

**CONTRACT DOCUMENTS
&
TECHNICAL SPECIFICATIONS
FOR
2019 DOWNTOWN IMPROVEMENTS- KLEBERG AVENUE
FOR
CITY OF KINGSVILLE, TEXAS
BID 20-08**

**TxCDBG CONTRACT No. 7219012
*Financed through provisions of a
Texas Community Development Block Grant Program
From the Texas Department of Agriculture***

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NOVEMBER 2019

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CONTRACT DOCUMENTS

ATTORNEY'S REVIEW CERTIFICATION

I, the undersigned, _____ the duly authorized and acting legal representative of the _____ do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and am of the opinion that each of the agreements may be duly executed by the proper parties, acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties; and that the agreements shall constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Attorney's signature: _____ Date: _____

Print Attorneys Name: _____

Texas State Bar Number:

ADVERTISEMENT AND INVITATION FOR BIDS

The City of Kingsville, Texas will receive sealed bids for the "2019 Downtown Improvements — Kleberg Avenue" until 2:00 p.m. on April 7, 2020. Sealed proposals will be addressed to Charley Sosa Purchasing Manager for the City of Kingsville, 400 W. King Avenue, Kingsville, Texas 78363. The bids will be publicly opened and read aloud at 2:00 p.m. on April 7, 2020 at Kingsville City Hall, 400 W. King Avenue, Kingsville, Texas 78363. A Pre-Bid Conference will be held on March 31, 2020 at 10:00a.m. at 400 W. King Avenue, Kingsville, Texas 78363 with an on-site visit being a portion of the proceedings.

Major items of work include the following:

1. DEMOLITION OF EXISTING SIDEWALKS, PAVEMENTS AND CURBS.
2. INSTALLATION OF 725 LF OF 6" CURB AND GUTTER.
3. INSTALLATION OF 75 LF OF 6" TO 9" CONCRETE MONO CURB.
4. INSTALLATION OF 125 SY OF 3' CONCRETE VALLEY GUTTER.
5. INSTALLATION OF 105 LF OF CONCRETE RETAINING WALL.
5. INSTALLATION OF 4,815 SF OF CONCRETE SIDEWALKS AND BUILT UP RAMPS.
6. INSTALLATION OF 155 LF OF SIDEWALK DRAINS.
7. INSTALLATION OF 85 SF OF 6" CONCRETE PAVEMENT WITH LIMESTONE BASE.
8. INSTALLATION OF 265 LF OF CONCRETE STEPS.
9. INSTALLATION OF 13 NEW ADA COMPLIANT RAMPS WITH 8 CROSSWALKS AND 4 STOP BARS.
10. INSTALLATION OF 2 EROSION CONTROL PLANTERS WITH BRICK VANEER.
11. INSTALLATION OF 410 SY OF BRICK PAVERS AND 8 NEW BULB OUTS.
12. INSTALLATION OF 4 DECORATIVE STREET LAMPS INCLUDING ELECTRICAL AND 10 NEW METAL SIGNS.

This project consists of new sidewalks, pavement, sidewalk drains, brick pavers, new bulb outs, ADA compliant ramps, crosswalks, stop bars, street lamps and metal signs in accordance with the contract documents, technical specifications, and plans.

Bid/Contract Documents, including Drawings and Technical Specifications are on file for review at 400 W. King Avenue, Kingsville, Texas 78363. Copies can be obtained from the City of Kingsville website at the following web address. <https://www.cityofkingsville.com/departments/purchasing/rfpbid-opening-fy-2019/>

A bid bond by an acceptable surety, in the amount of 5% of the bid amount shall be submitted with each bid. A certified check or bank draft payable to the Owner or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.

Attention is called to the fact that not less than, the federally determined prevailing (Davis-Bacon and Related Acts) wage rate, as issued by the Texas Department of Agriculture Office of Rural Affairs and contained in the contract documents, must be paid on this project. In addition, the successful bidder must ensure that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual orientation, gender identity, or national origin. Adherence to the grant recipient's Section 3 Policy is required for contracts and subcontracts in excess of \$100,000.00. The City of Kingsville is an Affirmative Action/Equal Opportunity Employer that reserves the right to reject any and all bids and/ or waive any formalities in the bidding.

"The City of Kingsville is an Equal Opportunity Employer. The City strives to attain goals for compliance with Federal Section 3 regulations by increasing opportunities for employment and contracting with Section 3 residents and businesses where feasible."

The City of Kingsville reserves the right to reject any or all bids or to waive any informalities in the bidding. All contractors/subcontractors that are debarred, suspended or otherwise excluded from or in eligible for participation on federal assistance programs may not undertake any activity ion part or in full under this project.

Bids may be held by the City for a period not to exceed 60 days from the date of the bid opening for the purpose of reviewing the bids and investigating the bidder's qualifications prior to the contract award.

City of Kingsville, Texas
/s/ Mark McLaughlin, City Manager

TECHNICAL SPECIFICATIONS

SECTION 021040
SITE GRADING

1. DESCRIPTION

This specification shall govern all work necessary for backfill and grading of the site to complete the project.

2. CONSTRUCTION METHODS

Prior to site grading, the site shall be cleared in accordance with City Standard Specification Section 021020 "Site Clearing and Stripping". Unless specified otherwise on the drawings, the existing surface shall be loosened by scarifying or plowing to a depth of not less than six (6) inches. The loosened material shall be recompacted with fill required to bring the site to the required grades and elevations indicated on the plans.

Fill shall be uniform as to material, density and moisture content. Fill shall be free of large clods, large rocks, organic matter, and other objectionable material. No fill that is placed by dumping in a pile or windrow shall be incorporated into a layer in that position; all such piles and windrows shall be moved by blading or similar method. All fill shall be placed in layers approximately parallel to the finish grade in layers not to exceed six (6) inches of uncompacted depth, unless indicated otherwise on drawings. The fill shall be compacted to a density which approximates that of natural ground unless indicated otherwise on drawings.

The Engineer may order proof rolling to test the uniformity of compaction. All irregularities, depressions and soft spots that develop shall be corrected by the Contractor.

Excess material from excavation, which is not incorporated into the site as fill, shall become property of the Contractor and disposed of away from the job site, unless indicated otherwise on the drawings.

3. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, site grading shall not be measured for pay, but shall be considered subsidiary to other work.

SECTION 021080
REMOVING OLD STRUCTURES (S-55)

1. DESCRIPTION

This specification shall provide for the removal and disposal of old structures or portions of old structures, as noted on the plans, and shall include all excavation and backfilling necessary to complete the removal. The work shall be done in accordance with the provisions of these specifications.

2. METHOD OF REMOVAL

Culverts or Sewers. Pipe shall be removed by careful excavation of all dirt on top and the sides in such manner that the pipe will not be damaged. Removal of sewer appurtenances shall be included for removal with the pipe. Those pipes which are deemed unsatisfactory for reuse by the Engineer may be removed in any manner the Contractor may select.

Concrete Structures. Concrete structures or concrete portions of structures shall be removed by blasting and/or sledging the concrete into sizes not larger than one cubic foot.

Portions of the old structure shall be removed to the lines and dimensions shown on the plans, and these materials shall be disposed of as shown on the plans or as directed by the Engineer. Any portion of the existing structure, outside of the limits designated for removal, damaged during the operations of the Contractor shall be restored to its original condition at his entire expense. Explosives shall not be used in the removal of portions of the existing structure unless approved by the Engineer, in writing.

Concrete portions of structures below the permanent ground line, which will not interfere in any manner with the proposed construction, may be left in place, but removal shall be carried at least 2 feet below the permanent ground line and neatly squared off. Reinforcement shall be cut off close to the concrete.

Steel Structures. Steel structures or steel portions of structures shall be dismantled in sections as determined by the Engineer. The sections shall be stored. Rivets and bolts connecting steel railing members, steel beams of beam spans and steel stringers of truss spans shall be removed by butting the heads with a "cold cut" and punching or drilling from the hole, or by such other method as will not injure the members for re-use and will meet the approval of the Engineer.

The removal of rivets and bolts from connections of truss members, bracing members, and other similar members in the structure will not be required unless specifically called for on the plans or special provisions and the Contractor shall have the option of dismantling these members by flame-cutting the members immediately adjacent to the connections.

Flame-Cutting will not be permitted, however, when plans or special provisions call for the structure unit to be salvaged in such manner as to permit re-erection. In such case, all members shall be carefully matchmarked with paint in accordance with diagram furnished by the Engineer prior to dismantling, and all rivets and bolts shall be removed from the connections in the manner specified in the first portion of this paragraph.

Timber Structures. Timber structures or timber portions of structures shall be removed in such manner as to damage the timber for further use as little as possible. All bolts and nails shall be removed from such lumber as deemed salvable by the Engineer.

Unless otherwise specified on the plans, timber piles shall be either pulled or cut off at the point not less than 2 feet below ground line, with the choice between these two methods resting with the Contractor, unless otherwise specified.

Brick or Stone Structures. Brick or stone structures or stone portions of structures shall be removed by blasting and/or sledging the masonry into sizes not larger than one cubic foot.

Portions of such structures below the permanent ground line, which will not in any manner interfere with the proposed construction, may be left in place, but removal shall be carried at least 2 feet below the permanent ground line and neatly squared off.

Salvage. All material such as pipe, timbers, railings, etc., which the Engineer deems as salvable for reuse, and all structural steel shall be in the property of City unless otherwise specified and delivered to a designated storage area.

The I-beams, stringers, etc., which are specified to be dismantled without damage for reuse, and all steel members when matchmarked and dismantled for reuse, shall be blocked off the ground in an upright position to protect the members against further damage.

Materials, other than structural steel, which are not deemed salvable by the Engineer, shall become the property of the Contractor and shall be removed to suitable disposal sites off of the right-of-way arranged for by the Contractor, or otherwise disposed of in a manner satisfactory to the Engineer.

Where temporary structures are necessary for a detour adjacent to the present structure, the Contractor will be permitted to use the material in the old structure for the detour structure, but he shall dismantle and stack or dispose of the material as required above as soon as the new structure is opened for traffic.

The bidder's attention is called to the section, "Use of Explosive" in the "General Provisions and Requirements", regarding the use of explosives.

Backfill. All excavation made in connection with this specification and all openings below the natural ground line caused by the removal of old structures or portions thereof shall be backfilled to the level of the original ground line, unless otherwise provided on the plans.

That portion of the backfill which will support any portion of the roadbed or embankment shall be placed in layers of the same depth as those required for placing embankment. Material in each layer shall be wetted uniformly, if required, and shall be compacted to the density required in the adjoining embankment. In places inaccessible to blading and rolling equipment, mechanical or hand tamps or rammers shall be used to obtain the required compaction.

That portion of the backfill which will not support any portion of the roadbed or embankment shall be placed as directed by the Engineer in such manner and to such state of compaction as will preclude objectionable amount of settlement.

3. MEASUREMENT AND PAYMENT

Measurement and payment for removal of structures shall be considered subsidiary to appropriate bid item for which the work is a component of.

END OF SECTION

022022
TRENCH SAFETY FOR
EXCAVATIONS

1. DESCRIPTION

This specification shall govern all work for providing for worker safety in excavations and trenching operations required to complete the project.

2. REQUIREMENTS

Worker Safety in excavations and trenches shall be provided by the Contractor in accordance with Occupational Safety and Health Administration (OSHA) Standards, 29 CFR Part 1926 Subpart P - Excavations.

It is the sole responsibility of the Contractor, and not the City or Engineer, to determine and monitor the specific applicability of a safety system to the field conditions to be encountered on the job site during the project.

The Contractor shall indemnify and hold harmless the City and Engineer from all damages and cost that may result from failure of methods or equipment used by the Contractor to provide for worker safety.

Trenches as used herein, shall apply to any excavation into which structures, utilities, or sewers are placed regardless of depth.

Trench Safety Plan as used herein, shall apply to all methods and materials used to provide for worker safety in excavation and trenching operations required during the project.

3. MEASUREMENT AND PAYMENT

Measurement of Trench Safety Plan shall be by the linear foot of trench or excavation, regardless of depth. Measurement shall be taken along the center line for trenches and along the longest horizontal distance across the bottom for other shape of excavations.

Payment for Trench Safety Plan shall be at the unit price bid and shall fully compensate the Contractor for all work, equipment, materials, personnel, and incidentals as required to provide for worker safety in trenches and excavations for the project.

Revision current for Texas H.B. No. 1569, dated 5/23/89.

END OF SECTION

022022 -1/1

SECTION 022100
SELECT MATERIAL (S-15)

1. DESCRIPTION

This specification shall govern the use of select material to be used to treat designated sections of roadways, embankments, trenches, etc. Select material shall be a mixture of sand and clay or other suitable granular material. The material shall be free from vegetation, debris and clay lumps. That portion of the select material passing a 40-mesh sieve shall have a liquid limit of 45 maximum, a plasticity index range from 6 to 13, and a calculated linear shrinkage of 8.5 maximum.

2. CONSTRUCTION METHODS

Select material shall be mixed uniformly and placed in layers not to exceed 6" loose depth. The material shall be brought to approximately optimum moisture content and compacted to 95% Standard Proctor Density. Each layer shall be complete before the succeeding layer is placed.

The finished surface of the select material shall conform to the grade and section shown on the plans.

3. MEASUREMENT & PAYMENT

Select material shall not be measured and paid for separately. It shall be considered subsidiary to the items for which the select material is required.

END OF SECTION

022420
SILT FENCE

1. DESCRIPTION

This specification shall govern all work necessary for providing and installing silt fencing required to control sedimentation and erosion during construction of the project.

2. MATERIAL REQUIREMENTS

A. Geotextile shall meet the requirements for temporary silt fence per AASHTO M288.

B. Fence Reinforcement Materials:

Silt fence reinforcement shall be one of the following systems.

Type 1: Self-Supported Fence - This system consists of fence posts, spaced no more than 8 1/2 feet apart, and geotextile without net reinforcement. Fence posts shall be a minimum of 42 inches long, embedded at least one (1) foot into the ground, and constructed of either wood or steel. Soft wood posts shall be at least 3 inches in diameter or nominal 2 x 4 inches in cross section and essentially straight. Hardwood posts shall be a minimum of 1.5 * 1.5 inches in cross section. Fabric attachment may be by staples or locking plastic ties at least every 6 inches, or by sewn vertical pockets. Steel posts shall be T or L shaped with a minimum weight of 1.3 pounds per foot. Attachment shall be by pockets or by plastic ties if the posts have suitable projections.

Type 2: Net-Reinforced Fence - This system consists of fence posts, spaced no more than 8-1/2 feet apart, and geotextile with an attached reinforcing net. Fence posts shall meet the requirements of Self Supported Fence. Net reinforcement shall be galvanized welded wire mesh of at least 12.5-gauge wire with maximum opening size of 4 x 2 inches. The fabric shall be attached to the top of the net by crimping or cord at least every 2 feet, or as otherwise specified.

Type 3: Triangular Filter Dike - This system consists of a rigid wire mesh, at least 6-gauge, formed into an equilateral triangle cross-sectional shape with sides measuring 18 inches, wrapped with geotextile silt fence fabric. The fabric shall be continuously wrapped around the dike, with a skirt extending at least 12 inches from its upslope corner.

C. Packaging Requirements: Prior to installation, the fabric shall be protected from damage due to ultraviolet light and moisture by either wrappers or inside storage.

D. Certification and Identification: Each lot or shipment shall be accompanied by a certification of conformance to this specification. The shipment must be identified by a ticket or by labels securely affixed to the fabric rolls. This ticket or label must list the following information:

- a. Name of manufacturer or supplier
- b. Brand name and style
- c. Manufacturer's lot number or control number
- d. Roll size (length and width)
- e. Chemical composition

3. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, silt fence shall be measured by the linear foot. Payment shall be at the bid price for the unit of measurement specified and shall be full compensation for furnishing all labor, _materials, tools, equipment and incidentals necessary to complete the work. Payment shall include, but not be limited to, placing, maintaining and removing the silt fence.

025205
REMOVING AND REPLACING PAVEMENTS

1. DESCRIPTION

This specification shall govern the removal and replacing of all types of pavement and surfacing on streets, roads, alleys, parkways and other places where underground facilities are to be constructed.

2. MATERIALS

Unless otherwise specified on the plans, materials and proportions used along with this specification shall conform to the respective following specifications: "Flexible Base Limestone"; "Hot Mix Asphaltic Pavement"; "Cold Mix Limestone Rock Asphalt Pavement"; "Concrete Curb and Gutter"; and "Concrete Sidewalks and Driveways".

3. METHOD OF CUTTING

The outline of the trench shall be marked upon the surface of the pavement to be cut, and all cuts into the pavement shall be saw cut as nearly vertical as it is possible to make them. All unwanted materials removed shall be disposed of by the contractor and shall not be used as backfill material.

4. BACKFILL OF TRENCH

Excavation and backfilling of trench shall be in accordance with Specification "Excavation & Backfill for Utilities. "

5. REPLACING STREET PAVEMENT

All pavements, driveways, sidewalks, and curbs and gutters which are cut shall be replaced in a workmanlike manner, with like or better replacements.

6. REPLACING DRIVEWAY PAVEMENT

On all concrete driveway pavement, the replacement shall consist of a reinforced Class "A" concrete slab with a minimum thickness of six (6) inches. The type of finish for the replaced section shall be the same as that appearing on the old pavement. Reinforcement shall be #4 bars at 12" each way. Any other type shall be replaced with like or better replacement.

025205

7. REPLACING SIDEWALKS

On all sidewalk pavement, the replacement shall consist of a reinforced Class "A" concrete slab four (4) inches thick. The type of finish for the replaced section shall be the same as that appearing on the old sidewalk. Replacement shall, in general, be to original joint or score marks. Reinforcement shall be 4" x 4" - W2.9 welded wire fabric. Shell or asphalt sidewalks shall be replaced with caliche or asphalt surface.

8. REPLACING CURB AND GUTTER

On all curb and gutter, the replacement shall consist of a section conforming in all details to the original section or to City Standard if required by the Engineer. Cuts through the curb shall be replaced with Class "B" concrete. Preserve original steel and reinforce all new curbs with 3 - #4 bars. Adjust grades for drainage.

9. REPAIRING STREET SHOULDERS AND UNIMPROVED STREETS

On streets or roads without curb and gutter, where a shoulder is disturbed it shall be restored to like or better condition. The shoulder surface shall be rolled to an acceptably stable condition.

10. MEASUREMENT AND PAYMENT

All street pavement, driveway pavement, sidewalk and curb and gutter removed and replaced as specified above shall not be measured and paid for separately. It shall be considered subsidiary to the items for which street pavement, driveway pavement, sidewalk and curb and gutter is required.

025220

FLEXIBLE BASE - LIMESTONE

1. DESCRIPTION

The specifications presented in this item are intended to present a minimum level of quality in the construction of flexible base which must be equaled or exceeded by the flexible base construction incorporated into work being a part of the proposed paving repairs for which this set of specifications is applicable.

Flexible Base may be used for a foundation for a surface course or for other base courses; shall be composed of crusher run broken stone; and shall be constructed as herein specified, in conformity with sections shown on plans, and to the lines and grades as established by the ENGINEER.

2. MATERIAL

The materials shall be crushed limestone from an approved source and shall consist of durable particles of stone mixed with approved binding material. The material shall conform to TxDOT Specifications (2014) Item 247, "Flexible Base", Type A, Grade 1.

3. CONSTRUCTION METHODS

Flexible base shall be placed by methods conforming to TxDOT Specifications (2014) Item 247.4. Compacted thickness of crushed limestone base shall be as shown on the plans with not less than 95% of maximum dry unit weight obtained by compaction of ASTM D-1557 procedure.

END OF SECTION

SECTION 025610
CONCRETE CURB AND GUTTER

DESCRIPTION

This specification shall consist of Portland cement concrete combined concrete curb and gutter or separate concrete curb with or without reinforcing steel as required, constructed on an approved subgrade or foundation material in accordance with these specifications, in conformity with the lines and grades established by the Engineer and details shown on the drawings.

MATERIALS

Unless otherwise specified on the drawings, materials and proportions for concrete used in construction under this specification shall conform to the requirements as specified for Class "A" Concrete under City Standard Specification Section 030020 "Portland Cement Concrete". Reinforcing steel shall conform to the requirements as specified in City Standard Specification Section 032020 "Reinforcing Steel". Expansion joint filler shall be redwood material meeting the requirements specified in City Standard Specification Section 03 8000 "Concrete Structures".

CONSTRUCTION METHODS

The foundation shall be excavated and shaped to line, grade and cross-section, and hand tamped and sprinkled. If dry, the subgrade or foundation material shall be sprinkled lightly with water and compacted to not less than 98% Standard Proctor density, or as required on the drawings. Flexible base shall be compacted to specified density and moisture immediately before concrete is deposited thereon.

Outside forms shall be of wood or metal, of a section satisfactory to the Engineer, straight, free of warp, and of a depth equal to the depth of the curb and gutter. They shall be securely staked to line and grade and maintained in a true position during the depositing of concrete. Inside forms for the curb shall be approved material, shall be of such design as to provide the curb required, and shall be rigidly attached to the outside forms. For reinforced concrete roadways, all jointing must be reflected through the curb, including redwood expansion joints and construction joints. Driveway gutter shall be placed integrally with the driveway as shown on the City Standard Details.

The reinforcing steel shall be placed in position as shown on the typical details. Care shall be exercised to keep all reinforcing steel in its proper location.

Concrete for curb and gutter shall be mixed in a manner satisfactory to the Engineer. The curb and gutter shall be placed in sections of the length indicated on the plans, and each section shall be

separated by a pre-molded insert or board joint of cross-section specified for the curb and gutter, and of the thickness indicated on the drawings.

After the concrete has been struck off and after it has become sufficiently set, the exposed surfaces shall be thoroughly worked with a wooden float. The exposed edges shall be rounded by the use of an edging tool to the radius indicated on the drawings. All exposed surfaces of curb and gutter, or curb, shall be brushed to a smooth and uniform surface.

The completed curb and gutter shall be cured with Type 2, white pigmented curing compound unless shown otherwise on the drawings. Other methods of curing as outlined in City Standard Specification Section 038000 "Concrete Structures" will be acceptable with a required curing period of 72 hours.

The area behind the curb shall be backfilled, tamped, and sloped as directed as soon as possible and no later than 48 hours after the removal of forms. Backfill shall be placed to the full height of the curb, or as otherwise specified.

MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, concrete curb and gutter or concrete curb will be measured by the linear foot for each type of curb, complete in place. Payment shall be full compensation for preparing the subgrade; for furnishing and placing all materials including reinforcing steel and expansion joint material; for furnishing, placing, shaping and tamping backfill; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work.

025614

CONCRETE SIDEWALKS AND DRIVEWAYS

DESCRIPTION

This specification shall consist of sidewalks and driveways, with or without reinforcing steel, composed of Portland cement concrete, constructed as herein specified on an approved subgrade, in conformity with the lines and grades established by the Engineer and the details shown on the drawings.

MATERIALS

Materials and proportions used in construction under this item shall conform to the requirements as specified for Class "A" concrete under City Standard Specification Section 030020 "Portland Cement Concrete". Reinforcing steel shall conform to the requirements as specified in City Standard Specification Section 032020 "Reinforcing Steel". Expansion joint filler shall be redwood meeting the requirements specified in City Standard Specification Section 038000 "Concrete Structures". Cap seal shall be "Green streak" or approved equal.

CONSTRUCTION METHODS

The subgrade shall be excavated, compacted and shaped to line, grade and cross-section and hand tamped and sprinkled with water. Subgrade under concrete sidewalks and driveways shall be compacted to not less than 95% Standard Proctor density. The subgrade shall be within 0-3% of optimum moisture content at the time the concrete is placed.

Forms shall be of wood or metal, of a section satisfactory to the Engineer, straight, free from warp, and of a depth equal to the thickness of the finished work. They shall be securely staked to line and grade and maintained in a true position during the depositing of concrete.

The reinforcing steel shall be placed in position as shown on the drawings. Care shall be exercised to keep all reinforcing steel in its proper location.

Driveways shall incorporate the gutter in a unified concrete placement as shown in the City Standard Detail for driveways.

025614

Sidewalks shall be constructed in sections of the lengths shown on drawings. Unless otherwise provided by the drawings, no section shall be of a length less than 8 feet, and any section less than 8 feet shall be removed by the Contractor at his own expense.

The different sections shall be separated by a pre-molded insert or board joint of the thickness shown on the drawings, placed vertically and at right angles to the longitudinal axis of the sidewalks. Where the sidewalk or driveways abut a curb or retaining wall, approved expansion joint material shall be placed along their entire length. Similar expansion joint material shall be placed around all obstructions protruding through sidewalks or driveways.

Concrete shall be mixed in a manner satisfactory to the Engineer, placed in the forms to the depth specified and spaded and tamped until thoroughly compacted and mortar entirely covers the surface. The top surface shall be floated with a wooden float to a gritty texture. The outer edges and joints shall then be rounded with approved tools to the radii shown on drawings.

5-foot wide sidewalks shall be marked into separate sections, each 5 feet in length, by the use of approved jointing tools. For other widths of sidewalk, joints to be spaced longitudinally to match the transverse width.

When completed, the sidewalks and driveways shall be cured with Type 2, white pigmented curing compound. Other methods of curing as outlined in City Standard Specification Section 038000 "Concrete Structures" will be acceptable with a required curing period of 72 hours.

MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, concrete sidewalks and driveways shall be measured by the square foot of surface area of completed sidewalks, driveways, or sidewalks and driveways, as indicated on the drawings.

Payment shall be full compensation for preparing and compacting the subgrade; for furnishing and placing all materials including concrete, reinforcing steel and expansion joint material; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work.

CONCRETE CURB RAMPS

DESCRIPTION

This specification shall govern all work necessary for constructing Concrete Curb Ramps required to complete the project.

MATERIALS

Concrete shall be Class "A" in accordance with Section 030020 "Portland Cement Concrete" of the City Standard Specifications.

Reinforcement shall be 4x4 - W2.9xW2.9 welded wire fabric or #4 steel reinforcing bars spaced at 12 inches each way in accordance with Section 032020 "Reinforcing Steel" of the City Standard Specifications.

CONSTRUCTION METHODS

The subgrade shall be shaped to line, grade and cross-section, and shall be of uniform density and moisture when concrete is placed. The subgrade shall be hand tamped and sprinkled with water to achieve the desired consistency and uniform support. Subgrade compaction shall not be less than 95% Standard Proctor density.

Ramps shall be constructed of Class "A" concrete to line and section as shown on the plans. Unless shown otherwise on the drawings, ramps shall have a minimum concrete thickness in excess of 5 inches, prior to application of the detectable warning surfacing.

Slopes, S, shall be as follows, unless shown otherwise on the drawings:

<u>RAMPS</u>	1
Ramp in direction of travel	:
Side slope of ramp (flare)	2
Cross slope.	0
<u>ADJOINING AREAS</u>	SS 1:10
	1
Landings adjacent to ramp	
Driveways abutting tied sidewalks	SS 1:12
SS 1:10 1:100 S S	
sl:50	

Width of ramp shall be 60 inches (minimum), exclusive of flare, unless specifically shown otherwise on the drawings. No ramp shall be less than 36 inches wide under any circumstances. Obstructions shall be removed or relocated, as appropriate, or the location of the ramp may be shifted, if authorized.

Detectable warning surface shall be polymer composite material detectable warning panels as shown on the drawings. Surfacing shall be flush with abutting areas and placed using a template as required to achieve an esthetic well-defined edge. Surfacing shall be subsidiary work and will not be measured for separate pay.

Pavement markings for street crossings shall be placed such that the crosswalk is properly aligned with respect to the curb ramp. See striping details for proper alignment of pavement markings with respect to intersection and curb ramp.

Properly constructed curb ramp shall be tilted to line, section and grade, and shall be free of loose material and irregularities.

MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, concrete curb ramps shall be measured by the horizontal square foot of ramp surface area, including side flares when used. Adjoining curbs, gutters, sidewalks, and driveways will be excluded from said measurement.

Payment shall include, but not be limited to, subgrade preparation, formwork, concrete, rebar, detectable warning surfaces, borders, molding and curing required to complete the curb ramp, and shall be full compensation for all labor, materials, equipment and incidentals required to complete the work.

TEMPORARY TRAFFIC CONTROLS DURING CONSTRUCTIONDESCRIPTION

This specification shall govern all work required for Temporary Traffic Controls during construction. The work shall include furnishing, installing, moving, replacing, and maintaining all temporary traffic controls including, but not limited to, barricades, signs, barriers, cones, lights, signals, temporary detours, temporary striping and markers, flagger, temporary drainage pipes and structures, blue business signs, and such temporary devices as necessary to safely complete the project.

MATERIALS

Traffic control devices shall conform to the latest edition of the "Texas Manual on Uniform Traffic Control Devices", unless indicated otherwise on the Traffic Control Plan.

METHODS

Sufficient traffic control measures shall be used to assure a safe condition and to provide a minimum of inconvenience to motorists and pedestrians.

If the Traffic Control Plan (TCP) is included in the drawings, any changes to the TCP by the Contractor shall be prepared by a Texas licensed professional engineer and submitted to the City Traffic Engineer for approval, prior to construction. If the TCP is not included in the drawings, the Contractor shall provide the TCP prepared by a Texas licensed professional engineer and submit the TCP to the City Traffic Engineer for approval, prior to construction.

The Contractor is responsible for implementing and maintaining the traffic control plan and will be responsible for furnishing all traffic control devices, temporary signage and ATSSA certified flaggers. The construction methods shall be conducted to provide the least possible interference to traffic so as to permit the continuous movement of traffic in all allowable directions at all times. The Contractor shall cleanup and remove from the work area all loose material resulting from construction operations at the end of each workday.

All signs, barricades, and pavement markings shall conform to the BC standard sheets, TCP sheets and the latest version of the "Texas Manual on Uniform Traffic Control Devices".

The Contractor may be required to furnish additional barricades, signs, and warning lights to maintain traffic and promote motorist's safety. Any such additional signs and barricades will be

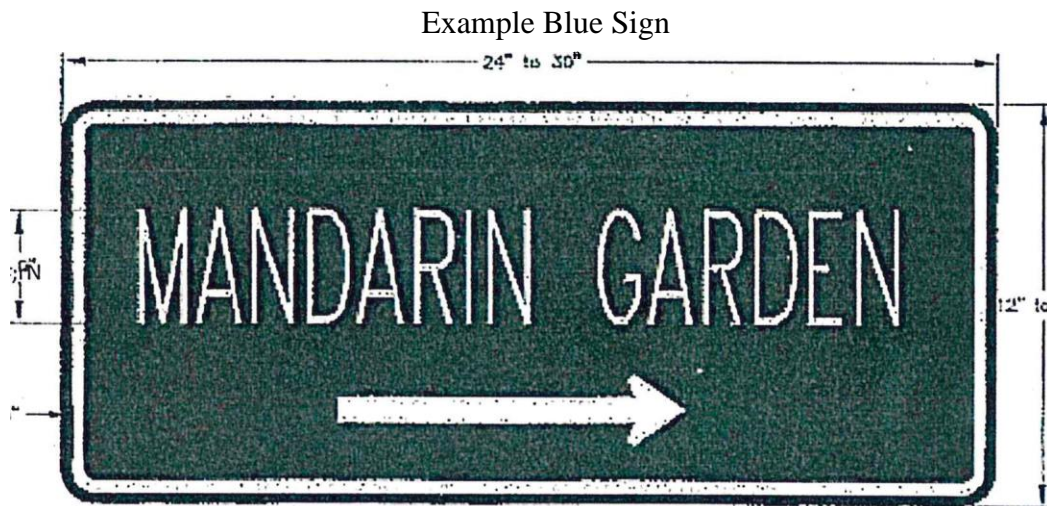
considered subsidiary to the pay item for traffic control. All signs, barricades, and posts will be either new or freshly painted.

