

Z156-199 (SM)

TRAFFIC MANAGEMENT PLAN FOR
**DISD NATHAN ADAMS
ELEMENTARY SCHOOL**

IN DALLAS, TEXAS

DESHAZO PROJECT NO. 15235

Prepared for:

Masterplan

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Prepared by:



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May 4, 2016



Traffic Management Plan for
DISD Nathan Adams Elementary School

~ DeShazo Project No. 15235 ~

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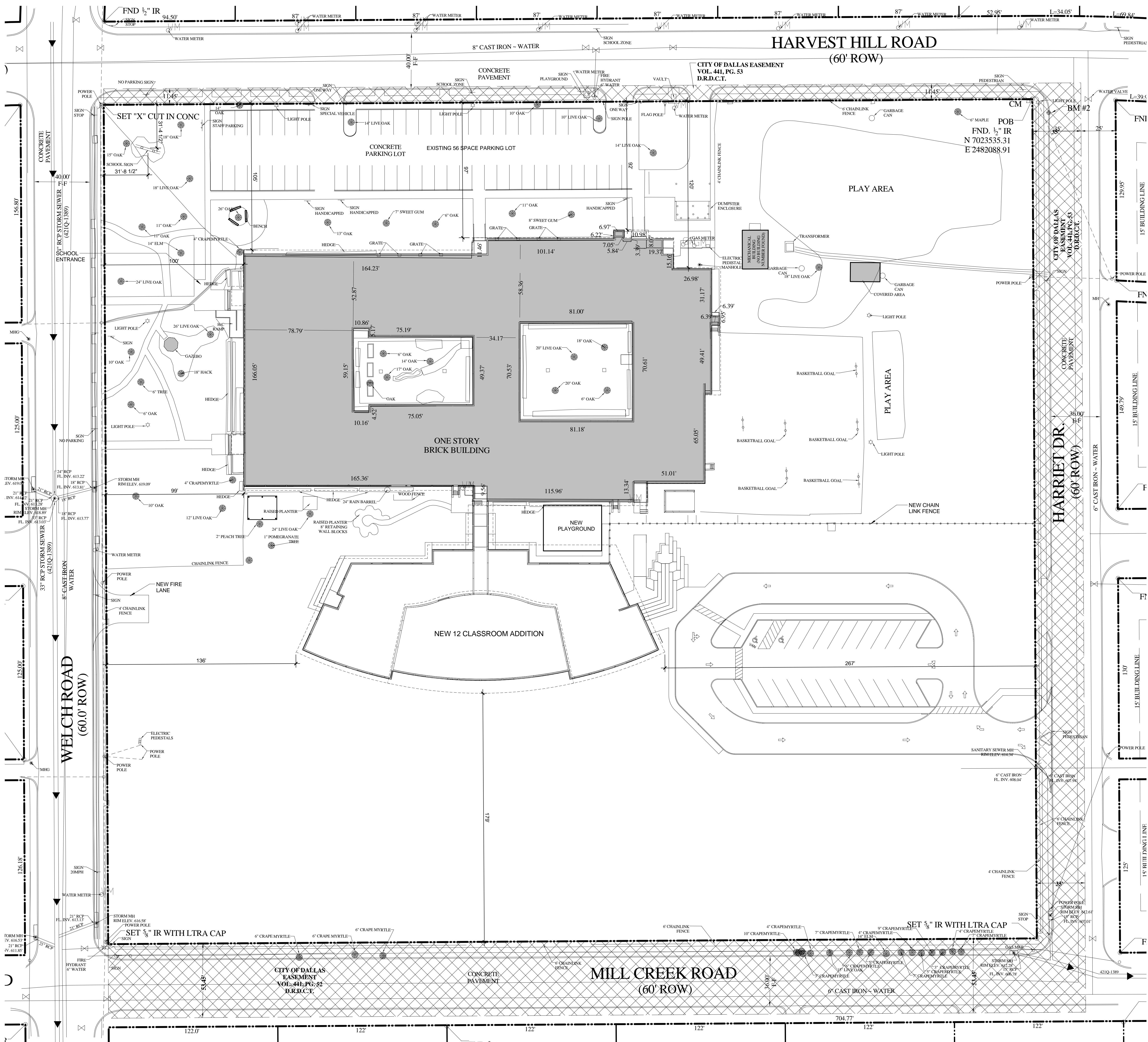
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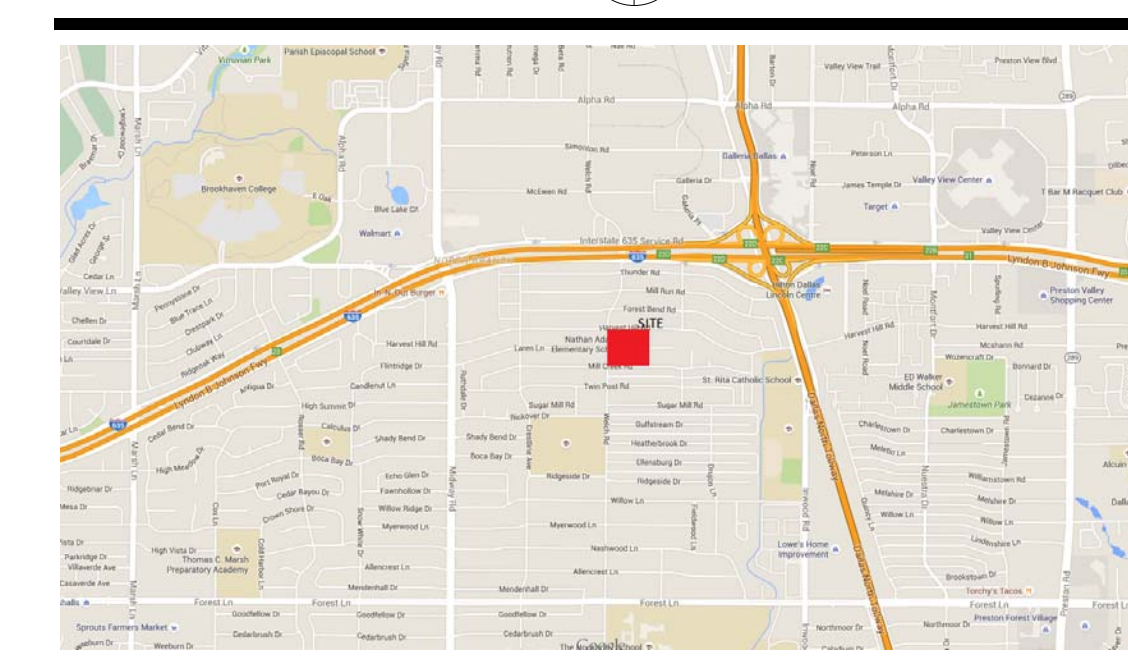
Table 1. School Operational Characteristics

