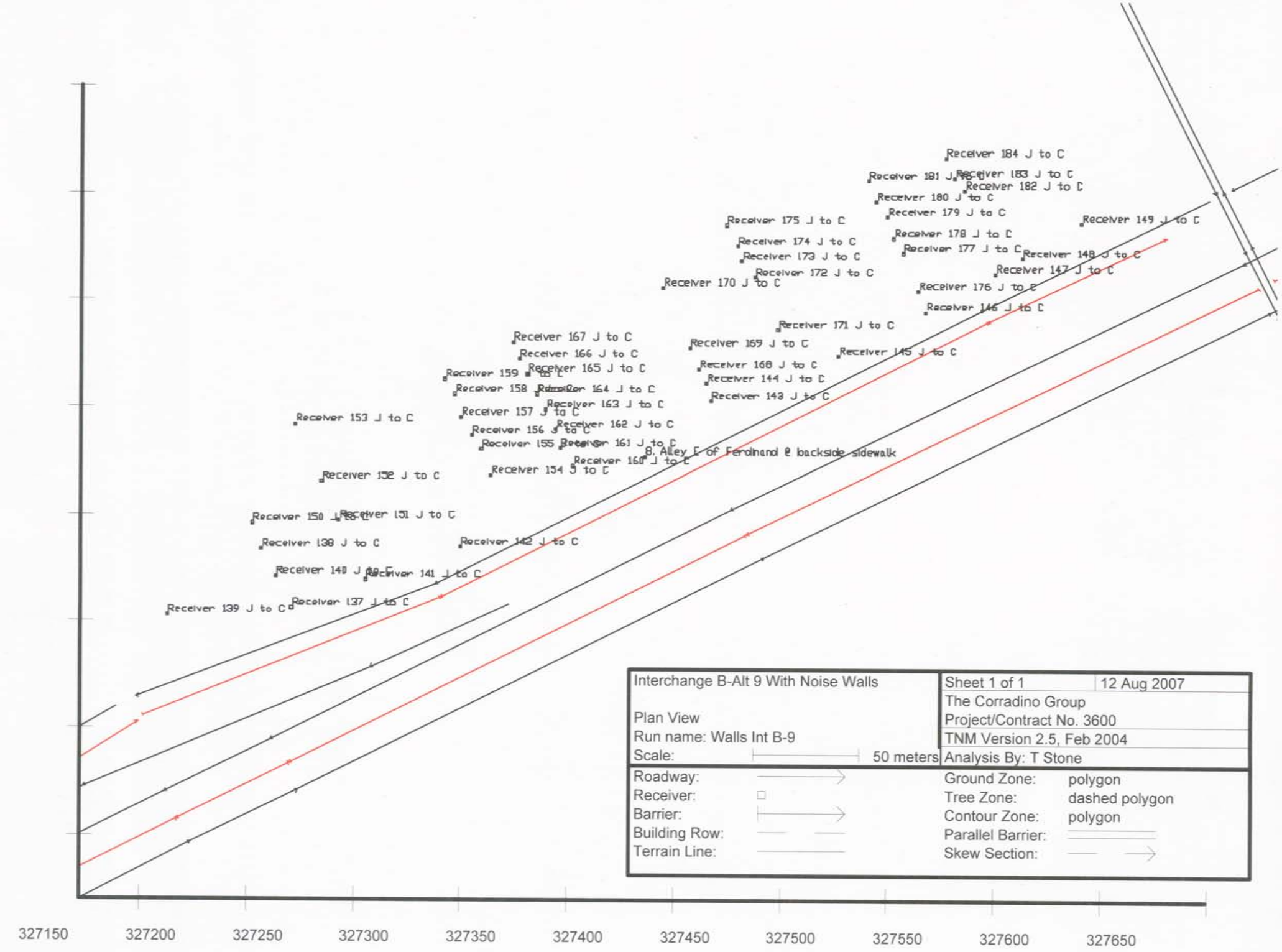
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


Rec
3. W side Waterman @
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 49 G to W
Receiver 43 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
Interchange B-Alt 9 With Noise Walls
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int B-9
TNM Version 2.5, Feb 2004
Scale:
50 m
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
50
325800
325850
325900
325950
326000
326050
326100
326150



Interchange B-Alt 9 With Noise Walls		Sheet 1 of 1	12 Aug 2007
		The Corradino Group	
Plan View		Project/Contract No. 3600	
Run name: Walls Int B-9		TNM Version 2.5, Feb 2004	
Scale:	50 meters	Analysis By: T Stone	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


Receiver 139 J
Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D to J
Receiver 110 D to J
Receiver 106 D to J
Receiver 109 D to J
Receiver 107 D to J
Receiver 101 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback fr SB
Receiver 91 D to J
Receiver 126 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 88 D to J
Receiver 97 D to J
Receiver 96 D to J
Receiver 93 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 86 D to J
Receiver 134 D to J
Receiver 133 D to J
Receiver 132 D to J
Receiver 85 D to J
Receiver 124 D to J
Receiver 131 D to J
Receiver 84 D to J
Receiver 122 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
5. NE Corner Dragoon & Lafayette @ backside sidewalks
326600
326650
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150
327200
Interchange B-Alt 9 With Noise Walls
Plan View
Run name: Walls Int B-9
Scale: 50 meters
Sheet 1 of 1
12 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:



Interchange B-Alt 9 With Noise Walls		Sheet 1 of 1	12 Aug 2007
		The Corradino Group	
Plan View		Project/Contract No. 3600	
Run name: Walls Int B-9		TNM Version 2.5, Feb 2004	
Scale:	50 meters	Analysis By: T Stone	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange B-Alt 9 With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.7	66	72.7	10	Snd Lvl	72.4	0.3	8	-7.7
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	78.0	66	78.0	10	Snd Lvl	69.7	8.3	8	0.3
7. E side Campbell @ house setback fr SL	36	1	0.0	73.7	66	73.7	10	Snd Lvl	68.6	5.1	8	-2.9
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	70.9	66	70.9	10	Snd Lvl	67.3	3.6	8	-4.4
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	71.3	66	71.3	10	Snd Lvl	71.2	0.1	8	-7.9
3. W side Waterman @ backside sidewalk	55	1	0.0	70.9	66	70.9	10	Snd Lvl	65.0	5.9	8	-2.1
2. E side Green @ S side alley setback	58	2	0.0	71.9	66	71.9	10	Snd Lvl	69.1	2.8	8	-5.2
1. W side Central @ bldg. setback from SE	60	4	0.0	73.7	66	73.7	10	Snd Lvl	66.0	7.7	8	-0.3
Receiver 1 S to G	61	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 2 S to G	62	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	63	1	0.0	74.1	66	74.1	10	Snd Lvl	67.6	6.5	8	-1.5
Receiver 4 S to G	64	1	0.0	72.3	66	72.3	10	Snd Lvl	69.2	3.1	8	-4.9
Receiver 5 S to G	65	1	0.0	71.6	66	71.6	10	Snd Lvl	65.8	5.8	8	-2.2
Receiver 6 S to G	66	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 7 S to G	68	1	0.0	73.7	66	73.7	10	Snd Lvl	65.7	8.0	8	0.0
Receiver 8 S to G	69	1	0.0	71.0	66	71.0	10	Snd Lvl	64.7	6.3	8	-1.7
Receiver 9 S to G	70	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 10 S to G	71	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 11 S to G	72	1	0.0	74.2	66	74.2	10	Snd Lvl	65.9	8.3	8	0.3
Receiver 12 S to G	73	1	0.0	71.0	66	71.0	10	Snd Lvl	64.4	6.6	8	-1.4
Receiver 13 S to G	74	2	0.0	68.1	66	68.1	10	Snd Lvl	62.4	5.7	8	-2.3
Receiver 14 S to G	75	1	0.0	73.8	66	73.8	10	Snd Lvl	65.7	8.1	8	0.1
Receiver 15 S to G	76	1	0.0	70.6	66	70.6	10	Snd Lvl	64.2	6.4	8	-1.6

Receiver 16 S to G	77	1	0.0	69.2	66	69.2	10	Snd Lvl	63.2	6.0	8	-2.0
Receiver 17 S to G	78	2	0.0	70.2	66	70.2	10	Snd Lvl	64.0	6.2	8	-1.8
Receiver 18 S to G	79	1	0.0	68.6	66	68.6	10	Snd Lvl	63.1	5.5	8	-2.5
Receiver 19 S to G	80	1	0.0	69.6	66	69.6	10	Snd Lvl	64.0	5.6	8	-2.4
Receiver 20 S to G	81	1	0.0	67.9	66	67.9	10	Snd Lvl	63.0	4.9	8	-3.1
Receiver 21 S to G	82	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 22 S to G	83	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 27 G to W	89	2	0.0	72.3	66	72.3	10	Snd Lvl	64.1	8.2	8	0.2
Receiver 28 G to W	90	4	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 29 G to W	92	2	0.0	65.5	66	65.5	10	----	62.6	2.9	8	-5.1
Receiver 30 G to W	93	2	0.0	66.9	66	66.9	10	Snd Lvl	63.2	3.7	8	-4.3
Receiver 31 G to W	94	1	0.0	66.7	66	66.7	10	Snd Lvl	63.2	3.5	8	-4.5
Receiver 32 G to W	96	1	0.0	66.4	66	66.4	10	Snd Lvl	62.9	3.5	8	-4.5
Receiver 33 G to W	97	1	0.0	66.6	66	66.6	10	Snd Lvl	62.8	3.8	8	-4.2
Receiver 34 G to W	98	2	0.0	66.9	66	66.9	10	Snd Lvl	62.9	4.0	8	-4.0
Receiver 35 G to W	99	2	0.0	67.4	66	67.4	10	Snd Lvl	62.9	4.5	8	-3.5
Receiver 36 G to W	100	2	0.0	67.5	66	67.5	10	Snd Lvl	62.9	4.6	8	-3.4
Receiver 37 G to W	101	2	0.0	67.8	66	67.8	10	Snd Lvl	62.9	4.9	8	-3.1
Receiver 38 G to W	102	1	0.0	67.9	66	67.9	10	Snd Lvl	62.8	5.1	8	-2.9
Receiver 39 G to W	103	1	0.0	68.1	66	68.1	10	Snd Lvl	62.7	5.4	8	-2.6
Receiver 40 G to W	104	2	0.0	68.5	66	68.5	10	Snd Lvl	62.8	5.7	8	-2.3
Receiver 41 G to W	105	1	0.0	68.4	66	68.4	10	Snd Lvl	62.6	5.8	8	-2.2
Receiver 42 G to W	106	2	0.0	68.7	66	68.7	10	Snd Lvl	62.6	6.1	8	-1.9
Receiver 43 G to W	107	1	0.0	68.9	66	68.9	10	Snd Lvl	62.7	6.2	8	-1.8
Receiver 44 G to W	108	1	0.0	68.8	66	68.8	10	Snd Lvl	62.7	6.1	8	-1.9
Receiver 45 G to W	109	2	0.0	68.9	66	68.9	10	Snd Lvl	62.7	6.2	8	-1.8
Receiver 46 G to W	110	2	0.0	69.3	66	69.3	10	Snd Lvl	62.6	6.7	8	-1.3
Receiver 47 G to W	111	1	0.0	70.4	66	70.4	10	Snd Lvl	63.3	7.1	8	-0.9
Receiver 48 G to W	112	2	0.0	68.4	66	68.4	10	Snd Lvl	62.5	5.9	8	-2.1
Receiver 49 G to W	113	2	0.0	69.6	66	69.6	10	Snd Lvl	63.1	6.5	8	-1.5
Receiver 50 G to W	114	2	0.0	68.9	66	68.9	10	Snd Lvl	62.5	6.4	8	-1.6
Receiver 51 G to W	115	1	0.0	68.7	66	68.7	10	Snd Lvl	62.5	6.2	8	-1.8
Receiver 52 W to L	116	10	0.0	70.5	66	70.5	10	Snd Lvl	66.6	3.9	8	-4.1
Receiver 54 W to L	118	1	0.0	69.4	66	69.4	10	Snd Lvl	67.9	1.5	8	-6.5
Receiver 55 W to L	119	1	0.0	67.3	66	67.3	10	Snd Lvl	66.4	0.9	8	-7.1
Receiver 58 W to L	122	2	0.0	69.9	66	69.9	10	Snd Lvl	69.1	0.8	8	-7.2
Receiver 59 W to L	123	1	0.0	67.9	66	67.9	10	Snd Lvl	67.6	0.3	8	-7.7
Receiver 60 W to L	124	1	0.0	65.9	66	65.9	10	----	64.9	1.0	8	-7.0
Receiver 63 W to L	128	1	0.0	72.5	66	72.5	10	Snd Lvl	72.0	0.5	8	-7.5
Receiver 64 W to L	130	1	0.0	70.8	66	70.8	10	Snd Lvl	70.6	0.2	8	-7.8
Receiver 73 D to J	148	6	0.0	72.7	66	72.7	10	Snd Lvl	72.6	0.1	8	-7.9

Receiver 74 D to J	149	10	0.0	72.9	66	72.9	10	Snd Lvl	72.8	0.1	8	-7.9
Receiver 75 D to J	150	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 76 D to J	151	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 77 D to J	152	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 78 D to J	153	10	0.0	68.4	66	68.4	10	Snd Lvl	68.0	0.4	8	-7.6
Receiver 79 D to J	154	1	0.0	68.7	66	68.7	10	Snd Lvl	68.3	0.4	8	-7.6
Receiver 80 D to J	155	3	0.0	69.0	66	69.0	10	Snd Lvl	68.4	0.6	8	-7.4
Receiver 81 D to J	156	2	0.0	69.2	66	69.2	10	Snd Lvl	68.3	0.9	8	-7.1
Receiver 82 D to J	157	2	0.0	69.3	66	69.3	10	Snd Lvl	68.1	1.2	8	-6.8
Receiver 83 D to J	158	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 84 D to J	159	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 85 D to J	160	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 86 D to J	161	1	0.0	67.9	66	67.9	10	Snd Lvl	66.5	1.4	8	-6.6
Receiver 87 D to J	162	1	0.0	67.1	66	67.1	10	Snd Lvl	65.7	1.4	8	-6.6
Receiver 88 D to J	163	1	0.0	66.3	66	66.3	10	Snd Lvl	64.9	1.4	8	-6.6
Receiver 89 D to J	164	1	0.0	68.3	66	68.3	10	Snd Lvl	66.4	1.9	8	-6.1
Receiver 90 D to J	165	1	0.0	66.9	66	66.9	10	Snd Lvl	65.2	1.7	8	-6.3
Receiver 91 D to J	166	1	0.0	65.5	66	65.5	10	----	64.0	1.5	8	-6.5
Receiver 92 D to J	167	1	0.0	65.1	66	65.1	10	----	63.4	1.7	8	-6.3
Receiver 93 D to J	168	4	0.0	64.3	66	64.3	10	----	62.4	1.9	8	-6.1
Receiver 94 D to J	169	1	0.0	71.0	66	71.0	10	Snd Lvl	66.9	4.1	8	-3.9
Receiver 95 D to J	170	1	0.0	71.0	66	71.0	10	Snd Lvl	66.8	4.2	8	-3.8
Receiver 96 D to J	171	1	0.0	71.8	66	71.8	10	Snd Lvl	67.3	4.5	8	-3.5
Receiver 97 D to J	172	1	0.0	72.0	66	72.0	10	Snd Lvl	67.4	4.6	8	-3.4
Receiver 98 D to J	173	1	0.0	66.0	66	66.0	10	Snd Lvl	63.7	2.3	8	-5.7
Receiver 99 D to J	174	1	0.0	65.9	66	65.9	10	----	63.5	2.4	8	-5.6
Receiver 100 D to J	175	1	0.0	65.8	66	65.8	10	----	63.5	2.3	8	-5.7
Receiver 101 D to J	176	1	0.0	66.1	66	66.1	10	Snd Lvl	63.5	2.6	8	-5.4
Receiver 102 D to J	177	4	0.0	64.6	66	64.6	10	----	62.4	2.2	8	-5.8
Receiver 103 D to J	178	1	0.0	65.3	66	65.3	10	----	63.0	2.3	8	-5.7
Receiver 104 D to J	179	1	0.0	66.1	66	66.1	10	Snd Lvl	63.7	2.4	8	-5.6
Receiver 105 D to J	180	1	0.0	66.9	66	66.9	10	Snd Lvl	64.4	2.5	8	-5.5
Receiver 106 D to J	181	1	0.0	67.9	66	67.9	10	Snd Lvl	65.3	2.6	8	-5.4
Receiver 107 D to J	182	1	0.0	69.2	66	69.2	10	Snd Lvl	66.0	3.2	8	-4.8
Receiver 109 D to J	184	1	0.0	71.5	66	71.5	10	Snd Lvl	68.7	2.8	8	-5.2
Receiver 110 D to J	185	1	0.0	69.3	66	69.3	10	Snd Lvl	67.2	2.1	8	-5.9
Receiver 111 D to J	186	1	0.0	67.8	66	67.8	10	Snd Lvl	66.0	1.8	8	-6.2
Receiver 112 D to J	187	1	0.0	66.5	66	66.5	10	Snd Lvl	64.7	1.8	8	-6.2
Receiver 113 D to J	188	1	0.0	65.5	66	65.5	10	----	63.6	1.9	8	-6.1
Receiver 122 D to J	197	3	0.0	71.7	66	71.7	10	Snd Lvl	71.0	0.7	8	-7.3
Receiver 123 D to J	198	2	0.0	71.8	66	71.8	10	Snd Lvl	70.7	1.1	8	-6.9

Receiver 124 D to J	199	2	0.0	71.9	66	71.9	10	Snd Lvl	70.5	1.4	8	-6.6
Receiver 125 D to J	200	1	0.0	66.8	66	66.8	10	Snd Lvl	65.7	1.1	8	-6.9
Receiver 126 D to J	201	2	0.0	66.9	66	66.9	10	Snd Lvl	65.8	1.1	8	-6.9
Receiver 127 D to J	202	1	0.0	66.9	66	66.9	10	Snd Lvl	65.9	1.0	8	-7.0
Receiver 128 D to J	203	1	0.0	67.0	66	67.0	10	Snd Lvl	65.9	1.1	8	-6.9
Receiver 129 D to J	204	1	0.0	67.0	66	67.0	10	Snd Lvl	65.9	1.1	8	-6.9
Receiver 130 D to J	205	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 131 D to J	206	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 132 D to J	207	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 133 D to J	208	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	1	0.0
Receiver 134 D to J	209	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 135 D to J	210	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 136 D to J	211	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 137 J to C	212	1	0.0	75.8	66	75.8	10	Snd Lvl	68.9	6.9	8	-1.1
Receiver 138 J to C	213	1	0.0	68.8	66	68.8	10	Snd Lvl	65.3	3.5	8	-4.5
Receiver 139 J to C	214	1	0.0	70.7	66	70.7	10	Snd Lvl	67.9	2.8	8	-5.2
Receiver 140 J to C	215	1	0.0	71.3	66	71.3	10	Snd Lvl	67.1	4.2	8	-3.8
Receiver 141 J to C	216	1	0.0	76.2	66	76.2	10	Snd Lvl	68.8	7.4	8	-0.6
Receiver 142 J to C	217	1	0.0	78.6	66	78.6	10	Snd Lvl	69.8	8.8	8	0.8
Receiver 143 J to C	218	2	0.0	76.2	66	76.2	10	Snd Lvl	69.0	7.2	8	-0.8
Receiver 144 J to C	219	1	0.0	74.1	66	74.1	10	Snd Lvl	66.9	7.2	8	-0.8
Receiver 145 J to C	220	1	0.0	78.2	66	78.2	10	Snd Lvl	69.6	8.6	8	0.6
Receiver 146 J to C	221	2	0.0	78.1	66	78.1	10	Snd Lvl	69.6	8.5	8	0.5
Receiver 147 J to C	222	1	0.0	77.3	66	77.3	10	Snd Lvl	69.2	8.1	8	0.1
Receiver 148 J to C	223	1	0.0	76.6	66	76.6	10	Snd Lvl	69.0	7.6	8	-0.4
Receiver 149 J to C	224	2	0.0	75.4	66	75.4	10	Snd Lvl	69.1	6.3	8	-1.7
Receiver 150 J to C	225	1	0.0	67.2	66	67.2	10	Snd Lvl	64.0	3.2	8	-4.8
Receiver 151 J to C	226	1	0.0	69.4	66	69.4	10	Snd Lvl	65.3	4.1	8	-3.9
Receiver 152 J to C	227	1	0.0	66.9	66	66.9	10	Snd Lvl	63.2	3.7	8	-4.3
Receiver 153 J to C	228	1	0.0	64.4	66	64.4	10	----	61.1	3.3	8	-4.7
Receiver 154 J to C	229	1	0.0	71.5	66	71.5	10	Snd Lvl	66.1	5.4	8	-2.6
Receiver 155 J to C	230	1	0.0	69.7	66	69.7	10	Snd Lvl	64.9	4.8	8	-3.2
Receiver 156 J to C	231	1	0.0	68.7	66	68.7	10	Snd Lvl	64.2	4.5	8	-3.5
Receiver 157 J to C	232	1	0.0	67.5	66	67.5	10	Snd Lvl	63.1	4.4	8	-3.6
Receiver 158 J to C	233	1	0.0	66.5	66	66.5	10	Snd Lvl	62.2	4.3	8	-3.7
Receiver 159 J to C	234	1	0.0	65.8	66	65.8	10	----	61.6	4.2	8	-3.8
Receiver 160 J to C	235	1	0.0	75.4	66	75.4	10	Snd Lvl	67.8	7.6	8	-0.4
Receiver 161 J to C	236	1	0.0	72.4	66	72.4	10	Snd Lvl	66.5	5.9	8	-2.1
Receiver 162 J to C	237	1	0.0	70.9	66	70.9	10	Snd Lvl	65.5	5.4	8	-2.6
Receiver 163 J to C	238	1	0.0	69.5	66	69.5	10	Snd Lvl	64.6	4.9	8	-3.1
Receiver 164 J to C	239	1	0.0	68.4	66	68.4	10	Snd Lvl	63.7	4.7	8	-3.3

Receiver 165 J to C	240	1	0.0	67.3	66	67.3	10	Snd Lvl	62.7	4.6	8	-3.4
Receiver 166 J to C	241	1	0.0	66.6	66	66.6	10	Snd Lvl	62.1	4.5	8	-3.5
Receiver 167 J to C	242	1	0.0	65.9	66	65.9	10	----	61.5	4.4	8	-3.6
Receiver 168 J to C	243	1	0.0	71.9	66	71.9	10	Snd Lvl	66.0	5.9	8	-2.1
Receiver 169 J to C	244	1	0.0	70.2	66	70.2	10	Snd Lvl	64.9	5.3	8	-2.7
Receiver 170 J to C	245	1	0.0	66.7	66	66.7	10	Snd Lvl	62.2	4.5	8	-3.5
Receiver 171 J to C	246	1	0.0	71.7	66	71.7	10	Snd Lvl	65.9	5.8	8	-2.2
Receiver 172 J to C	247	1	0.0	68.0	66	68.0	10	Snd Lvl	63.2	4.8	8	-3.2
Receiver 173 J to C	248	1	0.0	67.1	66	67.1	10	Snd Lvl	62.5	4.6	8	-3.4
Receiver 174 J to C	249	1	0.0	66.4	66	66.4	10	Snd Lvl	62.0	4.4	8	-3.6
Receiver 175 J to C	250	1	0.0	65.6	66	65.6	10	----	61.4	4.2	8	-3.8
Receiver 176 J to C	251	1	0.0	75.2	66	75.2	10	Snd Lvl	67.4	7.8	8	-0.2
Receiver 177 J to C	252	1	0.0	70.4	66	70.4	10	Snd Lvl	66.1	4.3	8	-3.7
Receiver 178 J to C	253	1	0.0	69.3	66	69.3	10	Snd Lvl	64.3	5.0	8	-3.0
Receiver 179 J to C	254	1	0.0	68.0	66	68.0	10	Snd Lvl	63.6	4.4	8	-3.6
Receiver 180 J to C	255	1	0.0	67.0	66	67.0	10	Snd Lvl	62.6	4.4	8	-3.6
Receiver 181 J to C	256	1	0.0	66.1	66	66.1	10	Snd Lvl	62.1	4.0	8	-4.0
Receiver 182 J to C	257	1	0.0	68.3	66	68.3	10	Snd Lvl	63.8	4.5	8	-3.5
Receiver 183 J to C	258	1	0.0	67.4	66	67.4	10	Snd Lvl	63.3	4.1	8	-3.9
Receiver 184 J to C	259	1	0.0	66.3	66	66.3	10	Snd Lvl	62.6	3.7	8	-4.3

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	242	0.0	3.6	8.8
All Impacted	195	0.1	4.3	8.8
All that meet NR Goal	11	8.0	8.3	8.8

The Corradino Group
T Stone

12 August 2007
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange B-Alt 9 With Noise Walls

Roadway	Points		Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
Name	Name	No.	V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2482	97	124	97	496	97	1	97	1	97
	point207	314	2482	97	124	97	496	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4486	97	224	97	897	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40

	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	749	56	3	56	30	56	1	56	1	56
	point476	576	749	56	3	56	30	56	1	56	1	56
	point1056	1056	749	56	3	56	30	56	1	56	1	56
	point644	577										
S I-75 Service Drive - 4	point638	594	749	48	3	48	30	48	1	48	1	48
	point489	595	749	48	3	48	30	48	1	48	1	48
	point490	596	749	48	3	48	30	48	1	48	1	48
	point491	597										
S I-75 Service Drive - 5	point491	971	482	56	3	56	32	56	1	56	1	56
	point504	607	482	56	3	56	32	56	1	56	1	56
	point505	608	482	56	3	56	32	56	1	56	1	56
	point975	975	482	56	3	56	32	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	360	40	15	40	20	40	1	40	1	40
	point531	638	450	40	30	40	80	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97
	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	30	40	30	60	30	1	30	1	30
	point687	687	700	30	40	30	60	30	1	30	1	30
	point943	943	700	30	40	30	60	30	1	30	1	30
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48
	point960	960	85	48	5	48	10	48	1	48	1	48

	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	25	40	1	40	1	40
	point819	819	120	40	4	40	25	40	1	40	1	40
	point961	961	120	40	4	40	25	40	1	40	1	40
	point962	962	120	40	4	40	25	40	1	40	1	40
	point820	820	120	40	4	40	25	40	1	40	1	40
	point821	821	120	40	4	40	25	40	1	40	1	40
	point822	822										
Livernois	Lafayette	929	324	56	24	56	60	56	1	56	1	56
	SB SD	930	162	56	12	56	30	56	1	56	1	56
	point953	953	162	56	12	56	30	56	1	56	1	56
	point954	954	162	56	12	56	30	56	1	56	1	56
	NB SD	933	162	56	12	56	30	56	1	56	1	56
	WB Fort	934										
S I-75 Service Drive - 3	point645	579	749	56	3	56	30	56	1	56	1	56
	point478	581	749	56	3	56	30	56	1	56	1	56
	point494	583	749	56	3	56	30	56	1	56	1	56
	point480	584	749	56	3	56	30	56	1	56	1	56
	point495	968	749	56	3	56	30	56	1	56	1	56
	point488	969										
S I-75 Service Drive - 6	point631	612	140	56	1	56	4	56	1	56	1	56
	point509	613	140	56	1	56	4	56	1	56	1	56
	point510	614	140	56	1	56	4	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	269	56	1	56	9	56	1	56	1	56

	point514	620	269	56	1	56	9	56	1	56	1	56
	point515	621	269	56	1	56	9	56	1	56	1	56
	point516	622	269	56	1	56	9	56	1	56	1	56
	point518	624	269	56	1	56	9	56	1	56	1	56
	point525	978	269	56	1	56	9	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	205	74	20	74	180	74	1	74	1	74
	point1058	1058	205	74	20	74	180	74	1	74	1	74
	point1006	1006	205	74	20	74	180	74	1	74	1	74
	point1007	1007	205	74	20	74	180	74	1	74	1	74
	point1008	1008	205	74	20	74	180	74	1	74	1	74
	point1010	1010										
Inbound from SB I-75	point1012	1012	559	89	5	89	48	89	1	89	1	89
	point1013	1013	559	89	5	89	48	89	1	89	1	89
	point1014	1014	559	89	5	89	48	89	1	89	1	89
	point1015	1015	559	89	5	89	48	89	1	89	1	89
	point1016	1016										
Dragoon	Fort WB	1059	240	56	18	56	45	56	6	56	2	56
	NB SD	1060	240	56	18	56	45	56	6	56	2	56
	point941	1061	240	56	18	56	45	56	6	56	2	56
	point955	1062	240	56	18	56	45	56	6	56	2	56
	point956	1063	240	56	18	56	45	56	6	56	2	56
	SB SD	1064	240	56	18	56	45	56	6	56	2	56
	point919	1065	486	56	36	56	90	56	6	56	2	56
	N end Dragoo	1066										
S I-75 Auxiliary Lane	point1068	1068	405	64	23	64	60	64	2	64	2	64
	point1069	1069	904	72	4	72	34	72	1	72	1	72
	point1070	1070	904	80	4	80	34	80	1	80	1	80
	point1071	1071	904	88	4	88	34	88	1	88	1	88
	point1072	1072	453	88	3	88	27	88	1	88	1	88
	point1073	1073	453	86	3	86	27	86	1	86	1	86
	point1074	1074	453	75	3	75	27	75	1	75	1	75
	point1075	1075	453	64	3	64	27	64	1	64	1	64
	point1076	1076										