The contractor and any traffic control subcontractor must be ATSSA certified for Traffic Control. A competent person, responsible for implementation of the TCP and for traffic safety, shall be designated by the Contractor.

The name and off-hours phone number of the competent person shall be provided in writing at the Pre-Construction Conference.

The competent person shall be on site, during working hours and on call at all times in the event of off-hour emergency.

The contractor must provide temporary blue sign boards that direct traffic to businesses and driveways during each phase of construction — see example below. The sign boards may be either skid mounted, or barrel mounted. The City will assist the contractor in determining which businesses and driveways will receive signage during various construction phases. The provision, installation, and removal of signage will be subsidiary to the contract items provided for "Traffic Control. "



MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, temporary traffic controls during construction shall be measured as a lump sum. Payment shall include, but not be limited to, furnishing, installing, moving, replacing and maintaining all temporary traffic controls including, but not limited to, barricades, signs, banners, cones, lights, signals, temporary striping and markers, flaggers, removable and nonremovable work zone pavements markings and signage, channelizing devices, temporary detours, temporary flexible-reflective roadway marker tabs, temporary traffic markers, temporary drainage pipes and structures, blue business signs, and such temporary devices and relocation of existing signs and devices. Payment shall be full compensation for all labor, equipment, materials, personnel, and incidentals necessary to provide a safe condition during construction of all phases and elements of the project and to complete the work.

Payment will be made on the following basis: The initial monthly estimate will include 50% of the lump sum bid amount minus retention (typically 5%). The balance will be paid with the final estimate, upon completion of the project.

SECTION 025807
PAVEMENT MARKINGS
(PAINT AND THERMOPLASTIC)

1. DESCRIPTION

This item shall consist of markings and stripes on the surface of the roadways or parking facilities applied in accordance with this specification and at the locations shown on the drawings or as directed by the Engineer.

2. MATERIALS

Type I Pavement Marking Materials shall be in accordance With TxDOT Departmental Material Specification DMS 8220 "Hot Applied Thermoplastic". All roadway markings shall be thermoplastic.

Type II Pavement Marking Materials shall be in accordance with TxDOT Departmental Material Specification DMS8200 "Traffic Paint" and are not to be used for roadway markings except as primer/sealer for Type I markings. Type II Pavement Markings shall be allowed for parking facilities if called for in the plans.

Glass Traffic Beads shall be drop-on glass beads conforming to TxDOT Departmental Material Specification DMS8290 "Glass Traffic Beads".

3. CONSTRUCTION METHODS

3.1 Weather Limitations - Pavement marking shall be performed only when the existing surface is dry and clean, when the atmospheric temperature is above 40°F., and when the weather is not excessively windy, dusty, or foggy. The suitability of the weather will be determined by the Engineer.

3.2 Equipment - All equipment for the work shall be approved by the Engineer and shall include the apparatus necessary to properly clean the existing surface, and mechanical marking machine, and such auxiliary hand painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an approved atomizing spray-type marking machine suitable for application of pavement markings. It shall produce an even and uniform film thickness at the required coverage and shall be designed to apply markings of uniform cross-sections and clear-out edges without running or spattering and within the limits for straightness set forth herein. .

Suitable adjustments shall be provided on the sprayer(s) of a single machine or by furnishing additional equipment for marking the width required.

3.3 Preparation of Existing Surface - Immediately before application of the paint or thermoplastic, the

existing surface shall be dry and entirely free from old pavement markings and markers, dirt, grease, oil, acids, laitance, or other foreign matter which could reduce the bond between the marking and the pavement. The surface shall be thoroughly cleaned by sweeping and blowing as required to remove all dirt, laitance and loose materials. Areas that cannot be satisfactorily cleaned by brooming and blowing shall be scrubbed as directed with a water solution of trisodium phosphate (10% Na₃PQ₄ by weight) or an approved equal solution. After scrubbing, the solution shall be rinsed off and the surface dried prior to marking.

- 3.4 Layouts and Alignments - Suitable layouts and lines of proposed stripes shall be spotted in advance of the marking application. Control points shall be spaced at such intervals as will insure accurate location of all markings.

The Contractor shall provide an experienced technician to supervise the location, alignment, layout, dimensions, and application of the markings.

At least 72 hours prior to applying the permanent pavement markings, the Contractor shall notify the Engineer and City Construction Inspector to obtain City approval for the location, alignment and layout of the pavement markings.

- 3.5 Application — Markings shall be applied at the locations and to the dimensions and spacing indicated on the plans or as specified. Markings shall not be applied until the layouts, indicated alignment, and the condition of the existing surface has been approved by the Engineer.

In the application of straight stripes, any deviation of the edges exceeding 1/8 inch in 50 feet shall be obliterated and the marking corrected. The width of the markings shall be as designated within a tolerance of 5%. All markings shall be performed to the satisfaction of the Engineer.

Paint shall be applied uniformly by suitable equipment at a rate of not less than 105 or more than 115 square feet per gallon.

The Contractor shall furnish a certified report on the quality of materials ordered for the work. This report shall not be interpreted as a basis for final acceptance. The Engineer shall be notified upon arrival of shipment for inspecting and sampling of the materials. When required, all emptied containers shall be returned to the paint material storage or made available for tallying by the Engineer. The containers shall not be removed from the job site or destroyed without permission. The Contractor shall make an accurate accounting of the paint materials used in the accepted work.

- 3.6 Protection — After application, all markings shall be protected while drying. The fresh markings shall be protected from damage of any kind. The Contractor shall be directly responsible for protecting the markings and shall erect or place suitable warning signs, flags or barricades, protective screens or coverings as required. All surfaces shall be protected from disfiguration by spatter, splashes, spillage, drippings of paint or other materials.

3.7 Defective Workmanship or Material — When any material not conforming to the requirements of the specifications or drawings has been delivered to the project or incorporated in the work, or any work performed is of inferior quality, such material or work shall be corrected as directed by the Engineer, at the expense of the Contractor.

4. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, pavement markings shall be measured by the square foot or linear foot of each type of marking. Eliminating existing pavement markings and markers will not be measured and paid for separately but shall be subsidiary to the pavement marking items.

Payment shall be full compensation for furnishing all materials and for eliminating existing pavement markings and markers, for all preparation, layout and application of the materials, and for all labor, equipment, tools and incidentals necessary to complete the work.

SECTION 030020
PORTLAND CEMENT CONCRETE

1. DESCRIPTION

This specification shall govern for the materials used; for the storing and handling of materials; and for the proportioning and mixing of concrete for culverts, manholes, inlets, curb and gutter, sidewalks, driveways, curb ramps, headwalls and wingwalls, riprap, and incidental concrete construction.

The concrete shall be composed of Portland cement, aggregates (fine and coarse), admixtures if desired or required, and water, proportioned and mixed as hereinafter provided.

2. MATERIALS

(1) Cement

The cement shall be either Type I, II or III Portland cement conforming to ASTM Designation: C150, modified as follows:

Unless otherwise specified by the Engineer, the specific surface area of Type I and II cements shall not exceed 2000 square centimeters per gram (Wagner Turbidimeter — TxDOT Test Method Tex-310-D). For concrete piling, the above limit on specific surface area is waived for Type II cement only. The Contractor shall furnish the Engineer, with each shipment, a statement as to the specific surface area of the cement expressed in square centimeters per gram.

For cement strength requirements, either the flexural or compressive test may be used.

Either Type I or II cement shall be used unless Type II is specified on the plans. Except when Type II is specified on the plans, Type III cement may be used when the anticipated air temperature for the succeeding 12 hours will not exceed 60°F. Type III cement may be used in all precast prestressed concrete, except in piling when Type II cement is required for substructure concrete.

Different types of cement may be used in the same structure, but all cement used in any one monolithic placement shall be of the same type and brand. Only one brand of each type will be permitted in any one structure unless otherwise authorized by the Engineer.

Cement may be delivered in bulk where adequate bin storage is provided. All other cement shall be delivered in bags marked plainly with the name of the manufacturer and the type of cement. Similar information shall be provided in the bills of lading accompanying each shipment of packaged or bulk cement. Bags shall contain 94 pounds net. All bags shall be in good condition at time of delivery.

All cement shall be properly protected against dampness. No caked cement will be accepted.

Cement remaining in storage for a prolonged period of time may be retested and rejected if it fails to conform to any of the requirements of these specifications.

(2) Mixing Water

Water for use in concrete and for curing shall be free from oils, acids, organic matter or other deleterious substances and shall not contain more than 1000 parts per million of chlorides as CL nor more than 1000 parts per million of sulfates as S04.

Water from municipal supplies approved by the State Health Department will not require testing, but water from other sources will be sampled and tested before use in structural concrete.

Tests shall be made in accordance with the "Method of Test for Quality of Water to be Used in Concrete" (AASHTO Method T26), except where such methods are in conflict with provisions of this specification.

(3) Coarse Aggregate

Coarse aggregate shall consist of durable panicles of gavel, crushed blast furnace slag, crushed stone, or combinations thereof; free from frozen material or injurious amount of salt, alkali, vegetable matter, or other objectionable material either free or as an adherent coating; and its quality shall be reasonably uniform throughout. It shall not contain more than 0.25 percent by weight of clay lumps, nor more than 1.0 percent by weight of shale, nor more than 5 percent by weight of laminated and/or friable particles when tested in accordance with TxDOT Test Method Tex-413-A. It shall have aware of not more than 40 percent when tested in accordance with TxDOT Test Method Tex-410-A.

Unless otherwise specified on the plans, coarse aggregate will be subjected to five cycles of the soundness test in accordance with TxDOT Test Method Tex-411-A. The loss shall not be greater than 12 percent when sodium sulfate is used, or 1 8 percent when magnesium sulfate is used.

Permissible sizes of aggregate shall be governed by Table 4 and Table 1, except that when exposed aggregate surfaces are required, coarse aggregate gradation will be as specified on the plans.

When tested by approved methods, the coarse aggregate, including combinations of aggregates when used, shall conform to the grading requirements shown in Table 1.

TABLE 1
Coarse Aggregate Gradation Chart

<u>Percent Retained on Each Sieve</u>										
<u>Aggregate</u> <u>Grade No.</u>	<u>Nominal</u> <u>Size</u>	1/2 in.	2 in.	1-1/2 in.	1 in.	3/4 in.	1/2 in.	3/8 in.	No. 4	No. 8
1	2 in.	0	0 to 20	15 to 50		60 to 80			95 to 100	
2 (467)*	1-1/2 in.		0	to 5		30 to 65		to 90	95 to 100	
	1 in.			0	to 5		40 to 75		90 to 100	95 to 100

*Numbers in parenthesis indicate conformance with ASTM C33.

The aggregate shall be washed. The Loss by Decantation (TxDOT Test Method Tex-406-A) plus the allowable weight of clay lumps, shall not exceed one percent, or the value shown on the plans, whichever is smaller.

(4) Fine Aggregate

Fine aggregate shall consist of clean, hard, durable and uncoated particles of natural or manufactured sand or a combination thereof, with or without a mineral filler.

It shall be free from frozen material or injurious amounts of salt, alkali, vegetable matter or other objectionable material and it shall not contain more than 0.5 percent by weight of clay lumps. When subjected to the color test for organic impurities (TxDOT Test Method Tex-408-A), it shall not show a color darker than standard.

The fine aggregate shall produce a mortar having a tensile strength equal to or greater than that of Ottawa sand mortar when tested in accordance with TxDOT Test Method Tex-317-D.

Where manufactured sand is used in lieu of natural sand for slab concrete subject to direct traffic, the acid insoluble residue of the fine aggregate shall be not less than 28 percent by weight when tested in accordance with TxDOT Test Method Tex-612-J.

When tested by approved methods, the fine aggregate or combination of aggregates, including mineral filler, shall conform to the grading requirements shown in Table 2.

TABLE 2
Fine Aggregate Gradation Chart

		<u>Percent Retained on Each Sieve</u>					
Aggregate Grade		No. 3/8 In.	No. 4	No. 16	No. 30	No. 50	No. 100
No. 200	1	0	0 to 5	0 to 20	15 to 50	35 to 75	70 to 90
100			0 to 5	0 to 20	15 to 50	35 to 75	70 to 90

NOTE 1: Where manufactured sand is used in lieu of natural sand, the percent retained on the No. 200 sieve shall be 94 to 100.

NOTE 2: Where the sand equivalent value is greater than 85, the retainage on the No. 50 sieve may be 70 to 94 percent.

Fine aggregate will be subjected to the Sand Equivalent Test (TxDOT Test Method Tex-203-F). The sand equivalent shall not be less than 80 nor less than the value shown on the plans, whichever is greater.

For concrete Classes 'A' and 'C', the fineness modulus as defined below for fine aggregates shall be between 2.30 and 3.10.

The fineness modulus will be determined by adding the percentages by weight retained on the following sieves, and dividing by 100; Nos. 4, 8, 16, 30, 50 and 100.

(5) Mineral Filler

Mineral filler shall consist of stone dust, clean crushed sand, or other approved inert material.

(6) Mortar (Grout)

Mortar for repair of concrete shall consist of 1 part cement, 2 parts finely graded sand, and enough water to make the mixture plastic. When required to prevent color difference, white cement shall be added to produce the color required. When required by the Engineer, latex adhesive shall be added to the mortar.

(7) Admixtures

Calcium Chloride will not be permitted. Unless otherwise noted, air-entraining, retarding and water reducing admixtures may be used in all concrete and shall conform to the following requirements:

A "water-reducing, retarding admixture" is defined as a material which, when added to a concrete mixture in the correct quantity, will reduce the quantity of mixing water required to produce concrete of a given consistency and will retard the initial set of the concrete.

A "water-reducing admixture" is defined as a material which, when added to a concrete mixture in the correct quantity, will reduce the quantity of mixing water required to produce concrete of a given consistency.

- (a) Retarding and Water-Reducing Admixtures. The admixture shall meet the requirements for Type A and Type D admixture as specified in ASTM Designation: C494, modified as follows:

- (1) The water-reducing retarder shall retard the initial set of the concrete a minimum of 2 hours and a maximum of 4 hours, at a specified dosage rate, at a temperature of 90°F.
- (2) The cement used in any series of tests shall be either the cement proposed for specific work or a "reference" Type I cement from one mill.

- (3) Unless otherwise noted on the plans, the minimum relative durability factor shall be 80.

The air-entraining admixture used in the referenced and test concrete shall be neutralized Vinsol resin.

- (b) Air-Entraining Admixture. The admixture shall meet the requirements of ASTM Designation: C260, modified as follows:

- (1) The cement used in any series of tests shall be either the cement proposed for specific work or a "reference". Type I cement from one mill.
- (2) Unless otherwise noted on the plans, the minimum relative durability factor shall be 80.

The air-entraining admixture used in the referenced concrete shall be neutralized Vinsol resin.

3. STORAGE OF CEMENT

All cement shall be stored in well-ventilated weatherproof buildings or approved bins, which will protect it from dampness or absorption of moisture. Storage facilities shall be ample, and each shipment of packaged cement shall be kept separated to provide easy access for identification and inspection.

The Engineer may permit small quantities of sacked cement to be stored in the open for a maximum of 48 hours on a raised platform and under waterproof covering.

4. STORAGE OF AGGREGATE

The method of handling and storing concrete aggregate shall prevent contamination with foreign materials. If the aggregates are stored on the ground, the sites for the stockpiles shall be clear of all vegetation and level. The bottom layer of aggregate shall not be disturbed or used without recleaning.

When conditions require the use of two or more sizes of aggregates, they shall be separated to prevent intermixing. Where space is limited, stockpiles shall be separated by physical barriers.

Methods of handling aggregates during stockpiling and subsequent use shall be such that segregation will be minimized.

Unless otherwise authorized by the Engineer, all aggregate shall be stockpiled at least 24 hours to reduce the free moisture content.

5. MEASUREMENT OF MATERIALS

The measurement of the materials, except water, used in batches of concrete, shall be by weight. The fine aggregate, coarse aggregate and mineral filler shall be weighed separately. Where bulk cement is used, it shall be weighed separately, but batch weighing of sacked cement will not be required. Where sacked cement is used, the quantities of material per batch shall be based upon using full bags of cement. Batches involving the use of fractional bags will not be permitted.

Allowance shall be made for the water content in the aggregates.

Bags of cement varying more than 3 percent from the specified weight of 94 pounds may be rejected, and when the average weight per bag in any shipment, as determined by weighing 50 bags taken at random, is less than the net weight specified, the entire shipment may be rejected. If the shipment is accepted, the Engineer will adjust the concrete mix to a net weight per bag fixed by an average of all individual weights which are less than the average weight determined from the total number weighed.

6. CLASSIFICATION AND MIX DESIGN

It shall be the responsibility of the Contractor to furnish the mix design, using a coarse aggregate factor acceptable to the Engineer, for the class(es) of concrete specified. The mix shall be designed by a qualified concrete technician to conform with the requirements contained herein and in accordance with the THD Bulletin C-11. The Contractor shall perform, at his own expense, the work required to substantiate the design, except the testing of strength specimens, which will be done by the Engineer. Complete concrete design data shall be submitted to the Engineer for approval.

It shall also be the responsibility of the Contractor to determine and measure the batch quantity of each ingredient, including all water, so that the mix conforms to these specifications and any other requirements shown on the plans.

Trial batches will be made and tested using all of the proposed ingredients prior to placing the concrete, and when the aggregate and/or brand of cement or admixture is changed. Trial batches shall be made in the mixer to be used on the job. When transit mix concrete is to be used, the trial designs will be made in a transit mixer representative of the mixers to be used.

Batch size shall not be less than 50 percent of the rated mixing capacity of the truck.

Mix designs from previous or concurrent jobs may be used without trial batches if it is shown that no substantial change in any of the proposed ingredients has been made.

The coarse aggregate factor shall not be more than 0.82, except that when the voids in the coarse aggregate exceed 48 percent of the total dry loose volume, the coarse aggregate factor shall not exceed 0.85. The coarse aggregate factor shall not be less than 0.70 for Grades 1, 2 and 3 aggregates.

If the strength required for the class of concrete being produced is not secured with the cement specified in Table 4, the Contractor may use an approved water-reducing or retarding admixture, or he shall furnish aggregates with different characteristics which will produce the required results. Additional cement may be required or permitted as a temporary measure until the redesign is checked.

Water-reducing or retarding agents may be used with all classes of concrete at the option of the Contractor.

When water-reducing or retarding agents are used at the option of the Contractor, reduced dosage of the admixture will be permitted.

Entrained air will be required in accordance with Table 4. The concrete shall be designed to entrain 5 percent air when Grade 2 coarse aggregate is used and 6 percent when Grade 3 coarse aggregate is used. Concrete as placed in the structure shall contain the proper amount as required above with a tolerance of plus or minus 1.5 percentage points. Occasional variations beyond this tolerance will not be cause for rejection. When the quantity of entrained air is found to be above 7 percent with Grade 2 coarse aggregate or above 8 percent for Grade 3 coarse aggregate, additional test beams or cylinders will be made. If these beams or cylinders pass the minimum flexural or compressive requirements, the concrete will not be rejected because of the variation in air content.

7. CONSISTENCY

In cases where the consistency requirements cannot be satisfied without exceeding the maximum allowable amount of water, the Contractor may use, or the Engineer may require,

an approved water reducing or retarding agent, or the Contractor shall furnish additional aggregates or aggregates with different characteristics, which will produce the required results. Additional cement may be required or permitted as a temporary measure until aggregates are changed and designs checked with the different aggregates or admixture.

The consistency of the concrete as placed should allow the completion of all finishing operations without the addition of water to the surface. When field conditions are such that additional moisture is needed for the final concrete surface finishing operation, the required water shall be applied to the surface by fog spray only and shall be held to a minimum. The concrete shall be workable, cohesive, possess satisfactory finishing qualities, and of the stiffest consistency that can be placed and vibrated into a homogenous mass. Excessive bleeding shall be avoided. Slump requirements will be as specified in Table 3.

TABLE 3
Slump Requirements

<u>Concrete Designation</u>	<u>Structural</u>	<u>Desired Slump</u>	<u>Max. Slump</u>
Concrete:			
(1) Thin-Walled Sections (9" or less)		4 inches	5 inches
(2) Slabs, Caps, Columns, Piers,			
Wall Sections over 9", etc.		3 inches	4 inches
Underwater or Seal Concrete		5 inches	6 inches
Riprap, Curb, Gutter and Other			
Miscellaneous Concrete		2.5 inches	4 inches

NOTE: No concrete will be permitted with slump in excess of the maximums shown.

8. QUALITY OF CONCRETE

General

The concrete shall be uniform and workable. The cement content, maximum allowable water cement ratio, the desired and maximum slump and the strength requirements of the various classes of concrete shall conform to the requirements of Table 3 and Table 4 and as required herein.

During the process of the work, the Engineer or his designated representative will cast test cylinders or beams as a check on the compressive or flexural strength of the concrete actually placed. Test cylinders must be picked up by the testing lab within 24 hours.

A test shall be defined as the average of the breaking strength of two cylinders or two beams, as the case may be. Specimens will be tested in accordance with TxDOT Test Methods Tex-418-A or Tex-420-A.

Test beams or cylinders will be required as specified in the contract documents.

For small placements on structures such as manholes, inlets, culverts, wingwalls, etc., the Engineer may

vary the number of tests to a minimum of one for each 25 cubic yards placed over a several day period.

All test specimens, beams or cylinders, representing tests for removal of forms and/or falsework shall be cured using the same methods, and under the same conditions as the concrete represented.

'Design Strength" beams and cylinders shall be cured in accordance with THD Bulletin C-1 I.

The Contractor shall provide and maintain curing facilities as described in THD Bulletin C-1 I for the purpose of curing test specimens. Provision shall be made to maintain the water in the curing tank at temperatures between 70°F and 90°F.

When control of concrete quality is by twenty-eight-day compressive tests, job control will be by seven-day compressive tests which are shown to provide the required twenty-eight-day strength, based on results from trial batches. If the required seven-day strength is not secured with the cement specified in Table 4, changes in the batch design will be made.

TABLE 4

Class of Concrete	Sacks cement per C.v. (min)	Minimum Compressive Strength (fc) 28-Day (psi)	Min. Beam Strength 7-Day (psi)	Maximum Water Cement Ratio (gal/sack)	Coarse Aggregate No.
	5.0	3000	500*	6.5	2-4-8****
	4.5	2500	417	8.0	2-4-8****
	6.0	3600	600	6.0	
	6.0	3000	500	7.0	2-4
S	6.5	4000	570	5.0	2-4

Classes of Concrete

*Entrained Air (slabs, piers and bent concrete).

* *Grade I Coarse Aggregate may be used in foundation only (except cased drilled shafts).

*** When Type II Cement is used with Class C Concrete, the 7-day beam break requirement will be 550 psi; with Class A Concrete, the minimum 7-day beam break requirement will be 460 psi. *** *Permission to use Grade 8 Aggregate must have prior approval of the Engineer.

9. MIXING CONDITIONS

The concrete shall be mixed in quantities required for immediate use. Any concrete which is not in place within the limits outlined in City Standard Specification Section 038000 "Concrete Structures", Article "Placing Concrete-General", shall not be used. Retamping of concrete will not be permitted.

In threatening weather, which may result in conditions that will adversely affect the quality of the concrete to be placed, the Engineer may order postponement of the work. Where work has been started and changes in weather conditions require protective measures, the Contractor shall furnish adequate shelter to protect the concrete against damage from rainfall, or from freezing temperatures. If necessary, to continue operations during rainfall, the Contractor shall also provide protective coverings for the material stockpiles. Aggregate stockpiles need be covered only to the extent necessary to control the moisture conditions in the aggregates to adequately control the consistency of the concrete.

10. MIXING AND MIXING EQUIPMENT

All equipment, tools, and machinery used for hauling materials and performing any part of the work shall be maintained in such condition to insure completion of the work underway without excessive delays for repairs or replacements.

The mixing shall be done in a batch mixer of approved type and size that will produce uniform

distribution of the material throughout the mass. Mixers may be either the revolving drum type or the revolving blade type, and shall be capable of producing concrete meeting the requirements of these specifications.

After all the ingredients are assembled in the drum, the mixing shall continue not less than 1 minute for mixers of one cubic yard or less capacity plus 15 seconds for each additional cubic yard or portion thereof.

The mixer shall operate at the speed and capacity designated by the Mixer Manufacturers Bureau of the Associated General Contractors of America.

The mixer shall have a plate affixed showing the manufacturer's recommended operating data.

The absolute volume of the concrete batch shall not exceed the rated capacity of the mixer.

The entire contents of the drum shall be discharged before any materials are placed therein for the succeeding batch.

The first batch of concrete materials placed in the mixer for each placement shall contain an extra quantity of sand, cement and water sufficient to coat the inside surface of the drum.

Upon the cessation of mixing for any considerable length of time, the mixer shall be thoroughly cleaned.

The concrete mixer shall be equipped with an automatic timing device which is put into operation when the skip is raised to its full height and dumping. This device shall lock the discharging mechanism and prevent emptying of the mixer until all the materials have been mixed together for the minimum time required, and it shall ring a bell after the specified time of mixing has elapsed.

The water tank shall be arranged so that the amount of water can be measured accurately, and when the tank starts to discharge, the inlet supply shall cut off automatically.

Whenever a concrete mixer is not adequate or suitable for the work, it shall be removed from the site upon a written order from the Engineer and a suitable mixer provided by the Contractor.

Pick-up and throw-over blades in the drum of the mixer which are worn down more than 10 percent in depth shall be repaired or replaced with new blades.

Improperly mixed concrete shall not be placed in the structure.

Job mix concrete shall be concrete mixed in an approved batch mixer in accordance with the requirements stated above, adjacent to the structure for which the concrete is being mixed, and moved to the placement site in non-agitating equipment.

11. READY-MIX PLANTS

A. General. It shall be the Contractor's responsibility to furnish concrete meeting all requirement of the governing specification sections, and concrete not meeting the slump, workability and consistency requirements of the governing specification sections shall not be placed in the structure or pavement.

Ready-Mixed Concrete shall be mixed and delivered by means of one of the following approved methods.

- (1) Mixed completely in a stationary mixer and transported to the point of delivery in a truck agitator or a truck mixer operating at tuck agitator or tuck mixer agitation speed. (Central-Mix Concrete)
- (2) Mixed complete in a tuck mixer and transported to the placement site at mixing and/or agitating speed (Transit-Mix Concrete), subject to the following provisions:
 - (a) Truck mixers will be permitted to transport concrete to the job site at mixing speed if equipped with double actuated counters which will separate revolutions at mixing speed from total revolutions.
 - (b) Truck mixers equipped with a single actuated counter counting total revolutions of the drum shall mix the concrete at the plant not less than 50 nor more than 70 revolutions at mixing speed, transport it to the job site at agitating speed and complete the required mixing before placing the concrete.
- (3) Mixed completely in a stationery mixer and transported to the job site in approved non-agitating. trucks with special bodies. This method of transporting will be permitted for concrete pavement only.

B. Equipment.

- (1) Batching Plant. The batching plant shall be provided with adequate bins for batching all aggregates and materials required by the specifications.

Bulk cement shall be weighed on a scale separate from those used for other materials and in a hopper entirely free and independent of that used for weighing the aggregates.

- (2) Mixers and Agitators.

- (a) General: Mixers shall be of an approved stationary or truck-type capable of combining the ingredients into a thoroughly mixed and uniform mass.

Facilities shall be provided to permit ready access to the inside of the drum for inspection, cleaning and repair of blades.

Mixers and agitators shall be subject to daily examination for changes in condition due to accumulation of hardened concrete and/or wear of blades, and any hardened concrete shall be removed before the mixer will be permitted to be used. Worn blades shall be repaired or replaced with new in accordance with the manufacturer's design and arrangement for that particular unit when any part or section is worn as much as 10 percent below the original height of the manufacturer's design.

- (b) Stationary Mixers: These shall conform to the requirements of Article "Mixing and Mixing Equipment". Truck mixers mounted on a stationary base will not be considered as a stationary mixer.
- (c) Truck Mixers: In addition, truck mixers shall comply with the following requirements:

An engine in satisfactory working condition and capable of accurately gauging the desired speed of rotation shall be mounted as an integral part of the mixing unit for the purpose of rotating the drum. Truck mixers equipped with a transmission that will govern the speed of the drum within the specified revolutions per minute (rpm) will not require a separate engine.

All truck mixers shall be equipped with actuated counters by which the proper number of revolutions of the drum, as specified in Article 11. A. above, may be readily verified. The counters shall be read and recorded at the start of mixing at mixing speeds.

Each unit shall have adequate water supply and accurate metering or gauging devices for measuring the amount used.

- (d) Agitators: Concrete agitators shall be of the truck type, capable of maintaining a thoroughly mixed and uniform concrete mass and discharging it within the same degree of uniformity specified for mixers. Agitators shall comply with all of the requirements for truck mixers, except for the actual mixing requirements.

C. Operation of Plant and Equipment.

Delivery of ready-mixed concrete shall equal or exceed the rate approved by the Engineer for continuous placement.

In all cases, the delivery of concrete to the placement site shall assure compliance with the time limits in the applicable specification for depositing successive batches in any monolithic unit. The Contractor shall satisfy the Engineer that adequate standby trucks are available.

A standard ticket system will be used for recording concrete batching, mixing and delivery date.

Tickets will be delivered to the job inspector.

Loads arriving without ticket and/or in unsatisfactory condition shall not be used.

When a stationary mixer is used for the entire mixing operation, the mixing time for one cubic yard of concrete shall be one minute plus 15 seconds for each additional cubic yard or portion thereof. This mixing time shall start when all cement, aggregates and initial water have entered the drum.

The mixer shall be charged so that some of the mixing water will enter the drum in advance of the cement and aggregate. All of the mixing water shall be in the drum by the end of the first one fourth of the specified mixing time. Water used to flush down the blades after charging shall be accurately measured and included in the quantity of mixing water. The introduction of the initial mixing water, except blade wash down water and that permitted in this Article, shall be prior to or simultaneous with the charging of the aggregates and cement.

The loading of truck mixers shall not exceed 63 percent of the total volume of the drum. When used as an agitator only, the loading shall not exceed 80 percent of the drum volume.

When Ready-Mix Concrete is used, additional mortar (one sack cement, three parts sand and sufficient water) shall be added to the batch to coat the drum of the mixer or agitator truck, and this shall be required for every load of Class C concrete only and for the first batch from central mix plants..

A portion of the mixing water, required by the batch design to produce the desired slump, may be withheld and added at the job site, but only with permission of the Engineer and under his supervision. When water is added under the above conditions, it shall be thoroughly mixed as specified below for water added at the job site.

Mixing speed shall be attained as soon as all ingredients are in the mixer, and each complete batch (containing all the required ingredients) shall be mixed not less than 70 nor more than 100 revolutions of the drum at mixing speed except that when water is added at the job site, 25 revolutions (minimum) at mixing speed will be required to uniformly disperse the additional water throughout the mix. Mixing speed shall be as designated by the manufacturer.

All revolutions after the prescribed mixing time shall be at agitating speed. The agitating speed shall be not less than one (1) nor more than five (5) rpm. The drum shall be kept in continuous motion from the time mixing is started until the discharge is completed.

12. PLACING, CURING AND FINISHING

The placing of concrete, including construction of forms and falsework, curing and finishing, shall be in accordance with City Standard Specification Section 038000 "Concrete Structures".

13. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, the quantities of concrete of the various classifications which will constitute the completed and accepted structure(s) in-place will be measured by the cubic yard, per each, square foot, square yard or linear foot, as the case may be. Measurement will be as shown on the drawings and/or in the Bid Form.

Payment shall be full compensation for furnishing, hauling, mixing, placing, curing and finishing all concrete; all grouting and pointing; furnishing and placing drains; furnishing and placing metal flashing strips; furnishing and placing expansion joint material required by this specification or shown on the plans; and for all forms and falsework, labor, tools, equipment and incidentals necessary to complete the work.

