

**REVIEW BY FORT BEND COUNTY  
COMMISSIONERS COURT**

14D  
**Fort Bend County  
Engineering Department**  
301 Jackson Suite 401  
Richmond, Texas 77469  
281.633.7500  
Permits@fortbendcountytexas.gov

- Right of Way Permit
- Commercial Driveway Permit

Permit No: 2018-18595

**Applicant:** Jaho, Inc.

**Job Location Site:** 2350 Williams Way Boulevard, Richmond, TX 77469

**Bond No.**                      **Date of Bond:** 2/9/2018 **Amount:** \$20,000.00

The above applicant came to make use of certain Fort Bend County property subject to, "The Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Chapter 181, Vernon's Texas Statutes and Codes Annotated.

**Notes:**

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
  - a. 48 hours in advance of construction start up, and
  - b. When construction is completed and ready for final inspection, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 27th day of February, 2018, Upon Motion of Commissioner Meyers, seconded by Commissioner Patterson, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

**Signature**

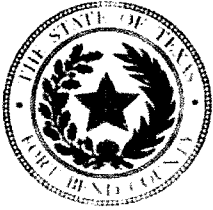
Presented to Commissioners Court and approved.

By: Charles O. Ay  
for County Engineer

Date Recorded 3-6-2018 Comm. Court No. 14D

By: N/A  
Drainage District Engineer/Manager

Clerk of Commissioners Court  
By: Ronda Wilkins  
Deputy



**PERMIT APPLICATION REVIEW FORM FOR  
CABLE, CONDUIT, AND POLE LINE ACTIVITY  
IN FORT BEND COUNTY**

**Fort Bend County  
Engineering Department**  
301 Jackson Suite 401  
Richmond, Texas 77469  
281.633.7500  
Permits@fortbendcountytexas.gov

- Right of Way Permit
- Commercial Driveway Permit

Permit No: 2018-18595

The following "Notice of Proposed Cable, Conduit, and/or Pole Line activity in Fort Bend County" and accompanying attachments have been reviewed and the notice conforms to appropriate regulations set by Commissioner's Court of Fort Bend County, Texas.

**(1) COMPLETE APPLICATION FORM:**

- a. Name of road, street, and/or drainage ditch affected.
- b. Vicinity map showing course of directions
- c. Plans and specifications

**(2) BOND:**

- County Attorney, approval when applicable.
- Perpetual bond currently posted.      Bond No: [REDACTED]      Amount: \$20,000.00
- Performance bond submitted.      Bond No: \_\_\_\_\_      Amount: \_\_\_\_\_
- Cashier's Check      Check No: \_\_\_\_\_      Amount: \_\_\_\_\_

**(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):**

\_\_\_\_\_  
Drainage District Approval

\_\_\_\_\_  
Date

**We have reviewed this project and agree it meets minimum requirements.**

*Charly O. Ay*  
\_\_\_\_\_  
Permit Administrator

2/16/2018  
\_\_\_\_\_  
Date

34



**PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE  
ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD,  
COMMERCIAL DRIVEWAY AND MEDIAN OPENINGS OR MODIFICATIONS  
(AUTHORIZED)**

BOND NO [REDACTED]

THE STATE OF TEXAS §  
COUNTY OF FORT BEND §

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, Jaho, Inc. whose (address, phone) is 2003 Wilson Road, Humble, Texas 77396, (281) 446-4781, hereinafter called the Principal, and Colonial American Casualty and Surety Company, a Corporation existing under and by virtue of the laws of the state of Illinois and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at (name/address/phone) 1400 American Lane, Tower I, 18<sup>th</sup> Floor, Schaumburg, IL 60196, (847) 605-6000, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Phil Bair and whose address is 2727 Allen Parkway, Houston, TX 77019, hereinafter called the Surety, and held and firmly bound unto, Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, in the full sum of Twenty Thousand and no/100 Dollars (\$ 20,000.00 ) current, lawful money of the United States of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the above bounden principal contemplates laying, constructing, maintaining and/or repairing one or more cables, conduits, and/or pole lines in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend, and the State of Texas, under the jurisdiction of the Commissioners' Court of Fort Bend County, Texas, pursuant to the Commissioners' Court order adopted on the 1<sup>st</sup> day of December, A.D. 1980, recorded in Volume 13, of the Commissioners' Court Minutes of Fort Bend County, Texas, regulating same, which Commissioners' Court order is hereby referred to and made a part hereof for all purposes as though fully set out herein;

AND WHEREAS, the principal desires to provide Fort Bend County with a performance bond covering all such cable, conduit and/or pole line activity, commercial driveway and median openings or modifications;

NOW, THEREFORE, if the above bounden principal shall faithfully perform all its cable, conduit and/or pole line activity (including, but not limited to the laying, construction, maintenance and/or repair of cables, conduits and/or pole lines) in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend and State of Texas, under the jurisdiction of the Commissioners Court of Fort Bend County, Texas, pursuant to and in accordance with minimum requirements and conditions of the above mentioned Commissioners' Court order set forth and specified to be by said principal done and performed, at the time and in the manner therein specified, and shall pay over and make good and reimburse Fort Bend County, all loss and damages which Fort Bend County may sustain by reason of any failure or default on the part of said principal, then this obligation shall be null and void, otherwise to remain in full force and effect.

This bond is payable at the County Courthouse in the County of Fort Bend and State of Texas.

It is understood that at any time Fort Bend County deems itself insecure under this bond, it may require further and/or additional bonds of the principal.

EXECUTED this 9th day of February, 2018.

Jaho, Inc.  
PRINCIPAL

BY  
Colonial American Casualty and Surety Company  
SURETY

Greg J. Pollard  
Vice President

BY: Philip N. Bair, Attorney In-Fact

CCM 2-27-2018 # 14 D  
Fort Bend County Clerk  
Return Admin Serv Coord  
Permit # 2018-18595 RAC

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Philip N. BAIR, Eric S. FEIGHL and Jessica RICHMOND, all of Houston, Texas, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings, EXCEPT bonds on behalf of Independent Executors, Community Survivors and Community Guardians.** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

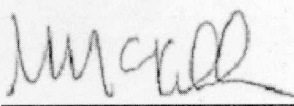
The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

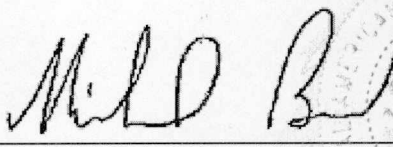
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 8th day of June, A.D. 2017.

ATTEST:

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By:   
Secretary  
Michael McKibben

  
Vice President  
Michael Bond

State of Maryland  
County of Baltimore

On this 8th day of June, A.D. 2017, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and MICHAEL MCKIBBEN, Secretary**, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposed and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2019

**EXTRACT FROM BY-LAWS OF THE COMPANIES**

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

**CERTIFICATE**

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 9th day of February, 2018.



*David D. Vicker*

David McVicker, Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:**

Zurich American Insurance Co.  
Attn: Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056

FILED AND RECORDED  
OFFICIAL PUBLIC RECORDS

*Laura Richard*

Laura Richard, County Clerk

Fort Bend County Texas

March 05, 2018 03:19:28 PM



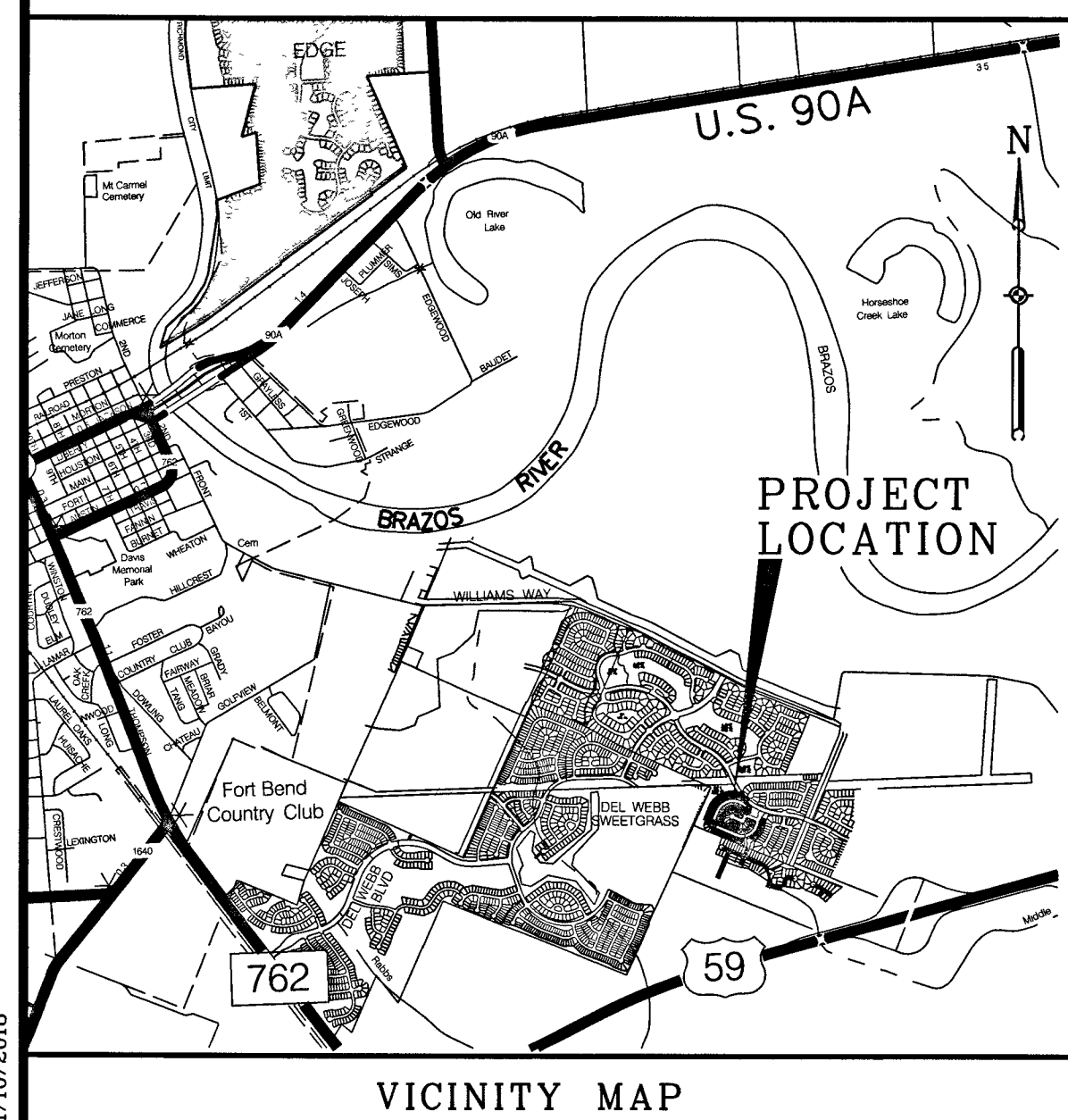
FEE: \$0.00

CR1

**2018023288**

# CONSTRUCTION PLANS FOR PAVING IMPROVEMENTS FOR WILLIAMS WAY BOULEVARD DRIVEWAY REMOVAL FORT BEND COUNTY, TEXAS

P:\Projects\4\WILLIAMS WAY DRIVEWAY REMOVAL\2016100-DWY\DCNS\2016100-DWY-01 COVER.dgn  
1/10/2018



CITY OF RICHMOND	
 TERRI VELA CITY MANAGER	DATE: <u>1/18/18</u>
 KELLY R. KALUZA, P.E. CITY ENGINEER	DATE: <u>1/16/18</u>
VOID IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF APPROVAL.	

FORT BEND COUNTY	
ENGINEER: FOR RICHARD W. STOLLEIS, P.E.	DATE: <u>1/24/18</u>
THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN ONE (1) YEAR FROM DATE OF APPROVAL.	
APPROVED: DEVELOPMENT COORDINATOR	DATE: <u>1/24/18</u>

## INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	CONSTRUCTION NOTES
3	OVERALL LAYOUT
4	DRIVEWAY REMOVAL LAYOUT
5	TRAFFIC CONTROL LAYOUT
R-1-17	CITY OF RICHMOND - STANDARD CONSTRUCTION NOTES
R-9-17	CITY OF RICHMOND - STANDARD PAVING DETAILS (SHT 1 OF 4)
R-10-17	CITY OF RICHMOND - STANDARD PAVING DETAILS (SHT 2 OF 4)
R-11-17	CITY OF RICHMOND - STANDARD PAVING DETAILS (SHT 3 OF 4)
R-12-17	CITY OF RICHMOND - STANDARD PAVING DETAILS (SHT 4 OF 4)
FBC-010A.B.C. SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS RESIDENTIAL AREAS	



Engineering and Surveying  
 9990 Richmond Avenue, Suite 450  
 North Building  
 Houston, Texas 77042  
 (713) 783-7788 (713) 783-3580, Fax  
 TEXAS PE BOARD FIRM  
 REGISTRATION No. 280

JOB NO. 2016100-DWY-001/101  
 DATE: NOVEMBER 2017



**Know what's below.  
Call before you dig.**

F.B.C.M.U.D. No. 187 - NOVEMBER 2017

GENERAL NOTES

- 1. CONTRACTOR SHALL CONTACT THE CITY OF RICHMOND CITY ENGINEER (KELLY KALUZA 281-341-0808)...

Continuation of General Notes

- 24. THESE PLANS, PREPARED BY COSTELLO, INC., DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES...

STORM SEWER CONSTRUCTION NOTES

- 1. STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RICHMOND AND FORT BEND CO. DESIGN STANDARDS AS CURRENTLY AMENDED...

WATER MAIN CONSTRUCTION NOTES

- 1. UNLESS NOTED OTHERWISE, ALL WATER LINES 2-INCH TO 12-INCH SHALL HAVE A MINIMUM OF 3/2 FEET OF COVER FROM TOP OF CURB TO TOP OF PIPE...

Continuation of Water Main Notes

- 3. ALL WATER LINES 4-INCH TO 12-INCH SHALL BE POLYVINYL CHLORIDE (P.V.C.) CONFORMING TO A.W.W.A. STANDARD C-900 AS CURRENTLY REVISED...

Table with 2 columns: PIPE SIZE (IN), RADIUS (FT). Rows include 4, 6, 8, 10, 12 inch sizes.

SANITARY SEWER CONSTRUCTION NOTES

- 1. ALL SANITARY SEWERS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH CITY OF RICHMOND DESIGN STANDARDS WITH LATEST REVISIONS, AMENDMENTS, AND SPECIAL PROVISIONS THERE TO...

Fort Bend County Construction - General Notes

- 1. Fort Bend County must be invited to the Pre-Construction Meeting. 2. Contractor shall notify Fort Bend County Engineering Department 48 hours prior to commencing construction...

NOTE: Fort Bend County notes supersede any conflicting notes.

Continuation of Sanitary Sewer Notes

- 2. BEDDING AND BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO PAY ITEM FOR PIPE AND SHALL NOT BE PAID FOR DIRECTLY. FOR BEDDING DETAILS REFER TO SHEET R-4.

PAVING CONSTRUCTION NOTES

- 1. PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL FORT BEND COUNTY AND CITY OF RICHMOND REGULATIONS. SIDEWALK RAMP CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES (ADA)...

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

- 1. The water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D...

WILLIAMS WAY DRIVEWAY REMOVAL - CONSTRUCTION NOTES 05

Table with 4 columns: NO., REVISION, DATE, BY.

Table with 2 columns: DESIGNED BY, DESIGN CHECKED BY, DRAWN BY, COGO CHECKED BY, SURVEY CHECKED BY, QA/QC BY, DATE, QA/QC REVISIONS BY.

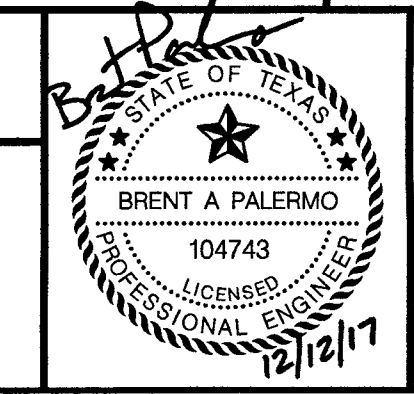


Engineering and Surveying 9990 Richmond Avenue, Suite 450 N Houston, Texas 77042 (713) 783-7788 (713) 783-3580, Fax

TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100486

WILLIAMS WAY BOULEVARD DRIVEWAY REMOVAL

CONSTRUCTION NOTES



APPROVED: [Signature] DEVELOPMENT COORDINATOR DATE: 1/24/18

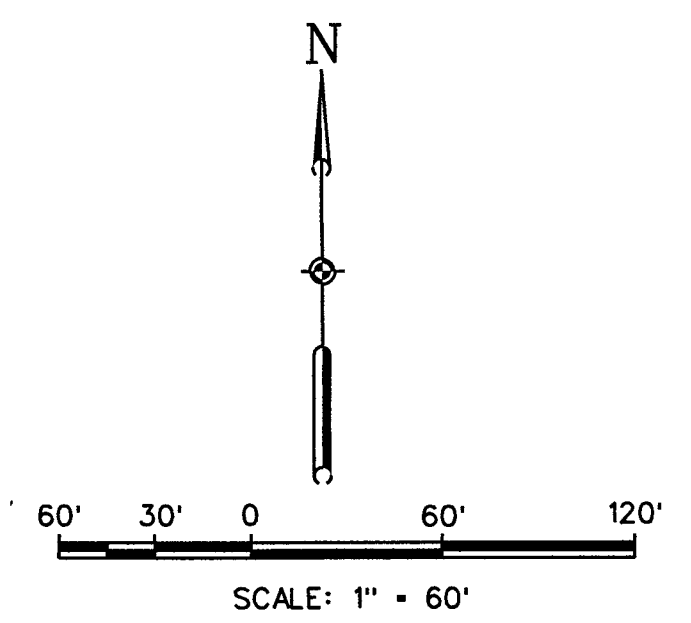
Table with 2 columns: SHEET, OF SHEETS. Values: 2, 5.

