School Traffic Management Plan

Christ the King Catholic School
Dallas, Texas

December 19th, 2023
Revised: February 5th, 2024

Kimley-Horn and Associates, Inc.
Richardson, Texas

Project # 064606200
Registered Firm F-928

Kimley»Horn

School Traffic Management Plan

Christ the King Catholic School
Dallas, Texas

PRELIMINARY

Kimley»Horn

This document is released for the purposes of interim review under the authority of [Name of PM] and not for construction, bidding, or permit purposes.

Engineer Christian DeLuca. P.E., PTOE

P.E. No. 133877 Date 2/5/2024

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February 5th, 2024

I. SCHOOL TRAFFIC MANAGEMENT PLAN

A. *Introduction*

This memorandum outlines the development of a Traffic Management Plan (TMP) for Christ the King Catholic School. Situated west of Preston Road, bordered to the north by Colgate Avenue and to the east by Douglas Avenue, the institution is undergoing a building reconstruction project. The current endeavor anticipates no substantive alterations to school operations or student population from its existing capacity. A TMP, formulated in 2022, serves as the base for the current proposal.

The objective of this document is to detail methodologies for effective traffic management and circulation and maintain the safety of students. It includes an exhibit of the existing TMP, and an updated PM pick-up plan that outlines proposals for enhanced vehicular circulation, as well as modification to the designated zones for student pick-up at the school premises.

B. *Existing Conditions*

Christ the King Catholic School facilitates the education of 472 students across Pre-K to 8th grade and utilizes a Traffic Management Plan (TMP) revised in 2022. This plan updated locations for student loading and unloading zones and made modifications to vehicular circulation patterns.

The school's operations commence with doors opening at 7:30 AM, followed by a start-of-day bell at 7:50 AM. The school day concludes with student dismissal at 3:15 PM.

Drop-Off Procedures:
The school has established three drop-off points, with two positioned on Colgate Avenue, including a dedicated area for Kindergarten students. These locations facilitate a traffic flow from Preston Road to Douglas Avenue on Colgate Avenue's north side. In collaboration with the City of University Park, Colgate Avenue from Preston Road to Westchester Drive is designated as a loading zone on the public street. The main drop-off is situated on the school's north side, which has vehicles arriving from Douglas Avenue and exiting onto Preston Road. The locations are well staffed with staffers having stop/slow paddles and PPE.

Pick-Up Procedures:
Two pick-up areas are designated on the school's north side, each allocated to handle an equal number of students, supported by comparable queuing capacities. The community center features a double-stacked queue extending from Douglas Avenue to Westchester Drive. In contrast, the main loading zone employs a single queue system, with vehicles entering from Preston Road and proceeding clockwise around the campus via Westchester Drive and the north driveway.

Field observations were made on April 5, 2023. The observations were made at arrival and dismissal periods.

Table 1 – Observed AM Drop-Off Queuing Summary

Drop-Off Queuing Summary - Observed Existing - 472 Students								
Group	Start Time	Students Arriving	Bus / Bike / Walk	Student Drivers	Parent Drop-Off	Maximum Queue Accumulation	Available Stacking	Surplus (Deficiency)
Main Dropoff	7:50 AM	236	30	0	206	7 Vehicles 158'	42 Vehicles 950'	35 Vehicles 793'
Colgate Dropoff Kindergarten Dropoff	7:50 AM	236	30	0	206	9 Vehicles 203'	33 Vehicles 745'	24 Vehicles 543'

Based on CTKCS observations

In the AM drop-off period, the queuing was not significant. Queues on Colgate Avenue were maintained within the designated loading zone on public right-of-way designated by the City of University Park. The queues for the loading zone at the main drop-off were contained within the private north drive and on the alley between Westchester Drive and Douglas Avenue. The existing TMP operations are shown in **Exhibit 1** for the drop-off period.