SECTION 032020
REINFORCING STEEL

1. DESCRIPTION

This specification shall govern the furnishing and placing of reinforcing steel, deformed and smooth, of the size and quantity designated on the plans and in accordance with these specifications.

2. MATERIALS

Unless otherwise designated on the plans, all bar reinforcement shall be deformed, and shall conform to ASTM Designation: A 615, Grades 60 or 75, and shall be open hearth, basic oxygen, or electric furnace new billet steel.

Large diameter new billet steel (Nos. 14 and 18), Grade 75, will be permitted for straight bars only.

Where bending of bar sizes No. 14 or No. 18 of Grade 60 is required, bend testing shall be performed on representative specimens as described for smaller bars in the applicable ASTM Specification. The required bend shall be 90 degrees around a pin having a diameter of 10 times the nominal diameter of the bar.

Spiral reinforcement shall be smooth (not deformed) bars or wire of the minimum diameter shown on the plans, and shall be made by one or more of the following processes: open hearth, basic oxygen, or electric furnace. Bars shall be rolled from billets reduced from ingots and shall comply with ASTM Designation: A 306, Grade 65 minimum (references to ASTM Designation: A 29 is voided). Dimensional tolerances shall be in accordance with ASTM Designation: A 615, or ASTM Designation: A 615, Grade 60, except for deformations. Wire shall be cold-drawn from rods that have been hot-rolled from billets and shall comply with ASTM Designation: A 185.

In cases where the provisions of this specification are in conflict with the provisions of the ASTM Designation to which reference is made, the provisions of this specification shall govern.

Report of chemical analysis showing the percentages of carbon, manganese, phosphorus and sulphur will be required for all reinforcing steel when it is to be welded.

The nominal size and area and the theoretical weight of reinforcing steel bars covered by this specification are as follows:

Nominal Weight per Bar Size Dia r, Noninal
Area, Linear Foot,

N urn ber			Sq. In.	Pounds
	20.250		0.050	o. 167
	30.375		0.110	0.376
4	0.500	0.200	0.668	
5	o. 625	0.310	1.043	
6	0.750	O _ 440	1.502	
7	0.875	o. 600	2.044	
8	1.000	o. 790	2.670	
9	1.128	1.000	3.400	10 1.270 1.270
	4.303	11 1.410	1.560	5.313
14	1.693		2.250	7.600

Smooth round bars shall be designated by size number through No. 4. Smooth bars larger than No. 4 shall be designated by diameter in inches.

When wire is ordered by gauge numbers, the following relation between gauge number and diameter, in inches, shall apply unless otherwise specified:

<u>Gauge Number</u>	<u>Equivalent Diameter, Inches</u>	<u>Gauge Number</u>	<u>Equivalent Diameter Inches</u>
0	0.3065	8	0.1620
1	0.2830	9	0.1483
2	0.2625	10	0.1350
3	0.2437	11	0.1205
4	0.2253	12	0.1055
5	0.2070	13	0.0915
6	0.1920	14	0.0800
7	0.1770		

3. BENDING

The reinforcement bent cold, true to the shapes indicated on the plans. Bending shall preferably be done in the shop. Irregularities in bending shall be cause for rejection.

Unless otherwise shown on the plans, the inside diameter of bar bends, in terms of the nominal bar diameter (d), shall be as follows:

Bends of 90 degrees and greater in stirrups, ties and other secondary bars that enclose another bar in the bend:

	<u>Grade 60</u>
#3, #4, #5	4d
#6, #7, #8	

All bends in main bars and in secondary bars not covered above:

Grade 60

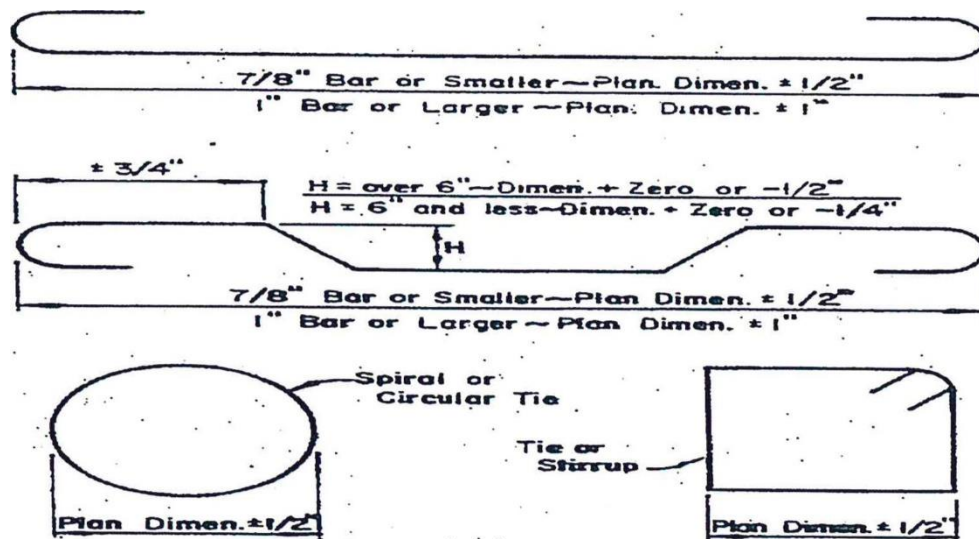
Grade
75

#9, #10
#11
#14, #18
#3 thru #8

4. TOLERANCES

Fabricating tolerances for bars shall be within 3 percent of specified or as follows:

n Dirnen-



5. STORING

Steel reinforcement stored above the surface of the ground upon platforms, skids or other supports, and shall be protected as far as practicable from mechanical injury and surface deterioration caused by exposure to conditions producing rust. When placed in the work, reinforcement shall be free from dirt, paint,

grease, oil, or other foreign materials. Reinforcement shall be free from injurious defects such as cracks and laminations. Rust, surface seams, surface irregularities or mill scale will not be cause for rejection, provided the minimum dimensions, cross sectional area and tensile properties of a hand wire crushed specimen meets the physical requirements for size and grade of steel specified.

6. SPLICES

No splicing of bars, except when provided on the plans or specified herein, will be permitted without written approval of the Engineer.

Spllices will not be permitted in main reinforcement at points of maximum stress. When permitted in main bars, spllices in adjacent bars shall be staggered a minimum of two splice lengths.

<u>TABLE 1</u>		
<u>Minimum Lap Requirements</u>	<u>Lap</u>	<u>Uncoated Coated</u>
Lap in inches	40d	60d

Where: d = bar diameter in inches

Welding of reinforcing bars may be used only where shown on the plans or as permitted herein. All welding operations, processes, equipment, materials, workmanship and inspection shall conform to the requirements of the drawings and industry standards. All spllices shall be of such dimension and character as to develop the full strength of bar being spliced.

End preparation for butt welding reinforcing bars shall be done in the field. Delivered bars shall be of sufficient length to permit this practice.

For box culvert extensions with less than one foot of fill, the existing longitudinal bars shall have a 20diameter lap with the new bars. For box culvert extensions with more than one foot of fill, a minimum of 6 inches lap will be required.

Unless otherwise shown on the plans, dowel bars transferring tensile stresses shall have a minimum embedment equal to the minimum lap requirements shown in Table 1. Shear transfer dowels shall have a minimum embedment of 12 inches.

7. PLACING

Reinforcement placed as near as possible in the position shown on the plans. Unless otherwise shown on the plans, dimensions shown for reinforcement are to the centers of the bars. In the plane of the steel parallel to the nearest surface of concrete, bars shall not vary from plan placement by more than one-twelfth of the spacing between bars. In the plane of the steel perpendicular to the nearest surface of concrete, bars shall not vary from plan placement by more than one-quarter inch. Cover of concrete to the nearest surface of steel shall meet the above requirements but shall never be less than one inch or as otherwise shown on the plans.

Vertical stirrups shall always pass around the main tension members and be attached securely thereto. The reinforcing steel shall be spaced its required distance from the form surface by means of approved galvanized metal spacers, metal spacers with plastic coated tips, stainless steel spacers, plastic spacers, or approved precast mortar or concrete blocks. For approval of plastic spacers on the project, representative samples of the plastic shall show no visible indications of deterioration after immersion in a 5 percent solution of sodium hydroxide for 120 hours.

All reinforcing steel shall be tied at all intersections, except that where spacing is less than one foot in each direction, alternate intersections only need be tied.

Before any concrete is placed, all mortar shall be cleaned from the reinforcement. Precast mortar or concrete blocks to be used for holding steel in position adjacent to formed surfaces shall be cast in molds meeting the approval of the Engineer and shall be cured by covering with wet burlap or cotton mats for a period of 72 hours.

The blocks shall be cast in the form of a frustum of a cone or pyramid with the smaller face placed against the forms.

A suitable tie wire shall be provided in each block, to be used for anchoring to the steel. Except in unusual cases, and when specifically, otherwise authorized by the Engineer, the size of the surface to be placed adjacent to the forms shall not exceed two and one-half inches square or the equivalent thereof in cases where circular or rectangular areas are provided. Blocks shall be cast accurately to the thickness required, and the surface to be placed adjacent to the forms shall be a true plane free of surface imperfections.

Reinforcement shall be supported and tied in such manner that a sufficiently rigid cage of steel is provided. If the cage is not adequately supported to resist settlement or floating upward of the steel, overturning of truss bars or movement in any direction during concrete placement, permission to continue concrete placement will be withheld until corrective measures are taken. Sufficient measurements shall be made during concrete placement to insure compliance with the first paragraph of Article 7 of this specification.

Mats of wire fabric shall overlap each other sufficiently to maintain a uniform strength and shall be fastened securely at the ends and edges.

No concrete shall be deposited until the Engineer has inspected the placement of the reinforcing steel and given permission to proceed.

8. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, reinforcing steel is considered subsidiary to the various items shown in the Bid Form and shall not be measured and paid for as a separate item.

SECTION 038000
CONCRETE STRUCTURES

1. DESCRIPTION

This specification shall govern for construction of all types of structures involving the use of structural concrete, except where the requirements are waived or revised by other governing specifications.

All concrete structures shall be constructed in accordance with the design requirements and details shown on the plans; in conformity with the pertinent provisions of the items contracted for; the incidental specifications referred to; and in conformity with the requirements herein.

2. MATERIALS

- (1) Concrete. All concrete shall conform to the provisions of City Standard Specification Section 030020 "Portland Cement Concrete".

The class of concrete for each type of structure or unit shall be as specified on the plans or by pertinent governing specifications.

- (2) Expansion Joint Material.

- (a) Preformed Fiber Material. Preformed fiber expansion joint material shall be of the dimensions shown on the plans. The material shall be one of the following types, unless otherwise noted on the plans:

1. Preformed Bituminous Fiber Materials shall meet the requirements of ASTM Designation: DI 751 "Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)".
2. Preformed Non-Bituminous Fiber Material shall meet the requirements of ASTM Designation: DI 751 "Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types) ", except that the requirements pertaining to bitumen content, density and water absorption shall be voided.
3. Redwood.

(b) Joint Sealing Materials. Unless otherwise shown on the drawings, joint sealing material shall conform to the following requirements. The material shall adhere to the sides of the concrete joint or crack and shall form an effective seal against infiltration of water and incompressibles. The material shall not crack or break when exposed to low temperatures.

1. Class I-a. (Two-Component, Synthetic Polymer, Cold-Extruded Type). Curing is to be by polymerization and not by evaporation of solvent or fluxing of harder particles. This type is specifically designed for vertical or sloping joints and hence not self-leveling. It shall cure sufficiently at an average temperature of 77 degrees F \pm 3 degrees F in a maximum of 24 hours. For performance requirements see under 2.(2)(b)2. below.

2. Class I-b. (Two-Component, Synthetic Polymer, Cold-Pourable, Self-Leveling Type). Curing is to be by polymerization and not by evaporation of solvent or fluxing of harder particles. It shall cure sufficiently at an average temperature of 77 degrees F \pm 3 degrees F in a maximum of 3 hours.

Performance Requirements: Class I-a and Class I-b joint materials, when tested in accordance with TxDOT Test Method Tex-525-C, shall meet the above curing times and the following requirements:

It shall be of such consistency that it can be mixed and poured, or mixed and extruded into joints at temperatures above 60 degrees F.

Penetration, 77 °F .

150 gm. cone, 5 sec., max, cm 0.90 Dry Concrete
BlocksPass

Wet Concrete
Bond and Extension 75%, 0 °F, 5 cycles: BlocksPass

Steel Blocks...(Primed if specified by manuf.).Pass

Flow at 200°F None Water Content % by weight,
max5.0 Resilience:

Original sample min. % (cured)50 Oven aged at
158°F min. % 50 For Class 2-a Material Only:

Cold Flow (10 min.)None

(c) Asphalt Board. Asphalt Board shall consist of two liners of 0.016-inch asphalt . impregnated paper, filled with a mastic mixture of asphalt and vegetable fiber and/or mineral filler. Boards shall be smooth, flat and sufficiently rigid to permit installation.

When tested in accordance with TxDOT Test Method Tex-524-C, the asphalt board shall not deflect from the horizontal more than one inch in three and one-half inches (1 " in 3 h').

(d) Rebonded Neoprene Filler. Rebonded neoprene filler shall consist of ground closed-cell neoprene particles, rebonded and molded into sheets of uniform thickness, of the dimensions shown on plans.

Filler material shall have the following physical properties and shall meet the requirements of ASTM Designation: D 1752 "Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction", Type 1, where applicable:

<u>PROPERTY</u>	<u>METHOD</u>	<u>REQUIREMENT</u>
Color	ASTM DI 752,Type 1	Black
Density	ASTM DI 752, Type 1	40 lb./ft ³ Min.
Recovery	ASTM DI 752,Type 1	900/0Min.
Compression	ASTM DI 752,Type 1	50 to 500 psi
Extrusion	ASTM DI 752, Type 1	0.25 inch Max.
Tensile Strength Elongation	ASTM D1752, Type 1	20 psi Min. 75%Min.

The manufacturers shall furnish the Engineer with certified test results as to compliance with the above requirements and a 12 inch x 12 inch x 1 inch sample from the shipment for approval.

(3) Curing Materials.

(a) Membrane curing materials shall comply with ASTM Designation: C 309 "Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete", Type 1 clear or translucent, or Type 2 white-pigmented. The material shall have a minimum flashpoint of 80 degrees F when tested by the "Pensky-Martin Closed Cup Method".

It shall be of such consistency that it can be satisfactorily applied as a fine mist through an atomizing nozzle by means of approved pressure spraying equipment at atmospheric temperatures above 40 degrees F.

It shall be of such nature that it will not produce permanent discoloration of concrete surfaces nor react deleteriously with the concrete or its components. Type 1 compound shall contain a fugitive dye that will be distinctly visible not less than 4 hours nor more than 7 days after application. The compound shall produce a firm, continuous, uniform moisture impermeable film free from pinholes and shall adhere satisfactorily to the surfaces of damp concrete. It shall, when applied to the damp concrete surface at the rate of coverage specified herein, be dry to the touch in not more than 4 hours, and shall adhere in a tenacious film without running off or appreciable sagging. It shall not disintegrate, check, peel or crack during the required curing period.

The compound shall not peel or pick up under traffic and shall disappear from the surface of the concrete by gradual disintegration.

The compound shall be delivered to the job only in the manufacturer's original containers, which shall be clearly labeled with the manufacturer's name, the trade name of the material, and a batch number or symbol with which test samples may be correlated.

The water retention test shall be in accordance with TxDOT Test Method Tex-219-F. Percentage loss shall be defined as the water lost after the application of the curing material was applied. The permissible percentage moisture loss (at the rate of coverage specified herein) shall not exceed the following:

24 hours after application.....2 percent

72 hours after application.....4 percent

Type 1 (Resin Base Only) curing compound will be permitted for slab concrete in bridge decks and top slabs of direct traffic culverts.

(b) Mat curing of concrete is allowed where permitted by Table 1 in this specification or where otherwise approved by the Engineer.

3. EXPANSION JOINTS

Joints and devices to provide for expansion and contraction shall be constructed where and as indicated herein or on the plans.

All open joints and joints to be filled with expansion joint material, shall be constructed using forms adaptable to loosening or early removal. To avoid expansion or contraction damage to the adjacent concrete, these forms shall be loosened as soon as possible after final concrete set to permit free movement without requiring full form removal.

Prior to placing the sealing material, the vertical facing the joint shall be cleaned of all laitance by sandblasting or by mechanical routing. Cracked or spalled edges shall be repaired. The joint shall be blown clean of all foreign material and sealed. Where preformed fiber joint material is used, it shall be anchored to the concrete on one side of the joint by light wire or nails, to prevent the material from falling out. The top one inch (1 ") of the joint shall be filled with joint sealing material.

Finished joints shall conform to the indicated outline with the concrete sections completely separated by the specified opening or joint material.

Soon after form removal and again where necessary after surface finishing, all projecting concrete shall be removed along exposed edges to secure full effectiveness of the expansion joints.

4. CONSTRUCTION JOINTS

The joint formed by placing plastic concrete in direct contact with concrete that has attained its initial set shall be deemed a construction joint. The term "monolithic placement" shall be interpreted to mean at the manner and sequence of concrete placing shall not create construction joints.

Construction joints shall be of the type and at the locations shown on the plans. Additional joints will not be permitted without written authorization from the Engineer, and when authorized, shall have details equivalent to those shown on the plans for joints in similar locations..

Unless otherwise provided, construction joints shall be square and normal to the forms. Bulkheads shall be provided in the forms for all joints, except when horizontal.

Construction joints requiring the use of joint sealing material shall be as detailed on the plans. The material will be specified on the plans without referenced to joint type.

A concrete placement terminating at a horizontal construction joint shall have the top surface roughened thoroughly as soon as practicable after initial set is attained. The surfaces at bulkheads shall be roughened as soon as the forms are removed.

The hardened concrete surface shall be thoroughly cleaned of all loose material, laitance, dirt or foreign material, and saturated with water so it is moist when placing fresh concrete against it. Forms shall be drawn tight against the placing of the fresh concrete.

5. FORMS

(1) General. Except where otherwise specified, forms may be of either timber or metal.

Forms for round columns exposed to view shall be of steel, except that other materials will be allowed with written permission of the Engineer.

Forming plans shall be submitted to the Engineer for approval as specified. Forms shall be designed for the pressure exerted by a liquid weighing 150 pounds per cubic foot. The rate of placing the concrete shall be taken into consideration in determining the depth of the equivalent liquid. For job fabricated forms, an additional live load of 50 pounds per square foot shall be allowed on horizontal surfaces. The maximum unit stresses shall not exceed 125 percent of the allowable stresses used by the Texas Department of Transportation for the design of structures.

Commercially produced structural units used in formwork shall not exceed the manufacturer's maximum allowable working load for moment, shear or end reaction. The maximum working load shall include a live load of 35 pounds per square foot of horizontal form surface, and sufficient details and data shall be submitted for use in checking formwork details for approval.

Forms shall be practically mortar-tight, rigidly braced and strong enough to prevent bulging between supports, and maintained to the proper line and grade during concrete placement. Forms shall be maintained in a manner that will prevent warping and shrinkage.

Offset at form joints shall not exceed one-sixteenth of an inch (1/16").

Deflections due to cast-in-place slab concrete and railing shown in the dead load deflection diagram shall be taken into account in the setting of slab forms.

All forms and footing areas shall be cleaned of any extraneous matter before placing concrete.

Permission to place concrete will not be given until all such work is completed to the satisfaction of the Engineer.

If, at any stage of the work, the forms show signs of bulging or sagging, the portion of the concrete causing such condition shall be removed immediately, if necessary, and the forms shall be reset and securely braced against further movement.

(2) Timber Forms. Lumber forms properly seasoned, of good quality, and free from imperfections which would affect its strength or impair the finished surface of the concrete. The lumber used for facing or sheathing shall be finished on at least one side and two edges and shall be sized to uniform thickness.

Form lining will be required for all formed surfaces, except for the inside of culvert barrels, inlets and manholes; surfaces that are subsequently covered by backfill material or are completely enclosed; and, any surface formed by a single finished board. Lining will not be required when plywood forms are used.

Form lining shall be of an approved type such as Masonite or plywood. Thin membrane sheeting, such as polyethylene sheets, shall not be used for form lining.

Forms may be constructed of plywood not less than one-half inch in thickness, with no form lining required. The grain of the face plies on plywood forms shall be placed parallel to the span between the supporting studs or joists.

Plywood used for forming surfaces that remain exposed shall be equal to that specified as B-B Plyform Class I or Class II Exterior, of the U. S. Department of Commerce, National Bureau of Standards and Technology, latest edition.

Forms or form lumber to be reused shall be maintained clean and in good condition. Any lumber which is split, warped, bulged, marred, or has defects that will produce inferior work, shall not be used and, if condemned, shall be promptly removed from the work.

Studs and joists shall be spaced so that the facing form material remains in true alignment under the imposed loads.

Wales shall be spaced close enough to hold forms securely to the designated lines and scabbed at least 4 feet on each side of joints to provide continuity. A row of wales shall be placed near the bottom of each placement.

Facing material shall be placed with parallel and square joints and securely fastened to supporting studs.

Forms for surfaces receiving only an ordinary finish and exposed to view shall be placed with the form panels symmetrical, i.e., long dimensions set in the same direction. Horizontal joints shall be continuous.

Molding specified for chamfer strips or other uses shall be made of materials of a grade that will not split when nailed and which can be maintained to a true line without warping. Wood molding

shall be mill cut and dressed on all faces. Unless otherwise provided, forms shall be filleted at all sharp corners and edges with triangular chamfer strips measuring three-quarter inch (3/4") on the sides.

Forms for railing and ornamental work shall be constructed to standards equivalent to first-class millwork. All moldings, panel work and bevel strips shall be straight and true with nearly mitered joints designed so the finished work is true, sharp and clean cut.

All forms shall be constructed to permit their removal without marring or damaging the concrete. The forms may be given a slight draft to permit ease of removal.

Metal form ties of an approved type or a satisfactory substitute shall be used to hold forms in place and shall be of a type that permits ease of removal of the metal as hereinafter specified.

All metal appliances used inside of forms for alignment purposes shall be removed to a depth of at least one-half inch (1/2") from the concrete surface. They shall be made so the metal may be removed without undue chipping or spalling, and when removed, shall leave a smooth opening in the concrete surface. Burning off of rods, bolts or ties will not be permitted.

Any wire ties used shall be cut back at least one-half inch (1/2") from the face of the concrete. .

Devices holding metal ties in place shall be capable of developing the strength of the tie and adjustable to allow for proper alignment.

Metal and wooden spreaders which are separate from the forms shall be removed entirely as the concrete is being placed.

Adequate clean-out openings shall be provided for narrow walls and other locations where access to the bottom of the forms is not readily attainable.

Prior to placing concrete, the facing of all forms shall be treated with oil or other bond breaking coating of such composition that it will not discolor or otherwise injuriously affect the concrete surface. Care shall be exercised to prevent coating of the reinforcing steel.

(3) Metal Forms. The foregoing requirements for timber forms regarding design, mortar-tightness, filleted corners, beveled projections, bracing, alignment, removal, reuse and wetting shall also apply to metal forms, except that these will not require lining, unless specifically noted on the plans.

The thickness of metal as required to maintain the true shape without warping or bulging. All bolt and rivet heads on the facing sides shall be countersunk. Clamps, pins or other connecting devices shall be designed to hold the forms rigidly together and to allow removal without injury to the

concrete. Metal forms which do not present a smooth surface or line up properly shall not be used. Metal shall be kept free from rust, grease or other foreign materials.

6. PLACING REINFORCEMENT

Reinforcement in concrete structures shall be placed carefully and accurately and rigidly supported as provided in the City Standard Specification Section 032020 "Reinforcing Steel". Reinforcing steel supports shall not be welded to I-beams or girders.

7. PLACING CONCRETE-GENERAL

The minimum temperature of all concrete at the time of placement shall be not less than 50 degrees

The consistency of the concrete as placed should allow the completion of all finishing operations without the addition of water to the surface. When conditions are such that additional moisture is needed for finishing, the required water shall be applied to the surface by fog spray only, and shall be held to a minimum amount. Fog spray for this purpose maybe applied with hand operated fogging equipment.

The maximum time interval between the addition of cement to the batch and the placing of concrete in the forms shall not exceed the following:

<u>Air or Concrete Temperature Non-Agitated</u>	<u>Maximum Time</u>
<u>Concrete:</u>	
Above 80 degrees F	15 minutes
Up to 80 degrees F	30 minutes
<u>Agitated Concrete:</u>	
Above 90 degrees F	45 minutes
75 degrees F to 90 degrees F	60 minutes
35 degrees F to 74 degrees F	90 minutes

The use of an approved retarding agent in the concrete will permit the extension of each of the above temperature-time maximums by 30 minutes for direct traffic culverts, and one hour for all other concrete except that the maximum time shall not exceed 30 minutes for non-agitated concrete.

Before starting work, the Contractor shall inform the Engineer fully of the construction methods he proposes to use, the adequacy of which shall be subject to the approval of the Engineer.

The Contractor shall give the Engineer sufficient advance notice before placing concrete in any unit of the structure to permit the inspection of forms, reinforcing steel placement, and other preparations. Concrete shall not be placed in any unit prior to the completion of formwork and placement of reinforcement therein.

Concrete mixing, placing and finishing shall be done during daylight hours, unless adequate provisions are made to light the entire site of all operations.

Concrete placement will not be permitted when impending weather conditions will impair the quality of the finished work. If rainfall should occur after placing operations are started, the Contractor shall provide ample covering to protect the work. In case of drop in temperature, the provisions set forth in Article "Placing Concrete in Cold Weather" of this specification shall be applied.

The placing of concrete shall be regulated so the pressures caused by the plastic concrete shall not exceed the loads used in form design.

The method of handling, placing and consolidation of concrete shall minimize segregation and displacement of the reinforcement, and produce a uniformly dense and compact mass. Concrete shall not have a free fall of more than 5 feet, except in the case of thin walls such as in culverts. Any hardened concrete spatter ahead of the plastic concrete shall be removed.

The method and equipment used to transport concrete to the forms shall be capable of maintaining the rate of placement approved by the Engineer. Concrete may be transported by buckets, chutes, buggies, belt conveyors, pumps or other acceptable methods.

When belt conveyors or pumps are used, sampling for testing will be done at the discharge end.

Concrete transported by conveyors shall be protected from sun and wind, if necessary, to prevent loss of slump and workability. Pipes through which concrete is pumped shall be shaded and/or wrapped with wet burlap, if necessary, to prevent loss of slump and workability. Concrete shall not be transported through aluminum pipes, tubes or other aluminum equipment.

Chutes, troughs, conveyors pipes arranged and used so that the concrete ingredients will not be separated. When steep slopes are necessary, the chutes shall be equipped with baffle boards or made in short lengths that reverse the direction of movement, or the chute ends shall terminate in vertical downspouts. Open troughs and chutes shall extend, if necessary, down inside the forms or through holes left in them. All transporting equipment shall be kept clean and free from hardened concrete coatings. Water used for cleaning shall be discharged clear of the concrete.

Each part of the forms shall be filled by depositing concrete as near its final position as possible. The coarse aggregate shall be worked back from the face and the concrete forced under and around the reinforcement bars without displacing them. Depositing large quantities at one point and running or working it along the forms will not be allowed.

Concrete shall be deposited in the forms in layers of suitable depth but not more than 36 inches in thickness, unless otherwise directed by the Engineer.

The sequence of successive layers or adjacent portions of concrete shall be such that they can be vibrated into a homogenous mass with the previously placed concrete without a cold joint. Not more than one hour shall elapse between adjacent or successive placements of concrete. Unauthorized construction joints shall be avoided by placing all concrete between the authorized joints in one continuous operation.

An approved retarding agent shall be used to control stress cracks and/or unauthorized cold joints in mass placements where differential settlement and/or setting time may induce stress cracking.

Openings in forms shall be provided, if needed, for the removal of laitance or foreign matter of any kind.

All forms shall be wetted thoroughly before the concrete is placed therein.

All concrete shall be well consolidated and the mortar flushed to the form surfaces by continuous working with immersion type vibrators. Vibrators which operate by attachment to forms or reinforcement will not be permitted, except on steel forms. At least one stand-by vibrator shall be provided for emergency use in addition to those required for placement.

The concrete shall be vibrated immediately after deposit. Prior to the beginning of work, a systematic spacing of the points of vibration shall be established to insure complete consolidation and thorough working of the concrete around the reinforcement, embedded fixtures, and into the corners and angles of the forms.

Immersion type vibrators shall be inserted vertically, at points 18 to 30 inches apart, and slowly withdrawn. The vibrator may be inserted in a sloping or horizontal position in shallow slabs. The entire depth of each lift shall be vibrated, allowing the vibrator to penetrate several inches into the preceding lift. Concrete along construction joints shall be thoroughly consolidated by operating the vibrator along and close to but not against the joint surface. The vibration shall continue until thorough consolidation, and complete embedment of reinforcement and fixtures is produced, but not long enough to cause segregation. Vibration may be supplemented by hand spading or rodding, if necessary, to insure the flushing of mortar to the surface of all forms.

Slab concrete shall be mixed in a plant located off the structure. Carting or wheeling concrete batches over completed slabs will not be permitted until they have aged at least four (4) full curing days. If carts are used, timber planking will be required for the remainder of the curing period. Carts shall be equipped with pneumatic tires. Curing operations shall not be interrupted for the purpose of wheeling concrete over finished slabs.

After concrete has attained its initial set, at least one (1) curing day shall elapse before placing strain on projecting reinforcement to prevent damage to the concrete.

The storing of reinforcing or structural steel on completed roadway slabs generally shall be avoided and, when permitted, shall be limited to quantities and distribution that will not induce excessive stresses.

8. PLACING CONCRETE IN COLD WEATHER

(1) Cast-in-Place Concrete. Concrete may be placed when the atmospheric temperature is not less than 35 degrees F. Concrete shall not be placed in contact with any material coated with frost or having a temperature less than 32 degrees F.

Aggregates shall be free from ice, frost and frozen lumps. When required, in order to produce the minimum specified concrete temperature, the aggregate and/or the water shall be heated uniformly, in accordance with the following: .

The water temperature shall not exceed 180 degrees F, and/or the aggregate temperature shall not exceed 150 degrees F. The heating apparatus shall heat the mass of aggregate uniformly. The temperature of the mixture of aggregates and water shall be between 50 degrees F and 85 degrees F before introduction of the cement.

All concrete shall be effectively protected as follows:

- (a) The temperature of slab concrete of all unformed surfaces shall be maintained at 50 degrees F or above for a period of 72 hours from time of placement and above 40 degrees F for an additional 72 hours.
- (b) The temperature at the surface of all concrete in piers, culverts walls, retaining walls, parapets, wingwalls, bottoms of slabs, and other similar formed concrete shall be maintained at 40 degrees F or above for a period of 72 hours from time of placement.
- (c) The temperature of all concrete, including the bottom slabs of culverts placed on or in the ground, shall be maintained above 32 degrees F for a period of 72 hours from time of placement.

Protection shall consist of providing additional covering, insulated forms or other means, and if necessary, supplementing such covering with artificial heating. Curing as specified under Article "Curing Concrete" of this specification shall be provided during this period until all requirements for curing have been satisfied.

When impending weather conditions indicate the possibility of the need for such temperature protection, all necessary heating and covering material shall be on hand ready for use before permission is granted to begin placement.

Sufficient extra test specimens will be made and cured with the placement to ascertain the condition of the concrete as placed, prior to form removal and acceptance.

- (2) Precast Concrete. A fabricating plant for precast products which has adequate protection from cold weather in the form of permanent or portable framework and covering, which protects

the concrete when placed in the forms, and is equipped with approved steam curing facilities, may place concrete under any low temperature conditions provided:

- (a) The framework and covering are placed and heat is provided for the concrete and the forms within one hour after the concrete is placed. This shall not be construed to be one hour after the last concrete is placed, but that no concrete shall remain unprotected longer than one hour.
- (b) Steam heat shall keep the air surrounding the concrete between 50 degrees F and 85 degrees F for a minimum of three hours prior to beginning the temperature rise which is required for steam curing.
- (c) For fabricating plants without the above facilities and for job site precast products, the requirements of the Article "Curing Concrete" of this specification shall apply.

