

EL PASO COUNTY
WATER IMPROVEMENT DISTRICT NO. 1

LICENSE MANUAL
FOR USE OF DISTRICT REAL PROPERTY

Containing

LAND SURVEYING STANDARDS,
PLAT STANDARDS FOR SUBDIVISIONS OF LAND
WITHIN THE DISTRICT,
AND DESIGN STANDARDS FOR STRUCTURES ON
DISTRICT REAL PROPERTY

APPROVED BY EPCWID BOARD OF DIRECTORS – June 11, 2008

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1. DISCLAIMER

The procedures contained in this document are guidelines and are neither binding on the El Paso County Water Improvement District No. 1 (District) nor to be considered offers to the public to make a contract. All policies and procedures are subject to change without notice. The District's Board of Directors retains at all times the authority to impose conditions on the granting of any license or right to use District Real Property. In no event will the District represent or warrant title to the property at issue or warrant the extent or validity of any right or interest obtained or acquired from the District by any party. No rights to use District Real Property shall be valid or recognized by the District unless granted by the District's Board of Directors at a duly called meeting in accordance with applicable law.

2. GENERAL INFORMATION

2.1. REQUESTS TO USE DISTRICT REAL PROPERTY

2.1.1 General Statement of Policy

The El Paso County Water Improvement District No. 1 holds and controls property to accomplish the purposes for which it was created under Article XVI, Section 59 of the Texas Constitution and in accordance with applicable laws. Subject to all applicable law, it is the position of the District's Board of Directors that no party other than the District has a right to use District Real Property for non-District purposes, nor does the District have an obligation to permit any party the right to use District Real Property. The District's Board of Directors will consider requests to use District Real Property, including but not limited to the right to cross lands owned or controlled by the District, only if they are made in compliance with the District's policies, guidelines, and application procedures. The Board of Directors reserves the right to deny any application for any lawful reason or to impose conditions on license. The District will not issue a license for use of the District Real Property unless the applicant for such license can demonstrate to the District that the applicant has no means for ingress and egress to the applicant's property other than by using District Real Property.

2.1.2 Nature of the Right to Use District Real Property

Any right to use District Real Property is voluntarily granted by the District and is not an interest in land. The license may be revoked by the District in accordance with the written license agreement executed by the parties. The benefits of the license are

personal to the licensee and may inure to the benefit of the licensee's devisees or heirs but shall not inure to the benefit of any other grantee who receives from the licensee title to or interest in land incidentally benefited by the license. Nor shall the license inure to the benefit of an assignee of licensee without Board approval. Any successor in interest to property incidentally benefited by the license, except a devisee or heir of the licensee, who wishes to use District Real Property shall apply for a new license in accordance with the District's application policy and procedures. Approval of such application is not guaranteed. If the application concerns property that is not owned but for which the District holds an interest, such as property on which the District holds an easement, then the applicant shall be required to obtain appropriate interests or licenses from the property owner and to furnish the District with copies of the granting instruments with the application for a license from the District. Table 1 below lists the type of Applicant, the proposed use of the District Real Property, and the associated procedures required by the District.

Table 1 – Types of Use of District Real Property and License Fees

	Type of	Type of	Type of	Admin.	Term	Lic. Fee	Typical Lic.	Surplus
Entity	Entity	Applicant	License	Fee	Years	\$/sqft/yr	Fee (60'x15')	Instrument
District Landowner	Private	Landowner	Road	\$1,000.00	25	\$0.1000	\$2,250.00	Public Bid
Chapter 49 Water Districts	Governmental	Landowner	Water	\$1,000.00	25	\$0.1000	\$2,250.00	49.226
Chapter 49 Water Districts	Governmental	Landowner	Sewer	\$1,000.00	25	\$0.1000	\$2,250.00	49.226
Chapter 67 WSC	Private	Other	Water	\$1,000.00	25	\$0.1000	\$2,250.00	Public Bid
El Paso County	Governmental	Other	Road	\$1,000.00	NA	NA	NA	49.226
Municipal Corporations	Governmental	Other	Water	\$1,000.00	25	\$0.1000	\$2,250.00	49.226
Municipal Corporations	Governmental	Other	Sewer	\$1,000.00	25	\$0.1000	\$2,250.00	49.226
Municipal Corporations	Governmental	Other	Roads	\$1,000.00	NA	NA	NA	49.226
Municipal Corporations	Governmental	Other	Parks	\$1,000.00	NA	NA	NA	49.226
State of Texas - TXDOT	Governmental	Other	Road	\$1,000.00	NA	NA	NA	49.226
Texas Utilities Code Entities	Private	Other	Gas Pipeline	\$1,000.00	25	NA	NA	Public Bid
Texas Utilities Code Entities	Private	Other	Electricity	\$1,000.00	25	NA	NA	Public Bid
Texas Utilities Code Entities	Private	Other	Telephone	\$1,000.00	25	NA	NA	Public Bid
Texas Utilities Code Entities	Private	Other	Cable TV	\$1,000.00	25	NA	NA	Public Bid
Railroad	Private	Other	ROW	\$1,000.00	NA	NA	NA	Public Bid
School Districts	Governmental	Other	Road	\$1,000.00	NA	NA	NA	49.226
Federal Gov.	Governmental	Other	ROW	\$1,000.00	NA	NA	NA	49.226
Developers and Others	Private	Other	Road, etc.	\$1,000.00	25	Negotiated	Negotiated	Public Bid
Universities	Governmental	Other	Ped. Bridge	\$1,000.00	NA	NA	NA	NA

2.1.3 Terms and License Fees for Private and Governmental Applicants

An Applicant which is an individual, non-profit corporation, or governmental entity (agency, political subdivision, municipal corporation, or county of the State of Texas), meeting the appropriate requirements listed in Table 1 above, may apply for a license from the District for non-commercial use of District Real Property.

The term of any license granted to the applicant shall expire no later than 25 years from the date the license is executed. A separate application for each request to cross or use District land is required.