LIST OF EXHIBITS:

Exhibit 1. Traffic Management Plan for Peak School Traffic



VICINITY MAP



SHEET NOTES

USE/OCCUPANCY: E
SITE AREA: 9.306 ACRES

	EXISTING:	NEW ADDITION:
HEIGHT:	25'-0" WITHOUT CHIMNEY 35'-0" WITH CHIMNEY	28'
STORIES:	1	1
FLOOR AREA:	49,566 SF	19,000 SF
CLASSROOMS:	25	12
LOT COVERAGE:	13%	5%
OFF-STREET PARKING:	56 EXISTING SPACES	23 NEW SPACES

1 DEVELOPMENT PLAN
1" = 30'-0"

th+a
ARCHITECTURE
INTERIOR DESIGN
PLANNING
1506 w. griffin street
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Dallas Independent School District

PROGRAM MANAGER
JACOBS

Nathan Adams Elementary (233) Addition and Renovations
12600 Welch Rd, Dallas, TX 75244

Issue description:
ISSUE FOR CONSTRUCTION
Issue date:
03/16/2016
drawn by: CSH
checked by: LJ
revision schedule

date	description



Z156.199
project number: 15-045
DEVELOPMENT PLAN

DP.01

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Traffic. Transportation Planning. Parking. Design.