The Contractor is responsible for the protection of concrete placed under any and all weather conditions. Permission given by the Engineer for placing concrete during freezing weather will in no way relieve the Contractor of the responsibility for producing concrete equal in quality to that placed under normal conditions. Should concrete placed under such conditions prove unsatisfactory, it shall be removed and replaced at no additional cost.

9. PLACING CONCRETE IN WATER

Concrete shall be deposited in water only when specified on the plans or with written permission by the Engineer. The forms or cofferdams shall be sufficiently tight to prevent any water current passing through the space in which the concrete is being deposited. Pumping will not be permitted during the concrete placing, nor until it has set for at least 36 hours.

The concrete shall be placed with a tremie, closed bottom-dump bucket, or other approved method, and shall not be permitted to fall freely through the water nor shall it be disturbed after it has been placed. The concrete surface shall be kept approximately level during placement.

The tremie shall consist of a water-tight tube 14 inches or less in diameter. It shall be constructed so that the bottom can be sealed and opened after it is in place and fully charged with concrete. It shall be supported so that it can be easily moved horizontally to cover all the work area and vertically to control the concrete flow.

Bottom-dump buckets used for underwater placing shall have a capacity of not less than one-half cubic yard. It shall be lowered gradually and carefully until it rests upon the concrete already placed and raised very slowly during the upward travel; the intent being to maintain still water at the point of discharge and to avoid agitating the mixture.

The placing operations shall be continuous until the work is complete.

10. PLACING CONCRETE BOX CULVERTS

In general, construction joints will be permitted only where shown on the plans.

Where the top slab and walls are placed monolithically in culverts more than 4 feet in clear height, an interval of not less than one (1) nor more than two (2) hours shall elapse before placing the top slab to allow for shrinkage in the wall concrete.

The base slab shall be finished accurately at the proper time to provide a smooth uniform surface. Top slabs which carry direct traffic shall be finished as specified for roadway slabs in Article "Finish of Roadway Slabs". Top slabs of fill type culverts shall be given a reasonably smooth float finish.

11. PLACING CONCRETE IN FOUNDATIONS AND SUBSTRUCTURE

Concrete shall not be placed in footings until the depth and character of the foundation has been inspected by the Engineer and permission has been given to proceed.

Placing of concrete footings upon seal concrete courses will be permitted after the caissons or cofferdams are free from water and the seal concrete course cleaned. Any necessary pumping or bailing during the concreting operation shall be done from a suitable sump located outside the forms.

All temporary wales or braces inside cofferdams or caissons shall be constructed or adjusted as the work proceeds to prevent unauthorized construction joints in footings or shafts.

When footings can be placed in a dry excavation without the use of cofferdams or caissons, forms may be omitted, if desired by the Contractor and approved by the Engineer, and the entire excavation filled with concrete to the elevation of the top of footing; in which case, measurement for payment will be based on the footing dimensions shown on the plans.

12. TREATMENT AND FINISHING OF HORIZONTAL SURFACES EXCEPT ROADWAY SLABS

All unformed upper surfaces shall be struck off to grade and finished. The use of mortar topping for surfaces under this classification will not be permitted.

After the concrete has been struck off, the surface shall be floated with a suitable float. Sidewalks shall be given a wood float or broom finish, or may be striped with a brush, as specified by the Engineer. Other surfaces shall be wood float finished and striped with a fine brush leaving a fine-grained texture.

13. FINISH OF ROADWAY SLABS

As soon as the concrete has been placed and vibrated in a section of sufficient width to permit working, the surface shall be approximately leveled, struck off and screened, carrying a slight excess of concrete ahead of the screed to insure filling of all low spots.

The screed shall be designed rigid enough to hold true to shape and shall have sufficient adjustments to provide for the required camber. A vibrating screed may be used if heavy enough to prevent undue distortion. The screeds shall be provided with a metal edge.

Longitudinal screeds shall be moved across the concrete with a saw-like motion while their ends rest on headers or templates set true to the roadway grade or on the adjacent finished slab.

The surface of the concrete shall be screened a sufficient number of times and at such intervals to produce a uniform surface, true to grade and free of voids.

If necessary, the screened surface shall be worked to smooth finish with a long-handled wood or metal float of the proper size, or hand floated from bridges over the slab.

When required by the Engineer, the Contractor shall perform sufficient checks with a long handled 10-foot straightedge on the plastic concrete to ensure that the final surface will be within the tolerances specified below. The check shall be made with the straightedge parallel to the centerline. Each pass thereof shall lap half of the preceding pass. All high spots shall be removed and all depressions over one-sixteenth inch (1/16") in depth shall be filled with fresh concrete and floated. The checking and floating shall be continued until the surface is true to grade and free of depressions, high spots, voids or rough spots.

Rail support holes shall be filled with concrete and finished to match the top of the slab.

Surface Texturing.

Perform surface texturing using either carpet drag or metal tinning as indicated on the drawings. Complete final texturing before the concrete has attained its initial set. Draw the carpet drag longitudinally along the pavement surface with the carpet contact surface area adjusted to provide a satisfactory coarsely textured surface. A metal-tine texture finish is required using a tinning machine unless otherwise shown on the plans. Provide the metal-tine finish immediately after the concrete surface has set enough for consistent tinning. Operate the metal-tine device to obtain grooves spaced at 1 in., approximately 3/16 in. deep, with a minimum depth of 1/8 in., and approximately 1/12 in. wide. Do not overlap a previously tined area. Use manual methods for achieving similar results on ramps and other irregular sections of pavements. Repair damage to the edge of the slab and joints immediately after texturing. Do not tine pavement that will be overlaid.

Upon completion of the floating and/or straight edging and before the disappearance of the moisture sheen, the surface shall be given a broom or burlap drag finish. The grooves of these finishes shall be parallel to the structure centerline.

It is the intent that the average texture depth resulting from the number of tests directed by the Engineer be not less than 0.035 inch with a minimum texture depth of 0.030 inch for any one test when tested in accordance with TxDOT Test Method Tex-436-A. Should the texture depth fall below that intended, the finishing procedures shall be revised to produce the desired texture.

After the concrete has attained its final set, the roadway surface shall be tested with a standard 1 Afoot straightedge. The straightedge shall be placed parallel to the centerline of roadway to bridge any depressions and touch high spots. Ordinates of irregularities measured from the face of the straightedge to the surface of the slab shall not exceed one-eighth of an inch (1/8"), making proper allowances for camber, vertical curvature and surface texture. Occasional variations, not exceeding three-sixteenth of an inch (3/16") will be acceptable, if in the opinion of the Engineer it will not affect the riding qualities.

When directed by the Engineer, irregularities exceeding the above requirements shall be corrected.

In all roadway slab finishing operations, camber for specified vertical curvature and transverse slopes shall be provided.

14. CURING CONCRETE

The Contractor shall inform the Engineer fully of the methods and procedures proposed for curing; shall provide the proper equipment and material in adequate amounts; and shall have the proposed methods, equipment and material approved prior to placing concrete.

Inadequate curing and/or facilities, therefore, shall be cause for the Engineer to stop all construction on the job until remedial action is taken. All concrete shall be cured for a period of four (4) curing days except as noted herein.

EXCEPTIONS TO 4-DAY CURING

<u>Description</u>	<u>Required Curing</u>
Upper Surfaces of Bridge Slabs and	8 curing days (Type I or III) cement
Top Slabs of Direct Traffic Culverts	10 curing days (Type II cement)
Concrete Piling (non-prestressed)	6 curing days

When the air temperature is expected to drop below 35 degrees F, the water curing mats shall be covered with polyethylene sheeting, burlap-polyethylene blankets or other material to provide the protection required by Article "Placing Concrete in Cold Weather" of these specifications.

A curing day is defined as a calendar day when the temperature, taken in the shade away from artificial heat, is above 50 degrees F for at least 19 hours (colder days if satisfactory provisions are made to maintain the temperature of all surfaces of the concrete above 40 degrees F for the entire 24 hours). The required curing period shall begin when all concrete therein has attained its initial set.

The following methods are permitted for curing concrete subject to the restrictions of Table I and the following requirements for each method of curing.

- (1) Form Curing. When forms are left in contact with the concrete, other curing methods will not be required except for cold weather protection.
- (2) Water Curing. All exposed surfaces of the concrete shall be kept wet continuously for the required curing time. The water used for curing shall meet the requirements for concrete mixing water as specified in the specification Section 030020 "Portland Cement Concrete". Seawater will not be permitted. Water which stains or leaves an unsightly residue shall not be used.

(a) Wet Mat. Cotton mats shall be used for this curing method. They shall be placed as soon as possible after the surface has sufficiently hardened to prevent damage to the concrete. (See Article, "Placing Concrete" of this specification.) Damp burlap blankets made from nine-ounce stock may be placed on the damp concrete surface for temporary protection prior to the application of the cotton mats which may be placed dry and wetted down after placement.

The mats shall be weighted down adequately to provide continuous contact with all concrete surfaces where possible. The surfaces of the concrete shall be kept wet for the required curing time. Surfaces which cannot be cured by contact shall be enclosed with mats and anchored positively to the forms or to the ground so that outside air cannot enter the enclosure. Sufficient moisture shall be provided inside the enclosure to keep all surfaces of the concrete wet.

(b) Water Spray. This curing method shall consist of overlapping sprays or sprinklers that keep all unformed surfaces continuously wet.

(c) Ponding. This curing method requires the covering of the surfaces with a minimum of two inches (2") of clean granular material, kept wet at all times, or a minimum of one inch (1 ") depth of water. Satisfactory provisions shall be made to provide a dam to retain the water or saturated granular material.

(3) Membrane Curing. This consists of curing concrete pavement, concrete pavement (base), curbs, gutters, retards, sidewalks, driveways, medians, islands, concrete riprap, cement-stabilized riprap, concrete structures and other concrete as indicated on the plans by impervious membrane method.

Unless otherwise provided herein or shown on the plans, either Type I-D or Type 2 membrane curing compound may be used where permitted except that Type I-D (Resin Base Only) will be required for slab concrete in bridge decks and top slabs of direct traffic culverts.

TABLE 1		
	REQUIRED	PERMITTED

	STRUCTURE UNIT DESCRIPTION	WATER FOR CURING	MEMBRANE FOR INTERIM CURING	WATER FOR CURING	MEMBRANE FOR INTERIM CURING
1	Top slabs of direct traffic culverts	X	X		
2	Top surface of any concrete unit upon which concrete is to be placed and bonded at a later interval (Stub walls, risers, et.). Other superstructure concrete (wing walls, parapet walls, etc.)	X			
3	Concrete pavement (base), curbs, gutters, retards, sidewalks, driveways, medians, islands, concrete structures, concrete riprap, etc.				

4	All substructure concrete, culverts, box sewers. Inlets, manholes, retaining walls				
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*Polyethylene sheeting, burlap-polyethylene mats or laminated mats to prevent outside air from entering will be considered equivalent to water or membrane curing for items 3 and 4.

Membrane curing shall not be applied to dry surfaces, but shall be applied just after free moisture has disappeared. Formed surfaces and surfaces which have been given a first rub shall be dampened and shall be moist at the time of application of the membrane.

When membrane is used for complete curing, the film shall remain unbroken for the minimum curing period specified. Membrane which is damaged shall be corrected immediately by reapplication of membrane. Unless otherwise noted herein or on the plans, the choice of membrane type shall be at the option of the Contractor. Only one type of curing compound will be permitted on any one structure.

The membrane curing compound shall be applied after the surface finishing has been completed, and immediately after the free surface moisture has disappeared. The surface shall be sealed with a single uniform coating of curing compound applied at the rate of coverage recommended by the manufacturer and directed by the Engineer, but not less than 1 gallon per 180 square feet of area. The Contractor shall provide satisfactory means and facilities to properly control and check the rate of application of the compound.

The compound shall be thoroughly agitated during its use and shall be applied by means of approved mechanical power pressure sprayers. The sprayers used to apply the membrane to concrete pavement or concrete pavement (base) shall travel at uniform speed along the forms and be mechanically driven. The equipment shall be of such design that it will insure uniform and even application of the membrane material. The sprayers shall be equipped with satisfactory atomizing nozzles. Only on small miscellaneous items will the Contractor be permitted to use hand-powered spray equipment. For all spraying equipment, the Contractor shall provide facilities to prevent the loss of the compound between the nozzle and the concrete surface during the spraying operations.

The compounds shall not be applied to a dry surface. If the surface of the concrete has become dry, it shall be moistened prior to application of membrane by fogging or mist application. Sprinkling or coarse spraying will not be allowed.

At locations where the coating shows discontinuities, pinholes or other defects, or if rain falls on the newly-coated surface before the film has dried sufficiently to resist damage, an additional coat of the compound shall be applied immediately at the same rate of coverage specified herein.

To insure proper coverage, the Engineer shall inspect all treated areas after application of the compound for the period of time designated in the governing specification for curing, either for membrane curing or for other methods. Should the foregoing indicate that any area during the curing period is not protected, an additional coat or coats of the compound shall be applied immediately, and the rate of application of the membrane compound shall be increased until all areas are uniformly covered.

When temperatures are such as to warrant protection against freezing, curing by this method shall be supplemented with an approved insulating material capable of protecting the concrete for the specified curing period.

If at any time there is reason to believe that this method of curing is unsatisfactory or is detrimental to the work, the Contractor, when notified, shall immediately cease the use of this method and shall change to curing by one of the other methods specified under this contract.

15. REMOVAL OF FORMS

Except as herein provided, forms for vertical surfaces may be removed when the concrete has aged not less than one day (24 hours) when Type I and Type II cement is used, and not less than one-half day (12 hours) when Type III cement is used, provided it can be done without damage to the concrete.

Forms for inside curb faces may be removed in approximately three hours provided it can be done without damage to the curb.

16. FINISHING EXPOSED SURFACES

Concrete shall be finished as required in the specification Section for the respective item or as otherwise specified on the plans.

An ordinary surface finish shall be applied to all concrete surfaces either as a final finish or preparatory to a higher finish.

Ordinary Surface Finish shall be as follows:

After form removal, all porous or honey-combed areas and spalled areas shall be corrected by chipping away all loose or broken material to sound concrete..

Feather edges shall be eliminated by cutting a face perpendicular to the surface. Shallow cavities shall be repaired using adhesive grout or epoxy grout. If judged repairable by the Engineer, large defective areas shall be corrected using concrete or other material approved by the Engineer.

Holes and spalls caused by removal of metal ties, etc., shall be cleaned and filled with adhesive grout or epoxy grout. Exposed parts of metal chairs on surfaces to be finished by rubbing, shall be chipped out to a depth of one-half inch (1/2") and the surface repaired.

All fins, runs, drips or mortar shall be removed from surfaces which remain exposed. Form marks and chamfer edges shall be smoothed by grinding and/or dry rubbing.

Grease, oil, dirt, curing compound, etc., shall be removed from surfaces requiring a higher grade of finish. Discolorations resulting from spillage or splashing of asphalt, paint or other similar material shall be removed.

Repairs shall be dense, well bonded and properly cured, and when made on surfaces which remain exposed and do not require a higher finish, shall be finished to blend with the surrounding concrete.

17. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, no direct measurement or payment will be made for the work to be done or the equipment to be furnished under this specification, but it shall be considered subsidiary to the particular items required by the plans and the contract documents.

SECTION 055420
FRAMES GRATES RINGS AND COVERS

1. DESCRIPTION

This specification shall govern for the furnishing and installation of frames, grates, rings and covers for inlets, manholes and other structures in accordance with those details. Steel shall conform to the requirements of ASTM Designation: A36 "Standard Specification for Carbon Structural Steel".

2. MATERIALS

Welded steel grates and frames shall conform to the member size, dimensions and details shown on the plans and shall be welded into an assembly in accordance with those details. Steel shall conform to the requirements of ASTM Designation: A36.

Castings, whether Carbon-Steel, Gray Cast Iron or Ductile Iron, shall conform to the shape and dimensions shown on the plans and shall be clean substantial castings, free from burnt-on sand or blow holes, and shall be reasonably smooth. Runners, risers, fins, and other cast-on pieces shall be removed from the castings and such areas ground smooth. Bearing surfaces between manhole rings and covers or grates and frames shall be cast or machined with such precision that uniform bearing shall be provided throughout the perimeter contact area. Pairs of machined castings shall be matchmarked to facilitate subsequent identification at installation.

Steel castings shall conform to the requirements of ASTM Designation: A27 "Standard Specification for Steel Castings, Carbon, for General Application". Grade 70-36 shall be furnished unless otherwise specified.

Cast Iron castings shall conform to the requirements of ASTM Designation: A48 "Standard Specification for Gray Iron Castings", Class 30.

Ductile iron castings shall conform to the requirements of ASTM Designation: A536 "Standard Specification for Ductile Iron Castings". Grade 60-40-18 shall be used otherwise specified.

3. CONSTRUCTION METHODS

Frames, grates, rings and covers shall be constructed of the materials as specified and in accordance with the details shown on the plans and shall be placed carefully to the lines and grades indicated on the plans or as directed by the Engineer.

055420

Page 1 of 2

Rev. 3-25-2015

All welding shall conform to the requirements of the latest American Welding Society Specifications. Frames, grates, rings and covers shall be given one coat of a commercial grade red lead and oil paint and two coats of commercial grade aluminum paint.

Painting on gray iron castings will not be required, except when used in conjunction with structural steel shapes.

Commercial grade galvanized bolts and nuts shall be used. The zinc coating shall be uniform in thickness, smooth and continuous.

4. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, frames, grates, rings and covers will not be measured for payment, but shall be considered subsidiary to other bid items.

DRAWINGS

INSTRUCTION TO BIDDERS

1. Use of Separate Bid Forms

These contract documents include a complete set of bid and contract forms which are for the convenience of the bidders and are not to be detached from the contract document, completed or executed. Separate bid forms are provided for your use.

2. Interpretations or Addenda

No oral interpretations will be made to any bidder. Each request for clarification shall be made in writing to the Grant Recipient or engineer no less than seven (7) days prior to the bid opening. Each interpretation made will be in the form of an Addendum to the contract documents and will be distributed to all parties holding contract documents no less than seven (7) days prior to the bid opening. It is, however, the bidder's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda, whether or not received by the bidders.

If an addendum to the bid package is necessary, it must be distributed to each potential bidder. The distribution of an addendum shall be verified either by statements of receipt or registered/certified mail receipts, which shall be included in the public works construction file. The addendum shall allow adequate time for consideration in bid preparation (usually at least one week). If adequate time is not available, the bid opening date must be extended and the Grant Recipient must republish the invitation for bids containing the place, time, and date for the new bid opening. Note that any change to the original bid opening date will require republication of the invitation for bids at least once in a locally published newspaper. The republished notice will include the place, time and date for the new bid opening and must be published at least seven days prior to the new bid opening date.

3. Inspection of Site

Each bidder should visit the site of the proposed work and should become acquainted with the existing conditions and facilities, the difficulties and restrictions pertaining to the performance of the contract. The bidder should thoroughly examine and become familiar with the drawings, technical specifications and all other contract documents. The contractor by the execution of the contract shall in no way be relieved of any obligation under it due to failure to receive or examine any form or legal document or to visit the site or the conditions existing at the site. The City will be justified in rejecting any claim based on lack of inspection of the site prior to the bid.

4. Alternate bid items

No alternate bids or bid items will be considered unless they are specifically requested by the technical specifications.

5. Bids

- A. All bids must be submitted on the forms provided and are subject to all requirements of the Contract Documents, including the Drawings.
- B. All bids must be regular in every respect and no interlineation, excisions or special conditions may be made or included by the bidder.
- C. Bid documents, including but not limited to the bid, the bid bond(s), the contractor's certifications, Certification of Bidder Regarding Civil Rights Laws and Regulations, Local Opportunity Plan, Conflict of Interest Questionnaire, Non-collusion Affidavit of Prime Bidder, Certification Regarding Lobbying, and the Statement of the Bidder's Qualifications, shall be sealed in an envelope and clearly labeled with the words "Bid Documents", the project number, name of bidder and the date and time of bid opening.
- D. The City may consider as irregular any bid on which there is an alteration of or departure from the bid form and, at its option, may reject any irregular bid.
- E. If a contract is awarded, it will be awarded to a responsible bidder on the basis of the lowest/best bid and the selected alternate bid items, if any. The contract will require the completion of the work in accordance with the contract documents.

6. Bid Modifications Prior to Bid Opening

Any bidder may modify its bid by submitting a modification or supplemental bid at any time prior to the scheduled closing time for receipt of bids, provided such modification or supplemental bid is received by the locality prior to the closing time. The modification or supplemental bid should not reveal the original bid price but should provide only the addition, subtractions or other modifications to the original bid so that the final prices or terms will not be known by the locality until the sealed bid is open.

7. Bid Bond

- A. A bid bond in the amount of 5% of the bid issued by an acceptable surety shall be submitted with each bid [for contracts greater than \$100,000]. A certified check or bank draft payable to the locality or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.
- B. The bid bond or its comparable, will be returned to the bidder as soon as practical after the opening of the bids.

8. Statement of Bidders Qualifications

Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The Grant Recipient shall have the right to take such steps as it deems necessary to

determine the ability of the bidder to perform its obligations under the contract, and the bidder shall furnish the Grant Recipient all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available data does not satisfy the Grant Recipient that the bidder is qualified to carry out properly the terms of the contract.

9. Unit Price

The unit price for each of the several items in the bid shall include its pro rata share of overhead so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price bid represents the total bid. Any bid not conforming to this requirement may be rejected as informal. Special attention is drawn to this condition, as the unit prices will be used to determine the amount of any change orders resulting from an increase or decrease in quantities.

10. Corrections:

Erasures or other corrections in the bid must be noted over the signature of the bidder.

11. Time for Receiving Bids

Bids received prior to the advertised hour of opening shall be kept securely sealed. The officer appointed to open the bids shall decide when the specified time has arrived and no bid received thereafter will be considered; except that when a bid arrives by mail after the time fixed for opening, but before the reading of all other bids is completed, and it is shown to the satisfaction of the Grant Recipient that the late arrival of the bid was solely due to delay in the mail for which the bidder was not responsible, such bid will be received and considered.

12. Opening of Bids

The City shall, at the time and place fixed for the opening of bids, open each bid and publicly read it aloud, irrespective of any irregularities therein. Bidders and other interested individuals may be present.

13. Withdrawal of Bids

Bidder may withdraw the bid before the time fixed for the opening of bids, by communicating its purpose in writing to the Grant Recipient. Upon receipt of such notice, the unopened bid will be returned to the bidder. The bid guaranty of any bidder withdrawing his bid will be returned promptly.

14. Award of Contract/Rejection of Bids

- A. The contract will be awarded to the responsive, responsible Bidder submitting the lowest/best bid. The bidder selected will be notified at the earliest possible date. The locality reserves the right to reject any or all bids and to waive any informality in bids received where such rejection or waiver is in its interest.

- B. The Grant Recipient reserves the right to consider as unqualified to do the work any bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in this contract.

15. Execution of Agreement/Performance and Payment Bonds

- A. Performance Bonds - Requires all prime contractors which enter into a formal contract in excess of \$100,000 with the State, a county, or a municipality; a department, board, or agency of the state, a county, or a municipality; and a school district or a subdivision thereof, to obtain a Performance Bond in the amount of the contract before commencing with work
- B. Payment Bonds- Requires all prime contractors which enter into a formal contract with the State, a county, or a municipality; a department, board, or agency of the state, a county, or a municipality; and a school district or a subdivision thereof, to furnish to the governmental entity a payment bond in the amount of the contract. The payment bond must be filed within 30 days from the date of the Notice of Award:
 - o Municipalities: If the contract is in excess of \$50,000, a payment bond is required.
 - o Counties: If the contract is in excess of \$25,000, a payment bond is required.
- C. The failure of the successful bidder to execute the agreement and supply the required bonds within thirty (30) days from the date of the notice of award-or within such extended period as the locality may grant, shall constitute a default and the locality may, at its option either award the contract to the next lowest responsible bidder, or re-advertise for bids. In either case, the locality may charge against the bidder the difference between the amount of the bid, and the amount for which a contract is subsequently executed irrespective of whether this difference exceeds the amount of the bid bond. If a more favorable bid is received through re-advertisement, the defaulting bidder shall have no claim against the locality for a refund.

16. Wages and Salaries

Attention is particularly called to the requirement of paying not less than the prevailing Davis Bacon Related Acts (DBRA) wage rates specified in the Contract Documents. These rates are minimums to be paid during the life of the contract. It is therefore the responsibility of the Bidder to inform themselves as to local labor conditions.

17. Equal Employment Opportunity

Attention is called to the requirements for ensuring that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual identity, gender identity, or national origin, and other civil rights requirements.

18. Certification Regarding Lobbying

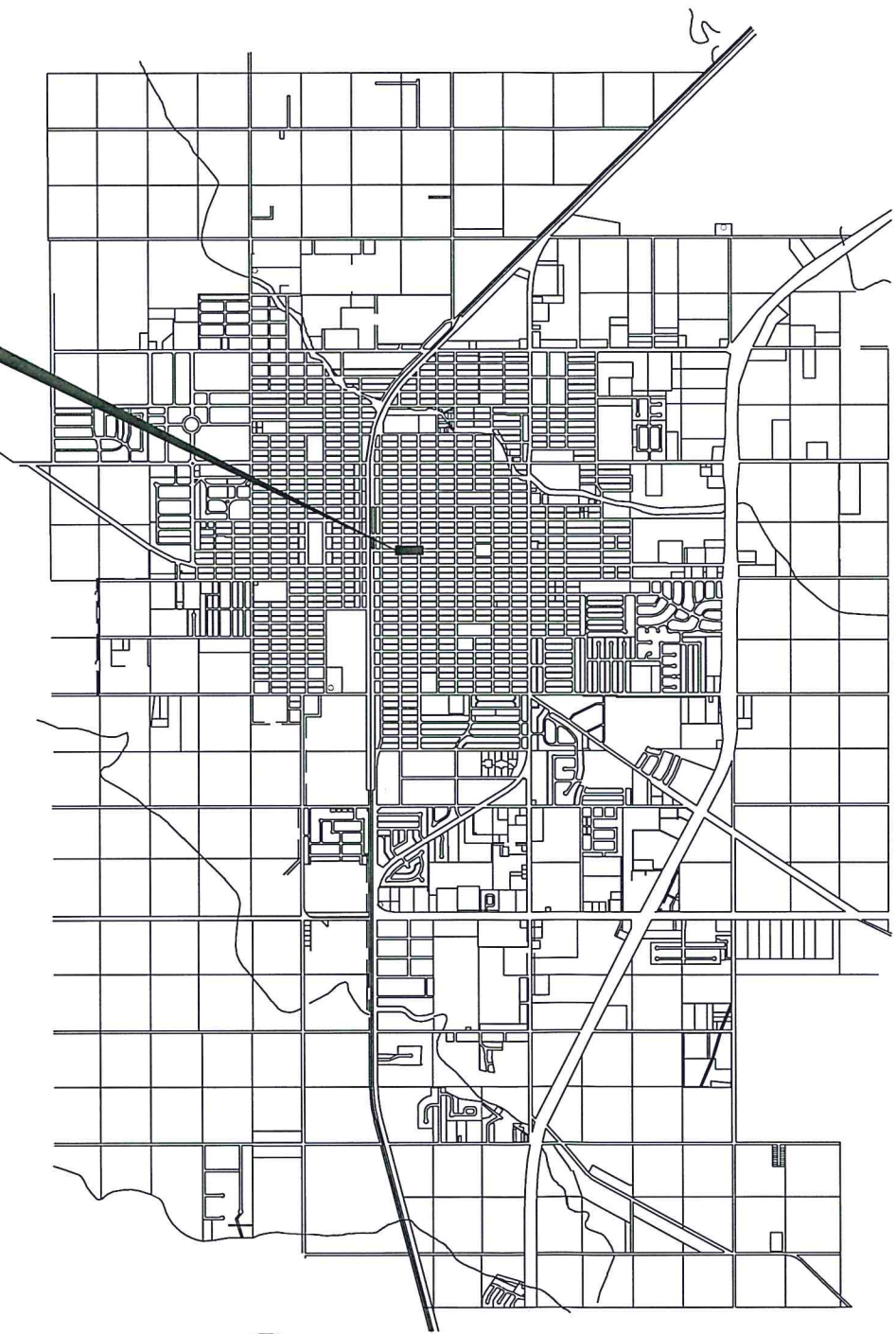
Contractors who apply or bid for an award of \$ 100,000 or more shall provide the required certification that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 USC 1352.

CITY OF KINGSVILLE

2018-2019

DOWNTOWN IMPROVEMENTS

PROJECT LOCATION
KLEBERG AVE. FROM
7TH ST. TO 8TH ST.



LOCATION MAP
NOT TO SCALE

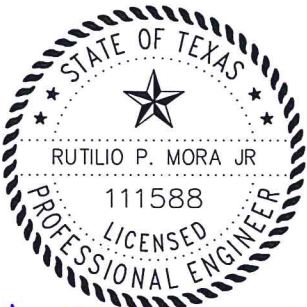
NOVEMBER 2019

MAYOR
SAM FUGATE
INTERIM CITY MANAGER
DEBORAH BALLI

CITY COMMISSIONERS
HECTOR M. HINOJOSA
DIANNE LEUBERT
ARTURO PECOS
EDNA LOPEZ

SHEET INDEX	
SHEET	TITLE
1	COVER SHEET
2	GENERAL NOTES & OVERALL SITE PLAN
3	STA. -1+00 TO STA. 1+50 (EXISTING PLAN)
4	STA. 1+50 TO STA. 3+50 (EXISTING PLAN)
5	STA. 3+50 TO STA. END (EXISTING PLAN)
6	STA. -1+00 TO STA. 1+50 (DEMOLITION PLAN)
7	STA. 1+50 TO STA. 3+50 (DEMOLITION PLAN)
8	STA. 3+50 TO STA. END (DEMOLITION PLAN)
9	STA. -1+00 TO STA. 1+50 (PROPOSED PLAN)
10	STA. 1+50 TO STA. 3+50 (PROPOSED PLAN)
11	STA. 3+50 TO STA. END (PROPOSED PLAN)
12	PROPOSED KLEBERG AVENUE & 7TH ST. BULB OUTS
13	PROPOSED KLEBERG AVENUE & 8TH ST. BULB OUTS
14	ELECTRICAL SITE PLAN
15	DECORATIVE LAMP DETAILS
16	MISCELLANEOUS DETAILS I
17	MISCELLANEOUS DETAILS II
18	MISCELLANEOUS DETAILS III
19	MISCELLANEOUS DETAILS IV
20	TRAFFIC CONTROL PLAN - TCP (2-2) - 18

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RUTILIO P. MORA JR, P.E. NO. 111588 ON 11-04-19. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



Rutilio P. Mora Jr 11/4/2019
RUTILIO P. MORA JR, P.E. NO. 111588

CITY OF KINGSVILLE
ENGINEERING DEPARTMENT
400 West King
Kingsville, Texas 78363
Office 361.595.8007
Fax 361.595.8035



Drawn by: J. RAMIREZ
Date: 6/04/2019
Checked by: R. MORA
Job:
Scale: N.T.S.

