NOTICE OF PUBLIC MEETING

Pursuant to the provisions of Chapter 551, V.T.C.A., Government Code, notice is hereby given of a meeting of the **Planning and Zoning Commission** of the City of Arlington, Texas, to be held in the Council Chamber in City Hall, 101 West Abram Street, Arlington, Texas, on the 13th day of November 2024 at 5:30 o'clock p.m.

The subject of said meeting is contained in the agenda for said meeting which is attached hereto and made a part thereof.

This notice was posted on the 8th day of November 2024 at 6:15 o'clock p.m.

Elynn Ray

Agenda

Planning and Zoning Commission - Regular Session

City Hall Council Chamber
101 W. Abram Street

Wednesday, November 13, 2024
5:30 PM

I. CALL TO ORDER

II. APPROVAL OF MINUTES

IIA. Minutes of October 16, 2024 Regular Session Agenda
P&Z Regular Session Minutes 10-16-2024

III. SAFE STREETS ARLINGTON PLAN

III.A Safe Streets Arlington Plan
Staff Report - Safe Streets Arlington Plan
Ordinance - Safe Streets Arlington Plan
Safe Streets Arlington Plan

IV. PUBLIC HEARING FOR ZONING CASES

IVA. Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)

Application for approval of a Zoning Change to Planned Development (PD) for Neighborhood Commercial (NC) on approximately 1.210 acres, with a Development Plan.

Staff Report - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)
Case Information - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)
Itemized Allowable Uses - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)
Location Map - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)
Photos - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)
Development Plan - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and 1109 N. Fielder Road)
Letters of Opposition - Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Road, and

1109 N. Fielder Road)

IVB. Zoning Case PD16-3R1 (1211 W. Harris Road)

Application to add 'Flex, Office or Commerce' and 'Manufacturing and assembly, small-scale' to the existing Planned Development (PD), on approximately 1.806 acres.

Staff Report - Zoning Case PD16-3R1 (1211 W. Harris Road)
Case Information - Zoning Case PD16-3R1 (1211 W. Harris Road)
Itemized Allowable Uses - Zoning Case PD16-3R1 (1211 W. Harris Road)
Location Map - Zoning Case PD16-3R1 (1211 W. Harris Road)
Photos - Zoning Case PD16-3R1 (1211 W. Harris Road)

IVC. Zoning Case PD24-5 (901 W. Abram Street)

Application for approval of a Zoning Case to re-establish the zoning of Planned Development (PD) for Residential Medium-density 12 (RM-12) on approximately 0.459 acres, due to the expiration of the previous zoning case. The case shall include a development plan.

Staff Report - Zoning Case PD24-5 (901 W. Abram Street)
Case Information - Zoning Case PD24-5 (901 W. Abram Street)
Itemized Allowable Uses - Zoning Case PD24-5 (901 W. Abram Street)
Location Map - Zoning Case PD24-5 (901 W. Abram Street)
Photos - Zoning Case PD24-5 (901 W. Abram Street)
Development Plan - Zoning Case PD24-5 (901 W. Abram Street)
Project Narrative - Zoning Case PD24-5 (901 W. Abram Street)

IVD. Zoning Case PD24-32 (8301 US 287 BUS Highway)

Application for approval of a Zoning Change to Planned Development (PD) for limited Office Commercial (OC) uses for Cemetery, Mortuary | crematory | funeral chapel and accessory uses associated with Cemetery on lots measuring approximately 74.399 acres, currently zoned Village on the Green (VG).

Staff Report - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Case Information - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Itemized Uses - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Location Map - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Photos - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Site Plan - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Project Narrative - Zoning Case PD24-32 (8301 US 287 BUS Highway)
Petitions of Support - Zoning Case PD24-32 (8301 US 287 BUS Highway)

IVE. Zoning Case SUP24-9 (3007 E. Abram Street)

Application for approval of a Specific Use Permit for the location of a telecommunications tower greater than 75-feet in height on a property currently zoned Industrial Manufacturing (IM) on approximately 0.521 acres.

Staff Report - Zoning Case SUP24-9 (3007 E. Abram Street)
Case Information - Zoning Case SUP24-9 (3007 E. Abram Street)
Itemized Allowable Uses - Zoning Case SUP24-9 (3007 E. Abram Street)
Location Map - Zoning Case SUP24-9 (3007 E. Abram Street)
Photos - Zoning Case SUP24-9 (3007 E. Abram Street)
11X17 Development Plan - Zoning Case SUP24-9 (3007 E. Abram Street)
T-Mobile Estimated Coverage Support - Zoning Case SUP24-9 (3007 E. Abram Street)
Letters of Support - Zoning Case SUP24-9 (3007 E. Abram Street)

IVF. **Continued to 12/4 P&Z**

Zoning Case PD24-10 (300 E Stephens Street)

Application for approval of a change in zoning from Airport Overlay (APO)-General Commercial (GC) Planned Development (PD) for Residential Multi-Family-22 (RMF-22) uses, with a Development Plan on approximately 9.792 acres.

Staff Report - Zoning Case PD24-10 (300 E Stephens Street)Â
Location Map - Zoning Case PD24-10 (300 E Stephens Street)Â
Applicant Request - Zoning Case PD24-10 (300 E Stephens Street)Â

V. MISCELLANEOUS

A. Reports from Boards/Commissions Liaisons

B. Reports from Staff and Announcements

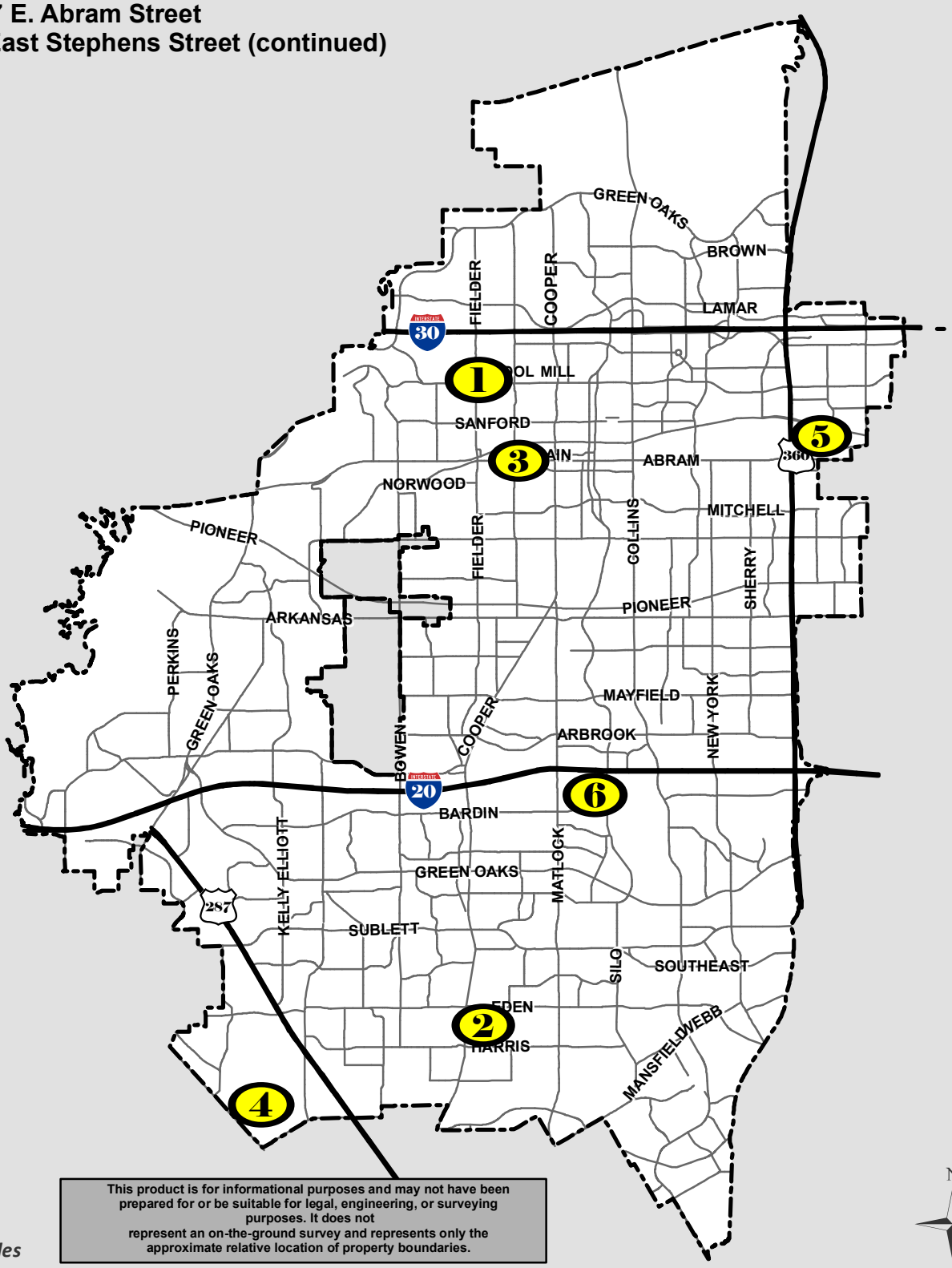
C. Discussion of Future Meeting Dates and Times

VI. ADJOURN

Note:
City Hall is wheelchair accessible. For other accommodations or sign interpretive services, please call the Business Services Division at 817-459-6652 no later than 24 hours in advance.

PLANNING & ZONING
November 13, 2024

1. PD24-21- 1537, 1531 W. Randol Mill Rd and 1109 N. Fielder Rd
2. PD16-3R1- 1211 W. Harris Road
3. PD24-5- 901 W. Abram Street (Proctor Place)
4. PD24-32- 8301 US Bus Hwy 287
5. SUP-24-9- 3007 E. Abram Street
6. PD24-10- 300 East Stephens Street (continued)



Staff Report

Safe Streets Arlington Plan	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Ordinance

RECOMMENDATION

Conduct a public hearing and consider recommendation of approval of the Safe Streets Arlington Plan as a component of 99 Square Miles – the Comprehensive Plan for the City of Arlington, TX.

PRIOR BOARD OR COUNCIL ACTION

On August 22, 2023, the City Council approved a grant agreement with the Federal Highway Administration for a Safety Action Plan (Resolution #23-211) by a vote of 9-0.

On November 7, 2023, the City Council approved a professional service contract for a Safety Action Plan Consulting Services with Fehr & Peers (MO #11072023-019) by a vote of 9-0.

On October 2, 2024, the Planning and Zoning Commission was briefed on the Safe Streets Arlington Plan during the Work Session meeting.

ANALYSIS

The Safe Streets Arlington Plan serves as a comprehensive safety action plan in alignment with the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) program. The Plan establishes a vision and clear goal to eliminate deaths and serious injuries on Arlington's roadways by 2050. Crash data from the five year period of 2018 to 2022 was used to inform existing conditions analysis and develop a High Injury Network. Specific actions, policies, and other recommendations are included in the Plan to help meet the vision and goal. Project prioritization lists and tools to measure implementation progress are also included.

The Safe Streets Arlington Plan was prepared with a wide range of stakeholder and community input throughout the process. An Internal Stakeholder Committee of City staff met multiple times during the planning process. Additionally, an External Stakeholder Committee of neighborhood, business, medical, educational, and other institutional representatives met three times during the planning process. Three public meetings were held, and two online surveys were used to gather input. Information about the Plan and process was posted on the City website.

Once the Safe Streets Arlington Plan is adopted, the City of Arlington will be eligible to apply for additional funding through the SS4A program to help support implementation of projects identified in the Plan.

ADDITIONAL INFORMATION

Attached:	Ordinance Safe Streets Arlington Plan
Under Separate Cover:	None
Available in the City Secretary's Office:	None

CITY COUNCIL DATE November 19, 2024

STAFF CONTACT(S)

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Ordinance No. 24-_____

An ordinance adopting the Safe Streets Arlington Plan, as a component of *99 Square Miles* - the Comprehensive Plan for the City of Arlington

WHEREAS, Texas Local Government Code, Section 211.004, requires municipalities to adopt zoning regulations in accordance with a comprehensive plan; and

WHEREAS, *99 Square Miles* – the Comprehensive Plan for the City of Arlington was adopted on March 17, 2015, by Ordinance No. 15-014, as the Master or General Plan for the City of Arlington and its extraterritorial jurisdiction to guide the overall physical growth of the community and the provision of public facilities and services; and

WHEREAS, in an effort to establish a plan to eliminate fatalities and serious injuries on Arlington roadways, the Transportation Department developed the Safe Streets Arlington Plan with direct resident involvement and citizen participation; and

WHEREAS, in December, 2023, City staff began working with stakeholders across the City on creating a vision, goal, and implementation actions to improve roadway safety in Arlington; and

WHEREAS, on November 13, 2024, a public hearing was held before the Planning and Zoning Commission at which the public was given the opportunity to give testimony and present written evidence; and

WHEREAS, the Planning and Zoning Commission forwarded to the City Council a recommendation to approve the Safe Streets Arlington Plan as a component of *99 Square Miles* - the Comprehensive Plan; and

WHEREAS, on November 19, 2024, a public hearing was held before the City Council at which the public was given the opportunity to give testimony and present written evidence; NOW THEREFORE

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARLINGTON, TEXAS:

1.

That the City Council approves the Safe Streets Arlington Plan as a component of *99 Square Miles* - the Comprehensive Plan of the City of Arlington, Texas.

2.

Further, the Safe Streets Arlington Plan is intended to be used as the official City policy for improving roadway safety across the City of Arlington.

3.

A copy of the Safe Streets Arlington Plan is attached hereto and incorporated herein for all intents and purposes.

PRESENTED AND GIVEN FIRST READING on the _____ day of November 2024, at a regular meeting of the City Council of the City of Arlington, Texas; and GIVEN SECOND READING, passed and approved on the _____ day of December 2024, by a vote of _____ ayes and _____ nays at a regular meeting of the City Council of the City of Arlington, Texas.

JIM R. ROSS, Mayor

ATTEST:

ALEX BUSKEN, City Secretary

APPROVED AS TO FORM:
MOLLY SHORTALL, City Attorney

BY Galen Gatten

SAFE STREETS ARLINGTON COMPREHENSIVE SAFETY ACTION PLAN

November 2024 | DRAFT

FEHR PEERS

This report is dedicated to those who lost their lives on Arlington roadways. Their loss reminds us that every life is precious and inspires us all to continue our efforts toward our collective vision of zero traffic deaths.

Acknowledgements

This 2024 Arlington Comprehensive Action Plan was funded through the Safe Streets and Roads for All (SS4A) grant provided by the Federal Highway Administration (FHWA). Input was sought from an advisory group consisting of staff from the City of Arlington, partner agencies, and local stakeholders. Fehr & Peers and its team assisted Arlington in preparing the plan.

Project Management

Alicia Winkelblech, AICP
Director
Transportation Department

Ann Foss, Ph.D., AICP
Planning and Programming Manager
Transportation Department

Jana Wentzel, AICP
Principal Planner
Transportation Department

Advisory Group

City Manager's Office
City Council
Planning & Zoning Commission
Transportation and Municipal Infrastructure Council Committee
Internal Stakeholder Committee
External Stakeholder Committee

Consultant Team

Fehr & Peers Team

Josh Peterman
Nicole Waldheim
Natalie Daugherty

Kimley-Horn

Jeff Whitacre
Mason Shoaf
Jose Silva

Public Information Associates

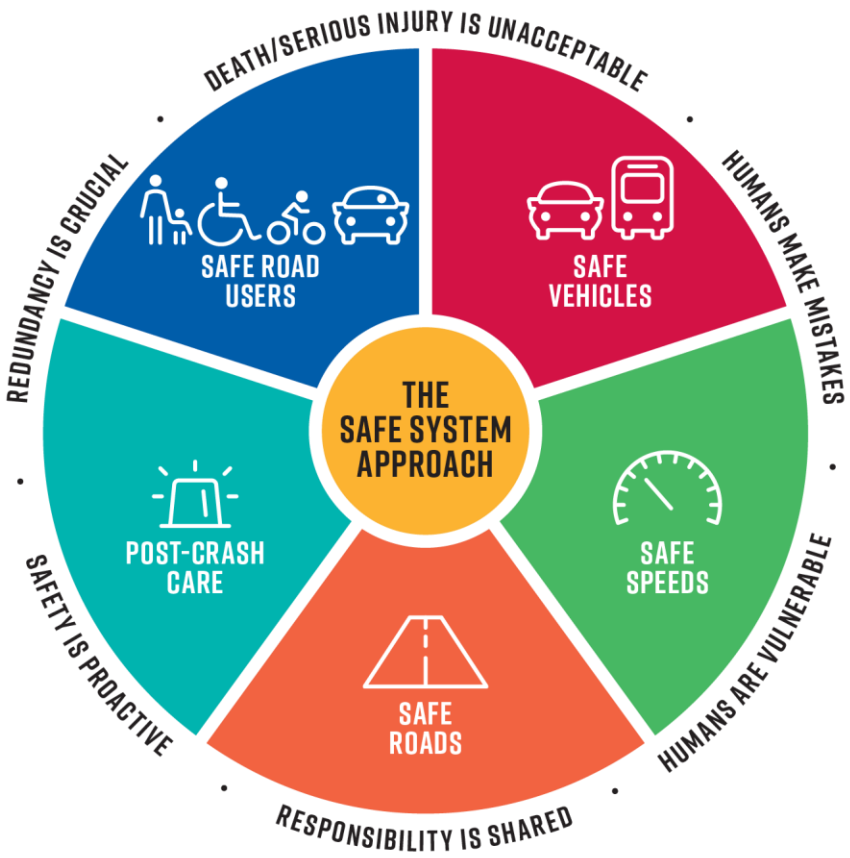
Leigh Hornsby

What is Safe Streets Arlington?

Safe Streets Arlington represents the City of Arlington and its stakeholders' commitment to reducing and eventually eliminating serious injuries and fatal crashes affecting all roadway users. This Comprehensive Safety Action Plan (CSAP) demonstrates this commitment through a holistic approach to roadway safety by following the Safe System Approach to improve safety culture, increase collaboration across all safety stakeholders, and refocus transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives. This CSAP is developed through the Safe Streets and Roads for All (SS4A) Grant Program from the U.S. Department of Transportation (USDOT).

Recognizing that humans make mistakes, the Safe System Approach aims to create a forgiving road system that reduces risk and eliminates fatal and serious injury crashes. It is a framework supported by the USDOT to advance the implementation of Vision Zero. The Safe System approach was founded on the principle that humans make mistakes, and those mistakes should never lead to death or serious injury. Applying the Safe System Approach involves designing and managing road infrastructure to support safe road use, and when crashes do happen, ensuring that the impact does not result in a death or serious injury. The Safe System prioritizes five key elements: Safe Speeds, Safe Roads, Safe Vehicles, Safe Road Users, and Post-Crash Care. These elements are applied under the principles that death and serious injury are unacceptable, redundancy is crucial, safety is proactive, responsibility is shared, humans are vulnerable, and that humans make mistakes.

Safe System Elements



Source: Federal Highway Administration

Safe Road Users

The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.

Safe Vehicles

Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.

Post-Crash Care

When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.

Safe Roads

Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.

Safe Speeds

Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.

Figure 1. Illustrating the Safe System Approach

Safe System Principles

Table 1. Safe System Principles

Death and serious injury are unacceptable	While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.
Humans make mistakes	People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.
Humans are vulnerable	People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.
Responsibility is shared	All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes do not lead to fatal or serious injuries.
Safety is proactive	Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.
Redundancy is crucial	Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.

Safe Streets Arlington is a planning document and roadmap for infrastructure and programmatic changes to support roadway safety that build on the existing and ongoing efforts in the City. To achieve our safety goal, this Plan focuses on a high injury network – streets with the highest share of serious injuries and fatalities – and focuses on preventing the most significant risk factors for these crashes across the City.

This CSAP covers:

Our Commitment to Safe Streets in Arlington

Safety stakeholders responsible for implementing this Comprehensive Safety Action Plan and our vision for safer streets.

What Data Tells US About the State of Safety in our Communities

Where crashes occur in our communities, contributing factors, and high-risk road features common to serious injuries and fatal collisions.

A Look at Our Safety Practices

Ongoing efforts by the City of Arlington and opportunities to refocus on safety.

Priority Focus Areas

Priority corridors and intersections for safety improvements and safety countermeasures to apply at these locations.

The Implementation Plan

Multidisciplinary set of strategies and actions to target safety priorities identified in this Plan, and performance measures.

What our Communities are Saying about Safety

Public input through online and in-person engagement and meetings with stakeholders that shape Safe Streets Arlington.

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OUR COMMITMENT TO SAFE STREETS IN ARLINGTON

1. Our Commitment to Safe Streets in Arlington

"Every day, hundreds of thousands of people travel to and through our community as they head to their homes, schools, work, or other destinations. And every day, what is most important to us as a city is that everyone arrives to those destinations safely. Through the Safe Streets Arlington initiative, we are collaborating with our residents to implement data-driven strategies and infrastructure improvements that will help us reach zero serious injuries and fatalities on our streets and make our community safer for drivers, cyclists, and pedestrians."

- Arlington Mayor Jim Ross

Our Vision for Safer Streets

City leaders and staff, along with a diverse group of stakeholders, are committed to a shared vision of zero deaths and serious injuries on Arlington's streets. Safe Streets Arlington recommends policy, education, enforcement, engineering, engagement, and equitable solutions to achieve safe streets for all.

Our Safety Goal

Reduce deaths and serious injuries on Arlington streets by five percent annually to achieve a shared goal of zero deaths and serious injuries by 2050.

Safety Strategies

1. Institutionalize safety into decision-making
2. Reduce fatal and severe crashes
3. Prevent future crashes
4. Design and operate the road system with safety in mind
5. Address human vulnerability
6. Work toward a shared goal
7. Create a culture of safety

Track Our Progress!

Safe Streets Arlington lives on the City of Arlington's website. Check out our progress on the safety program.

Safe Streets Arlington is led by the Transportation Department. The City of Arlington engaged with the City Council and staff, community members, and local stakeholders throughout the development of the plan. Key groups advised on the plan through regular meetings:

- City Manager's Office
- City Council
- Planning & Zoning Commission
- Transportation and Municipal Infrastructure Council Committee

Additionally, two committees were formed to provide periodic input on the development of the Plan and to oversee implementation and monitoring.

Internal Stakeholder Committee

The Internal Stakeholder Committee (ISC) is comprised of staff from many City departments who play a role in facilitating roadway safety strategies and will lead or support implementing the action plan.

City of Arlington Departments

- City Manager's Office
- Convention and Event Services
- Emergency Medical Services
- Finance and Procurement
- Fire
- Human Resources
- Information Technology
- Office of Communications
- Parks and Recreation
- Planning and Development Services
- Police
- Public Works
- Risk Management
- Transportation

External Stakeholder Committee (ESC)

The External Stakeholder Committee (ESC) is comprised of over thirty representatives from organizations that contribute to improving roadway safety in our communities. Representatives are from government at the local, state, and federal level, schools, businesses, hospitals, and community groups.

Government

- Unity Council
- Mayor's Committee on People with Disabilities
- Tarrant County Precinct 2 Commissioner
- North Central Texas Council of Governments (NCTCOG)
- Texas Department of Transportation (TxDOT)
- Federal Highway Administration (FHWA)

Schools

- University of Texas at Arlington (UTA)
- UTA Bicycle Coordinating Committee
- Tarrant County College (TCC)
- Arlington Independent School District (AISD)
- Mansfield Independent School District (MISD)

Businesses

- Convention and Visitors Bureau
- Downtown Arlington Management Corporation

Hospitals

- Arlington Memorial Hospital
- Medical City Arlington

Community Groups

- 10 Neighborhood Groups
- Mission Arlington
- International Corridor
- Arlington Latino Resource Coalition
- Walkable Arlington
- Women's Political Action Committee (MPAC)

WHAT DATA TELLS US ABOUT THE STATE OF SAFETY IN OUR COMMUNITIES

2. What Data Tells Us About the State of Safety in our Communities

This plan reviewed crashes in Arlington for a five-year period from 2018-2022. A five-year period is used for statistically significant crash trends, to establish a network, and to adequately minimize the risk of including crashes that have already been mitigated. Safe Streets and Roads for All requires that Comprehensive Safety Action Plans be updated every five years; thus, the next plan will include the following five years of crash data. This analysis excludes 2023 crash data due to this data being incomplete at the time this plan was prepared.

This chapter includes a comparison of Arlington's crash history to peer cities in the region and in Texas, and examines collision trends to evaluate when, where, and why collisions occur and who is involved. Safe Streets Arlington has an online dashboard for visitors to explore the crash data from 2018-2022 and view where most injury collisions are concentrated along the high-injury networks, for targeted intervention.

A Note on the Data Source

This analysis utilizes data on collisions for a five-year period from 2018 through 2022 available through the Texas Department of Transportation (TxDOT) Crash Records Information System (CRIS). Geographically, the data includes all collisions that occur within Arlington and excludes TxDOT highways (IH-30, IH-20, US 360, US 287) and private streets, to focus on roadways the City of Arlington has ownership of and therefore the ability to improve. Figure 2 displays the ownership for roadways in Arlington. While collision databases like CRIS remain the best source of collision data, they have been found to have certain reporting biases, including:

- Collisions involving people walking, on bicycles, or on motorcycles are less likely to be reported than collisions with people driving.
- Property damage only collisions are less likely to be reported compared to more severe collisions.
- Younger victims are less likely to report collisions.
- Alcohol-involved collisions may be underreported.

Collision data may also include bias as reports are based on a number of different factors such as an officer's perception of the race of those involved, the accuracy of bystander witness reports, and emergency service arrival. However, there is currently limited research on the frequency and effect of reporting biases.

Check this out!

Arlington's online safety data dashboard presents 2018-2022 data for the high-injury networks and severe injury crashes.

Focus on KAB crashes

The acronym "KABCO" is a system used to categorize injury severity in a crash and is based on guidelines set out in the Model Minimum Uniform Crash Criteria. The letters represent injury severity:

K: Fatal Injury
A: Suspected serious injury
B: Suspected minor injury
C: Possible injury
O: No apparent injury

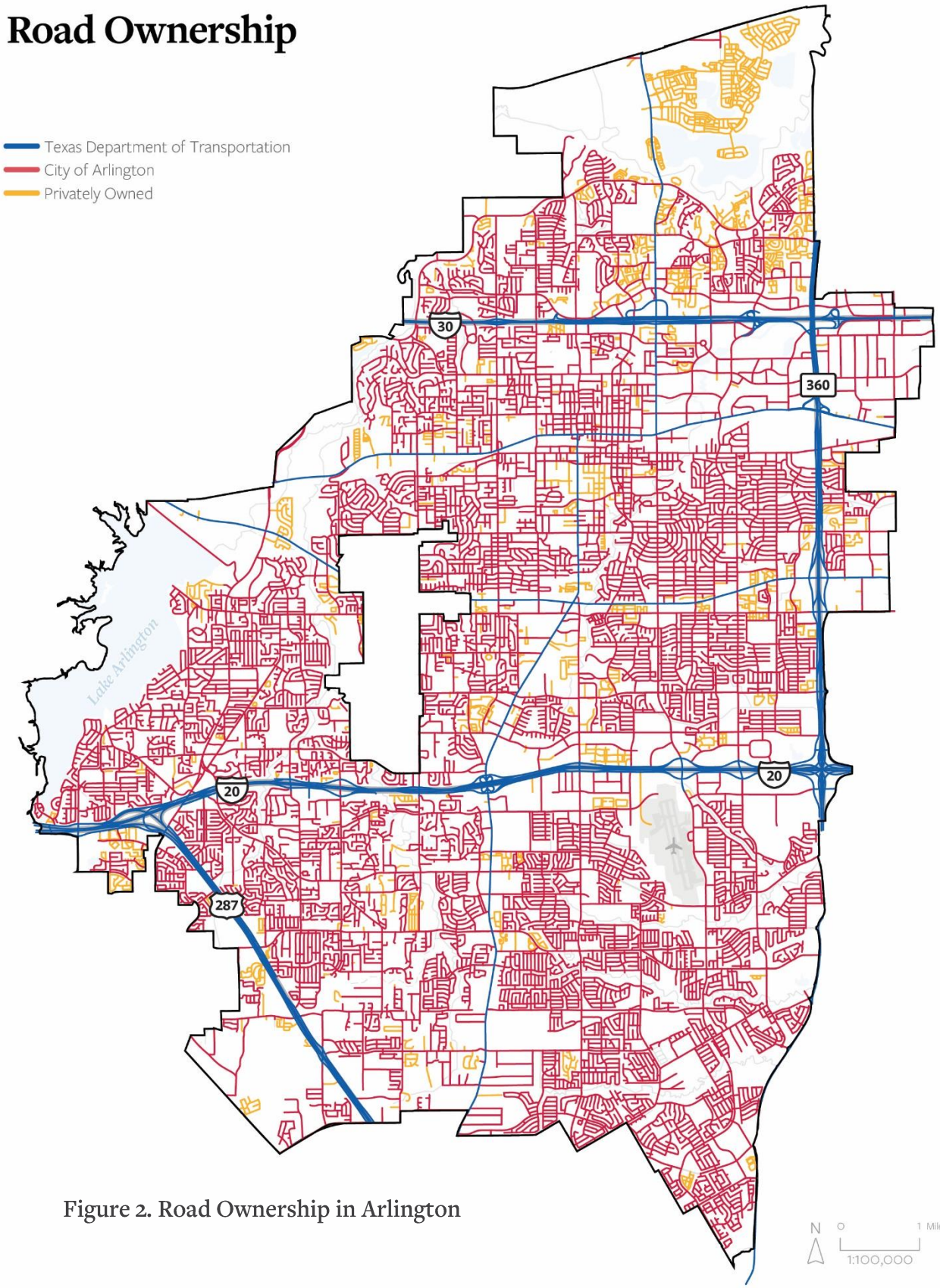


Figure 2. Road Ownership in Arlington

Collisions in Arlington

Over the most recent five-year period from 2018-2022, a total of 32,285 crashes occurred in Arlington; 20,496 crashes occurred on local roads excluding TxDOT highways (IH-30, IH-20, US 360, US 287) and private streets. The following data presented does not include crashes that occur on TxDOT highways or on private streets in Arlington city limits. Arlington saw an increase in collisions in 2019, and since then annual collisions have remained steady with the majority involving vehicles. This is in line with national trends during the COVID-19 pandemic where the annual number of collisions remains steady despite changes in travel patterns. Most injury collisions in Arlington are minor or possible injury. The injury severity is reported in crash reports by police officers at the time of the crash.

Although crashes that involve a motorcycle, pedestrian, or bicycle occur much less frequently than vehicle crashes, they also represent a much smaller share of the total trips that occur in Arlington. Additionally, people walking or biking are particularly vulnerable in the event of a collision, as they lack the protection afforded to them by being inside a motor vehicle. As a result, collisions involving people walking or biking are more likely to result in injury and fatality.

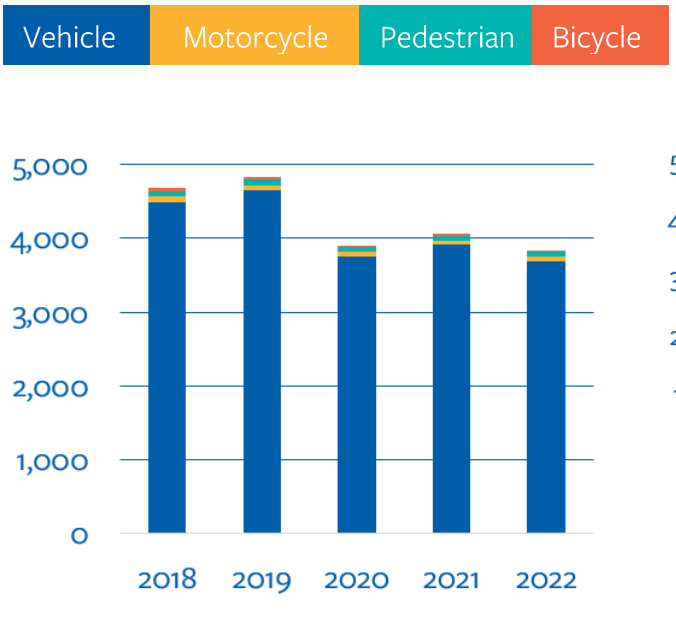


Figure 3. Crashes by Year and Travel Mode

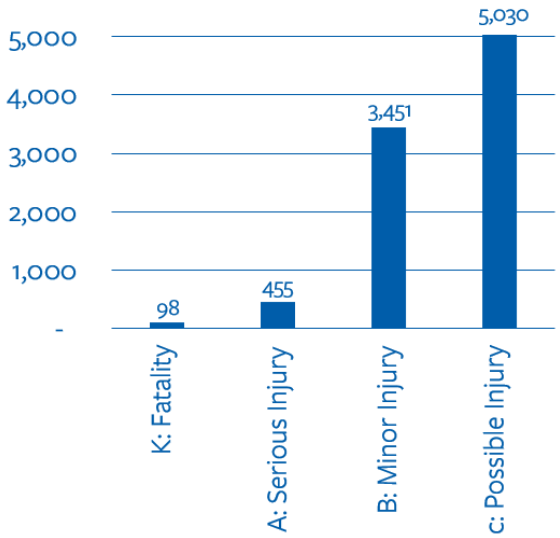


Figure 4. Total Crashes by Injury Severity

How does Arlington compare?

The data presented below includes all streets in Arlington, including crashes on TxDOT highways, in order to compare across peer cities. Among eight peer cities, normalized by population, Arlington's crash rate for fatalities, serious injury, and minor injury (KAB) crashes is second only to Dallas. Arlington falls more centrally within peer cities when looking at fatal crashes only.

Figure 5. KAB Crashes Among Peer Cities, Per 100K Population

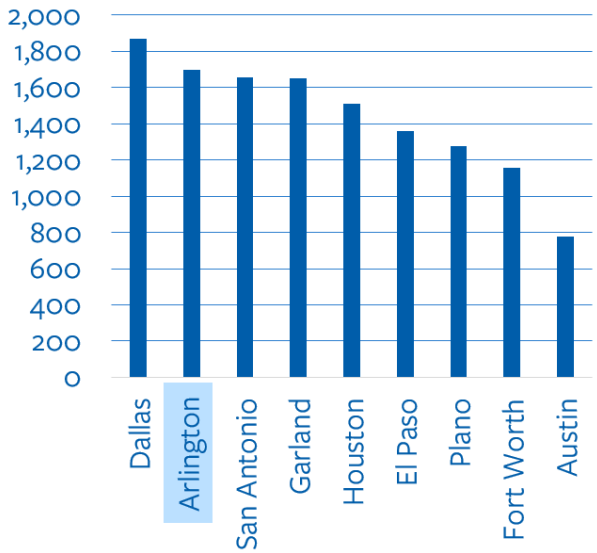
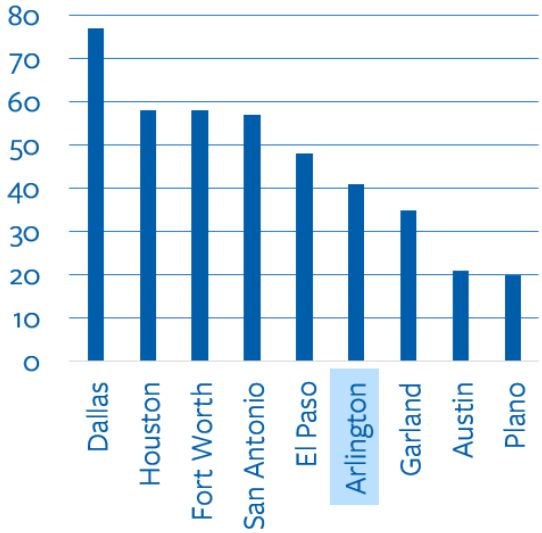


Figure 6. Fatal (K) Crashes Among Peer Cities, Per 100K Population



Who is involved in crashes?

The following data in this chapter is presented for Arlington streets (excluding TxDOT highways and private streets) for 2018 to 2022. All crashes involved a vehicle, and many others involved motorcycles, pedestrians, and bicycles. 102 lives were lost on Arlington's studied roadways, including 25 motorcyclists, 25 pedestrians and 3 bicyclists. 20,496 crashes occurred on local roads in Arlington, excluding TxDOT highways and private streets. The distribution of all crashes is as follows:

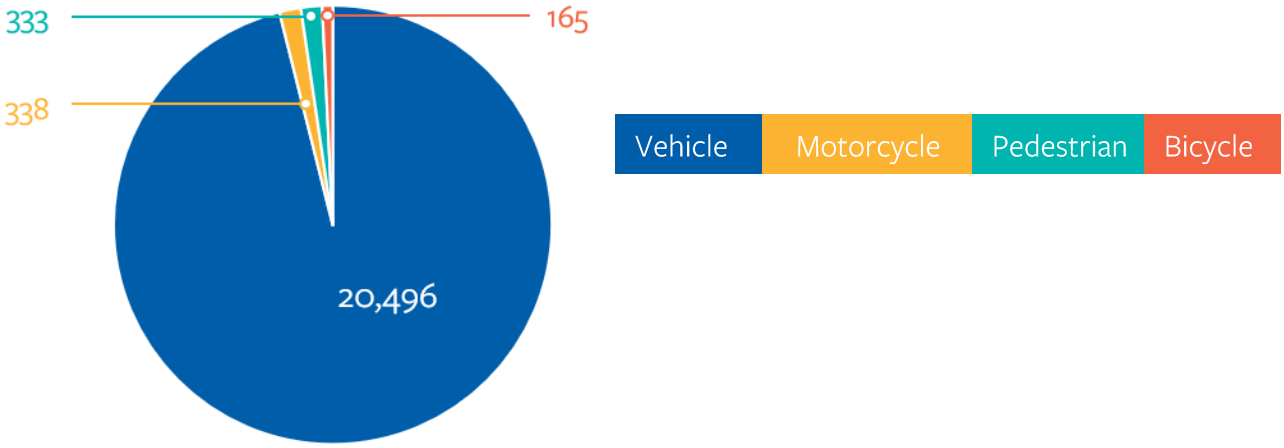


Figure 7: Crashes by Travel Mode

Where are they occurring?

A map of the KA (Fatality and Serious Injury) crashes is illustrated in Figure 10. A majority of vehicle, motorcycle, and bicyclist crashes occur at intersections. A majority of pedestrian crashes occur at non-intersection locations. This is likely due to pedestrians walking along the roadway or crossing mid-block, where crosswalks are not present, which may be due to a lack of pedestrian facilities. These trends are consistent with those for KA crashes.

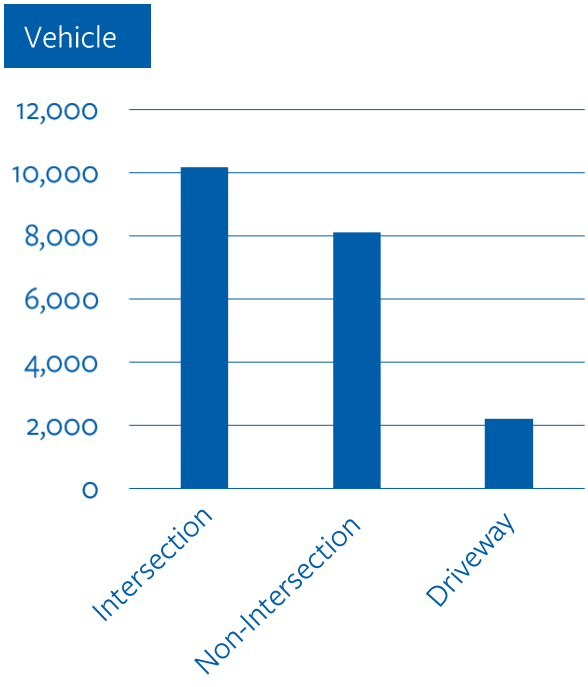


Figure 8. Vehicle Crashes by Location

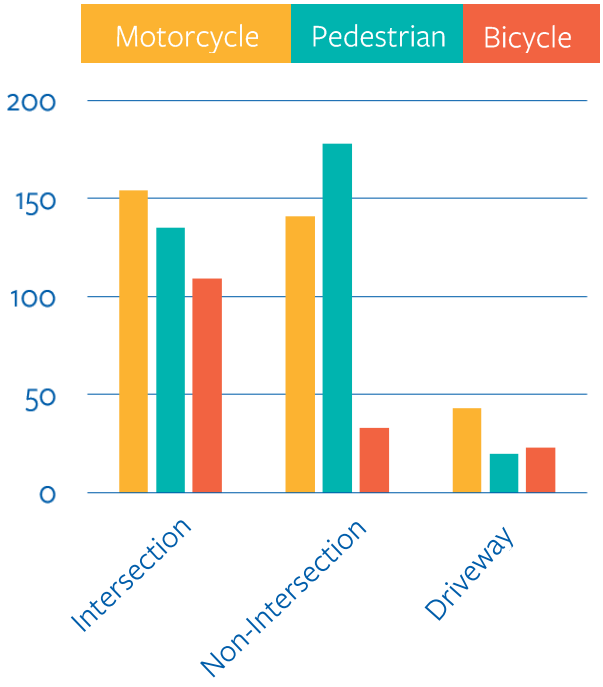


Figure 9. Motorcycle, Pedestrian, and Bicycle Crashes by Location

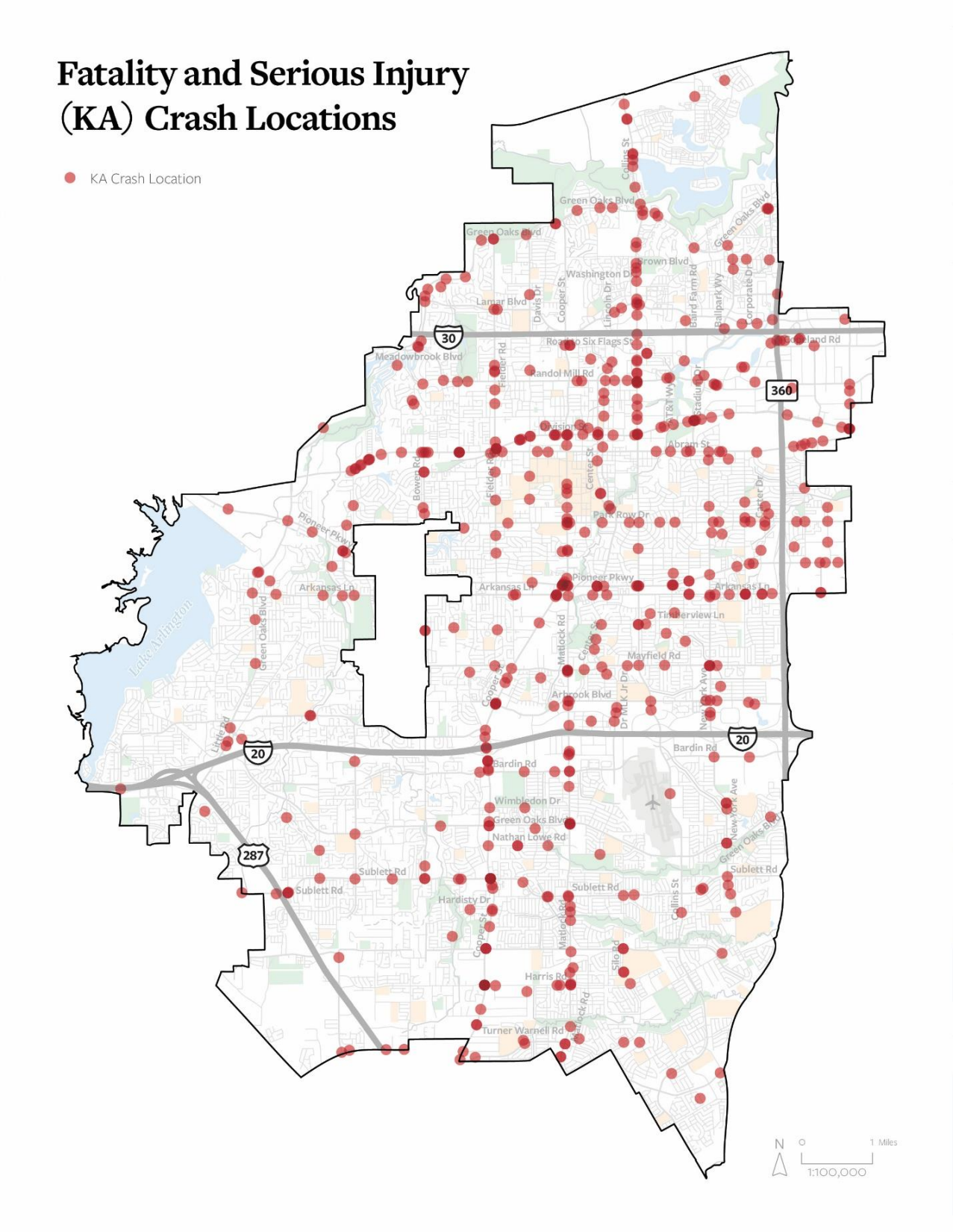


Figure 10. Fatality and Serious Injury (KA) Crash Locations

When are they occurring?

Crashes in Arlington generally occur most frequently on Fridays and Saturdays:

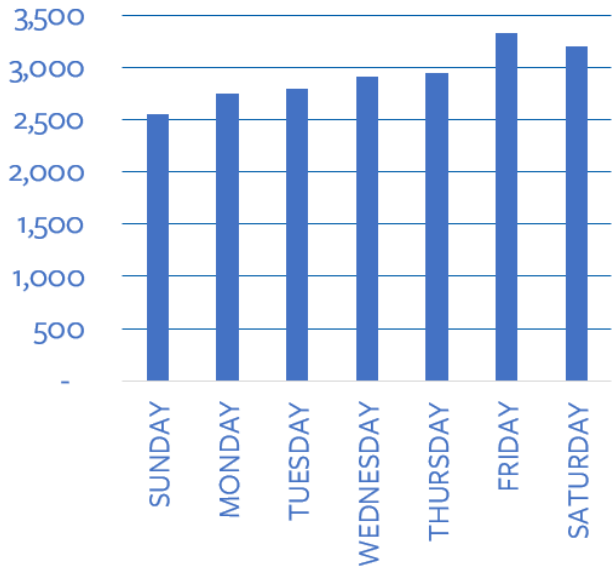


Figure 11. All Crashes by Day of Week

Among fatalities, serious injury, and minor injury (KAB) crashes, generally 3-4 pm is the most dangerous hour of the day, followed by 6-7 pm:

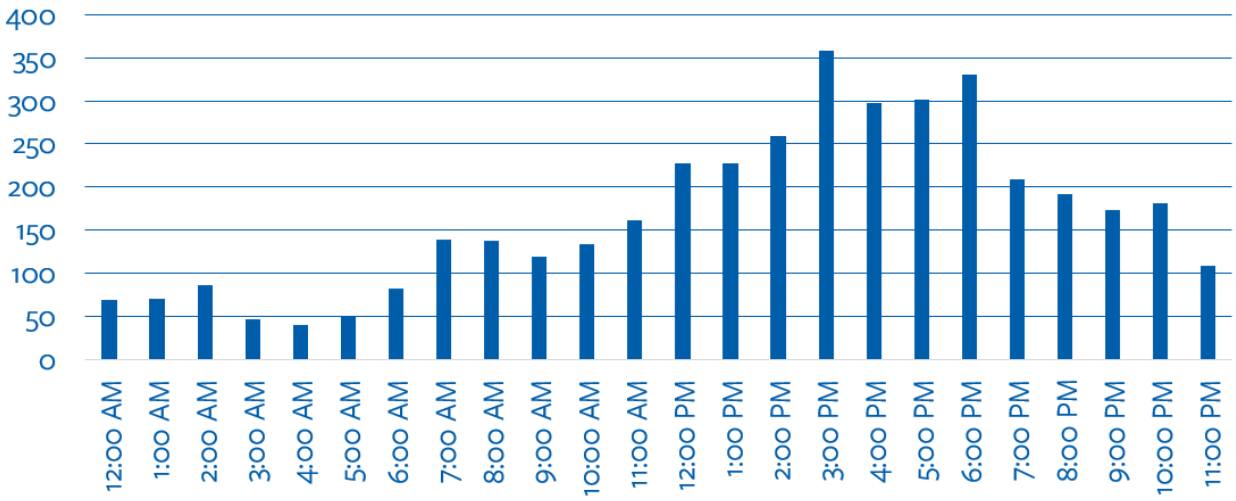


Figure 12. KAB crashes by time of day

What is contributing to so many crashes?

Examining the characteristics of crashes, we can summarize crashes by type and by the human behaviors involved. Looking at crash type, the most common crash types by mode are illustrated below, first for vehicle-related crashes, then motorcycle, pedestrian, and bicycle crashes.

Vehicle

Table 2. Crash type distribution and contributing factor (Vehicles)

Crash Type	Crashes
One motor vehicle – going straight	4,375 (21%)
Opposite Direction – One Straight – One Left-Turn	2,862 (14%)
Same Direction – One Straight – One Stopped	2,811 (14%)
Angle – Both Going Straight	2,764 (13%)
Same Direction – Both Going Straight – Rear End	1,916 (9%)
Contributing Factor	**Crashes**
Followed too closely	2,626 (13%)
Failed to yield right of way – turning left	2,371 (12%)
Failed to drive in single line	2,295 (11%)
Failed to control speed	2,018 (10%)
Driver inattention	1,867 (9%

Motorcycle

Table 3. Crash type distribution and contributing factor (Motorcycles)

Crash Type	Crashes
One Motor Vehicle – Going Straight	110 (33%)
Opposite Direction – One Straight – One Left-Turn	52 (15%)
Same Direction – Both Going Straight – Rear End	34 (10%)
Contributing Factor	**Crashes**
Failed to control speed	55 (16%)
Failed to yield right of way – turning left	44 (14%)
Followed too closely	43 (13%)

Pedestrian

Table 4. Crash type distribution and contributing factor (Pedestrians)

Crash Type	Crashes
One Motor Vehicle – Going Straight	238 (71%)
One Motor Vehicle – Turning Left	45 (14%)
One Motor Vehicle – Turning Right	28 (8%)
Contributing Factor	**Crashes**
Pedestrian failed to yield right of way to vehicle	137 (41%)
Failed to yield right of way to pedestrian	80 (24%)

Bicycle

Table 5. Crash type distribution and contributing factor (Bicyclists)

Crash Type	Crashes
One Motor Vehicle – Going Straight	105 (64%)
One Motor Vehicle – Turning Right	39 (24%)
One Motor Vehicle – Turning Left	18 (11%)
Contributing Factor	**Crashes**
Failed to yield right of way to pedestrian	34 (21%)
Driver inattention	24 (15%)
Failed to yield right of way (stop sign)	13 (8%)

Nighttime collisions are overrepresented among fatality and injury (KAB) crashes. While most nighttime collisions occurred where streetlights were present, the quality of the lighting can vary widely. Factors that may contribute to the quality of streetlights include lights being insufficiently bright, placed too far apart, or poor quality of lighting for people walking on the sidewalk, as streetlights are often designed primarily for vehicles in travel lanes. In Arlington, 34% of KAB crashes occurred at dawn, dusk or at night. Weather was a contributing factor in approximately 20% of the KAB crashes in Arlington.

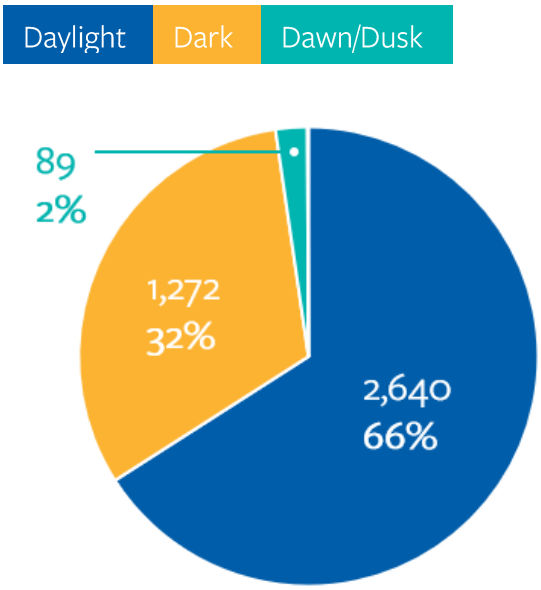


Figure 13. KAB Crashes by Lighting Condition

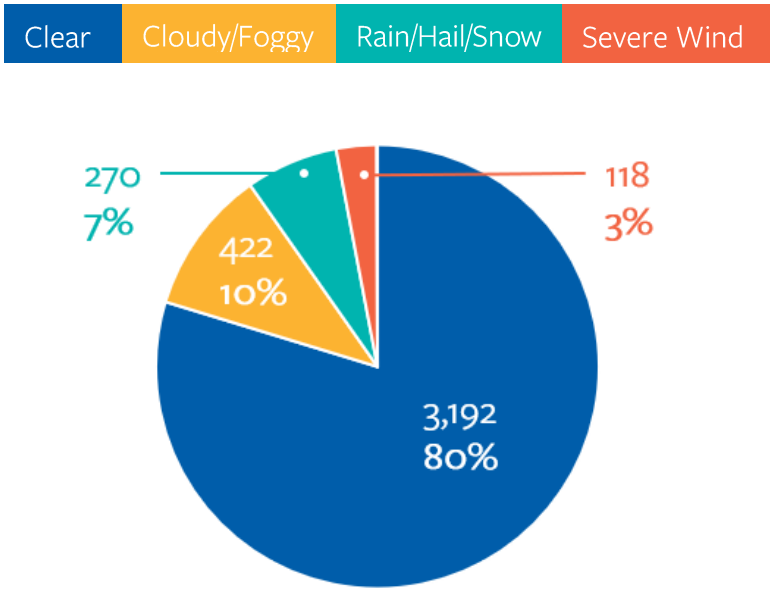


Figure 14. KAB Crashes by Weather Condition

What does "Vision Zero" look like?

Arlington has committed to significantly reducing fatalities and serious injuries on its roadways, with a vision of zero by 2050; reducing fatal and serious injury crashes by roughly 5% per year would achieve this goal.

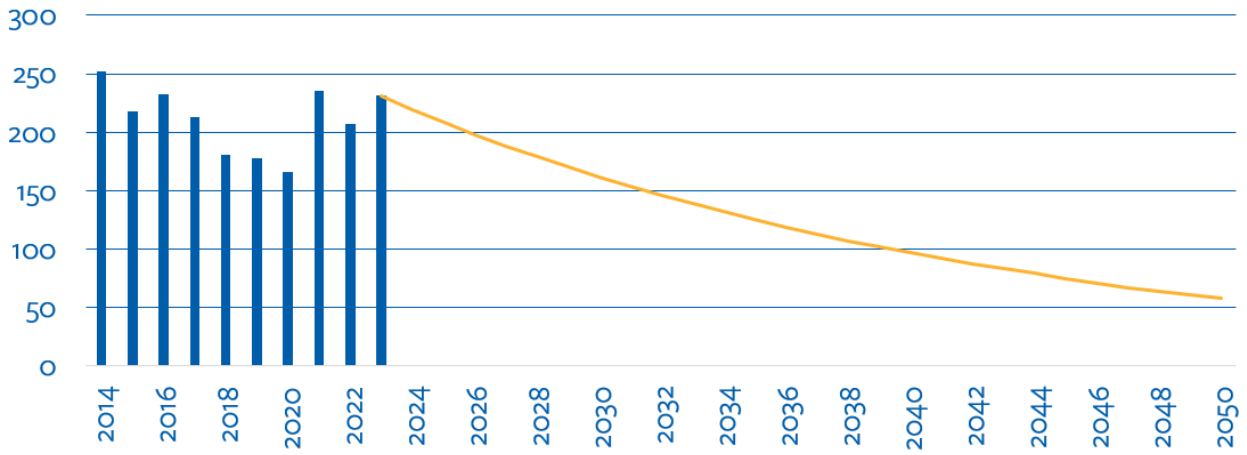


Figure 15. KA Crashes Per Year With a 2050 Goal of Zero

A LOOK AT OUR SAFETY PRACTICES

3. A Look at our Safety Practices

Arlington has invested in roadway safety through project and program implementation, traffic education and enforcement, targeted safety funding, roadway operations and maintenance, and adoption of planning documents that identify transportation safety priorities. Planning documents that have specific safety-related goals, policies, projects, and recommendations were reviewed to set the foundation for the action plan:

State

- Texas Strategic Highway Safety Plan (2022-2027): Coordinates efforts of many organizations to reduce KAB injuries on public roadways. Provides funding for construction and operational safety improvements for locations both on and off the state highway system.
- Texas Pedestrian Safety Action Plan (2023): Coordinates efforts of many organizations to reduce pedestrian-related KAB injuries on public roadways. Provides funding for construction and operational safety improvements for pedestrians.
- Texas Vulnerable Road User Safety Assessment (2023): Part of the Texas Strategic Highway Safety Plan; evaluates vulnerable road user crashes and has set of comprehensive strategies to reduce vulnerable road users' crashes.
- Draft Texas Statewide Active Transportation Plan (Expected 2025): Unified vision for identification and implementation of strategic active transportation priorities and policies across Texas to improve conditions for walking, bicycling, rolling, e-scooters, and e-bikes.

Regional

- NCTCOG Mobility 2045 Update (2022): Long-range plan identifies how federal and state funding is spread across projects, programs, and policies in north central Texas to improve regional mobility and increase efficiency, safety, and system capacity.
- NCTCOG Regional Roadway Safety Plan (2023): Guides implementation of systemic safety projects and programs throughout the region.
- NCTCOG Regional Pedestrian Safety Action Plan Update (2022): Guides implementation of pedestrian safety projects and programs through the region.

City

- Hike and Bike System Master Plan (2011): Transportation network to facilitate hiking and biking as viable transportation alternatives throughout the City.
- Design Criteria Manual (2020): Application of standard engineering principles and practices of design; intended to provide criteria for the most commonly encountered infrastructure designs in the City of Arlington.
- Public Works Internal Vision Zero Plan (2020): Documentation of existing safety program, crash history, and preliminary actions and countermeasures.
- Thoroughfare Development Plan (2022): Long-range plan that identifies the location and type of roadway facilities that are needed to meet projected long-term growth within the City.
- Police Department Safe Roads Initiative (2023): Initiative focused on reducing injury and fatality crashes, pedestrian fatalities, and intersection crashes. Actions include speed enforcement, Driving While Intoxicated (DWI) enforcement, pedestrian violation enforcement, and community engagement.

A review of these plans is summarized under the following safety elements: Goals and Objectives, Engagement, Data and Analysis, Programs, Policies, and Projects.

Safe Streets Arlington carries forward existing safety initiatives and advances the safety program through actions in the **Implementation Plan**.

Safety Plan Review

Table 6. Successes and Opportunities for Arlington's Safety Program

	Successes	Opportunities	Safe Streets Arlington
GOALS AND OBJECTIVES	• Many plans have clear safety goals and objectives that support a goal of reducing or eliminating traffic fatalities and serious injuries	• Incorporate safety goals and objectives from existing plans into Safe Streets Arlington • Formalize a policy to reduce fatal and KAB crashes • Incorporate safe system language	• Vision statement identifies multidisciplinary team, approach, and users to achieve safety goals, and highlights equity in decision making for programs and projects. • Safety goal aligns with regional goal to "Eliminate fatal crashes from all modes of travel by 2050" – Regional Roadway Safety Plan, 2023
ENGAGEMENT	• Many plans documented engagement activities, including focus groups and surveys • Local plans involved public and steering committees at opportunistic times	• Utilize multiple methods of engagement at many stages of the project where feedback can influence outcomes	• Engagement activities include project website, online surveys, internal and external stakeholder committee meetings, and public meetings. Feedback influenced outcomes of the plan • Will sustain stakeholder committees to implement the safety program after plan adoption
DATA AND ANALYSIS	• Many plans utilize TxDOT CRIS data to inform decision-making • The Texas Pedestrian Safety Action Plan and Texas Vulnerable Road Users Assessment developed crash methodologies for vulnerable road users • Other data sources are also used to understand crashes, including equity, demographics, and road characteristics • Local plans include benchmarking to frame transportation challenges (statewide, regional, and comparable cities)	• Utilize additional data to augment safety decision-making • Use TxDOT CRIS data for crash trends, contributing factors, and crash locations • Develop performance metrics and targets tied to safety concerns	• Uses 2018-2022 TxDOT CRIS crash data • Identifies crash types and risk factors for a systematic and proactive approach to identifying locations with safety needs • Actions in the plan support further data and analysis of most recent data, and new and varied data sources to inform safety efforts. Actions also include updates to existing local plans for considering equity, street typologies and land use context, and level of traffic stress for non-motorized users

Safety Plan Review

Table 7: Success and Opportunities for Arlington's Safety Program

	Successes	Opportunities	Safe Streets Arlington
POLICIES	• Many safety and mobility policies at the state and regional level	• Local safety policy that should include consensus on a shared safety goal and collaboration across different disciplines	• Formal goal to reduce fatal and KAB crashes • Actions in the plan support context sensitive design and multimodal travel
PROGRAMS	• Safety programs are related to education and enforcement	• Include bicycle and pedestrian education, data sharing and collaboration with schools, education campaigns for common crash types, and enforcement (saturation patrols or high visibility)	• Actions in the plan include education, data sharing and collaboration with agencies, schools, and hospitals, and enforcement • Multidisciplinary stakeholder groups will implement the safety program
PROJECTS	• Engineering countermeasures identified in plans • Local plans use multidisciplinary approach to non-engineering and engineering countermeasures • Local plans use framework to prioritize streets, projects, and countermeasures, including equity in decision making	• Identify effective engineering and non-engineering countermeasures to match crash types in Arlington • Prioritize projects through multi-criteria, to include feedback from stakeholders and the public, and incorporate equity	• Projects prioritized using the High Injury Networks, public feedback and crash profiles • Actions in the plan to monitor implementation of various countermeasures and conduct before and after studies • Actions in the plan to sustain stakeholder working groups and build community awareness of safety interventions through demonstration projects

State and Regional Safety Goals and Objectives

"Texans will work together on the road to zero traffic fatalities and serious injuries."
–Strategic Highway Safety Plan, 2022-2027

"The Texas Active Transportation Plan is a collaborative effort to advance walking, biking, and rolling as viable options toward a safe, accessible, connected, and fully integrated multimodal transportation system for all Texans. The plan will support healthy, economically vital, and resilient communities with innovative solutions to increase active mobility."
–Statewide Active Transportation Plan

"Eliminate fatal crashes from all modes of travel by 2050."
–Regional Roadway Safety Plan, 2023

"Balance the safety and needs of all users of all ages and abilities in the transportation system design, maintenance, and operation phases, with priority given to the most vulnerable users.

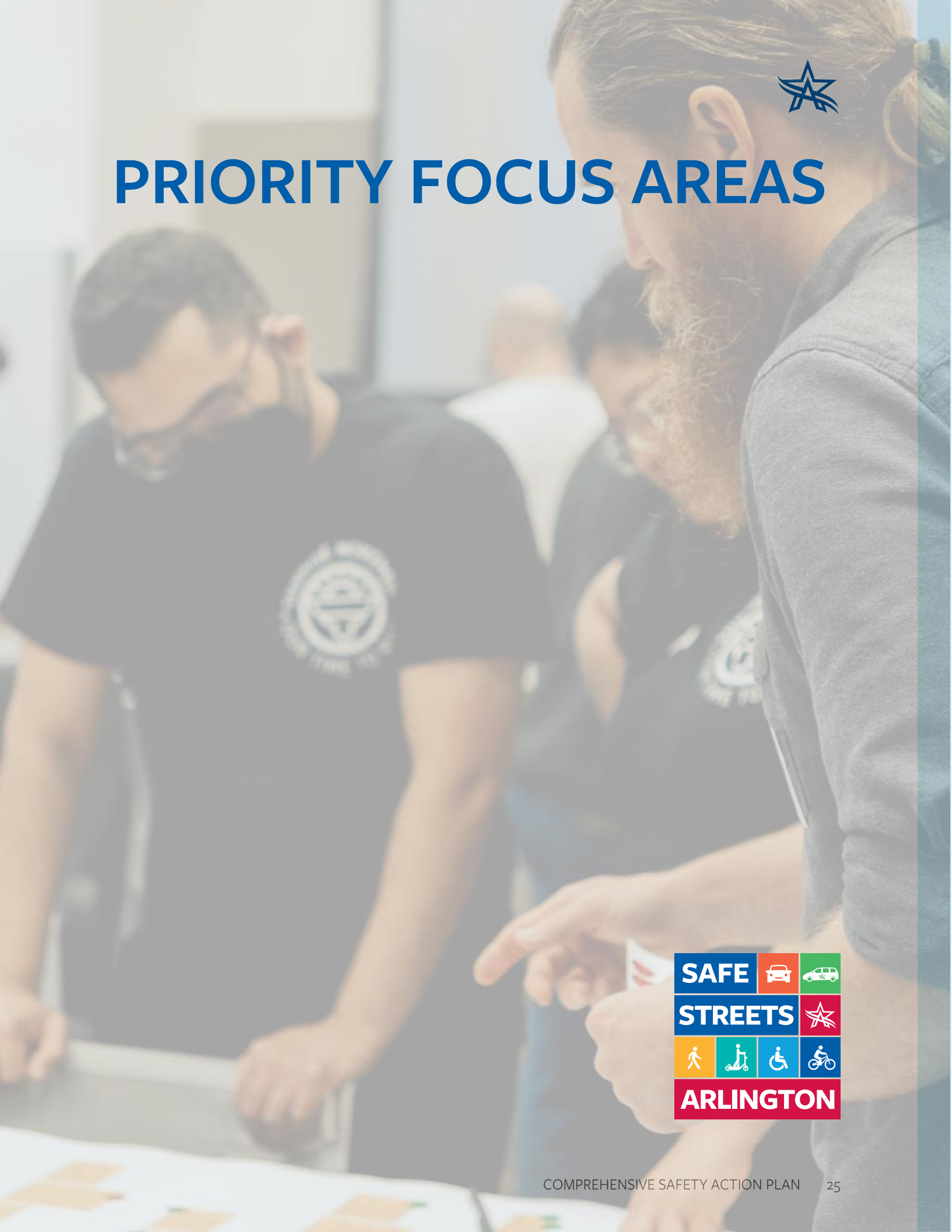
Provide a high level of comfort in the design, construction, and maintenance of transportation facilities.

Integrate within roadway design the most direct facility alignments that prioritize safe pedestrian movements.

Implement all reasonable pedestrian safety countermeasures to achieve adopted regional safety performance targets. TxDOT has an HSIP 2018-2022 Target Crash Reduction Schedule."

–Safety Goals from the Regional Pedestrian Safety Action Plan Update, 2022

PRIORITY FOCUS AREAS



4. Priority Focus Areas

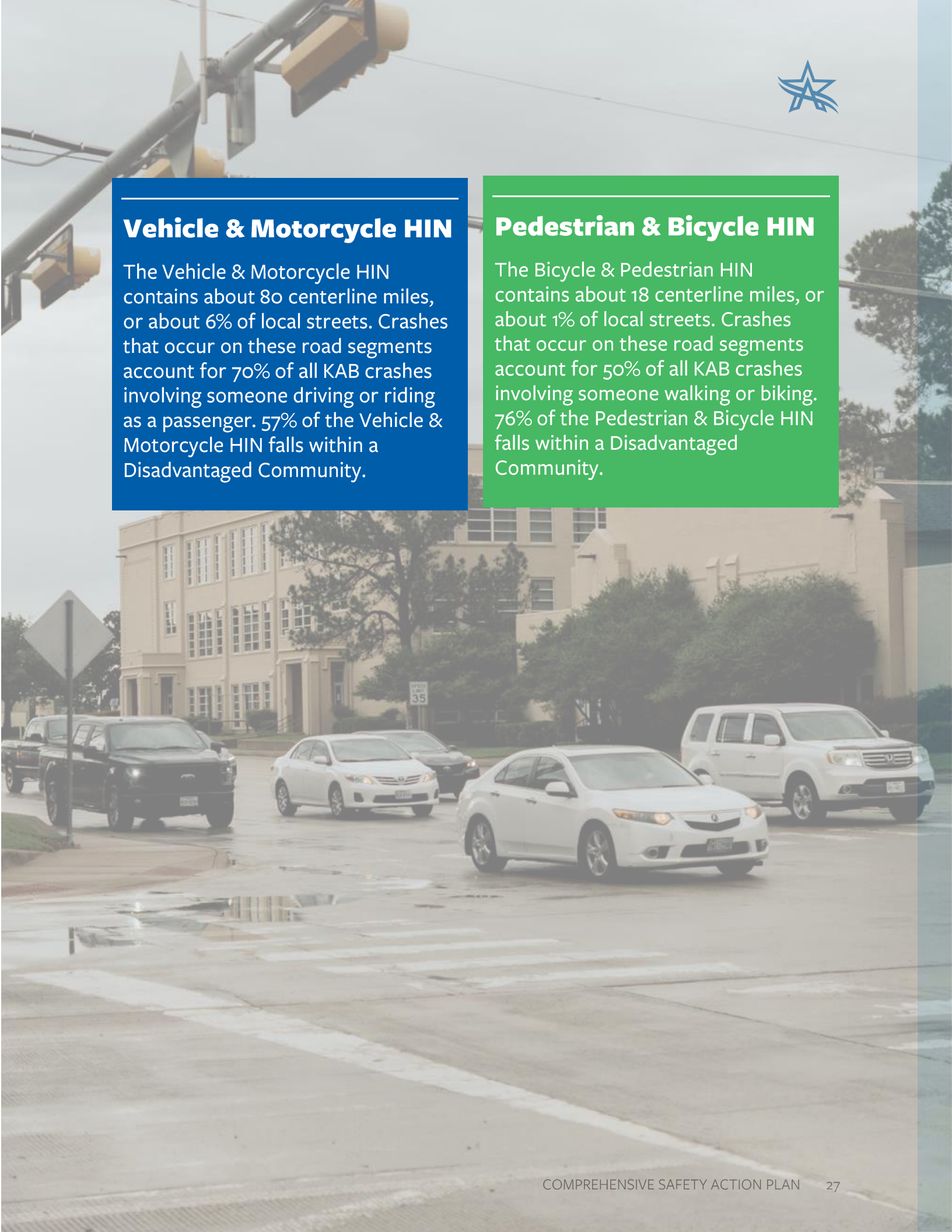
To achieve vision zero by 2050, knowing where to make improvements is essential. For this plan, a high injury network and high-risk road characteristics were identified, along with proven safety countermeasures and solutions.

KAB Crash Locations

Overall crash trends, presented in What Data Tells Us About the State of Safety in Our Communities, tell part of the safety story. It is also important to know where the most KAB crashes occur and determine how Arlington should prioritize safety investments. To that end, three High-Injury Networks (HINs) were developed – a HIN is a collection of streets where a disproportionate number of collisions result in someone being killed or severely injured (KAB crashes).

Three HINs – a vehicle and motorcyle HIN, a pedestrian and bicycle HIN, and a HIN showing the confluence of all modes – were developed. Appendix A includes the methodology for developing the HINs. These HINs represent the most KAB crashes for all travel modes. The dashed green line on the HIN map shows where all these crash types overlap. The HINs consider crash data from 2018-2022, sourced from the Texas Department of Transportation (TxDOT) Crash Records Information System (C.R.I.S.) for Arlington owned streets and TxDOT arterials. The frequency and severity of crashes, and critical crash rate, which considers functional class of the roadway, daily volumes, and crash counts, were used to prioritize streets for inclusion on the HINs.

Privately owned streets and TxDOT limited-access highways and frontage roads are excluded from the HINs (IH-30, IH-20, US 360, and US 287).



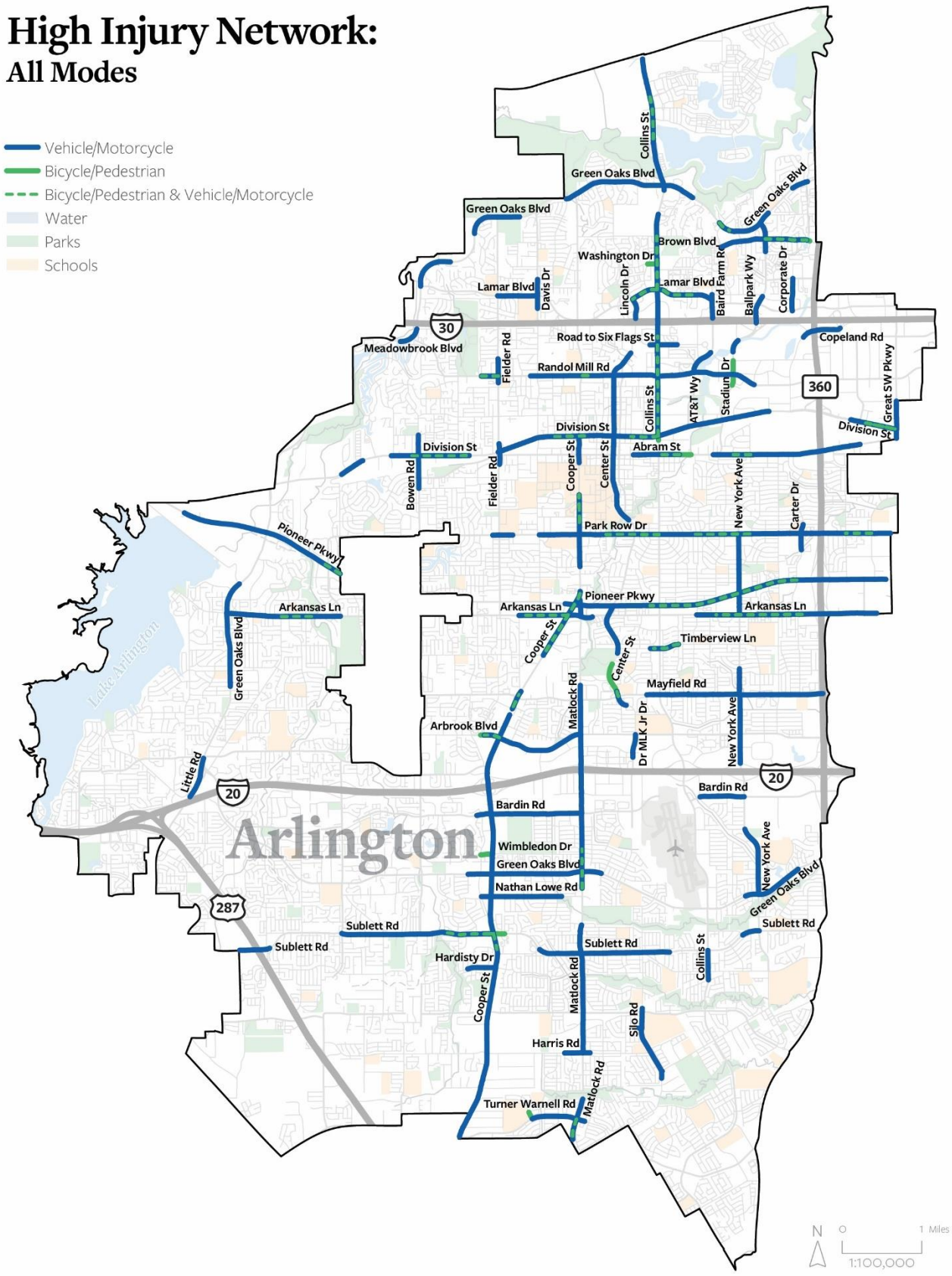
Vehicle & Motorcycle HIN

The Vehicle & Motorcycle HIN contains about 80 centerline miles, or about 6% of local streets. Crashes that occur on these road segments account for 70% of all KAB crashes involving someone driving or riding as a passenger. 57% of the Vehicle & Motorcycle HIN falls within a Disadvantaged Community.

Pedestrian & Bicycle HIN

The Bicycle & Pedestrian HIN contains about 18 centerline miles, or about 1% of local streets. Crashes that occur on these road segments account for 50% of all KAB crashes involving someone walking or biking. 76% of the Pedestrian & Bicycle HIN falls within a Disadvantaged Community.

High Injury Network:
All Modes



Prioritizing High-Risk Factors

This plan uses systemic analysis to examine collision history and identify high-risk roadway characteristics. This approach can identify patterns that may not be reflected in standard crash data sources by pairing the crash data with contextual factors, such as the number of travel lanes and roadway speeds, the types and timings of signals, if there are schools, businesses, parks, and if there are other land uses along the road. A systemic analysis broadens the reach of safety countermeasures to streets in Arlington that do not necessarily reflect the most KAB crash locations but are more likely to experience a high severity crash, based on roadway factors and conditions from similar location types.

Based on the analysis, four risk factors are present at locations with the most frequent and most KAB crashes. They include signalized intersections, major arterials, locations near schools, and in disadvantaged communities. Disadvantaged communities are defined by the U.S. Department of Transportation (USDOT) and identified in their Equitable Transportation Community Explorer. These risk factors were then summarized into two crash profiles, which represent focus areas for priority investments.

Signalized Intersections

There are 373 signalized intersections in Arlington. While 19% of all crashes occur at signalized intersections, these crashes represent 45% of crashes that result in death, serious injury, or minor injury. Most signalized intersections (252, or 68%) are along major arterials and account for 70% of KAB crashes at signalized intersections. Additionally, most KAB crashes at signalized intersections occur at intersections involving at least one four-lane roadway (48%) followed by six-lane roadways (26%) with posted speeds of 40 mph or greater (75%).

Major Arterials

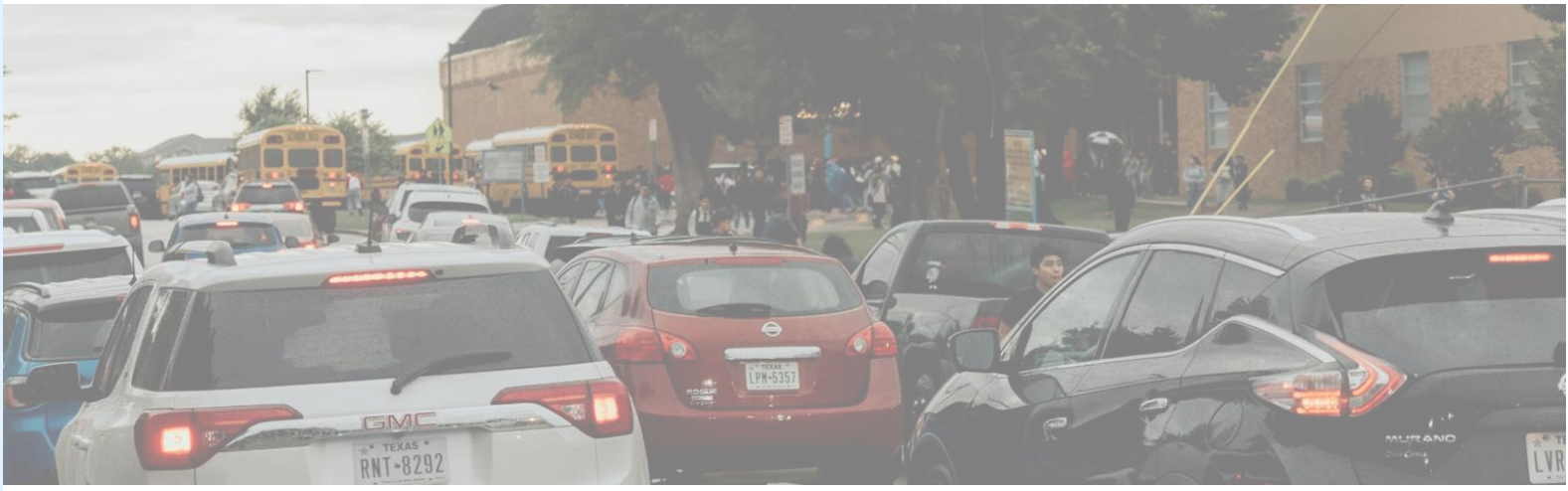
Major arterials account for over half (59%) of all KAB crashes in Arlington. Major arterials tend to prioritize vehicle mobility, carry large volumes of traffic for longer distances, and serve both local and through traffic. In Arlington, major arterials have three to six vehicle travel lanes, and typically have a center median or center turn lane. The majority of KAB crashes on major arterials occur on four lane arterials (46%) followed by six-lane arterials (35%) with posted speeds of 40-45 mph (74%). Additionally, over half (54%) of KAB crashes that occur on major arterials are at signalized intersections. Some major arterials have sidewalks, while many have disconnected or no sidewalks, and lack bicycle facilities.

Near Schools

Nearly half (49%) of all KAB crashes occur within a half mile of a school and represent a disproportionate share of pedestrian and bicycle related crashes. Pedestrian involved KAB crashes near schools accounted for nearly double the rate of pedestrian involved KAB crashes as those occurring further than a half mile from a school. Near schools, KAB crashes are occurring largely on two-lane roadways (45%) and four-lane roadways (31%). Further than a half mile from a school, two-lane roadways account for 23% of KAB crashes, and four-lane roadways account for 51% of KAB crashes. Two-lane roadways have lower posted speeds, and the data shows that KAB crashes near schools occur on roads with a 30-mph posted speed at twice the rate as roads with a posted speed of 30 mph further than a half mile from a school.

Disadvantaged Communities

Disadvantaged Communities, as defined by the USDOT, make up 35% of the population in Arlington and 34% of the land area in Arlington. These communities share a disproportionate share of KAB crashes; 57% of the Vehicle and Motorcycle HIN and 76% of the Bicycle and Pedestrian HIN fall within a Disadvantaged Community.



Combining these factors allows for the forming of two crash profiles, or combinations of factors that account for a significant share of KAB crashes in Arlington.

Crash Profile 1: *Signalized Intersections Along Major Arterials*

Signalized intersections along major arterials account for 32% of crashes that result in a death, serious injury, and/or minor injury in Arlington, and represent 41% of KAB crashes on the High-Injury Network. The following trends are found with crash profile 1:

Crash Profile 1

Fatalities: 23
Serious Injuries: 159
Motorcycle Crashes: 60
Pedestrian Crashes: 47
Bicyclist Crashes: 16

Crash Types

- Same direction crashes: 41% of crashes compared to 33% of crashes Citywide
- Opposite direction crashes: 27% of crashes compared to 16% of crashes Citywide
- Single vehicle crashes: Less common under these circumstances than Citywide, accounting for 11% of crashes compared to 28% of crashes Citywide

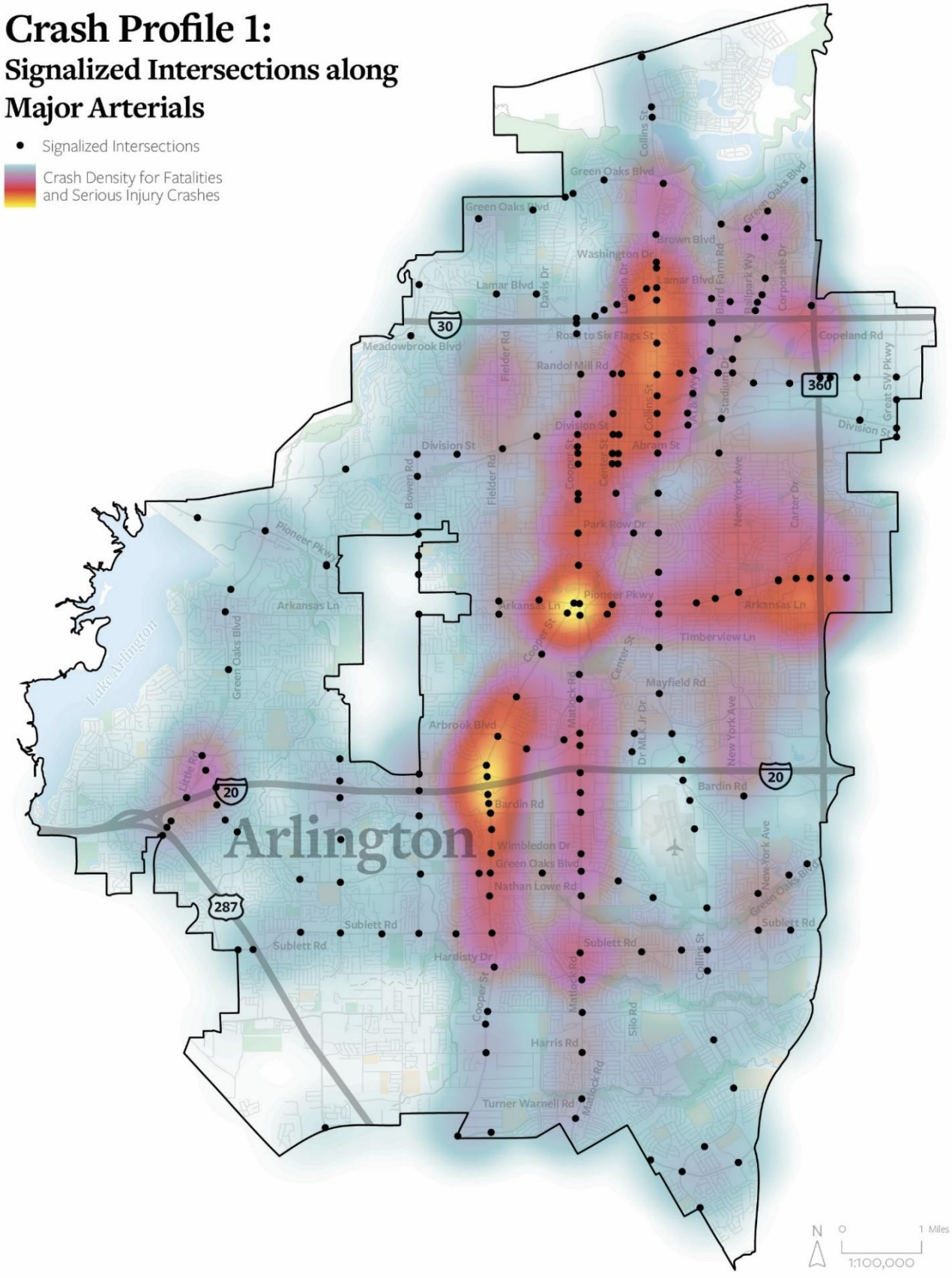
Land Uses

- Commercial/retail land uses: 52% of crashes compared to 32% of crashes Citywide
- Single family land uses: Less common under these circumstances than Citywide, accounting for 7% of crashes compared to 29% of crashes Citywide

Human Behaviors

- Failed to yield right of way turning left: 20% of crashes compared to 13% of crashes Citywide
- Disregard stop and go signal: 20% crashes compared to 9% of crashes Citywide
- Following too closely: 16% of crashes compared to 13% crashes Citywide

Crash Profile 1:
Signalized Intersections along Major Arterials



Crash Profile 2: *Streets within a Disadvantaged Area and within a Half Mile of a School*

Streets on the High-Injury Network within a disadvantaged area and within a half mile of a school account for 30 percent of crashes that result in a death, serious injury, and/or minor injury. The following trends are found with crash profile 2.