Technical Memorandum

To: Mr. Karl Crawley — *Masterplan*
From: David Nevarez, P.E. — *DeShazo Group, Inc.*
Date: May 4, 2016
Re: Traffic Management Plan for DISD Nathan Adams Elementary School in Dallas, Texas
*DeShazo Project Number 15235 **Z156-199 (SM)***

INTRODUCTION

DeShazo Group, Inc. (DeShazo) is an engineering consulting firm providing licensed engineers skilled in the field of traffic/transportation engineering. The services of DeShazo were retained by Masterplan on behalf of the Dallas Independent School District (DISD) to prepare an update of the Traffic Management Plan (TMP) for the Nathan Adams Elementary School (the School) located at 12600 Welch Road in Dallas, Texas.

The School has a current enrollment of approximately 593 students in Pre-Kindergarten through 5th grade. Student population is anticipated to grow up to 610 students in the upcoming school years. The school administration is also planning a revision to the site plan previously approved by City Plan Commission. The proposed changes will include site improvements to accommodate additional off-street parking spaces and on-site drop-off/pick-up areas for lower grade students. The attached site plan depicts these proposed modifications.

The school site is zoned R-10(A) for Single-Family Residential District. In order to gain entitlements for the proposed improvements, the school administration is seeking approval for the proposed changes. As part of the approval process, the City of Dallas requires submittal of a TMP update as a record of the preferred traffic control strategies and to ensure overall traffic safety and efficient operations.

This report contains DeShazo's review of the current traffic conditions on and around the school campus as well as an evaluation of the proposed conditions. The plan is intended to assess anticipated traffic conditions during the School peak activities. By consent of the TMP submittal, the school agrees to the strategies presented herein. The school is held self-accountable to enforce the plan until and unless the City of Dallas deems further mitigation measures are necessary.

[NOTE: In this report the term "parent" refers to any parent, family member, legal guardian, or other individual who is involved in the pick-up or drop-off of one or more students at the school.]

TRAFFIC MANAGEMENT PLAN

A school TMP is important to safely achieve an optimum level of traffic flow and circulation during peak traffic periods associated with student drop-off and pick-up operations. By properly managing the vehicular traffic generated during critical periods, the safety and efficiency of school carpool operations will also inherently improve. This TMP should not be considered a comprehensive set of instructions to ensure adequate safety; however, it is a tool that aims to facilitate a safer and more efficient environment.

The analysis summarized below identifies the projected vehicle demand—including parking and queuing space (i.e. vehicle stacking)—needed on site to accommodate projected school traffic demands during peak periods. A concerted effort and full participation by the school administration, staff, students and parents are essential to maintain safe and efficient traffic operations. The use of designated parking and queuing areas is necessary to minimize the operational impact on adjacent properties and the public street system.

School Operational Characteristics

DeShazo conducted field observations of the school on Thursday, December 17, 2015 during all student dismissal periods. **Table 1** summarizes the operational characteristics for *DISD Nathan Adams Elementary* at the time of these observations.

Table 1. School Operational Characteristics

	Existing Conditions	Proposed Conditions
Enrollment:	593 students	610 students
Daily Start/Dismissal Schedule:	Pre-K – 5 th Grade: > 7:45 – 2:55 PM	Same as Existing
Approximate Number of Students Travelling by Mode Other Than Drop-off/Pick-up:	By DISD Bus: \cong 30% By Walking: \cong 0%	Same as Existing
Approximate Number of Students with Alternate Schedules (i.e. Depart Outside of Normal Peak):	10% (extracurricular activities, early dismissals, etc.)	Same as Existing

NOTE #1: Occasional functions or other events may be held at the school, which generate traffic outside of the traditional peak drop-off and pick-up periods. While some of the measures presented in this report may be applicable in such cases, traffic characteristics other than those directly associated with the primary drop-off and pick-up periods are not the subject of this analysis.

Site Access and Circulation

The subject site provides a small parking area for faculty and staff, which is accessed from Harvest Hill Road. However, no off-street area is available for student loading and unloading—all traffic activities take place within public right-of-way. In order to accommodate the school's traffic demands during peak periods, parents line up and queue in the perimeter of the school property and wait for students to be dismissed. A total of three school buses load students on the curb immediately in front of the school on Welch Road. The proposed school renovations include a new on-site parking lot with approximately 30 spaces and a driving aisle accessed from Harriet Drive with enough queuing capacity for up to 14 vehicles.