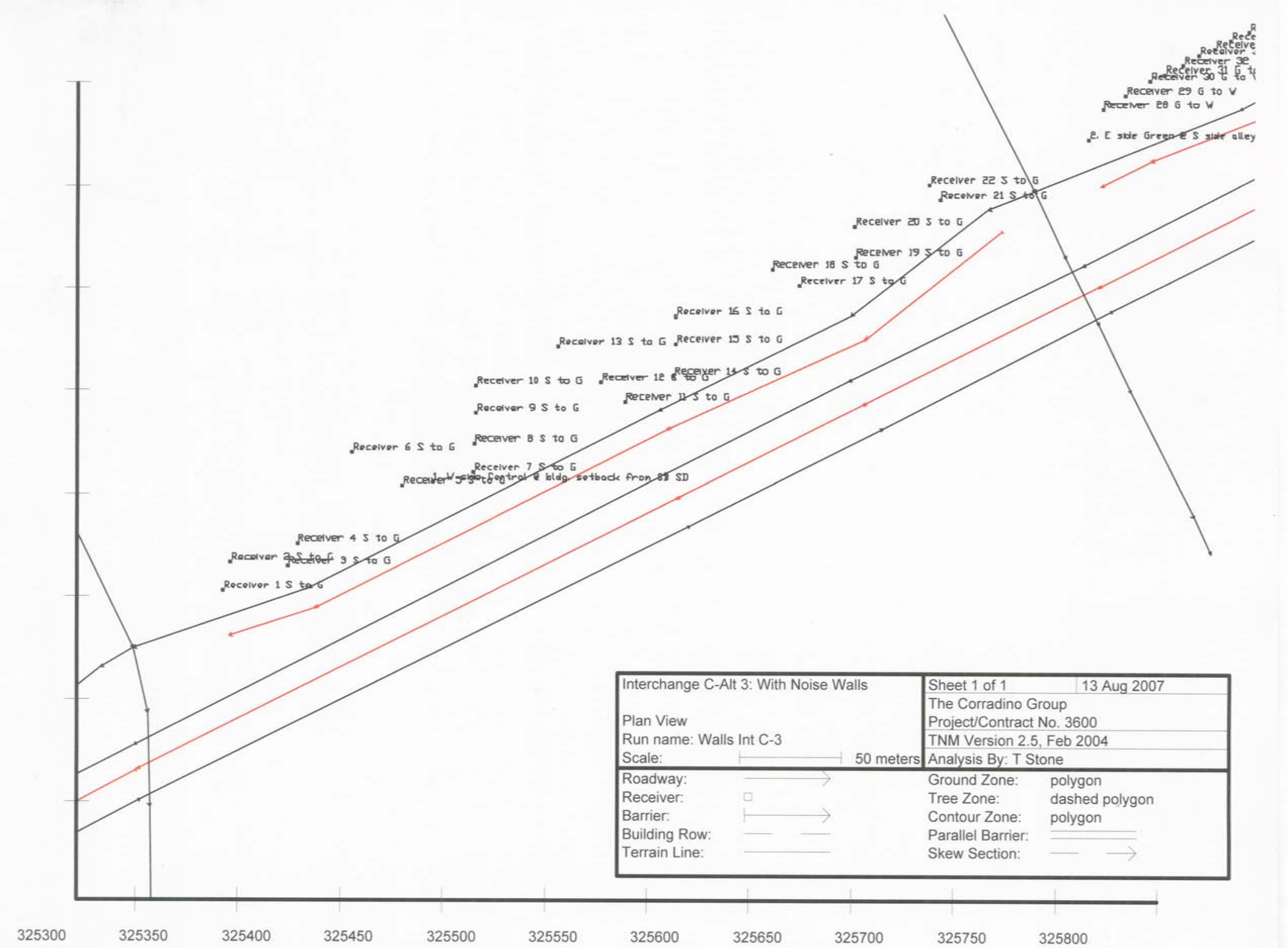
The Corradino Group 15 August 2007
T Stone TNM 2.5

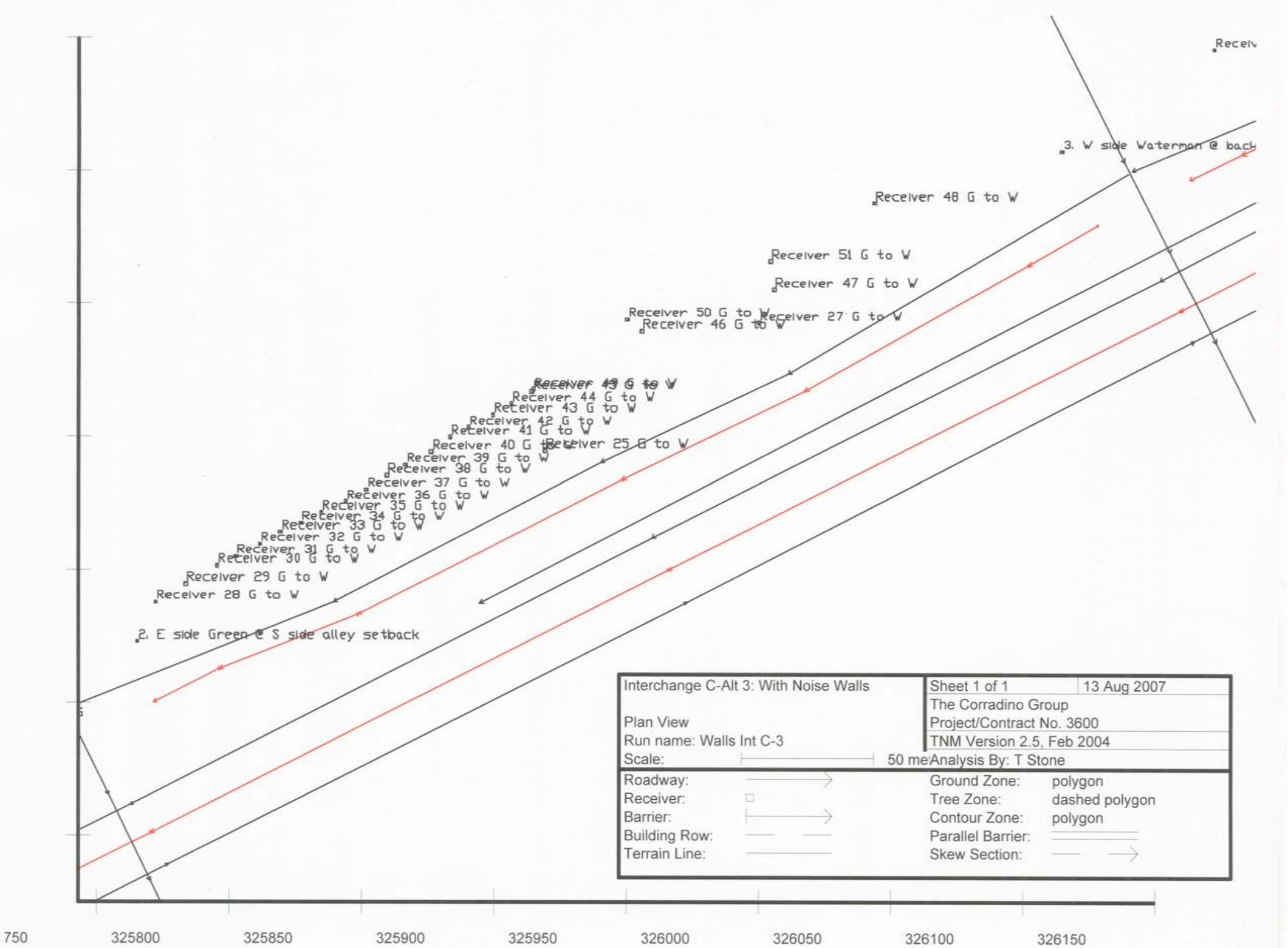
RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange B-Alt 9 With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS

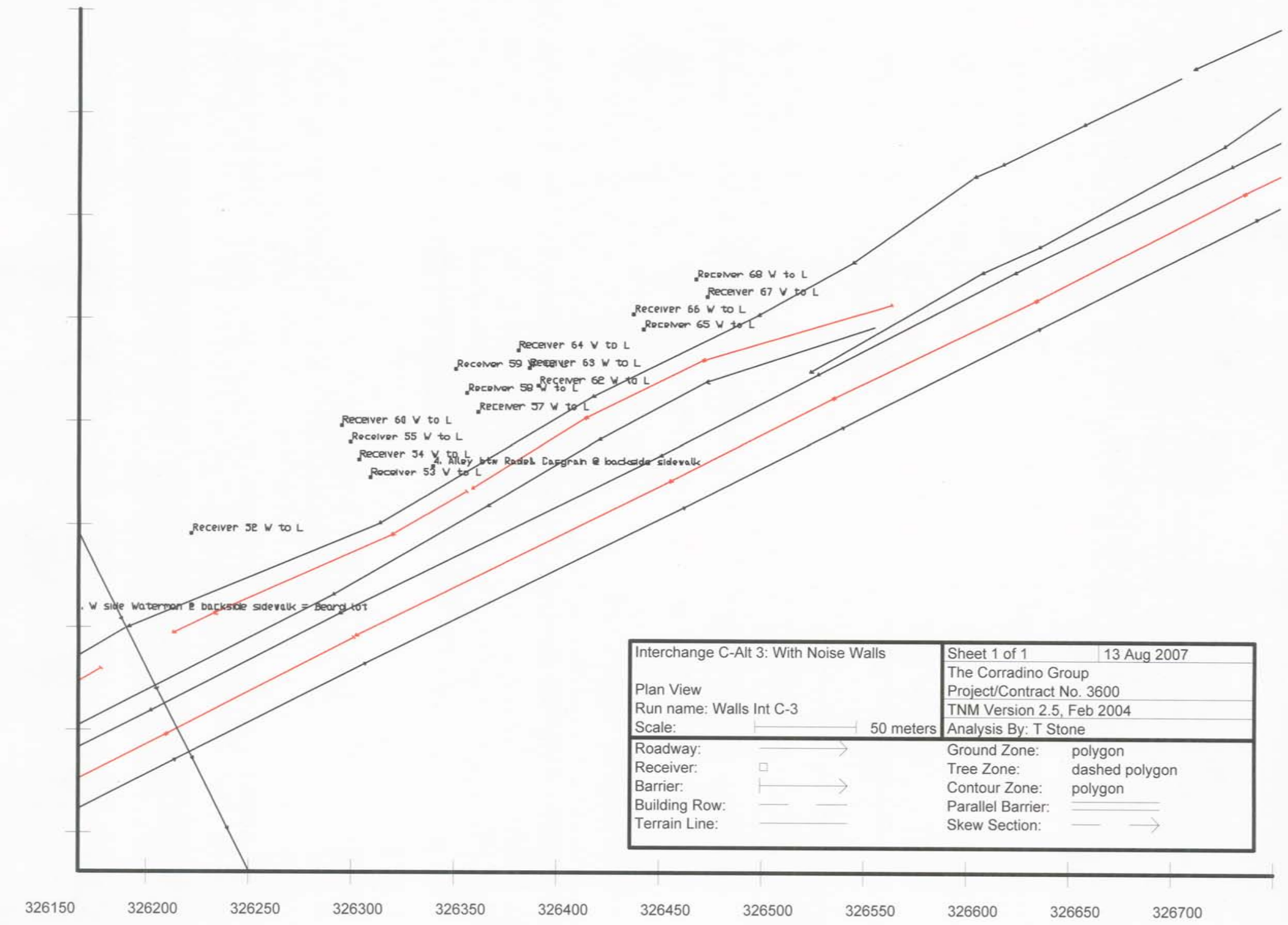
Barriers

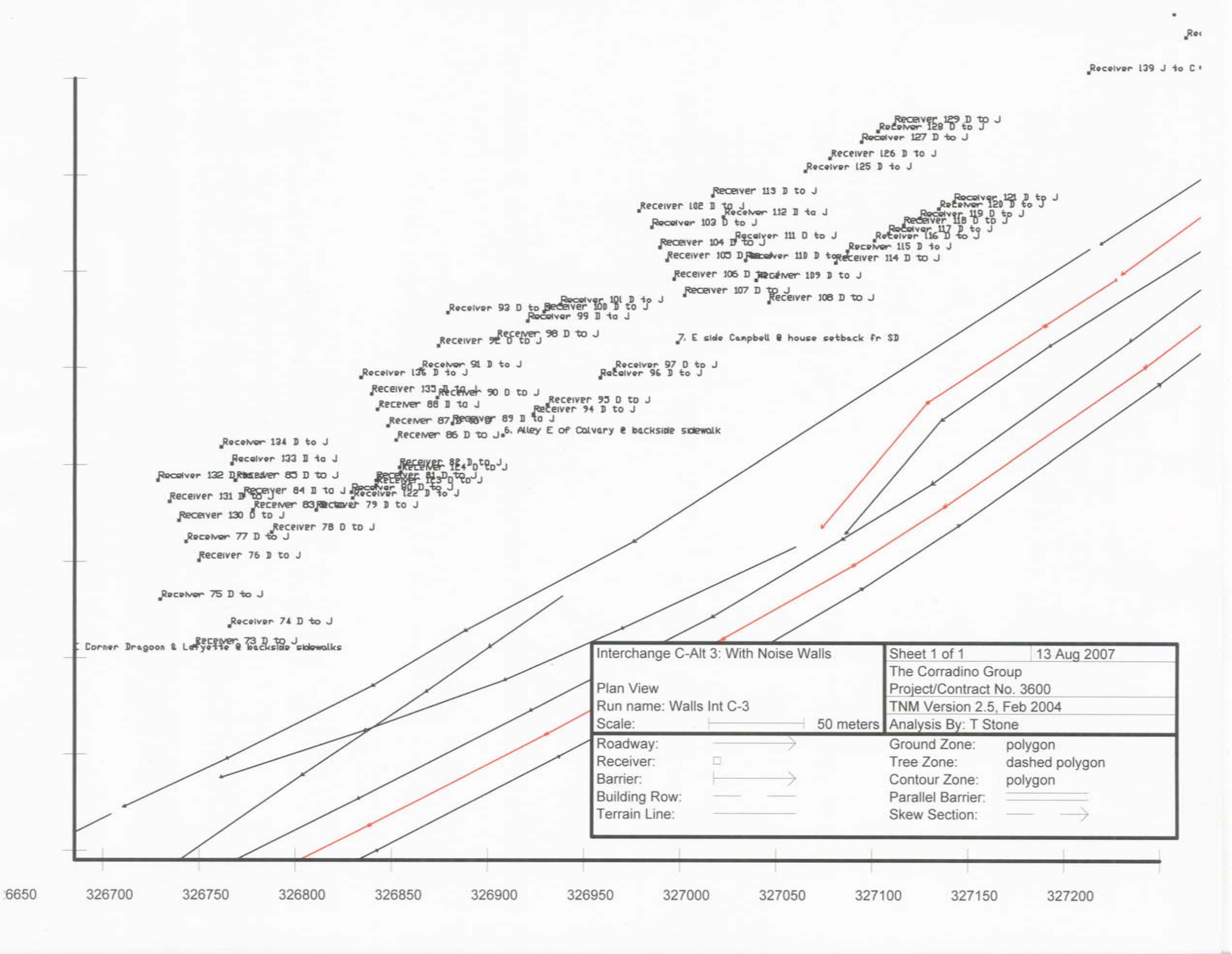
Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	267	293				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1373	1510				0
Barrier to SB I-75	W	2.70	2.70	2.70	274	740				424131
Barrier from SB I-75	W	3.70	3.70	3.70	166	615				301695
Springwells to Green	W	3.70	3.70	3.70	428	1584				777488
Green to east of Waterman	W	3.70	3.70	3.70	523	1935				949491
Calvary to Campbell	W	3.70	3.70	3.70	210	776				380895
Junction to Clark	W	3.70	3.70	3.70	529	1957				960554
									Total Cost:	3794256

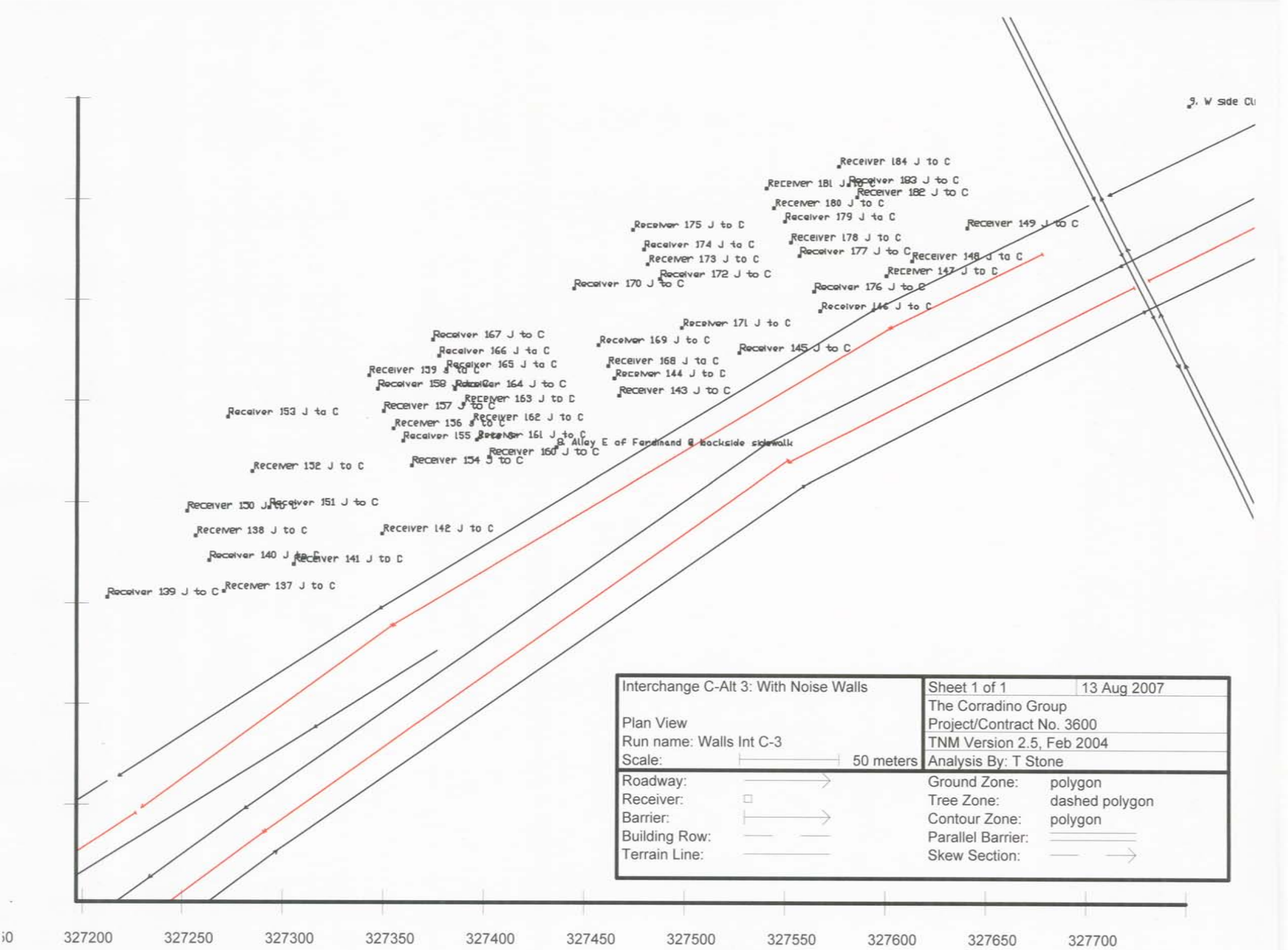
Interchange C – Alternative 3 – 2035


Receiver 29 G to W
Receiver 28 G to W
2. E side Green & S side alley
Receiver 22 S to G
Receiver 21 S to G
Receiver 20 S to G
Receiver 19 S to G
Receiver 18 S to G
Receiver 17 S to G
Receiver 16 S to G
Receiver 13 S to G
Receiver 15 S to G
Receiver 14 S to G
Receiver 10 S to G
Receiver 12 S to G
Receiver 11 S to G
Receiver 9 S to G
Receiver 8 S to G
Receiver 6 S to G
Receiver 7 S to G
Receiver 5 S to G
1. W side Central & bldg. setback from 8th SD
Receiver 4 S to G
Receiver 3 S to G
Receiver 1 S to G
Interchange C-Alt 3: With Noise Walls
Plan View
Run name: Walls Int C-3
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325300
325350
325400
325450
325500
325550
325600
325650
325700
325750
325800


Receiv
3. W side Waterman @ back
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 25 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
Interchange C-Alt 3: With Noise Walls
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int C-3
TNM Version 2.5, Feb 2004
Scale:
50 me
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
750
325800
325850
325900
325950
326000
326050
326100
326150


Receiver 68 W to L
Receiver 67 W to L
Receiver 66 W to L
Receiver 65 W to L
Receiver 64 W to L
Receiver 59
Receiver 63 W to L
Receiver 62 W to L
Receiver 58 W to L
Receiver 57 W to L
Receiver 60 W to L
Receiver 55 W to L
Receiver 54 W to L
4. Alley btw Rodel Dargrain @ backside sidewalk
Receiver 53 W to L
Receiver 52 W to L
. W side Waterman @ backside sidewalk = Beargl01
Interchange C-Alt 3: With Noise Walls
Plan View
Run name: Walls Int C-3
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326150
326200
326250
326300
326350
326400
326450
326500
326550
326600
326650
326700


Receiver 139 J to C
Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D to J
Receiver 110 D to J
Receiver 106 D to J
Receiver 109 D to J
Receiver 107 D to J
Receiver 108 D to J
Receiver 101 D to J
Receiver 93 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback fr SD
Receiver 91 D to J
Receiver 97 D to J
Receiver 136 D to J
Receiver 96 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 95 D to J
Receiver 88 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
Receiver 86 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 134 D to J
Receiver 133 D to J
Receiver 85 D to J
Receiver 132 D to J
Receiver 84 D to J
Receiver 131 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
Corner Dragoon & Lafayette @ backside sidewalks
Interchange C-Alt 3: With Noise Walls
Plan View
Run name: Walls Int C-3
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
6650
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150
327200


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 173 J to C
Receiver 148 J to C
Receiver 172 J to C
Receiver 147 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 145 J to C
Receiver 166 J to C
Receiver 168 J to C
Receiver 165 J to C
Receiver 144 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 153 J to C
Receiver 162 J to C
Receiver 161 J to C
B Alley E of Fernhand & backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 151 J to C
Receiver 150 J to C
Receiver 138 J to C
Receiver 142 J to C
Receiver 140 J to C
Receiver 141 J to C
Receiver 139 J to C
Receiver 137 J to C
Interchange C-Alt 3: With Noise Walls
Plan View
Run name: Walls Int C-3
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650
327700

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 3: With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.7	66	72.7	10	Snd Lvl	72.5	0.2	8	-7.8
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	72.5	66	72.5	10	Snd Lvl	66.7	5.8	8	-2.2
7. E side Campbell @ house setback fr SL	36	1	0.0	64.9	66	64.9	10	----	64.1	0.8	8	-7.2
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	64.5	66	64.5	10	----	64.1	0.4	8	-7.6
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	63.3	66	63.3	10	----	63.1	0.2	8	-7.8
4. Alley btw Rade& Casgrain @ backside s	53	1	0.0	76.2	66	76.2	10	Snd Lvl	71.8	4.4	8	-3.6
3. W side Waterman @ backside sidewalk	55	1	0.0	72.2	66	72.2	10	Snd Lvl	69.8	2.4	8	-5.6
2. E side Green @ S side alley setback	58	2	0.0	71.3	66	71.3	10	Snd Lvl	69.3	2.0	8	-6.0
1. W side Central @ bldg. setback from SE	60	4	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 1 S to G	61	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 2 S to G	62	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	63	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 4 S to G	64	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 5 S to G	65	1	0.0	71.6	66	71.6	10	Snd Lvl	66.2	5.4	8	-2.6
Receiver 6 S to G	66	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 7 S to G	68	1	0.0	73.7	66	73.7	10	Snd Lvl	66.3	7.4	8	-0.6
Receiver 8 S to G	69	1	0.0	71.1	66	71.1	10	Snd Lvl	65.1	6.0	8	-2.0
Receiver 9 S to G	70	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 10 S to G	71	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 11 S to G	72	1	0.0	74.3	66	74.3	10	Snd Lvl	66.6	7.7	8	-0.3
Receiver 12 S to G	73	1	0.0	71.0	66	71.0	10	Snd Lvl	64.8	6.2	8	-1.8
Receiver 13 S to G	74	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 14 S to G	75	1	0.0	73.9	66	73.9	10	Snd Lvl	66.4	7.5	8	-0.5

Receiver 15 S to G	76	1	0.0	70.7	66	70.7	10	Snd Lvl	64.6	6.1	8	-1.9
Receiver 16 S to G	77	1	0.0	69.2	66	69.2	10	Snd Lvl	63.5	5.7	8	-2.3
Receiver 17 S to G	78	2	0.0	70.3	66	70.3	10	Snd Lvl	64.5	5.8	8	-2.2
Receiver 18 S to G	79	1	0.0	68.7	66	68.7	10	Snd Lvl	63.5	5.2	8	-2.8
Receiver 19 S to G	80	1	0.0	69.7	66	69.7	10	Snd Lvl	64.6	5.1	8	-2.9
Receiver 20 S to G	81	1	0.0	68.1	66	68.1	10	Snd Lvl	63.4	4.7	8	-3.3
Receiver 21 S to G	82	1	0.0	67.9	66	67.9	10	Snd Lvl	64.8	3.1	8	-4.9
Receiver 22 S to G	83	1	0.0	67.4	66	67.4	10	Snd Lvl	63.9	3.5	8	-4.5
Receiver 25 G to W	84	1	0.0	71.1	66	71.1	10	Snd Lvl	65.5	5.6	8	-2.4
Receiver 27 G to W	85	2	0.0	69.9	66	69.9	10	Snd Lvl	64.7	5.2	8	-2.8
Receiver 28 G to W	86	4	0.0	65.9	66	65.9	10	----	64.0	1.9	8	-6.1
Receiver 29 G to W	87	2	0.0	66.3	66	66.3	10	Snd Lvl	63.5	2.8	8	-5.2
Receiver 30 G to W	89	2	0.0	66.3	66	66.3	10	Snd Lvl	64.0	2.3	8	-5.7
Receiver 31 G to W	90	1	0.0	66.2	66	66.2	10	Snd Lvl	63.7	2.5	8	-5.5
Receiver 32 G to W	92	1	0.0	66.2	66	66.2	10	Snd Lvl	63.7	2.5	8	-5.5
Receiver 33 G to W	93	1	0.0	66.4	66	66.4	10	Snd Lvl	63.6	2.8	8	-5.2
Receiver 34 G to W	94	2	0.0	66.6	66	66.6	10	Snd Lvl	63.6	3.0	8	-5.0
Receiver 35 G to W	96	2	0.0	66.6	66	66.6	10	Snd Lvl	63.5	3.1	8	-4.9
Receiver 36 G to W	97	2	0.0	66.8	66	66.8	10	Snd Lvl	63.5	3.3	8	-4.7
Receiver 37 G to W	98	2	0.0	66.8	66	66.8	10	Snd Lvl	63.4	3.4	8	-4.6
Receiver 38 G to W	99	1	0.0	67.1	66	67.1	10	Snd Lvl	63.3	3.8	8	-4.2
Receiver 39 G to W	100	1	0.0	67.1	66	67.1	10	Snd Lvl	63.3	3.8	8	-4.2
Receiver 40 G to W	101	2	0.0	66.9	66	66.9	10	Snd Lvl	63.3	3.6	8	-4.4
Receiver 41 G to W	102	1	0.0	66.9	66	66.9	10	Snd Lvl	63.2	3.7	8	-4.3
Receiver 42 G to W	103	2	0.0	66.9	66	66.9	10	Snd Lvl	63.2	3.7	8	-4.3
Receiver 43 G to W	104	1	0.0	67.2	66	67.2	10	Snd Lvl	63.2	4.0	8	-4.0
Receiver 44 G to W	105	1	0.0	67.2	66	67.2	10	Snd Lvl	63.2	4.0	8	-4.0
Receiver 45 G to W	106	2	0.0	67.2	66	67.2	10	Snd Lvl	63.2	4.0	8	-4.0
Receiver 46 G to W	107	2	0.0	67.4	66	67.4	10	Snd Lvl	63.1	4.3	8	-3.7
Receiver 47 G to W	108	1	0.0	68.3	66	68.3	10	Snd Lvl	63.9	4.4	8	-3.6
Receiver 48 G to W	109	2	0.0	66.7	66	66.7	10	Snd Lvl	63.5	3.2	8	-4.8
Receiver 49 G to W	110	2	0.0	68.1	66	68.1	10	Snd Lvl	63.4	4.7	8	-3.3
Receiver 50 G to W	111	2	0.0	67.6	66	67.6	10	Snd Lvl	62.8	4.8	8	-3.2
Receiver 51 G to W	112	1	0.0	67.1	66	67.1	10	Snd Lvl	63.1	4.0	8	-4.0
Receiver 52 W to L	113	10	0.0	70.9	66	70.9	10	Snd Lvl	67.9	3.0	8	-5.0
Receiver 53 W to L	114	1	0.0	73.7	66	73.7	10	Snd Lvl	68.5	5.2	8	-2.8
Receiver 54 W to L	115	1	0.0	71.5	66	71.5	10	Snd Lvl	67.0	4.5	8	-3.5
Receiver 55 W to L	116	1	0.0	70.4	66	70.4	10	Snd Lvl	67.4	3.0	8	-5.0
Receiver 57 W to L	117	2	0.0	73.2	66	73.2	10	Snd Lvl	69.4	3.8	8	-4.2
Receiver 58 W to L	118	2	0.0	71.5	66	71.5	10	Snd Lvl	67.8	3.7	8	-4.3
Receiver 59 W to L	119	1	0.0	69.7	66	69.7	10	Snd Lvl	66.0	3.7	8	-4.3