Crash Profile 2

Fatalities: 41
Serious Injuries: 169
Motorcycle Crashes: 89
Pedestrian Crashes: 66
Bicyclist Crashes: 24

Crash Types

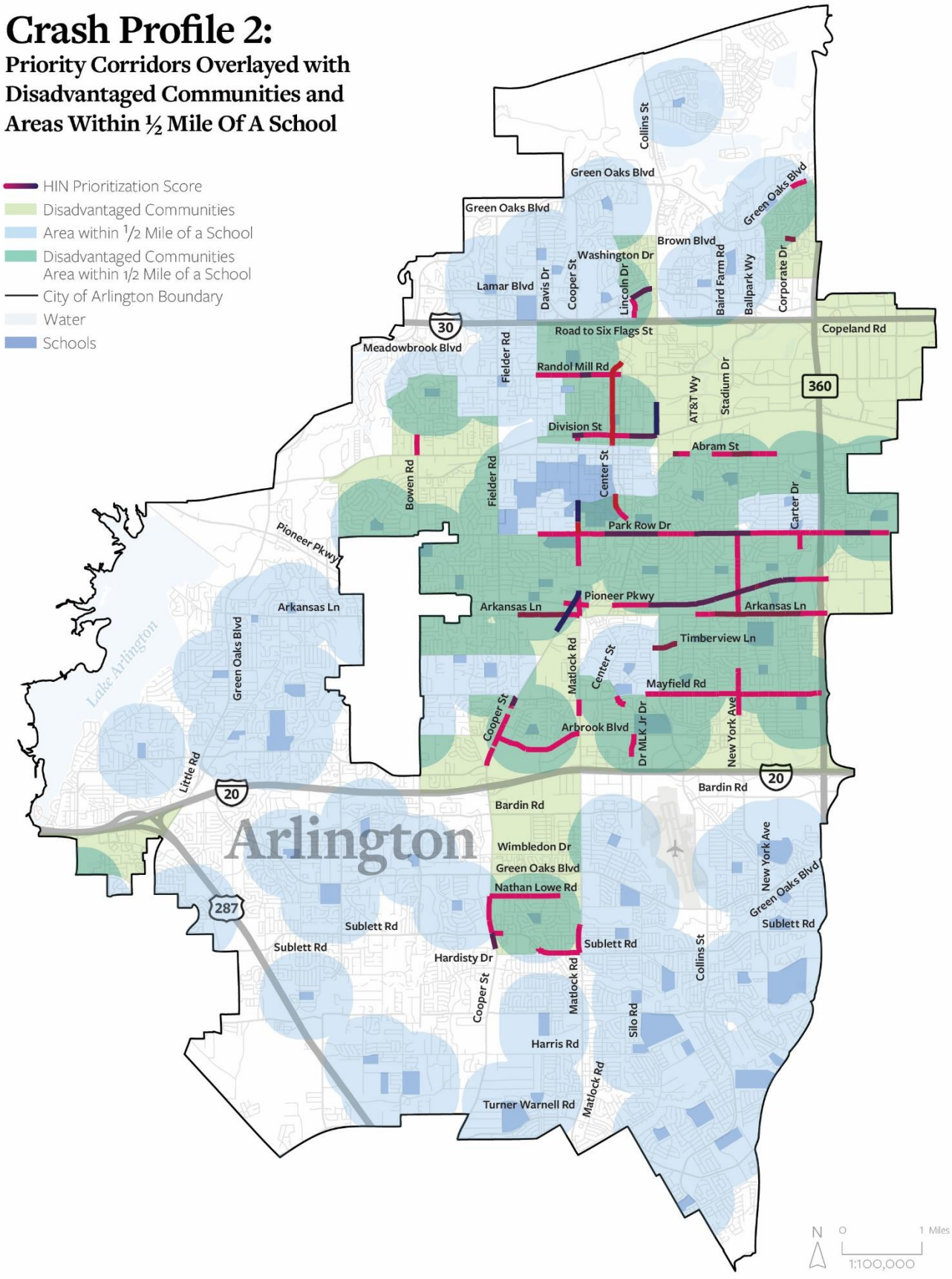
- All collision types (same direction, single vehicle, angle, opposite direction, and other) were within 2% of the Citywide percentage for these types of crashes.

Roadway Users

- Pedestrians: 2.1% of crashes involved at least one pedestrian compared to 1.6% Citywide.
- Bicyclists: 1.1% of crashes involved at least one bicyclist compared to 0.8% Citywide.

Crash Profile 2:

Priority Corridors Overlayed with Disadvantaged Communities and Areas Within ½ Mile Of A School



Prioritizing the High-Injury Network

It goes without saying that an aspirational goal is to eliminate all crashes in Arlington. Recognizing the limitations on resources, it is important to prioritize those resources and focus them on areas of most need. A multi-factored prioritization approach was developed to determine 13 corridors and 11 intersections in most need of safety improvements. Criteria to identify these locations included:

- Presence on a HIN
- Greater weighting for presence on the vehicle/motorcycle HIN and bike/ped HIN
- Presence of one of the four risk factors
- Public feedback identifying a safety concern

Following the initial scoring of streets, these locations were shared with the Stakeholder Committees and the public to determine the three intersections and corridors to conduct studies in the near term. The results of the prioritization are as follows, where locations in blue denote highest priority for further study.

Priority Intersections

- N Collins St & E Lamar Blvd
- N Collins St & E Randol Mill Rd
- S Cooper St & SW Green Oaks Blvd
- S Cooper St & W Arbrook Blvd
- S Cooper St & W Arkansas Ln
- S Cooper St & Matlock Rd
- S Cooper St & W Mayfield Rd
- S Cooper St & W Pioneer Pkwy
- S Cooper St & W Sublett Rd
- Matlock Rd & E/W Sublett Rd
- Matlock Rd & W Pioneer Pkwy

Priority Corridors

Table 8: Priority Corridors

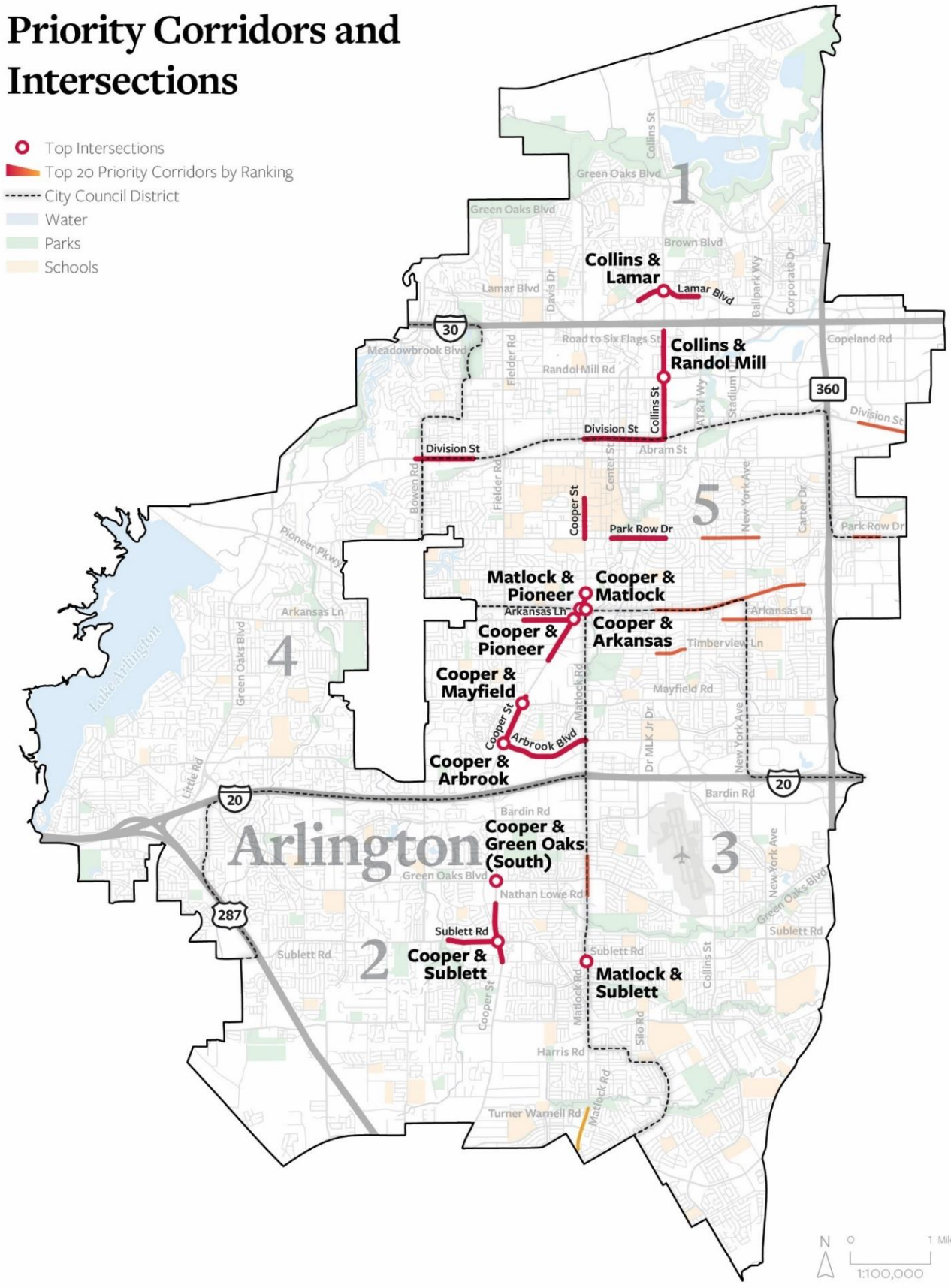
Corridors	Intersections	
Cooper Street		
1. California Ln to Matlock Rd Length: 0.8 miles	• California Ln • Station Dr • Colorado Ln • Secretary Dr	• Orthopedic Way • Arkansas Ln • Pioneer Pkwy • Matlock Rd
2. Nedderman Dr to Park Row Dr Length: 0.5 miles	• Nedderman Dr • Mitchell St • Doug Russell Rd • Benge Dr	• Causley Ave • Hiett Ave • Grand Ave • Park Row Dr
3. Medlin Dr to Arbrook Blvd Length: 0.6 miles	• Medlin Dr • Mayfield Rd • Wakefield Dr • Blue Danube St	• High Point Rd • Knight St • Arbrook Blvd
4. Nathan Lowe Rd to Mineral Springs Rd Length: 0.7 miles	• Nathan Lowe Rd • Turf Club Dr • Walnut Branch Ln	• Sublett Rd • Fannin Dr • Mineral Springs Rd
North Collins Street		
5. Skyline Dr to Division St Length: 1.3 miles	• Skyline Dr • Road to Six Flags St • Andrews St • Woodbrook St • Cedarland Blvd • Murray St	• Randol Mill Rd • Slaughter St • Rogers St/Cowboys Way • Peach St • E Sanford St • Division St
Park Row Drive		
6. Susan Dr to Timberlake Dr Length: 0.3 miles	• Constitution Pkwy • Running Brook Dr	• Elite Cir • Timberlake Dr
7. Swiss St to Hillcrest Dr Length: 0.7 miles	• Swiss St • Daniel Dr • Perrin St • Kent Dr • Dale Dr	• Highland Dr • Eden Ln • Browning Dr • New York Ave • Hillcrest Dr
8. Pecan St to Collins St Length: 0.7 miles	• Pecan St • Robin Ln • Center St • Kelly Ter	• Harmon Ter • Meadow Ln • Collins St

Corridors	Intersections	
Pioneer Parkway		
9. Collins St to Carter Dr Length: 1.8 miles	• Collins St • St John St • Wynn Ter • Daniel Dr • Browning Dr • New York Ave • Oak Point Dr • Cedar Point Dr	• Elm Point Dr • Willow Point Dr • Fairbrook Ave • Remynse Dr • Sherry St • Stampede Dr • Remington Dr • Carter Dr
Lamar Boulevard		
10. Lincoln Dr to Randy Snow Rd Length: 0.8 miles	• Lincoln Dr • Enterprise Life Pkwy • Madison Dr • Ryan Plaza Ct • Collins St • Moritz Blvd	• Old Mill Dr • Cloisters Dr • Chasewood Cir • Summer Brook Cir • Old Pond Dr • Randy Snow Rd
Division Street		
11. Cooper St to Collins St Length: 1 mile	• Cooper St • James Johnson St • Taylor St • Terry Lewis St • Jerry Crocker St/Indiana St • West St/L Robinson Dr • Oak St • Pecan St	• Center St • Mesquite St • Elm St • East St • Thurman St • Front St • Collins St
12. Bowen Rd to Porters Ln Length: 0.6 miles	• Bowen Rd • Lillard Rd • A E Petsche Ct	• Aaron Ave • Oakwood Ln • Porters Ln
13. 110th St to Great SW Pkwy Length: 0.4 miles	• 110th St • 105th St	• Great Southwest Pkwy
Arkansas Lane		
14. Medlin Dr to Cooper St Length: 0.6 miles	• Medlin Dr • S Davis Dr	• Southgate St • S Cooper St
15. Browning Dr to Carter Dr Length: 1 mile	• Browning Dr • New York Ave • Crockett Dr • Springcrest Dr • Citrus Ln • Orange Blossom Ln • Pear Tree Ln	• Olive Tree Ln • Remynse Dr • Sherry St • Jo Lyn Ln • Clint Ct • Carter Dr

Corridors	Intersections	
Matlock Road		
16. Juniper Dr to Summerwood Dr Length: 0.5 miles	• Juniper Dr • Levelland Dr • Wimbledon Dr • Leesfield Ct	• Lemon Dr • Cornfield Dr • Green Oaks Blvd • Summerwood Dr
17. Lonesome Dove Trail to Muirwood Dr Length: 0.5 miles	• Lonesome Dove Trail • Turner Warnell Rd	• Warren Dr
Arbrook Boulevard		
18. Cooper St to Matlock Road Length: 1.1 miles	• S Cooper St • Waverly Dr • Parks Mall Dr	• Scots Legacy Dr • High Point Rd • Matlock Rd
Timberview Lane		
19. Petersburg Dr to Concord Dr Length: 0.4 miles	• Petersburg Dr • Round Rock Rd • S Collins St	• Shenandoah Dr • Concord Dr
Sublett Road		
20. Pro Club Dr to Cooper St Length: 0.6 miles	• Pro Club Dr • Fox Hunt Dr	• Royal Club Dr • S Cooper St

Note: Blue denotes top three priority corridors and intersections

Priority Corridors and Intersections



Addressing Safety through Engineering Countermeasures

Many engineering countermeasures may be applied to address contributing factors to crashes. The following provides high level crash contexts or crash types and the associated engineering countermeasures. Not all potential countermeasures are provided below, and analysts should refer to other resources as needed to address specific crash patterns at study locations. Engineering judgement should be used to select appropriate countermeasures. For detailed information about each of the countermeasures see Appendix B.

Nighttime Crashes

- Rumble Strips
- Increase lighting / improve lighting technology
- Upgrade Signs with Fluorescent Sheeting
- Retroreflective Backplates
- Spot or corridor lighting
- Speed management – see Speed Management Crash Type
- Variable Speed Limits (VSL)

Wet Conditions

This section refers to crashes occurring during or shortly after inclement weather, when pavement is still not dry. Severe crashes typically occur more often under wet conditions due to the slick roadway surface and limited visibility. These problems may be addressed through the implementation of both engineering countermeasures, included in this list, and non-engineering countermeasures, such as drainage and stormwater management improvements. Appendix C has a list of projects for drainage improvements.

- Drainage review/improvements
- High Friction Surface Treatment
- Upgrade Signs with Fluorescent Sheeting
- Retroreflective Backplates
- Rumble Strips
- Speed Management – see Speed Management Crash Type

Run-off Road Crashes

- Access management
- Delineators, Reflectors, and/or Object markers
- Relocate select hazardous utility poles
- High Friction Surface Treatment
- Create or increase clear zone
- Curve improvements
- Median cable barrier (head-on/median cross-over crashes)
- Raised median island (head-on/median cross-over crashes)
- Rumble Strips
- Safety Edge
- Shoulder improvements
- Speed management

Rear-End Crashes

- Advanced Dilemma Zone Detection
- Improve Sight Distance
- Signal Backplates
- Signal Coordination

- Traffic Calming / Speed Management – See Speed Management Crash Type
- Flashing beacon as advance warning

Turning Crashes – Left turns at Signalized Intersections

- Flashing Yellow Arrow (FYA)
- Protected only left-turn phase (or by time of day)
- Prohibit left-turns
- Upgrade signal head
- Reduced left turn conflict intersection
- Roundabout

Turning Crashes – Left turns at Unsignalized Intersections

- All-Way Stop Sign
- Consolidate Driveways
- Improve sight distance, which may include trimming vegetation
- Install new traffic signal
- Partial Closure/diverter
- Prohibit left-turns
- Raised Median
- Roundabout
- Speed Management – see Speed Management Crash Type

Turning Crashes – Right turns at Signalized Intersections

- Flashing Yellow Arrow (FYA)
- Improve sight distance
- Leading pedestrian interval
- Prohibit right-turn on red
- Protected turn phase
- Close slip lane
- Intersection reconstruction and tightening
- Flashing beacon as advance warning

Turning Crashes – Right turns at Unsignalized Intersections

- All-Way Stop Sign
- Improve sight distance (including trimming vegetation)

Angle Crashes at Signalized Intersections

- Advance Stop Bar
- Lighting
- New Traffic signal
- Overhead Flashing Beacon
- Roundabout
- Signal coordination
- Retroreflective backplates
- Prohibit left-turn
- Supplemental Signal Heads
- Remove obstruction for sight lines
- Extend yellow and all red time

Angle Crashes at Unsignalized Intersections

- Remove obstructions for sight lines
- Advance Stop Bar
- All-Way Stop Sign
- Lighting
- New Traffic signal
- Overhead Flashing Beacon
- Raised median (applicable to crashes at two-way stop-controlled intersections and driveways)
- Roundabout
- Access management
- Prohibit left-turn

Sideswipe Crashes

- Access management
- Median Barrier
- Clear Distance
- Lighting (if crashes happen at night)
- Raised Medians
- Rumble Strips
- Upgrade striping
- Striping through intersection

Fixed Object

- Curve Advanced Warning Sign
- Barrier
- Guardrail
- Lighting
- Rumble Strips
- Create or increase clear zone
- High Friction Surface Treatment
- Widen/Pave Shoulder
- Relocate select hazardous utility poles
- Painted centerline and raised pavement markers at curves
- Delineators, reflectors, and/or object markers

Speed Management

- Centerline Hardening
- Chicane
- Curb extension
- Curb return radius reduction
- Reduce curb radii
- Landscape Buffer
- Lane Repurposing
- Narrow travel lanes
- On-street Parking
- Raised crosswalk
- Raised intersection
- Raised median
- Roundabouts
- Signal coordination
- Speed feedback signs
- Speed humps, speed tables, speed cushions
- Speed sensitive rest-in-red signal
- Variable speed limits (VSL)
- Education Campaigns for Vulnerable Groups

Pedestrian Crashes at Signalized Intersections

- Audible Push Button Upgrades
- Advance Stop Bar
- Centerline Hardening
- Countdown Ped Signal Heads
- Curb Extensions
- Curb return radius reduction
- Extended Pedestrian Crossing Time
- High Visibility Crosswalks
- Install sidewalks / close sidewalk gaps
- Intersection daylighting
- Leading Pedestrian Interval
- Pedestrian Detection
- Pedestrian recall signal timing
- Pedestrian refuge island
- Pedestrian scramble
- Prohibit turns during pedestrian phase
- Protected intersection treatments
- Protected turn phases
- Raised crosswalk
- Raised intersection
- Remove channelized right-turn – slip lane
- Remove sightline obstructions

- Restripe crosswalk
- Shorten cycle length
- Slow turn wedge
- Straighten crosswalks
- Upgrade curb ramp

Pedestrian Crashes at Unsignalized Intersections / Corridors

- Access management
- All-way Stop Sign
- Centerline Hardening
- Co-locate bus stops and pedestrian crossings
- Curb extensions
- High visibility crosswalks
- Install sidewalks / close sidewalk gaps
- Lane elimination
- Mid-block crossings/install sidewalk
- Narrow travel lanes
- New Traffic Signal
- Pedestrian Hybrid Beacon
- Rectangular Rapid Flashing Beacon
- Speed Management– see Speed Management Crash Type

Bicycle Crashes at Signalized Intersections

- Add bicycle facilities
- Protected intersection
- Automatic Recall Signal timing
- Bicycle crossing
- Bicycle signal
- Bicycle signal detection
- Conflict zone markings
- Extend bicycle facility to intersection
- Extend signal clearance time
- Install traffic signal
- Lane repurposing
- Mixing zone
- Partial closure/diverter
- Prohibit motor vehicle left turn
- Prohibit right-turn on red
- Remove channelized right-turn/ slip-lane
- Shorten signal cycle length
- Slow green wave

Bicycle Crashes at Unsignalized Intersections

- Bicycle Conflict Zone Markings
- Bikes May Use Full Lane signs
- Lane elimination
- Narrow lanes
- Prohibit motor vehicle left turns
- Separated bikeway
- Speed management– see Speed Management Crash Type

Motorcycles

- High Friction Surface Treatment
- Lighting
- Upgrade lighting to LED

Addressing Safety through Non-Engineering Countermeasures

It may be beneficial to pair engineering countermeasures with non-engineering countermeasures, such as increased enforcement or education, depending on the crash data. Several non-engineering safety countermeasures are highlighted below; more information can be found in Appendix B. Additionally, building off existing safety initiatives, the **Implementation Plan** identifies actions that comprehensively address safety through a variety of non-engineering countermeasures, including policies, programs, plans, initiatives, and projects.

Education

- Education Campaigns for Vulnerable Groups
- Youth Education
- Pilot Demonstration Safety Projects
- Public Information Campaigns
- Bicycle Safety Education Events

Better Data

- Improve Crash Data Collection

Maintenance

- Keep Roadways Clear of Debris

Partnerships

- Safe Routes to School

Policies and Programs

- Targeted Enforcement and Deterrence
- Update City Policies and Standards

Priority Projects

A Benefit-Cost Ratio (BCR) was used to prioritize engineering solutions at the three priority corridors and intersections, or projects, that emerged from the systemic safety and crash analysis. For each project, crash history was reviewed, and proven safety engineering countermeasures were identified. Several countermeasures were selected for each project to address various crash types, and to target multiple safe system principles, and various levels of the safe system solutions hierarchy. The projects benefit was estimated according to the crash history at the intersection and along the corridor, by applying relevant Crash Modification Factors (CMFs) to KAB crashes, and cost data from the Texas Department of Transportation (TxDOT) Highway Safety Improvement Program Guidelines. The project benefits were compared against the project cost for the countermeasures selected over the service life of the countermeasure to obtain an annual Benefit-Cost Ratio (BCR). Priority projects were selected as those where the BCR is greatest.


Countermeasures
Variable Speed Limits
Pedestrian Hybrid Beacon
Median and
Refuge

N Collins St Skyline Dr to Division St

PRIORITY CORRIDOR

Collision Summary

- 129 Total Collisions
- 17 KA Collisions
- 16 Bicycle and Pedestrian Collisions
- 3 Bicycle and Pedestrian KA Collisions

Attributes

NEAR SCHOOL | UNDERSERVED COMMUNITY ✓ | SIGNALIZED INTERSECTION ✓ | MAJOR ARTERIALS ✓

Location Summary

VIOLATIONS

- Failed to yield ROW - turning left
- Failed to control speed
- Followed too closely
- Disregard stop and go signal

COLLISION TYPES

- Opposite direction- one straight-one left turn
- Angle-both going straight
- Single vehicle
- Rear end

Goals

- Reduce vehicle speeds through lane narrowing
- Enhance pedestrian safety by adding refuge islands and retroreflective signal backplates
- Minimize left-turn conflicts by prohibiting left turns at designated locations

Overall Benefit / Cost : 116

Overall Project Cost : $508,120

Countermeasures

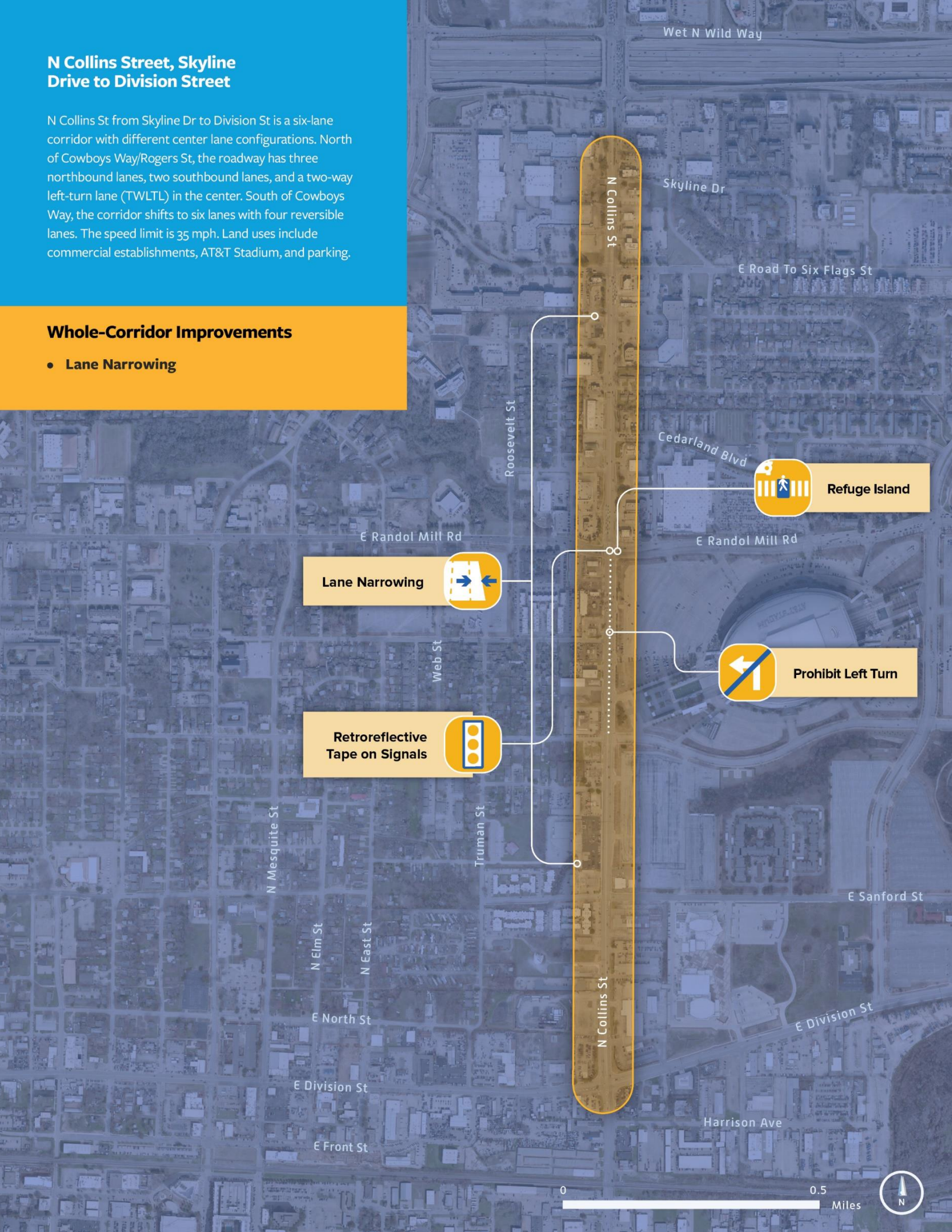
	Refuge Island	Retroflective Signal Backplates	Prohibit Left Turn	Lane Narrowing
Focus Crash Type	1) Dart/Dash; 2) Through Vehicle at Signalized Intersection; 3)Through Vehicle at unsignalized Intersection	1) Angle Crashes; 2) Left Turn Crashes	1) Left Turn Crashes; 2) Pedestrian struck by Turning Vehicle; 3) Motorist turned left in path of bicyclist	Speed Related Crashes
Applicable Crashes for Reduction	Vehicle/Pedestrian	All	Left Turn Crashes	N/A
Service Life Benefit	$23,120,000	$12,600,000	$23,120,000	N/A
Project Cost	$121,750	$1,870	$50,000	$334,500

N Collins Street, Skyline Drive to Division Street

N Collins St from Skyline Dr to Division St is a six-lane corridor with different center lane configurations. North of Cowboys Way/Rogers St, the roadway has three northbound lanes, two southbound lanes, and a two-way left-turn lane (TWLTL) in the center. South of Cowboys Way, the corridor shifts to six lanes with four reversible lanes. The speed limit is 35 mph. Land uses include commercial establishments, AT&T Stadium, and parking.

Whole-Corridor Improvements

- **Lane Narrowing**



Division St

Cooper St to Collins St

PRIORITY CORRIDOR

Collision Summary

- 58 Total Collisions
- 8 KA Collisions
- 8 Bicycle and Pedestrian Collisions
- 2 Bicycle and Pedestrian KA Collisions

Attributes

NEAR SCHOOL | UNDERSERVED COMMUNITY ✓ | SIGNALIZED INTERSECTION ✓ | MAJOR ARTERIALS ✓

Location Summary

VIOLATIONS

- Disregard stop and go signal
- Under influence
- Failed to control speed

COLLISION TYPES

- Angle- both going straight
- Same direction- one stopped
- Angle- one straight one left turn
- Single vehicle

Goals

- Improve pedestrian visibility with upgraded striping and crosswalk restriping
- Enhance nighttime visibility with segment lighting
- Reduce left-turn conflicts by implementing directional median openings
- Expand pedestrian accessibility by adding sidewalks

Overall Benefit / Cost : 85

Overall Project Cost : $1,341,660

Countermeasures

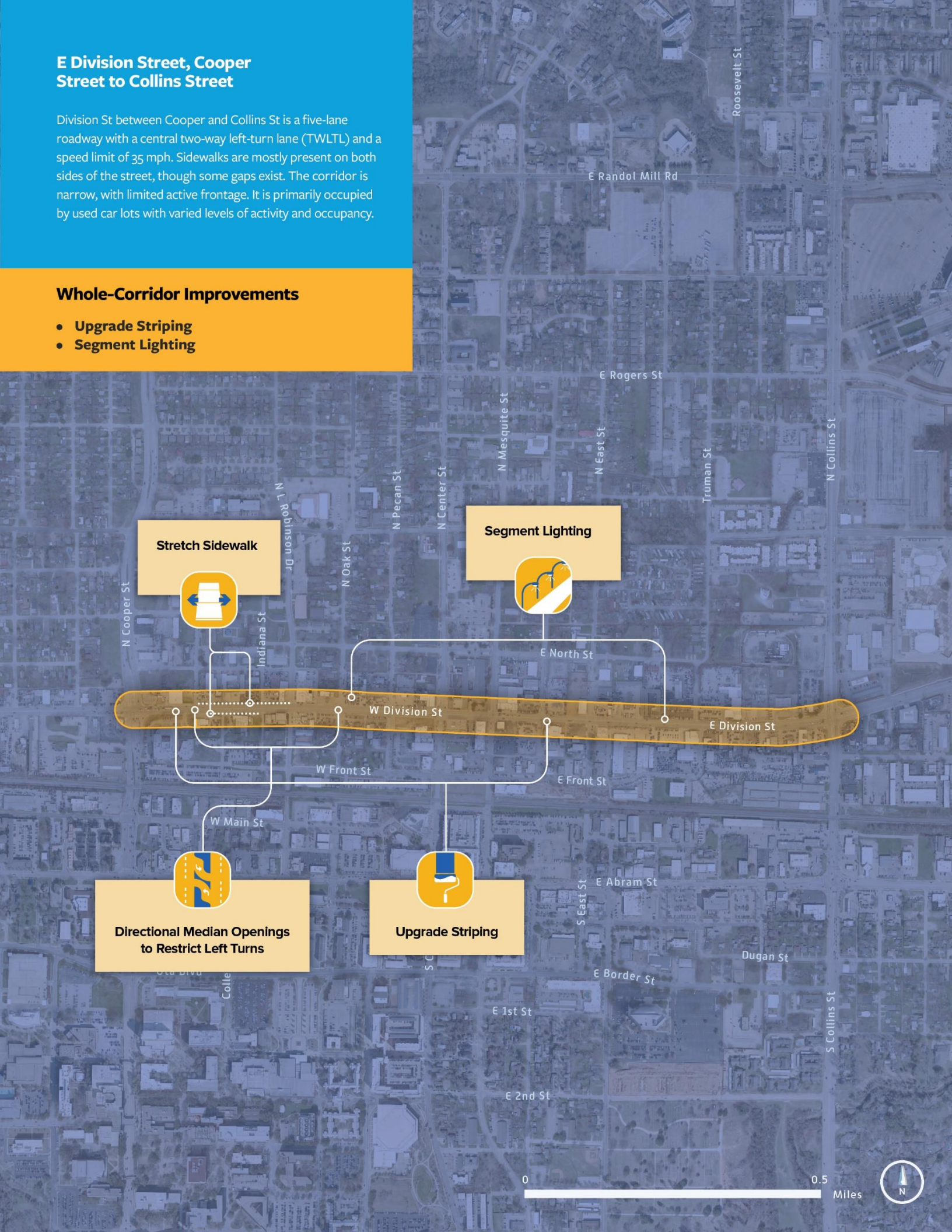
	Upgrade Striping	Segment Lighting	Restripe Crosswalk	Directional Median Openings to Restrict Left Turns	Add Sidewalk
Focus Crash Type	Sideswipes	Nighttime Crashes	1) Pedestrian struck by Turning Vehicle; 2) Through Vehicle at signalized Intersection; 3) Through Vehicle at unsignalized Intersection	1) Angle Crashes; 2) Left Turn Crashes	N/A
Applicable Crashes for Reduction	N/A	Nighttime	N/A	Left Turn Crashes	Vehicle/ Pedestrian
Service Life Benefit	N/A	$23,580,000	N/A	$89,920,000	$1,040,000
Project Cost	$115,610	$700,000	$1,050	$525,000	$46,044

E Division Street, Cooper Street to Collins Street

Division St between Cooper and Collins St is a five-lane roadway with a central two-way left-turn lane (TWLTL) and a speed limit of 35 mph. Sidewalks are mostly present on both sides of the street, though some gaps exist. The corridor is narrow, with limited active frontage. It is primarily occupied by used car lots with varied levels of activity and occupancy.

Whole-Corridor Improvements

- **Upgrade Striping**
- **Segment Lighting**



Cooper St

Nedderman Dr to Park Row Dr

PRIORITY CORRIDOR

Collision Summary

- 37 Total Collisions
- 6 KA Collisions
- 6 Bicycle and Pedestrian Collisions
- 2 Bicycle and Pedestrian KA Collisions

Attributes

NEAR SCHOOL ✓ | UNDERSERVED COMMUNITY ✓ | SIGNALIZED INTERSECTION ✓ | MAJOR ARTERIALS ✓

Location Summary

VIOLATIONS

- Disregard stop and go signal
- Failed to control speed
- Failed to Yield ROW turning left

COLLISION TYPES

- Angle- both going straight
- Same direction- one stopped
- Single vehicle
- Opposite direction-one straight, one left turn

Goals

- Minimize left-turn conflicts by prohibiting left turns at specific intersections
- Increase pedestrian safety by closing slip lanes and installing a pedestrian hybrid beacon
- Reduce vehicle speeds through lane narrowing

Overall Benefit / Cost : 55

Overall Project Cost : $959,000

Countermeasures

	Prohibit Left Turn	Close Slip Lane	Lane Narrowing	Pedestrian Hybrid Beacon
Focus Crash Type	1) Left Turn Crashes; 2) Pedestrian struck by Turning Vehicle; 3) Motorist turned left in path of bicyclist	1) Right Turn Crashes; 2) Pedestrian Struck by Turning Vehicle; 3) Motorist turns left in path of bicyclist; 4) Motorist turns right in path of bicyclist	Speed Related Crashes	1) Dart/Dash; 2) Multiple Threat/Trapped; 3) Through Vehicle at Unsignalized Intersection
Applicable Crashes for Reduction	Left Turn Crashes	N/A	N/A	Vehicle/Pedestrian
Service Life Benefit	$23,120,000	N/A	N/A	$16,760,000
Project Cost	$50,000	$500,000	$334,500	$74,500

Cooper Street, Nedderman Drive to Park Row Drive

Cooper St from Nedderman Dr to Park Row Dr is a six-lane divided roadway with a raised center median and a speed limit of 35 mph. The corridor runs between the University of Texas at Arlington to the north and Arlington High School near the southern end. This section of Cooper St is commercial in nature, with numerous fast-food restaurants, and includes an unsignalized crossing at Linda Vista Ave.

Whole-Corridor Improvements

- **Lane Narrowing**

Cooper St & Pioneer Pkwy

PRIORITY INTERSECTION

Collision Summary

- 35 Total Collisions
- 5 KA Collisions
- 3 Bicycle and Pedestrian Collisions
- 2 Bicycle and Pedestrian KA Collisions

Attributes

NEAR SCHOOL | UNDERSERVED COMMUNITY ✓ | SIGNALIZED INTERSECTION ✓ | MAJOR ARTERIALS ✓

Location Summary

VIOLATIONS

- Disregard stop and go signal
- Failed to control speed
- Failed to Yield ROW turning left

COLLISION TYPES

- Angle
- Opposite Direction
- Same Direction
- Single Vehicle

Goals

- Reduce angle crashes by modifying signal operations
- Increase visibility at intersection through enchanced lighting

Overall Benefit / Cost : 65

Overall Project Cost : $71,930

Countermeasures

	Extend Yellow and All Red Time	Upgrade Intersection Pavement Markings	Intersection Lighting	Signal Interconnectivity and Coordination / Green Wave	Retroflective Signal Backplates	Leading Pedestrian Interval and Pedestrian Recall	Signalize Slip Lanes
Focus Crash Type	1) Angle Crashes; 2) Red Light Running Crashes	1) Angle Crashes; 2) Through Vehicle at Unsignalized Intersection; 3) Motorist Failed to yield at unsignalized intersection	Nighttime Crashes	Speed Related Crashes	1) Angle Crashes; 2) Left Turn Crashes	1) Pedestrian Struck by Turning Vehicle; 2) Motorist turns right in path of bicyclist	N/A
Applicable Crashes for Reduction	Angle Crashes	N/A	Nighttime	N/A	All	Vehicle/ Pedestrian	N/A
Service Life Benefit	N/A	N/A	$4,680,000	N/A	$4,160,000	N/A	N/A
Project Cost	$5,440	$1,050	$60,000	$5,440	$1,760	$5,440	$150,000

Cooper Street & Pioneer Parkway

The intersection of Cooper St and Pioneer Pkwy is signalized, with streets meeting at an angle. Pioneer Pkwy is a six-lane divided roadway running east-west with a 40 mph speed limit and a raised center median. Slip lanes for right turns onto Cooper St are present in both directions, along with two dedicated left-turn lanes. Cooper St is a six-lane divided roadway in the north-south direction, also with a 40 mph speed limit and raised center median, providing dedicated right-turn and left-turn lanes in each direction. Marked pedestrian crossings are available on all legs, generally ADA-compliant with tactile warning surfaces in good condition. Pedestrian refuges are provided at slip lane corners, but not within the medians.

Cooper St & Arkansas Ln

PRIORITY INTERSECTION

Collision Summary

- 30 Total Collisions
- 3 KA Collisions
- 1 Bicycle and Pedestrian Collisions
- 0 Bicycle and Pedestrian KA Collisions

Attributes

NEAR SCHOOL | UNDERSERVED COMMUNITY ✓ | SIGNALIZED INTERSECTION ✓ | MAJOR ARTERIALS ✓

Location Summary

VIOLATIONS

- Failed to yield ROW turning left
- Disregard stop and go signal

COLLISION TYPES

- Opposite direction
- Angle

Goals

- Increase signal visibility and compliance through the installation of retroflective signal backplates
- Reduce crashes occuring at night through improved intersection lighting
- Signalize slip lanes to reduce conflicts with vehicles turning right

Overall Benefit / Cost : 86

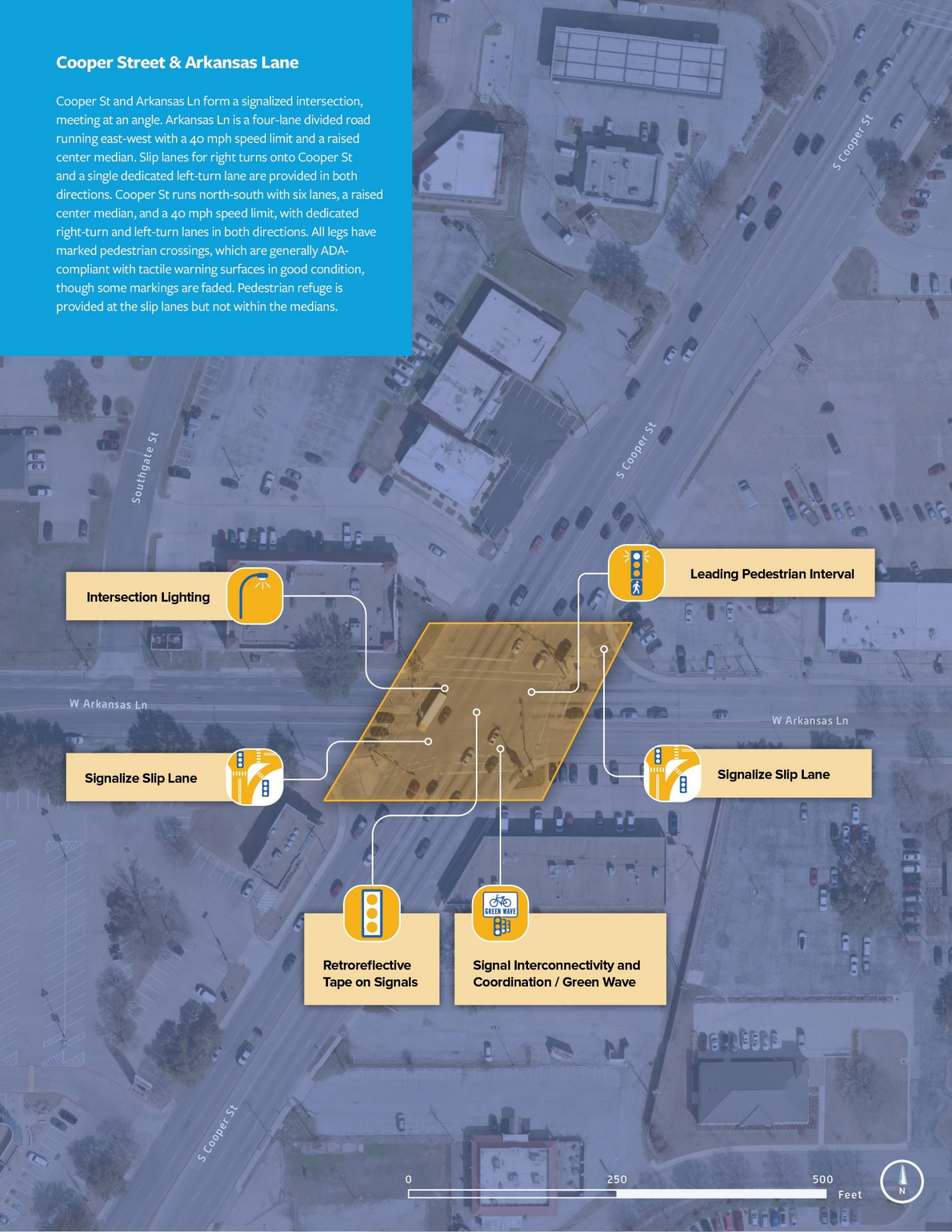
Overall Project Cost : $72,310

Countermeasures

	Intersection Lighting	Signal Interconnectivity and Coordination / Green Wave	Retroflective Signal Backplates	Leading Pedestrian Interval and Pedestrian Recall	Signalize Slip Lanes
Focus Crash Type	Nighttime Crashes	Speed Related Crashes	1) Angle Crashes; 2) Left Turn Crashes	1) Pedestrian Struck by Turning Vehicle; 2) Motorist turns right in path of bicyclist	N/A
Applicable Crashes for Reduction	Nighttime	N/A	All	Vehicle/Pedestrian	N/A
Service Life Benefit	$3,120,000	N/A	$3,120,000	N/A	N/A
Project Cost	$60,000	$5,440	$1,430	$5,440	$150,000

Cooper Street & Arkansas Lane

Cooper St and Arkansas Ln form a signalized intersection, meeting at an angle. Arkansas Ln is a four-lane divided road running east-west with a 40 mph speed limit and a raised center median. Slip lanes for right turns onto Cooper St and a single dedicated left-turn lane are provided in both directions. Cooper St runs north-south with six lanes, a raised center median, and a 40 mph speed limit, with dedicated right-turn and left-turn lanes in both directions. All legs have marked pedestrian crossings, which are generally ADA-compliant with tactile warning surfaces in good condition, though some markings are faded. Pedestrian refuge is provided at the slip lanes but not within the medians.



Cooper St & Matlock Road

PRIORITY INTERSECTION

Collision Summary

- 7 Total Collisions
- 1 KA Collisions
- 1 Bicycle and Pedestrian Collisions
- 1 Bicycle and Pedestrian KA Collisions

Attributes

NEAR SCHOOL | UNDERSERVED COMMUNITY | SIGNALIZED INTERSECTION | MAJOR ARTERIALS

Location Summary

VIOLATIONS

- Failed to control speed
- Failed to yield ROW turning left

COLLISION TYPES

- Opposite direction- one straight-one left turn
- Same direction

Goals

- Separate users in space through closing of the slip lane

Overall Benefit / Cost : 4

Overall Project Cost : $1,025,000

Countermeasures

	Directional Median Openings to Restrict Left Turns	Close Slip Lane
Focus Crash Type	1) Angle Crashes; 2) Left Turn Crashes	1) Right Turn Crashes Pedestrian Struck by Turning Vehicle; 2) Motorist turns left in path of bicyclist; 3) Motorist turns right in path of bicyclist
Applicable Crashes for Reduction	Left Turn Crashes	N/A
Service Life Benefit	$4,160,000	N/A
Project Cost	$525,000	$500,000

Cooper Street & Matlock Road

The intersection of Cooper St and Matlock Rd is unsignalized, with Matlock Rd terminating northbound at Cooper St. Matlock narrows to a single lane as it approaches Cooper, merging onto Cooper St via a slip lane with a short acceleration lane. Cooper St is a six-lane divided roadway with a raised center median and a 40 mph speed limit, providing dedicated right-turn and left-turn lanes in both directions. Across from Matlock Rd, an access point for a shopping center permits turns onto Cooper St but does not allow southbound movement on Matlock Rd. Pedestrian crossings at Matlock Rd and the shopping center access are unmarked; the nearest marked crossing is located 350 feet south at Cooper St and Pioneer Pkwy.

THE IMPLEMENTATION PLAN

5. The Implementation Plan

An action plan is developed to achieve *Safe Streets Arlington's* vision for safer streets and its safety goal. The action plan was developed through input from the advisory group and the public, and includes policies, programs, and projects centered around seven strategies:

1. **Institutionalize Safety into Decision-Making**
   All City staff and leaders are responsible for actions that support funding, administering, building, operating, and maintaining a safe system.
2. **Reduce Fatal and KAB Crashes**
   Prioritize the elimination of crashes on the High Injury Network that result in death and serious injuries.
3. **Prevent Future Crashes**
   Identify and address safety issues in the transportation system, rather than waiting for crashes to occur and react afterwards.
4. **Design and Operate the Road System with Safety in Mind**
   A transportation system designed with safety in mind reduces behaviors and decisions that increase the likelihood of death and serious injury when a crash occurs.
5. **Address Human Vulnerability**
   Human bodies have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a human-centric transportation system that protects physical human vulnerabilities from high speeds.
6. **Work Toward a Shared Goal**
   All parties within the system – including government at all levels, private industry (e.g., vehicle manufacturers, consulting firms, etc.), non-profit/advocacy organizations, the healthcare system, first responders, researchers, and the general public – are vital to preventing fatalities and serious injuries.
7. **Create a Culture of Safety**
   Road users have increased responsibility for actions that help to ensure the safety of themselves and of all other road users around them.

These actions are identified with a lead agency and supporting agencies and/or organizations responsible for achieving the action within the identified time frame. These actions are displayed with their alignment to the Safe System Approach. Actions include regular coordination with the advisory groups to track progress on the implementation plan and engage with the public to

report on action plan progress, gather input from the public, and educate and train the public on transportation safety topics.

Strategy 1. Institutionalize Safety into Decision-Making

All City staff and leaders are responsible for actions that support funding, administering, building, operating, and maintaining a safe system.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements					
			Safe Roads	Safe Road Users	Safe Speed	Safe Roads	Post Crash Care
Short-Term							
Regularly report (at least annually) to Arlington's City Council on safety implementation efforts.	**Transportation** Public Works Police Dept		x	x	x	x	x
Encourage roadway safety to be incorporated into City Council Priorities.	**Transportation** Public Works City of Arlington EMS		x	x	x	x	x
Regularly update Arlington's Safety Dashboard (at least annually).	**Transportation** Information Technology Services Office of Strategic Initiatives		x	x	x		
Formalize Arlington's Internal Stakeholder Committee (ISC) and meet regularly.	**Transportation** Internal Stakeholder Committee		x	x	x	x	x
Leverage existing funding sources and apply for new funding/grants to implement safety projects (e.g. SS4A, SMART, ATTAIN, Advanced Transportation Technologies and innovative Mobility, Saving Lives with Connectivity: Accelerating Vehicles to Everything (V2X) Deployment, Automated Driving System Demonstration Grants)	**Transportation** Public Works		x	x	x	x	x

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 1. Institutionalize Safety into Decision-Making

All City staff and leaders are responsible for actions that support funding, administration, building, operating, and maintaining a safe system.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Roads	Post Crash Care
Mid-Term						
Align updates to and future transportation plans developed for the City of Arlington with the safety vision, goal, and strategies in Safe Streets Arlington.	**Transportation**	x	x	x	x	x
Integrate safety language and/or requirements into procurements that address safety-related topics.	**Transportation** Human Resources Finance and Procurement	x		x	x	
Update Safe Streets Arlington every five years (or more frequently).	**Transportation** Public Works Police Dept	x	x	x	x	x
Develop training, tools, and/or resources to help City staff incorporate safety into department's core functions.	**Transportation** Internal Stakeholder Committee Communications Risk Management City Manager's Office	x		x		
Provide education and training for the City's vehicle operators to reduce the chance of a fatality or serious injury occurring in a City vehicle.	**Transportation** Internal Stakeholder Committee Risk Management		x		x	

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 2. Reduce Fatal and KAB Crashes

Prioritize the elimination of crashes on the High Injury Network that result in death and serious injuries.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Use the HIN as an integral element of project prioritization in deployment of projects and in seeking funding.	**Public Works** Transportation	x		x		
Use recommended multimodal countermeasures in Safe Streets Arlington to address KAB crashes on the HIN.	**Public Works** Transportation	x		x		
Share crash data with Arlington Police Department and Fire Department for awareness and to direct resources, including enforcement activities, to focus on fatal and serious injury crash locations.	**Transportation** Fire Dept Police Dept	x	x	x		
Mid-Term						
Update Arlington's High Injury Networks (HIN) to align with Safe Streets Arlington update.	**Transportation** Public Works	x	x	x	x	x
Coordinate with Medical City Arlington and/or Arlington Memorial Hospital and other medical providers to create a richer data set for fatalities and serious injuries.	**Transportation** Information Technology Medical City Arlington Arlington Memorial Hospital	x	x	x	x	x

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 3. Prevent Future Crashes

Identify and address safety issues in the transportation system, rather than waiting for crashes to occur and react afterwards.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Develop Safe Routes to School plans, prioritize projects, conduct demonstration projects, and implement projects to prevent crashes in school zones.	**Public Works** Transportation Arlington ISD Mansfield ISD	x	x	x		
Determine if, and what, other data would be beneficial to understanding transportation trends and preventing crashes and develop approach to obtain data (i.e. near miss or hard braking data, future land use maps or development sites, demographic or population shifts, hospitalization data).	**Transportation** Public Works North Central Texas COG	x		x		
Participate in Arlington's Comprehensive Plan update and provide recommendations to proposed land use and policies to integrate safety into transportation and land use planning.	**Transportation** Planning and Development Services	x		x		
Mid-Term						
Use the crash profiles as an integral element of project prioritization in deployment of projects and programs, and in seeking funding.	**Public Works** Transportation	x	x	x		
Review and revise Arlington's systemic analysis (crash profiles) to align with the Safe Streets Arlington update.	**Transportation**	x	x	x		
Incorporate safety considerations and multimodal amenities in new development plans.	**Planning and Development Services** Transportation Public Works	x	x	x		

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 3. Prevent Future Crashes

Identify and address safety issues in the transportation system, rather than waiting for crashes to occur and react afterwards.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Long-Term						
Use recommended multimodal countermeasures in Safe Streets Arlington to address locations with the potential for crashes based on crash profiles, road design, and other contexts.	**Public Works** Transportation	x		x		

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 4. Design and Operate the Road System with Safety in Mind

A transportation system designed with safety in mind reduces behaviors and decisions that increase the likelihood of death and serious injury when a crash occurs.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Educate the public when a new or innovative safety solution has been implemented on the roadways (e.g. add to Enhance Regional Mobility Newsletter).	**Communications** Transportation Public Works	x	x	x		
Mid-Term						
Develop a traffic calming policy and/or playbook defining applicable countermeasures, priority locations, and the process by which solutions and locations are selected.	**Transportation** Public Works Fire Dept Police Dept Neighborhood Representatives	x	x	x	x	x
Pursue funding opportunities focused on safety technologies for vulnerable road users.	**Transportation** Public Works North Central Texas COG Walkable Arlington UTA Bicycle Coordinating Committee	x	x	x	x	
Coordinate with TxDOT to implement a Safe System on TxDOT facilities in Arlington.	**Public Works** Transportation TxDOT	x		x		
Continue to evaluate the impacts of innovative connected and automated vehicle (CAV) technologies (i.e. RAPID AV service) and how it impacts safety. Coordinate with first responders on CAV technologies and implications for post-crash care.	**Transportation** Public Works Fire Dept Police Dept	x			x	x

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 4. Design and Operate the Road System with Safety in Mind

A transportation system designed with safety in mind reduces behaviors and decisions that increase the likelihood of death and serious injury when a crash occurs.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Long-Term						
Conduct before and after assessments for implemented safety projects.	**Public Works** Transportation	x	x	x		
Review Arlington's Design Criteria Manual to consider if and where changes could be made to prioritize safety further and consider all roadway users.	**Public Works** Transportation	x	x	x		

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 5. Address Human Vulnerability

Human bodies have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a human-centric transportation system that protects physical human vulnerabilities from high speeds.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Identify best practices related to speed education campaigns and customize one for the City of Arlington.	**Police Dept** Transportation Communications		x	X		
Mid-Term						
Update the context classification guidance in the Arlington Thoroughfare Development Plan (so it addresses local roads) and the Bicycle Facility Decision Tree in the Arlington Hike and Bike System Master Plan to help prioritize facilities for bicycle and pedestrian improvements.	**Transportation** Public Works	x		x		
Long-Term						
Review speed limit setting policies for other similar sized Texas cities and consider the development of a policy for Arlington.	**Transportation** Public Works Police Dept UTA Bicycle Coordinating Committee	x		x		

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 6. Work Toward a Shared Goal

All parties within the system – including government at all levels, private industry (e.g., vehicle manufacturers, consulting firms, etc.), non-profit/advocacy organizations, the healthcare system, first responders, researchers, and the general public – are vital to preventing fatalities and serious injuries.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Engage with the following agencies as needed, but at a minimum of two times per year: • TxDOT – awareness and focus on safety needs on state roads • Schools – young driver education and awareness and safe routes to school efforts • UTA – pedestrian and bicycling groups • Medical City Arlington and Arlington Memorial Hospital – data and safety education campaigns • First responder community – data and safety education campaigns	**Transportation** TxDOT Arlington ISD Mansfield ISD UTA Bicycle Coordinating Committee Walkable Arlington Medical City Arlington Arlington Memorial Hospital Public Works Police Dept Fire Dept	x	x	x		x
Maintain Arlington's Internal Stakeholder Committee (ISC) and meet regularly (e.g. every 3 mos.). Discuss opportunities to further integrate safety into their respective initiatives at work.	**Transportation** Internal Stakeholder Committee	x	x	x	x	x
Maintain Arlington's External Stakeholder Committee (ESC) and meet regularly (e.g. every 6 mos.).	**Transportation** External Stakeholder Committee	x	x	x	x	x

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 6. Work Toward a Shared Goal

All parties within the system – including government at all levels, private industry (e.g., vehicle manufacturers, consulting firms, etc.), non-profit/advocacy organizations, the healthcare system, first responders, researchers, and the general public – are vital to preventing fatalities and serious injuries.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Ask ESC members who represent disadvantaged communities to present at each ESC meeting on safety updates and community needs.	**Transportation** External Stakeholder Committee	x	x	x	x	x
Encourage ESC members to incorporate the safety vision, goal, and strategies in *Safe Streets Arlington* into their respective initiatives at work and in their communities.	**Transportation** External Stakeholder Committee	x	x	x	x	x
Track, evaluate, and share progress on safety action items identified in *Safe Streets Arlington* plan as major function of the ISC and ESC[1].	**Transportation** Internal Stakeholder Committee External Stakeholder Committee	x	x	x	x	x

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

1. Ongoing action item

Strategy 7. Create a Culture of Safety

Road users have increased responsibility for actions that help to ensure the safety of themselves and of all other road users around them.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Short-Term						
Through ESC meetings, coordinate with university and high school representatives to further develop young education transportation and safety programs.	**Transportation** External Stakeholder Committee Arlington ISD Mansfield ISD UTA Bicycle Coordinating Committee Walkable Arlington	x	x	x	x	
Prioritize engagement and education in disadvantaged communities.	**Transportation** Communications External Stakeholder Committee	x	x	x		
Apply for annual Section 402 State and Community Highway Safety grants through the Texas Department of Public Safety to fund safety education initiatives.	**Transportation** Public Works External Stakeholder Committee		x			

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

Strategy 7. Create a Culture of Safety

Road users have increased responsibility for actions that help to ensure the safety of themselves and of all other road users around them.

Action Item	Responsibility (Bold = Lead Agency)	Safe System Elements				
		Safe Roads	Safe Road Users	Safe Speed	Safe Vehicles	Post Crash Care
Mid-Term						
Provide training for bicyclists (of all ages) on safety, rules of the road, and maintenance.	**Transportation** External Stakeholder Committee UTA Bicycle Coordinating Committee	x	x	x		
Engage the public and stakeholders in demonstration activities.	**Transportation** Communications Public Works Internal Stakeholder Committee	x	x	x	x	
For all public facing materials, translate content into Spanish and Vietnamese[1].	**Communications** Transportation		x			

Note: Short-Term = 0-2 years, Mid-Term = 3-5 years, Long-Term = 5-7 years.

1. Ongoing action item

Monitoring and Accountability

Safe Streets Arlington provides a clear, comprehensive Implementation Plan for reducing deaths and serious injuries on Arlington's streets by five percent annually to achieve a shared goal of zero deaths and serious injuries by 2050. This goal is achievable, but also aspirational, recognizing the immense work ahead to get improvements in the ground, modify behaviors, and institute system change.

Many of the actions can be implemented within one or two years, but others will take longer and some entail continuous engagement. To understand progress toward the shared goal, frequent evaluation of safety actions is required. This will provide an understanding of what is working, and should be continued, and where modifications can be made. Internal and external stakeholders will continue to meet and use a performance-based framework to monitor and evaluate the effects of this plan on KAB crashes. Every three to five years, Arlington will also update *Safe Streets Arlington* to use the most recent crash data to inform the safety program.

In addition to tracking progress on individual action items in the Implementation Plan, progress will be measured through annual reporting of performance measures, including outcome and activity-based performance measures. The following performance measures are drawn from national best practices and customized for Arlington but will evolve in future years as the understanding of KAB crashes expands, conversations with the public and stakeholders continue, and our understanding of driver behaviors grows.

Outcome-Based Performance Measures

Outcome-based performance measures are quantifiable and evaluate the extent to which safety actions/improvements are affecting KAB crash reductions. Data for these measures is accessible, easy to measure, and able to be compared year over year.

Number of traffic related deaths, serious injuries, and minor injuries for/in:

- The most recent five-year period
- The reporting period (every 6-months or 1-year)
- Pedestrians, bicycles, and motor vehicles
- Younger and older drivers, pedestrians, and bicyclists
- Disadvantaged communities
- Within walking distance (1/2 mi) of a school

Before and after study for projects implemented at least one year from reporting date:

- Countermeasures implemented
- Speed Differentials
- Traffic Volume
- KAB Crashes

Activity-Based Performance Measures

Activity-based performance measures track activities led by responsible and supporting agencies for purposes of accountability. These measures cannot be directly quantified in relation to their impact on KAB crash reductions but are useful in evaluating the implementation of qualitative safety strategies and actions.

General Action Items

- Total number of actions completed to date
- Total number of actions completed during the reporting period
- Total number of actions in progress
- Total number of incomplete actions
- Total number of actions planned to be complete by the next reporting period

Individual Action Items

- Description of progress by action owner/supporting entity during the reporting period

Strategy 1 Example Metrics

- Number of safety reports to Council
- Updates to crash dashboard
- Number of Internal Stakeholder Committee meetings
- Number of dollars received for safety improvements
- Number of procurements with safety considerations
- Number of internal safety-related trainings conducted

Strategy 2 Example Metrics

- Number of projects completed on the HIN
- Countermeasures deployed on the HIN
- Number of meetings with Arlington Police Department and/or Fire Department
- Police Department efforts at locations with history of KAB injury crashes
- Information and/or data gathered from hospitals and medical providers

Strategy 3 Example Metrics

- Number of Safe Routes to School plans completed
- Number of demonstration projects completed
- New data requested and/or obtained to inform safety studies

- Number of projects implemented that address crash profiles
- Number of projects that address high risk factors
- Updates to development, land use, and transportation policies

Strategy 4 Example Metrics

- Public education efforts
- Adoption of traffic calming policy and/or playbook
- Number of dollars received for safety improvements for vulnerable road users
- Number of projects that involved coordination with TxDOT
- Outcome of meetings with first responders on CAV technologies and post-crash care
- Number of before and after assessments
- Results of before and after assessments
- Suggested updates to Arlington's Design Criteria Manual

Strategy 5 Example Metrics

- Speed education campaign
- Updates to the Thoroughfare Development Plan
- Updates to the Hike and Bike System Master Plan
- Recommendations for a speed limit setting policy

Strategy 6 Example Metrics

- Number of meetings with partner agencies and groups (e.g. TxDOT, schools, UTA, medical providers, first responders)
- Action items following meetings with partner agencies and groups
- Number of ISC and ESC meetings
- Attendance at ISC and ESC meetings
- Actions following ISC and ESC meetings

Strategy 7 Example Metrics

- Number of young education safety programs
- Number of meetings in disadvantaged communities
- Number of attendees or participation in engagement and education activities in disadvantaged communities
- Number of views to online materials
- Number of responses to online surveys
- Share of public input from children, the elderly, low income, and/or minority populations
- Share of public input from populations in Disadvantaged Communities
- Number of dollars received for safety education initiatives
- Number and location of bicycle trainings
- Number and location of demonstration activities
- Public facing materials have been translated into Spanish and Vietnamese

WHAT OUR COMMUNITIES ARE SAYING ABOUT SAFETY

6. What our Communities are Saying about Safety

Safe Streets Arlington placed a high priority on engaging the public. Public and stakeholder input was collected to ensure that High Injury Networks, Countermeasures and actions aligned with public concerns. To correspond with the Safe Streets Arlington project, a 12-month engagement plan was deployed in January 2024.

Engagement Activities and Schedule

The schedule (below) provides an overview of the engagement activities and how those activities strategically lined up with key project tasks:

Figure 16. Engagement Schedule

Internal Stakeholder Committee (ISC) meetings were conducted at six (6) intervals beginning in February 2024. Participants were selected from key positions within the City of Arlington and represented departments ranging from Public Works to Information Technology, and from the Police Department to Human Resources.

The ISC met on the following dates and discussed the following themes:

- February 22, 2024: Project introduction and initial discussion regarding top priorities

- March 28, 2024: Vision and High Injury Network introduction
- May 9, 2024: Safety data review and countermeasures
- June 27, 2024: Engagement recap, crash data locations, prioritized High Injury Network discussion and countermeasure toolkit discussion
- September 12, 2024: Prioritized High Injury Network and plan priorities and outcomes
- October 24, 2024: Outreach recap and plan finalization

External Stakeholder Committee (ESC) meetings were conducted at three (3) intervals beginning in March 2024. All participants are strong leaders within the community and represent areas ranging from higher education to nonprofit organizations. In all, 34 individuals were selected.

The ESC met on the following dates and discussed the following themes:

- March 6, 2024: Project introduction and initial discussion regarding top priorities
- May 15, 2024: Vision and High Injury Network introduction
- September 18, 2024: Prioritized High Injury Network and plan priorities and outcomes

Public Meetings were conducted at three (3) intervals beginning in March 2024.

All meetings were promoted through City news stories, social media posts, email, and flyers in English, Spanish, and Vietnamese. Examples of the social media post are displayed (right). Spanish and Vietnamese translators were on hand to assist with any requested interpretive services during the meeting.

Figure 17. Example Public Meeting Notice

The first Safe Streets Arlington Public Meeting was conducted on Thursday, March 7, 2024, at East Library and Recreation Center. The focus of the first meeting was to introduce the public to the project and to discuss initial top priorities.

Figure 18. Initial Public Meeting

The second Safe Streets Arlington Public Meeting was conducted on Thursday, May 16, 2024, at the Downtown Library. Topics of discussion included visioning and the High Injury Network. The third Public Meeting was conducted on Thursday, September 19, 2024, at the Downtown Library. Participants provided final input regarding the High Injury Network, as well as final plan remarks.

Two online surveys were conducted; the first accompanied the second public meeting, and the second accompanied the third public meeting. Promotion and outreach regarding the surveys was conducted in conjunction with the public meeting promotion. The first survey focused on top priorities, while the second survey focused on High Injury Networks and the narrowing of the top identified areas. Across both surveys, there were **285 participants** with **730 contributions**.

A **Safe Streets Arlington Dashboard and City Web Page** was developed to distribute information to the public. A QR code was developed and utilized on all promotional items to direct people to the web pages, first, so that they could learn about the project. From there, the public is able to access the dashboard, which is a tool to explore and visualize crash trends and locations in the City using the crash data from 2018 to 2022. Interactive maps provide different ways to explore data, as shown in Figure 19 below and found at https://experience.arcgis.com/experience/27185db29a394b00a1efc32955c726b6/page/Home-Page/

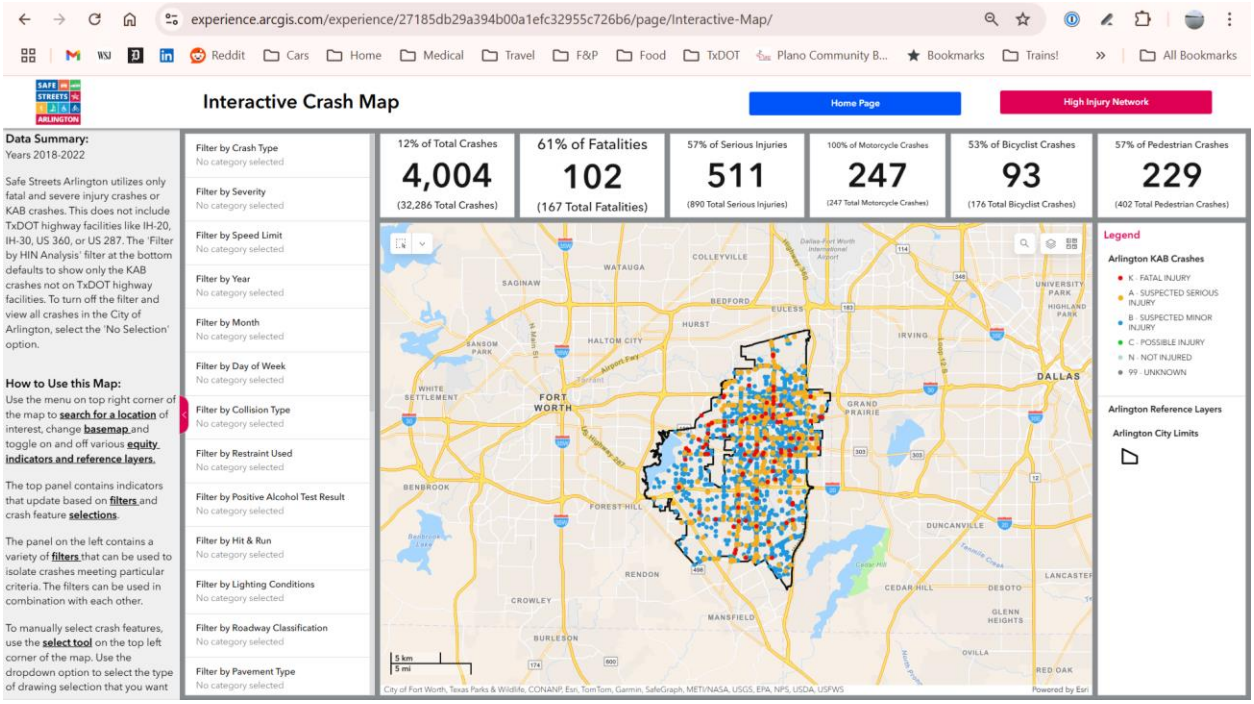


Figure 19. Interactive Data Dashboard

What We Learned

The project team provided multiple opportunities to receive information from stakeholders and the public regarding plan priorities and development. From these outreach initiatives, we prioritized the High Injury Network corridors and intersections, identified Top Concerns and Countermeasures and we were able to better understand community perceptions and misperceptions.

Top Corridor Priorities

From the High Injury Network analysis and from community and stakeholder input, the following 13 priority corridors were identified. From this list of 13 corridors, survey respondents, Committee members, and public meeting attendees provided feedback on their areas of top safety concern, which included sections of Cooper Street (Table 9).

Table 9. Safe Streets Arlington Priority Corridors

Corridor	Survey Percentage	Committee and Public Meeting Percentage
Cooper St from California Ln to Pioneer Pkwy	**37%**	**50%**
Cooper St from Medlin Dr to Arbrook Blvd	13%	30%
Cooper St from Nedderman Dr to Park Row Dr	**43%**	**70%**
Cooper St from Nathan Lowe Rd to Mineral Springs Rd	6%	30%
N Collins St from Skyline Dr to Division St	33%	10%
Park Row Dr from Susan Dr to Timberlake Dr	11%	0%
Park Row Dr from Swiss St to Hillcrest Dr	0%	5%
Park Row Dr from Pecan St to Collins St	7%	15%
Pioneer Pkwy from Collins St to Carter Dr	9%	15%
Lamar Blvd from Lincoln Dr to Randy Snow Rd	2%	5%
Division St from Cooper St to Collins St	17%	20%
Division St from Bowen Rd to Porters Ln	17%	0%
Division St from 110th St to Great SW Pkwy	6%	0%

Note: 54 Survey Participants, approximately 24 from ISC, ESC and Public Meetings

Cooper Street from Nedderman Drive to Park Row Drive was identified as the greatest concern among survey participants, public meeting attendees and external stakeholder committee members. Cooper Street from California Lane to Pioneer Parkway was identified as a close second. This means that participants identified these as City corridors in need of the most attention as part of the Safe Streets Arlington program.

Top Intersection Priorities

From the High Injury Network analysis and from community and stakeholder input, the following 10 priority intersections were identified. Survey respondents, Committee members, and public meeting attendees also provided feedback on the intersections of top safety concerns (Table 10)**Error! Reference source not found.**.

Table 10. Safe Streets Arlington Priority Intersections

Intersection	Survey Percentage	Committee and Public Meeting Percentage
N Collins St & E Lamar Blvd	**51%**	**12%**
N Collins St & E Randol Mill Rd	44%	33%
S Cooper St & SW Green Oaks Blvd	27%	18%
S Cooper St & W Arbrook Blvd	31%	48%
S Cooper St & W Arkansas Ln	31%	45%
S Cooper St & W Mayfield Rd	20%	18%
S Cooper St & W Pioneer Pkwy	**32%**	**57%**
S Cooper St & W Sublett Rd	15%	12%
Matlock Rd & E/W Sublett Rd	9%	6%
Matlock Rd & W Pioneer Pkwy	35%	39%

Note: From 55 Survey participants, 22 ISC/ESC and public meeting participants

While corridors were easily identified by stakeholders, the top intersections were slightly more difficult to prioritize, as results varied between in-person meetings and survey responses. However, the following intersections are potentially identified as top intersections, depending upon the individuals asked:

- North Collins Street and East Lamar Boulevard
- South Cooper Street and West Pioneer Parkway

While survey participants found North Collins Street and East Lamar Boulevard the intersection of most concern, in-person respondents did not perceive it to be the same. On the other hand, in-person participants considered South Cooper Street and West Pioneer Parkway to be the most troubling. North Collins Street and East Randol Mill Road was an intersection with similar prioritization for all groups, as was Matlock Road and West Pioneer Parkway and several others.

General Concerns

The Safe Streets Arlington project team collected numerous comments as to what stakeholders think the contributing factors are in crashes involving fatalities and serious injuries. In addition to speeding, several other important themes were provided. Reoccurring themes included red light running and the lack of visible road striping. Some stakeholders stated that a lot of traffic stripes have faded resulting in potential injury for motorists, bicyclists, and pedestrians. Others stated that vehicles often stop on pedestrian walkways which could harm pedestrians and bicyclists. A few stakeholders stated that speed limits are too fast for the traffic and congestion. Wrong-way driving contributes to some of the issues, too.

Through several mechanisms, the public and stakeholders were asked how they would like to see safety countermeasures implemented. Among the top countermeasures identified, the most commonly reoccurring ones included regular City Council updates on safety, review of City policies, and tracking implementation of the Safe Streets Arlington Plan to ensure accountability and measure progress.

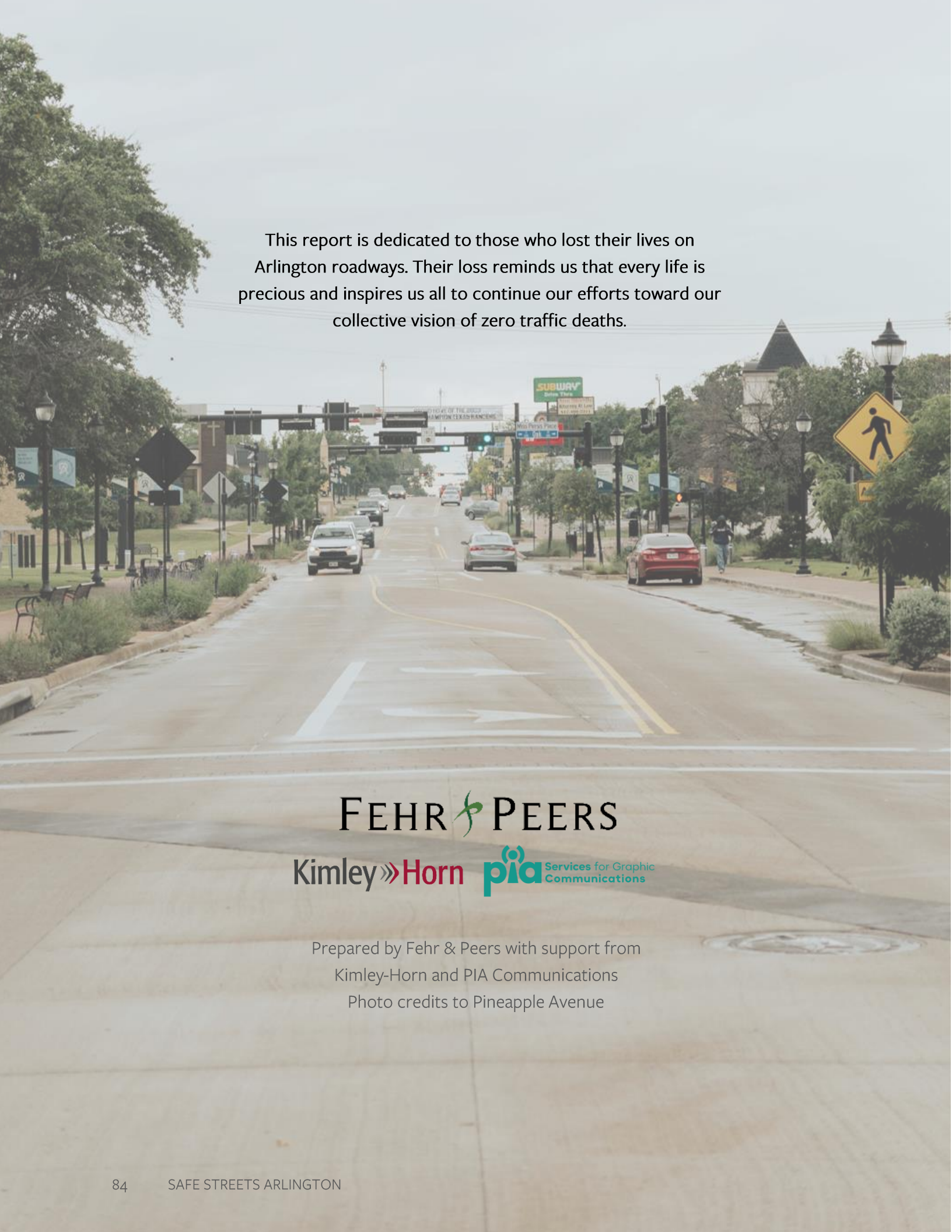
Recommended Actions

Regular City Council Updates

Review City Policies

Ensure Accountability

Measure Progress



This report is dedicated to those who lost their lives on Arlington roadways. Their loss reminds us that every life is precious and inspires us all to continue our efforts toward our collective vision of zero traffic deaths.

FEHR PEERS

Kimley»Horn

pia Services for Graphic Communications

Prepared by Fehr & Peers with support from
Kimley-Horn and PIA Communications
Photo credits to Pineapple Avenue

Appendix A:
High Injury Network Methodology

Memorandum

To: Josh Peterman, P.E., RSP1
Fehr & Peers

From: Jeff Whitacre, P.E., AICP, PTP
Mason Shoaf, EIT
Kimley-Horn and Associates, Inc.

Date: February 23, 2024

Re: Safe Streets Arlington – High-Injury Network Scoring and Screening
Arlington, Texas

PURPOSE

Kimley-Horn has performed a crash analysis along the roadway network of the City of Arlington for the five-year period from 2018 to 2022. The analysis used a hybrid approach to screening and scoring the roadway network by using crash frequency, total crash count, and critical crash rate methods.

The following memorandum outlines the data used in the crash analysis, along with the scoring and screening methodology that combine each analysis method.

CRIS CRASH DATA

Historic crash data from TxDOT's Crash Records Information System (CRIS) database was used from the years 2018 to 2022 for the City of Arlington, which includes COVID years 2020 and 2021. CRIS crash data uses a KABCO injury scale and in the development of the high-injury networks, Fatal Injury (K), Suspected Severe Injury (A), and Suspected Minor Injury (B) crashes were the injury types used. The following table summarizes the analyzed crashes by severity on the city roadway network:

Crash Severity	Crash Count	
	Vehicles/Motorcycles	Bicycle/Pedestrian
K - FATAL INJURY	98	27
A - SUSPECTED SERIOUS INJURY	455	62
B - SUSPECTED MINOR INJURY	3,451	224
C - POSSIBLE INJURY	5,030	151
N - NOT INJURED	9,793	34
99 - UNKNOWN	1,669	0
TOTAL	***20,496***	***498***

The analysis was conducted on the roadway network that consists of all City facilities and also TxDOT arterials. TxDOT highways, interstates, and frontage roads were not included in the analysis. City facilities correspond to all roadways that are maintained by the City of Arlington within their city limits. All vehicular unit KAB crashes totaled 4,004 on the analyzed roadway network. There are 313 bicycle and pedestrian KAB crashes on City facilities and TxDOT arterials, all of which involved a vehicle and are accounted for in the total 4,004 KAB crashes.

ANALYSIS METHODS

The following sections use the phrase roadway "segment" to describe small sections of the roadway network, typically starting and ending at street intersections.

Total Number of Crashes

The calculation of the total number of KAB crashes along the network is from a GIS spatial analysis tool to sum the total number of KAB crashes that are within a distance to each roadway segment in the network. A spatial join with a buffer of 75 feet collected and counted each KA crash adjacent to each roadway segment.

Crashes are often located at or near intersecting roadway segments and multiple segments will count a single crash event within the 75 ft buffer. The influence area of the crash often covers multiple segments, depending on where segments are broken up. This occurrence is handled in the screening process of the high-injury network where high crash segments are joined together.

Using TxDOT's HSIP guidance, the cost per crash for KA crashes is 12 times that of B crashes. KA crashes were weighted with a factor of 12 in calculating the total number of crashes at each roadway segment. This allows for a higher selection of fatal and severe injury crash segments while also including segments with many minor crashes.

Crash Frequency

Crash frequency is the number of crashes per mile of roadway. It is calculated with the number of KAB crashes at each segment divided by the length in miles of the segment.

Critical Crash Rate

The critical crash rate considers daily volumes, functional class, and crash count for each road segment. The road segment critical crash rate is calculated in the following steps:

1. $$HMVMT = \left(\frac{Vol}{100{,}000{,}000}\right) * n * 365 * mi$$

    - HMVMT = 100,000,000 vehicle-miles travelled
    - Vol = AADT or daily volume (Replica Data – Spring 2023)
    - n = Number of years of crash history data
    - mi = Length of segment in miles

2. $$R_i = \frac{N_{observed,i(TOTAL)}}{HMVMT}$$

- R_i = Observed crash rate
- $N_{observed}$ = Total number of crashes observed

3. $R_a = \frac{\sum(Vol * R_i)}{\sum Vol}$

- R_a = Weighted average crash rate per functional class

4. $R_{c,i} = R_a + \left[P * \sqrt{\frac{R_a}{HMVMT}}\right] + \left[\frac{1}{(2 * HMVMT)}\right]$

- $R_{c,I}$ = Critical crash rate
- P = 1.645, which corresponds to the 95th% confidence level

5. $Ratio = \frac{R_i}{R_{c,i}}$

- If Ratio > 1, observed crash rate is greater than critical crash rate so flag for potential high-injury network selection

SCORING

In order to score each method evenly and develop a balanced high-injury network (HIN), 20% quantile ranges of the crash analysis data were used. Points were assigned to each quantile based off the total crash count, crash frequency, and critical crash rate ratios. The following outlines the points assigned to each:

- 1 point – 0 to 20% Quantile
- 2 points – 20 to 40% Quantile
- 3 points – 40 to 60% Quantile
- 4 points – 60 to 80% Quantile
- 5 points – 80 to 100% Quantile

The following table summarizes the quantile ranges established for each method and each HIN:

Quantile Range	Total Number of Crashes (Weighted)		Crash Frequency		Critical Crash Rate Ratio	
	Low	High	Low	High	Low	High
Vehicular HIN						
0 to 20%	0	1	0	11.53	0	0.33
20 to 40%	2	3	11.53	19.36	0.33	0.67
40 to 60%	4	12	19.36	34.23	0.67	1.14

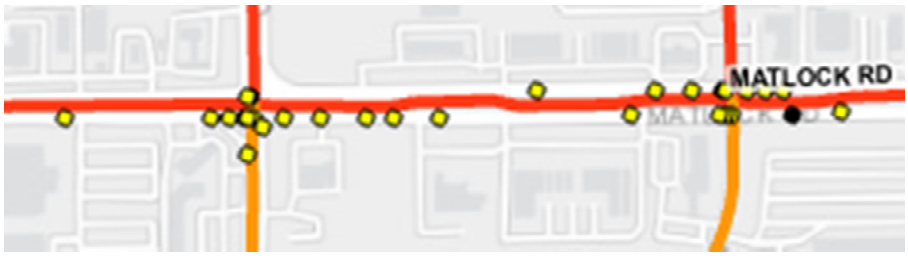
60 to 80%	13	19	34.23	66.95	1.14	2.12
80 to 100%	20	139	66.95	2277.07	2.12	47.64
Bicycle & Pedestrian HIN						
0 to 20%	0	1	0	6.78	0	0.6
20 to 40%	2	4	6.78	10.86	0.6	0.96
40 to 60%	5	12	10.86	16.05	0.96	1.36
60 to 80%	13	14	16.05	24.36	1.36	1.73
80 to 100%	15	38	24.36	170.6	1.73	8.82

The total score is then calculated by adding up the crash count, crash frequency, and the critical crash rate scores for a maximum of 15 and minimum of 3. The highest ranked segments were identified and used as part of the selection of the HIN.

