



November 10, 2023

Joseph J. Jackson, PE, CFM
County Engineer – Tarrant County, TX
100 E Weatherford, Room 401
Fort Worth, Texas 76196

**RE: *Pavement Width Variance Request for Civitas at Crowley
Tarrant County, Texas
Kimley-Horn Registration No. F-928***

Mr. Jackson,

Though these driveways are private streets and private streets are required to be constructed to the same dimensions as minor arterials per the 2012 Subdivision Regulations & Minimum Roadway Construction Standards (2012 Regulations), we respectfully request a variance for the minimum pavement section dimensions as shown in the 2012 Regulations for the following reasons.

This property is not being subdivided. Tarrant County defines a roadway as “The portion of a Right-of-Way that allows for the passage of vehicles between properties or between intersecting roadways.” After development, this property will remain a single lot which is owned, operated, and maintained by a single private entity not multiple private entities. Private streets have, in the past, been constructed to serve multiple lots without dedicating rights-of-way. This is not the case with this development. These driveways will remain the private property of Civitas at Crowley, LLC, its heirs, successors, and assignees only to serve as access to and within the single, privately, managed property and not between this property and another.

Finally, we believe that the 25 ft. pavement width shown in the plans should be permitted as it meets the current section used by Tarrant County per Figure 2 on Page 26 of the new Engineering Standards Manual (see attached). The one exception is that we are utilizing rollover/mountable curbs instead of the standard 6” wide curbs shown in the Engineering Standards Manual. The 25 ft. wide section is wider than the minimum 20 ft. width approved for a fire lane in the 2015 Edition of the International Fire Code as approved by the Tarrant County Fire Code. It is also the required width per the City of Fort Worth’s Fire Lane, Hydrant, Access, and System Requirements (see attached).

For the reasons stated above we believe that this development should be permitted to utilize the pavement section shown on the plans and respectfully request a variance on the matter.

Sincerely,



Peyton McGee, PE

peyton.mcgee@kimley-horn.com

3.05. Roadway Cross Sections

Figure 1: Local Road Section, Rural – 70' ROW n.t.s.

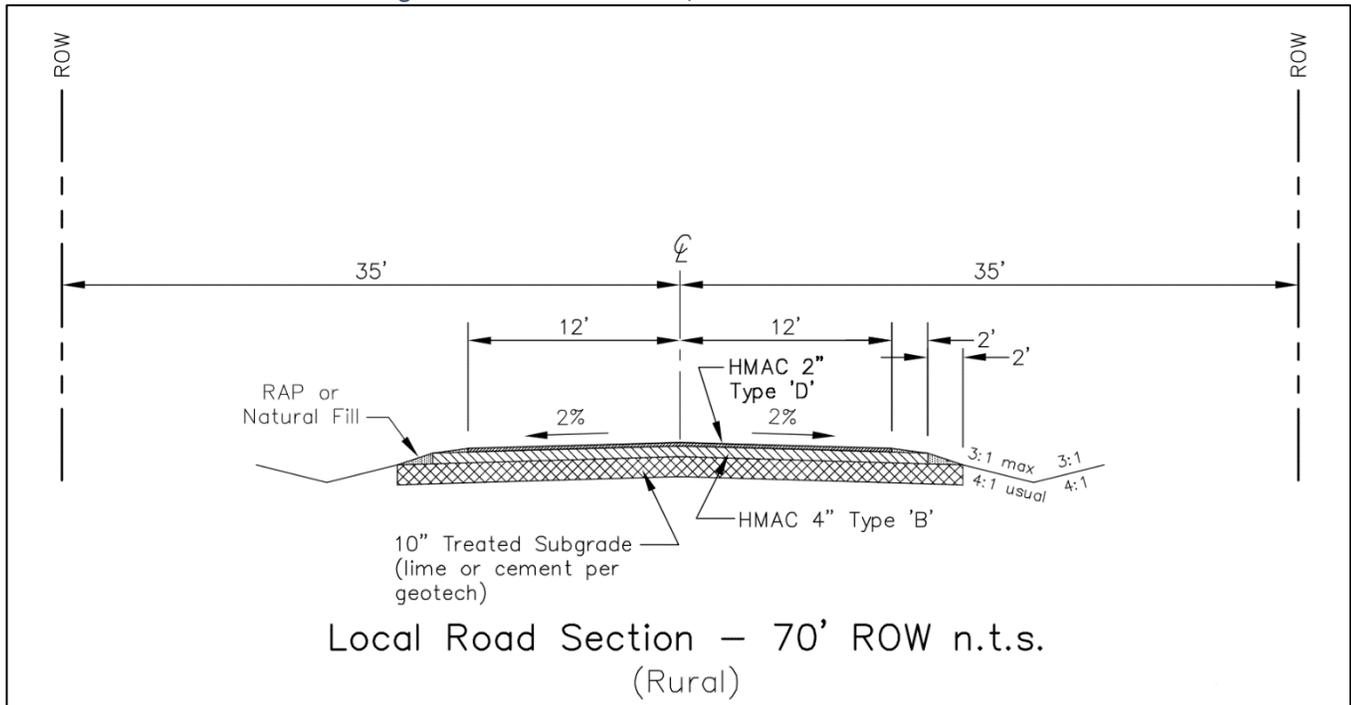
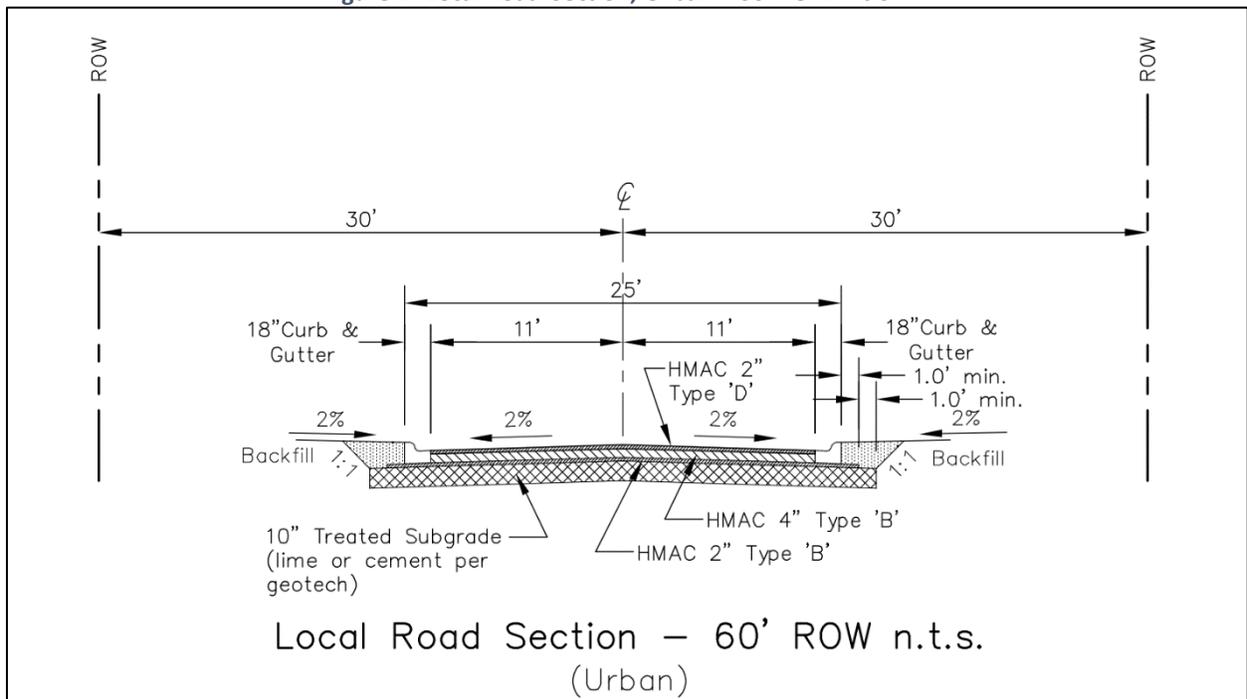


Figure 2: Local Road Section, Urban – 60' ROW n.t.s





CITY OF FORT WORTH, TEXAS

FIRE LANE, HYDRANT, ACCESS AND SYSTEM REQUIREMENTS

Based on the International Fire Code (2021 edition) and
The City of Fort Worth Fire Code Amendments (effective 4/1/22)

The below sections are not inclusive of all requirements.

Section Numbers reference the Fort Worth Fire Code, unless noted otherwise.

GENERAL

(Fire Lanes and Fire Hydrants during construction)

501.4 Timing of Installation. When fire access roadways, fire lanes, and fire hydrants are required to be installed for any structure or development, they shall be installed, tested, and approved prior to the time of which construction has progressed beyond completion of the foundation of any structure, unless otherwise approved (UOA) by the fire code official. Reference Section 503.2.3 (Surface).

Exception: Tilt-wall and noncombustible construction – construction access roads shall accommodate all fire lane requirements of this code, with the exception of surface type and marking. Fire lanes and fire hydrants shall be complete and approved prior to any combustible materials storage at the construction site or combustible construction, including, but not limited to, roofing materials.

{NOTE: Where secondary access is required by the Fire Code, only one approved access is required for the purpose of vertical construction only. No occupancy shall be allowed prior to completion and approval of all required accesses. Fire Apparatus Access roads serve as Emergency Access for purposes other than fire fighting, such as ambulance and/or construction accident response, hazardous materials response incidents, etc.}

(Site Safety Plan and Fire Watch during construction)

3303.1 Site Safety Plan: Required for all new construction >20,000 sq. ft. area maintained on-site in accordance with Chapter 33.

3305.5.1 Fire Watch: Fire watch shall be conducted by the Owner or General Contractor or their authorized representative during construction for combustible construction upon exceeding 2 stories in height or 20,000 sq. ft. area, and for noncombustible construction upon exceeding 40 ft. in height and 50,000 sq. ft. area per story. Such fire watch is required until applicable fire protection systems are functional and approved.

FIRE LANES

503.1.1 Buildings and Facilities: Fire lanes shall be provided within **150 ft.** of all portions of the facility, measured along a minimum 5 ft. wide unobstructed pathway around the external walls of the structure. One- and two- family dwellings do not require the 5 ft. pathway for measurement.

Exception: The fire code official has authorized an increase from 150 ft. to 300 ft. hose lay distance when the building is fully sprinklered, subject to the following exceptions:

- a. If the building is classified as a Group H Occupancy (Hazardous per Chapter 50), or is classified as having high-piled combustible storage (Chapter 32), the fire lane shall be within 150 ft., regardless of sprinkler protection.
- b. If the building is more than 55 ft. high, Section 503.1.2 and 4 below apply.

{This is a measurement tool for establishing fire apparatus access road location requirements — it is not a requirement to set buildings back a minimum distance from a property line or other structure.}

503.1.2 Secondary Access:

1. Developments of one- or two-family dwellings having more than 30 units must be provided with two separate and approved fire apparatus access roads. This number may be increased to 40 if an additional access point

FIRE DEPARTMENT – BUREAU OF FIRE PREVENTION

is provided that will connect with a future development. Approved preliminary plats must be phased such that they do not violate this ruling.

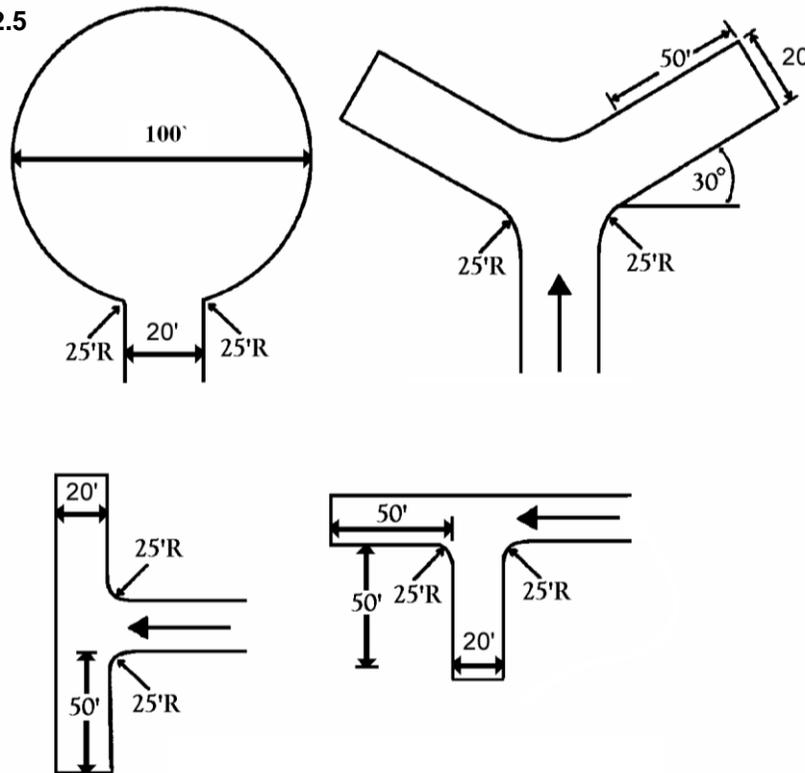
2. Developments of multi-family dwellings having more than 100 units must be provided with two separate and approved fire apparatus access roads.
3. Buildings greater than 55 ft. in height and Group E and H occupancies require two separate and approved fire apparatus access roads that shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between access points.

503.1.4 Buildings > 55 ft. in Height: A building which is more than 55 feet in height shall be accessible by a dedicated street or fire apparatus access road that is not less than 15 feet nor more than 25 feet from the inside curb to the building face along at least one-half of the length of two sides of the building.

503 Fire Lane Specifications:

1. **503.2.1** Minimum width of fire lane ≥ 20 ft., except multi-family complexes ≥ 26 ft. **See Group E (schools) fire lane policy below.
2. **503.2.1** Minimum vertical clearance ≥ 14 ft.
3. **503.2.3** Minimum capacity $\geq 85,000$ Lbs. with asphalt or concrete driving surface.
4. **503.2.4** Minimum inside turning radius ≥ 25 ft.
5. **503.2.4** Minimum outside turning radius ≥ 45 ft., except multi-family complexes ≥ 51 ft.
6. **503.2.7** Maximum grade $\leq 6\%$, with some exceptions (no aerial operations needed).
7. **503.2.5** Maximum dead-end without turnaround ≤ 150 ft.
8. Turnarounds shall comply with Figure 503.2.5.

Figure 503.2.5



****Group E (schools) fire lane policy for pick-up/drop-off/queuing areas only:** In addition to secondary access requirements, where pick-up/drop-off/queuing areas are proposed (by parents or buses), Fire Department access shall be provided and evaluated on a case-by-case basis to ensure adequate access to the front addressed entrance of the facility. This is to ensure that Fire Department access is maintained at all times for emergency response to and from the school.

FIRE DEPARTMENT – BUREAU OF FIRE PREVENTION

503.3 Marking. Approved striping or signs shall be provided and maintained for fire apparatus roads to identify such roads and prohibit the obstruction thereof. Signs and striping shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

1. **Striping.** Fire apparatus access roads shall be marked by painted lines of red traffic paint six inches (6") in width to show the boundaries of the lane. The words "NO PARKING FIRE LANE" shall appear in four inch (4") white letters at 25 feet intervals on the red border markings along both sides of the fire lanes. Where a curb is available, the striping shall be on the vertical face of the curb.
2. **Signs.** Shall read "NO PARKING FIRE LANE" and shall be twelve inches (12") wide and eighteen inches (18") high with a companion sign twelve inches (12") wide and six inches (6") high stating "TOW AWAY ZONE." Signs shall be painted on a white background with letters and borders in red, using not less than two inch (2") lettering. Signs shall be permanently affixed to a stationary post and the bottom of the sign shall be six feet, six inches (6',6") above finished grade. Signs shall be spaced not more than fifty feet (50') apart along both sides of the fire lane. Signs may be installed on permanent buildings or walls or as approved by the code official."

ACCESS (Gates and Key Boxes)

503.6 Security gates. Except as prohibited by other ordinances, the installation of security gates that restrict fire department access to a property or access to the fire apparatus access road require approval by the fire code official. Where security gates are installed, an approved means of emergency operation is required. The security gates and approved means of emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be *listed* in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

503.6.1 Manual gates. Manually operated gates shall have an approved lock installed to allow fire department access. A hold-open device shall be installed, such that the gate will remain in the open position until manually released to close.

503.6.2 Electric gates. Electrically operated gates shall be operated with an approved key switch. The key switch shall be installed on the column or post near the electrical control box (preferably on the right hand side). When the key switch is operated, the gate shall remain in the open position until manually reset. A mechanical manual release or a "fail safe" gate operating mechanism shall be provided for electrically operated gates in case of power failure.

Electric gate operators shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

An Access Control Permit from the fire department is required for electrically operated gates. For multi-family occupancies where gates are provided that obstruct fire apparatus access roads, at least one gate shall be electric and comply with the requirements of this section.

503.6.3 Dimensions. All gates crossing fire apparatus access roads shall have a minimum twenty (20) feet clear width when opened.

503.6.4 Existing gates. All manual gates restricting fire department access that are locked shall comply with Section 503.6.1. All electric gates restricting fire department access shall comply with Section 503.6.2. Section 503.6.3 may be applied retroactively when required by the fire code official where it is determined that fire department access is restricted by such gate(s). When an electric gate operator must be replaced, such replacement shall comply with all requirements of Section 503.6.