Receiver 60 W to L	120	1	0.0	68.9	66	68.9	10	Snd Lvl	64.8	4.1	8	-3.9
Receiver 62 W to L	121	1	0.0	73.6	66	73.6	10	Snd Lvl	69.4	4.2	8	-3.8
Receiver 63 W to L	122	1	0.0	71.8	66	71.8	10	Snd Lvl	68.0	3.8	8	-4.2
Receiver 64 W to L	123	1	0.0	70.3	66	70.3	10	Snd Lvl	66.8	3.5	8	-4.5
Receiver 65 W to L	124	1	0.0	72.1	66	72.1	10	Snd Lvl	68.6	3.5	8	-4.5
Receiver 66 W to L	125	1	0.0	70.5	66	70.5	10	Snd Lvl	67.6	2.9	8	-5.1
Receiver 67 W to L	126	1	0.0	70.8	66	70.8	10	Snd Lvl	68.9	1.9	8	-6.1
Receiver 68 W to L	128	1	0.0	69.0	66	69.0	10	Snd Lvl	67.3	1.7	8	-6.3
Receiver 73 D to J	144	6	0.0	66.5	66	66.5	10	Snd Lvl	66.4	0.1	8	-7.9
Receiver 74 D to J	145	10	0.0	66.4	66	66.4	10	Snd Lvl	66.3	0.1	8	-7.9
Receiver 75 D to J	146	2	0.0	64.2	66	64.2	10	----	64.1	0.1	8	-7.9
Receiver 76 D to J	147	1	0.0	63.7	66	63.7	10	----	63.5	0.2	8	-7.8
Receiver 77 D to J	148	1	0.0	63.0	66	63.0	10	----	62.8	0.2	8	-7.8
Receiver 78 D to J	149	10	0.0	64.1	66	64.1	10	----	63.9	0.2	8	-7.8
Receiver 79 D to J	150	1	0.0	63.9	66	63.9	10	----	63.7	0.2	8	-7.8
Receiver 80 D to J	151	3	0.0	64.0	66	64.0	10	----	63.8	0.2	8	-7.8
Receiver 81 D to J	152	2	0.0	64.0	66	64.0	10	----	63.7	0.3	8	-7.7
Receiver 82 D to J	153	2	0.0	63.8	66	63.8	10	----	63.5	0.3	8	-7.7
Receiver 83 D to J	154	1	0.0	63.1	66	63.1	10	----	62.9	0.2	8	-7.8
Receiver 84 D to J	155	1	0.0	62.7	66	62.7	10	----	62.4	0.3	8	-7.7
Receiver 85 D to J	156	1	0.0	62.3	66	62.3	10	----	62.0	0.3	8	-7.7
Receiver 86 D to J	157	1	0.0	63.1	66	63.1	10	----	62.8	0.3	8	-7.7
Receiver 87 D to J	158	1	0.0	62.7	66	62.7	10	----	62.4	0.3	8	-7.7
Receiver 88 D to J	159	1	0.0	62.3	66	62.3	10	----	61.9	0.4	8	-7.6
Receiver 89 D to J	160	1	0.0	63.5	66	63.5	10	----	63.1	0.4	8	-7.6
Receiver 90 D to J	161	1	0.0	62.8	66	62.8	10	----	62.3	0.5	8	-7.5
Receiver 91 D to J	162	1	0.0	61.9	66	61.9	10	----	61.5	0.4	8	-7.6
Receiver 92 D to J	163	1	0.0	61.5	66	61.5	10	----	61.1	0.4	8	-7.6
Receiver 93 D to J	164	4	0.0	61.1	66	61.1	10	----	60.6	0.5	8	-7.5
Receiver 94 D to J	165	1	0.0	64.4	66	64.4	10	----	64.0	0.4	8	-7.6
Receiver 95 D to J	166	1	0.0	64.4	66	64.4	10	----	63.9	0.5	8	-7.5
Receiver 96 D to J	167	1	0.0	64.5	66	64.5	10	----	64.0	0.5	8	-7.5
Receiver 97 D to J	168	1	0.0	64.5	66	64.5	10	----	63.9	0.6	8	-7.4
Receiver 98 D to J	169	1	0.0	62.0	66	62.0	10	----	61.6	0.4	8	-7.6
Receiver 99 D to J	170	1	0.0	62.1	66	62.1	10	----	61.6	0.5	8	-7.5
Receiver 100 D to J	171	1	0.0	62.1	66	62.1	10	----	61.6	0.5	8	-7.5
Receiver 101 D to J	172	1	0.0	62.2	66	62.2	10	----	61.6	0.6	8	-7.4
Receiver 102 D to J	173	4	0.0	61.4	66	61.4	10	----	60.4	1.0	8	-7.0
Receiver 103 D to J	174	1	0.0	62.0	66	62.0	10	----	61.0	1.0	8	-7.0
Receiver 104 D to J	175	1	0.0	62.3	66	62.3	10	----	61.3	1.0	8	-7.0
Receiver 105 D to J	176	1	0.0	62.6	66	62.6	10	----	61.8	0.8	8	-7.2

Receiver 106 D to J	177	1	0.0	63.0	66	63.0	10	----	62.2	0.8	8	-7.2
Receiver 107 D to J	178	1	0.0	63.6	66	63.6	10	----	62.8	0.8	8	-7.2
Receiver 108 D to J	179	1	0.0	65.1	66	65.1	10	----	64.1	1.0	8	-7.0
Receiver 109 D to J	180	1	0.0	64.3	66	64.3	10	----	63.3	1.0	8	-7.0
Receiver 110 D to J	181	1	0.0	63.8	66	63.8	10	----	62.6	1.2	8	-6.8
Receiver 111 D to J	182	1	0.0	63.2	66	63.2	10	----	62.0	1.2	8	-6.8
Receiver 112 D to J	183	1	0.0	62.6	66	62.6	10	----	61.3	1.3	8	-6.7
Receiver 113 D to J	184	1	0.0	62.1	66	62.1	10	----	60.7	1.4	8	-6.6
Receiver 114 D to J	185	1	0.0	65.1	66	65.1	10	----	63.6	1.5	8	-6.5
Receiver 115 D to J	186	1	0.0	65.0	66	65.0	10	----	63.3	1.7	8	-6.3
Receiver 116 D to J	187	1	0.0	65.1	66	65.1	10	----	63.3	1.8	8	-6.2
Receiver 117 D to J	188	1	0.0	65.2	66	65.2	10	----	63.3	1.9	8	-6.1
Receiver 118 D to J	189	1	0.0	65.2	66	65.2	10	----	63.2	2.0	8	-6.0
Receiver 119 D to J	190	1	0.0	65.4	66	65.4	10	----	63.2	2.2	8	-5.8
Receiver 120 D to J	191	1	0.0	65.4	66	65.4	10	----	63.1	2.3	8	-5.7
Receiver 121 D to J	192	1	0.0	65.7	66	65.7	10	----	63.2	2.5	8	-5.5
Receiver 122 D to J	193	3	0.0	67.2	66	67.2	10	Snd Lvl	67.0	0.2	8	-7.8
Receiver 123 D to J	194	2	0.0	67.1	66	67.1	10	Snd Lvl	67.0	0.1	8	-7.9
Receiver 124 D to J	195	2	0.0	67.1	66	67.1	10	Snd Lvl	66.9	0.2	8	-7.8
Receiver 125 D to J	196	1	0.0	62.5	66	62.5	10	----	60.9	1.6	8	-6.4
Receiver 126 D to J	197	2	0.0	62.5	66	62.5	10	----	60.8	1.7	8	-6.3
Receiver 127 D to J	198	1	0.0	62.5	66	62.5	10	----	60.7	1.8	8	-6.2
Receiver 128 D to J	199	1	0.0	62.6	66	62.6	10	----	60.6	2.0	8	-6.0
Receiver 129 D to J	200	1	0.0	62.8	66	62.8	10	----	60.5	2.3	8	-5.7
Receiver 130 D to J	201	1	0.0	61.5	66	61.5	10	----	61.2	0.3	8	-7.7
Receiver 131 D to J	202	1	0.0	61.1	66	61.1	10	----	60.8	0.3	8	-7.7
Receiver 132 D to J	203	1	0.0	60.5	66	60.5	10	----	60.0	0.5	8	-7.5
Receiver 133 D to J	204	1	0.0	60.9	66	60.9	10	----	60.6	0.3	8	-7.7
Receiver 134 D to J	205	1	0.0	60.5	66	60.5	10	----	60.1	0.4	8	-7.6
Receiver 135 D to J	206	1	0.0	60.9	66	60.9	10	----	60.5	0.4	8	-7.6
Receiver 136 D to J	207	1	0.0	60.5	66	60.5	10	----	60.1	0.4	8	-7.6
Receiver 137 J to C	208	1	0.0	67.6	66	67.6	10	Snd Lvl	63.5	4.1	8	-3.9
Receiver 138 J to C	209	1	0.0	64.9	66	64.9	10	----	60.8	4.1	8	-3.9
Receiver 139 J to C	210	1	0.0	64.7	66	64.7	10	----	60.9	3.8	8	-4.2
Receiver 140 J to C	211	1	0.0	66.0	66	66.0	10	Snd Lvl	61.9	4.1	8	-3.9
Receiver 141 J to C	212	1	0.0	68.8	66	68.8	10	Snd Lvl	64.3	4.5	8	-3.5
Receiver 142 J to C	213	1	0.0	70.8	66	70.8	10	Snd Lvl	65.5	5.3	8	-2.7
Receiver 143 J to C	214	2	0.0	72.3	66	72.3	10	Snd Lvl	66.4	5.9	8	-2.1
Receiver 144 J to C	215	1	0.0	71.1	66	71.1	10	Snd Lvl	65.3	5.8	8	-2.2
Receiver 145 J to C	216	1	0.0	76.0	66	76.0	10	Snd Lvl	68.1	7.9	8	-0.1
Receiver 146 J to C	217	2	0.0	76.7	66	76.7	10	Snd Lvl	69.0	7.7	8	-0.3

Receiver 147 J to C	218	1	0.0	76.3	66	76.3	10	Snd Lvl	69.2	7.1	8	-0.9
Receiver 148 J to C	219	1	0.0	75.9	66	75.9	10	Snd Lvl	69.2	6.7	8	-1.3
Receiver 149 J to C	220	2	0.0	75.1	66	75.1	10	Snd Lvl	69.9	5.2	8	-2.8
Receiver 150 J to C	221	1	0.0	64.3	66	64.3	10	----	60.0	4.3	8	-3.7
Receiver 151 J to C	222	1	0.0	65.8	66	65.8	10	----	61.5	4.3	8	-3.7
Receiver 152 J to C	223	1	0.0	64.6	66	64.6	10	----	60.1	4.5	8	-3.5
Receiver 153 J to C	224	1	0.0	62.9	66	62.9	10	----	58.7	4.2	8	-3.8
Receiver 154 J to C	225	1	0.0	68.3	66	68.3	10	Snd Lvl	63.5	4.8	8	-3.2
Receiver 155 J to C	226	1	0.0	67.0	66	67.0	10	Snd Lvl	62.3	4.7	8	-3.3
Receiver 156 J to C	227	1	0.0	66.2	66	66.2	10	Snd Lvl	61.6	4.6	8	-3.4
Receiver 157 J to C	228	1	0.0	65.5	66	65.5	10	----	60.8	4.7	8	-3.3
Receiver 158 J to C	229	1	0.0	64.9	66	64.9	10	----	60.2	4.7	8	-3.3
Receiver 159 J to C	230	1	0.0	64.4	66	64.4	10	----	59.7	4.7	8	-3.3
Receiver 160 J to C	232	1	0.0	70.5	66	70.5	10	Snd Lvl	65.3	5.2	8	-2.8
Receiver 161 J to C	233	1	0.0	69.3	66	69.3	10	Snd Lvl	64.2	5.1	8	-2.9
Receiver 162 J to C	234	1	0.0	68.3	66	68.3	10	Snd Lvl	63.3	5.0	8	-3.0
Receiver 163 J to C	235	1	0.0	67.3	66	67.3	10	Snd Lvl	62.4	4.9	8	-3.1
Receiver 164 J to C	236	1	0.0	66.5	66	66.5	10	Snd Lvl	61.6	4.9	8	-3.1
Receiver 165 J to C	237	1	0.0	65.7	66	65.7	10	----	60.8	4.9	8	-3.1
Receiver 166 J to C	238	1	0.0	65.3	66	65.3	10	----	60.4	4.9	8	-3.1
Receiver 167 J to C	239	1	0.0	64.8	66	64.8	10	----	59.9	4.9	8	-3.1
Receiver 168 J to C	240	1	0.0	70.1	66	70.1	10	Snd Lvl	64.6	5.5	8	-2.5
Receiver 169 J to C	241	1	0.0	68.9	66	68.9	10	Snd Lvl	63.4	5.5	8	-2.5
Receiver 170 J to C	242	1	0.0	66.1	66	66.1	10	Snd Lvl	61.1	5.0	8	-3.0
Receiver 171 J to C	243	1	0.0	70.7	66	70.7	10	Snd Lvl	65.0	5.7	8	-2.3
Receiver 172 J to C	244	1	0.0	67.6	66	67.6	10	Snd Lvl	62.4	5.2	8	-2.8
Receiver 173 J to C	245	1	0.0	66.8	66	66.8	10	Snd Lvl	61.7	5.1	8	-2.9
Receiver 174 J to C	246	1	0.0	66.3	66	66.3	10	Snd Lvl	61.2	5.1	8	-2.9
Receiver 175 J to C	247	1	0.0	65.5	66	65.5	10	----	60.7	4.8	8	-3.2
Receiver 176 J to C	248	1	0.0	73.0	66	73.0	10	Snd Lvl	67.2	5.8	8	-2.2
Receiver 177 J to C	249	1	0.0	70.2	66	70.2	10	Snd Lvl	64.9	5.3	8	-2.7
Receiver 178 J to C	250	1	0.0	69.2	66	69.2	10	Snd Lvl	64.0	5.2	8	-2.8
Receiver 179 J to C	251	1	0.0	68.1	66	68.1	10	Snd Lvl	63.4	4.7	8	-3.3
Receiver 180 J to C	252	1	0.0	67.3	66	67.3	10	Snd Lvl	62.4	4.9	8	-3.1
Receiver 181 J to C	253	1	0.0	66.5	66	66.5	10	Snd Lvl	61.8	4.7	8	-3.3
Receiver 182 J to C	254	1	0.0	68.4	66	68.4	10	Snd Lvl	63.9	4.5	8	-3.5
Receiver 183 J to C	255	1	0.0	67.8	66	67.8	10	Snd Lvl	63.3	4.5	8	-3.5
Receiver 184 J to C	256	1	0.0	66.9	66	66.9	10	Snd Lvl	62.6	4.3	8	-3.7

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max

		dB	dB	dB
All Selected	261	0.0	2.9	7.9
All Impacted	147	0.1	4.3	7.9
All that meet NR Goal	0	0.0	0.0	0.0

The Corradino Group
T Stone

13 August 2007
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 3: With Noise Walls

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40

	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	749	56	3	56	30	56	1	56	1	56
	point476	576	749	56	3	56	30	56	1	56	1	56
	point1056	1056	749	56	3	56	30	56	1	56	1	56
	point644	577										
S I-75 Service Drive - 4	point638	594	749	48	3	48	30	48	1	48	1	48
	point489	595	749	48	3	48	30	48	1	48	1	48
	point490	596	749	48	3	48	30	48	1	48	1	48
	point491	597										
S I-75 Service Drive - 5	point491	971	1004	56	14	56	39	56	1	56	1	56
	point504	607	1004	56	14	56	39	56	1	56	1	56
	point505	608	1004	56	14	56	39	56	1	56	1	56
	point975	975	1004	56	14	56	39	56	1	56	1	56
	point1077	1077	1004	56	14	56	39	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	200	40	3	40	27	40	1	40	1	40
	point531	638	200	40	3	40	27	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97
	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	40	40	40	60	40	1	40	1	40
	point687	687	700	40	40	40	60	40	1	40	1	40
	point943	943	700	40	40	40	60	40	1	40	1	40
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48

	point960	960	85	48	5	48	10	48	1	48	1	48
	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	25	40	1	40	1	40
	point819	819	120	40	4	40	25	40	1	40	1	40
	point961	961	120	40	4	40	25	40	1	40	1	40
	point962	962	120	40	4	40	25	40	1	40	1	40
	point820	820	120	40	4	40	25	40	1	40	1	40
	point821	821	120	40	4	40	25	40	1	40	1	40
	point822	822										
S I-75 Service Drive - 3	point645	579	749	56	3	56	30	56	1	56	1	56
	point478	581	180	56	10	56	5	56	1	56	1	56
	point494	583	180	56	10	56	5	56	1	56	1	56
	point480	584	180	56	10	56	5	56	1	56	1	56
	point495	968	1004	56	14	56	39	56	1	56	1	56
	point488	969										
S I-75 Service Drive - 6	point631	612	200	56	3	56	27	56	1	56	1	56
	point509	613	200	56	3	56	27	56	1	56	1	56
	point510	614	200	56	3	56	27	56	1	56	1	56
	point1078	1078	200	56	3	56	27	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	200	56	3	56	27	56	1	56	1	56
	point514	620	200	56	3	56	27	56	1	56	1	56
	point515	621	200	56	3	56	27	56	1	56	1	56
	point516	622	200	56	3	56	27	56	1	56	1	56
	point518	624	200	56	3	56	27	56	1	56	1	56

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point525	978	200	56	3	56	27	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	225	74	27	74	238	74	1	74	1	74
	point1058	1058	225	74	27	74	238	74	1	74	1	74
	point1006	1006	225	76	27	76	238	76	1	76	1	76
	point1007	1007	225	78	27	78	238	78	1	78	1	78
	point1008	1008	225	89	27	89	238	89	1	89	1	89
	point1010	1010										
Inbound from SB I-75	point1012	1012	791	89	15	89	131	89	1	89	1	89
	point1013	1013	791	85	15	85	131	85	1	85	1	85
	point1014	1014	791	83	15	83	131	83	1	83	1	83
	point1015	1015	791	81	15	81	131	81	1	81	1	81
	point1016	1016										
S I-75/Dragoon On-Ramp	point1068	1068	1000	97	5	97	45	97	1	97	1	97
	point1069	1069	1000	97	5	97	45	97	1	97	1	97
	point1070	1070	1000	97	5	97	45	97	1	97	1	97
	point1071	1071	1000	97	5	97	45	97	1	97	1	97
	point1072	1072	1000	97	5	97	45	97	1	97	1	97
	point1073	1073	1000	97	5	97	45	97	1	97	1	97
	point1074	1074	1000	97	5	97	45	97	1	97	1	97
	point1075	1075										
Waterman N&SB	point761	1079	85	56	5	56	15	56	1	56	1	56
	point762	1080	128	48	8	48	23	48	2	48	2	48
	point957	1081	128	48	8	48	23	48	2	48	2	48
	point958	1082	128	48	8	48	23	48	2	48	2	48
	point764	1083	128	56	8	56	23	56	2	56	2	56
	point765	1084	128	56	8	56	23	56	2	56	2	56
	point769	1085										
S I-75/Dragoon Off-Ramp	point481	1092	904	56	4	56	34	56	1	56	1	56
	point483	1093	904	56	4	56	34	56	1	56	1	56
	point484	1094	904	56	4	56	34	56	1	56	1	56
	point1096	1096	904	56	4	56	34	56	1	56	1	56
	point485	1095										

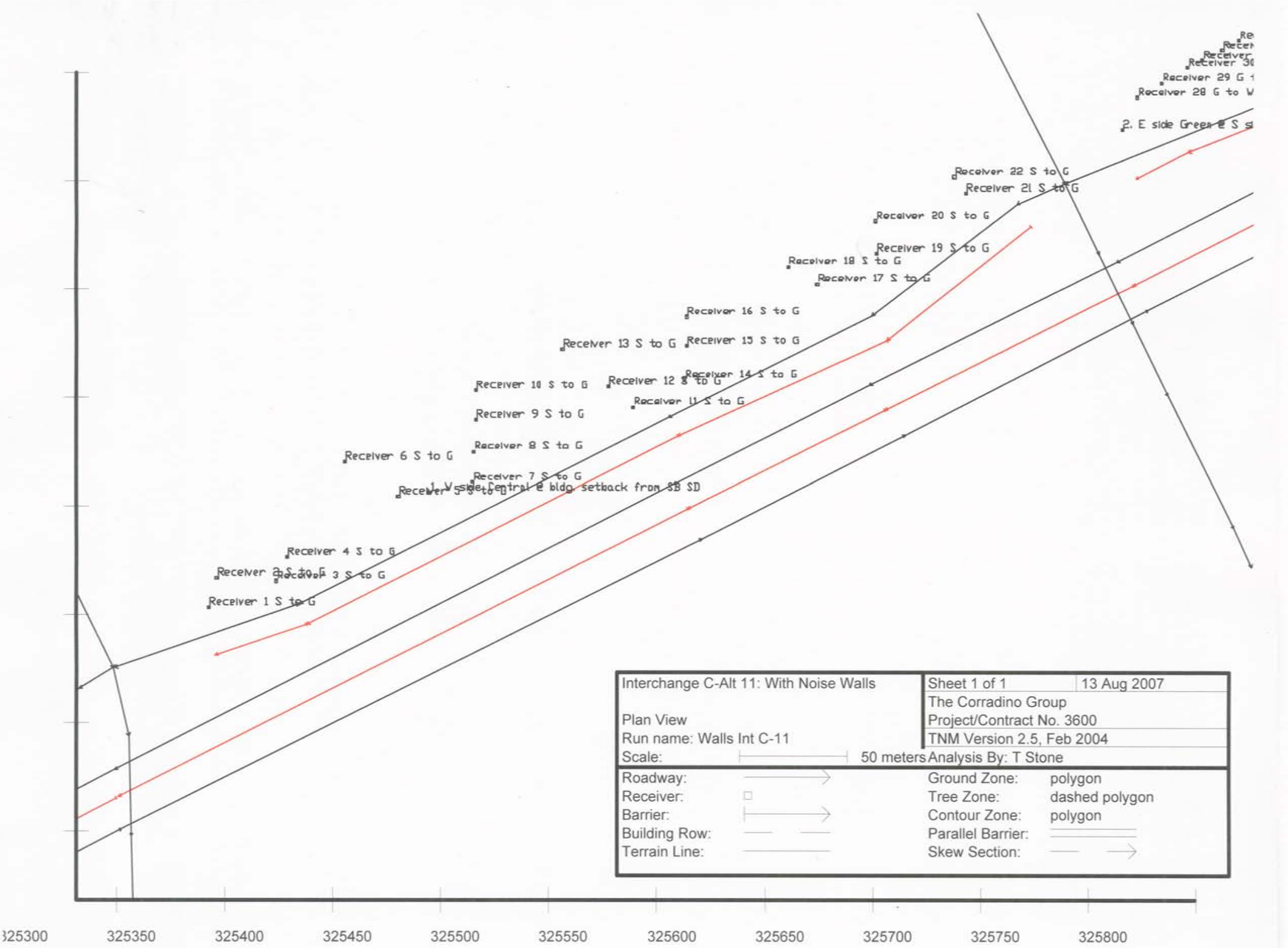
The Corradino Group 15 August 2007
T Stone TNM 2.5

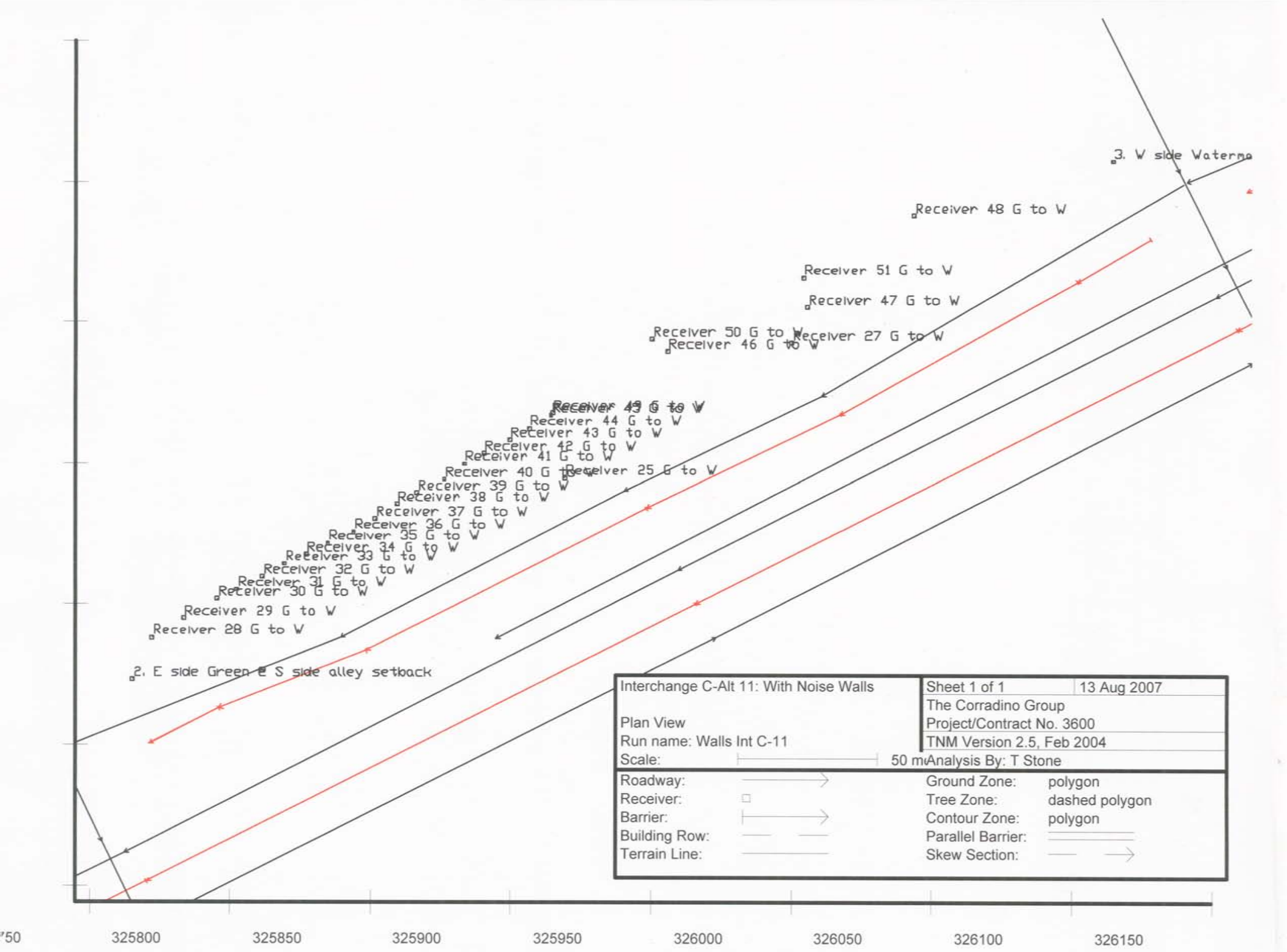
RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 3: With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS

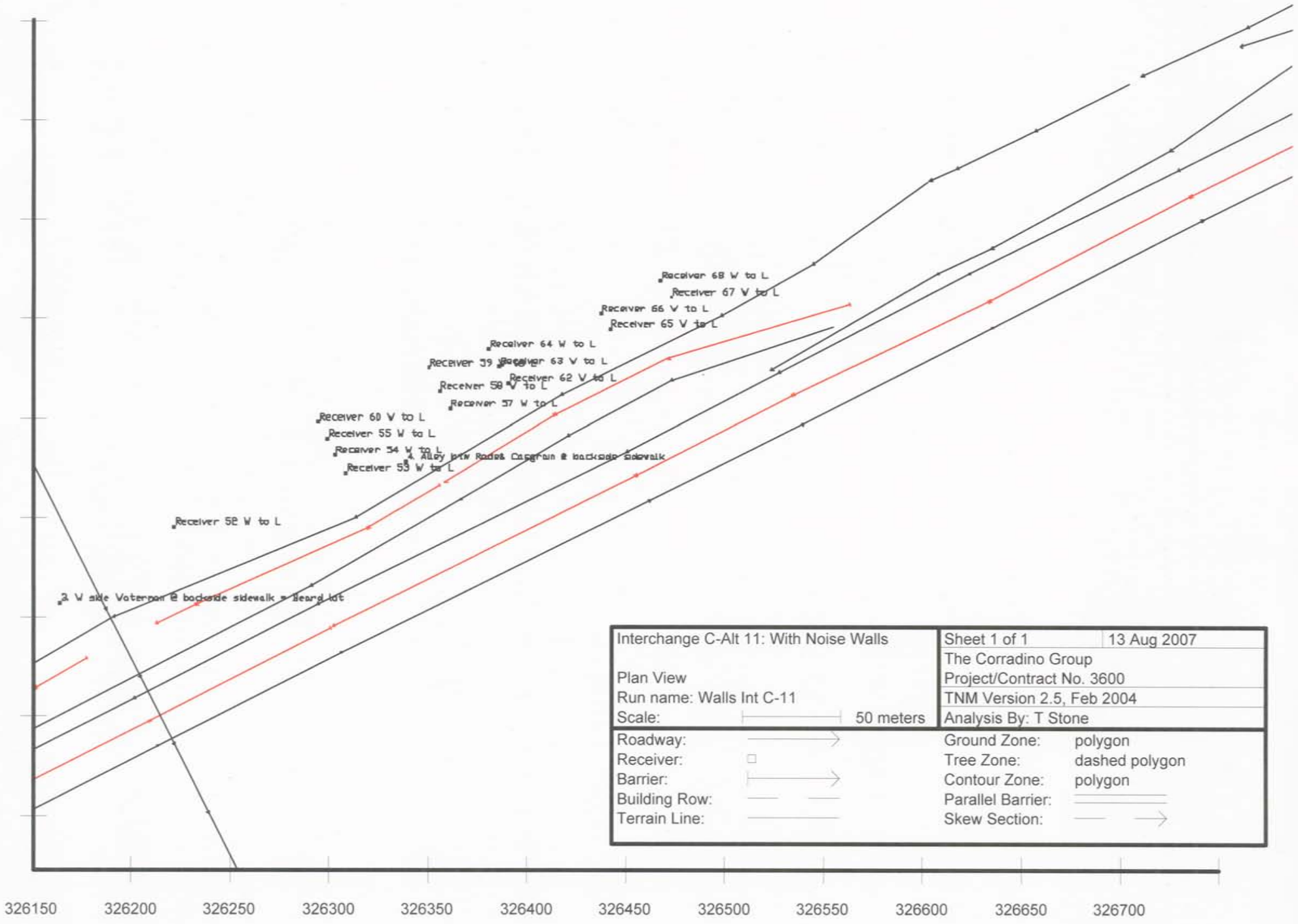
Barriers

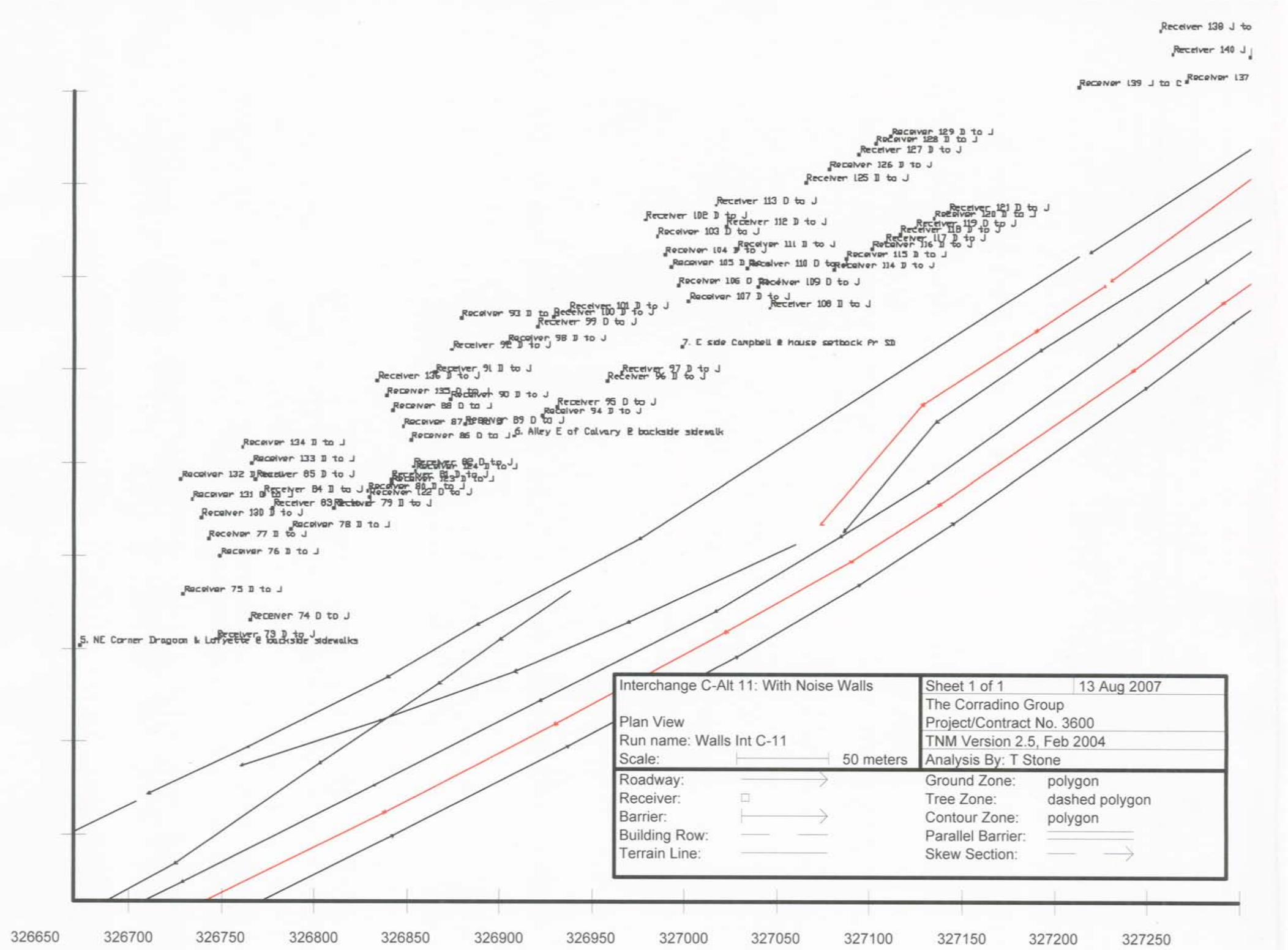
Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	193	212				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1448	1593				0
Barrier to SB I-75	W	2.70	2.70	2.70	225	607				347808
Junction to Clark	W	3.70	3.70	3.70	527	1948				956202
Springwells to Green	W	3.70	3.70	3.70	428	1584				777488
Waterman to Casgrain	W	3.70	3.70	3.70	160	590				289808
Green to Waterman	W	3.70	3.70	3.70	399	1477				724909
Barrier from SB I-75	W	3.70	3.70	3.70	202	749				367502
									Total Cost:	3463717

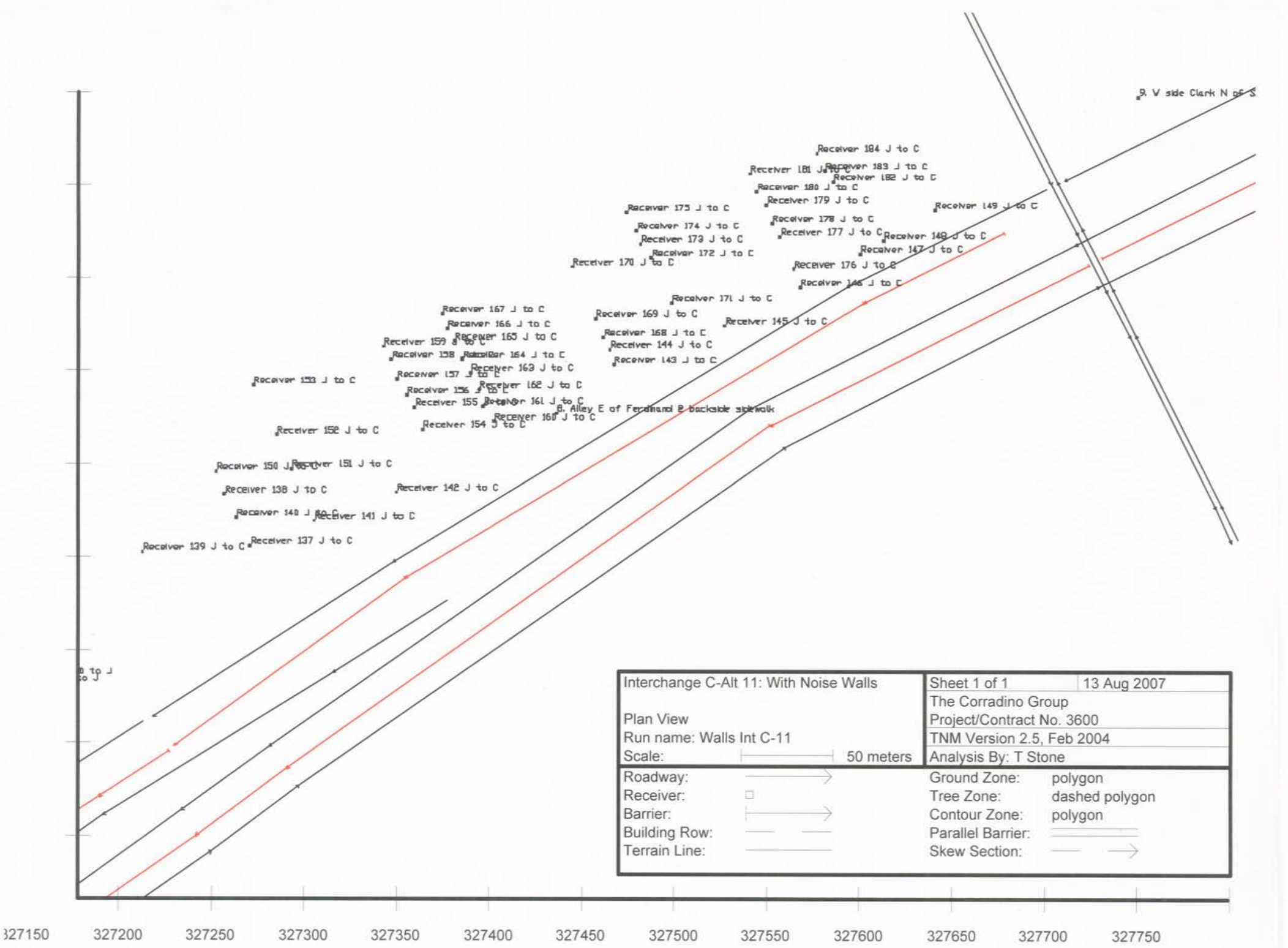
Interchange C – Alternative 11 – 2035


Receiver 29 G t
Receiver 28 G to W
2. E side Green E S si
Receiver 22 S to G
Receiver 21 S to G
Receiver 20 S to G
Receiver 19 S to G
Receiver 18 S to G
Receiver 17 S to G
Receiver 16 S to G
Receiver 13 S to G
Receiver 15 S to G
Receiver 14 S to G
Receiver 10 S to G
Receiver 12 S to G
Receiver 11 S to G
Receiver 9 S to G
Receiver 6 S to G
Receiver 8 S to G
Receiver 7 S to G
1. W side Central E bldg setback from SB SD
Receiver 4 S to G
Receiver 3 S to G
Receiver 1 S to G
Interchange C-Alt 11: With Noise Walls
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int C-11
TNM Version 2.5, Feb 2004
Scale:
50 meters
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325300
325350
325400
325450
325500
325550
325600
325650
325700
325750
325800


3. W side Waterma
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 25 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green E S side alley setback
Interchange C-Alt 11: With Noise Walls
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int C-11
TNM Version 2.5, Feb 2004
Scale:
50 m
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
'50
325800
325850
325900
325950
326000
326050
326100
326150


Receiver 68 W to L
Receiver 67 W to L
Receiver 66 W to L
Receiver 65 W to L
Receiver 64 W to L
Receiver 63 W to L
Receiver 62 W to L
Receiver 61 W to L
Receiver 60 W to L
Receiver 55 W to L
Receiver 54 W to L
Receiver 53 W to L
Receiver 52 W to L
Interchange C-Alt 11: With Noise Walls
Plan View
Run name: Walls Int C-11
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326150
326200
326250
326300
326350
326400
326450
326500
326550
326600
326650
326700


Receiver 138 J to
Receiver 140 J
Receiver 139 J to C
Receiver 137
Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D
Receiver 110 D to J
Receiver 106 D
Receiver 109 D to J
Receiver 107 D to J
Receiver 108 D to J
Receiver 101 D to J
Receiver 93 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback Pr SB
Receiver 91 D to J
Receiver 97 D to J
Receiver 96 D to J
Receiver 90 D to J
Receiver 95 D to J
Receiver 88 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 86 D to J
Receiver 134 D to J
Receiver 133 D to J
Receiver 132 D to J
Receiver 85 D to J
Receiver 84 D to J
Receiver 131 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
5. NE Corner Dragoon & Lafayette @ backside sidewalks
Interchange C-Alt 11: With Noise Walls
Plan View
Run name: Walls Int C-11
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326650
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150
327200
327250


R. V side Clark N of S
Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 173 J to C
Receiver 148 J to C
Receiver 172 J to C
Receiver 147 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 145 J to C
Receiver 166 J to C
Receiver 168 J to C
Receiver 165 J to C
Receiver 144 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 153 J to C
Receiver 162 J to C
Receiver 161 J to C
R. Alley E of Ferdinand R backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 151 J to C
Receiver 150 J to C
Receiver 142 J to C
Receiver 138 J to C
Receiver 141 J to C
Receiver 140 J to C
Receiver 139 J to C
Receiver 137 J to C
Interchange C-Alt 11: With Noise Walls
Plan View
Run name: Walls Int C-11
Scale: 50 meters
Sheet 1 of 1
13 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
327150
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650
327700
327750

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 11: With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	72.7	66	72.7	10	Snd Lvl	72.5	0.2	8	-7.8
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	72.4	66	72.4	10	Snd Lvl	66.6	5.8	8	-2.2
7. E side Campbell @ house setback fr SI	36	1	0.0	64.7	66	64.7	10	----	64.1	0.6	8	-7.4
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	64.4	66	64.4	10	----	64.1	0.3	8	-7.7
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	63.3	66	63.3	10	----	63.1	0.2	8	-7.8
4. Alley btw Rade& Casgrain @ backside s	53	1	0.0	76.0	66	76.0	10	Snd Lvl	71.6	4.4	8	-3.6
3. W side Waterman @ backside sidewalk	55	1	0.0	72.0	66	72.0	10	Snd Lvl	69.6	2.4	8	-5.6
2. E side Green @ S side alley setback	58	2	0.0	71.3	66	71.3	10	Snd Lvl	69.3	2.0	8	-6.0
1. W side Central @ bldg. setback from SE	60	4	0.0	73.7	66	73.7	10	Snd Lvl	66.4	7.3	8	-0.7
Receiver 1 S to G	61	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 2 S to G	62	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	63	1	0.0	74.2	66	74.2	10	Snd Lvl	68.0	6.2	8	-1.8
Receiver 4 S to G	64	1	0.0	72.4	66	72.4	10	Snd Lvl	69.3	3.1	8	-4.9
Receiver 5 S to G	65	1	0.0	71.6	66	71.6	10	Snd Lvl	66.2	5.4	8	-2.6
Receiver 6 S to G	66	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 7 S to G	68	1	0.0	73.7	66	73.7	10	Snd Lvl	66.2	7.5	8	-0.5
Receiver 8 S to G	69	1	0.0	71.1	66	71.1	10	Snd Lvl	65.1	6.0	8	-2.0
Receiver 9 S to G	70	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 10 S to G	71	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 11 S to G	72	1	0.0	74.3	66	74.3	10	Snd Lvl	66.6	7.7	8	-0.3
Receiver 12 S to G	73	1	0.0	71.0	66	71.0	10	Snd Lvl	64.8	6.2	8	-1.8
Receiver 13 S to G	74	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 14 S to G	75	1	0.0	73.9	66	73.9	10	Snd Lvl	66.4	7.5	8	-0.5

Receiver 15 S to G	76	1	0.0	70.7	66	70.7	10	Snd Lvl	64.6	6.1	8	-1.9
Receiver 16 S to G	77	1	0.0	69.2	66	69.2	10	Snd Lvl	63.5	5.7	8	-2.3
Receiver 17 S to G	78	2	0.0	70.3	66	70.3	10	Snd Lvl	64.5	5.8	8	-2.2
Receiver 18 S to G	79	1	0.0	68.7	66	68.7	10	Snd Lvl	63.5	5.2	8	-2.8
Receiver 19 S to G	80	1	0.0	69.7	66	69.7	10	Snd Lvl	64.6	5.1	8	-2.9
Receiver 20 S to G	81	1	0.0	68.0	66	68.0	10	Snd Lvl	63.4	4.6	8	-3.4
Receiver 21 S to G	82	1	0.0	67.9	66	67.9	10	Snd Lvl	64.8	3.1	8	-4.9
Receiver 22 S to G	83	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 25 G to W	84	1	0.0	71.0	66	71.0	10	Snd Lvl	65.4	5.6	8	-2.4
Receiver 27 G to W	85	2	0.0	69.7	66	69.7	10	Snd Lvl	64.6	5.1	8	-2.9
Receiver 28 G to W	86	4	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 29 G to W	87	2	0.0	66.2	66	66.2	10	Snd Lvl	63.5	2.7	8	-5.3
Receiver 30 G to W	89	2	0.0	66.3	66	66.3	10	Snd Lvl	64.0	2.3	8	-5.7
Receiver 31 G to W	90	1	0.0	66.1	66	66.1	10	Snd Lvl	63.6	2.5	8	-5.5
Receiver 32 G to W	92	1	0.0	66.1	66	66.1	10	Snd Lvl	63.6	2.5	8	-5.5
Receiver 33 G to W	93	1	0.0	66.4	66	66.4	10	Snd Lvl	63.5	2.9	8	-5.1
Receiver 34 G to W	94	2	0.0	66.5	66	66.5	10	Snd Lvl	63.6	2.9	8	-5.1
Receiver 35 G to W	96	2	0.0	66.5	66	66.5	10	Snd Lvl	63.5	3.0	8	-5.0
Receiver 36 G to W	97	2	0.0	66.7	66	66.7	10	Snd Lvl	63.5	3.2	8	-4.8
Receiver 37 G to W	98	2	0.0	66.8	66	66.8	10	Snd Lvl	63.4	3.4	8	-4.6
Receiver 38 G to W	99	1	0.0	67.0	66	67.0	10	Snd Lvl	63.3	3.7	8	-4.3
Receiver 39 G to W	100	1	0.0	67.0	66	67.0	10	Snd Lvl	63.3	3.7	8	-4.3
Receiver 40 G to W	101	2	0.0	66.8	66	66.8	10	Snd Lvl	63.3	3.5	8	-4.5
Receiver 41 G to W	102	1	0.0	66.7	66	66.7	10	Snd Lvl	63.1	3.6	8	-4.4
Receiver 42 G to W	103	2	0.0	66.8	66	66.8	10	Snd Lvl	63.1	3.7	8	-4.3
Receiver 43 G to W	104	1	0.0	67.0	66	67.0	10	Snd Lvl	63.1	3.9	8	-4.1
Receiver 44 G to W	105	1	0.0	67.1	66	67.1	10	Snd Lvl	63.1	4.0	8	-4.0
Receiver 45 G to W	106	2	0.0	67.1	66	67.1	10	Snd Lvl	63.1	4.0	8	-4.0
Receiver 46 G to W	107	2	0.0	67.2	66	67.2	10	Snd Lvl	63.1	4.1	8	-3.9
Receiver 47 G to W	108	1	0.0	68.1	66	68.1	10	Snd Lvl	63.8	4.3	8	-3.7
Receiver 48 G to W	109	2	0.0	66.5	66	66.5	10	Snd Lvl	63.3	3.2	8	-4.8
Receiver 49 G to W	110	2	0.0	68.0	66	68.0	10	Snd Lvl	63.3	4.7	8	-3.3
Receiver 50 G to W	111	2	0.0	67.4	66	67.4	10	Snd Lvl	62.7	4.7	8	-3.3
Receiver 51 G to W	112	1	0.0	66.9	66	66.9	10	Snd Lvl	63.0	3.9	8	-4.1
Receiver 52 W to L	113	10	0.0	70.7	66	70.7	10	Snd Lvl	67.8	2.9	8	-5.1
Receiver 53 W to L	114	1	0.0	73.5	66	73.5	10	Snd Lvl	68.4	5.1	8	-2.9
Receiver 54 W to L	115	1	0.0	71.3	66	71.3	10	Snd Lvl	66.9	4.4	8	-3.6
Receiver 55 W to L	116	1	0.0	70.2	66	70.2	10	Snd Lvl	67.3	2.9	8	-5.1
Receiver 57 W to L	117	2	0.0	73.0	66	73.0	10	Snd Lvl	69.2	3.8	8	-4.2
Receiver 58 W to L	118	2	0.0	71.3	66	71.3	10	Snd Lvl	67.5	3.8	8	-4.2
Receiver 59 W to L	119	1	0.0	69.4	66	69.4	10	Snd Lvl	65.7	3.7	8	-4.3

Receiver 60 W to L	120	1	0.0	68.7	66	68.7	10	Snd Lvl	64.6	4.1	8	-3.9
Receiver 62 W to L	121	1	0.0	73.3	66	73.3	10	Snd Lvl	69.2	4.1	8	-3.9
Receiver 63 W to L	122	1	0.0	71.6	66	71.6	10	Snd Lvl	67.7	3.9	8	-4.1
Receiver 64 W to L	123	1	0.0	70.1	66	70.1	10	Snd Lvl	66.5	3.6	8	-4.4
Receiver 65 W to L	124	1	0.0	71.9	66	71.9	10	Snd Lvl	68.5	3.4	8	-4.6
Receiver 66 W to L	125	1	0.0	70.3	66	70.3	10	Snd Lvl	67.3	3.0	8	-5.0
Receiver 67 W to L	126	1	0.0	70.6	66	70.6	10	Snd Lvl	68.8	1.8	8	-6.2
Receiver 68 W to L	128	1	0.0	68.8	66	68.8	10	Snd Lvl	67.1	1.7	8	-6.3
Receiver 73 D to J	144	6	0.0	66.5	66	66.5	10	Snd Lvl	66.4	0.1	8	-7.9
Receiver 74 D to J	145	10	0.0	66.4	66	66.4	10	Snd Lvl	66.3	0.1	8	-7.9
Receiver 75 D to J	146	2	0.0	64.2	66	64.2	10	----	64.1	0.1	8	-7.9
Receiver 76 D to J	147	1	0.0	63.7	66	63.7	10	----	63.5	0.2	8	-7.8
Receiver 77 D to J	148	1	0.0	63.0	66	63.0	10	----	62.8	0.2	8	-7.8
Receiver 78 D to J	149	10	0.0	64.1	66	64.1	10	----	63.9	0.2	8	-7.8
Receiver 79 D to J	150	1	0.0	63.9	66	63.9	10	----	63.7	0.2	8	-7.8
Receiver 80 D to J	151	3	0.0	63.9	66	63.9	10	----	63.7	0.2	8	-7.8
Receiver 81 D to J	152	2	0.0	63.9	66	63.9	10	----	63.7	0.2	8	-7.8
Receiver 82 D to J	153	2	0.0	63.7	66	63.7	10	----	63.5	0.2	8	-7.8
Receiver 83 D to J	154	1	0.0	63.1	66	63.1	10	----	62.9	0.2	8	-7.8
Receiver 84 D to J	155	1	0.0	62.7	66	62.7	10	----	62.4	0.3	8	-7.7
Receiver 85 D to J	156	1	0.0	62.2	66	62.2	10	----	62.0	0.2	8	-7.8
Receiver 86 D to J	157	1	0.0	63.0	66	63.0	10	----	62.8	0.2	8	-7.8
Receiver 87 D to J	158	1	0.0	62.7	66	62.7	10	----	62.4	0.3	8	-7.7
Receiver 88 D to J	159	1	0.0	62.2	66	62.2	10	----	61.9	0.3	8	-7.7
Receiver 89 D to J	160	1	0.0	63.4	66	63.4	10	----	63.1	0.3	8	-7.7
Receiver 90 D to J	161	1	0.0	62.7	66	62.7	10	----	62.3	0.4	8	-7.6
Receiver 91 D to J	162	1	0.0	61.8	66	61.8	10	----	61.5	0.3	8	-7.7
Receiver 92 D to J	163	1	0.0	61.4	66	61.4	10	----	61.1	0.3	8	-7.7
Receiver 93 D to J	164	4	0.0	60.9	66	60.9	10	----	60.6	0.3	8	-7.7
Receiver 94 D to J	165	1	0.0	64.3	66	64.3	10	----	64.0	0.3	8	-7.7
Receiver 95 D to J	166	1	0.0	64.2	66	64.2	10	----	63.9	0.3	8	-7.7
Receiver 96 D to J	167	1	0.0	64.3	66	64.3	10	----	63.9	0.4	8	-7.6
Receiver 97 D to J	168	1	0.0	64.3	66	64.3	10	----	63.9	0.4	8	-7.6
Receiver 98 D to J	169	1	0.0	61.9	66	61.9	10	----	61.5	0.4	8	-7.6
Receiver 99 D to J	170	1	0.0	62.0	66	62.0	10	----	61.6	0.4	8	-7.6
Receiver 100 D to J	171	1	0.0	62.0	66	62.0	10	----	61.5	0.5	8	-7.5
Receiver 101 D to J	172	1	0.0	62.0	66	62.0	10	----	61.6	0.4	8	-7.6
Receiver 102 D to J	173	4	0.0	61.1	66	61.1	10	----	60.4	0.7	8	-7.3
Receiver 103 D to J	174	1	0.0	61.7	66	61.7	10	----	60.9	0.8	8	-7.2
Receiver 104 D to J	175	1	0.0	62.1	66	62.1	10	----	61.3	0.8	8	-7.2
Receiver 105 D to J	176	1	0.0	62.4	66	62.4	10	----	61.7	0.7	8	-7.3

Receiver 106 D to J	177	1	0.0	62.8	66	62.8	10	----	62.2	0.6	8	-7.4
Receiver 107 D to J	178	1	0.0	63.3	66	63.3	10	----	62.8	0.5	8	-7.5
Receiver 108 D to J	179	1	0.0	64.7	66	64.7	10	----	64.1	0.6	8	-7.4
Receiver 109 D to J	180	1	0.0	64.0	66	64.0	10	----	63.3	0.7	8	-7.3
Receiver 110 D to J	181	1	0.0	63.5	66	63.5	10	----	62.6	0.9	8	-7.1
Receiver 111 D to J	182	1	0.0	62.9	66	62.9	10	----	61.9	1.0	8	-7.0
Receiver 112 D to J	183	1	0.0	62.3	66	62.3	10	----	61.2	1.1	8	-6.9
Receiver 113 D to J	184	1	0.0	61.8	66	61.8	10	----	60.6	1.2	8	-6.8
Receiver 114 D to J	185	1	0.0	64.7	66	64.7	10	----	63.5	1.2	8	-6.8
Receiver 115 D to J	186	1	0.0	64.5	66	64.5	10	----	63.2	1.3	8	-6.7
Receiver 116 D to J	187	1	0.0	64.6	66	64.6	10	----	63.2	1.4	8	-6.6
Receiver 117 D to J	188	1	0.0	64.6	66	64.6	10	----	63.2	1.4	8	-6.6
Receiver 118 D to J	189	1	0.0	64.6	66	64.6	10	----	63.1	1.5	8	-6.5
Receiver 119 D to J	190	1	0.0	64.8	66	64.8	10	----	63.0	1.8	8	-6.2
Receiver 120 D to J	191	1	0.0	64.8	66	64.8	10	----	63.0	1.8	8	-6.2
Receiver 121 D to J	192	1	0.0	65.0	66	65.0	10	----	63.1	1.9	8	-6.1
Receiver 122 D to J	193	3	0.0	67.2	66	67.2	10	Snd Lvl	67.0	0.2	8	-7.8
Receiver 123 D to J	194	2	0.0	67.1	66	67.1	10	Snd Lvl	66.9	0.2	8	-7.8
Receiver 124 D to J	195	2	0.0	67.1	66	67.1	10	Snd Lvl	66.9	0.2	8	-7.8
Receiver 125 D to J	196	1	0.0	62.1	66	62.1	10	----	60.8	1.3	8	-6.7
Receiver 126 D to J	197	2	0.0	62.1	66	62.1	10	----	60.7	1.4	8	-6.6
Receiver 127 D to J	198	1	0.0	62.1	66	62.1	10	----	60.6	1.5	8	-6.5
Receiver 128 D to J	199	1	0.0	62.1	66	62.1	10	----	60.5	1.6	8	-6.4
Receiver 129 D to J	200	1	0.0	62.3	66	62.3	10	----	60.4	1.9	8	-6.1
Receiver 130 D to J	201	1	0.0	61.5	66	61.5	10	----	61.2	0.3	8	-7.7
Receiver 131 D to J	202	1	0.0	61.0	66	61.0	10	----	60.7	0.3	8	-7.7
Receiver 132 D to J	203	1	0.0	60.4	66	60.4	10	----	60.0	0.4	8	-7.6
Receiver 133 D to J	204	1	0.0	60.9	66	60.9	10	----	60.6	0.3	8	-7.7
Receiver 134 D to J	205	1	0.0	60.5	66	60.5	10	----	60.1	0.4	8	-7.6
Receiver 135 D to J	206	1	0.0	60.8	66	60.8	10	----	60.5	0.3	8	-7.7
Receiver 136 D to J	207	1	0.0	60.4	66	60.4	10	----	60.0	0.4	8	-7.6
Receiver 137 J to C	208	1	0.0	67.2	66	67.2	10	Snd Lvl	63.3	3.9	8	-4.1
Receiver 138 J to C	209	1	0.0	64.6	66	64.6	10	----	60.6	4.0	8	-4.0
Receiver 139 J to C	210	1	0.0	64.2	66	64.2	10	----	60.6	3.6	8	-4.4
Receiver 140 J to C	211	1	0.0	65.6	66	65.6	10	----	61.6	4.0	8	-4.0
Receiver 141 J to C	212	1	0.0	68.5	66	68.5	10	Snd Lvl	64.1	4.4	8	-3.6
Receiver 142 J to C	213	1	0.0	70.6	66	70.6	10	Snd Lvl	65.4	5.2	8	-2.8
Receiver 143 J to C	214	2	0.0	72.3	66	72.3	10	Snd Lvl	66.3	6.0	8	-2.0
Receiver 144 J to C	215	1	0.0	71.1	66	71.1	10	Snd Lvl	65.3	5.8	8	-2.2
Receiver 145 J to C	216	1	0.0	76.0	66	76.0	10	Snd Lvl	68.1	7.9	8	-0.1
Receiver 146 J to C	217	2	0.0	76.7	66	76.7	10	Snd Lvl	69.0	7.7	8	-0.3