Passenger Unloading/Loading and Vehicular Queuing

During the afternoon pick-up period, the majority of students are transported by parents in personal vehicles. The school provides loading areas along the perimeter of the school. Most parents choose to park on adjacent streets and walk to greet their child(ren) on-site. Field observations indicate a maximum total of approximately 95 vehicles present during the afternoon student dismissal period. The maximum queue, however, was only evident for no more than 10-15 minutes at that time.

DeShazo's school observations consistently indicate that maximum queues occur during the afternoon peak period when students are being picked-up—the morning period is typically not a significant traffic issue since drop-off activities are more temporally distributed and occur much more quickly than student pick-up. In general, the same operation is in effect during the morning peak period; however, the overall volume of vehicles is less concentrated than the afternoon peak hour volume. The evaluation of the traffic in this report is thus based upon the afternoon pick-up period.

Recommendations

DeShazo conducted field observations of the school on Thursday, December 17, 2015 as well as other occasions during the student drop-off and dismissal period.

Exhibit 1 presents a proposed traffic management plan that requires full enforcement of a drop-off/pick-up queue. The following set of traffic operations are recommended for Nathan Adams Elementary School administration during peak traffic conditions:

- Traffic circulates clockwise around the perimeter of the school during both the morning and afternoon school peak periods; queues lead traffic to their respective loading/unloading areas.
- School bus loading zone is relocated to Harvest Hill to allow a student loading/unloading zone along the curb of Welch Road.
- As shown on **Exhibit 1**, a total of 966 linear feet (in addition to the new proposed parking lot) provide enough capacity for a projected maximum queue of 27 cars for students in Pre-Kindergarten and Kindergarten. In addition, a total of 1,200 linear feet (enough capacity for a queue with up to 51 cars) is expected to accommodate the needs of the projected queue for the remaining students in 1st–5th grade.
- During the afternoon pick-up period, the school should implement a "Passenger Identification System". The school should issue hangtags to parents with unique identification that pairs them with corresponding student(s) at the beginning of each school term. Hangtags must be on display through the vehicle's windshield while parents arrive at the pick-up areas during pick-up periods. School staff should also be positioned at strategic locations ahead of the loading area and relay the sequence of arrivals via hand radio while students are prepped for pick-up. With the assistance of other school staff stationed at the loading area, several vehicles should be loaded simultaneously. After each loading, vehicles should be cleared by school staff to carefully exit the queue.
- Pick-up and drop-off operations for Pre-Kindergarten and Kindergarten students should be concentrated at the new proposed parking lot on Harriet Drive. School should designate this area for Pre-Kindergarten and Kindergarten students only.
- The access to the proposed parking lot on Harriet Drive should not be aligned with Harriet Circle; driveway will include a raised median (or "pork-chop island") to allow right-in/right-out access only.

- To better organize traffic operations and discourage on-street parking across Welch Road during pick-up peak hours, parents arriving southbound on Welch Road should be encouraged to turn left onto Harvest Hill Road and proceed to systematically drive around the School perimeter towards a pick up location of their choice—effectively creating a one-way, clockwise flow around the school property. This recommendation can be further encouraged with City approval by:
 - installing “NO PARKING/STANDING” signs on the southbound segment of Welch Road directly across the school property;
 - removing all “NO PARKING” or idle time restriction signs on the northbound segment of Welch Road directly in front of the school property;
 - encouraging parents not to park in front of residential properties west of Welch Road; and,
 - Installing traffic signs that restrict unattended vehicles and encourage an active queue circulation.
- At least one school employee should continue to patrol student dismissal at each of the school building’s main access points. At least one school staff should guide students towards the proposed on-site queue and direct vehicles to egress along the by-pass lane. Likewise, at least one school employee should patrol students headed towards the bus loading station.
- At the discretion of City staff, the existing pedestrian crosswalk on Welch Road at Laren Lane should not be maintained or removed, if possible, to discourage mid-block pedestrian crossing.
- The proposed traffic plan will guide parents around the school block and potentially create opportunities for pedestrian traffic across Harriet Drive. Given this consideration, DeShazo recommends the installation of school zone signs in the vicinity of the intersection of Harriet Drive and Mill Creek Road, at the discretion of the City of Dallas Department of Street Services.
- However, to minimize liabilities, the School should allow no school staff other than DISD police and/or deputized officers of the law to engage or attempt to influence traffic operations in public right-of-way.
- As needed, staff directing dismissed students out of the school building should, in lieu of simple hand gestures, procure and use reversible hand-paddle signs with the messages for STOP and SLOW. Optional additional equipment used by staff may include whistles (for audible warnings) and fluorescent vests (for visual warning).