EXAMPLE CALCULATION

Matlock Rd (Between Stephens St and Bardin Rd)

- Total KAB crashes (Weighted) = 86
  - Top 20% Quantile = **5 points**
- Crash Frequency = 168 crashes/mile
  - Top 20% Quantile = **5 points**
- Critical Crash Rate Ratio = 12.1
  - Top 20% Quantile = **5 points**
- Total Score = **15 points**



HIGH-INJURY NETWORK SCREENING

The selection of the HIN prioritizes high scoring segments, while also maximizing the amount of KAB crashes and minimizing the percentage of total roadway network. Roadway segments were selected as part of the HIN with the following parameters:

- Total score is in top 40% quantile
  - 11-15 total points for the Vehicular HIN
  - 10-15 total points for the Bicycle & Pedestrian HIN
- Gaps between high scoring segments are connected
  - Typically, within ~3 roadway segments where KAB crashes present
  - Lower scoring segments close most gaps
- Roadway segments capture the majority of network KAB crashes (>50%)

Appendix B: Countermeasures Toolbox

What You'll See in This Toolbox

Countermeasure category

INTERSECTIONS & ROADWAYS

Countermeasure icon

Countermeasure title

Raised Intersection

Countermeasure description

Elevates the intersection to bring vehicles to the sidewalk level. Serves as a traffic calming measure by extending the sidewalk context across the road.

Countermeasure cost (excluding ROW costs) and the availability of low cost/quick build alternatives*

Cost **$$$**

$ = less than $15k

$$ = from $15k to $150k

$$$ = greater than $150k

Relevant crash type(s) addressed by the countermeasure

Relevant Crash Types

Angled Crashes at Unsignalized Intersections
Speed Management
Pedestrians at Signalized Intersections

Safe System Hierarchy tier(s)

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

This appendix contains engineering and non-engineering countermeasures for improving transportation safety in Arlington. These countermeasures are recommended to address specific conditions related to common crash types, which have been identified through a combination of crash data analysis and review of key locations. Many of these countermeasures are found in the Federal Highway Administration's Proven Safety Countermeasures, and they can be advantageous for use in Highway Safety Improvement Program (HSIP) grant funding applications. There are many effective safety countermeasures beyond those listed here. The intent is to provide a set of candidate tools for improving transportation safety, to include guidance on the potential impacts and cost of implementation for each countermeasure.

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* Cost does not reflect acquisition of additional ROW

BIKEWAYS

Shared-Use Path

Shared-use paths or trails are off -street facilities that provide exclusive use for nonmotorized travel, including bicyclists and pedestrians. They could be located alongside a roadway, or exist in a separate right-of-way. Bike paths have minimal cross flow with motorists and can be utilized for both recreational and commute trips.

Cost **$**

Low Cost / Quick Build alternative available

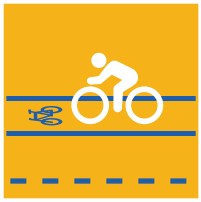
Relevant Crash Types

Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

BIKEWAYS



Bike Lane

Bike lanes designate an exclusive space for bicyclists using pavement markings and signage. The bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, road edge, or travel lane.

Cost **$$**

Low Cost / Quick Build alternative available

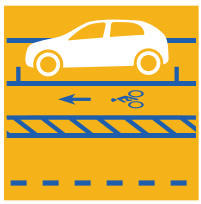
Relevant Crash Types

Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

BIKEWAYS



Buffered Bike Lane

Buffered Bike Lanes are standard bike lanes paired with a designated horizontal buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. This type of bikeway provides greater distance between vehicles and bicycles; provides space for bicyclists to pass each other; provides greater space for bicycling without making the bike lane appear so wide that it might be mistaken for a travel lane; and encourages bicycling by contributing to the perception of safety.

Cost **$$**

Low Cost / Quick Build alternative available

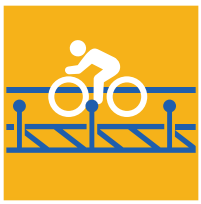
Relevant Crash Types

Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

BIKEWAYS



Separated Bikeway

A separated bikeway, also called a cycletrack, provides dedicated street space, typically adjacent to outer vehicle travel lanes, with physical separation from vehicle traffic, designated lane markings, pavement legends, and signage. Physical separation may consist of plastic posts, parked vehicles, raised median, or a curb (if the separated bike lane is raised to sidewalk level). Separated bikeways reduce conflicts between people biking and motorists. They also provide more physical protection that further reduces the risk of severe conflicts between bicycles and vehicles on the road. Separated bike lanes can also help manage or reduce vehicle speeds as some of the design features can have a traffic calming effect.

Cost **$$$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

BIKEWAYS

Bicycle Crossing (Solid Green Paint)

Solid green paint across an intersection signifies the path of the bicycle crossing. Increases visibility of bicyclists' anticipated path of travel through an intersection.

Cost **$**

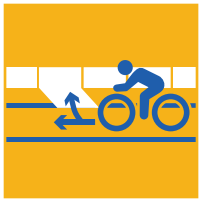
Low Cost / Quick Build alternative available

Relevant Crash Types
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

BIKEWAYS



Bicycle Ramp

A ramp that connects bicyclists from the road to the sidewalk or a shared use path.

Cost **$**

Relevant Crash Types
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

BIKEWAYS

Bicycle Signal/ Exclusive Bike Phase

A traffic signal directing bicycle traffic across an intersection. Separates in time bicycle movements from conflicting motor vehicle, streetcar, light rail, or pedestrian movements. May be applicable for Class IV facilities when the bikeway is brought up to the intersection.

Cost **$$$**

Relevant Crash Types
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	

BIKEWAYS

Bicycles May Use Full Lane Sign

A sign placed on roads with lanes that are too narrow to allow safe side-by-side in-lane passing of a bicyclist by a motorist - signs indicate that bicyclists may occupy the full lane. Intended to encourage motorists to provide ample space between side of the vehicle and an adjacent bicyclist when passing.

Cost **$**
Low Cost / Quick Build alternative available

Relevant Crash Types
Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

BIKEWAYS

Bike Box

A designated area between crosswalk and vehicle stop bar at a signalized intersection that is often painted green where bicyclists can wait during a red signal phase. Use of the bike box, places bicyclists in a location where they are more visible to motorists.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	Increase Attentiveness and Awareness

BIKEWAYS

Bike Detection

Technology used at signalized intersections, either through use of push-buttons, in-pavement loops, or by video or infrared cameras, to call a green light for bicyclists and reduce delay for bicycle travel. Discourages red light running by bicyclists and increases convenience of bicycling.

Cost **$$**

Relevant Crash Types

Pedestrians at Signalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

BIKEWAYS

Bike-Friendly Drain

Drains that avoid placing grating in the right-of-way that may pose a hazard to bicyclists by increasing their risk of falling.

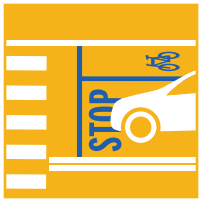
Cost **$$**

Relevant Crash Types
Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

BIKEWAYS



Extend Bike Lane to Intersection

In locations where a bike lane is dropped due to the addition of a right turn pocket, the intersection approach may be restriped to allow for bicyclists to move to the left side of right turning vehicles ahead of reaching the intersection.

Cost **$**
Low Cost / Quick Build alternative available

Relevant Crash Types
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			Increase Attentiveness and Awareness

BIKEWAYS

Green Conflict Striping

Green conflict striping is green pavement markings in a dashed pattern that extend across bike lanes approaching an intersection and/or going through an intersection. Green conflict striping improves increases the visibility bicyclists and potential conflict points so motorists and bicyclists can use caution when traveling toward and through an intersection.

Cost **$**

Low Cost / Quick Build alternative available

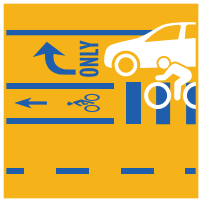
Relevant Crash Types

Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

BIKEWAYS



Mixing Zone

When a suggested bike lane is within the inside portion of a dedicated motor vehicle turn lane. Lane markings delineate space for bicyclists and motorists within the same lane and indicate the intended path for bicyclists to reduce conflict with turning motor vehicles.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

BIKEWAYS

Two-Stage Turn Queue Bike Box

This roadway treatment provides bicyclists with a means of making a left turn at a multi-lane signalized intersection from a bike lane or cycle track on the far right side of the roadway. In this way, bicyclists are removed from the flow of traffic while waiting to turn. Use of this treatment could be mirrored for right-turns from a one-way street with a left-side bikeway.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

All-Way Stop Control

An all-way stop-controlled intersection requires all vehicles to stop before crossing the intersection. An all-way stop controlled intersection reduces the risk of severe conflicts as long as all road users see and obey the stop signs. MUTCD includes information on when and how to implement "All Way" Or "Multi-Way" stop control intersections.

Cost **$**

Relevant Crash Types

Left Turns at Unsignalized Intersections
Right Turns at Unsignalized Intersections
Angled Crashes at Unsignalized Intersections
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds	Manage Conflicts in Time	Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Centerline Hardening

Centerline hardening involves placing durable plastic bollards, flex posts, and/or rubber curbs along the centerline. When used at intersections, they can be effective at requiring motorists to make left-turn movements at a 90-degree angle thereby slowing vehicle speeds and improving motorists' visibility of the crosswalks across which they travel when turning. When used along a roadway segment, they can be effective at generally slowing vehicle speeds and preventing undesirable left-turning and/or U-turns between intersections.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Left Turns at Unsignalized Intersections
Speed Management
Pedestrians at Signalized Intersections
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Chicanes

Uses centerline deflection within existing curb by placing vertical barriers (e.g., curbs, on-street parking) to require vehicle operators to make frequent horizontal movements, which typically reduces vehicular speeds.

Cost **$**

Low Cost / Quick Build alternative available

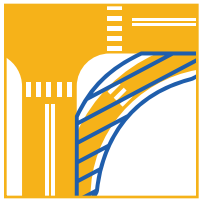
Relevant Crash Types

Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS



Close Slip Lane

Modifies the corner of an intersection to remove the sweeping right turn lane for vehicles. Results in shorter crossings for pedestrians, reduced speed for turning vehicles, better sight lines, and space for landscaping and other amenities.

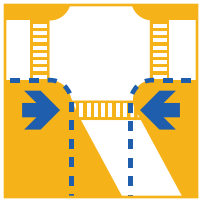
Cost **$$$**

Relevant Crash Types
Right Turns at Signalized Intersections
Pedestrians at Signalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS



Intersection Reconstruction and Tightening

Intersections that intersect at a skewed angle or angle notably different than 90-degrees have a greater likelihood of collisions. Squaring up the intersection helps reduce the likelihood of collisions. "Squaring up" an intersection as close to 90 degrees as possible involves intersection reconstruction and approach realignment to provide better visibility for all road users, also reducing high speed turns, reducing length exposure for vehicles and/or bikes passing through the intersection, and reducing pedestrian crossing length.

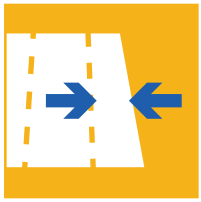
Cost **$$$**
Low Cost / Quick Build alternative available

Relevant Crash Types
Rear-End
Right Turns at Signalized Intersections
Speed Management
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS



Lane Narrowing

Lane narrowing reduces the width of the marked vehicle lanes to encourage motorists to travel at slower speeds. Lane narrowing can also help reallocate existing roadway space to other road users.

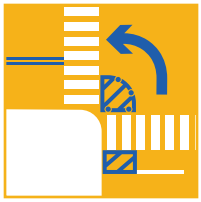
Cost $

Relevant Crash Types
Rear-End
Speed Management
Pedestrians at Unsignalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS



Left Turn Enhanced Daylighting/Slow Turn Wedge

Uses paint and bollards to extend the curb and slow left turns at intersections of one-way to one-way or two-way streets. Widening the turning radii of left-turning vehicles expands the field of vision for drivers and increases the visibility of pedestrians.

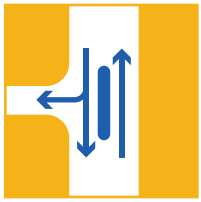
Cost $
Low Cost / Quick Build alternative available

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS



Median Barrier

Barrier in the center of the roadway that physically separates opposing vehicular traffic. Median barriers can also help control access to and from side streets and driveways, reducing the number of conflict points.

Cost **$$$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Run Off Road
Sideswipes
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

INTERSECTIONS & ROADWAYS

Neighborhood Traffic Circle

Neighborhood traffic circles are circular intersections similar to roundabouts, but are stop controlled on the approach and intended for smaller intersections. Typically, they supplement existing stop-controlled intersections with a circular island in the center that is designed to slow traffic and eliminates severe conflict points (such as conflicting left-turn movements).

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Rear-End

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS

Partial Closure/Diverter

A roadway treatment that restricts through vehicle movements using physical diversion while allowing bicyclists and pedestrians to proceed through an intersection in all directions.

Cost **$**

Low Cost / Quick Build alternative available

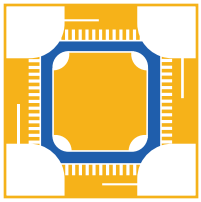
Relevant Crash Types

Left Turns at Unsignalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

INTERSECTIONS & ROADWAYS



Protected Intersection

Protected intersections use corner islands, curb extensions, and colored paint to delineate bicycle and pedestrian movements across an intersection. Slower driving speeds and shorter crossing distance increase safety for pedestrians. Separates bicycles from pedestrians as well as moving vehicles.

Cost **$$$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Pedestrians at Signalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS

Raised Crosswalk

A Raised Crosswalk is a pedestrian crosswalk that is typically elevated 3-6 inches above the road or at sidewalk level. A Raised Crosswalk improves increases crosswalk and pedestrian visibility and slows down motorists.

Cost **$$**

Relevant Crash Types
Speed Management
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Raised Intersection

Elevates the intersection to bring vehicles to the sidewalk level. Serves as a traffic calming measure by extending the sidewalk context across the road.

Cost **$$$**

Relevant Crash Types
Angled Crashes at Unsignalized Intersections
Speed Management
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Raised Median

Curbed sections in the center of the roadway that are physically separated from vehicular traffic. Raised medians can also help control access to and from side streets and driveways, reducing conflict points.

Cost **$$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Run Off Road
Left Turns at Unsignalized Intersections
Angled Crashes at Unsignalized Intersections
Sideswipes
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS

Reduced Left-Turn Conflict Intersection

Geometric designs that alter how left-turn movements occur can simplify decisions and minimize the potential for left-turn related crashes. Two designs that rely on U-turns to complete certain left-turn movements are known as the restricted crossing U-turn (RCUT) and the median U-turn (MUT). Both designs require some out of direction travel for vehicles.

Cost **$$$**

Relevant Crash Types

Left Turns at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

INTERSECTIONS & ROADWAYS

Refuge Island

A Raised Median, or Refuge Island, is a raised barrier in the center of the roadway that can restrict certain turning movements and provide a place for pedestrians to wait if they are unable to finish crossing the intersection. A Raised Median reduces the number of potential conflict points with designated zones for vehicles to turn, and a pedestrian refuge island reduces the exposure for pedestrians crossing the intersection. Pedestrian refuge areas constructed from paint and plastic may be implemented as part of a low-cost/quick build project.

Cost **$$**

Low Cost / Quick Build alternative available

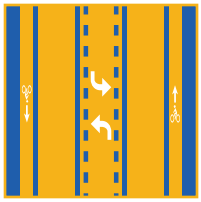
Relevant Crash Types

Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS



Road Diet

A Road Diet reduces roadway space dedicated to vehicle travel lanes to create room for bicycle facilities, wider sidewalks, or center turn lanes. A Road Diet ireduces vehicle speeds and creates designated space for all road users.

Cost **$$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Speed Management
Pedestrians at Unsignalized Intersections
Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS

Roundabout

A roundabout is a type of circular intersection in which road traffic is permitted to flow in one direction around a central island, and priority is typically given to traffic already in the junction. The types of conflicts that occur at roundabouts are different from those occurring at conventional intersections; namely, severe conflicts from crossing and left-turn movements are not present in a roundabout. The geometry of a roundabout forces drivers to reduce speeds as they proceed through the intersection; the range of vehicle speeds is also narrowed, reducing the severity of crashes when they do occur. Pedestrians also only have to cross one direction of traffic at a time at roundabouts, thus reducing exposure to vehicle traffic.

Cost **$$$**

Low Cost / Quick Build alternative available

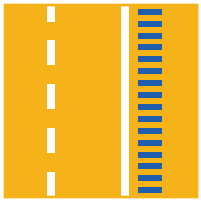
Relevant Crash Types

Left Turns at Signalized Intersections
Left Turns at Unsignalized Intersections
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

INTERSECTIONS & ROADWAYS



Rumble Strips

Rumble strips create noise and vibration inside the vehicle that alert a driver as they cross the centerline or edge line. Treatment can help with lane keeping instances where a driver is distracted or drowsy. Rumble strips also alert drivers to the lane limits when conditions such as rain, fog, snow, or dust reduce driver visibility.

Cost **$**

Relevant Crash Types

Nighttime
Wet Conditions
Run Off Road
Sideswipes
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Safety Edge

When a vehicle leaves the traveled way and encounters a pavement-shoulder drop-off, it can be difficult for the driver to return safely to the roadway. A safety edge is a treatment intended to minimize the severity of roadway or lane departure crashes. With this treatment, the shoulder pavement edge is sloped at an angle (30-35 degrees) to make it easier for a driver to safely reenter the roadway after inadvertently driving onto the shoulder. This treatment could be incorporated as a standard practice in overlay or roadway resurfacing projects.

Cost **$**

Relevant Crash Types
Run Off Road

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

INTERSECTIONS & ROADWAYS

Signal

Traffic signals at intersections control the flow of traffic by assigning right-of-way to different movements at different times. Some traffic signal phasing is more effective at reducing the likelihood of severe injury collisions. For example, protected left-turn signal phasing reduces the likelihood of severe left-turn collisions more effectively than permitted left-turn signal phasing.

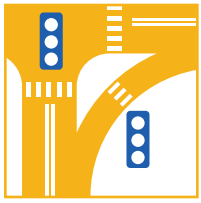
Cost **$$$**

Relevant Crash Types
Left Turns at Unsignalized Intersections
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections
Pedestrians at Unsignalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

INTERSECTIONS & ROADWAYS



Signalize Slip Lane

Manages traffic flow by providing clear right-of-way guidance, reducing conflicts between turning and through traffic, and enhancing pedestrian crossing visibility and protection.

Cost **$$**

Relevant Crash Types
Rear-End Crashes
Turning Crashes - Right turns at Signalizated Intersections
Sideswipe Crashes
Pedestrian Crashes at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Speed Hump or Speed Table

These traffic calming devices use vertical defection to raise the entire wheelbase of a vehicle and encourage motorists to travel at slower speeds .

Cost **$**

Relevant Crash Types
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS

Straighten Crosswalk

Straightening crosswalks improves sight lines, making pedestrians more visible to oncoming drivers, and may shorten the crossing distance, reducing the length of time required for pedestrians to cross an intersection.

Cost **$**

Low Cost / Quick Build alternative available

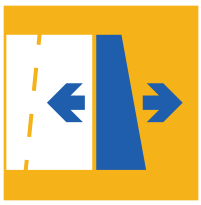
Relevant Crash Types

Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			Increase Attentiveness and Awareness

INTERSECTIONS & ROADWAYS



Widen/Pave Shoulder

Widened and paved shoulders, which may also include flattening the slopes along the sides of the roadway, create a separated space for bicyclists, create space for a driver to safely recover if they inadvertently depart the travel lane, and also provides space for inoperable vehicles to pull out of the travel lane. The addition of a paved shoulder to an existing road can help to reduce run-off-road crashes. Benefits can be realized for high risk rural roads without paved shoulders, regardless of existing lane pavement width. Adding paved shoulders within horizontal curve sections may help agencies maximize benefits of the treatment while minimizing costs as opposed to adding paved shoulders to an entire corridor.

Cost **$$**

Relevant Crash Types

Run Off Road
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

PEDESTRIAN FACILITIES

Add Sidewalk

Adding sidewalks provides a separated and continuous facility for people to walk along the roadway.

Cost **$$**

Relevant Crash Types
Pedestrians at Signalized Intersections
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

PEDESTRIAN FACILITIES

Audible Push Button Upgrade

Push buttons must comply with the Americans with Disability Act (ADA) standards for accessibility. Pushbuttons should be visible and conveniently located for pedestrians waiting at a crosswalk. Accessible pedestrian signals, including audible push buttons, improve access for pedestrians who are blind or have low vision. DIB 82-06 includes accessibility design guidance.

Cost **$**

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Co-Locate Bus Stops and Pedestrian Crossings

Place bus stops and pedestrian crossings in close proximity to allow transit riders to cross the street at well-designed crossing locations.

Cost **$**

Low Cost / Quick Build alternative available

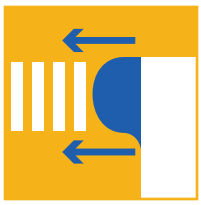
Relevant Crash Types

Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES



Curb Extensions

A curb extension is a traffic calming measure which widens the sidewalk for a short distance to enhance the pedestrian crossing. This reduces the crossing distance and allows pedestrians and drivers to see each other when parked vehicles would otherwise block visibility. Paint and plastic curb extensions are a low-cot/quick build option.

Cost **$$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Speed Management
Pedestrians at Signalized Intersections
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

High-Visibility Crosswalk

A high-visibility crosswalk has a striped pattern with ladder markings made of high-visibility material, such as thermoplastic tape, instead of paint. A high-visibility crosswalk improves the visibility of marked crosswalks and provides motorists a cue to slow down and yield to pedestrians.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Install/Upgrade Pedestrian Crossing at Uncontrolled Locations (Signs and Markings Only)

A pedestrian crossing at an intersection or on a segment provides a formalized location for people to cross the street, reducing the risk of people crossing outside crosswalks where drivers are not expecting them. Crosswalk striping, signs, and other enhanced features alert drivers that there may be a pedestrian crossing.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Landscape Buffer

Separating drivers from bicyclists and pedestrians using landscaping provides more space between the modes and can produce a traffic calming effect by encouraging drivers to drive at slower speeds, lowering the risk of crashing.

Cost **$$**

Relevant Crash Types
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

PEDESTRIAN FACILITIES

Leading Pedestrian Interval and Pedestrian Recall

At intersection locations that have a high volume of turning vehicle and have high pedestrian vs. vehicle crashes, a leading pedestrian interval gives pedestrians the opportunity to enter an intersection 3 - 7 seconds before vehicles are given a green indication. With this head start, pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn left or right.

Cost **$**

Relevant Crash Types
Right Turns at Signalized Intersections
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

PEDESTRIAN FACILITIES

Pedestrian Countdown Timer

Displays "countdown" of seconds remaining on the pedestrian signal. Countdown indications improve safety for all road users, and are required for all newly installed traffic signals where pedestrian signals are installed.

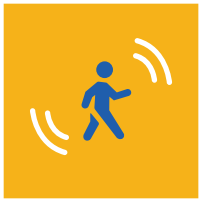
Cost **$$**

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES



Pedestrian Detection

An intersection treatment that relies on sensors to detect when a pedestrian is waiting at a crosswalk and automatically triggers the pedestrian "WALK" phase. Reduces crossings at inappropriate times while providing sufficient time for pedestrians to cross the roadway.

Cost **$$**

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

PEDESTRIAN FACILITIES

Pedestrian Hybrid Beacon

A pedestrian-hybrid beacon (PHB) is used at unsignalized intersections or mid-block crosswalks to notify oncoming motorists to stop with a series of red and yellow lights. Unlike a traffic signal, the PHB rests in dark until a pedestrian activates it via pushbutton or other form of detection.

Cost **$$$**

Relevant Crash Types
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Rectangular Rapid Flashing Beacon

A rectangular rapid flashing beacon (RRFB) is a pedestrian-activated flashing light with additional signage to alert motorists of a pedestrian crossing. An RRFB increases the visibility of marked crosswalks and provides motorists a cue to slow down and yield to pedestrians.

Cost **$$**

Relevant Crash Types
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Restripe Crosswalk

Periodic restriping of crosswalks is necessary to maintaing visibility of the traffic markings. Crosswalk may be restriped with high visibility markings.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Upgrade Curb Ramp

Tactile warning devices must be detectable to visually impaired pedestrians. Curb ramps must follow the DIB 82-06 design guidelines.

Cost **$$**

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			Increase Attentiveness and Awareness

PEDESTRIAN FACILITIES

Widen Sidewalk

Widening sidewalks provides a more comfortable space for pedestrians, particularly in locations with high volumes of pedestrians, and provides space to accommodate people in wheelchairs. Widening sidewalks reduces the likelihood of collisions with pedestrians walking in the road.

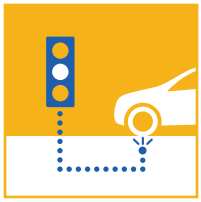
Cost **$$**

Relevant Crash Types
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

SIGNALS



Advanced Dilemma Zone Detection

The Advanced Dilemma-Zone Detection system adjusts the start time of the yellow-signal phase (i.e. earlier or later) based on observed vehicle locations and speeds. The Advanced Dilemma-Zone Detection system minimizes the number of drivers that are faced with the dilemma of determining if they should stop at the intersection or drive through the intersection based on their speed and distance from the intersection.

Cost **$$**

Relevant Crash Types
Rear-End

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

SIGNALS

Extend Pedestrian Crossing Time

Increases time for pedestrian walk phases, especially to accommodate vulnerable populations, such as children and the elderly.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	**Tier 3**	Tier 4
		Manage Conflicts in Time	

SIGNALS

Extend Yellow and All Red Time

Extending yellow and all red time increases the time allotted for the yellow and red lights during a signal phase. Extending yellow and all red time allows drivers and bicyclists a few additional seconds of time at the end of a signal phase to cross through a signalized intersection before conflicting traffic movements are permitted to enter the intersection.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Angled Crashes at Signalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	**Tier 3**	Tier 4
		Manage Conflicts in Time	

SIGNALS

Flashing Yellow Turn Phase

Flashing yellow turn arrow alerts drivers to proceed with caution and decide if there is a sufficient gap in oncoming traffic to safely make a turn. To be used only when a pedestrian walk phase is not called. Protected-only phases should be used when pedestrians are present.

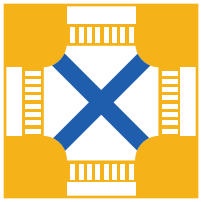
Cost **$$**

Relevant Crash Types
Left Turns at Signalized Intersections
Right Turns at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNALS



Pedestrian Scramble

A form of pedestrian "WALK" phase at a signalized intersection in which all vehicular traffic is required to stop, allowing pedestrians to cross through the intersection in any direction, including diagonally.

Cost **$**

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	

SIGNALS

Prohibit Left Turn

Prohibitions of left turns at locations where a turning vehicle may conflict with pedestrians in the crosswalk or where opposing traffic volume is high. Reduces pedestrian interaction with vehicles when crossing.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Left Turns at Signalized Intersections
Left Turns at Unsignalized Intersections
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections
Bicyclists at Signalized Intersections
Bicyclists at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	

SIGNALS

Prohibit Right-Turn-on-Red

Prohibiting right-run-on-red movements should be considered at skewed intersections, or where exclusive pedestrian "WALK" phases, Leading Pedestrian Intervals (LPIs), sight distance issues, or high pedestrian volumes are present. Can help prevent crashes between vehicles turning right on red from one street and through vehicles on the cross street, and crashes involving pedestrians.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Right Turns at Signalized Intersections
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	

SIGNALS

Prohibit Turns During Pedestrian Phase

Restricts left or right turns during the pedestrian crossing phase at locations where a turning vehicle may conflict with pedestrians in the crosswalk. This restriction may be displayed with a blank-out sign.

Cost $

Relevant Crash Types
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

SIGNALS

Protected Left Turns

A protected left turn can be implemented at signalized intersections (with existing left turns pockets) that currently have a permissive left-turn or no left-turn protection. Providing protected left-turn phases for signalized intersections removes the need for the drivers to navigate through gaps in oncoming/opposing through vehicles.

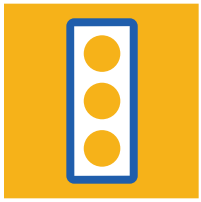
Cost $$

Relevant Crash Types
Left Turns at Signalized Intersections
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts		Manage Conflicts in Time	

SIGNALS



Retroreflective Tape on Signals

Retroreflective borders enhance the visibility of traffic signals for aging and color vision impaired drivers enabling them to understand which signal indication is illuminated. Retroreflective borders may also alert drivers to signalized intersections during periods of power outages when the signals would otherwise be dark, and non–reflective signal heads and backplates would not be visible.

Cost **$**

Low Cost / Quick Build alternative available

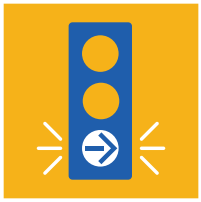
Relevant Crash Types

Nighttime
Angled Crashes at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNALS



Separate Right-Turn Phasing

Provides a green arrow phase for right-turning vehicles. Avoids conflicts between right-turning traffic and bicyclists or pedestrians crossing the intersection on their right.

Cost **$$$**

Relevant Crash Types

Right Turns at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
		Manage Conflicts in Time	

SIGNALS

Shorten Cycle Length

Traffic signal cycle lengths have a significant impact on the quality of the urban realm and consequently, the opportunities for bicyclists, pedestrians, and transit vehicles to operate effectively along a corridor. Long signal cycles, compounded over multiple intersections, can make crossing a street or walking even a short distance prohibitive and frustrating. Short cycle lengths of 60–90 seconds are ideal for urban areas.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Pedestrians at Signalized Intersections
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	**Tier 3**	Tier 4
		Manage Conflicts in Time	

SIGNALS

Signal Interconnectivity and Coordination/ Green Wave

The emphasis of improving signal coordination for this countermeasure is to provide an opportunity for slow speed signal coordination. Coordinating signals to allow for bicyclist progression, also known as a 'green wave,' gives bicyclists and pedestrians more time to cross through the 'green wave' intersections. It also slows vehicle speeds helping to reduce the likelihood of severe collisions.

Cost **$$**

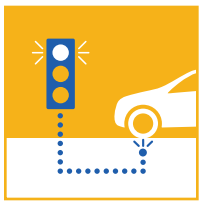
Relevant Crash Types

Rear-End
Angled Crashes at Signalized Intersections
Speed Management
Bicyclists at Signalized Intersections

Safe System Hierarchy

Tier 1	**Tier 2**	Tier 3	Tier 4
	Reduce Vehicle Speeds		

SIGNALS



Speed Sensitive Rest in Red Signal

At certain hours (e.g. late night) a signal remains red for all approaches or certain approaches until a vehicle arrives at the intersection. If the vehicle is going faster than the desired speed, the signal will not turn green until after vehicle stops. If the vehicle is going the desired speed the signal will change to green before the vehicle arrives. This signal timing provides operational benefit to drivers traveling at the desired speed limit. Can be paired with variable speed warning signs.

Cost **$$**

Relevant Crash Types
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds	Manage Conflicts in Time	

SIGNALS

Supplemental Signal Heads

Additional signal heads allow drivers to anticipate signal changes farther away from intersections. Supplemental traffic signals may be placed on the near side of an intersection, far-left, far-right, or very high.

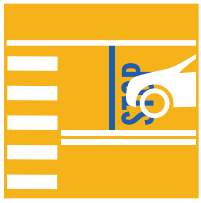
Cost **$$**

Relevant Crash Types
Left Turns at Signalized Intersections
Angled Crashes at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING



Advance Stop Bar

An advanced stop bar is a horizontal stripe painted ahead of the crosswalk at stop signs and signals to indicate where drivers should stop. An advanced stop bar reduces instances of vehicles encroaching on the crosswalk. Creating a wider stop bar or setting the stop bar further back may be appropriate for locations with known crosswalk encroachment issues.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Left Turns at Unsignalized Intersections
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Chevron Signs on Horizontal Curves

Post-mounted chevrons are intended to warn drivers of an approaching curve and provide tracking information and guidance to the drivers.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Run Off Road

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Curve Advance Warning Sign

A curve advance warning sign notifies drivers of an approaching curve and may include an advisory speed limit as drivers navigate around the curve. This warning sign is ideally combined with other infrastructure that alerts drivers of the curve, such as chevron signs, delineators, and flashing beacons. A curve advance warning sign provides drivers additional time to slow down for the curve.

Cost **$**

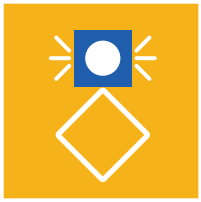
Low Cost / Quick Build alternative available

Relevant Crash Types
Run Off Road
Rear-End
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	**Tier 4**
			Increase Attentiveness and Awareness

SIGNING & STRIPING



Flashing Beacon as Advance Warning

A flashing beacon as Advanced Warning is a blinking light with signage to notify motorists of an upcoming intersection or crosswalk. A flashing beacon improves provides motorists more time to be aware of and slow down for an intersection or yield to pedestrians crossing a crosswalk.

Cost **$$**

Relevant Crash Types
Rear-End
Right Turns at Signalized Intersections
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	**Tier 4**
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Painted Centerline and Raised Pavement Markers at Curves on Residential Streets

A raised pavement marker is a small device attached to the road and used as a positioning guide for drivers.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types
Run Off Road
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Speed Feedback Sign

A speed feedback sign notifies drivers of their current speed, usually followed by a reminder of the posted speed limit. A speed feedback sign provides a cue for drivers to check their speed and slow down, if necessary.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types
Nighttime
Wet Conditions
Run Off Road
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Speed Legends on Pavement at Neighborhood Entries

Speed legends are numerals painted on the roadway indicating the current speed limit in miles per hour. They are usually placed near speed limit signposts.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types
Nighttime
Run Off Road

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Striping Through Intersection

Adding clear pavement markings can guide motorists through complex intersections. Intersections where the lane designations are not clearly visible to approaching motorists and/or intersections noted as being complex and experiencing crashes that could be attributed to a driver's unsuccessful attempt to navigate the intersection can benefit from this treatment.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types
Sideswipes

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING

Upgrade Intersection Pavement Markings

Upgrading intersection pavement marking can include “Stop Ahead” markings and the addition of centerlines and stop bars. Upgrading intersection pavement markings can increase the visibility of intersections for drivers approaching and at the intersection.

Cost **$**

Low Cost / Quick Build alternative available

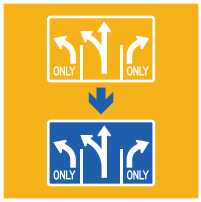
Relevant Crash Types

Nighttime
Wet Conditions

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING



Upgrade Signs with Fluorescent Sheeting

Upgrading signs with fluorescent sheeting replaces existing signs with new signs that can clearly display warnings by reflecting headlamp light back to vehicles. Upgrading signs with fluorescent sheeting improves visibility of signs to drivers at night.

Cost **$**

Low Cost / Quick Build alternative available

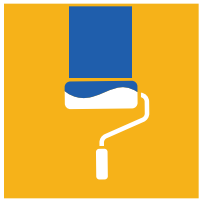
Relevant Crash Types

Nighttime
Wet Conditions

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

SIGNING & STRIPING



Upgrade Striping

Restripe lanes with reflective striping to improve striping visibility and clarify lane assignment, especially where the number of lanes changes.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Sideswipes

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER

Access Management/ Close Driveway

Vehicles entering and exiting driveways may conflict with pedestrians and with vehicles on the main road, especially at driveways within 250 feet of intersections. Driveway consolidation reduces conflict points along a segment and/or near intersections.

Cost **$$**

Relevant Crash Types

Run Off Road
Left Turns at Unsignalized Intersections
Angled Crashes at Unsignalized Intersections
Sideswipes
Pedestrians at Unsignalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

OTHER

Back-In Angled Parking

Back-In Angled Parking requires motorists to back into an angled on-street parking spot and to drive forward when exiting a parking spot. Back-in angled parking increases the visibility of passing vehicles and bicycles while exiting a spot, particularly if large adjacent vehicles obstruct sight, and allows trunk unloading to happen on the curb instead of in the street.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER

Create or Increase Clear Zone

A clear zone is an unobstructed, traversable roadside area that allows a driver to stop safely or regain control of a vehicle that has left the roadway. The width of the clear zone is informed by roadway context, desired vehicle speeds, and agency design standards.

Cost **$$**

Relevant Crash Types
Run Off Road
Sideswipes
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER

Curbside Management

Curbside management helps prioritize different uses that would otherwise be in conflict with one another such as location of bus stops, bicycle infrastructure, freight deliveries, passenger pick-ups/drop-offs, green stormwater infrastructure, public spaces, and parking management.

Cost $

Relevant Crash Types

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

OTHER

Delineators, Reflectors, and/or Object Markers

Delineators, reflectors and/or object markers are intended to warn drivers of an approaching curve or fixed object that cannot easily be removed. They are generally less costly than Chevron Signs as they don't require posts to place along the roadside.

Cost $

Low Cost / Quick Build alternative available

Relevant Crash Types

Run Off Road
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER

Intersection Lighting

Adding intersection and/or pedestrian-scale lighting at intersections increases the visibility of all road users. This countermeasure is most effective at reducing or preventing collisions at intersections at night or in low light conditions. When lighting pedestrian crosswalks, it is helpful to use lighting analysis to avoid designs that inadvertently introduce glare or backlight pedestrians making it hard for motorists to see them.

Cost **$$**

Relevant Crash Types
Nighttime
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections
Sideswipes
Pedestrians at Signalized Intersections
Motorcycle

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER

Median Guardrail

The installation of median guardrail is most suitable for use in traversable medians having no or little change in grade and cross slope. While these systems may not reduce the frequency of crashes due to roadway departure, they can help prevent a lane-departure crash from becoming a head-on collision.

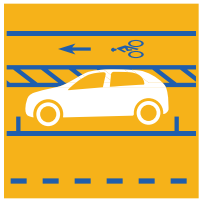
Cost **$$**

Relevant Crash Types
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

OTHER



On-Street Parking

On-street parking can provide a buffer between pedestrians/ bicyclists and the travel lane, increasing safety and comfort. It can also be used to manage speeds when adjacent to a travel lane, as parking maneuvers and driving next to parked vehicles creates friction that slows drivers.

Cost **$**

Low Cost / Quick Build alternative available

Relevant Crash Types

Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds		

OTHER

Relocate Select Hazardous Utility Poles

Relocating or removing utility poles from within the clear zone alleviates the potential for fixed-object crashes. If utility poles cannot be completely eliminated from within the clear zone, efforts can be made to either relocate the poles to a greater offset from the road or delineated.

Cost **$$**

Relevant Crash Types

Run Off Road
Fixed Object

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

OTHER

Remove Obstructions For Sightlines

Remove objects that may prevent drivers and pedestrians from having a clear sightline. May include installing red curb at intersection approaches to remove parked vehicles (also called "daylighting"), trimming or removing landscaping, or removing or relocating large signs.

Cost **$**

Low Cost / Quick Build alternative available

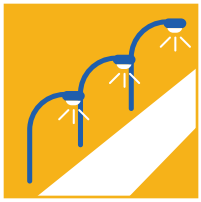
Relevant Crash Types

Rear-End
Left Turns at Signalized Intersections
Left Turns at Unsignalized Intersections
Right Turns at Signalized Intersections
Right Turns at Unsignalized Intersections
Angled Crashes at Signalized Intersections
Angled Crashes at Unsignalized Intersections
Pedestrians at Signalized Intersections

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER



Segment Lighting

Providing roadway lighting increases driver awareness and can improve visibility of other road users and/or objects in the roadway.

Cost **$$**

Relevant Crash Types

Nighttime
Sideswipes
Fixed Object
Motorcycle

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER

Upgrade Lighting to LED

Upgrading Lighting to LED replaces high-pressure sodium light bulbs with LED light bulbs in street lights. Upgrading Lighting to LED increases the visibility of pedestrians in crosswalks through greater color contrast and larger areas of light distribution.

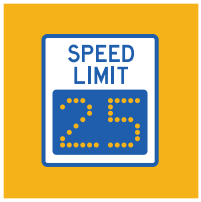
Cost **$$**

Relevant Crash Types
Nighttime
Motorcycle

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

OTHER



Variable Speed Limits

Variable Speed Limits (VSLs) can improve safety performance and traffic flow by reducing speed variance and thereby improving speed harmonization.

Cost **$$**
Low Cost / Quick Build alternative available

Relevant Crash Types
Nighttime
Speed Management

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
	Reduce Vehicle Speeds		

NON-ENGINEERING COUNTERMEASURE

Bicycle Safety Education Events

Partner with local bike shops and other partners to host events/fairs to educate people on bicycle safety. For example, host rides to introduce people to new bicycle facilities as they are opened; offer free tune ups at safety fairs.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Education Campaigns for Vulnerable Groups

Launch targeted public education campaigns for seniors, non-English speaking populations, or other vulnerable groups.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Improve Crash Data Collection

Enhance crash data quality by creating standardized reporting and data partnerships allowing for better decision making, including providing suggestions to the Florida Department of Highway Safety and Motor vehicles (FLHSMV) to incorporate micromobility and other low speed vehicles (golf carts) into standard crash reports. Work with local law enforcement to ensure resources are provided for training. Work with local hospitals/EMS providers to provide information related to crashes that do not involve a vehicle.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Keep Roadways Clear of Debris

Roadway debris, like loose gravel, can reduce pavement friction and especially pose a hazard for motorcyclists.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts			

NON-ENGINEERING COUNTERMEASURE

Pilot Demonstration Safety Projects

Implement pilot demonstration safety projects. Projects can either be implemented on a temporary basis (tactical urbanism) or permanent basis with room for modification (quick builds).

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds	Manage Conflicts in Time	Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Public Information Campaigns

Example campaign topics include safe speeds, yielding to pedestrians, distracted driving, drinking and driving, awareness of bicyclists and pedestrians, appropriate crosswalk behavior, rail safety, moving over for EMS vehicles, etc. Campaigns may include yard signs, wall boards/posters in prime injury-corridor neighborhoods, ads on bus exteriors, radio ads, etc. Public education may also involve making safety and crash data publicly available on project websites, the local agency's data portal, social media, and other avenues as appropriate.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Safe Routes to School

Establish a Safe Routes to School (SRTS) program in partnership with school districts.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Targeted Enforcement and Deterrence

When developing a program of targeted enforcement and deterrence, use collision history and corridors on the High Injury Network as one criterion for where to concentrate enforcement efforts. Add extra patrols to look for distracted drivers as part of a statewide distracted driving campaign, with focus on where data indicates that the most traffic safety benefit can be realized. Implement deterrence policies that are highly visible, such as publicized sobriety checkpoints, saturation patrol, and other forms of high visibility enforcement that are effective for safety outcomes.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

NON-ENGINEERING COUNTERMEASURE

Update City Policies and Standards

Update policies, standards, and guidelines on topics such as signal timing, street design, street lighting, complete streets, and pedestrian crossings to incorporate current best practices and improve safety for all modes.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
Remove Severe Conflicts	Reduce Vehicle Speeds	Manage Conflicts in Time	

NON-ENGINEERING COUNTERMEASURE

Youth Education

Launch a countywide transportation safety education campaign targeting youth that covers a wide range of topics, such as alcohol and drug impairment, speeding, and potentially distracted driving. Local schools can also be partners in promoting safe driver behavior during school pick-up and drop offs. Educational campaigns that involve both students and parents can be more impactful as they involve parents, who are actually driving, and students, who may not only remind their parents but also retain safe driving behavior if they eventually drive.

Safe System Hierarchy

Tier 1	Tier 2	Tier 3	Tier 4
			Increase Attentiveness and Awareness

Appendix C:
Drainage Project List

2024 – 2040 Consolidated Drainage Project List

Briarwood at Lakewood	WF(A)-2 Tributary 1 Detention Pond at Van Buren and Local Drainage Improvements
Cornell and Leonard	VC(A)-5 Bowman Springs to Crossgate Channel and Culvert Improvements
Park Springs Court	Orchard Hill Culvert Improvements (VCA-4)
Meadow Way Circle at Mosswood	Mayfield Road Culvert Improvements (Stream NF-1)
Caliente at Indian Wells	WF(A)-2 at Green Oaks Boulevard
Hidden Oaks - Overridge	Park Hill Drive Culvert Improvements at VC(A)-1
Rochelle	RC-10 River Ridge Culvert Improvement
2020 Drainage - Bowen and red oak	Silo Road Bridge Improvements (Lynn Creek)
VC(A) -1 Drainage and Erosion Improvements	Saddle Ridge Maintenance
Bonneville/Greenbrook	Lamar Boulevard Culvert Improvements at VC(A)-1
College/Woodcrest/Oak	VC(A)-6 Maintenance at I-20 Frontage
Forest Edge North	RC1/RC1A Culvert, Storm Drain, and Channel Improvements
Parker (Oakwood to Donnell)	WF(A)-1 at Green Oaks Boulevard
Commercial Drive North Ditch and Channel	Spring Miller Court Culvert Improvements at Bowman Branch
Grants Parkway at Collins	Shorewood Drive Culvert Improvements at VC(A)-6
Country Club at Forest Edge South	Springwood outfall
Park Springs Blvd (2020)	Twin Park at Harris Road
Fleur De Lis	WF(A)-2 at North Cooper (Crossing 2)
Sugarmill Ct.	Webb-Ferrell Bridge Improvements
Helmsford/Wrentham	WF(A)-2 Tributary 2 at Cleburn Drive
Woodford Outfalls	New York Culvert Improvements (Lynn Creek)
Pleasant Forest/Windhorst/Wingrove	WF(A)-1 at Brown Boulevard
Sheffield @ Sheffield Ct	Sherry Street Culvert Improvements (Cottonwood)
Valleydale low point	Lynn Creek Drive at LC-2 Culvert Improvements
Harvest Hills & Briar Meadow Drainage Improvements	Downtown Pipe Repairs
JC9 (Cooper to Collins)	Johnson Creek, Tributary 10 Buyouts
Kippers Court at Jason Drive (includes evaluation and design of downstream channel improvements	Johnson Creek, Tributary 2 Buyouts
Iris/Firewood	Johnson Creek, Tributary 12 Buyouts
Glasgow/Westador/Paisley	Johnson Creek Buyouts at Pioneer Parkway and Collins Street
RC-7 Ruidoso Bardin Culvert Improvement	Annual Maintenance of Pipes, Bridges, Channels, Detention Ponds, and Ditches
WF(A)-2 Tributary 1.3 at Lincoln Drive	Annual Stormwater Infrastructure Evaluation
Mansfield Webb Road Culvert Improvements at Bowman Branch	

Staff Report

Zoning Case PD24-21 (1537 and 1531 W. Randol Mill Rd, and 1109 N. Fielder Rd)	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Ordinance

RECOMMENDATION

Following the public hearing, consider Zoning Case PD24-21 to change the zoning from Planned Development (PD) for Neighborhood Commercial (NC) and Residential Single-Family 7.2 (RS-7.2) to Planned Development (PD) for Neighborhood Commercial (NC) on approximately 1.210 acres, with a Development Plan.

PRIOR BOARD OR COUNCIL ACTION

On January 8, 1991, City Council approved zoning case Z90-55 for an office or clinic for the practice or pursuit of the business, occupation, or professional primarily engaged in by any of the following persons: physician, dentist, attorney, architect, landscape architect, by a vote of 9-0-0.

On July 12, 2023, the Planning and Zoning Commission continued the hearing for PD24-21 indefinitely by a vote of 8-0-0.

ANALYSIS

Request

The applicant requests a change in zoning on approximately 1.210 acres of land addressed at 1537 and 1531 W. Randol Mill Road and 1109 N. Fielder Road, generally located north of W. Randol Mill and west of N. Fielder Road.

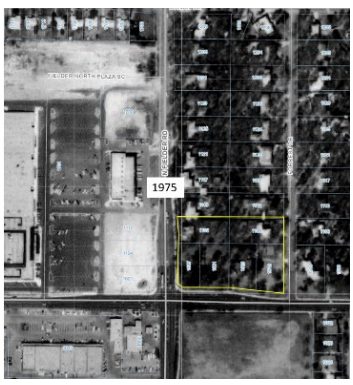
Current zoning: Residential Single-family 7.2 and Planned Development (PD) for Neighborhood Commercial (NC)

Requested zoning: Planned Development (PD) for Neighborhood Commercial (NC) uses, with a Development Plan

GENERAL INFORMATION

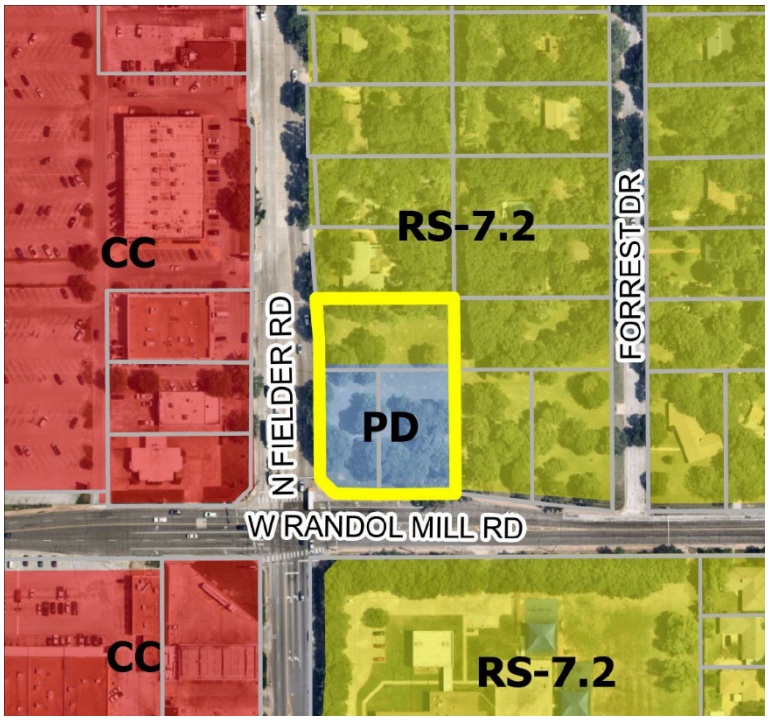
This property was annexed into the City of Arlington in 1952. A Planned Development was approved for an approximate one-acre portion of the property in January of 1991; however, no development has taken place.

Development began in the area east of the site between 1952 and 1954. Property currently known as the Double Y Wooded Estates, single-family subdivision, initiated development during this time. In 1976, commercial development began to take place to the south and west with the development of Fielder Plaza and various commercial businesses to the southwest.



In 1965, Wimbish Elementary School was developed south of West Randol Mill Road. The intersection has remained in this configuration since that time.

Existing Site Conditions
The site is currently undeveloped and is known as Lots 9, 10, and 11; Block 2 of the Double Y Wooded Estates Addition. The site currently has major street frontage on North Fielder Road, West Randol Mill Road.



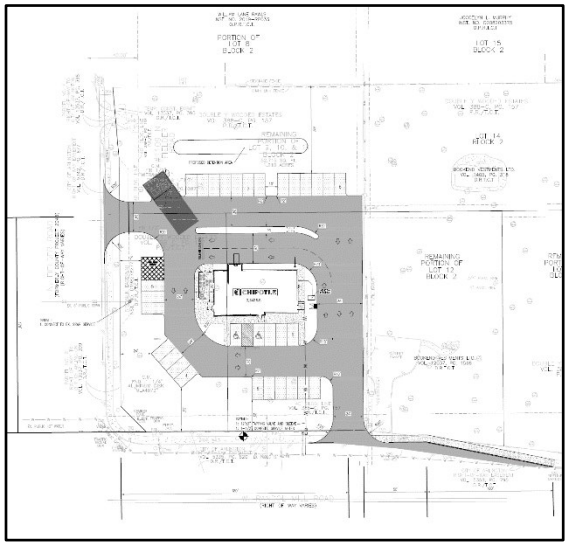
Adjacent Land Uses
Property to the north:
Zoned Residential Single-Family-7.2 (RS-7.2): Developed with single-family detached residential uses.

Properties to the south (Across West Randol Mill):
Zoned Residential Single-Family-7.2 (RS-7.2): Developed with Wimbish World Language Academy.

Properties to the east:
Zoned Residential Single-Family-7.2 (RS-7.2): Developed with single-family detached residential uses.

Properties to the west (Across North Fielder Rd.):
Zoned Community Commercial (CC): Developed with a commercial shopping center.

DEVELOPMENT PLAN ANALYSIS
The applicant is requesting a Planned Development for a drive-through restaurant only. The proposal is for a Chipotle restaurant with no interior seating and a drive-through with a small outdoor seating area.

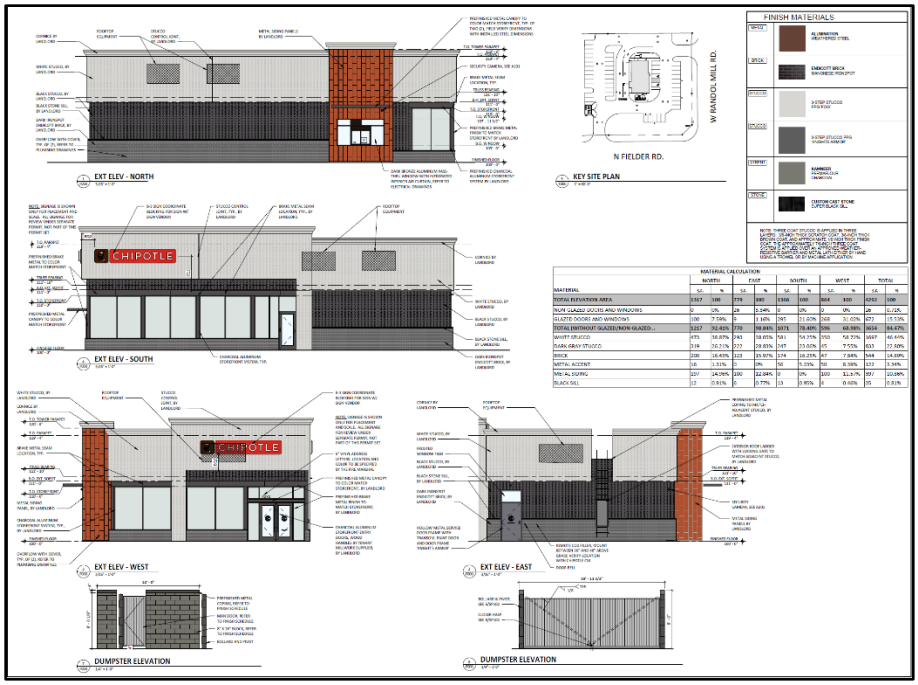


The site will be oriented with the front elevation of the structure facing west, with the drive-through wrapping around the building from the south to the north and then west.

Site Access
The site has two points of access from North Fielder Road and West Randol Mill Road.
Is the circulation right-in and right-out?

Building Design

The applicant proposes a design that incorporates masonry with a small use of accent metal for contrast. The structure uses a combination of brick, stucco (2 colors), accent metal, and glazing. Charcoal colored brick is used around the entire base of the structure with glazing creating a storefront atmosphere for all street facing elevations.



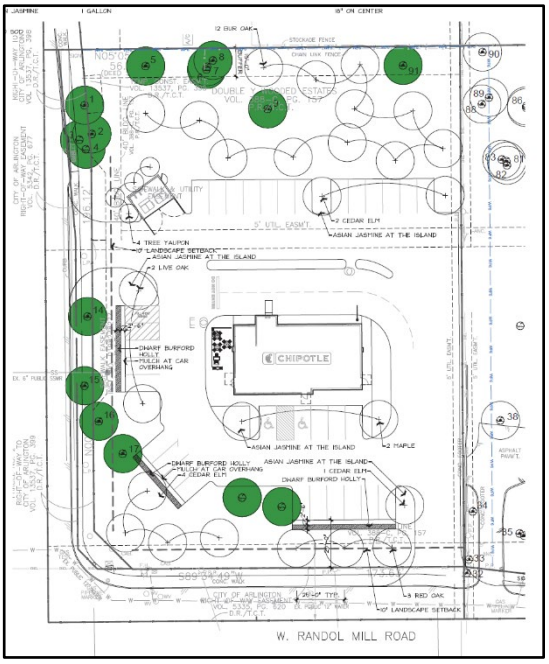
Parking

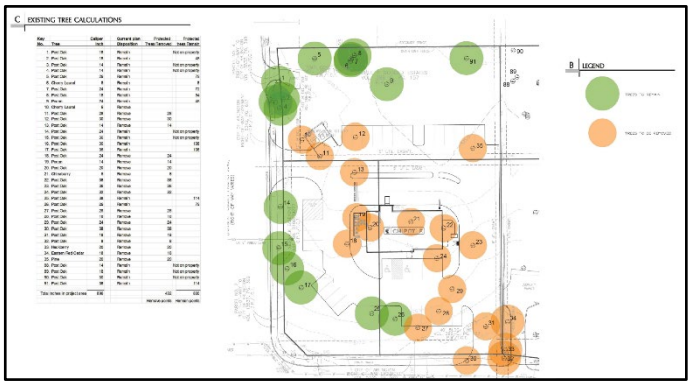
Section 5.4-1 Off-street Parking Schedule A

Restaurants with drive-through are required to provide 10 spaces per 1,000 sf GFA, plus any stacking spaces required (21 spaces required/ 33 spaces provided).

Landscaping

The landscape plan exceeds the requirements of the UDC.





Tree Preservation

The applicant has taken significant actions to preserve the existing trees on the site through the incorporation of the approximately 70-foot-wide buffer to the north inclusive of a detention area and future additional trees creates a significant buffer between the residential property to the north and the developed portion of the site. Several existing trees are scheduled to remain. A few of the trees are located just outside of the platted lot however

this is a very tight site. Based on the tree survey and the landscape plan the site will have approximately 908 positive points.

Drainage
The site is located in the Lower Village Creek drainage basin. The site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site, as long as, all the relevant city ordinances are complied with.

Transportation
Change in zoning will increase the average daily trips by 824, with an addition of 86 trips during the a.m. peak hour and 84 trips during the p.m. peak hour. The additional trips will not significantly impact the adjacent roadway systems.

Deviations
UDC Table 5.3-1: Residential Screening and Buffering
Required- A Level 2 (15-foot) buffer is required adjacent to the property to the east and a six-foot-tall masonry screening fence.

Proposed- They are proposing a six-foot-tall, Cedar board-on-board fence for the east and north property lines.

COORDINATION WITH OTHER PLANS
Comprehensive Plan (2015). Arlington's Comprehensive Plan (2015), *99 Square Miles*, defines this area of the City as "Established Residential." This area covers the largest portion of the city and contains a variety of housing types as well as retail services. People living in these areas would enjoy the benefits of neighborhood parks, schools, and community recreation centers, which is designed to create special places that include residential, retail, offices, and entertainment uses.

The potential project should coordinate with any of the following strategies and actions identified within **Develop our Land** Section that calls to:

1. *Promote land use patterns that reflect a mix of integrated community uses.*
2. *Evaluate development proposals in context with existing infrastructure, connectivity, and surrounding uses.*

Consideration should be given to the existing immediately adjacent development pattern of single-family residential and the impact of introducing non-residential uses further into the neighborhood. There are non-residential uses (office) at the intersection of Woodland Drive and West Randol Mill Road, similar to the orientation of the subject property. However, those properties are zoned as Planned Development with standards to ensure design and intensity are compatible with the adjacent residential uses.

Thoroughfare Development Plan (2022). West Randol Mill Road and North Fielder Road are both classified as a four-lane Minor Arterials.

Hike and Bike System Master Plan (2011). There are no existing or planned hike and bike systems near the subject site. However, there are existing sidewalks along West Randol Mill Road and North Fielder Road.

Capital Improvement Projects. In 2023, a public street maintenance project was completed for the portion of West Randoll Mill Road that fronts the subject property. The section of West Randol Mill Road west of North Fielder Road is currently undergoing work, including asphalt milling and overlay, as well as spot repairs of the curb and gutter.

Historic Structures/Historic Resource Survey (2007). There are no structures on the subject site.

STAFF RECOMMENDATIONS FOR IMPROVEMENT

Should the Planning and Zoning commission recommend approval of this case, staff has the following stipulation for consideration.

1. Incorporate a five-foot-wide buffer with a single row of ornamental trees along the eastern property line.

ADDITIONAL INFORMATION

Attached:

i. Case Information
ii. Itemized Allowable Uses
iii. Location Map
iv. Photos
v. Development Plan
vi. Letters of Opposition

Under separate cover: None
Available in the City Secretary's office: None

CITY COUNCIL DATE December 17, 2024

STAFF CONTACTS

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Planning and Development Services
817-459-6532
Lisa.Sudbury@arlingtontx.gov

Kevin Charles
Principal Planner
Planning and Development Services
817-459-6515
Kevin.Charles@arlingtontx.gov

Case Information

Legal Applicant: JF Holdings, represented by Clark Johnson
3811 Turtle Creek, Suite 1715
Dallas, TX 75219
918-640-8420

Sector Plan: East

Council District: 1

Allowable Uses: See attachment ii-1.

Development History: The subject site is platted and recognized as Lots 9, 10, and 11; Block 2 of the Double Y Wooded Estates Addition

There have been no zoning cases approved in the general area within the past five years:

Transportation: The development can be accessed from West Randol Mill Road, and North Fielder Road.

Thoroughfare	Existing	Proposed
West Randol Mill Road	75-foot, 4-lane, undivided, Minor Arterial	90-foot, 4-lane undivided, Minor Arterial
North Fielder Road	92-foot, 4-lane undivided Minor Arterial	90-foot, 4-lane undivided Minor Arterial

Traffic Impact: Change in zoning will increase the average daily trips by 824, with an addition of 86 trips during the a.m. peak hour and 84 trips during the p.m. peak hour. The additional trips will not significantly impact the adjacent roadway systems.

Water & Sewer: There is a 12" distribution water line within the N Fielder Rd right-of-way and a 12" distribution water line within the W Randol Mill Rd right-of-way. There is an 8" public sewer main within the N Fielder Rd right of way.

Drainage: The site is located in the Lower Village Creek drainage basin. The site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site as long as all the relevant city ordinances are complied with.

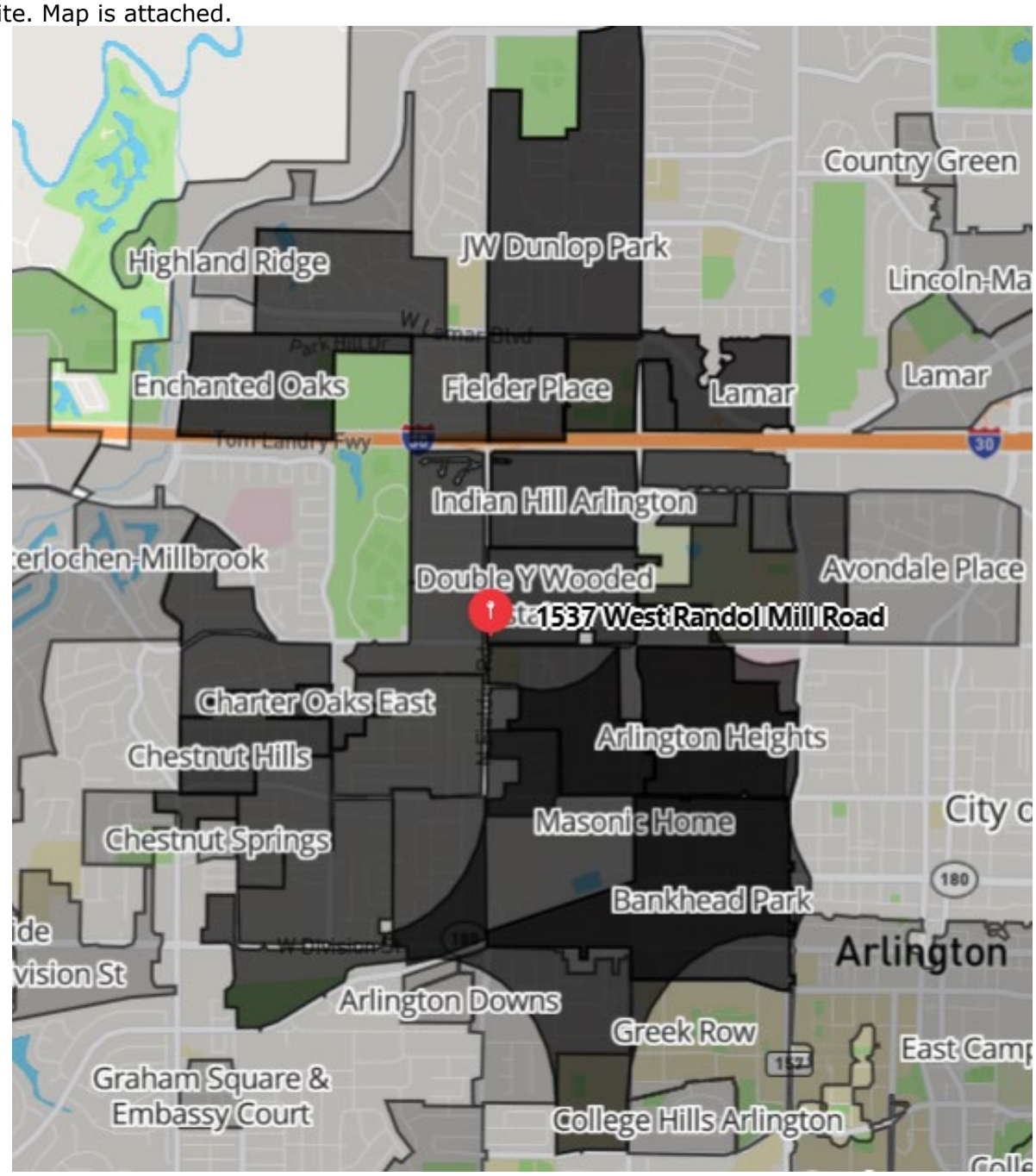
Fire: Fire Station #4 located at 1733 West Randol Mill Road provides protection to this site. The estimated fire response time is less than five minutes, which is in keeping with recommended standards.

Case Information

School District: Arlington Independent School District.

Case Information

This notice was posted to 8,000 neighbors in 29 neighborhoods within 1-mile of the subject site. Map is attached.



Property Owners:	17
Letters of Support:	0 pages
Letter of Opposition:	1 pages

Itemized Allowable Uses

Allowable Uses: **NC NEIGHBORHOOD COMMERCIAL**

Permitted Uses (P)
Art gallery or museum, Domestic violence shelter, Government administration and civic buildings, Philanthropic institution (other than listed), Religious assembly, Medical or dental office or clinic, Community garden, Public park or playground, Catering service, Restaurant, Restaurant, take-out and delivery only, Office, business or professional, General personal services (other than listed), Massage therapy clinic, Lodge | fraternal organization, Country club, Golf course, General retail store (other than listed), Firearm sales, Utility lines, towers or metering station.

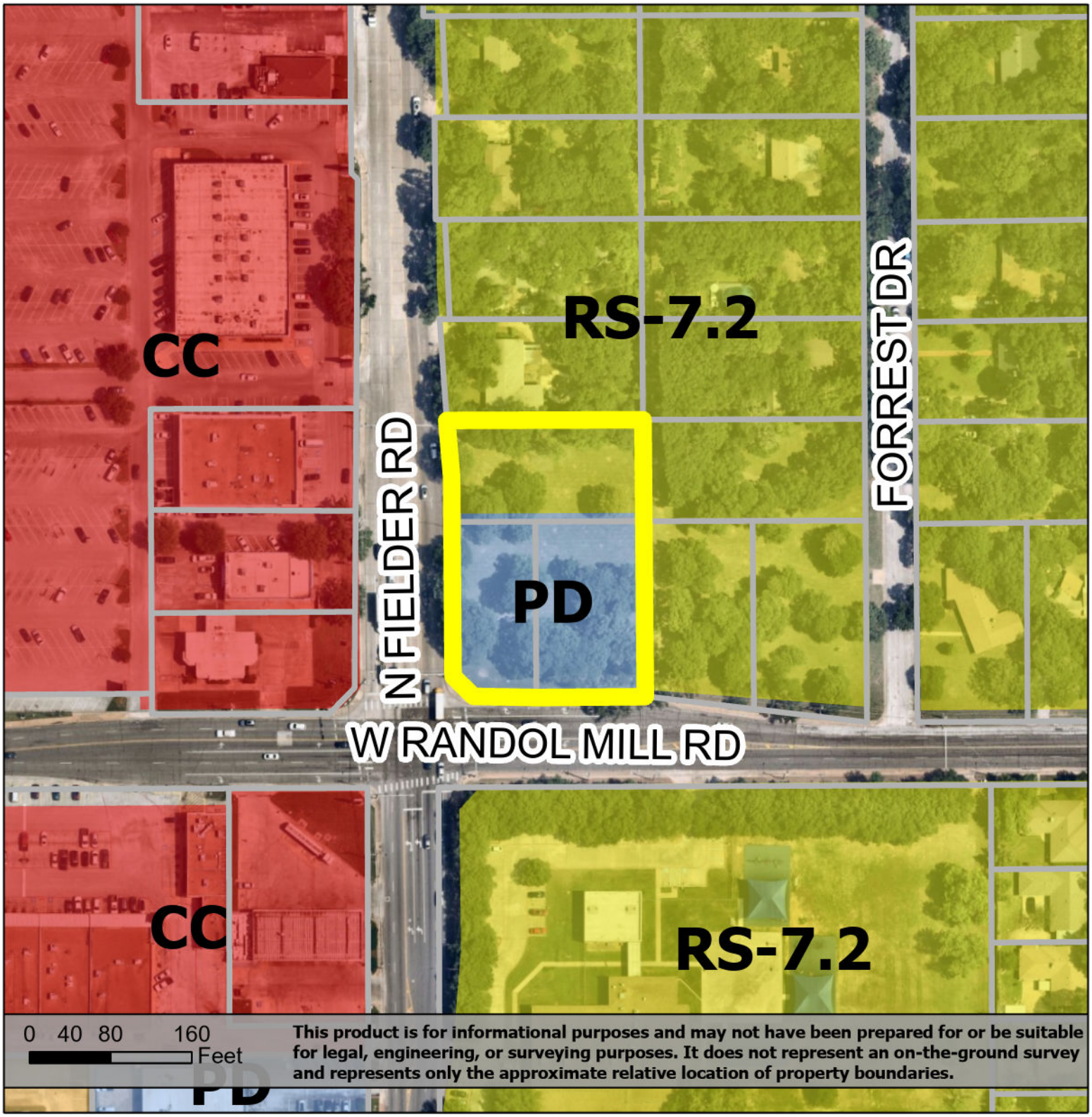
Accessory Uses
Caretaker's quarters, Customarily incidental use, Sidewalk cafe and Transit passenger shelter.

Permitted Uses - with Supplemental Use Standards (P*)
Business school, Public or private school, Veterinary clinic, Bank or financial institution, Sidewalk cafe, Day care center, Telecommunication Facilities Building-mounted antennae and towers, Telecommunication Facilities Towers ≤75 ft., Stealth towers ≤100 ft.

Accessory Uses
Accessory building (not listed below), Accessory use (not listed below), Alternative energy system, Electric vehicle charging station, Garage (private), Mobile food establishment, and Outside display and sales.

Uses permitted only with Specific Use Permit approval (S)
University | college | seminary, Cemetery, Alternative financial institution*, Restaurant with drive-through, Bed and breakfast inn*, Marina, Small box discount store*, Gas well*, Electric utility substation, Electric utility substation, and Telecommunication Facilities Towers >75 ft Stealth towers >100 ft*.

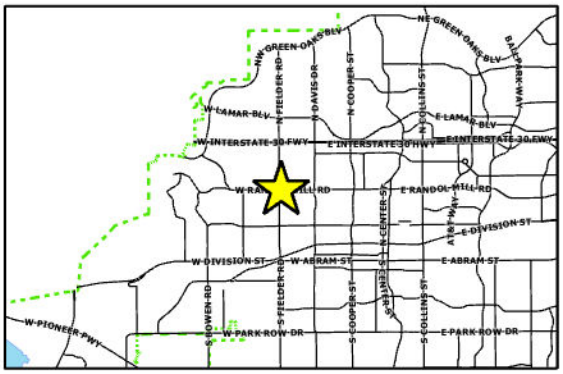
* = supplemental use standards apply



LOCATION MAP
PD24-21

PD for Neighborhood Commercial (NC) for a Restaurant with a Drive Through on 1.21 Acres

N



PD24-21

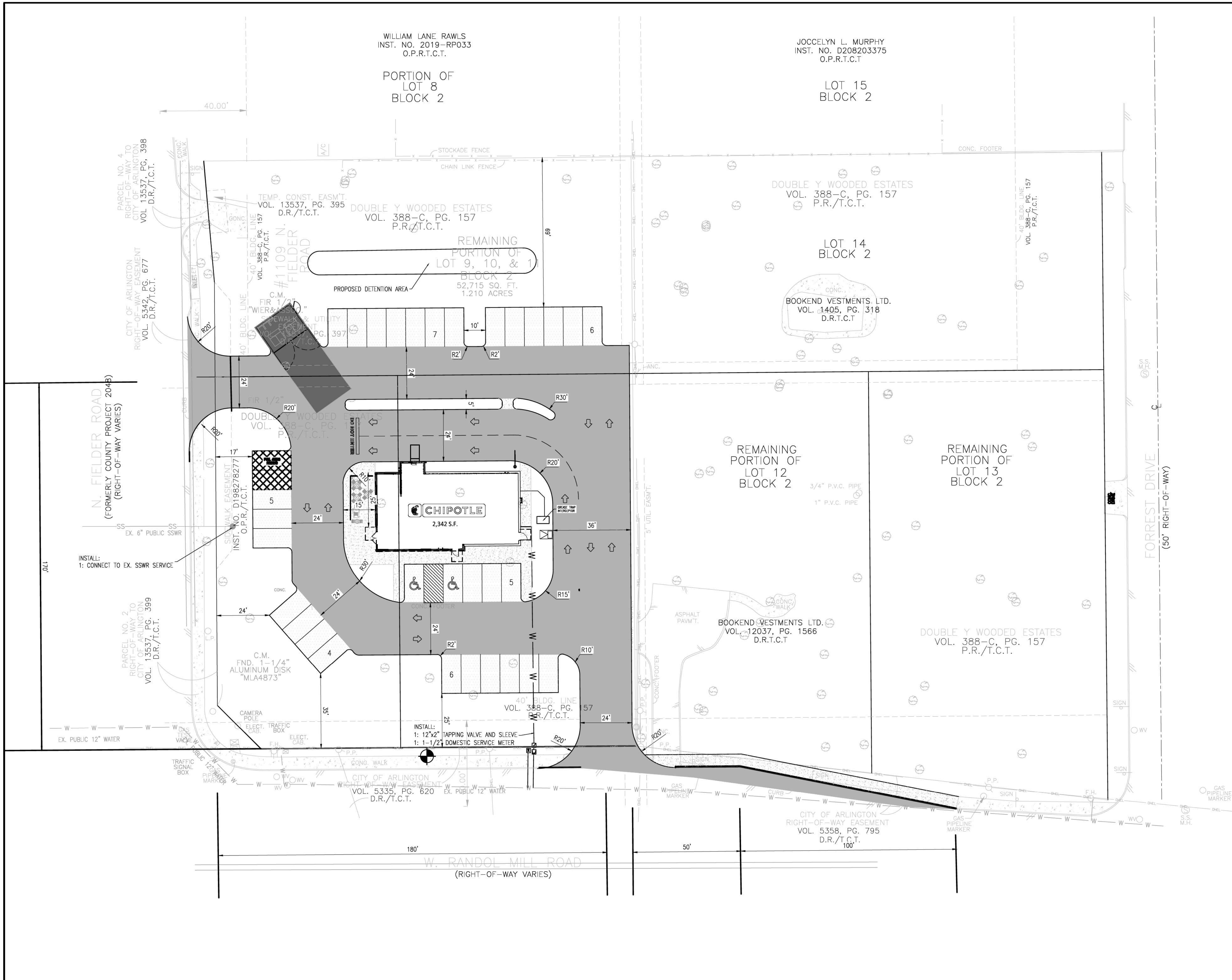
North of W. Randol Mill and east of N. Fielder Road.

Subject site from West Randol Mill, view north.

Adjacent site, view west across N. Fielder Rd.

Residential lot to north of the subject site.

Adjacent site, view east.



LEGEND

[pattern]	4" SIDEWALK CONCRETE
[pattern]	5" LIGHT-DUTY CONCRETE PARKING
[pattern]	6" MEDIUM-DUTY CONCRETE
[pattern]	8" HEAVY-DUTY DUMPSTER CONCRETE
[pattern]	PULL AHEAD PARKING STALLS
(2)	ACCESSIBLE PARKING STALLS
(1)	9'x18' STANDARD PARKING STALL
—— F ——	STRIPED FIRELANE

SITE DATA

SITE:
CHIPOTLE MEXICAN GRILL
1 LOT
57,374 SQ. FT/ 1.32 ACRES
PAVED AREA (50.5% IMPERVIOUS)
OPEN SPACE (49.5% PERVIOUS)

REQUIRED PARKING CALCULATIONS:
PER UNIFIED DEVELOPMENT CODE: 10 PER 1,000 SF GFA

TOTAL REQUIRED SPACES: 24
PROVIDED SPACES: 33
REQUIRED ACCESSIBLE SPACES: 1
PROVIDED ACCESSIBLE SPACES: 2

BUILDING:
BUILDING FOOTPRINT AREA = 2,342 S.F.
LOT COVERAGE = 4.1%
MAX. HEIGHT = 19'-4"

EXISTING ZONING: PLANNED DEVELOPMENT

PROPOSED ZONING: PLANNED DEVELOPMENT

PRELIMINARY - FOR REVIEW ONLY

These documents are for review only and not Intended for Construction, Bidding or Permit Purposes. They were prepared by, or under supervision of:

Name	PE No.	Date
M. L. PETERSON , PE	92728	8/27/2024

GRAPHIC SCALE 1"=20'
20 0 20 40

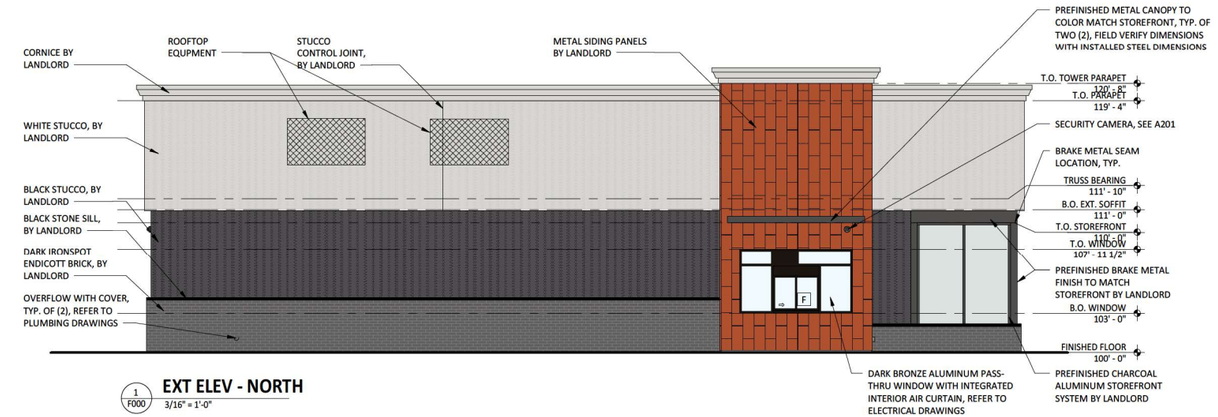
CHIPOTLE

SITE PLAN EXHIBIT - OPTION 1

CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

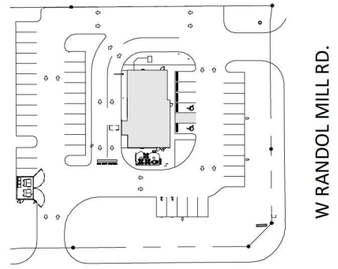
GRAHAM ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
600 SIX FLAGS DRIVE, SUITE 500
ARLINGTON, TEXAS 76011 (817) 640-8535
TBPE FIRM: F-1191/TBPLS FIRM: 101538-00

DRAWN BY: GAI	PROJECT NO. 2882-1006	SHEET
DATE: 8/9/2024	SHEET 1 OF 1	C1.00



1 F000 **EXT ELEV - NORTH**
3/16" = 1'-0"

4 F000 **EXT ELEV - SOUTH**
3/16" = 1'-0"



5 F000 **KEY SITE PLAN**
1" = 60'-0"

FINISH MATERIALS

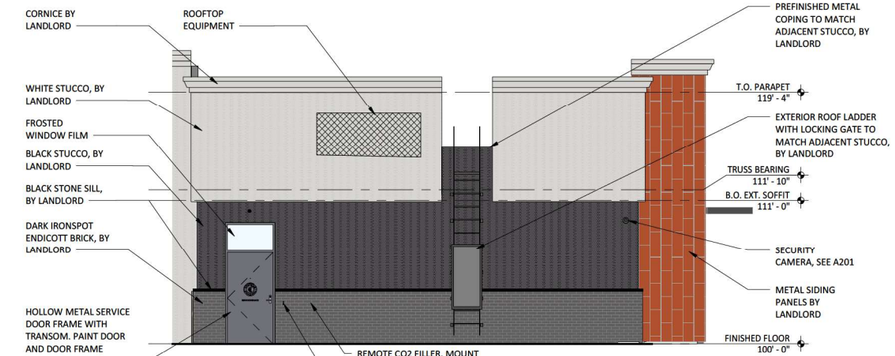
METAL		**ALUMINATION** WEATHERED STEEL
BRICK		**ENDICOTT BRICK** MANGNESE IRONSPOT
STUCCO		3-STEP STUCCO PPG 'FOG'
STUCCO		3-STEP STUCCO PPG 'KNIGHTS ARMOR'
STRFNT		**KAWNEER** PERMAFLOUR CHARCOAL
STONE		**CUSTOM CAST STONE** SUPER BLACK SILL

NOTE: THREE COAT STUCCO IS APPLIED IN THREE LAYERS: 3/8-INCH THICK SCRATCH COAT, 3/8-INCH THICK BROWN COAT, AND APPROXIMATE 1/8 INCH THICK FINISH COAT. THE APPROXIMATELY 7/8-INCH THREE COAT SYSTEM IS APPLIED OVER AN APPROVED WEATHER-RESISTIVE BARRIER AND METAL LATH EITHER BY HAND USING A TROWEL OR BY MACHINE APPLICATION

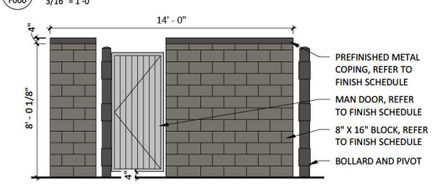
MATERIAL CALCULATION

MATERIAL	NORTH		EAST		SOUTH		WEST		TOTAL	
	S.F.	%	S.F.	%	S.F.	%	S.F.	%	S.F.	%
TOTAL ELEVATION AREA	**1317**	**100**	**779**	**100**	**1366**	**100**	**864**	**100**	**4292**	**100**
NON-GLAZED DOORS AND WINDOWS	0	0%	26	3.34%	0	0%	0	0%	26	0.71%
GLAZED DOORS AND WINDOWS	100	7.59%	9	1.16%	295	21.60%	268	31.02%	672	15.53%
TOTAL (WITHOUT GLAZED/NON-GLAZED...	**1217**	**92.41%**	**770**	**98.84%**	**1071**	**78.40%**	**596**	**68.98%**	**3654**	**84.47%**
WHITE STUCCO	473	38.87%	293	38.05%	581	54.25%	350	58.72%	1697	46.44%
DARK GRAY STUCCO	319	26.21%	222	28.83%	247	23.06%	45	7.55%	833	22.80%
BRICK	200	16.43%	123	15.97%	174	16.25%	47	7.84%	544	14.89%
METAL ACCENT	16	1.31%	0	0%	56	5.23%	50	8.39%	122	3.34%
METAL SIDING	197	14.96%	100	12.84%	0	0%	100	11.57%	397	10.86%
BLACK SILL	12	0.91%	6	0.77%	13	0.95%	4	0.46%	35	0.81%

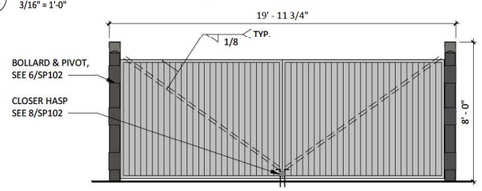
3 F000 **EXT ELEV - WEST**
3/16" = 1'-0"



2 F000 **EXT ELEV - EAST**
3/16" = 1'-0"



7 F000 **DUMPSTER ELEVATION**
1/4" = 1'-0"



6 F000 **DUMPSTER ELEVATION**
1/4" = 1'-0"

ARCHITECT OF RECORD
ROGUE ARCHITECTS
513 MAIN STREET, SUITE 300
FORT WORTH, TEXAS 76102
(817) 820-0433

THIS DRAWING IS A DESIGN DEVELOPMENT DOCUMENT. SITE SPECIFIC MODIFICATIONS MADE UNDER THE RESPONSIBLE CHARGE OF THE ARCHITECT AND/OR ENGINEER-OF-RECORD WILL BE REQUIRED PRIOR TO USING THIS DOCUMENT FOR BIDDING, PERMITTING, OR CONSTRUCTION.