The applicant shall reimburse the District for any other costs or expenses incurred by the District in connection with the application, including without limitation surveying, engineering, and attorney's fees. Applicants also shall pay to the District consideration for any license. The Board of Directors shall set all fees. No use of District Real Property shall be permitted until all required fees are paid and all documents deemed necessary by the District are executed. Any party seeking right to use District Real Property must provide evidence of adequate general liability insurance naming the El Paso County Water Improvement District No. 1 as an additional insured and must agree that the policy limits shall first be applied to satisfy any claim or judgment against the District and to waive all right to indemnification under the policy until such claim or judgment is satisfied.

2.1.4 Ingress/Egress by District to District Real Property

The District must at all times have access to all property it owns and controls, including without limitation all rights-of-way along its waterways. No adjoining landowners or any other party shall restrict, impede or attempt to limit in any way the District's access to such property without prior District approval. Any and all obstructions erected without the District's prior approval and which restrict the District's ingress or egress to its waterways or property are prohibited and shall be removed at the expense of either the party erecting such obstructions or the property owner. The District may use all legal remedies available in order to protect its property interests and rights. Under Texas law, any person who willfully destroys, defaces, damages or interferes with District Real Property is guilty of a Class B misdemeanor (Texas Water Code § 49.228).

2.1.5 Installation of Private Structures Consistent with Purpose of District

Installation of structures, such as gates, turnouts, flumes, or other structures on property owned or controlled by the District that are for private use and are needed or related to the irrigation of agricultural land within the District are not required to be licensed. Installation and construction of such facility cannot interfere with the District operation and maintenance activities as determined by the District. All construction of any facilities on District Real Property shall be performed by the District or under the District's direct supervision. Any person wishing a structure on District Real Property meeting the above conditions shall apply to the District in writing for the installation of the structure. The applicant shall pay the District in advance for all cost for the construction of such structure and any engineering or surveying fees associated with the structure. The District reserves the right to remove such structure at anytime should such structure be found to interfere with the District's operation or maintenance activities.

2.2. LICENSE APPLICATION PROCEDURE

2.2.1 Overview

The average widths of District rights-of-way are 120 feet for drains (wasteways), 120 feet for canals and 60 feet for laterals. The District considers these widths to provide minimum clearances for proper maintenance and operation of its waterways. At a minimum, the District requires 15-foot access roadways to its waterways and back slopes with a ratio of 2:1. The license application process requires a minimum of 60 days to complete after the application has been determined by the District to be administratively complete. No applicant may enter onto District Real Property or begin any project without final approval from the Board of Directors.

2.2.2 Submission of Application and Administrative Fee

All applications for a license to use District Real Property shall pay to the District a one-time, nonrefundable administrative fee of \$1,000 for each application submitted. For any applications that propose a use that involves flammable, explosive, hazardous, or toxic materials, such as a petroleum or gas pipeline, the one-time nonrefundable administrative fee shall be \$3,000. This fee does not include the cost for any legal, engineering, surveying or other professional work or for the cost of the consideration for the value of the license for use of the District Real Property or the damages such use may cause the District. Each location of the proposed use or crossing of District Real Property shall be submitted as a separate application. The application shall not be reviewed by the District

until the District has received payment of the administrative fee. The administrative fee payment shall be made by check which shall be made payable to the "El Paso County Water Improvement District No. 1" and shall note on the check the license application number(s) for which the check is being submitted.

An additional administrative fee may be required for applications that propose construction that is within the flow channel of any irrigation or drainage canal or any construction that is determined by the District's General Manager or Engineer to have potential to interfere with the operation of the District or the District's facilities. This additional fee shall be for the cost of the District to monitor and observe the construction work as necessary to verify that the constructed work is in compliance with the drawings and other information submitted by the licensee. The amount of such fee shall be determined by the Board of Directors based upon the recommendations of the District's General Manager and/or Engineer and typically is \$4,000 or greater.

2.2.3 Review of Application

The District will review each application for compliance with District's Design Standards. The Design Standards are minimum standards and the District may impose additional requirements.

2.2.4 Review of Land Records

The District may conduct a limited review of land records for the property in question. By undertaking such review, or by providing information to the applicant, the District in no way warrants title to the property at issue or represents that it has any interest in or authority to grant rights to use the property. The applicant should make an independent review of land records to ensure that approvals for the project have been sought from the rightful property owners. If the District does not own the property at issue, an applicant shall be required to obtain appropriate permission from the fee owners.

2.2.5 Submission of Survey to District

The applicant shall submit to the District a survey of the District Real Property involved that meets the District's Survey Standards in effect at the time the application is made to the District.

2.2.6 Payment of License Fees

The applicant shall pay consideration to the District for the license to use District Real Property as determined by the District's Board of Directors. The application shall not be considered for final approval by the Board of Directors unless and until all required fees and consideration has been paid by the applicant to the District.

2.2.7 Final Board Review and Approval

The last step in the process is the final Board review of the application and proposed agreement granting a right to use District Real Property. Any agreement or license must be executed by the District's Board of Directors and the applicant.

2.2.8 Construction

The licensee shall have no more than 180 days from the date that the Board grants final approval to start any construction associated with the license. In the event that the licensee fails to commence construction within the time allotted, the license shall be considered abandoned and void. The applicant/licensee shall complete all required construction within the time agreed upon in advance by the parties. Construction projects involving such major works as bridges, concrete boxes, inverted siphons, culverts and relocations of irrigation facilities, among others, shall require inspection by the District or its designee. The licensee must file with the District "as-built" drawings prepared by or under the direct supervision of a professional engineer licensed in the State of Texas who has certified that the construction complied with the approved specifications and drawings. Any project, facility or improvement that fails to comply with the license or the approved specifications and drawings is subject to removal upon the District's request at the licensee's expense and the license is subject to revocation at the District's discretion. Prior to the commencement of construction, the licensee, contractor, District representatives and others deemed necessary by the District will meet with the licensee for a pre-construction conference.

3. LAND SURVEY STANDARDS

A vertical profile must accompany the survey. Elevations shall be based on United States Bureau of Reclamation vertical datum. The survey requirement may be waived if requested to the Board of Directors in writing. The Board of Directors must approve the waiver prior to completion of the application process. All District rights-of-way or property boundaries shall be located as accurately and reliably as possible by a surveyor licensed in the State of Texas. El Paso County tax maps, and the survey of El Paso County prepared from 1926 through 1934 upon which they are based are unreliable sources for the accurate determination of District boundaries. Surveyors should be aware that this survey was strictly for taxation purposes and did not have the legal authority to define or modify existing boundaries.