The proposed traffic management plan requires full enforcement of student carpool operations and assumes that only a minimal amount of parents choose to park and walk into the school building. It also assumes that all involved/interested parties understand and agree to the following traffic operations—particularly to the amount of traffic directed along Harriet Drive. At the discretion of the reviewing authorities at the City of Dallas, the school should consider an **alternative** plan presented in **Exhibit 2**.

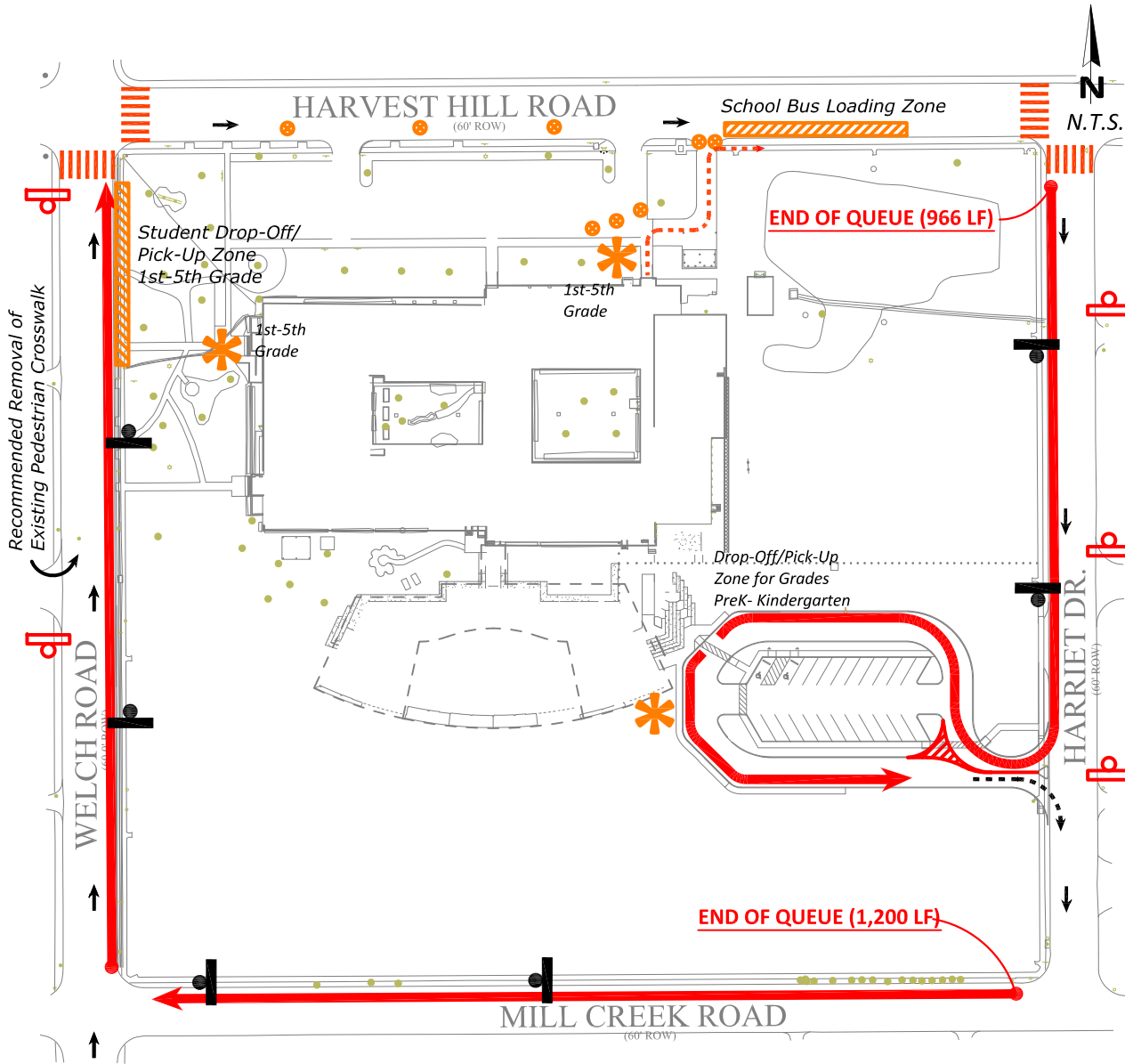
- The alternative traffic circulation plan depicted in **Exhibit 2** is based upon observations of existing traffic during peak conditions. It acknowledges parents who choose park on both sides of Harvest Hill Road and reduces the amount of traffic directed towards Harriet Drive—effectively limited to Pre-Kindergarten and Kindergarten traffic. In addition to the traffic operations described above, the alternative plan requires the following considerations:

- The designated queue for student pick-up includes a total of 2,542 linear feet (enough capacity for up to 108 vehicles) plus a proposed 23-space off-street parking lot. The total allocated spaces are expected to meet a projected peak traffic queue of 98 vehicles and provide a surplus of 33 spaces.
- School bus loading areas and loading operations should remain on Welch Road as depicted in **Exhibit 2**.
- School should block all ingress access to the parking lot on Harvest Hill Road to reduce vehicular activities within the parking lot and assign pedestrian routes towards Harvest Hill Road. School staff shall discourage any pedestrian traffic between parked vehicles.

SUMMARY

Field observations of existing conditions indicate that student loading/unloading activities operate without any severe problems. A number of recommendations are provided in this report for consideration by DISD and school officials. Full cooperation of all school staff members, students, and parents is crucial for the continuing success of any traffic management plan. The referenced TMP should be enforced by DISD Nathan Adams Elementary School to provide safe and efficient transportation of students, staff, and faculty to and from the site. The plan was developed with the intent of optimizing safety and efficiency and the goal of accommodating within the site vehicular traffic generated by the school at peak traffic periods. The school should review details of this plan on a regular basis to confirm its effectiveness.

END OF MEMO



Queuing Summary

Student Group	Dismissal Times & Number of Students	Vehicular Demand
Grades PreK-K	160 Students (2:55 PM)	Provided Queue: 41 Spaces (966 LF)
		On-Site Parking: 23 Spaces
		Provided Total: 64 Spaces
		Required Total: 27 Spaces (635 LF)
		Surplus: 37 Spaces (870 LF)
Grades 1st-5th	450 Students (2:55 PM)	Provided: 51 Spaces (1,200 LF)
		Required: 50 Spaces (1,175 LF)
		Surplus: 1 Space (25 LF)