Project Status

CHIPOTLE MEXICAN GRILL

CHIPOTLE MEXICAN GRILL, INC.
PO BOX 182566
COLUMBUS, OH 43218-2566
TELEPHONE: 614.318.2400
INTERNET: WWW.CHIPOTLE.COM

STORE NO.: 5245
RANDOL MILL
1525 W. RANDOL MILL RD.
ARLINGTON, TX 76012

Issue Record:

03/08/2021	COMBINED PROTO RELEASE

Revisions:

Drawn: AUTHOR
Checked: CHECKER

Project No.: CMGXXX

Contents:

MATERIAL BOARD

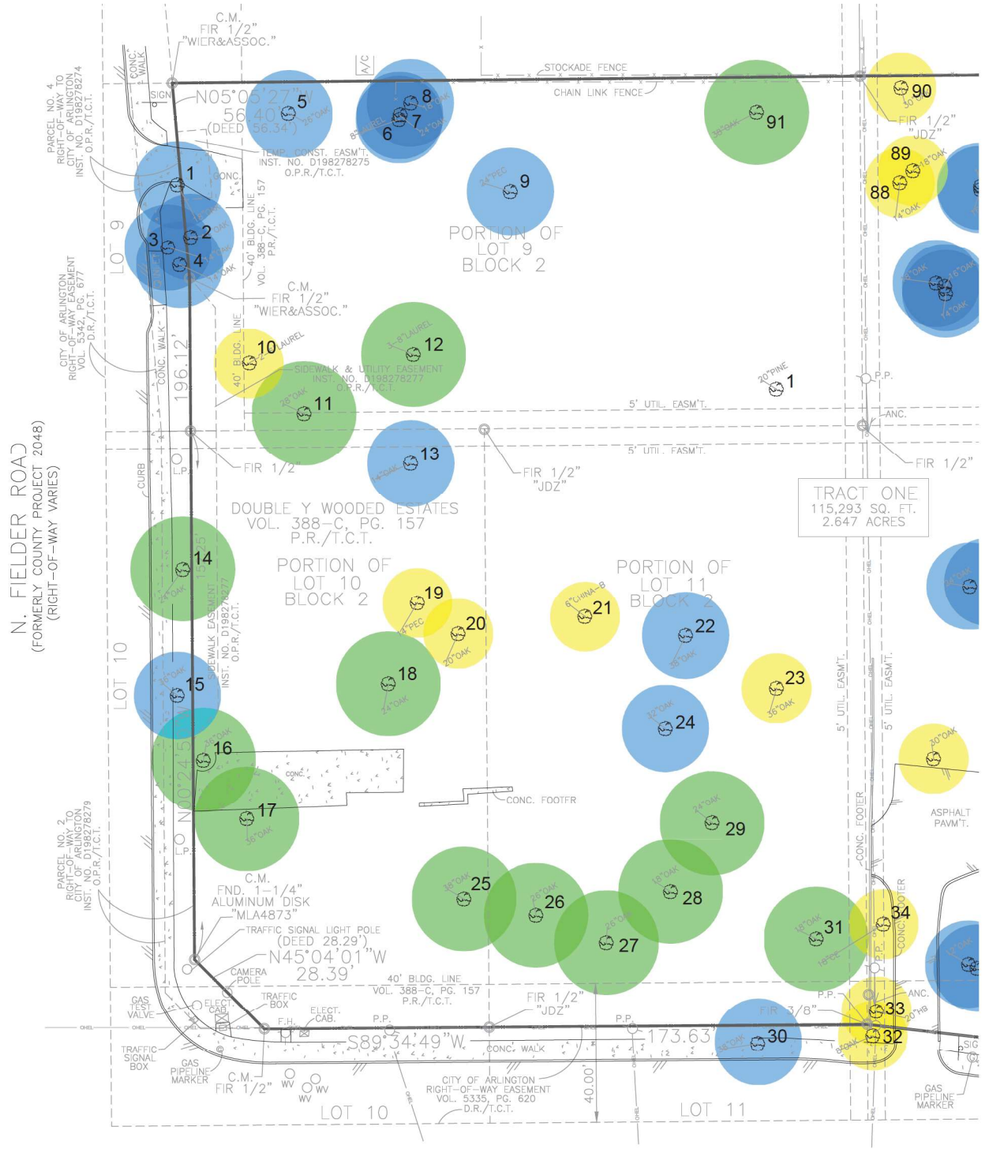
F000

B | LEGEND

HIGH QUALITY TREE

MEDIUM QUALITY TREE

LOW QUALITY TREE



A | TREE EVALUATION PLAN

1" = 20'-0"

0 10' 20' 40'

KENDALL LANDSCAPE ARCHITECTURE

CHIPOTLE

TREE EVALUATION, PROTECTION AND REMOVAL PLANS

ARLINGTON, TEXAS

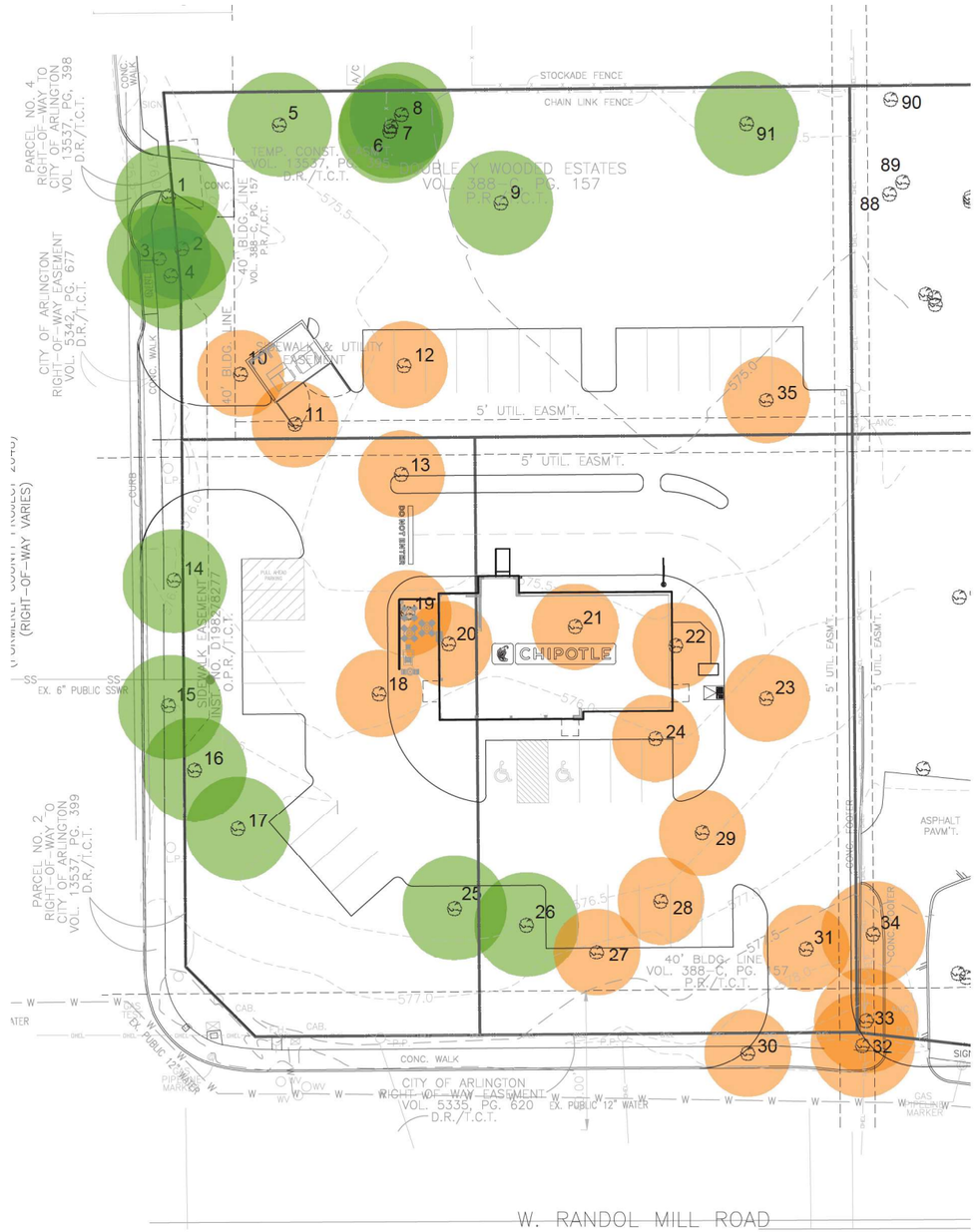
GRAHAM ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
600 SIX FLAGS DRIVE, SUITE 500
ARLINGTON, TEXAS 76011 (817) 640-8535
TBPE FIRM: F-1191/TBPLS FIRM: 101538-00

DRAWN BY:	DRG	PROJECT NO. XXX	SHEET L1.01
DATE:	10.17.23	SHEET 1 OF 2	

KENDALL
LANDSCAPE ARCHITECTURE

C | EXISTING TREE CALCULATIONS

Key No.	Tree	Caliper Inch	Current plan Disposition	Protected Trees Removed	Protected trees Remain
1.	Post Oak	18	Remain		Not on property
2.	Post Oak	16	Remain		48
3.	Post Oak	14	Remain		Not on property
4.	Post Oak	14	Remain		Not on property
5.	Post Oak	26	Remain		78
6.	Cherry Laurel	8	Remain		8
7.	Post Oak	24	Remain		72
8.	Post Oak	18	Remain		54
9.	Pecan	24	Remain		48
10.	Cherry Laurel	6	Remove		
11.	Post Oak	28	Remove	28	
12.	Post Oak	30	Remove	30	
13.	Post Oak	14	Remove	14	
14.	Post Oak	24	Remain		Not on property
15.	Post Oak	36	Remain		Not on property
16.	Post Oak	36	Remain		108
17.	Post Oak	36	Remain		108
18.	Post Oak	24	Remove	24	
19.	Pecan	14	Remove	14	
20.	Post Oak	20	Remove	20	
21.	Chinaberry	6	Remove	6	
22.	Post Oak	38	Remove	38	
23.	Post Oak	36	Remove	36	
24.	Post Oak	32	Remove	32	
25.	Post Oak	38	Remain		114
26.	Post Oak	26	Remain		78
27.	Post Oak	26	Remove	26	
28.	Post Oak	18	Remove	18	
29.	Post Oak	24	Remove	24	
30.	Post Oak	38	Remove	38	
31.	Post Oak	18	Remove	18	
32.	Post Oak	8	Remove	8	
33.	Hackberry	20	Remove	20	
34.	Eastern Red Cedar	18	Remove	18	
35.	Pine	20	Remove	20	
88.	Post Oak	14	Remain		Not on property
89.	Post Oak	18	Remain		Not on property
90.	Post Oak	30	Remain		Not on property
91.	Post Oak	38	Remain		114
Total inches in project area		896		432	830
				Remove points	Remain points



A | PROPOSED TREE REMOVAL AND PROTECTION PLAN

1" = 20'-0"

0 10' 20' 40'

B | LEGEND

TREES TO REMAIN

TREES TO BE REMOVED

CHIPOTLE

PROPOSED TREE REMOVAL AND PROTECTION PLAN

ARLINGTON, TEXAS

GRAHAM ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
600 SIX FLAGS DRIVE, SUITE 500
ARLINGTON, TEXAS 76011 (817) 640-8535
TBPE FIRM: F-1191/TBPLS FIRM: 101538-00

DRAWN BY:	DRG	PROJECT NO.	XXX	SHEET
DATE:	08.21.2024	SHEET	1 OF 2	L2.01

C PREPARATION GENERAL NOTES

1. PLAN PREPARED BY:

   MICHAEL S. KENDALL
   KENDALL + LANDSCAPE ARCHITECTURE
   6976 SANTA BARBARA
   DALLAS, TEXAS 75206
   PHONE: (214) 739-3226
   E-MAIL: MIKE@KENDALL7.COM
   TEXAS LANDSCAPE ARCHITECT LICENSE NO. 1127

2. ALL AREAS SHALL BE IRRIGATED BY A LICENSED IRRIGATOR WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM PROVIDING 100% COVERAGE.
3. ALL REQUIRED TREES FROM THE CITY APPROVED LISTING.

D PLANTING GENERAL NOTES

1. ALL SOIL EXCAVATION MAY BE DISPOSED OF ON SITE.
2. IF A LIVE UTILITY IS ENCOUNTERED DURING EXCAVATION, CONTACT OWNER'S REPRESENTATIVE.
3. SEE PLANTING SPECIFICATIONS FOR A COMPLETE DESCRIPTION OF PLANT MATERIAL AND INSTALLATION.
4. ALL BEDS MUST BE LAID OUT AND APPROVED PRIOR TO THE INSTALLATION OF THE IRRIGATION FOR COORDINATION.
5. ALL PLANT MATERIAL SHALL BE STAKED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANT INSTALLATION.
6. ALL PLANTING DETAILS ARE TYPICAL.
7. ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS MUST BE EITHER HYDROMULCHING OR SOLID SODDED UNLESS NOTED.

E LEGEND

EXISTING TREE

PROPOSED TREE

SCREENING SHRUBS

WF6 — 6'-0" WOOD FENCE - SEE DETAIL L3.02/A

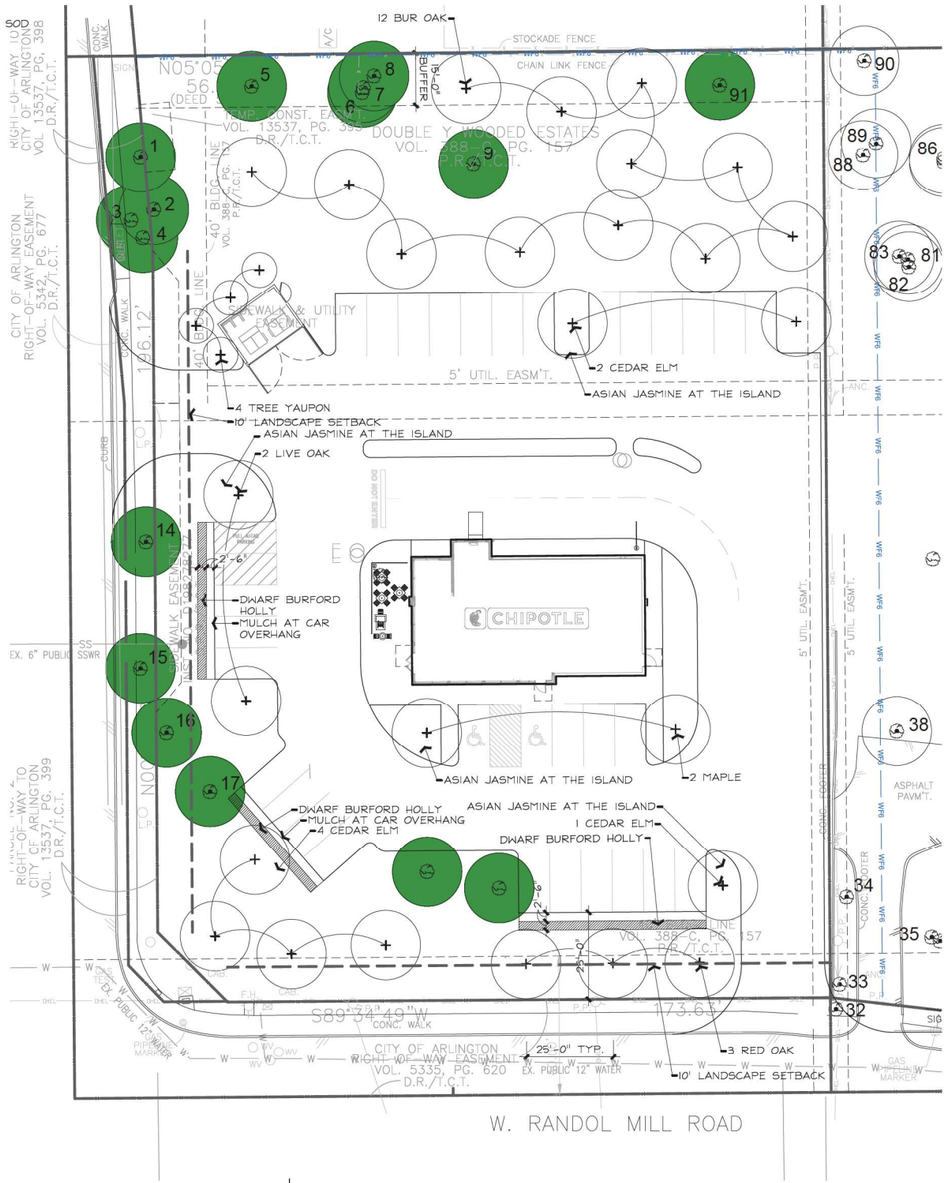
F ORDINANCE CALCULATIONS

Landscape				
1. **10' setback**				
2. **Trees**				
1 tree per 35 linear feet of R.O.W.				
North Fielder	270	/35=	8	3" caliper trees required
			7	existing trees
			1	3" caliper trees required
Randoll Mill	220	/35=	6	3" caliper trees required
			2	existing trees
			4	3" caliper trees required
3. **Parking Lot screening**				
2' shrubs	144	/3 =	48	shrubs required
			72	shrubs provided
4. **1 tree per 20 spaces**	50	spaces/20	4	required parking lot trees
maximum space without island 20			7	provided parking lot trees
5. **Residential Buffer**	490	*15/300	25	Trees required
maximum space without island 20			11	Existing trees
			10	3" caliper trees
5. **Irrigation**				
All required landscape areas will be irrigated				
Required sheet size is 24 x 36				

B PLANT LISTING

ALL SIZES SHOWN ARE MINIMUM. SMALLER CONTAINERS MEETING THE SPECIFIED HEIGHT AND SPREAD WILL NOT BE ACCEPTED.

BOTANIC NAME	COMMON NAME	SIZE	DESCRIPTION
LARGE TREES			
QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	65 GALLON CONTAINER, 3"-3 1/2" CALIPER, 6' - 7' HEIGHT, 3'-4' SPREAD	SINGLE STRAIGHT LEADER.
ULMUS CRASSIFOLIA	CEDAR ELM	65 GALLON CONTAINER, 3"-3 1/2" CALIPER, 6' - 7' HEIGHT, 3'-4' SPREAD	SINGLE STRAIGHT LEADER.
QUERUC MACROCARPA	BUR OAK	65 GALLON CONTAINER, 3"-3 1/2" CALIPER, 6' - 7' HEIGHT, 3'-4' SPREAD	SINGLE STRAIGHT LEADER.
QUERCUS X SHUMARDII	RED OAK	65 GALLON CONTAINER, 3"-3 1/2" CALIPER, 6' - 7' HEIGHT, 3'-4' SPREAD	SINGLE STRAIGHT LEADER.
ACER BUEGERIANUM	TRIDENT MAPLE	65 GALLON CONTAINER, 3"-3 1/2" CALIPER, 6' - 7' HEIGHT, 3'-4' SPREAD	SINGLE STRAIGHT LEADER.
ORNAMENTAL TREES			
ILEX VOMITORIA	TREE YAUPON	65 GALLON CONTAINER, 3"-3 1/2" CALIPER, 7' - 8' HEIGHT, 5'-7' SPREAD	MULTI-TRUNK - 3 CANES MAXIMUM
SHRUBS / GROUNDCOVER AND PERENNIALS			
ILEX CORNUTA 'BURFORDII NANA'	DWARF BURFORD HOLLY	7 GALLON - MINIMUM 36" HEIGHT	24" ON CENTER
TRACHELSPERMUM ASIATICUM	ASIAN JASMINE	1 GALLON	18" ON CENTER
LAWN			
CYNDON SPP.	SOLID SOD		



A SITE PLAN

1" = 20'-0"

0 10' 20' 40'

KENDALL LANDSCAPE ARCHITECTURE

CHIPOTLE

SITE PLAN

ARLINGTON, TEXAS

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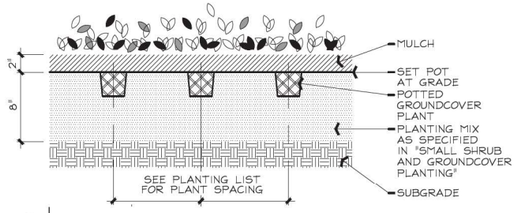
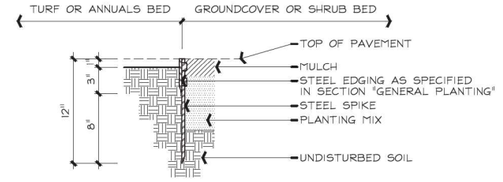
DRAWN BY:	DRG	PROJECT NO.	XXX	SHEET
DATE:	08.21.2024	SHEET 2 OF 2		L3.01



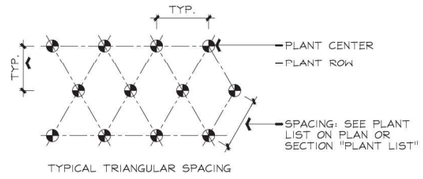
C | GROUNDCOVER PLANTING - SECTION

1 1/2" = 1'-0" 0 1'



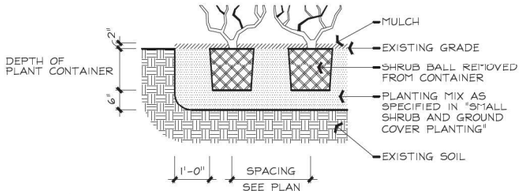
D | STEEL EDGING - SECTION

1 1/2" = 1'-0" 0 1'



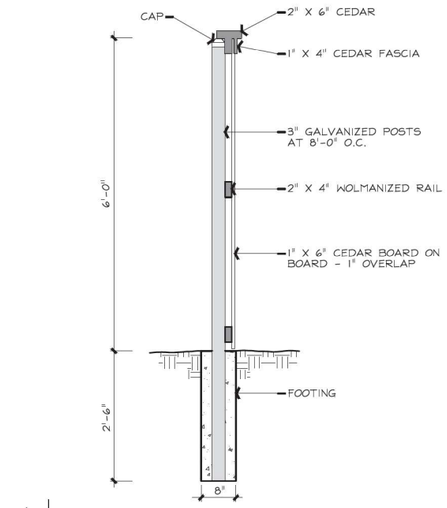
E | PLANT SPACING - PLAN

1/2" = 1'-0" 0 2'



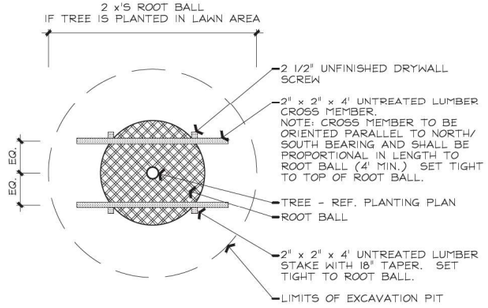
F | SHRUB PLANTING - SECTION

1/2" = 1'-0" 0 2'



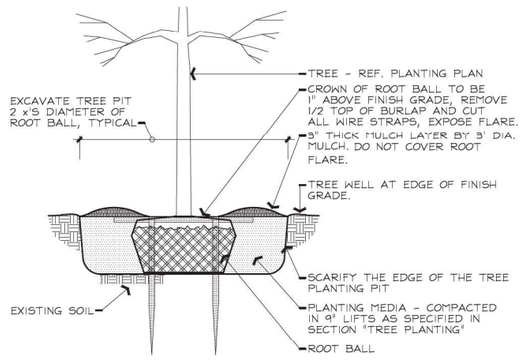
A | WOOD FENCING - SECTION

3/4" = 1'-0" 0 1'



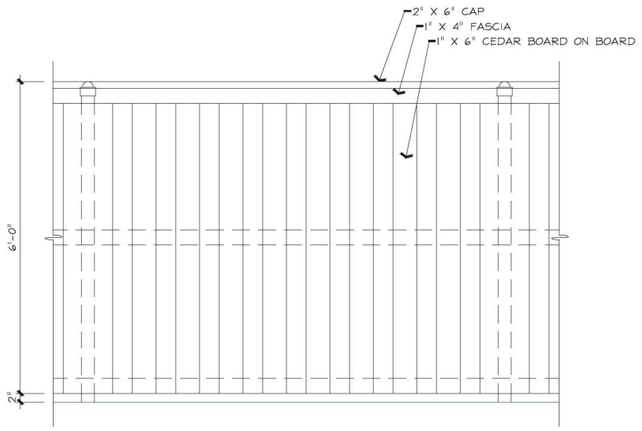
G | TYPICAL TREE STAKING - PLAN

1/2" = 1'-0" 0 2'



H | TREE PLANTING IN LAWN - SECTION

1/2" = 1'-0" 0 2'



B | WOOD FENCE ELEVATION

3/4" = 1'-0" 0 1'

KENDALL
LANDSCAPE ARCHITECTURE

CHIPOTLE

SITE PLAN

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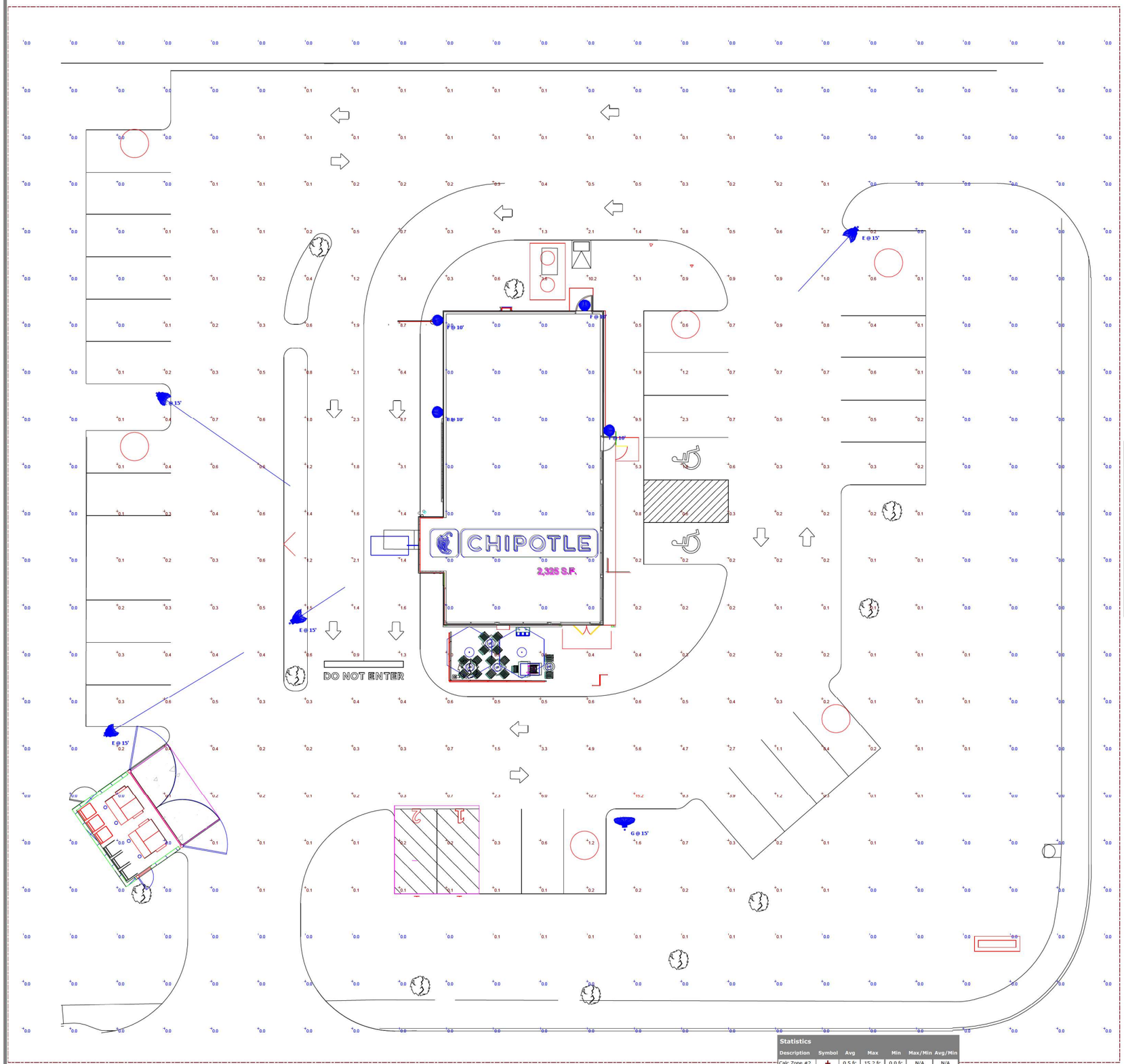
DATE:	10.17.23	SHEET 1 OF 2	



Plan View
Scale - 1" = 10ft

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	0.5 fc	15.2 fc	0.0 fc	N/A	N/A

ARC1 LED
Architectural Wall Luminaire

Catalog Number
Notes
Type

Introduction

The Lithonia Lighting ARC LED wall-mounted luminaires provide both architectural styling and visually comfortable illumination while providing the high energy savings and low initial costs for quick financial payback.

ARC1 delivers up to 3,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of ARC1, with its integrated emergency battery backup option, is ideal for over-the-door applications.

Specifications

Depth (D1):	6.5"
Depth (D2):	4.75"
Height:	5"
Width:	11"
Weight: (without options)	7 lbs

ARC LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Approximate Lumens (4000K)				
			P1	P2	P3	P4	P5
ARC1 LED	4W	–	1,500	2,000	3,000	–	–
ARC2 LED	4W	8W	1,500	2,000	3,000	4,000	6,500

Ordering Information — **EXAMPLE:** ARC1 LED P2 40K MVOLT PE DDBXD

Series	Package	Color Temperature	Voltage	Options	Finish
ARC1 LED	P1 1,500 Lumens P2 2,000 Lumens P3 3,000 Lumens	30K 3000K 40K 4000K 50K 5000K	MVOLT 347[1]	E4WH Emergency battery backup, CEC compliant (4W, 0°C min)[2] PE Button type photocell for dusk-to-dawn operation DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[2] SPDMAV 6kV surge protection FAO Field adjustable light output device. Allows for easy adjustment to the desired light levels, from 20% to 100%[2]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories
Ordered and shipped separately.
W18BW DDBXD U — Surface - mounted back box (specify finish)

NOTES
1 347V not available with E4WH.
2 FAO not available with DMG.

Schedule

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Number Lamps	Lumens Per Lamp	Light Loss Factor	Description	Wattage	Plot
	E		4	Lithonia Lighting	RSX2 LED P1 40K R4S HS	1	7534	1	RSX LED Area Luminaire Size 2 P1 Lumen Package 4000K CCT Type R4S Distribution with HS shield	72.06	 Max: 6836cd
	F		4	Lithonia Lighting	ARC1 LED P3 40K	1	3021	1	ARC1 LED WITH P3 - PERFORMANCE PACKAGE, 4000K	24.5247	 Max: 1971cd
	G		1	Lithonia Lighting	RSX2 LED P1 40K R2 HS	1	8340	1	RSX LED Area Luminaire Size 2 P1 Lumen Package 4000K CCT Type R2 Distribution with HS shield	72.06	 Max: 6619cd

RSX2 LED
Area Luminaire

Catalog Number
Notes
Type

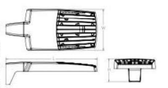
Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX2 delivers 11,000 to 31,000 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

Specifications

EPA (ft²@0°):	0.69 ft² (0.06 m²)
Length:	29.3" (74.4 cm) (SPA mount)
Width:	13.4" (34.0 cm)
Height:	3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm
Weight: (SPA mount)	30.0 lbs (13.6 kg)



design select
Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details.

Design Select options indicated by this color background.

Ordering Information — **EXAMPLE:** RSX2 LED P6 40K R3 MVOLT SPA DDBXD

RSX2 LED

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX2 LED	P1 P2 P3 P4 P5 P6	30K 3000K 40K 4000K 50K 5000K	R2 Type 2 Wide R3 Type 3 Wide R3S Type 3 Short R4 Type 4 Wide R4S Type 4 Short R5 Type 5 Wide[1] R5S Type 5 Short[1] AFR Automotive Front Row AFRR90 Automotive Front Row Right Rotated[1] AFRL90 Automotive Front Row Left Rotated[1]	MVOLT (120V-277V)[2] HVOLT (347V-480V)[2] XVOLT (277V-480V)[2] (use specific voltage for options as noted) 120[3] 277[3] 208[3] 347[3] 240[3] 480[3]	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°) RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°) MA Mast arm adaptor (fits 2-3/8" OD tenon)[4] IS Adjustable slipfitter fits 2-3/8" OD tenon[4] WBA Wall bracket[5] WBASC Wall bracket with surface conduit box[5] AASP Adjustable tilt arm square pole mounting[4] AARP Adjustable tilt arm round pole mounting[4] AAWB Adjustable tilt arm with wall bracket[4] AAWSC Adjustable tilt arm wall bracket and surface conduit box[4]

Options		Finish	
Shipped Installed		DDBXD	Dark Bronze
HS House-side Shield[1]		DBLXD	Black
PE Photocontrol, button style[6]		DNAXD	Natural Aluminum
PER7 Seven-wire twist-lock receptacle only (no controls)[6,7,8]		DWHXD	White
SF Single fuse (120, 277, 347)[1]		DDBTXD	Textured Dark Bronze
DF Double fuse (208, 240, 480)[1]		DBLBXD	Textured Black
SPD20KV 20KV Surge pack (10KV standard)		DNATXD	Textured Natural Aluminum
FAO Field adjustable output[9]		DWHGXD	Textured White
DMG 0-10V dimming extend out back of housing for external control (control ordered separate)[9]			
DS Dual-switching[3,10]			

Shipped Installed
***Standalone and Networked Sensors/Controls (factory default settings, see table page 9)**
NLTAIR2 PIRHN nLight AIR generation 2 with Networked, Bi-Level motion/ambient sensor[6,7,8,11,12]
BAA Buy American Act and/or Build America Buy America Qualified
CCE Coastal Construction[13]
*Note: NLTAIR2 PIRHN with nLight Air can be used as a standalone dimming sensor with out-of-box settings or as a wireless networked solution. See factory default settings table. Sensor coverage pattern is affected when luminaire is tilted.

Shipped Separately (requires some field assembly)
EGS External glare shield
EGFV External glare full visor (360° around light aperture)[1]
BS Bird spikes[14]

VISUAL

Designer

Date
06/25/2024
Scale
Not to Scale
Drawing No.

Summary

From: [redacted]
To: Kevin Charles
Subject: [EXTERNAL EMAIL] Fwd: Rezoning PD 24-21
Date: Wednesday, November 6, 2024 8:07:16 AM

External Email: **Stop, Look, Think before clicking attachment or link. Report Phishing.**

Sent from my iPad

Begin forwarded message:

From: Peggy Masters <[redacted]>
Date: November 6, 2024 at 8:01:54 AM CST
To: kevin.charles@arlingtotx.gov
Cc: Mauricio.Galante@arlingtontx.gov
Subject: Rezoning PD 24-21

Dear Mr. Charles,

The proposed zoning for the property located at the Northeast corner of Randol Mill Rd. and Fielder Rd, makes no sense! This is a beautiful piece of property located in a residential neighborhood at a very busy intersection across the street from an elementary school! I understand development and growth, but our city government needs to truly re-examine this proposed zoning change. We don't need another fast food restaurant, especially not on that corner!

As an Arlington citizen (since 1966), I could think of more viable uses for this project. There are huge, probably 100 year old oak trees on the property-wouldn't a "pocket park" be lovely there? Plus there is a wonderful, locally owned Mexican restaurant in the Fielder Plaza shopping center. Additionally there are two locally owned Mexican restaurants east of the location on Randol Mill Rd. Not to mention the convenience stores nearby that offer Mexican food. Please, please reject the proposal for a Chipotle restaurant. Don't harm our small business owners with corporate American big business coming to this corner.

Thank you for considering my vehement objection to zoning case PD 24-21.

Peggy Masters
1705 Northcrest Dr. 76012
[redacted]

Sent from my iPad

Individual Petition of Support or Opposition to an Application for a Zone Change, Planned Development, Specific Use Permit, or Multi-Family Development Plan

In the matter of Case Number: PD24-21

I am the owner of property located at 1121 N Fielder Rd.

I am: ☐ in support of this application ☒ opposed to this application

Reasons: (optional) I do not want a business on this block! It is family homes. We have enough food places across the street

(If more room is needed for your comments, you may submit them in full to planningdevelopment@arlingtontx.gov)

Gregory Wood
Michelle Wood
Printed Name

Gregory Wood
Michelle Wood
Signature

Outlook

Fwd: RE: Re: PD24-21 / 1537 & 1531 Randol Mill and 1109 N. Fielder Road

From JOCELYN <[redacted]
Date Thu 11/7/2024 10:31 AM
To Kevin Charles <Kevin.Charles@arlingtontx.gov>
Cc Lisa Sudbury <Lisa.Sudbury@arlingtontx.gov>; Richard Gertson <Richard.Gertson@arlingtontx.gov>; Irving Work email [redacted]

External Email: **Stop, Look, Think before clicking attachment or link. Report Phishing.**

Case Number

PD24-21

Zoning Case Address

1537 W RANDOL MILL ROAD

Zoning Change Request FROM -> TO

RS-7.2 (Residential Single-Family) -> NC (Neighborhood Commercial). (PD)

Name

Jocelyn Murphy

Phone number*I authorize sharing my email address with the applicant in this zoning case.**

[redacted]

Email

[redacted]

My Address is*

1112 Forrest Dr.

Within City of Arlington Texas

Do you own this property?*

Yes

Have you received a Notice of Public Hearing form in the mail regarding this zoning case?*

Yes

I am*

Neutral to this application

Reasons
My property is adjacent to the larger lot though no longer adjacent to the development site. While the neighbors are used to this lot being undeveloped and heavily treed and are not thrilled by the idea of it being developed, I recognize that this property is at the corner of two major arterial streets and that residential uses are not appropriate and unlikely to redevelop on the immediate corner. The applicant has been responsive in holding meetings with the neighborhood and reducing the original request to not include the lots fronting Forrest Dr. I cannot support the proposal, but for these reasons I remain neutral.

I did some research and Chipotle has very few restaurants in the DFW area adjacent to neighborhoods/residential uses so it is not in their prototype to consider adjacency issues. When the restaurant use was proposed, we were/are concerned about the activity of a restaurant especially including the dumpster location, emptying and smell, drive though noise and idling cars, and lighting/light pollution.

In an attempt to address these concerns, the site plan as proposed has moved the restaurant building as close to the street corner as possible and has provided a treed buffer to the adjacent residential home, retaining trees and planting more as required. A wall or fence is also required on the north and eastern sides to the residentially zoned properties and use. The dumpster is near Fielder (but near the residential home). I have requested that the light poles be lowered in height and moved further toward the intersection so that the light is not designed to flood the property like their other

restaurants, and so that the “glow” is not overly visible from my property and other residential properties. The applicant has planned for trees to help reduce the glow, but I still expect the lighting shall not be excessive.

Due to its location at the intersection, the development is only allowed to have right-in, right-out driveways on Fielder and Randol Mill. My two remaining concerns are increased cut through traffic on Forrest as people navigate these driveways in a circuitous motion. Also, the applicant is likely to provide a tree plan that indicates certain trees that are to be “saved”, but if these are Post Oaks and the drip line is not fully protected, these trees will die in a year or two. Post Oaks do not like their roots to be driven on, cut, or disturbed in any way. The developer should not get credit for any trees that are not fully protected and there must be a way to monitor this site so when the trees die, they are replaced on site. Everyone knows this corner; I think we all know it will be heartbreaking to see the large heritage trees cut down and other trees later die.

Finally, this is not an approval for a Chipotle, this is for a restaurant. While I hope Chipotle thrives and is a good neighbor, if/when the tight location on the corner and separation from the other commercial uses causes it to struggle, any other restaurant can come into this footprint. This must be understood. This consideration cannot be based on who it is – is must be what it is.

I intend to attend the session and will sign up but likely will not speak unless any of the plans change. Thank you for your service on the P&Z Commission.

Case Number	Zoning Case Address	Full Name	I am…	Reasons
PD24-21	1537 W RANDOL MILL ROAD	kathryn myers	opposed to this application	Reasons for opposing are: Traffic congestion, too close to Wimbish Elementary

Staff Report

Zoning Case PD16-3R1 (1211 W Harris Road)	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Ordinance

RECOMMENDATION

Following the public hearing, consider Zoning Case PD16-3R1 to change the zoning from Planned Development (PD) for limited Community Commercial (CC) uses plus Package Liquor Store to a Planned Development for limited Community Commercial (CC) uses plus Package Liquor Store; Flex, Office, or Commerce; and Manufacturing and Assembly, Small-Scale, without a Development Plan.

PRIOR BOARD OR COUNCIL ACTION

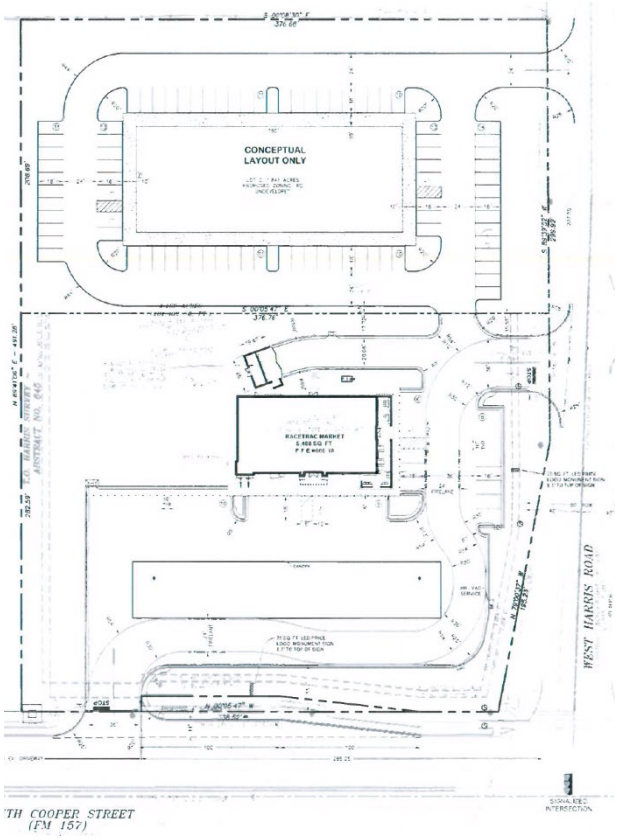
On September 24, 2002, City Council approved Zoning Case Z02-52 requesting a rezoning to Light Industrial (LI) from Agriculture (A).

On August 23, 2016, City Council approved Zoning Case PD16-3 requesting a rezoning to limited Community Commercial (CC) uses plus Package Liquor Store, with a Development Plan by a vote of 9-0-0.

ANALYSIS

Request

The applicant requests approval of a zoning change on approximately 1.806 acres addressed at 1211 W Harris Rd, generally located north of West Harris Road and east of South Cooper Street.



Current zoning: Planned Development for limited Community Commercial uses plus Package Liquor Store with Development Plan.

Requested zoning: Planned Development for limited Community Commercial (CC) uses plus Package Liquor Store; Flex, Office, or Commerce; and Manufacturing and Assembly, Small-Scale, with the previously approved conceptual plan for PD16-3.

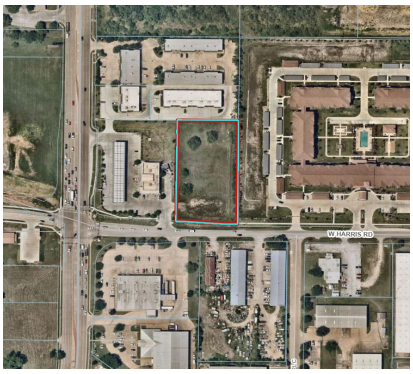
However, a Development Plan will need to be submitted for Planning and Zoning Commission review and City Council approval, prior to any development occurring.

For current zoning, excluded uses are Alternative Financial Institution, Banquet Hall, Country Club, Gas well, Golf Course, Indoor gun range, Marina, Nightclub, Pawn shop, Second-hand goods Store, Specialty Paraphernalia sales, Tattoo parlor or Piercing Studio, Telecommunication facility towers >75 feet and stealth towers > 100 feet, Transit passenger terminal, Utility installation other listed, Utility lines, towers or metering station, Wrecker service, and Self-Storage.

This request does not include a development plan. This request is to add the two proposed uses, Flex, Office, or Commerce; and Manufacturing and Assembly Small-Scale.

1997

2008



Present

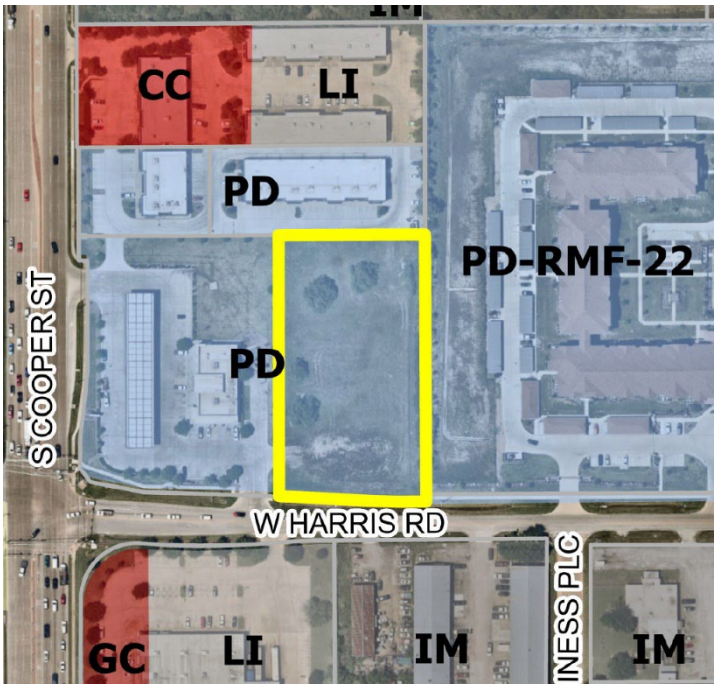
Existing Site Conditions / History
The surrounding area began developing between 1990 and 2000. The surrounding properties have seen substantial development within the last ten years. The site currently has street frontage on West Harris Road.

Adjacent Land Uses
Properties to the north
Zoned Planned Development for limited Community Commercial and Light Industrial uses (PD-CC-LI) and is currently developed with commercial uses.

Property to the south
Across West Harris Road is zoned Industrial Manufacturing (IM) and developed with industrial uses.

Property to the east
Zoned Planned Development for Residential Multi-Family-22 (PD-RMF-22) uses limited to an independent Senior Living Facility. The property is developed as a senior living facility.

Property to the west
Zoned Planned Development for limited Community Commercial uses (PD-CC) uses, plus a package liquor store. The property is currently developed with commercial uses.



Site Plan
Site Access
The site has one point of access from West Harris Road, an undivided two-way collector street.

Proposed Uses
Other than the currently approved Community Commercial (PD-CC) uses the applicant is proposing the following uses: Flex, Office or Commerce and Manufacturing and Assembly, Small-Scale.

Flex, Office or Commerce is currently allowed in GC, FH, LI and IM zoning districts. Manufacturing and Assembly, Small-Scale is currently allowed in FH, LI and IM zoning districts.

Per the *Unified Development Code* (*UDC), Article 12. Definitions*:

- **Flex, Office or Commerce:**
  An adaptable workspace for uses that support offices, showrooms, ecommerce, small-scale assembly, small-scale warehousing, scientific technology, data centers, and small-scaled modernized industrial activities that do not generate smoke, noise, or other hazards traditionally caused by industrial and light industrial uses. Often referred to as "flex space," the building interiors are designed for easy conversion to support multiple combinations of compatible uses, which evolve over time as the market changes and adjusts to new or different conditions.

- **Manufacturing and Assembly, Small-Scale**
  An establishment that includes small-scale assembly and/or small-scale manufacturing provided that the use is contained wholly within the structure and does not adversely impact the neighborhood through noise, dust, debris, odor, lighting, fire safety, and/or traffic. Typical examples include metal working, woodcraft production and furniture assembly, jewelry manufacturing, package production, design and print facilities, screen printing, textile production, electronics repair, candle, and soap making.
  Outdoor operations, external dust collectors, and/or outdoor storage are not permitted.

These two uses, if included in the future development, will require a Level 3 (30-foot buffer with masonry screening wall) along the east property line.

Design and Development Standards for Flex, Office or Commerce use:

- Non-residential design standards apply.
- No more than one double-loaded parking aisle shall be permitted in front of an FH development. No such restriction shall apply to the rear of the development.
- Garage bays, service bays, and/or loading areas shall not face a public street or be located in the front of an FH development facing public right of way.

Traffic Impact Analysis

Change in zoning from PD for limited Community Commercial (PD-CC) to limited Community Commercial plus Flex, Office or Commerce and Manufacturing and Assembly, Small-Scale are not expected to increase the traffic patterns.

Drainage

The Site is located in the Rush Creek drainage basin. The Site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site, as long as, all relevant City ordinances are complied with.

COORDINATION WITH OTHER PLANS

Comprehensive Plan (2015). This area falls into the "Established Residential Areas of Stability" future development category of the Comprehensive Plan. This area covers the largest portion of the city and contains a variety of housing types as well as retail services. Per the Comprehensive Plan, people living in these areas would enjoy the benefits of neighborhood parks, schools, and community recreation centers.

The existing development pattern in the immediate area predominantly consists of commercial and industrial uses. The proposed development may be seen to advance the following strategy identified within the **Develop Our Land** section of the Comprehensive Plan:

1. *Promote land use patterns that reflect a mix of integrated community uses.*
2. *Encourage appropriate redevelopment and reinvestment that creates lasting value.*

Hike and Bike System Master Plan (2011). There are currently no existing or planned hike or bike routes in the immediate vicinity. However, a trail is planned along the east-west utility easement located within 0.25 miles of the subject property.

Thoroughfare Development Plan (2022). The subject property fronts West Harris Road, an undivided two-way collector street with no future plans of improvement or expansion.

Capital Improvement Projects. No capital improvements are planned nearby or adjacent to the subject site.

Historic Structures/Historic Resources Survey (2007). There are no historic structures on the subject site.

ADDITIONAL INFORMATION

Attached:	i. Case Information ii. Itemized Allowable Uses iii. Location Map iv. Photos
Under separate cover:	None
Available in the City Secretary's office:	None

CITY COUNCIL DATE December 10, 2024

STAFF CONTACTS

Lisa Sudbury, AICP
Development Planning Manager
Planning and Development Services
817-459-6532
Lisa.Sudbury@arlingtontx.gov

Cecelia Nelson
Senior Planner
Planning and Development Services
817-459-6514
Cecelia.Nelson@arlingtontx.gov

Case Information

Legal Applicant: Harris Cook Law represented by Larry Fowler
2340 W. Interstate 20 Suite 100
Arlington, TX 76017
(817) 299-2841

Property Owner: Carroll Family Investments

Sector Plan: Southeast

Council District: 2

Allowable Uses: See attachment ii-1.

Development History: The subject site is platted.

Transportation: The site currently has one point of access from West Harris Road.

Thoroughfare	Existing	Proposed
West Harris Road	85-foot 4 lane undivided major collector street	Major Collector Road

Traffic Impact: Change in zoning from PD for limited Community Commercial (PD-CC) plus Package Liquor Store to PD for limited Community Commercial plus Package Liquor Store, Flex, Office or Commerce and Manufacturing and Assembly, Small-Scale are not expected to increase the traffic patterns.

Water & Sewer: Water and Sanitary Sewer are available to the Site. A 12-inch Water Line is located along the south side of Harris Road. An 8-inch sanitary sewer line is located in an existing 15-feet Sanitary Sewer Easement along the south side of the property.

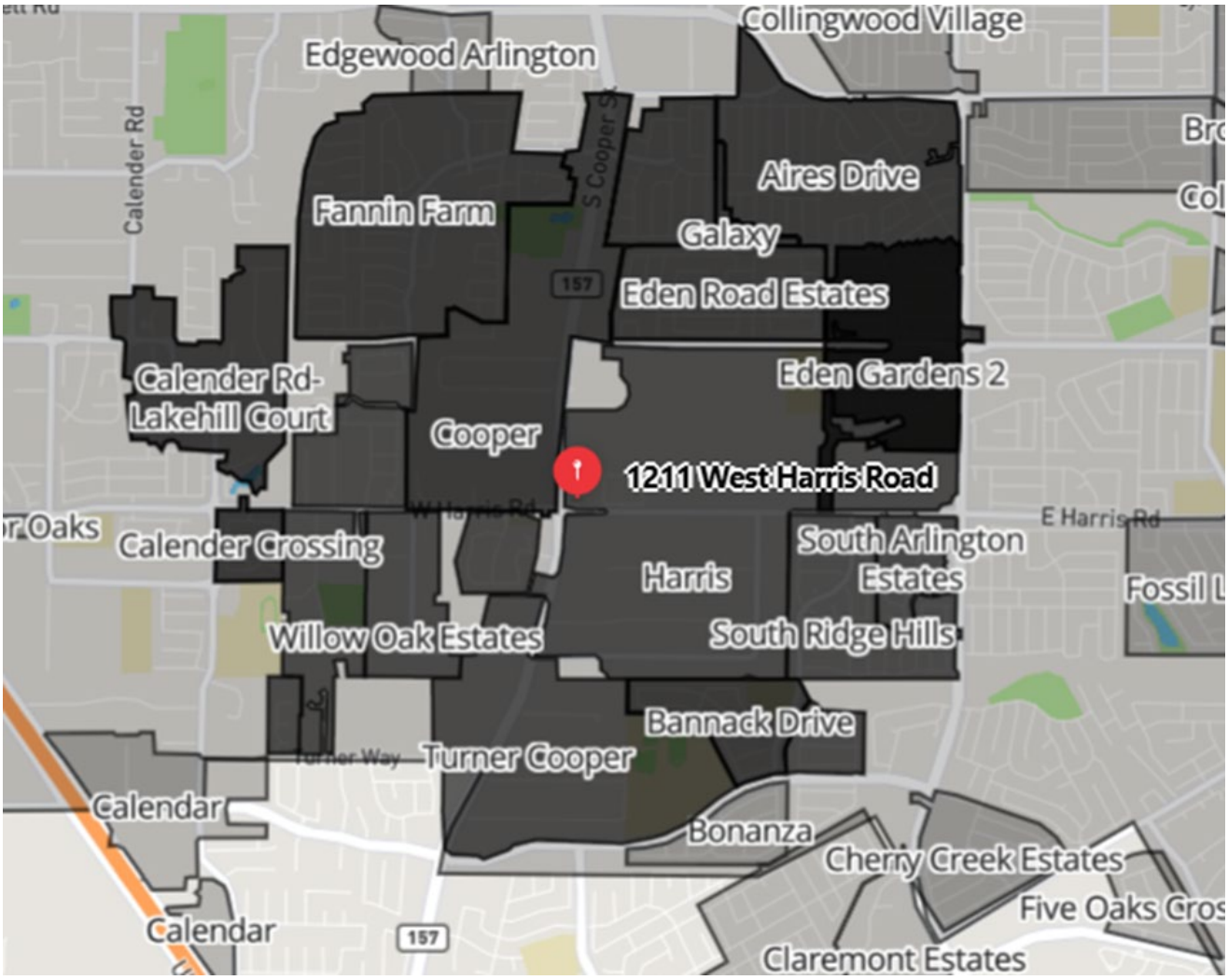
Drainage: The Site is located in the Rush Creek drainage basin. The Site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site as long as all relevant City ordinances are complied with.

Fire: Fire Station 15, located at 906 Eden Rd provides protection to this site. The estimated fire response time is less than five minutes, which is in keeping with recommended standards.

School District: Mansfield Independent School District.

Case Information

This notice was posted to 7,000 neighbors in 21 neighborhoods within 1-mile of the subject site.



Property Owners:	7
Letters of Support:	0
Letters of Opposition:	0

CC COMMUNITY COMMERCIAL

Permitted Uses (P)

Nursing home, Art gallery or museum, Domestic violence shelter, Government administration and civic buildings, Mortuary | crematory | funeral chapel, Philanthropic institution (other than listed), Religious assembly, Hospital, Medical or dental office or clinic, Cemetery, Community garden, Public park or playground, Crop production, Gasoline sales, Catering service, Restaurant, Restaurant, take-out and delivery only, Office, business or professional, Telemarketing call center, General personal services (other than listed), Massage therapy clinic, Lodge | fraternal organization, Wedding chapel, ~~Country club~~, ~~Golf course~~, Major tourist attraction, General retail store (other than listed), Firearm sales, ~~Pawn shop~~, ~~Second-hand goods store~~, Swimming pool, spa and accessory sales and service, Medical or scientific research laboratory, Electric utility substation, Radio or TV station or studio, Utility lines, towers or metering station, Plus Package Liquor store as approved in current PD.

Accessory Uses

Caretaker's quarters, Customarily incidental use, Sidewalk café and Transit passenger shelter.

Permitted Uses - with Supplemental Use Standards (P*)

Business school, Public or private school, University | college | seminar, Kennel, commercial, Veterinary clinic, Motor vehicle rental, Bank or financial institution, Restaurant with drive-through, Sidewalk cafe, Hotel, luxury, Hotel, upper upscale, Hotel, convention, Day care center, Recreation, indoor (other than listed), skating rink, teen club, Theatre, indoor, Building and landscaping materials and lumber sales, Nursery, garden shop or plant sales, Food processing, Custom and craft work, Telecommunication Facilities Building-mounted antennae and towers, Telecommunication Facilities Towers ≤75 ft Stealth towers ≤100 ft, Wholesale supply business.

Accessory Uses

Accessory building (not listed below), Accessory use (not listed below), Alternative energy system, Electric vehicle charging station, Garage (private), Mobile food establishment, Outside display and sales, and Outdoor storage.

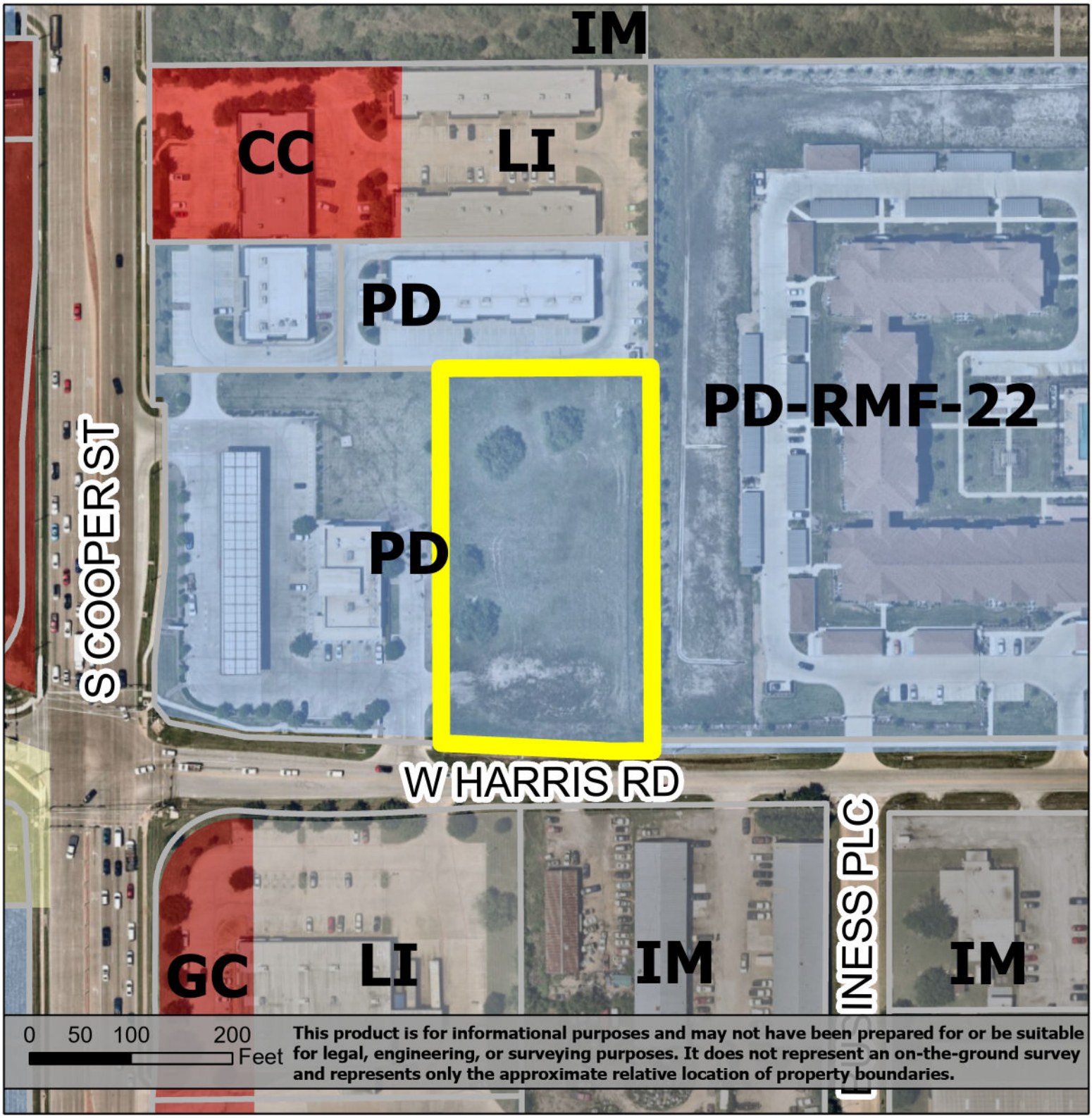
Uses permitted only with Specific Use Permit approval (S)

Halfway House, Hospital, psychiatric, ~~Alternative Financial Institution*,~~ Hotel, upscale*, Bail bond service, ~~Tattoo parlor or piercing studio~~, ~~Banquet hall*,~~ Bingo hall*, Billiard parlor*, Bowling alley*, ~~Gun range (indoor),~~ ~~Nightclub | live entertainment venue*~~, Private club, Recreation, general outdoor (other than listed), ~~Marina,~~ Small box discount store~~*, Specialty paraphernalia sales~~, ~~Wrecker service*~~, ~~Gas well*,~~ ~~Transit passenger terminal~~, ~~Utility installation other than listed~~, ~~Telecommunication Facilities Towers >75 ft Stealth towers >100 ft*,~~ ~~and Self-storage facility*.~~

Accessory Uses

Recycling collection center*.

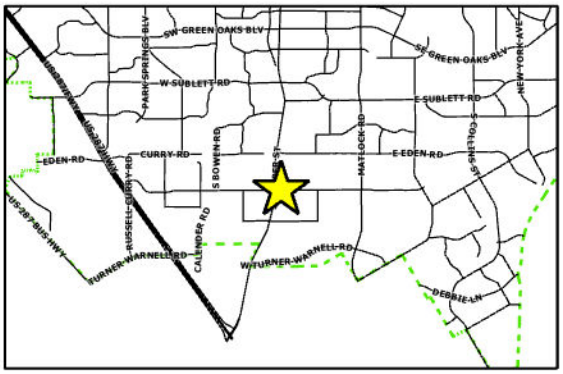
* = supplemental use standards apply



LOCATION MAP
PD16-3R1

Request to add uses Flex, Office and Commerce and Manufacturing Small Scale on 1.81 Acres

N



PD16-3R1

East of South Cooper Street and north of West Harris Road

Subject site, view north.

Existing industrial uses across West Harris Road, view south.

Existing multi-family, view east.

Existing commercial, view west.

Staff Report

Zoning Case PD24-5 (901 West Abram Street)	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Ordinance

RECOMMENDATION

Following the public hearing, consider Zoning Case PD24-5 to re-establish the zoning of Planned Development (PD) for Residential Multi-family 22 (RMF-22) in the Downtown Neighborhood Overlay (DNO), on approximately 0.459 acres. The Development Plan for the current zoning (PD14-20) has expired.

PRIOR BOARD OR COUNCIL ACTION

On August 4, 2015, City Council approved PD14-20 for a Downtown Neighborhood Overlay-Planned Development (DNO-PD) for Residential Multi-family 22 (RMF-22) uses, with a Development Plan, by a vote of 8-0-0.

REQUEST

The applicant requests to re-establish the zoning on approximately 0.459 acres addressed at 901 West Abram Street, and generally located north of West Abram Street and west of Proctor Place.

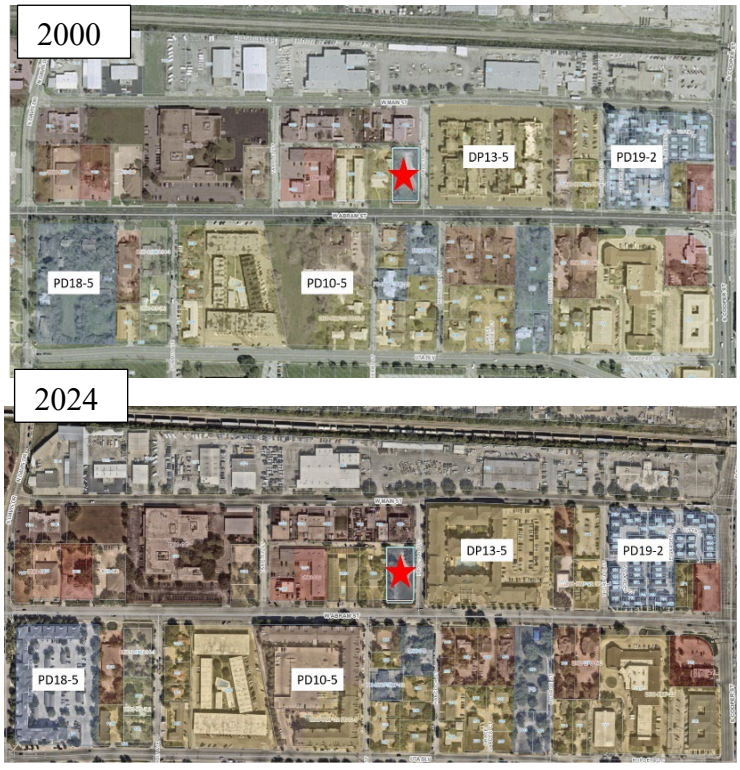
Current zoning: Downtown Neighborhood Overlay-Planned Development (DNO-PD) Residential Multi-family 22 (RMF-22), with a Development Plan

Requested zoning: Downtown Neighborhood Overlay-Planned Development (DNO-PD) Residential Multi-family 22 (RMF-22), with a new Development Plan

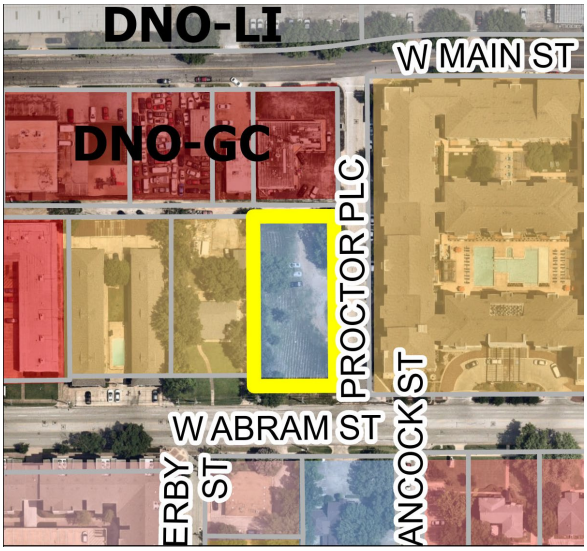
ANALYSIS

Existing Site Conditions / History

The subject site is currently undeveloped and located north of the University of Texas at Arlington (UTA), which was established in 1895 as Arlington College. UTA's growth has driven residential development in the area to accommodate its expanding student and employee population. As of fall 2022, UTA had over 40,000 students, making it the second largest university in North Texas and fifth largest in Texas. This ongoing growth has created a consistent demand for modernized housing in the vicinity. Multi-family development in the area has been consistent over the past several years with at least three multi-family developments being constructed since 2010 (PD18-5, DP13-5, and PD10-5). Additionally, a townhome development (PD19-2) was also approved and built as Main Street Townhomes.



Adjacent Land Uses



Property to the north
Zoned Downtown Neighborhood Overlay-General Commercial (DNO-GC). The property is currently developed as retail fronting W. Main Street.

Properties to the south (across West Abram Street)
Zoned Office Commercial (OC) and Planned Development (PD). The properties are currently developed as professional offices.

Property to the east (across Proctor Place)
Zoned Downtown Neighborhood Overlay-Residential Multi-family 22 (DNO-RMF-22) developed as The Arlie student housing.

Property to the west
Zoned Downtown Neighborhood Overlay-Planned Development (DNO-PD) Residential Multi-family 22 (RMF-22) and developed as such.

DEVELOPMENT PLAN ANALYSIS

Use Analysis
The applicant proposes to re-establish the zoning of the property due to the expiration of the Development Plan.

Article 10 of the Unified Development Code (UDC) states.
10.3.10. Scope of approval
A. Expiration of Approval
1. An individual permit or approval under this article expires if no progress is made towards completion of the project within **two years** after it is approved or the expiration date provided in Subsection 2, whichever occurs later.

The RMF-22 district is established to provide opportunities for high density multi-family residential uses with a maximum density of 22 units per acre, which are designed to be compatible with their sites and surroundings. The district also allows medium-density residential uses, including attached residential, live/work units, and residential units over ground-floor non-residential uses.

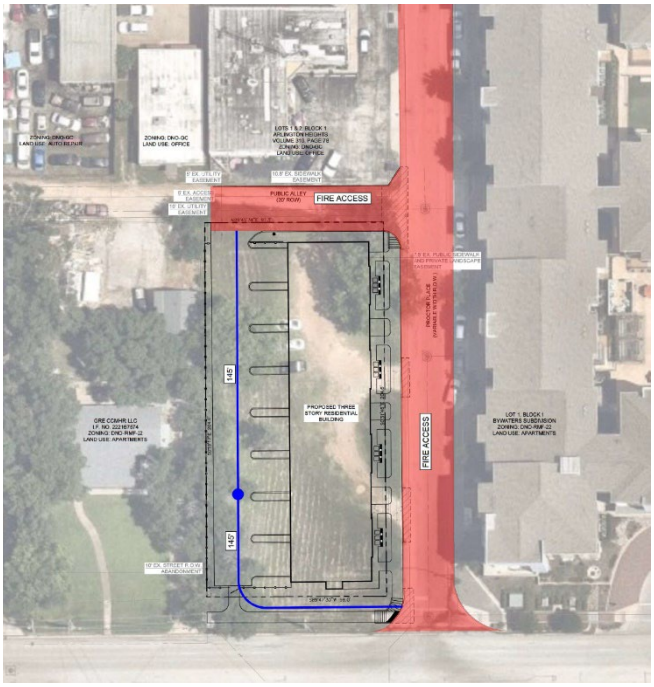
It is the intent of the applicant to establish an eight-unit townhouse style apartment development located in a single structure on approximately 0.459 acres (17 DUA) with three-story attached units. All the units will face Proctor Place and have a minimum living area of 2,290 square feet which exceeds the UDC requirement of 1,100 square feet.

Expired Development Plan vs Current Request

Case Number	**PD14-20**	**PD24-5**
Number of units	10 units	8 units
Building area (footprint)	7,574 SF	8,230 SF
Required parking	25 spaces	20 spaces
Exterior Materials	Brick, Stucco, and Hardie Siding	Brick and Hardie Siding

Site Access

The site has one point of access from Proctor Place, a two-way undivided local street. There will be a single point of vehicular access from the 20-foot-wide alley on the north, which is proposed to be improved to the extent of the of the western property line. The driveways in the rear of the units and alley drive will be concrete and surrounded by an 8' tall board on board fence for privacy and security. Access into the private fence area will be through a gated vehicular access off the alley or a pedestrian gate with keypad access off West Abram Street. Concrete sidewalks will be constructed along Proctor Place and West Abram Street for pedestrian access to the development.



Building Design

The applicant is proposing 100 percent masonry on all elevations and a composite shingle roof. The units shall be comprised of brick and cementitious hardie siding. The elevation breakdown is as follows.

- East elevation (Proctor Place) - 35% brick veneer and 50% hardie siding. 15% glazing.
- South elevation (Abram Street) - 40% brick veneer and 53% hardie siding. 7% glazing.
- West elevation - 25% brick veneer and 45% hardie siding. 30% glazing.
- North elevation- 52% brick veneer and 48% hardie siding.

On the front façade at the entrance of each unit, there will be a brick separation between units and brick columns at the entrances of the end units. The building will also include a fire riser located on the south side. The balcony on the second floor will have prefabricated metal railings. All front doors will be wood with a full-size glass pane, with a metal canopy. Multiple windows on the front and rear facades will provide natural light for the units. Each unit will have three bedrooms, one flex room, two full bathrooms, two half baths, and a two-car garage.

Per Section 5.5.4.G Building Materials of the UDC multi-family developments shall provide the following.

Exterior Wall Materials

a. A minimum of two distinct building materials from the preferred material list shall be utilized on all façades to provide architectural detail and interest.

b. For purposes of this section, preferred materials shall be defined as:

(i) Stone or brick laid up unit by unit and set in mortar;

(ii) Exterior portland cement plaster (stucco) with three coats over metal lath or wire fabric lath;

(iii) Cultured stone, cast stone, or natural stone panels;

(iv) Architecturally finished block (i.e. burnished block or split faced concrete masonry units), only up to 4 feet above the foundation or surrounding grade;

(v) Exterior Insulation and Finish System (EIFS), but only for trim and eaves;

(vi) Cementitious fiberboard siding, provided that:

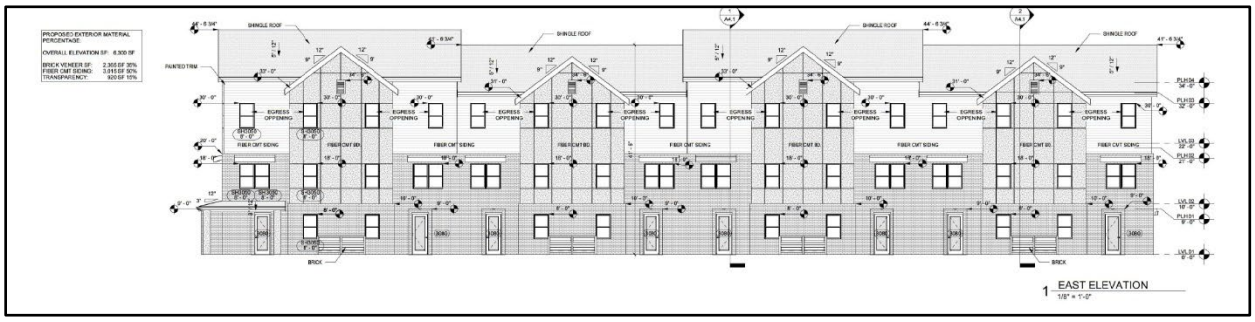
(1) It may only be used on multi-family structures that are three stories or less in height, and

(2) Each side of a structure may contain a maximum coverage of 50 percent cementitious fiberboard siding;

(vii) Metal cladding; or

(viii) Other material deemed appropriate for the architectural style, as approved by the Zoning Administrator.

(ix) The use of wood for trim, accents, or soffits, may be permitted if approved by the Zoning Administrator.



Due to the compact nature of the site the applicant has designed the site with a single three-story structure that will span approximately 190-feet in overall length from north to south with an overall building height of approximately 44-feet.

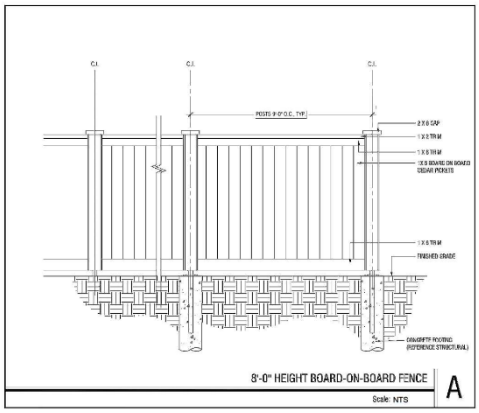
Parking

- Required- Multi-family requires a ratio of 2.5 spaces per 3-bedroom unit (20-spaces).
- Proposed- All units shall provide a tuck-under, two-car garage for residents and a driveway that is at least 20-feet deep (32-spaces). This complies with the requirements of the UDC.

Landscaping

Table: Landscape Buffer and Screening Requirements		
UDC Item	**UDC Requirement**	**Proposed**
Street Frontage Landscape Buffer		
West Abram Street	15-feet-wide, One 3'' caliper trees required per 35 feet:3 *trees, and 14 plants per 50 feet: 24 plants*	Complies
Proctor Place	10-feet-wide, One 3'' caliper tree required per 40 feet: 6 *trees, and 10 plants per 50 feet: 40 plants*	Complies

Fencing
The applicant is providing an eight-foot-tall board-on-board fence along the western property line and a four-foot-tall ornamental iron fence with a pedestrian gate along the West Abram Street frontage. An automatic security gate is proposed along the northern property line for residents.



Proposed Deviations
The proposed Development Plan is seeking deviations from the following Unified Development Code (UDC) requirements:

1. **Article 5.2.3, <u>Tree Preservation and Replacement</u>**
   Required: Compliance with this section shall be achieved when the number of tree points earned through replacement or retention equals or exceeds the number of tree points removed. (161 negative caliper inches)

   Proposed: Due to the limitations on the site, the proposed development is providing 72 positive caliper inches. Additional mitigation is required. **Negative balance of 89 caliper inches remains,** for which they will need to pay $17,800 ($200 per caliper inch) into the Tree Reforestation Fund.

2. **Article 5.5.4, <u>Building Length</u>**
   Required: The maximum length of any multi-family building shall be 180 feet.

   Proposed: The proposed development has a maximum building length of 190-feet. sf.

3. **Article 5.5.4, <u>Transparency</u>**
   Required- At least 25 percent of all walls facing a public street shall contain windows.

   Proposed: The development proposes 15 percent transparency along Proctor Place.

Traffic
The base zoning is not changing, so the traffic patterns will be similar.

Drainage
The Site is located in the Johnson Creek drainage basin. The Site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site, as long as, all relevant City ordinances are complied with.

<u>COORDINATION WITH OTHER PLANS</u>

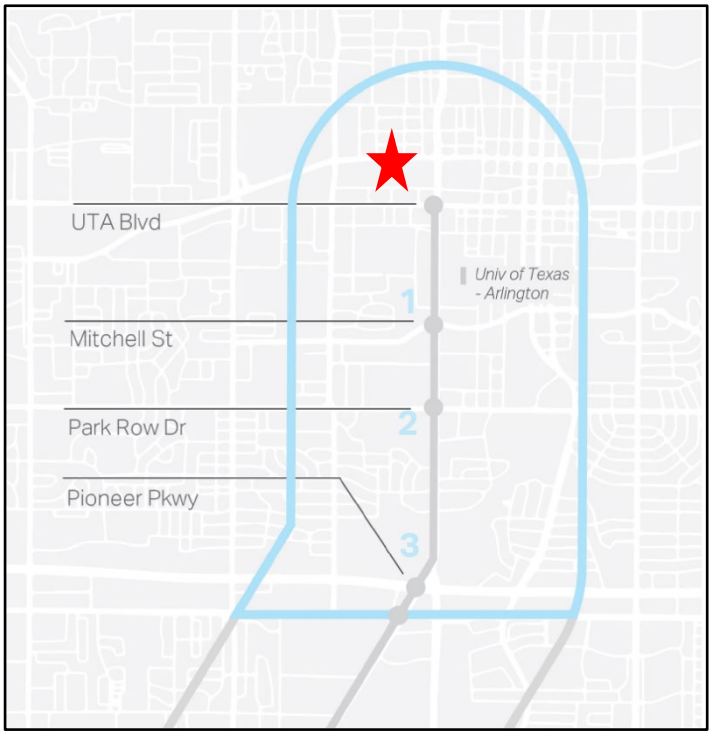
1. **Comprehensive Plan (2015).** Land use goals for this area are defined in the "Downtown/University Neighborhood" future development. In order to maximize this area's potential, a mix of residential uses and mixed-use buildings is encouraged. There should be retail, educational, office, government, cultural, and entertainment venues to serve those living in and around the area. The applicant proposes an eight-unit townhouse style apartment development, and this project aligns with the following strategies and actions identified within our comprehensive plan: Provide a mix of quality housing for a diverse population.
2. Encourage the development of housing choices that meet the needs of current and emerging populations including singles, couples, small and large families, empty nesters, and seniors.

3. Encourage the development of multiple types of single-family housing, such as quality, well designed detached dwellings, townhomes, condominiums, and zero lot line homes.
4. Limit higher density development to the Downtown/University area, parts of the Entertainment District, and the Lamar/Collins Area.

South Cooper Street Corridor Strategy (2021): The property is also located in the "South Cooper Street Corridor Strategy" plan.

The property falls within Zone 1 of the plan which borders UTA Boulevard and Arkansas Lane. Zone 1 embraces the University of Texas at Arlington's expanding educational prominence and creates a collaborative spirit of social, cultural, and economic opportunity anchored in a walkable and vibrant district that provides diverse housing options. The goals that relate to the proposed development include:

1. Explore additional housing options.
2. Enhance pedestrian safety and comfort.



Hike and Bike System Master Plan (2011). There are no existing or planned hike and bike systems near the subject site.

Thoroughfare Development Plan (2022). The subject site is at the southwest intersection of West Abram Street and Proctor Place. West Abram Street is a four-lane minor arterial with a center turn lane. Proctor Street is a local street.

Capital Improvement Projects. There is an existing capital improvement project for water and sewer improvements along Main Street and improving the existing utilities in the alleyway from Tarpley Street to Proctor Place.

Historic Structures/Historic Resources Survey (2007). There are no structures on the subject site.

STAFF CONSIDERATIONS FOR IMPROVEMENT

If the Commission is inclined to approve the rezoning request, please consider the following:

1. Provide the required 25% transparency along Abram Street and Proctor Place frontage.
2. Add building corner element to the building at the Abram Street and Proctor Place intersection.

ADDITIONAL INFORMATION

Attached:

i. Case Information
ii. Itemized Allowable Uses
iii. Location Map
iv. Photos
v. Development Plan
vi. Project Narrative

Under separate cover:	None
Available in the City Secretary's office:	None
CITY COUNCIL DATE	December 10, 2024

STAFF CONTACTS

Lisa Sudbury, AICP
Development Planning Manager
Planning and Development Services
817-459-6532
Lisa.Sudbury@arlingtontx.gov

Kevin Charles
Principal Planner
Planning and Development Services
817-459-6515
Kevin.Charles@arlingtontx.gov

Case Information

Legal Applicant: Invest As One REI represented by Dave Parish
5204 Lake Crest Dr, McKinney, TX 75071
(817) 870-3668

Property Owner: 901 Abram LLC

Sector Plan: Central

Council District: 5

Allowable Uses: See attachment ii.

Development History: The subject site is platted. There are no zoning cases that have been processed in the last five years near the subject site.

Transportation: The site currently has one point of access from a public alley from Proctor Place.

Thoroughfare	Existing	Proposed
Proctor Place	Local two-way street 48-foot ROW 2-lane undivided asphalt	Local two-way street 48-foot ROW 2-lane undivided asphalt

Traffic Impact: The base zoning is not changing, so the traffic patterns will be similar.

Water & Sewer: Water and Sanitary Sewer are available to the site. An 8-inch water line is located within West Abram Street. And an 8-inch water line is also located on the west side of Proctor Place. An 8-inch sanitary sewer line is located on the north side of West Abram Street. An 8-inch line is also located along the center of Proctor Road.

Drainage: The Site is located in the Johnson Creek drainage basin. The Site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site as long as all relevant City ordinances are complied with.