JOB NO. 2016100-DWY-DV-001


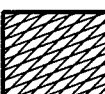
WILLIAMS WAY DRIVEWAY REMOVAL - JOB NO.: 2016100-DWY-DV-001

CONTROL BENCHMARK:  
 NGS MONUMENT HIGSD72  
 STAINLESS STEEL IRON ROD IN PVC SLEEVE  
 LOCATED ON SMITHERS LAKE ROAD  
 ELEVATION: 69.6, NAVD-88

SITE TBM: 2584-6-02  
 SQUARE CUT ON TOP OF WEST CURB OF  
 SWEETGRASS DRIVE, +/- 2' SOUTH FROM  
 END PAVING AT PROPERTY LINE  
 ELEVATION: 77.28



**LEGEND**

-  EXISTING POWER POLE
-  CONCRETE DRIVEWAY REMOVAL



E:\WORK\WILLIAMS WAY DRIVEWAY REMOVAL\2016100-DWY-DVY-001\DWY\_03\_OVERALL\_LAYOUT.dwg

WILLIAMS WAY DRIVEWAY REMOVAL - JOB NO.: 2016100-DWY-DVY-001

NO.	REVISION	DATE	BY

DESIGNED BY: \_\_\_\_\_  
 DESIGN CHECKED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 COGO CHECKED BY: \_\_\_\_\_  
 SURVEY CHECKED BY: \_\_\_\_\_  
 QA/QC BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 QA/QC REVISIONS BY: \_\_\_\_\_

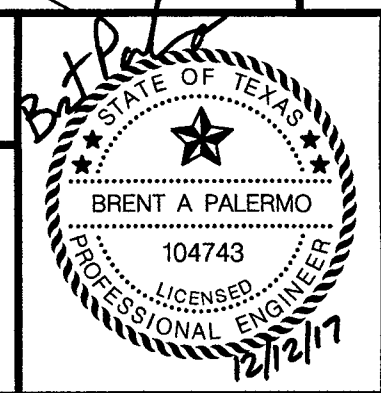


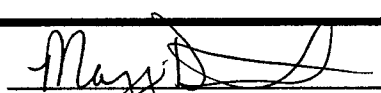
Engineering and Surveying  
 9990 Richmond Avenue, Suite 450 N  
 Houston, Texas 77042  
 (713) 783-7788 (713) 783-3580, Fax

TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**WILLIAMS WAY BOULEVARD  
 DRIVEWAY REMOVAL**

**OVERALL LAYOUT**



APPROVED:   
 DEVELOPMENT COORDINATOR

DATE: 1/24/18

SHEET **3**

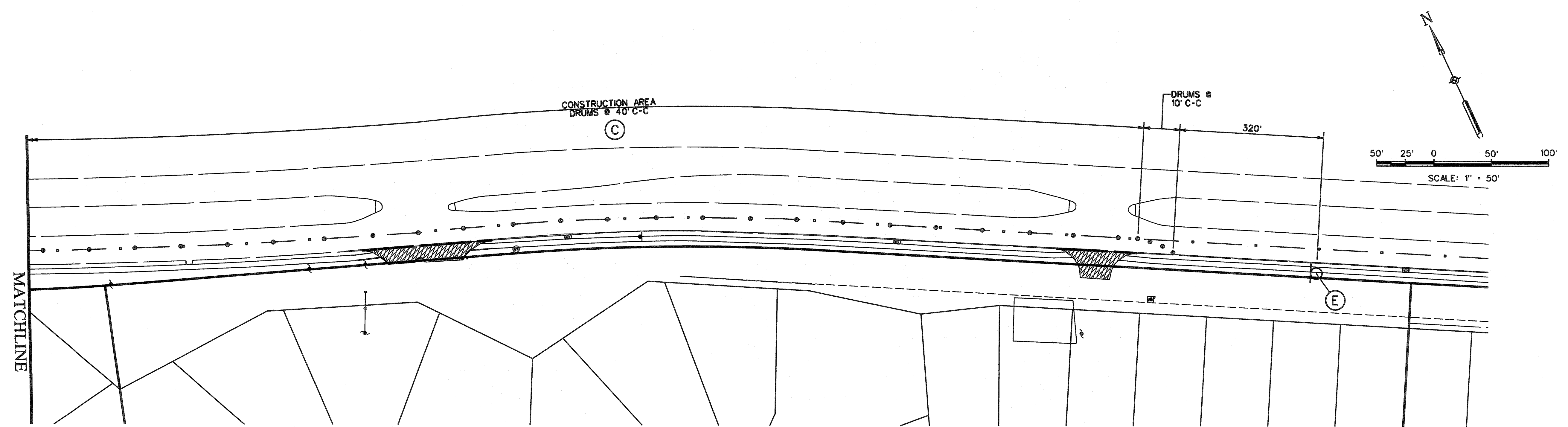
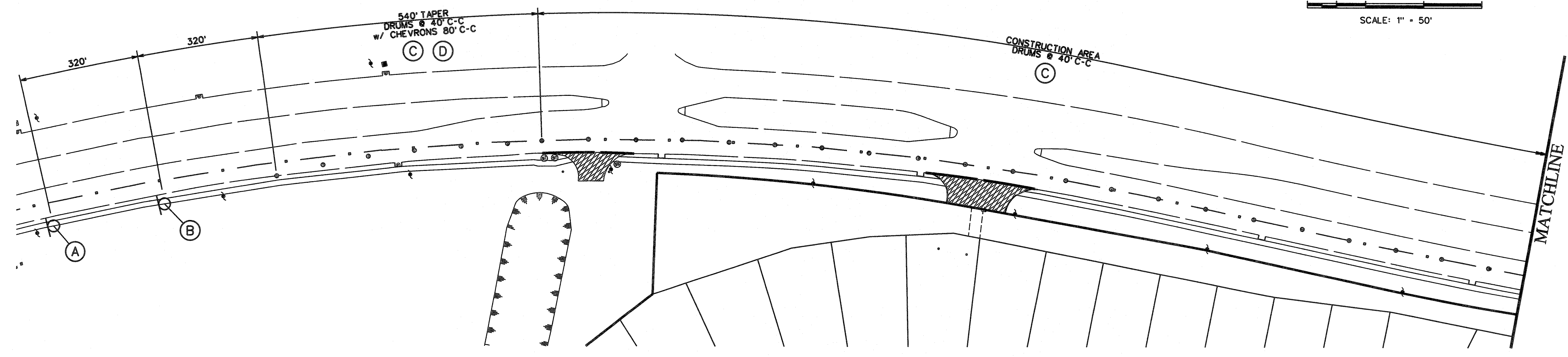
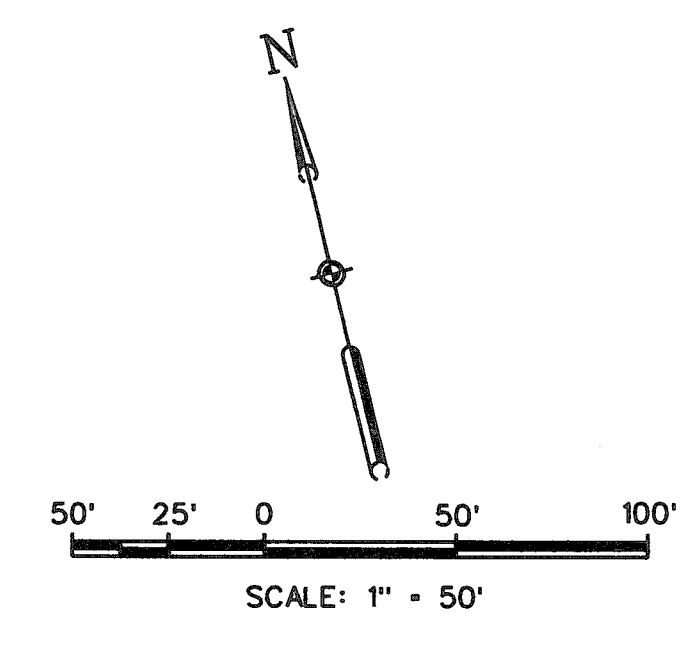
OF 5 SHEETS

JOB NO. 2016100-DWY-DVY-001



**TRAFFIC NOTES**

- THE CONSTRUCTION TRAFFIC CONTROL SIGNS, DEVICES, AND BARRICADES ON THESE DRAWINGS CONSTITUTE MINIMUM REQUIREMENTS AND ARE NOT INTENDED TO COVER SPECIAL CIRCUMSTANCES OR OTHER CONDITIONS THAT MAY ARISE DUE TO UNFORSSEEN FIELD CONDITIONS. THE CONTRACTOR SHALL PLACE AND MAINTAIN SUFFICIENT ADDITIONAL SIGNS, BARRICADES, AND WARNING DEVICES TO WARN THE PUBLIC AND PROVIDE FOR THE SAFE MOVEMENT OF TRAFFIC AND THE CONSTRUCTION ZONE SAFETY WHERE PROJECT REQUIREMENTS ARE NOT FULLY SATISFIED BY THE STANDARDS SHOWN HEREON. THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL GOVERN.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (T.M.U.T.C.D.), MOST RECENT EDITION WITH REVISIONS, DURING CONSTRUCTION.
- ALL SIGNS AND MARKINGS SHALL COMPLY WITH THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM DEVICES, UNLESS SPECIFICALLY DIRECTED BY THE TRAFFIC ENGINEER OR SPECIFIED ON THE PLANS.
- BARRICADES, SIGN, CHANNELIZING DEVICES, AND TRAFFIC HANDLING DEVICES AS SHOWN SHALL BE ADJUSTED TO FIT FIELD CONDITIONS, AS DIRECTED BY THE ENGINEER.
- NO LANES SHALL BE BLOCKED DURING THE EVENING HOURS OR AFTER 6:00 PM (MONDAY THROUGH FRIDAY) OR ALL DAY ON HOLIDAYS AND WEEKENDS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL PROVIDE ACCESS TO ALL BUSINESSES ALONG THIS PROJECT AT ALL TIMES DURING CONSTRUCTION UNLESS OTHERWISE AUTHORIZED SPECIFICALLY BY THE ENGINEER.
- ALL EXISTING STOP SIGNS, STREET NAME SIGNS, AND WARNING SIGNS SHALL BE MAINTAINED IN PLACE DURING THE ENTIRE PERIOD OF CONSTRUCTION BY THE CONTRACTOR.
- NO WORK WILL BE PERFORMED IN THE TRAVELED WAY INCLUDING LOADING AND UNLOADING OF TRUCKS.
- THE ENGINEER MAY DIRECT THE CONTRACTOR TO FURNISH ADDITIONAL SIGNS, BARRICADES, AND CHANNELIZING DEVICES AS REQUIRED TO MAINTAIN TRAFFIC AND CONSTRUCTION ZONE SAFETY DURING CONSTRUCTION. ANY SUCH ADDITIONAL SIGNS, BARRICADES, ETC. SHALL BE CONSIDERED A PART OF THE LUMP SUM PAY ITEM.
- WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE FLAGGERS TO DIRECT TRAFFIC. FLAGGERS SHALL BE OFF-DUTY UNIFORMED POLICE OFFICERS AND SHALL BE PAID FOR BY THE CONTRACTOR. THIS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF TAKING OTHER STEPS AND PROVIDING OTHER PERSONNEL WHICH THE CONTRACTOR MAY DEEM NECESSARY FOR PROTECTION OF WORK AND THE PUBLIC.
- CONTRACTOR SHALL INSURE THAT ALL BARRICADES, SIGNS, CHANNELIZING DEVICES, WARNING LIGHTS, AND TRAFFIC HANDLING DEVICES ARE MAINTAINED IN A CLEAN FUNCTIONAL CONDITION AT ALL TIMES.
- ALL SIGNS, WARNING DEVICES, AND BARRICADES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ACTS OF VANDALISM OR ACCIDENT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE TEMPORARY AND EXISTING PAVEMENT MARKINGS IN A GOOD VISIBLE CONDITION THROUGHOUT THE LENGTH OF THE PROJECT.
- THE CONTRACTOR SHALL MAINTAIN BARRICADES AND SAFETY FENCES AT EACH SITE WHERE PEDESTRIAN TRAFFIC IS EVIDENT.
- THE CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS AND STRIPING WHICH ARE IN CONFLICT WITH THE CONSTRUCTION SIGNS AND STRIPING. EXISTING PAVEMENT MARKINGS SHALL BE REMOVED IN AREAS WHERE TRAFFIC IS DIRECTED TO CROSS THEM. THE SIGNS SHALL BE PROPERLY STORED IN A SAFE PLACE UNTIL THE CONSTRUCTION HAS BEEN COMPLETED.
- ALL CONSTRUCTION SIGNS, WARNING DEVICES, AND BARRICADES SHALL REMAIN IN PLACE UNTIL THEIR REMOVAL IS DIRECTED BY THESE PLANS OR BY THE ENGINEER.
- AT THE CONCLUSION OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO THEIR ORIGINAL CONDITION WITH TRAFFIC PAINT STRIPES, RAISED PAVEMENT MARKER BUTTONS AND RE-INSTALL THE SIGNS AT THEIR EXISTING LOCATION, AS APPLICABLE.
- CONSTRUCTION IN ANY AREA THAT IS ADVERSELY AFFECTING TRAFFIC FLOW AND SAFETY, MUST BE PURSUED DILIGENTLY BY THE CONTRACTOR. IF, IN THE OPINION OF THE ENGINEER, THE CONTRACTOR IS NOT DIRECTLY PURSUING THE CONSTRUCTION IN THOSE AREAS, THE ENGINEER MAY REQUIRE THE CONTRACTOR TO CHANGE HIS/HER WORK SCHEDULE TO EXPEDITE COMPLETION IN THOSE AREAS OF CONCERN.
- THE "TRAFFIC CONTROL PLANS" EXIST AS A PART OF THE CONTRACT DRAWINGS. THE OBJECTIVE IS TO MAINTAIN A SAFE AND EFFICIENT FLOW OF TRAFFIC THROUGH THE CONSTRUCTION AREA. SHOULD THE CONTRACTOR ELECT TO USE A DIFFERENT PLAN OF TRAFFIC CONTROL, HE/SHE SHALL PREPARE AND SUBMIT AN ALTERNATE SET OF PLANS TO THE ENGINEER FOR REVIEW AND APPROVAL TO WORKING DAYS PRIOR TO PROCEEDING WITH THE WORK. THESE PLANS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND DRAWN TO AN ACCEPTABLE SCALE, ON REPRODUCIBLE MYLARS, AND SHALL BECOME PART OF THE CONTRACT DRAWING.
- THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL PLAN WITH ANY ADJACENT CONSTRUCTION PROJECTS TO ENSURE THE UNINTERRUPTED FLOW OF TRAFFIC.
- THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF STORM RUNOFF DURING ALL PHASES OF CONSTRUCTION.



CW20-ID 36" x 36"	CW20-SR 36" x 36"	DRUMS	CW1-BL 12" x 18"	G20-2a 36" x 18"
(A)	(B)	(C)	(D)	(E)

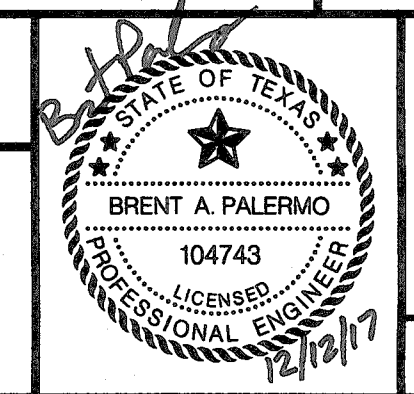
NO.	REVISION	DATE	BY

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 DESIGN CHECKED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 COGO CHECKED BY: \_\_\_\_\_  
 SURVEY CHECKED BY: \_\_\_\_\_  
 QA/QC BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 QA/QC REVISIONS BY: \_\_\_\_\_



Engineering and Surveying  
 9990 Richmond Avenue, Suite 450 N  
 Houston, Texas 77042  
 (713) 783-7788 (713) 783-3580, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**WILLIAMS WAY BOULEVARD  
 DRIVEWAY REMOVAL**  
**TRAFFIC CONTROL  
 LAYOUT**



APPROVED:   
 DEVELOPMENT COORDINATOR  
 DATE: 1/24/18

SHEET **5**  
 OF 5 SHEETS  
 JOB NO. 2016100-DWY-DV-001

E:\Projects\2016100-DWY-DV-001\Drawings\Traffic Control.dwg

WILLIAMS WAY DRIVEWAY REMOVAL - JOB NO.: 2016100-DWY-DV-001

GENERAL NOTES

- 0-1. THE CONTRACTOR SHALL NOTIFY CITY OF RICHMOND (REFERRED TO AS THE "CITY") DIRECTOR OF PUBLIC WORKS... 0-2. ALL PUBLIC INFRASTRUCTURE SHALL BE INSPECTED BY PUBLIC WORKS INSPECTOR(S) OR AUTHORIZED AGENTS(S)...

- 0-37. CONTRACTOR SHALL CONTACT CITY PUBLIC WORKS DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED... 0-38. IN THE EVENT OF CONFLICT BETWEEN THE CITY OF RICHMOND DETAIL SPECIFICATIONS, CONSTRUCTION NOTES, OR CITY OF RICHMOND PUBLIC INFRASTRUCTURE DESIGN MANUAL...

WATER DISTRIBUTION NOTES

- W-1. EXCEPT AS OTHERWISE REQUIRED, WATER MAINS FOUR INCHES (4") THROUGH TWELVE INCHES (12") SHALL BE AWMA C-900... W-2. ALTERNATIVE WATER MAIN PIPE MATERIAL (WITH APPROVAL OF THE CITY): A) STEEL: AWMA C200, 150 PSI FOR LINES 4-INCHES TO 12-INCHES...

SANITARY SEWER CONSTRUCTION NOTES

- S-1. SANITARY SEWERS SHALL BE CONSTRUCTED ACCORDING TO THESE PLANS AND SPECIFICATIONS AND THE CITY AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (T.C.E.Q.) RULES AND REGULATIONS... S-2. ALL MANHOLES SHALL BE PRECAST IN ACCORDANCE WITH DETAILS INCLUDING THE INTERIOR COATING...

STORM SEWER NOTES

- ST-1. ALL STORM SEWERS SHALL MEET THE REQUIREMENTS OF THE CITY, FORT BEND COUNTY AND FORT BEND COUNTY DRAINAGE DISTRICT (WHEN APPLICABLE)... ST-2. ALL STORM SEWER MANHOLE AND INLET COVERS SHALL BE LABELED "STORM SEWER" IN ACCORDANCE WITH THE DETAILS...

- ST-5. AREAS ADJACENT TO THE PAVEMENT SHALL BE GRADED TO POSITIVELY DRAIN TOWARD INLETS, CONCRETE CURB AND/OR ROAD DITCHES IF DISTURBED DURING CONSTRUCTION... ST-6. CONTRACTOR SHALL ADJUST EXISTING WATER LINE MAINS AND WATER LINE SERVICES IN CONFLICT WITH A STORM SEWER...

STREET AND PAVING CONSTRUCTION NOTES

- P-1. ALL PAVING SHALL BE CONSTRUCTED WITH THE PLANS AND SPECIFICATIONS AND CITY REQUIREMENTS... P-2. THE CONTRACTOR SHALL NOTIFY CITY PUBLIC WORKS DEPARTMENT AT LEAST 24 HOURS PRIOR TO ANY AND ALL SUBGRADE TESTING AND CONCRETE POURS... P-3. ALL TEMPORARY AND PERMANENT SIGNAGE MUST COMPLY WITH THE LATEST REVISION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"...

SPECIAL NOTES

- SN-1. BEFORE THE INITIAL WALK-THROUGH IS SCHEDULED... SN-2. NEGATIVE BACTERIOLOGICAL RESULTS FOR PUBLIC WATER LINES MUST BE SUBMITTED TO PUBLIC WORKS... SN-3. SATISFACTORY MANDREL, HYDROSTATIC, SANITARY, AND THE MANHOLE WATER TEST, MUST BE COMPLETED...

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

- 1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D... 2. An appointed engineer shall notify in writing the local TCEQ's Regional Office of the construction will start...

Q = LD / sqrt(P)

Where:

- Q = the quantity of makeup water in gallons per hour. L = the length of the pipe section being tested in feet. D = the nominal diameter of the pipe in inches. P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

L = SD / sqrt(P)

Where:

- L = the quantity of makeup water in gallons per hour. S = the length of the pipe section being tested in feet. D = the nominal diameter of the pipe in inches. P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

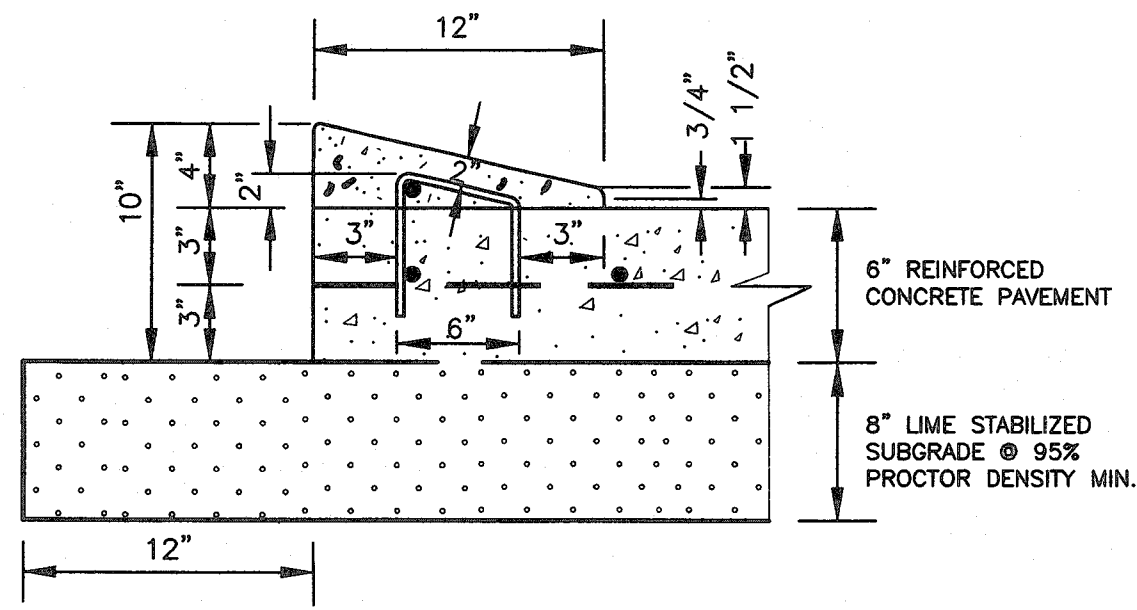
- 15. Pursuant to 30 TAC §290.44(e)(5), the separation distance from a potable waterline to a wastewater main or sewer manhole must be a minimum of nine feet... 16. Pursuant to 30 TAC §290.44(e)(6), fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line...

Table with 4 columns: NO., DATE, REVISIONS, APP.

CITY OF RICHMOND STANDARD CONSTRUCTION DETAILS NOTES

SCALE: HORIZONTAL 1" = NTS, VERTICAL 1" = NTS. DESIGNED BY: LIT, DRAWN BY: AJS, CHECKED BY: KRK, DATE: 7/24/17, JOB NO., DWG. NO.: R-1-17, SHEET

Handwritten signature and date: May 12/24/18

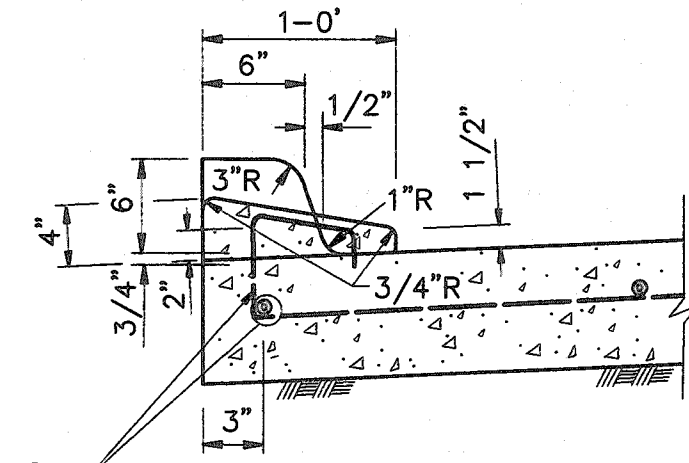


- NOTES:**
- #3 RE-BAR STIRRUPS TO BE PLACED AT INTERVALS OF 2' (FT) C-C.
  - #4 RE-BAR LONGITUDINAL SHALL BE TIED TO EACH STIRRUP
  - MOUNTABLE CURB ONLY ALLOWED ON < 41' (FT), UNDIVIDED, RESIDENTIAL ROADWAYS WITHIN SUBDIVISIONS.