Receiver 147 J to C	218	1	0.0	76.3	66	76.3	10	Snd Lvl	69.2	7.1	8	-0.9
Receiver 148 J to C	219	1	0.0	75.9	66	75.9	10	Snd Lvl	69.2	6.7	8	-1.3
Receiver 149 J to C	220	2	0.0	75.1	66	75.1	10	Snd Lvl	69.9	5.2	8	-2.8
Receiver 150 J to C	221	1	0.0	64.0	66	64.0	10	----	59.8	4.2	8	-3.8
Receiver 151 J to C	222	1	0.0	65.6	66	65.6	10	----	61.3	4.3	8	-3.7
Receiver 152 J to C	223	1	0.0	64.4	66	64.4	10	----	59.9	4.5	8	-3.5
Receiver 153 J to C	224	1	0.0	62.7	66	62.7	10	----	58.5	4.2	8	-3.8
Receiver 154 J to C	225	1	0.0	68.1	66	68.1	10	Snd Lvl	63.4	4.7	8	-3.3
Receiver 155 J to C	226	1	0.0	66.8	66	66.8	10	Snd Lvl	62.2	4.6	8	-3.4
Receiver 156 J to C	227	1	0.0	66.1	66	66.1	10	Snd Lvl	61.5	4.6	8	-3.4
Receiver 157 J to C	228	1	0.0	65.3	66	65.3	10	----	60.7	4.6	8	-3.4
Receiver 158 J to C	229	1	0.0	64.7	66	64.7	10	----	60.0	4.7	8	-3.3
Receiver 159 J to C	230	1	0.0	64.3	66	64.3	10	----	59.6	4.7	8	-3.3
Receiver 160 J to C	232	1	0.0	70.5	66	70.5	10	Snd Lvl	65.2	5.3	8	-2.7
Receiver 161 J to C	233	1	0.0	69.3	66	69.3	10	Snd Lvl	64.2	5.1	8	-2.9
Receiver 162 J to C	234	1	0.0	68.3	66	68.3	10	Snd Lvl	63.2	5.1	8	-2.9
Receiver 163 J to C	235	1	0.0	67.2	66	67.2	10	Snd Lvl	62.3	4.9	8	-3.1
Receiver 164 J to C	236	1	0.0	66.4	66	66.4	10	Snd Lvl	61.5	4.9	8	-3.1
Receiver 165 J to C	237	1	0.0	65.7	66	65.7	10	----	60.7	5.0	8	-3.0
Receiver 166 J to C	238	1	0.0	65.2	66	65.2	10	----	60.3	4.9	8	-3.1
Receiver 167 J to C	239	1	0.0	64.7	66	64.7	10	----	59.8	4.9	8	-3.1
Receiver 168 J to C	240	1	0.0	70.1	66	70.1	10	Snd Lvl	64.6	5.5	8	-2.5
Receiver 169 J to C	241	1	0.0	68.9	66	68.9	10	Snd Lvl	63.4	5.5	8	-2.5
Receiver 170 J to C	242	1	0.0	66.1	66	66.1	10	Snd Lvl	61.0	5.1	8	-2.9
Receiver 171 J to C	243	1	0.0	70.7	66	70.7	10	Snd Lvl	65.0	5.7	8	-2.3
Receiver 172 J to C	244	1	0.0	67.6	66	67.6	10	Snd Lvl	62.3	5.3	8	-2.7
Receiver 173 J to C	245	1	0.0	66.8	66	66.8	10	Snd Lvl	61.7	5.1	8	-2.9
Receiver 174 J to C	246	1	0.0	66.3	66	66.3	10	Snd Lvl	61.2	5.1	8	-2.9
Receiver 175 J to C	247	1	0.0	65.5	66	65.5	10	----	60.7	4.8	8	-3.2
Receiver 176 J to C	248	1	0.0	73.0	66	73.0	10	Snd Lvl	67.2	5.8	8	-2.2
Receiver 177 J to C	249	1	0.0	70.2	66	70.2	10	Snd Lvl	64.9	5.3	8	-2.7
Receiver 178 J to C	250	1	0.0	69.1	66	69.1	10	Snd Lvl	64.0	5.1	8	-2.9
Receiver 179 J to C	251	1	0.0	68.0	66	68.0	10	Snd Lvl	63.4	4.6	8	-3.4
Receiver 180 J to C	252	1	0.0	67.2	66	67.2	10	Snd Lvl	62.4	4.8	8	-3.2
Receiver 181 J to C	253	1	0.0	66.4	66	66.4	10	Snd Lvl	61.8	4.6	8	-3.4
Receiver 182 J to C	254	1	0.0	68.4	66	68.4	10	Snd Lvl	63.8	4.6	8	-3.4
Receiver 183 J to C	255	1	0.0	67.8	66	67.8	10	Snd Lvl	63.3	4.5	8	-3.5
Receiver 184 J to C	256	1	0.0	66.8	66	66.8	10	Snd Lvl	62.6	4.2	8	-3.8

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max

		dB	dB	dB
All Selected	261	0.0	2.9	7.9
All Impacted	151	0.1	4.3	7.9
All that meet NR Goal	0	0.0	0.0	0.0

The Corradino Group
T Stone

13 August 2007
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 11: With Noise Walls

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
S I-75/Clark Off-Ramp	point461	558	424	40	20	40	56	40	1	40	1	40

	point463	560	424	40	20	40	56	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	440	40	32	40	184	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	749	56	3	56	30	56	1	56	1	56
	point476	576	749	56	3	56	30	56	1	56	1	56
	point1056	1056	749	56	3	56	30	56	1	56	1	56
	point644	577										
S I-75 Service Drive - 4	point638	594	749	48	3	48	30	48	1	48	1	48
	point489	595	749	48	3	48	30	48	1	48	1	48
	point490	596	749	48	3	48	30	48	1	48	1	48
	point491	597										
S I-75 Service Drive - 5	point491	971	1004	56	14	56	39	56	1	56	1	56
	point504	607	1004	56	14	56	39	56	1	56	1	56
	point505	608	1004	56	14	56	39	56	1	56	1	56
	point975	975	1004	56	14	56	39	56	1	56	1	56
	point1077	1077	1004	56	14	56	39	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	200	40	3	40	27	40	1	40	1	40
	point531	638	200	40	3	40	27	40	1	40	1	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	420	97	25	97	75	97	1	97	1	97
	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	40	40	40	60	40	1	40	1	40
	point687	687	700	40	40	40	60	40	1	40	1	40
	point943	943	700	40	40	40	60	40	1	40	1	40
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	85	48	5	48	10	48	1	48	1	48
	point939	939	85	48	5	48	10	48	1	48	1	48
	point959	959	85	48	5	48	10	48	1	48	1	48

	point960	960	85	48	5	48	10	48	1	48	1	48
	point729	729	85	48	5	48	10	48	1	48	1	48
	point730	730	85	48	5	48	10	48	1	48	1	48
	point731	731										
Clark - NB	point812	812	80	40	5	40	25	40	1	40	1	40
	point813	813	100	25	20	25	300	25	1	25	1	25
	point814	814	80	25	15	25	180	25	1	25	1	25
	point963	963	80	25	15	25	180	25	1	25	1	25
	point964	964	80	25	15	25	180	25	1	25	1	25
	point815	815	84	40	8	40	4	40	1	40	1	40
	point816	816										
Clark - SB	point818	818	120	40	4	40	25	40	1	40	1	40
	point819	819	120	40	4	40	25	40	1	40	1	40
	point961	961	120	40	4	40	25	40	1	40	1	40
	point962	962	120	40	4	40	25	40	1	40	1	40
	point820	820	120	40	4	40	25	40	1	40	1	40
	point821	821	120	40	4	40	25	40	1	40	1	40
	point822	822										
S I-75 Service Drive - 3	point645	579	749	56	3	56	30	56	1	56	1	56
	point478	581	180	56	10	56	5	56	1	56	1	56
	point494	583	180	56	10	56	5	56	1	56	1	56
	point480	584	180	56	10	56	5	56	1	56	1	56
	point495	968	1004	56	14	56	39	56	1	56	1	56
	point488	969										
S I-75 Service Drive - 6	point631	612	200	56	3	56	27	56	1	56	1	56
	point509	613	200	56	3	56	27	56	1	56	1	56
	point510	614	200	56	3	56	27	56	1	56	1	56
	point1078	1078	200	56	3	56	27	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	200	56	3	56	27	56	1	56	1	56
	point514	620	200	56	3	56	27	56	1	56	1	56
	point515	621	200	56	3	56	27	56	1	56	1	56
	point516	622	200	56	3	56	27	56	1	56	1	56
	point518	624	200	56	3	56	27	56	1	56	1	56

	point525	978	200	56	3	56	27	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	205	74	20	74	180	74	1	74	1	74
	point1058	1058	205	74	20	74	180	74	1	74	1	74
	point1006	1006	205	74	20	74	180	74	1	74	1	74
	point1007	1007	205	74	20	74	180	74	1	74	1	74
	point1008	1008	205	74	20	74	180	74	1	74	1	74
	point1010	1010										
Inbound from SB I-75	point1012	1012	559	89	5	89	48	89	1	89	1	89
	point1013	1013	559	89	5	89	48	89	1	89	1	89
	point1014	1014	559	89	5	89	48	89	1	89	1	89
	point1015	1015	559	89	5	89	48	89	1	89	1	89
	point1016	1016										
S I-75/Dragoon On-Ramp	point1068	1068	1000	97	5	97	45	97	1	97	1	97
	point1069	1069	1000	97	5	97	45	97	1	97	1	97
	point1070	1070	1000	97	5	97	45	97	1	97	1	97
	point1071	1071	1000	97	5	97	45	97	1	97	1	97
	point1072	1072	1000	97	5	97	45	97	1	97	1	97
	point1073	1073	1000	97	5	97	45	97	1	97	1	97
	point1074	1074	1000	97	5	97	45	97	1	97	1	97
	point1075	1075										
Waterman N&SB	point761	1079	85	56	5	56	15	56	1	56	1	56
	point762	1080	128	48	8	48	23	48	2	48	2	48
	point957	1081	128	48	8	48	23	48	2	48	2	48
	point958	1082	128	48	8	48	23	48	2	48	2	48
	point764	1083	128	56	8	56	23	56	2	56	2	56
	point765	1084	128	56	8	56	23	56	2	56	2	56
	point769	1085										
S I-75/Dragoon Off-Ramp	point481	1092	904	56	4	56	34	56	1	56	1	56
	point483	1093	904	56	4	56	34	56	1	56	1	56
	point484	1094	904	56	4	56	34	56	1	56	1	56
	point1096	1096	904	56	4	56	34	56	1	56	1	56
	point485	1095										

The Corradino Group 13 August 2007
T Stone TNM 2.5

RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 11: With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS

Barriers

Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	193	212				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1448	1593				0
Barrier to SB I-75	W	2.70	2.70	2.70	225	607				0
Junction to Clark	W	3.70	3.70	3.70	527	1948				0
Springwells to Green	W	3.70	3.70	3.70	428	1584				0
Waterman to Livernois	W	3.70	3.70	3.70	160	590				0
Green to Waterman	W	3.70	3.70	3.70	399	1477				0
Barrier from SB I-75	W	3.70	3.70	3.70	202	749				0
									Total Cost:	0

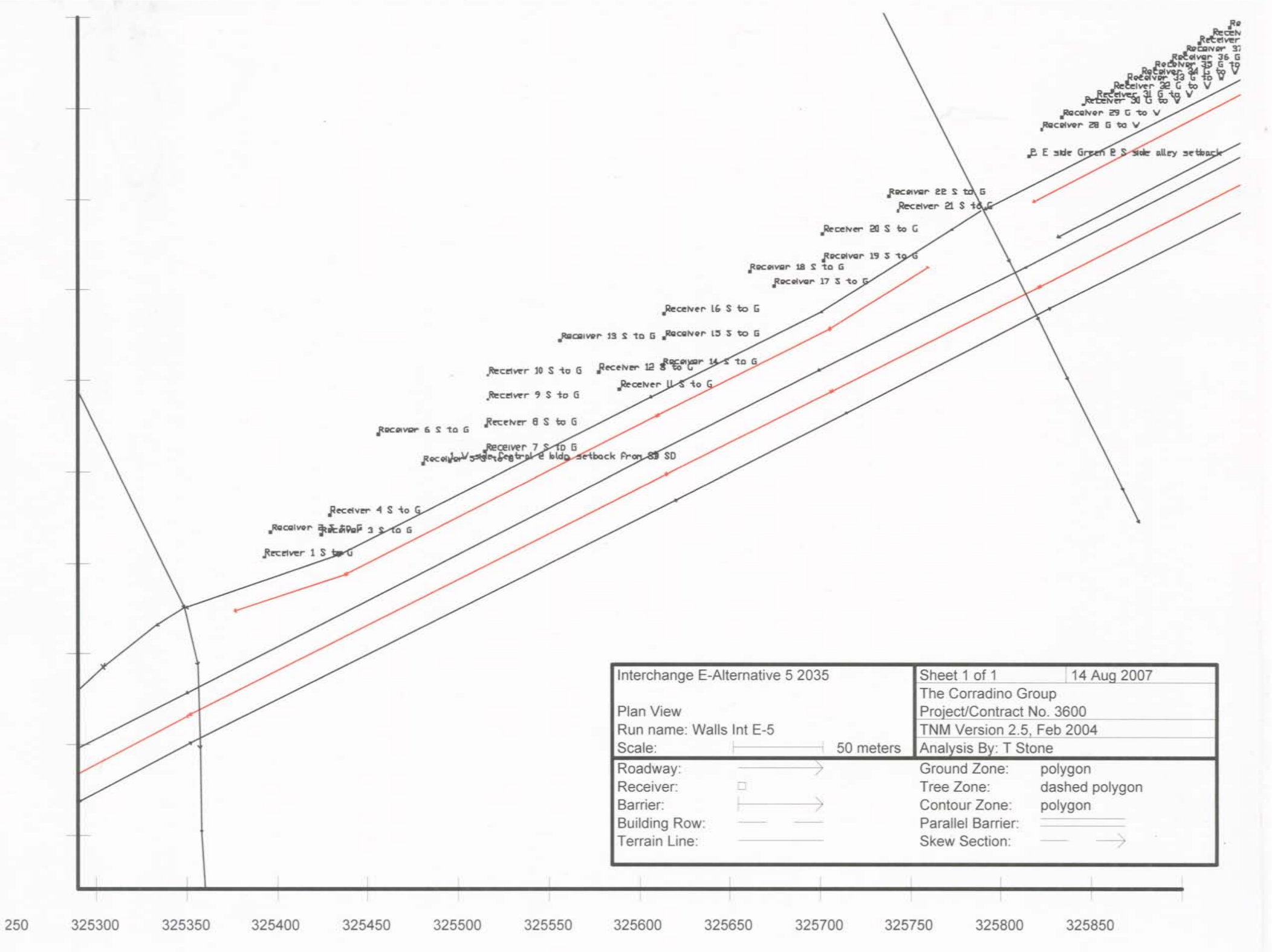
The Corradino Group 15 August 2007
T Stone TNM 2.5

RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange C-Alt 11: With Noise Walls
BARRIER DESIGN: INPUT HEIGHTS

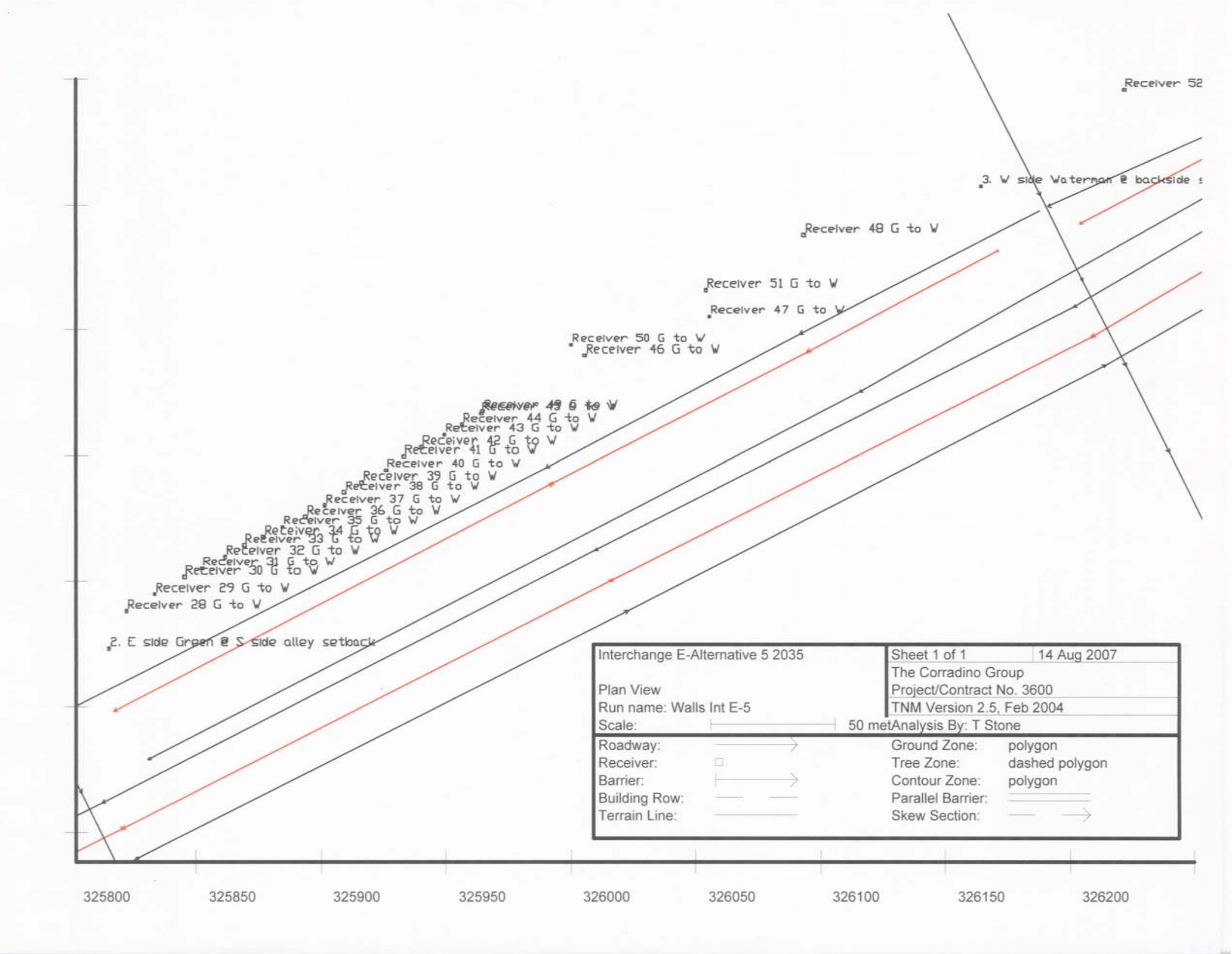
Barriers

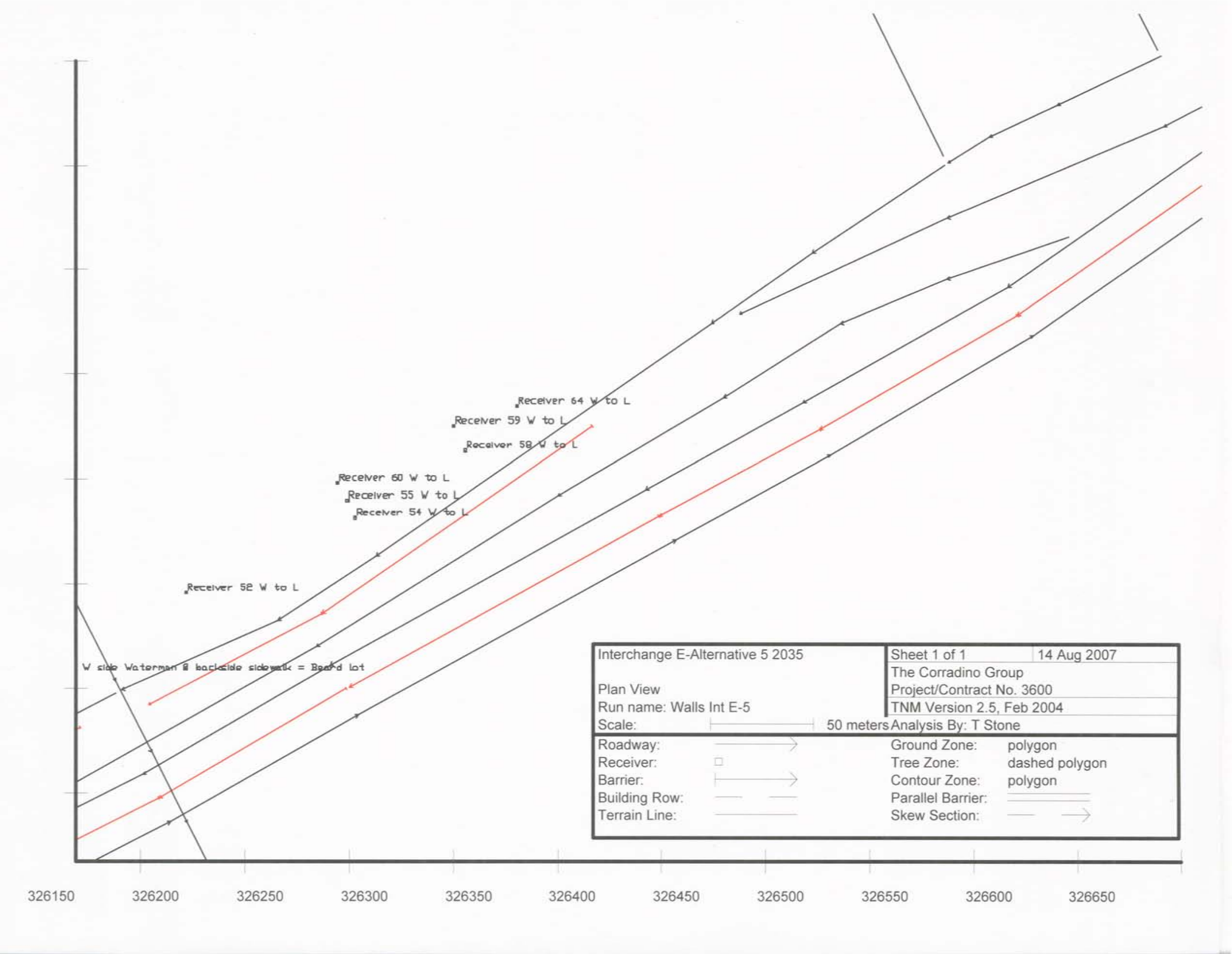
Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	193	212				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1448	1593				0
Barrier to SB I-75	W	2.70	2.70	2.70	225	607				347808
Junction to Clark	W	3.70	3.70	3.70	527	1948				956202
Springwells to Green	W	3.70	3.70	3.70	428	1584				777488
Waterman to Livernois	W	3.70	3.70	3.70	160	590				289808
Green to Waterman	W	3.70	3.70	3.70	399	1477				724909
Barrier from SB I-75	W	3.70	3.70	3.70	202	749				367502
									Total Cost:	3463717

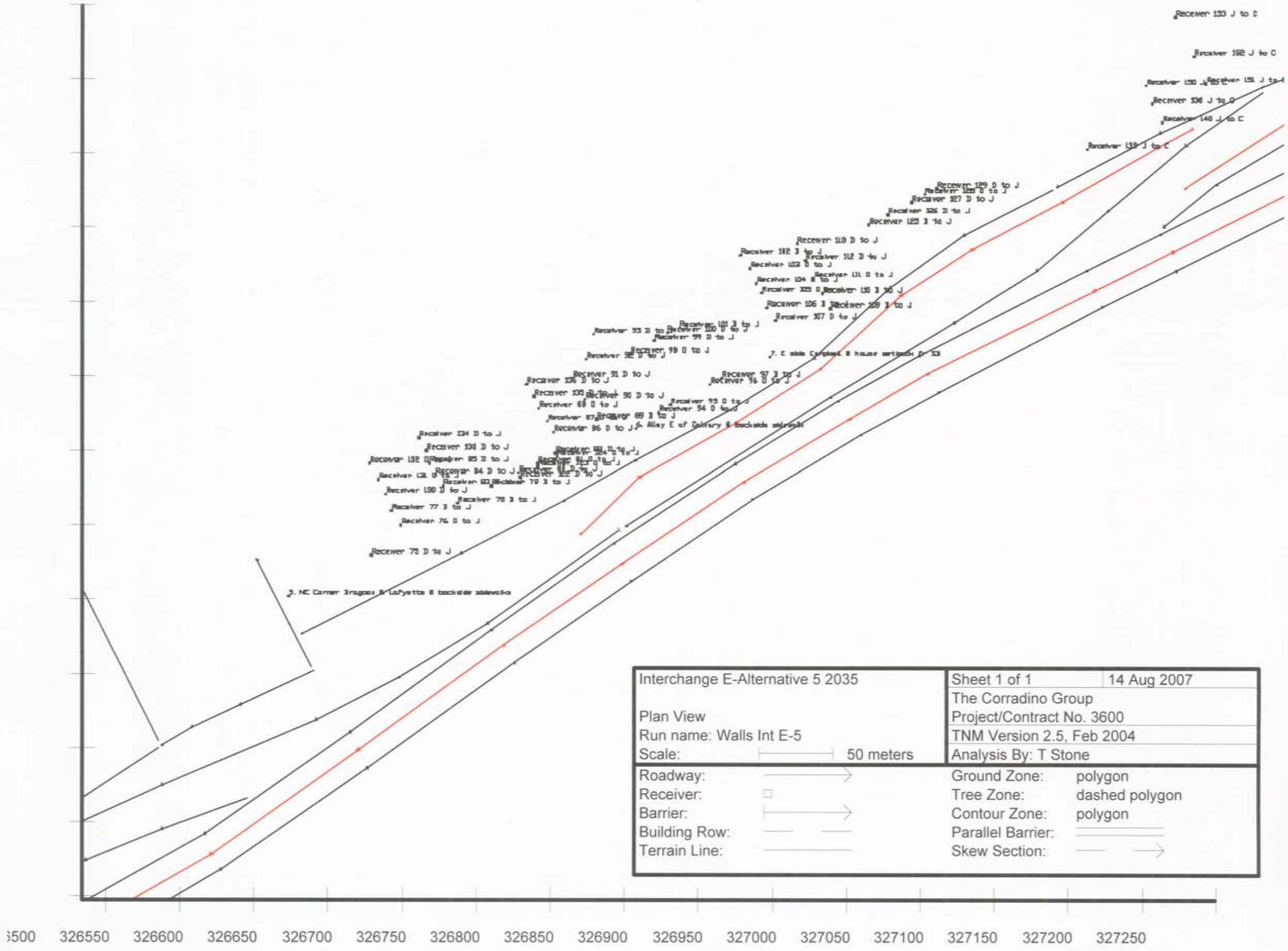
Interchange E – Alternative 5 – 2035

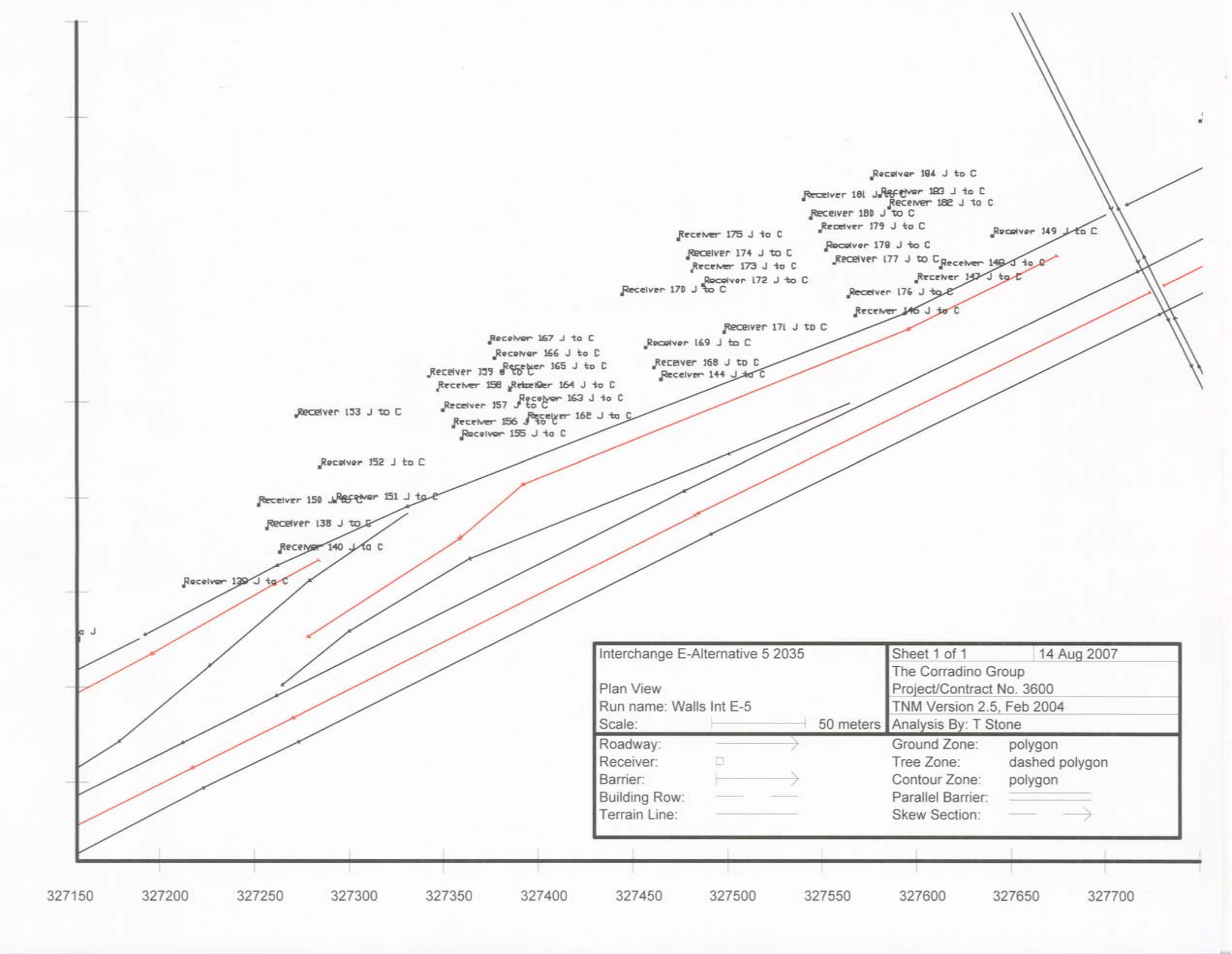


Interchange E-Alternative 5 2035		Sheet 1 of 1	14 Aug 2007
		The Corradino Group	
Plan View		Project/Contract No. 3600	
Run name: Walls Int E-5		TNM Version 2.5, Feb 2004	
Scale:	50 meters	Analysis By: T Stone	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


Receiver 52
3. W side Waterman @ backside
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 46 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
Interchange E-Alternative 5 2035
Plan View
Run name: Walls Int E-5
Scale: 50 met
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325800
325850
325900
325950
326000
326050
326100
326150
326200