2018-2019 DOWNTOWN IMPROVEMENTS

COVER SHEET

SHEET
1

GENERAL CONSTRUCTION NOTES:























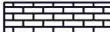
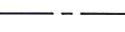





- ALL IMPROVEMENTS TO BE IN ACCORDANCE WITH CITY OF KINGSVILLE CODES.
- CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR TO PLAN AND PERFORM HIS WORK IN A MANNER THAT WILL PERMIT SAFE PUBLIC TRAFFIC MOVEMENT ON ALL STREETS.
- TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO BE IN ACCORDANCE WITH SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES SUCH AS SIGNS, LIGHTS, AND SIGNALS FOR THE SAFETY OF THE PUBLIC AND WORKERS, AS REQUIRED, AND AS DIRECTED BY CITY INSPECTOR.
- CONTRACTOR TO BE RESPONSIBLE FOR PROTECTION AND/OR SAFETY OF THE WORK SITE, WORKERS, SUBCONTRACTORS, MATERIALS AND/OR EQUIPMENT.
- CONSTRUCTION STAKING SHALL BE PROVIDED BY THE CONTRACTOR AND AT CONTRACTOR'S EXPENSE. BASE LINES ARE STAKED AS SHOWN ON PLANS. ALL DIMENSIONS ARE TO BACK OF CURBS UNLESS SHOWN OTHERWISE.
- MATERIAL TESTING SHALL BE PROVIDED BY THE CITY OF KINGSVILLE. RE-TEST DUE TO FAILURES TO BE AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL BY THE CITY ENGINEERING OFFICE PRIOR TO CONSTRUCTION. CONTRACTOR MAY CLOSE STREETS TO THRU TRAFFIC IN INCREMENTS AS LONG AS ACCESS IS MAINTAINED TO ALL RESIDENCES, BUSINESSES, & ADJOINING STREETS. TRAFFIC CONTROL PLAN WILL BE IN ACCORDANCE WITH TXDOT'S TCP (2-2) - 18 ON SHEET 16 AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND AT CONTRACTOR'S EXPENSE.
- ANY DAMAGE TO EXISTING PAVEMENT, DRAINAGE OR EXISTING STRUCTURES SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION AT CONTRACTOR'S EXPENSE.
- "THESE PLANS, PREPARED BY THE CITY OF KINGSVILLE ENGINEERING DEPARTMENT DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF CITY OF KINGSVILLE'S REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY THE HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE IN THE 70TH LEGISLATURE - REGULAR SESSION."
- CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. NOTIFY TEXAS ONE CALL FOR UTILITY LOCATIONS PRIOR TO ANY & ALL EXCAVATIONS. COORDINATION OF ALL RELOCATION OF UTILITY POLES, ECT. TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR TO COORDINATE WITH THE CITY OF KINGSVILLE ON WORK SCHEDULES, TESTING, GENERAL INSPECTION, AND EXISTING LINES.
- CONTRACTOR TO EXERCISE CAUTION WHEN WORKING NEAR EXISTING FACILITIES AND/OR UTILITIES. ALL DAMAGE TO BE REPAIRED AT CONTRACTOR'S EXPENSE. ALL COSTS FOR INTERRUPTION OF GAS, ELECTRICAL, COMMUNICATIONS AND/OR WATER SERVICE DUE TO CONTRACTOR'S WORK SHALL BE BORNE BY THE CONTRACTOR.
- INFORMATION ON EXISTING UTILITIES IS FROM BEST AVAILABLE INFORMATION OF RECORD AND SPOT FIELD LOCATIONS. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION OF THESE UNDERGROUND UTILITIES AS REQUIRED AT NO SEPARATE PAY. CITY OF KINGSVILLE PERSONNEL WILL BE AVAILABLE FOR ASSISTANCE AND OPERATION OF VALVES AS REQUIRED. CONTRACTOR TO COORDINATE WITH OTHER UTILITY COMPANIES, INCLUDING AEP ON ELECTRICAL UTILITIES, CENTERPOINT ENERGY ON GAS UTILITIES AND SOUTHWESTERN BELL ON TELEPHONE UTILITIES.
- ALL SPOIL MATERIAL AND DEBRIS SHALL BE DISPOSED OF BY CONTRACTOR. FURNISHING AND TRANSPORTATION OF ALL OFFSITE MATERIAL TO BE AT CONTRACTOR'S EXPENSE.
- UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL RETURN THE SITE TO ORIGINAL CONTOURS UNLESS DIFFERENT FINISHED ELEVATIONS ARE SHOWN ON PLANS. CONTRACTOR TO INSURE NO AREAS OF PONDING ARE PRESENT.
- CONTRACTOR TO INSURE SAME DAY ACCESS TO SCHOOL, ALL RESIDENCES AND BUSINESSES ADJACENT TO CONSTRUCTION.
- DEMOLITION, REMOVAL & DISPOSAL OF ALL EXCESS CONCRETE, CURBS, RUBBLE, ETC. TO BE AT CONTRACTOR'S EXPENSE.
- STREET & SUBGRADE EXCAVATION TO BE THE PROPERTY OF THE CITY AND TO BE STOCK PILED AT THE CITY OF KINGSVILLE LANDFILL AS DIRECTED BY THE CITY REPRESENTATIVE.
- CONCRETE NOTES:
 - ALL CONCRETE WORK TO BE FORMED, UNLESS OTHERWISE APPROVED.
 - ALL CONCRETE TO BE 3000 PSI MINIMUM AT 28 DAYS, UNLESS OTHERWISE SHOWN. STRENGTH TO BE DETERMINED BY CYLINDER BREAK TEST.
 - ALL REINFORCING STEEL TO BE ASTM A-615, GRADE 60, UNLESS OTHERWISE SHOWN.
 - ALL EXPOSED CONCRETE WORK TO BE CHAMFERED.
- CONTRACTOR TO VERIFY THAT ALL CONCRETE SURFACES MEET THE FOLLOWING SLOPE CRITERIA PRIOR TO PLACEMENT OF CONCRETE.
 - RAMP SLOPE 12:1 (8.33%) (MAX)
 - RUNNING SLOPE 20:1 (5%) (MAX)
 - CROSS SLOPE 50:1 (2%) (MAX)(CROSS SLOPE IS SLOPE PERPENDICULAR TO THE DIRECTION OF TRAVEL.)
- CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING SILT FENCE IN AREAS OF DISTURBED SOIL TO PREVENT EROSION FROM ENTERING DRIVEWAYS.

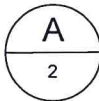
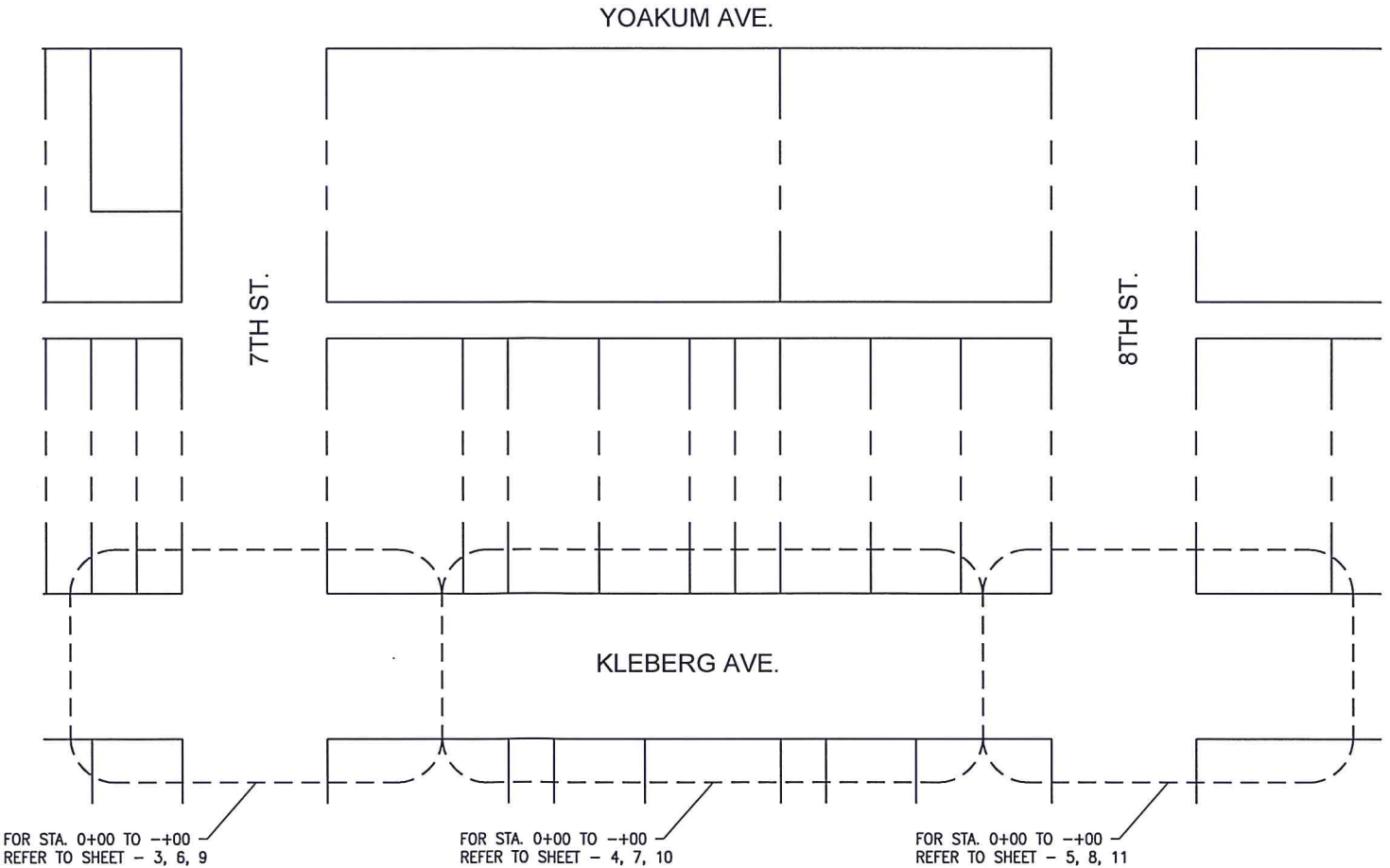
CALL BEFORE YOU DIG!

 PARTICIPANTS REQUEST
48 HOURS NOTICE BEFORE YOU DIG,
DRILL OR BLAST - STOP AND CALL

811

THE LONE STAR
NOTIFICATION COMPANY
AT 1-800-669-8344

EXISTING				PROPOSED			
	LIGHT POLE	60.04 TC	TOP OF CURB		DECORATIVE LAMP		SIDEWALK DRAIN
	STREET LAMP	60.69 GUT	GUTTER		SLOPE		CURB & GUTTER
	WATER VALVE	61.62 FF	FINISH FLOOR		SIGN		CROSSWALK
	FIRE HYDRANT	61.69 TW	TOP OF WALK		TOP OF CURB		STOP BAR
	POWER POLE	2.7%	SLOPE		GUTTER		SIDEWALK
	GUY WIRE				TOP OF STEP		PLANTER
	WATER METER		GRASS AREA		TOP OF WALK		VALLEY GUTTER
	BRICK PAVERS		TERAZZO		BRICK PAVERS		UNDERGROUND ELECTRICAL
	SIGN		ELECTRICAL BOX		SAW CUT		
	TREE		SIDEWALK		BUILT UP RAMP		
			VALLEY GUTTER		STATIONING		



OVERALL SITE PLAN

SCALE: 1:100



Rutilio P. Mora Jr. 11/4/2019

RUTILIO P. MORA JR, P.E. NO. 111588

CITY OF KINGSVILLE
ENGINEERING DEPARTMENT

400 West King
Kingsville, Texas 78363
Office 361.595.8007
Fax 361.595.8035

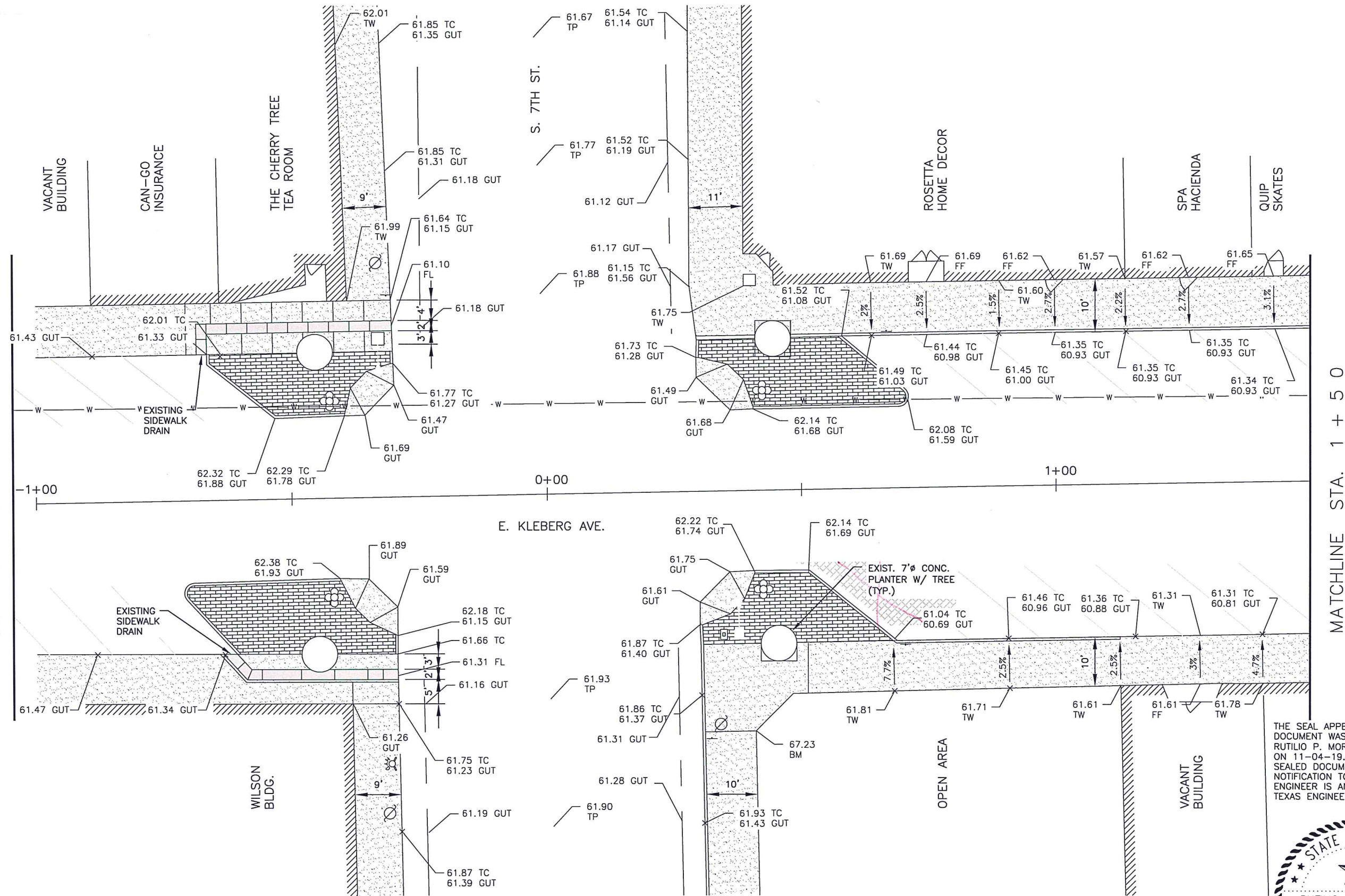


Drawn by: J. RAMIREZ
Date: 6/04/2019
Checked by: R. MORA
Job:
Scale: N.T.S.

2018-2019 DOWNTOWN IMPROVEMENTS

GENERAL NOTES & OVERALL SITE PLAN

MATCHLINE STA. - 1 + 0 0

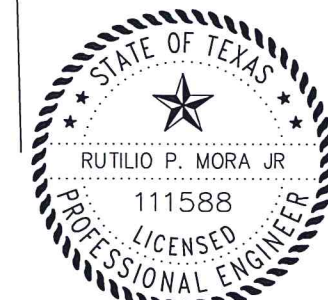


MATCHLINE STA. 1 + 5 0



A
3

STA. -1+00 - 1+50 (EXISTING PLAN)
SCALE: 1:20



Rutilio P. Mora Jr. 11/4/2019
RUTILIO P. MORA JR, P.E. NO. 111588

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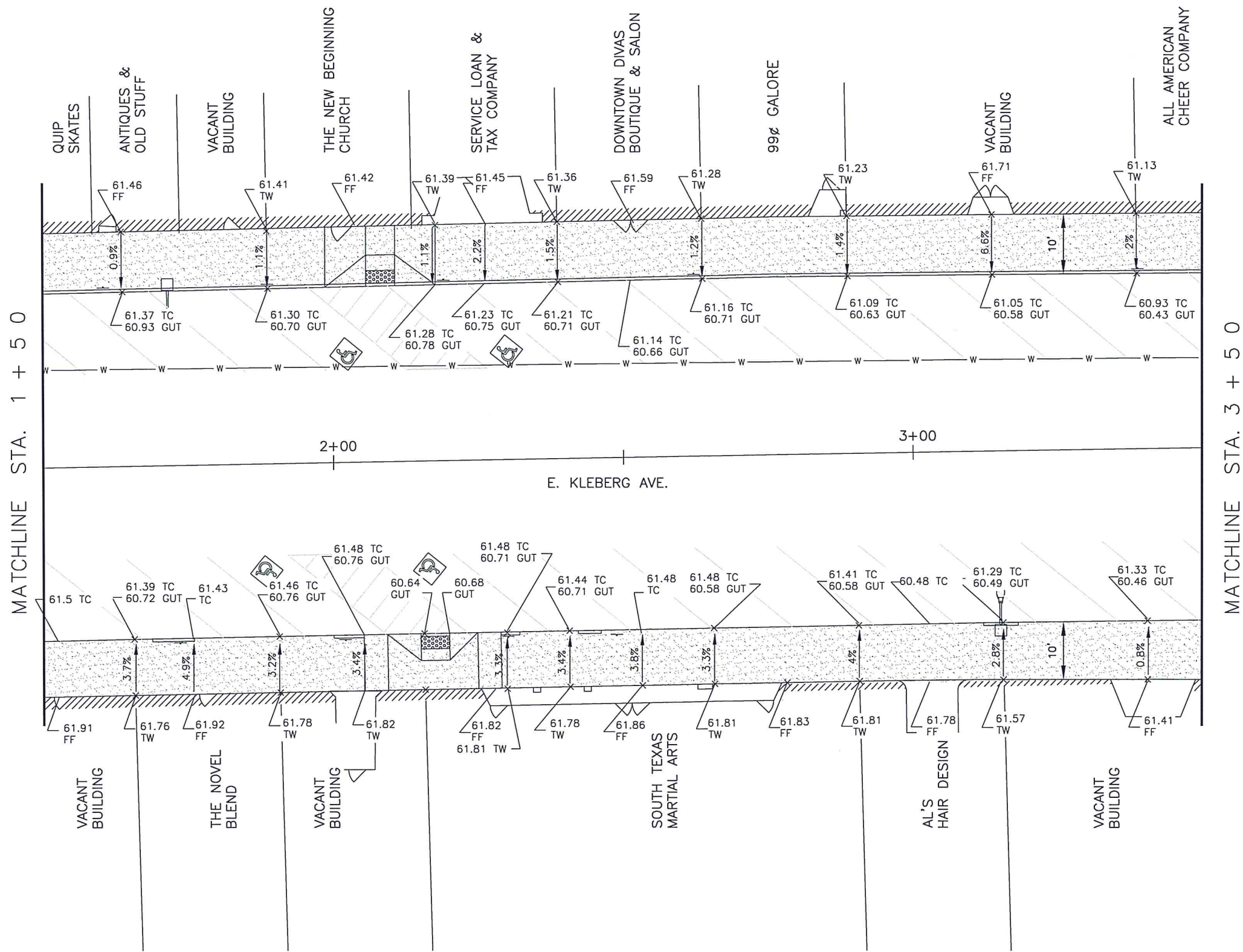
2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
STA. -1+00 TO STA. 1+50 (EXISTING PLAN)

Drawn by: J. RAMIREZ
Date: 6/04/2019
Checked by: R. MORA
Job:

CITY OF KINGSVILLE
ENGINEERING DEPARTMENT
400 West King
Kingsville, Texas 78363
Office 361.595.8007
Fax 361.595.8035

SHEET
3



A
4

STA. 1+50 - 3+50 (EXISTING PLAN)

SCALE: 1:20



Rutilio P. Mora Jr. 11/4/2019

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2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
STA. 1+50 TO STA. 3+50 (EXISTING PLAN)

SHEET

4

Drawn by: J. RAMIREZ

Date: 6/04/2019

Checked by: R. MORA

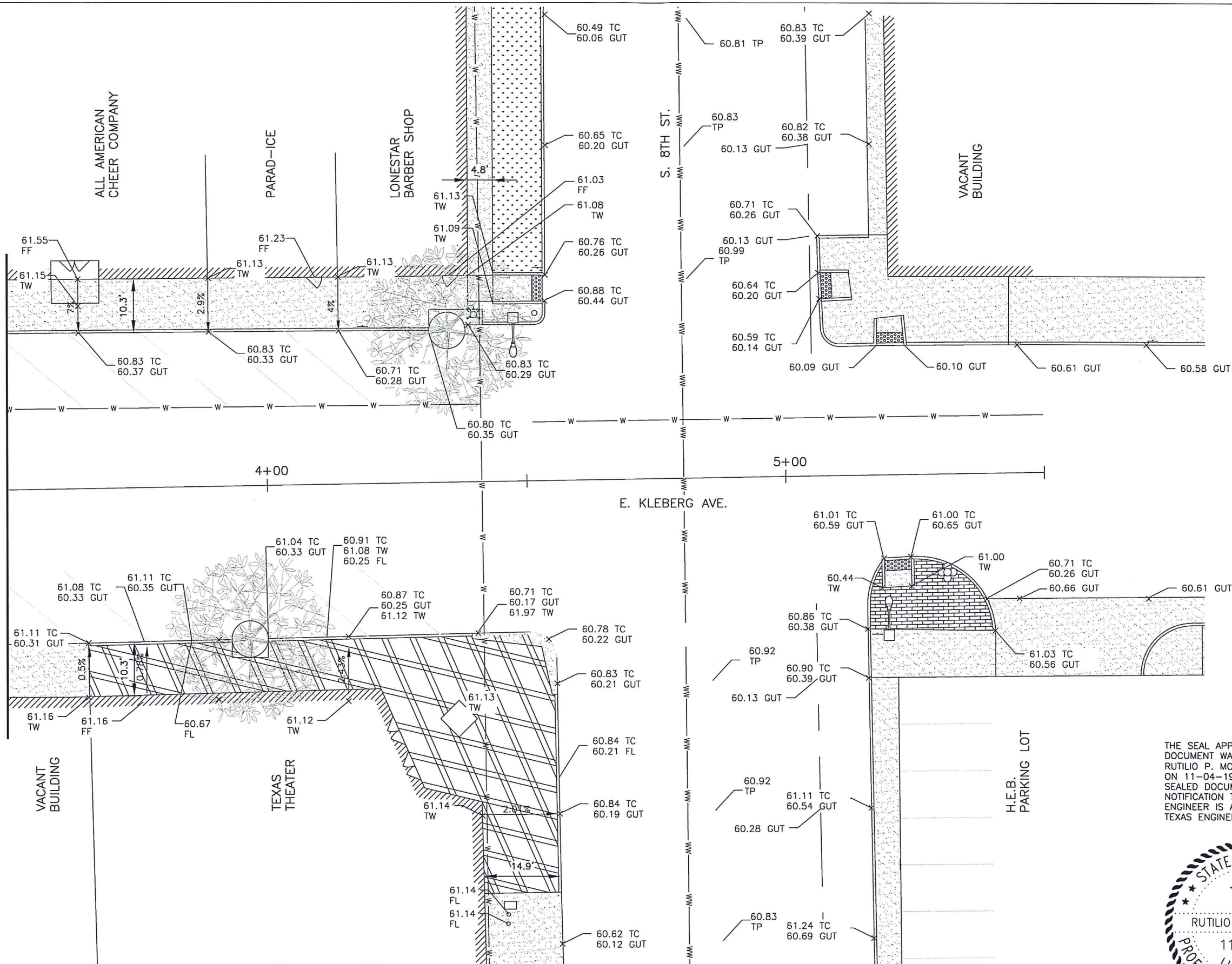
Job:

CITY OF KINGSVILLE
ENGINEERING DEPARTMENT



400 West King
Kingsville, Texas 78363
Office 361.595.8007
Fax 361.595.8035

MATCHLINE STA. 3 + 50



A
5

STA. 3+50 - STA. END (EXISTING PLAN)

SCALE: 1:20



Rutilio P. Mora Jr. 11/4/2019
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2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
STA. 3+50 TO STA. END (EXISTING PLAN)

Drawn by: J. RAMIREZ

Date: 6/04/2019

Checked by: R. MORA

Job:

CITY OF KINGSVILLE
ENGINEERING DEPARTMENT



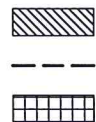
400 West King
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Office 361.595.8007
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SHEET

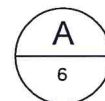
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DEMOLITION NOTES

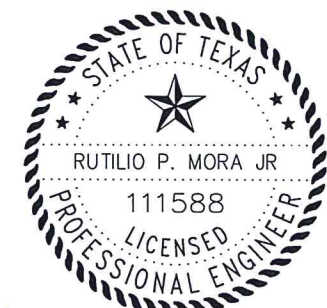
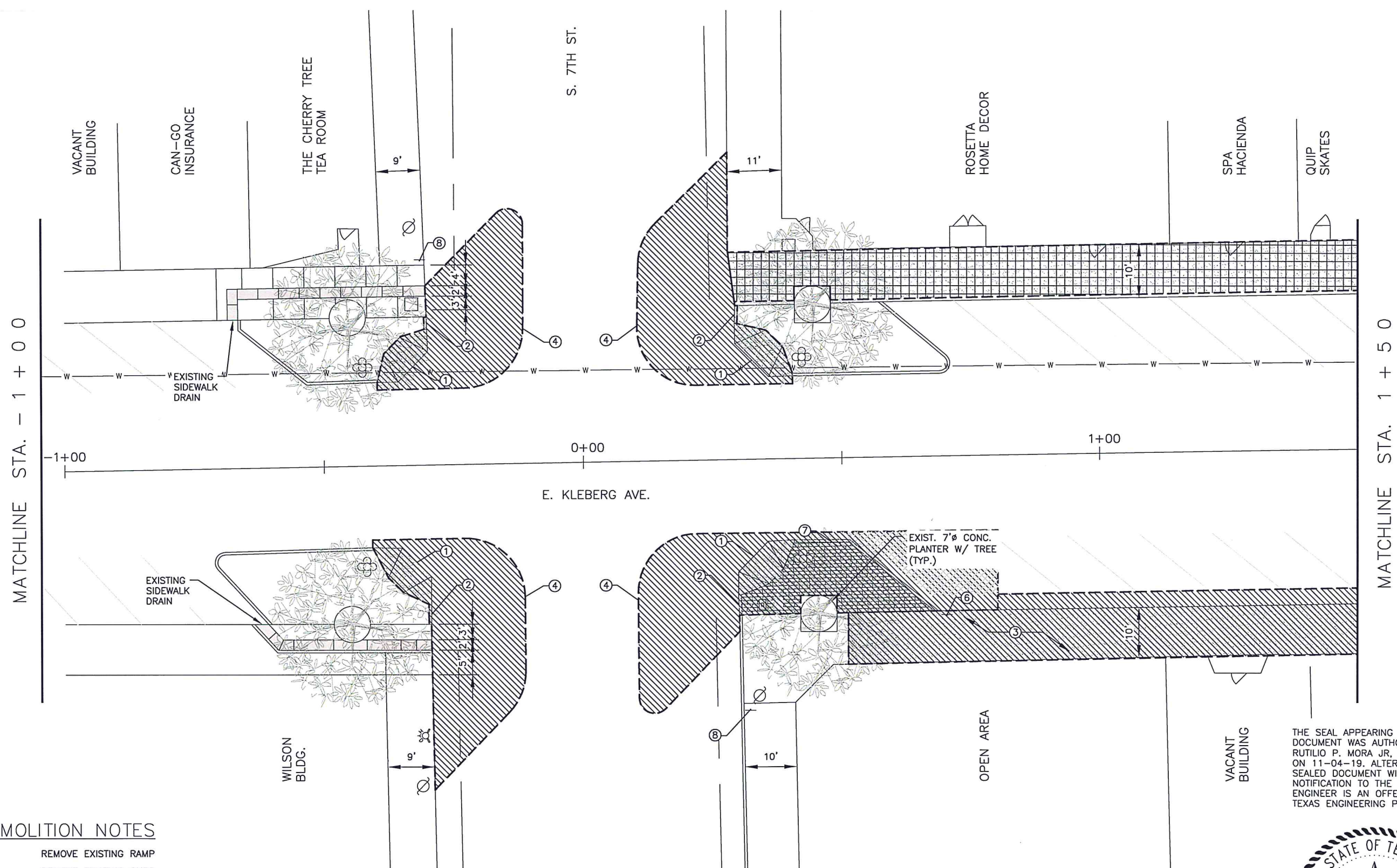
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- ④ REMOVE EXISTING PAVEMENT
- ⑤ REMOVE EXISTING TERRAZO
- ⑥ REMOVE SIGN & PROVIDE TO CITY (BASE BID)
- ⑦ REMOVE EXISTING BRICK PAVERS & STORE FOR REUSE
- ⑧ RELOCATE STOP SIGN
- ⑨ REMOVE SIGN & PROVIDE TO CITY (ALT. BID 1)



AREAS TO BE DEMOLISHED
 AREAS TO BE SAW-CUT
 AREAS TO BE DEMOLISHED (ALT. BID 1)



STA. -1+00 - 1+50 (DEMOLITION PLAN)
 SCALE: 1:20



Rutilio P. Mora Jr. 11/4/2019
 RUTILIO P. MORA JR, P.E. NO. 111588

2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
 STA. -1+00 TO STA. 1+50 (DEMOLITION PLAN)

SHEET
 6

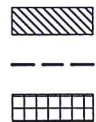
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DEMOLITION NOTES

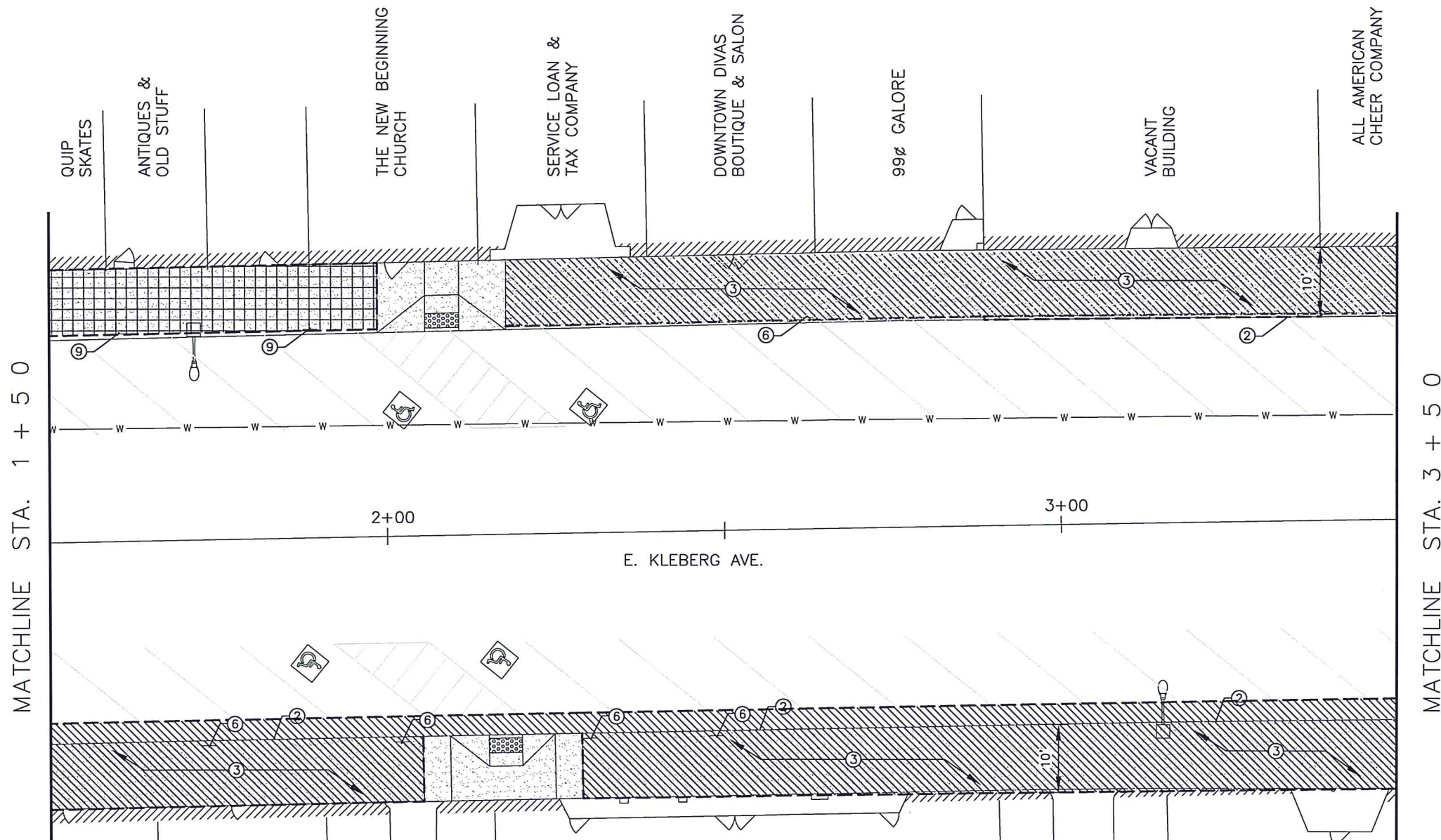
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- ⑧ RELOCATE STOP SIGN
- ⑨ REMOVE SIGN & PROVIDE TO CITY (ALT. BID 1)