506.1 Key boxes. In any building which contains an elevator, any building or complex which contains a fire alarm system, or when access to or within a structure or an area is unduly difficult because of secured openings, or where immediate access is necessary for life saving or firefighting purposes, a key box shall be installed. The key box shall be a type approved by the fire code official and shall contain keys to gain necessary access to any areas required by the code official. Keys to elevators, fire alarm control panels, and safety data sheets shall be included in the key box. When installed for the primary purpose of providing access to the fire alarm system serving an apartment complex, the key box shall be placed at the exterior entrance of the property manager's office and shall be suitably marked as such.

506.2 Key box maintenance. The operator of the building shall immediately notify the fire code official and provide the new key when a lock is changed or rekeyed. the key to such lock shall be secured in the key box.

506.3 Location. Key box shall be located at the front of the building six (6) to eight (8) feet above grade level and within five (5) feet of the right side of the main entrance as viewed from the outside, unless an alternate location is approved or directed by the fire code official, such as fire pump or sprinkler riser room access doors."

{NOTE: Visit www.knoxbox.com and reference Fort Worth Fire Dept when ordering.}

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FIRE HYDRANTS

507 Fire Hydrants: All fire hydrants shall be accessible to the fire department apparatus by roadways meeting the requirements of Section 503. Fire hydrants shall be installed in accordance with the following criteria:

1. **507.5.1(1)** R-3 and Group U Occupancies:
 - a. ≤ 1,000 ft. (500 ft. radius) of space between hydrants along a direct horizontal line, and
 - b. ≤ 600 ft. hose lay distance to all points of building.
2. **507.5.1(2)** All other occupancies:
 - a. ≤ 600 ft. (300 ft. radius) of space between hydrants along a direct horizontal line, and
 - b. ≤ 500 ft. hose lay distance to all points of building.
3. **507.5.1(3)** Maximum distance from Fire Department Connection (FDC):
 - a. ≤ 150 ft. for a standpipe system, and/or a sprinkler system.
4. **507.5.1(4)** ≥ 2 ft., but ≤ 9 ft., from curb of fire lane. Provide bollard protection as required by Section 312.
5. **507.5.4** ≥ 3 ft. clear space required around circumference of fire hydrants.
6. **NFPA 24** ≥ 40 ft. from building, or as approved by fire code official.
7. **507.5.1(5)** Fire hydrant steamer outlet ≥ 18 inches, but ≤ 48 inches, above grade level.
8. **507.5.1(6)** Only National Standard Thread, three-way hydrants that **open in the clockwise direction** are acceptable, per Water Department specifications.
9. **507.5.1(9)** All private hydrants shall be painted red and shall be properly maintained by the property owner. Public hydrants shall be painted aluminum, per Water Department specifications.
10. **105.6.25** Construction Permit required from Fire Department for all private underground fire mains by State Fire Marshal-licensed Underground Contractor only.

FIRE DEPARTMENT CONNECTIONS (FDC)

903.3.7.1 / 905.1.1 New or replaced Fire Department Connection (FDC) installations shall be equipped with locking FDC caps as approved by the code official. Existing FDC's will require approved locking FDC caps to be installed when directed by the code official.

912.2 All FDC's shall be located within 50 ft. of a dedicated street or fire apparatus access road and shall be within 150 ft. hose lay distance of the nearest fire hydrant. Each building shall be equipped with its own FDC, UOA.

FIRE PROTECTION SYSTEMS AND 2021 IFC CHANGES

Fire protection systems are required based on the occupancy classification, occupant load, square footage and height of the building. This building information is determined/confirmed by the City's Development department. Refer to Section 903 for fire sprinkler requirements and Section 907 for fire alarm requirements.

Significant changes for the 2021 IFC include but are not limited to:

- Firefighter Air Replenishment Systems (FARS) are now required for any new building construction ≥ 5 stories, ≥ 2 stories below grade, or ≥ 500,000 sq. ft. in area, as per Appendix L.
- Emergency Responder Radio Coverage Systems (ERRCS) may be required as per Section 510. We now require signal strength testing to be conducted by a NICET-certified radio contractor for any new building construction ≥ 3 stories, or anything over 50,000 sq. ft., or any basements (below grade levels), and any facility having Low-E or RF blocking windows. Such test shall be conducted at substantial completion – fully enclosed, with results provided to the Bureau of Fire Prevention.
- Open parking garages may now require fire sprinklers dependent upon their height, size, etc. (Section 903).
- All dry pipe fire sprinkler systems must meet the 60 second trip time requirement, regardless of volume (Section 903).

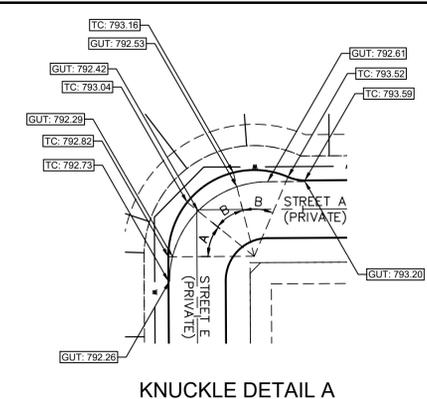
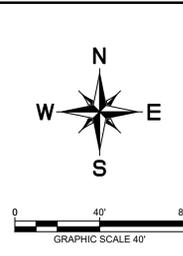
Reference Appendix I of the Fort Worth Fire Code Amendments with regard to all Fire Department Construction Permit Fees.

Complete Fire Code amendments are available at:

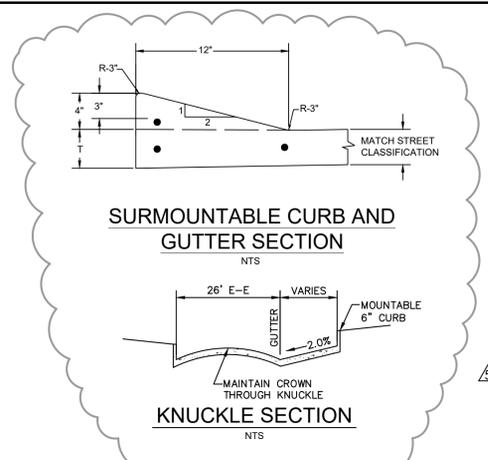
**<https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:bfe7bd63-2235-4a06-9f28-9fcef05079e8>, and permit applications / permitting portal are available at:
<https://www.fortworthtexas.gov/departments/fire/services/bureau>.**

FIRE DEPARTMENT – BUREAU OF FIRE PREVENTION

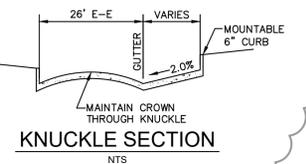
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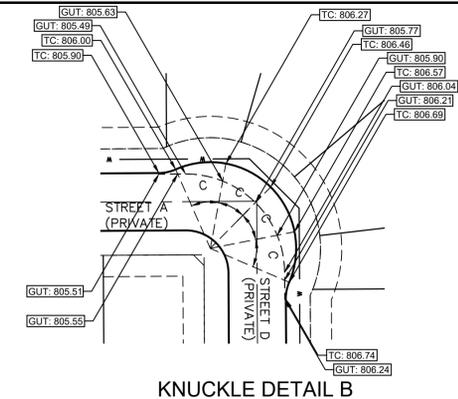
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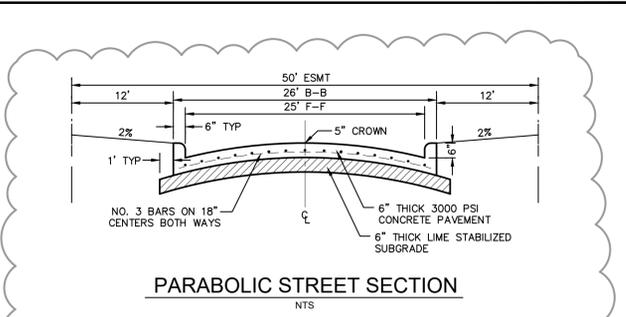
SURMOUNTABLE CURB AND GUTTER SECTION
NTS



KNUCKLE SECTION
NTS

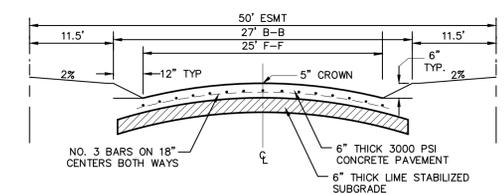


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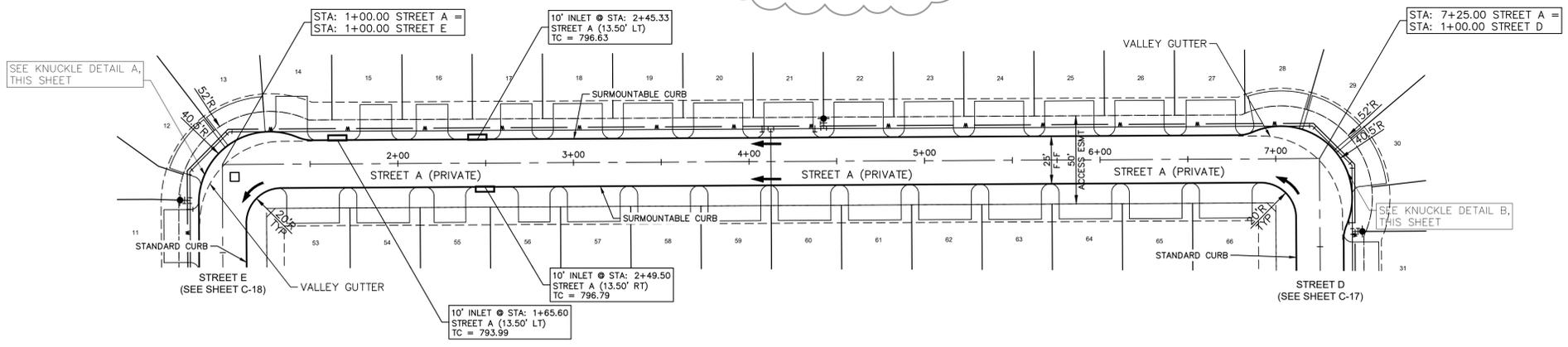
PARABOLIC STREET SECTION
NTS

NOTE:
PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.



PARABOLIC STREET SECTION W/ SURMOUNTABLE CURB
NTS

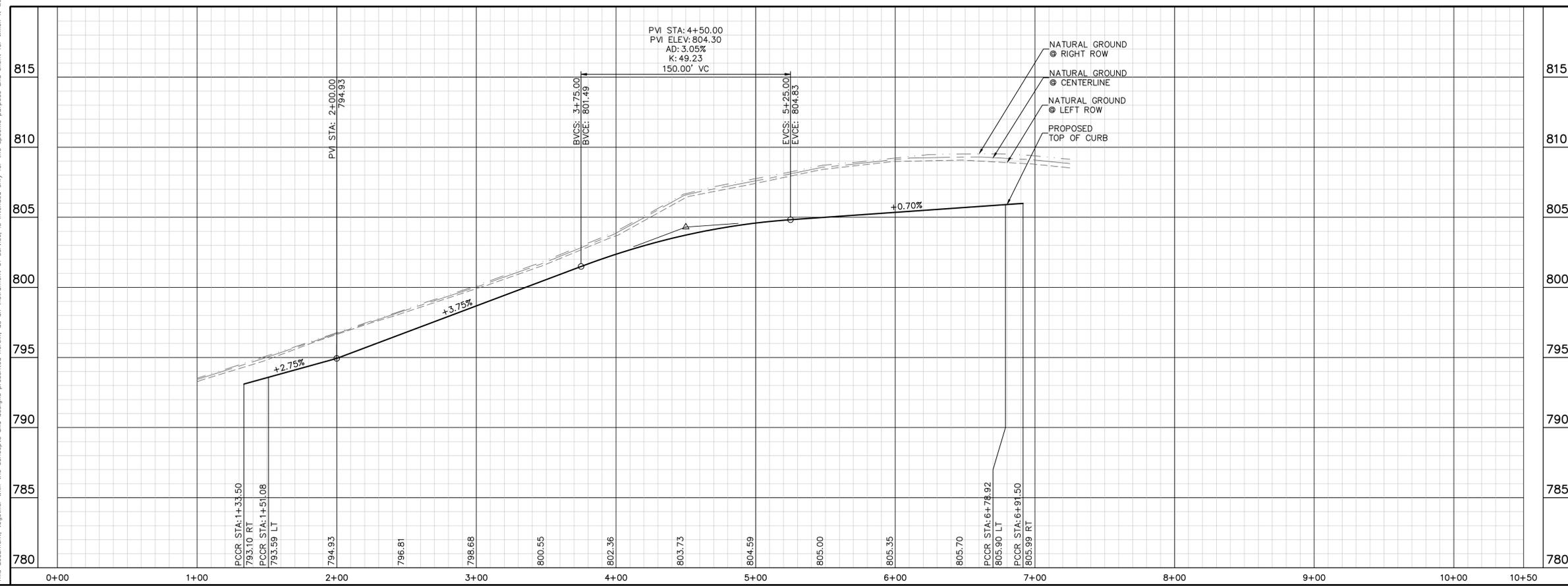
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STREET A

ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.	



PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

BENCHMARKS

CITY OF FORT WORTH MONUMENT NO. 9213
ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5'
EAST OF THE CENTERLINE OF FM 1902 ON THE EAST
END OF THE SOUTH 11.5' HEADWALL OF THE SECOND
BOX CULVERT EAST OF FM. 1902

ELEV = 809.125

CP NO. 2

X-CUT IN SQUARE CUT ON THE NORTH END OF A
CONCRETE HEADWALL ON THE WEST SIDE OF OLD
GRANBURY ROAD, +238' NORTH OF THE CENTERLINE
OF FLOYD HAMPTON ROAD.

ELEV = 809.87

CP NO. 3

X-CUT IN CONCRETE ON THE SOUTH END OF A
DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY
ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD

ELEV = 815.81

NO.	REVISIONS	DATE	BY

Kimley»Horn

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13455 NOEL ROAD, SUITE 700, DALLAS, TX 75240
PHONE: 972-770-1300 FAX: 972-335-3779
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
PELVTON F. McSEE
REGISTERED PROFESSIONAL ENGINEER
LICENSED
12211

10/16/2023

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DATE	OCTOBER 2023
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DESIGNED BY	LLC
DRAWN BY	CM
CHECKED BY	PEM

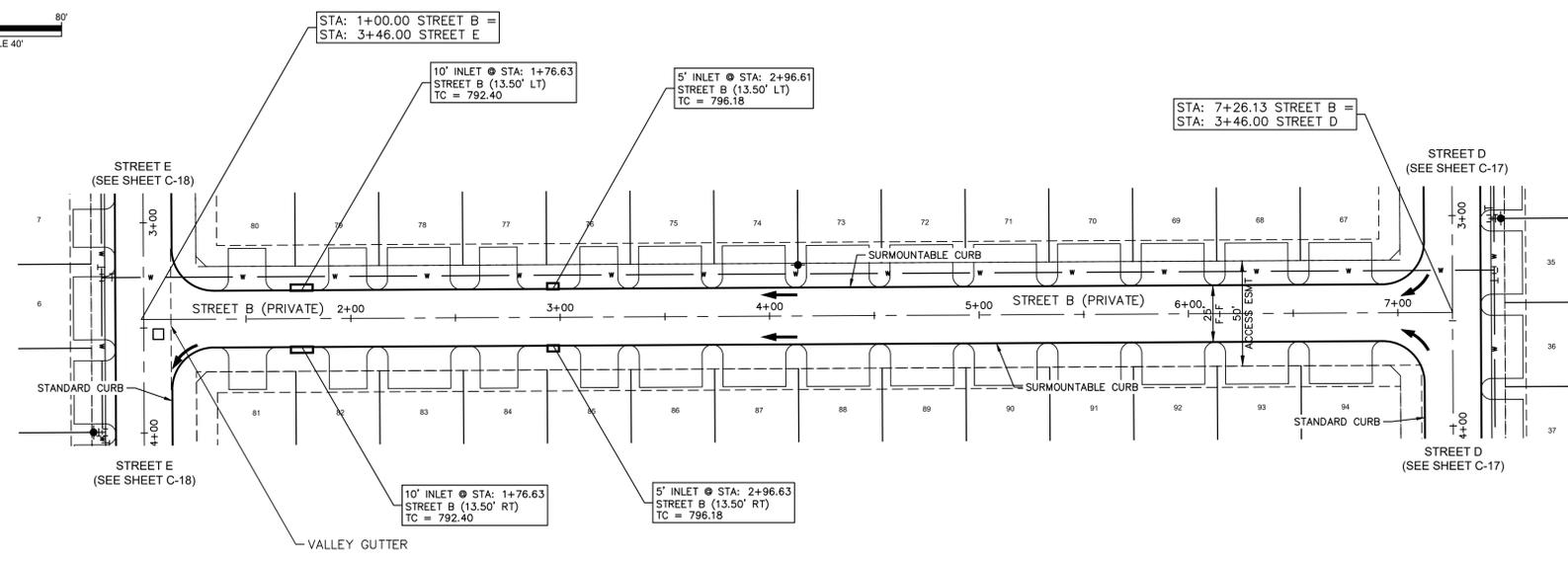
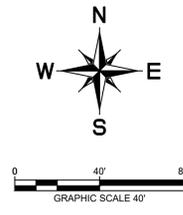
**PAVING PLAN & PROFILE -
STREET A (PRIVATE)**