Receiver 64 W to L
Receiver 59 W to L
Receiver 58 W to L
Receiver 60 W to L
Receiver 55 W to L
Receiver 54 W to L
Receiver 52 W to L
W side Waterman @ backside sidewalk = Board lot
Interchange E-Alternative 5 2035
Plan View
Run name: Walls Int E-5
Scale:
50 meters
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326150
326200
326250
326300
326350
326400
326450
326500
326550
326600
326650


Interchange E-Alternative 5 2035
Plan View
Run name: Walls Int E-5
Scale: 50 meters
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326500
326550
326600
326650
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150
327200
327250


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 148 J to C
Receiver 173 J to C
Receiver 147 J to C
Receiver 172 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 166 J to C
Receiver 165 J to C
Receiver 168 J to C
Receiver 139 J to C
Receiver 144 J to C
Receiver 158 J to C
Receiver 164 J to C
Receiver 163 J to C
Receiver 157 J to C
Receiver 153 J to C
Receiver 162 J to C
Receiver 156 J to C
Receiver 155 J to C
Receiver 152 J to C
Receiver 151 J to C
Receiver 150 J to C
Receiver 138 J to C
Receiver 140 J to C
Receiver 139 J to C
Interchange E-Alternative 5 2035
Plan View
Run name: Walls Int E-5
Scale: 50 meters
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Project/Contract No. 3600
TNM Version 2.5, Feb 2004
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
327150
327200
327250
327300
327350
327400
327450
327500
327550
327600
327650
327700

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange E-Alternative 5 2035
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	71.9	66	71.9	10	Snd Lvl	71.6	0.3	8	-7.7
7. E side Campbell @ house setback fr SI	40	1	0.0	70.9	66	70.9	10	Snd Lvl	65.5	5.4	8	-2.6
6. Alley E of Calvary @ backside sidewalk	46	1	0.0	71.1	66	71.1	10	Snd Lvl	67.8	3.3	8	-4.7
5. NE Corner Dragoon & Lafyette @ backs	53	1	0.0	69.4	66	69.4	10	Snd Lvl	69.3	0.1	8	-7.9
3. W side Waterman @ backside sidewalk	58	1	0.0	71.9	66	71.9	10	Snd Lvl	69.7	2.2	8	-5.8
2. E side Green @ S side alley setback	60	2	0.0	71.3	66	71.3	10	Snd Lvl	68.2	3.1	8	-4.9
1. W side Central @ bldg. setback from SE	61	4	0.0	74.3	66	74.3	10	Snd Lvl	65.8	8.5	8	0.5
Receiver 1 S to G	62	1	0.0	74.4	66	74.4	10	Snd Lvl	68.0	6.4	8	-1.6
Receiver 2 S to G	63	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	64	1	0.0	74.4	66	74.4	10	Snd Lvl	66.7	7.7	8	-0.3
Receiver 4 S to G	65	1	0.0	73.2	66	73.2	10	Snd Lvl	65.7	7.5	8	-0.5
Receiver 5 S to G	66	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 6 S to G	68	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 7 S to G	69	1	0.0	74.8	66	74.8	10	Snd Lvl	66.1	8.7	8	0.7
Receiver 8 S to G	70	1	0.0	73.0	66	73.0	10	Snd Lvl	64.8	8.2	8	0.2
Receiver 9 S to G	71	1	0.0	71.5	66	71.5	10	Snd Lvl	63.3	8.2	8	0.2
Receiver 10 S to G	72	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 11 S to G	73	1	0.0	75.6	66	75.6	10	Snd Lvl	66.5	9.1	8	1.1
Receiver 12 S to G	74	1	0.0	73.1	66	73.1	10	Snd Lvl	64.9	8.2	8	0.2
Receiver 13 S to G	75	2	0.0	70.5	66	70.5	10	Snd Lvl	62.2	8.3	8	0.3
Receiver 14 S to G	76	1	0.0	75.5	66	75.5	10	Snd Lvl	66.5	9.0	8	1.0
Receiver 15 S to G	77	1	0.0	73.0	66	73.0	10	Snd Lvl	64.9	8.1	8	0.1
Receiver 16 S to G	78	1	0.0	71.6	66	71.6	10	Snd Lvl	63.5	8.1	8	0.1

Receiver 17 S to G	79	2	0.0	72.6	66	72.6	10	Snd Lvl	64.6	8.0	8	0.0
Receiver 18 S to G	80	1	0.0	71.1	66	71.1	10	Snd Lvl	63.6	7.5	8	-0.5
Receiver 19 S to G	81	1	0.0	72.0	66	72.0	10	Snd Lvl	65.0	7.0	8	-1.0
Receiver 20 S to G	82	1	0.0	70.4	66	70.4	10	Snd Lvl	64.0	6.4	8	-1.6
Receiver 21 S to G	83	1	0.0	70.3	66	70.3	10	Snd Lvl	66.5	3.8	8	-4.2
Receiver 22 S to G	84	1	0.0	69.3	66	69.3	10	Snd Lvl	65.2	4.1	8	-3.9
Receiver 28 G to W	92	4	0.0	66.4	66	66.4	10	Snd Lvl	64.1	2.3	8	-5.7
Receiver 29 G to W	93	2	0.0	66.3	66	66.3	10	Snd Lvl	63.4	2.9	8	-5.1
Receiver 30 G to W	94	2	0.0	66.2	66	66.2	10	Snd Lvl	63.6	2.6	8	-5.4
Receiver 31 G to W	95	1	0.0	66.2	66	66.2	10	Snd Lvl	63.5	2.7	8	-5.3
Receiver 32 G to W	96	1	0.0	66.4	66	66.4	10	Snd Lvl	63.4	3.0	8	-5.0
Receiver 33 G to W	97	1	0.0	66.6	66	66.6	10	Snd Lvl	63.5	3.1	8	-4.9
Receiver 34 G to W	98	2	0.0	66.9	66	66.9	10	Snd Lvl	63.5	3.4	8	-4.6
Receiver 35 G to W	99	2	0.0	66.9	66	66.9	10	Snd Lvl	63.4	3.5	8	-4.5
Receiver 36 G to W	100	2	0.0	67.4	66	67.4	10	Snd Lvl	63.5	3.9	8	-4.1
Receiver 37 G to W	101	2	0.0	67.5	66	67.5	10	Snd Lvl	63.5	4.0	8	-4.0
Receiver 38 G to W	102	1	0.0	67.8	66	67.8	10	Snd Lvl	63.4	4.4	8	-3.6
Receiver 39 G to W	103	1	0.0	67.8	66	67.8	10	Snd Lvl	63.4	4.4	8	-3.6
Receiver 40 G to W	104	2	0.0	68.2	66	68.2	10	Snd Lvl	63.4	4.8	8	-3.2
Receiver 41 G to W	105	1	0.0	68.1	66	68.1	10	Snd Lvl	63.3	4.8	8	-3.2
Receiver 42 G to W	106	2	0.0	68.3	66	68.3	10	Snd Lvl	63.3	5.0	8	-3.0
Receiver 43 G to W	107	1	0.0	68.6	66	68.6	10	Snd Lvl	63.4	5.2	8	-2.8
Receiver 44 G to W	108	1	0.0	68.5	66	68.5	10	Snd Lvl	63.3	5.2	8	-2.8
Receiver 45 G to W	109	2	0.0	68.5	66	68.5	10	Snd Lvl	63.3	5.2	8	-2.8
Receiver 46 G to W	110	2	0.0	68.1	66	68.1	10	Snd Lvl	63.3	4.8	8	-3.2
Receiver 47 G to W	111	1	0.0	68.6	66	68.6	10	Snd Lvl	63.9	4.7	8	-3.3
Receiver 48 G to W	112	2	0.0	67.3	66	67.3	10	Snd Lvl	63.4	3.9	8	-4.1
Receiver 49 G to W	113	2	0.0	69.1	66	69.1	10	Snd Lvl	63.5	5.6	8	-2.4
Receiver 50 G to W	114	2	0.0	68.1	66	68.1	10	Snd Lvl	63.0	5.1	8	-2.9
Receiver 51 G to W	115	1	0.0	67.2	66	67.2	10	Snd Lvl	63.3	3.9	8	-4.1
Receiver 52 W to L	116	10	0.0	71.1	66	71.1	10	Snd Lvl	67.2	3.9	8	-4.1
Receiver 54 W to L	119	1	0.0	73.9	66	73.9	10	Snd Lvl	68.0	5.9	8	-2.1
Receiver 55 W to L	120	1	0.0	71.9	66	71.9	10	Snd Lvl	66.7	5.2	8	-2.8
Receiver 58 W to L	123	2	0.0	75.5	66	75.5	10	Snd Lvl	68.7	6.8	8	-1.2
Receiver 59 W to L	124	1	0.0	71.8	66	71.8	10	Snd Lvl	67.0	4.8	8	-3.2
Receiver 60 W to L	125	1	0.0	69.8	66	69.8	10	Snd Lvl	65.6	4.2	8	-3.8
Receiver 64 W to L	132	1	0.0	74.6	66	74.6	10	Snd Lvl	68.9	5.7	8	-2.3
Receiver 75 D to J	147	2	0.0	69.2	66	69.2	10	Snd Lvl	69.0	0.2	8	-7.8
Receiver 76 D to J	148	1	0.0	67.9	66	67.9	10	Snd Lvl	68.0	-0.1	8	-8.1
Receiver 77 D to J	149	1	0.0	66.3	66	66.3	10	Snd Lvl	66.0	0.3	8	-7.7
Receiver 78 D to J	150	10	0.0	69.0	66	69.0	10	Snd Lvl	68.7	0.3	8	-7.7

Receiver 79 D to J	151	1	0.0	69.3	66	69.3	10	Snd Lvl	68.6	0.7	8	-7.3
Receiver 80 D to J	152	3	0.0	69.4	66	69.4	10	Snd Lvl	68.2	1.2	8	-6.8
Receiver 81 D to J	153	2	0.0	69.5	66	69.5	10	Snd Lvl	67.8	1.7	8	-6.3
Receiver 82 D to J	154	2	0.0	69.4	66	69.4	10	Snd Lvl	67.1	2.3	8	-5.7
Receiver 83 D to J	155	1	0.0	66.7	66	66.7	10	Snd Lvl	66.2	0.5	8	-7.5
Receiver 84 D to J	156	1	0.0	65.6	66	65.6	10	----	65.0	0.6	8	-7.4
Receiver 85 D to J	157	1	0.0	64.8	66	64.8	10	----	64.0	0.8	8	-7.2
Receiver 86 D to J	158	1	0.0	67.5	66	67.5	10	Snd Lvl	65.2	2.3	8	-5.7
Receiver 87 D to J	159	1	0.0	66.5	66	66.5	10	Snd Lvl	64.2	2.3	8	-5.7
Receiver 88 D to J	160	1	0.0	65.5	66	65.5	10	----	63.1	2.4	8	-5.6
Receiver 89 D to J	161	1	0.0	68.2	66	68.2	10	Snd Lvl	64.9	3.3	8	-4.7
Receiver 90 D to J	162	1	0.0	66.3	66	66.3	10	Snd Lvl	63.3	3.0	8	-5.0
Receiver 91 D to J	163	1	0.0	65.0	66	65.0	10	----	62.1	2.9	8	-5.1
Receiver 92 D to J	164	1	0.0	64.3	66	64.3	10	----	61.5	2.8	8	-5.2
Receiver 93 D to J	165	4	0.0	63.4	66	63.4	10	----	64.1	-0.7	8	-8.7
Receiver 94 D to J	166	1	0.0	70.4	66	70.4	10	Snd Lvl	66.1	4.3	8	-3.7
Receiver 95 D to J	167	1	0.0	70.2	66	70.2	10	Snd Lvl	65.8	4.4	8	-3.6
Receiver 96 D to J	168	1	0.0	70.2	66	70.2	10	Snd Lvl	65.8	4.4	8	-3.6
Receiver 97 D to J	169	1	0.0	70.1	66	70.1	10	Snd Lvl	65.6	4.5	8	-3.5
Receiver 98 D to J	170	1	0.0	64.7	66	64.7	10	----	61.6	3.1	8	-4.9
Receiver 99 D to J	171	1	0.0	64.8	66	64.8	10	----	61.4	3.4	8	-4.6
Receiver 100 D to J	172	1	0.0	64.7	66	64.7	10	----	61.3	3.4	8	-4.6
Receiver 101 D to J	173	1	0.0	64.8	66	64.8	10	----	61.3	3.5	8	-4.5
Receiver 102 D to J	174	4	0.0	63.6	66	63.6	10	----	59.8	3.8	8	-4.2
Receiver 103 D to J	175	1	0.0	64.2	66	64.2	10	----	60.4	3.8	8	-4.2
Receiver 104 D to J	176	1	0.0	65.0	66	65.0	10	----	61.0	4.0	8	-4.0
Receiver 105 D to J	177	1	0.0	65.4	66	65.4	10	----	61.7	3.7	8	-4.3
Receiver 106 D to J	178	1	0.0	66.1	66	66.1	10	Snd Lvl	62.5	3.6	8	-4.4
Receiver 107 D to J	179	1	0.0	66.6	66	66.6	10	Snd Lvl	63.5	3.1	8	-4.9
Receiver 109 D to J	181	1	0.0	70.0	66	70.0	10	Snd Lvl	64.6	5.4	8	-2.6
Receiver 110 D to J	182	1	0.0	66.9	66	66.9	10	Snd Lvl	63.4	3.5	8	-4.5
Receiver 111 D to J	183	1	0.0	65.7	66	65.7	10	----	62.5	3.2	8	-4.8
Receiver 112 D to J	184	1	0.0	65.2	66	65.2	10	----	61.4	3.8	8	-4.2
Receiver 113 D to J	185	1	0.0	64.3	66	64.3	10	----	60.4	3.9	8	-4.1
Receiver 122 D to J	194	3	0.0	73.4	66	73.4	10	Snd Lvl	72.5	0.9	8	-7.1
Receiver 123 D to J	195	2	0.0	73.0	66	73.0	10	Snd Lvl	71.6	1.4	8	-6.6
Receiver 124 D to J	196	2	0.0	72.9	66	72.9	10	Snd Lvl	71.0	1.9	8	-6.1
Receiver 125 D to J	197	1	0.0	65.7	66	65.7	10	----	61.6	4.1	8	-3.9
Receiver 126 D to J	198	2	0.0	65.8	66	65.8	10	----	61.5	4.3	8	-3.7
Receiver 127 D to J	199	1	0.0	66.0	66	66.0	10	Snd Lvl	61.6	4.4	8	-3.6
Receiver 128 D to J	200	1	0.0	66.1	66	66.1	10	Snd Lvl	61.5	4.6	8	-3.4

Receiver 129 D to J	201	1	0.0	66.2	66	66.2	10	Snd Lvl	61.5	4.7	8	-3.3
Receiver 130 D to J	202	1	0.0	65.0	66	65.0	10	----	64.5	0.5	8	-7.5
Receiver 131 D to J	203	1	0.0	63.9	66	63.9	10	----	63.2	0.7	8	-7.3
Receiver 132 D to J	204	1	0.0	62.9	66	62.9	10	----	62.1	0.8	8	-7.2
Receiver 133 D to J	205	1	0.0	64.1	66	64.1	10	----	63.1	1.0	8	-7.0
Receiver 134 D to J	206	1	0.0	63.4	66	63.4	10	----	62.3	1.1	8	-6.9
Receiver 135 D to J	207	1	0.0	65.0	66	65.0	10	----	62.6	2.4	8	-5.6
Receiver 136 D to J	208	1	0.0	64.2	66	64.2	10	----	61.8	2.4	8	-5.6
Receiver 138 J to C	210	1	0.0	69.3	66	69.3	10	Snd Lvl	64.8	4.5	8	-3.5
Receiver 139 J to C	211	1	0.0	70.9	66	70.9	10	Snd Lvl	66.9	4.0	8	-4.0
Receiver 140 J to C	137	1	0.0	70.1	66	70.1	10	Snd Lvl	65.8	4.3	8	-3.7
Receiver 144 J to C	215	1	0.0	75.4	66	75.4	10	Snd Lvl	68.8	6.6	8	-1.4
Receiver 146 J to C	217	2	0.0	78.1	66	78.1	10	Snd Lvl	70.5	7.6	8	-0.4
Receiver 147 J to C	218	1	0.0	76.8	66	76.8	10	Snd Lvl	69.5	7.3	8	-0.7
Receiver 148 J to C	219	1	0.0	76.3	66	76.3	10	Snd Lvl	69.4	6.9	8	-1.1
Receiver 149 J to C	220	2	0.0	75.2	66	75.2	10	Snd Lvl	70.0	5.2	8	-2.8
Receiver 150 J to C	221	1	0.0	67.0	66	67.0	10	Snd Lvl	63.3	3.7	8	-4.3
Receiver 151 J to C	222	1	0.0	70.1	66	70.1	10	Snd Lvl	65.9	4.2	8	-3.8
Receiver 152 J to C	223	1	0.0	67.3	66	67.3	10	Snd Lvl	63.4	3.9	8	-4.1
Receiver 153 J to C	224	1	0.0	64.7	66	64.7	10	----	60.9	3.8	8	-4.2
Receiver 155 J to C	226	1	0.0	70.9	66	70.9	10	Snd Lvl	67.0	3.9	8	-4.1
Receiver 156 J to C	227	1	0.0	69.9	66	69.9	10	Snd Lvl	65.7	4.2	8	-3.8
Receiver 157 J to C	228	1	0.0	68.8	66	68.8	10	Snd Lvl	64.5	4.3	8	-3.7
Receiver 158 J to C	229	1	0.0	67.5	66	67.5	10	Snd Lvl	63.4	4.1	8	-3.9
Receiver 159 J to C	230	1	0.0	66.6	66	66.6	10	Snd Lvl	62.6	4.0	8	-4.0
Receiver 162 J to C	233	1	0.0	72.1	66	72.1	10	Snd Lvl	68.0	4.1	8	-3.9
Receiver 163 J to C	234	1	0.0	70.6	66	70.6	10	Snd Lvl	66.4	4.2	8	-3.8
Receiver 164 J to C	235	1	0.0	69.7	66	69.7	10	Snd Lvl	65.4	4.3	8	-3.7
Receiver 165 J to C	236	1	0.0	68.5	66	68.5	10	Snd Lvl	64.2	4.3	8	-3.7
Receiver 166 J to C	237	1	0.0	67.6	66	67.6	10	Snd Lvl	63.4	4.2	8	-3.8
Receiver 167 J to C	238	1	0.0	66.8	66	66.8	10	Snd Lvl	62.7	4.1	8	-3.9
Receiver 168 J to C	239	1	0.0	72.8	66	72.8	10	Snd Lvl	67.7	5.1	8	-2.9
Receiver 169 J to C	240	1	0.0	71.2	66	71.2	10	Snd Lvl	66.5	4.7	8	-3.3
Receiver 170 J to C	241	1	0.0	67.7	66	67.7	10	Snd Lvl	63.3	4.4	8	-3.6
Receiver 171 J to C	242	1	0.0	72.6	66	72.6	10	Snd Lvl	67.3	5.3	8	-2.7
Receiver 172 J to C	243	1	0.0	69.1	66	69.1	10	Snd Lvl	64.5	4.6	8	-3.4
Receiver 173 J to C	244	1	0.0	67.9	66	67.9	10	Snd Lvl	63.5	4.4	8	-3.6
Receiver 174 J to C	245	1	0.0	67.2	66	67.2	10	Snd Lvl	62.9	4.3	8	-3.7
Receiver 175 J to C	246	1	0.0	66.3	66	66.3	10	Snd Lvl	62.1	4.2	8	-3.8
Receiver 176 J to C	247	1	0.0	75.3	66	75.3	10	Snd Lvl	68.0	7.3	8	-0.7
Receiver 177 J to C	248	1	0.0	70.7	66	70.7	10	Snd Lvl	65.9	4.8	8	-3.2

Receiver 178 J to C	249	1	0.0	69.8	66	69.8	10	Snd Lvl	65.1	4.7	8	-3.3
Receiver 179 J to C	250	1	0.0	68.5	66	68.5	10	Snd Lvl	64.3	4.2	8	-3.8
Receiver 180 J to C	251	1	0.0	67.6	66	67.6	10	Snd Lvl	63.4	4.2	8	-3.8
Receiver 181 J to C	252	1	0.0	66.7	66	66.7	10	Snd Lvl	62.6	4.1	8	-3.9
Receiver 182 J to C	253	1	0.0	68.4	66	68.4	10	Snd Lvl	64.4	4.0	8	-4.0
Receiver 183 J to C	254	1	0.0	67.7	66	67.7	10	Snd Lvl	63.9	3.8	8	-4.2
Receiver 184 J to C	255	1	0.0	66.6	66	66.6	10	Snd Lvl	63.2	3.4	8	-4.6

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	213	-0.7	4.0	9.1
All Impacted	174	-0.1	4.4	9.1
All that meet NR Goal	16	8.0	8.4	9.1

The Corradino Group
T Stone

14 August 2007
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange E-Alternative 5 2035

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
S I-75/Clark Off-Ramp	point461	558	158	40	6	40	12	40	1	40	1	40

	point463	560	200	40	10	40	10	40	1	40	1	40
	point465	562										
S I-75 Service Drive - 1	point466	563	200	40	10	40	10	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	849	56	10	56	35	56	1	56	1	56
	point476	576	849	56	10	56	35	56	1	56	1	56
	point1056	1056	80	56	5	56	5	56	1	56	1	56
	point1061	1061	849	56	10	56	35	56	1	56	1	56
	point644	577										
S I-75/Junction On-Ramp	point481	585	771	64	5	64	34	64	1	64	1	64
	point1068	1068	771	64	5	64	34	64	1	64	1	64
	point483	587	771	64	5	64	34	64	1	64	1	64
	point484	588	771	64	5	64	34	64	1	64	1	64
	point1067	1067	771	64	5	64	34	64	1	64	1	64
	point1066	1066	771	64	5	64	34	64	1	64	1	64
	point485	589										
S I-75 Service Drive - 4	point638	594	80	48	5	48	5	48	1	48	1	48
	point489	595	450	48	23	48	23	48	2	48	2	48
	point490	596	450	48	23	48	23	48	2	48	2	48
	point491	597										
Livernois/ S I-75 Off-Ramp	point497	600	465	88	23	88	27	88	1	88	1	88
	point498	601	465	88	23	88	27	88	1	88	1	88
	point500	603	465	88	23	88	27	88	1	88	1	88
	point501	604	465	88	23	88	27	88	1	88	1	88
	point1069	1069	465	88	23	88	27	88	1	88	1	88
	point503	606										
S I-75 Service Drive - 5	point491	971	692	56	30	56	50	56	1	56	1	56
	point504	607	692	56	30	56	50	56	1	56	1	56
	point505	608	692	56	30	56	50	56	1	56	1	56
	point975	975	692	56	30	56	50	56	1	56	1	56
	point1065	1065	692	56	30	56	50	56	1	56	1	56
	point507	610										
S I-75 Service Drive - 8	point530	637	540	40	23	40	30	40	2	40	2	40
	point531	638	675	40	45	40	120	40	2	40	2	40

	point532	639										
Springwells/S I-75 On-Ramp	point533	640	630	97	38	97	113	97	2	97	2	97
	point538	645										
Westend - N&SB	point682	682	700	40	40	40	60	40	1	40	1	40
	point685	685	700	40	40	40	60	40	1	40	1	40
	point687	687	700	40	40	40	60	40	1	40	1	40
	point943	943	700	40	40	40	60	40	1	40	1	40
	point688	688	700	40	40	40	60	40	1	40	1	40
	point690	690	700	40	40	40	60	40	1	40	1	40
	point691	691	700	40	40	40	60	40	1	40	1	40
	point692	692										
Green - N&SB	point727	727	128	48	8	48	15	48	2	48	2	48
	point939	939	128	48	8	48	15	48	2	48	2	48
	point959	959	128	48	8	48	15	48	2	48	2	48
	point960	960	128	48	8	48	15	48	2	48	2	48
	point729	729	128	48	8	48	15	48	2	48	2	48
	point730	730	128	48	8	48	15	48	2	48	2	48
	point731	731										
Clark - NB	point812	812	120	40	8	40	38	40	2	40	2	40
	point813	813	150	25	30	25	450	25	2	25	2	25
	point814	814	120	25	23	25	270	25	2	25	2	25
	point963	963	120	25	23	25	270	25	2	25	2	25
	point964	964	120	25	23	25	270	25	2	25	2	25
	point815	815	126	40	12	40	6	40	2	40	2	40
	point816	816										
Clark - SB	point818	818	180	40	6	40	38	40	2	40	2	40
	point819	819	180	40	6	40	38	40	2	40	2	40
	point961	961	180	40	6	40	38	40	2	40	2	40
	point962	962	180	40	6	40	38	40	2	40	2	40
	point820	820	180	40	6	40	38	40	2	40	2	40
	point821	821	180	40	6	40	38	40	2	40	2	40
	point822	822										
S I-75 Service Drive - 3	point645	579	80	56	5	56	5	56	1	56	1	56
	point1063	1063	270	56	15	56	8	56	2	56	2	56

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point1062	1062	270	56	15	56	8	56	2	56	2	56
	point1064	1064	270	56	15	56	8	56	2	56	2	56
	point478	581	135	56	75	56	8	56	2	56	2	56
	point494	583	135	56	75	56	8	56	2	56	2	56
	point480	584	135	56	75	56	8	56	2	56	2	56
	point495	968	135	56	75	56	8	56	2	56	2	56
	point488	969										
S I-75 Service Drive - 6	point631	612	237	56	8	56	8	56	1	56	1	56
	point509	613	237	56	8	56	8	56	1	56	1	56
	point510	614	237	56	8	56	8	56	1	56	1	56
	point629	619										
S I-75 Service Drive - 7	point977	977	231	56	10	56	12	56	1	56	1	56
	point514	620	231	56	10	56	12	56	1	56	1	56
	point515	621	231	56	10	56	12	56	1	56	1	56
	point516	622	231	56	10	56	12	56	1	56	1	56
	point518	624	231	56	10	56	12	56	1	56	1	56
	point525	978	231	56	10	56	12	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	220	64	30	64	200	64	1	64	1	64
	point1058	1058	220	64	30	64	200	64	1	64	1	64
	point1006	1006	220	64	30	64	200	64	1	64	1	64
	point1007	1007	220	64	30	64	200	64	1	64	1	64
	point1008	1008	220	64	30	64	200	64	1	64	1	64
	point1060	1060	220	64	30	64	200	64	1	64	1	64
	point1059	1059	220	64	30	64	200	64	1	64	1	64
	point1010	1010										
Inbound from SB I-75	point1012	1012	836	88	47	88	140	88	1	88	1	88
	point1013	1013	836	83	47	83	140	83	1	83	1	83
	point1014	1014	836	77	47	77	140	77	1	77	1	77
	point1015	1015	836	64	47	64	140	64	1	64	1	64
	point1016	1016										
Waterman - N&SB	point761	1070	128	56	8	56	23	56	2	56	2	56
	point762	1071	128	48	8	48	23	48	2	48	2	48
	point957	1072	128	48	8	48	23	48	2	48	2	48

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

	point958	1073	128	48	8	48	23	48	2	48	2	48
	point764	1074	128	56	8	56	23	56	2	56	2	56
	point765	1075	128	56	8	56	23	56	2	56	2	56
	point769	1076										
Dragoon	point1077	1077	135	56	75	56	8	56	2	56	2	56
	point1078	1078	135	56	75	56	8	56	2	56	2	56
	point1079	1079										
Livernois	point1080	1080	135	56	75	56	8	56	2	56	2	56
	point1081	1081										

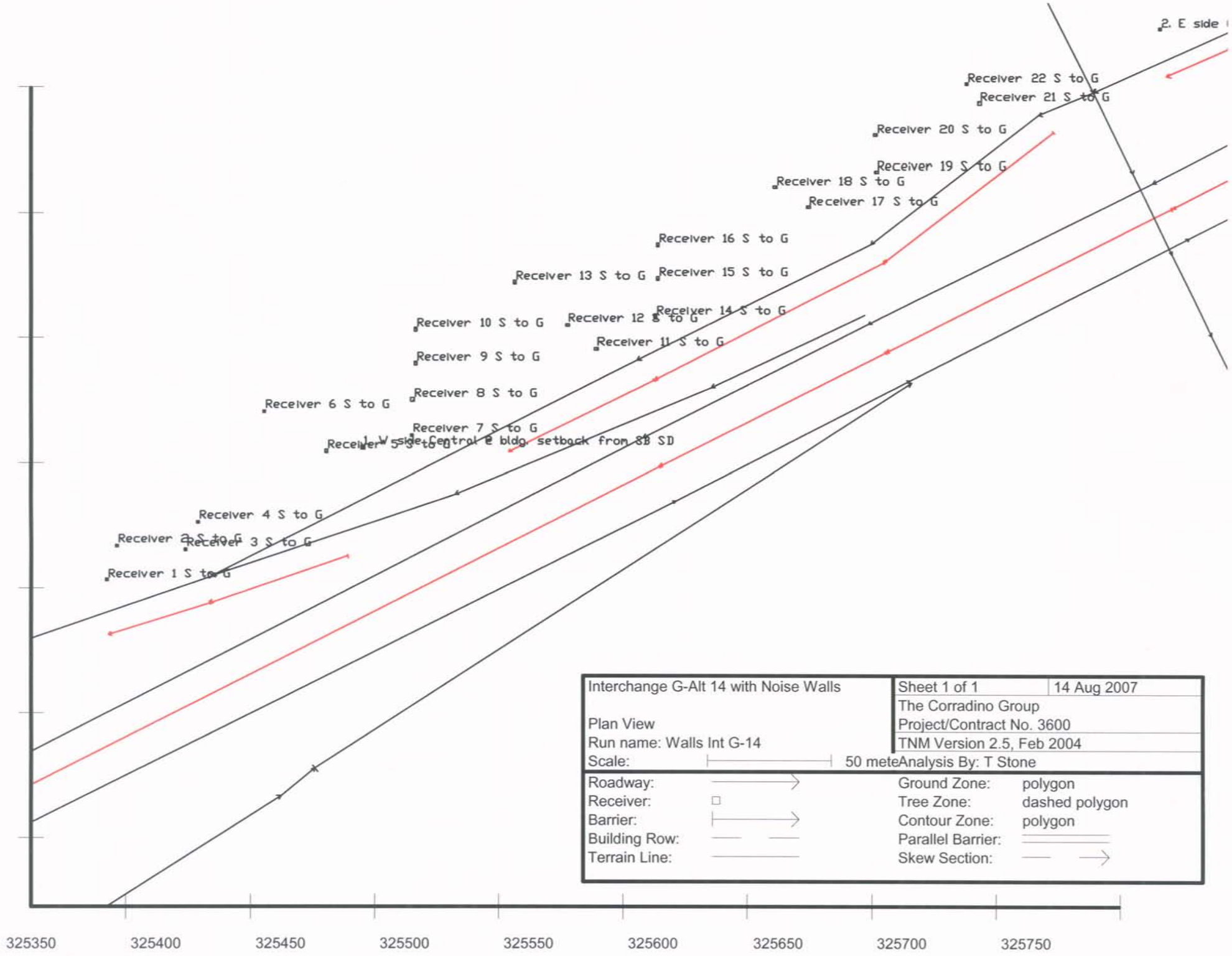
The Corradino Group 15 August 2007
T Stone TNM 2.5

RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange E-Alternative 5 2035
BARRIER DESIGN: INPUT HEIGHTS

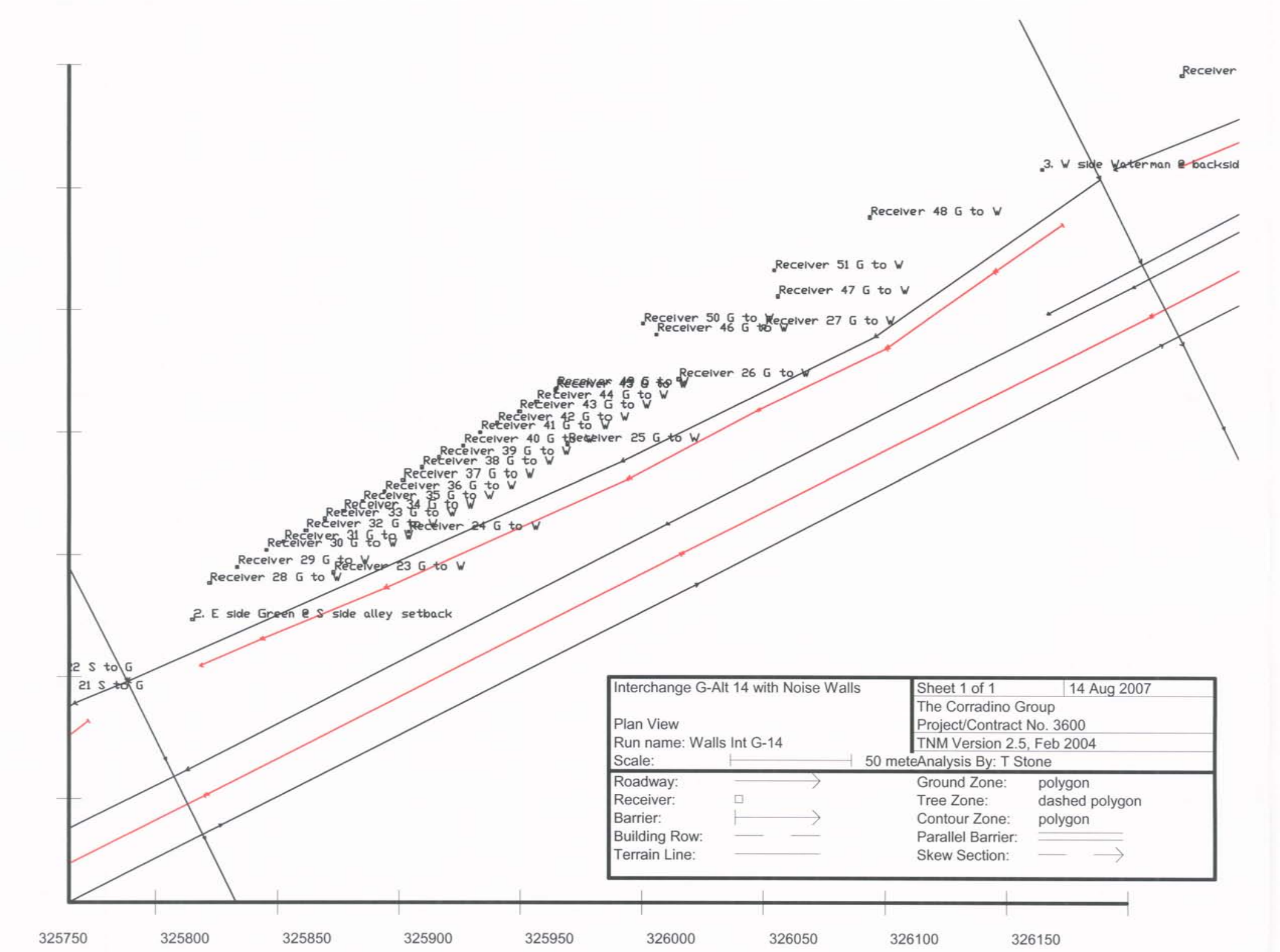
Barriers

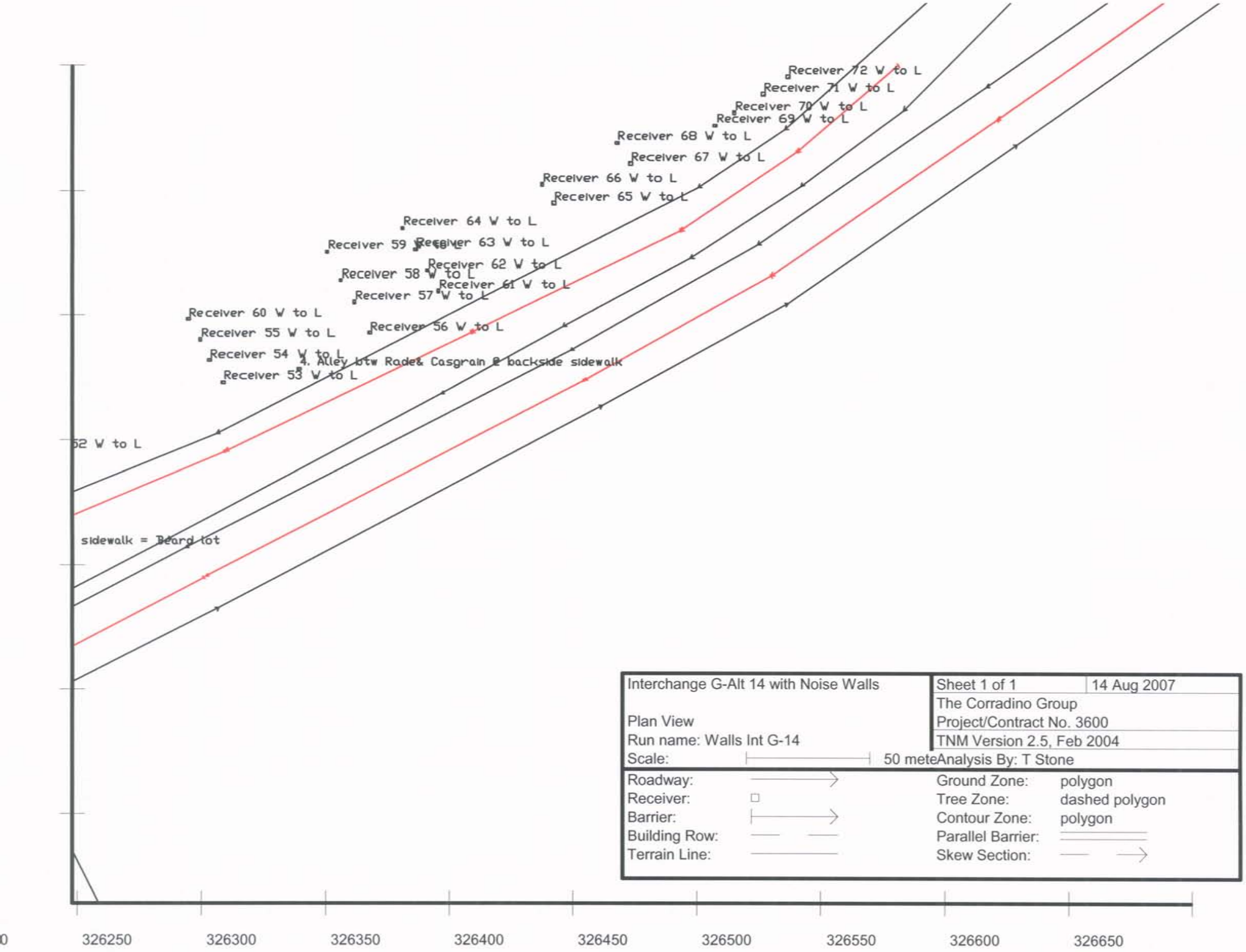
Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	267	293				0
Barrier9	W	1.10	1.10	1.10	539	593				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1371	1508				0
Morell to Clark	W	3.70	3.70	3.70	447	1652				810837
Calvary to Morell	W	3.70	3.70	3.70	498	1844				905216
Waterman to Crawford	W	3.70	3.70	3.70	252	931				456916
Green to Waterman	W	3.70	3.70	3.70	399	1475				723855
Springwells to Green	W	3.70	3.70	3.70	428	1584				777554
									Total Cost:	3674378

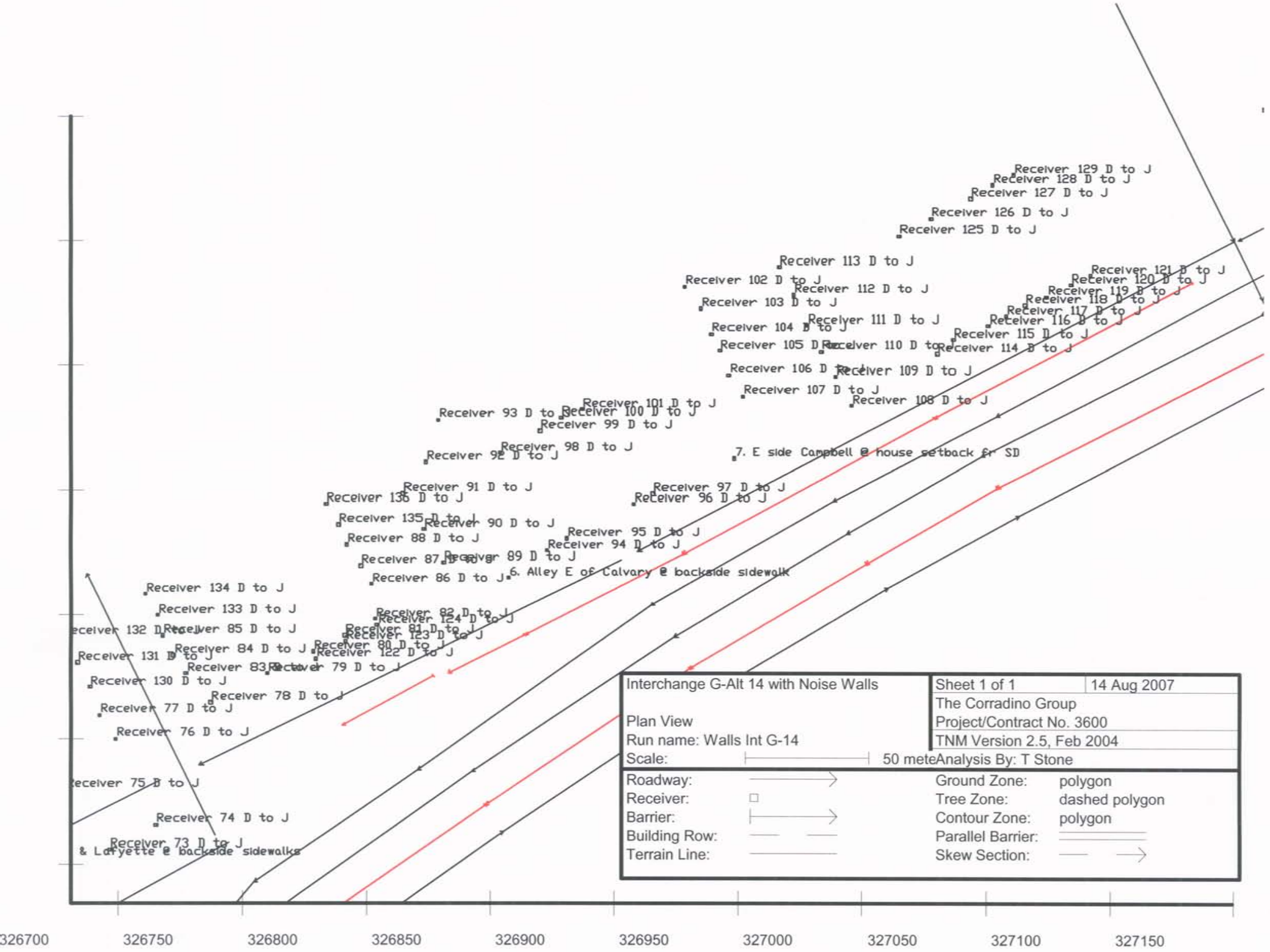
Interchange G – Alternative 14 – 2035

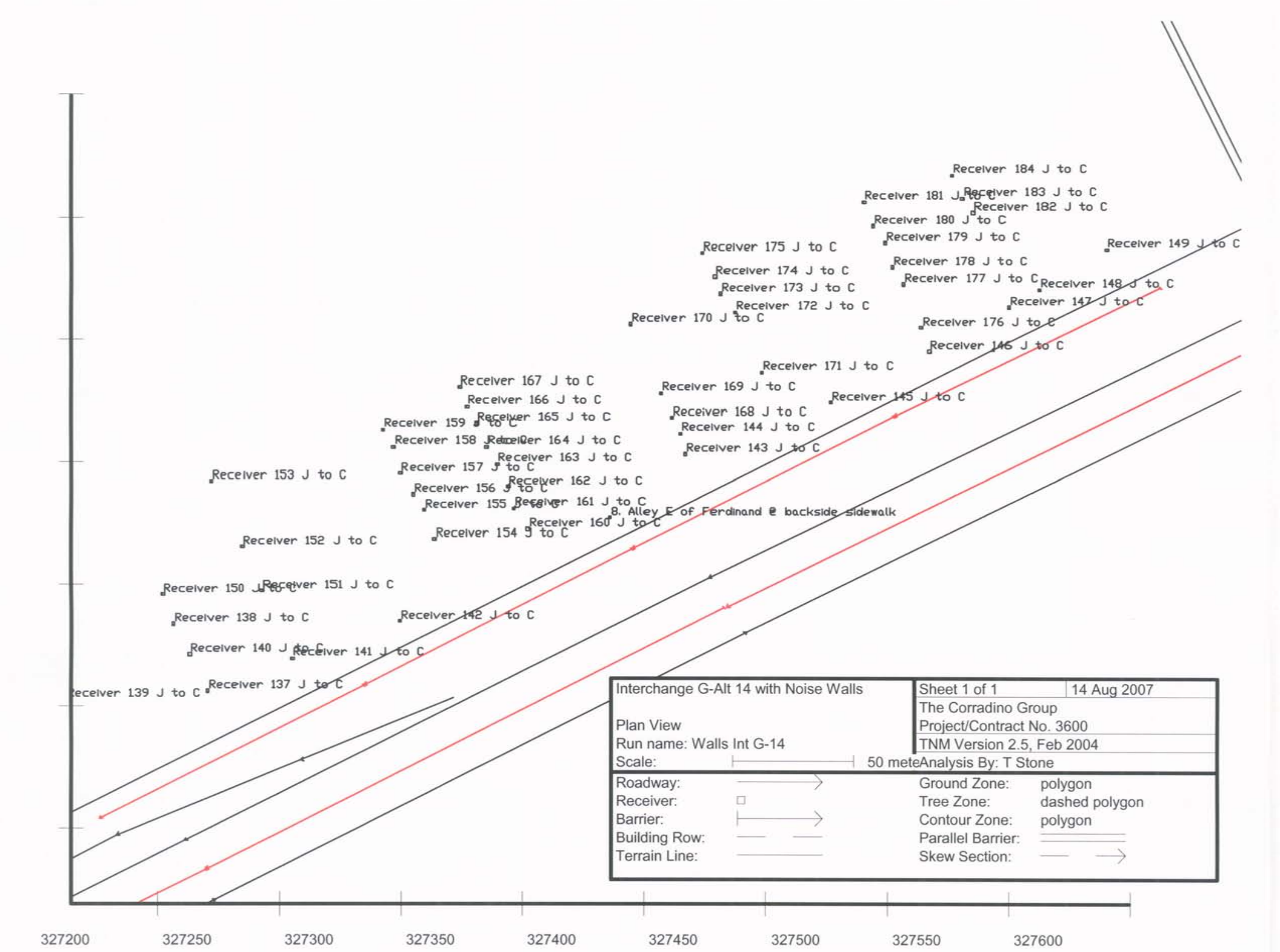


Interchange G-Alt 14 with Noise Walls		Sheet 1 of 1	14 Aug 2007
		The Corradino Group	
Plan View		Project/Contract No. 3600	
Run name: Walls Int G-14		TNM Version 2.5, Feb 2004	
Scale:	50 mete	Analysis By: T Stone	
Roadway:		Ground Zone:	polygon
Receiver:	□	Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


Receiver
3. W side Waterman @ backsid
Receiver 48 G to W
Receiver 51 G to W
Receiver 47 G to W
Receiver 50 G to W
Receiver 27 G to W
Receiver 46 G to W
Receiver 26 G to W
Receiver 45 G to W
Receiver 44 G to W
Receiver 43 G to W
Receiver 42 G to W
Receiver 41 G to W
Receiver 40 G to W
Receiver 25 G to W
Receiver 39 G to W
Receiver 38 G to W
Receiver 37 G to W
Receiver 36 G to W
Receiver 35 G to W
Receiver 34 G to W
Receiver 33 G to W
Receiver 32 G to W
Receiver 24 G to W
Receiver 31 G to W
Receiver 30 G to W
Receiver 29 G to W
Receiver 23 G to W
Receiver 28 G to W
2. E side Green @ S side alley setback
22 S to G
21 S to G
Interchange G-Alt 14 with Noise Walls
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int G-14
TNM Version 2.5, Feb 2004
Scale:
50 meteAnalysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
325750
325800
325850
325900
325950
326000
326050
326100
326150


Receiver 72 W to L
Receiver 71 W to L
Receiver 70 W to L
Receiver 69 W to L
Receiver 68 W to L
Receiver 67 W to L
Receiver 66 W to L
Receiver 65 W to L
Receiver 64 W to L
Receiver 63 W to L
Receiver 62 W to L
Receiver 61 W to L
Receiver 59 W to L
Receiver 58 W to L
Receiver 57 W to L
Receiver 60 W to L
Receiver 56 W to L
Receiver 55 W to L
Receiver 54 W to L
Receiver 53 W to L
4. Alley btw Rade& Casgrain & backside sidewalk
52 W to L
sidewalk = Beard lot
Interchange G-Alt 14 with Noise Walls
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int G-14
TNM Version 2.5, Feb 2004
Scale:
50 meteAnalysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
0
326250
326300
326350
326400
326450
326500
326550
326600
326650


Receiver 129 D to J
Receiver 128 D to J
Receiver 127 D to J
Receiver 126 D to J
Receiver 125 D to J
Receiver 113 D to J
Receiver 102 D to J
Receiver 112 D to J
Receiver 103 D to J
Receiver 121 D to J
Receiver 120 D to J
Receiver 119 D to J
Receiver 118 D to J
Receiver 117 D to J
Receiver 116 D to J
Receiver 115 D to J
Receiver 114 D to J
Receiver 111 D to J
Receiver 104 D to J
Receiver 105 D to J
Receiver 110 D to J
Receiver 106 D to J
Receiver 109 D to J
Receiver 107 D to J
Receiver 108 D to J
Receiver 101 D to J
Receiver 93 D to J
Receiver 100 D to J
Receiver 99 D to J
Receiver 98 D to J
Receiver 92 D to J
7. E side Campbell @ house setback for SD
Receiver 91 D to J
Receiver 97 D to J
Receiver 136 D to J
Receiver 96 D to J
Receiver 135 D to J
Receiver 90 D to J
Receiver 88 D to J
Receiver 95 D to J
Receiver 94 D to J
Receiver 87 D to J
Receiver 89 D to J
6. Alley E of Calvary @ backside sidewalk
Receiver 86 D to J
Receiver 134 D to J
Receiver 133 D to J
Receiver 82 D to J
Receiver 124 D to J
Receiver 85 D to J
Receiver 81 D to J
Receiver 123 D to J
Receiver 84 D to J
Receiver 80 D to J
Receiver 122 D to J
Receiver 131 D to J
Receiver 83 D to J
Receiver 79 D to J
Receiver 130 D to J
Receiver 78 D to J
Receiver 77 D to J
Receiver 76 D to J
Receiver 75 D to J
Receiver 74 D to J
Receiver 73 D to J
& Lafyette @ backside sidewalks
Interchange G-Alt 14 with Noise Walls
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int G-14
TNM Version 2.5, Feb 2004
Scale:
50 meteAnalysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
326700
326750
326800
326850
326900
326950
327000
327050
327100
327150


Receiver 184 J to C
Receiver 181 J to C
Receiver 183 J to C
Receiver 182 J to C
Receiver 180 J to C
Receiver 179 J to C
Receiver 175 J to C
Receiver 149 J to C
Receiver 178 J to C
Receiver 174 J to C
Receiver 177 J to C
Receiver 173 J to C
Receiver 148 J to C
Receiver 172 J to C
Receiver 147 J to C
Receiver 170 J to C
Receiver 176 J to C
Receiver 146 J to C
Receiver 171 J to C
Receiver 167 J to C
Receiver 169 J to C
Receiver 166 J to C
Receiver 145 J to C
Receiver 168 J to C
Receiver 165 J to C
Receiver 159 J to C
Receiver 144 J to C
Receiver 158 J to C
Receiver 164 J to C
Receiver 143 J to C
Receiver 163 J to C
Receiver 153 J to C
Receiver 157 J to C
Receiver 162 J to C
Receiver 156 J to C
Receiver 155 J to C
Receiver 161 J to C
8. Alley E of Ferdinand @ backside sidewalk
Receiver 160 J to C
Receiver 154 J to C
Receiver 152 J to C
Receiver 150 J to C
Receiver 151 J to C
Receiver 138 J to C
Receiver 142 J to C
Receiver 140 J to C
Receiver 141 J to C
Receiver 139 J to C
Receiver 137 J to C
Interchange G-Alt 14 with Noise Walls
Sheet 1 of 1
14 Aug 2007
The Corradino Group
Plan View
Project/Contract No. 3600
Run name: Walls Int G-14
TNM Version 2.5, Feb 2004
Scale:
50 mete
Analysis By: T Stone
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
327200
327250
327300
327350
327400
327450
327500
327550
327600

The Corradino Group
T Stone

15 August 2007
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 3600
RUN: Interchange G-Alt 14 with Noise Walls
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
9. W side Clark N of SB SD - Clark Park	32	1	0.0	71.9	66	71.9	10	Snd Lvl	71.6	0.3	8	-7.7
8. Alley E of Ferdinand @ backside sidewa	34	1	0.0	77.9	66	77.9	10	Snd Lvl	67.6	10.3	8	2.3
7. E side Campbell @ house setback fr SI	36	1	0.0	72.1	66	72.1	10	Snd Lvl	64.9	7.2	8	-0.8
6. Alley E of Calvary @ backside sidewalk	40	1	0.0	72.0	66	72.0	10	Snd Lvl	65.1	6.9	8	-1.1
5. NE Corner Dragoon & Lafyette @ backs	46	1	0.0	66.4	66	66.4	10	Snd Lvl	66.0	0.4	8	-7.6
4. Alley btw Rade& Casgrain @ backside s	53	1	0.0	77.5	66	77.5	10	Snd Lvl	66.9	10.6	8	2.6
3. W side Waterman @ backside sidewalk	55	1	0.0	72.6	66	72.6	10	Snd Lvl	69.9	2.7	8	-5.3
2. E side Green @ S side alley setback	58	2	0.0	72.8	66	72.8	10	Snd Lvl	68.8	4.0	8	-4.0
1. W side Central @ bldg. setback from SE	60	4	0.0	74.5	66	74.5	10	Snd Lvl	73.2	1.3	8	-6.7
Receiver 1 S to G	61	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 2 S to G	62	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 3 S to G	63	1	0.0	74.5	66	74.5	10	Snd Lvl	69.8	4.7	8	-3.3
Receiver 4 S to G	64	1	0.0	73.0	66	73.0	10	Snd Lvl	68.9	4.1	8	-3.9
Receiver 5 S to G	65	1	0.0	72.8	66	72.8	10	Snd Lvl	71.1	1.7	8	-6.3
Receiver 6 S to G	66	1	0.0	69.4	66	69.4	10	Snd Lvl	67.7	1.7	8	-6.3
Receiver 7 S to G	68	1	0.0	74.9	66	74.9	10	Snd Lvl	73.8	1.1	8	-6.9
Receiver 8 S to G	69	1	0.0	72.4	66	72.4	10	Snd Lvl	70.9	1.5	8	-6.5
Receiver 9 S to G	70	1	0.0	70.4	66	70.4	10	Snd Lvl	68.7	1.7	8	-6.3
Receiver 10 S to G	71	2	0.0	69.1	66	69.1	10	Snd Lvl	66.9	2.2	8	-5.8
Receiver 11 S to G	72	1	0.0	74.5	66	74.5	10	Snd Lvl	67.3	7.2	8	-0.8
Receiver 12 S to G	73	1	0.0	71.7	66	71.7	10	Snd Lvl	66.5	5.2	8	-2.8
Receiver 13 S to G	74	2	0.0	68.9	66	68.9	10	Snd Lvl	65.1	3.8	8	-4.2
Receiver 14 S to G	75	1	0.0	73.9	66	73.9	10	Snd Lvl	66.0	7.9	8	-0.1

Receiver 15 S to G	76	1	0.0	71.2	66	71.2	10	Snd Lvl	64.9	6.3	8	-1.7
Receiver 16 S to G	77	1	0.0	69.7	66	69.7	10	Snd Lvl	64.1	5.6	8	-2.4
Receiver 17 S to G	78	2	0.0	70.3	66	70.3	10	Snd Lvl	64.4	5.9	8	-2.1
Receiver 18 S to G	79	1	0.0	68.9	66	68.9	10	Snd Lvl	63.5	5.4	8	-2.6
Receiver 19 S to G	80	1	0.0	69.6	66	69.6	10	Snd Lvl	64.3	5.3	8	-2.7
Receiver 20 S to G	81	1	0.0	67.9	66	67.9	10	Snd Lvl	63.4	4.5	8	-3.5
Receiver 21 S to G	82	1	0.0	68.2	66	68.2	10	Snd Lvl	64.4	3.8	8	-4.2
Receiver 22 S to G	83	1	0.0	67.2	66	67.2	10	Snd Lvl	63.4	3.8	8	-4.2
Receiver 23 G to W	84	1	0.0	70.3	66	70.3	10	Snd Lvl	65.0	5.3	8	-2.7
Receiver 24 G to W	85	1	0.0	69.8	66	69.8	10	Snd Lvl	64.1	5.7	8	-2.3
Receiver 25 G to W	86	1	0.0	69.9	66	69.9	10	Snd Lvl	63.9	6.0	8	-2.0
Receiver 26 G to W	87	16	0.0	71.0	66	71.0	10	Snd Lvl	63.7	7.3	8	-0.7
Receiver 27 G to W	89	2	0.0	70.6	66	70.6	10	Snd Lvl	63.5	7.1	8	-0.9
Receiver 28 G to W	90	4	0.0	65.5	66	65.5	10	----	63.2	2.3	8	-5.7
Receiver 29 G to W	92	2	0.0	65.5	66	65.5	10	----	62.8	2.7	8	-5.3
Receiver 30 G to W	93	2	0.0	65.7	66	65.7	10	----	63.0	2.7	8	-5.3
Receiver 31 G to W	94	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 32 G to W	95	1	0.0	66.2	66	66.2	10	Snd Lvl	63.0	3.2	8	-4.8
Receiver 33 G to W	96	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 34 G to W	97	2	0.0	66.2	66	66.2	10	Snd Lvl	62.9	3.3	8	-4.7
Receiver 35 G to W	98	2	0.0	66.4	66	66.4	10	Snd Lvl	62.8	3.6	8	-4.4
Receiver 36 G to W	99	2	0.0	66.5	66	66.5	10	Snd Lvl	62.8	3.7	8	-4.3
Receiver 37 G to W	100	2	0.0	66.4	66	66.4	10	Snd Lvl	62.7	3.7	8	-4.3
Receiver 38 G to W	101	1	0.0	66.7	66	66.7	10	Snd Lvl	62.6	4.1	8	-3.9
Receiver 39 G to W	102	1	0.0	66.5	66	66.5	10	Snd Lvl	62.5	4.0	8	-4.0
Receiver 40 G to W	103	2	0.0	66.5	66	66.5	10	Snd Lvl	62.5	4.0	8	-4.0
Receiver 41 G to W	104	1	0.0	66.4	66	66.4	10	Snd Lvl	62.4	4.0	8	-4.0
Receiver 42 G to W	105	2	0.0	66.6	66	66.6	10	Snd Lvl	62.5	4.1	8	-3.9
Receiver 43 G to W	106	1	0.0	66.7	66	66.7	10	Snd Lvl	62.5	4.2	8	-3.8
Receiver 44 G to W	107	1	0.0	66.9	66	66.9	10	Snd Lvl	62.5	4.4	8	-3.6
Receiver 45 G to W	108	2	0.0	66.9	66	66.9	10	Snd Lvl	62.5	4.4	8	-3.6
Receiver 46 G to W	109	2	0.0	67.9	66	67.9	10	Snd Lvl	62.3	5.6	8	-2.4
Receiver 47 G to W	110	1	0.0	69.2	66	69.2	10	Snd Lvl	63.1	6.1	8	-1.9
Receiver 48 G to W	111	2	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 49 G to W	112	2	0.0	67.6	66	67.6	10	Snd Lvl	62.6	5.0	8	-3.0
Receiver 50 G to W	113	2	0.0	67.8	66	67.8	10	Snd Lvl	62.2	5.6	8	-2.4
Receiver 51 G to W	114	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 52 W to L	115	10	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 53 W to L	116	1	0.0	73.7	66	73.7	10	Snd Lvl	65.7	8.0	8	0.0
Receiver 54 W to L	117	1	0.0	71.4	66	71.4	10	Snd Lvl	65.0	6.4	8	-1.6
Receiver 55 W to L	118	1	0.0	69.8	66	69.8	10	Snd Lvl	64.1	5.7	8	-2.3