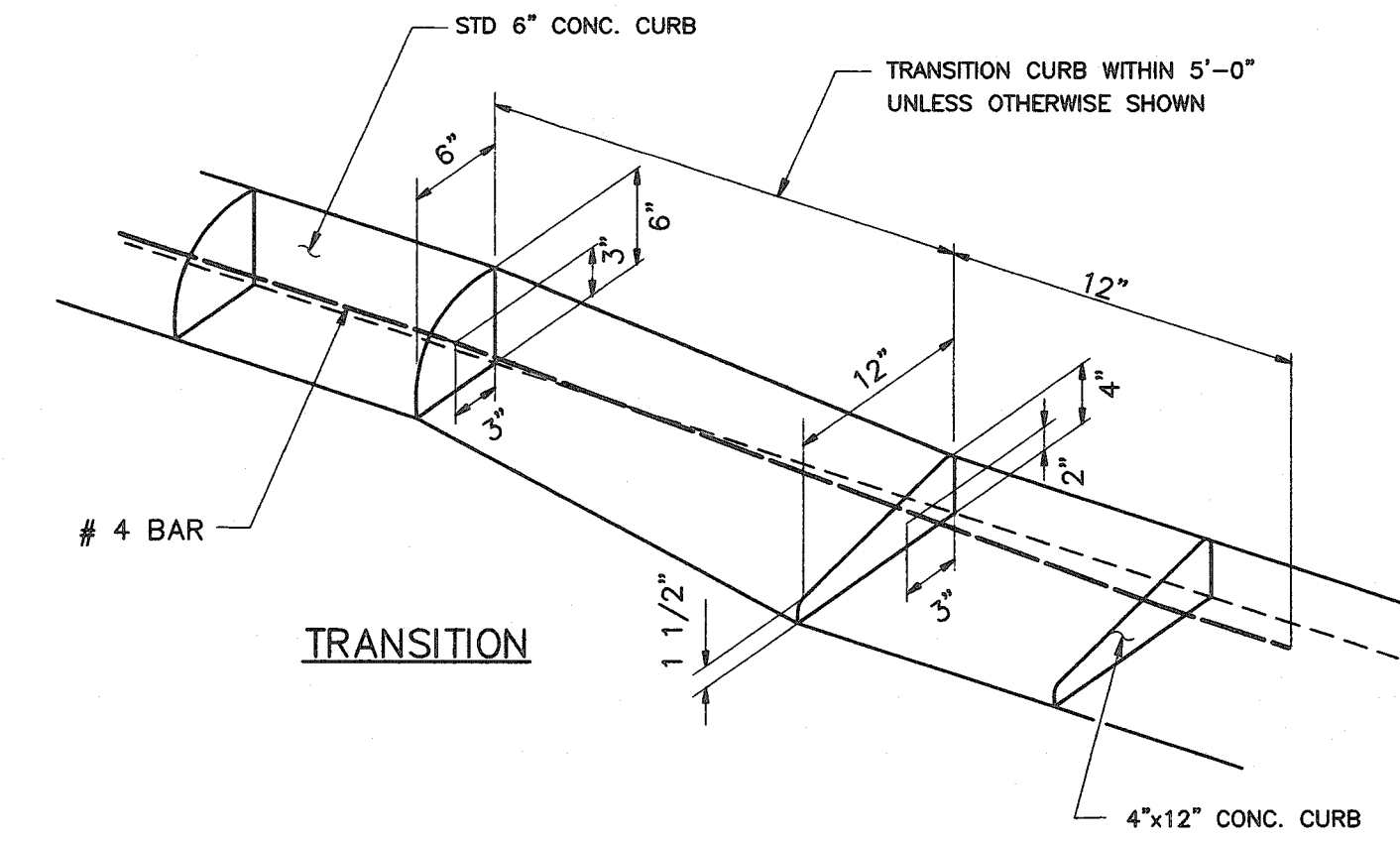
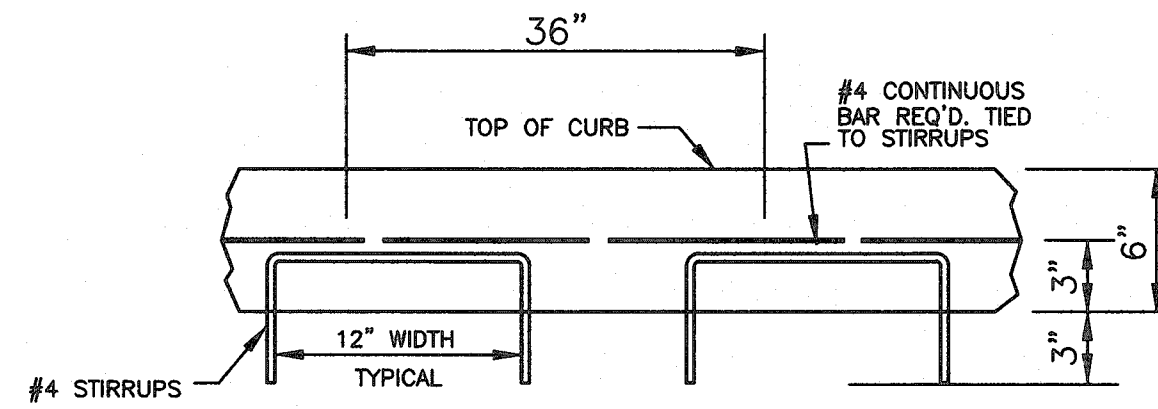
**4"x12" MOUNTABLE CONCRETE CURB AND TRANSITION CURB NOTES:**

- 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH x 12-INCH CONCRETE CURB AS NOTED ON PLANS.
- ALL 4-INCH x 12-INCH CONCRETE CURBS TO BE POURED SEPARATE FROM PROPOSED CONCRETE PAVEMENT.
- TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 5 FEET (TYP.), UNLESS OTHERWISE SHOWN. REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" DETAIL IS TO BE INSTALLED.

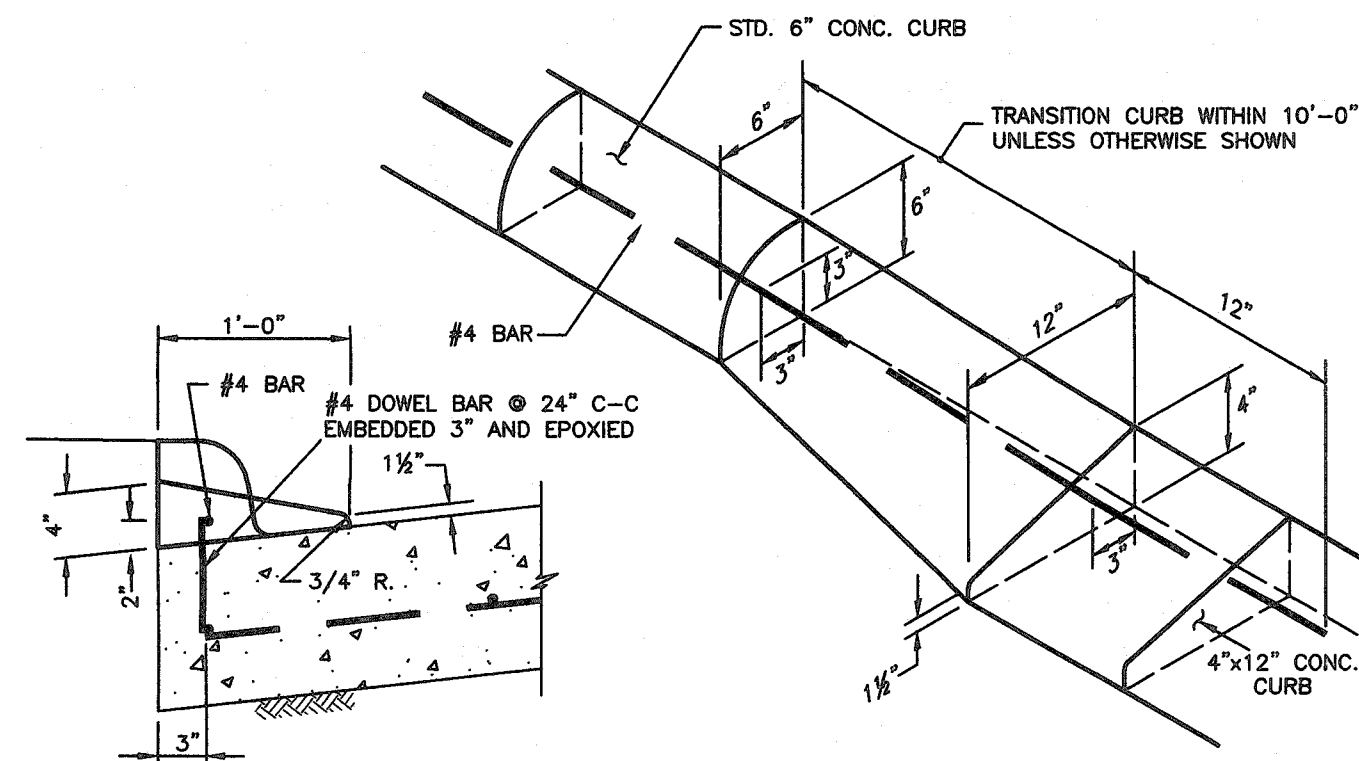
**NOTES FOR DETAILS 1 & 2**



# 4 DOWEL BAR @ 24" C-C EMBEDDED 3" AND EPOXIED

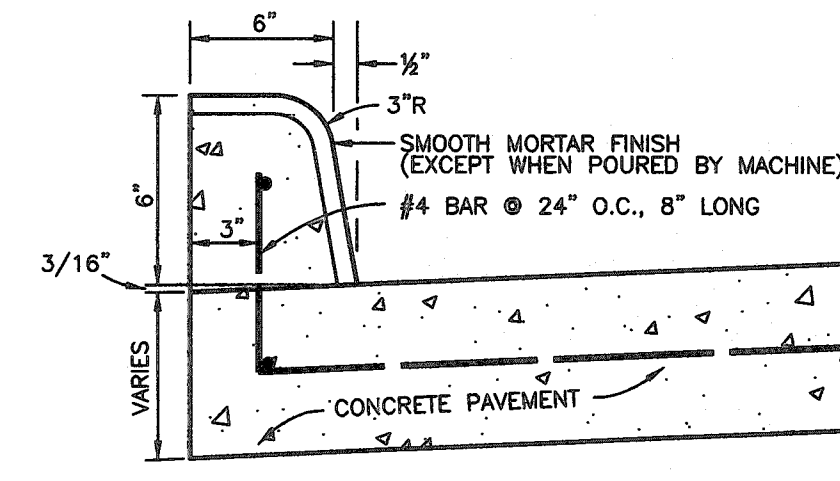


**1. 4"x12" MOUNTABLE CONCRETE CURB**



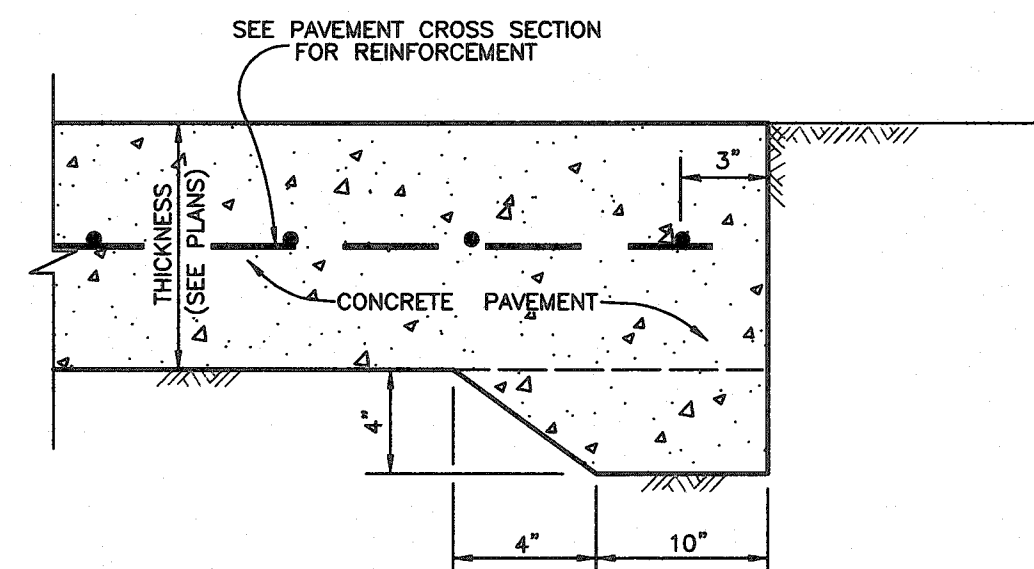
- NOTES:**
- 6" CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6" CONCRETE CURB OR 4"x12" CONCRETE CURB AS NOTED ON DRAWINGS.
  - ALL 4"x12" CONCRETE CURBS TO BE POURED SEPARATE FROM PROPOSED CONCRETE PAVEMENT.
  - TRANSITIONS FROM 6" CONCRETE CURB TO 4"x12" CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10 FOOT TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN ABOVE IN TYPICAL DETAIL 4"x12" TRANSITION CURB IS TO BE INSTALLED.
  - ADJUST PAVEMENT ELEVATION AND SLOPE TO ASSURE PROPER DRAINAGE THROUGH THE TRANSITION.

**2. 4"x12" TRANSITION CURB**

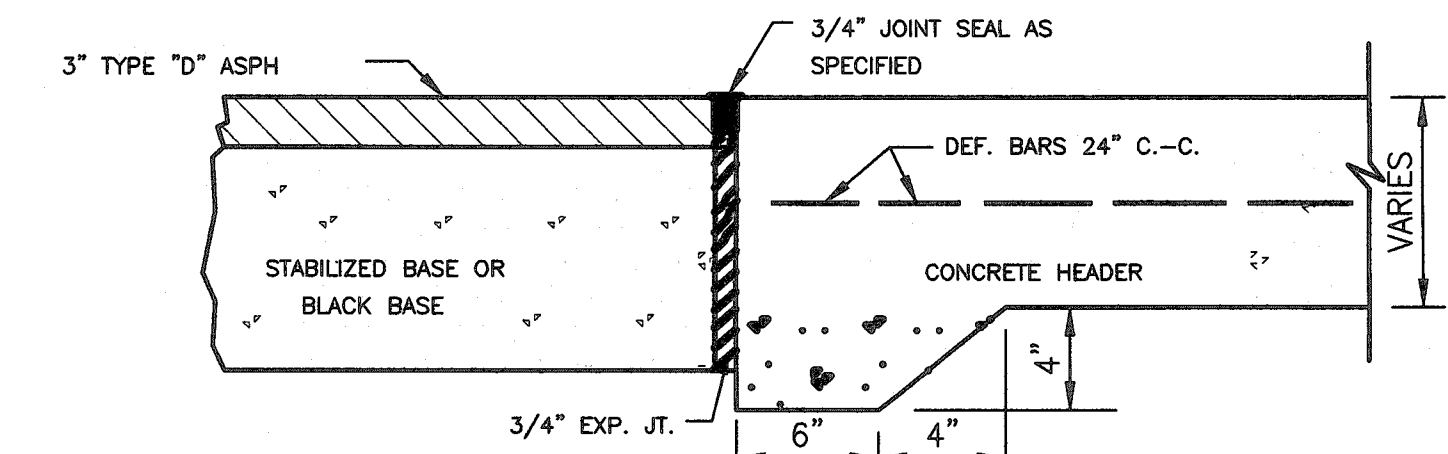


- NOTES:**
- MORTAR FINISH NOT REQUIRED WHEN CURB IS POURED BY A MACHINE, BUT CURB SHALL HAVE THE SAME OUTSIDE DIMENSIONS.
  - WHEN CONCRETE CURB IS TO BE PLACED ON EXISTING CONCRETE BASE, USE #4 DEFORMED BARS, 8" LONG, 24" O.C., DOWELLED, AND SET IN QUICK SETTING CEMENT GROUT.
  - REDWOOD EXPANSION JOINTS SHALL BE INSTALLED AT ALL PAVEMENT EXPANSION JOINTS.

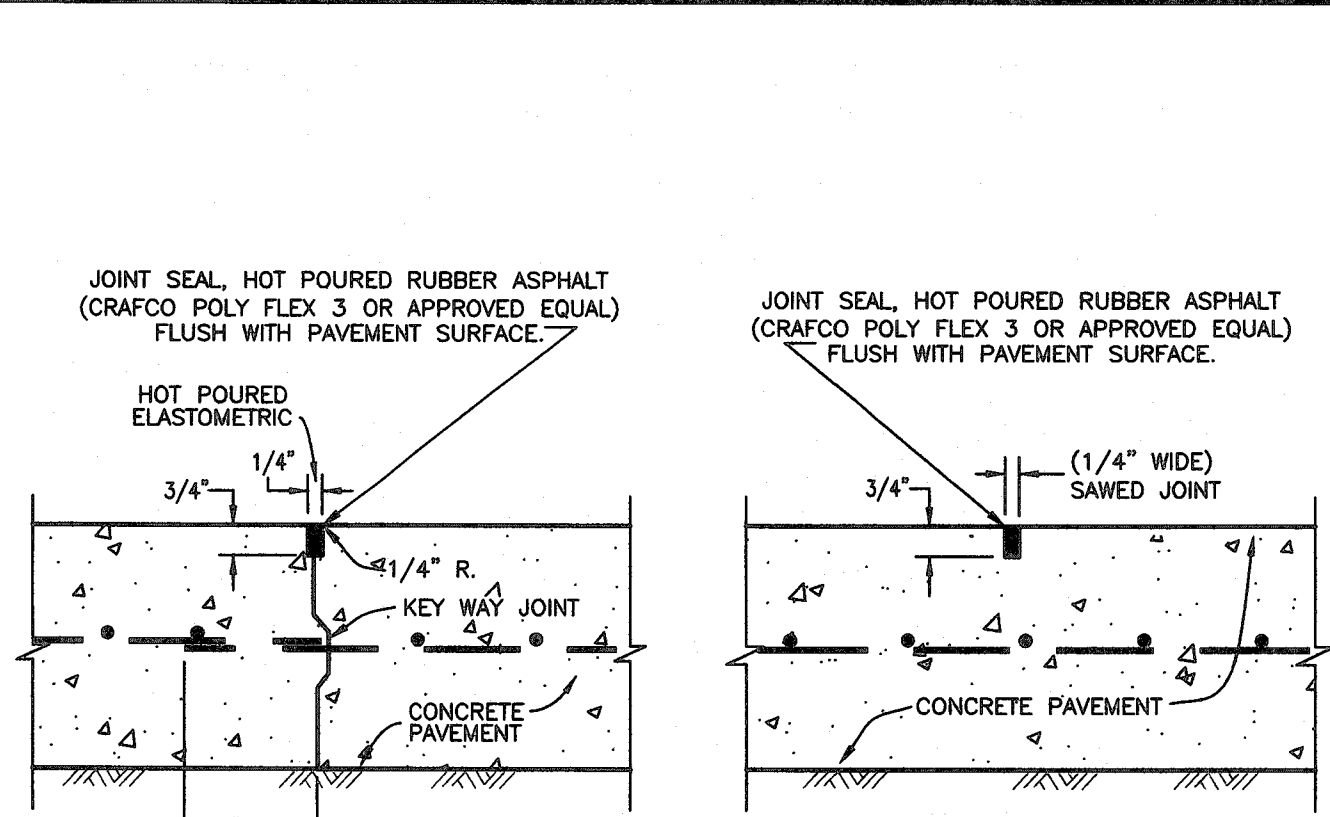
**3. TYPICAL CONCRETE CURB REINFORCING**



**4. TYPICAL CURB TRANSITION**

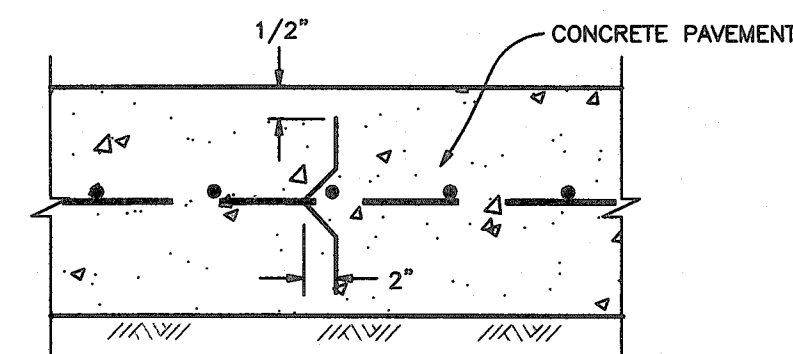


**5. 4"x12" TRANSITION CURB**



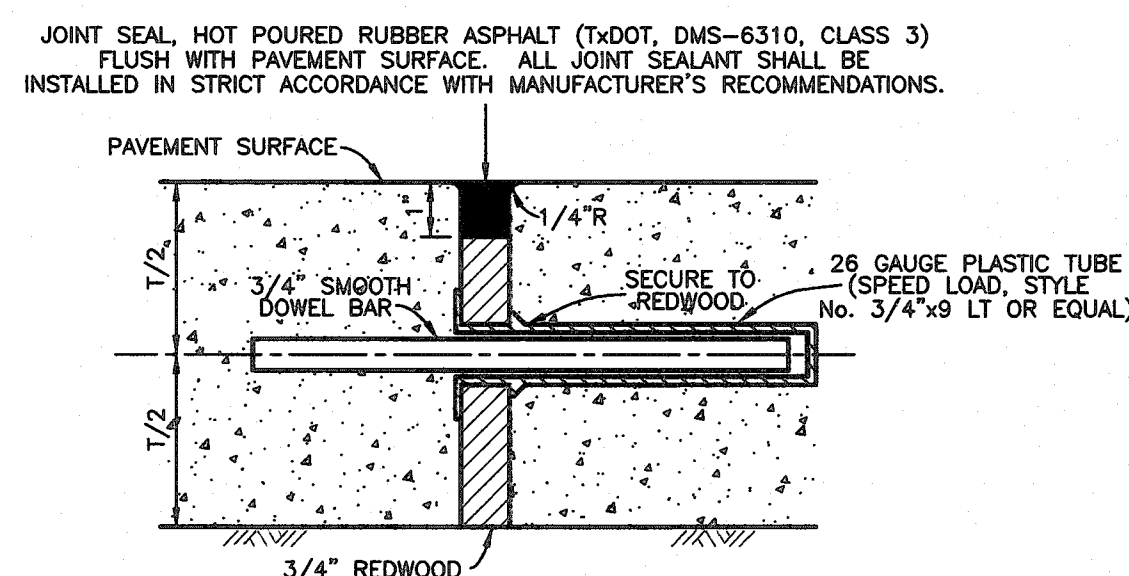
- NOTES:**
- SAWCUT SHALL BE COMPLETED IN 6 TO 12 HOURS AFTER PLACEMENT OF CONCRETE.
  - MAXIMUM SPACING OF LATERAL SAWED JOINTS SHALL BE 20'0".