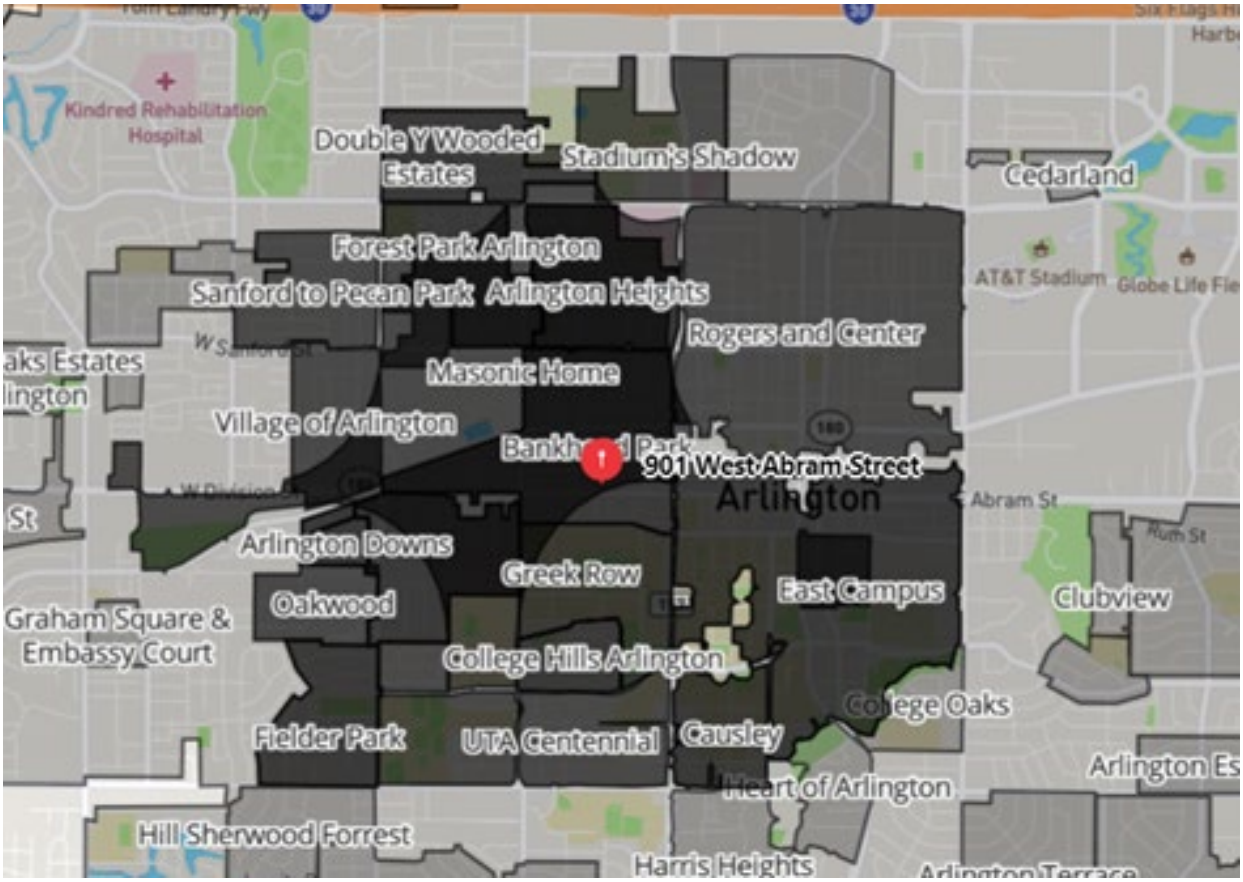
Fire: Fire Station 1, located at 909 Wimbledon Drive, provides protection to this site. The estimated fire response time is less than five minutes, which is in keeping with recommended standards.

School District: Arlington Independent School District.

Case Information

This notice was posted to 7,000 residents in 23 neighborhoods within 1-mile of the subject site.

Map is attached.



Property Owners:	15
Letters of Support:	0 pages
Letter of Opposition:	0 pages

Itemized Allowable Uses

Allowable Uses: **RMF-22 RESIDENTIAL MULTI-FAMILY-22**

Permitted Uses (P)

Dwelling, duplex on minimum 6,000 square feet, Dwelling, townhouse on minimum 2,900 square feet, Non-Residential on minimum 15,000 square foot lots, Assisted living facility (≤6 residents), Assisted living facility (≥7 residents), Community home for disabled persons, Foster family home, Foster group home, Art gallery or museum, Domestic violence shelter, Government administration and civic buildings, Religious assembly, Community garden, Golf course, Electric utility substation, Utility lines, towers or metering station.

Accessory Uses

Accessory use (not listed below), Community center (private), Garage (private), and Swimming pool (private).

Permitted Uses - with Supplemental Use Standards (P*)

Dwelling, live/work, Dwelling, Multi-family on minimum 15,000 square foot lots, Boarding house | fraternity or sorority house | private dorm, Independent senior living facility, Nursing home, Public or private school, Public park or playground, Day care center, Telecommunication Facilities Building-mounted antennae and towers.

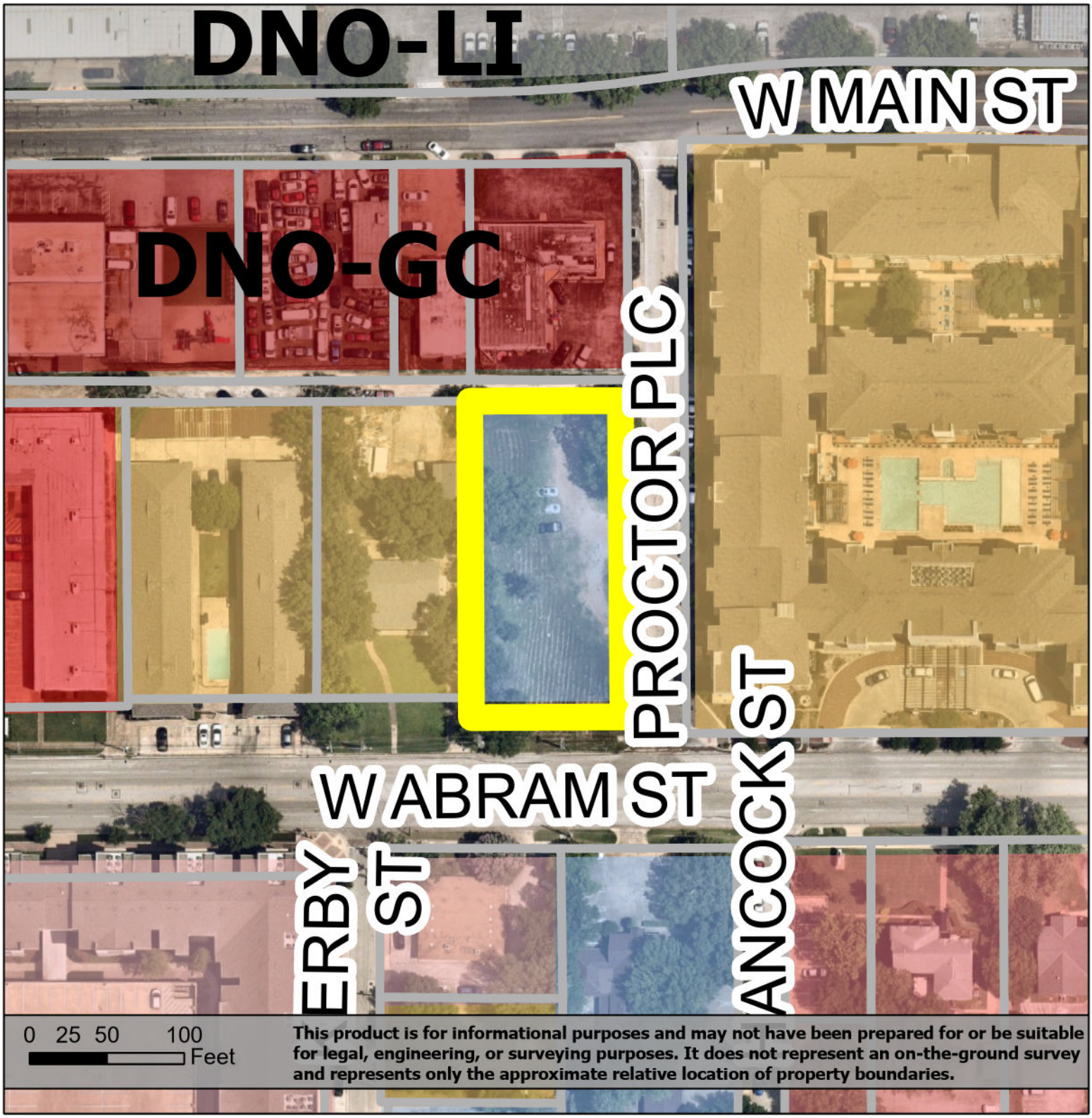
Accessory Uses

Accessory building (not listed below), Alternative energy system, Garage apartment, and Home-based business.

Uses permitted only with Specific Use Permit approval (S)

Philanthropic institution (other than listed), Cemetery, Bed and breakfast inn*, Lodge or fraternal organization, Private Club, Country club, Marina, Airport or landing field, Gas well*, Telecommunication Facilities Towers ≤75 ft Stealth towers ≤100 ft*, and Telecommunication Facilities Towers >75 ft Stealth towers >100 ft*.

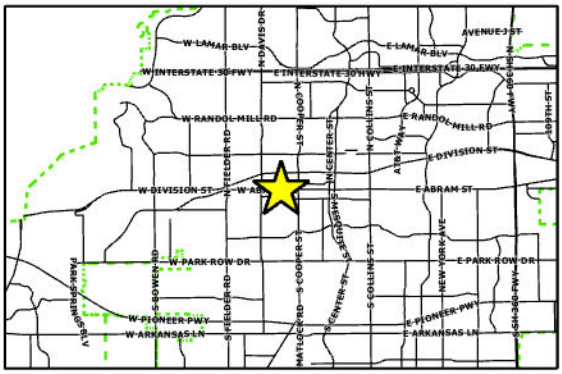
* = supplemental use standards apply



LOCATION MAP
PD24-5

Planned Development (PD) for Residential Multi Family (RMF-22-DNO) on 0.46 Acres

N



PD24-5

North of West Abram Street and west of Proctor Place.

View of site looking north.

View east.

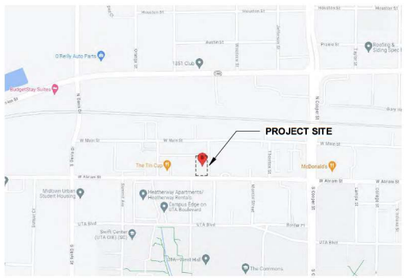
West of subject site.

View south.

THE PROCTOR PLACE TOWN-HOMES

INDEX OF DRAWINGS

PROJECT LOCATION



901 W ABRAM ST, ARLINGTON, TX 76013

PROJECT INFO

THE PROJECT WILL COMPLY WITH THE FOLLOWING ACTIVE BUILDING CODE:

- 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- 2020 NATIONAL ELECTRIC CODE
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- 2021 IECC - RESIDENTIAL PROVISIONS

GROUP R-3 RESIDENTIAL TOWNHOMES
SITE AREA: 19,981 SF

NOTE: AREA TABULATION IS FOR CITY USE ONLY. CONTRACTOR SHALL COMPLETE HIS/HER OWN TAKE-OFFS & CALCULATIONS.

PROJECT TEAM

OWNER:
Invest As One REI
Dave & Cindy Parish
davidp@investasone.com

ARCHITECT:
2J STUDIO
JHONATHAN AGUIRRE, AIA
JAGUIRRE@2-JSTUDIO.COM

GENERAL NOTES

1 THE CONTRACTOR SHALL VIEW ALL DRAWINGS, SPECIFICATIONS, ADDENDA, ETC. AND INFORM THE ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS AND OBTAIN CLARIFICATION PRIOR TO THE SUBMISSION CF THE BID.
2 EXISTING CONDITIONS AND DIMENSIONS SHOWN ON THESE DRAWINGS ARE ASSUMED BY THE ARCHITECT BASED ON AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DEVIATION OR CONFLICTS.
3 THESE DRAWINGS SHALL NOT BE SCALED. DRAWINGS HAVE BEEN DIMENSIONED IN ORDER TO ESTABLISH THE CONTROL AND GUIDELINES FOR FIELD LAYOUT.
4 DETAILS ARE KEYED WITH ASSOCIATED NOTES. THE DETAILS ARE TYPICAL FOR SIMILAR LOCATIONS. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LOCATION OF ALL TYPICAL DETAILS AND INSTALL WORK ACCORDINGLY.
5 THE CONTRACTOR SHALL NOTIFY THE OWNER TEN (10) WORKING DAYS IN ADVANCE OF STARTING CONSTRUCTION AND SHALL COORDINATE NECESSARY INSPECTIONS THROUGHOUT FINAL APPROVAL AND CCCUPANCY.
6 CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES
7 ANY DAMAGE TO EXISTING FACILITIES, ELEMENTS, FEATURES, AND IMPROVEMENTS, RESULTING FROM THE CONTRACTOR'S OPERATION, SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
8 CONTRACTOR SHALL EXPOSE, VERIFY, CONNECT AND MATCH EXISTING UTILITIES AND IMPROVEMENTS, IN CONFORMANCE WITH THE INTENT OF THESE PLANS AND SPECIFICATIONS, TO PROVIDE COMPLETE AND CPERATIONAL SYSTEMS.
9 DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL COORDINATE AND ACCOMMODATE OTHER CONTRACTORS OR OPERATIONS OF THE OWNER.
10. THE CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT, AND METHODS REQUIRED TO PREVENT HIS OPERATIONS FROM PRODUCING DUST IN AMOUNTS DAMAGING TO PROPERTY, CULTIVATED VEGETATION, DOMESTIC ANIMALS, AND CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY DUST RESULTING FROM HIS OPERATIONS.
11. CONTRACTOR SHALL RESTRICT ALL OPERATIONS WITHIN THE PROJECT BOUNDARIES. ANY DISRUPTION TO LANDSCAPES, OUTSIDE OF PROJECT BOUNDARIES SHALL BE RESTORED BY THE CONTRACTOR AT NO COST TO THE OWNER.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT "UNDERGROUND LOCATE SERVICE" AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO THE START OF CONSTRUCTION FOR THE LOCATION OF POWER, GAS, OIL, CABLE TV, DATA, AND TELEPHONE FACILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTRACTING THE APPROPRIATE PUBLIC AGENCY FOR THE LOCATION OF UNDERGROUND FACILITIES.
13. VERIFY IN FIELD (V.I.F.): IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY PORTIONS OF THE WORK PRIOR TO COMPLETION OF SUBMITTALS FOR FUTURE PORTIONS OF THE WORK. FAILURE TO FIELD VERIFY DIMENSIONS RESULTING IN NON-CONFORMING WORK SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
14. THE CONTRACT DOCUMENTS ARE COMPREHENSIVE AS A WHOLE AND THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS IN DRAWINGS, SPECIFICATIONS, REGULATORY REQUIREMENTS, AND ADDENDA.
15. THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL; PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH THE CONTRACT DOCUMENTS AND REASONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INDICATED RESULTS.
16. IF A CONFLICT, ERROR, OMISSION, OR LACK OF DETAILED DESCRIPTION IS DISCOVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND REQUEST CLARIFICATION. THE ARCHITECT WILL RESOLVE THE CONFLICT AND MAKE ANY CORRECTIONS OR INTERPRETATIONS NECESSARY TO FULFILL THE INTENT OF THE CONTRACT DOCUMENTS.

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	MECH	MECHANICAL
ARCH	ARCHITECTURAL	MEP	MECHANICAL, ELECTRICAL, PLUMBING
BO	BOTTOM OF	MFR	MANUFACTURER
BLDG.	BUILDING	MISC	MISCELLANEOUS
C.J.	CONTROL JOINT	NIC	NOT IN CONTRACT
CFMF	COLD FORMED METAL FRAMING	NTS	NOT TO SCALE
CLG.	CEILING	OC	ON CENTER
CLO.	CLOSET	OPOI	OWNER PROVIDED CONTRACTOR INSTALLED
CMU	CONCRETE MASONRY UNIT	OPOI	OWNER PROVIDED OWNER INSTALLED
COL.	COLUMN	PNT	PANT
CONC.	CONCRETE	RE:	REFERENCE
CORR	CORRIDOR	REV	REVISION
D.S.	DOWNSPOUT	S.S.	STAINLESS STEEL
DEMO.	DEMOLITION	SAN.	SANITARY
DWG	DRAWING	SCHED	SCHEDULE
EJ	EXPANSION JOINT	SIM	SIMILAR
ELEC	ELECTRICAL	SPEC	SPECIFICATIONS
EQ	EQUAL	STL	STEEL
EQUIP.	EQUIPMENT	STOR	STORAGE
EXIST.	EXISTING	STRUCT.	STRUCTURE OR STRUCTURAL
EXT.	EXTERIOR	SUSP.	SUSPENDED
F.D.	FLOOR DRAIN	SYM	SYMMETRICAL
FF	FINISH FLOOR	TOC	TOP OF CONCRETE
G.C.	GENERAL CONTRACTOR	TOCMU	TOP OF CMU
GA	GAUGE	TOD	TOP OF DECK
GALV	GALVANIZED	TOS	TOP OF STEEL
GYP. BD.	GYPSUM BOARD	TOSS	TOP OF STRUCTURAL SLAB
H.B.	HOSE BIB	TYP	TYPICAL
HVAC	HEATING, VENTILATION, AIR CONDITIONING	UNO	UNLESS NOTED OTHERWISE
		VIF	VERIFY IN FIELD

2J STUDIO

SEAL:

REGISTERED ARCHITECT JHONATHAN AGUIRRE 29468 STATE OF TEXAS

07/08/2024

FOR PERMITTING

07/08/2024

INVEST AS ONE REI

THE PROCTOR PLACE TOWN-HOMES

901 W ABRAM ST, ARLINGTON, TX 76013

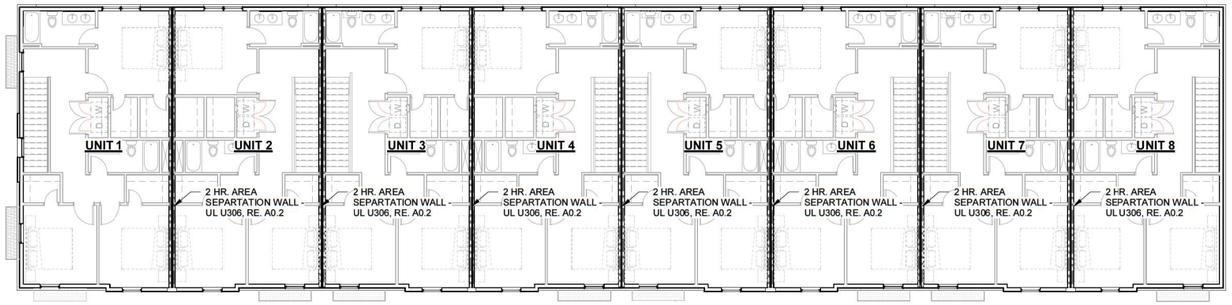
PROJECT NUMBER: 2023.201

ISSUANCES

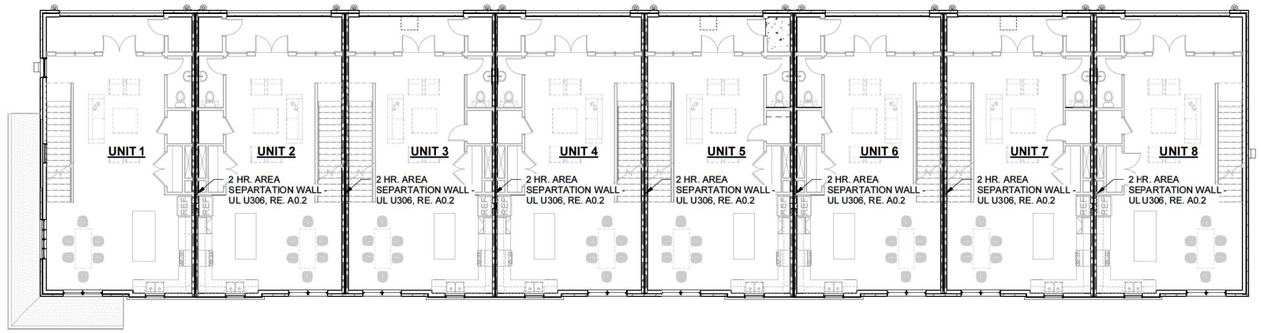
No.	Description	Date

Cover

A0.0



3 CODE PLAN LVL 03
3/32" = 1'-0"



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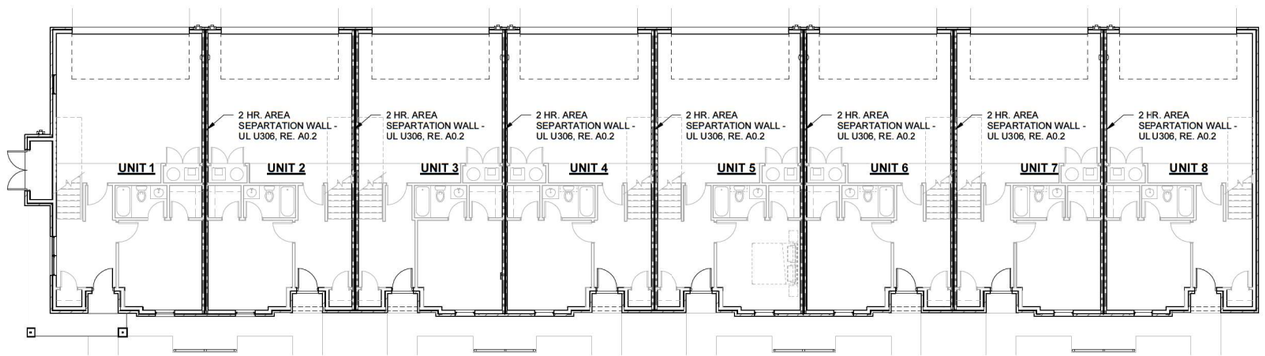


1 CODE PLAN LVL 01
3/32" = 1'-0"

GOVERNING JURISDICTION CODE INFORMATION:

CITY OF ARLINGTON, TEXAS
CODE DATA:

- 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- 2020 NATIONAL ELECTRIC CODE
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- 2021 IECC - RESIDENTIAL PROVISIONS

BUILDING INFORMATION:

BUILDING ADRESS:	901 W ABRAM ST, ARLINGTON, TX 76013
BUILDING AREA:	8,230 SF
OCCUPANCY:	R-3
BUILDING TYPE:	V-B
SPRINKLED:	YES

SCOPE OF WORK:

THE DEVELOPTMENT OF A THREE STORY 8,230 SF PER FLOOR BUILDIDNG SUBDIVEDED INTO 8 - 2,290 SF .SINGLE FAMILY TOWNHOMES SEPARATED BY A 1 HR. FIRE RATED WALL. EACH TOWNHOME INCLUDES A 2 CAR GARAGE, 3 FULL BATHROOMS, ONE 1/2 TOILET, AND FOUR BEDROOMS

FIRE SEPARATION:

COMMON WALLS SEPARATING TOWNHOUSES SHALL BE ASSIGNED A FIRE-RESISTANCE RATING IN ACCORDANCE WITH SECTION R302.2, ITEM 1 OR 2. THE COMMCN WALL SHARED BY TWO TOWNHOUSES SHALL BE CONSTRUCTED WITHOUT PLUMBING OR MECHANICA, EQUIPMENT, DUCTS OR VENTS IN THE CAVITY OF THE COMMON WALL. THE WALL SHALL BE RATED FOR FIRE EXPOSURE FROM BOTH SIDES AND SHALL EXTEND TO AND BE TIGHT AGAINST EXTERIOR WALLS AND THE UNDERSIDE OF THE ROOF SHEATHING. ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CHAPTERS 34 THROUGH 43. PENETRATIONS OF THE MEMBRANE OF COMMON WALLS FOR ELECTRICAL OUTLET BOXES SHALL BE IN ACCORDANCE WITH SECTION R302.4.

1.WHERE A FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION P2904 IS PROVIDED, THE COMMCN WALL SHALL BE NOT LESS THAN A 1-HOUR FIRE-RESISTANCE-RATED WALL ASSEMBLY TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263.

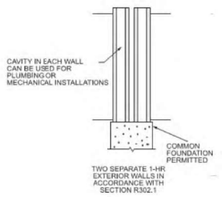


FIGURE R302.2DWELLING UNIT SEPARATION FOR TOWNHOUSES

2J STUDIO

SEAL:

REGISTERED ARCHITECT JIHONATAN AGUIRRE 29468 STATE OF TEXAS

07/08/2024

FOR PERMITTING
07/08/2024

INVEST AS ONE REI

THE PROCTOR PLACE TOWN-HOMES

901 W ABRAM ST, ARLINGTON, TX 76013

PROJECT NUMBER: 2023.201

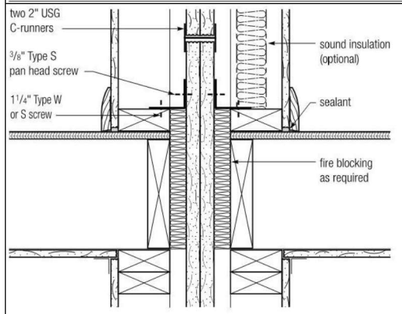
ISSUANCES

No.	Description	Date

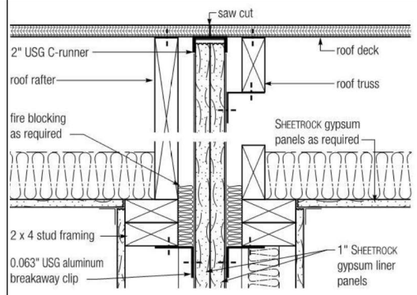
Code Plan

A0.1

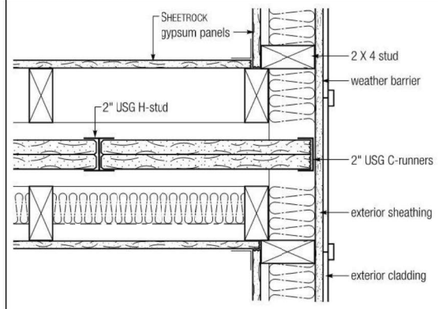
Intermediate Floor



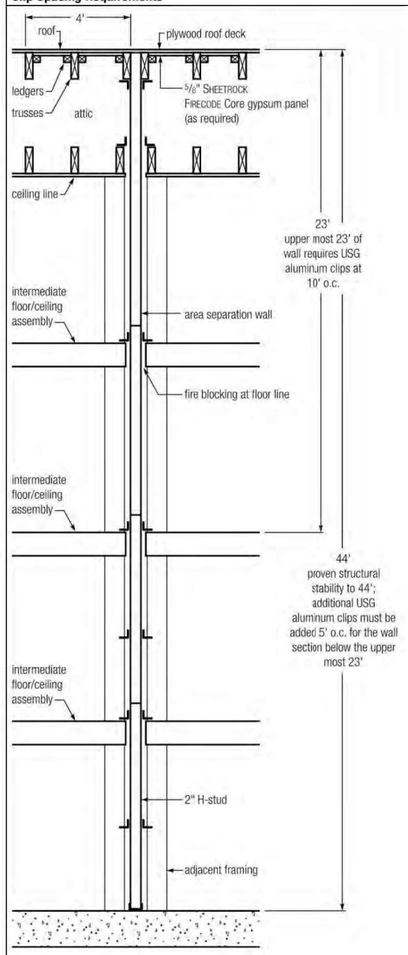
Intersection at Roof



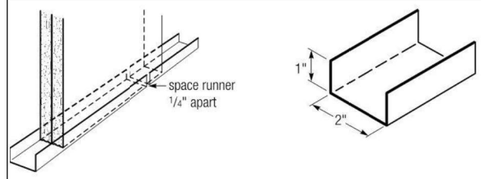
Exterior Wall Intersection (as required)



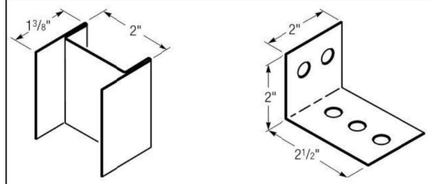
Clip Spacing Requirements



Runner Installation

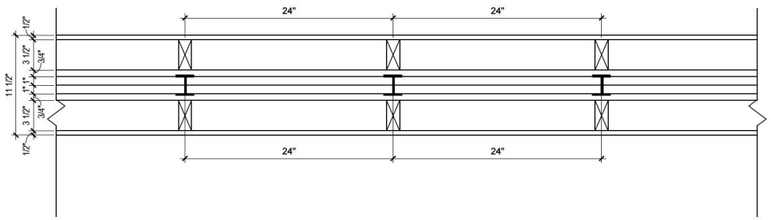


Components



DESIGN NO. UL U306

FIRE RATING:	2 HOURS
STC RATING:	66
SOUND TEST:	RAL-TL20-180
SYSTEM THICKNESS:	11-1/2" [292 MM]
LOCATION:	INTERIOR
FRAMING TYPE:	WOOD STUD (LOAD-BEARING)



ASSEMBLY REQUIREMENTS:

GYPSUM PANELS:	ONE LAYER 1/2" [12.7 MM] SHEETROCK® ULTRALIGHT GYPSUM PANEL
WOOD STUDS:	2" X 4" [38 X 89 MM] WOOD STUDS, 24" [610 MM] O.C.
INSULATION:	3 1/2" [89 MM] KNAUF ECOBAT™® INSULATION
AIR SPACE:	3/4" [19 MM] AIR SPACE
STEEL STUDS:	2" [51 MM] H-STUDS, 24" [610 MM] O.C.
GYPSUM PANELS:	TWO LAYERS 1" [25.4 MM] SHEETROCK® GYPSUM LINER PANELS (UL TYPE SLX)
AIR SPACE:	3/4" [19 MM] AIR SPACE
WOOD STUDS:	2" X 4" [38 X 89 MM] WOOD STUDS, 24" [610 MM] O.C.
INSULATION:	3 1/2" [89 MM] KNAUF ECOBAT™® INSULATION
GYPSUM PANELS:	ONE LAYER 1/2" [12.7 MM] SHEETROCK® ULTRALIGHT GYPSUM PANEL

GENERAL WALL NOTES:

1. REFER TO APPLICABLE CODES REQUIREMENTS TO ENSURE COMPLIANCE PRIOR TO CONSTRUCTION.
2. FOR THE MOST UP-TO-DATE DETAILS, INCLUDING CONSTRUCTION VARIATIONS, REFER TO THE PUBLISHED DESIGN.
3. WHERE DESIGN NO. INDICATES "PER", THE FIRE RATING IS BASED ON LABORATORY TEST DATA OF THE REFERENCED SIMILARLY CONSTRUCTED ASSEMBLIES.
4. STUD SIZES AND INSULATION THICKNESS ARE MINIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY.
5. STUD AND FASTENER SPACINGS ARE MAXIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY.
6. PANEL ORIENTATION SHALL BE AS SPECIFIED IN THE PUBLISHED DESIGN.
7. FIRE-RATINGS ARE FROM BOTH SIDES UNLESS OTHERWISE S"ATED.
8. FIRE-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, INCREASE STUD MATERIAL THICKNESS, DECREASE STUD SPACING, DECREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH.
9. WHERE ACOUSTICAL PERFORMANCE IS PROVIDED IN AN ESTIMATED RANGE, THE VALUES ARE BASED ON LABORATORY TEST DATA OF SIMILARLY CONSTRUCTED ASSEMBLIES.
10. SOUND-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, DECREASE STUD MATERIAL THICKNESS, INCREASE STUD SPACING, INCREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH. MODIFICATIONS MUST NOT EXCEED LIMITATIONS OF FIRE RATING.

2J STUDIO

SEAL:

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07/08/2024

FOR PERMITTING

07/08/2024

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THE PROCTOR PLACE TOWN-HOMES

901 W ABRAM ST, ARLINGTON, TX 76013

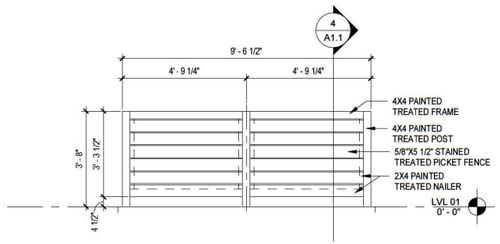
PROJECT NUMBER: 2023.201

ISSUANCES

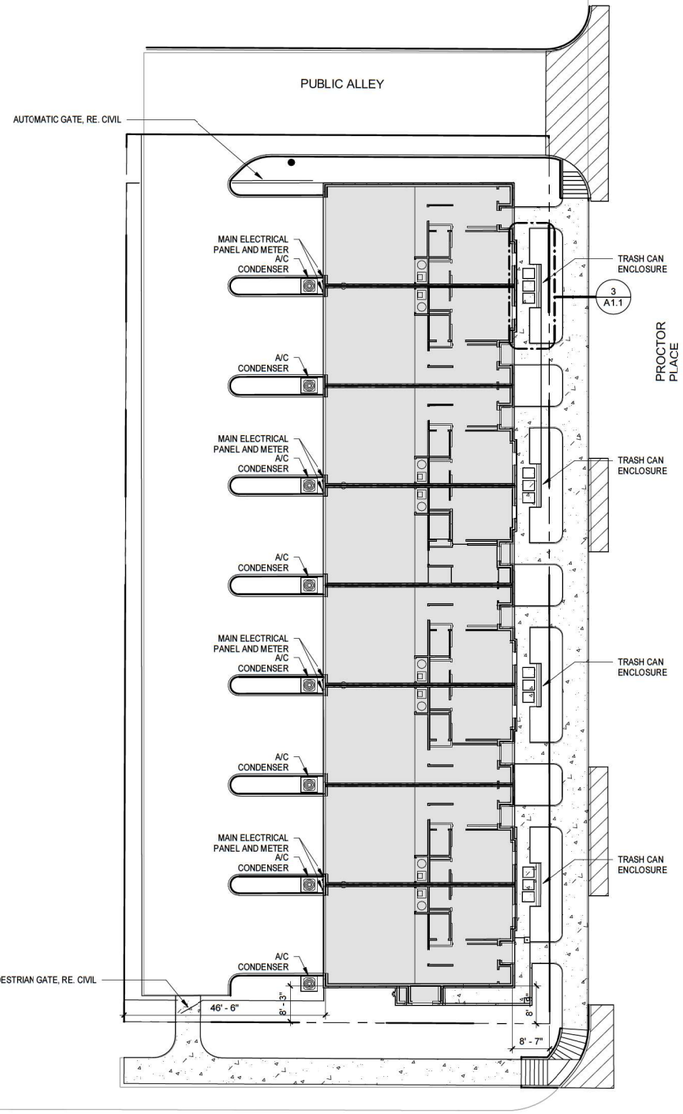
No.	Description	Date

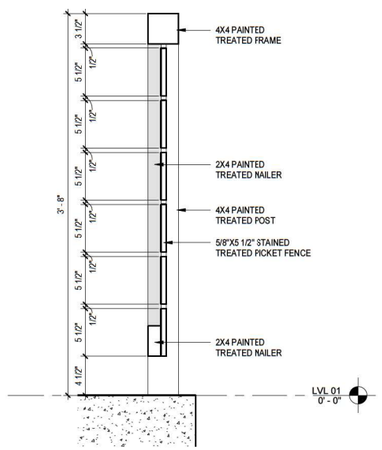
UL DESIGN

A0.2

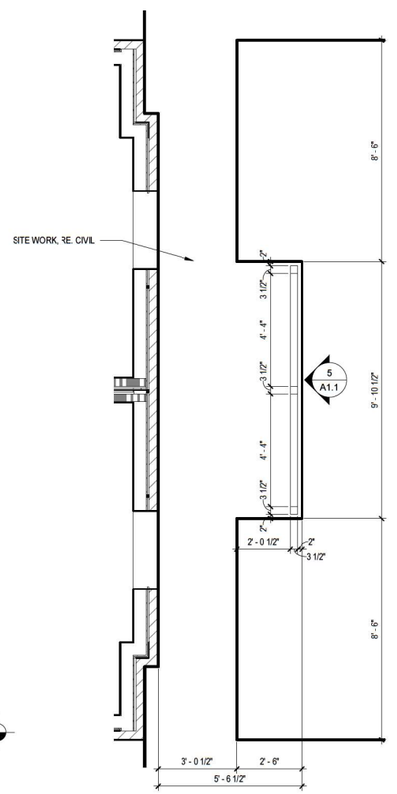


5 TRASH CAN ENCLOSURE ELEVATION
3/8" = 1'-0"



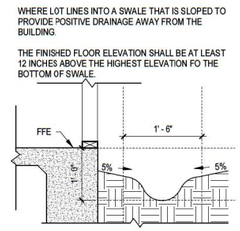


4 TRASH ENCLOSURE SECTION
1 1/2" = 1'-0"



3 TRASH CAN ENCLOSURE
3/8" = 1'-0"

1 SITE PLAN
1/16" = 1'-0"



2 SWALE DETAIL
3/4" = 1'-0"

WHERE LOT LINES INTO A SWALE THAT IS SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.

THE FINISHED FLOOR ELEVATION SHALL BE AT LEAST 12 INCHES ABOVE THE HIGHEST ELEVATION FO THE BOTTOM OF SWALE.

GRADING NOTES:

F401 FOUNDATION DRAINAGE - COH
F401.3 DRAINAGE - SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE OR OTHER APPROVED POINT OF COLLECTION THAT DOES NOT CREATE A HAZARD. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET.

EXCEPTION: WHERE A LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL EARRIERS PROHIBIT 6 INCHES OF FALL WITHIN 10 FEET, DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM STRUCTURE/ IMPERVIOUS SURFACES WITHIN 10 FEET OF BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2 PERCENT AWAY FROM THE BUILDING.

F401.5 FOUNDATION ELEVATION -- ALL NEW BUILDINGS CONSTRUCTED WITHIN THIS JURISDICTION SHALL HAVE THE FINISHED FLOOR OF THE BUILDING NOT LESS THAN '12 INCHES ABOVE THE NEAREST SANITARY SEWER MANHOLE RIM OR WHERE NO SEWER IS AVAILABLE, THE THE FINISHED FLOOR SHALL NOT BE LESS THAN 4 INCHES ABOVE THE CROWN OF THE STREET.

NOTE: WHEN A GREATER ELEVATION IS REQUIRED BY CHAPTER 19 OF THE CITY CODE, THEN CHAPTER 19 SHALL GOVERN.

SWALE PROFILE & NOTES

-A 2% SLOPE HAS A VERTICAL RISE OF 1/4" PER FOOT
-A 5% SLOPE HAS A VERTICAL RISE OF 5/8" PER FOOT
-FENCING, AC PAD AND DOWNSPOUTS SPILLWAYS SHALL NOT OBSTRUCT THE FLOW OF THE SWALE
-WALKS (IMPERVIOUS SURFACES) MAY BE A PART OF THE SWALE PROVIDED THE WALK HAS A SLOPE AWAY FROM THE FOUNDATION WALL OF AT LEAST 2% AND DOES NOT INTERFERE WITH THE FLOW OF THE SWALE (NO STEPS)
-WHERE THERE ARE FOUNDATION WALLS ON BOTH SIDES OF THE SWALE, PROVIDE A 5% SLOPE ON BOTH SIDES OF THE SWALE, FROVIDE A 5% SLOPE ON BOTH SIDES OF THE SWALE WITH CENTERLINE LOCATED AT THE MIDPOINT.
-WHEN SWALE WIDTH IS LESS THAN 48 INCHES, LOCATE THE SWALE CENTERLINE AT MIDPOINT.
-WHEN THE SWALE WIDTH S GREATER THAN 48 INCHES, LOCATE THE SWALE CENTERLINE 2/3 (0.667) THE SWALE WIDTH AWAY FROM THE FOUNDATION WALL OR 24 INCHES (MINIMUM) FROM THE PROPERTY LINE

2J STUDIO

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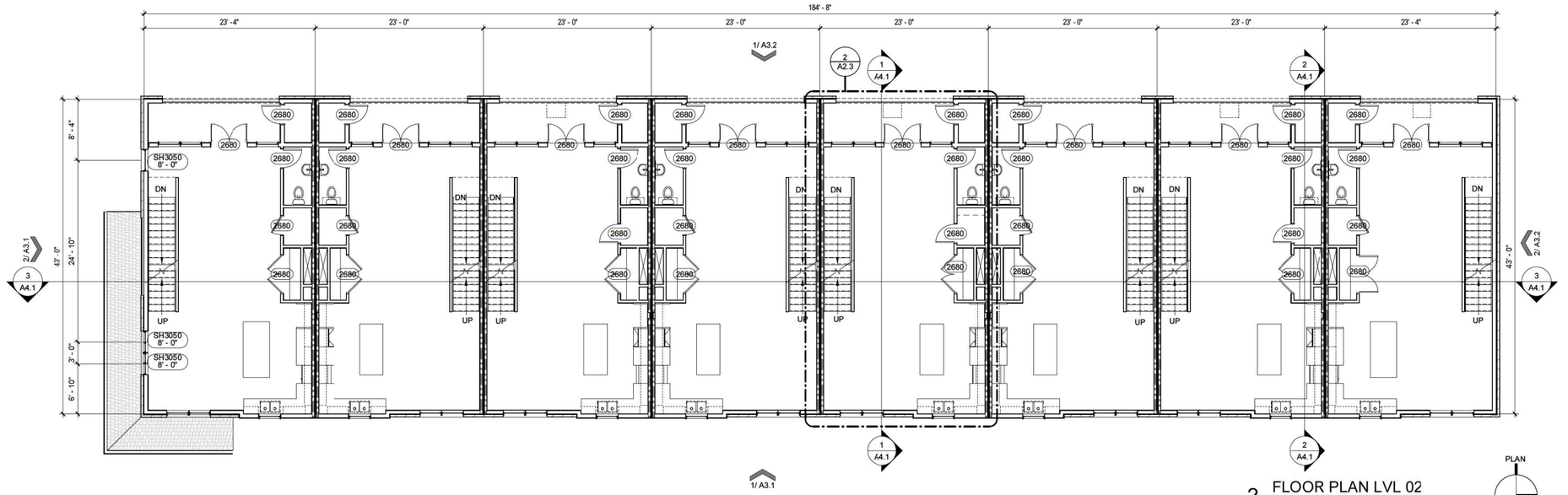
ISSUANCES

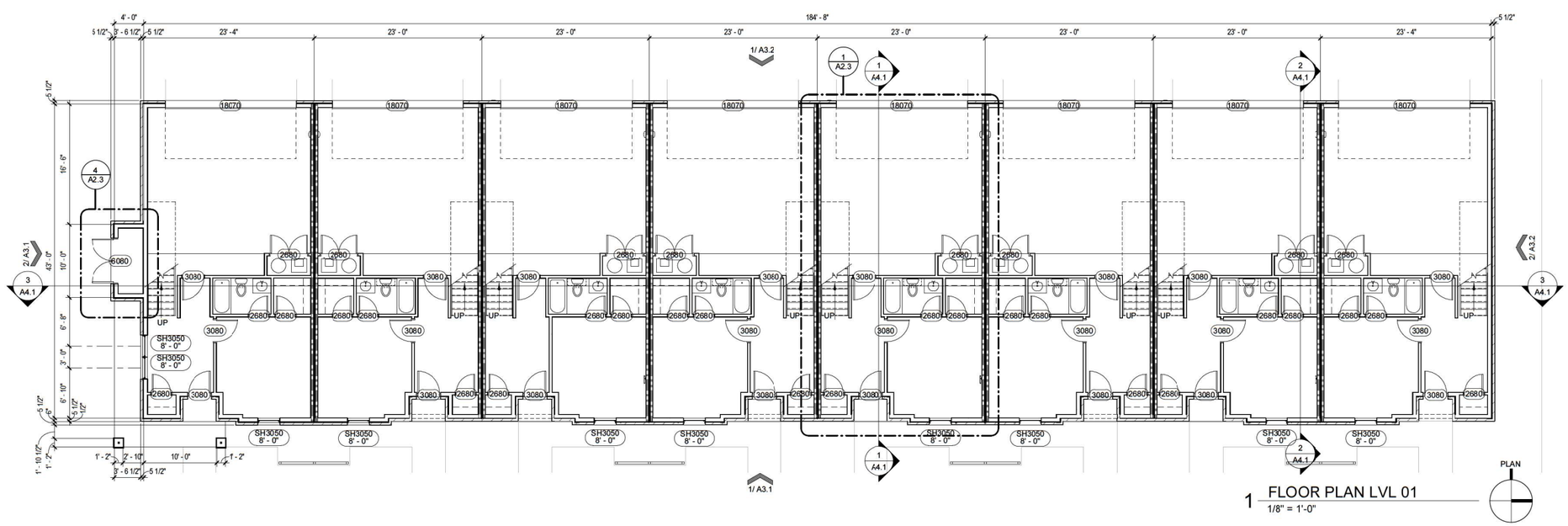
No.	Description	Date

Site Plan

A1.1



2 FLOOR PLAN LVL 02
1/8" = 1'-0"



1 FLOOR PLAN LVL 01
1/8" = 1'-0"

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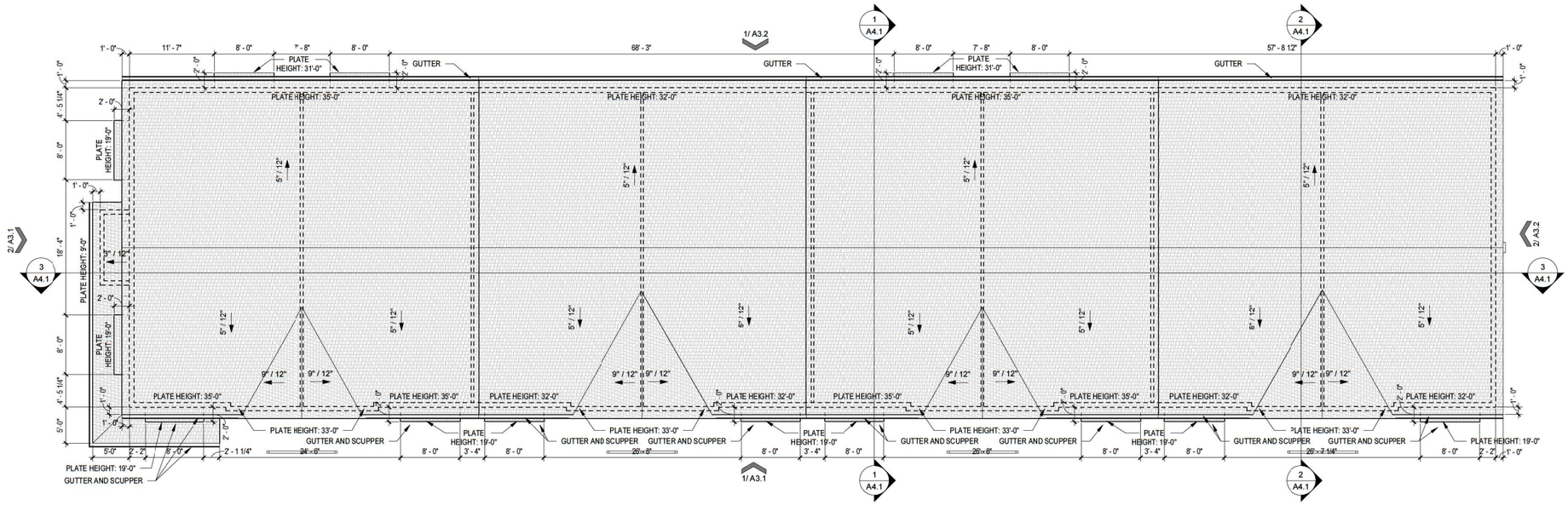
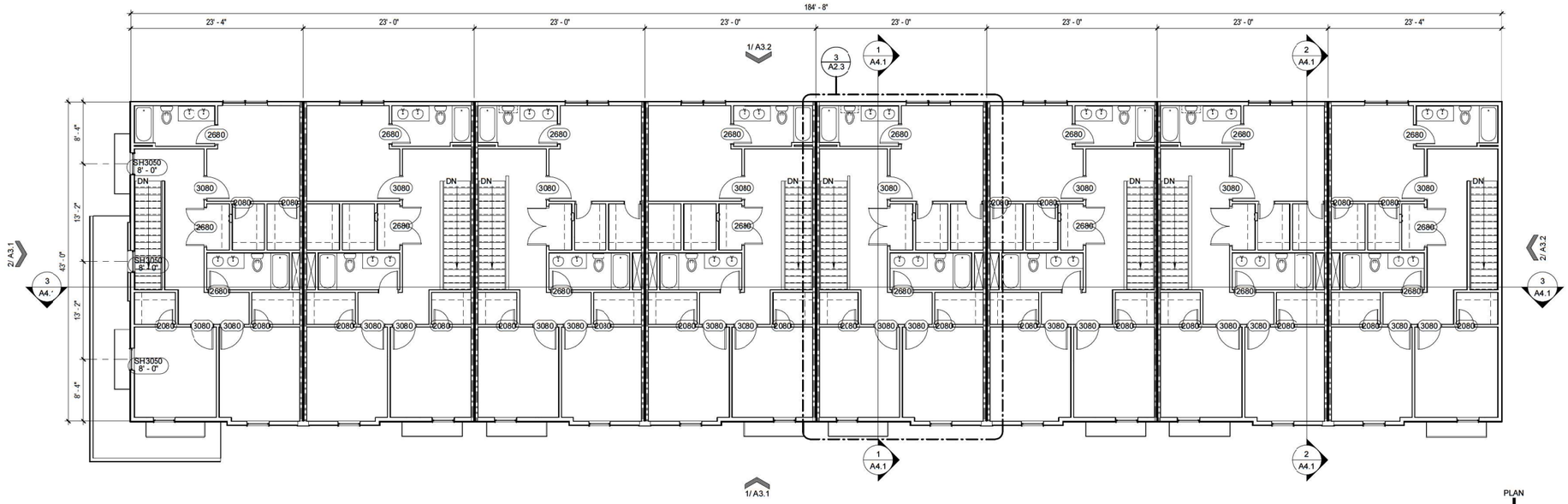
No.	Description	Date

Overall Floor Plan - LVL 1-2

A2.1



2 ROOF PLAN
1/8" = 1'-0"



1 FLOOR PLAN LVL 03
1/8" = 1'-0"

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29468
STATE OF TEXAS

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ISSUANCES

No.	Description	Date

Overall Floor Plan - LVL 3, ROOF PLAN

A2.2

TOWN HOME SQUARE FOOTAGE	
FIRST FLOOR HEATED AREA:	450 SF
SECOND FLOOR HEATED AREA:	850 SF
THIRD FLOOR HEATED AREA:	990 SF
TOTAL CONDITIONED AREA:	2,290 SF
BALCONY AREA:	140 SF
GARAGE AREA:	540 SF

DOOR LEGEND

3 0 6 8

- HEIGHT (FEET AND INCHES)
- WIDTH (FEET AND INCHES)

EXAMPLE:
3068 = 3'-0" W X 6'-8" H

WINDOW LEGEND

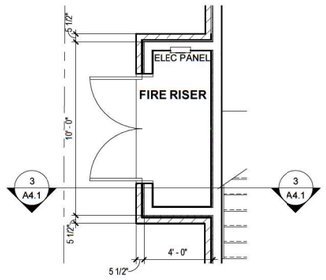
SH 3 0 5 0

- HEIGHT (FEET AND INCHES)
- WIDTH (FEET AND INCHES)
- TYPE:
  SH=SINGLE HUNG
  SL= SLIDING
  FG=FIXED GLAZING
  AW=AWNING
  CA=CASEMENT

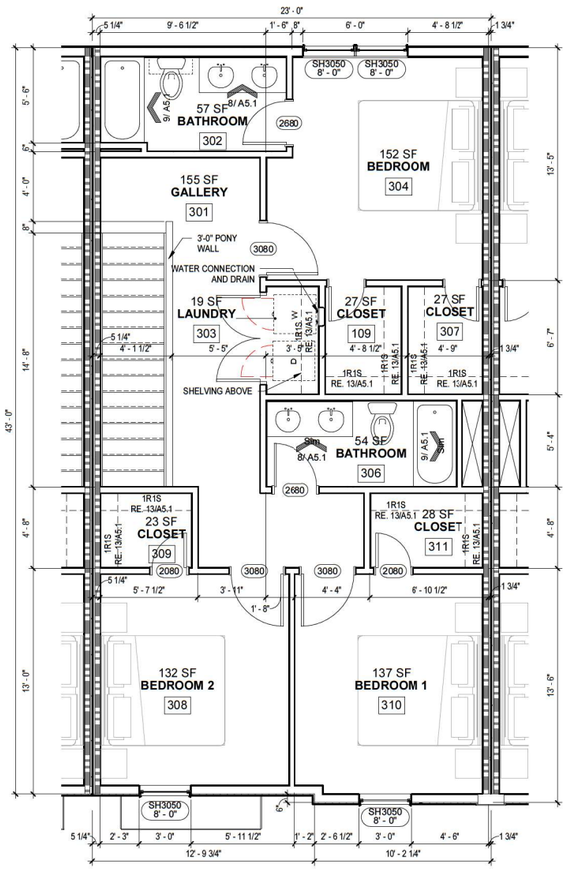
EXAMPLE:
SH3050 = SINGLE HUNG, 3'-0" W X 5'-0" H

GENERAL FLOOR PLAN NOTES

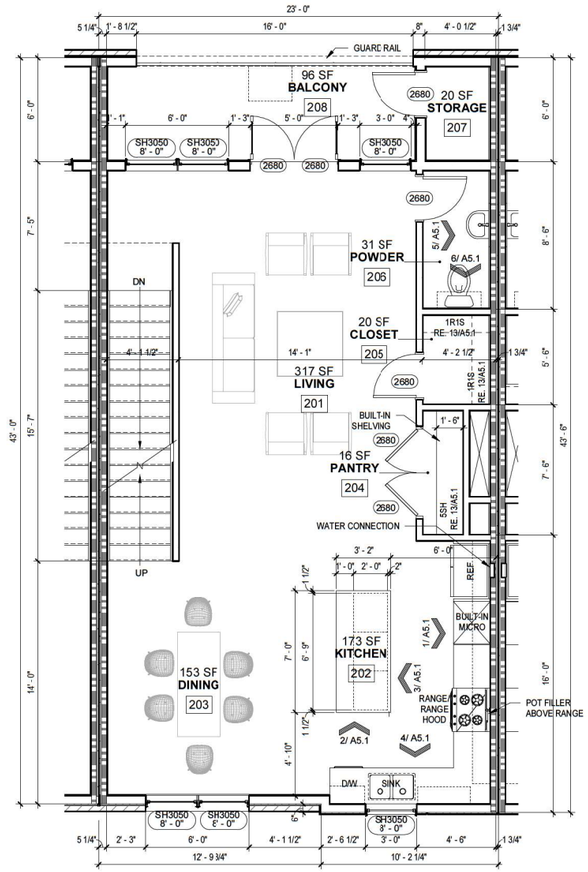
1. REFER TO DOOR/WINDOW SHEETS FOR DOOR NUMBERS, DOOR AND WINDOW TYPES.
2. REFER TO FINISH PLAN FOR ALL INTERIOR FINISHES.
3. FURNITURE NOT IN CONTRACT U.N.O.
4. ALL FLOOR DRAINS TO HAVE OVERFLOW PAN WITH RELIEF LINE TO OUTSIDE OR STORM SEWER(DO NOT CONNECT TO SANITARY SEWER).
5. PROVIDE PLUMBING ACCESS PANEL AT ALL BATHTUBS PER IRC.
6. ALL GLASS AT TUBS AND SHOWERS SHALL BE TEMPERED SAFETY GLASS AND TO COMPLY WITH IRC 2015.
7. PROVIDE ATTIC ACCESS WITH A MINIMUM CLEAR OPENING OF 22"X30". PROVIDE MINIMUM HEAD CLEARANCE OF 30". WHERE SERVICING MECHANICAL EQUIPMENT, THE MINIMUM SIZE OF A PULL DOWN STAIRS IS 30"X54" AND HAVE A MINIMUM LOAD CAPACITY OF 350 LBS.
8. LOCATE HVAC EQUIPMENT IN ATTIC OR DESIGNATED MECHANICAL ROOM - U.N.O.
9. PROVIDE 24" WIDE PLYWOOD WALKWAY TO ACCESS ALL MECHANICAL EQUIPMENT LOCATED IN ATTIC. MAXIMUM DISTANCE FROM ATTIC ACCESS TO EQUIPMENT SHALL NOT EXCEED 20'-0". PROVIDE A 30" WIDESERVICE PLATFORM AT SERVICE SIDE OF ALL EQUIPMENT IN ATTIC.
10. ALL INSULATION SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY RATING NOT TO EXCEED 450.
11. ALL PLUMBING VENTS SHALL EXIT THROUGH A ROOF PLANE THAT SLOPES TO THE BACK.
12. PROVIDE MIN. 1/2" GYPSUM BOARD TO THE GARAGE SIDE OF RESIDENCE AND ATTICS.
13. PROVIDE 1/2" GYPSUM BOARD TO ENCLOSED ACCESSIBLE AREAS LOCATED UNDER ALL STAIRS.
14. INSTALL MINIMUM 1-3/8" SOLID WOOD DOOR, OR SOLID HONEYCOMB STEEL DOOR, OR 20 MIN FIRE RATED DOOR WITH SELF CLOSING DEVICE FROM GARAGE AREA TO CONDITIONED AREA.
15. CONTRACTOR IS TO PROVIDE STEEL LINTELS ABOVE ALL OPENINGS WITH BRICK ABOVE.
16. PROVIDE CROSS VENTILATION AT ENCLOSED ATTICS.
17. ELECTRICAL CONTRACTOR IS TO LOCATE 110V OUTLET WITHIN 25'-0" OF THE A/C COMPRESSOR (GFI IF NOT IN SOFFIT)
18. CONFIRM LOCATION OF ELECTRICAL PANEL WITH OWNER AND ARCHITECT
19. USE EPA - REGISTERED TERMITICIDE, EQUAL TO PREMISE PRECONSTRUCTION INSECTICIDE, FOR DILUTION WITH WATER. USE ONLY SOIL TREATMENT SOLUTIONS WHICH ARE NOT INJURIOUS TO PLANTING.



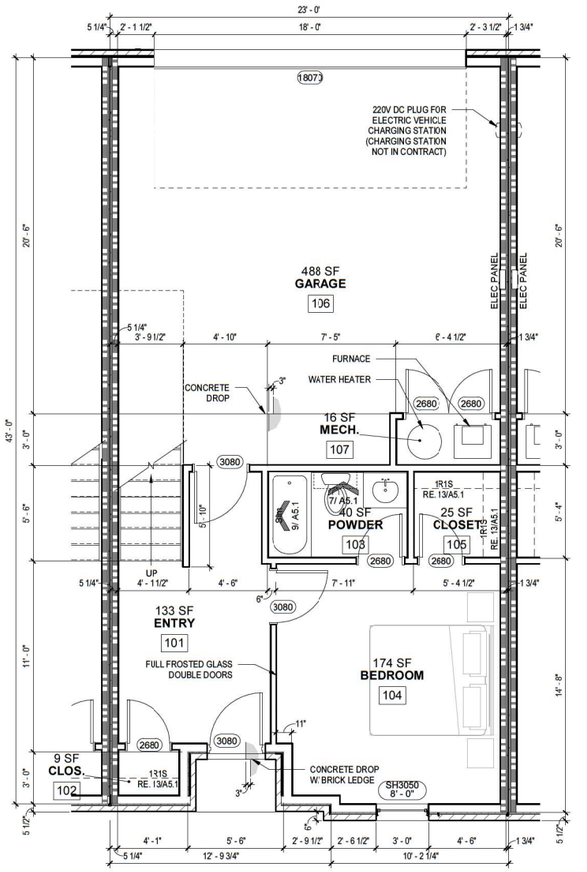
4 RISER ROOM ENLARGED PLAN
1/4" = 1'-0"



3 ENLARGED FLOOR PLAN LVL 03
1/4" = 1'-0"



2 ENLARGED FLOOR PLAN LVL 02
1/4" = 1'-0"



1 ENLARGED FLOOR PLAN LVL 01
1/4" = 1'-0"

2J STUDIO

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No.	Description	Date

Floor Plans

A2.3

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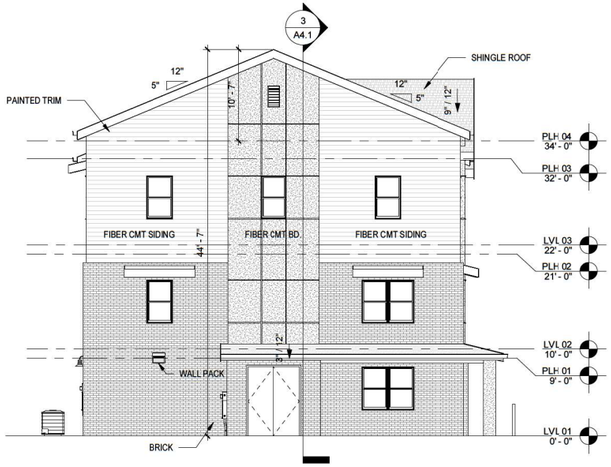
No.	Description	Date

Exterior Renderings

A3.0

PROPOSED EXTERIOR MATERIAL PERCENTAGE:	
OVERALL ELEVATION SF:	1,650 SF
BRICK VENEER SF:	350 SF 40%
FIBER CMT SIDING:	380 SF 53%
TRANSPARENCY:	120 SF 7%



2 SOUTH ELEVATION
1/8" = 1'-0"

MATERIAL LEGEND	
	FIBER CMT SIDING (WHITE)
	FIBER CMT BD. (GRAY)
	BRICK
	PAINTED TRIM (TAN)
	SHINGLE ROOF

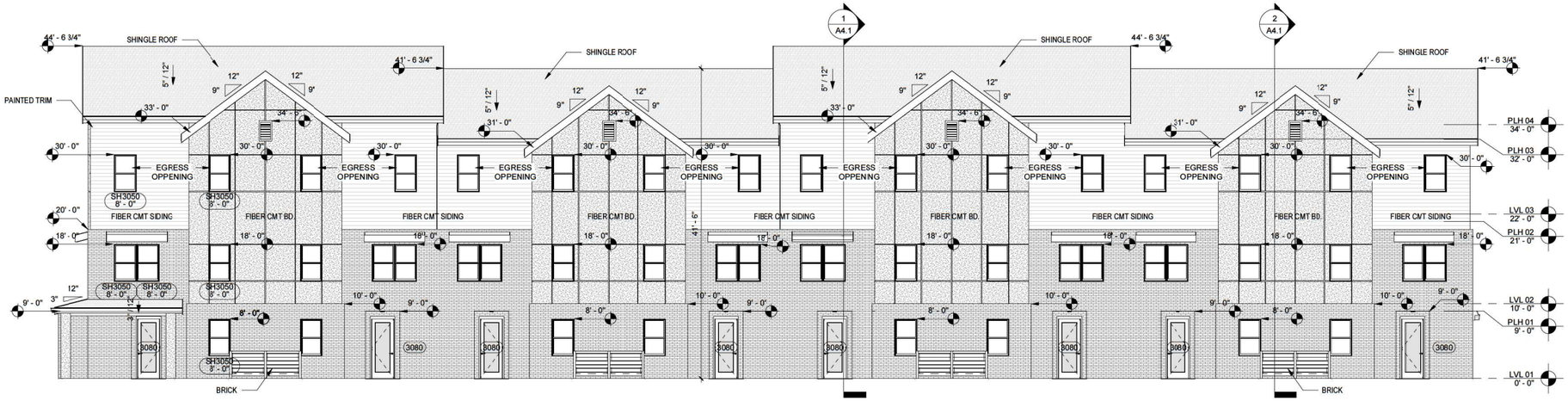
GENERAL ELEVATION NOTES

1. ALL EGRESS WINDOW SILLS TO BE A MAXIMUM OF 44" ABOVE FINISHED FLOOR. MINIMUM WINDOW OPENINGS ARE 24" HIGH, 20" WIDE AND MINIMUM 5.7 SQ/FT NET CLEAR OPENING. WHERE DOORS ARE USED AS EGRESS, KEY LOCKING HARDWARE MAY BE USED.
2. PROVIDE SAFETY GLAZING IN THESE HAZARDOUS LOCATIONS:
   - TUBS AND SHOWERS & OTHER WET LOCATIONS WHERE THE BOTTOM EDGE OF A PANE IS LESS THAN 60" FROM ANY WALKING SURFACE.
   - ALL FIXED & OPERABLE PANELS OF SWINGING, SLIDING, & BIFOLD DOORS EXCEPT OPENINGS WHERE A 3" DIAM. SPHERE IS UNABLE TO PASS.
   - GLAZING WITHIN 24" FROM A DOOR AND BOTTOM OF PANE IS LESS THAN 60" FROM THE FLOOR.
   - EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SQ/FT
   - BOTTOM EDGE OF GLAZING IS LESS THAN 18" ABOVE FLOOR.
   - TOP EDGE OF A PANE IS GREATER THAN 36" FROM F.OOR.
   - ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE GLAZING.
   - GLAZING IN STAIRWELLS WHERE THE BOTTOM EDGE OF A PANE IS LESS THAN 36" VERTICALLY FROM ANY NOSING,LANDING, OR WALKING SURFACE AND 60: HORIZONTALLY FROM THE BOTTOM TREAD OF LANDING AT THE BO"TOM OF A STAIRWAY.
3. ALL RAILING (WOOD, METAL, OR PRECAST) TO HAVE 4" MAXIMUM SPACING BETWEEN BALUSTERS (SPINDLES) AND TO CONFORM WITH INTERNATIONAL RESIDENTIAL CODE. HANDRAILS AND GUARDRAILS SHALL BE DESIGNED FOR A MINIMUM LIVE LOAD FOUND IN THE INTERNATIONAL RESIDENTIAL CODE.
   - INTERIOR GUARDS SHALL NOT BE CONSTRUCTED WITH HORIZONTAL RAILS OR OTHER ORNAMENTAL PATTERN THAT RESULTS IN A LADDER EFFECT.
   - EXTERIOR GUARDS TO HAVE RAILING NO LOWER THAN 42" FROM FINISHED FLOOR, WITH NO LESS THAN 36" DISTANCE FROM TOP OF GUARD TO BOTTOM OF LOWEST RUNNER MAXIMUM UNSUPPORTED SPAN OF LOWEST RUNNER SHALL BE 4'-0".
4. ALL GAS APPLIANCE VENTS TO EXIT AN EXTERIOR WALL LOCATED NO LESS THAN 4'-0" FROM ANY PROPERTY LINE OR COMMON WALL DISTANCE OF GAS VENT PIPES THROUGH A EXTERIOR WALL PERPENDICULAR TO A PROPERTY LINE OR COMMON WALL TO BE MINIMUM OF 4'-0" FROM THE PROPERTY LINE OR COMMON WALL.

(T) = PROVIDE TEMPERED GLASS WHERE REQUIRED BY CODE

SH = SINGLE HUNG FG = FIXED GLASS

PROPOSED EXTERIOR MATERIAL PERCENTAGE:	
OVERALL ELEVATION SF:	6,300 SF
BRICK VENEER SF:	2,365 SF 35%
FIBER CMT SIDING:	3,015 SF 50%
TRANSPARENCY:	920 SF 15%



1 EAST ELEVATION
1/8" = 1'-0"

2J STUDIO

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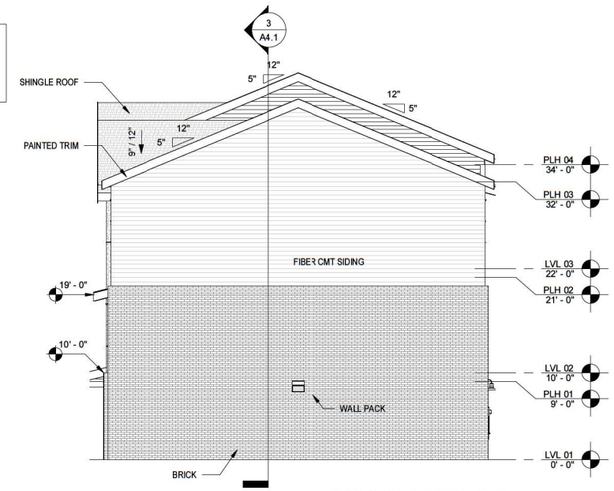
Exterior Elevations

A3.1

PROPOSED EXTERIOR MATERIAL PERCENTAGE:

OVERALL ELEVATION SF: 1,650 SF

BRICK VENEER SF:	870 SF	52%
FIBER CMT SIDING:	780 SF	48%

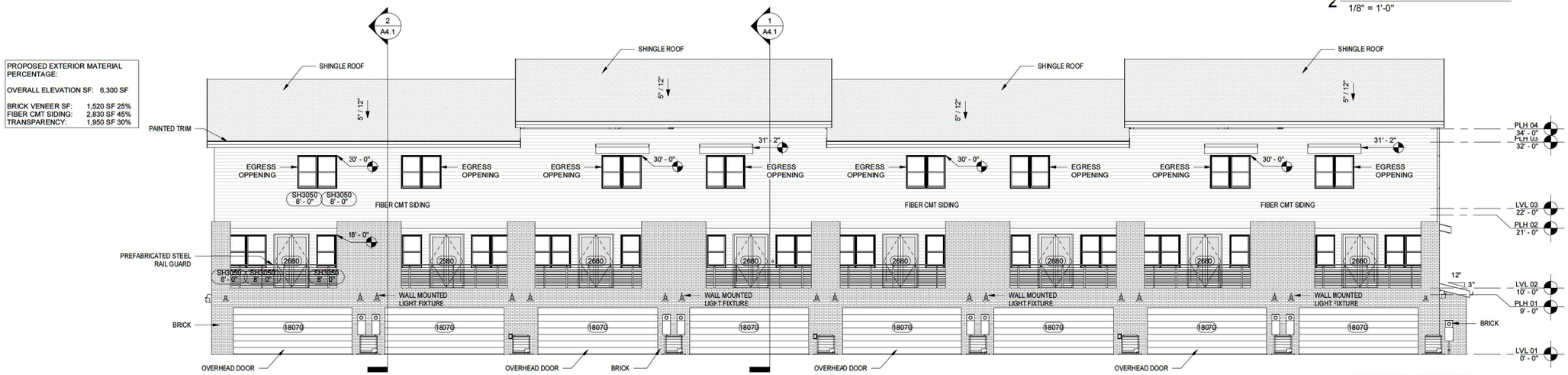


2 NORTH ELEVATION
1/8" = 1'-0"

PROPOSED EXTERIOR MATERIAL PERCENTAGE:

OVERALL ELEVATION SF: 6,300 SF

BRICK VENEER SF:	1,520 SF	25%
FIBER CMT SIDING:	2,830 SF	45%
TRANSPARENCY:	1,950 SF	30%



1 WEST ELEVATION
1/8" = 1'-0"

2J STUDIO

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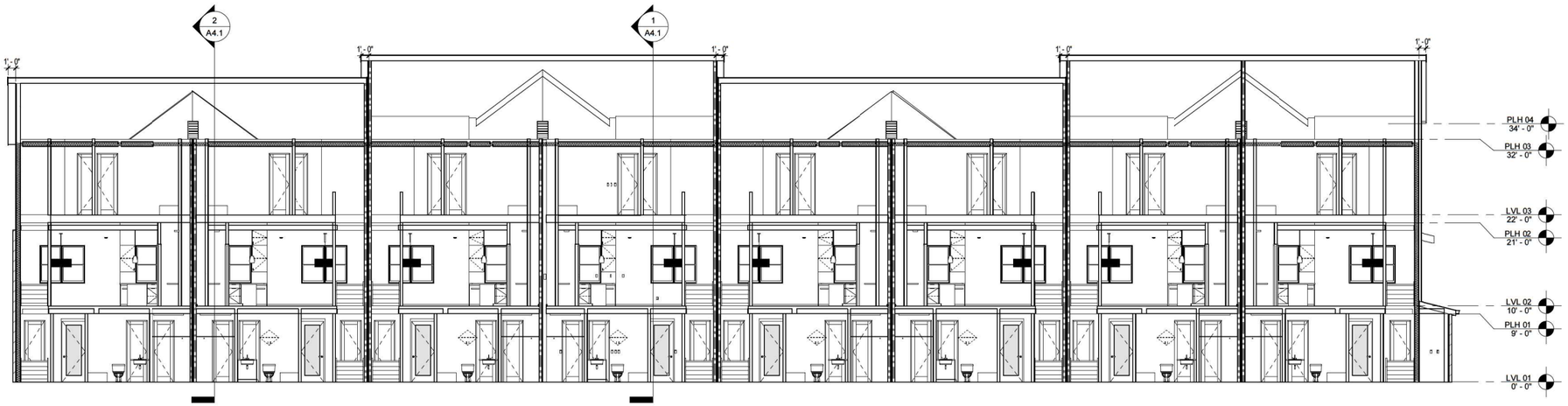
ISSUANCES

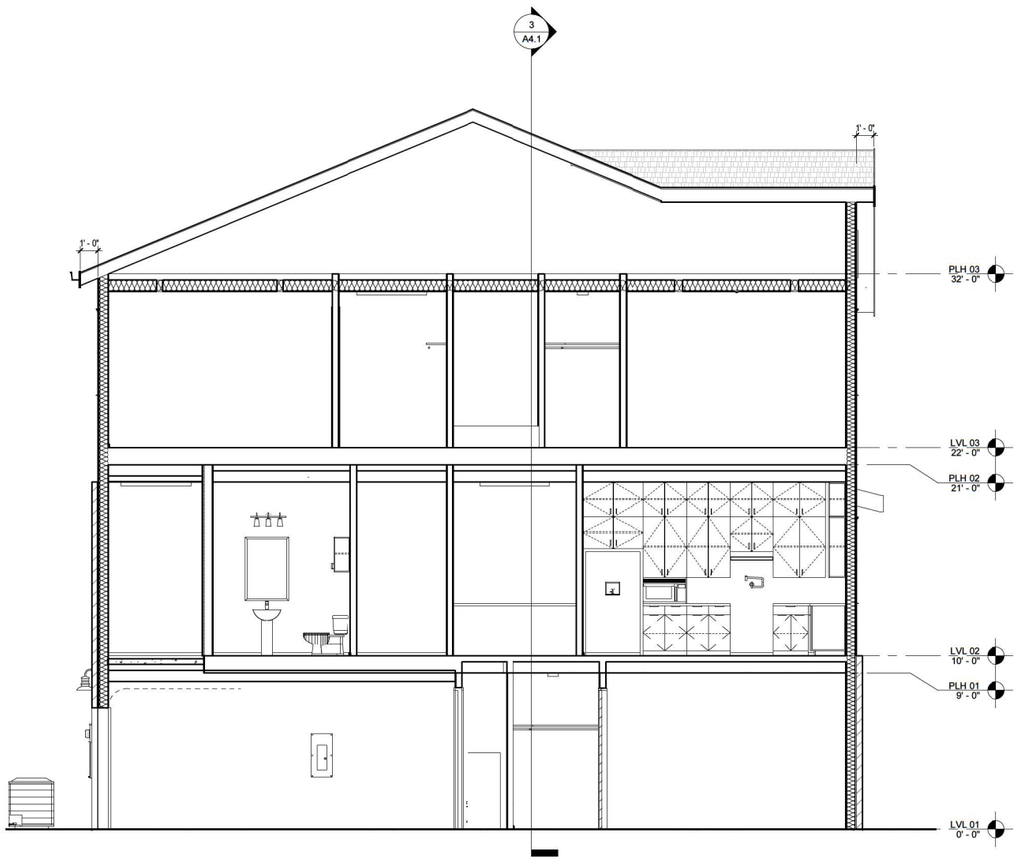
No.	Description	Date

Exterior Elevations

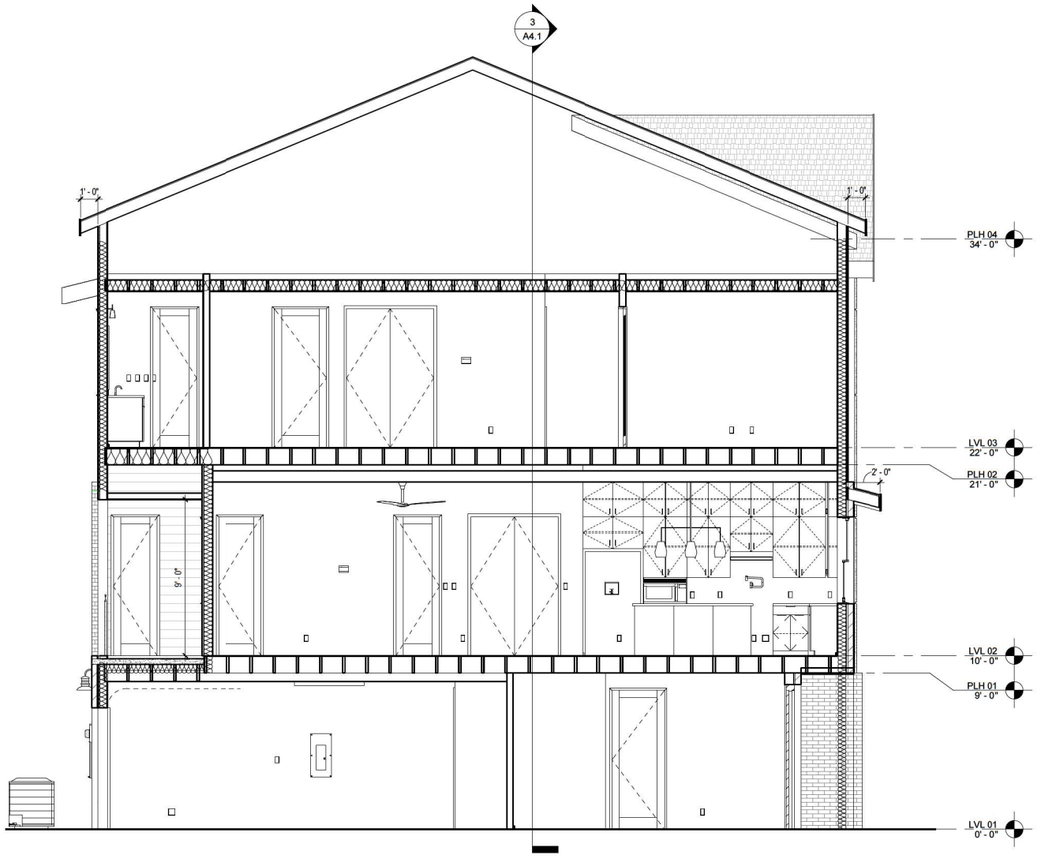
A3.2



3 BUILDING SECTION
1/8" = 1'-0"



2 BUILDING SECTION
1/4" = 1'-0"



1 BUILDING SECTION
1/4" = 1'-0"

2J STUDIO

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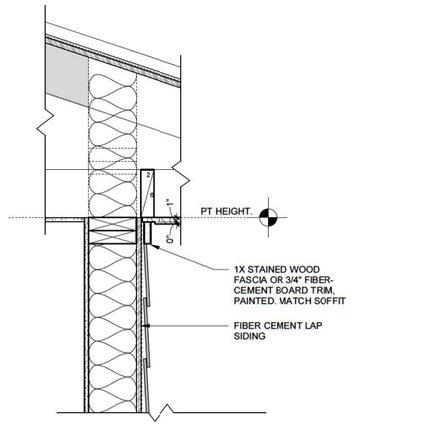
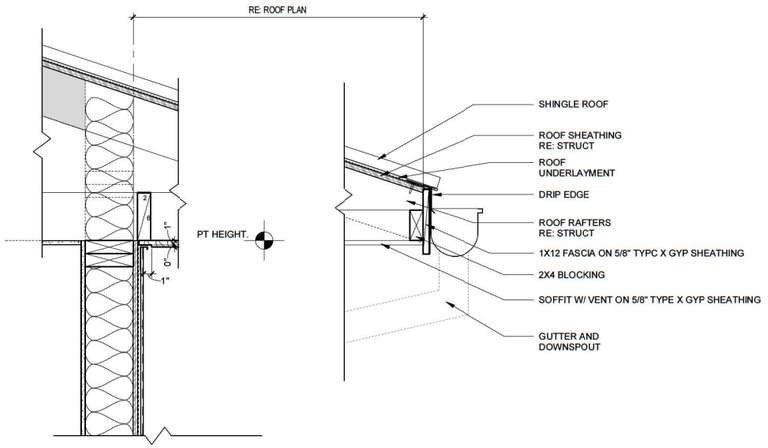
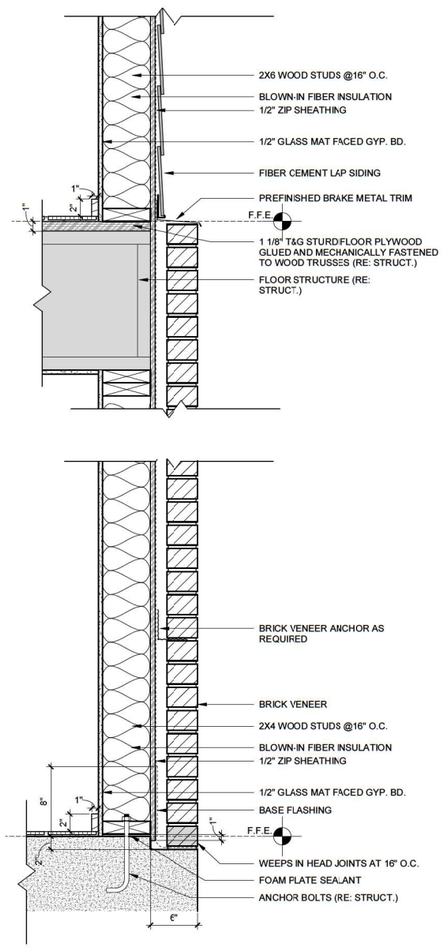
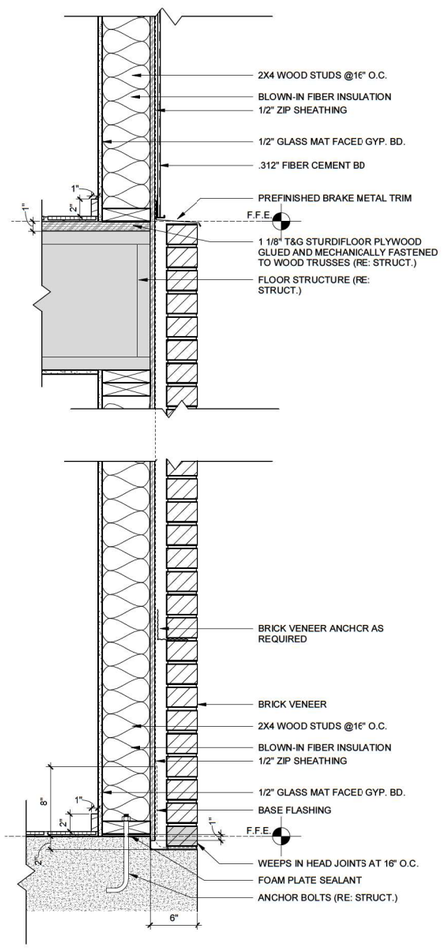
Building Sections

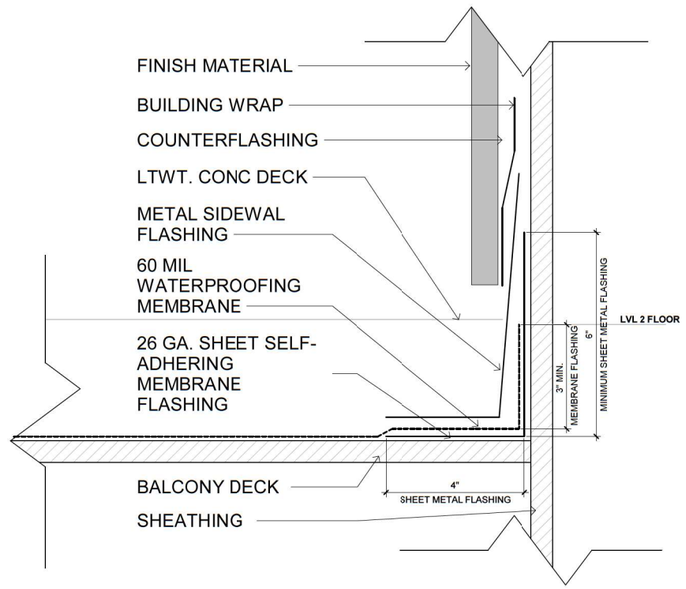
A4.1











3 WALL SECTION @ BRICK VENEER & HORIZ LAP SIDING
1 1/2" = 1'-0"

2 WALL SECTION @ BRICK VENEER & FIBER CEMENT BD
1 1/2" = 1'-0"

1 WATERPROOFING/FLASHING SEQUENCE @ BALCONY
6" = 1'-0"

DESIGN CRITERIA (ONE-HOUR FIRE RATED WALL)

A.) PENETRATIONS NOT ALLOWED THRU EXTERIOR SURFACE:
- HOSE BIBS
- WATER LINES(FROM WATER EMTER)
- GAS LINES(FROM GAS METER)
- PVC WASTEWATER PIPES OF ANY SIZE
- DRYER VENT TERMINATION
- HOOD VENT TERMINATION
- DECORATIVE APPLIANCE (FIREPLACE) TERMINATION
- A/C CONDENSER LINES
- ANY TYPE OF ELECTRICAL CONDUIT
- ANY OTHER PENETRATION EXCEPT 3/4 HR RATED GLASS BLOCK