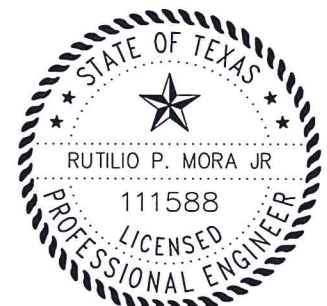
AREAS TO BE DEMOLISHED
 AREAS TO BE SAW-CUT
 AREAS TO BE DEMOLISHED (ALT. BID 1)



A
 7
 STA. 1+50 - 3+50 (DEMOLITION PLAN)
 SCALE: 1:20



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2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
 STA. 1+50 TO STA. 3+50 (DEMOLITION PLAN)

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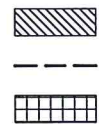
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DEMOLITION NOTES

- ① REMOVE EXISTING RAMP
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- ③ REMOVE EXISTING SIDEWALK
- ④ REMOVE EXISTING PAVEMENT
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- ⑥ REMOVE SIGN & PROVIDE TO CITY (BASE BID)
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- ⑨ REMOVE SIGN & PROVIDE TO CITY (ALT. BID 1)



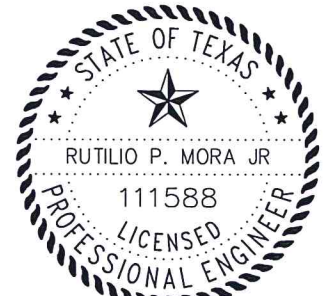
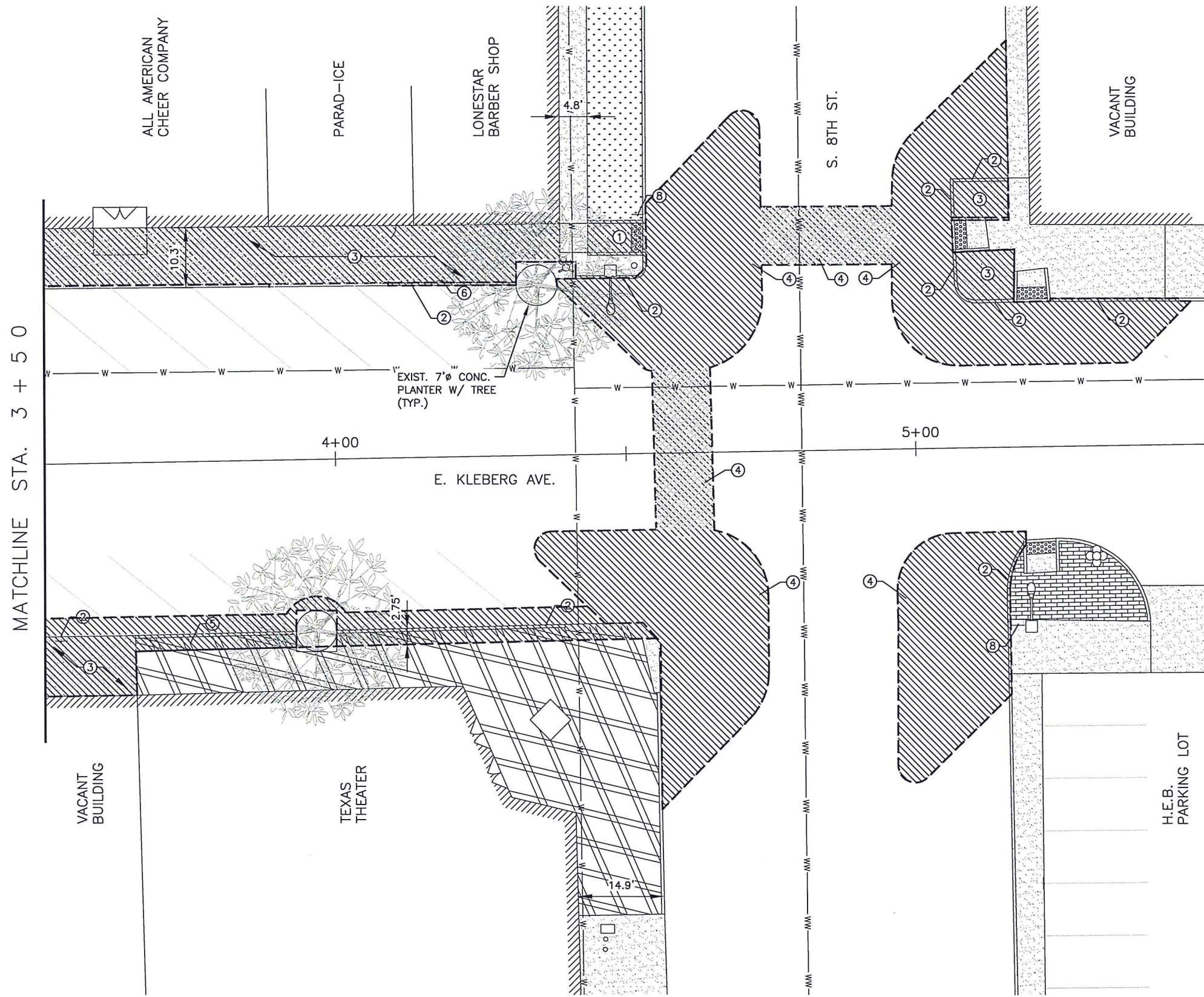
AREAS TO BE DEMOLISHED
 AREAS TO BE SAW-CUT
 AREAS TO BE DEMOLISHED (ALT. BID 1)



A
8

STA. 3+50 - STA. END (DEMOLITION PLAN)

SCALE: 1:20



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2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
 STA. 3+50 TO STA. END (DEMOLITION PLAN)

SHEET
8

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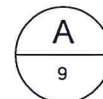


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MATCHLINE STA. - 1 + 0 0

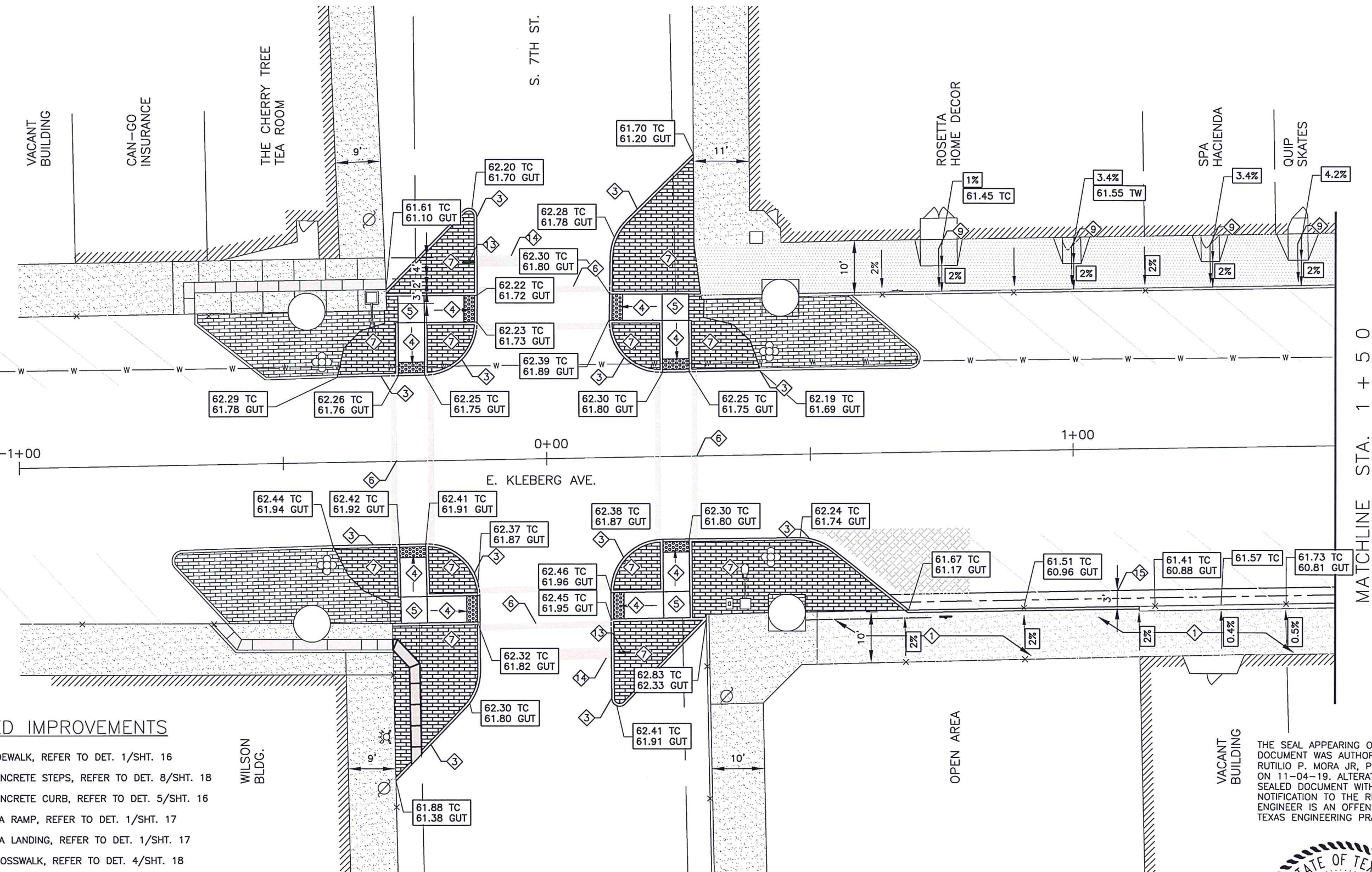
PROPOSED IMPROVEMENTS

- ① NEW SIDEWALK, REFER TO DET. 1/SHT. 16
- ② NEW CONCRETE STEPS, REFER TO DET. 8/SHT. 18
- ③ NEW CONCRETE CURB, REFER TO DET. 5/SHT. 16
- ④ NEW ADA RAMP, REFER TO DET. 1/SHT. 17
- ⑤ NEW ADA LANDING, REFER TO DET. 1/SHT. 17
- ⑥ NEW CROSSWALK, REFER TO DET. 4/SHT. 18
- ⑦ NEW BRICK PAVERS (MATCH EXISTING), REFER TO DET. 6/SHT. 18
- ⑧ NEW SIDEWALK DRAIN, REFER TO DET. 1/SHT. 18
- ⑨ NEW BUILT UP RAMP, REFER TO DET. 2/SHT. 19
- ⑩ NEW DECORATIVE LAMP WITH BASE, REFER TO SHT. 15
- ⑪ NEW PLANTER, REFER TO DET. 1/SHT. 19
- ⑫ NEW SIGN, REFER TO DET. 5/SHT. 18
- ⑬ RELOCATED STOP SIGN
- ⑭ STOP BAR, REFER TO DET. 4/SHT. 18
- ⑮ CONCRETE VALLEY GUTTER, REFER TO DET. 6/SHT. 16

WILSON
BLDG.NEW SIDEWALK
(ALT. BID 1)

STA. -1+00 - 1+50 (PROPOSED PLAN)

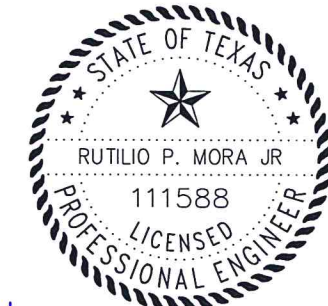
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MATCHLINE STA. 1 + 5 0

VACANT
BUILDING

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2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
STA. -1+00 TO STA. 1+50 (PROPOSED PLAN)

Drawn by: J. RAMIREZ

Date: 6/04/2019

Checked by: R. MORA

Job:

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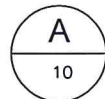
9

PROPOSED IMPROVEMENTS

- ① NEW SIDEWALK, REFER TO DET. 1/SHT. 16
- ② NEW CONCRETE STEPS, REFER TO DET. 8/SHT. 18
- ③ NEW CONCRETE CURB, REFER TO DET. 5/SHT. 16
- ④ NEW ADA RAMP, REFER TO DET. 1/SHT. 17
- ⑤ NEW ADA LANDING, REFER TO DET. 1/SHT. 17
- ⑥ NEW CROSSWALK, REFER TO DET. 4/SHT. 18
- ⑦ NEW BRICK PAVERS (MATCH EXISTING), REFER TO DET. 6/SHT. 18
- ⑧ NEW SIDEWALK DRAIN, REFER TO DET. 1/SHT. 18
- ⑨ NEW BUILT UP RAMP, REFER TO DET. 2/SHT. 19
- ⑩ NEW DECORATIVE LAMP WITH BASE, REFER TO SHT. 15
- ⑪ NEW PLANTER, REFER TO DET. 1/SHT. 19
- ⑫ NEW SIGN, REFER TO DET. 5/SHT. 18
- ⑬ RELOCATED STOP SIGN
- ⑭ STOP BAR, REFER TO DET. 4/SHT. 18
- ⑮ CONCRETE VALLEY GUTTER, REFER TO DET. 6/SHT. 16

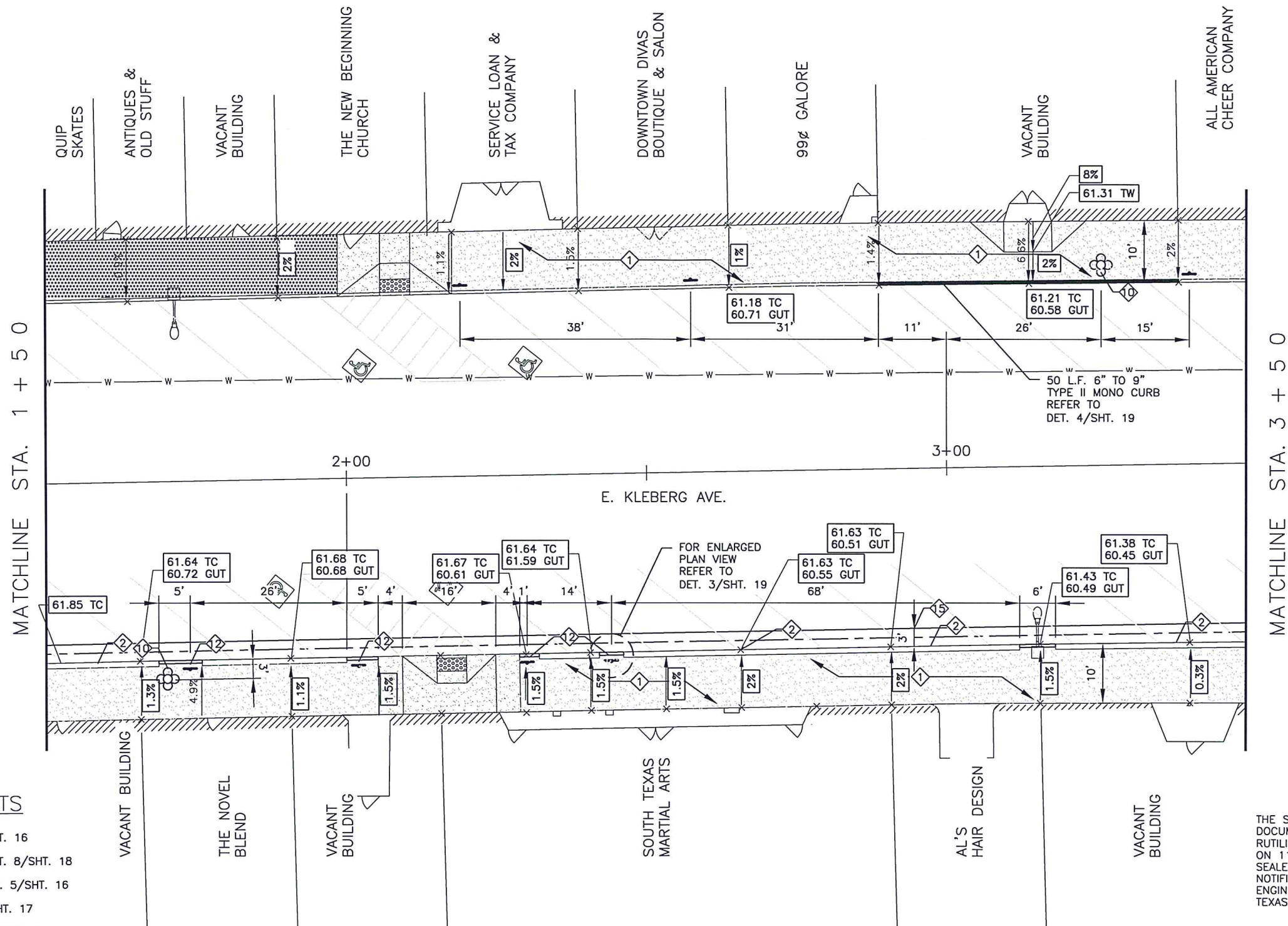


NEW SIDEWALK
(ALT. BID 1)

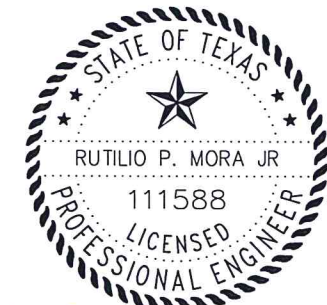


A STA. 1+50 - 3+50 (PROPOSED PLAN)

SCALE: 1:20



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2018-2019 DOWNTOWN IMPROVEMENTS

KLEBERG AVE. - 7TH ST. TO 8TH ST.
STA. 1+50 TO STA. 3+50 (PROPOSED PLAN)

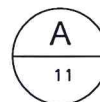
SHEET
10

PROPOSED IMPROVEMENTS

- 1 NEW SIDEWALK, REFER TO DET. 1/SHT. 16
- 2 NEW CONCRETE STEPS, REFER TO DET. 8/SHT. 18
- 3 NEW CONCRETE CURB, REFER TO DET. 5/SHT. 16
- 4 NEW ADA RAMP, REFER TO DET. 1/SHT. 17
- 5 NEW ADA LANDING, REFER TO DET. 1/SHT. 17
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- 10 NEW DECORATIVE LAMP WITH BASE, REFER TO SHT. 15
- 11 NEW PLANTER, REFER TO DET. 1/SHT. 19
- 12 NEW SIGN, REFER TO DET. 5/SHT. 18
- 13 RELOCATED STOP SIGN
- 14 STOP BAR, REFER TO DET. 4/SHT. 18
- 15 CONCRETE VALLEY GUTTER, REFER TO DET. 6/SHT. 16



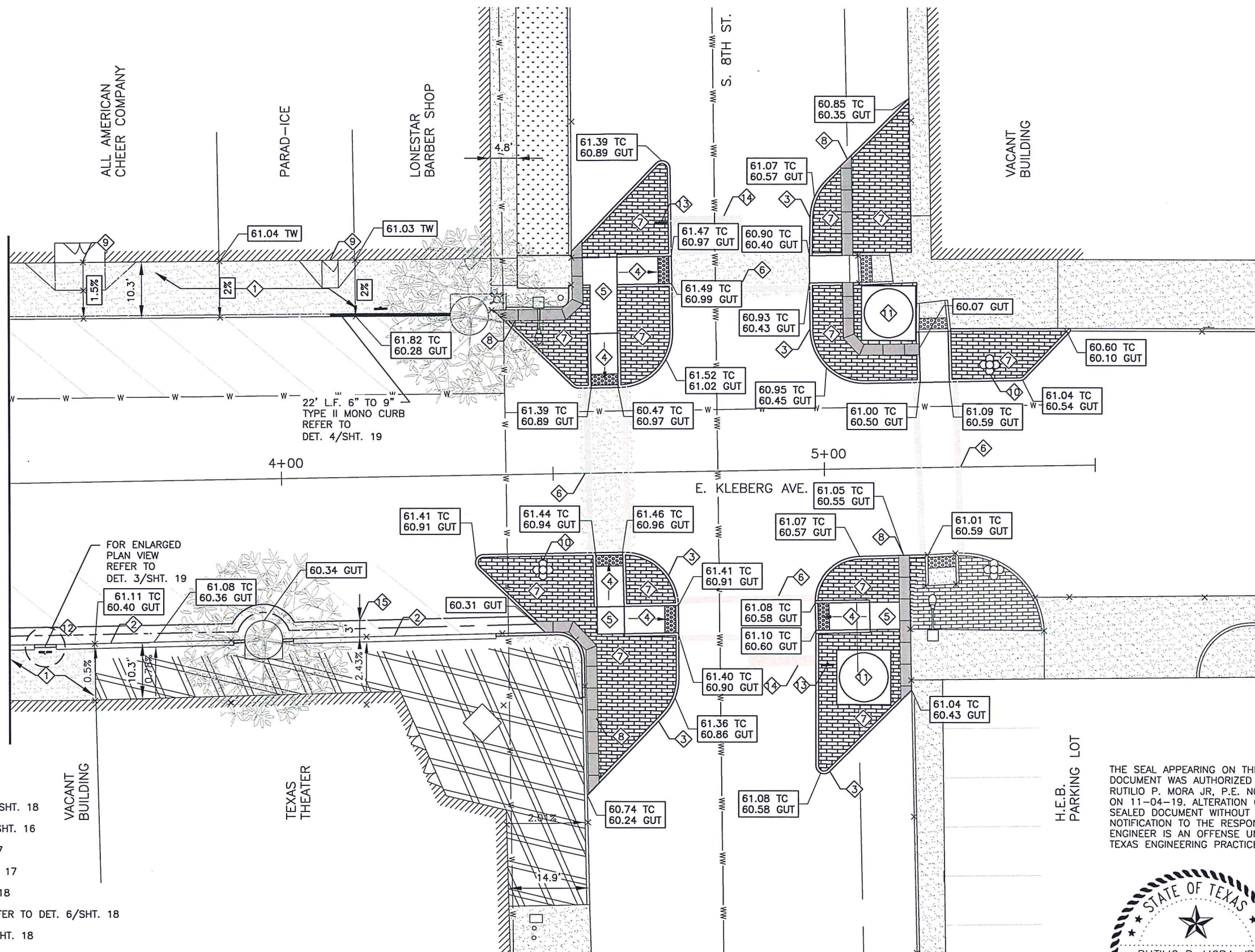
NEW SIDEWALK
(ALT. BID 1)



STA. 3+50 - STA. END (PROPOSED PLAN)

SCALE: 1:20

MATCHLINE STA. 3 + 50



H.E.B.
PARKING LOT

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2018-2019 DOWNTOWN IMPROVEMENTS

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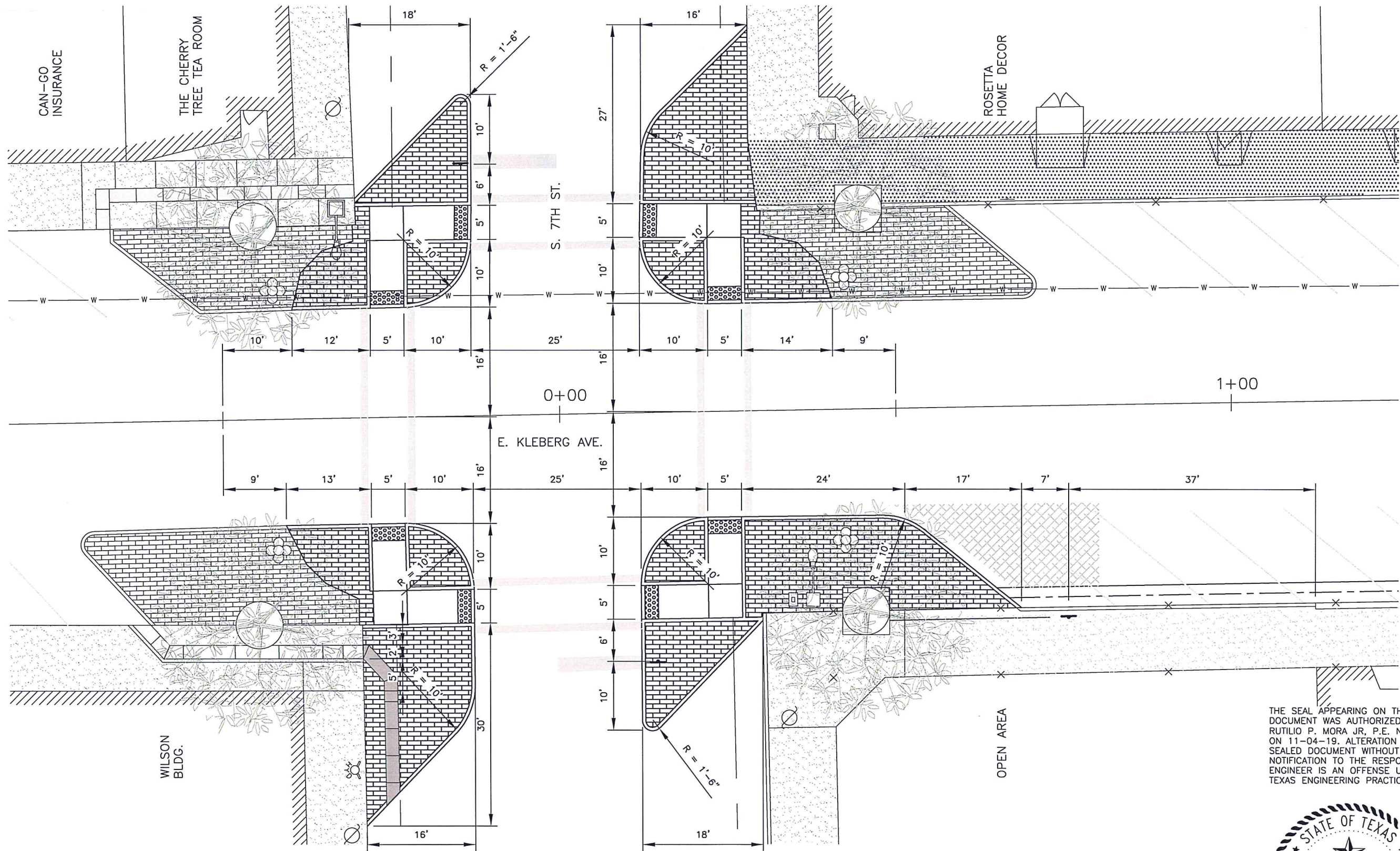
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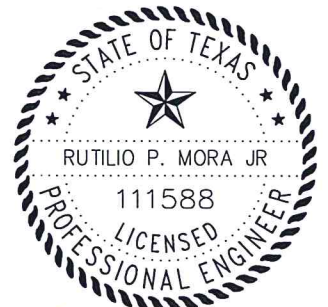
SHEET

11




A
12

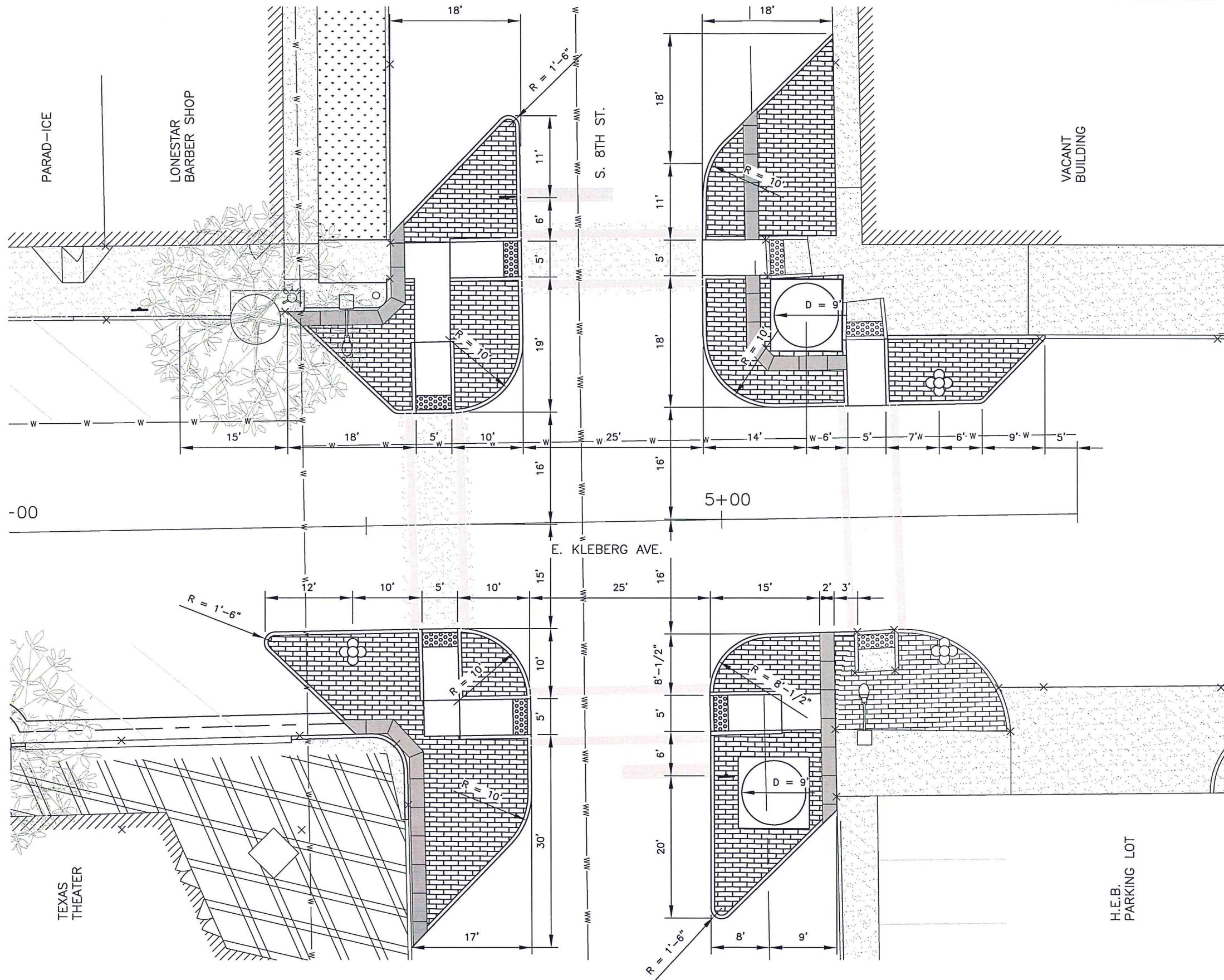
PROPOSED KLEBERG AVENUE & 7TH ST. (BULB OUTS)
SCALE: N.T.S.