The use of the county's survey and tax maps as a source for establishing parcel boundaries, right-of-ways or easements that were established prior to 1926, as were most District boundaries, shall not be accepted by the District.

The District concluded that the survey description prepared by a Registered Professional Land Surveyor must include the requirements set forth in the current "Professional and Technical Standards" established by the Texas Board of Professional Land Surveying ("TBPLS"), in addition to other District requirements deemed necessary to protect District interests. The following selected excerpts from the "Professional and Technical Standards," followed by a brief comment, are presented here merely to ensure surveyors are thoroughly aware of the District's policies regarding this matter:

a. Section 663.13. Introduction "All surveys performed by registered professional land surveyors in Texas shall adhere to these standards by meeting or exceeding the requirements hereof." This provision indicates that any survey performed by a registered professional land surveyor must be prepared in compliance with all TBPLS standards.

b. Section 663.15. Precision

(f) "Positional tolerance of any monument is the distance that any monument may be mislocated in relation to any other monument cited in the survey."

This subsection, along with subsections (a) through (e), ensures a minimum level of accuracy shall be maintained in all surveys.

c. Section 663.16. Boundary Construction

(1) "When delineating a property or boundary line as an integral portion of a survey, the surveyor shall respect junior/senior property rights, footsteps of the original surveyor, intent of the parties involved, the proper application of the rules of dignity or the priority of calls, and applicable statutory and case law of Texas."

(2) "Appropriate deeds and/or other documents, including those for adjoining parcels, shall be relied upon for the location of the boundaries of the subject parcel(s)."

(3) "A land surveyor assuming the responsibility of performing a land survey also assumes the responsibility for such research of adequate thoroughness to support the determination of the intended boundaries of the land parcel surveyed; however, the surveyor may rely on record data furnished by a qualified provider such as a title or abstract company provided he/she reasonably believes such data sufficient and notes, references or credits the documentation by which it is furnished."

(4) "All boundaries shall be connected to identifiable physical monuments related to corners of record dignity. In the absence of such monumentation, the surveyor's opinion of the boundary location shall be supported by other appropriate physical evidence which shall be explained in a surveyor's report."

This entire section mandates that any boundary survey performed shall be the result of a thorough investigation of all pertinent record data, as well as existing field evidence related to the boundary of the subject parcel. It also dictates that all such evidence shall be cited on the face of the survey or provided in a separate written report.

In the case of most District Real Property, "physical monumentation related to corners of record dignity" is non-existent. The only reliable monumentation of any type is the existing location of the laterals, canals and drains. Boundary determinations of District facilities that do not consider existing occupation and associated needs for their proper maintenance are not in accordance with Texas law and are unacceptable to the District. Due to defective locations of its boundaries in the past, the District shall continue to demand surveyors' compliance with these requirements. It is not the District's responsibility to provide such documentation or evidence. However, in the event that no

applicable information is obtainable from the county records department, the District shall make available property information on file at its offices.

The District intends to support the Land Surveying Practices Act and take appropriate steps to ensure that all descriptions, surveys and reports related to District Real Property fully comply with current TBPLS Professional and Technical Standards. The District has every right to rely upon the seal and signature of a registered Professional Land Surveyor that is affixed to a document representing professional surveying as a warranty that such document was prepared in accordance with these standards and is an accurate representation of District Real Property.

3.1.1 District survey requirements:

All surveys, plats, reports and descriptions shall:

- a. Be prepared, and sealed in ink, by a Registered Land Surveyor holding active registration in the State of Texas;
- b. Be prepared in strict compliance with the Texas Professional Land Surveying Practices Act and the current minimum Professional and Technical Standards established by the Texas Board of Professional Land Surveying; and
- c. Include the following certification:

"I hereby certify to the El Paso County Water Improvement District No. 1 that this survey, plat, description or report meets all current District survey requirements enumerated in the District's Land Survey Standards."

Signed
Title
Registration Number
Surveyor's Firm Name
Address, City, State and Zip Code
Telephone Number

3.1.2 Coordinate System

The coordinate system for all surveys shall be Texas State Plane Coordinate System – Central Zone (4203) NAD83. The following information shall be cited in the description

and shown on the accompanying plat (coordinate values to be expressed in U.S. survey feet):

- a. The state plane coordinate value of the point of beginning of the description.
- b. Clearly state the name, address, registration number and telephone number of the surveyor, the date the survey was performed and the date of the plat or description. In the case where multiple District crossings are required by the same proposed facility, each description and accompanying plat shall clearly reference the number of the crossing they represent.
- c. All proposed crossings of District Real Property shall be located by an on-ground survey and documented by written report, description and accompanying plat. Widths of crossings must be presented to the District for approval. All corners of the proposed crossing shall be monumented and clearly flagged for District inspection.
- d. All existing structures, buildings utility improvements, fences, pipelines, culverts, ditches and the like within 50 feet of the boundaries of the proposed crossing shall be accurately identified and shown on the plat of survey.
- e. All parcels, lots or tracts adjoining District Real Property in the area of the proposed crossing shall be identified and shown on the plat of survey by the legal name or designation.
- f. Record bearings and distances of all lines shown on the plat of survey shall be shown in parentheses if they differ from measurements derived by the survey.
- g. District stations shall be identified and shown on the plat of survey at the intersection of the centerline or boundaries of the proposed crossing with the centerline of the District facility being crossed. The location of the structure or monument from which such stationing is determined shall be noted and shown on the plat of survey. If District stationing is not available, the distance and direction along the centerline of the District facility from the centerline or boundary of the proposed crossing to the centerline of the nearest public road crossing shall be shown.
- h. All distances cited in the written description or shown on the accompanying plat are to be based upon the U.S. survey foot, measured at local ground

surface. The area of the proposed easement shall be reported to the nearest square foot in the written description and shown on the accompanying plat.

- i. The minimum paper size acceptable for descriptions or plats is 8 1/2 by 11 inches; the maximum size for descriptions is 8 1/2 by 14 inches; and the maximum size for plats is 24 by 36 inches. All descriptions must be neat and legible. All plats shall be drawn to a scale that is adequate to clearly portray significant features to District personnel.
- j. Three copies of the required survey plat shall be submitted in both a hard copy and digital format (dwg, dgn, or shp file).