**6. CONCRETE CURB**



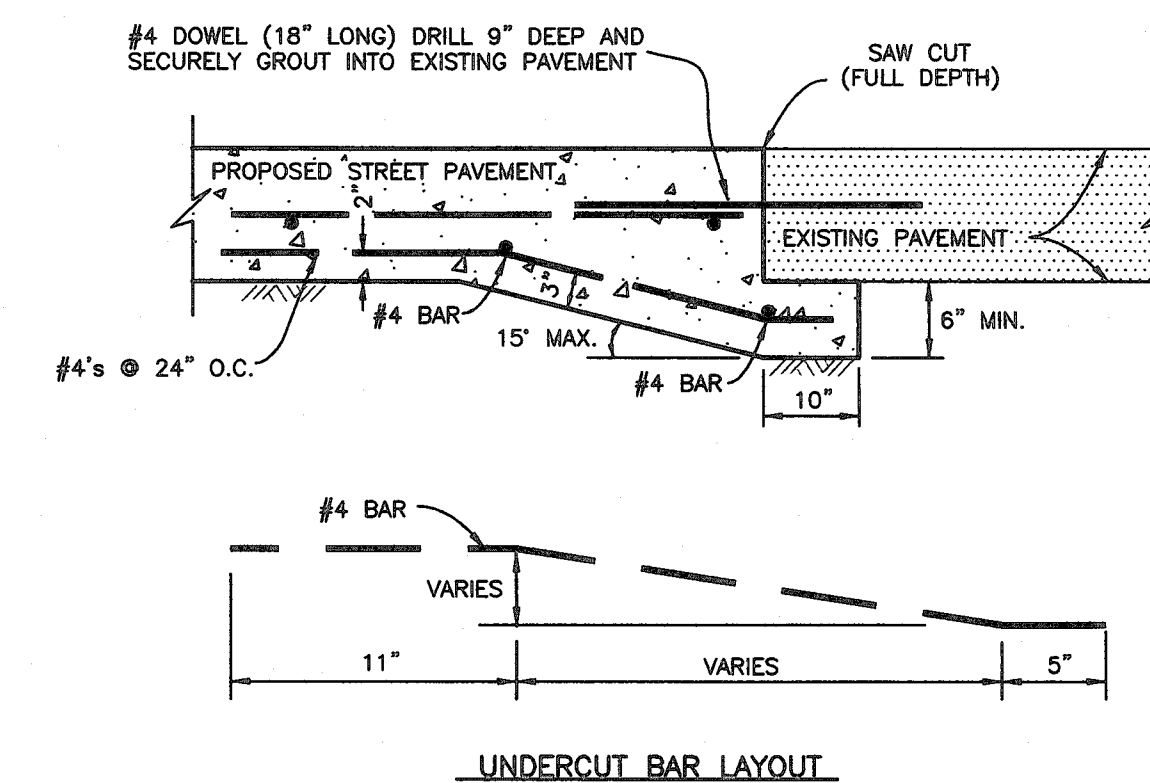
- NOTES:**
- THE LOCATION OF DEFORMED STRIPS MAY BE VARIED, WITH THE APPROVAL OF THE CITY. MAXIMUM LONGITUDINAL SPACING FOR DEFORMED STRIPS SHALL BE 14'-0". DEFORMED METAL STRIPS SHALL BE PLACED VERTICALLY ALONG A STRAIGHT ALIGNMENT.

**7. PAVEMENT HEADER**



- NOTES:**
- EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED A MAXIMUM OF 60'-0" APART.
  - STAKES FOR TRANSVERSE JOINTS SHALL NOT BE PLACED CLOSER THAN 6" TO A LONGITUDINAL JOINT. THE TOP OF EACH STAKE SHALL NOT BE LESS THAN 2" BELOW THE FINISHED SURFACE.
  - DOWEL SHALL BE SECURED IN A HORIZONTAL ALIGNMENT PRIOR TO POURING CONCRETE.
  - INSTALL BACKER RODS (TxDOT, DMS-6310) IN ACCORDANCE WITH SEALANT MANUFACTURER'S RECOMMENDATIONS.
  - NO EXPANSION JOINT SHALL BE INSTALLED WITHIN TWO FEET (2') FROM AN INLET OPENING.

**8. PAVEMENT HEADER FOR CONNECTING CONCRETE TO ASPHALT**



- NOTES:**
- PAVEMENT UNDERCUT TO BE USED WHEN NO SUBGRADE STABILIZATION EXIST UNDER EXISTING PAVEMENT.

**9. PAVEMENT JOINTS**

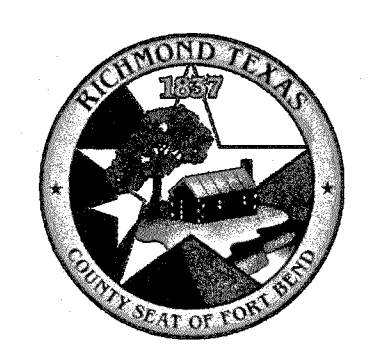
**10. DEFORMED METAL STRIP**

**11. DOWEL TYPE EXPANSION JOINT**

**12. PAVEMENT UNDERCUT**

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND  
STANDARD CONSTRUCTION DETAILS  
PAVING-1



**SCALE**

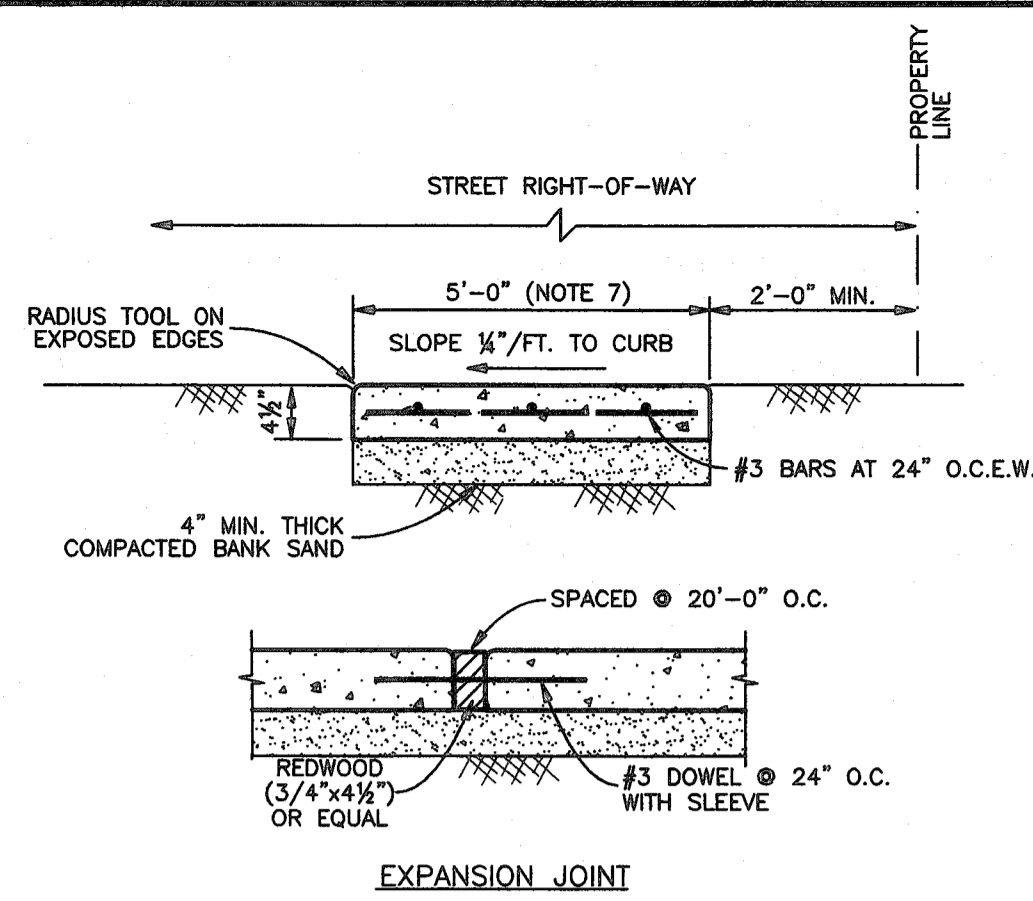
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VERTICAL 1" = NTS

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DRAWN BY: AJS  
CHECKED BY: KRK  
DATE: 7/24/17  
JOB NO:  
DWG. NO:  
**R-9-17**

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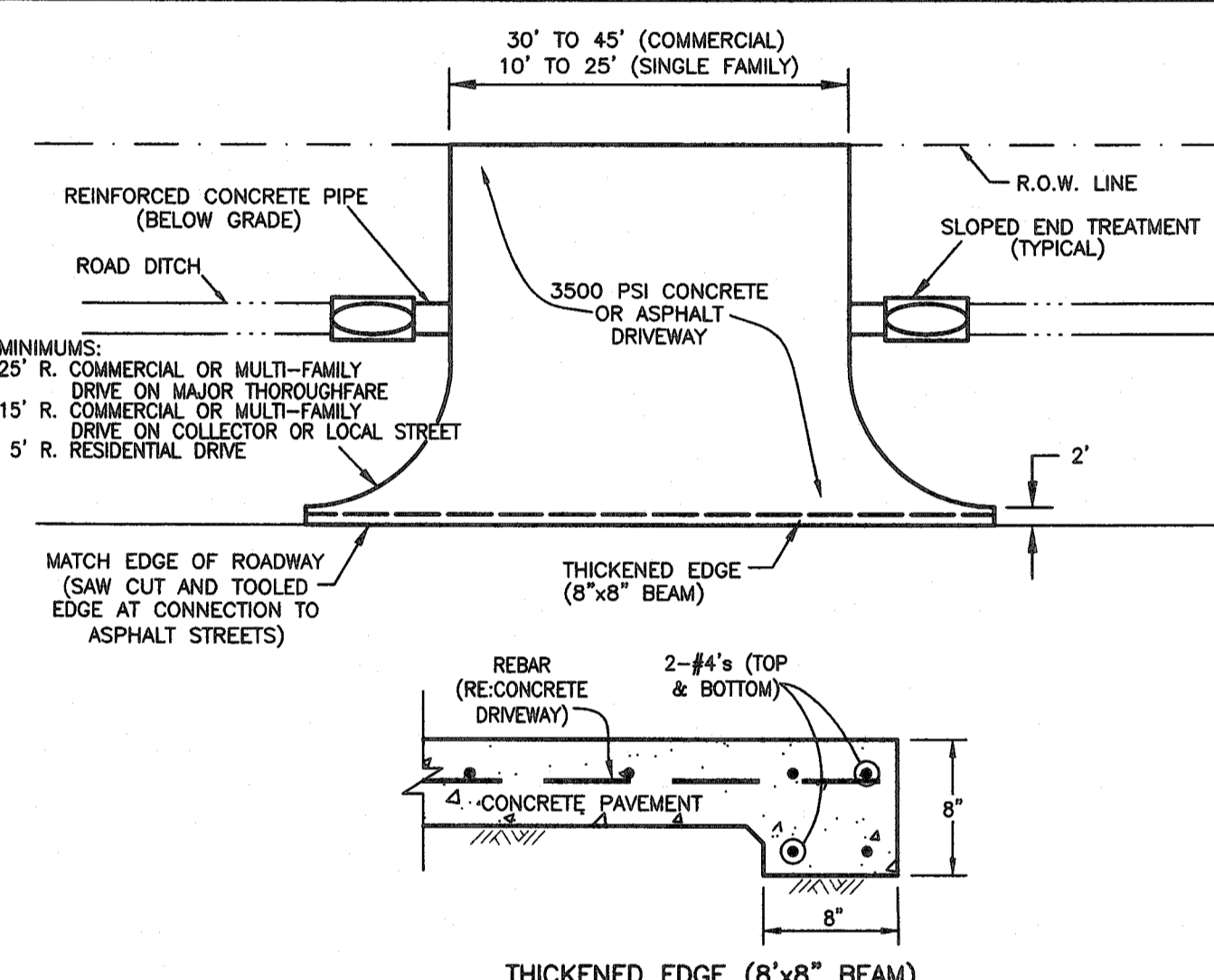
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*Maggie* 1/24/18



- NOTES:**
- CONCRETE SHALL CONTAIN A MINIMUM OF FIVE AND ONE HALF (5 1/2) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE, 3500 P.S.I. @ 28 DAYS.
  - TIE TO EXISTING STEEL IN CONNECTION TO EXISTING WALK.
  - FINISH CONCRETE IN ACCORDANCE WITH CITY REQUIREMENTS - LIGHT BROOM FINISH.
  - SCORED CONTRACTION JOINTS AT 4'-0" O.C. EXPANSION JOINT EVERY 20'-0" O.C.
  - MAXIMUM SLOPE ALONG LENGTH OF SIDEWALK AT ANY LOCATION IS 5%. MAXIMUM SLOPE ACROSS SIDEWALK AT ANY LOCATION IS 2%.
  - SIDEWALK THICKNESS AND REINFORCEMENT SHALL MATCH DRIVEWAY REQUIREMENTS WITHIN THE LIMITS OF A DRIVEWAY.
  - WIDTH MAY BE REDUCED TO 4'-0" IF A SIDEWALK PEDESTRIAN PLAN IS INCLUDED IN THE PLANS SHOWING 5'-0"x5'-0" PASSING AREAS AT A MAXIMUM SPACING OF 200 FEET.

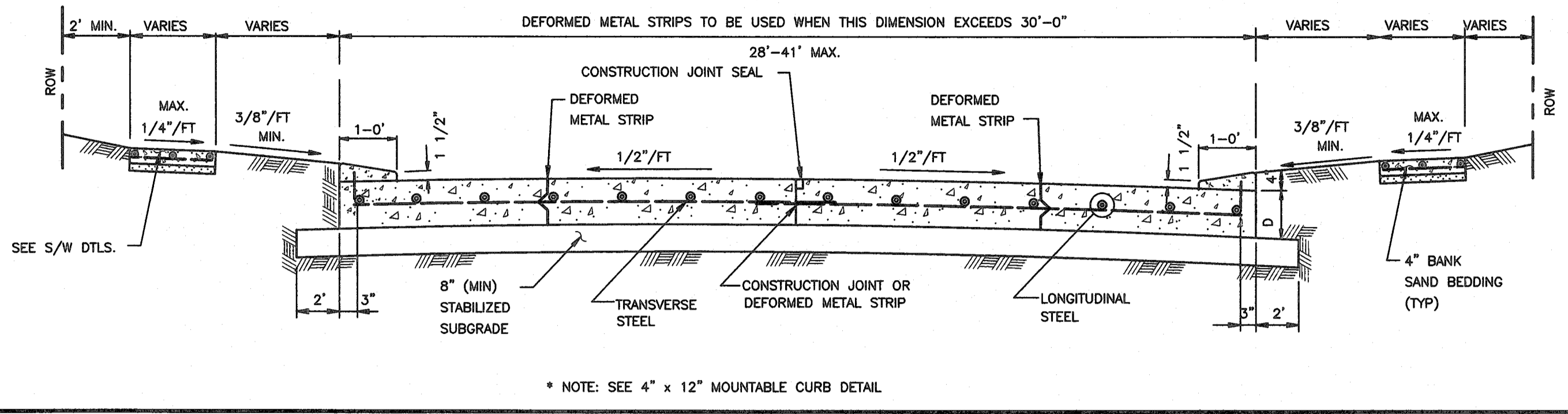
**1. CONCRETE SIDEWALK**



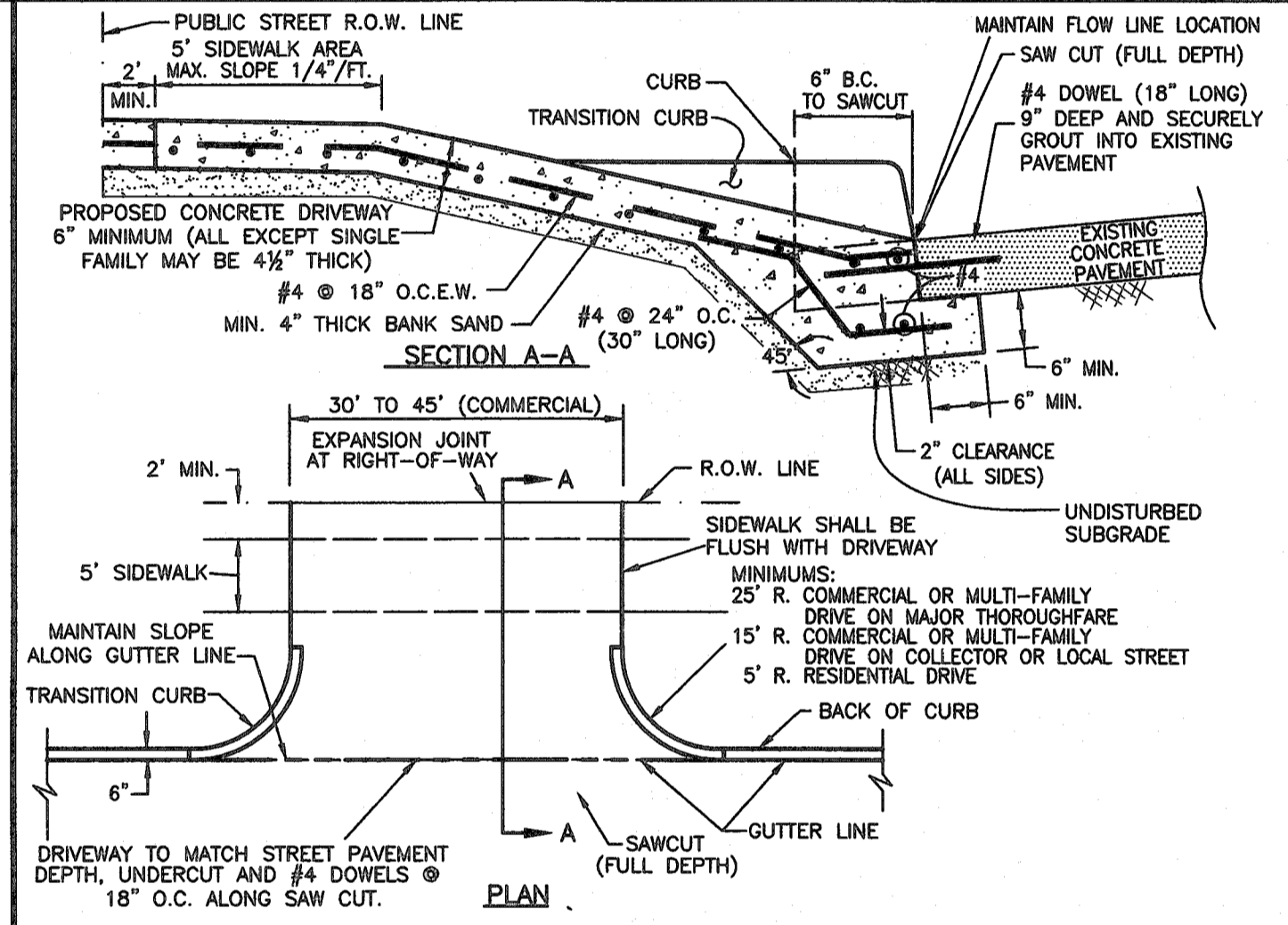
- NOTES:**
- CULVERT DIAMETER SHALL BE A MINIMUM OF 15" (IN CITY ONLY) OR 24" (IN ETJ).
  - SLOPED END TREATMENTS SHALL BE INSTALLED ON ALL CULVERTS. SLOPED END TREATMENTS ON CULVERTS WITHIN COLLECTOR OR RESIDENTIAL STREET RIGHT-OF-WAYS SHALL HAVE A MINIMUM SLOPE OF 3 TO 1. SLOPED END TREATMENTS ON CULVERTS WITHIN MAJOR THOROUGHFARE RIGHT-OF-WAYS SHALL HAVE A MINIMUM SLOPE OF 6 TO 1.
  - USE C/S #1.