**CIVITAS AT
CROWLEY**

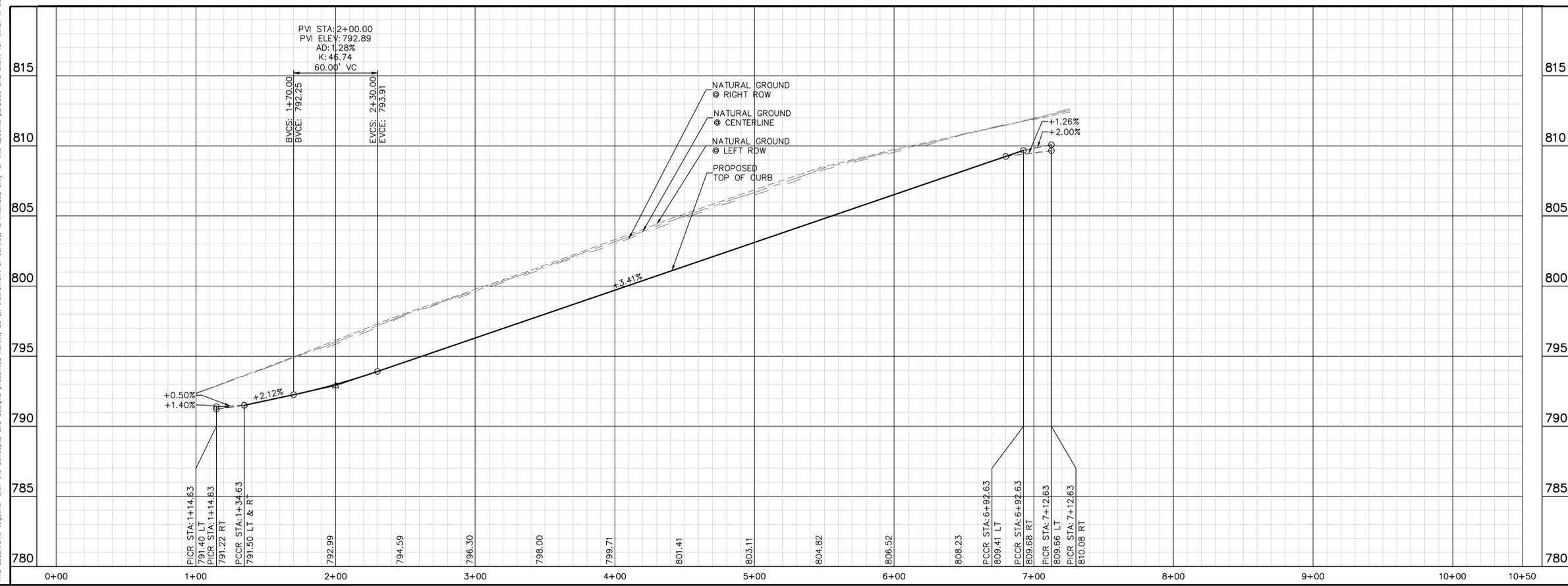
TARRANT COUNTY, TEXAS

SHEET NUMBER
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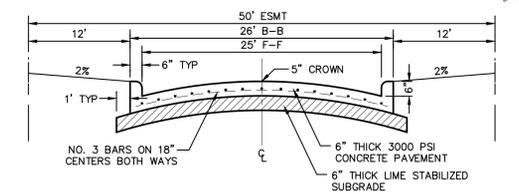
STREET B



PROFILE SCALE
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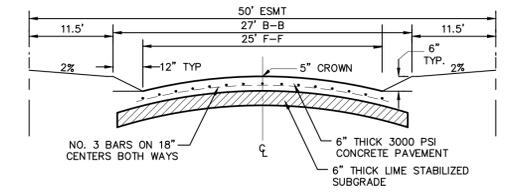
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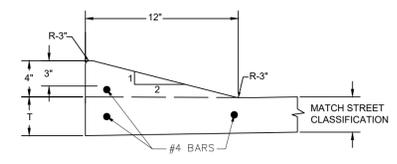
PARABOLIC STREET SECTION
 NTS

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NO.	REVISIONS	DATE	BY

Kimley-Horn

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 TEXAS REGISTERED ENGINEERING FIRM F-928



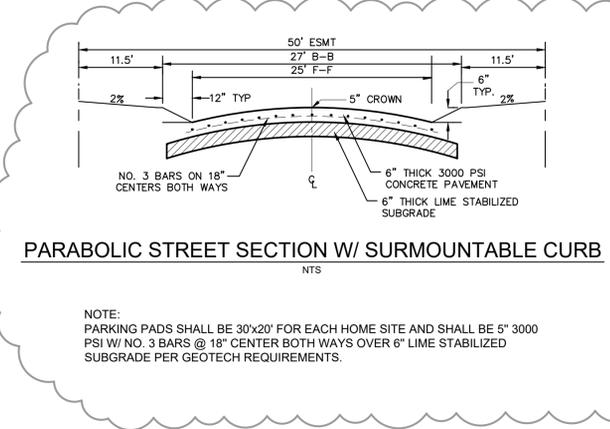
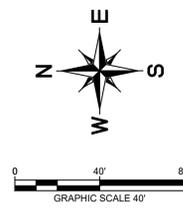
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DATE	OCTOBER 2023
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PAVING PLAN & PROFILE -
 STREET B (PRIVATE)

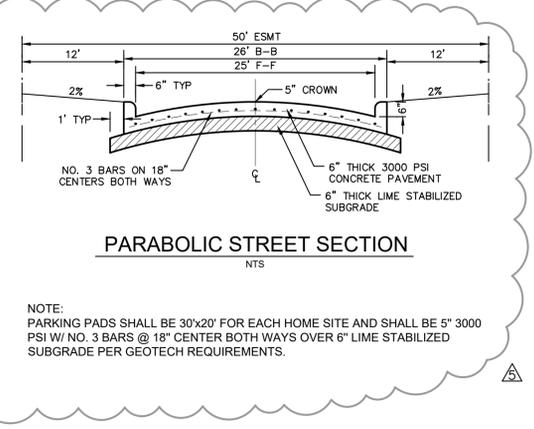
**CIVITAS AT
 CROWLEY**
 TARRANT COUNTY, TEXAS

SHEET NUMBER
C-15

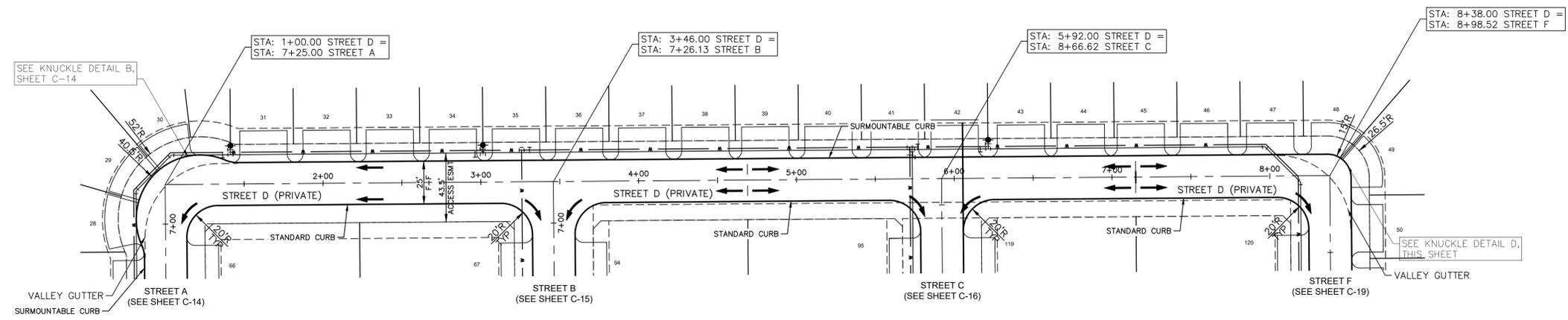
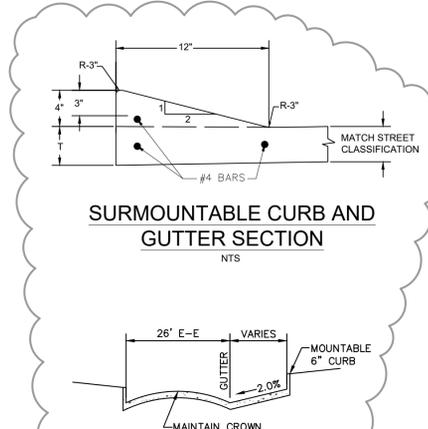
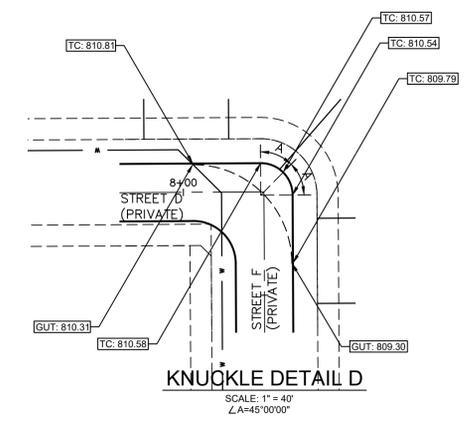
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NOTE:
PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.



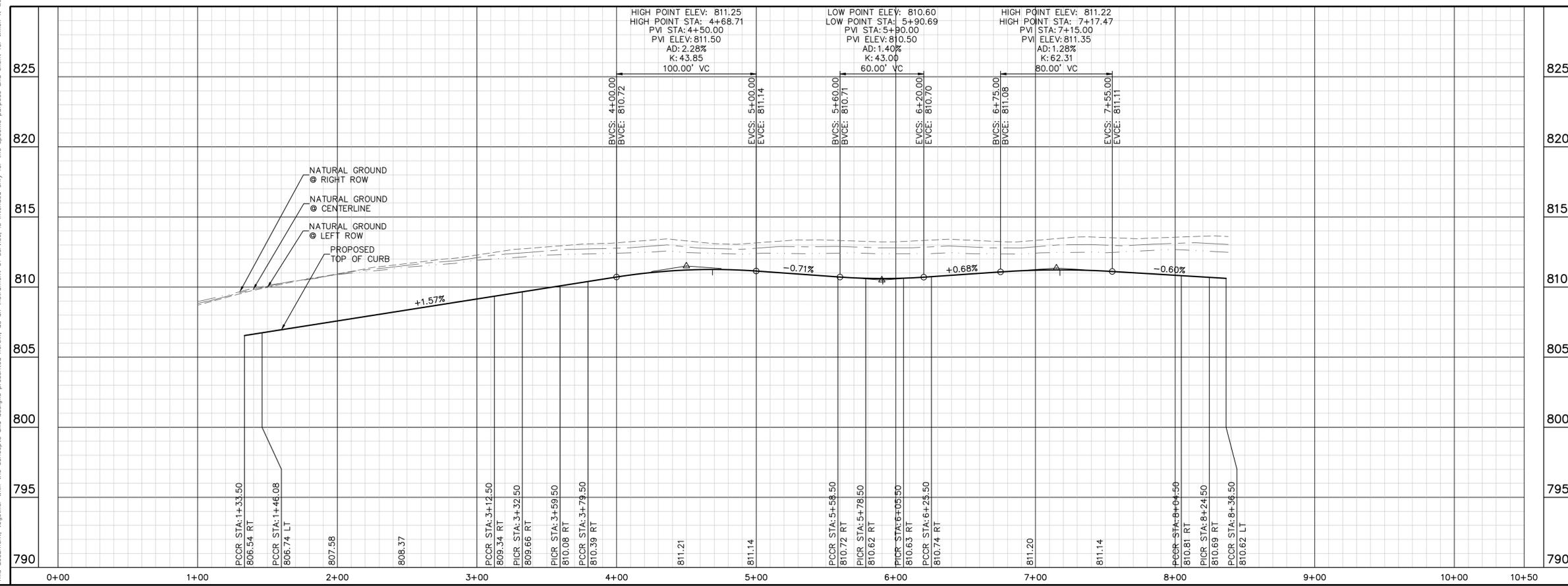
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PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.



ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.	

STREET D



PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

BENCHMARKS
CITY OF FORT WORTH MONUMENT NO. 9213
ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5' EAST OF THE CENTER LINE OF FM 1902 ON THE EAST END OF THE SOUTH 11.5' HEADWALL OF THE SECOND BOX CULVERT EAST OF FM. 1902

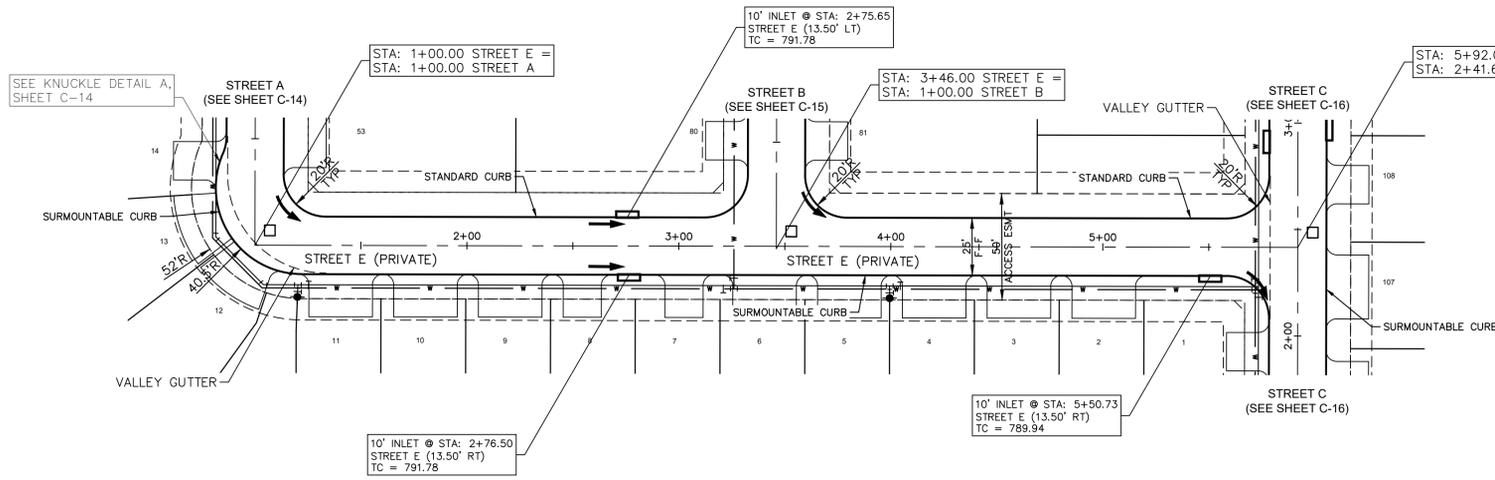
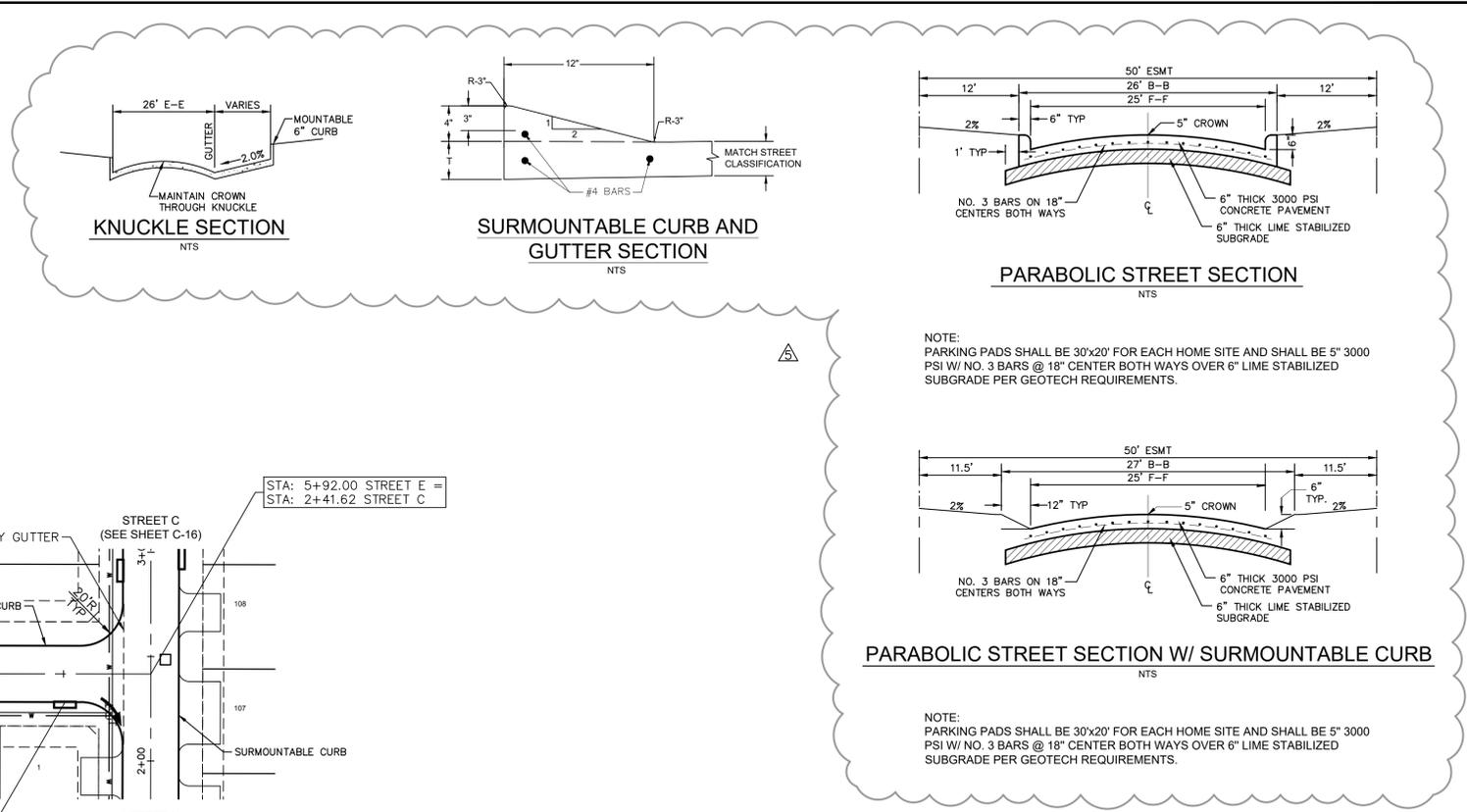
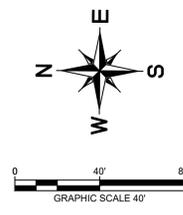
ELEV #809.125
CP NO. 2
X-CUT IN SQUARE CUT ON THE NORTH END OF A CONCRETE HEADWALL ON THE WEST SIDE OF OLD GRANBURY ROAD, +238' NORTH OF THE CENTERLINE OF FLOYD HAMPTON ROAD.