4. DESIGN STANDARDS

4.1. Drawing Requirements

4.1.1 Structure Drawings and Design Standard Signature Block

The applicant shall submit to the District three sets of detailed drawings and engineering specifications, sealed and dated by an engineer licensed in the State of Texas, for the proposed structure. The drawings shall include sufficient waterway data, such as cross-sections, profiles, and high water surface elevations, in order to locate the proposed structure in relation to the waterway. The drawings shall include the following waterway data in order to locate the proposed structure in relation to the waterway: cross-section, profile, and high water surface elevation. Drawings shall show the original design grade of the waterway and include existing and proposed flow calculations. Original design grade information can be obtained from the USRS profiles and are available at the District. The cover page of the drawings shall include a signature line for the El Paso County Water Improvement District No. 1 and the following statement:

The El Paso County Water Improvement District No. 1 (District) approves these drawings as meeting the District Design Standards in effect on the date below. The District has not reviewed these drawings for any purpose other than those set forth in the District's Design Standards and the District does not warrant to anyone that any of the information, designs, specifications, or any other information represented on these drawings is appropriate, suitable, or otherwise sufficient for safety or structural integrity or any other purpose.

_____ Date: _____
By: El Paso County Water Improvement District No. 1

4.1.2 Utility Crossing Drawings

All drawings for utility crossings shall have a plan and cross-section view of the waterway and the proposed utility crossing. Such drawings shall show as a minimum the dimensions of minimum cover and clearances required by these standards.

4.1.3 Location and Alignment Map

All drawings shall include a location and alignment map with sufficient detail to locate the structure along the waterway.

4.1.4 Stationing and Elevation Data

The United States Bureau of Reclamation engineering station of the canal, lateral, or drain at the centerline of the proposed structure and elevations to Bureau datum shall be shown on all drawings.

4.2. Turnout, Flume, Gate and Other Structural Installations

Turnouts shall be installed or replaced by the District using standard "Hydro" manufactured turnout assemblies and shall use standard 24-, 30- and 36-inch sizes. No turnout structure may be placed where:

- a. Access to water already exists;
- b. Acreage is less than 10 water-right acres in size;
- c. Less than an 18-inch diameter turnout is requested; or
- d. Pre-payment is not made for the full cost of the turnout.

Any approved turnout shall be constructed only after conclusion of the water season and prior to the beginning of the next water season.

4.3. Road Crossings

All proposals to build culverts under or bridges over the District's canals, laterals, drains and wasteways shall provide for a single-span bridge or a free-flow, single-barrel box culvert. Concrete pipe or corrugated metal pipe culverts may be permitted for drain crossings upon approval by the Board of Directors.

4.3.1 Bridges

- a. **Minimum Standards.** The bridge installation shall conform to the minimum standards shown on Drawing No. 1.
- b. **Freeboard.** A minimum vertical distance of 12 inches shall be provided between the maximum water surface in the waterway and the bottom of the bridge stringers.
- c. **Bridge Supports.** Bridge supports or piling on single-span bridges shall not restrict flow in the waterway. Use of bulkhead bridge supports in the waterway requires the approval of the Board of Directors.

- d. Spread Footings. On all bridges, the prism shall be concrete lined and the length of lining shall extend five feet beyond each side of the bridge.
- e. Operating Roads. Passage along operating roads of the waterway shall not be restricted by guardrails or parapet walls. Operating roads on canals and laterals require a minimum road width of 12 feet. Drain operating roads shall have a minimum operating width of 25 feet.
- f. Curbing. Curbing along roads over waterways shall have leave outs or lay down curbs on line with both operating roads of the waterway.
- g. Sidewalks. Sidewalks along roads over waterways shall be reinforced in order to carry the loads of heavy equipment moving on the operating roads. All reinforcement shall be a minimum of No. 4 rebar on 12-inch centers in both directions.
- h. Crossing Pads. Crossing pads shall be provided in line with both waterway operating roads when the road crossing the waterway is paved with asphalt. The crossing pads shall be of adequately reinforced concrete a minimum of six inches thick. All reinforcement shall be a minimum of No. 4 rebar on 12-inch centers in both directions.
- i. Ramps. Ramps shall be provided along waterway operating roads when the road crossing the waterway is not at the same elevation as the operating road. Ramps shall be at a maximum slope of 10 percent. Additional right-of-way to outside toe of slope shall be provided by the permit-tee if ramp side slope falls outside existing right of way of the waterway.
- j. Design Loads. All bridges crossing District right of ways shall be designed using AASHTO H-20 loading and safety factors.

4.3.2 Reinforced Concrete Box Culverts

- a. Minimum Standards. The box culvert installation shall conform to the minimum standards shown on Drawing No. 2 “Box Culvert Crossing and Transitions”.
- b. Dimensions. The box shall be sized to provide free flow with a minimum freeboard of 6 inches. The minimum dimensions shall be 5 feet wide and 5.5

feet high or standard dimensions in order to provide sufficient clearance for cleaning with mechanical equipment.

- c. Invert Elevations. The box culvert shall be set at an elevation providing a maximum backwater effect of not more than 0.25 feet.
- d. Transitions. Transitions shall be provided at both inlet and outlet of the box. They shall conform to Drawing No. 2.
- e. Compacted Backfill. All backfill shall be compacted to a minimum depth of one foot above the top of the box culvert and to a top width equal to the outside width of the box culvert and within planes sloping at 1:1 from the edges of such top width to intersection with the waterway prism or surface of excavation. Backfill about transition structures shall be compacted to slopes of 1:1 from the top of the concrete walls. Compacted density (dry) of the soil fraction in the compacted material shall not be less than 95 percent of laboratory standard soil density as determined by the ASTM Proctor Compaction Test. Applicant shall pay for any laboratory testing that may be required.
- f. Irrigation Season. No open cuts in ditch banks are permitted during irrigation season.
- g. Safety Requirements. A safety rack, as shown on Drawing No. 4, may be required when a structure is considered to present a safety hazard.