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Drawn by: J. RAMIREZ Date: 6/04/2019 Checked by: R. MORA Job:	2018-2019 DOWNTOWN IMPROVEMENTS KLEBERG AVE. - 7TH ST. TO 8TH ST. PROPOSED KLEBERG AVENUE & 7TH ST. (BULB OUTS)	
SHEET 12		



A
13

PROPOSED KLEBERG AVENUE & 8TH ST. (BULB OUTS)
SCALE: N.T.S.

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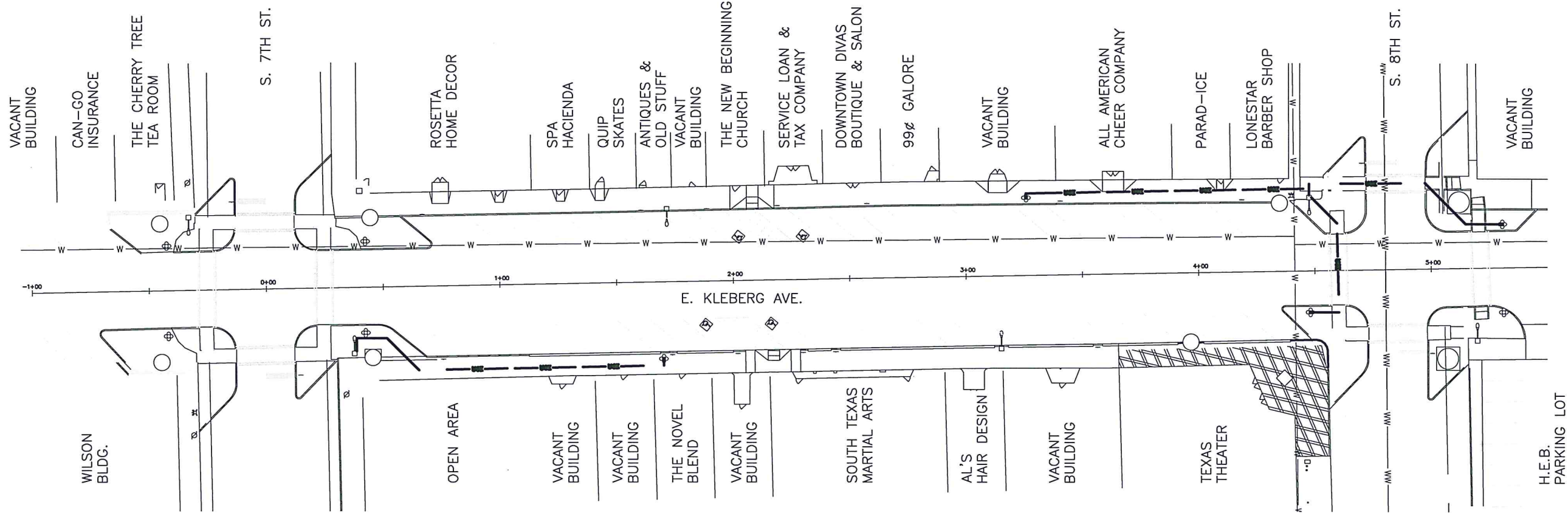


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2018-2019 DOWNTOWN IMPROVEMENTS
KLEBERG AVE. - 7TH ST. TO 8TH ST.
PROPOSED KLEBERG AVENUE & 8TH ST. (BULB OUTS)

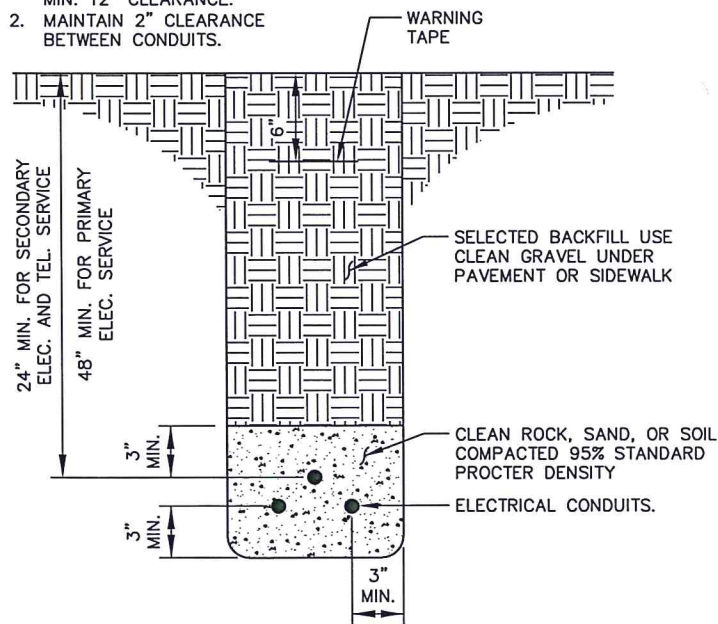
SHEET
13

NOTE:
CONTRACTOR TO VERIFY
UNDERGROUND ELECTRICAL
PLACEMENT AND
POWER CONNECTION.



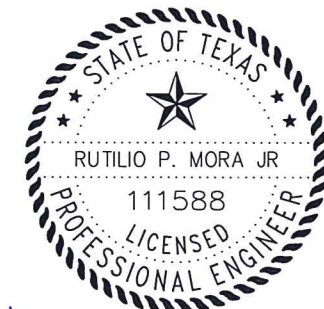
1 ELECTRICAL SITE PLAN
14 SCALE: 1:50

- NOTE:
1. WHERE CONDUITS ARE NEAR OTHER UTILITIES, MAINTAIN MIN. 12" CLEARANCE.
 2. MAINTAIN 2" CLEARANCE BETWEEN CONDUITS.



2 UNDERGROUND CONDUIT (TYP.)
14 SCALE: N.T.S.

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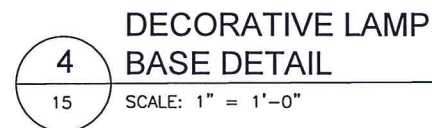
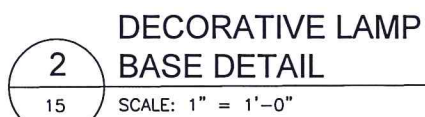


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2018-2019 DOWNTOWN IMPROVEMENTS

ELECTRICAL SITE PLAN

1. ALL WIRING SHALL BE CONTAINED IN CONDUIT OF PROPER SIZE.
2. ALL WIRING SHALL CONFORM TO LOCAL, STATE AND FEDERAL CODES.
3. ELECTRICAL PANEL TO BE LABELED CORRECTLY WITH LEGIBLE PRINT.
4. ALL CONDUCTORS TO BE COPPER #12 AWG MINIMUM SIZE, OR AS REQUIRED BY LOAD AND OVER CURRENT PROTECTION.



5
15

DECORATIVE LAMP
BASE DETAIL

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

-
- Diagram illustrating the plan view of a circular structure, likely a manhole or vault, showing reinforcement details. The structure has an overall diameter of 1'-6" ϕ .
- Reinforcement details include:
- 1" ϕ x 8'-6" GROUND ROD
 - #4 TIES @ 12"
 - (4) ANCHOR BOLTS (TYP.) INSTALL PER MANUFACTURER'S RECOMMENDATIONS
 - 3" MIN. CLR.
 - (2) 3/4" ϕ PVC CONDUIT
 - (8) #5 VERTICAL BARS
 - 1'-0" LAP
- The diagram shows a circular cross-section with a central core. The outer ring is reinforced with 8 #5 vertical bars. The inner core is reinforced with 4 #4 ties and 4 anchor bolts. Two 3/4" ϕ PVC conduits are shown entering the structure. A ground rod is attached to the structure. The overall diameter is 1'-6" ϕ . A 1'-0" lap is indicated for the ground rod. A 3" minimum clearance is shown between the structure and the ground rod. The word "PLAN" is written below the diagram.

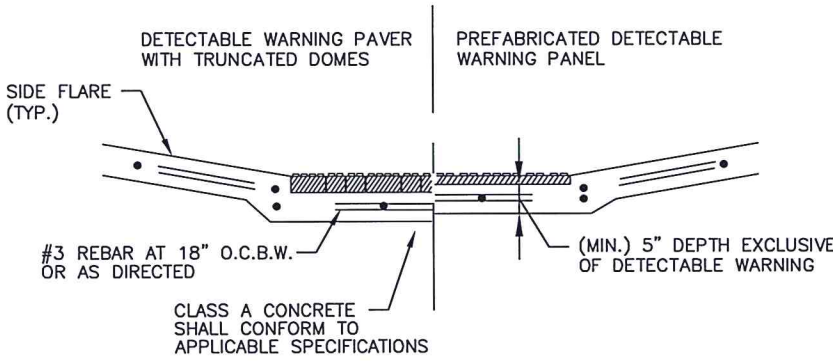


A circular professional engineer seal for the State of Texas. The outer ring contains the text "STATE OF TEXAS" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars on each side. The center of the seal features a five-pointed star. Below the star, the name "RUTILIO P. MORA JR" is inscribed, followed by the license number "111588" and the word "LICENSED" at the bottom.

Rutilio P. Mora Jr. 11/4/2019
RUTILIO P. MORA JR., P.E. NO. 111588

CURB RAMPS

1. INSTALL A CURB RAMP OR BLENDED TRANSITION AT EACH PEDESTRIAN STREET CROSSING.
2. ALL SLOPES SHOWN ARE MAXIMUM ALLOWABLE. CROSS SLOPES OF 1.5% AND LESSER RUNNING SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
3. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2%.
4. THE MINIMUM SIDEWALK WIDTH IS 5'. WHERE THE SIDEWALK IS ADJACENT TO THE BACK OF CURB, 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' PASSING AREAS AT INTERVALS NOT TO EXCEED 200' ARE REQUIRED.
5. TURNING SPACES SHALL BE 5' X 5' MINIMUM. CROSS SLOPE SHALL BE MAXIMUM 2%.
6. CLEAR 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.
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 PEDESTRIANS WOULD 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 LATEST DRAFT OF THE PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT OF WAY (PROWAG) AS PUBLISHED BY THE U.S. ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD (ACCESS BOARD).
9. TO SERVE AS A PEDESTRIAN REFUGE AREA, THE MEDIAN SHOULD BE A MINIMUM OF 6' WIDE, MEASURED FROM BACK OF CURBS. 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. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, CURB RAMPS SHALL ALIGN WITH THEORETICAL CROSSWALKS UNLESS OTHERWISE DIRECTED.
12. PROVIDE CURB RAMPS TO CONNECT THE PEDESTRIAN ACCESS ROUTE AT EACH PEDESTRIAN STREET CROSSING. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS.
13. CURB RAMPS AND LANDINGS SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH ITEM 531 "SIDEWALKS".
14. PLACE CONCRETE AT A MINIMUM DEPTH OF 5" FOR RAMPS, FLARES AND LANDINGS, UNLESS OTHERWISE DIRECTED.
15. FURNISH AND INSTALL NO. 3 REINFORCING STEEL BARS AT 18" O.C. BOTH WAYS, UNLESS OTHERWISE DIRECTED.
16. PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
17. EXISTING FEATURES THAT COMPLY WITH APPLICABLE STANDARDS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.



3 CURB RAMP DETAIL @ DETECTABLE WARNINGS
17 SCALE: N.T.S.

DETECTABLE WARNING MATERIAL

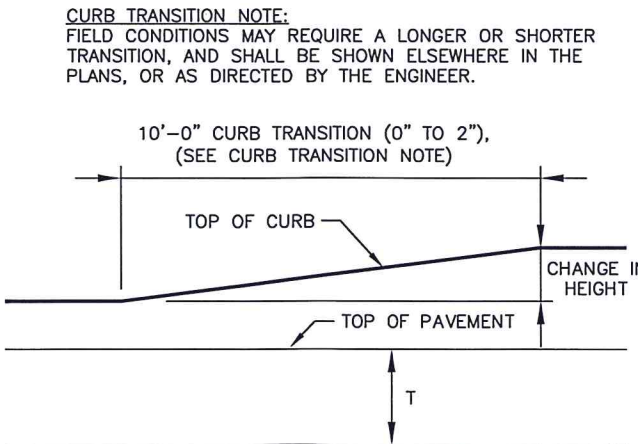
1. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH PROWAG. THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH AND INSTALL AN APPROVED CAST-IN-PLACE DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE MATERIAL ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. 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.
3. DETECTABLE WARNING SURFACES MUST BE FIRM, STABLE AND SLIP RESISTANT.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24 INCHES 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.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB AND NEITHER END OF THAT EDGE IS GREATER THAN 5 FEET FROM THE BACK OF CURB. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. SHADED AREAS ON SHEET 1 OF 4 INDICATE THE APPROXIMATE LOCATION FOR THE DETECTABLE WARNING SURFACE FOR EACH CURB RAMP TYPE.

DETECTABLE WARNING PAVERS (IF USED)

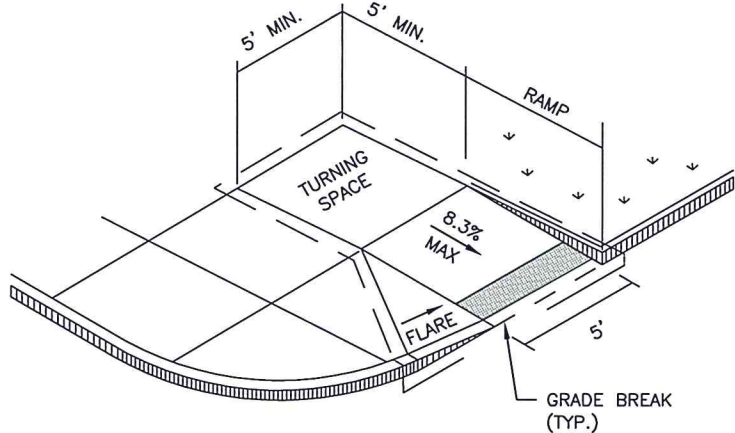
1. FURNISH DETECTABLE WARNING PAVER UNITS MEETING ALL REQUIREMENTS OF ASTM C-936, C-33. LAY IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS DIRECTED.
2. LAY FULL-SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25 PERCENT (25%) OF A FULL UNIT. CUT DETECTABLE WARNING PAVER UNITS USING A POWER SAW.

SIDEWALKS

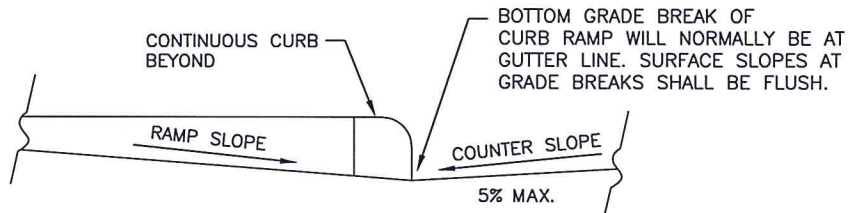
1. PROVIDE CLEAR GROUND SPACE AT OPERABLE PARTS, INCLUDING PEDESTRIAN PUSH BUTTONS. OPERABLE PARTS SHALL BE PLACED WITHIN UNOBSTRUCTED REACH RANGE SPECIFIED IN PROWAG SECTION R406.
2. PLACE TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SO AS NOT TO OBSTRUCT THE PEDESTRIAN ACCESS ROUTE OR CLEAR GROUND SPACE.
3. STREET GRADES AND CROSS SLOPES SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
4. CHANGES IN LEVEL GREATER THAN 1/4 INCH ARE NOT PERMITTED.
5. THE LEAST POSSIBLE GRADE SHOULD BE USED TO MAXIMIZE ACCESSIBILITY. THE RUNNING SLOPE OF SIDEWALKS AND CROSSWALKS WITHIN THE PUBLIC RIGHT OF WAY MAY FOLLOW THE GRADE OF THE PARALLEL ROADWAY. WHERE A CONTINUOUS GRADE GREATER THAN FIVE PERCENT (5%) MUST BE PROVIDED, HANDRAILS MAY BE DESIRABLE TO IMPROVE ACCESSIBILITY. HANDRAILS MAY ALSO BE NEEDED TO PROTECT PEDESTRIANS FROM POTENTIALLY HAZARDOUS CONDITIONS. IF PROVIDED, HANDRAILS SHALL COMPLY WITH PROWAG R409.
6. HANDRAIL EXTENSIONS SHALL NOT PROTRUDE INTO THE USABLE LANDING AREA OR INTO INTERSECTING PEDESTRIAN ROUTES.
7. DRIVEWAYS AND TURNOUTS SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH ITEM "INTERSECTIONS, DRIVEWAYS AND TURNOUTS". SIDEWALKS SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH ITEM, "SIDEWALKS".
8. SIDEWALK DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.



4 CURB TRANSITION
17 SCALE: N.T.S.



1 PERPENDICULAR CURB RAMP
17 SCALE: N.T.S.



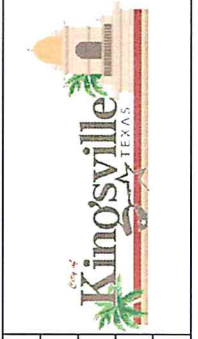
2 TYP. SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY
17 SCALE: N.T.S.

CURB TRANSITION NOTE:
FIELD CONDITIONS MAY REQUIRE A LONGER OR SHORTER TRANSITION, AND SHALL BE SHOWN ELSEWHERE IN THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY RUTILIO P. MORA JR., P.E. NO. 111588 ON 11-04-19. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



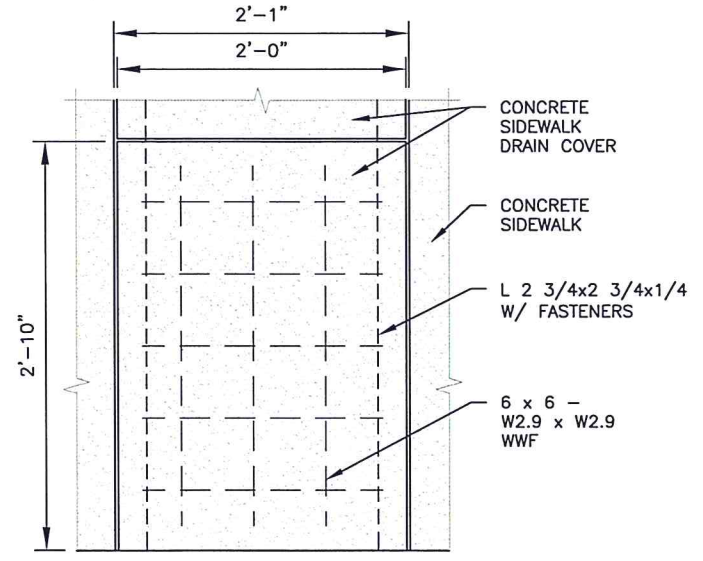
Rutilio P. Mora Jr. 11/4/2019
RUTILIO P. MORA JR., P.E. NO. 111588



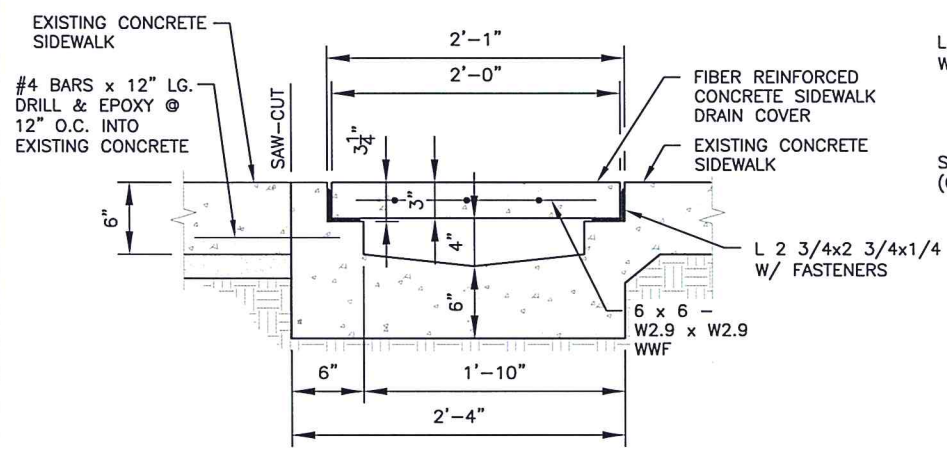
Drawn by: J. RAMIREZ
Date: 6/04/2019
Checked by: R. MORA
Job:
Scale: AS NOTED

2018-2019 DOWNTOWN IMPROVEMENTS

MISCELLANEOUS DETAILS III



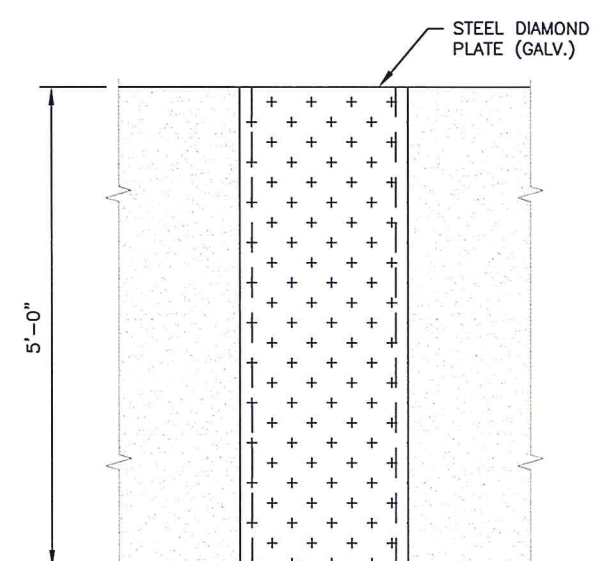
PLAN



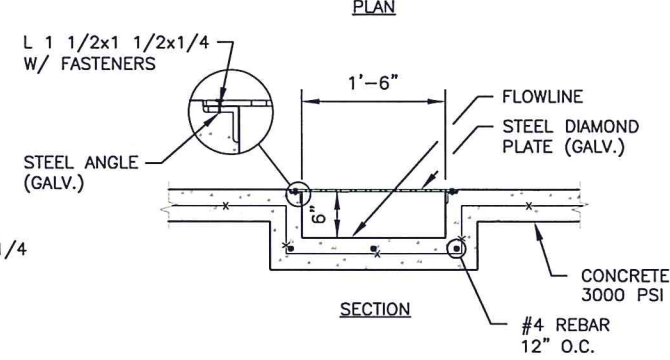
SECTION

1
SIDWALK DRAIN DETAIL (BASE BID)

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



PLAN



SECTION

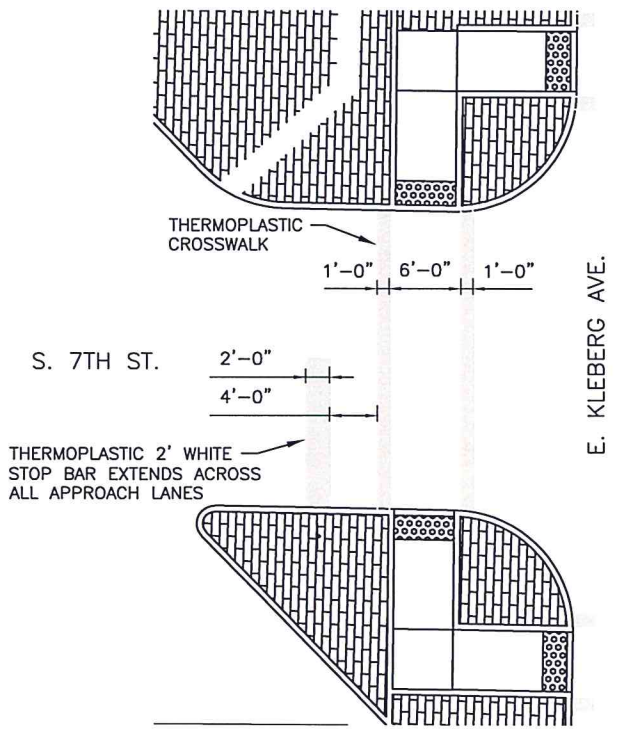
2
SIDWALK DRAIN DETAIL (ALTERNATE BID #4)

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



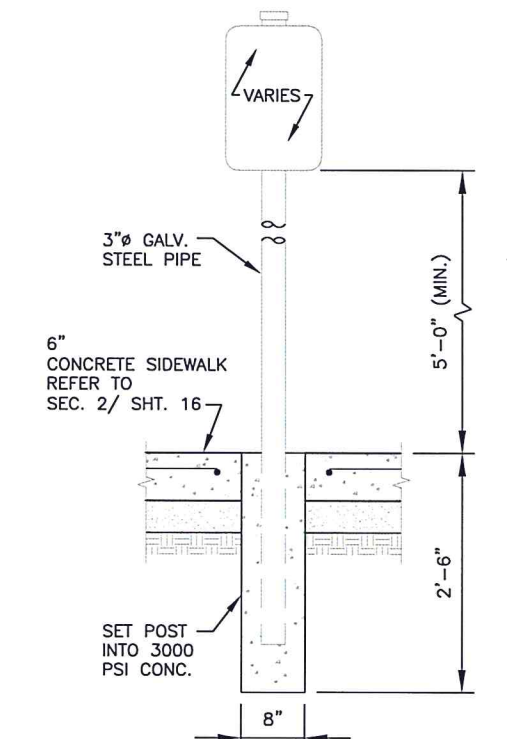
3
SIGN DETAILS

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



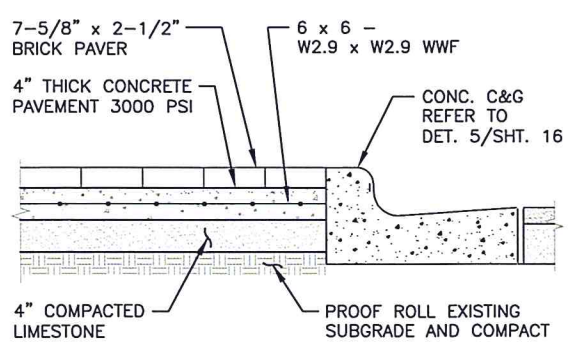
4
CROSSWALK DETAIL

SCALE: N.T.S.



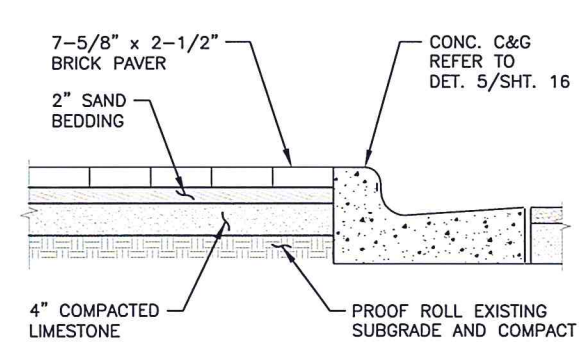
5
SIGN POST DETAIL

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



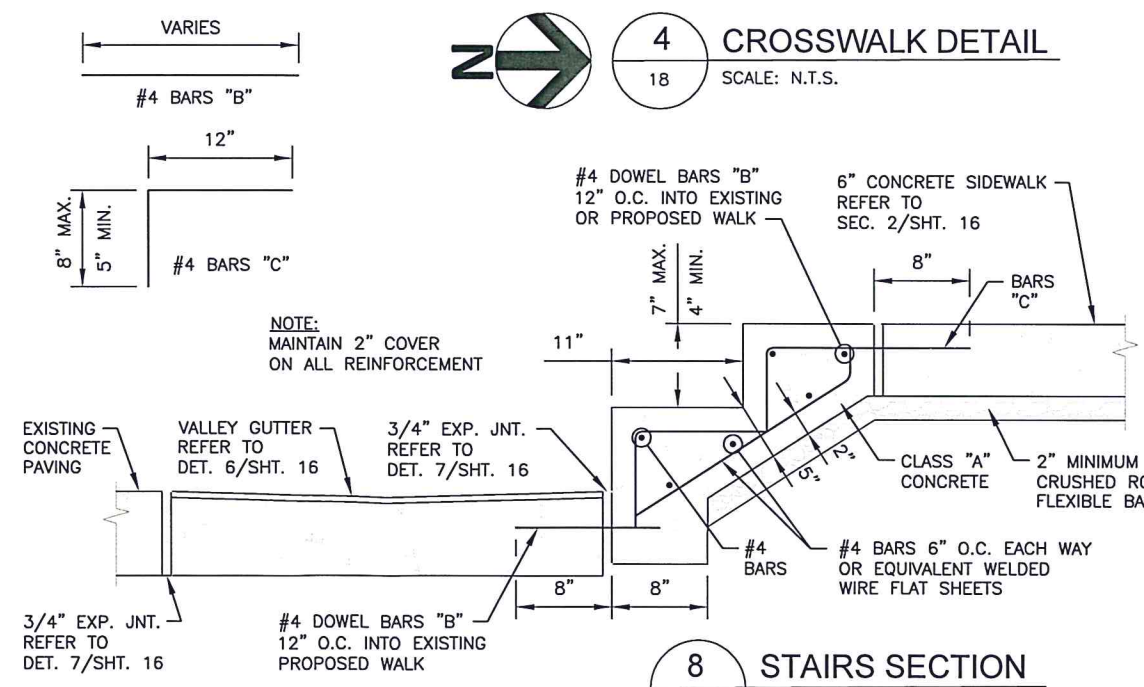
6
BRICK PAVER DETAIL (BASE BID)

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



7
BRICK PAVER DETAIL (ALTERNATE BID #3)

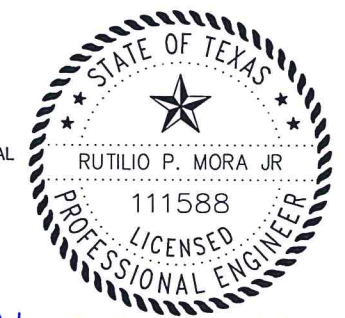
SCALE: 1/2" = 1'-0"