**5. DRIVEWAY WITH OPEN DITCH**

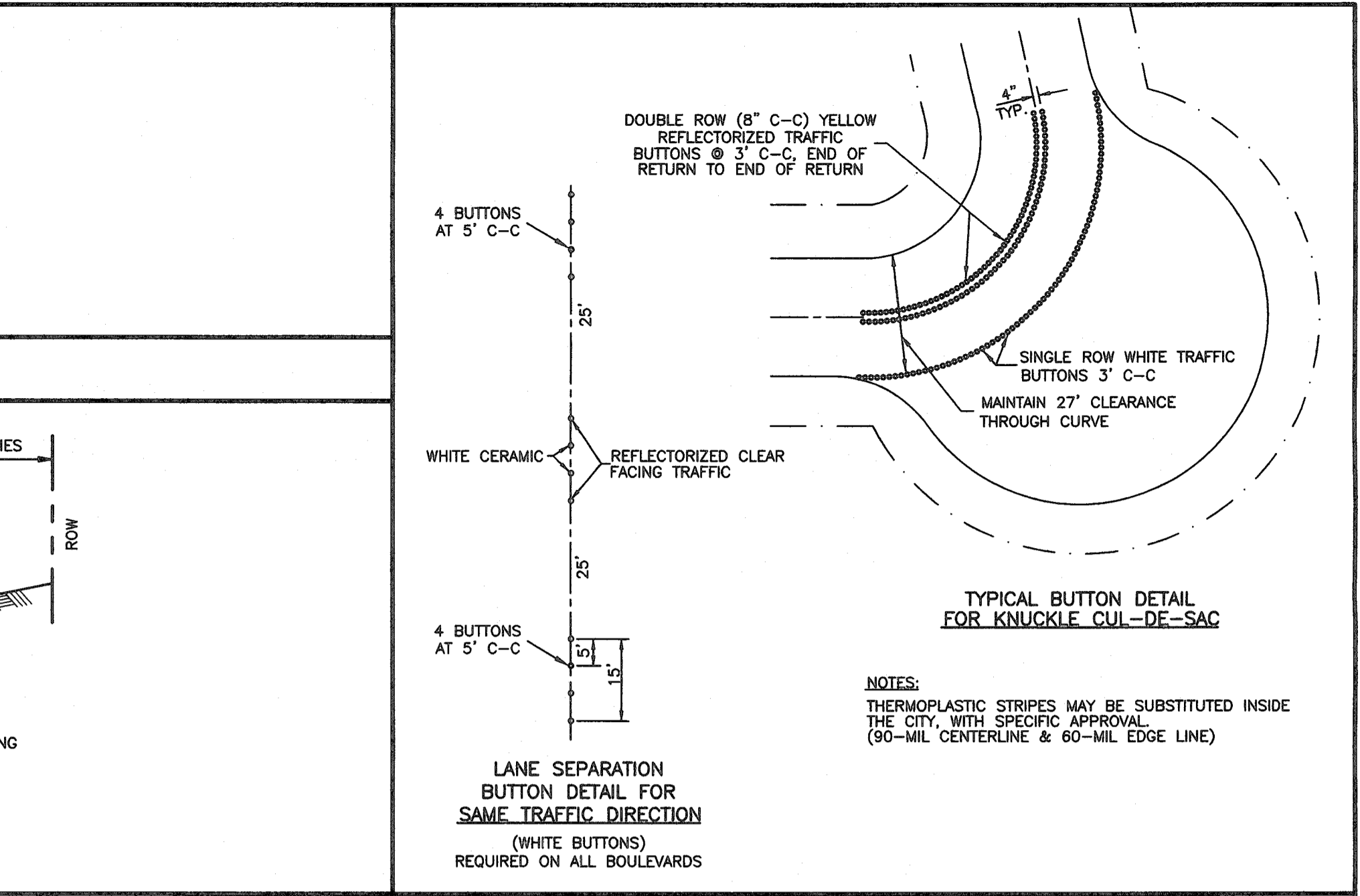
**2. SIDEWALK JOINT DETAILS**



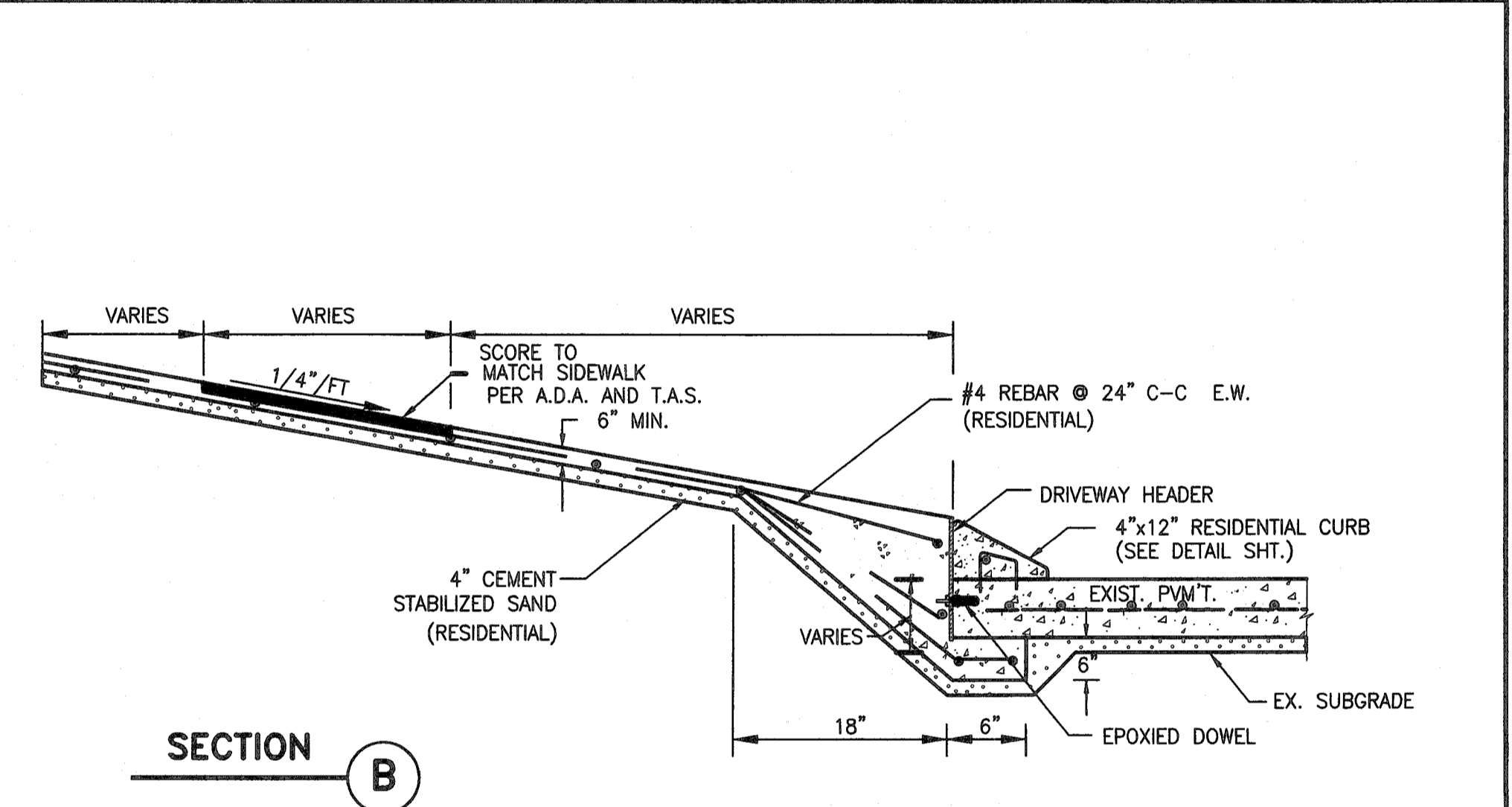
**3. TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH 4"x12" CURB**



**6. CONCRETE DRIVEWAY**



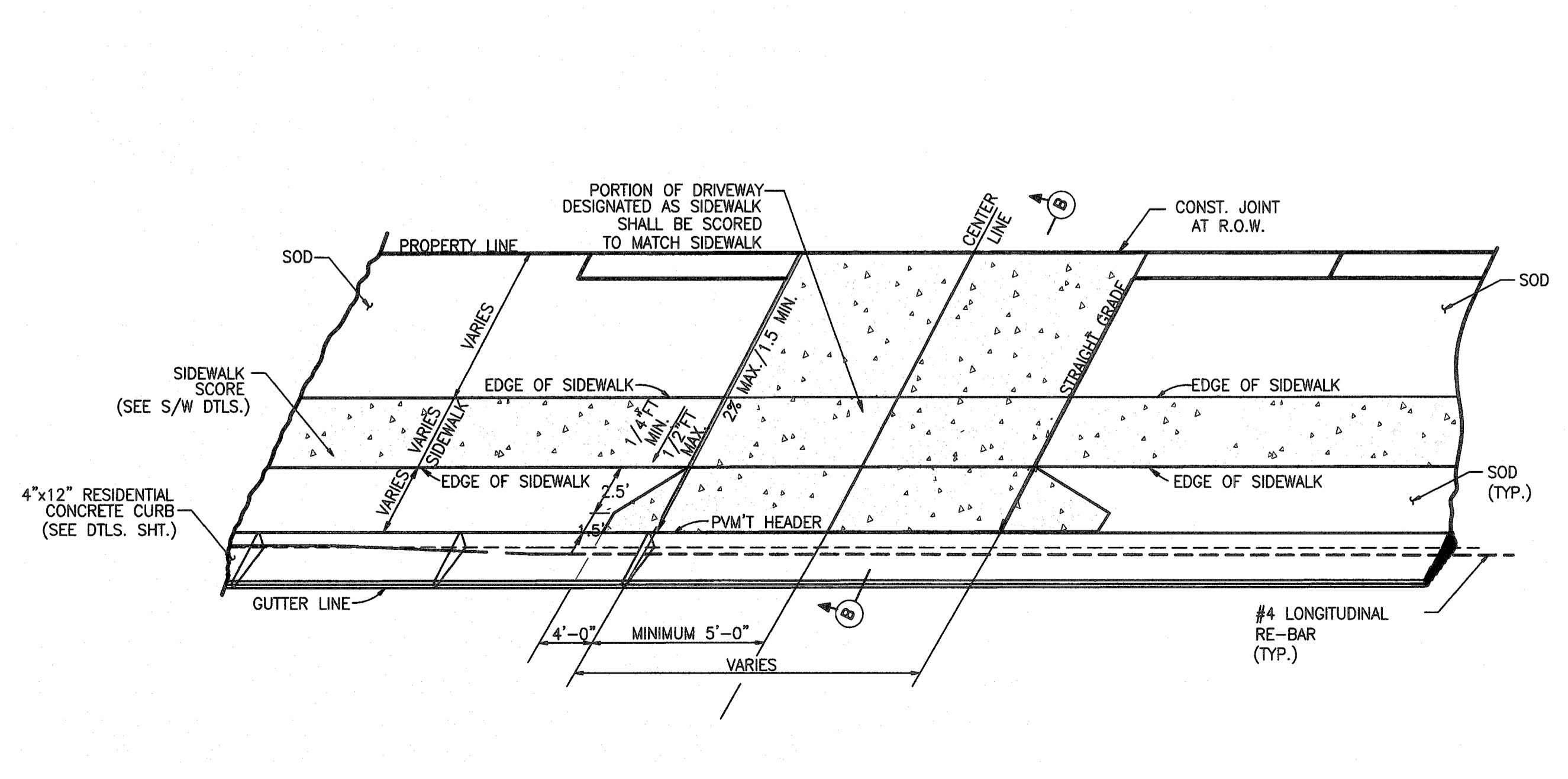
**4. TRAFFIC MARKINGS**



- DRIVEWAY NOTES:**
- SAW CUT & BREAKOUT NO MORE THAN 48 HOURS PRIOR TO PROPOSED CONCRETE PLACEMENT.
  - UNACCEPTABLE SUBGRADE SHALL BE OVERCAVATED AND REPLACED WITH CONCRETE.
  - EDGE ALL SIDES WITH EDGING TOOL AND BROOM FINISH.
  - PROVIDE BARRICADES AND TRAFFIC WARNING DEVICES DURING CONSTRUCTION.
  - PORTLAND CEMENT CONCRETE CONTAIN A MINIMUM 5 1/2 SACKS PER CUBIC YARD (3500 P.S.I. AT 28 DAYS).
  - REINFORCING SHALL BE ASTM A-615 GRADE WITH 10" MINIMUM OVERLAP AT JOINTS.
  - COMPACT SUBGRADE TO 95% OF STANDARD PROCTOR DENSITY (+/- 2% OF OPTIMUM MOISTURE).
  - EXTEND EXPANSION JOINT FROM STREET TO THE RIGHT-OF-WAY.

**5. DRIVEWAY WITH OPEN DITCH**

**6. CONCRETE DRIVEWAY**



**7. 4"x12" CONCRETE CURB DRIVEWAY PLAN**

NO.	DATE	REVISIONS	APP.
1	6/01/17	Revise sidewalk locations	KRK

**CITY OF RICHMOND  
STANDARD CONSTRUCTION DETAILS  
PAVING-2**

**SCALE**  
HORIZONTAL 1" = NTS  
VERTICAL 1" = NTS

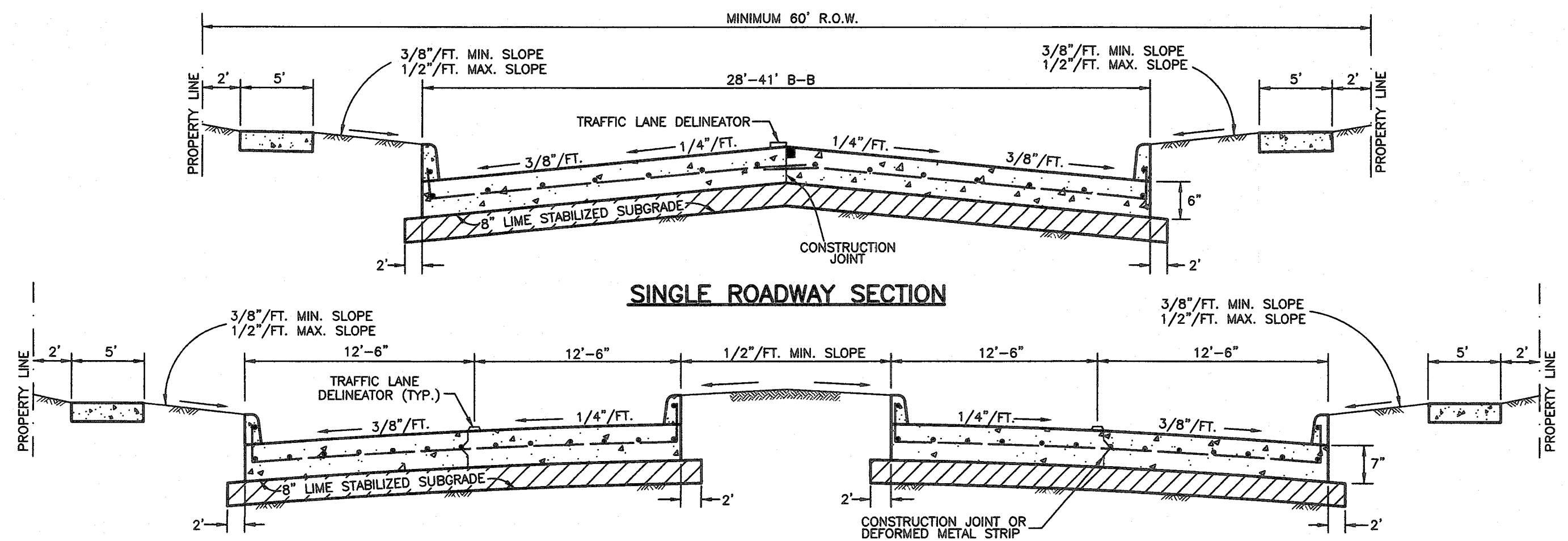
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**JOB NO.:**  
**DWG. NO.:**

**R-10-17**

**SCALE**  
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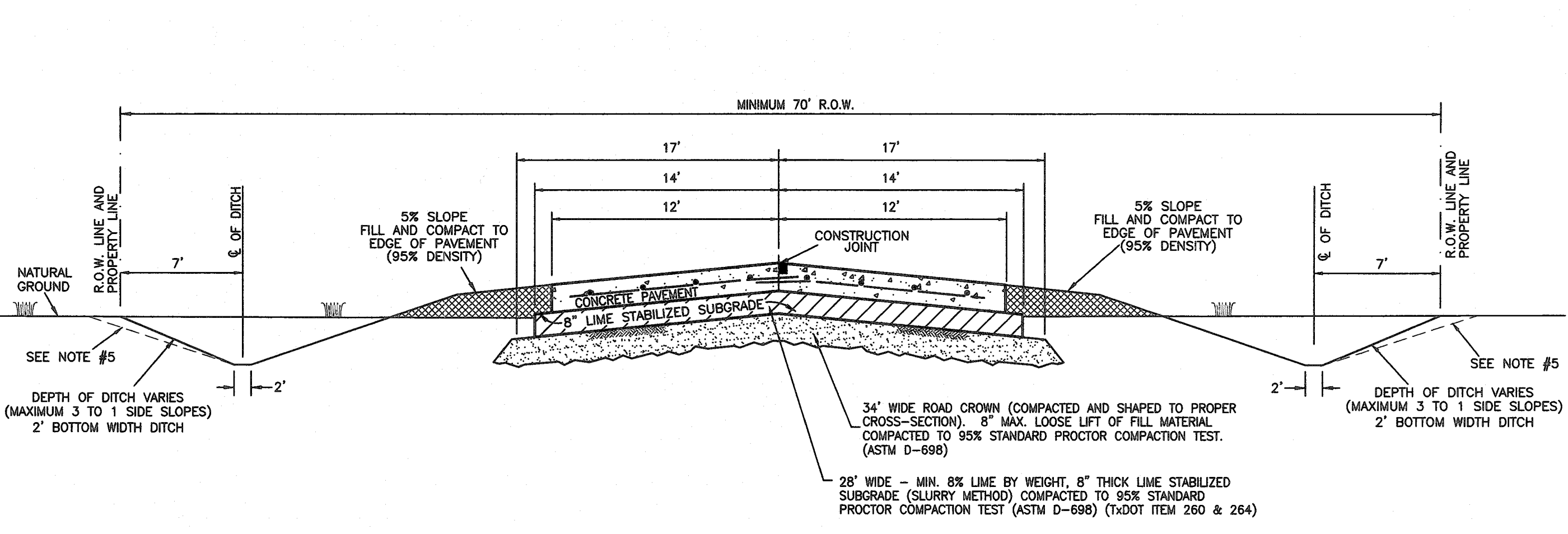
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*Max* 7/24/18