ELEV #809.87
CP NO. 3
X-CUT IN CONCRETE ON THE SOUTH END OF A DRIVEWAY ON THE EAST SIDE OF FLOYD HAMPTON ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD

ELEV #815.81

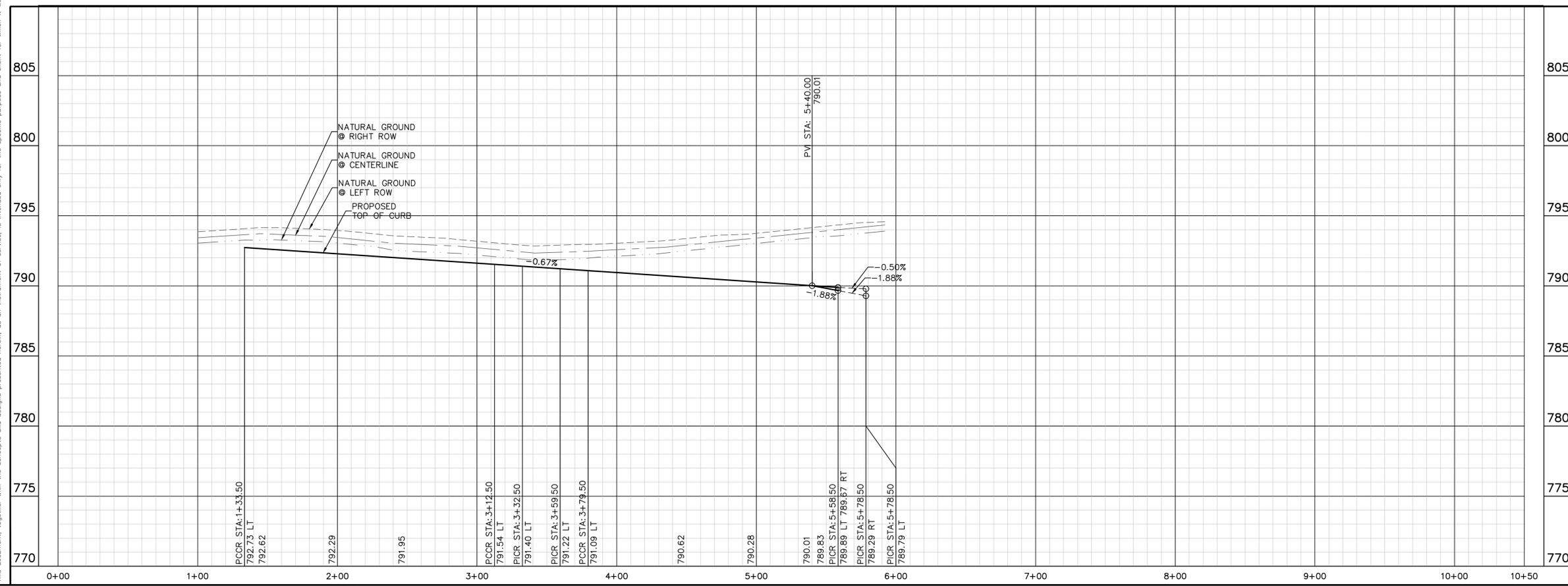
KHA PROJECT 064587800	DATE OCTOBER 2023	SCALE: AS SHOWN	DESIGNED BY: LJC	DRAWN BY: CM	CHECKED BY: PEM
Kimley»Horn					
© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 13455 NOEL ROAD, SUITE 700, DALLAS, TX 75240 PHONE: 972-770-1300 FAX: 972-335-3779 WWW.KIMLEY-HORN.COM TEXAS REGISTERED ENGINEERING FIRM F-928					
PAVING PLAN & PROFILE - STREET D (PRIVATE)					
CIVITAS AT CROWLEY TARRANT COUNTY, TEXAS					
SHEET NUMBER C-17					
					REVISIONS
					DATE
					BY

Plotted By: Evans, Josh Date: October 16, 2023 10:44:23am File Path: K:\del_civil\064587800 - floyd Hampton Tract\Cad\plansheets\C-Paving P&P.dwg
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ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

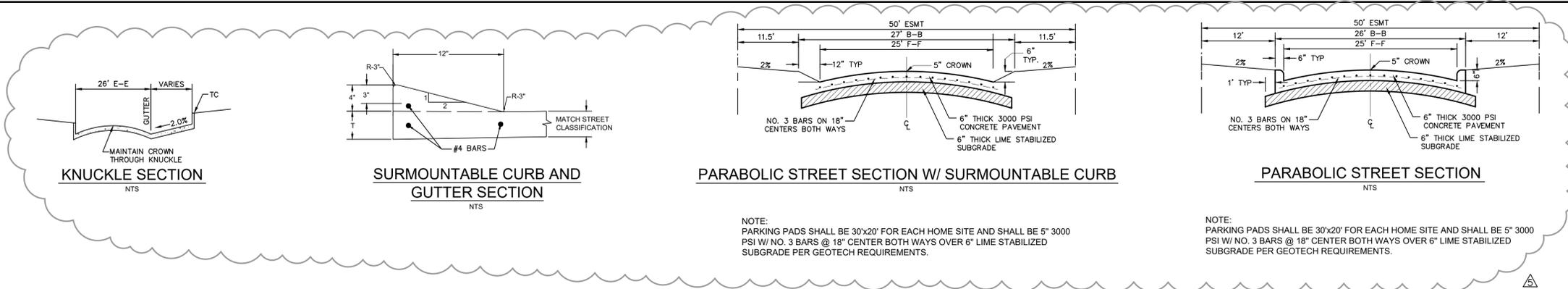
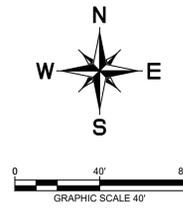
NOTE	
ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.	



BENCHMARKS	
CITY OF FORT WORTH MONUMENT NO. 9213 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5' EAST OF THE CENTERLINE OF FM 1902 ON THE EAST END OF THE SOUTH 11.5' HEADWALL OF THE SECOND BOX CULVERT EAST OF FM. 1902	
ELEV =	809.125
CP NO.	2
X-CUT IN SQUARE CUT ON THE NORTH END OF A CONCRETE HEADWALL ON THE WEST SIDE OF OLD GRANBURY ROAD, +1238' NORTH OF THE CENTERLINE OF FLOYD HAMPTON ROAD.	
ELEV =	809.87
CP NO.	3
X-CUT IN CONCRETE ON THE SOUTH END OF A DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY ROAD, +11500' NORTH OF FLOYD HAMPTON ROAD	
ELEV =	815.81

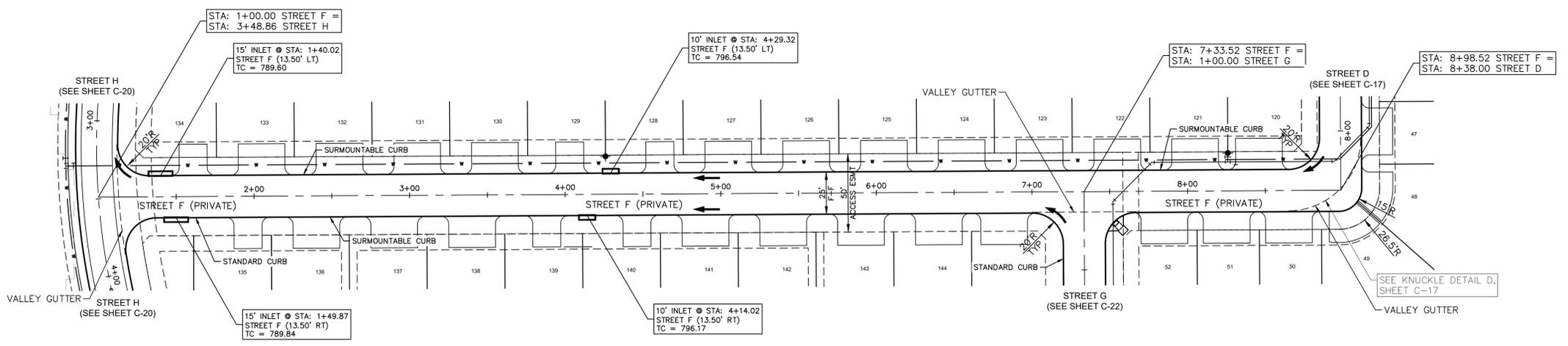
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CIVITAS AT CROWLEY		TARRANT COUNTY, TEXAS		SHEET NUMBER		C-18		REVISIONS		No.	

Plotted By: Evans, Josh Date: October 16, 2023 10:45:19am File Path: \\d:\civil\064587800 - floyd hampton road\064587800 - Paving P&P-2.dwg
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NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5\"/>

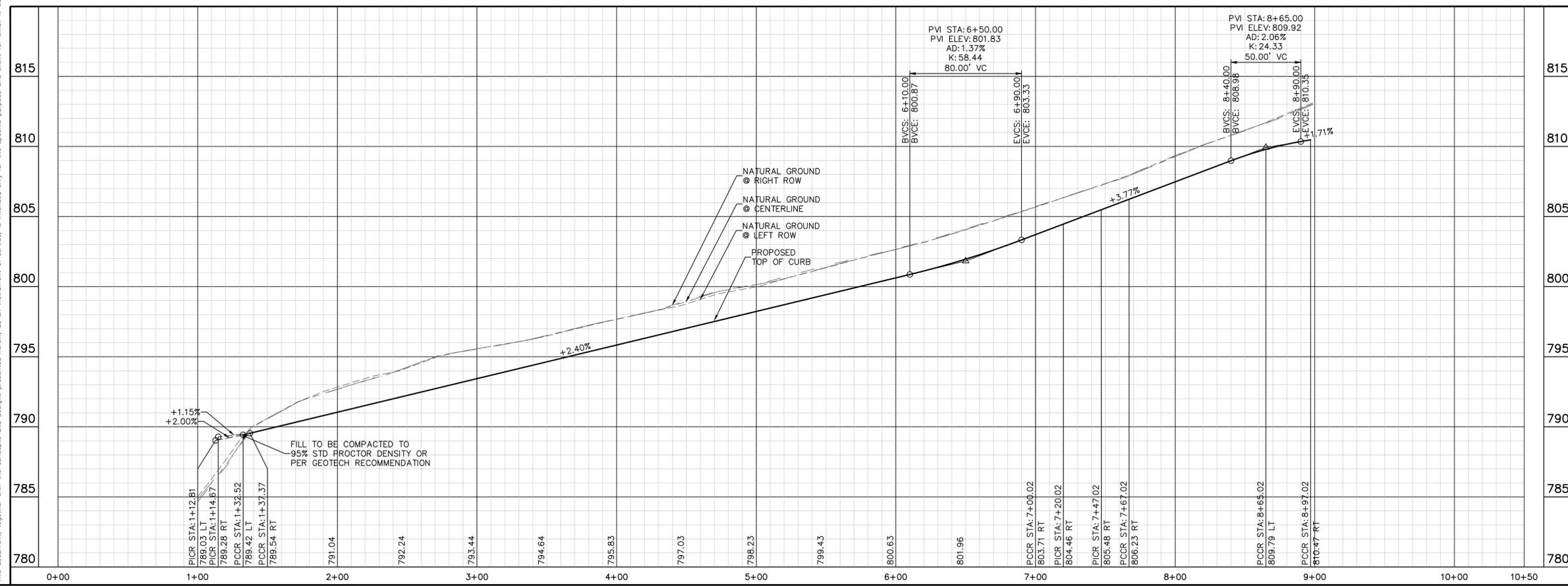
NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5\"/>



ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.	

STREET F



PROFILE SCALE
 1" = 40' HORIZONTAL
 1" = 4' VERTICAL

BENCHMARKS	
CITY OF FORT WORTH MONUMENT NO. 9213 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5' EAST OF THE CENTERLINE OF FM 1902 ON THE EAST END OF THE SOUTH 11.5' HEADWALL OF THE SECOND BOX CULVERT EAST OF FM. 1902	
ELEV = 809.125	CP NO. 2
X-CUT IN SQUARE CUT ON THE NORTH END OF A CONCRETE HEADWALL ON THE WEST SIDE OF OLD GRANBURY ROAD, +238' NORTH OF THE CENTERLINE OF FLOYD HAMPTON ROAD.	
ELEV = 809.87	CP NO. 3
X-CUT IN CONCRETE ON THE SOUTH END OF A DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD	
ELEV = 815.81	

NO.	REVISIONS	DATE	BY

Kimley»Horn

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 WWW.KIMLEY-HORN.COM
 TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
 PEYTON E. MCGEE
 LICENSED PROFESSIONAL ENGINEER
 10/16/2023

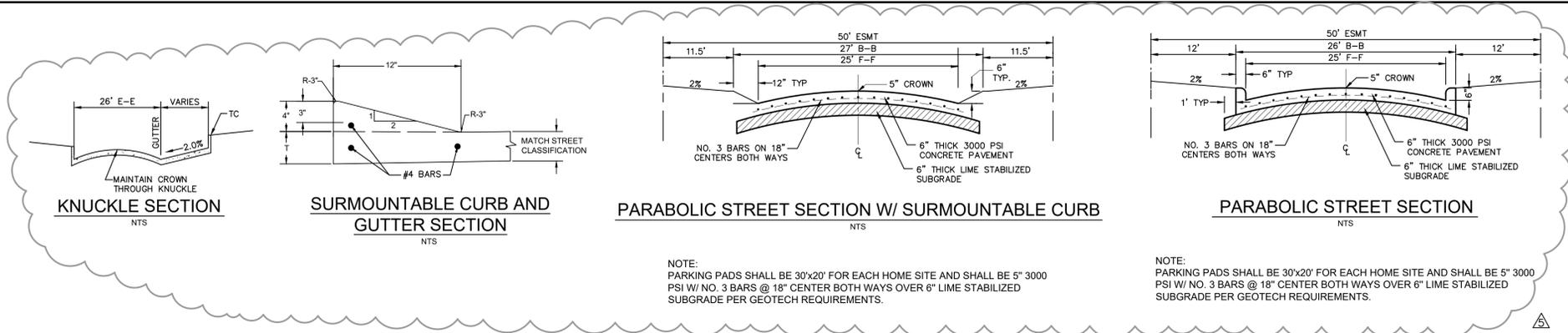
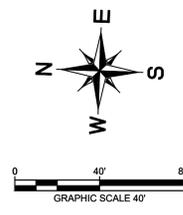
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 CHECKED BY: PEM

PAVING PLAN & PROFILE -
 STREET F (PRIVATE)

CIVITAS AT
 CROWLEY
 TARRANT COUNTY, TEXAS

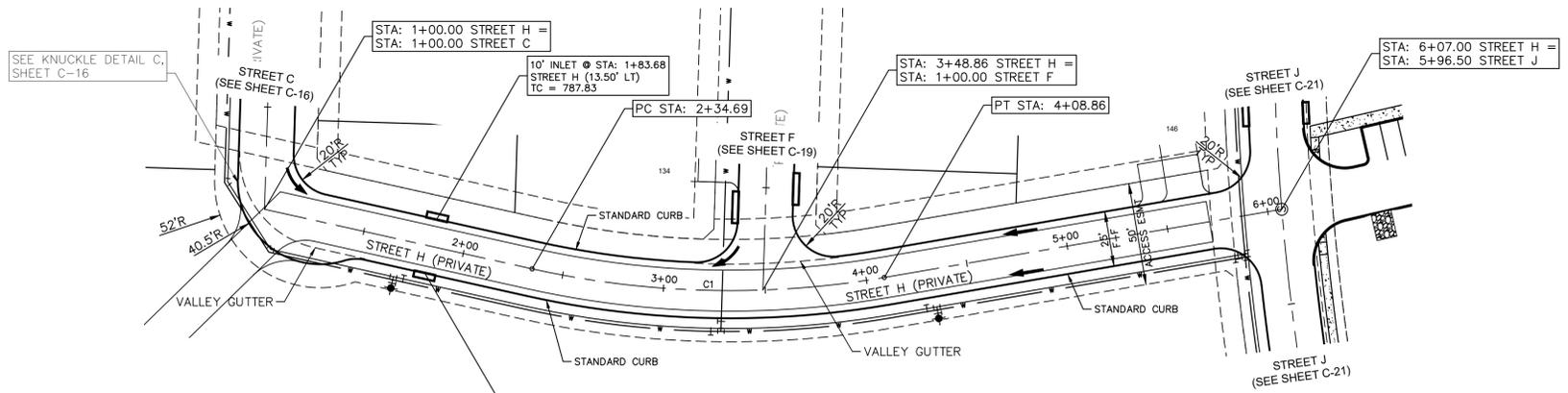
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CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C1	450.00'	174.17'	S0'40'58"E	173.08'	22'10'34"	88.19'