B.) ITEMS NOT ALLOWED INSIDE THE WALL CAVITY:
- GAS LINES
- PVC WASTEWATER PIPES OF ANY SIZE
- DRYER VENTS

C.) PENETRATIONS NOT ALLOWED THRU INTERIOR SURFACE:
- GAS LINES
- WASTEWATER PIPES OF ANY SIZE
- REFRIGERATOR BIB BOX
- CLOTHES WASHER BIB BOX
- ANY OTHER "EXCESSIVE OPENINGS

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THE PROCTOR PLACE TOWN-HOMES
901 W ABRAM ST, ARLINGTON, TX 76013

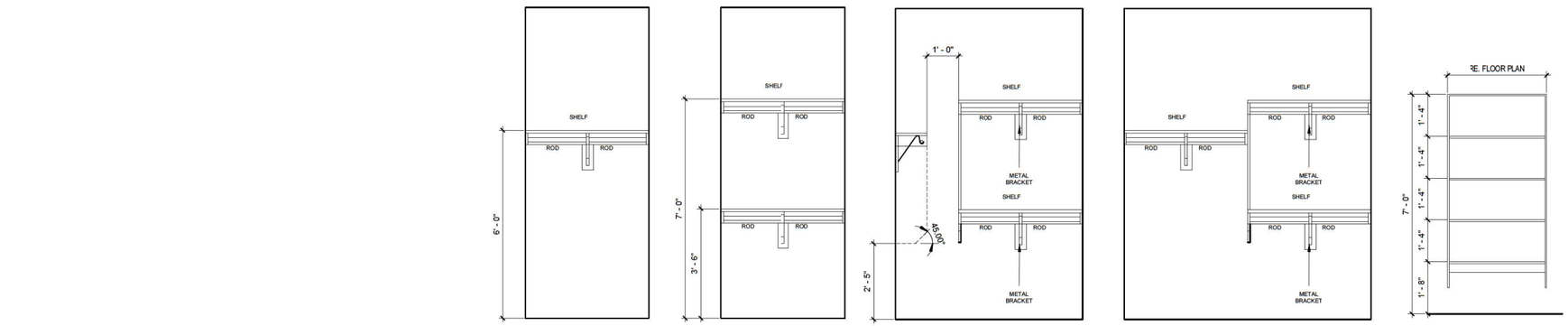
PROJECT NUMBER: 2023.201

ISSUANCES

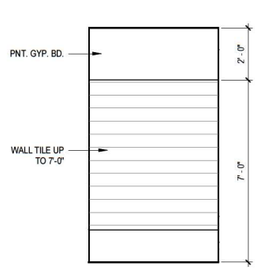
No.	Description	Date

Wall Sections & Details

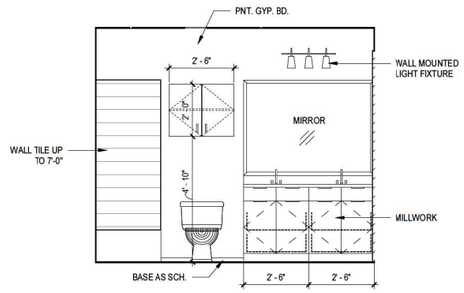
A4.2



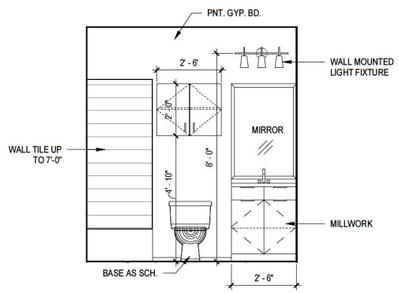
13 Closet Details
1/2" = 1'-0"



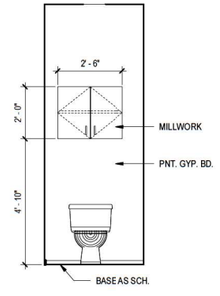
9 BATHROOM 302- WEST
3/8" = 1'-0"



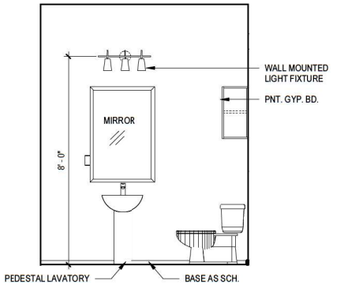
8 BATHROOM 302- NORTH
3/8" = 1'-0"



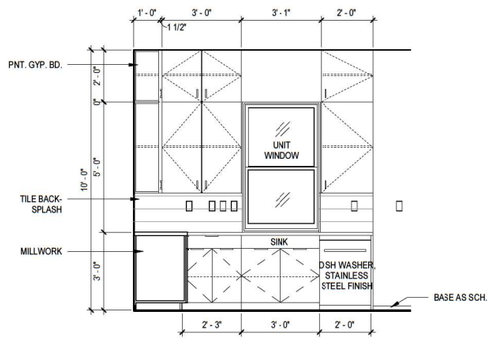
7 POWDER 103- NORTH
3/8" = 1'-0"



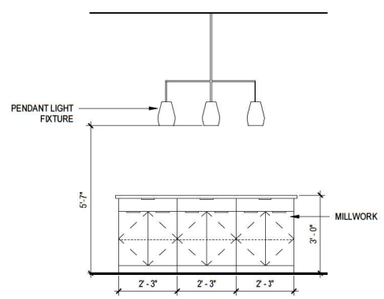
6 POWDER 206- SOUTH
3/8" = 1'-0"



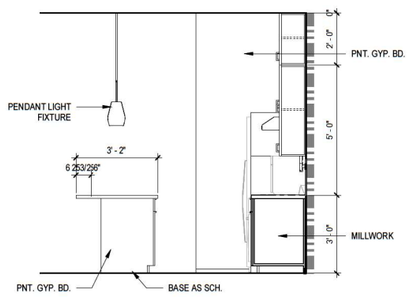
5 POWDER 206- EAST
3/8" = 1'-0"



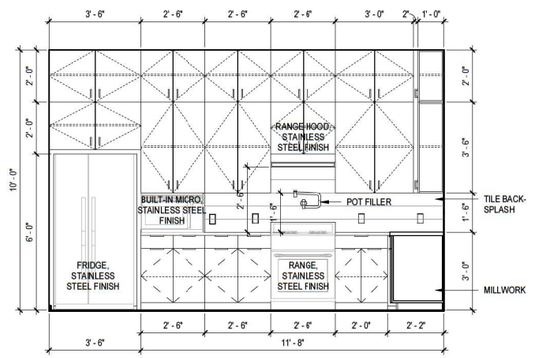
4 KITCHEN- SOUTH
3/8" = 1'-0"



3 KITCHEN- WEST
3/8" = 1'-0"



2 KITCHEN- NORTH
3/8" = 1'-0"



1 KITCHEN- EAST
3/8" = 1'-0"

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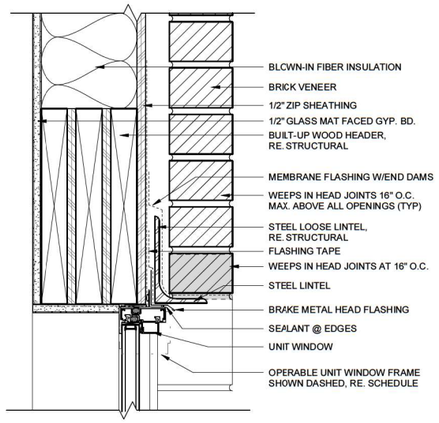
PROJECT NUMBER: 2023.201

ISSUANCES

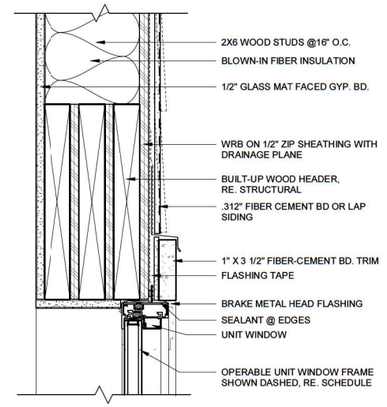
No.	Description	Date

Interior Elevation

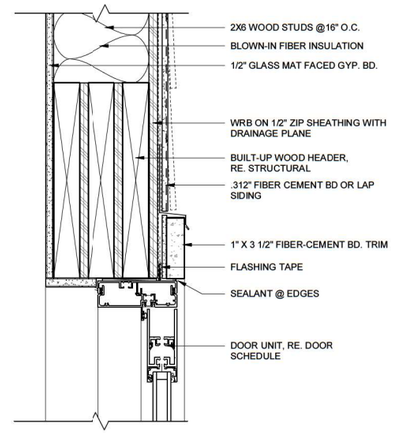
A5.1



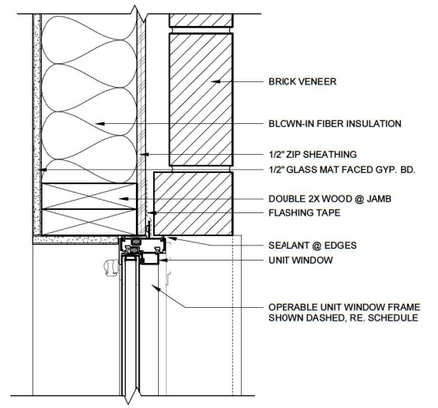
11 WINDOW HEAD DETAIL @ BRICK VENEER
3" = 1'-0"



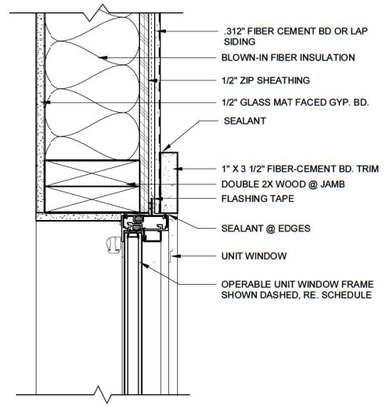
7 WINDOW HEAD DETAIL @ FIBER-CEMENT
3" = 1'-0"



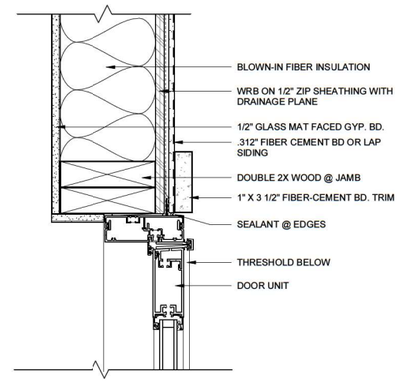
3 DOOR HEAD DETAIL @ FIBER-CEMENT
3" = 1'-0"



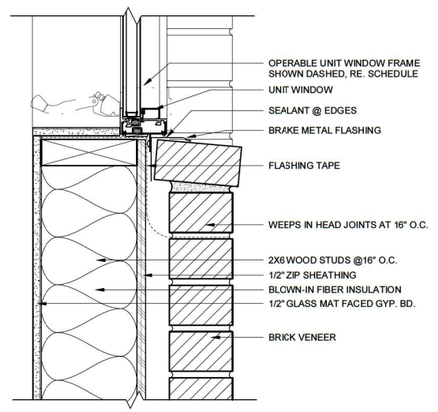
10 WINDOW JAMB DETAIL @ BRICK VENEER
3" = 1'-0"



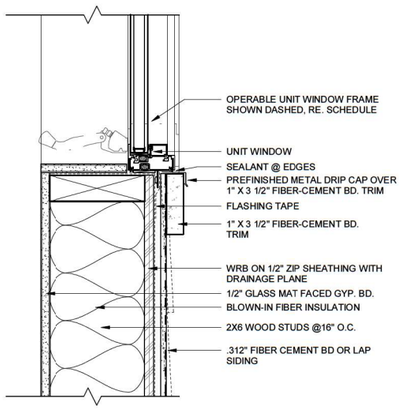
6 WINDOW JAMB DETAIL @ FIBER-CEMENT
3" = 1'-0"



2 DOOR JAMB DETAIL @ FIBER-CEMENT
3" = 1'-0"



9 WINDOW SILL DETAIL @ BRICK VENEER
3" = 1'-0"



5 WINDOW SILL DETAIL @ FIBER-CEMENT
3" = 1'-0"

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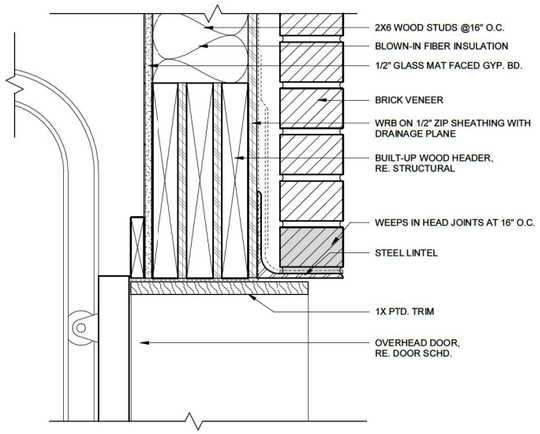
PROJECT NUMBER: 2023.201

ISSUANCES

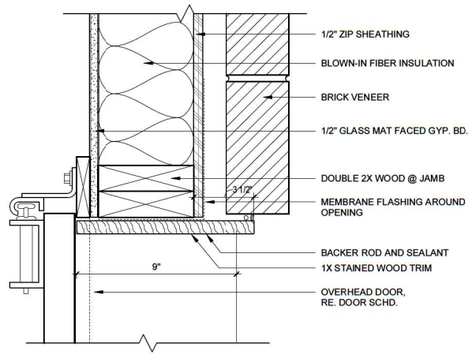
No.	Description	Date

Door & Window Details

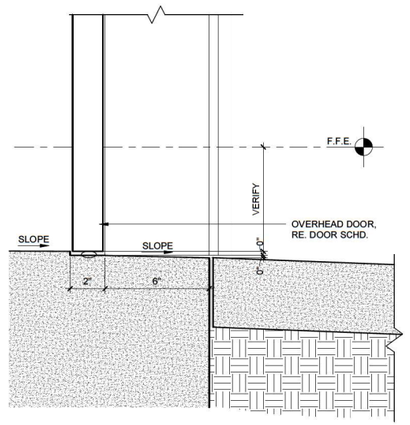
A6.1



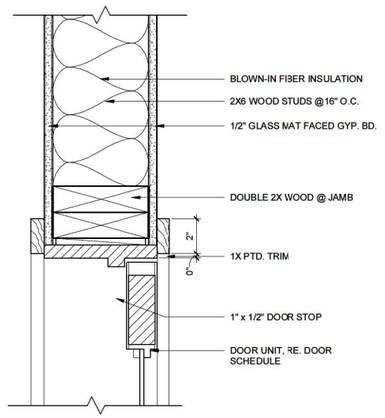
6 OVERHEAD DOOR HEAD DETAIL
3" = 1'-0"



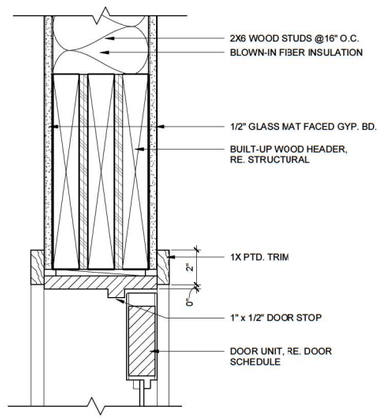
5 OVERHEAD DOOR JAMB DETAIL
3" = 1'-0"



4 OVERHEAD DOOR SILL DETAIL
3" = 1'-0"



2 INTERIOR DOOR SILL DETAIL
3" = 1'-0"



1 INTERIOR DOOR HEAD DETAIL
3" = 1'-0"

2J STUDIO

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07/08/2024

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PROJECT NUMBER: 2023.201

ISSUANCES

No.	Description	Date

Door & Window Details

A6.2

GENERAL FINISH PLAN NOTES

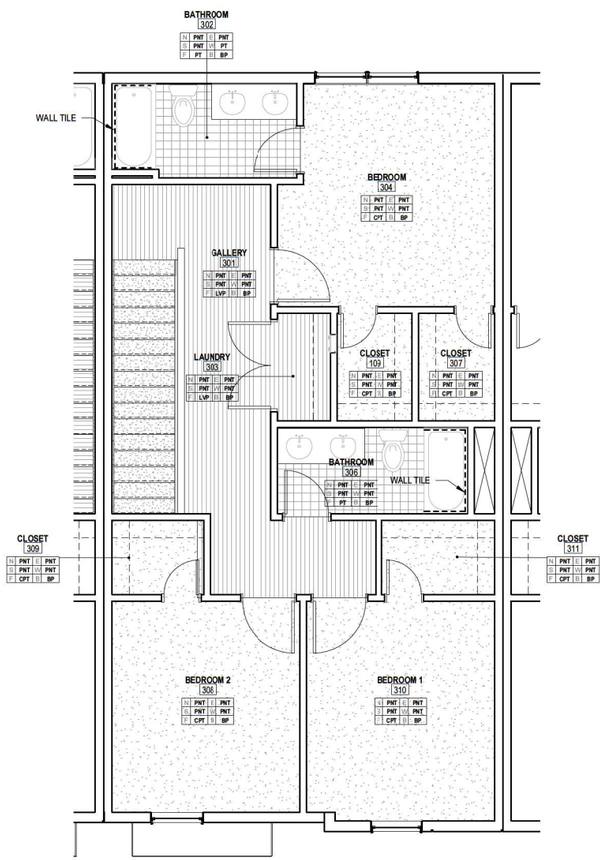
SELECTED FINISHES ARE ARCHITECTURAL RECOMMENDATIONS. FINAL FINISH SELECTIONS TO BE SELECTED BY OWNER AND COORDINATED WITH CONTRACTOR. ARCHITECT RECOMMENDS SMALL MOCK -UP AREA BEFORE PAINTING BEGINS.

ROOM FINISH SCHEDULE

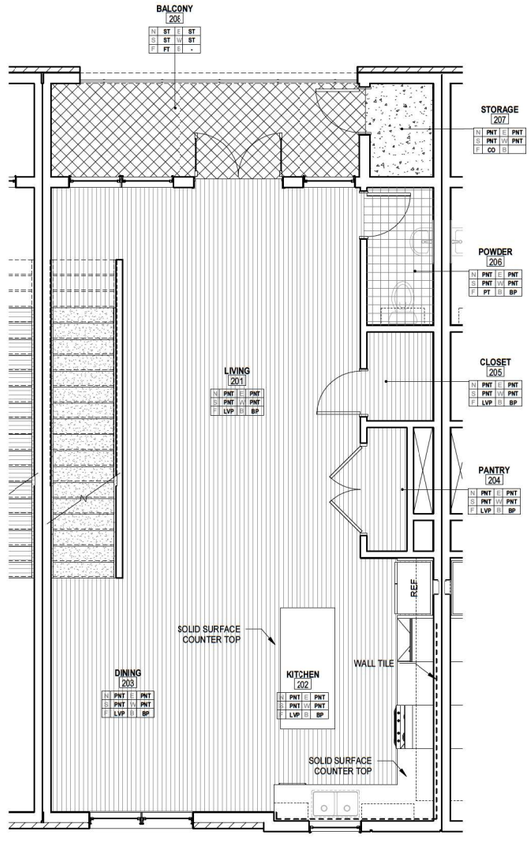
Number	Name	Floor Mark	Base Mark	Wall Finish - N	Wall Finish - E	Wall Finish - S	Wall Finish - W
101	ENTRY	LVP	BP	PNT	PNT	PNT	PNT
102	CLOS.	LVP	BP	PNT	PNT	PNT	PNT
103	POWDER	PT	BP	PNT	PNT	PNT	PNT
104	BEDROOM	CPT	BP	PNT	PNT	PNT	PNT
105	CLOSET	CPT	BP	PNT	PNT	PNT	PNT
106	GARAGE	CO	-	PNT	PNT	PNT	PNT
107	MECH.	CO	-	PNT	PNT	PNT	PNT
108	FIRE RISER	CO	-	PNT	PNT	PNT	PNT
109	CLOSET	CPT	BP	PNT	PNT	PNT	PNT
201	LIVING	LVP	BP	PNT	PNT	PNT	PNT
202	KITCHEN	LVP	BP	PNT	PNT	PNT	PNT
203	DINING	LVP	BP	PNT	PNT	PNT	PNT
204	PANTRY	LVP	BP	PNT	PNT	PNT	PNT
205	CLOSET	LVP	BP	PNT	PNT	PNT	PNT
206	POWDER	PT	BP	PNT	PNT	PNT	PNT
207	STORAGE	CO		PNT	PNT	PNT	PNT
208	BALCONY	FT	-	ST	ST	ST	ST
301	GALLERY	LVP	BP	PNT	PNT	PNT	PNT
302	BATHROOM	PT	BP	PNT	PNT	PNT	PT
303	LAUNDRY	LVP	BP	PNT	PNT	PNT	PNT
304	BEDROOM	CPT	BP	PNT	PNT	PNT	PNT
305	M. BATH	PT	BP	PNT	PNT	PNT	PT
306	BATHROOM	PT	BP	PNT	PNT	PNT	PNT
307	CLOSET	CPT	BP	PNT	PNT	PNT	PNT
308	BEDROOM 2	CPT	BP	PNT	PNT	PNT	PNT
309	CLOSET	CPT	BP	PNT	PNT	PNT	PNT
310	BEDROOM 1	CPT	BP	PNT	PNT	PNT	PNT
311	CLOSET	CPT	BP	PNT	PNT	PNT	PNT

VISUAL FINISH LEGEND

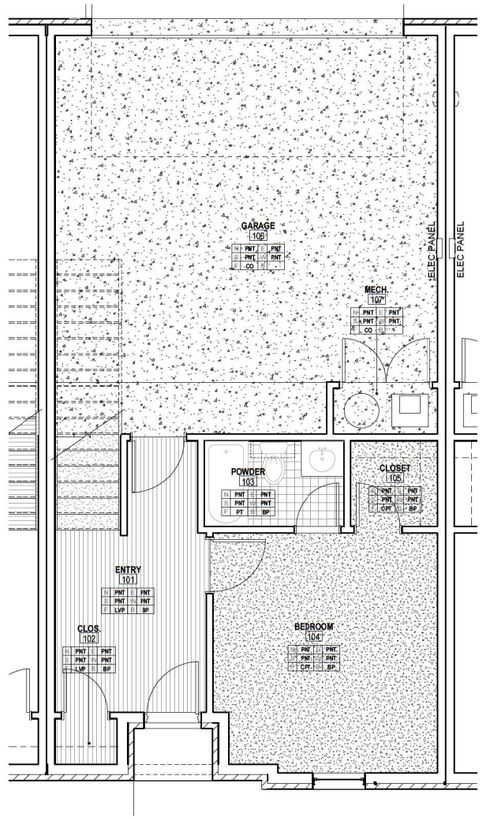
MARK	DESCRIPTION
	CPT - CARPET
	PT - PORCELAIN FLOOR TILE
	LVP - LUXURY VINYL PLANK
	CO - CONCRETE FINISH
	PNT - PAINT
	FT - FAUX TURF
	BP - BASE PAINTED
	ST - STTUCO



3 FINISH FLOOR PLAN LVL 03
1/4" = 1'-0"



2 FINISH FLOOR PLAN LVL 02
1/4" = 1'-0"



1 FINISH FLOOR PLAN LVL 01
1/4" = 1'-0"

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THE PROCTOR PLACE TOWN-HOMES

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PROJECT NUMBER: 2023.201

ISSUANCES

No.	Description	Date

Finish Floor Plan

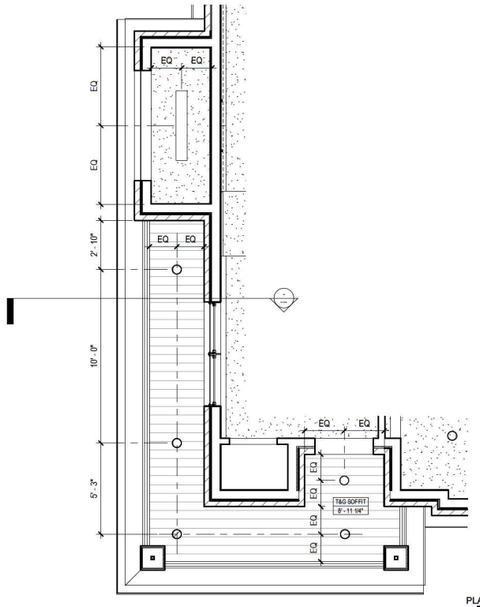
A7.1

LEGEND

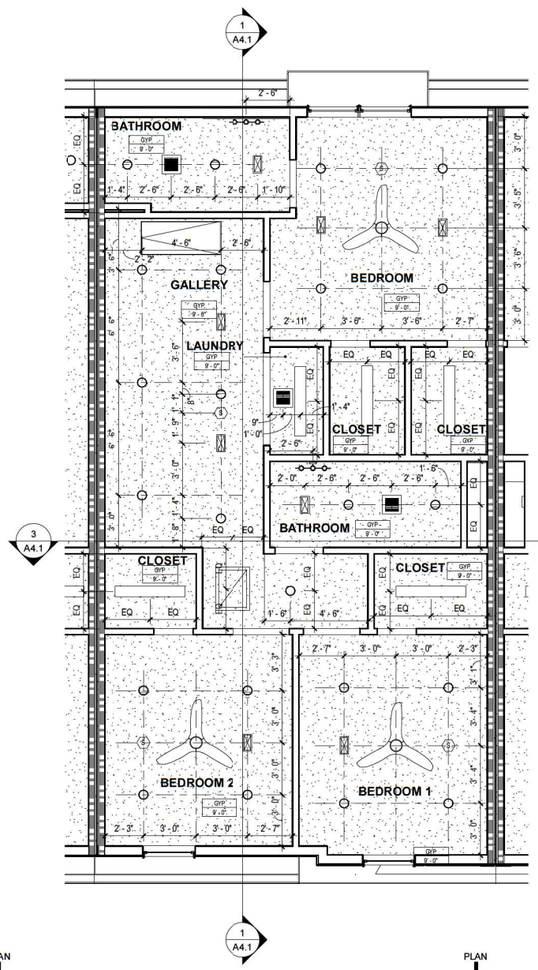
MARK	DESCRIPTION	MARK	DESCRIPTION	MARK	DESCRIPTION	MARK	DESCRIPTION
	LIGHT FIXTURE		CEILING FAN		ATTIC ACCESS LADDER		GYP. BOARD CEILING
	RECESSED FIXTURE		AIR SUPPLY				RAISED GYP. BOARD CEILING RE.
	PENDANT DOWNLIGHT		RETURN AIR				TOUNGE AND GROOVE SOFFIT
	PENDANT DOWNLIGHT		EXHAUST FAN				
	INTERIOR WALL MOUNTED DOWNLIGHT		SMOKE DETECTOR				
	EXTERIOR WALL SCONCE						

GENERAL RCP NOTES

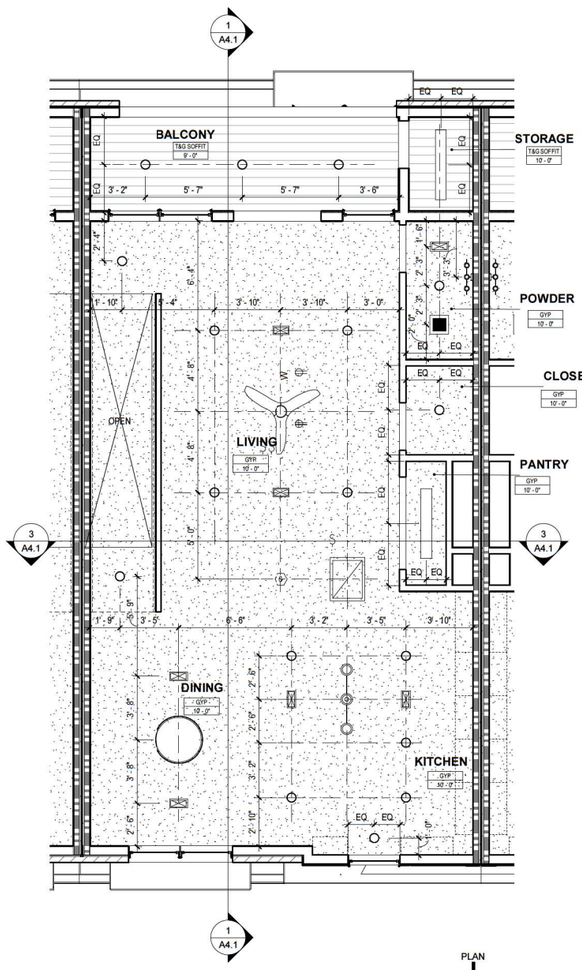
1. REFER TO ROOM FINISH SCHEDULE FOR ANY CEILING HEIGHTS NOT SHOWN HERE. ALL CEILING ELEVATION HEIGHTS REFER TO FINISHED FLOOR ELEVATION. (RELATIVE TO THE F.F.E. BELOW THE CEILING).
2. THE CONTRACTOR SHALL COMPARE THE REFLECTED CEILING PLANS WITH ELECTRICAL LIGHTING PLANS, MECHANICAL SUPPLY, RETURN, AND EXHAUST PLANS. THE CONTRACTOR SHALL REPORT ANY OMISSIONS OR INCONSISTENCIES TO THE ARCHITECT.
3. COORDINATION OF DUCTWORK, FIRE SPRINKLER AND CONDUITS AT CEILING MUST BE COORDINATED WITH STRUCTURAL ELEMENTS AND AMONG TRADES. NO CHANGE ORDERS FOR LACK OF COORDINATION AMONG THESE ELEMENTS.
4. SEE ELECTRICAL DRAWINGS FOR THE LOCATIONS OF CEILING MOUNTED SMOKE DETECTORS, SPEAKERS, EXIT SIGNAGE, AND FIRE ALARM DEVICES, ETC. ALSO SEE ELECTRICAL FOR LOCATIONS OF WALL MOUNTED EXIT LIGHTS.
5. FOR FURTHER DIMENSIONS SEE LARGE SCALE PLANS, SECTIONS, ELEVATIONS, AND DETAILS.
6. ALL CEILING ELEMENTS TO BE PLACED IN THE CENTER OF CEILING TILE OR CENTER OF GYP. BOARD CEILING AREA U.N.O.
7. LIGHTS: ALL LIGHT FIXTURES TO BE CENTERED IN CEILING TILE, UNLESS NOTED OTHERWISE.
8. ELECTRICAL INSTALLATION TO BE IN ACCORDANCE WITH IRC
9. THE ELCTRICAL CONTRACTOR IS RESPONSIBLE FOR OPTAINING ALL REQUIRED ELECTRICAL PERMITS & INSPECTIONS.
10. EXTERIOR RECEPTACLES TO BE GFI AND WEATHER PROTECTED.
11. SWITCHES TO BE MOUNTED @ 54" A.F.F.
12. ALL SMOKE DETECTORS ARE TO BE HARD WIRED IN SERIES WITH A BATTERY BACKUP PER IRC



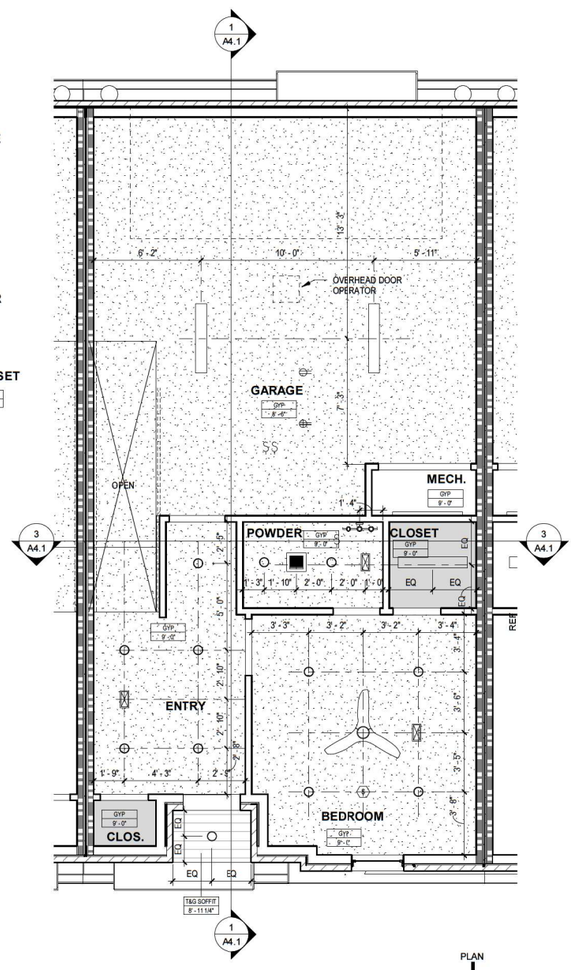
4 REFLECTED CEILING PLAN @ PORCH
1/4" = 1'-0"



3 REFLECTED CEILING PLAN LVL 03
1/4" = 1'-0"



2 REFLECTED CEILING PLAN LVL 02
1/4" = 1'-0"



1 REFLECTED CEILING PLAN LVL 01
1/4" = 1'-0"

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PROJECT NUMBER: 2023.201

ISSUANCES

No.	Description	Date

Reflective Ceiling Plan

A8.1

MECHANICAL SPECIFICATIONS:

23 05 00 - COMMON WORK RESULTS FOR HVAC

1. INSTALLATION:
 1.1. GENERAL: SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF MECHANICAL SYSTEMS, MATERIALS, AND EQUIPMENT. COMPLY WITH THE FOLLOWING REQUIREMENTS:
  1.1.1. COORDINATE MECHANICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
  1.1.2. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
  1.1.3. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROCESS OF CONSTRUCTION, TO ALLOW FOR MECHANICAL INSTALLATIONS.
  1.1.4. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED IN PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
  1.1.5. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING OF THE BUILDING.
  1.1.6. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS AND EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
  1.1.7. COORDINATE CONNECTION OF MECHANICAL SYSTEMS WITH EXTERIOR, UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. PROVIDE REQUIRED CONNECTION FOR EACH SERVICE.
  1.1.8. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO CONFORM WITH ARCHITECTURAL ACTION MARKINGS ON SUBMITTAL, INCLUDING COORDINATION DRAWINGS, TO GREATEST EXTENT POSSIBLE. CONFORM TO ARRANGEMENTS INDICATED BY THE CONTRACT DOCUMENTS, RECOGNIZING THAT PORTIONS OF THE WORK SHOWN ARE SHOWN ONLY IN THE DIAGRAMMING FORM. WHERE COORDINATION REQUIREMENTS CONFLICT WITH INDIVIDUAL SYSTEM REQUIREMENTS, RESOLVE CONFLICTS AND ROUTE PROPOSED SOLUTION TO THE ARCHITECT FOR REVIEW AND APPROVAL.
  1.1.9. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES.
  1.1.10. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE WITH OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO AN ACCESSIBLE LOCATION AND LABEL.
  1.1.11. INSTALL ACCESS PANEL OR DOORS WHERE UNITS ARE CONCEALED BEHIND FINISHED SURFACES.
  1.1.12. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT GIVING RIGHT OF WAY PRIORITY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SPECIFIC SLOPE.
 1.2. PAINTING
  1.2.1. PROPERLY PREPARE SURFACES TO RECEIVE PANT. THOROUGHLY CLEAN SURFACES REQUIRING PRIME PAINTING OF RUST, LOOSE SCALE OIL, GREASE AND DIRTY BY THE USE OF WIRE BRUSHES, SOLVENT AND OTHER REQUIRED MEANS. PRIME PREPARED SURFACES AND FINISH WITH TWO COATS OF EXTERIOR OIL BASE PAINT. VERIFY PRIMER AND PAINT ARE RATED FOR APPLICATION.
  1.2.2. REMOVE SPLATTERED PAINT FROM MECHANICAL EQUIPMENT AND REPAIR DAMAGE TO FACTORY PAINTED FINISHES.
 1.3. CONDENSATE PIPING SHALL BE CONSTRUCTED OF COPPER TYPE "L". PIPING SHALL BE INSULATED WITH ELECTROMETRIC INSULATION ABOVE CEILINGS.

2. TESTING, ADJUSTING, AND BALANCING:
 2.1. TESTING, ADJUSTING AND BALANCING CONTRACTOR FOR THE AIR SIDE HVAC SYSTEMS SHALL BE SELECTED AND PAID BY THE OWNER, THROUGH A SEPARATE CONTRACT INDICATED IN THE DOCUMENTS. BALANCING CONTRACTOR SHALL REPORT DIRECTLY TO OWNER'S PROJECT MANAGER.
 2.2. HVAC SYSTEMS ACCEPTANCE TESTING, AND BALANCING DATA GATHERING, ANALYSIS, AND REPORTING WILL NOT BE DONE BY THE CONSTRUCTION MECHANICAL CONTRACTOR.
 2.3. THE CONSTRUCTION MECHANICAL CONTRACTOR IS TO PROVIDE OPERATIONAL AND ACCESS SUPPORT, I.E. DATA, SCHEDULES, ETC. FOR THE AIRSIDE TAB CONTRACTOR.
 2.4. SYSTEMS SHALL BE COMPLETE AND OPERATIONAL FOR THE TAB CONTRACTOR TO PERFORM HIS WORK ON.
 2.5. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM IDENTIFIED, IN ACCORDANCE WITH THE DETAILED PROCEDURES OUTLINES IN THE REFERENCED STANDARDS.
 2.6. SEAL DUCTS AND PIPING, AND TEST FOR AND REPAIR LEAKS.
 2.7. MARK EQUIPMENT SETTINGS, INCLUDING DAMPER CONTROL POSITIONS, VALVE INDICATORS, FAN SPEED CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, TO SHOW FINAL SETTINGS. MARK WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIALS.
 2.8. RETEST, ADJUST, AND BALANCE SYSTEMS SUBSEQUENT TO SIGNIFICANT SYSTEM MODIFICATIONS, AND RESUBMIT TEST RESULTS.
 2.9. TEST AND ADJUST MECHANICAL SYSTEMS FOR SOUND AND VIBRATION IN ACCORDANCE WITH THE DETAILED INSTRUCTIONS OF THE REFERENCED STANDARDS.
 2.10. RECORD ALL DATA OBTAINED DURING TESTING, ADJUSTING, AND BALANCING IN ACCORDANCE WITH, AND ON THE FORMS RECOMMENDED BY THE REFERENCED STANDARDS, AND AS APPROVED ON THE SAMPLE REPORT FORMS.
 2.11. PREPARE REPORT OF RECOMMENDATIONS FOR CORRECTING UNSATISFACTORY MECHANICAL PERFORMANCES WHEN SYSTEM CANNOT BE SUCCESSFULLY BALANCED.

23 31 13 - DUCTWORK

1. SHEET METAL DUCTWORK
 1.1. FURNISH AND INSTALL SHEET METAL DUCTWORK, SHEET METAL DUCTWORK HANGERS AND SUPPORTS, FIRE DAMPERS, FLASHING AND ALL NECESSARY ACCESSORIES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
 1.2. SMACNA STANDARDS: COMPLY WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA), LATEST EDITION, RECOMMENDATIONS FOR FABRICATION, CONSTRUCTION, DETAILS AND INSTALLATION PROCEDURES, EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS OR IN THESE SPECIFICATIONS.
 1.3. ASHRAE STANDARDS: COMPLY WITH AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE) RECOMMENDATIONS, EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS OR IN THESE SPECIFICATIONS.

2. RECTANGULAR SHEET METAL DUCTWORK
 2.1. DUCTWORK MATERIALS: PROVIDE MATERIALS WHICH ARE FREE FROM VISUAL IMPERFECTIONS, INCLUDING PITTING, SEAM MARKS, ROLLER MARKS, OIL CANNING, STAINS, DISCOLORATION AND OTHER IMPERFECTIONS, INCLUDING THOSE WHICH WOULD IMPAIR PAINTING.
 2.2. GAUGES, RECTANGULAR DUCTWORK: FABRICATE STEEL DUCTWORK (GALVANIZED AND STAINLESS, IF ANY) FROM THE MINIMUM GAUGES FOR SIZES UP TO THE CORRESPONDING MAXIMUM LONG-SIDE DIMENSIONS AS INDICATED IN SMACNA DUCT MANUAL "LOW VELOCITY SYSTEMS" (LATEST EDITION).
 2.3. ALL LONGITUDINAL DUCT SEAMS AND JOINTS SHALL BE SNAP-LOCK AT THE CORNERS AND STANDING LOCKSEAM IN SIDES BETWEEN CORNERS. SEAL ALL LONGITUDINAL AND TRAVERSE JOINTS UPSTREAM OF ALL AIR VALVES WITH HARD-CAST TAPE JOIN SEALANT.

3. ROUND SHEET METAL DUCTWORK
 3.1. DUCT GAUGES, GIRTH REINFORCING, GIRTH JOINTS, LONGITUDINAL SEAMS, ETC. SHALL BE IN ACCORDANCE WITH THE SMACNA MANUAL. ROUND SHEET METAL SUPPLY AIR DUCTWORK SHALL BE FABRICATED USING SPIRAL SEAMS ONLY WITH BEADED SLEEVED JOINTS. ELBOWS SHALL BE STAMPED OR SEGMENTED AND TEES SHALL BE 45 DEGREES LATERAL TAPS WITH WELDED JOINTS. ADJUSTABLE FITTINGS OR DRAW BAND JOINT CONNECTIONS WILL NOT BE ACCEPTABLE.

4. FLEXIBLE CONNECTION
 4.1. FLEXIBLE CONNECTIONS SHALL BE PROVIDED IN DUCTWORK CONNECTED TO THE INLETS AND/OR OUTLETS OF ALL AIR HANDLING UNITS, FANS, ETC. FLEXIBLE CONNECTION MATERIALS SHALL BE THERMAFLEX OR APPROVED EQUAL. SEWING OR STAPLING OF JOINTS WILL NOT BE PERMITTED. ENDS OF FABRIC MUST BE OVERLAPPED 2" AND GLUED. PROVIDE AT LEAST 1" SLACK AT ALL FLEXIBLE CONNECTIONS.

5. FLEXIBLE DUCTWORK
 5.1. FLEXIBLE DUCT SHALL BE A FACTORY GLASS FIBER INSULATED ASSEMBLY WITH VAPOR BARRIER JACKET AND A MAXIMUM THERMAL CONDUCTANCE OF 0.23 BTU/HR PER SF. FLEXIBLE DUCT SHALL BE CONSTRUCTED OR REINFORCED ALUMINUM FOIL FABRIC MECHANICALLY LOCKED INTO A SPIRAL ALUMINUM FELIX SUITABLE FOR A POSITIVE WORKING PRESSURE OF AT LEAST 6" W.G. IT SHALL REQUIRE NO MORE THAN TWO 90° ELBOWS AS INSTALLED. THE FLEXIBLE DUCT ASSEMBLY SHALL BE LISTED CLASS I BY THE UNDERWRITER'S LABORATORY AT A FLAME SPREAD OF NOT OVER 25 AND A SMOKE DEVELOPED RATE OF NOT OVER 50 AND SHALL COMPLY WITH NFPA STANDARD 90A.
 5.2. FLEXIBLE DUCT CLAMPS SHALL BE STAINLESS STEEL WITH SWIVEL ACTION SCREW, MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 6 FEET INCLUDING ALL BENDS.
 5.3. THREAMFLEX DUCTWORK OF EQUAL CONSTRUCTION WILL BE ACCEPTABLE.

6. MANUAL DAMPERS
 6.1. ALL DUCT TAPS WILL BE PROVIDED WITH A DAMPER FOR BALANCING.
 6.2. MANUAL DAMPERS SHALL HAVE A MINIMUM OF 16 GAUGE GALVANIZED STEEL CHANNEL FRAME WITH MOUNTING FLANGES AND AXLES SET IN OIL IMPEGNATED BRONZE BEARINGS. AXLES SHALL BE MINIMUM OF 1/2" IN DIAMETER AND SHALL BE INTERLOCKED WITH BLADES TO POSITIVELY ELIMINATE SUPPAGE.
 6.3. BLADES SHALL BE MINIMUM OF 16 GAUGE GALVANIZED STEEL. MANUAL DAMPERS SHALL HAVE A MINIMUM OF FOUR BREAKS RUNNING THE ENTIRE LENGTH OF THE DAMPER TO ASSURE RIGIDITY AND TIGHT CLOSE OFF. BLADES SHALL BE ON CENTER NO GREATER THAN 9" AND NO BLADE SHALL EXCEED 48" IN LENGTH. ALL BLADES SHALL BE INTERCONNECTED TO ACT IN UNISON FOR OPPOSED BLADE OPERATION.
 6.4. SINGLE BLADE DAMPERS SHALL BE USED FOR DUCTWORK LESS THAN 12" FOR THE LARGER DIMENSION.
 6.5. ALL MANUAL DAMPERS OF 12" DIAMETER OR LESS SHALL BE PROVIDED WITH LOCK-IN QUADRANT HANDLES.

7. THERMAL INSULATION DUCTWORK
 7.1. INSULATION FOR SUPPLY AIR DUCTWORK AND OUTSIDE AIR DUCT SHALL BE AS FOLLOWS:
  7.1.1. CONCEALED ABOVE CEILING SHALL BE 1-1/2" GLASS FIBER FLEXIBLE WITH KRAFT PAPER VAPOR JACKET WITH MINIMUM R-VALUE OF 6 PER IECC 2015.
 7.2. INSULATION: ASTM C553; FLEXIBLE, NONCOMBUSTIBLE BLANKET.
  7.2.1. K VALUE: ASTM C518, 0.25 AT 75 DEGREES F
  7.2.2. MAXIMUM SERVICE TEMPERATURE: 250° F
  7.2.3. MAXIMUM MOISTURE ABSORPTION: 0.20 PERCENT BY VOLUME
  7.2.4. DENSITY: 2.0 LB/CU.FT.
  7.2.5. THICKNESS: 1-1/2"
 7.3. VAPOR BARRIER JACKET
  7.3.1. KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM.
  7.3.2. MOISTURE VAPOR TRANSMISSION: ASTM E96; 0.02 PERM

MECHANICAL LEGEND

AHU	AIR HANDLING UNIT	⊠	SUPPLY AIR GRILLE	1 / M101	SECTION VIEW SYMBOL
CU	CONDENSING UNIT	⊠	RETURN AIR GRILLE	1 / M101	DETAIL DESIGNATION
EA	EXHAUST AIR	⊠	EXHAUST AIR GRILLE	RTU / 1	POWERED EQUIPMENT TAG
FCU	FAN COIL UNIT	M	MOTORIZED CONTROL DAMPER	1	SHEET KEY NOTES
FPB	FAN POWERED BOX	B	BACKDRAFT DAMPER		
RA	RETURN AIR	T	THERMOSTAT		
RTU	ROOF TOP UNIT	H	SPACE HUMIDISTAT		
SA	SUPPLY AIR	CO2	CARBON DIOXIDE SENSOR		
VAV	VARIABLE AIR VOLUME BOX	S	DUCT MOUNTED SMOKE DETECTOR		

AIR HANDLING UNIT

	SUPPLY AIR FAN				COOLING				HEATING				REMARKS
CODE	SERVICE	CFM	SP	HP	EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	TOTAL CAPACITY (MBH)	SENS. CAPACITY (MBH)	EAT (°F)	LAT (°F)	INPUT CAPACITY (BTU/HR)	OUTPUT CAPACITY (BTU/HR)	
AHU-1	LEVELS 1, 2, 3	1800	0.5"	3/4	78 / 65	55 / 55	34.8	28.2	60	90	75,000	60,000	

GENERAL NOTES:
1. FHEEM/RUUD R801T0754A21UHSNAS GAS FURNACE AND RCFZ4821STANMC COOLING COIL OR EQUIVALENT.
2. PROVIDE DRAIN PAN THAT WILL SHUT DOWN AHU IN THE EVENT THAT THE PRIMARY DRAIN BECOMES RESTRICTED.
3. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND AHU.
4. HEATING AND COOLING CAPACITIES ARE AT JOBSITE ALTITUDE.
5. PROVIDE DUCT SMOKE DETECTOR IN THE SUPPLY AIR OF ALL UNITS 2000 CFM OR GREATER.
6. PROVIDE REFRIGERANT PIPING SIZED PER MANUFACTURER'S REQUIREMENTS.
7. PROVIDE SEPARATE CONTROL DAMPERS FOR LEVELS 1 AND 2 WITH DEDICATED SPACE THERMOSTATS.
8. PROVIDE MULTI SPEED FAN EC MOTOR.
9. INSTALL IN UPFLOW CONFIGURATION WITH SIDE AIR RETURN PER MANUFACTURER'S INSTRUCTIONS.
10. REFRIGERANT: 410-A
11. WEIGHT = 140 LBS

CONDENSING UNIT

			ELECTRICAL			
CODE	SERVICE	COOLING CAPACITY	VOLT	PH	MCA	MOCP
CU-1	AHU-1	4 TONS	240	1	24	40

GENERAL NOTES:
1. RHEEM RA14AZ48AJ1NA OR EQUIVALENT
2. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND CU.
3. PROVIDE REFRIGERANT PIPING SIZED PER MANUFACTURER'S REQUIREMENTS.
4. CAPACITY BASED ON 95°F AMBIENT TEMPERATURE.
5. SEER: 14 MINIMUM
6. REFRIGERANT: 410-A
7. WEIGHT = 219 LBS

SUPPLY & RETURN DEVICES

CODE	SERVICE	SIZE	TYPICAL DUCT TAP SIZE
A1	SUPPLY	12"X6"	6" ø
A2	SUPPLY	8"X4"	6" ø
B	RETURN	24"X12"	12" ø

GENERAL NOTES:
1. EVERBILT FOR SUPPLY & RETURN DIFFUSERS, OR EQUIVALENT
2. PROVIDE MERV 8 FILTER WITH RETURN AIR DIFFUSER
3. MATERIAL: STEEL
4. COLOR: WHITE, RE: ARCH

BUILDING VENTILATION CALCS

ROOM	ASSOCIATED	AHU (SF)	NO. OF BEDROOMS	MIN. REQUIRED AIRFLOW (CFM)	PROVIDED AIRFLOW (CFM)
TOWNHOME	AHU-1	< 2500	3	55	60

ENVIRONMENTAL FAN SCHEDULE

CODE	SERVICE	CFM	ESP ("W.C.)
EF-1	EXHAUST	75	0.25

GENERAL NOTES:
1. PANASONIC FV-0811RQ1 OR EQUIVALENT
2. POWER = 21.5 W
3. WEIGHT = 10.4 LBS

2J STUDIO

SEAL:

REGISTERED ARCHITECT JONATHAN AGUIRRE 29468 STATE OF TEXAS

07/08/2024

FOR PERMITTING

07/08/2024

INVEST AS ONE REI

THE PROCTOR PLACE TOWN-HOMES

901 W ABRAM ST, ARLINGTON, TX 76013

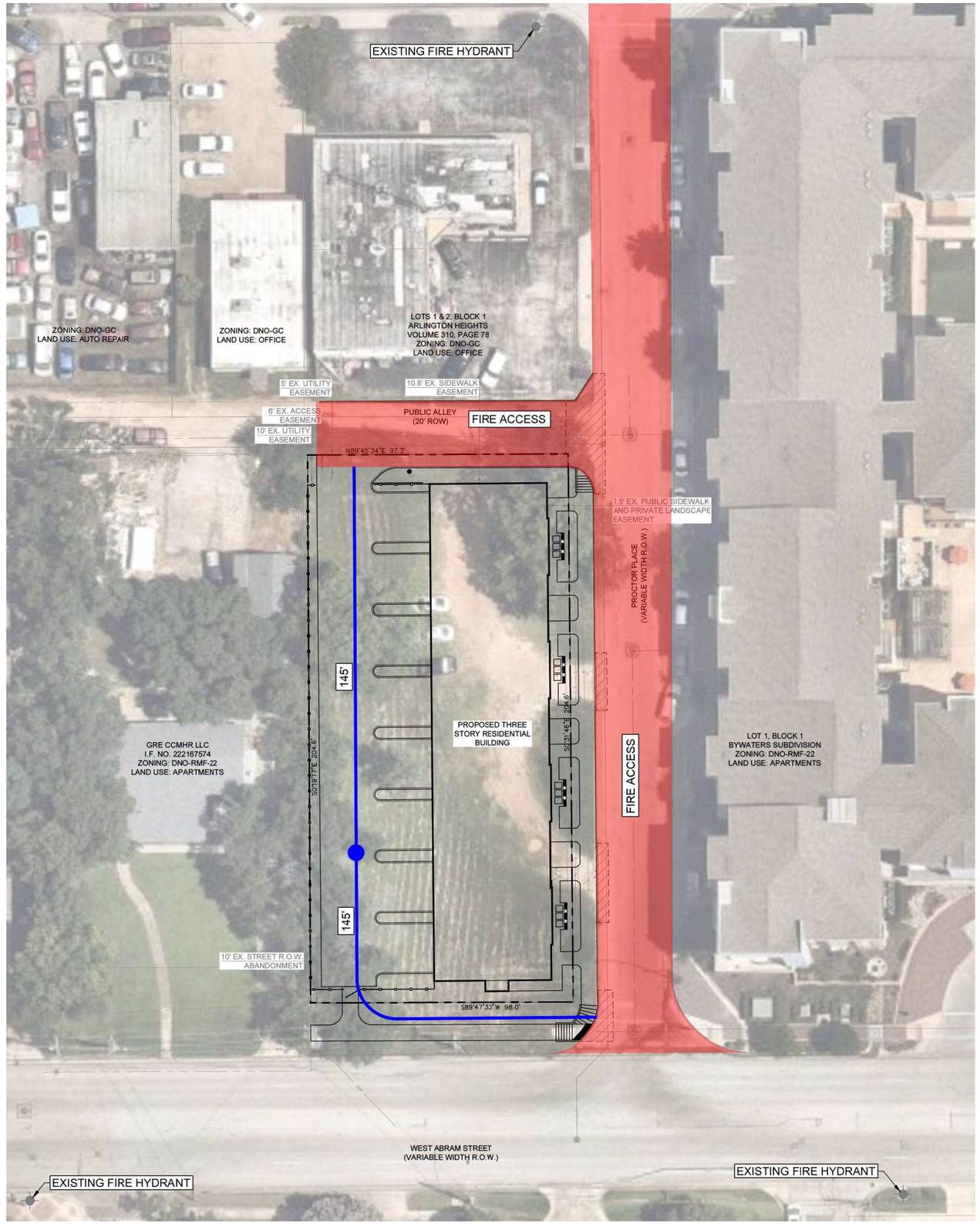
PROJECT NUMBER: 2023.201

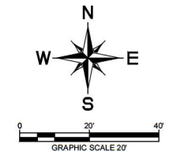
ISSUANCES

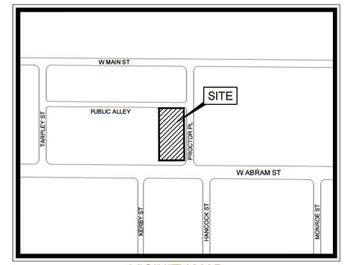
No.	Description	Date

Mechanical Schedules & Specifications

M1.0







VICINITY MAP
SCALE: NTS

SITE SUMMARY	
LOT AREA	0.459 ACRES/19,980 SF
EXISTING / PROPOSED ZONING	DNO-PD-RMF-22
UNIT TYPE	8 - THREE STORY MF UNITS
DENSITY	17 UNITS / ACRE

AREA DATA		
TYPE	AREA (SF)	PERCENT
BUILDING FOOTPRINT	8,228 SF	41%
STREET PAVING	7,480 SF	38%
SIDEWALK	843 SF	4%
OPEN SPACE	3,429 SF	17%

811
Know what's **below.**
Call before you dig.

!!WARNING!!

EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

BENCHMARKS

TBM 1

CITY OF ARLINGTON MONUMENT "D183"

ELEV = 647.59

TBM 2

BOX WITH "X" CUT SET ON THE WEST SIDE ON PROCTOR PLACE AT THE SOUTH CURB RETURN OF THE PUBLIC ALLEY

ELEV = 638.49

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
6160 WARREN PARKWAY, SUITE 210, FRISCO, TX 75034
PHONE: 972-335-3580
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

PRELIMINARY
FOR REVIEW ONLY
Not for construction or permit purposes.
Kimley»Horn
Engineer: MICHAEL R. MOLOIE
P.E. No. 127060 Date: 07/22/2024

KHA PROJECT 068302800	
DATE	JULY 2024
SCALE:	AS SHOWN
DESIGNED BY:	MRM
DRAWN BY:	JTW
CHECKED BY:	TGC

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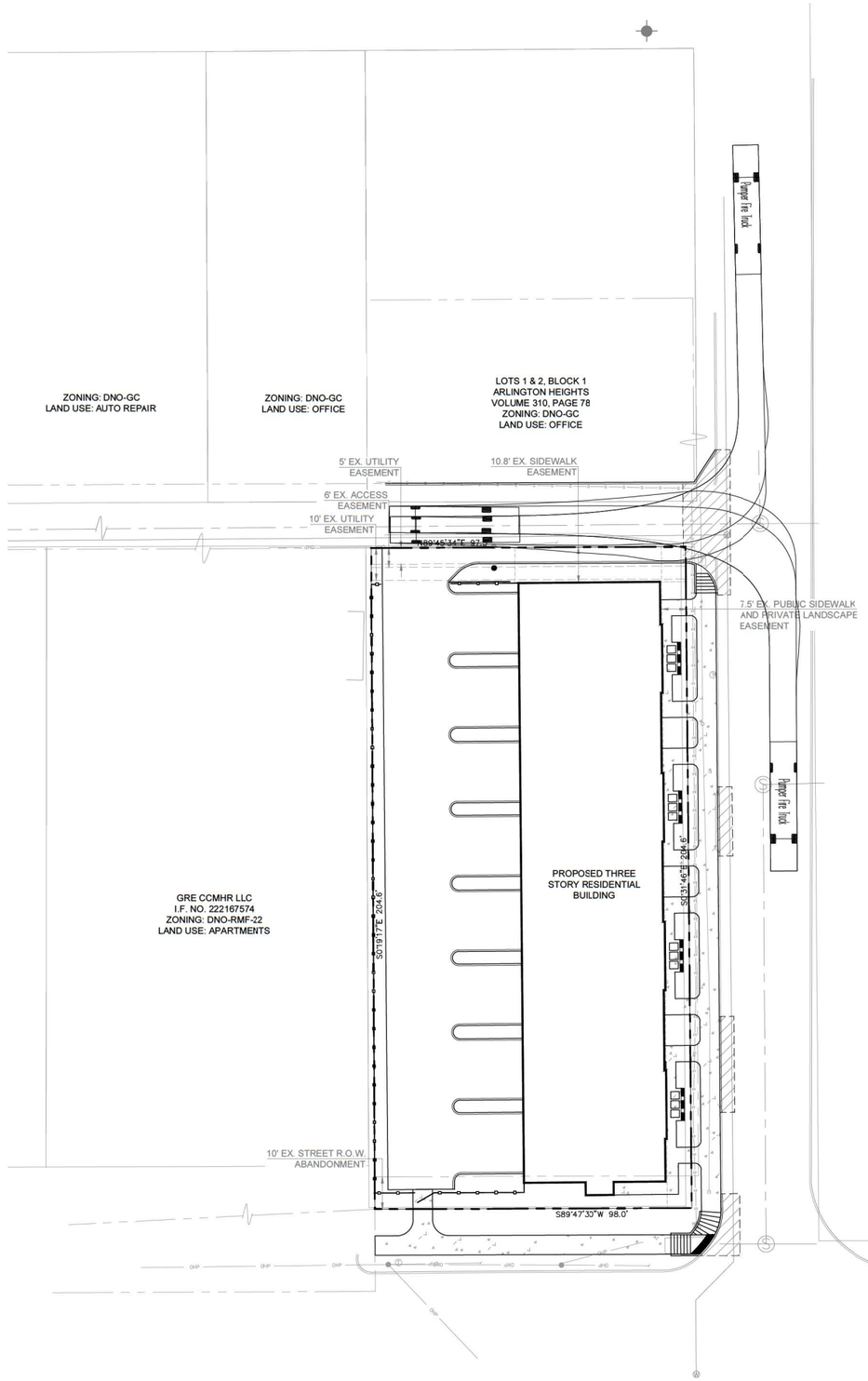
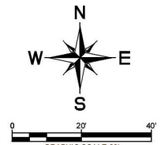
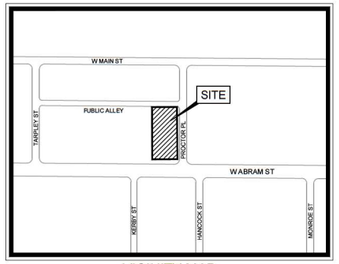
PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
1 OF 1







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KHA PROJECT	068302800
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DESIGNED BY:	MRM
DRAWN BY:	JTW
CHECKED BY:	TGC

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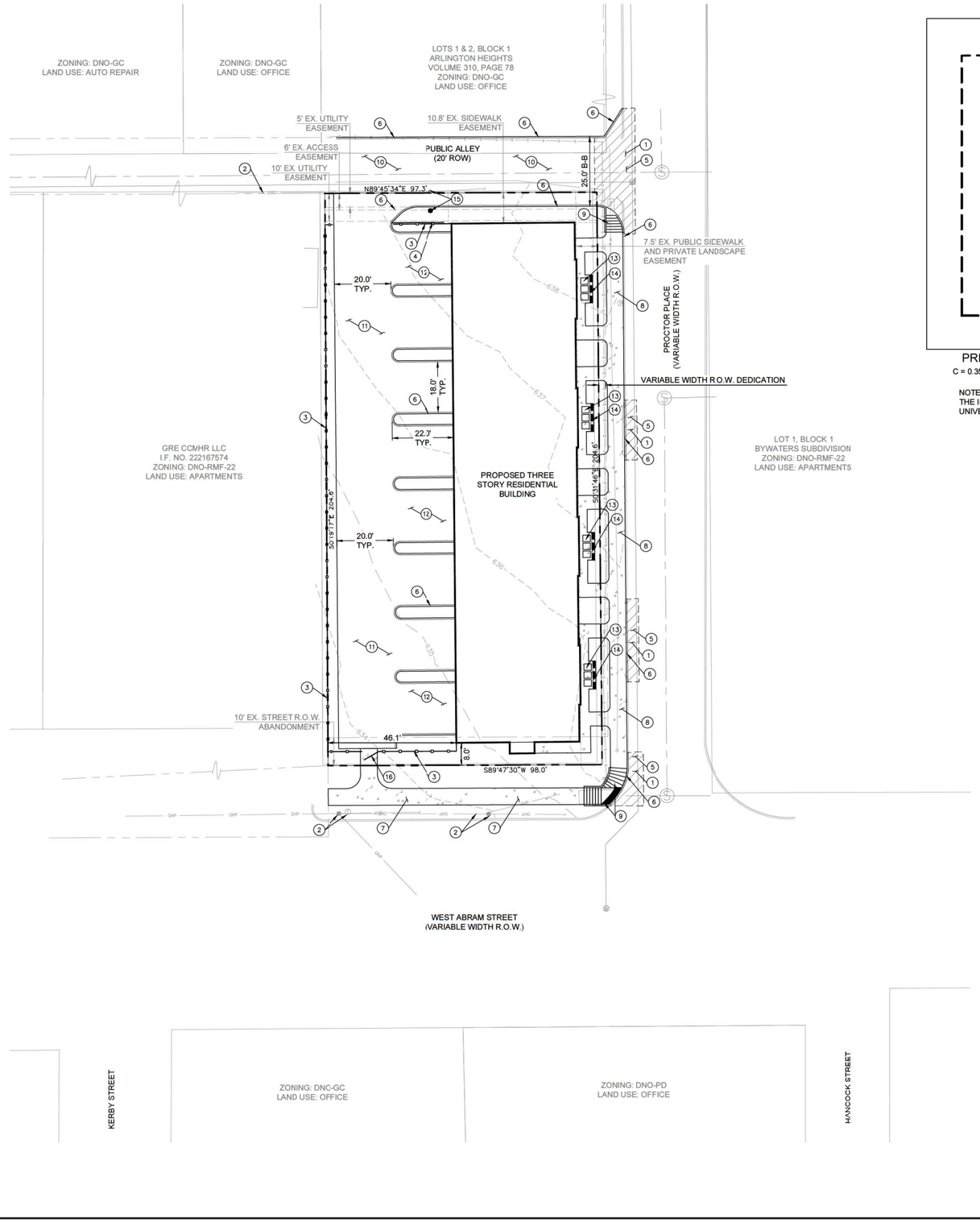
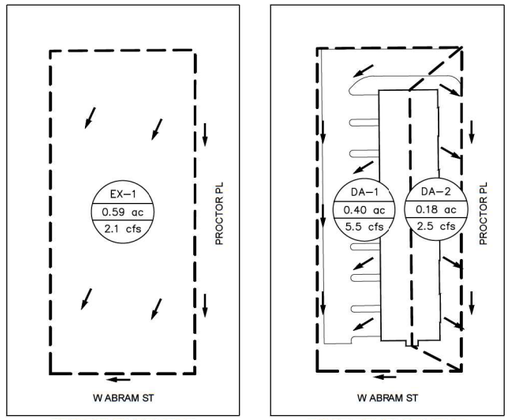
PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
1 OF 1



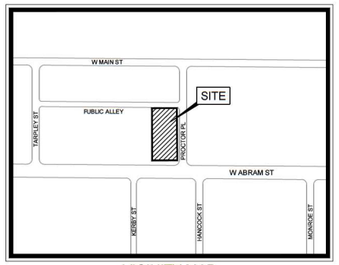
PRELIMINARY DRAINAGE ANALYSIS



PRE-DEVELOPMENT
C = 0.35, TC = 15 MIN, I = 8.02 IN/HR

POST-DEVELOPMENT
C = 0.90, TC = 5 MIN, I = 12.14 IN/HR

NOTE: PRE AND POST DEVELOPMENT FLOW IS INTERCEPTED BY THE STORM INLET AT THE INTERSECTION OF WEST ABRAM STREET AND TARPLEY STREET. SEE PLANS FOR UNIVERSITY CENTRE ON UTA BLVD. FOR FULL DRAINAGE BASIN INFORMATION.



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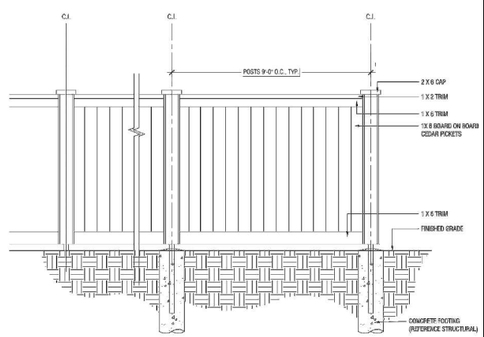
SITE PLAN NOTES

1. SAWCUT EXISTING CONCRETE TO CLEAN NEAT EDGE. REMOVE CONCRETE. MATCH NEW CONCRETE FLUSH WITH EXISTING PAVEMENT.
2. PROTECT EXISTING PAVEMENT / CURB / UTILITY / TREE IN PLACE.
3. CONSTRUCT 8' BOARD ON BOARD FENCE PER DETAIL.
4. CONSTRUCT SLIDING VEHICULAR ACCESS GATE.
5. CONSTRUCT VALLEY GUTTER.
6. CONSTRUCT 6" VERTICAL CURB.
7. CONSTRUCT 5' SIDEWALK.
8. CONSTRUCT 6' SIDEWALK.
9. CONSTRUCT CURB RAMP.
10. CONSTRUCT 24' CONCRETE ALLEY.
11. CONSTRUCT 20' CONCRETE DRIVE.
12. CONSTRUCT CONCRETE DRIVEWAY.
13. TRASH AND RECYCLING RECEPTACLE STORAGE LOCATION.
14. TRASH AND RECYCLING RECEPTACLE SCREEN WALL.
15. RELOCATE EXISTING OVERHEAD UTILITY.
16. PEDESTRIAN ACCESS GATE.

PARKING TABLE	
PARKING REQUIRED (TOWNHOUSE)	16 SPACES (2 PER UNIT)
GARAGE PARKING PROVIDED	16 SPACES
DRIVEWAY PARKING PROVIDED	16 SPACES
TOTAL PARKING PROVIDED	32 SPACES



8'-0" HEIGHT BOARD-ON-BOARD FENCE | A
Scale: NTS

811
Know what's below.
Call before you dig.

!!WARNING!!

EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

BENCHMARKS

TBM 1

CITY OF ARLINGTON MONUMENT "D183"

ELEV = 647.59

TBM 2

BOX WITH "X" CUT SET ON THE WEST SIDE ON PROCTOR PLACE AT THE SOUTH CURB RETURN OF THE PUBLIC ALLEY

ELEV = 638.49

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY–HORN AND ASSOCIATES, INC.
6160 WARREN PARKWAY, SUITE 210, FRISCO, TX 75034
PHONE: 972–335–3580
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F–928

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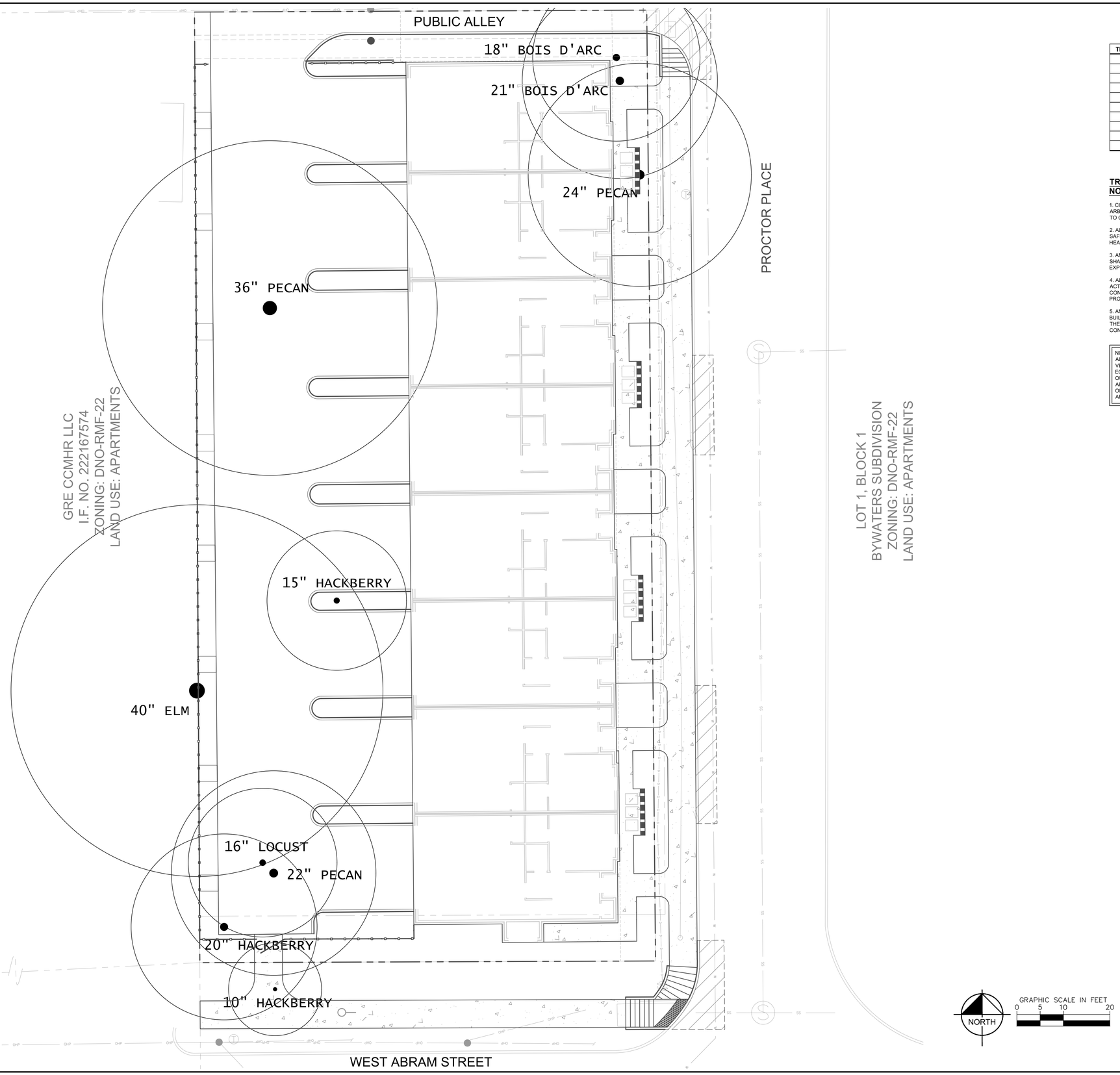
Not for construction or permit purposes.
Kimley»Horn
Engineer MICHAEL R. MOLGE
P.E. No. 127060 Date 08/30/2024

KHA PROJECT 068302800
DATE AUGUST 2024
SCALE AS SHOWN
DESIGNED BY: MRM
DRAWN BY: JTW
CHECKED BY: TGC

SITE PLAN

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
1 OF 1



TREE #	DBH	COMMON NAME	SCIENTIFIC NAME	STATUS
1	18	Bois D' Arc	*Maclura pomifera*	Removed
2	21	Bois D' Arc	*Maclura pomifera*	Removed
3	24	Pecan	*Carya illinoinensis*	Removed
4	36	Pecan	*Carya illinoinensis*	Removed
5	15	Hackberry	*Celtis occidentalis*	Prohibited
6	40	Elm	*Ulmus americana*	Removed
7	16	Honey Locust	*Gleditsia triacanthos*	Prohibited
8	22	Pecan	*Carya illinoinensis*	Removed
9	20	Hackberry	*Celtis occidentalis*	Prohibited
10	10	Hackberry	*Celtis occidentalis*	Prohibited
		Total DBH required	161	

TREE PRESERVATION AND REMOVAL NOTES

1. CONTRACTOR SHALL COORDINATE WITH ISA CERTIFIED ARBORIST AND PROPERTY OWNERS TO VERIFY OBJECTIVES PRIOR TO COMMENCING ANY PRUNING OR TREE REMOVAL ACTIVITIES.

2. ALL CREW MEMBERS SHOULD BE WEARING THE APPROPRIATE SAFETY GEAR: HARD HATS, EYE PROTECTION, APPROVED BOOTS, HEARING PROTECTION, CHAIN SAW CHAPS FOR GROUNDWORK.

3. ANY TREES REMOVED, AND ALL TREE MATERIALS REMOVED SHALL BE REMOVED FROM THE PROPERTY AT THE CONTRACTOR'S EXPENSE.

4. ALL TRASH AND DEBRIS FROM ANY CONSTRUCTION RELATED ACTIVITIES SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE, FOLLOWING COMPLETION OF THE PROJECT.

5. ANY DAMAGE TO THE EXISTING LANDSCAPE, PAVEMENT, BUILDING, OR ANY OTHER SITE FEATURES SHALL BE REPLACED BY THE CONTRACTOR AND/OR RESTORED TO PRE-CONSTRUCTION CONDITION.

NOTE:
ALL TREES ARE TO BE PROTECTED FROM DAMAGE. NO VEHICULAR PARKING, STORAGE OF MATERIALS OR EQUIPMENT , CLEANING OF EQUIPMENT, EQUIPMENT WASH OUT OR ANY OTHER ACTION WHICH MAY CAUSE AN ADVERSE AFFECT ON EXISTING OR FUTURE PLANTING IS TO OCCUR IN OR AROUND TREES IN LANDSCAPE AREAS WHICH MAY BE AFFECTED.

No.	REVISIONS	DATE	BY

Kimley»Horn
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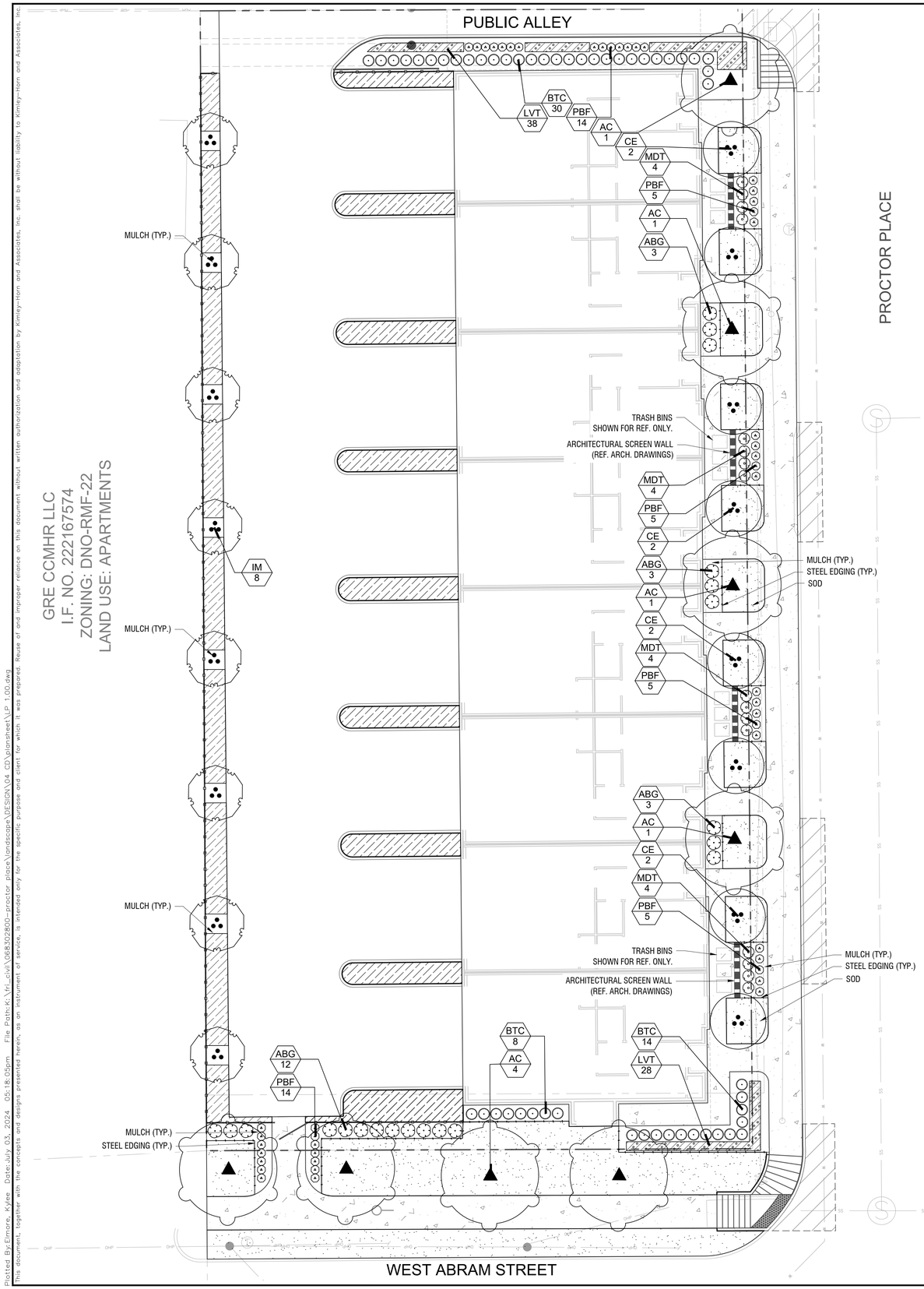
Kimley»Horn
P.L.A. ____ NIKOLAUS B. ADAMS
L.A. No. 3404 Date 7/30/2024

KHA PROJECT	068302800
DATE	APRIL 2024
SCALE:	AS SHOWN
DESIGNED BY:	KAE
DRAWN BY:	KAE
CHECKED BY:	NBA

TREE MITIGATION PLAN

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
LT 1.01



GRE CCMHR LLC
I.F. NO. 222167574
ZONING: DNO-RMF-22
LAND USE: APARTMENTS

LOT 1, BLOCK 1
BYWATERS SUBDIVISION
ZONING: DNO-RMF-22
LAND USE: APARTMENTS

CITY OF ARLINGTON LANDSCAPE REQUIREMENTS		
LANDSCAPE SETBACK (5.2.2.B)	**REQUIRED**	**PROVIDED**
BUFFER WIDTH	10 FT	10 FT
TREE REQUIREMENT	**REQUIRED**	**PROVIDED**
WEST ABRAM STREET: 106 LF / 40 LF = 3 TREES	3 TREES	3 TREES*
PROCTOR PLACE: 222 LF / 40 LF = 6 TREES	6 TREES	6 TREES
PUBLIC ALLEY: 107 LF / 40 LF = 3 TREES	3 TREES	3 TREES
LANDSCAPE PLANT REQUIREMENT	**REQUIRED**	**PROVIDED**
WEST ABRAM STREET: 106 LF / 50 LF * 10 SHRUBS = 22 SHRUBS	22 SHRUBS	22 SHRUBS
PROCTOR PLACE: 222 LF / 50 LF * 10 SHRUBS = 45 SHRUBS	45 SHRUBS	45 SHRUBS
PUBLIC ALLEY: 107 LF / 50 LF * 10 SHRUBS = 22 SHRUBS	22 SHRUBS	22 SHRUBS
EVBERGREEN SHRUBS	**REQUIRED**	**PROVIDED**
50% OF OF THE PLANTS IN THE LANDSCAPE SETBACK SHALL BE EVERGREEN SHRUBS.	50%	83%
DROUGHT-TOLERANT PLANTS	**REQUIRED**	**PROVIDED**
25% OF ALL REQUIRED TREES SHALL BE DROUGHT-TOLERANT	25%	100%
25% OF ALL REQUIRED SHRUBS SHALL BE	25%	100%
GRASS COVERAGE LIMIT	**REQUIRED**	**PROVIDED**
MAXIMUM AMOUNT OF GRASS COVER IN LANDSCAPE SETBACK	50%	25%

*TREES LOCATED ELSEWHERE ON SITE DUE TO SITE CONSTRAINTS AND UTILITIES CONFLICT.

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SPECIFICATIONS	REMARKS
TREES					
	AC	**8**	**Acer saccharum caddo / Caddo Sugar Maple**	**3" cal, 14` ht, 6`-8` spr**	**Full, Straight, Single Leader**
ORNAMENTAL TREE					
	CE	**8**	**Cercis canadensis texensis / Texas Redbud**	**3" cal, 10` ht, 4` spr**	**Full, Single Straight Trunk**
	IM	**8**	**Ilex vomitoria / Yaupon Holly**	**3" cal, 8` ht, 4` spr**	**Full, Multi-Trunk**
SHRUBS					
	ABG	**21**	**Abelia x grandiflora / Glossy Abelia**	**18" ht, 18" spr, 30" oc**	**Full**
	BTC	**52**	**Berberis thunbergii `Crimson Pygmy` / Crimson Pygmy Japanese Barberry**	**12" ht, 12" spr, 24" oc**	**Full**
	MDT	**16**	**Malvaviscus drummondii / Turk`s Cap**	**1 gal., 8" - 10" ht**	**Full**
GRASSES					
	PBF	**48**	**Pennisetum alopecuroides `Little Bunny` / Little Bunny Fountain Grass**	**12" ht, 24" oc**	**Full**
GROUND COVERS					
	A5	**2,168 sf**	**Artificial Turf - - / -**	**15`-25` CT**	
	SOD	**2,101 sf**	**Cynodon dactlyon / Common Bermuda**	**N/A**	**Sod to have tight, sand filled joints and be free of weeds.**
	LVT	**71**	**Liriope muscari `Variegata` / Variegated Lily Turf**	**12" ht, 12" spr, 18" oc**	**Full, 1 gallon min.**

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN THE CASE OF A DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

NOTE: PLANTS ARE SPECIFIED BY HEIGHT AND SPREAD, NOT CONTAINER SIZE. ALL PLANTINGS ARE EXPECTED TO MEET ALL SPECIFICATIONS PROVIDED.