4.3.3 Concrete Pipe Culverts

- a. Minimum Standards. The concrete pipe culvert installation shall conform to the requirements shown on Drawings No. 3. Pipe Culvert Crossings, Canals, and Laterals. The minimum size culvert pipe to be installed in District drains is 60 inches in diameter.
- b. Pipe Classification. The pipe shall be reinforced concrete pipe in accordance with ASTM Designation C76-72, Class III, Wall B, using "O" ring gasket joints in accordance with ASTM Designation C443-79, Type 6. Where required, pipe having higher-wall strength shall be used.
- c. Invert Elevations. The pipe shall be set at an elevation providing a maximum backwater effect of not more than 0.10 feet.

- d. Transitions. Transitions shall be provided at both inlet and outlet of the pipe as shown on Drawing No. 3.
- e. Compacted Backfill. All backfill shall be compacted to a minimum depth of one foot above the top of the culvert, and to a top width equal to the outside width of the barrel of the culvert and within planes sloping at 1:1 from the edges of such top width to intersection with the waterway prism or surface of excavation. Backfill about transition structures shall be compacted to slopes of 1:1 from the top of the concrete walls. Compaction density (dry) of the soil fraction in the compacted material shall be not less than 95 percent of laboratory standard soil density as determined by the ASTM Proctor Compaction Test. Applicant shall pay for any laboratory testing that may be required.
- f. Irrigation Season. No open cuts in ditch banks are permitted during irrigation season.
- g. Safety Requirements. A safety rack, as shown on Drawing No. 4, may be required when a structure is considered to present a safety hazard.
- h. Stainless Steel Wire Rope: A 3/8" diameter (6x19) 302/304 Stainless Steel (or equivalent) wire rope with loops at both ends shall run the length of any culvert. The loops shall be secured at each end to the culvert head wall of the trash or safety rack.

4.3.4 Corrugated Metal Pipe Culverts (CMP)

- a. Minimum Standards. The corrugated metal pipe culvert installation shall conform to the requirements shown on Drawing No. 3. The minimum size culvert pipe to be installed in District drains is 60 inches in diameter.
- b. Pipe Classification. The pipe shall be in accordance with Interim Federal Specification WW-P-00405, Class I and II, Shapes 1, 2 and 3. All pipe must be aluminum coated.
- c. Usage. Corrugated metal pipe may be permitted in drain rights-of-way upon approval of the District, no corrugated metal pipe may be used in canals or lateral canals.

- d. Invert Elevations. The pipe shall be set at an elevation providing a maximum backwater effect of not more than 0.10 feet.
- e. Transitions. Transitions shall be provided at both inlet and outlet of the pipe, as shown on the above drawings and as shown on Drawing No. 3.
- f. Compacted Backfill. All backfill shall be compacted to a minimum depth of one foot above the top of the culvert and to a top width equal to the outside width of the barrel of the culvert and within planes sloping at 1:1 from the edges of such top width to intersection with the waterway prism or surface of excavation. Backfill about transition structures shall be compacted to slopes of 1:1 from the top of the concrete walls. Compacted density (dry) of the soil fraction in the compacted material shall be not less than 95 percent of laboratory standard soil density as determined by the ASTM Proctor Compaction Test. Applicant shall pay for any necessary laboratory testing that may be required.
- g. Irrigation Season. No open cuts in ditch banks are permitted during irrigation season.
- h. Safety Requirements. Safety devices may be required when a structure is considered to present a safety hazard.

4.4. Utility Crossings

4.4.1 Underground Crossings at Culverts

- a. Minimum Standards. Underground utility crossings at culverts shall conform to the requirements shown on Drawing No. 5
- b. Canals and Laterals. On canals and laterals, utility crossings shall be made under the culvert with a minimum clear distance of four feet between the bottom of the culvert and top of utility conduit.
- c. Drains. On drains, utility crossings can be made above the culvert with a minimum clear distance of 2 feet between the bottom of the utility conduit and top of culvert, with waiver by the Board of Directors. Where the drain culvert is corrugated metal pipe, the applicant is required to place the utility crossing four feet under the culvert by jacking or boring.

- d. Road Cover. A minimum cover of 30 inches shall be provided from the top of the utility conduit to any road surfaces. This includes public roads and waterway operating roads.
- e. Compacted Backfill. Backfill for cuts through waterways and adjacent to culverts shall be thoroughly compacted to the satisfaction of the District. To meet this requirement, compaction density (dry) of the soil fraction in the compacted material shall be not less than 95 percent of the laboratory standard soil density as determined by the ASTM Proctor Compaction Test. Applicant shall pay for any necessary laboratory testing that may be required.

4.4.2 Crossings Under Waterways

- a. Minimum Standards. Crossings under waterways shall conform to the requirements as shown on Drawing No. 5.
- b. Unlined Waterways. Under unlined waterways, a protective sleeve shall be installed around pipe or cable crossings under canal, lateral, or drain prisms. Steel encasement sleeves are normally required, but encasement with other materials may be permissible depending on the nature of the crossing. The protective sleeve shall be installed to allow a minimum of four feet between the top of the sleeve and the design invert, or existing bottom (whichever is lower) of the waterway.
- c. Lined Waterways. Under lined waterways, a minimum of four feet shall be provided between the top of the utility conduit and the bottom of the waterway lining. Boring or jacking methods of installation shall be used to minimize the disturbance of concrete or membrane-lined waterways.
- d. Compacted Backfill. Backfill for cuts through waterways and adjacent to culverts shall be thoroughly compacted to the satisfaction of the District. To meet this requirement, compaction density (dry) of the soil fraction in the compacted material, shall be not less than 95 percent of the laboratory standard soil density as determined by the ASTM Proctor Compaction Test. Applicant shall pay for any necessary laboratory testing that may be required.
- e. Irrigation Season. No open cuts in ditch banks are permitted during irrigation season.