Table 2 – Observed PM Pick-Up Queuing Summary

Pick-Up Queuing Summary - Observed Existing - 472 Students								
Group	Dismissal Time	Students Departing	Bus / Bike / Walk	Student Drivers	Parent Pick-Up	Maximum Queue Accumulation	Available Stacking	Surplus (Deficiency)
Main Loading Area	3:10 PM	236	30	0	206	60 Vehicles 1,350'	44 Vehicles 1,000'	-16 Vehicles -350'
Community Center Loading	3:10 PM	236	30	0	206	32 Vehicles 720'	42 Vehicles 950'	10 Vehicles 230'

Based on CTKCS observations

In the PM pick-up period, the queuing was more significant, as is expected when students must be matched with the arriving vehicles. The school uses traffic staffers to communicate the order of the arriving vehicles back to the loading area, aided by the signs displayed in each vehicle.

At its peak, the pick-up queue reached 93 vehicles, averaging one vehicle per 5.1 students. The queue for the Community Center loading area was contained within the provided loading zone by the City of University Park. However, the max observed queue for the Main Loading Area exceeded the available storage of the alley between Westchester Drive and Douglas Avenue, and a queue of 10 cars extended onto Douglas Avenue. The vehicle queuing impeded traffic on Douglas Avenue from 3:05 PM to 3:25 PM. Changes to the Pick-Up operations are recommended. The existing TMP operations are shown in **Exhibit 2** for the drop-off period.

C. *Proposed TMP*

Despite the stable student population, proposed alterations to the pick-up component of the TMP are suggested to mitigate congestion on Douglas Avenue. **Table 3** outlines the revised distribution of students by grade and designated pick-up location. The proposed TMP plan sheet is shown in **Exhibit 3**.

The two groups are still divided into two drop-off locations, but the school will modify the student assignment at each location. The new pick-up locations include the Main Loading

area on the north side of the school and a Colgate Loading area on the south side of the school. **Table 3** shows the recommended division of students and grades.

Table 3 – Proposed Student Distribution and Schedule

Grade	Approximate Students	Drop-Off Time & Location	Dismissal Time & Location
Pre-Kindergarten to 1st Grade	142	7:30-7:50 AM Colgate Loading Area	3:15 PM Main Loading Area
8th Grade	330	7:30-7:50 AM	3:15 PM
Total	**472**		

The recommended modification to the TMP optimizes the utilization of available space by facilitating double stacking in the north drive and adjacent alley for an extended segment. This reconfiguration is designed to maximize queue storage capacity, thereby reducing the likelihood of encroachment onto Douglas Avenue. Additionally, the adjustment decreases the instances of bi-directional traffic flow on Westchester Drive, enhancing overall traffic management and safety.

By implementing these changes, the school's available storage will be better equipped to accommodate the peak queue of 93 vehicles observed during the pick-up period. This approach creates a more orderly dismissal process and minimizes the impact on surrounding thoroughfares.

D. *Proposed TMP Queuing Analysis*

The school has been observed to generate 1 car in queue for each 29 students arriving in the AM drop-off period, and 1 car for each 5.7 students departing in the PM pick-up period. With the 472 students, this translates to 16 vehicles in the AM drop-off queue and 83 vehicles in the PM pick-up queue. **Table 4** shows the expected queue distance and comparison to the available queue supply for the proposed TMP Pick-Up.

Table 4 – Proposed Pick-Up Queuing Summary at Buildout

Drop-Off Queuing Summary - Observed Existing - 472 Students								
Group	Dismissal Time	Students Departing	Bus / Bike / Walk	Student Drivers	Parent Pick-Up	Projected Queue Accumulation	Available Stacking	Surplus (Deficiency)
Main Loading Area	3:10 PM	330	50	0	280	81 Vehicles 1,823'	88 Vehicles 1,980'	7 Vehicles 158'
Colgate Loading Area	3:10 PM	142	10	0	132	12 Vehicles 270'	22 Vehicles 500'	10 Vehicles 230'

Based on CTKCS observations

In all cases, the available queue length on the campus exceeds the expected queue that would be generated. There is no concern about the queue extending off the campus to obstruct the City roadways.

E. *Summary*

The Traffic Management Plan (TMP) assessment for Christ the King Catholic School, indicates the existing storage areas can accommodate the school's traffic without overflow onto city streets.