PLANTING NOTES

1. ALL PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES AND SHALL MEET ALL STANDARDS AS STATED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
2. NO SUBSTITUTIONS IN PLANT MATERIALS SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION FROM OWNER OR LANDSCAPE ARCHITECT. IN THE EVENT OF DISCREPANCIES BETWEEN THE DRAWING AND THE PLANT LIST, THE DRAWING SHALL PREVAIL.
3. LOCATE ALL UTILITIES PRIOR TO ANY DIGGING OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO EXISTING UTILITIES INCURRED BY HIS WORK.
4. REFERENCE IRRIGATION PLAN FOR BED IRRIGATION INFORMATION.
5. STAKING AND GUYING ALTERNATIVES: METHODS INDICATED IN DRAWING DETAILS ARE PREFERRED. CONTRACTOR MAY SUGGEST ALTERNATE METHODS, ASSUMING FULL RESPONSIBILITY FOR THEIR IMPLEMENTATION. CONTRACTOR SHALL REPLACE, PLANT, OR UPRIGHT ANY TREES BLOWN OVER OR DAMAGED DUE TO INADEQUATE STAKING AT NO ADDITIONAL COST TO THE OWNER.
6. PLANTS MASSED IN BEDS SHALL BE ARRANGED USING TRIANGULAR SPACING.
7. PROVIDE A STEEL EDGE OR CONCRETE MOW STRIP BETWEEN ALL PLANTING BEDS AND LAWN AREAS. REFERENCE SITE PLAN.
8. ALL PLANTING BEDS TO BE TOP DRESSED WITH A MINIMUM OF 3" SHREDDED HARDWOOD MULCH, UNLESS OTHERWISE SPECIFIED.
9. PROVIDE GRASS SEEDING OR LAY BERMUDA SOD FOR PROPOSED LAWN AREAS TO ALL EDGES OF PAVEMENT AND/ OR LIMITS OF DISTURBANCE OUTSIDE R.O.W. OR PROPOSED LANDSCAPE EASEMENT. PROVIDE IRRIGATION AS NECESSARY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPING UNTIL FINAL ACCEPTANCE. ALL REQUIRED LANDSCAPING SHALL BE MAINTAINED IN A NEAT AND ORDERLY MANNER AT ALL TIMES. THE WORK SHALL INCLUDE, BUT NOT TO BE LIMITED TO, MOWING, EDGING, PRUNING, FERTILIZING, WATERING, WEEDING, AND OTHER SUCH ACTIVITIES COMMON TO THE MAINTENANCE OF LANDSCAPING. ALL PLANT MATERIALS SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AS IS APPROPRIATE FOR THE SEASON OF THE YEAR. PLANT MATERIAL THAT DIES SHALL BE REPLACED WITH THE PLANT MATERIAL OF SIMILAR SIZE AND VARIETY.
11. CONTRACTOR SHALL WARRANTY PLANT MATERIAL TO REMAIN ALIVE AND HEALTHY FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE. WARRANTY SHALL NOT INCLUDE DAMAGE FOR LOSS OF PLANT MATERIAL DUE TO NATURAL CAUSES, ACTS OF VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
12. ALL DISTURBED AREAS WITHIN LIMITS OF CONSTRUCTION NOT CALLED TO BE SODDED, SHALL BE REESTABLISHED WITH BERMUDA SOD AND IRRIGATED.
13. ALL LANDSCAPE BEDS TO HAVE TOPSOIL/BEDDING MIX THAT MEETS LANDSCAPE SPECIFICATIONS. INSTALL TO DEPTHS, PER PLANTING DETAILS (12" DEPTH MIN.) FINISHED GRADES OF PLANTING BEDS TO BE 2" BELOW FINISHED GRADE OF ADJACENT PAVING OR AS SHOWN ON GRADING PLAN.
14. ALL SOD AREAS TO RECEIVE 4" DEPTH (MIN) TOPSOIL PRIOR TO INSTALLATION. TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, pH RANGE OF 5.5-7.4, AND FREE OF TRASH, DEBRIS, STONES, WEEDS, AND TWIGS/BRANCHES.
15. ALL DISTURBED AREAS IN R.O.W. TO BE RE-ESTABLISHED WITH BERMUDA SEED OR SOD AND IRRIGATED UNLESS OTHERWISE SHOWN ON PLANS.
16. ALL TREES TO BE PLACED A MINIMUM OF 4' FROM ANY UTILITY.

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

No.	REVISIONS	DATE	BY

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Kimley»Horn
P.L.A. ____ NIKOLAUS B. ADAMS
L.A. No. ____ 3454 Date ____ 7/3/2024

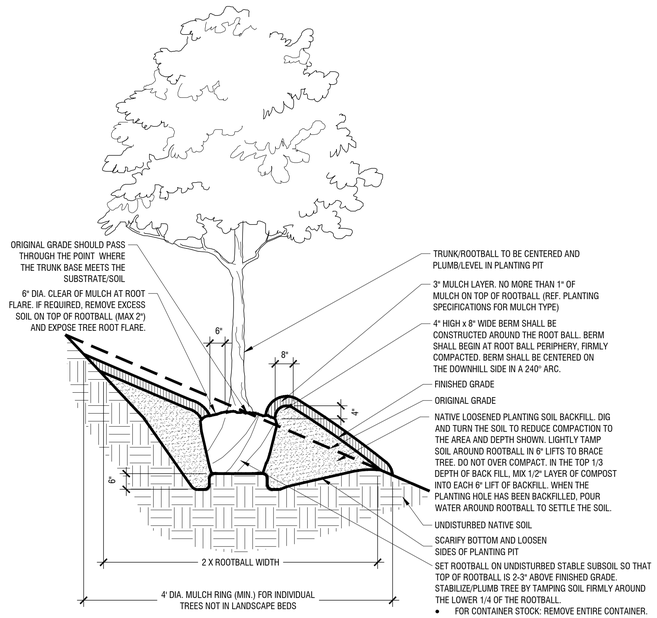
KHA PROJECT 068302800
DATE APRIL 2024
SCALE: AS SHOWN
DESIGNED BY: KAE
DRAWN BY: KAE
CHECKED BY: NBA

LANDSCAPE PLAN

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

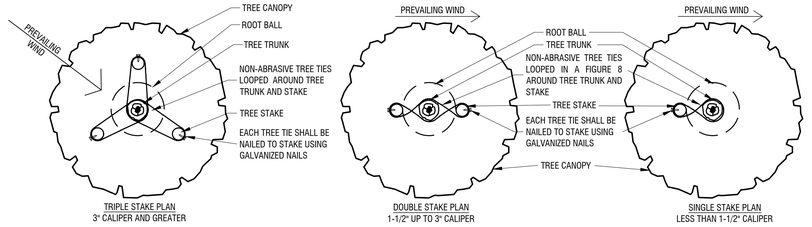
SHEET NUMBER
LP 1.01

NOTES:
1. REF. PLANTING AND PLANTING SOIL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REF. TREE STAKING DETAIL THIS SHEET.

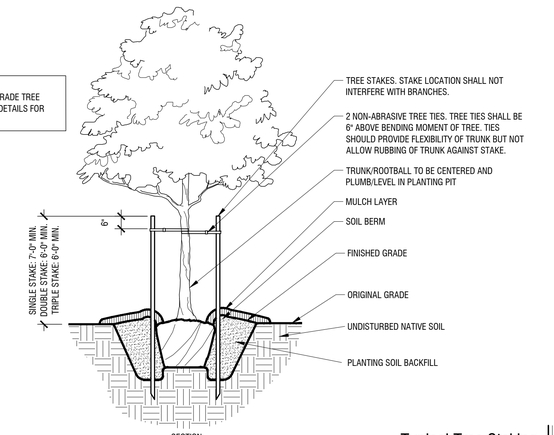


Tree Planting On 5-25% Slopes (20:1 to 4:1 Slopes) **D**

Scale: NTS



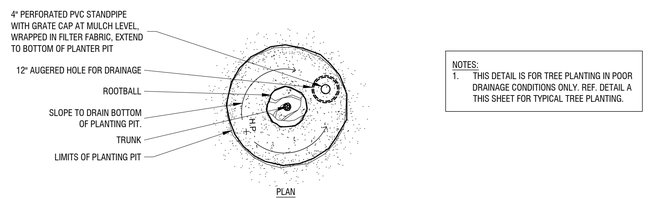
NOTES:
1. THIS DETAIL IS FOR ABOVE GRADE TREE STAKING ONLY. REF. OTHER DETAILS FOR TYPICAL TREE PLANTING.



SECTION

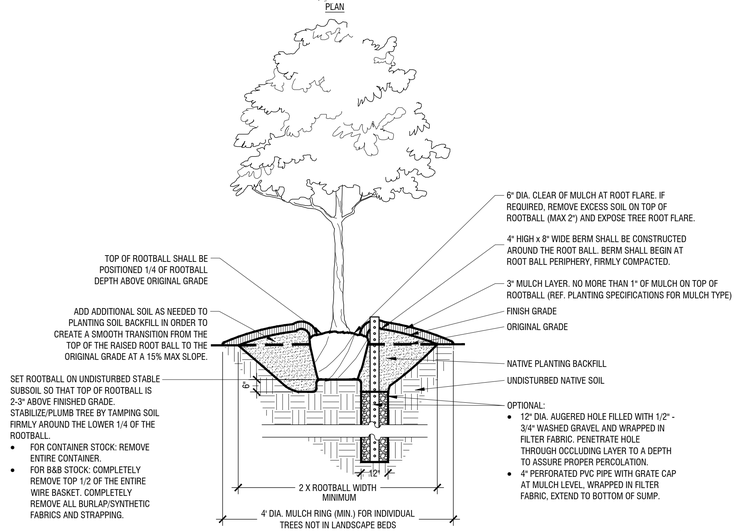
Typical Tree Staking **B**

Scale: NTS



PLAN

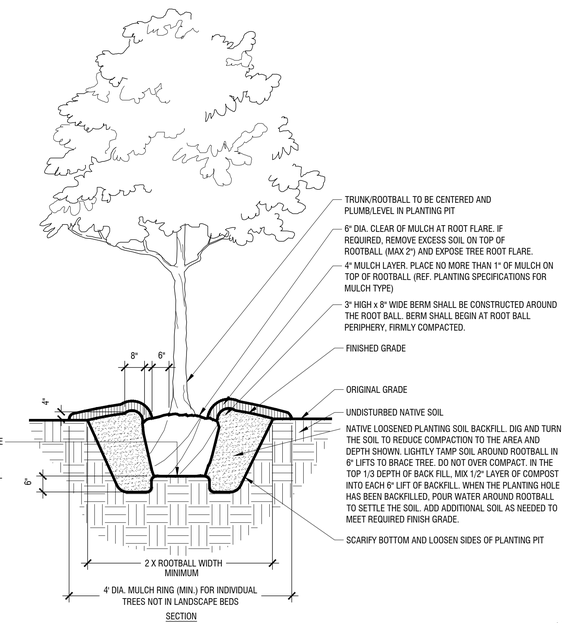
NOTES:
1. THIS DETAIL IS FOR TREE PLANTING IN POOR DRAINAGE CONDITIONS ONLY. REF. DETAIL A THIS SHEET FOR TYPICAL TREE PLANTING.



SECTION

Tree Planting (Poor Drainage Condition) **C**

Scale: NTS



SECTION

Typical Tree Planting (Up to 3" Caliper) **A**

Scale: NTS

No.	REVISIONS	DATE	BY

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P.L.A. ____ NIKOLAUS B. ADAMS
L.A. No. 3404 Date 7/3/2024

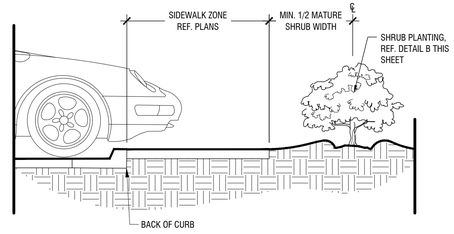
KHA PROJECT 068302800
DATE APRIL 2024
SCALE: AS SHOWN
DESIGNED BY: KAE
DRAWN BY: KAE
CHECKED BY: NBA

PLANTING DETAILS

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

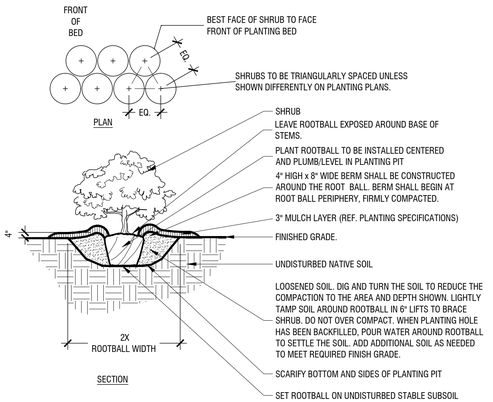
SHEET NUMBER
LP 3.01

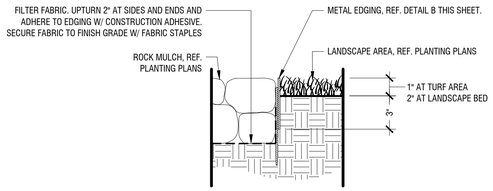
NOTES:
1. REF. PLANTING AND PLANTING SOIL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REF. PLANTING SCHEDULE AND PLANTING PLANS FOR SPACING/LAYOUT
3. WHEN SHRUBS ARE MASSED TOGETHER WITH GROUNDCOVER BEDS, ALL SOIL IN BED TO BE AMENDED. (REF. PLANTING SPECIFICATIONS)



Shrub Planting at Sidewalk | F

Scale: NTS

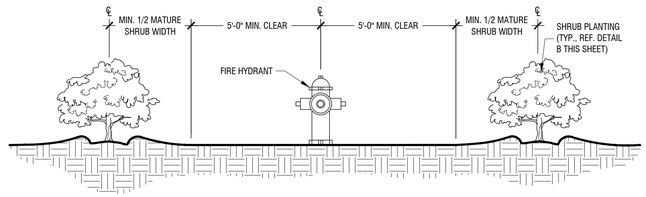




NOTES
1. EDGING SHALL NOT BE INSTALLED ADJACENT TO SIDEWALKS.
2. WHERE EDGING TERMINATES AT A SIDEWALK, BEVEL OR RECESS ENDS TO PREVENT TRIP HAZARDS.

METAL EDGING (AT ROCK COBBLE BED) | J

Scale: 1 1/2" = 1'-0"

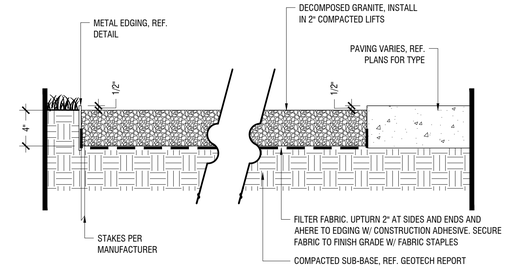


Shrub Planting at Fire Hydrant | E

Scale: NTS

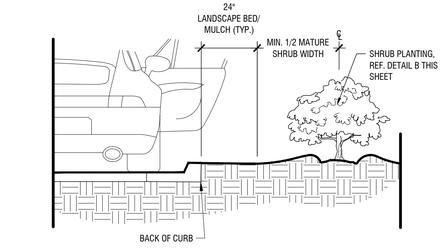
Typical Shrub Planting | B

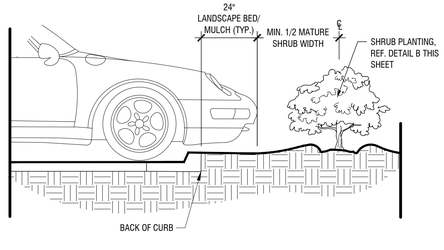
Scale: NTS



Decomposed Granite | I

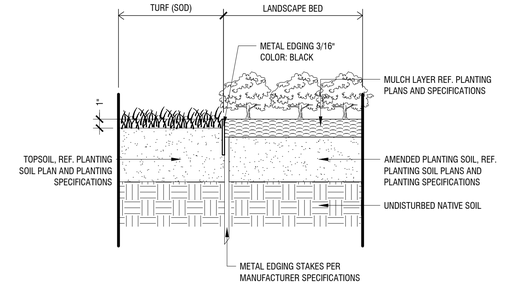
Scale: 1 1/2"=1'-0"





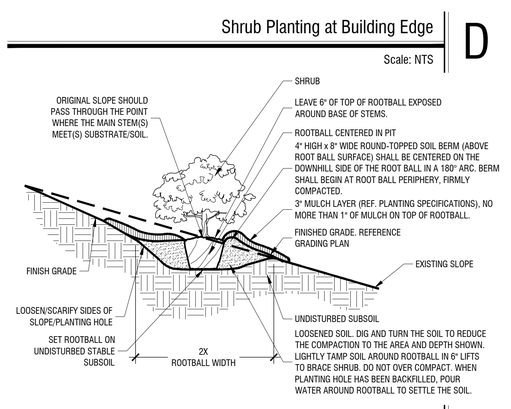
Shrub Planting at Curb | G

Scale: NTS



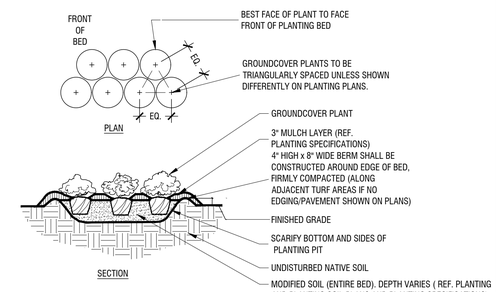
METAL EDGING (AT TURF & LANDSCAPE BED) | H

Scale: 1 1/2" = 1'-0"



Shrub Planting at Building Edge | D

Scale: NTS



Shrub Planting On 5-50% (20:1 TO 2:1) Slope | C

Scale: NTS

Typical Groundcover Planting | A

Scale: NTS

No.	REVISIONS	DATE	BY

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P.L.A. NIKOLAUS B. ADAMS
L.A. No. 3404 Date 7/3/2024

KHA PROJECT 068302800
DATE APRIL 2024
SCALE: AS SHOWN
DESIGNED BY: KAE
DRAWN BY: KAE
CHECKED BY: NBA

LANDSCAPE DETAILS

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
LP 3.02

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SPECIFICATIONS	REMARKS
TREES					
	AC	**8**	**Acer saccharum caddo / Caddo Sugar Maple**	**3" cal, 14` ht, 6`-8` spr**	**Full, Straight, Single Leader**
ORNAMENTAL TREE					
	CE	**8**	**Cercis canadensis texensis / Texas Redbud**	**3" cal, 10` ht, 4` spr**	**Full, Single Straight Trunk**
	IM	**8**	**Ilex vomitoria / Yaupon Holly**	**3" cal, 8` ht, 4` spr**	**Full, Multi-Trunk**
SHRUBS					
	ABG	**21**	**Abelia x grandiflora / Glossy Abelia**	**18" ht, 18" spr, 30" oc**	**Full**
	BTC	**52**	**Berberis thunbergii `Crimson Pygmy` / Crimson Pygmy Japanese Barberry**	**12" ht, 12" spr, 24" oc**	**Full**
	MDT	**16**	**Malvaviscus drummondii / Turk`s Cap**	**1 gal., 8" - 10" ht**	**Full**
GRASSES					
	PBF	**48**	**Pennisetum alopecuroides `Little Bunny` / Little Bunny Fountain Grass**	**12" ht, 24" oc**	**Full**
GROUND COVERS					
	A5	**2,168 sf**	**Artificial Turf - - / -**	**15`-25` CT**	
	SOD	**2,101 sf**	**Cynodon dactlyon / Common Bermuda**	**N/A**	**Sod to have tight, sand filled joints and be free of weeds.**
	LVT	**71**	**Liriope muscari `Variegata` / Variegated Lily Turf**	**12" ht, 12" spr, 18" oc**	**Full, 1 gallon min.**

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN THE CASE OF A DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

NOTE: PLANTS ARE SPECIFIED BY HEIGHT AND SPREAD, NOT CONTAINER SIZE. ALL PLANTINGS ARE EXPECTED TO MEET ALL SPECIFICATIONS PROVIDED.

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL PLANTING AREAS OF THIS CONTRACT UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, AND OTHER ITEMS OF CONSTRUCTION AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THIS CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS OPERATION OF EQUIPMENT, STOCKPILING OF MATERIALS, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE OR THE SPILLING OF OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE THE HEAT WILL DAMAGE ANY PLANT. TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS ($100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PER CENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL

SAMPLES OF MATERIALS AS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON APPROVAL OF SAMPLES, DELIVERY OF MATERIALS MAY BEGIN.

MATERIALS	SAMPLES
MULCH	ONE (1) CUBIC FOOT
TOPSOIL	ONE (1) CUBIC YARD
PLANTS	ONE (1) OF EACH VARIETY

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS AS STATED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE OWNER.

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. TOPSOIL

1. ASTM D5268, NATURAL, FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY THAT PRODUCES HEAVY GROWTH. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 7.4 PERCENT, FREE FROM SUBSOIL, OBJECTIONABLE WEEDS, LITTER, SODS, STIFF CLAY, STONES LARGER THAN 1-INCH IN DIAMETER, STUMPS, ROOTS, TRASH, HERBICIDES, TOXIC SUBSTANCES, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH OR HINDER PLANTING OPERATIONS. TOP SOIL SHALL CONTAIN A MINIMUM OF THREE PERCENT ORGANIC MATERIAL.
2. SALVAGED OR EXISTING TOPSOIL: REUSE SUITABLE TOPSOIL STOCKPILED ON-SITE OR EXISTING TOPSOIL UNDISTURBED BY GRADING OR EXCAVATION OPERATIONS. CLEAN TOPSOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
3. VERIFY AMOUNT OF SUITABLE TOPSOIL STOCKPILED IF ANY, AND SUPPLY ADDITIONAL IMPORTED TOPSOIL AS NEEDED. FOUR (4) INCHES OF TOPSOIL TO BE PROVIDED FOR ALL TURF AREAS. TWENTY FOUR (24) INCHES OF TOPSOIL TO BE PROVIDED FOR ALL PLANTING AREAS WITHIN INTERIOR LANDSCAPE ISLANDS AND FOUNDATION PLANTINGS. FOR ALL OTHER PLANTING AREAS, TWELVE (12) INCHES OF TOPSOIL MINIMUM TO BE PROVIDED.
4. IMPORTED TOPSOIL: SUPPLEMENT SALVAGED TOPSOIL WITH IMPORTED TOPSOIL FROM OFF-SITE SOURCES WHEN EXISTING QUANTITIES ARE INSUFFICIENT.
5. OBTAIN TOPSOIL DISPLACED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 6 INCHES DEEP; DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, OR MARSHES.
6. VERIFY BORROW AND DISPOSAL SITES ARE PERMITTED AS REQUIRED BY STATE AND LOCAL REGULATIONS. OBTAIN WRITTEN CONFIRMATION THAT PERMITS ARE CURRENT AND ACTIVE.
7. OBTAIN PERMITS REQUIRED BY STATE AND LOCAL REGULATIONS FOR TRANSPORTING TOPSOIL. PERMITS SHALL BE CURRENT AND ACTIVE.
8. AMEND EXISTING AND IMPORTED TOPSOIL AS INDICATED BELOW.
   a. ORGANIC SOIL AMENDMENTS
      1. MANURE: WELL-ROTTED, UNLEACHED, STABLE OR CATTLE MANURE CONTAINING NOT MORE THAN 25 PERCENT BY VOLUME OF STRAW, SAWDUST, OR OTHER BEDDING MATERIALS; FREE OF TOXIC SUBSTANCES, STONES, STICKS, SOIL, WEED SEED, AND MATERIAL HARMFUL TO PLANT GROWTH.
      2. BACK TO NATURE COTTON BURR COMPOST OR APPROVED EQUIVALENT.
      3. COMPOST: DECOMPOSED ORGANIC MATERIAL INCLUDING LEAF LITTER, MANURE, SAWDUST, PLANT TRIMMINGS AND/OR HAY, MIXED WITH SOIL.
      4. PECAN HULLS: COMPOSTED PECAN HULLS FOR LOCAL SOURCE.
      5. BIOSOLIDS: USE GRADE 1 CONTAINING LOWER PATHOGEN LEVELS.
      6. WORM CASTINGS: EARTHWORMS.
   b. INORGANIC SOIL AMENDMENTS
      1. LIME: ASTM C602, CLASS O AGRICULTURAL LIMESTONE CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT WITH A MINIMUM OF 95 PERCENT PASSING NO. 8 SIEVE AND MINIMUM OF 55 PERCENT PASSING NO. 60 SIEVE.
      2. SULFUR: GRANULAR, BIODEGRADABLE, CONTAINING A MINIMUM OF 90 PERCENT SULFUR, WITH A MINIMUM OF 99 PERCENT PASSING NO. 6 SIEVE AND A MAXIMUM OF 10 PERCENT PASSING NO. 40 SIEVE.
      3. IRON SULFATE: GRANULATED FERROUS SULFATE CONTAINING A MINIMUM OF 20 PERCENT IRON AND 10 PERCENT SULFUR.
      4. AGRICULTURAL GYPSUM: FINELY GROUND, CONTAINING A MINIMUM OF 90 PERCENT CALCIUM SULFATE.
      5. SAND: CLEAN, WASHED, NATURAL OR MANUFACTURED, FREE OF TOXIC MATERIALS.
   c. PLANTING SOIL MIX
      1. PLANTING MIX MAY BE PROVIDED BY LIVING EARTH OR MINICK MATERIALS OR APPROVED EQUAL.
      2. PLANTING MEDIUM CONTAINING 75 PERCENT SPECIFIED TOPSOIL MIXED WITH 15 PERCENT ORGANIC SOIL AMENDMENTS AND 10 PERCENT SHARP WASHED SAND. INSTALL TO DEPTHS, PER PLANTING DETAILS (12" MIN.) FINISHED GRADES OF PLANTING BEDS TO BE 2" BELOW FINISHED GRADE OF ADJACENT PAVING OR AS SHOWN ON GRADING PLAN.

      2. SOD/SEED AREA TOPSOIL
      ALL SOD AREAS TO RECEIVE 4" DEPTH (MIN) TOPSOIL PRIOR TO INSTALLATION. TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, WITH 25% (MIN.) ORGANIC MATERIAL, AND FREE OF TRASH, DEBRIS, STONES, WEEDS, AND TWIGS/BRANCHES. THE PARTICLE SIZES SHALL BE SUCH THAT 98.5% OF THE TOPSOIL WILL PASS THROUGH A 1/2 INCH SCREEN, AND 99% MORE SHALL PASS THROUGH A 3/4 INCH SCREEN. TOPSOIL SHALL BE REVIEWED/APPROVED BY OWNER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. CONTRACTOR TO SUBMIT SAMPLES IN 1 GAL (MIN.) CONTAINER.

I. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE GROWTH OF PLANTS AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SUCH SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

J. COMMERCIAL FERTILIZER

COMMERCIAL FERTILIZER SHALL BE A COMPLETE FORMULA; IT SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED STATEMENT OF ANALYSIS.

FIFTY PERCENT (50%) OF THE NITROGEN SHALL BE DERIVED FROM NATURAL ORGANIC SOURCES. THE FOLLOWING FERTILIZERS SHALL BE USED AND APPLIED AT RATES AS SUGGESTED BY MANUFACTURER'S SPECIFICATIONS:

1. SHRUBS AND TREES - MILORGANITE, OR APPROVED EQUAL
2. ANNUALS AND GROUNDCOVERS - OSMOCOTE/SIERRA BLEND 14-14-14
3. SOD - 8-8-8 FERTILIZER

IN ADDITION TO SURFACE APPLIED FERTILIZERS, ALL CONTAINER GROWN AND FIELD GROWN PLANT MATERIAL SHALL RECEIVE "AGRIFORM" PLANTING TABLETS 24-10-5 FORMULA, 21 GRAM OR EQUAL. THESE TABLETS SHALL BE PLACED AT A DEPTH OF ROOT BALL AT THE RATE AS SPECIFIED BY MANUFACTURER.

K. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF 3 INCHES. SEE PLANT LIST FOR TYPE OF MATERIAL AND GRADE.

L. DIGGING AND HANDLING

1. PROTECT ROOTS OR BALLS OF PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT BREAKAGE AND DRYING OUT DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTI-TRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. THE ROOTS SHALL NOT BE CUT WITHIN THE MINIMUM SPREAD SPECIFIED IN THE PLANT LIST. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT IN MOVING AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE DONE USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

M. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. PLANT ROOTS BOUND IN CONTAINERS SHALL NOT BE ACCEPTABLE.

4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE OWNER AND LANDSCAPE ARCHITECT.

N. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED ON THE PLANT LIST SCHEDULE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

O. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY REESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

P. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE BIDDERS TAKE OFF AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO THE SUBMISSIONS OF BIDS. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE

Q. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE LANDSCAPE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS.

R. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN UP WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER LINES, CABLE AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES.

3. SUBGRADE EXCAVATION: SITE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". SITE CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY SITE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, LANDSCAPE CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT OR OWNER.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. PLANTS SHALL BE PROTECTED UPON ARRIVAL AT THE SITE BY BEING THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS SHALL NOT REMAIN UNPROTECTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE THE PLANTING WITH THE IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION ITEMS AND PLANTS.

7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL AS SPECIFIED HEREIN BEFORE (SECTION H). TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE PLANTING DETAIL THAT ADDRESSES THIS CONDITION. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURE AND UNDER THE SUPERVISION OF A QUALIFIED PLANTING FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION H OF THESE SPECIFICATIONS. IN ADDITION, EACH PLANTING PIT SHALL RECEIVE 21-GRAM "AGRIFORM" PLANTING TABLETS PER MANUFACTURER'S SPECIFICATIONS OR AS FOLLOWS:

- TWO (2) TABLETS PER 1 GAL. PLANT
- THREE (3) TABLETS PER 3 GAL. PLANT
- FOUR (4) TABLETS PER 10 GAL. PLANT
- LARGER MATERIAL - TWO (2) TABLETS PER 1/2" OF TRUNK CALIPER

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AND AT SUCH A LEVEL THAT AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED AND THOROUGHLY TAMPED AROUND THE BALL AND SHALL BE SETTLED BY WATER AFTER TAMPING.

11. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

12. PRUNING: EACH TREE SHALL BE PRUNED TO PRESERVE THE NATURAL CHARACTER OF THE PLANT AS SHOWN ON THE DRAWINGS. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT.

13. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. TILL INTO TOP 4" THE PLANTING SOIL MIX AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

14. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE LANDSCAPE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE LANDSCAPE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OF THEIR INTENTIONS AND AGREE TO HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT ANY TREES FALL DOWN AND DAMAGE PERSON OR PROPERTY.

15. MULCHING: PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER AND VINE BED AND TREE PIT.

16. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER.

S. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A GRASS LAWN ACCEPTABLE TO THE OWNER.

2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE WHOLE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH THAT IS UP TO THE REQUIRED GRADE.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. APPLY FERTILIZER AT RATE OF TWENTY (20) POUNDS PER ONE THOUSAND (1000) SQUARE FEET. APPLICATION SHALL BE UNIFORM, UTILIZING APPROVED MECHANICAL SPREADERS. MIX FERTILIZER THOROUGHLY WITH THE SOIL TO A DEPTH OF THREE (3) INCHES. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

B. THE SOD SHALL BE CERTIFIED TO MEET THE STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A FOUR INCH MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND AS APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN.

D. DURING DELIVERY, PRIOR TO AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

5. SEEDING

A. PROVIDE FRESH, CLEAN, NEW CROP LAWN SEED MIXTURE. FURNISH TO OWNER DEALERS GUARANTEED STATEMENT OF COMPOSITION OF MIXTURE AND PERCENTAGE OF PURITY AND GERMINATION OF EACH VARIETY.

B. SEED MIXTURE: PROVIDE SEED OF GRASS SPECIES AND VARIETIES, PROPORTIONS BY WEIGHT AND MINIMUM PERCENTAGES OF PURITY, GERMINATION, AND MAXIMUM PERCENTAGE OF WEED SEED. SEED MIXTURES VARY BY REGION AND SEASON AND SHALL COMPLY WITH STATE DO AND LOCAL SOIL CONSERVATION SERVICE STANDARDS FOR LAWN TURF.

C. DO NOT PERFORM SEEDING IN WINDY CONDITIONS.

D. SEEDING SHALL BE DISPERSED IN 2 DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.

E. PERMANENTLY SEED AND MULCH CUT AND FILL SLOPES AS CONSTRUCTION PROCEEDS TO EXTENT CONSIDERED DESIRABLE AND PRACTICAL. IN THE EVENT IT IS NOT PRACTICAL TO SEED AREAS, SLOPES SHALL BE STABILIZED WITH STRAW MULCH AND TACKIFIER, BONDED FIBER MATRIX, NETTING, BLANKETS OR OTHER MEANS TO REDUCE THE EROSIVE POTENTIAL OF THE AREA.

F. SEED LAWN AREAS BY SOWING EVENLY WITH APPROVED MECHANICAL SEEDER AT RATE OF MINIMUM OF 6 POUNDS PER 1,000 SQUARE FEET. AMOUNT WILL VARY BASED ON VARIETY AND/OR SPECIES. CULTI-PACKER OR APPROVED SIMILAR EQUIPMENT MAY BE USED TO COVER SEED AND TO FORM SEEDBED IN ONE OPERATION. IN AREAS INACCESSIBLE TO CUTI-PACKER, LIGHTLY RAKE SEEDED GROUND WITH FLEXIBLE RAKES AD ROLL WITH WATER BALLAST ROLLER. AFTER ROLLING, MULCH WITH STRAW MULCH AT THE RATE OF 2 TONS PER ACRE.

G. SURFACE LAYER OF SOIL FOR SEEDED AREAS SHALL BE KEPT MOIST DURING GERMINATION PERIOD. WATER SEEDED AREAS TWICE FIRST WEEK TO MINIMUM DEPTH OF 6 INCHES WITH FINE SPRAY AND ONCE PER WEEK THEREAFTER AS NECESSARY TO SUPPLEMENT NATURAL RAIN TO EQUIVALENT OF 6 INCHES DEPTH.

H. CONTRACTOR TO REAPPLY SEED AS NECESSARY IN ORDER TO GET ALL SEEDED AREAS ESTABLISHED AS INTENDED.

6. LAWN MAINTENANCE:

A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

B. WATER EVERY DAY FOR TEN (10) SUCCESSIVE DAYS, THEN WATER THREE (3) TIMES PER WEEK (AT EVEN INTERVALS) FOR TWO (2) ADDITIONAL WEEKS. ALL WATERING SHALL BE OF SUFFICIENT QUANTITY TO WET OR RESTORE WATER TO DEPTH OF FOUR (4) INCHES. CONTRACTOR TO DETERMINE IF SITE IS IN A DROUGHT RESTRICTION AREA AND MUST FOLLOW CITY/ COUNTY PROTOCOL IF ANY ARE IN PLACE.

T. CLEAN-UP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

U. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

V. MAINTENANCE (ALTERNATE BID ITEM)

1. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST PER MONTH BASIS.

W. GUARANTEE

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER.

2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF 90 CALENDAR DAYS, COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER.

3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING", AT NO ADDITIONAL COST TO THE OWNER.

4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTH PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

X. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE GUARANTEE PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR GUARANTEE (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

No.	REVISIONS	DATE	BY

Kimley»Horn

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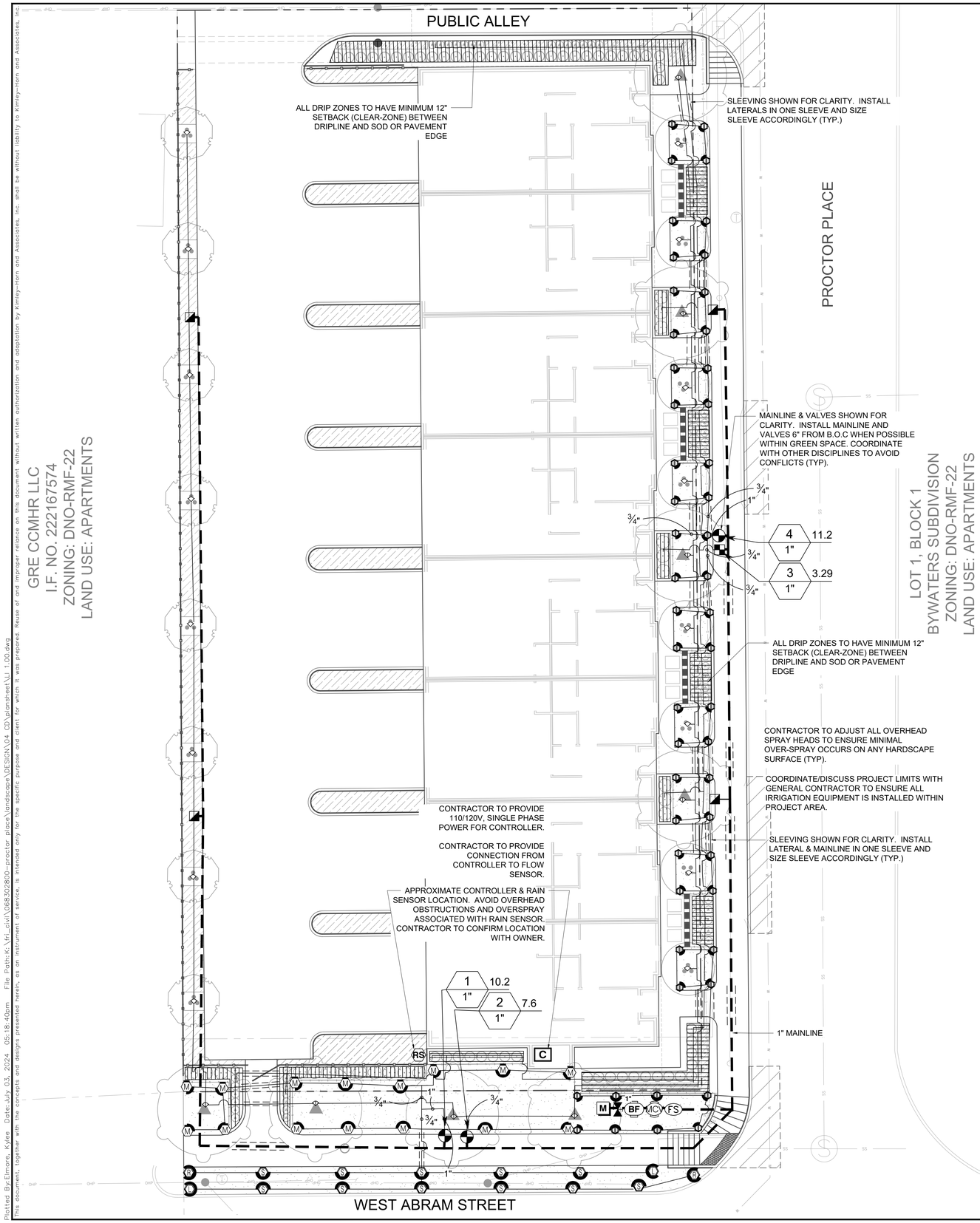
Kimley»Horn
P.L.A. NIKOLAUS B. ADAMS
L.A. No. 3404 Date 7/3/2024

KHA PROJECT 068302800
DATE APRIL 2024
SCALE: AS SHOWN
DESIGNED BY: KAE
DRAWN BY: KAE
CHECKED BY: NBA

PLANTING SPECIFICATIONS AND SCHEDULE

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
LP 3.03



IRRIGATION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE CONSULTED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
4. THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
5. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
6. THIS PLAN IS SCHEMATIC AND DUE TO THE NATURE OF CONSTRUCTION SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN.
7. THIS IRRIGATION SYSTEM IS DESIGNED TO THE FOLLOWING STATS: 37.5 G.P.M. STATIC WATER PRESSURE IS REPORTED TO 65 P.S.I.
8. CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN AVAILABLE WATER PRESSURE.
9. IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED.
10. WHERE APPLICABLE IRRIGATION HEADS ARE TO BE ADJUSTED FOR COMPLETE COVERAGE WITH MINIMUM OVER SPRAY BEYOND LANDSCAPE AREAS.
11. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
12. IRRIGATION LATERAL LINES, MAIN LINES AND EQUIPMENT MAY BE SHOWN OUTSIDE PROPERTY LINES ON THIS PLAN, ALL IRRIGATION LINES AND EQUIPMENT ARE TO BE WITHIN AND INSTALLED WITHIN THE LIMITS OF THE PROPERTY LINE.
13. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL.
14. SUPPLY LINE AND METER TO BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
15. IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
16. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
17. INSTALL ALL VALVE BOXES 5' MINIMUM FROM ANY CURB.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
LST SST RST	**Hunter MP Strip PROS-04-PRS40-CV** **Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LST=Ivory left strip, SST=Brown side strip, RST=Copper right strip.**	**15**
M L O	**Hunter MP1000 PROS-04-PRS40-CV** **Turf Rotator, 4in. pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.**	**15**
800 A 800 F	**Hunter MP800SR PROS-04-PRS40-CV** **Turf Rotator, 4in. pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. ADJ=Orange and Gray (arc 90-210), 360=Lime Green and Gray (arc 360)**	**52**
25 50 10 20	**Toro 570S-FB-PC** **Pressure-Compensating Flood Bubbler Nozzle. 0.25 GPM, 0.5 GPM, 1.0 GPM, and 2.0 GPM.**	**24**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICZ-101-25-LF **Drip Control Zone Kit. 1in. ICV Globe Valve with 1in. HY100 filter system. Pressure Regulation: 25 psi. Flow Range: .5 GPM - 15 GPM. 150 mesh stainless steel screen.**	**1**
	Area to Receive Dripline **Netafim TLCV-026-12** **Techline Pressure Compensating Landscape Dripline with Check Valve. 0.26 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. 17mm.**	**778.3 l.f.**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICV-G **1in.Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.**	**3**
	Rain Bird 44-LRC **1in. Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, and 2-Piece Body.**	**4**
	Isolation Valve	**1**
MC	**Hunter ICV-G 1"** **1in. Plastic Electric Master Valve, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.**	**1**
BF	**Febco 850 1"** **Double Check Backflow prevention, 1/2in. to 2in.**	**1**
C	**Hunter A2C-1200-M** **12-Station controller in an outdoor gray steel wall mount enclosure.**	**1**
RS	**Hunter WRF-CLIK** **Rain/freeze Sensor, install within 1000 ft of controller, in line of sight. 22-28 VAC/VDC 100 mA power from timer transformer. Mount as noted. Includes Gutter Mount.**	**1**
FS	**Hunter HFS-100** **Flow Sensor for use with ACC controller, 1in. Schedule 40 Sensor Body, 24 VAC, 2 amp.**	**1**
M	**Water Meter 1"**	**1**
	Irrigation Lateral Line: PVC Class 200 SDR 21	**1,652 l.f.**
	Irrigation Mainline: PVC Class 200 SDR 21	**452.5 l.f.**
	Pipe Sleeve: PVC Schedule 40	**156.0 l.f.**

Valve Callout
Valve Number
Valve Flow
Valve Size

ABOVE QUANTITIES PROVIDED FOR CONVENIENCE ONLY. CONTRACTOR TO CONFIRM ALL QUANTITIES PRIOR TO BIDDING.

REFERENCE MAXIMUM LATERAL DRIPLINE CHART TO DETERMINE MINIMUM NUMBER OF POINTS OF CONNECTION PER DRIP LINE ZONE.

WHERE LAYOUT FLEXIBILITY EXISTS CENTER FEED LAYOUTS MUST BE USED. THIS ALLOWS FOR EVEN FLOW OF WATER THROUGH THE ZONE.

HUNTER ECO-INDICATOR, AIR RELIEF AND FLUSH VALVE TO BE PLACED IN ALL DRIP AREAS AT THE FURTHEST POINT OF EACH DRIP RUN.

ZONES LOWER THAN THE CAPACITY OF THE FLOW SENSOR ARE TO BE WIRED IN THE CONTROLLER WITH ANOTHER ZONE SO THAT THE FLOW SENSOR READS BOTH ZONES AS ONE ZONE IN ORDER TO MEET THE FLOW SENSOR'S LOWEST GPM REQUIREMENT. DRIP ZONES REQUIRED TO REMAIN PIPED AS SEPARATE ZONES.

THIS IRRIGATION PLAN IS DESIGNED TO THE FOLLOWING STATS: 65 PSI AND 37.5 GPM. IF WATER PRESSURE EXCEEDS THE DESIGN SPECIFICATIONS MORE THAN 20 PSI, A PRESSURE REDUCER WILL BE REQUIRED AT THE SOURCE AT COST OF THE CONTRACTOR. CONTACT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION IF SYSTEM HAS +/- 5 PSI THAN DESIGN PRESSURE.

No.	REVISIONS	DATE	BY

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Kimley»Horn
LI. LEAH M. CAMPBELL
LI. No. 21373 Date 7/30/2024

KHA PROJECT 068302800
DATE APRIL 2024
SCALE: AS SHOWN
DESIGNED BY: KAE
DRAWN BY: KAE
CHECKED BY: NBA

IRRIGATION PLAN

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
LI 1.01

RAIN BIRD

Specifications

33-DNP, 44-NP - Two Piece Quick Coupling Valve (Non-Potable)

The quick coupling valve shall be a two piece type capable of having a discharge rate of ___units with a pressure loss not to exceed ___ units.

The valve shall be constructed of red brass and shall have a purple, thermoplastic, locking rubber cover with molded-in warnings of "DO NOT DRINK" in English and Spanish, for use on systems using non-potable water.

The valve shall be opened and closed by a brass key of the same manufacturer having a ___" (MNPT) and ___" (FNPT) outlet. The valve throat shall have a key-way with detent positions for regulating water flow.

QUICK COUPLING VALVES - 3-RC, 5-RC, 5-LRC, 7 - One Piece Quick Coupling Valve

The quick coupling valve shall be a one-piece type capable of having a discharge rate of ___ units with a pressure loss not to exceed ___ units.

The valve body shall be constructed of red brass. The cover shall be a durable, protective self-closing rubber cover. When so specified, the cover shall be a locking rubber cover (LRC).

The valve shall be opened and closed by a brass key of the same manufacturer having a ___" (MNPT) and ___" (FNPT) outlet. The valve throat shall have a key-way with detent positions for regulating water flow.

*** Cover Key** - Model 2049

- Locks and unlocks the optional locking cover (LRC) on quick coupling valves.
- Operates the valve marker compression lock.

33-DRC, 33-DLRC, 44-RC, 44-LRC- Two Piece Quick Coupling Valve

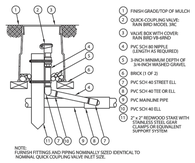
The quick coupling valve shall be a two piece type capable of having a discharge rate of ___units with a pressure loss not to exceed ___ units.

The valve body shall be constructed of red brass. The cover shall be a durable, protective self-closing rubber cover. When so specified, the cover shall be a locking rubber cover (LRC).

The valve shall be opened and closed by a brass key of the same manufacturer having a ___" (MNPT) and ___" (FNPT) outlet. The valve throat shall have a key-way with detent positions for regulating water flow.

Quick Coupling Valve Keys

TOP PIPE THREADS VALVE	KEY	MALE		FEMALE	
3-RC	33DK	¾"	19 mm	½"	13 mm
33-DRC	33DK	¾"	19 mm	½"	13 mm
33-NP	33DK	¾"	19 mm	½"	13 mm
44-NP	44K	1"	25 mm	¾"	19 mm
44-RC	44K	1"	25 mm	¾"	19 mm
5-RC	55K1	1"	25 mm	—	—
5-NP	55K1	1"	25 mm	—	—
7	7K	1 ½"	38 mm	—	—



NOTE:
FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

Quick-Coupling Valves Pressure Loss (psi)

Flow	3-RC	33-DRC, 33-DLRC, 33-DNP	44-RC, 44-LRC, 44-NP	5-RC, 5-LRC, 5-NP	7
gpm	¾"	¾"	1"	1"	1½"
10	1.8	2	-	-	-
15	4.7	4.3	2.2	-	-
20	7.2	7.6	4.4	-	-
30	-	-	11.5	4.1	-
40	-	-	-	7.3	-
50	-	-	-	11	1.7
60	-	-	-	15.7	2.5
70	-	-	-	21.5	3.6
80	-	-	-	-	4.9
100	-	-	-	-	8.4
125	-	-	-	-	14

Quick-Coupling Valves Pressure Loss (bar) METRIC

Flow	3-RC	33-DRC, 33-DLRC, 33-DNP	44-RC, 44-LRC, 44-NP	5-RC, 5-LRC, 5-NP	7
m³/h	l/m	1.9 cm	1.9 cm	2.5 cm	2.5 cm	3.8 cm
2.3	38	0.12	0.12	-	-	-
4	67	0.41	0.42	0.23	-	-
5	83	0.57	0.62	0.40	-	-
6	100	-	-	0.62	-	-
7	117	-	-	0.83	-	-
8	133	-	-	-	0.30	-
9	150	-	-	-	0.40	-
10	167	-	-	-	0.50	-
12	200	-	-	-	0.61	-
14	233	-	-	-	0.85	0.13
16	267	-	-	-	1.15	0.18
22	367	-	-	-	1.50	0.25
28	473	-	-	-	-	0.54
						0.97

**Less values are with flow control fully open.*
1) Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft/sec (2.3 m/s) in order to reduce the effects of water hammer.
2) For flows below 5 gpm (1 m3/h; 3.8 l/s) Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.
3) For flows below 10 gpm (2 m3/h; 6.3 l/s) Rain Bird recommends that the flow control stem be turned down two full turns from the fully open position. PRS-B module is recommended for use only at flow rates in areas below solid line.

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Tucson, AZ 85756
Phone: (520) 741-6100

Rain Bird Corporation
970 West Sierra Madre Avenue
Azusa, CA 91702
Phone: (626) 812-3400

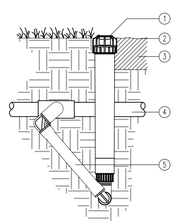
The Intelligent Use of Water™
www.rainbird.com

D38950QEO

ECO INDICATOR - SWING JOINT | K

Scale: N.T.S.

DRIP INDICATOR TO BE PLACED IN ALL DRIP AREAS AT THE FURTHEST POINT OF EACH DRIP RUN.

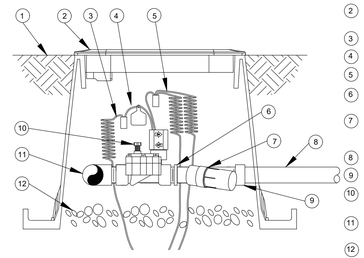


1. ECO INDICATOR
2. FINISHED GRADE
3. ADJACENT MULCH
4. PVC LATERAL PIPE
5. SWING JOINT

Drip Control Zone Kit | H

Scale: N.T.S.

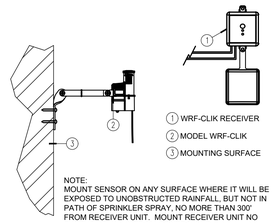
VALVE BOX TO BE INSTALLED 12-18" FROM BACK OF CURB



1. FINISH GRADE
2. STANDARD VALVE BOX WITH COVER
3. WATERPROOF CONNECTION
4. VALVE ID TAG
5. 30-INCH LINEAR LENGTH OF WIRE, COILED
6. 1" X ½" REDUCING COUPLING
7. PRESSURE REGULATING FILTER
8. LATERAL PIPE
9. PVC SCH 40 FEMALE ADAPTOR OR REDUCER
10. REMOTE CONTROL VALVE
11. PVC SCH 40 TEE OR ELL TO MANIFOLD
12. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

Wireless Rain/Freeze Sensor | D

Scale: N.T.S.

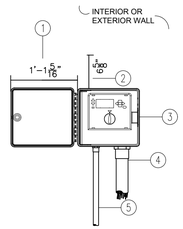


1. WRF-CLIK RECEIVER
2. MODEL WRF-CLIK
3. MOUNTING SURFACE

NOTE:
MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY, NO MORE THAN 300' FROM RECEIVER UNIT. MOUNT RECEIVER UNIT NO FURTHER THAN 6' FROM CONTROLLER.

Controller | J

Scale: N.T.S.



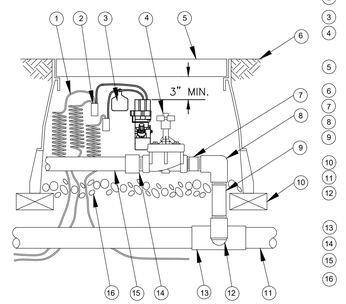
1. MINIMUM CLEARANCE FOR DOOR OPENING CONTRACTOR TO VERIFY PER MODEL***
2. MINIMUM VERTICAL CLEARANCE NEEDED FOR HINGE PIN REMOVAL
3. MODEL A2C-1200-M
4. CONTROL WIRE IN ELECTRICAL CONDUIT. SIZE AND TYPE PER LOCAL CODE
5. 3/4" POWER SUPPLY CONDUIT J-BOX INSIDE CONTROLLER CONNECT PER LOCAL CODE

NOTE
MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL.
CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 or 220 VAC SOURCE.

Electric Remote Control Valve | G

Scale: N.T.S.

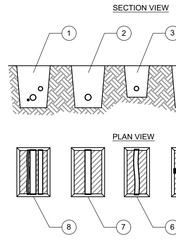
VALVE BOX TO BE INSTALLED 12-18" FROM BACK OF CURB



1. 30-INCH LINEAR LENGTH OF WIRE, COILED
2. WATERPROOF CONNECTION SPLICE-1 (1 OF 2)
3. ID TAG
4. REMOTE CONTROL VALVE: XXXXXXXX
5. VALVE BOX WITH COVER
6. FINISH GRADE/TOP OF MULCH
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
13. PVC SCH 40 TEE OR ELL
14. PVC SCH 40 MALE ADAPTER
15. PVC LATERAL PIPE
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

Pipe and Wire Trenching | C

Scale: N.T.S.

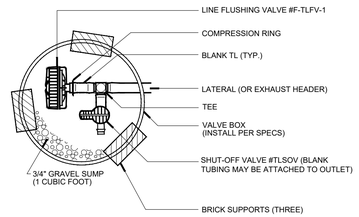


1. MAINLINE, LATERAL AND WIRING IN THE SAME TRENCH - 18" MIN. DEPTH
2. MAINLINE PIPE - 18" MIN. DEPTH
3. LATERAL PIPE - 12" MIN. DEPTH
4. WIRING IN CONDUIT - 12" MIN. DEPTH
5. TIE A 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 30° OR GREATER UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.
6. ALL SOLVENT WELD PLASTIC PIPING TO BE SNAKED IN TRENCH AS SHOWN.
7. ALL SOLVENT WELD PLASTIC PIPING TO BE RAN IN TRENCH AS SHOWN.
8. RUN WIRING BENEATH AND BESIDE MAINLINE. TAPE AND BUNDLE AT 10-FOOT INTERVALS.

NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCHD. 40 PVC TWICE THE DIAMETER OF THE PIPE OR WITH BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

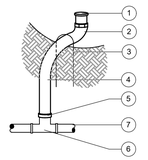
Quick Coupling Valve | N

Scale: N.T.S.



Bubbler Assembly | F

Scale: N.T.S.

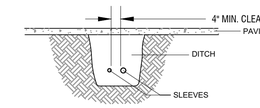


1. BUBBLER HEAD AS SPECIFIED
2. MALE ADAPTER
3. 9" LONG (12 GAUGE) WIRE STAPLE
4. 1/2" FLEX POLY (18" - 24" LONG) TO EXTEND TO TRUNK OF EACH TREE
5. REDUCER BUSHING AS REQUIRED
6. SCHEDULE 40 PVC TEE (S X S X S)
7. LATERAL LINE (CLASS 200 PVC)

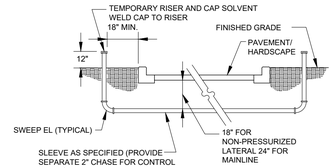
Sleeve Detail | B

Scale: N.T.S.

SECTION VIEW

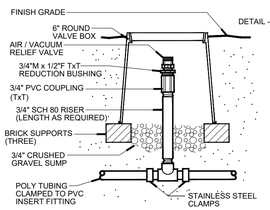


NOTES:
1. ALL IRRIGATION SLEEVES TO BE SCHEDULE 40 PVC.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISHED GRADE.
4. MECHANICALLY TAMP TO 95° PROCTOR.



Line Flushing Valve (W/ Shut-off Valve) | M

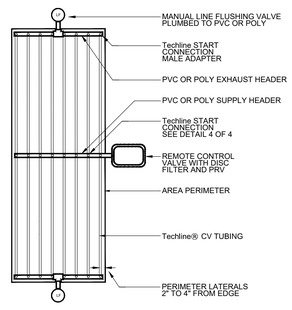
Scale: N.T.S.



Techline CV Center Feed Layout | I

Scale: N.T.S.

WHERE LAYOUT FLEXIBILITY EXISTS CENTER FEED LAYOUTS MUST BE USED. THIS ALLOWS FOR EVEN FLOW OF WATER THROUGH THE ZONE.



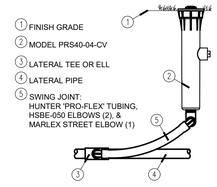
ALL BARBED FITTINGS TO UTILIZE EITHER STAINLESS STEEL HOSE CLAMPS, STEEL CRIMP, OR COMPRESSION RING.

TECHLINE CV-MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

TECHLINE DRIPPER SPACING / DRIPPER FLOW RATE (GPH)	12"				18"				24"	
	0.26	0.4	0.6	0.9	0.26	0.4	0.6	0.9	0.6	0.9
INLET PRESSURE (PSI)										
20	331	242	190	144	468	344	270	204	342	260
25	413	302	238	180	584	429	338	257	430	326
35	518	380	299	227	737	540	426	323	542	412
45	594	436	343	260	845	620	489	371	622	472
55	655	480	378	287	932	684	539	410	686	522
60	681	580	393	298	969	713	561	426	716	544

Air/Vacuum Relief (Plumbed to Poly) | L

Scale: N.T.S.



1. FINISH GRADE
2. MODEL PRS40-04-CV
3. LATERAL TEE OR ELL
4. LATERAL PIPE
5. SWING JOINT: HUNTER 'PRO-FLEX' TUBING, HSBE-050 ELBOWS (2), & MARLEX STREET ELBOW (1)

MP Rotator Sprinkler | E

Scale: N.T.S.

Sleeve Schedule | A

Scale: N.T.S.

PVC PIPE SIZE	SOLVENT WELD SCH. 40 FITTINGS	BELL AND GASKET FITTINGS	SOCKETED PIPE
1/2"	2"	--	2"
3/4"	2"	--	2"
1"	2 1/2"	--	2 1/2"
1 1/4"	3"	--	3"
1 1/2"	3"	3"	3"
2"	4"	4"	4"
2 1/2"	6"	6"	6"
3"	6"	6"	6"
4"	8"	8"	8"

No.	REVISIONS	DATE	BY

Kimley»Horn
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TEXAS REGISTERED ENGINEERING FIRM F-928

FOR REVIEW ONLY
Not for construction or permit purposes.
Kimley»Horn
Li. LEAH M. CAMPBELL
Li. No. 21373 Date 7/3/2024

KHA PROJECT 068302800	DESIGNED BY: KAE
DATE APRIL 2024	DRAWN BY: KAE
SCALE: AS SHOWN	CHECKED BY: NBA

IRRIGATION DETAILS

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

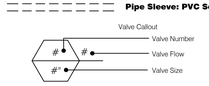
SHEET NUMBER
LI 3.01

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
LST SST RST	**Hunter MP Strip PROS-04-PRS40-CV Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LST=Ivory left strip, SST=Brown side strip, RST=Copper right strip.**	**15**
M L O	**Hunter MP1000 PROS-04-PRS40-CV Turf Rotator, 4in. pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.**	**15**
800 A 800 F	**Hunter MP800SR PROS-04-PRS40-CV Turf Rotator, 4in. pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. ADJ=Orange and Gray (arc 90-210), 360=Lime Green and Gray (arc 360)**	**52**
25 50 10 20	**Toro 570S-FB-PC Pressure-Compensating Flood Bubbler Nozzle. 0.25 GPM, 0.5 GPM, 1.0 GPM, and 2.0 GPM.**	**24**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICZ-101-25-LF Drip Control Zone Kit. 1in. ICV Globe Valve with 1in. HY100 filter system. Pressure Regulation: 25 psi. Flow Range: .5 GPM - 15 GPM. 150 mesh stainless steel screen.	**1**
	Area to Receive Dripline Netafim TLCV-026-12 Techline Pressure Compensating Landscape Dripline with Check Valve. 0.26 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. 17mm.	**778.3 l.f.**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICV-G 1in.Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.	**3**
	Rain Bird 44-LRC 1in. Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Rubber Cover, and 2-Piece Body.	**4**
	Isolation Valve	**1**
MCV	**Hunter ICV-G 1" 1in. Plastic Electric Master Valve, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.**	**1**
BF	**Febco 850 1" Double Check Backflow prevention, 1/2in. to 2in.**	**1**
C	**Hunter A2C-1200-M 12-Station controller in an outdoor gray steel wall mount enclosure.**	**1**
RS	**Hunter WRF-CLIK Rain/freeze Sensor, install within 1000 ft of controller, in line of sight. 22-28 VAC/VDC 100 mA power from timer transformer. Mount as noted. Includes Gutter Mount.**	**1**
FS	**Hunter HFS-100 Flow Sensor for use with ACC controller, 1in. Schedule 40 Sensor Body, 24 VAC, 2 amp.**	**1**
M	**Water Meter 1"**	**1**
	Irrigation Lateral Line: PVC Class 200 SDR 21	**1,652 l.f.**
	Irrigation Mainline: PVC Class 200 SDR 21	**452.5 l.f.**
	Pipe Sleeve: PVC Schedule 40	**156.0 l.f.**



ZONES LOWER THAN THE CAPACITY OF THE FLOW SENSOR ARE TO BE WIRED IN THE CONTROLLER WITH ANOTHER ZONE SO THAT THE FLOW SENSOR READS BOTH ZONES AS ONE ZONE IN ORDER TO MEET THE FLOW SENSOR'S LOWEST GPM REQUIREMENT. DRIP ZONES REQUIRED TO REMAIN PIPED AS SEPARATE ZONES.

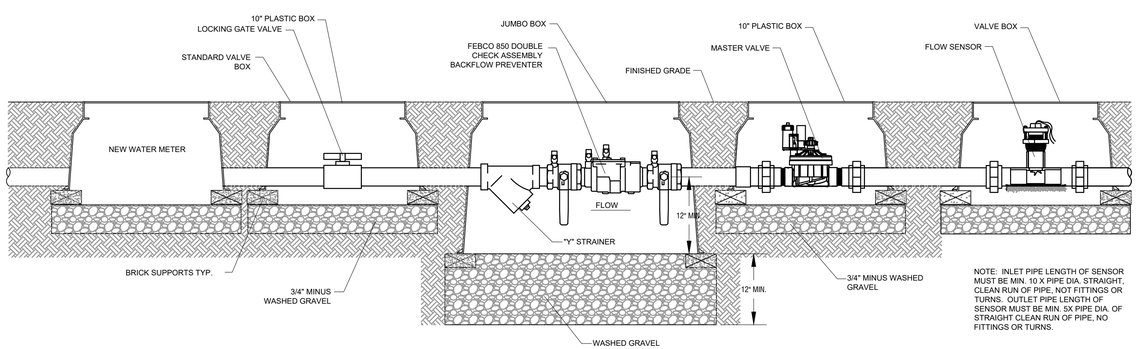
THIS IRRIGATION PLAN IS DESIGNED TO THE FOLLOWING STATS: 65 PSI AND 37.5 GPM. IF WATER PRESSURE DOES NOT MEET DESIGN SPECIFICATIONS A BOOSTER PUMP WILL BE REQUIRED AT COST OF CONTRACTOR. CONTACT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION IF SYSTEM HAS +/- 5 PSI THAN DESIGN PRESSURE.

ABOVE QUANTITIES PROVIDED FOR CONVENIENCE ONLY. CONTRACTOR TO CONFIRM ALL QUANTITIES PRIOR TO BIDDING.

REFERENCE MAXIMUM LATERAL DRIPLINE CHART TO DETERMINE MINIMUM NUMBER OF POINTS OF CONNECTION PER DRIP LINE ZONE.

WHERE LAYOUT FLEXIBILITY EXISTS CENTER FEED LAYOUTS MUST BE USED. THIS ALLOWS FOR EVEN FLOW OF WATER THROUGH THE ZONE.

HUNTER ECO-INDICATOR TO BE PLACED IN ALL DRIP AREAS AT THE FURTHEST POINT OF EACH DRIP RUN.



Double Check Assembly Backflow Preventer with Flow Sensor

Scale: N.T.S.

A

GENERAL IRRIGATION SPECIFICATIONS AND NOTES

A. EXTENT:

INCLUDES FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT FOR THE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING: (1) TRENCHING AND BACKFILL; (2) AUTOMATICALLY CONTROLLED LOW VOLUME IRRIGATION SYSTEM, (3) TEST ALL SYSTEMS AND MAKE OPERATIVE, (4) "AS-BUILT" DRAWINGS.

B. GENERAL:

1. PERMITS AND FEES: OBTAIN ALL PERMITS AND PAY REQUIRED FEES TO ANY GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THE WORK. INSPECTIONS REQUIRED BY LOCAL ORDINANCES DURING THE COURSE OF CONSTRUCTION SHALL BE ARRANGED AS REQUIRED. ON COMPLETION OF THE WORK, SATISFACTORY EVIDENCE SHALL BE FURNISHED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE TO SHOW THAT ALL WORK HAS BEEN INSTALLED IN ACCORDANCE WITH THE STATE AND LOCAL BUILDING/ PLUMBING CODE AND ALL OTHER CODE REQUIREMENTS.

2. APPROVAL: WHEREVER THE TERMS "APPROVE" OR "APPROVED" ARE USED IN THE SPECIFICATIONS, THEY SHALL MEAN THE APPROVAL OF THE OWNER'S CONSTRUCTION REPRESENTATIVE IN WRITING.

3. BEFORE ANY WORK IS STARTED, A CONFERENCE SHALL BE HELD BETWEEN THE CONTRACTOR AND THE OWNER'S CONSTRUCTION REPRESENTATIVE CONCERNING THE WORK UNDER THIS CONTRACT.

4. COORDINATION: COORDINATE AND COOPERATE WITH OTHER CONTRACTORS TO ENABLE THE WORK TO PROCEED AS RAPIDLY AND EFFICIENTLY AS POSSIBLE

5. INSPECTION OF SITE:

A. CONTRACTOR SHALL ACQUAINT THEMSELVES WITH ALL SITE CONDITIONS. SUBMISSION OF THEIR PROPOSAL SHALL BE CONSIDERED EVIDENCE THAT THE EXAMINATION HAS BEEN CONDUCTED. SHOULD UTILITIES NOT SHOWN ON THE PLANS BE FOUND DURING EXCAVATIONS, CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S CONSTRUCTION REPRESENTATIVE FOR INSTRUCTIONS AS TO FURTHER ACTION. FAILURE TO DO SO WILL MAKE CONTRACTOR LIABLE FOR ANY AND ALL DAMAGE THERETO ARISING FROM HIS OPERATIONS SUBSEQUENT TO DISCOVERY OF SUCH UTILITIES NOT SHOWN IN PLANS.

B. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS IN THE LAYOUT AS MAY BE REQUIRED TO CONNECT TO EXISTING STUBOUTS, SHOULD SUCH STUBS NOT BE LOCATED EXACTLY AS SHOWN, AND AS MAY BE REQUIRED TO WORK AROUND EXISTING WORK AT NO INCREASE IN COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.

6. PROTECTION OF EXISTING PLANTS AND SITE CONDITIONS: THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS TO REMAIN. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

7. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE, ADD, OR DELETE ANY MATERIAL OR WORK AS THE WORK PROGRESSES. ADJUSTMENTS TO THE CONTRACT PRICE SHALL BE NEGOTIATED IF DEEMED NECESSARY BY THE OWNER ON A PER DIEM BASIS.

8. THE OWNER RESERVES THE RIGHT TO REJECT MATERIAL OR WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. REJECTED WORK SHALL BE REMOVED OR CORRECTED AT THE EARLIEST TIME POSSIBLE.

9. WORK SCHEDULE: WITHIN 10 DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A WORK SCHEDULE.

10. "AS-BUILT" IRRIGATION DRAWINGS: PREPARE AN "AS-BUILT" DRAWING ON A FULL-SIZE PLAN SET WHICH SHALL SHOW DEVIATIONS FROM THE BID DOCUMENTS MADE DURING CONSTRUCTION AFFECTING THE MAIN LINE PIPE, CONTROLLER LOCATIONS, REMOTE CONTROL VALVES AND QUICK COUPLING VALVES. THE DRAWINGS SHALL ALSO INDICATE AND SHOW APPROVED SUBSTITUTIONS OF SIZE, MATERIAL AND MANUFACTURERS NAME AND CATALOG NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE DELIVERED TO THE TENANT'S CONSTRUCTION REPRESENTATIVE BEFORE FINAL ACCEPTANCE OF WORK

11. FINAL ACCEPTANCE: FINAL ACCEPTANCE OF THE WORK MAY BE OBTAINED FROM THE OWNER'S CONSTRUCTION REPRESENTATIVE UPON THE SATISFACTORY COMPLETION OF ALL WORK.

12. GUARANTEE: ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP. GUARANTEE SHALL ALSO COVER REPAIR OF DAMAGE TO ANY PART OF THE PREMISES RESULTING FROM LEAKS OR OTHER DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP TO THE SATISFACTION OF THE TENANT'S CONSTRUCTION REPRESENTATIVE. REPAIRS, IF REQUIRED, SHALL BE DONE PROMPTLY AT NO COST TO THE OWNER.

13. A LAMINATED PLAN (8 1/2 X 11) SHOWING THE DIFFERENT IRRIGATION ZONES IN COLOR, PREPARED BY THE IRRIGATION CONTRACTOR, SHALL BE POSTED IN THE MECHANICAL ROOM OR WITHIN CONTROLLER CABINET.

C. MATERIALS:

1. GENERAL: ALL MATERIALS THROUGHOUT THE SYSTEM SHALL BE NEW AND IN PERFECT CONDITION.

2. PLASTIC PIPING: ALL MAIN LINES AND LATERAL LINES SHALL BE CLASS 200 POLYVINYL CHLORIDE (PVC) PIPE AND SHALL COMPLY WITH ONE OF THE FOLLOWING STANDARDS: ASTM D 1785, ASTM D-2241, AWWA C-900, OR AWWA C-905. SDR-PR PIPE SHALL HAVE A MINIMUM WALL THICKNESS AS REQUIRED BY SDR-26. PVC GASKETS FITTINGS SHALL CONFORMING TO ASTM D 3139. GASKETS SHALL CONFORM TO ASTM F 477. SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466. THREADED PVC PIPE FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2464. CONFORMING TO ASTM D-1784 AND D-2241

3. PLASTIC FITTINGS: ALL SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466. SCHEDULE 40 SOLVENT-WELD, POLYVINYL CHLORIDE (PVC) STANDARD WEIGHT AS MANUFACTURED BY SLOANE, LASCO, OR APPROVED EQUAL.

4. SOLVENT CEMENT: PVC CEMENT SHALL MEET ASTM D 2564 AND PVC CLEANER-TYPE SHALL MEET ASTM F 656.

5. SPRINKLER HEAD RISERS: SCHEDULE 40 PVC FOR RISERS. PIPE SHALL BE CUT WITH A STANDARD PIPE CUTTING TOOL WITH SHARP CUTTERS. REAM ONLY TO FULL DIAMETER OF PIPE AND CLEAN ALL ROUGH EDGES OR BURRS. CUT ALL THREADS ACCURATELY WITH SHARP DIES. NOT MORE THAN THREE(3) FULL THREADS SHALL SHOW BEYOND FITTINGS WHEN PIPE IS MADE UP. ASSEMBLIES SHALL BE AS DETAILED.

6. AUTOMATIC CONTROLLER: SEE LEGEND

7. REMOTE CONTROL VALVES: SEE LEGEND

8. CONTROL WIRING: CONVENTIONAL SYSTEMS TO USE 24 VOLT SOLID UL APPROVED FOR DIRECT BURIAL IN GROUND. MINIMUM WIRE SIZE: 14 GAUGE. ALL SPLICES SHALL BE MADE WITHIN VALVE BOX. TWO-WIRE SYSTEMS TO UTILIZE CONTROL WIRING PER MANUFACTURER STANDARDS.

9. SLEEVES FOR CONTROL WIRING: UNDER ALL WALKS AND PAVED AREAS AND WHERE INDICATED ON DRAWINGS. MINIMUM PVC SCHEDULE 40 PLASTIC PIPE.

10. SPRINKLER HEADS/ DRIP LINE: SEE LEGEND

11. QUICK COUPLING VALVES: SHALL BE NOTED ON DRAWINGS.

D. WORKMANSHIP:

1. LAY OUT WORK AS ACCURATELY AS POSSIBLE TO THE DRAWINGS. THE DRAWINGS, THOUGH CAREFULLY DRAWN, ARE GENERALLY DIAGRAMMATIC TO THE EXTENT THAT SWING JOINTS, OFFSETS, AND ALL FITTINGS ARE NOT SHOWN.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL AND COMPLETE COVERAGE OF ALL IRRIGATED AREAS AND SHALL MAKE ANY NECESSARY MINOR ADJUSTMENTS AT NO ADDITIONAL COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.

3. ANY MAJOR REVISIONS TO THE IRRIGATION SYSTEM MUST BE SUBMITTED AND ANSWERED IN WRITTEN FORM, ALONG WITH ANY CHANGE IN CONTRACT PRICE.

E. INSTALLATION:

1. EXCAVATION AND TRENCHING:

A. PERFORM ALL EXCAVATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK INCLUDING UNDER THIS SECTION, INCLUDING SHORING OF EARTH BANKS TO PREVENT CAVE-INS. RESTORE ALL SURFACES, EXISTING UNDERGROUND INSTALLATIONS, ETC., DAMAGED OR CUT AS A RESULT OF THE EXCAVATIONS TO AND IN A MANNER APPROVED BY THE OWNER.

B. TRENCHES SHALL BE MADE WIDE ENOUGH TO ALLOW A MINIMUM OF 6 INCHES BETWEEN PARALLEL PIPE LINES. TRENCHES FOR PIPE LINES SHALL BE MADE OF SUFFICIENT DEPTHS TO PROVIDE THE MINIMUM COVER FROM FINISH GRADE AS FOLLOWS:

1) 24" MINIMUM BELOW BOTTOM PAVEMENT PER SLEEVING INSTALLATION DETAIL FOR MAIN LINE.18" MINIMUM FOR NON-PRESSURIZED LATERALS.
2) MINIMUM COVER OVER IRRIGATION LINES TO HEADS/ DRIPLINE EXCEPT VEHICLE TRAFFIC AREAS ARE AS FOLLOWS:
12" COVER OVER LATERALS
18" COVER OVER MAINLINE

C. MAINTAIN ALL WARNING SIGNS, SHORING, BARRICADES, FLARES AND RED LANTERNS AS REQUIRED BY THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY AND LOCAL ORDINANCES.

2. PIPE LINE ASSEMBLY:

A. INSTALL REMOTE CONTROL VALVES WHERE SHOWN AND GROUP TOGETHER WHERE PRACTICAL. PLACE NO CLOSER THAN 12-18 INCHES TO WALK EDGES, WALLS, AND OTHER PAVEMENTS. PLACE A MINIMUM OF 24" FROM BUILDINGS.

B. PLASTIC PIPE AND FITTINGS SHALL BE SOLVENT WELDED USING SOLVENTS AND METHODS RECOMMENDED BY MANUFACTURER OF THE PIPE, EXCEPT WHERE SCREWED CONNECTIONS ARE REQUIRED. PIPE AND FITTINGS SHALL BE THOROUGHLY CLEANED OF DIRT, DUST AND MOISTURE BEFORE APPLYING SOLVENT WITH A NON-SYNTHETIC BRISTLE BRUSH.

C. PIPE MAY BE ASSEMBLED AND WELDED ON THE SURFACE. SNAKE PIPE FROM SIDE TO SIDE OF TRENCH BOTTOM TO ALLOW FOR EXPANSION AND CONTRACTION.

D. MAKE ALL CONNECTIONS BETWEEN PLASTIC PIPE AND METAL VALVES OR STEEL PIPE WITH THREADED FITTINGS USING PLASTIC MALE ADAPTERS.

E. JOINTS:
1. PIPE SIZES 2 1/2 INCH OR SMALLER SHALL HAVE BELL AND SOCKET JOINTS.
2. PIPE SIZES LARGER THAN 2 1/2 INCH SHALL HAVE SNAP CONNECTIONS WITH RUBBER GASKET JOINTS.
3. THRUST BLOCKING SHALL BE REQUIRED WHEN PIPE SIZE IS 4" OR GREATER.

3. SPRINKLER HEADS/ DRIPLINE:
A. INSTALL ALL SPRINKLERS/ DRIPLINE AS DETAILED ON DRAWINGS.
B. DO NOT SCALE PLANS FOR EXACT HEAD LOCATION.

4. CLOSING OF PIPE AND FLUSHING LINES:
A. CAP OR PLUG ALL OPENINGS AS SOON AS LINES HAVE BEEN INSTALLED TO PREVENT THE ENTRANCE OF MATERIALS THAT WOULD OBSTRUCT THE PIPE. LEAVE IN PLACE UNTIL REMOVAL IS NECESSARY FOR COMPLETION OF INSTALLATION.
B. THOROUGHLY FLUSH OUT ALL WATER LINES BEFORE INSTALLING HEADS, DRIPLINE, VALVES AND OTHER HYDRANTS.
C. TEST IN ACCORDANCE WITH PARAGRAPH ON HYDROSTATIC TESTS.
D. UPON COMPLETION OF THE TESTING, THE CONTRACTOR SHALL COMPLETE ASSEMBLY AND ADJUST SPRINKLER HEADS FOR PROPER DISTRIBUTION.

5. INSPECTIONS:
A. SPRINKLER/ DRIPLINE LAYOUT AND SPACING INSPECTION: VERIFICATION THAT THE IRRIGATION DESIGN IS ACCURATELY INSTALLED IN THE FIELD. IT WILL ALSO PROVIDE FOR ALTERATION OR MODIFICATION OF THE SYSTEM TO MEET FIELD CONDITIONS. SPACING SHOULD BE WITHIN 5% OF THE DESIGN SPACING.
B. PIPE INSTALLATION DEPTH INSPECTION: ALL PIPES IN THE SYSTEM SHALL BE INSTALLED TO DEPTHS AS PREVIOUSLY DESCRIBED IN SECTION 'E' OF THESE SPECIFICATIONS.
C. OPEN TRENCH INSPECTION: THE TRENCH AND ALL JOINTS AND EVERY TRANSITION IN PIPE SIZE, WILL BE OPEN WHERE OPEN TRENCH INSPECTION IS REQUIRED.
D. INSPECTIONS WILL BE PERFORMED THROUGHOUT THE DURATION OF THE INSTALLATION. INSPECTION MAY BE MADE BY THE GOVERNING AGENCY/ OWNER TO ENSURE COMPLIANCE WITH DESIGN INTENT, SPECIFICATIONS, AND THE IRRIGATION CODES.

6. HYDROSTATIC TESTS:
A. REQUEST THE PRESENCE OF THE OWNER AND/OR OWNERS REPRESENTATIVE IN WRITING AT LEAST 48 HOURS IN ADVANCE OF TESTING.
B. TESTING TO BE ACCOMPLISHED AT THE EXPENSE OF THE CONTRACTOR AND IN THE PRESENCE OF THE OWNER.
C. CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE.
D. APPLYING A CONTINUOUS AND STATIC WATER PRESSURE OF 125 PSI WHEN WELDED PLASTIC JOINTS HAVE CURED AT LEAST 3 HOURS AND WITH THE RISERS CAPPED AS FOLLOWS:
1) MAIN LINES AND SUBMAINS TO BE TESTED FOR 2 HOURS.
2) NO PRESSURE LOSS IS ALLOWED FOR SOLVENT WELD MAINLINE/ PIPE.

E. FOR PVC AND O-RING GASKET PIPE THE ALLOWABLE LEAKAGE SHALL NOT EXCEED THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

$$L=NPD^{.5}/\ 1,850$$

IN WHICH: L=ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
N=NUMBER OF JOINTS
D=PIPE DIAMETER IN INCHES
P=AVERAGE TEST PRESSURE IN PSI GAUGE

F. REPAIR LEAKS RESULTING FROM TESTS.

7. AUTOMATIC CONTROLLERS:
A. CONNECT REMOTE CONTROL VALVES TO CONTROLLER IN A CLOCKWISE SEQUENCE TO CORRESPOND WITH STATION SETTING BEGINNING WITH STATIONS 1, 2, 3, ETC.

8. AUTOMATIC CONTROL WIRING:
A. INSTALL CONTROL WIRING, SPRINKLER MAINS AND LATERALS IN COMMON TRENCHES WHEREVER POSSIBLE.
B. INSTALL CONTROL WIRES AT LEAST 18" BELOW FINISHED GRADE AND SNAKE WIRE SIDE TO SIDE IN TRENCH BELOW MAIN LINE. EXPANSION CURLS SHALL BE PROVIDED WITHIN THREE (3') FEET OF EACH WIRE CONNECTION TO SOLENOID AND AT LEAST EVERY THREE HUNDRED (300') FEET IN LENGTH. (EXPANSION CURLS ARE FORMED BY WRAPPING AT LEAST FIVE (5) TURNS OF WIRE AROUND A ROD OR PIPE 1" OR MORE IN DIAMETER, THEN WITHDRAWING THE ROD).
C. CONTROL WIRE SPLICES WILL BE ALLOWED ONLY RUNS OVER 1000 FT. CONNECTIONS SHALL BE IN VALVE BOX AND LOCATION TO BE SHOWN ON AS-BUILT PLANS.
D. ALL WIRING PASSING UNDER EXISTING OR FUTURE PAVING, CONSTRUCTION, ETC., SHALL BE ENCASED IN PLASTIC OR GALVANIZED STEEL CONDUIT EXTENDING AT LEAST 24" BEYOND EDGES OF PAVING OR CONSTRUCTION.
E. CONTRACTOR SHALL RUN TWO SPARE WIRES IN EACH DIRECTION FROM CONTROLLER TO FARTHEST VALVE TO SERVE AS BACKUP WIRES.

9. BACKFILL AND COMPACTING:
A. AFTER SYSTEM IS OPERATING AND REQUIRED TESTS AND INSPECTIONS HAVE BEEN MADE, BACKFILL EXCAVATIONS AND TRENCHES WITH CLEAN SOIL, FREE OF RUBBISH. INITIAL BACKFILL MATERIAL TO 6 INCHES ABOVE THE TOP OF PIPE SHALL BE FREE OF ROCKS OR STONES LARGER THAN ONE INCH IN DIAMETER FINAL BACKFILL MATERIAL SHALL BE FREE OF ROCKS OR STONES LARGER THAN 3 INCHES IN DIAMETER.
B. BACKFILL FOR ALL TRENCHES, REGARDLESS OF THE TYPE OF PIPE COVERED, SHALL BE COMPACTED TO MINIMUM 90% DENSITY.
C. COMPACT TRENCHES IN AREAS TO BE PLANTED BY THOROUGHLY FLOODING THE BACKFILL. JETTING PROCESS MAY BE USED IN THOSE AREAS.
D. DRESS OFF ALL AREAS TO FINISH GRADES.

10. PROTECTIVE RADIUS OF EXISTING TREES:
A. AN AUGER IS TO BE USED TO TUNNEL UNDER EXISTING TREES IF IRRIGATION IS INSTALLED WITHIN THE PROTECTIVE RADIUS OF EXISTING TREES AND ONLY IF THERE IS NO OTHER OPTION OR TO DO SO CREATES AN UNREASONABLE HARDSHIP.

F. CLEAN-UP:

1. REMOVE FROM THE SITE ALL DEBRIS RESULTING FROM WORK OF THIS SECTION.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
6160 WARREN PARKWAY, SUITE 210, FRISCO, TX 75034
PHONE: 972-335-3580
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

PRELIMINARY
FOR REVIEW ONLY
Not for construction or permit purposes.
Kimley»Horn
LI. LEAH M. CAMPBELL
LI No. 21373 Date 7/30/2024

KHA PROJECT 068302800
DATE APRIL 2024
SCALE: AS SHOWN
DESIGNED BY: KAE
DRAWN BY: KAE
CHECKED BY: NBA

IRRIGATION SPECIFICATIONS

PROCTOR PLACE
CITY OF ARLINGTON
TARRANT COUNTY, TEXAS

SHEET NUMBER
LI 3.02

Kimley»Horn

February 14, 2024

Kevin Charles, City Engineer
City of Arlington
101 W. Abram Street
Arlington, TX 76010

Re: Proctor Place – PD Development Plan Submittal
Narrative Letter

Dear Mr. Charles:

With this letter, Kimley-Horn is submitting the PD Development Plan application for Proctor Place on behalf of our client, Parish DC Investments, LLC. The project is located on a currently undeveloped property at the northwest corner of a N. Abram St and Proctor Place located within the Downtown Neighborhood Overlay (DNO) District. The property is currently zoned DNO-PD-RMF-22. The proposed development consists of 1 – three story residential multi-family building consisting of a total of 8 units. Each unit will consist of a front door entry off Proctor Place and a rear entry garage. Open spaces will be privately owned and maintained.

The building will feature two primary exterior building materials: stucco and brick. The primary roofing material will be composite shingles. On the front façade at the entrance of each unit, there will be a brick separation between units and brick columns at the entrances of the end units. The building will also include a fire riser located on the south side. The balcony on the second floor will have prefabricated metal railings. All font doors will be wood with a full-size glass pane. Multiple windows on the front and rear facades will provide natural light for the units. Each unit will have three bedrooms, one flex room, two full bathrooms, two ½ bath, and a two-car garage.

There will be a single point of vehicular access from the 20-foot wide alley on the north, which is proposed to be improved to the extent of the of the western property line. The driveways in the rear of the units and private alley drive will be concrete pavement and surrounded by an 8’ tall board on board fence for privacy and security. Access into the private fence area will be through a gated vehicular access off the alley or a pedestrian gate with keypad access off W Abrams Street. Concrete sidewalks will be constructed along Proctor Place and W. Abram Street for pedestrian access to the development.