**NOTE:**

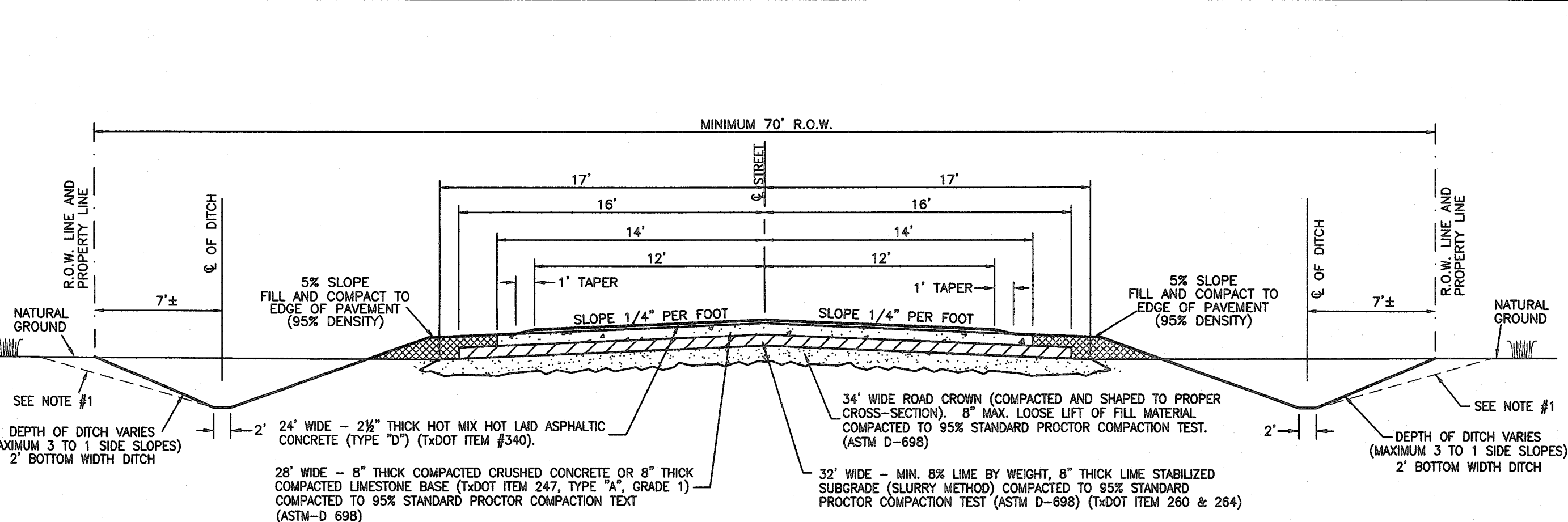
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM-615, CURRENT REVISION, GRADE 60. MINIMUM LAP AT ALL SPLICES SHALL BE FIFTEEN INCHES (15"). No. 4 BARS @ 18" O.C.E.W.
- CONCRETE SHALL HAVE A 3500 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND A MINIMUM 550 P.S.I. FLEXURAL STRENGTH AT 7 DAYS, AND SHALL CONTAIN A MINIMUM OF FIVE AND ONE HALF (5½) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
- EXPANSION JOINTS SHALL BE SPACED AT 60'-0" O.C. (MAXIMUM) WITH LATERAL, SAWED JOINTS AT 20'-0" O.C. (MAXIMUM). ALL JOINTS SHALL BE SEALED. THE LOCATION OF CONSTRUCTION JOINTS AND DEFORMED METAL STRIPS MAY BE VARIED WITH CITY APPROVAL.
- 8" LIME STABILIZED SUBGRADE SHALL BE A MINIMUM OF 8% LIME, UNLESS SPECIFICALLY APPROVED BY THE CITY.
- THE SLOPE BETWEEN PAVEMENT AND THE SIDEWALK/PROPERTY LINE MAY BE INCREASED, WITH APPROVAL FROM THE CITY.



**NOTE:**

- ALL REINFORCING STEEL SHALL CONFORM TO ASTM-615, CURRENT REVISION, GRADE 60. MINIMUM LAP AT ALL SPLICES SHALL BE FIFTEEN INCHES (15"). No. 4 BARS @ 18" O.C.E.W.
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- 8" LIME STABILIZED SUBGRADE SHALL BE A MINIMUM OF 8% LIME, UNLESS SPECIFICALLY APPROVED BY THE CITY.
- PROVIDE DRAINAGE EASEMENT ADJOINING THE R.O.W. AND EXTEND BACK SLOPE OF DITCH WITHIN THE EASEMENT AS NECESSARY TO MAINTAIN 3 TO 1 SIDE SLOPE (TYP.).

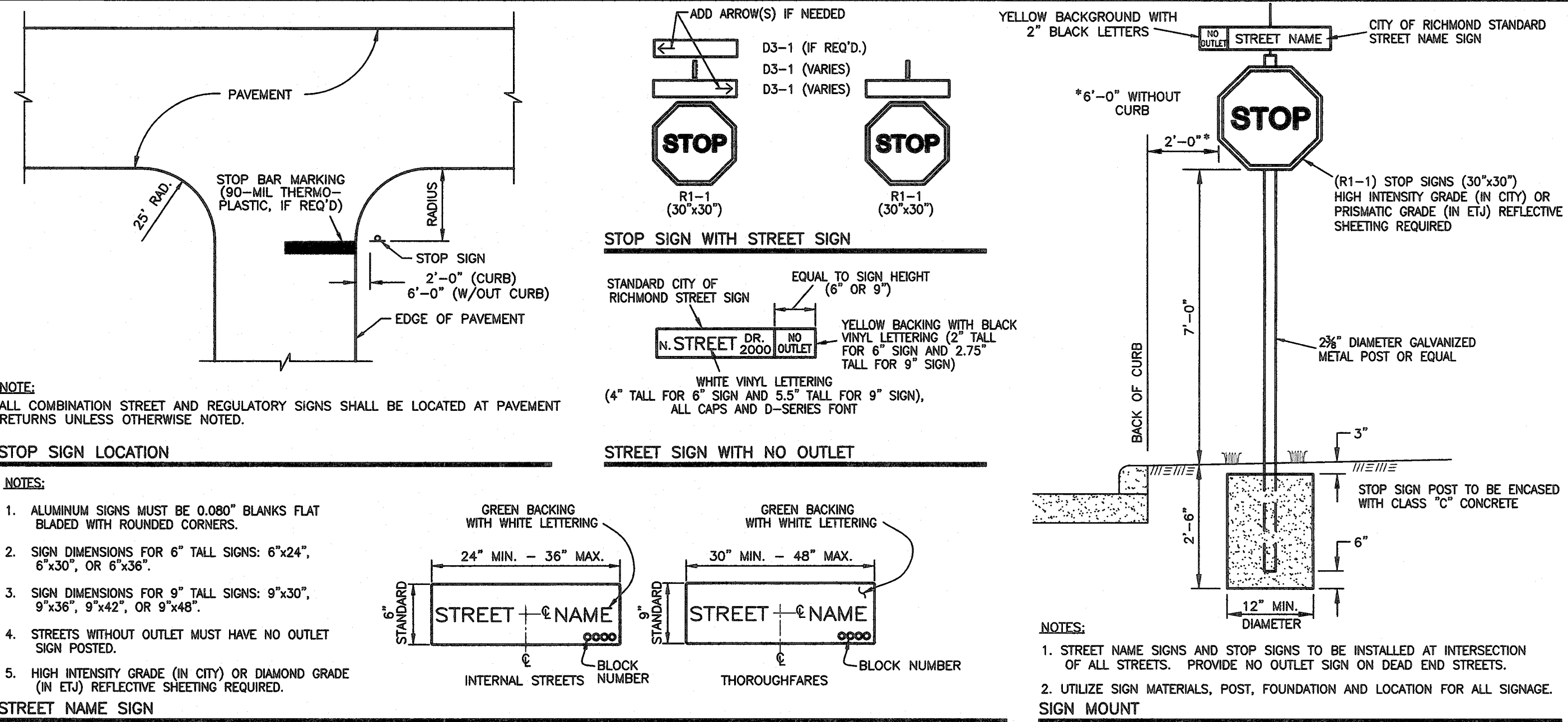
**1. STANDARD CONCRETE CURB AND GUTTER STREET CROSS-SECTIONS**



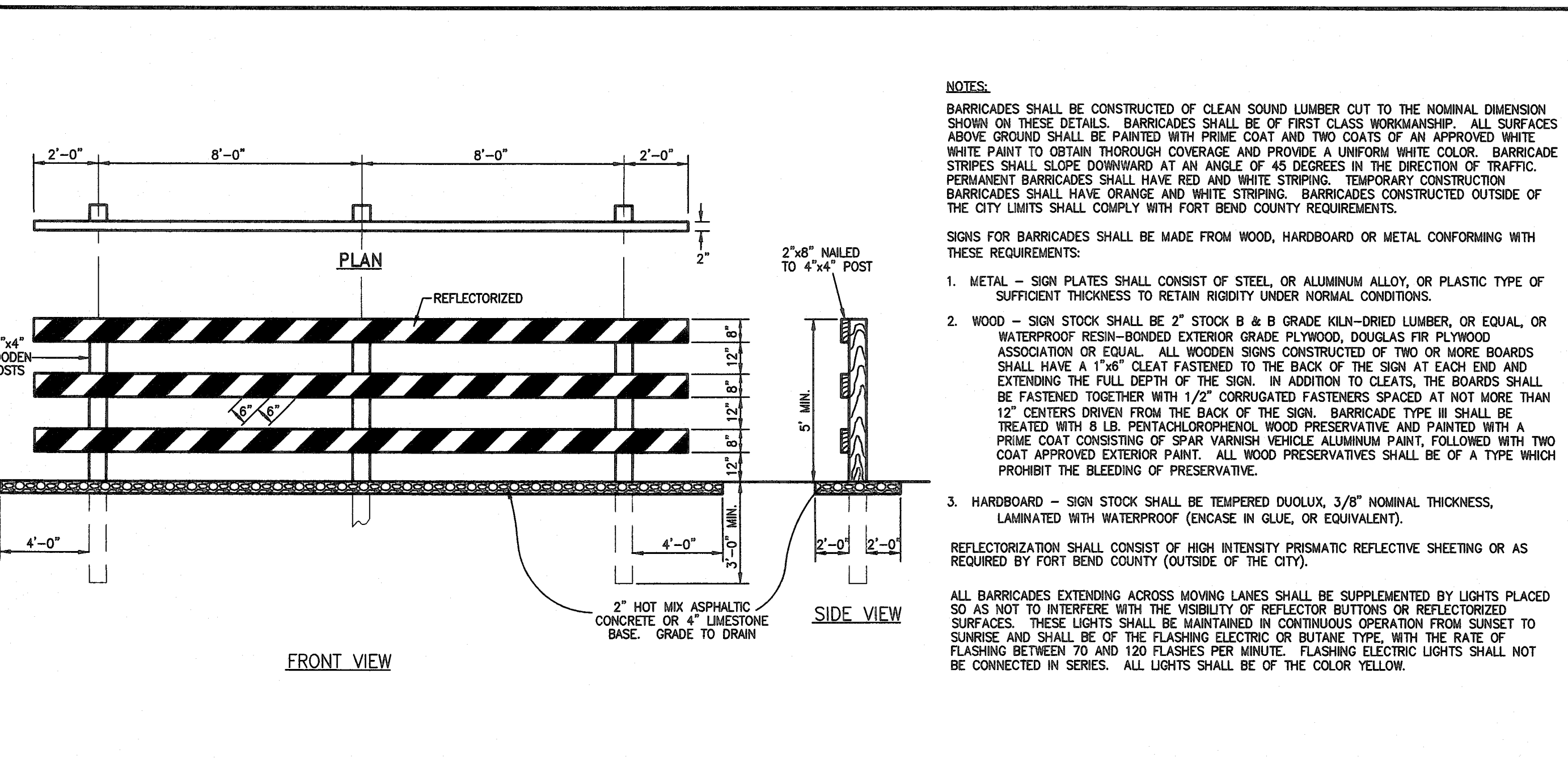
**NOTES:**

- PROVIDE DRAINAGE EASEMENT ADJOINING THE R.O.W. AND EXTEND BACK SLOPE OF DITCH WITHIN THE EASEMENT AS NECESSARY TO MAINTAIN 3 TO 1 SIDE SLOPE (TYP.).
- PAVING MARKINGS REQUIRED AS PER CITY OF RICHMOND (IN CITY) OR FORT BEND COUNTY SPECIFICATIONS.

**2. STANDARD CONCRETE PAVEMENT WITH OPEN DITCH CROSS-SECTION**



**3. STANDARD ASPHALT PAVEMENT WITH OPEN DITCH CROSS-SECTION**

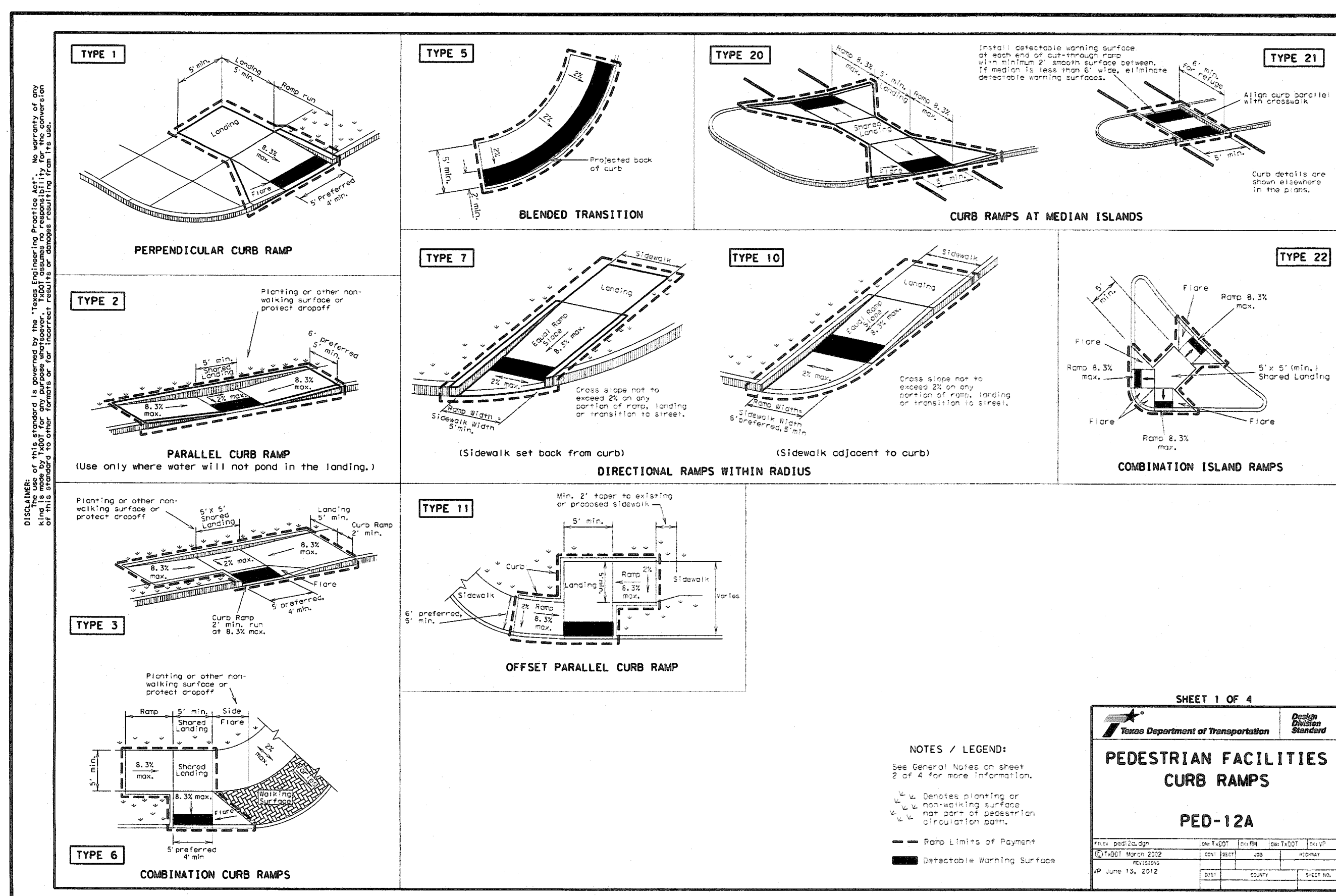


**5. TYPE 'III' BARRICADE**

**4. TRAFFIC SIGNAGE**



File Name: \\Delta\Richmond\007 COR STANDARD\0-11-17 - Paving - Paving.dwg  
Save Date: Monday, July 24, 2017 5:25:51 PM  
Plot Date: Monday, July 24, 2017 5:17:30 PM