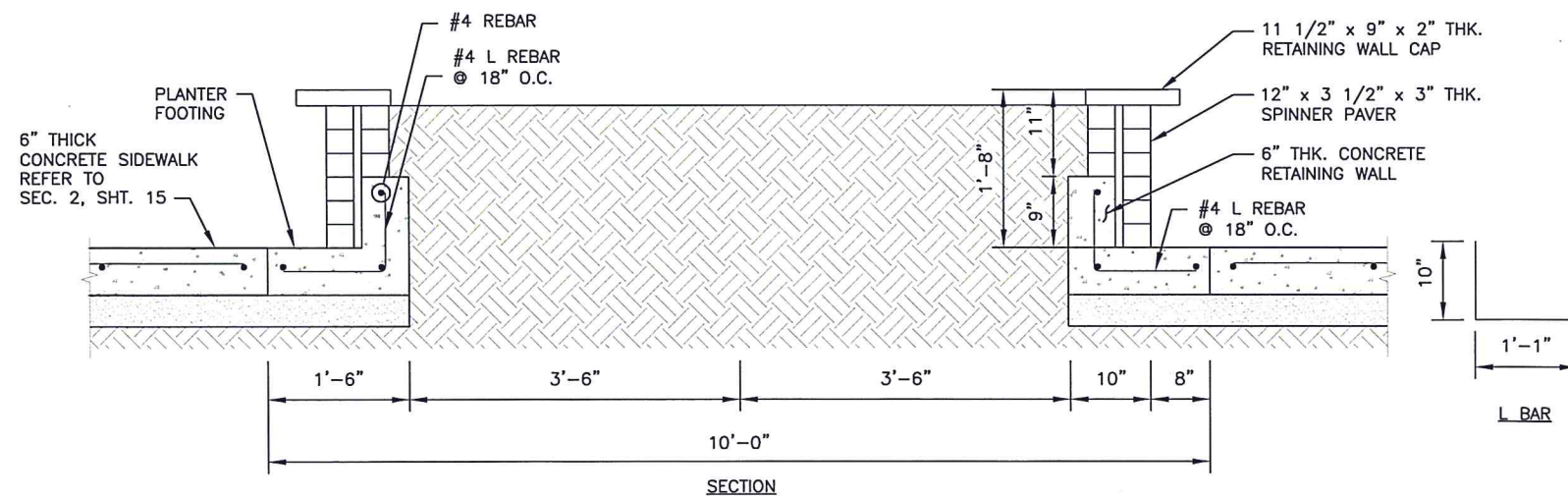
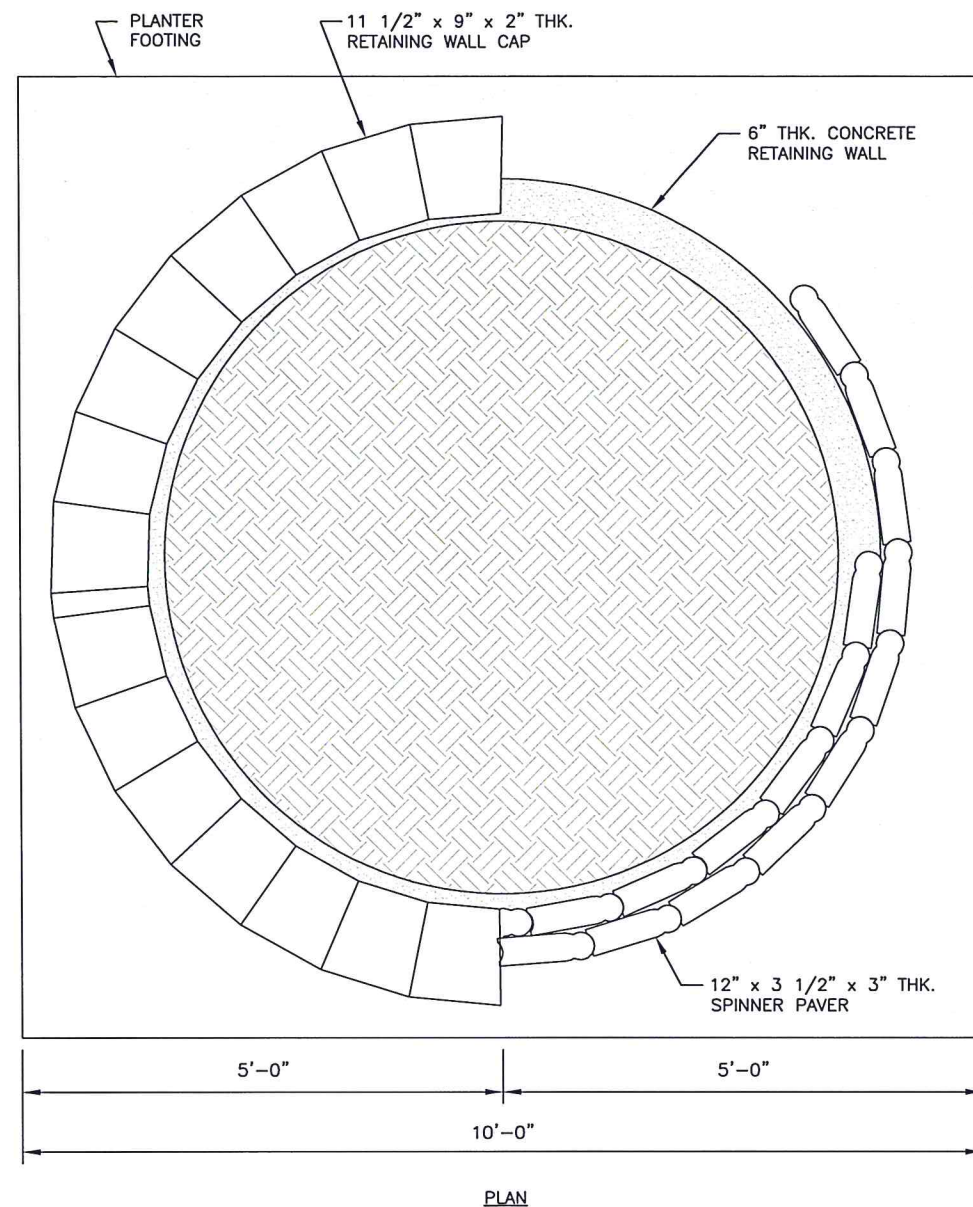
8
STAIRS SECTION

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

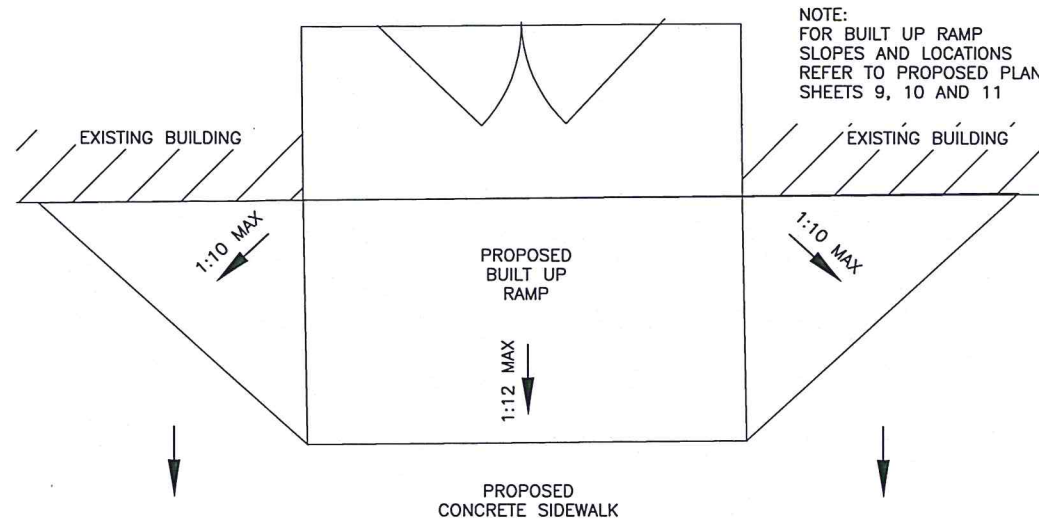
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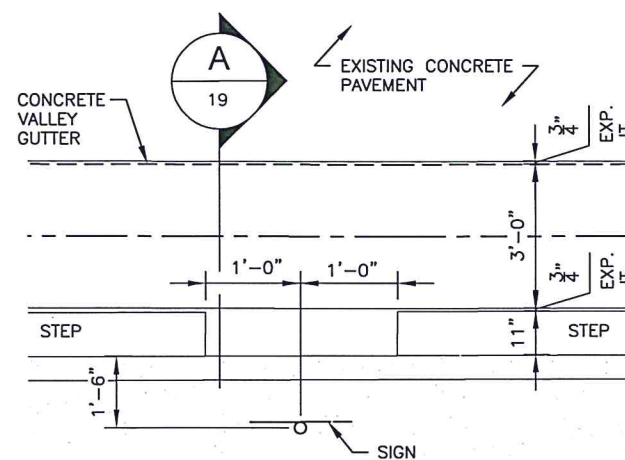
Rutilio P. Mora Jr. 11/4/2019
RUTILIO P. MORA JR., P.E. NO. 111588



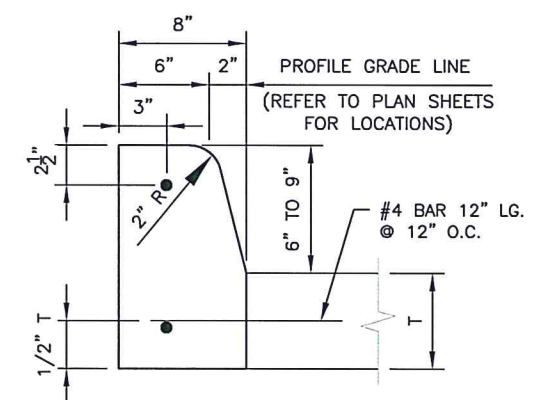
1 PLANTER DETAIL
19 SCALE: 1/2" = 1'-0"



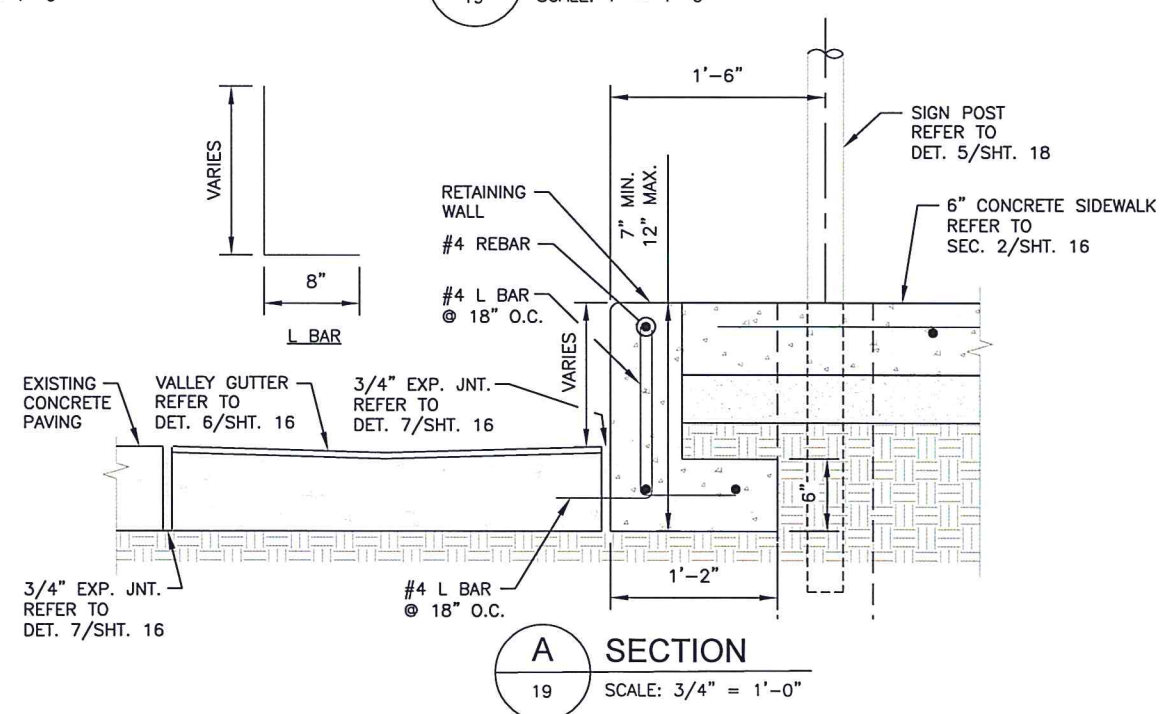
2 BUILT UP RAMP DETAIL
19 SCALE: 1/4" = 1'-0"



3 SIGN PLACEMENT DETAIL

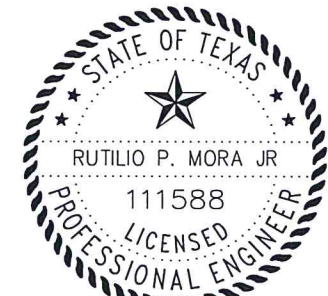


4 TYPE II MONOLITHIC CURB DETAIL
19 SCALE: 1" = 1'-0"



NOTE:
FOR BUILT UP RAMP
SLOPES AND LOCATIONS
REFER TO PROPOSED PLAN
SHEETS 9, 10 AND 11

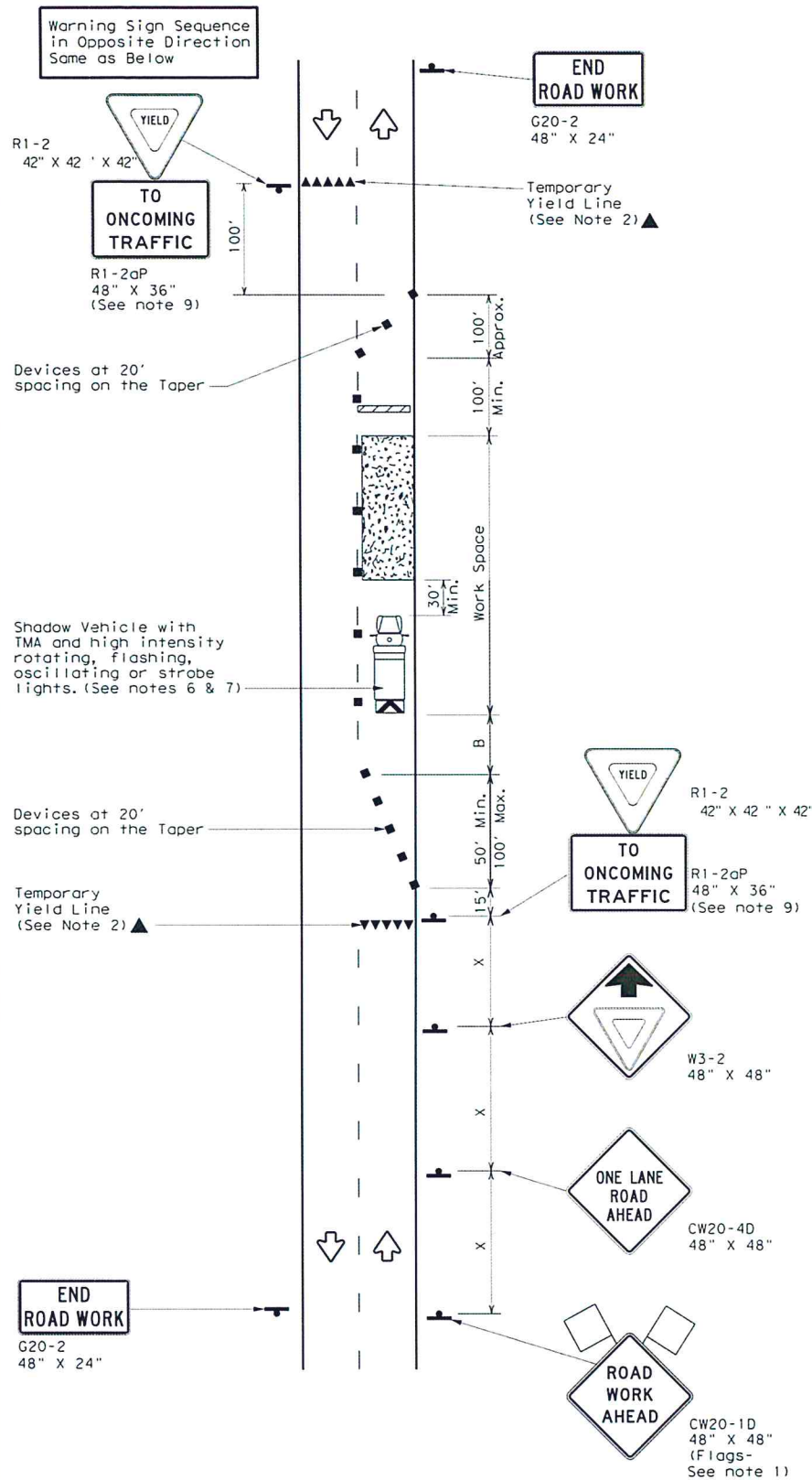
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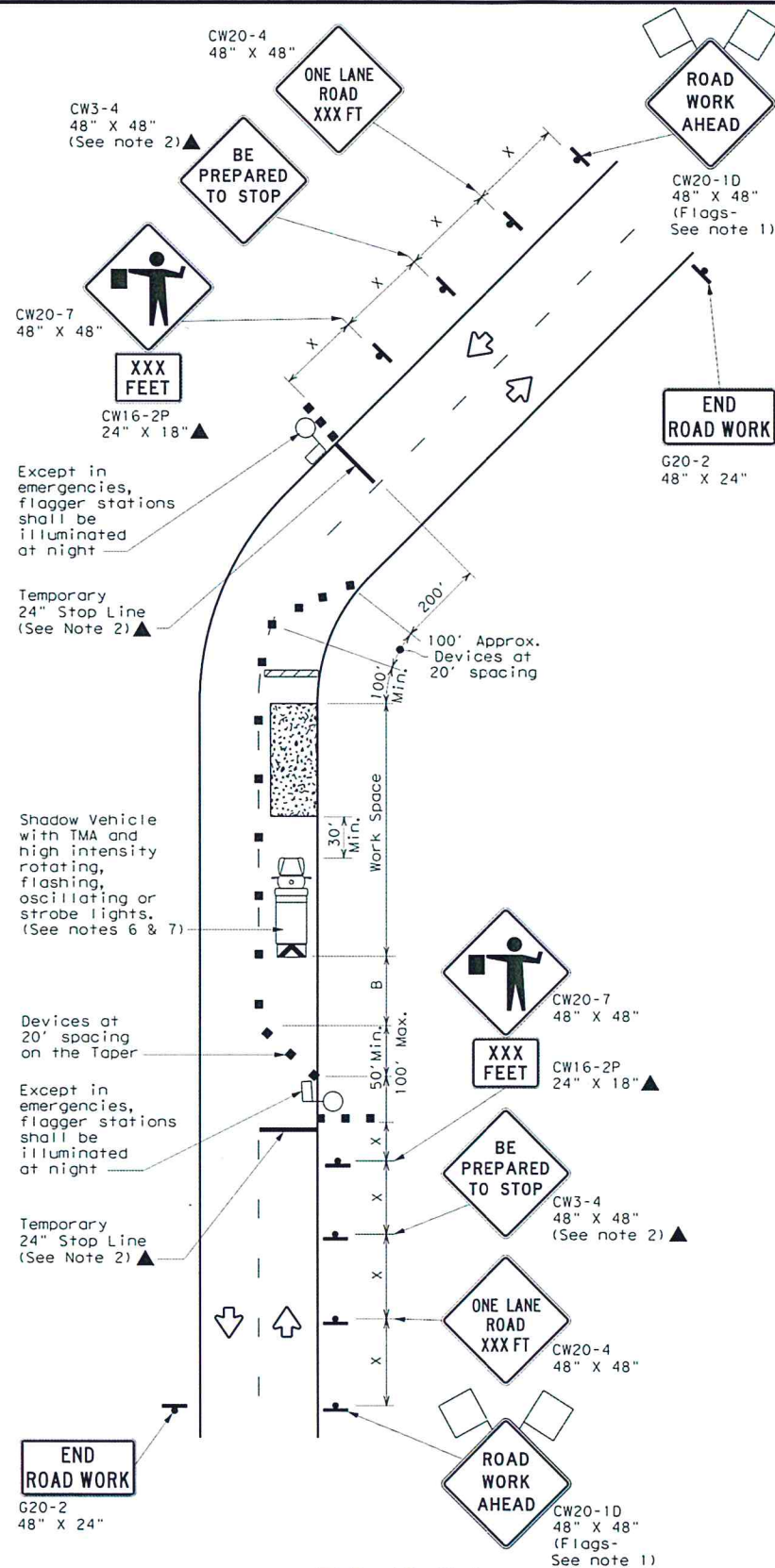
Rutilio P. Mora Jr. 11/4/2019
RUTILIO P. MORA JR, P.E. NO. 111588

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DATE: FILE:



TCP (2-2a)
2-LANE ROADWAY WITHOUT PAVED SHOULDERS
ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See Note 9)



TCP (2-2b)
2-LANE ROADWAY WITHOUT PAVED SHOULDERS
ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
- Flaggers should use two-way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate.
- A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)

- The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
- The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

TCP (2-2b)

- Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
- If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
- Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

		Traffic Operations Division Standard			
TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL					
TCP (2-2) - 18					
FILE: tcp2-2-18.dgn	DN:	CAS	DN:		
© TxDOT December 1985	CONT	SECT	JOB		
8-95 3-03	DIS	COUNTY	SHEET NO.		
1-97 2-12					
4-98 2-18					
162					

BID PROPOSAL

Proposal of _____

a * _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of Texas to City of Kingsville, Texas (hereinafter called "OWNER.")

BIDDER hereby proposes to perform all WORK for the construction of the **"2019 Downtown Improvements – Kleberg Avenue"** in accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within **180** consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of **\$ 200.00** for each consecutive calendar day thereafter as provided in the General Conditions.

BIDDER acknowledges receipt of the following ADDENDUM:

*Insert "a corporation", "a partnership", or "an Individual" as applicable.

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following amount:

BID SCHEDULE

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
<u>BASE BID – 2019 DOWNTOWN IMPROVEMENT – KLEBERG AVENUE</u>					
1)	1	LS	REMOVE/DISPOSE OF EXISTING CONCRETE CURB SIDEWALK, PAVEMENT, RAMP AND BULB-OUT per plans and specifications, complete in place.	_____	_____
2)	725	LF	6” TYPE CURB & GUTTER (TYPE L) per plans and specifications, complete in place.	_____	_____
3)	145	LF	6” TO 9” MONO CURB per plans and specifications, complete in place.	_____	_____
4)	125	SY	3’ CONCRETE VALLEY GUTTER per plans and specifications, complete in place.	_____	_____
5)	105	LF	CONCRETE RETAINING WALL per plans and specifications, complete in place.	_____	_____
6)	4815	SF	6” SIDEWALK AND BUILT- UP RAMP per plans and specifications, complete in place.	_____	_____
7)	155	LF	SIDEWALK DRAIN INCLUDING CONCRETE WALKING SURFACE AND ALL RELATED APPURTENANCES per plans and specifications, complete in place.	_____	_____

8)	85	SF	6' CONCRETE PAVEMENT WITH 4" LIMESTONE per plans and specifications, complete in place.	_____	_____
9)	265	LF	CONCRETE STEPS per plans and specifications, complete in place.	_____	_____
10)	13	EA	ADA RAMP INCLUDING DETECTABLE WARNING PLATE AND CURB per plans and specifications, complete in place.	_____	_____
11)	2	EA	EROSION CONTROL PLANTER WITH BRICK VENEER per plans and specifications, complete in place.	_____	_____
12)	410	SY	BULB- OUT W/BRICK PAVERS AND 4" CONC. BASE per plans and specifications, complete in place.	_____	_____
13)	8	EA	CROSSWALK STRIPING - THERMOPLASTIC per plans and specifications, complete in place.	_____	_____
14)	2	EA	STOP BAR- THERMOPLASTIC per plans and specifications, complete in place.	_____	_____
15)	10	EA	METAL SIGN INCLUDING POST, FOOTING AND FASTENERS plans and specifications, complete in place.	_____	_____

16)	4	EA	ALUMINUM STREET LAMP INCLUDING FOOTING AND ELECTRICAL WIRING AND ALL RELATED APPURTENANCES per plans and specifications, complete in place.	_____	_____
-----	---	----	--	-------	-------

SUBTOTAL BASE BID – (ITEMS 1 – 15) \$ _____

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
------	----------	------	-------------	------------	-------------

ALTERNATIVE BID NO. 1- 2019 DOWNTOWN IMPROVEMENTS – KLEBERG AVENUE

A-1)	1	LS	REMOVE/DISPOSE OF EXISTING CURB, SIGNS AND SIDEWALK per plans and specifications, complete in place.	_____	_____
A-2)	1630	SF	6” SIDEWALK AND BUILT-UP RAMP per plans and specifications, complete in place.	_____	_____
A-3)	3	EA	METAL SIGN INCLUDING POST, FOOTING AND FASTENERS per plans and specifications, complete in place.	_____	_____

SUBTOTAL ADD ALTERNATIVE BID NO. 1 – (ITEMS A-1- A-3) \$ _____

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
------	----------	------	-------------	------------	-------------

DEDUCTIVE ALTERNATIVE BID NO. 2- 2019 DOWNTOWN IMPROVEMENTS- KLEBERG AVENUE

A-2)	4815	SF	4" SIDEWALK AND BUILT-UP RAMP (IN LIEU OF BASE BID ITEM 3) per plans and specifications, complete in place.	_____	_____
------	------	----	--	-------	-------

SUBTOTAL DEDUCT ALTERNATIVE BID NO. 2 – (ITEMS A-2) \$ _____

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
------	----------	------	-------------	------------	-------------

DEDUCTIVE ALTERNATIVE BID NO. 3- 2019 DOWNTOWN IMPROVEMENTS- KLEBERG AVENUE

A-3)	155	SF	SIDEWALK DRAIN WITH STEEL PLATE (IN LIEU OF BASE BID ITEM 4) per plans and specifications, complete in place.	_____	_____
------	-----	----	--	-------	-------

SUBTOTAL DEDUCT ALTERNATE BID NO. 3 – (ITEM A-3) \$ _____

TOTAL BASE BID – LINE “A” – “D” \$ _____

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
------	----------	------	-------------	------------	-------------

DEDUCTIVE ALTERNATIVE BID NO. 4- 2019 DOWNTOWN IMPROVEMENTS- KLEBERG AVENUE

A-4)	410	SY	BULB- OUT W/BRICK PAVERS AND 2” SAND BASE (IN LIEU OF BASE BID ITEM 9) per plans and specifications, complete in place.	_____	_____
------	-----	----	--	-------	-------

SUBTOTAL DEDUCT ALTERNATE BID NO. 4 – (ITEM A-4) \$_____

TOTAL BASE BID \$ _____

TOTAL BASE BID – ALT NO. 2, 3 AND 4 \$ _____

TOTAL BASE BID + ALT NO. 1 \$ _____

TOTAL BASE BID + ALT NO. 1 – ALT NO. 2, 3 AND 4 \$ _____

Respectfully submitted:

Signature

Address

Title

Date

License number (if applicable)

Date

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)

County of _____)

_____, being first duly sworn, deposes and says that:

(1) He is _____ of _____, the Bidder that has submitted the attached Bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the _____ (Local Public Agency) or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

Title

Subscribed and sworn to me this _____ day of _____.

By: _____
Notary Public

My commission expires _____

CONTRACTOR CERTIFICATIONS

U.S. Department of Housing and Urban Development

CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS

INSTRUCTIONS

CERTIFICATION OF BIDDER REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.

NAME AND ADDRESS OF BIDDER (include ZIP code)

CERTIFICATION BY BIDDER

Bidder has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations.

☐ Yes

☐ No

The undersigned hereby certifies that:

- ☐ The Provision of Local Training, Employment, and Business Opportunities clause (Section 3 provision) is included in the Contract. A written Section 3 plan (Local Opportunity Plan) was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$100,000).
- ☐ The Equal Opportunity clause is included in the Contract (if bid equals or exceeds \$10,000).

Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

☐ Yes

☐ No

NAME AND TITLE OF SIGNER (Please type)

SIGNATURE

DATE

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, _____ as PRINCIPAL, and _____ as SURETY are held and firmly bound unto hereinafter called the "Owner", in the penal sum of _____ Dollars, (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the Accompanying Bid, dated for

October 10, 2019, for 2019 DOWNTOWN IMPROVEMENTS- KLEBERG AVE. - FOR CITY OF KINGSVILLE, TEXAS

NOW, THEREFOR, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within thirty (30) days after the said opening, and shall within the period specified therefore, or if no period be specified, within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the Owner in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said Bid and the amount for which the local Public Agency may procure the required work or supplies or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS THEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____ the name and corporate seal of each corporate party being hereto affixed and these present signed by its undersigned representative, pursuant to authority of its governing body.

(SEAL)

(SEAL) Attest: By: _____

Affix Corporate

Seal Attest: By: _____

Affix Corporate Seal

Attest: By: _____

Countersigned

By: _____

* Attorney-in-Fact, State of _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____ certify that I am the _____ Secretary of the Corporation named as Principal in the within bond; that who _____ signed the said bond on behalf of the Principal was then _____ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested to, for and in behalf of said corporation by authority of this governing body.

Corporate

Seal

* Power-of-attorney for person signing for surety company must be attached to bond.

STANDARD FORM OF AGREEMENT
TxCDBG CONTRACT NO. 7219012
BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE

THIS AGREEMENT is dated as of the day of in the year by and between City of Kingsville (hereinafter called OWNER) and {hereinafter called CONTRACTOR}.

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK:

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

"2019 Downtown Improvements — Kleberg Avenue"

Article 2. ENGINEER:

The Project has been designed by:

City of Kingsville
Engineering Department
400 W King Ave
Kingsville, Texas 78363

Who is hereinafter called ENGINEER and who is to act as OWNERS representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. CONTRACT TIME:

3.1 The Work will be completed and ready for final payment in accordance with the General Conditions within 180 calendar days from the date when the Contract Time commences to run.

3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the time specified in paragraph 3. I above, plus any extensions thereof allowed in accordance with the General Conditions.

They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER two hundred & 00 100 dollars (\$200.00) for each calendar day that expires after the time specified in Article 3.1 of this Agreement for Substantial Completion until the Work is substantially complete.

After Substantial Completion if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER two hundred dollars (\$200.00) for each calendar day that expires after the time specified in Article 3. I of this Agreement for completion and readiness for final payment.

4. CONTRACT PRICE:

4.1 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents in current funds as follows: Per Contractors Proposal _____ dated in the Total Base Bid plus Additive Alternative Bid No. 1, Deductive Alternative Bid No. 2, Deductive Alternative Bid No. 3 and Deductive Alternative Bid No. 4 in the amount of _____, as attached and a part of this contract document.

Article 5. PAYMENT PROCEDURES:

CONTRACTOR shall submit Applications for Payment in accordance with the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

Article 6. INTEREST:

All moneys not paid when due as provided in the General Conditions shall bear interest at the maximum rate allowed by law at the place of the Project.

Article 7. CONTRACTORS REPRESENTATIONS:

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- 7.1. CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- 7.2. CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect the cost, progress, performance or furnishing of the Work as CONTRACTOR considers necessary for the performance of furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.
- 7.3. CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of the General and Special Conditions.

7.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

7.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR

8. CONTRACT DOCUMENTS:

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consists of the following:

CONTRACT DOCUMENTS

TECHNICAL SPECIFICATIONS
FOR

2019 DOWNTOWN IMPROVEMENTS - KLEBERG AVENUE

FOR

CITY OF KINGSVILLE, TEXAS

BID 20-08

TxCDBG CONTRACT NO. 7219012

Financed through provisions of a
Texas Community Development Block Grant Program
From the Texas Department of Agriculture

Mayor

Sam Fugate

Mayor Pro-Tem

Edna Lopez

Council Members

Hector Hinojosa

Dianne Leubert

Arturo Pecos

City Manager

Mark McLaughlin

City Secretary

Mary Valenzuela

NOVEMBER 2019

Prepared by:



400 W King Ave.
Kingsville, Texas 78363
(361) 595-8007

Together with all of the items or sections listed in the Table of Contents thereof.

8.2 A Notice of Award consisting of one page.

8.3 A Notice to Proceed with Construction consisting of one page which shall be executed at a later date.

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in the General Conditions.

9. MISCELLANEOUS:

9.1. Terms used in this Agreement which are defined in the General Conditions will have the meanings indicated in the General Conditions.

9.2. No assignment by a party hereto of any rights or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3. and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

Article 10. OTHER PROVISIONS:

None.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in five counterparts. Two counterparts each have been delivered to OWNER and CONTRACTOR and one counterpart to ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on _____, 20____.

OWNER:
City of Kingsville, Texas

By: _____
Sam Fugate, Mayor

Attest: _____

Address for giving notices:

City of Kingsville, Texas

400 W. King Avenue

Kingsville, Texas 78363

CONTRACTOR:

EQUAL OPPORTUNITY CLAUSE

(b) Federally assisted construction contracts. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause:

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discourage or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction the Executive order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.
- (c) Subcontracts. Each nonexempt prime contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts.
- (d) Incorporation by reference. The equal opportunity clause may be incorporated by reference in all Government contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Deputy Assistant Secretary may designate.
- (e) Incorporation by operation of the order. By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the contractor is written.
- (f) Adaptation of language. Such necessary changes in language may be made in the equal opportunity clause as shall be appropriate to identify properly the parties and their undertakings.

[43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997; 79 FR 72993, Dec. 9, 2014; 80 FR 54934, September 11, 2015]