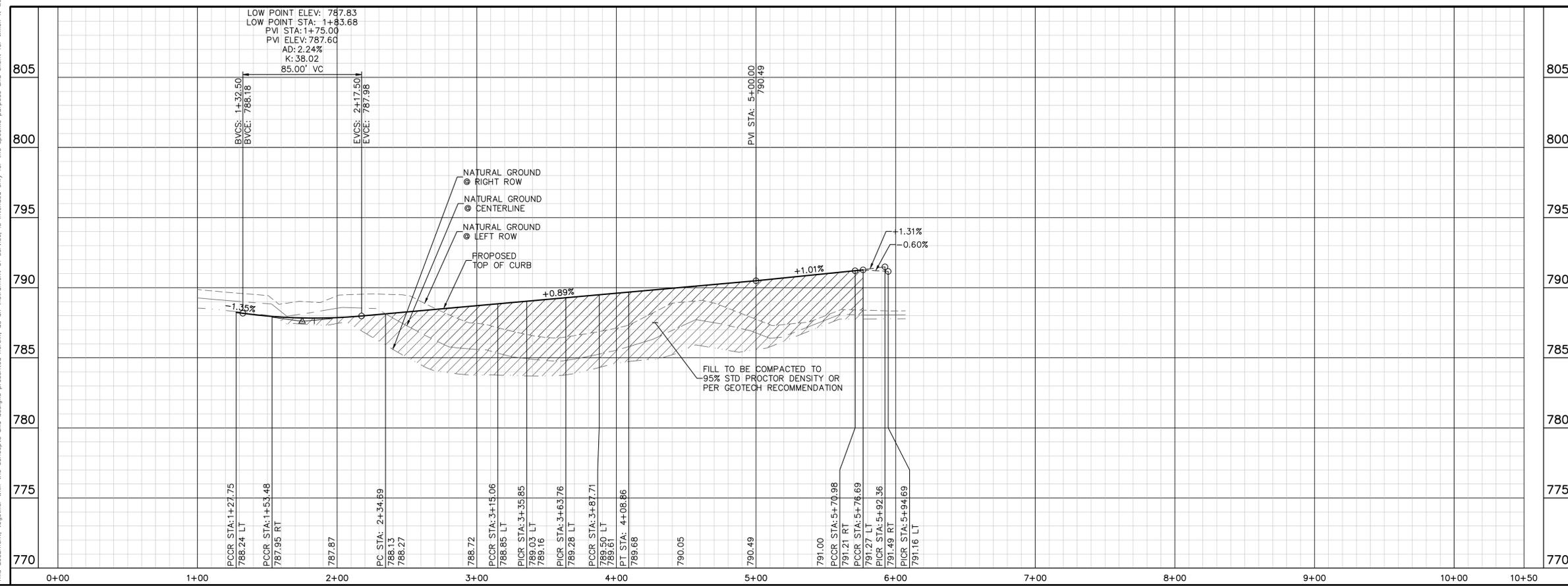
NO.	REVISIONS	DATE	BY



STREET H

ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
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PROFILE SCALE
 1" = 40' HORIZONTAL
 1" = 4' VERTICAL

BENCHMARKS

CITY OF FORT WORTH MONUMENT NO. 9213
 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5'
 EAST OF THE CENTER LINE OF FM 1902 ON THE EAST
 END OF THE SOUTH 11.5' HEADWALL OF THE SECOND
 BOX CULVERT EAST OF FM 1902

ELEV = 809.125
 CP NO. 2

X-CUT IN SQUARE CUT ON THE NORTH END OF A
 CONCRETE HEADWALL ON THE WEST SIDE OF OLD
 GRANBURY ROAD, +238' NORTH OF THE CENTERLINE
 OF FLOYD HAMPTON ROAD.

ELEV = 809.87
 CP NO. 3

X-CUT IN CONCRETE ON THE SOUTH END OF A
 DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY
 ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD

ELEV = 815.81

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 WWW.KIMLEY-HORN.COM
 TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
 PEYTON E. MCGEE
 122114
 LICENSED PROFESSIONAL ENGINEER

10/16/2023

KHA PROJECT: 064587800
 DATE: OCTOBER 2023
 SCALE: AS SHOWN
 DESIGNED BY: LLC
 DRAWN BY: CM
 CHECKED BY: PEM

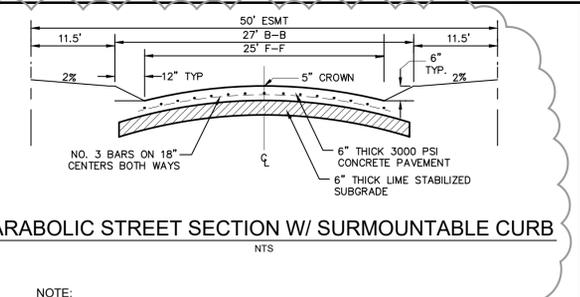
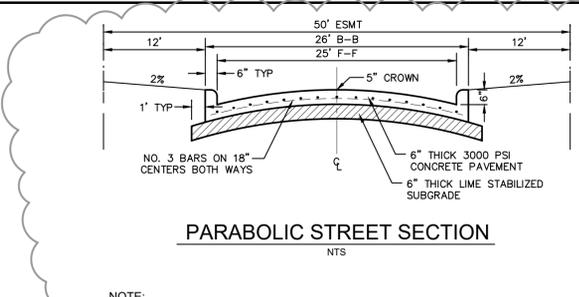
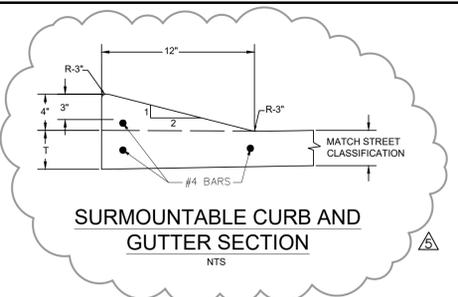
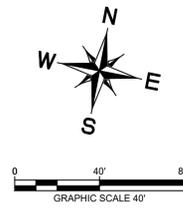
**PAVING PLAN & PROFILE -
 STREET H (PRIVATE)**

**CIVITAS AT
 CROWLEY**

TARRANT COUNTY, TEXAS

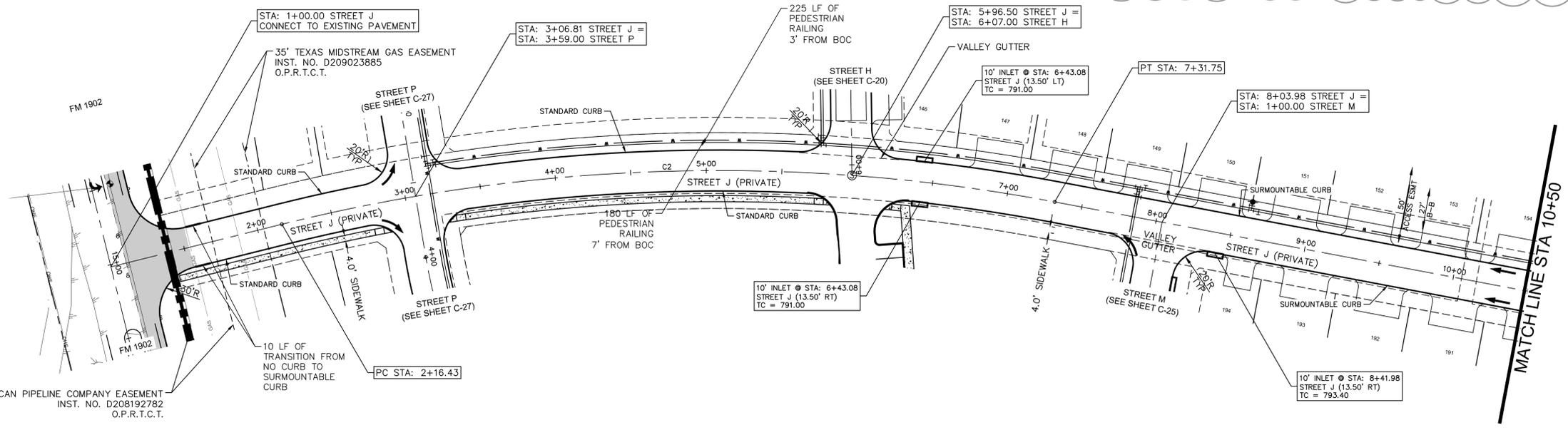
SHEET NUMBER
C-20

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C2	1200.00'	515.32'	N77°23'05"E	511.37'	24°36'17"	261.70'



NOTE: PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.

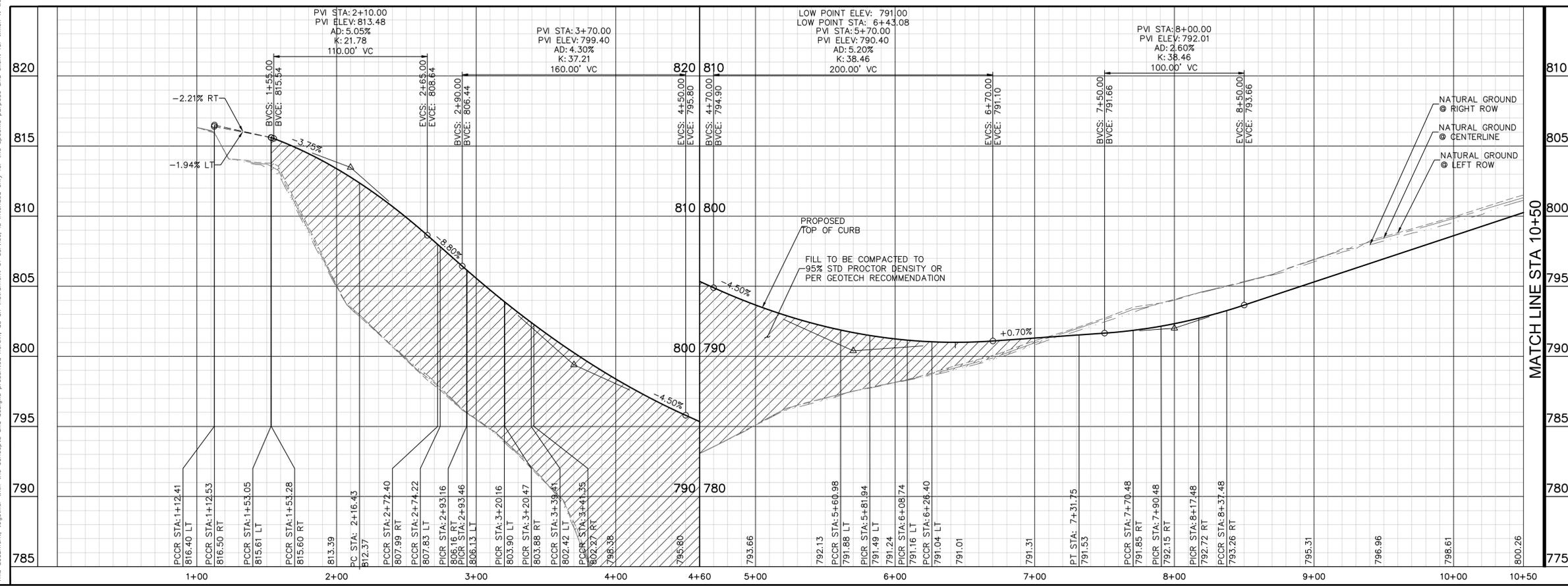
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NOTE	
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STREET J



PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

!!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
CITY OF FORT WORTH MONUMENT NO. 9213 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5' EAST OF THE CENTERLINE OF FM 1902 ON THE EAST END OF THE SOUTH 11.5' HEADWALL OF THE SECOND BOX CULVERT EAST OF FM 1902
ELEV = 809.125
CP NO. 2
X-CUT IN SQUARE CUT ON THE NORTH END OF A CONCRETE HEADWALL ON THE WEST SIDE OF OLD GRANBURY ROAD, +238' NORTH OF THE CENTERLINE OF FLOYD HAMPTON ROAD.
ELEV = 809.87
CP NO. 3
X-CUT IN CONCRETE ON THE SOUTH END OF A DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD
ELEV = 815.81

NO.	REVISIONS	DATE	BY

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PHONE: 972-770-1300 FAX: 972-335-3779
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

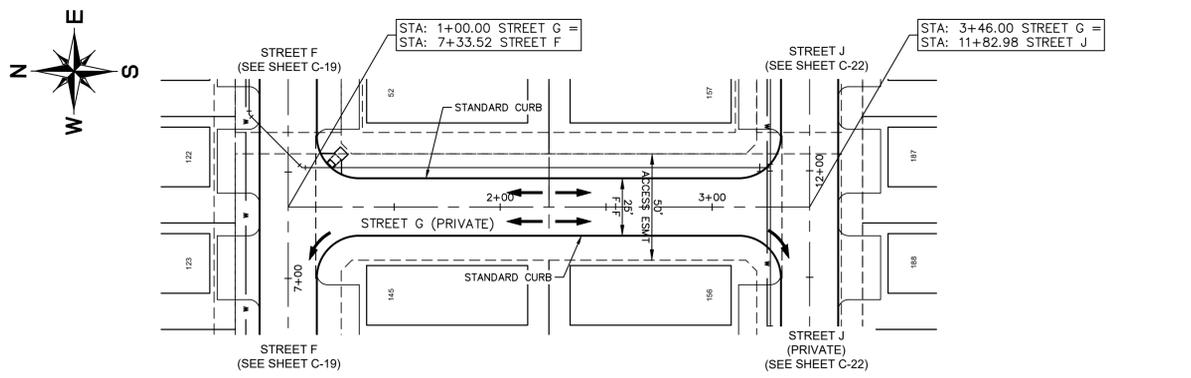
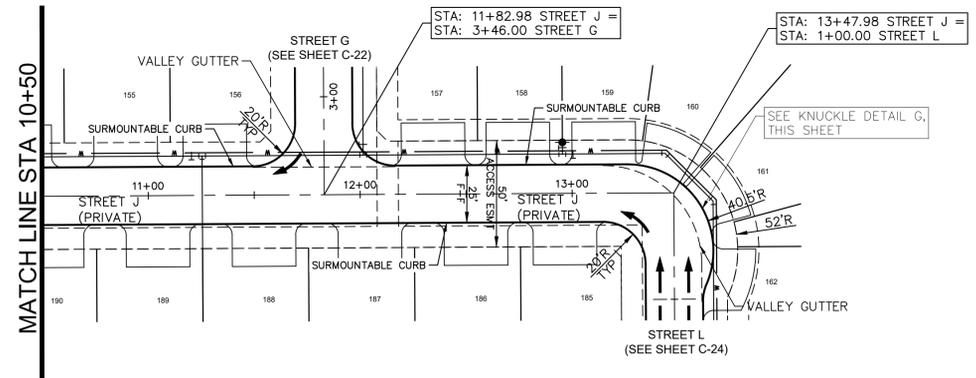
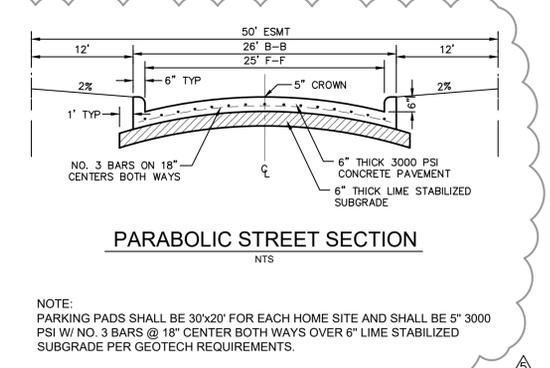
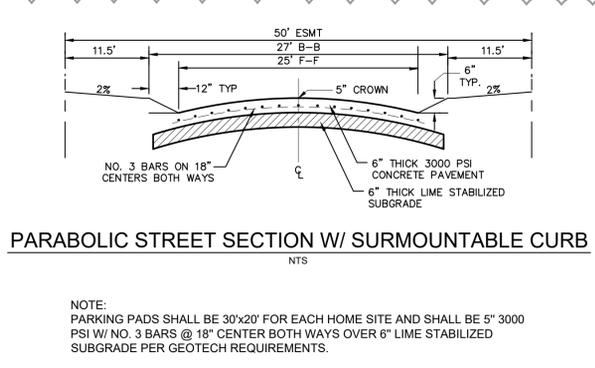
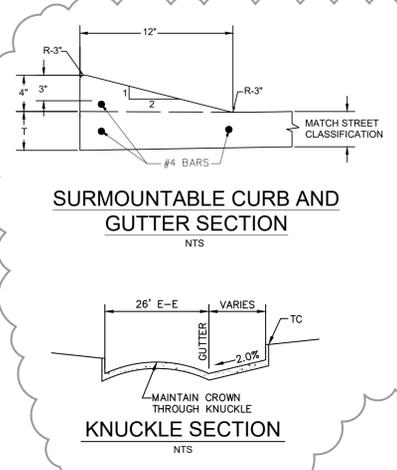
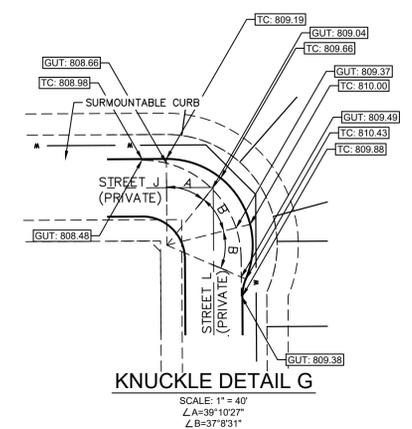
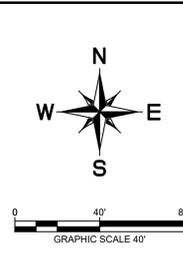
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PAVING PLAN & PROFILE - STREET J (PRIVATE)