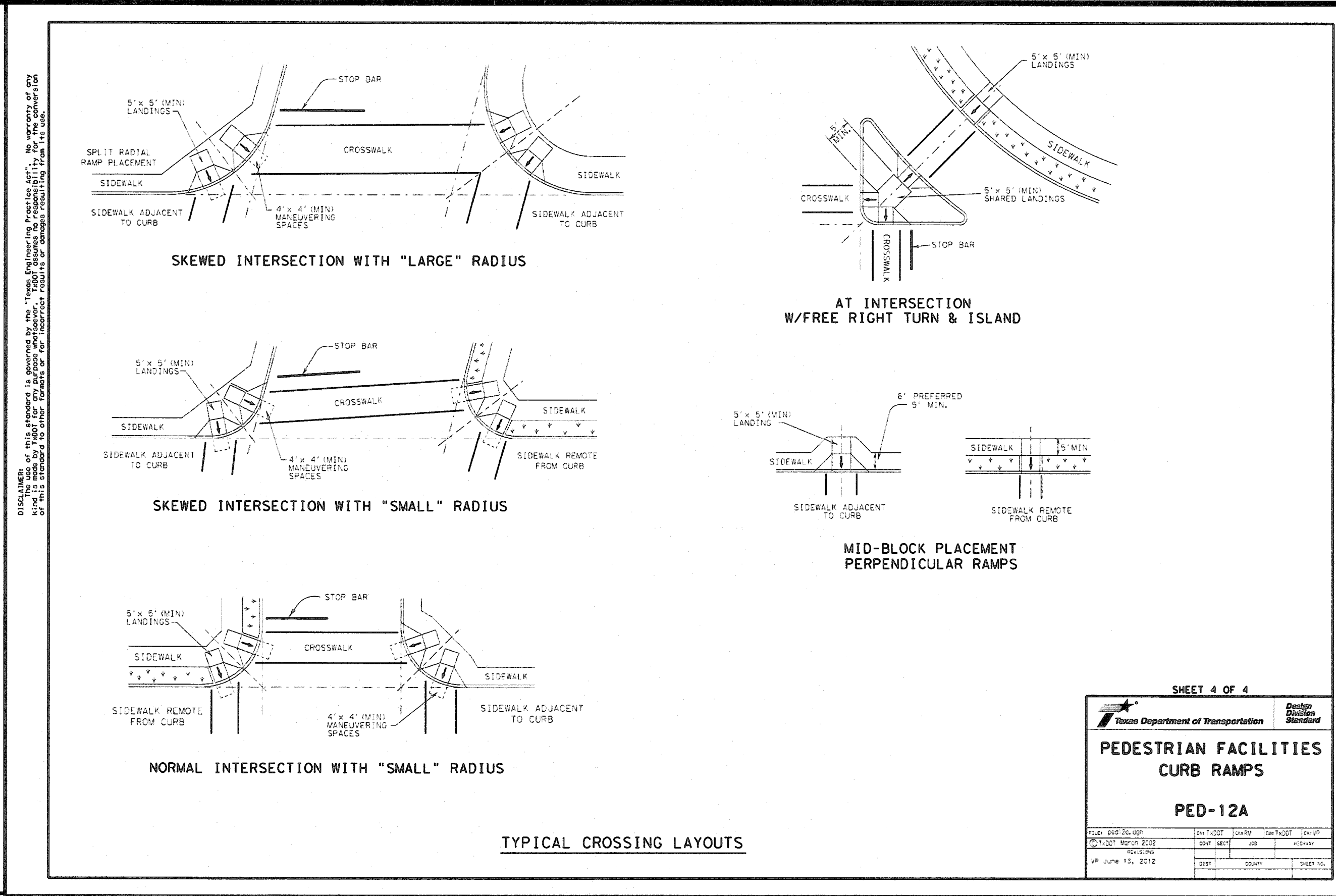
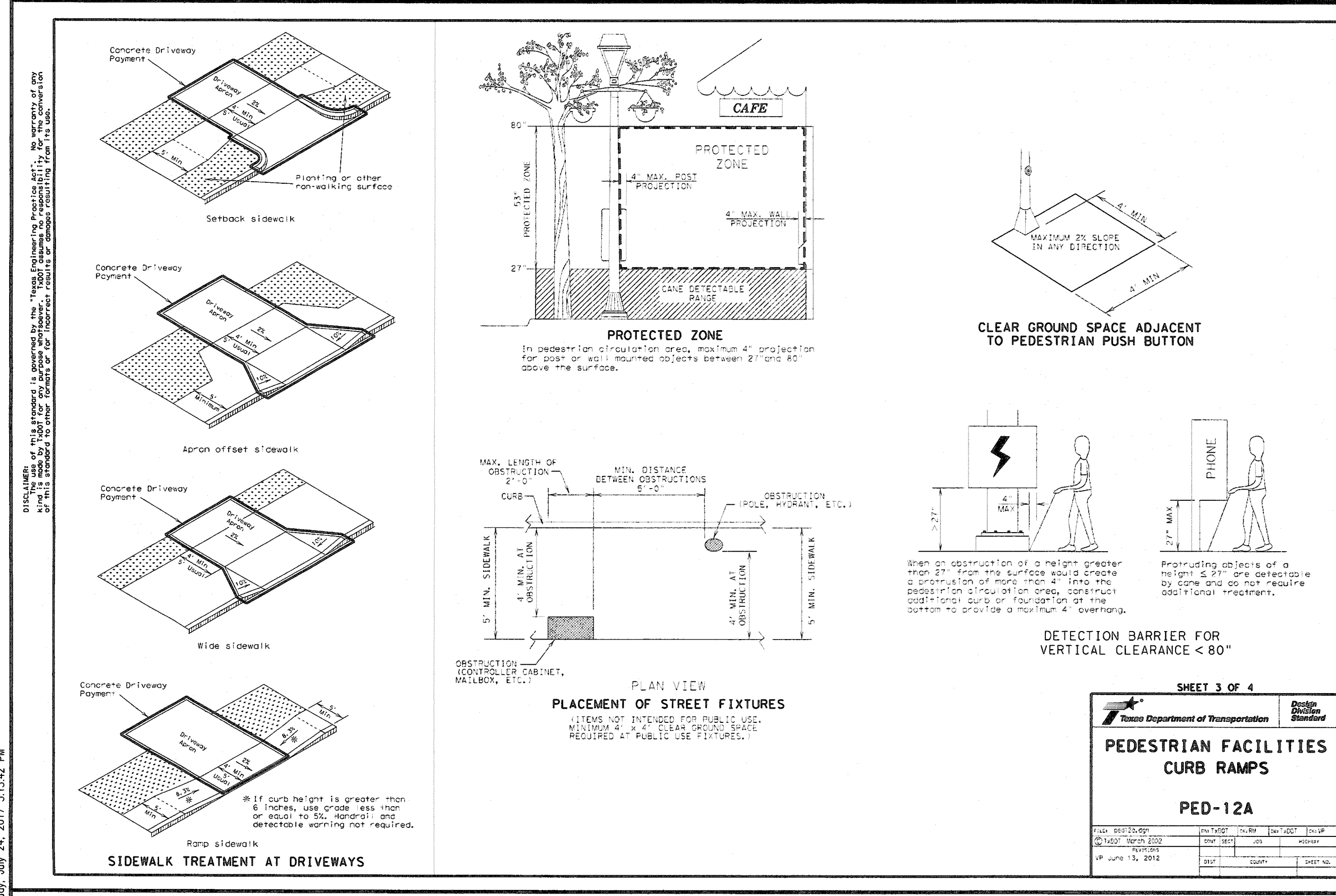
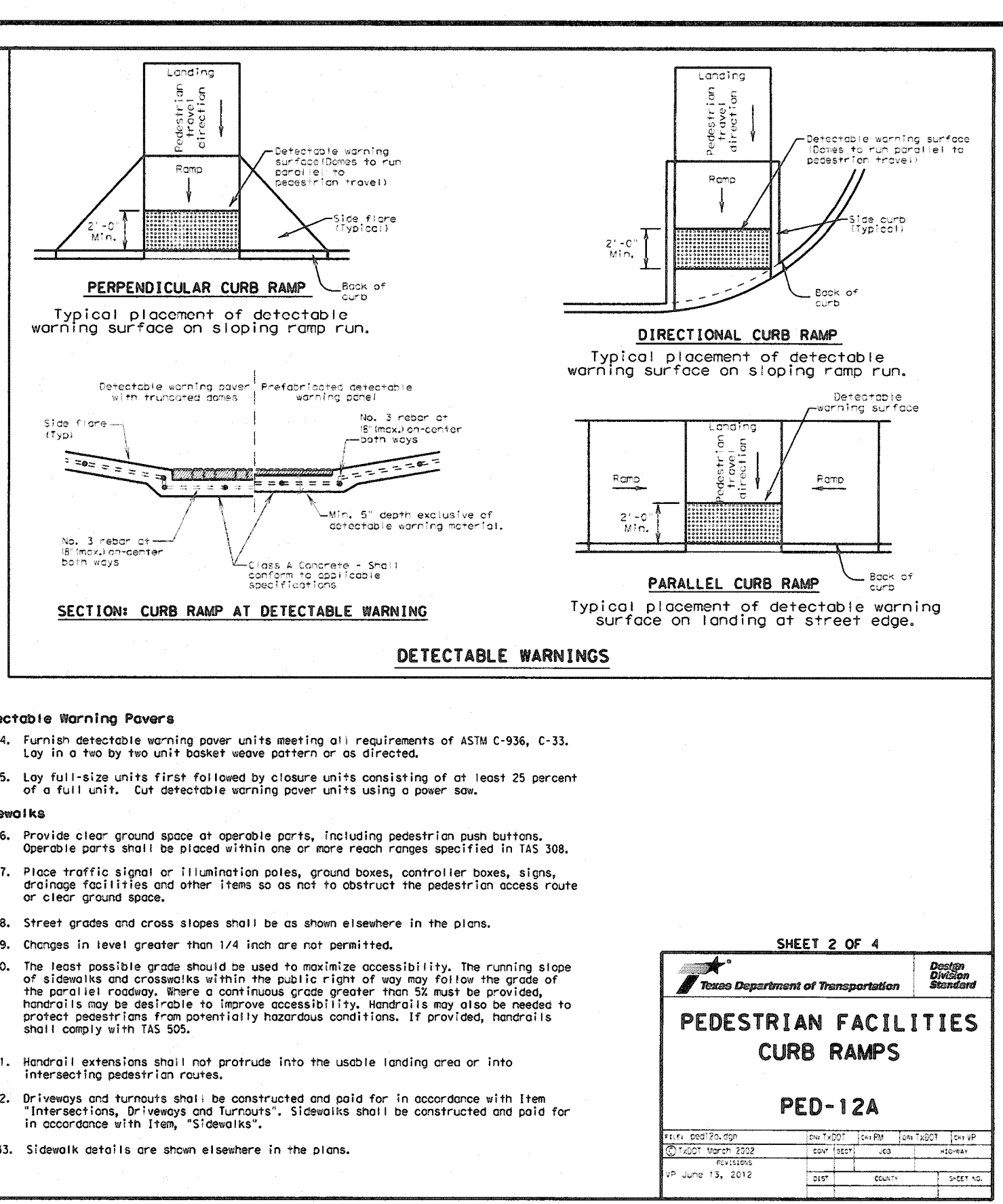


**General Notes**

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes may still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb or a 6' sidewalk width is desirable, where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' paving areas of intervals not to exceed 200' are required.
4. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrian flow is not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curb. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. All intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever an accessible route crosses a street or curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place curbs at a minimum depth of 5' for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

**Detectable Warning Material**

18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 309 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cost-in-place dark brown or dark red detectable warning surface material adjacent to uncoated concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be looped so that the edge nearest the curb line is at the back of curbs. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.



NO.	DATE	REVISIONS	APP.

**CITY OF RICHMOND  
STANDARD CONSTRUCTION DETAILS  
PAVING-4**

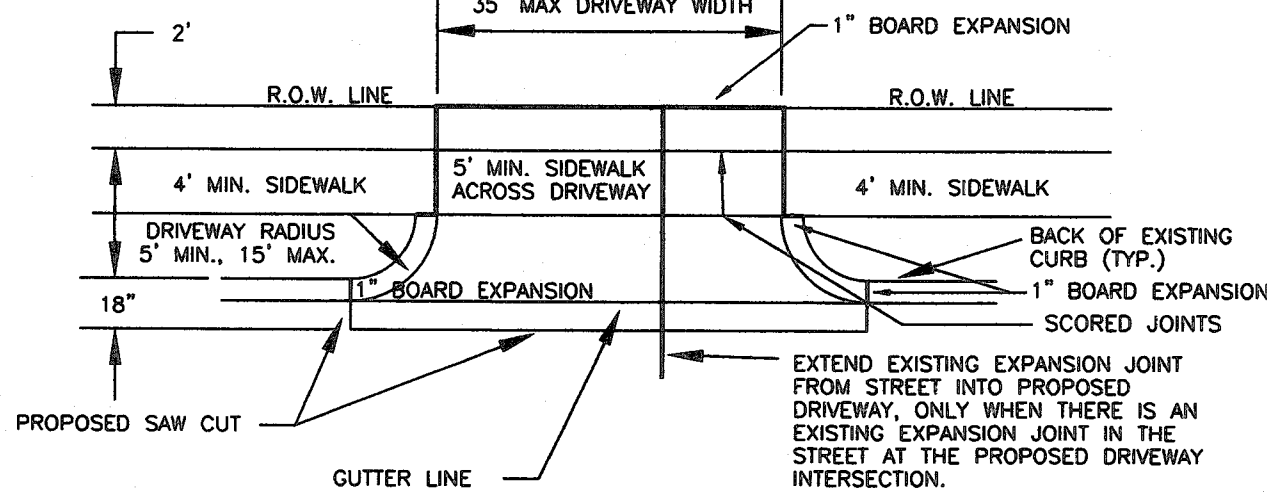
**PEDESTRIAN FACILITIES  
CURB RAMPS  
PED-12A**

<b>SCALE</b>	DESIGNED BY: LLT
HORIZONTAL 1" = NTS	DRAWN BY: AJS
VERTICAL 1" = NTS	CHECKED BY: KRK
DATE: 7/24/17	JOB NO:
DWG. NO:	
<b>R-12-17</b>	
Sheet:	

*May 1/24/18*

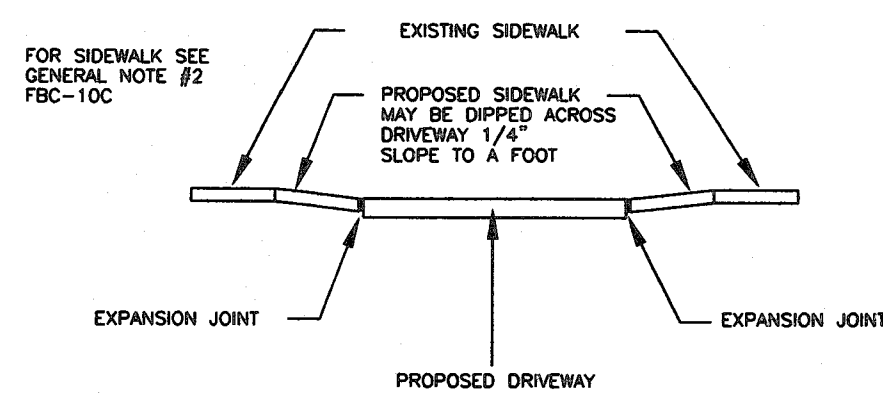
WHEN A RESIDENTIAL SIDEWALK, DRIVEWAY OR CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR REGRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURBED TYPE STREETS, USE SECTIONS APPLICABLE.

**A. USE FOR ALL PROPOSED EXISTING CURB REMOVAL FOR DRIVEWAYS:**



NOTE: SIDEWALKS MUST COMPLY WITH A.D.A. STANDARDS.

**B. USE WHEN PROPOSED DRIVEWAY IS TO BE BUILT WITH EXISTING SIDEWALKS WITH EXCESSIVE GRADE:**

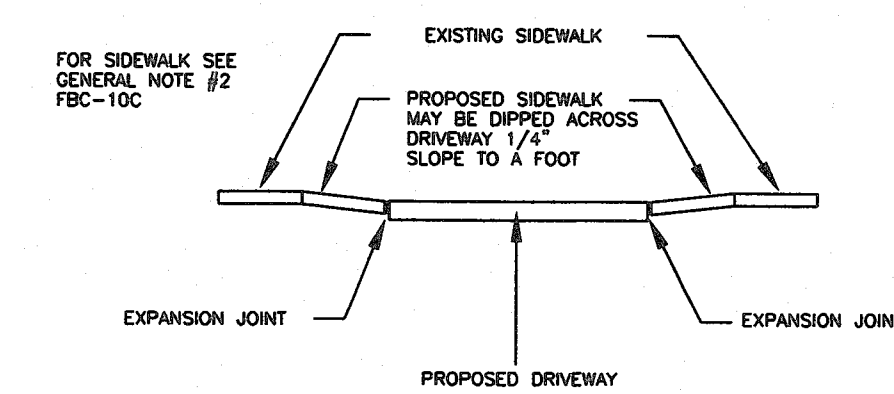


SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS RESIDENTIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: L. BRDECKA DATE REVISED: 3-10-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-010A

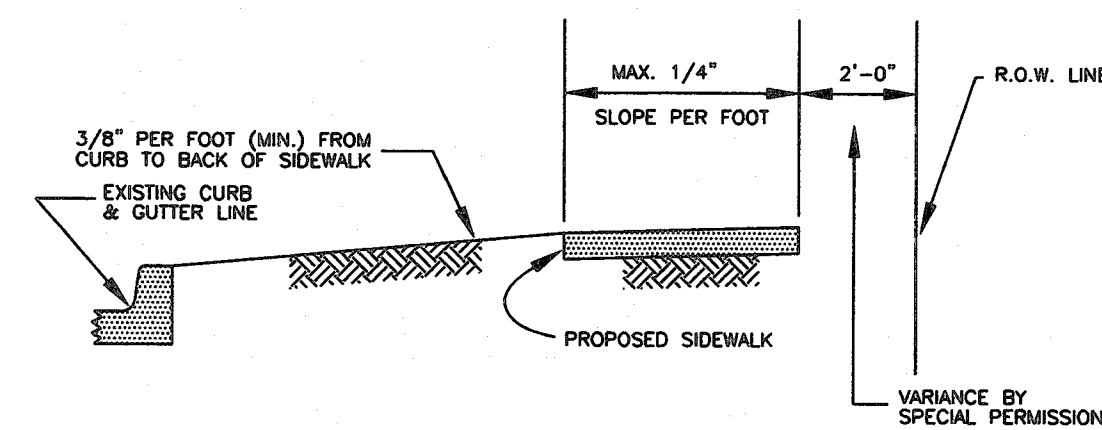
FORT BEND COUNTY ENGINEERING DEPARTMENT

WHEN A RESIDENTIAL SIDEWALK, DRIVEWAY OR CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR REGRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURBED TYPE STREETS, USE SECTIONS APPLICABLE.

**C. USE WHEN PROPOSED DRIVEWAY IS TO BE BUILT WITH EXISTING SIDEWALKS WITH EXCESSIVE GRADE:**



**D. USE WHEN SIDEWALK TO BE BUILT OTHER THAN DRIVEWAY:**



SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS RESIDENTIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: L. BRDECKA DATE REVISED: 3-10-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-010B

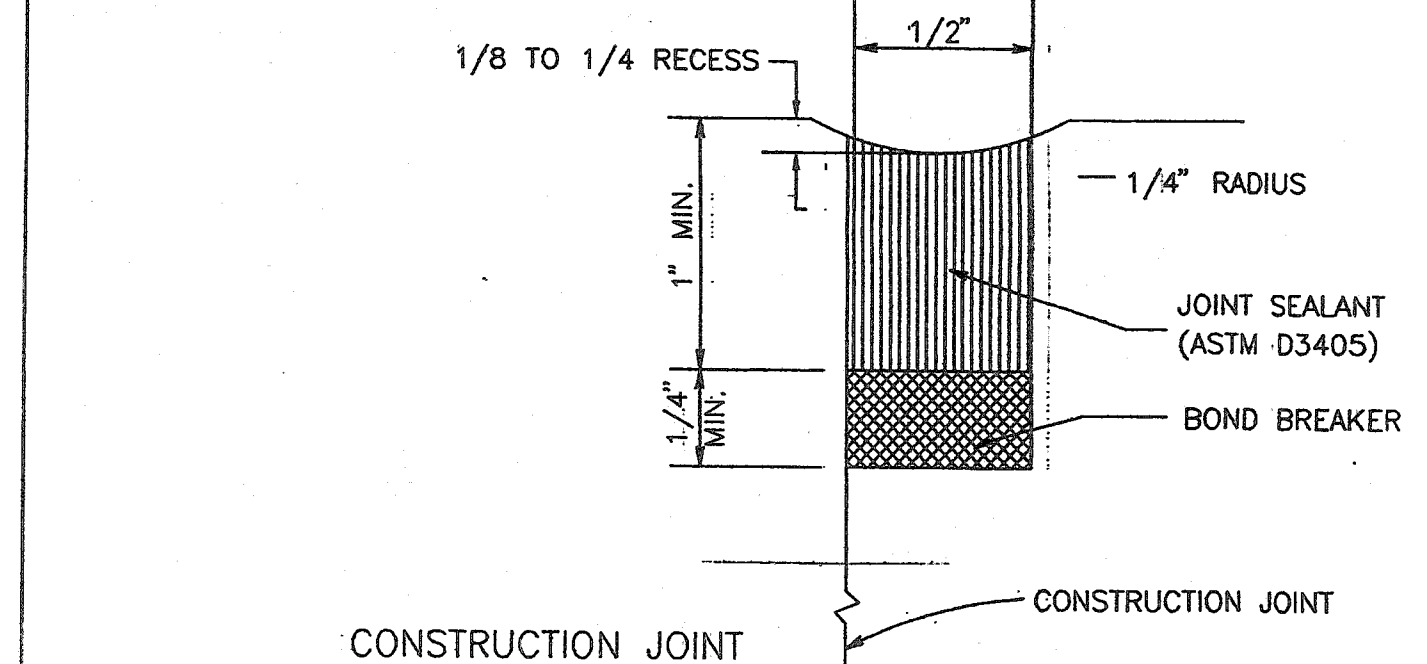
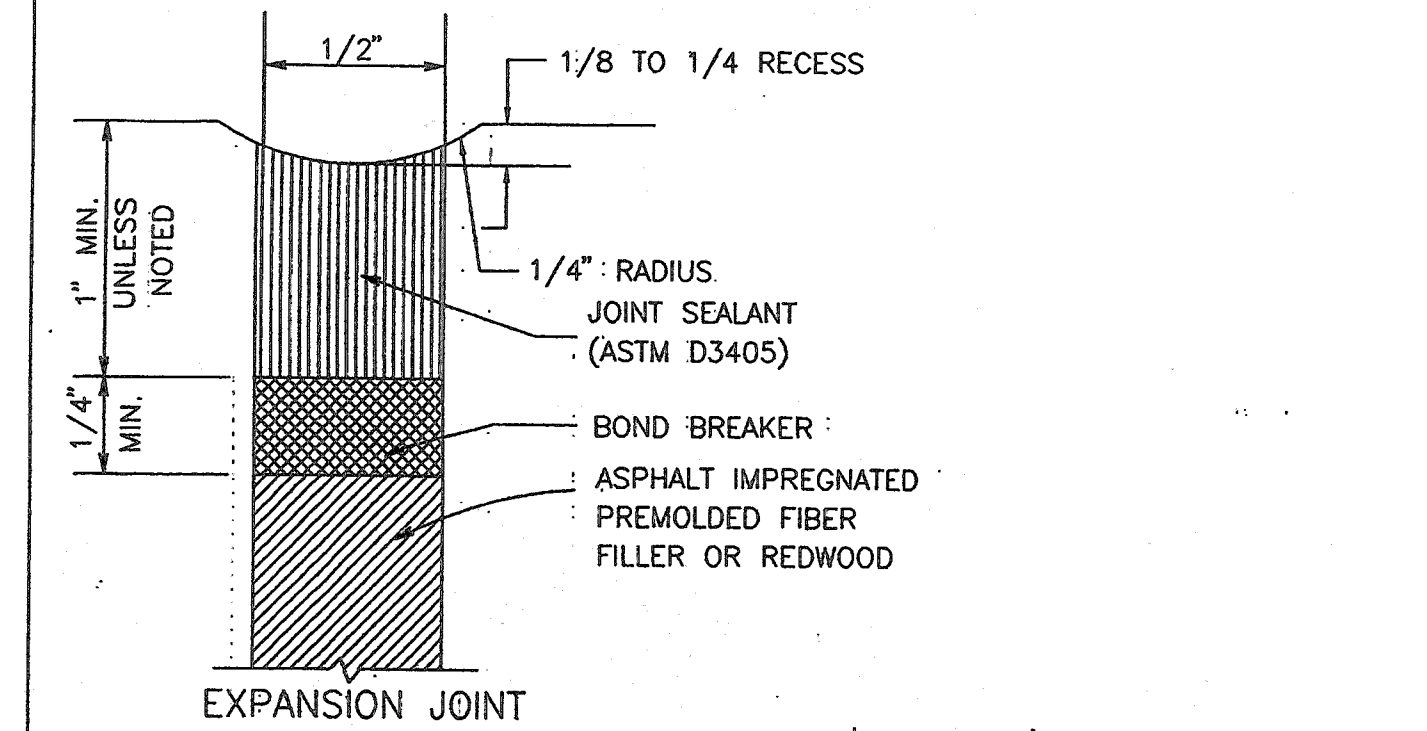
FORT BEND COUNTY ENGINEERING DEPARTMENT