4.4.3 Reinforced Concrete Lining

Reinforced concrete lining shall meet the following requirements:

- a. **Minimum Standards.** Reinforced concrete lining shall conform to the requirements shown on Drawing No. 6.
- b. **Lining Thickness.** The lining shall have a minimum thickness of 4 inches. In certain circumstances, the District may require a thickness of 6 inches.
- c. **Bottom Width.** The bottom width shall match the design bottom width of the waterway, or if required by the District, the existing bottom width if it is wider than the design width.
- d. **Invert Elevation.** The lining invert elevation shall match the design bottom grade or existing bottom (whichever is lower) of the waterway.
- e. **Reinforcement.** The reinforcement at a minimum shall be 6-by-6, W1.4-by-W1.4 welded wire fabric, the preferred reinforcement shall be #4 on 12" centers each way.
- f. **Side Slopes.** The side slopes shall match the design slope of the waterway and shall extend to a minimum of one foot above high water surface, or to the top of the bank, or to other District requirements.
- g. **Length.** The length shall be approximately equal to the top width of the waterway measured from inside top cutline to inside top cutline, but not less than 20 feet.
- h. **Cut-off Walls.** Cut-off walls, normal to the centerline of the waterway, shall be provided at both ends of the lining, extending 48 inches vertically below the lining invert and 48 inches into the side slopes for the full height of the lining.

4.4.4 Pipelines.

Steel pipe shall be used in place of plastic pipe at waterway crossings or plastic pipe may be cased in steel pipe within the limits of the established rights-of-ways. Concrete encasement may be allowed under special conditions.

4.4.5 Parallel Installations.

- a. Minimum Standards. Utilities installed parallel to a waterway centerline shall be buried along and within the outside 5 feet of the right-of-way and not less than 3 feet below surrounding natural ground.
- b. Signing. The installation must be suitably marked for location purposes.

4.4.6 Overhead Crossings

- a. Minimum Standards. Overhead electric power, telephone, cable tv, fiber optics, transmission, or communications lines shall be installed in accordance with Drawing No. 5, the latest edition of NEC (ANSI C1) standards of the National Fire Protection Association; the latest edition of NEC (ANSI C2); the latest regulations issued by the Occupational Safety and Health Administration Safety Code; and the adopted electrical code of New Mexico and Texas. The minimum overhead crossing height as measured at any point between the line and the ground directly below the line for electrical power lines (including the neutral or grounding wire) is 20 feet, for cable TV lines is 16.5 feet, and for telephone or any other line is 15.5 feet.
- b. Right-of-Way Restriction. The location of line poles, guy poles and guy lines on canals and laterals shall be no closer to the waterway than the outside toe of slope in order not to interfere with maintenance and operation of the District. Along drains the location shall be at the edge of the Right-of-way. All utility poles or guy wires shall be placed outside of the Right-of-way.

4.5. Minimum Width of Easement

The width of any easement shall be determined by the District for each application. The minimum width of any surface or subsurface easement shall be 15 feet. Easement widths shall meet or exceed all applicable local, state, or national standards, regulations and safety requirements, as determined by the District, for the proposed use or application.

4.6. Elevations

All plans shall show elevations based on the Bureau of Reclamation's datum. The description and location of all elevation benchmarks shall be shown on plans.

4.7. Design Standards Drawings

The following drawings are included as part of this Design Standard:

Drawing 1 - Freespan Bridge Crossing

Drawing 2 - Box Culvert

Drawing 3 - Pipe Culvert

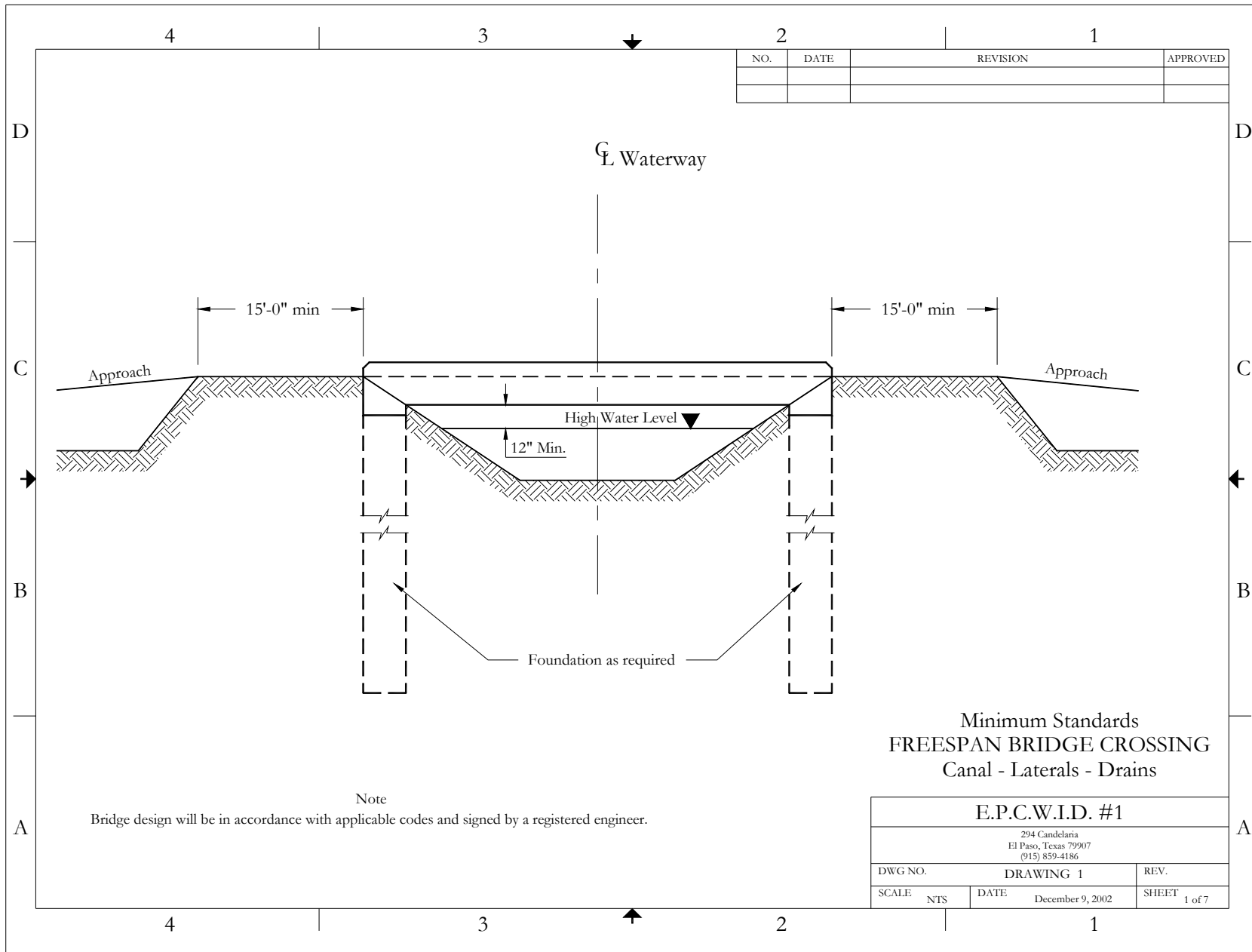
Drawing 4 - Safety Rack

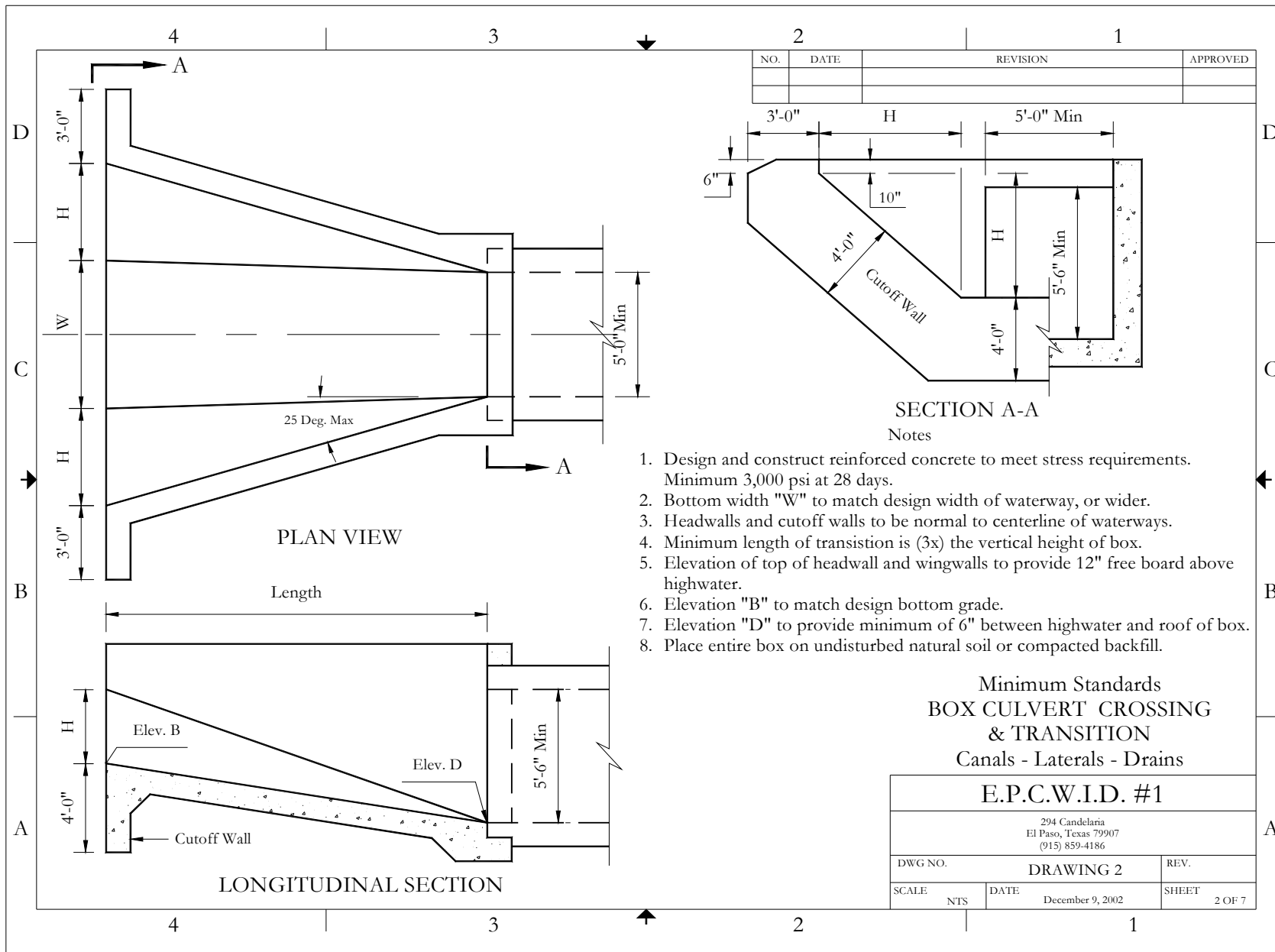
Drawing 5 - Aerial and Buried Crossings (Open Channel)