CIVITAS AT CROWLEY
TARRANT COUNTY, TEXAS
SHEET NUMBER C-21

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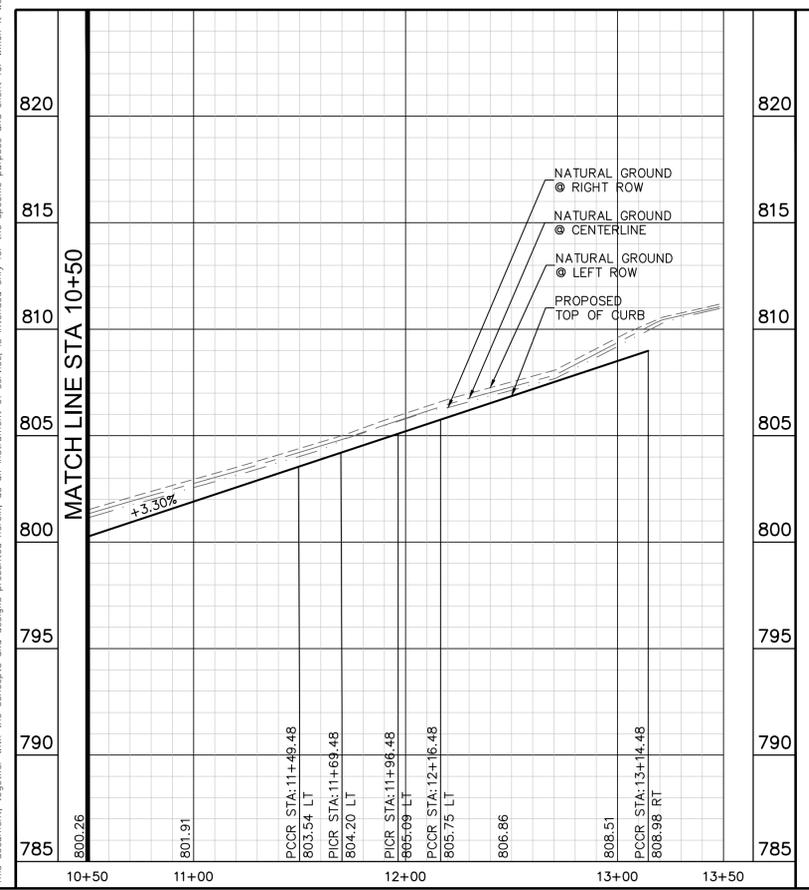
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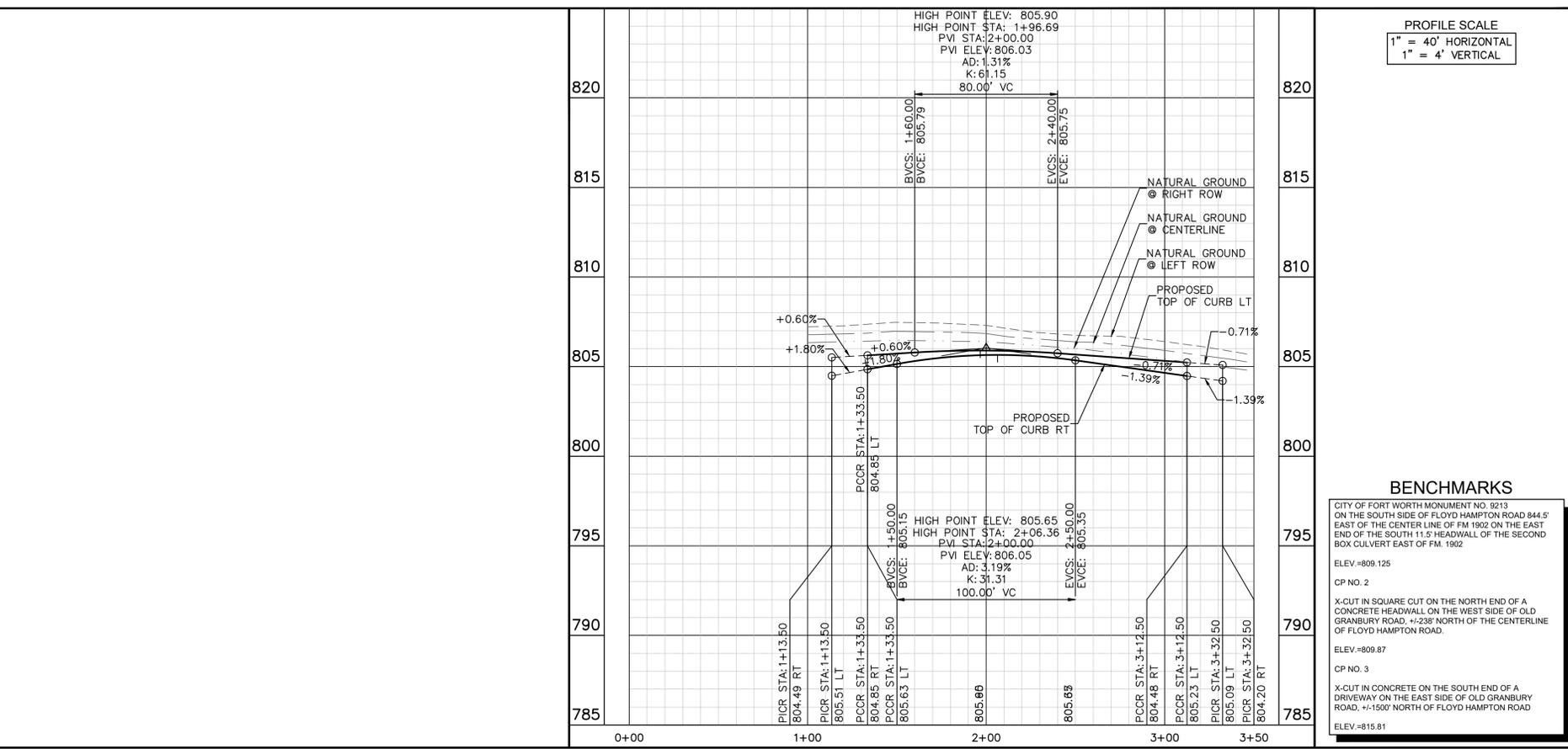
ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
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STREET J



STREET G



BENCHMARKS

CITY OF FORT WORTH MONUMENT NO. 9213
ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5'
EAST OF THE CENTERLINE OF FM 1902 ON THE EAST
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BOX CULVERT EAST OF FM 1902

ELEV = 809.125
CP NO. 2

X-CUT IN SQUARE CUT ON THE NORTH END OF A
CONCRETE HEADWALL ON THE WEST SIDE OF OLD
GRANBURY ROAD, +238' NORTH OF THE CENTERLINE
OF FLOYD HAMPTON ROAD.

ELEV = 809.87
CP NO. 3

X-CUT IN CONCRETE ON THE SOUTH END OF A
DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY
ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD

ELEV = 815.81

NO.	REVISIONS	DATE	BY

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TEXAS REGISTERED ENGINEERING FIRM F-928

Professional Engineer Seal
PEYTON E. MCGEE
122114
LICENSED PROFESSIONAL ENGINEER
10/16/2023

KHA PROJECT: 064587800
DATE: OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: LLC
DRAWN BY: CM
CHECKED BY: PEM

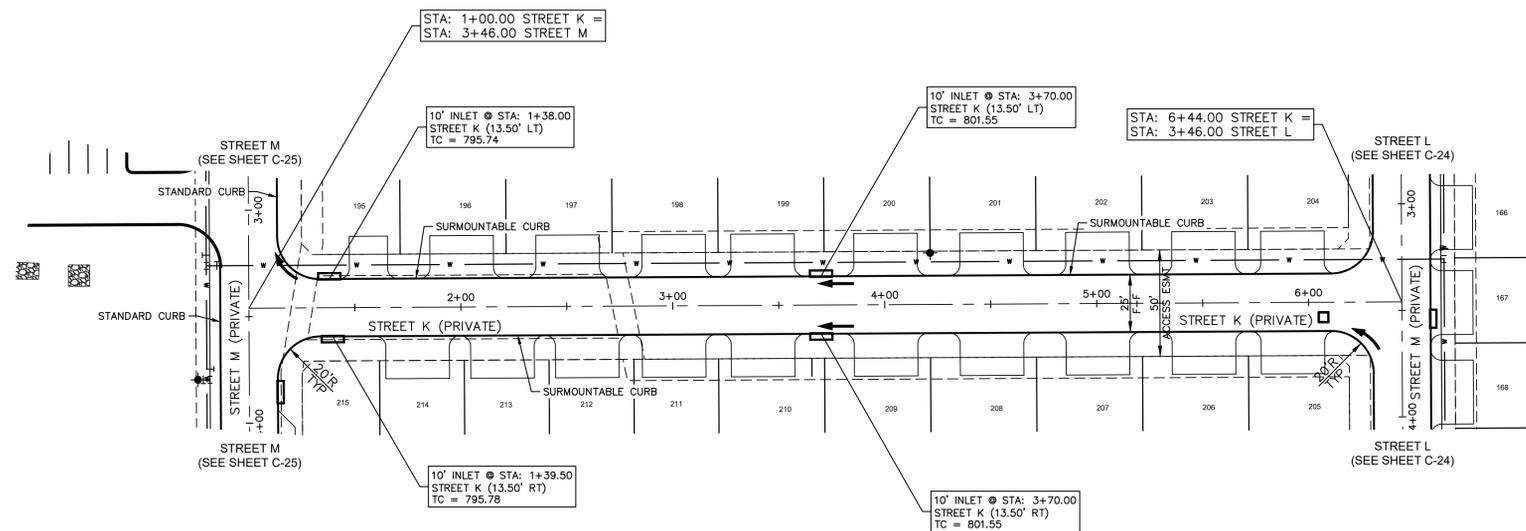
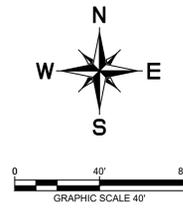
**PAVING PLAN & PROFILE -
STREET J & G (PRIVATE)**

**CIVITAS AT
CROWLEY**

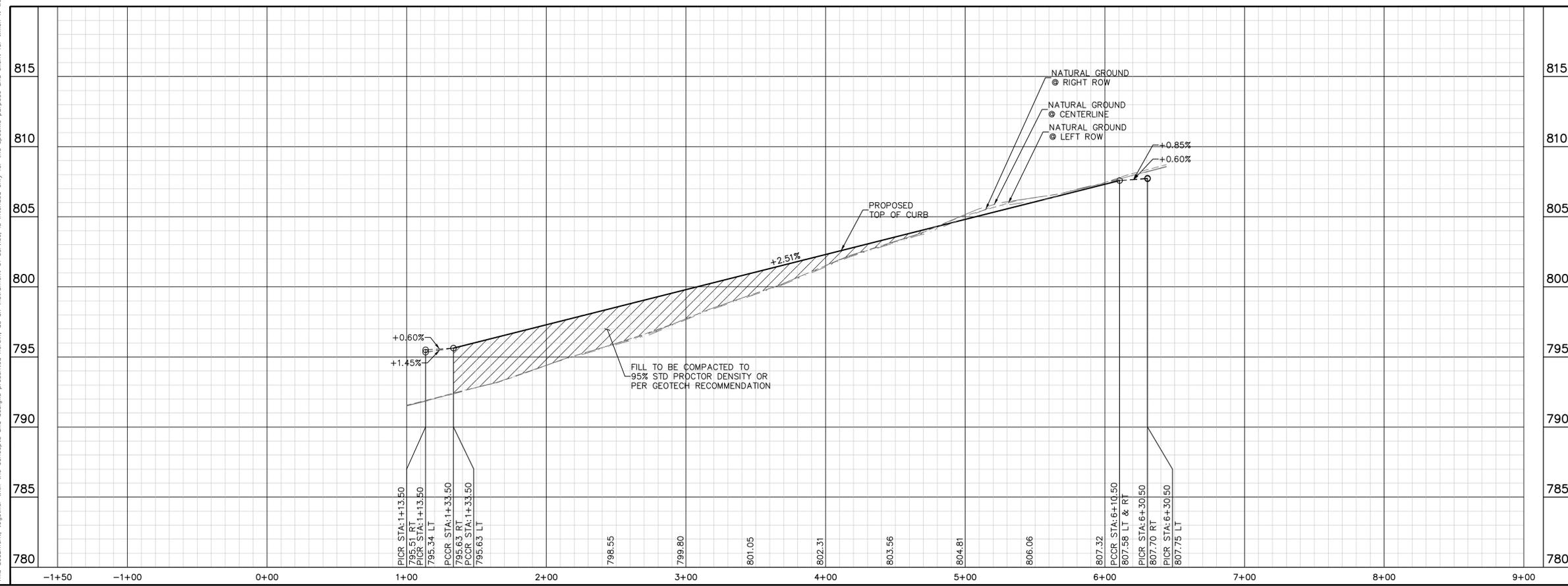
TARRANT COUNTY, TEXAS

SHEET NUMBER
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Plotted By: Evans, Josh Date: October 16, 2023 10:47:03am File Path: k:\del\civil\064587800 - floyd hampton tract\civil\plansheets\C-Paving P&P-3.dwg
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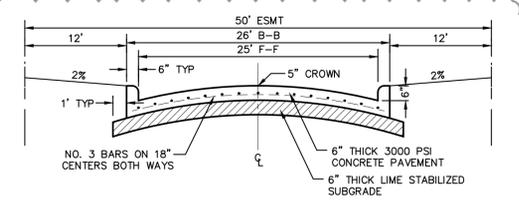


STREET K



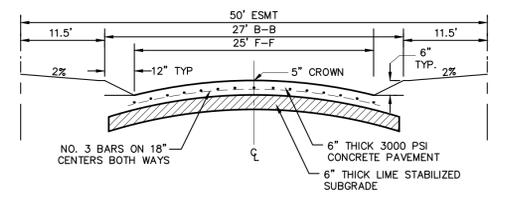
PROFILE SCALE
 1" = 40' HORIZONTAL
 1" = 4' VERTICAL

BENCHMARKS
 CITY OF FORT WORTH MONUMENT NO. 9213
 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5'
 EAST OF THE CENTERLINE OF FM 1902 ON THE EAST
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 X-CUT IN CONCRETE ON THE SOUTH END OF A
 DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY
 ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD
 ELEV = 815.81



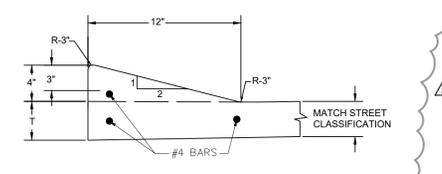
PARABOLIC STREET SECTION
NTS

NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000
 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED
 SUBGRADE PER GEOTECH REQUIREMENTS.



PARABOLIC STREET SECTION W/ SURMOUNTABLE CURB
NTS

NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000
 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED
 SUBGRADE PER GEOTECH REQUIREMENTS.