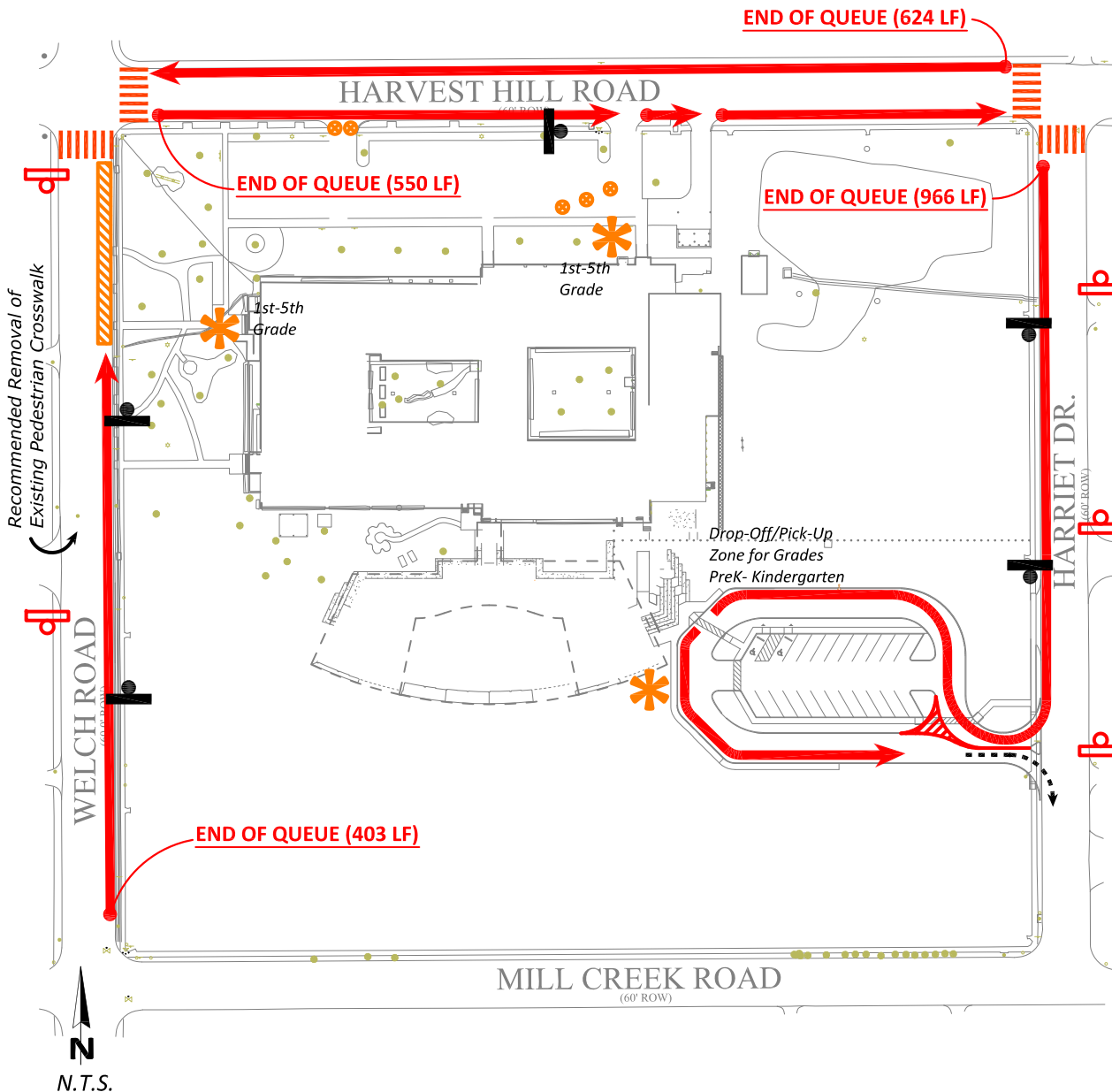
*Vehicular queue calculated at 23.5 feet/passenger car based on field observations.

Legend

- School Staff
- Bus Loading Area
- Provided Queue
- Pedestrian Crossing
- Traffic Cones
- Traffic Signs:
 - "NO PARKING/STANDING"
 - QUEUE LANE
PULL FORWARD
NO PARKING OR
UNATTENDED
VEHICLES
7:00 - 9:00 AM
2:30 - 4:00 PM
SCHOOL DAYS

The purpose of this Traffic Management Plan (TMP) is to evaluate traffic operations that promote safety and efficient vehicle circulation. This TMP was developed to prevent queuing of drop-off/pick-up related vehicles within the city rights-of-way. The school administration should adhere to this TMP. Any deficiency due to spillover of queuing into undesignated areas of the city rights-of-way, including roadway travel lanes, should be corrected by the school immediately.

I, David Nevarez, P.E. #106200, certify that site constraints preclude the school's ability to accommodate vehicular queue on-site. While it may not be feasible to eliminate queuing in public rights-of-way, establishing a designated school route will lessen impact to neighborhood as well as background traffic on the main roads. This option is subject to approval by the City of Dallas Street Services Department.



Queuing Summary

Student Group	Dismissal Times & Number of Students	Vehicular Demand
Grades PreK-5th	610 Students (2:55 PM)	Provided Queue: 108 Spaces (2,542 LF) On-Site Parking: 23 Spaces Provided Total: 131 Spaces Required Total: 98 Spaces (2,303LF) Surplus: 33 Spaces (776 LF)

*Vehicular queue calculated at 23.5 feet/passenger car based on field observations.

Legend

- School Staff
- Bus Loading Area
- Provided Queue
- Pedestrian Crossing
- Traffic Cones
- Traffic Signs:
 - "NO PARKING/STANDING"
 -

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