Receiver 56 W to L	119	1	0.0	77.8	66	77.8	10	Snd Lvl	67.3	10.5	8	2.5
Receiver 57 W to L	120	2	0.0	72.9	66	72.9	10	Snd Lvl	65.2	7.7	8	-0.3
Receiver 58 W to L	121	2	0.0	71.1	66	71.1	10	Snd Lvl	64.4	6.7	8	-1.3
Receiver 59 W to L	122	1	0.0	69.2	66	69.2	10	Snd Lvl	63.4	5.8	8	-2.2
Receiver 60 W to L	123	1	0.0	68.4	66	68.4	10	Snd Lvl	63.4	5.0	8	-3.0
Receiver 61 W to L	124	1	0.0	77.1	66	77.1	10	Snd Lvl	66.7	10.4	8	2.4
Receiver 62 W to L	125	1	0.0	73.2	66	73.2	10	Snd Lvl	65.3	7.9	8	-0.1
Receiver 63 W to L	126	1	0.0	71.7	66	71.7	10	Snd Lvl	64.5	7.2	8	-0.8
Receiver 64 W to L	128	1	0.0	70.1	66	70.1	10	Snd Lvl	63.7	6.4	8	-1.6
Receiver 65 W to L	130	1	0.0	73.1	66	73.1	10	Snd Lvl	65.2	7.9	8	-0.1
Receiver 66 W to L	132	1	0.0	71.6	66	71.6	10	Snd Lvl	64.4	7.2	8	-0.8
Receiver 67 W to L	135	1	0.0	72.9	66	72.9	10	Snd Lvl	65.1	7.8	8	-0.2
Receiver 68 W to L	138	1	0.0	71.3	66	71.3	10	Snd Lvl	64.3	7.0	8	-1.0
Receiver 69 W to L	140	1	0.0	72.8	66	72.8	10	Snd Lvl	65.1	7.7	8	-0.3
Receiver 70 W to L	141	1	0.0	72.5	66	72.5	10	Snd Lvl	65.0	7.5	8	-0.5
Receiver 71 W to L	142	1	0.0	72.0	66	72.0	10	Snd Lvl	65.1	6.9	8	-1.1
Receiver 72 W to L	144	1	0.0	71.5	66	71.5	10	Snd Lvl	65.4	6.1	8	-1.9
Receiver 73 D to J	145	6	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0
Receiver 74 D to J	146	10	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
Receiver 75 D to J	147	2	0.0	66.8	66	66.8	10	Snd Lvl	66.3	0.5	8	-7.5
Receiver 76 D to J	148	1	0.0	66.5	66	66.5	10	Snd Lvl	65.9	0.6	8	-7.4
Receiver 77 D to J	149	1	0.0	65.4	66	65.4	10	----	64.6	0.8	8	-7.2
Receiver 78 D to J	150	10	0.0	67.9	66	67.9	10	Snd Lvl	67.3	0.6	8	-7.4
Receiver 79 D to J	151	1	0.0	68.3	66	68.3	10	Snd Lvl	67.0	1.3	8	-6.7
Receiver 80 D to J	152	3	0.0	68.8	66	68.8	10	Snd Lvl	65.9	2.9	8	-5.1
Receiver 81 D to J	153	2	0.0	69.3	66	69.3	10	Snd Lvl	65.3	4.0	8	-4.0
Receiver 82 D to J	154	2	0.0	69.4	66	69.4	10	Snd Lvl	65.0	4.4	8	-3.6
Receiver 83 D to J	155	1	0.0	66.2	66	66.2	10	Snd Lvl	65.4	0.8	8	-7.2
Receiver 84 D to J	156	1	0.0	65.3	66	65.3	10	----	64.4	0.9	8	-7.1
Receiver 85 D to J	157	1	0.0	64.7	66	64.7	10	----	63.7	1.0	8	-7.0
Receiver 86 D to J	158	1	0.0	67.4	66	67.4	10	Snd Lvl	63.6	3.8	8	-4.2
Receiver 87 D to J	159	1	0.0	66.4	66	66.4	10	Snd Lvl	62.9	3.5	8	-4.5
Receiver 88 D to J	160	1	0.0	65.5	66	65.5	10	----	62.2	3.3	8	-4.7
Receiver 89 D to J	161	1	0.0	68.6	66	68.6	10	Snd Lvl	63.9	4.7	8	-3.3
Receiver 90 D to J	162	1	0.0	66.8	66	66.8	10	Snd Lvl	62.7	4.1	8	-3.9
Receiver 91 D to J	163	1	0.0	65.2	66	65.2	10	----	61.7	3.5	8	-4.5
Receiver 92 D to J	164	1	0.0	64.8	66	64.8	10	----	61.2	3.6	8	-4.4
Receiver 93 D to J	165	4	0.0	63.9	66	63.9	10	----	60.2	3.7	8	-4.3
Receiver 94 D to J	166	1	0.0	71.6	66	71.6	10	Snd Lvl	64.8	6.8	8	-1.2
Receiver 95 D to J	167	1	0.0	71.6	66	71.6	10	Snd Lvl	64.9	6.7	8	-1.3
Receiver 96 D to J	168	1	0.0	71.5	66	71.5	10	Snd Lvl	64.5	7.0	8	-1.0

Receiver 97 D to J	169	1	0.0	71.5	66	71.5	10	Snd Lvl	64.5	7.0	8	-1.0
Receiver 98 D to J	170	1	0.0	65.4	66	65.4	10	----	61.5	3.9	8	-4.1
Receiver 99 D to J	171	1	0.0	65.6	66	65.6	10	----	61.2	4.4	8	-3.6
Receiver 100 D to J	172	1	0.0	65.4	66	65.4	10	----	61.3	4.1	8	-3.9
Receiver 101 D to J	173	1	0.0	65.3	66	65.3	10	----	61.1	4.2	8	-3.8
Receiver 102 D to J	174	4	0.0	62.9	66	62.9	10	----	59.4	3.5	8	-4.5
Receiver 103 D to J	175	1	0.0	63.5	66	63.5	10	----	59.9	3.6	8	-4.4
Receiver 104 D to J	176	1	0.0	64.4	66	64.4	10	----	60.6	3.8	8	-4.2
Receiver 105 D to J	177	1	0.0	65.2	66	65.2	10	----	61.2	4.0	8	-4.0
Receiver 106 D to J	178	1	0.0	66.3	66	66.3	10	Snd Lvl	62.1	4.2	8	-3.8
Receiver 107 D to J	179	1	0.0	67.7	66	67.7	10	Snd Lvl	62.8	4.9	8	-3.1
Receiver 108 D to J	180	1	0.0	73.4	66	73.4	10	Snd Lvl	65.7	7.7	8	-0.3
Receiver 109 D to J	181	1	0.0	69.5	66	69.5	10	Snd Lvl	63.8	5.7	8	-2.3
Receiver 110 D to J	182	1	0.0	67.0	66	67.0	10	Snd Lvl	62.7	4.3	8	-3.7
Receiver 111 D to J	183	1	0.0	65.4	66	65.4	10	----	61.7	3.7	8	-4.3
Receiver 112 D to J	184	1	0.0	64.2	66	64.2	10	----	60.7	3.5	8	-4.5
Receiver 113 D to J	185	1	0.0	63.1	66	63.1	10	----	59.9	3.2	8	-4.8
Receiver 114 D to J	186	1	0.0	72.2	66	72.2	10	Snd Lvl	66.0	6.2	8	-1.8
Receiver 115 D to J	187	1	0.0	71.1	66	71.1	10	Snd Lvl	65.8	5.3	8	-2.7
Receiver 116 D to J	188	1	0.0	71.4	66	71.4	10	Snd Lvl	66.1	5.3	8	-2.7
Receiver 117 D to J	189	1	0.0	71.3	66	71.3	10	Snd Lvl	66.1	5.2	8	-2.8
Receiver 118 D to J	190	1	0.0	70.8	66	70.8	10	Snd Lvl	65.8	5.0	8	-3.0
Receiver 119 D to J	191	1	0.0	71.1	66	71.1	10	Snd Lvl	66.4	4.7	8	-3.3
Receiver 120 D to J	192	1	0.0	71.0	66	71.0	10	Snd Lvl	66.7	4.3	8	-3.7
Receiver 121 D to J	193	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 122 D to J	194	3	0.0	72.9	66	72.9	10	Snd Lvl	68.7	4.2	8	-3.8
Receiver 123 D to J	195	2	0.0	73.4	66	73.4	10	Snd Lvl	68.0	5.4	8	-2.6
Receiver 124 D to J	196	2	0.0	73.8	66	73.8	10	Snd Lvl	67.9	5.9	8	-2.1
Receiver 125 D to J	197	1	0.0	63.5	66	63.5	10	----	60.8	2.7	8	-5.3
Receiver 126 D to J	198	2	0.0	63.6	66	63.6	10	----	60.9	2.7	8	-5.3
Receiver 127 D to J	199	1	0.0	63.8	66	63.8	10	----	61.1	2.7	8	-5.3
Receiver 128 D to J	200	1	0.0	63.9	66	63.9	10	----	61.2	2.7	8	-5.3
Receiver 129 D to J	201	1	0.0	64.0	66	64.0	10	----	61.3	2.7	8	-5.3
Receiver 130 D to J	202	1	0.0	65.4	66	65.4	10	----	64.4	1.0	8	-7.0
Receiver 131 D to J	203	1	0.0	64.7	66	64.7	10	----	63.7	1.0	8	-7.0
Receiver 132 D to J	204	1	0.0	64.0	66	64.0	10	----	62.8	1.2	8	-6.8
Receiver 133 D to J	205	1	0.0	64.9	66	64.9	10	----	63.6	1.3	8	-6.7
Receiver 134 D to J	206	1	0.0	64.3	66	64.3	10	----	62.7	1.6	8	-6.4
Receiver 135 D to J	207	1	0.0	65.6	66	65.6	10	----	62.0	3.6	8	-4.4
Receiver 136 D to J	208	1	0.0	64.8	66	64.8	10	----	61.4	3.4	8	-4.6
Receiver 137 J to C	209	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0

Receiver 138 J to C	210	1	0.0	68.3	66	68.3	10	Snd Lvl	62.7	5.6	8	-2.4
Receiver 139 J to C	211	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 140 J to C	212	1	0.0	70.1	66	70.1	10	Snd Lvl	63.9	6.2	8	-1.8
Receiver 141 J to C	213	1	0.0	75.2	66	75.2	10	Snd Lvl	66.2	9.0	8	1.0
Receiver 142 J to C	214	1	0.0	77.7	66	77.7	10	Snd Lvl	67.4	10.3	8	2.3
Receiver 143 J to C	215	2	0.0	76.1	66	76.1	10	Snd Lvl	66.5	9.6	8	1.6
Receiver 144 J to C	216	1	0.0	73.4	66	73.4	10	Snd Lvl	65.4	8.0	8	0.0
Receiver 145 J to C	217	1	0.0	78.1	66	78.1	10	Snd Lvl	67.7	10.4	8	2.4
Receiver 146 J to C	218	2	0.0	77.5	66	77.5	10	Snd Lvl	67.5	10.0	8	2.0
Receiver 147 J to C	219	1	0.0	76.0	66	76.0	10	Snd Lvl	67.0	9.0	8	1.0
Receiver 148 J to C	220	1	0.0	75.6	66	75.6	10	Snd Lvl	67.1	8.5	8	0.5
Receiver 149 J to C	221	2	0.0	74.5	66	74.5	10	Snd Lvl	69.8	4.7	8	-3.3
Receiver 150 J to C	222	1	0.0	67.1	66	67.1	10	Snd Lvl	61.7	5.4	8	-2.6
Receiver 151 J to C	223	1	0.0	69.1	66	69.1	10	Snd Lvl	62.9	6.2	8	-1.8
Receiver 152 J to C	224	1	0.0	67.1	66	67.1	10	Snd Lvl	61.3	5.8	8	-2.2
Receiver 153 J to C	225	1	0.0	0.0	66	0.0	10	invalid	0.0	0.0	8	0.0
Receiver 154 J to C	226	1	0.0	71.3	66	71.3	10	Snd Lvl	64.4	6.9	8	-1.1
Receiver 155 J to C	227	1	0.0	69.6	66	69.6	10	Snd Lvl	63.1	6.5	8	-1.5
Receiver 156 J to C	228	1	0.0	68.7	66	68.7	10	Snd Lvl	62.4	6.3	8	-1.7
Receiver 157 J to C	229	1	0.0	67.7	66	67.7	10	Snd Lvl	61.6	6.1	8	-1.9
Receiver 158 J to C	230	1	0.0	66.7	66	66.7	10	Snd Lvl	60.9	5.8	8	-2.2
Receiver 159 J to C	231	1	0.0	66.0	66	66.0	10	Snd Lvl	60.4	5.6	8	-2.4
Receiver 160 J to C	232	1	0.0	75.0	66	75.0	10	Snd Lvl	66.1	8.9	8	0.9
Receiver 161 J to C	233	1	0.0	72.1	66	72.1	10	Snd Lvl	64.9	7.2	8	-0.8
Receiver 162 J to C	234	1	0.0	70.7	66	70.7	10	Snd Lvl	64.0	6.7	8	-1.3
Receiver 163 J to C	235	1	0.0	69.3	66	69.3	10	Snd Lvl	63.1	6.2	8	-1.8
Receiver 164 J to C	236	1	0.0	68.4	66	68.4	10	Snd Lvl	62.3	6.1	8	-1.9
Receiver 165 J to C	237	1	0.0	67.3	66	67.3	10	Snd Lvl	61.5	5.8	8	-2.2
Receiver 166 J to C	238	1	0.0	66.7	66	66.7	10	Snd Lvl	60.9	5.8	8	-2.2
Receiver 167 J to C	239	1	0.0	66.0	66	66.0	10	Snd Lvl	60.3	5.7	8	-2.3
Receiver 168 J to C	240	1	0.0	71.6	66	71.6	10	Snd Lvl	64.7	6.9	8	-1.1
Receiver 169 J to C	241	1	0.0	70.0	66	70.0	10	Snd Lvl	63.6	6.4	8	-1.6
Receiver 170 J to C	242	1	0.0	66.7	66	66.7	10	Snd Lvl	61.3	5.4	8	-2.6
Receiver 171 J to C	243	1	0.0	71.5	66	71.5	10	Snd Lvl	64.7	6.8	8	-1.2
Receiver 172 J to C	244	1	0.0	68.0	66	68.0	10	Snd Lvl	62.2	5.8	8	-2.2
Receiver 173 J to C	245	1	0.0	67.1	66	67.1	10	Snd Lvl	61.6	5.5	8	-2.5
Receiver 174 J to C	246	1	0.0	66.4	66	66.4	10	Snd Lvl	61.1	5.3	8	-2.7
Receiver 175 J to C	247	1	0.0	65.5	66	65.5	10	----	60.4	5.1	8	-2.9
Receiver 176 J to C	248	1	0.0	74.9	66	74.9	10	Snd Lvl	66.0	8.9	8	0.9
Receiver 177 J to C	249	1	0.0	70.3	66	70.3	10	Snd Lvl	63.9	6.4	8	-1.6
Receiver 178 J to C	250	1	0.0	69.0	66	69.0	10	Snd Lvl	63.2	5.8	8	-2.2

Receiver 179 J to C	251	1	0.0	67.8	66	67.8	10	Snd Lvl	62.8	5.0	8	-3.0
Receiver 180 J to C	252	1	0.0	66.8	66	66.8	10	Snd Lvl	61.8	5.0	8	-3.0
Receiver 181 J to C	253	1	0.0	65.7	66	65.7	10	----	61.2	4.5	8	-3.5
Receiver 182 J to C	254	1	0.0	67.7	66	67.7	10	Snd Lvl	62.9	4.8	8	-3.2
Receiver 183 J to C	255	1	0.0	66.9	66	66.9	10	Snd Lvl	62.5	4.4	8	-3.6
Receiver 184 J to C	256	1	0.0	65.8	66	65.8	10	----	61.8	4.0	8	-4.0

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	285	0.0	4.7	10.6
All Impacted	216	0.0	5.4	10.6
All that meet NR Goal	17	8.0	9.5	10.6

The Corradino Group 14 August 2007
T Stone TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 3600
RUN: Interchange G-Alt 14 with Noise Walls

Roadway Name	Points Name	No.	Segment Autos V veh/hr	Autos S km/h	MTrucks V veh/hr	MTrucks S km/h	HTrucks V veh/hr	HTrucks S km/h	Buses V veh/hr	Buses S km/h	Motorcycles V veh/hr	Motorcycles S km/h
I-75 - NB	point271	299	2109	97	132	97	422	97	1	97	1	97
	point198	300	2109	97	132	97	422	97	1	97	1	97
	point270	301	2109	97	132	97	422	97	1	97	1	97
	point199	302	2109	97	132	97	422	97	1	97	1	97
	point268	303	2482	97	124	97	496	97	1	97	1	97
	point999	304	2482	97	124	97	496	97	1	97	1	97
	point200	305	2482	97	124	97	496	97	1	97	1	97
	point222	306	2482	97	124	97	496	97	1	97	1	97
	point201	307	2482	97	124	97	496	97	1	97	1	97
	point998	946	2482	97	124	97	496	97	1	97	1	97
	point202	308	2482	97	124	97	496	97	1	97	1	97
	point945	945	2482	97	124	97	496	97	1	97	1	97
	point905	905	2482	97	124	97	496	97	1	97	1	97
	point948	948	2482	97	124	97	496	97	1	97	1	97
	point223	311	2482	97	124	97	496	97	1	97	1	97
	point205	312	2482	97	124	97	496	97	1	97	1	97
	point206	313	2482	97	124	97	496	97	1	97	1	97
	point928	928	2322	97	116	97	464	97	1	97	1	97
	point207	314	2322	97	116	97	464	97	1	97	1	97
	point949	949	2322	97	116	97	464	97	1	97	1	97
	point208	315	2322	97	116	97	464	97	1	97	1	97
	point209	316	2322	97	116	97	464	97	1	97	1	97

	point210	317	2322	97	116	97	464	97	1	97	1	97
	point950	950	2322	97	116	97	464	97	1	97	1	97
	point211	318	2322	97	116	97	464	97	1	97	1	97
	point212	319	2685	97	107	97	537	97	1	97	1	97
	point213	320	2685	97	107	97	537	97	1	97	1	97
	point214	321	2685	97	107	97	537	97	1	97	1	97
	point215	322										
I-75 - SB	point942	942	4595	97	230	97	919	97	1	97	1	97
	point232	338	4595	97	230	97	919	97	1	97	1	97
	point233	339	4486	97	224	97	897	97	1	97	1	97
	175.5	980	4486	97	224	97	897	97	1	97	1	97
	point234	340	4486	97	224	97	897	97	1	97	1	97
	point235	341	4486	97	224	97	897	97	1	97	1	97
	point496	342	4486	97	224	97	897	97	1	97	1	97
	point260	343	4486	97	224	97	897	97	1	97	1	97
	point261	344	4486	97	224	97	897	97	1	97	1	97
	point236	345	4486	97	224	97	897	97	1	97	1	97
	point237	346	4486	97	224	97	897	97	1	97	1	97
	point238	347	4486	97	224	97	897	97	1	97	1	97
	point239	348	4766	97	238	97	953	97	1	97	1	97
	point262	349	4766	97	238	97	953	97	1	97	1	97
	point263	351	4766	97	238	97	953	97	1	97	1	97
	point947	947	4766	97	238	97	953	97	1	97	1	97
	point264	353	4766	97	238	97	953	97	1	97	1	97
	point944	944	4766	97	238	97	953	97	1	97	1	97
	point265	355	4766	97	238	97	953	97	1	97	1	97
	point243	356	4526	97	226	97	905	97	1	97	1	97
	point266	357	4526	97	226	97	905	97	1	97	1	97
	point244	358	4526	97	226	97	905	97	1	97	1	97
	point245	359	4526	97	226	97	905	97	1	97	1	97
	point267	360	4526	97	226	97	905	97	1	97	1	97
	point246	361	4526	97	226	97	905	97	1	97	1	97
	point247	362										
N I-75/Springwells Off-Ramp	point345	438	158	40	6	40	12	40	1	40	1	40

	point353	446	158	40	6	40	12	40	1	40	1	40
	point359	452	158	40	6	40	12	40	1	40	1	40
	point360	453										
N I-75 Service Drive - 1	point361	454	723	40	42	40	86	40	2	40	2	40
	point367	460	723	40	42	40	86	40	2	40	2	40
	point368	461										
Springwells/N I-75 On-Ramp	point369	462	596	97	35	97	71	97	2	97	2	97
	point372	465										
S I-75/Clark Off-Ramp	point461	558	500	40	30	40	30	40	1	40	1	40
	point463	560	636	40	30	40	84	40	2	40	2	40
	point465	562										
S I-75 Service Drive - 1	point466	563	500	40	30	40	30	40	1	40	1	40
	point651	567										
S I-75 Service Drive - 2	point475	575	180	56	10	56	5	56	1	56	1	56
	point476	576	180	56	10	56	5	56	1	56	1	56
	point644	577										
S I-75 Service Drive - 4	point638	594	100	48	5	48	5	48	1	48	1	48
	point489	595	100	48	5	48	5	48	1	48	1	48
	point490	596	100	48	5	48	5	48	1	48	1	48
	point491	597										
S I-75 Service Drive - 5	point491	971	100	56	5	56	5	56	1	56	1	56
	point504	607	100	56	5	56	5	56	1	56	1	56
	point505	608	100	56	5	56	5	56	1	56	1	56
	point975	975	100	56	5	56	5	56	1	56	1	56
	point507	610										
S I-75/Springwells Off-Ramp	point519	625	600	56	20	56	40	56	1	56	1	56
	point520	626	600	48	20	48	40	48	1	48	1	48
	point1096	1096	600	48	20	48	40	48	1	48	1	48
	point524	630										
S I-75 Service Drive - 8	point530	637	630	40	38	40	113	40	2	40	2	40
	point531	638	630	40	38	40	113	40	2	40	2	40
	point532	639										
Springwells/S I-75 On-Ramp	point533	640	630	97	38	97	113	97	2	97	2	97
	point538	645										

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

Westend - N&SB	point682	682	840	40	48	40	72	40	2	40	2	40
	point685	685	840	40	48	40	72	40	2	40	2	40
	point687	687	840	40	48	40	72	40	2	40	2	40
	point943	943	840	40	48	40	72	40	2	40	2	40
	point688	688	840	40	48	40	72	40	2	40	2	40
	point690	690	840	40	48	40	72	40	2	40	2	40
	point691	691	840	40	48	40	72	40	2	40	2	40
	point692	692										
Green - N&SB	point727	727	95	48	7	48	12	48	2	48	2	48
	point939	939	95	48	7	48	12	48	2	48	2	48
	point959	959	95	48	7	48	12	48	2	48	2	48
	point960	960	95	48	7	48	12	48	2	48	2	48
	point729	729	95	48	7	48	12	48	2	48	2	48
	point730	730	95	48	7	48	12	48	2	48	2	48
	point731	731										
Clark - NB	point812	812	120	40	8	40	38	40	2	40	2	40
	point813	813	120	40	8	40	38	40	2	40	2	40
	point814	814	120	40	8	40	38	40	2	40	2	40
	point963	963	120	40	8	40	38	40	2	40	2	40
	point964	964	120	40	8	40	38	40	2	40	2	40
	point815	815	120	40	8	40	38	40	2	40	2	40
	point816	816										
Clark - SB	point818	818	180	40	6	40	38	40	2	40	2	40
	point819	819	180	40	6	40	38	40	2	40	2	40
	point961	961	180	40	6	40	38	40	2	40	2	40
	point962	962	180	40	6	40	38	40	2	40	2	40
	point820	820	180	40	6	40	38	40	2	40	2	40
	point821	821	180	40	6	40	38	40	2	40	2	40
	point822	822										
S I-75 Service Drive - 3	point645	581	180	56	10	56	5	56	1	56	1	56
	point478	583										
S I-75 Service Drive - 6	point631	612	100	56	5	56	5	56	1	56	1	56
	point509	613	100	56	5	56	5	56	1	56	1	56
	point510	614	100	56	5	56	5	56	1	56	1	56

	point629	619										
S I-75 Service Drive - 7	point977	977	100	56	5	56	5	56	1	56	1	56
	point514	620	100	56	5	56	5	56	1	56	1	56
	point515	621	100	56	5	56	5	56	1	56	1	56
	point516	622	100	56	5	56	5	56	1	56	1	56
	point518	624	100	56	5	56	5	56	1	56	1	56
	point525	978	100	56	5	56	5	56	1	56	1	56
	point527	979										
Outbound to SB I-75	point1005	1005	225	56	35	56	230	56	1	56	1	56
	point1058	1058	225	56	35	56	230	56	1	56	1	56
	point1006	1006	225	64	35	64	230	64	1	64	1	64
	point1007	1007	225	88	35	88	230	88	1	88	1	88
	point1098	1098	225	88	35	88	230	88	1	88	1	88
	point1008	1008	225	88	35	88	230	88	1	88	1	88
	point1068	1068	225	88	35	88	230	88	1	88	1	88
	point1067	1067	225	88	35	88	230	88	1	88	1	88
	point1066	1066	225	88	35	88	230	88	1	88	1	88
	point1010	1010										
Inbound from SB I-75	point1012	1012	792	88	15	88	133	88	1	88	1	88
	point1013	1013	792	88	15	88	133	88	1	88	1	88
	point1014	1014	792	83	15	83	133	83	1	83	1	83
	point1015	1015	792	81	15	81	133	81	1	81	1	81
	point1070	1070	792	81	15	81	133	81	1	81	1	81
	point1072	1072	792	70	15	70	133	70	1	70	1	70
	point1073	1073	792	56	15	56	133	56	1	56	1	56
	point1071	1071	792	56	15	56	133	56	1	56	1	56
	point1016	1016										
Waterman - N&SB	point761	1059	102	56	7	56	17	56	2	56	2	56
	point762	1060	102	56	7	56	17	56	2	56	2	56
	point957	1061	102	56	7	56	17	56	2	56	2	56
	point958	1062	102	56	7	56	17	56	2	56	2	56
	point764	1063	102	56	7	56	17	56	2	56	2	56
	point765	1064	102	56	7	56	17	56	2	56	2	56
	point769	1065										

INPUT: TRAFFIC FOR LAeq1h Volumes **3600**

Junction - N&SB	point801	1074	150	48	7	48	22	48	2	48	2	48
	point802	1075	150	48	7	48	22	48	2	48	2	48
	point951	1076	150	48	7	48	22	48	2	48	2	48
	point952	1077	150	48	7	48	22	48	2	48	2	48
	point803	1078	150	48	7	48	22	48	2	48	2	48
	point804	1079	150	48	7	48	22	48	2	48	2	48
	point805	1080										
Lafayette E of Dragoon	point1087	1087	100	56	5	56	5	56	1	56	1	56
	point1088	1088										
Dragoon	point1089	1089	100	56	5	56	5	56	1	56	1	56
	point1090	1090										
Lafayette E of Livernois	point1092	1092	100	56	5	56	5	56	1	56	1	56
	point1093	1093										
Livernois	point1094	1094	100	56	5	56	5	56	1	56	1	56
	point1095	1095										
S I-75 Service Drive - 3-2	point495	1069	180	56	10	56	5	56	1	56	1	56
	point488	969										

The Corradino Group 15 August 2007
T Stone TNM 2.5

RESULTS: BARRIER DESCRIPTIONS
PROJECT/CONTRACT: 3600
RUN: Interchange G-Alt 14 with Noise Walls
BARRIER DESIGN: INPUT HEIGHTS

Barriers

Name	Type	Heights along Barrier			Length	If Wall	If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		m	m	m	m	sq m	cu m	m	m:m	$
Barrier2	W	1.10	1.10	1.10	466	512				0
Barrier5	W	1.10	1.10	1.10	267	293				0
Barrier9	W	1.10	1.10	1.10	539	592				0
Barrier10	W	1.10	1.10	1.10	525	578				0
Barrier11	W	1.10	1.10	1.10	225	248				0
Barrier15	W	1.10	1.10	1.10	1373	1510				0
Junction to Clark	W	3.70	3.70	3.70	487	1802				884579
Dragoon to Junction	W	3.70	3.70	3.70	339	1253				614920
Green to Waterman	W	3.70	3.70	3.70	399	1477				724828
Central to Green	W	3.70	3.70	3.70	255	942				462410
E of Springwells btw I-75 and ramp	W	3.70	3.70	3.70	101	374				183575
Waterman to Crawford	W	3.70	3.70	3.70	410	1519				745300
Military Ave Church Community Bldg.	W	5.00	5.00	5.00	42	210				0
									Total Cost:	3615614

Interchange I – Alternative 16 – 2035

No Alternative #16 data sheets are presented in this section. Alternative #16 is a composite of Alternatives #2 and #14. Alternative #16 mirrors Alternative #2 between Springwells Street and Green Street and is comparable to Alternative #14 for the portion of the alternative between Green and Clark Streets.