The field observations conducted on April 5, 2023, have validated the efficiency of the current TMP. With the implementation of the proposed modifications to the pick-up procedure, there is a clear pathway to alleviate the congestion observed on Douglas Avenue during peak pick-up times. The recommended adjustments include the reassignment of student distribution and the facilitation of double stacking in queuing areas on the north side of the school.

Furthermore, the proposed TMP queuing analysis demonstrated that the expected vehicle queue can be adequately accommodated within the designated areas, ensuring no interference with public roadways and minimal impact on the surrounding neighborhood. This reinforces the school’s commitment to maintaining an organized and safe environment for its students, faculty, and the traveling public.

Given the analysis and findings, it is recommended that Christ the King Catholic School proceed with the implementation of the proposed TMP. This should include the reevaluation of the queue capacities in light of the construction project completion and continuous monitoring of traffic patterns to ensure the ongoing effectiveness of the TMP.

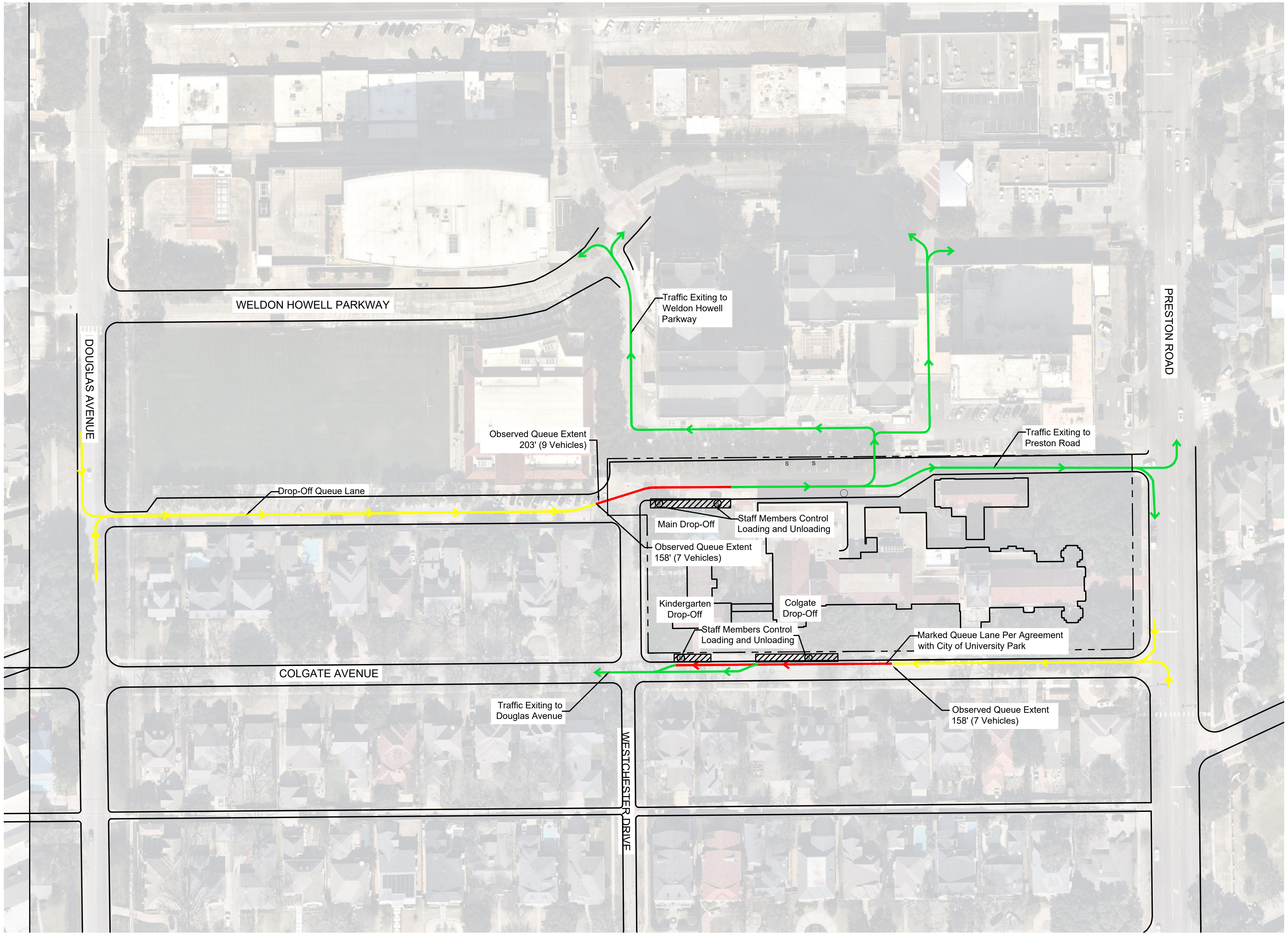
Attachments, which include site visit photos and TMP exhibits, provide additional context and details for the recommendations provided.