SURMOUNTABLE CURB AND GUTTER SECTION
NTS

NO.	REVISIONS	DATE	BY

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 WWW.KIMLEY-HORN.COM
 TEXAS REGISTERED ENGINEERING FIRM F-928

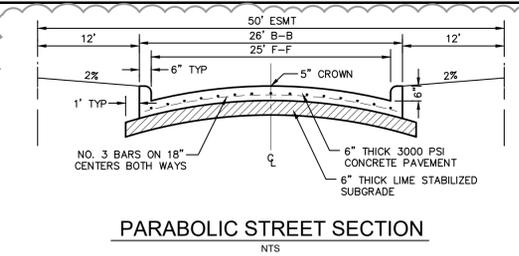
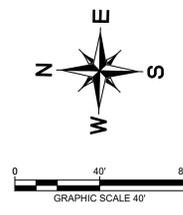


KHA PROJECT	064587800
DATE	OCTOBER 2023
SCALE	AS SHOWN
DESIGNED BY	LLC
DRAWN BY	CM
CHECKED BY	PEM

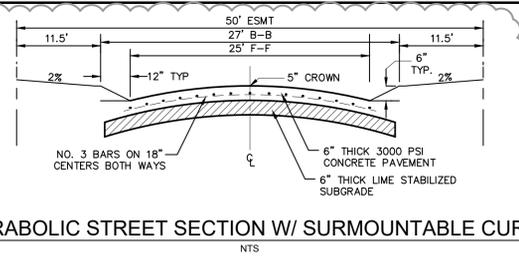
PAVING PLAN & PROFILE - STREET K (PRIVATE)

CIVITAS AT CROWLEY
 TARRANT COUNTY, TEXAS
 SHEET NUMBER
C-23

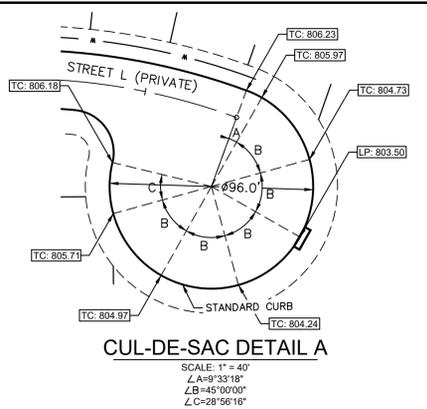
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NOTE:
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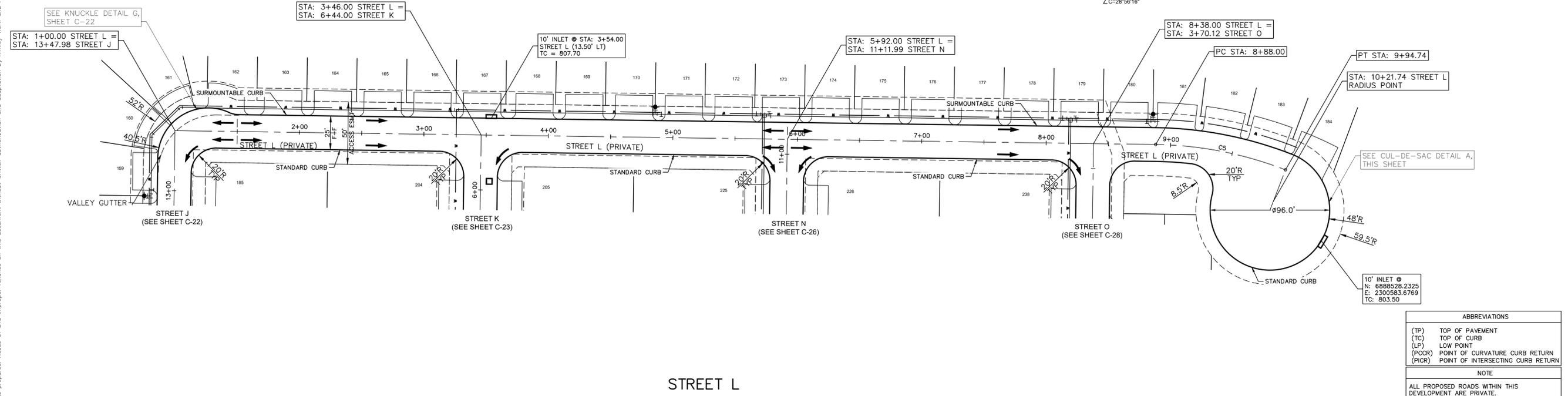
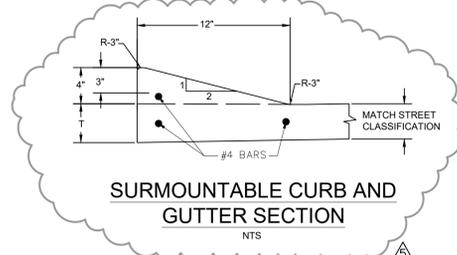


NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.



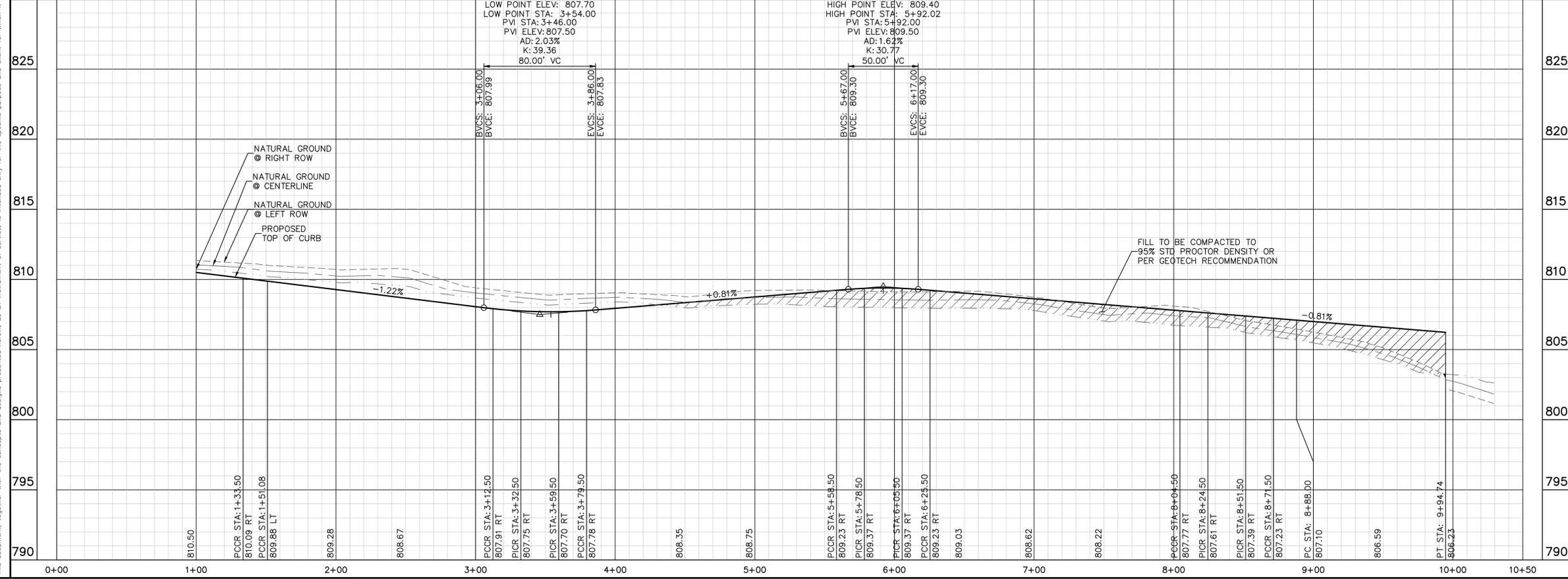
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 TC: 803.50

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C5	300.00'	106.74'	S9°52'49"W	106.18'	20°23'12"	53.94'



ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(LP)	LOW POINT
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE
 ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.



PROFILE SCALE
 1" = 40' HORIZONTAL
 1" = 4' VERTICAL

BENCHMARKS
 CITY OF FORT WORTH MONUMENT NO. 9213
 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5'
 EAST OF THE CENTERLINE OF FM 1902 ON THE EAST
 END OF THE SOUTH 11.5' HEADWALL OF THE SECOND
 BOX CULVERT EAST OF FM. 1902
 ELEV = 809.125
 CP NO. 2
 X-CUT IN SQUARE CUT ON THE NORTH END OF A
 CONCRETE HEADWALL ON THE WEST SIDE OF OLD
 GRANBURY ROAD, +238' NORTH OF THE CENTERLINE
 OF FLOYD HAMPTON ROAD.
 ELEV = 809.87
 CP NO. 3
 X-CUT IN CONCRETE ON THE SOUTH END OF A
 DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY
 ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD
 ELEV = 815.81

KHA PROJECT 064587800	DATE OCTOBER 2023	DESIGNED BY: LJC DRAWN BY: CM CHECKED BY: PEM	REVISIONS	NO.	DATE
	SCALE: AS SHOWN				

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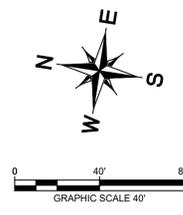
STATE OF TEXAS
 PEYTON E. MCGEE
 122114
 LICENSED PROFESSIONAL ENGINEER
 10/16/2023

**PAVING PLAN & PROFILE -
 STREET L (PRIVATE)**

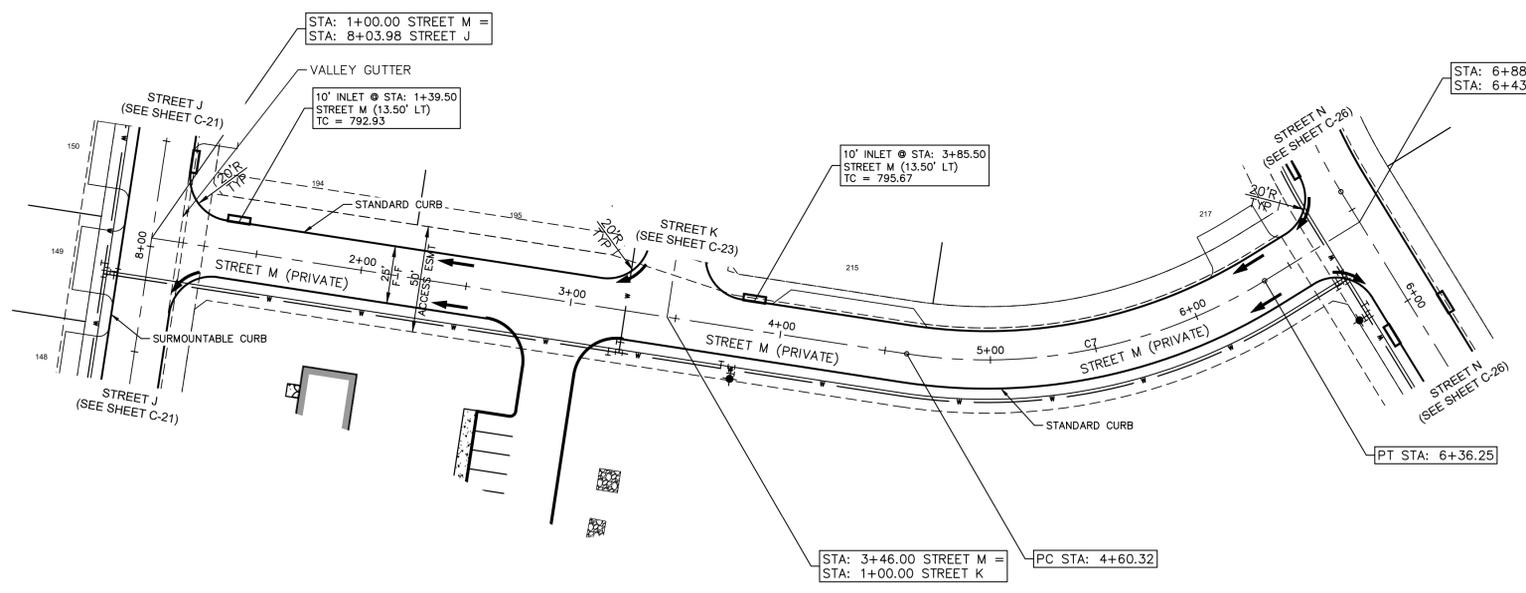
**CIVITAS AT
 CROWLEY**
 TARRANT COUNTY, TEXAS

SHEET NUMBER
C-24

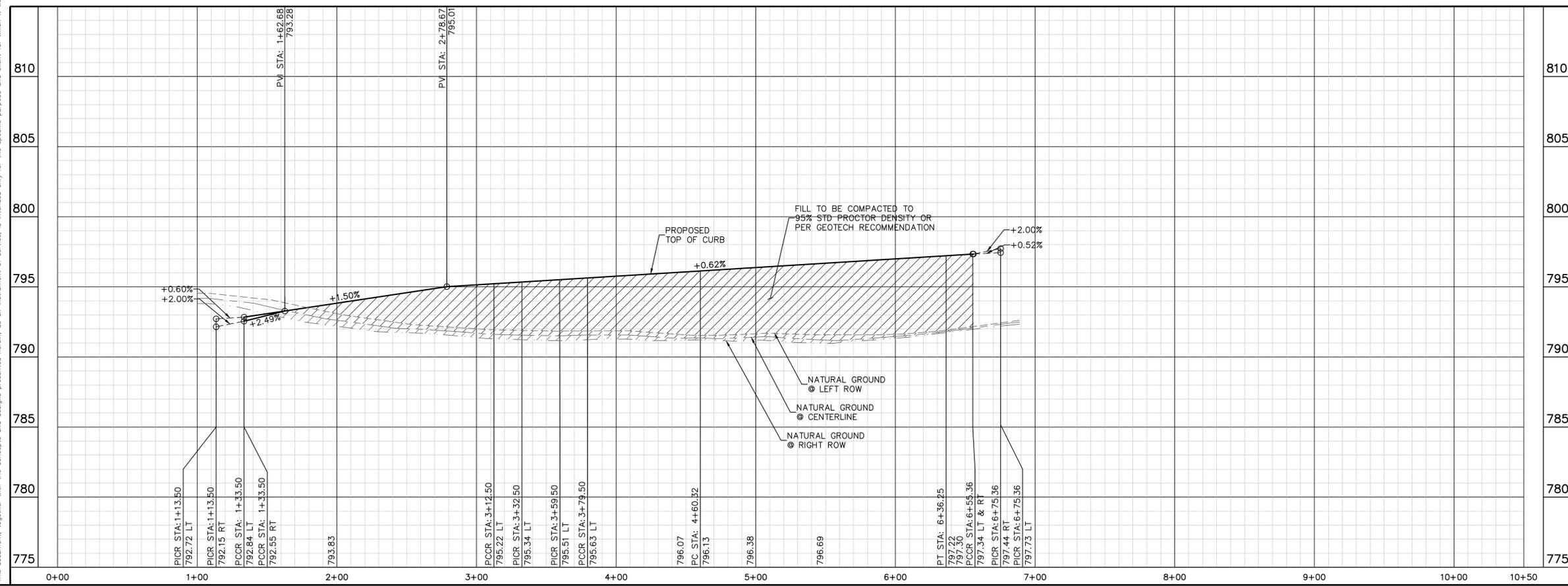
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CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C7	250.00'	175.93'	S20°28'24"E	172.33'	40°19'16"	91.79'

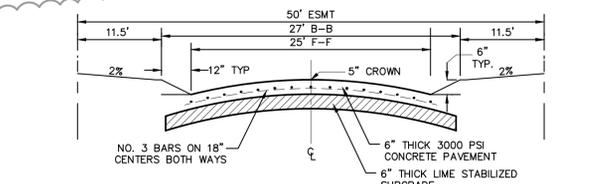


STREET M



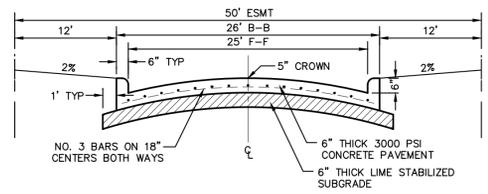
PROFILE SCALE
 1" = 40' HORIZONTAL
 1" = 4' VERTICAL

BENCHMARKS
 CITY OF FORT WORTH MONUMENT NO. 9213
 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5'
 EAST OF THE CENTERLINE OF FM 1902 ON THE EAST
 END OF THE SOUTH 11.5' HEADWALL OF THE SECOND
 BOX CULVERT EAST OF FM. 1902
 ELEV = 809.125
 CP NO. 2
 X-CUT IN SQUARE CUT ON THE NORTH END OF A
 CONCRETE HEADWALL ON THE WEST SIDE OF OLD
 GRANBURY ROAD, +238' NORTH OF THE CENTERLINE
 OF FLOYD HAMPTON ROAD.
 ELEV = 809.87
 CP NO. 3
 X-CUT IN CONCRETE ON THE SOUTH END OF A
 DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY
 ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD
 ELEV = 815.81



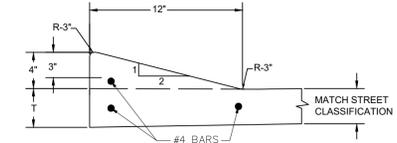
PARABOLIC STREET SECTION W/ SURMOUNTABLE CURB
NTS

NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000
 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED
 SUBGRADE PER GEOTECH REQUIREMENTS.



PARABOLIC STREET SECTION
NTS

NOTE:
 PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000
 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED
 SUBGRADE PER GEOTECH REQUIREMENTS.



SURMOUNTABLE CURB AND GUTTER SECTION
NTS

ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(PCCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.	

NO.	REVISIONS	DATE	BY

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 WWW.KIMLEY-HORN.COM
 TEXAS REGISTERED ENGINEERING FIRM F-928

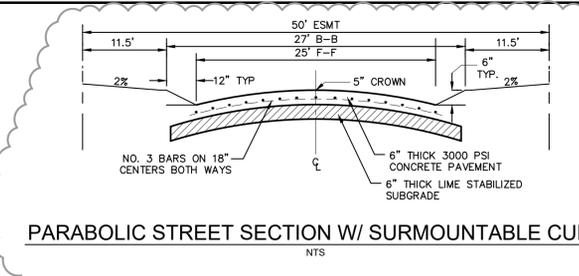
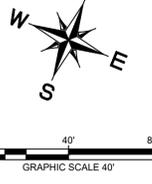
Professional Engineer Seal:
 PEYTON E. MCGEE
 122114
 LICENSED PROFESSIONAL ENGINEER
 10/16/2023

KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
064587800	OCTOBER 2023	AS SHOWN	LLC	CM	PEM

PAVING PLAN & PROFILE - STREET M (PRIVATE)

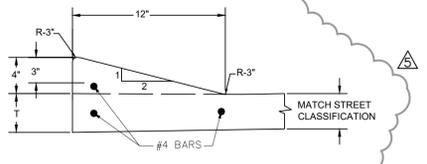
CIVITAS AT CROWLEY
 TARRANT COUNTY, TEXAS

SHEET NUMBER
C-25



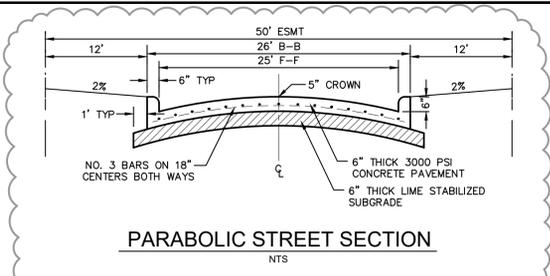
PARABOLIC STREET SECTION W/ SURMOUNTABLE CURB
NTS

NOTE:
PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.