**GENERAL NOTES FOR SIDEWALKS AND DRIVEWAYS**

- PROPOSED DRIVEWAY, SIDEWALK, CURB, GUTTER LINE AND GRADE SHALL MATCH EXISTING STREET.
- PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT, CLASS A STRUCTURAL (REFER TO SPECIFICATION 03301), 4 INCHES THICK AND 4 FEET MINIMUM WIDTH.
- PROPOSED DRIVEWAY AND CURB SHALL BE BUILT WITH PORTLAND CEMENT, CLASS A STRUCTURAL (REFER TO SPECIFICATION 03301), 6 INCHES THICK, FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT-OF-WAY LINE AND TO BE REINFORCED WITH #4 DEFORMED REINFORCING BARS (MINIMUM, ASTM A615 GRADE 60, UNLESS NOTED) SPACED AT 24 INCHES C.C., EACH WAY, WITH 10 INCHES MINIMUM LAP.
- PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE TIED TO EXISTING ROADWAY REINFORCING STEEL WITH A MINIMUM 12 INCHES C.C., EACH WAY, WITH 10 INCHES MINIMUM LAP.
- PROPOSED GUTTER LINE IS TO BE MAINTAINED AT FACE OF EXISTING CURB.
- SAW CUT EXISTING CURB AT EACH END OF PROPOSED DRIVEWAY AND KNOCK OUT EXISTING CURB.
- SAW CUT EXISTING PAVEMENT MINIMUM 2 INCHES AND BREAK OUT TO EXPOSED EXISTING REINFORCING STEEL WITH A MINIMUM 12 INCHES LAP. FULL DEPTH CUT IS ACCEPTABLE PROVIDING 18" LONG DRILL IN BOWELS ARE INSTALLED AT A SPACING TO MATCH EXISTING WITH A MIN. 6" EMBEDMENT.
- COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT-OF-WAY LINE. COMPACT TO 95% OF STANDARD PROCTOR DENSITY (+/- 2% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TEST IF HE DEEMS THEM NECESSARY.
- PLACE AND COMPACT 4 INCH CLEAN BANK SAND.
- PROPOSED AREA FROM BACK OF CURB TO SIDEWALK AND FROM SIDEWALK TO RIGHT-OF-WAY LINE MAY BE CONCRETE OR DIRT (ROADWAYS WITH CURBS AND SIDEWALKS).
- IF MORE THAN ONE PROPOSED DRIVEWAY IS BUILT ON THE SAME PROPERTY, SAID DRIVEWAYS SHALL SEPERATED BY A MINIMUM DISTANCE OF AT LEAST 20 FEET (ROADWAYS WITH CURBS AND SIDEWALKS).
- SIDEWALKS SHALL HAVE 1/4 INCH REDWOOD BOARD EXPANSION JOINTS EVERY 20 FEET ON CENTER.
- PLACE ONE-INCH BOARD EXPANSION JOINT AT RIGHT-OF-WAY LINE.
- EXPANSION JOINT FILLER SHALL BE FIBER FORMED CONFORMING TO AASHTO M-33 OR M-213 BETWEEN SIDEWALK AND CURB, AROUND FIRE HYDRANTS AND UTILITY POLES.

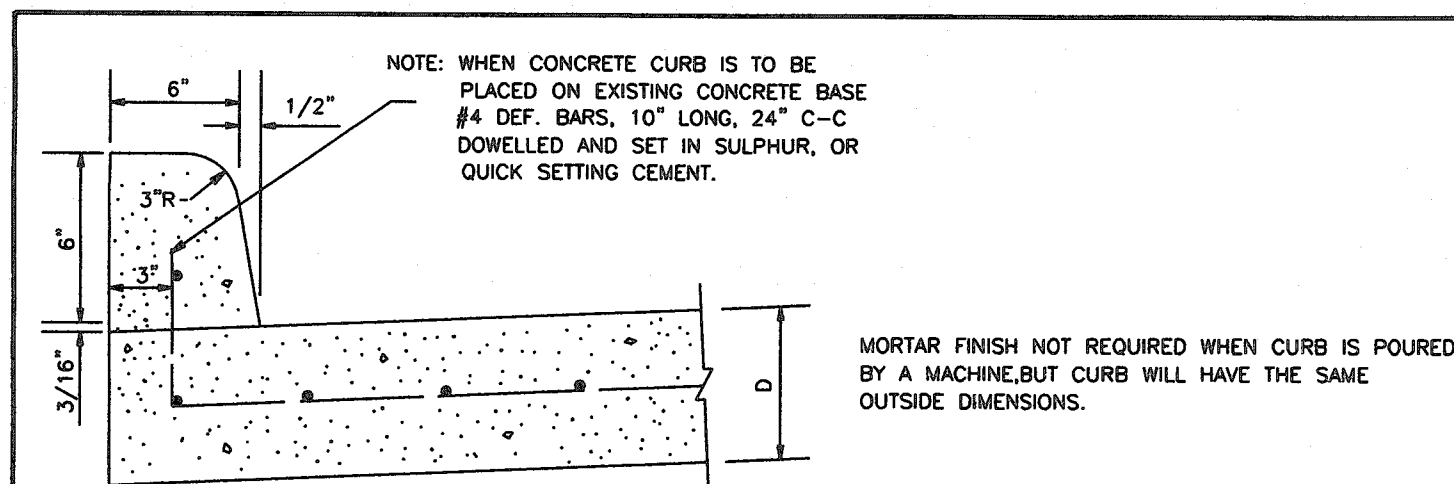
SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS RESIDENTIAL AREA	APPROVED BY: LOUIS HOOD	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-1-94	DRAWING NO.: FBC-101C

FORT BEND COUNTY ENGINEERING DEPARTMENT



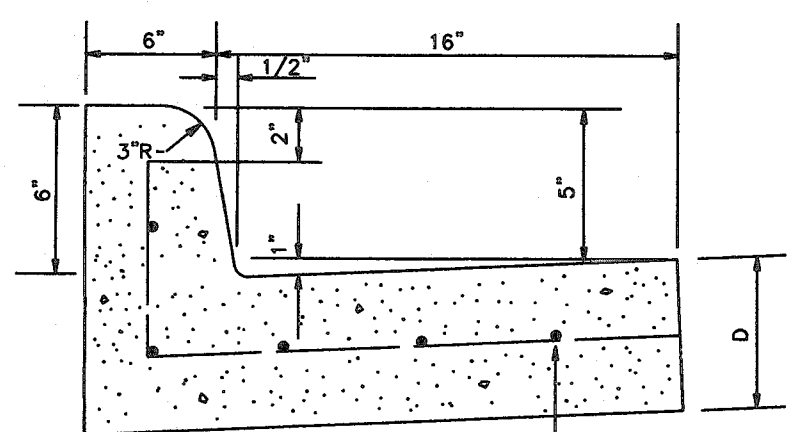
JOINT SEALANT FOR EXPANSION JOINT AND CONSTRUCTION JOINT	APPROVED BY: LOUIS E. HOOD, P.E.	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-1-94	DRAWING NO.: FBC-006

FORT BEND COUNTY ENGINEERING DEPARTMENT

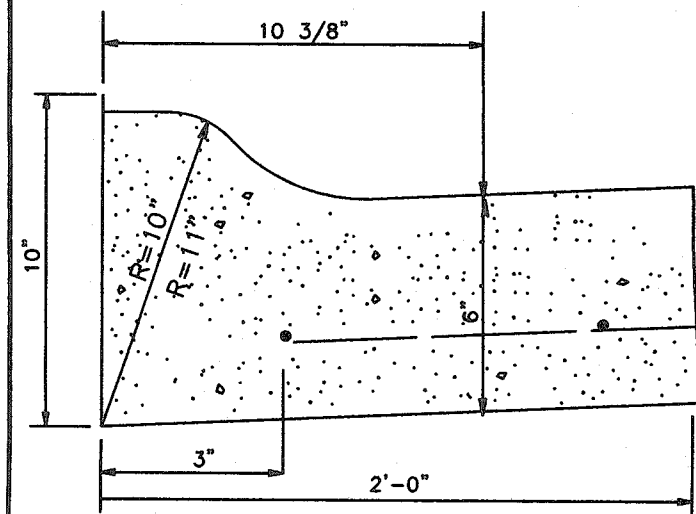


MORTAR FINISH NOT REQUIRED WHEN CURB IS POURED BY A MACHINE, BUT CURB WILL HAVE THE SAME OUTSIDE DIMENSIONS.

A: CONCRETE CURB



B: MONOLITHIC CURB AND GUTTER

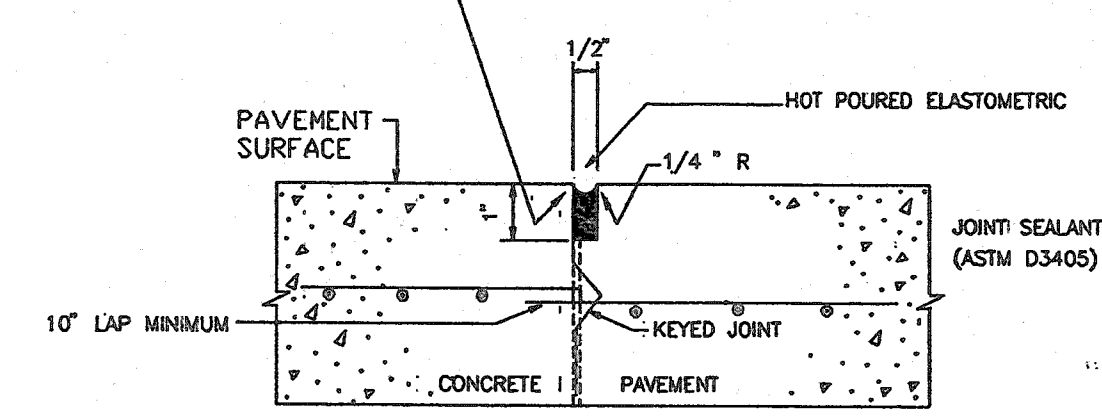


C: ROLLED CURB AND GUTTER

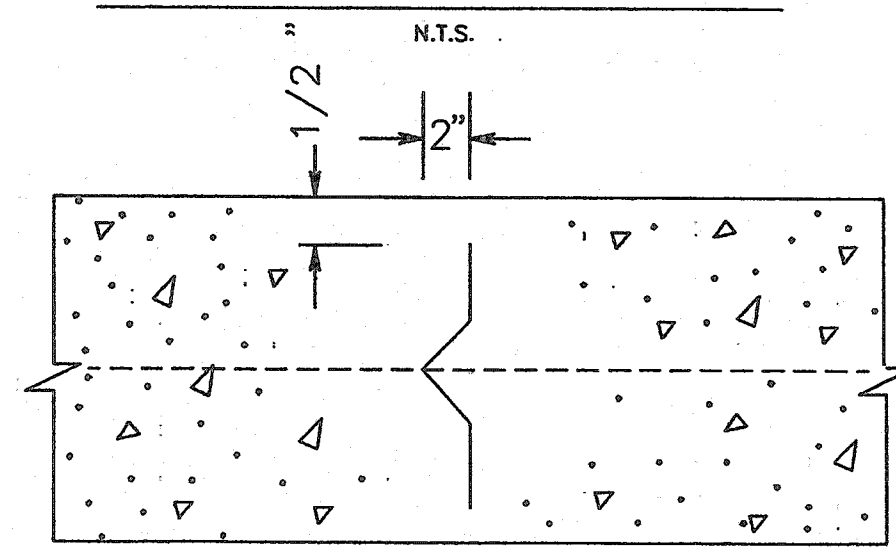
STANDARD CONCRETE CURB AND MONOLITHIC CURB AND GUTTER	APPROVED BY: LOUIS HOOD	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-1-94	DRAWING NO.: FBC-009

FORT BEND COUNTY ENGINEERING DEPARTMENT

JOINT SEAL: HOT POURED RUBBER ASPHALT (TEXAS DEPARTMENT OF TRANSPORTATION, ITEM 433.2, CLASS 3) FLUSH WITH PAVEMENT SURFACE. ALL JOINT SEALANT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



CONSTRUCTION JOINT SEAL

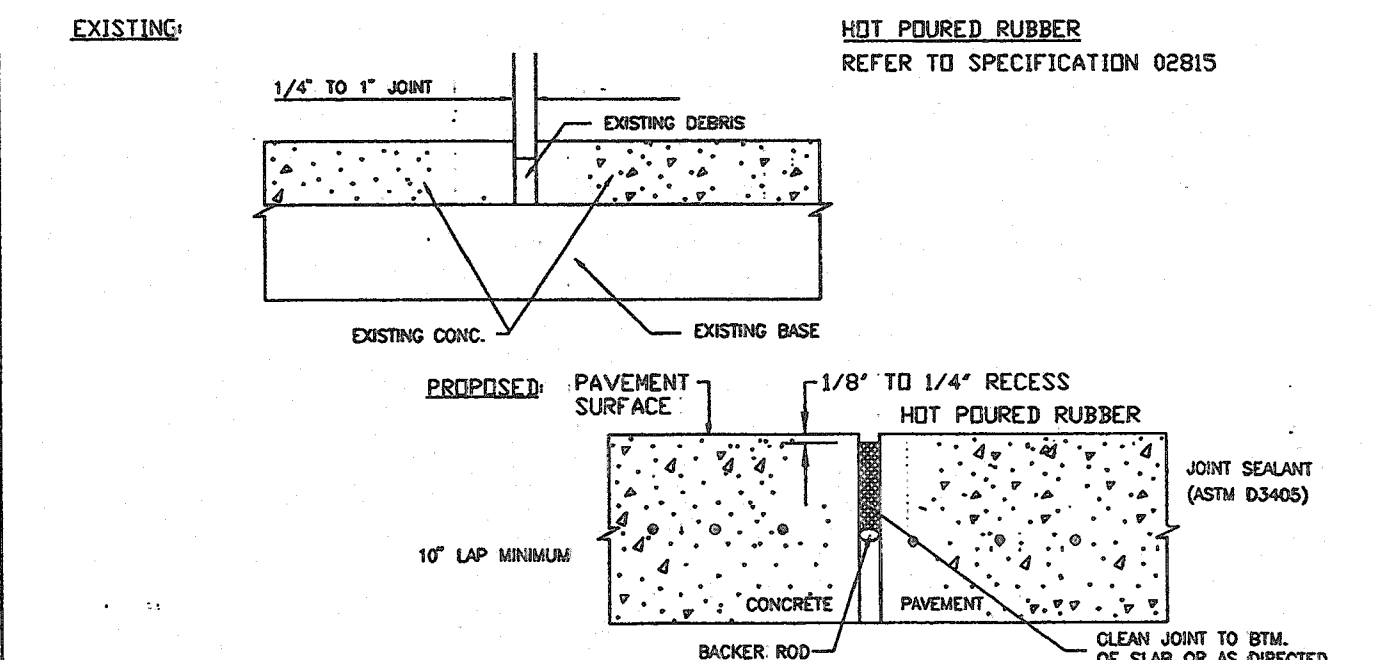
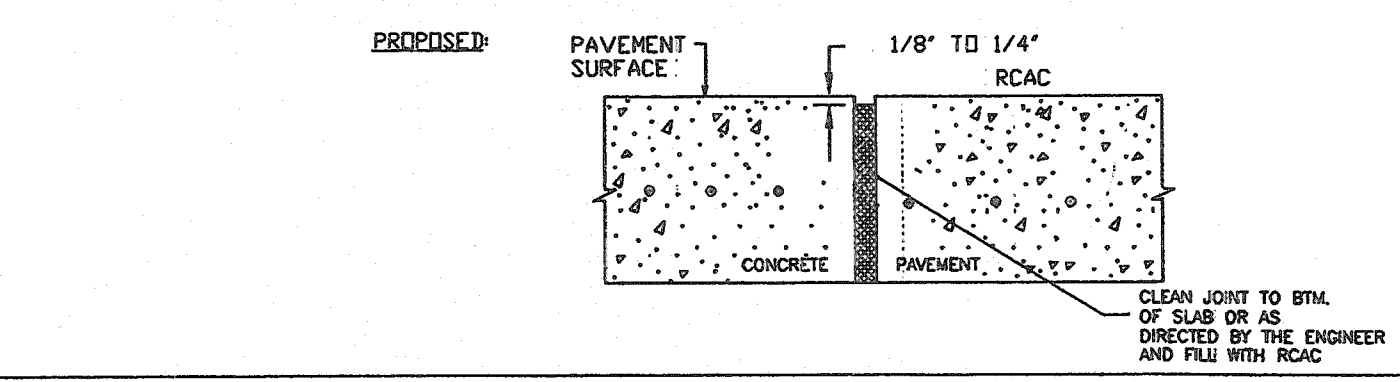
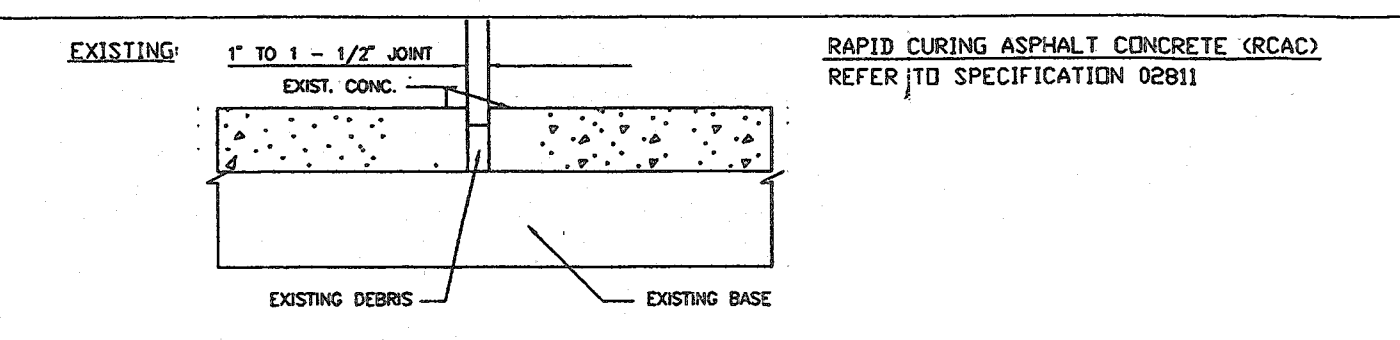


DEFORMED METAL STRIP

N.T.S.  
THE LOCATION OF DEFORMED STRIPS MAY BE VARIED, WITH THE APPROVAL OF THE FORT BEND COUNTY ENGINEERING DEPARTMENT, TO SUIT THE PROPOSED CONSTRUCTION METHODS OF THE CONTRACTOR.  
MAXIMUM LONGITUDINAL SPACING FOR DEFORMED STRIPS IS 14'-0". DEFORMED METAL STRIPS SHALL BE PLACED VERTICALLY ALONG A STRAIGHT ALIGNMENT.

TYPICAL CONSTRUCTION JOINT	APPROVED BY: LOUIS HOOD	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-1-94	DRAWING NO.: FBC-005

FORT BEND COUNTY ENGINEERING DEPARTMENT



JOINT SEAL, HOT POURED RUBBER ASPHALT (TEXAS DEPARTMENT OF TRANSPORTATION, ITEM 433.2, CLASS 3) FLUSH WITH PAVEMENT SURFACE. ALL JOINT SEALANT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

CLEANING & SEALING PAVEMENT JOINTS EXISTING CONCRETE	APPROVED BY: LOUIS E. HOOD, P.E.	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-1-94	DRAWING NO.: FBC-005A

FORT BEND COUNTY ENGINEERING DEPARTMENT

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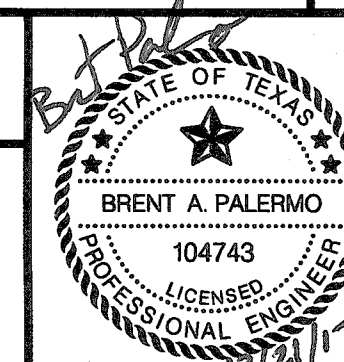
WILLIAMS WAY DRIVEWAY REMOVAL - JOB NO.: 2016100-DWY-DV-001

DESIGNED BY:	
DESIGN CHECKED BY:	
DRAWN BY:	
COGO CHECKED BY:	
SURVEY CHECKED BY:	
QA/QC BY:	DATE:
QA/QC REVISIONS BY:	



Engineering and Surveying  
9990 Richmond Avenue, Suite 450 N  
Houston, Texas 77042  
(713) 783-7788 (713) 783-3580, Fax  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

WILLIAMS WAY BOULEVARD  
DRIVEWAY REMOVAL  
FORT BEND COUNTY  
STANDARD DETAIL AND NOTES



APPROVED: *[Signature]*  
DEVELOPMENT COORDINATOR  
DATE: 1/24/18

SHEET  
FBC-01  
OF SHEETS  
JOB NO. 2016100-DWY-DV-001