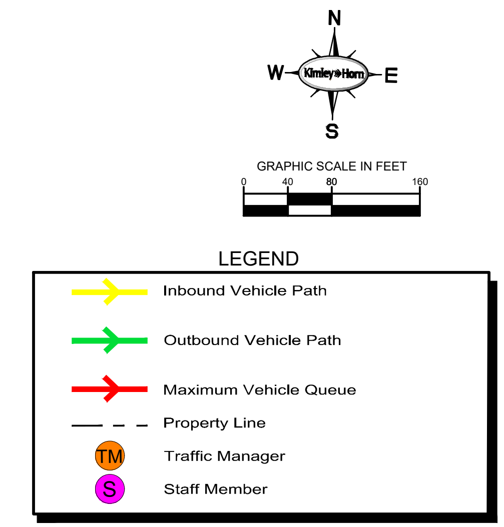
By adopting these recommendations, Christ the King Catholic School will continue to provide a safe and efficient traffic environment for its students and the larger community, even amidst infrastructural changes.

Attachments:

- Traffic Management Plan – Existing Drop-Off
- Traffic Management Plan – Existing Pick-Up
- Traffic Management Plan – Proposed Pick-Up
- Site Visit Photos

Traffic Management Plans





Buildout Enrollment: 472 Students K–8

School Starts: 7:50 AM
School Dismissal: 3:10 PM

Drop–off/Pick–up assignments and times should be actively managed in response to conditions.

In order to ensure that all queueing of vehicles is completely accommodated on school property, CTKCS administrative officials should implement the Traffic Management Plan, monitor the operation on a continuing basis, and if any vehicle queueing should begin to occur on public right–of–way, take the necessary action to mitigate it.

Drop-Off Queuing Summary - Observed Existing - 472 Students

Group	Start Time	Students Arriving	Bus / Bike / Walk	Student Drivers	Parent Drop-Off	Maximum Queue Accumulation	Available Stacking	Surplus (Deficiency)
Main Dropoff	7:50 AM	236	30	0	206	7 Vehicles 158'	42 Vehicles 950'	35 Vehicles 793'
Colgate Dropoff Kindergarten Dropoff	7:50 AM	236	30	0	206	9 Vehicles 203'	33 Vehicles 745'	24 Vehicles 543'

Based on CTKCS observations

EXHIBIT 1
Traffic Management Plan (TMP)
2022 Existing - AM Drop-Off Plan

TRAFFIC MANAGEMENT PLAN (TMP)
EXISTING CONDITIONS

CHRIST THE KING CATHOLIC SCHOOL
CITY OF DALLAS, TEXAS

SCALE	AS SHOWN
DESIGNED BY	SDR
DRAWN BY	SDR
CHECKED BY	SAJ
DATE	04/12/2023
PROJECT NO.	064606200
SHEET NUMBER	TMP 01

No. | REVISIONS | DATE

PRELIMINARY
FOR REVIEW ONLY
Not for construction or permit purposes.
Kimley-Horn
Engineer Scot Johnson
P.E. No. 92615 Date 06/17/2022