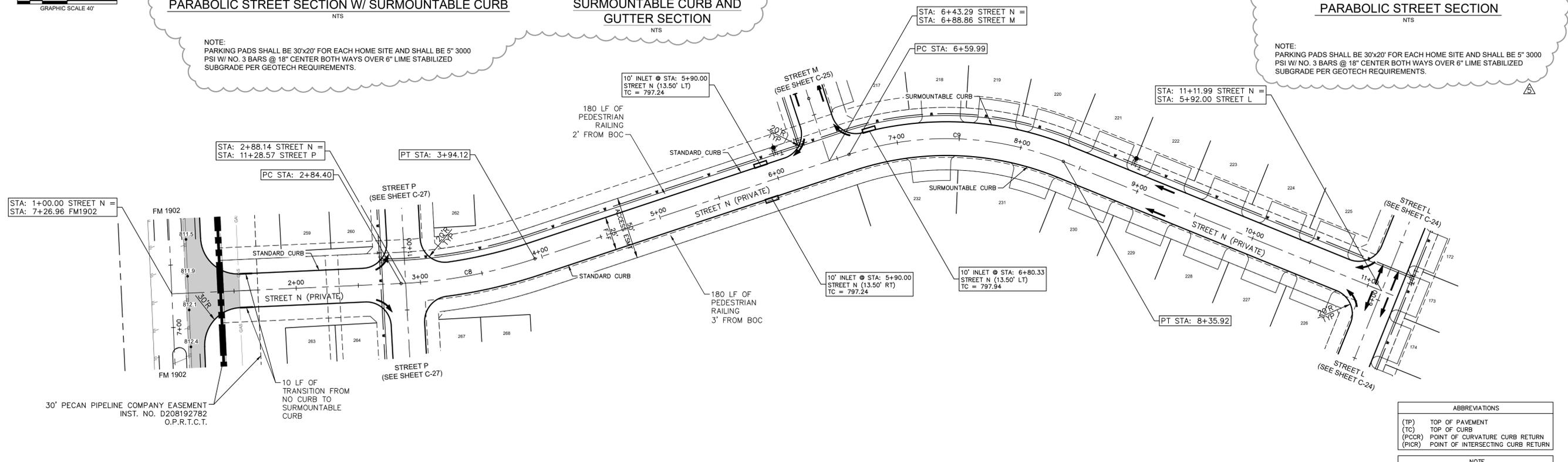
SURMOUNTABLE CURB AND GUTTER SECTION
NTS

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C8	400.00'	109.72'	N57°13'27"E	109.38'	15°42'58"	55.21'
C9	250.00'	175.93'	N69°31'36"E	172.33'	40°19'16"	91.79'



PARABOLIC STREET SECTION
NTS

NOTE:
PARKING PADS SHALL BE 30'x20' FOR EACH HOME SITE AND SHALL BE 5" 3000 PSI W/ NO. 3 BARS @ 18" CENTER BOTH WAYS OVER 6" LIME STABILIZED SUBGRADE PER GEOTECH REQUIREMENTS.



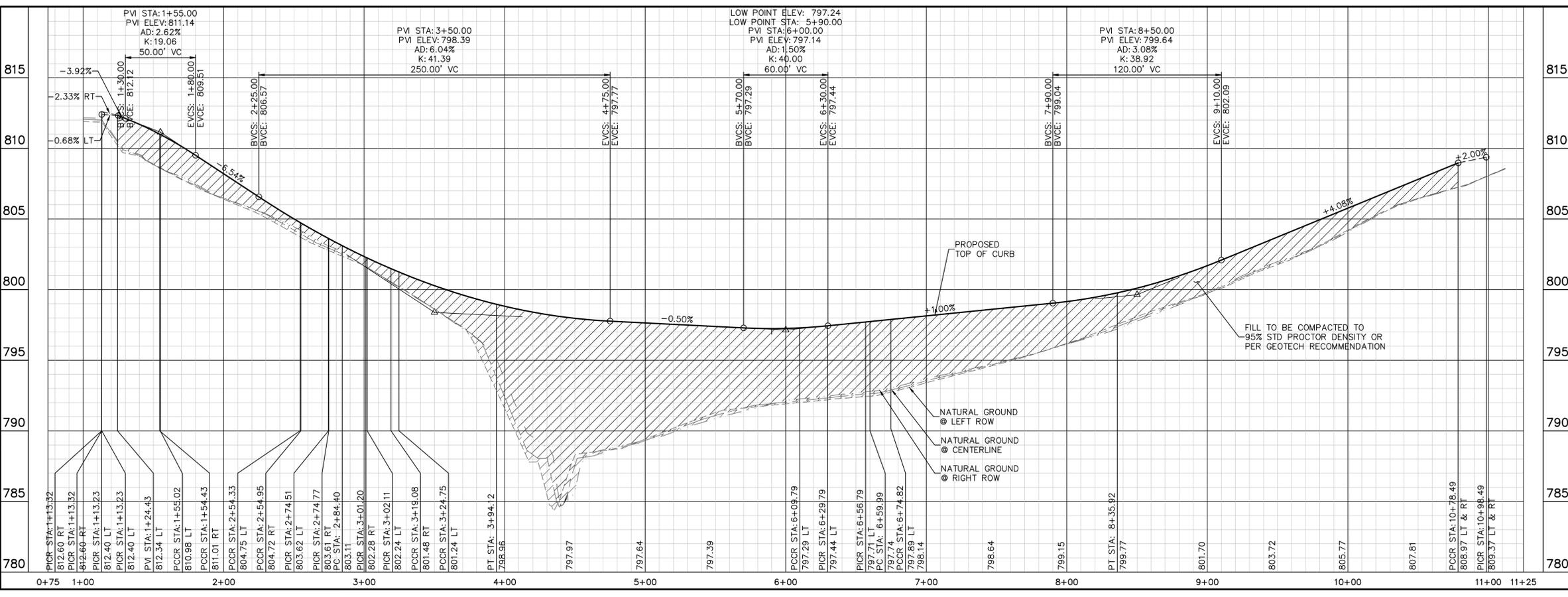
STREET N

ABBREVIATIONS

(TP) TOP OF PAVEMENT
(TC) TOP OF CURB
(PCCR) POINT OF CURVATURE CURB RETURN
(PICR) POINT OF INTERSECTING CURB RETURN

NOTE

ALL PROPOSED ROADS WITHIN THIS DEVELOPMENT ARE PRIVATE.



PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL

!!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

CITY OF FORT WORTH MONUMENT NO. 9213 ON THE SOUTH SIDE OF FLOYD HAMPTON ROAD 844.5' EAST OF THE CENTERLINE OF FM 1902 ON THE EAST END OF THE SOUTH 11.5' HEADWALL OF THE SECOND BOX CULVERT EAST OF FM 1902

ELEV = 809.125
CP NO. 2

X-CUT IN SQUARE CUT ON THE NORTH END OF A CONCRETE HEADWALL ON THE WEST SIDE OF OLD GRANBURY ROAD, +1500' NORTH OF THE CENTERLINE OF FLOYD HAMPTON ROAD.

ELEV = 809.87
CP NO. 3

X-CUT IN CONCRETE ON THE SOUTH END OF A DRIVEWAY ON THE EAST SIDE OF OLD GRANBURY ROAD, +1500' NORTH OF FLOYD HAMPTON ROAD

ELEV = 815.81

NO.	REVISIONS	DATE

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WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

Professional Engineer

PEYTON E. MCGEE
122114
LICENSED PROFESSIONAL ENGINEER

10/16/2023

KHA PROJECT: 064587800
DATE: OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: LLC
DRAWN BY: CM
CHECKED BY: PEM

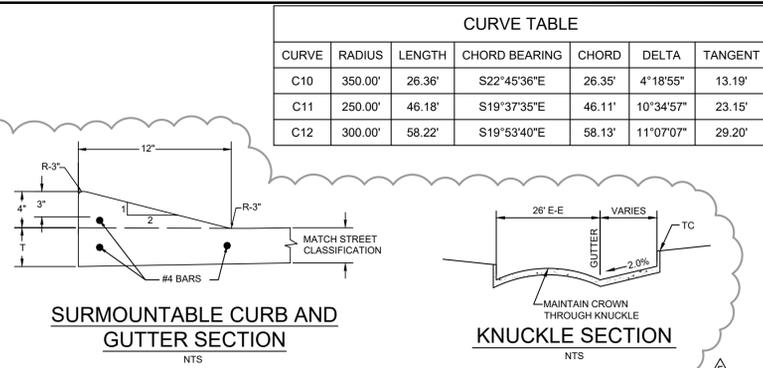
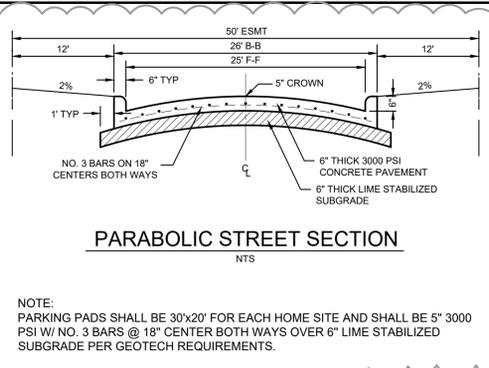
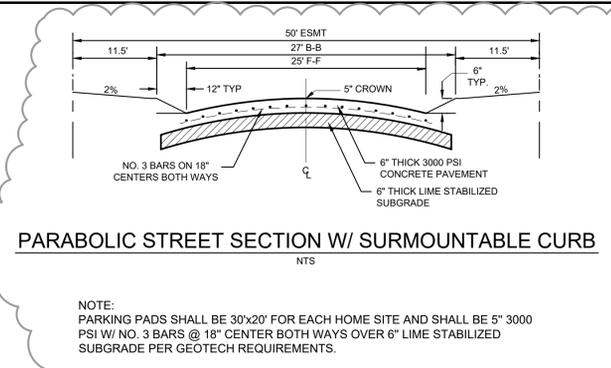
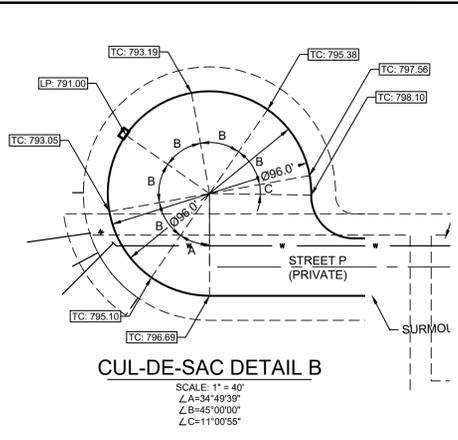
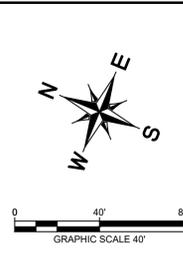
PAVING PLAN & PROFILE - STREET N (PRIVATE)

CIVITAS AT CROWLEY

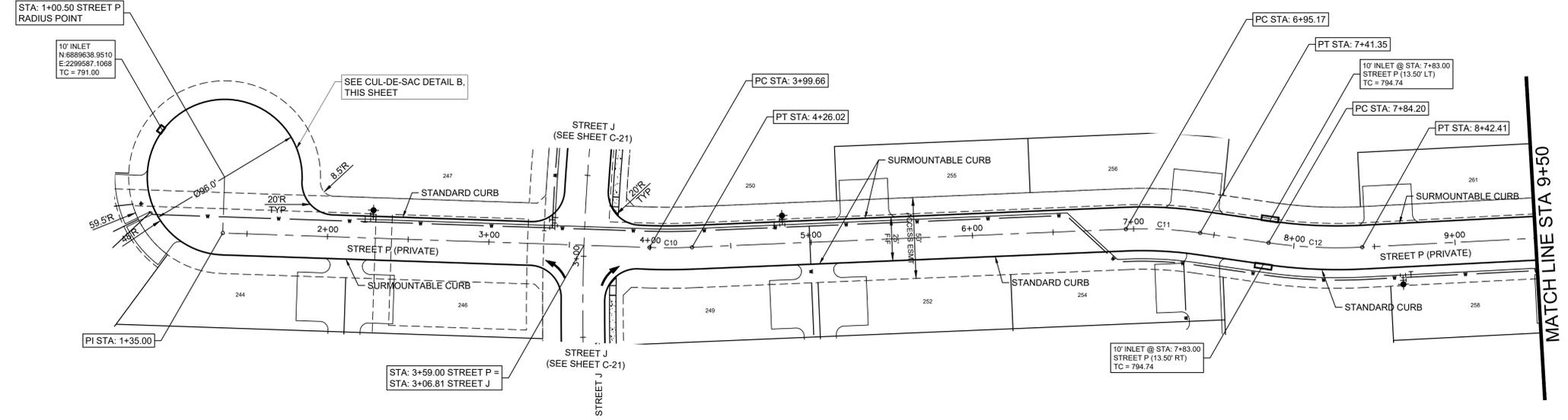
TARRANT COUNTY, TEXAS

SHEET NUMBER
C-26

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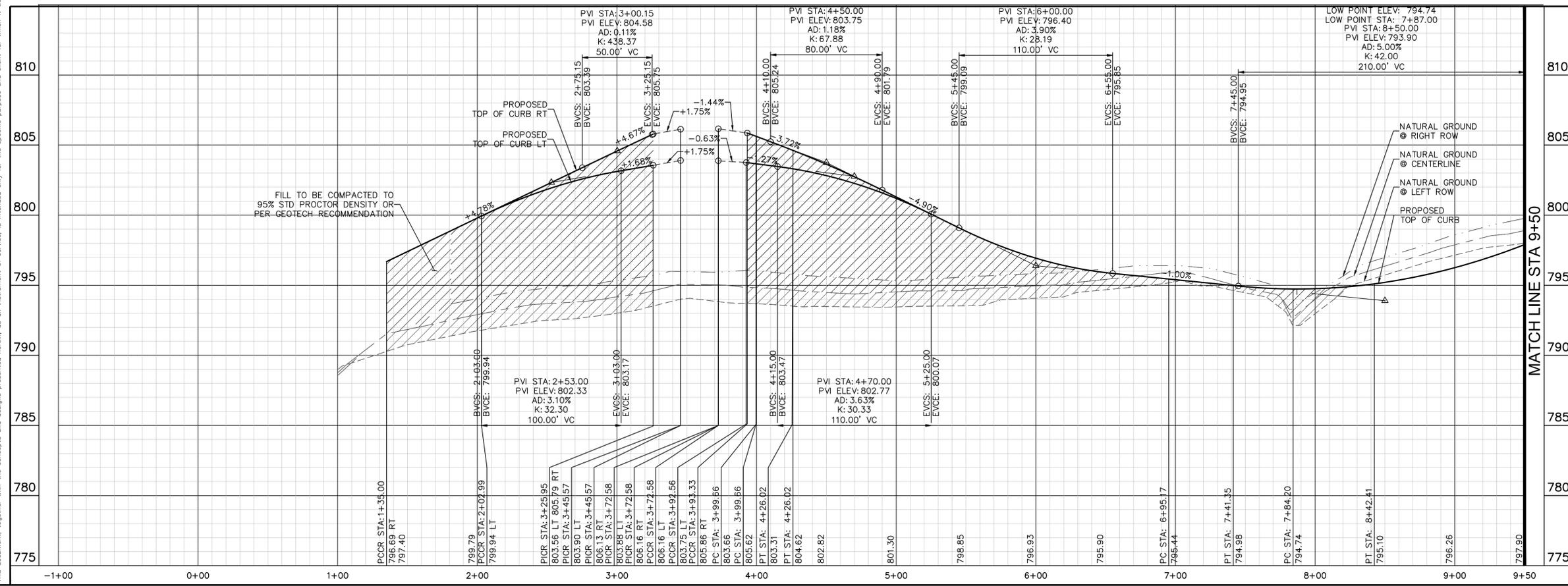


CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C10	350.00'	26.36'	S22°45'36"E	26.35'	4°18'55"	13.19'
C11	250.00'	46.18'	S19°37'35"E	46.11'	10°34'57"	23.15'
C12	300.00'	58.22'	S19°53'40"E	58.13'	11°07'07"	29.20'



ABBREVIATIONS	
(TP)	TOP OF PAVEMENT
(TC)	TOP OF CURB
(LP)	LOW POINT
(PCR)	POINT OF CURVATURE CURB RETURN
(PICR)	POINT OF INTERSECTING CURB RETURN

NOTE	
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KHA PROJECT 064587800	DATE OCTOBER 2023	SCALE: AS SHOWN	DESIGNED BY: LJC	DRAWN BY: CM	CHECKED BY: PEM
<h1 style="margin: 0;">Kimley»Horn</h1> <p style="font-size: small; margin: 0;">© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 13455 NOEL ROAD, SUITE 700, DALLAS, TX 75240 PHONE: 972-770-1300 FAX: 972-335-3779 WWW.KIMLEY-HORN.COM TEXAS REGISTERED ENGINEERING FIRM F-928</p>					
<h2 style="margin: 0;">PAVING PLAN & PROFILE - STREET P (PRIVATE)</h2>					
<h3 style="margin: 0;">CIVITAS AT CROWLEY</h3> <p style="font-size: small; margin: 0;">TARRANT COUNTY, TEXAS</p>					
<p style="margin: 0;">SHEET NUMBER C-27</p>					