Parking will be provided in alignment with Arlington’s Unified Development Code (UDC), requiring 2.5 parking spaces per 3-bedroom unit equaling a total of 20 required parking spaces for this development. The project is providing 2 uncovered parking spaces in each driveway, as well as 2 covered parking spaces within the garage of each unit. Bicycle parking is available for each unit within the garage to meet and exceed the required 10% of required automobile spaces per the DNO.

Water service will be provided by tapping the water main in the Proctor Place public right-of-way and running a service to the rear of the building to serve the individual units. Sewer will be served via an extension of the sewer main in the W Abram Street right-of way and extended to north in the rear of the building to serve the individual units. The project will receive water and sewer service from the City of Arlington. Fully developed drainage flows are previously accounted for and will be intercepted by an existing storm inlet located in W Abram Street directly to the west of the site.

Landscaping along Proctor Place and W Abram Street will be in accordance with the Arlington's Unified Development Code (UDC). Existing trees on site will be removed and mitigated per the city's requirements.

The requested deviations to the Unified Development Code (UDC) standards are as follows:

1. The maximum length of a multi-family building shall be increased from 180 feet to 190 feet.

2. The required 10-foot sidewalk along Proctor Place shall be reduced to a 6-foot wide sidewalk.

Project points of contact are:

Owner:
Dave Parish
Parish DC Investments, LLC
5204 Lake Crest Drive
McKinney, TX 75071

Engineer:
Michael R. Molge, PE
Kimley-Horn and Associates, Inc.
6160 Warren Pkwy, Suite 210
Frisco, TX 75034

Sincerely:
KIMLEY-HORN AND ASSOCIATES, INC.

Michael R. Molge, P.E.
Project Manager

Staff Report

Zoning Case PD24-32 (8301 US 287 BUS Highway)	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Ordinance

RECOMMENDATION

Following the public hearing, consider Zoning Case PD24-32 to change the zoning from Village on the Green (VG) to Planned Development (PD) for Office Commercial (OC) uses limited to Cemetery plus Mortuary | Crematory | Funeral Chapel and accessory uses.

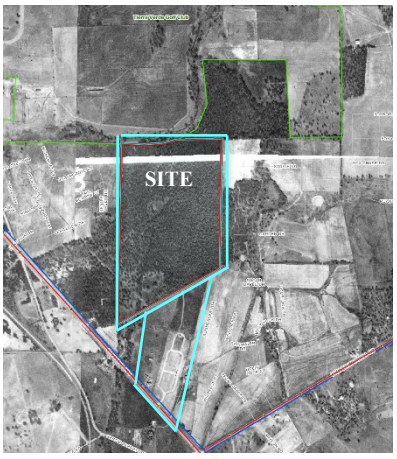
PRIOR BOARD OR COUNCIL ACTION

None.

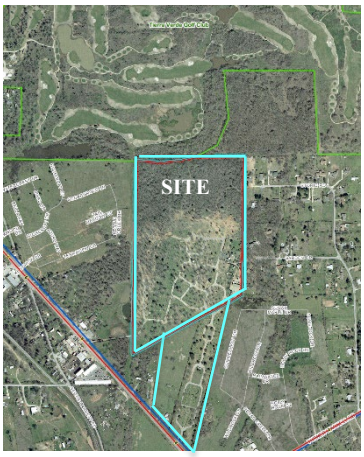
ANALYSIS

Existing Site Conditions / History

The subject site is currently developed with a memorial park in the northern portion and cemetery in the southern portion. Residential development began in the early 1970s to the east of subject property. The west of the subject property began developing in 2020 with residential uses. Property north of the site began developing in 1960 with Tierra Verde golf course. Areas to be south began developing in 2007 with residential uses. The aerial images provide an overview of how the area evolved from 1958 to present. The site currently has street frontage on US 287 BUS Highway.



1958



2000

Present

Request

The applicant requests to change the zoning on approximately 74.339 acres, generally located north of US 287 BUS Highway and west of Russell Curry Road.

Current zoning: Village on the Green (VG).

Requested zoning: Planned Development for Office Commercial (OC) uses limited to Cemetery plus Mortuary | Crematory | Funeral Chapel and accessory office and other uses.

Adjacent Land Uses

Property to the north
Zoned Village on the Green (VG) and developed as Tierra Verde Golf Club.

Properties to the south
To the south is the Arlington city limit boundary.

Properties to the east
Zoned Village on the Green (VG), Planned Development for Residential Single-Family 7.2 (RS-7.2) (Z97-16) and Planned Development for Residential Single-Family 7.2 plus Residential Single-Family 15 (RS-7.2 plus RS-15) (Z03-29). The properties are developed with Residential Single-family.

Properties to the west
Zoned Village on the Green (VG). The properties are undeveloped, developed with commercial uses and developed with Residential Single-family.

DEVELOPMENT PLAN ANALYSIS

Use Analysis

The cemetery use is existing, but the zoning is currently not in conformance with the current use. Through this rezoning, the applicant is trying to bring the property in zoning conformance. Office Commercial (OC) is the least intense non-residential zoning district that allows the cemetery use through a Specific Use Permit (SUP) approval.

Instead of rezoning to Office Commercial (OC) and requesting a SUP approval, the applicant has chosen to go the Planned Development (PD) route. The applicant proposes to change the zoning of the property from Village on the Green (VG) to Planned Development (PD) for Office Commercial (OC) uses limited to *Cemetery* plus *Mortuary*|*Crematory*|*Funeral Chapel* and accessory uses.

A *Mortuary*|*Crematory*|*Funeral Chapel* use is allowed in Community Commercial (CC) zoning district and more intense non-residential zoning districts.

Per **UDC, Article 2. Zoning Districts,**

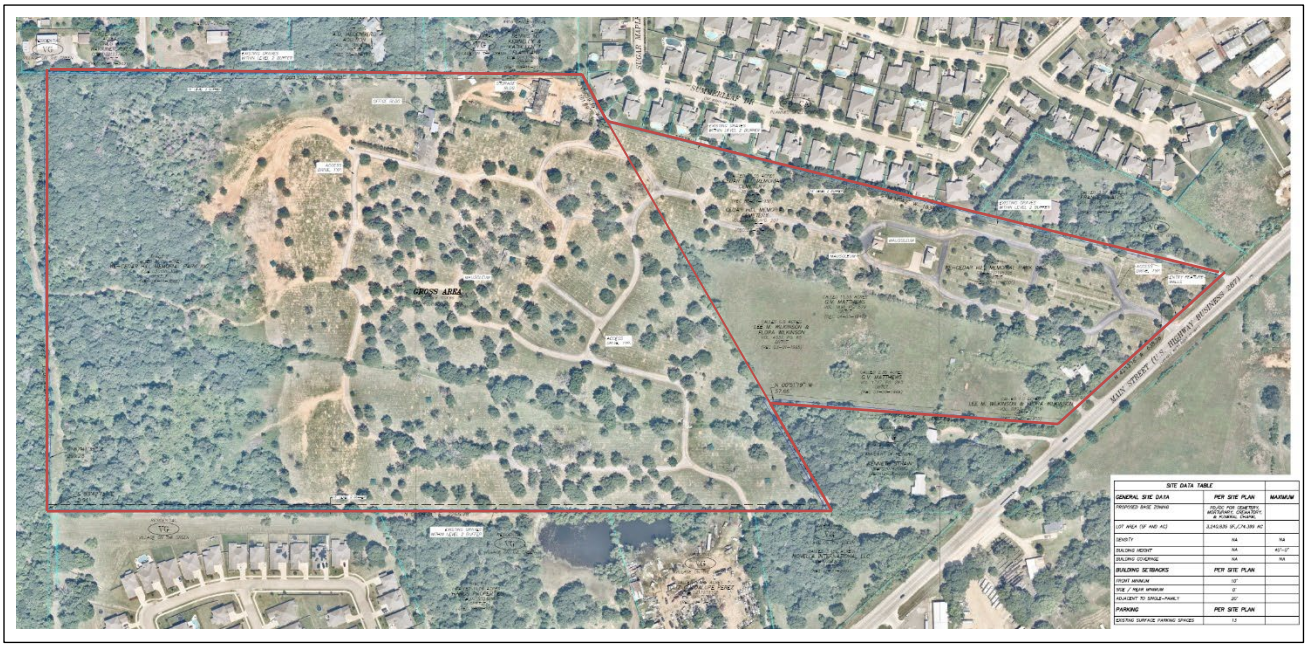
> Village on the Green (VG)
> *The intent of the Village on the Green (VG) zoning district is to provide an area in southwest Arlington that will be a financially and environmentally sustainable residential community memorable for its rural character, village-like atmosphere, and mix of high-quality housing options.*
>
> Office Commercial (OC)
> *The intent of the Office Commercial (OC) zoning district is to provide areas primarily for high quality office development and selected retail uses that serve community and citywide needs.*

The applicant is not proposing any changes to the site through this PD. The site will be subject to all applicable Non-Residential Design Standards of the Unified Development Code (UDC) with development of the site.

Site Access
The site has one point of access from US 287 Business Highway.

Parking
- The proposed use of the Cemetery requires parking per off-street parking schedule C, per **UDC Article 5. Section 5.4 Off-street parking and standards.**
- If a Funeral Chapel (Religious Assembly) is proposed on the site, this use will require 1 space per 4 seats. If no fixed seating, then based on 25% maximum capacity of the assembly areas, as determined by the International Building Code.

Landscaping



The site is generally developed as Cedar Hill Memorial Park and landscaped with grass, dense trees, and shrubs, and complies with the Office Commercial (OC) zoning district requirements for street frontage landscaping and residential buffers.

Traffic
Change in zoning from Village on the Green (VG) to Planned Development (PD) for Office Commercial (OC) uses will not significantly impact/will benefit the adjacent roadway systems since the existing use on the site is not changing.

Drainage
The Site is located in the Rush Creek Drainage Basin. The Site has approximately 12.5% located in the FEMA floodplain. No significant drainage impacts are expected to result from development of this site, as long as, all relevant city ordinances are complied with.

COORDINATION WITH OTHER PLANS
Comprehensive Plan (2015). Land use goals for this area are defined as "Rural Residential Low Intensity" Future Development Area. This area is intended to provide the opportunity to provide residential choices to residents who desire larger, higher priced single-family homes in a more rural setting. The area should focus on very low-density single family residential with various natural amenities and trails to connect to the city's greenway network.

At this time, the applicant proposes to change the zoning to limited Office Commercial uses to bring the existing cemetery on the site into compliance with the current Unified

Development Code (UDC). The potential project envisions to expand the use of cemetery or propose a funeral chapel. The surrounding area is developed with single-family residential homes.

The potential project should coordinate with any of the following strategies and actions identified within **Develop our Land** Section that calls to:

1. *Promote land use patterns that reflect a mix of integrated community uses.*
2. *Encourage appropriate redevelopment and reinvestment that creates lasting value.*
3. *Increase the visual appeal within and around residential and community developments and along city corridors.*

US 287 Strategic Plan (2016). The vision establishes that US 287 Corridor will be characterized by its land uses, enhanced mobility, local and regional identity, and open space and recreational amenities. The future land use map recommends this area to be public/institutional which represents uses that are governmental, institutional, or religious in nature. The proposed cemetery aligns with the goals for the area.

Hike and Bike System Master Plan (2011). There are no existing or planned bike systems near the subject site. There is no existing trail near the subject site. However, there is a planned trail route to the north of the subject site along Martin Luther King Jr (MLK) Sports Center Community Park and along Golf Club Drive within 0.78 miles.

Thoroughfare Development Plan (2022). The subject site is adjacent to US 287 Business Highway, which is currently a two-way street, and the Thoroughfare Development Plan (TDP) shows it as a six-lane major arterial.

Capital Improvement Projects. There are no capital improvements planned nearby or adjacent to the subject site.

Historic Structures/Historic Resources Survey (2007). There are no structures on the subject site.

ADDITIONAL INFORMATION

Attached:	i. Case Information ii. Itemized Uses iii. Location Map iv. Photos v. Site Plan vi. Project Narrative vii. Petitions of Support
Under separate cover:	None
Available in the City Secretary's office:	None
CITY COUNCIL DATE	November 19, 2024

STAFF CONTACTS

Lisa Sudbury, AICP
Development Planning Manager
Planning and Development Services
817-459-6532
Lisa.Sudbury@arlingtontx.gov

Saee More, MCRP
Senior Planner
Planning and Development Services
817-459-6501
Saee.More@arlingtontx.gov

Case Information

Legal Applicant: MMA by Nikki Moore
519 E Border Street, Arlington, TX 76010
(817) 454-0491

Property Owner: WE-Cedar Hill Memorial Park, Inc by Gerald Wilson

Sector Plan: Southwest

Council District: 2

Allowable Uses: See attachment ii-1.

Development History: The subject site is platted. All surrounding zoning cases in close proximity to the subject site are over 15 years old.

Transportation: The site currently has one point of access, one from US 287 Business Highway.

Thoroughfare	Existing	Proposed
US 287 Business Highway	100 feet Asphalt overlay	100 feet Asphalt overlay

Traffic Impact: Change in zoning from Village on the Green (VG) to Planned Development (PD) for Office Commercial (CC) uses will not significantly impact/will benefit the adjacent roadway systems since the existing use on the site is not changing.

Water & Sewer: Water and sanitary sewer are available to the Site. An 8-inch water line is located along the northeast right of way line of U S Highway 287 Business. A 10-inch sanitary sewer line is also located along the northeast right of way line of U S Highway 287 Business.

Drainage: The Site is located in the Rush Creek Drainage Basin. The Site has approximately 12.5% located in the FEMA floodplain. No significant drainage impacts are expected to result from development of this site as long as all relevant city ordinances are complied with.

Fire: Fire Station 13, located at 7100 Russell Curry Road, provides protection to this site. The estimated fire response time is less than five minutes, which is in keeping with recommended standards.

School District: Mansfield Independent School District. This notice was posted to 11000 neighbors in 29 neighborhoods within 1-mile of the subject site.

Case Information

This notice was posted to 2000 residents in 19 neighborhoods within 1-mile of the subject site.

Map is attached:

Property Owners:	69
Letters of Support:	2
Letters of Opposition:	0

OC OFFICE COMMERCIAL

Permitted Uses (P)

Art gallery or museum, Domestic violence shelter, Government administration and civic buildings, Philanthropic institution (other than listed), Religious assembly, Medical or dental office or clinic, Community garden, Public park or playground, Restaurant, Telemarketing call center, General personal services (other than listed), Massage therapy clinic, Lodge | fraternal organization, Country club, Golf course, General retail store (other than listed), Medical or scientific research laboratory, Utility lines, towers or metering station.

Accessory Uses

Caretaker's quarter's, Customarily incidental use, and Transit passenger shelter.

Permitted Uses - with Supplemental Use Standards (P*)

Dwelling, live/work, Business School, Public or private school, Veterinary clinic, Bank or financial institution, Sidewalk cafe, Hotel, luxury, Hotel, convention, Office, business or professional, Day Care Center, Telecommunication Facilities Building-mounted antennae and towers, Telecommunication Facilities Towers ≤75 ft Stealth towers ≤100 ft.

Accessory Uses

Accessory building (not listed below), Accessory use (not listed below), Alternative energy system, Electric vehicle charging station, Garage (private), Mobile food establishment, and Sidewalk café.

Uses permitted only with Specific Use Permit approval (S)

University | college | seminary, Cemetery, Alternative financial institution*, Bed and breakfast inn*, Marina, Small box discount store*, Gas well*, and Telecommunication Facilities Towers >75 ft Stealth towers >100 ft*.

* = supplemental use standards apply

LOCATION MAP
PD24-32

Planned Development (PD) for limited Office Commercial (OC) on approximately 74.399 acres.

N

Prepared: 10/9/2024

iii-1

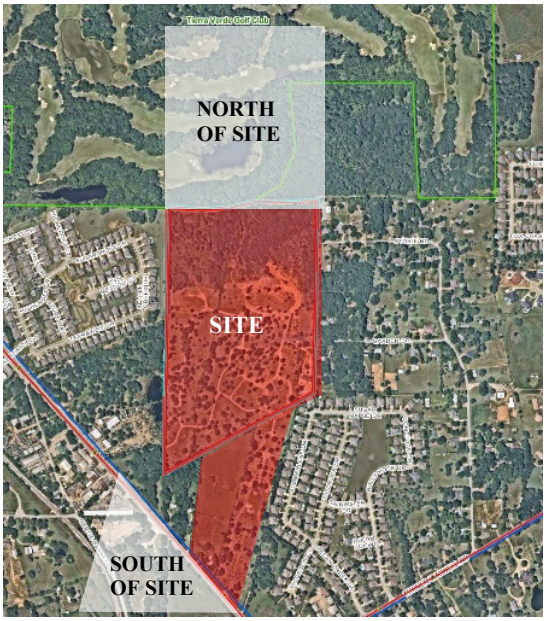
dyet

PD24-32

North of US 287 BUS Highway and west of Russell Curry Road.

Subject Site location on MAP

View Subject Site



Property on North and South of the Site

View South

View North

Property on East of the Site

View East

Properties on West of the Site

View West

SITE DATA TABLE		
GENERAL SITE DATA	**PER SITE PLAN**	**MAXIMUM**
PROPOSED BASE ZONING	PD/OC FOR CEMETERY, MORTURARY, CREMATORY, & FUNERAL CHAPEL	
LOT AREA (SF AND AC)	3,240,835 SF,/,74.399 AC	
DENSITY	NA	NA
BUILDING HEIGHT	NA	40'–0"
BUILDING COVERAGE	NA	NA
BUILDING SETBACKS	**PER SITE PLAN**	
FRONT MINIMUM	10'	
SIDE / REAR MINIMUM	0'	
ADJACENT TO SINGLE-FAMILY	20'	
PARKING	**PER SITE PLAN**	
EXISTING SURFACE PARKING SPACES	13	

0 50 100 200

1 inch = 100 ft.

CASE # PD24-32

DEVELOPMENT

CEDAR HILL MEMORIAL PARK
ARLINGTON, TEXAS

OWNER

WE – CEDAR HILL MEMORIAL PARK, INC.
15915 KATY FREEWAY, SUITE 500
CONTACT: MR. GERALD WILSON
EMAIL: GERALD.WILSON@CMACQ.COM

mma
civil engineering surveying landscape architecture planning
tbpels registration number: f – 2759
tbpels registration/license number: 10088000
519 east border
arlington, texas 76010
817-469-1671
fax: 817-274-8757
www.mmatexas.com

09/19/2024 SHEET 1 OF 1

PROJECT NARRATIVE

The purpose of this office commercial - planned development is to bring the current Cedar Hill Memorial Cemetery into zoning compliance as well as to change the zoning and incorporate an adjacent property for future cemetery use. In an effort to preserve the integrity of the neighborhood, the owner is proposing office commercial zoning since it is not as intensive as community commercial, where cemeteries are allowed by right. The 66.709-acre cemetery is presently under Village on the Green zoning and a non-conforming use. Simultaneously, an adjacent property (7.69 acres) zoned for single family residential has become available for purchase and would be for future expansion of the cemetery. State law prohibits any new cemeteries in cities with a population over 5,000. However, there are provisions for existing cemeteries to expand by acquiring adjacent property. The owner plans to continue cemetery operations of interment and provide all accessory buildings associated with funeral and cemetery operations. In good faith effort, the owner intends to keep the site in as natural condition as possible during future expansion of cemetery services.

Individual Petition of Support or Opposition to an Application for a Zone Change, Planned Development, Specific Use Permit, or Multi-Family Development Plan

In the matter of Case Number: PD24-32

I am the owner of property located at 8201 Bus 287 US Arlington

I am: ☑ in support of this application ☐ opposed to this application

Reasons: (optional) I do not want housing next door to me.

(If more room is needed for your comments, you may submit them in full to planningdevelopment@arlingtontx.gov)

Kim Wimberly
Printed Name

Kim Wimberly
Signature

Individual Petition of Support or Opposition to an Application for a Zone Change, Planned Development, Specific Use Permit, or Multi-Family Development Plan

In the matter of Case Number: PD24-32

I am the owner of property located at 8201 Bus US 287 Arlington.

I am: ☒ in support of this application ☐ opposed to this application

Reasons: Dont want homes next door.
(optional)

(If more room is needed for your comments, you may submit them in full to planningdevelopment@arlingtontx.gov)

Cattie Gillen Green
Printed Name

Signature

Staff Report

Zoning Case SUP24-9 (3007 E. Abram St.)	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Ordinance

RECOMMENDATION

Following the public hearing, consider Zoning Case SUP24-9 for approval of a Specific Use Permit (SUP) for a Telecommunication Tower greater than 75-feet.

PRIOR BOARD OR COUNCIL ACTION

None

Existing Site Conditions / History

The subject site was annexed into the City of Arlington in 1958. Immediately after annexation the site was developed as a commercial use. Since that time the site has remained consistent in its use as a bar. The surrounding areas began developing during this same time with uses designed to support the existing General Motors Plant established in 1954. The development trend with commercial and industrial uses along this corridor has remained consistent to present. The aerial images provide an overview of how the area evolved from 1958 to present.

1958 2001 2024

ANALYSIS

Request

The applicant requests approval of a Specific Use Permit (SUP) for a Telecommunication Tower greater than 75-feet in height on a site zoned Industrial Manufacturing (IM). If approved, a new tower will be established on the site to the rear of where the existing bar is located.

Unified Development Code (UDC) Section 10.4.6:

> A specific use permit (SUP) provides a means to develop certain uses in a manner that is compatible with adjacent property and consistent with the character of the neighborhood.

UDC Section 3.2.3.G Supplemental Use Standards for *Banquet Halls* provides, "In the Community Commercial (CC), General Commercial (GC), Neighborhood Mixed-Use (NMU) and Regional Mixed-Use (RMU), access to the lot or use must be from an arterial or major collector street as identified on the Thoroughfare Development Plan."

The site has one point of access from West Abram Street, a Major Arterial.

SPECIFIC USE PERMIT CONSIDERATIONS

The P&Z and the City Council shall base their decision on whether the proposed use:

1. Complies with the general criteria of Section 10.3.8. Criteria.
2. Complements or is compatible with the surrounding uses and community facilities; and
3. Contributes to, enhances, or promotes the welfare of the area and adjacent properties.
4. An ordinance approving a specific use permit may impose development standards and safeguards over and above those contained in these regulations. The City Council may, in the interest of the public welfare and to ensure compliance with this Code, establish reasonable conditions on the operation, location, arrangement, type, and manner of construction of any use for which a permit is authorized. Consideration is given based on the existing conditions and location with regard to the welfare and protection of adjacent property from noise, vibration, dust, dirt, smoke, fumes, gas, odor, explosion, glare, offensive view, traffic, or other undesirable or hazardous conditions.

An SUP expires in two years, if no development activity commences. An SUP can be written such that it is non-assignable and non-transferable.

Adjacent Land Uses

Properties to the north

Properties to the north are zoned Industrial Manufacturing (IM) and developed as a distribution loading area for General Motors.

Properties to the south

Properties across East Abram St are zoned General Commercial (GC) and developed with auto service center and commercial uses.

Property to the east

Zoned Industrial Manufacturing (IM) and developed as an animal hospital.

Property to the west

Zoned Industrial Manufacturing (IM) and developed as an auto service center.

Existing Site Conditions

The site is currently developed as Timberview High School. The school was developed in 2003.

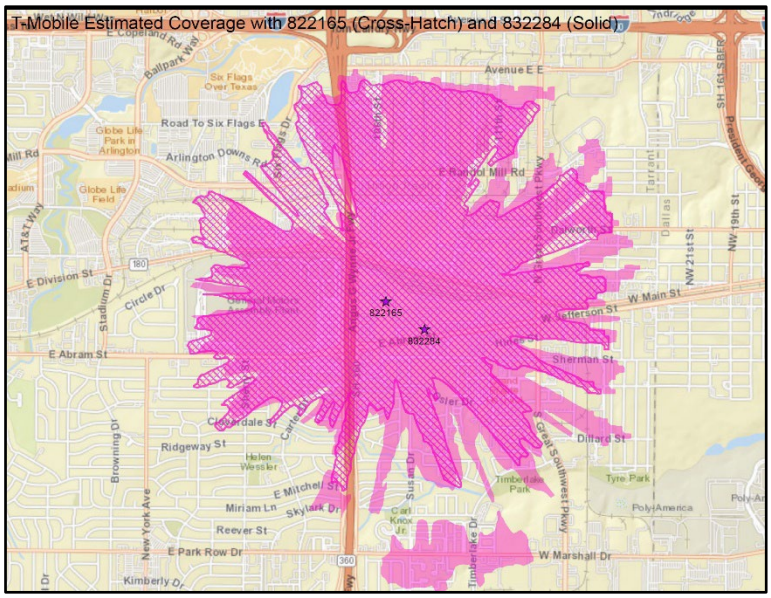
PROPOSED LAND USE

The applicant is requesting approval of the installation of a 105-foot-tall telecommunication tower in the northeast portion of the subject property. This request to establish a new telecommunications tower on this site is due to the expiration of a contractual agreement with the property owner at a site in the general proximity (117 South Watson Road, site No. 822165). The expiration requires the removal of the existing tower thus creating a need for the construction of this new tower.

Per the applicant, "Losing 822165 would cause a ripple effect on all of the neighbor sites as they would have to pick up additional traffic. This would likely degrade the network and customer experience. The new proposed site should be targeted to have a coverage footprint

that is as close to the existing footprint as possible. This would allow for the traffic capacity to stay distributed similar to what T-Mobile has today."

DEVELOPMENT PLAN ANALYSIS



This development proposes a 105-foot Telecommunication Tower, including the necessary equipment cabinets and a screening wall. Per **Section 3.2.4.C.a, Purpose and Intent**, decisions in relation to the approval or denial of Wireless Communication Towers shall be based off the following criteria.

Purpose and Intent

(i) The purpose of this section is to establish standards regulating the location of telecommunication towers and antennas with the objective of minimizing their number, to protect and promote public safety, and to mitigate any adverse visual impacts on the community while promoting the provision of telecommunications service to the public.

(ii) The regulations contained in this section have been developed under the following general guidelines as provided in the federal Telecommunications Act of 1996:

(1) Cities have local authority over the "placement, construction and modification" of cellular telephone facilities and other personal wireless telecommunication service facilities.

(2) Regulations "shall not unreasonably discriminate among providers of functionally equivalent services."

(3) Regulations "shall not prohibit or have the effect of prohibiting the provision of personal wireless services."

(4) "Denial shall be in writing and supported by substantial evidence."

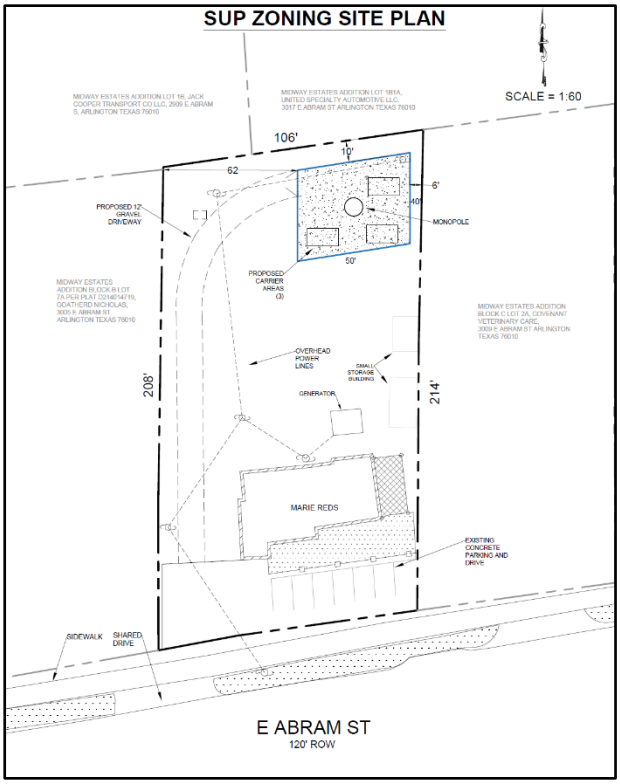
(5) Cities may not "regulate the placement, construction, and modification of personal wireless service facilities on the basis of environmental or radio frequency emissions to the extent that such facilities comply with the Federal Communication Commission's regulations concerning such emissions."

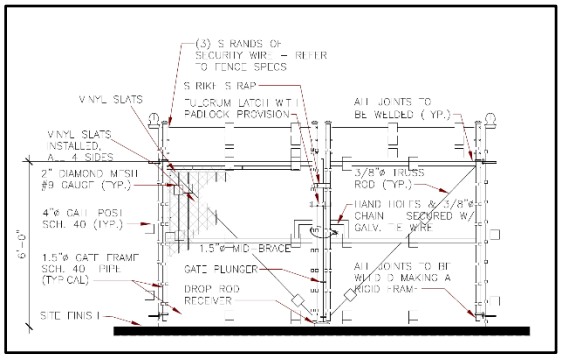
(iii) Notwithstanding any other provision of this ordinance, telecommunication towers and antennas, when permitted by federal law and the laws of the State of Texas shall be regulated and governed by the requirements in this section.

These standards are applicable to all zoning categories in the City of Arlington.

Design

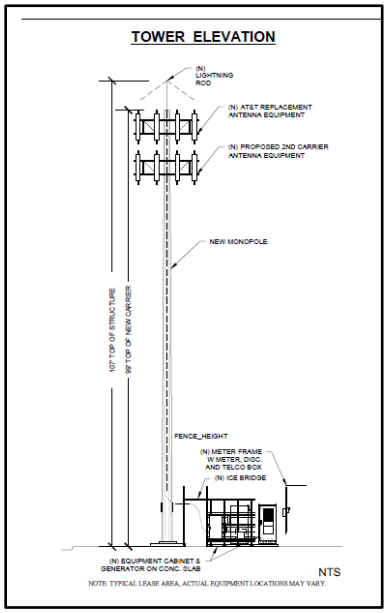
The applicant is proposing a 105-foot-tall telecommunications tower with a 40X50-foot lease space, secured by a six-foot chain-link fence with vinyl slats. Access to the equipment boxes shall be provided by a twelve-foot-wide double swing gate for truck access and a six-foot-wide pedestrian gate. Both access points shall be located on the west (non-street facing) side of the structure. The proposed tower location is screened from the public right-of-way by the existing building.





Parking Requirements

Per the UDC, Telecommunication Facilities require one parking space. Though the proposal removes four spaces for installation, the site is currently overparked. The site complies with the requirements of the UDC.



The applicant has proposed the use of the existing 12-foot-wide gravel drive to access the rear of the site. This is a deviation and will not be allowed as per UDC. Section 5.4.9.H of the UDC states "An all-weather surface parking facility shall be constructed of asphalt or concrete. The Zoning Administrator may approve the use of a porous paving system or other pervious surface."

Tree Preservation

There are no existing protected trees that will be affected on the site.

Drainage

The site is located in the North Cottonwood drainage basin and has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site if all relevant city ordinances are complied with.

Transportation

Due to the primary land use not changing, traffic patterns should not change significantly. The proposed new use will have no effect on the site.

Deviations
UDC 5.4.9.H.2, Materials
Required- An all-weather surface parking facility shall be constructed of asphalt or concrete. The Zoning Administrator may approve the use of a porous paving system or other pervious surface.

Proposed- A twelve-foot-wide existing gravel drive.

COORDINATION WITH OTHER PLANS
Comprehensive Plan (2015). Land use goals for this area are defined in the "Regional Industrial Center" Future Development Area. This area contains a wide range of commercial and industrial operations, a variety of work processes and workplaces such as manufacturing, warehousing, and distribution, research, and development activities, serving the entire region.

It is important to note the following "*Develop Our Land"* strategies as they relate to the proposed development:

1. *Promote land use patterns that reflect a mix of integrated community uses.*
2. *Encourage appropriate redevelopment and reinvestment that creates lasting value.*

Utilities such as water, sanitary sewer, stormwater management, solid waste collection, electric power, natural gas, and telecommunications are basic and necessary services provided to residents and businesses.

Hike and Bike System Master Plan (2011). There are no existing or planned bike and hike systems near the subject site.

Small Area and Corridor Plans/Strategies. This site is not within the boundaries of a small area or corridor study.

Thoroughfare Development Plan (2022). East Abram Street is a divided six-lane major arterial.

Capital Improvement Projects. There are no capital improvements planned nearby or adjacent to the subject site.

Historic Resources Survey (2007). This site does not have any structures impacted.

Staff Considerations
Should the Planning and Zoning Commission decide to recommend approval of this request, staff recommends the following considerations for improvement.

1. Improve the access drive to asphalt or concrete as required by the Unified Development Code.

ADDITIONAL INFORMATION

Attached:	i. Case Information ii. Itemized Allowable Uses iii. Location Map iv. Photos v. 11X17 Development Plan vi. T-Mobile estimated coverage support vii. Letters of support (2 pages)
Under separate cover:	None

Available in the City Secretary's office: None

CITY COUNCIL DATE December 17, 2024

STAFF CONTACTS

Lisa Sudbury, AICP
Development Planning Manager
Planning and Development Services
817-459-6532
Lisa.Sudbury@arlingtontx.gov

Kevin Charles
Principal Planner
Planning and Development Services
817-459-6515
Kevin.Charles@arlingtontx.gov

Case Information

Legal Applicant: Vincent Gerard and Associates Inc.
5524 Bee Cave Rd Unit K4
Austin, TX 78746
512-328-2693

Property Owner: Jeane Gustafson

Sector Plan: East

Council District: 1

Allowable Uses: See attachment ii-1.

Development History: The subject site is platted

Transportation: The proposed development will have a point of access from East Abram Street, and Osler Drive.

Thoroughfare	Existing	Proposed
East Abram Street	114-foot ROW 6-lane divided Major Arterial	114-foot ROW 6 lane-divided Major Arterial

Traffic Impact: There is no change in zoning. No significant impact to the adjacent roadway systems is expected.

Water & Sewer: Water and Sanitary Sewer are available to the Site. A 10-inch water distribution line is located along the south side of the Abram Street right of way. An 8-inch sanitary sewer line is located along the approximate center line of Osler Drive.

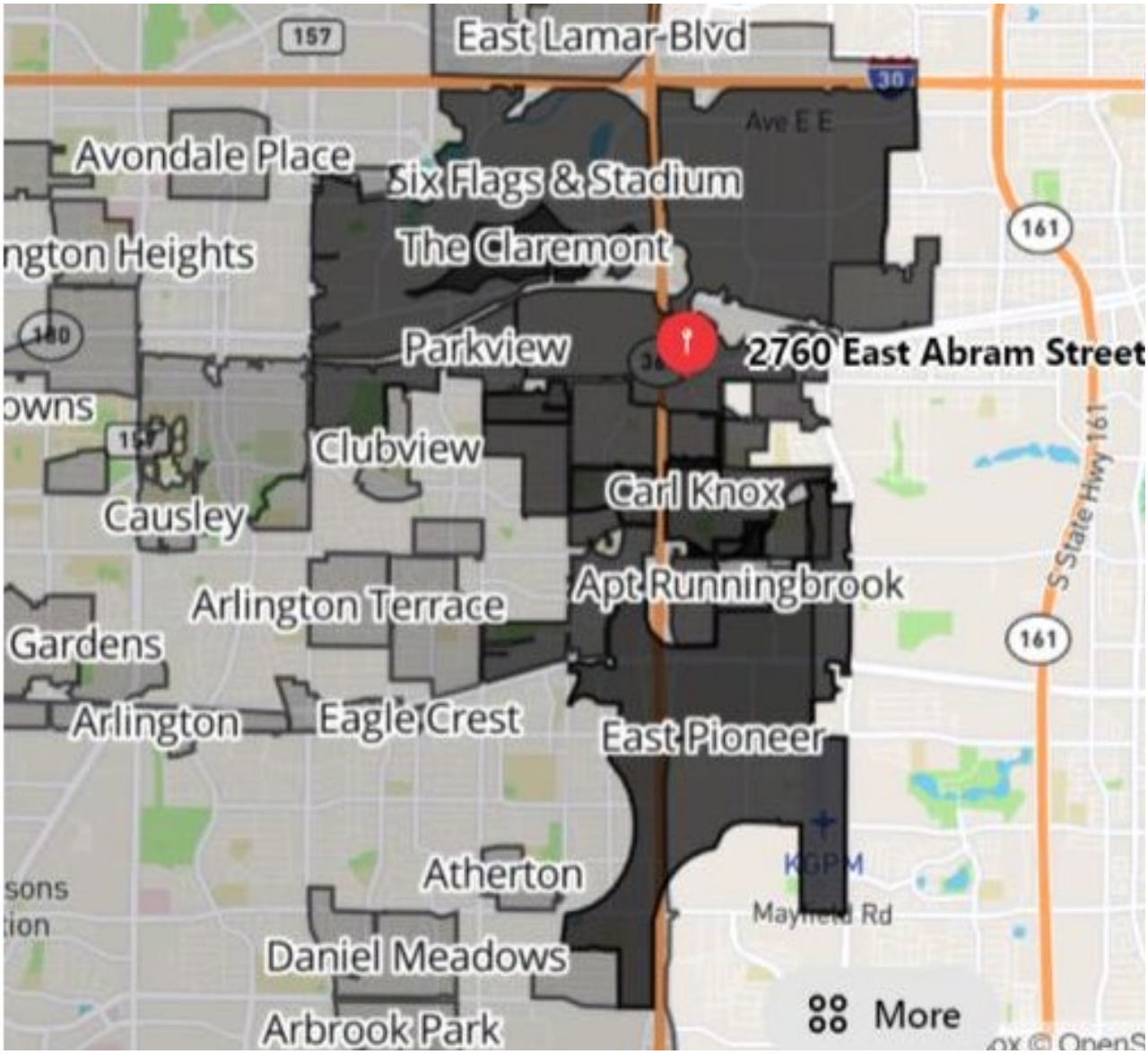
Drainage: The Site is located in the North Cottonwood Creek Drainage Basin. The Site has no portion within the FEMA floodplain. No significant drainage impacts are expected to result from development of this site as long as all relevant City ordinances are complied with.

Fire: Fire Station #5, located at 2921 East Randol Mill Road, provides protection to this site. The estimated fire response time is less than five minutes, which is in keeping with recommended standards.

School District: Arlington Independent School District.

Case Information

This notice was posted to 2,000 neighbors in 15 neighborhoods within 1-mile of the subject site. Map is attached.



Property Owners:	11
Letters of Support:	0 pages
Letter of Opposition:	0 pages

Itemized Allowable Uses

Allowable Uses: **IM INDUSTRIAL MANUFACTURING**

Permitted Uses (P)
Art gallery or museum, Domestic violence shelter, Emergency shelter, Government administration and civic buildings, Mortuary │crematory│funeral chapel, Philanthropic institution (other than listed), Religious assembly, Hospital, Medical or dental office or clinic, Cemetery, Community garden, Public park or playground, Animal production, Crop production, Kennel, commercial, Veterinary clinic, Auto service center, Car wash, Gasoline sales, Motor vehicle rental, Motor vehicle sales, new, Catering service, Restaurant, Restaurant take-out and delivery only, Office business or professional, Telemarketing call center, Bail bond service, General personal services (other than listed), Massage therapy clinic, Tattoo parlor or piercing studio, Gun range (indoor), Lodge│fraternal organization, Recreation indoor (other than listed), Country club, Golf course, Recreation, general outdoor (other than listed), Boat and accessory sales, rental and service, Building and landscaping materials and lumber sales, General retail store (other than listed), Firearm sales, Nursery, garden shop or plant sales, Pawn shop, Second-hand goods store, Swimming pool, spa and accessory sales and service, Cleaners, Flex-Office or Commerce, Food processing, Heavy machinery rental, sales,and service, Medical or scientific research laboratory, Microbrewery│microdistillery│winery, Wrecker service, Custom and craft work, Manufacturing and Assembly, Small-Scale, Manufacturing, light, Manufacturing, heavy, Salvage yard (indoor), Railroad yard, shop, or roadhouse, Transit passenger terminal, Electric utility substation, Radio or TV station or studio, Utility lines, towers, or metering station, Utility installation other than listed, Cold storage plant, Contractors plant, shop and/or storage yards, Distribution center │ warehouse, and Wholesale supply business.

Accessory Uses
Caretaker's quarter's, Customarily incidental use, Garage (private), and Transit passenger shelter.

Permitted Uses - with Supplemental Use Standards (P*)
Business school, Trade school, University│college│ seminary, Stables commercial, Auto repair garage, major, Motor vehicle sales, used, Bank or financial institution, Bar, Restaurant with drive-though, Hotel, luxury, Hotel, upper upscale, Hotel, convention, Nightclub│live entertainment venue, Open-air vending, Package liquor store, Tobacco, E-cigarette, CBD and CHP Retail Stores, Sexually oriented business *(prohibited in the area of the Interstate 20 corridor bounded by Cooper Street on the west, Arbrook Boulevard on the north, State Highway 360 on the east, and Bardin Road on the south; also prohibited in the DNO-IM),* Building maintenance sales and service, Flex, Office or Commerce, Telecommunication Facilities Building-

mounted antennae and towers, Telecommunication Facilities Towers ≤75 ft Stealth towers ≤100 ft, and Self-Storage Facility.

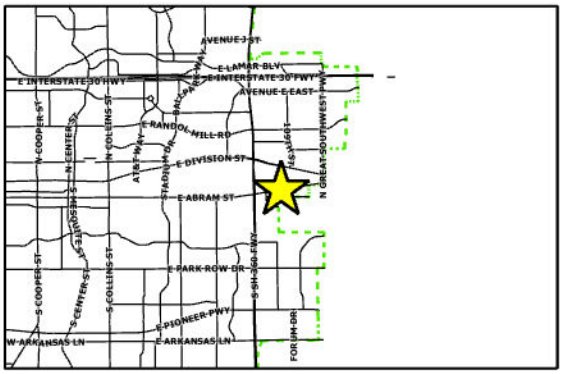
Accessory Uses
Accessory building (not listed below), Accessory use (not listed below), Alternative energy system, Electric vehicle charging center, Mobile food establishment, Outside display and sales, Outdoor storage, Recycling collection center, and Sidewalk cafe.

Uses permitted only with Specific Use Permit approval (S)
Halfway house, Correctional facility, Public or private school, Alternative financial institution*, Hotel, upscale*, Day care center*, Gun club, skeet or target range (outdoor), Marina, Small box discount store*, Speciality paraphernalia sales, Asphalt or concrete batch plant, Gas well*, High-impact use, Salvage yard (outdoor)*, Airport or landing field, Electric generating plant, and Telecommunication Facilities Towers >75 ft Stealth towers >100 ft*.

LOCATION MAP
SUP24-9

REQUEST FOR SPECIFIC USE PERMIT (SUP) FOR A WIRELESS TOWER ON 6.69

N

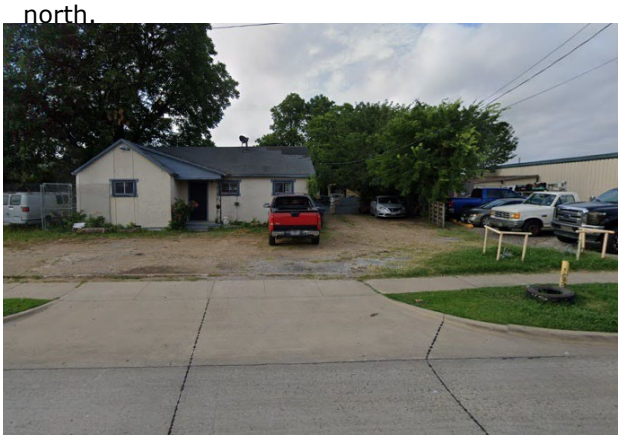


SUP24-9

North of E. Abram St. and east of N. Watson Road.

Subject site from East Abram Street, view north.

Adjacent site, view west.



Developed lots across East Abram Street from the subject site, view south.

Adjacent site, view east.

SUP ZONING SITE PLAN

PROJECT INFORMATION:

SITE NAME - BU822165 BEST HOTEL RELOCATION

OWNER
CROWN CASTLE
1220 AUGUSTA DR STE 500 HOUSTON TEXAS 77057
1.877.486.9377

PROJECT TYPE
RELOCATION OF EXISTING MONOPOLE UNMANNED TELECOMMUNICATION FACILITY, CONSISTING OF FUTURE EQUIPMENT PLATFORMS, SHELTERS, DIRECTIONAL AND GPS ANTENNAS

CROWN CASTLE CONTACT
TYLER RICHARDS
TYLER.RICHARDS@CROWNCASTLE.COM
PHONE: (281) 995-0763

APPLICANT
VINCENT GERARD & ASSOCIATES
1715 CAPITAL OF TEXAS HWY SOUTH
CONTACT: VINCE HUEBINGER
PHONE: 512.326.2693

UTILITIES
ELECTRIC PROVIDER
CPS ENERGY
PHONE: 210.353.2222

ONE-CALL TEXAS
CONTRACTOR TO CALL BEFORE DIGGING
PHONE: 811 OR 1.800.545.6000

LANDOWNER
GUSTAFSON JEANNE,
3007 E ABRAM ST ARLINGTON TEXS 76010,
201 ARMADILLO RANCH RD
HUNTSVILLE, TX 77320

PERMITTING
COUNTY: TARRANT COUNTY
JURISDICTION: CITY OF ARLINGTON - FULL PURPOSE
OCCUPANCY: BAR AND RESTAURANT
ZONING: INDUSTRIAL MANUFACTURING
BUILDING CODE: 2021 IBC
WATERSHED: JOHNSON CREEK
USE: BAR / RESTAURANT
PROPOSED TELECOMMUNICATION FACILITY

SITE LOCATION
LAT: 32° 44' 14.44" N (NAD 83)
LONG: 97° 03' 21.14" W (NAD 83)

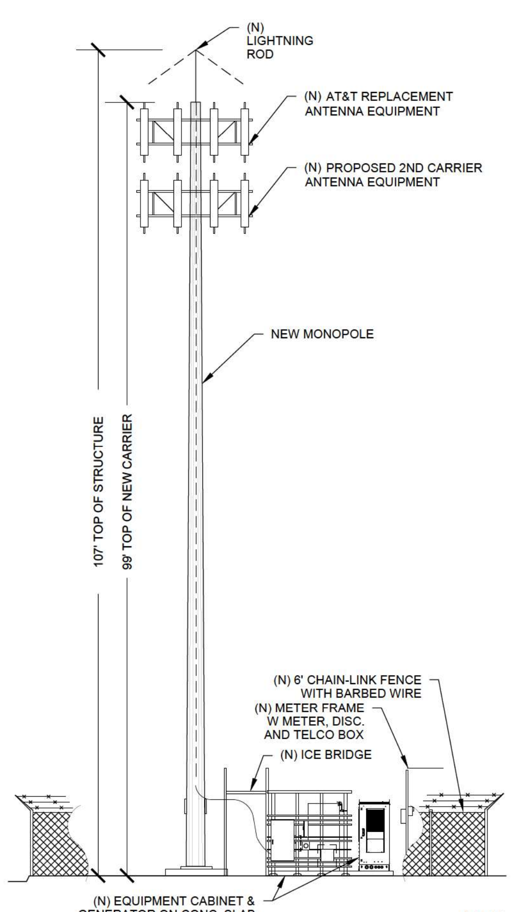
LEGAL DESCRIPTION
MIDWAY ESTATES ADDITION BLOCK C LOT 1 A PER PLAT D214014719

ADDRESS
3007 E ABRAM ST ARLINGTON, TEXAS 76010
(911 TO BE DETERMINED)

ZONING
IM - INDUSTRIAL MANUFACTURING

Tower notes - this site complies with Section 2.3.11 for setbacks and wireless facilities in Arlington codes. The site in IM Industrial Manufacturing is a replacement site for an existing site to be decommissions 1290 feet to the northwest. By code it requires an SUP approval. Landscaping per pre-development meeting can be waived due to the site is not visible from the ROW or single family uses.

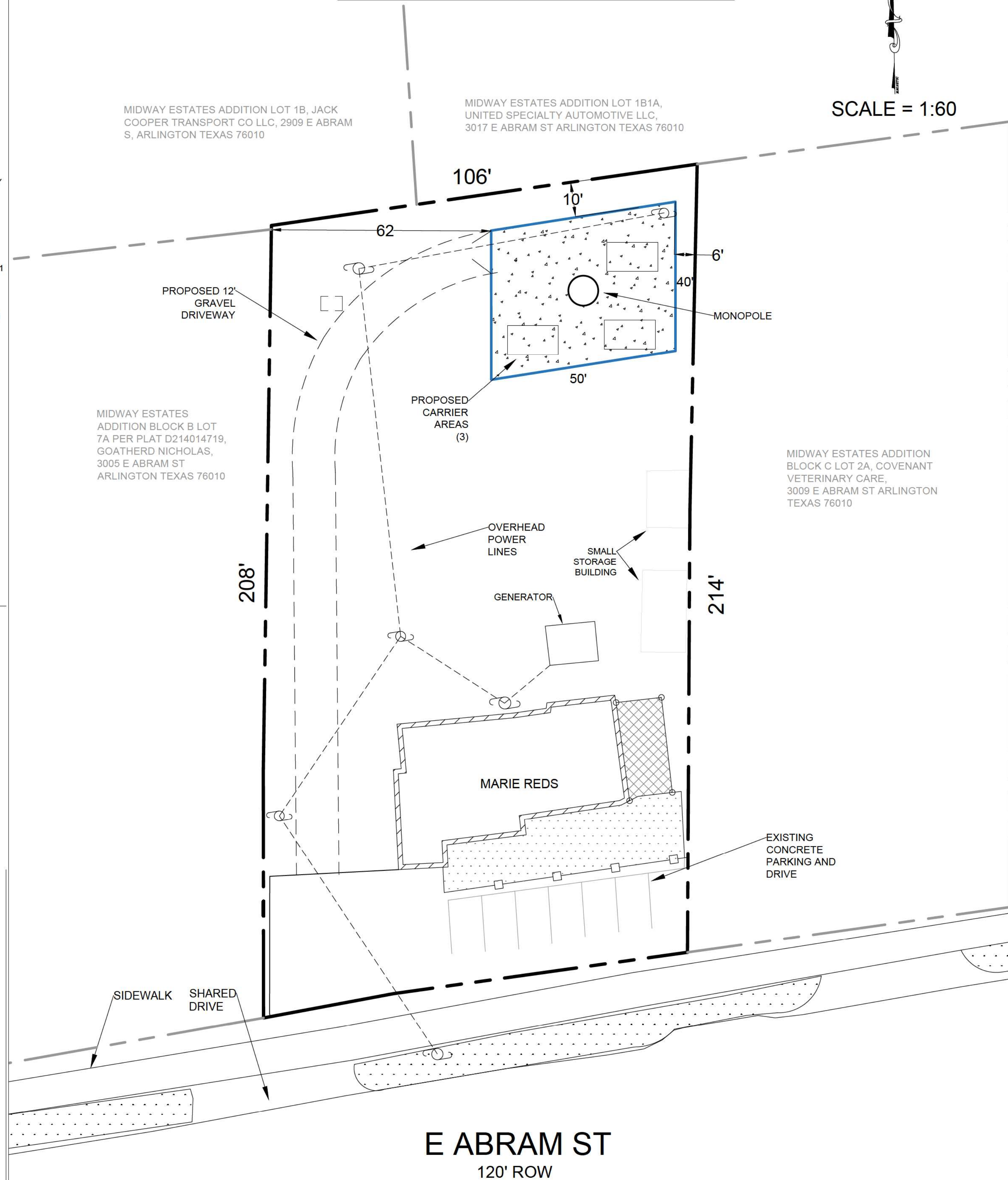
TOWER ELEVATION



NTS

NOTE: TYPICAL LEASE AREA, ACTUAL EQUIPMENT LOCATIONS MAY VARY.

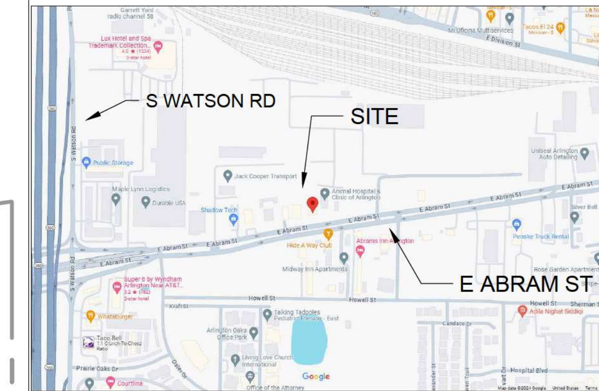
SCALE = 1:60



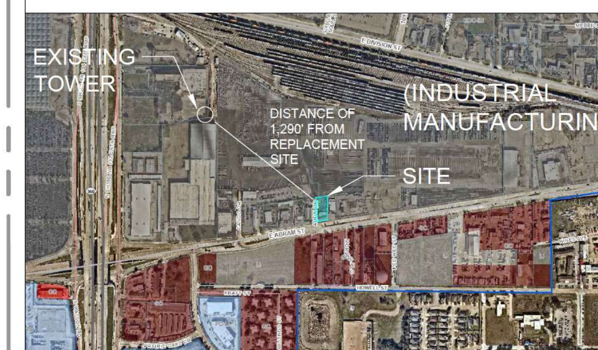
E ABRAM ST

120' ROW

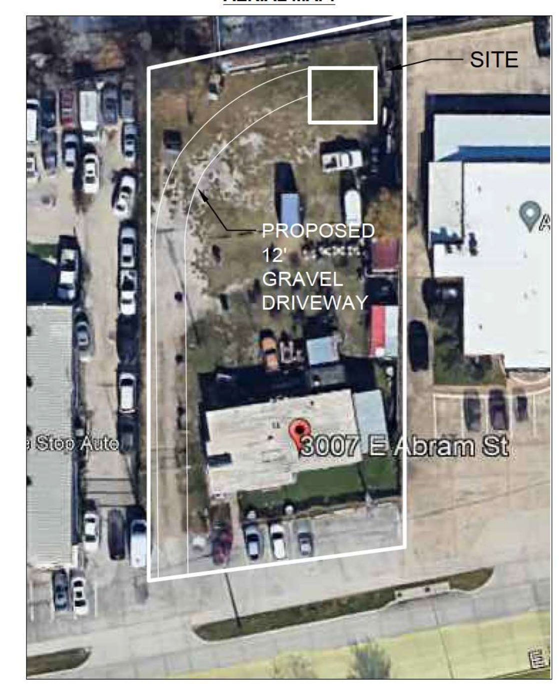
VICINITY MAP:



ZONING MAP:



AERIAL MAP:



CITY OF ARLINGTON APPROVAL

Signature, X______________________

Printed Name, X____________________

Date: _____/____/_______

CROWN CASTLE

PROSSNER

VINCENT GERARD & ASSOCIATES

SITE INFORMATION
3007 E ABRAM ST ARLINGTON TEXS 76010, TARRANT COUNTY

PROPERTY OWNER
GUSTAFSON JEANNE, 3007 E ABRAM ST ARLINGTON TEXS 76010

TOWER OWNER
CROWN CASTLE 1220 AUGUSTA DR STE 500 HOUSTON, TX 77057

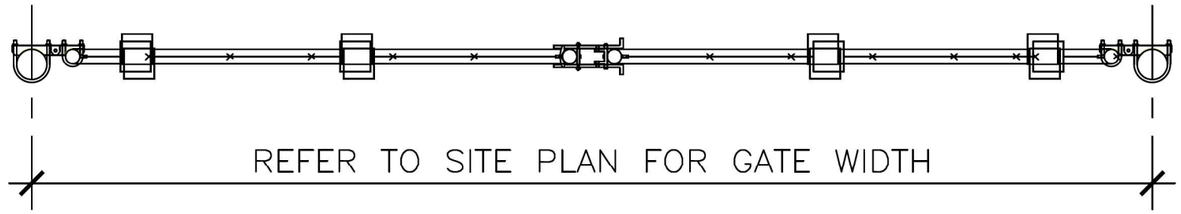
SET ISSUED FOR PERMIT | DATE

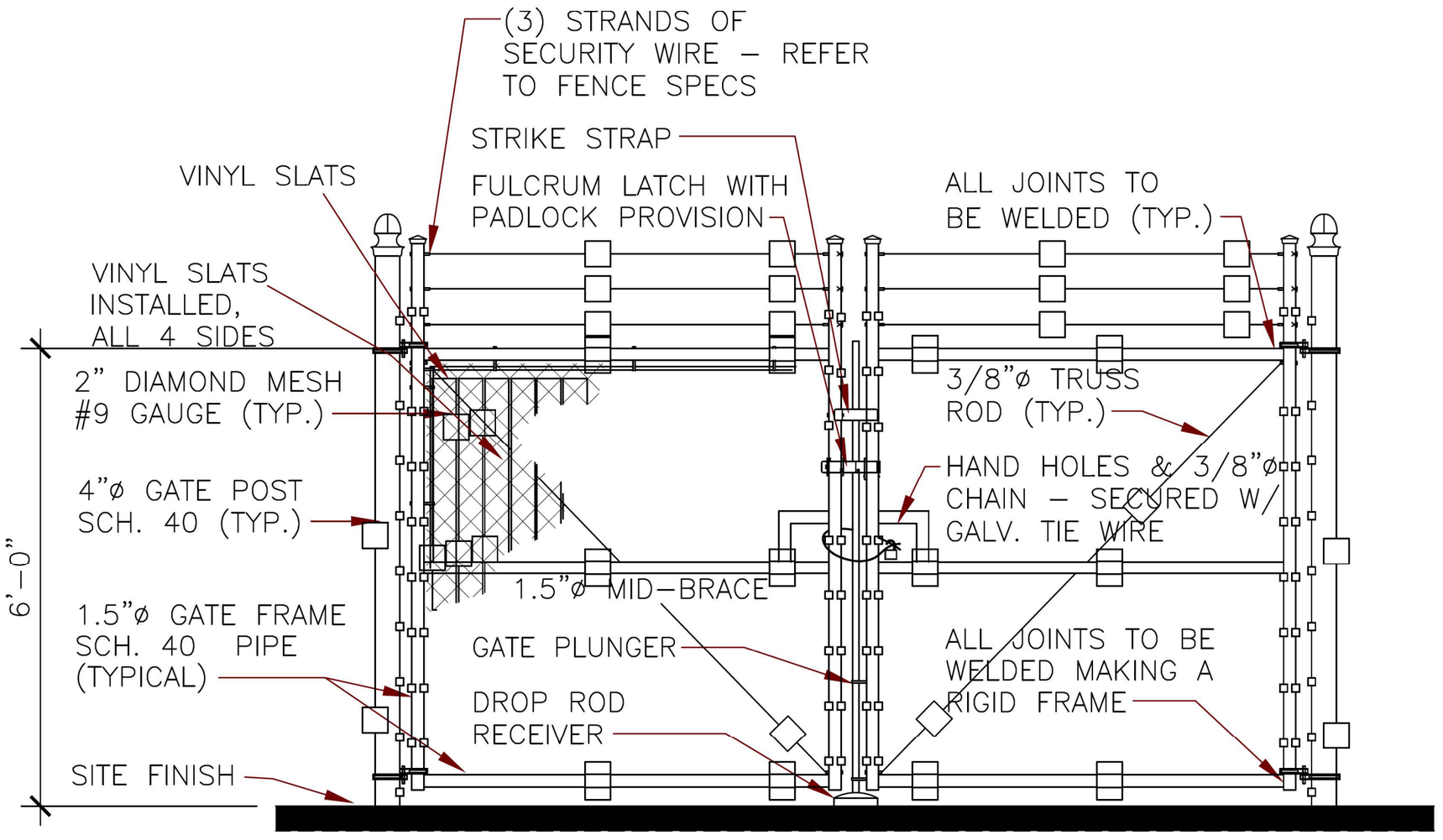
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN BY	REVIEWED BY
---	VGH

1

FENCING/GATE DETAIL





CROWN CASTLE

PROSSNER
AND ASSOCIATES, INC.
ENGINEERING FIRM NO. F-1506
13375 PEGGY ROAD, SUITE 104
AUSTIN, TEXAS 78729
512.918.1340

VINCENT GERARD & ASSOCIATES
LAND PLANNING & ZONING CONSULTANTS
1715 S. CAPITAL OF TEXAS HWY.
AUSTIN, TEXAS 78746
(512)329-0007 - vince@vincentgerard.com

SITE INFORMATION
3007 E ABRAM ST
ARLINGTON TEXS
76010, TARRANT
COUNTY

PROPERTY OWNER
GUSTAFSON JEANNE,
3007 E ABRAM ST
ARLINGTON TEXS
76010

TOWER OWNER
CROWN CASTLE
1220 AUGUSTA DR STE
500
HOUSTON, TX 77057

SITE NAME
BEST HOTEL RELO
BU# 822165

SET ISSUED FOR
PERMIT

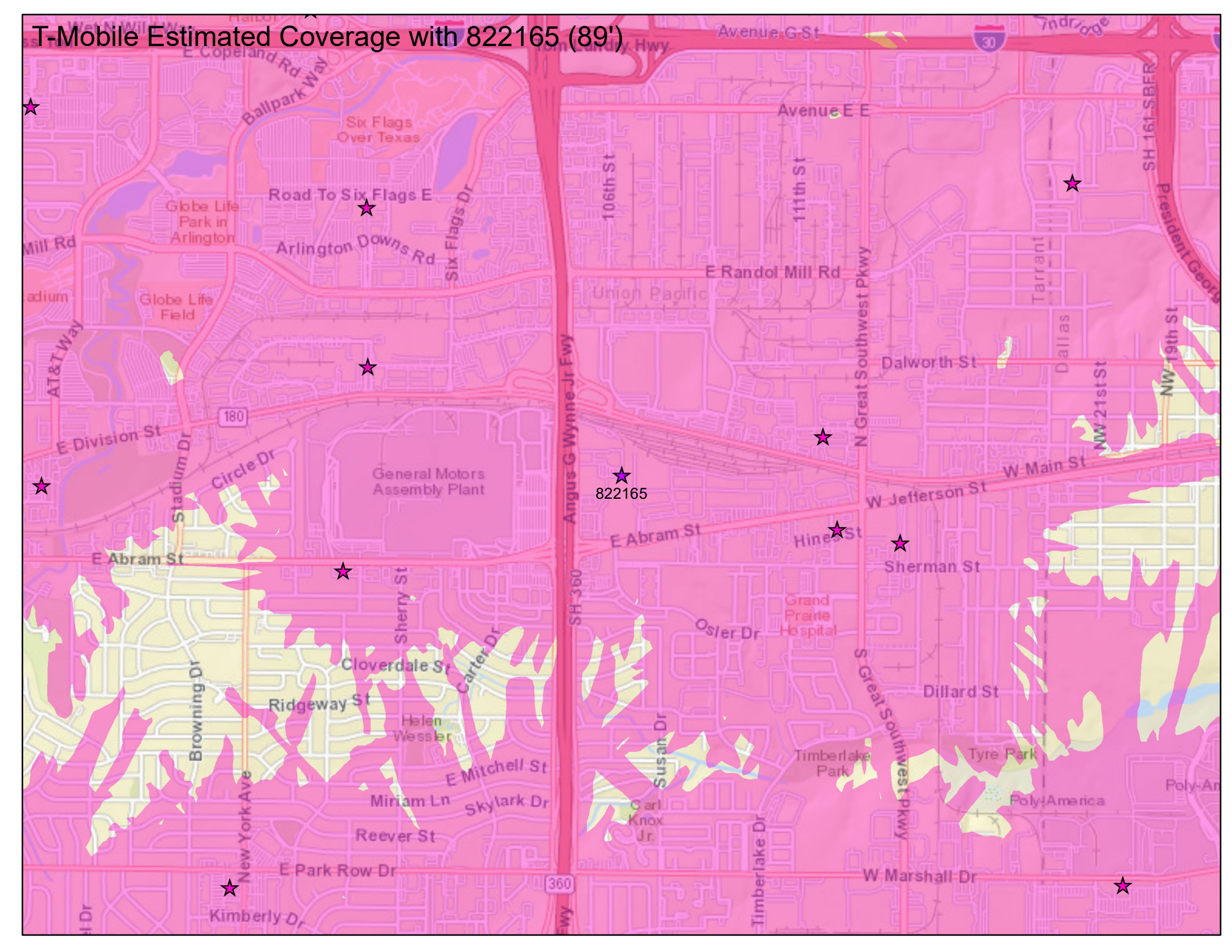
DATE

REVISIONS

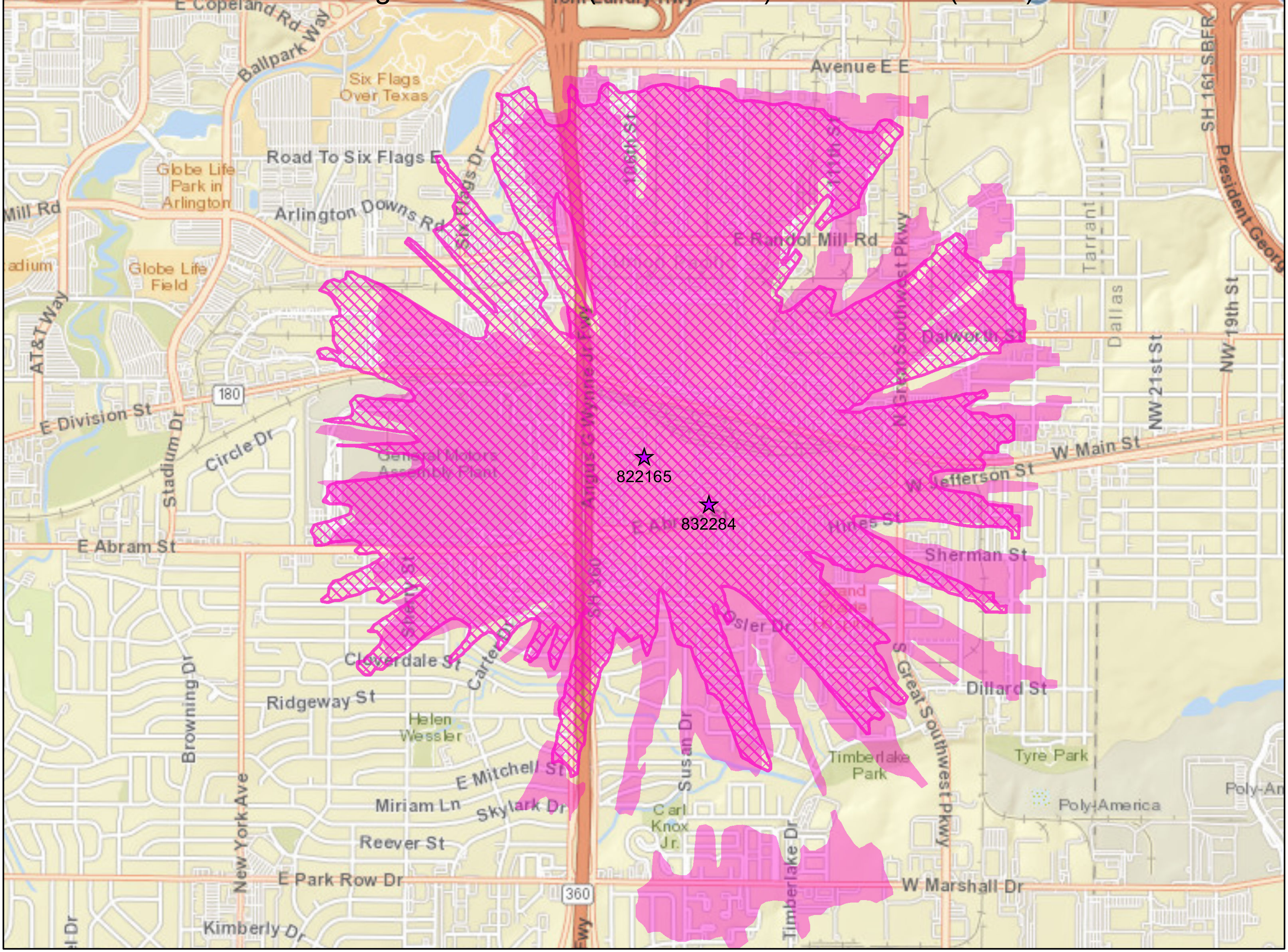
NO.	DESCRIPTION	DATE

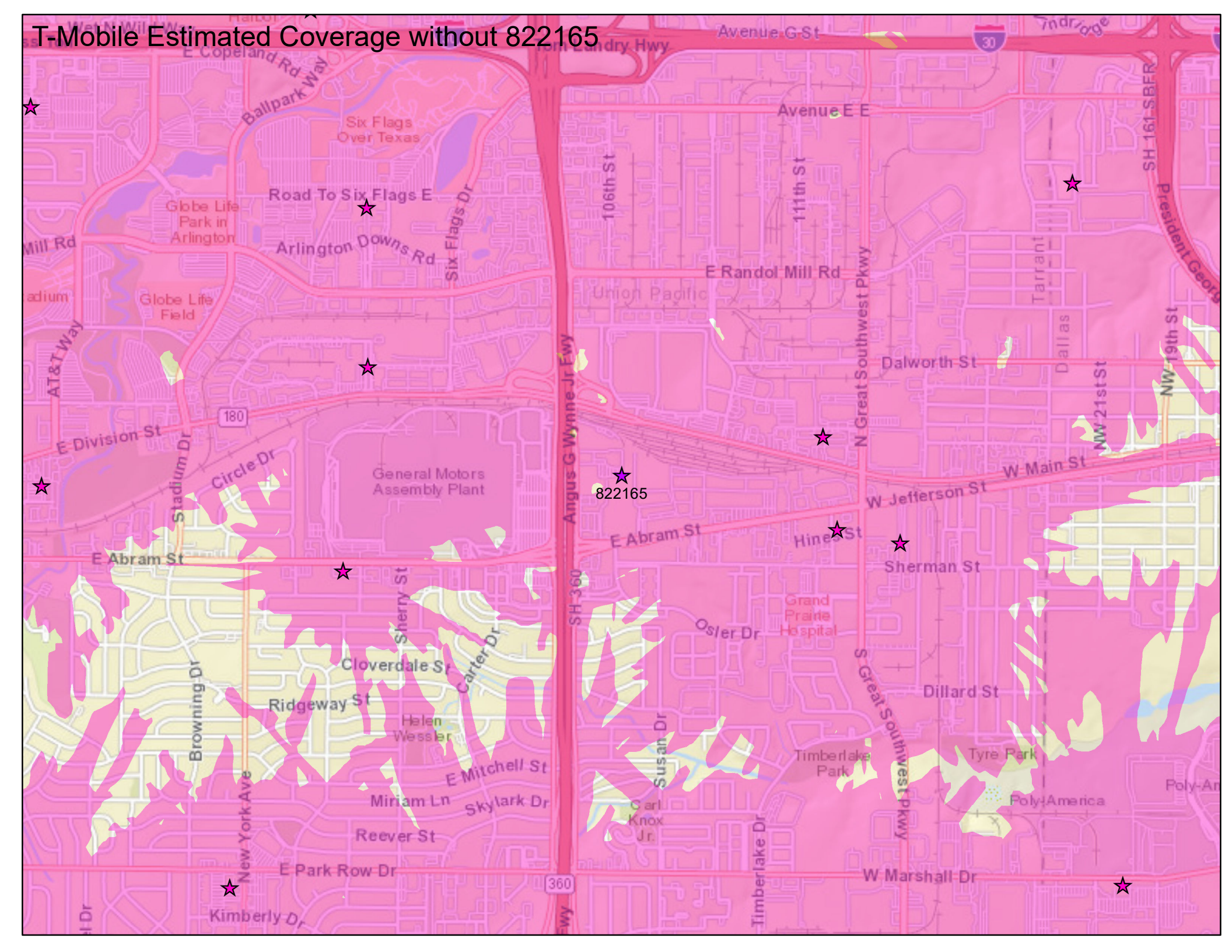
DRAWN BY	REVIEWED BY
----	VGH

2


T-Mobile Estimated Coverage with 822165 (89')
822165
Avenue G St
E Copeland Rd
Ballpark Way
Six Flags Over Texas
Road To Six Flags E
Six Flags Dr
Globe Life Park in Arlington
Arlington Downs Rd
Mill Rd
Globe Life Field
AT&T Way
106th St
111th St
Avenue E E
SH 161 SBFR
President George
E Randol Mill Rd
Union Pacific
N Great Southwest Pkwy
Tarrant
Dallas
NW 21st St
NW 19th St
Dalworth St
Angus G Wynne Jr Fwy
180
E Division St
Stadium Dr
Circle Dr
General Motors Assembly Plant
W Main St
W Jefferson St
E Abram St
Hines St
Sherman St
Sherry St
SH 360
Grand Prairie Hospital
Osler Dr
Cloverdale St
Carter Dr
Browning Dr
Ridgeway St
Helen Wessler
E Mitchell St
Miriam Ln
Skylark Dr
New York Ave
Reever St
Susan Dr
Timberlake Park
Carl Knox Jr.
S Great Southwest Pkwy
Dillard St
Tyre Park
Poly-America
Timberlake Dr
E Park Row Dr
W Marshall Dr
360
Kimberly Dr

T-Mobile Estimated Coverage with 822165 (Cross-Hatch) and 832284 (Solid)




T-Mobile Estimated Coverage without 822165
822165
Avenue G St
E Copeland Rd
Ballpark Way
Six Flags Over Texas
Road To Six Flags E
Six Flags Dr
Globe Life Park in Arlington
Arlington Downs Rd
Mill Rd
Globe Life Field
AT&T Way
E Division St
180
Stadium Dr
Circle Dr
General Motors Assembly Plant
E Abram St
Sherry St
Browning Dr
Cloverdale St
Ridgeway St
Carter Dr
Helen Wessler
E Mitchell St
Miriam Ln
Skylark Dr
Reever St
New York Ave
E Park Row Dr
Kimberly Dr
Angus G Wynne Jr Fwy
SH 360
106th St
111th St
Avenue E E
E Randol Mill Rd
Union Pacific
N Great Southwest Pkwy
Dalworth St
Tarrant
Dallas
NW 21st St
NW 19th St
SH 161 SBFR
President George
W Main St
W Jefferson St
Hines St
Sherman St
Grand Prairie Hospital
Osler Dr
S Great Southwest Pkwy
Dillard St
Susan Dr
Timberlake Park
Carl Knox Jr
Timberlake Dr
Tyre Park
Poly-America
W Marshall Dr
360
30

Vincent Huebinger

From: Richards, Tyler <tyler.richards@crowncastle.com>
Sent: Friday, July 12, 2024 11:59 AM
To: Vincent Huebinger
Subject: FW: RF Underwriting Requests RITM0920565/TASK0613008 Commented
Attachments: T-Mobile Estimated Coverage with 822165 (Cross-Hatch) and 832284 (Solid).pdf; T-Mobile Estimated Coverage without 822165.pdf; T-Mobile Estimated Coverage with 832284 (98').pdf; T-Mobile Estimated Coverage with 822165 (89').pdf

Hey Vince,

RF plots attached and summary below. LOA is with LL for signature.

Thanks,

TYLER RICHARDS, PMP
Crown Castle Real Estate | Project Manager – Site Development
T: (713) 570-3060
M: (281) 995-0763

CROWN CASTLE
8020 Katy Freeway, Houston, TX 77024
CrownCastle.com

From: Crown Castle Service Desk <Service.Desk@CrownCastle.com>
Sent: Friday, July 12, 2024 10:03 AM
To: Richards, Tyler <tyler.richards@crowncastle.com>
Subject: RF Underwriting Requests RITM0920565/TASK0613008 Commented

Short Description: RF Underwriting Requests - Fulfillment Task - We need RF Plot maps showing current coverage with BUN 822165, coverage without BUN 822165, and proposed coverage
Task Description:

Comments:

07/12/2024 11:02:22 AM EDT - Michael Hrycko Additional comments

Hey Tyler -

Attached are the requested plots showing the estimated coverage with and without 822165, as well as with 832284, for T-Mobile at the requested heights.

This area is heavily congested and the sites in this area are strategically planned for traffic distribution and network capacity. As a result, the coverage doesn't tell the whole story with this site. If 822165 were to go away, T-Mobile wouldn't see much impact from a coverage perspective. Where T-Mobile would be significantly impacted is with the traffic and capacity. The existing sites are designed to carry a certain amount of traffic. Losing 822165 would cause a ripple effect on all of the neighbor sites as they would have to pick up additional traffic. This would likely degrade the network and customer experience. The new proposed site should be targeted to have a coverage footprint that is as close to the existing footprint as possible. This would allow for the traffic capacity to stay distributed similar to what T-Mobile has today.

As a result, I included an additional plot that I feel tells the story much better. It shows T-Mobile's estimated coverage with 822165 and with 832284 (without the coverage from the neighbor sites) on the same plot. This plot indicates that 832284 is a strong relocation choice since the coverage footprints are fairly similar. They wouldn't want the proposed coverage footprint to be much larger or smaller than the existing footprint.

Please let me know if you have any further questions/comments or if there is anything else that you need.

Thank you and have a great weekend!

Mike

Requested Item Details:

Requested for: Tyler Richards (jrichards)
Requestor's Manager: Sonny Pieper (spieper)
Type of Request:: All Other RF Request
Please Enter the Title of your Project: Relocation from 822165 to new site BUN 832284
Please Enter the Source BUN(s): We need RF Plot maps showing current coverage with BUN 822165, coverage without BUN 822165, and proposed coverage with TMO at the 98' RCL

on proposed new BUN 832284
Please Enter Target Location / BUN: BUN 832284
Please Enter Lat-Long of Target in Decimal Format: (e.g. 40.2997, -80.1764): 32.737317, -97.055933
Request Type: Relocation
Coverage/Capacity Site (Optional): Coverage
Proposed Tower Height: 105'
Carriers Associated: T-Mobile
Plot Request Type: Coverage Without Tower, Current Coverage, New Coverage with Candidate or new Tower
Project Details: These plots will be used as a part of our zoning application.
Engineer Requested: Michael Hrycko (MHrycko)

Click this link to view TASK0613008

You may reply to this email to provide additional information regarding this item. The assigned agent will be notified of any updates provided.

Ref:MSGP_30998253_urKKRaNjBb5xUN2p9

Individual Petition of Support or Opposition to an Application for a Zone Change, Planned Development, Specific Use Permit, or Multi-Family Development Plan

In the matter of Case Number: SUP 24-9

I am the owner of property located at 3004 E. ARBOL ST.

I am: ☑ in support of this application ☐ opposed to this application

Reasons: (optional)

(If more room is needed for your comments, you may submit them in full to planningdevelopment@arlingtontx.gov)

Bicke Pallett
Printed Name

Signature

Individual Petition of Support or Opposition to an Application for a Zone Change, Planned Development, Specific Use Permit, or Multi-Family Development Plan

In the matter of Case Number: SUP24-9

I am the owner of property located at 307 East Abrams Street, Arlington, Texas

I am: ☑ in support of this application ☐ opposed to this application

Reasons: I have an aggreement with Crown Castle Inc. to install a cell tower on my property.
(optional)

(If more room is needed for your comments, you may submit them in full to planningdevelopment@arlingtontx.gov)

Jeanne G. Gustafson
Printed Name

Jeanne G. Gustafson
Signature

Staff Report

Zoning Case PD24-10 (300 East Stephens Street)	
Planning and Zoning Meeting Date: 11-13-2024	Document Being Considered: Continuance

RECOMMENDATION
Approve a request for a continuance to the December 4, 2024, P&Z meeting by the applicant.

PRIOR BOARD OR COUNCIL ACTION
On June 26, 2024, the Planning and Zoning Commission made a motion to approve PD24-10. The motion failed by a vote of 2-7-0.

On August 6, 2024, the City Council approved an appeal for PD24-10 and remanded the case back to the Planning and Zoning Commission, by a vote of 9-0-0.

Request
The applicant requests a change in zoning on approximately 9.792 acres of land addressed at 300 East Stephens Street; generally located south of East Interstate Highway-20 and west of Dr. Martin Luther King Jr. Drive.

Current zoning: Airport Overlay (APO)-General Commercial (GC)

Requested zoning: Airport Overlay (APO)-Planned Development (PD) for Residential Multi-Family-22 (RMF-22) uses, plus 5,000 square feet of coworking space, with a Development Plan.

ADDITIONAL INFORMAITON
Attached:

i. Location Map
ii. Applicant request

STAFF CONTACTS

Lisa Sudbury, AICP
Development Planning Manager
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817-459-6532
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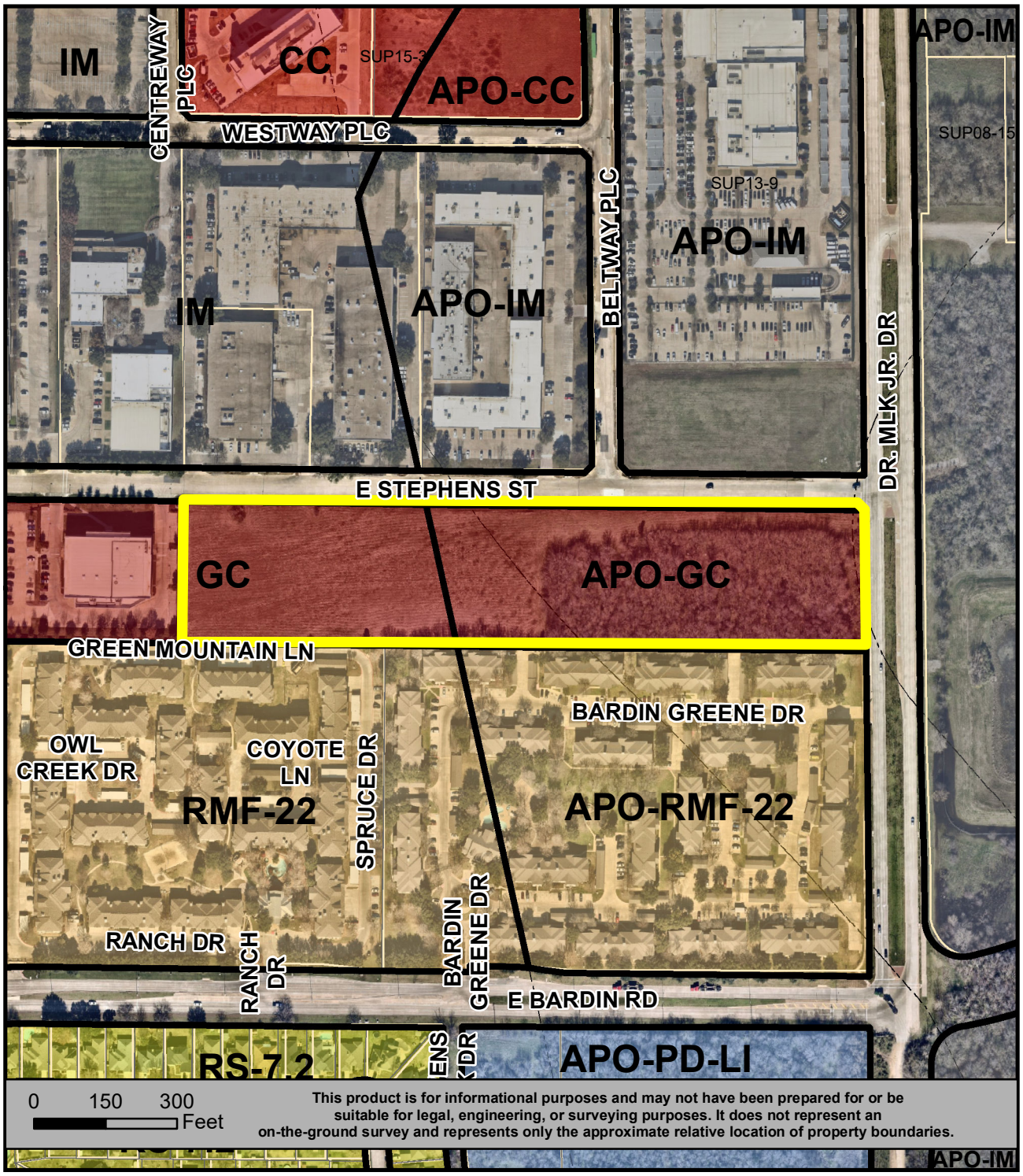
Clifford Gholston
Principal Planner
Planning and Development Services
817-459-6670
Clifford.Gholston@arlingtontx.gov



LOCATION MAP
PD24-10

REQUEST FOR PLANNED DEVELOPMENT FOR RMF-22 ON 9.792 ACRES

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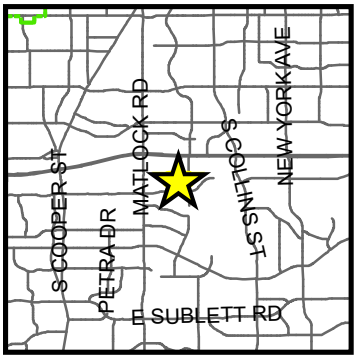

Prepared: 5-30-2024

Clifford Gholston

From: Nikki Moore [redacted]
Sent: Friday, November 1, 2024 9:32 AM
To: Clifford Gholston
Cc: Bryan Grant; Rusty Ross; Gincy Thoppil
Subject: [EXTERNAL EMAIL] Jefferson Stephens P&Z Date

External Email: **Stop, Look, Think before clicking attachment or link**. **Report Phishing.**

Clifford,

JPI would like to delay going to Planning and Zoning until December 4th for the Jefferson Stephens project. Can we please adjust notices accordingly?

Thank you,

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Nikki Moore, MPA
A.N. Moore Consulting, LLC
817-454-0491