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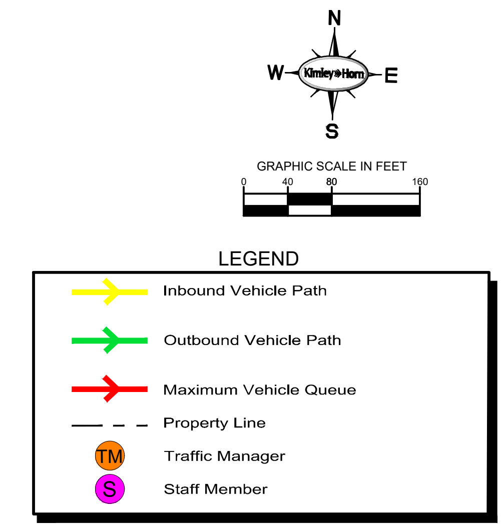

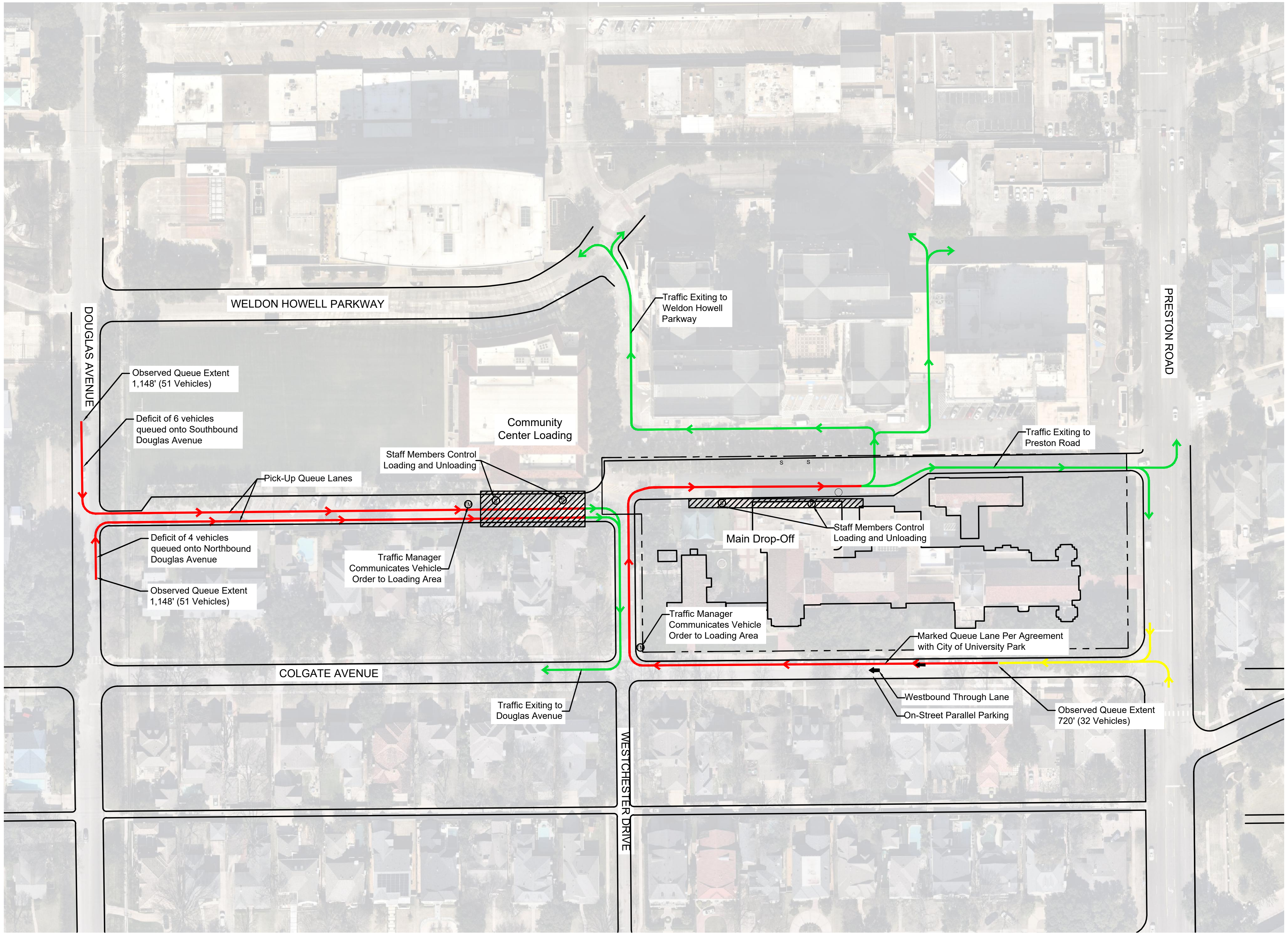

Buildout Enrollment: 472 Students K–8

School Starts: 7:50 AM
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Pick-Up Queuing Summary - Observed Existing - 472 Students								
Group	Dismissal Time	Students Departing	Bus / Bike / Walk	Student Drivers	Parent Pick-Up	Maximum Queue Accumulation	Available Stacking	Surplus (Deficiency)
Main Loading Area	3:10 PM	236	30	0	206	39 Vehicles 878'	61 Vehicles 1,390'	22 Vehicles 513'
Community Center Loading	3:10 PM	236	30	0	206	32 Vehicles 720'	65 Vehicles 1,465'	33 Vehicles 745'
Based on CTKCS observations								

EXHIBIT 2
Traffic Managment Plan (TMP)
2022 Existing - PM Pick-Up Plan

REVISIONS | No. | DATE

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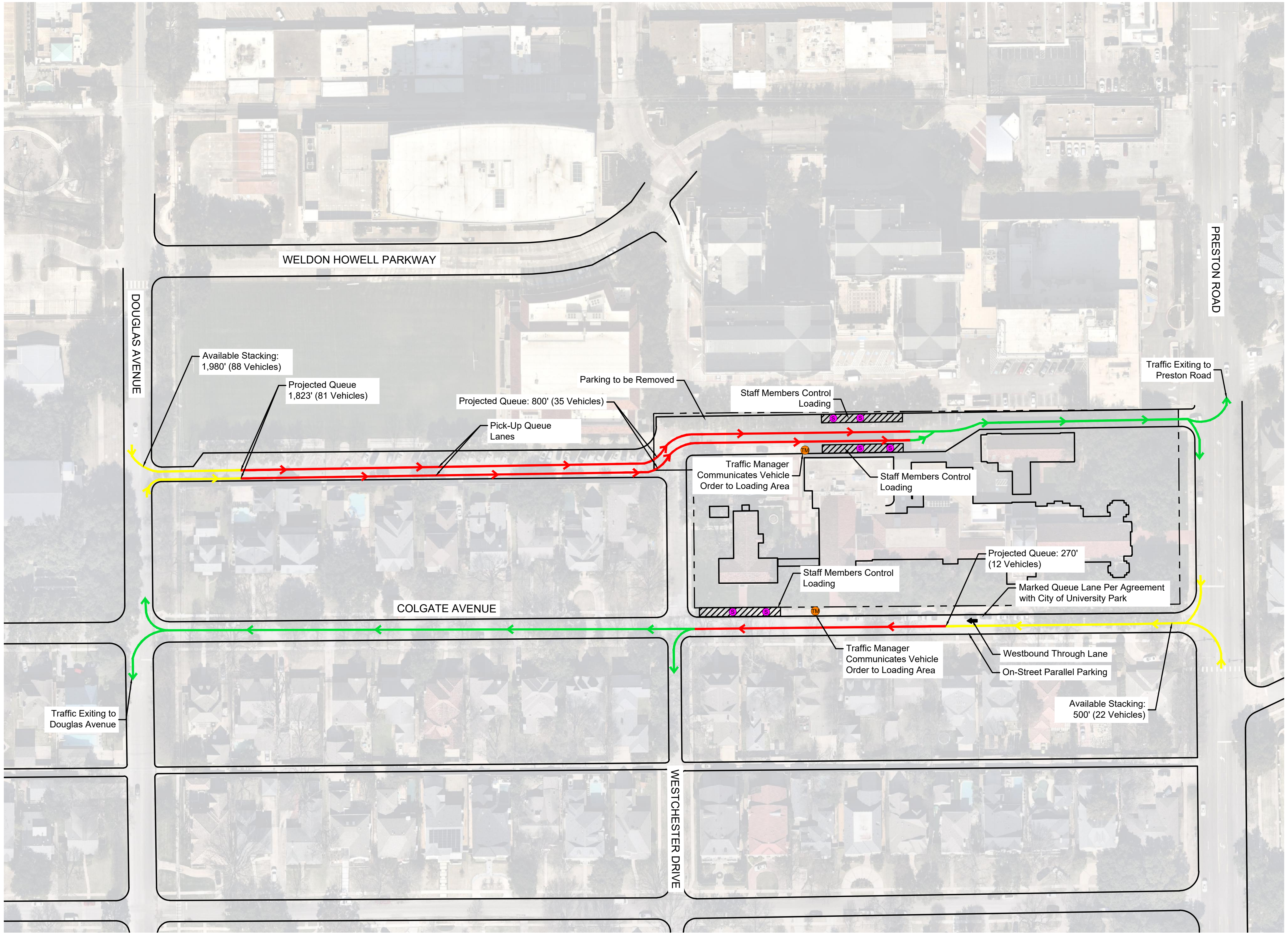
SCALE AS SHOWN | DESIGNED BY SDR | DRAWN BY SDR | CHECKED BY SAJ

TRAFFIC MANAGEMENT PLAN (TMP)
EXISTING CONDITIONS

CHRIST THE KING CATHOLIC SCHOOL
CITY OF DALLAS, TEXAS

DATE 04/12/2023
PROJECT NO. 064606200
SHEET NUMBER
TMP 02



N W E S

GRAPHIC SCALE IN FEET

0 40 80 160

LEGEND

- Inbound Vehicle Path
- Outbound Vehicle Path
- Maximum Vehicle Queue
- Property Line
- TM Traffic Manager
- S Staff Member

Buildout Enrollment: 472 Students K–8

School Starts: 7:50 AM
School Dismissal: 3:10 PM

Drop–off/Pick–up assignments and times should be actively managed in response to conditions.

In order to ensure that all queueing of vehicles is completely accommodated on school property, CTKCS administrative officials should implement the Traffic Management Plan, monitor the operation on a continuing basis, and if any vehicle queueing should begin to occur on public right–of–way, take the necessary action to mitigate it.

Drop-Off Queuing Summary - 472 Students							On-Site Stacking		Before Impeding City of Dallas Thoroughfares	
Group	Dismissal Time	Students Departing	Bus / Bike / Walk	Student Drivers	Parent Pick-Up	Projected Queue Accumulation	Available Stacking	Surplus (Deficiency)	Available Stacking	Surplus (Deficiency)
Main Loading Area	3:10 PM	330	50	0	280	81 Vehicles 1,823'	26 Vehicles 600'	-55 Vehicles -1,223'	88 Vehicles 1,980'	7 Vehicles 158'
Colgate Loading Area	3:10 PM	142	10	0	132	12 Vehicles 270'	0 Vehicles '	-12 Vehicles -270'	22 Vehicles 500'	10 Vehicles 22'

Based on CTKCS observations

EXHIBIT 3
Traffic Managment Plan (TMP)
2023 Proposed - PM Pick-Up Plan

No. | REVISIONS | DATE

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SCALE AS SHOWN
DESIGNED BY SDR
DRAWN BY SDR
CHECKED BY SAJ

TRAFFIC MANAGEMENT PLAN (TMP)
PROPOSED CONDITIONS

CHRIST THE KING CATHOLIC SCHOOL
CITY OF DALLAS, TEXAS

DATE 04/12/2023
PROJECT NO. 064606200
SHEET NUMBER
TMP 03

Site Visit Photos

Photo 1 – Maximum Traffic Queue on Douglas Avenue

Photo 2 – Pick-Up at Community Center Loading Area

Photo 3 – City of University Park Loading Zones on Colgate Avenue