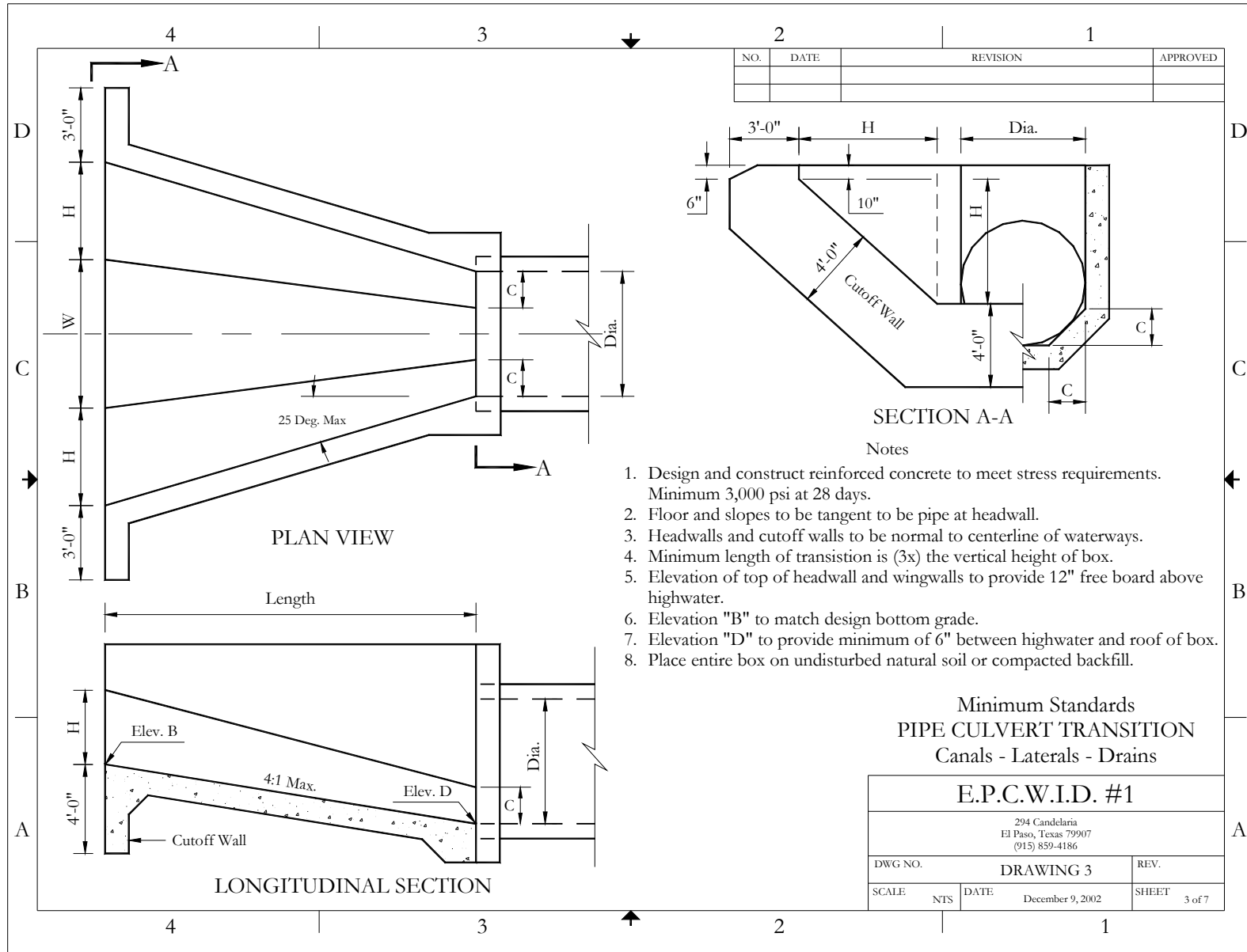
Drawing 6 - Concrete Lining

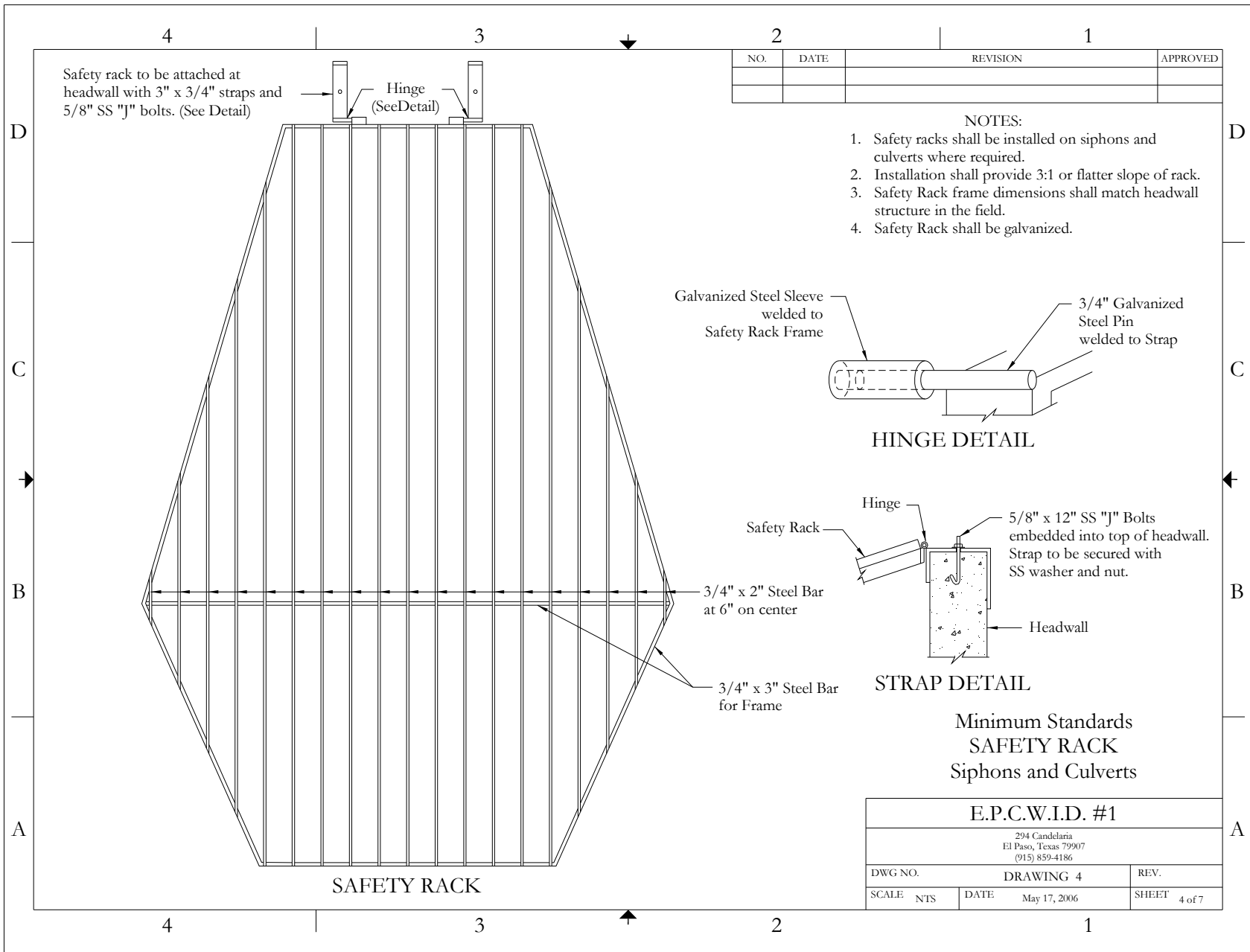
Drawing 7 - Safety Fence

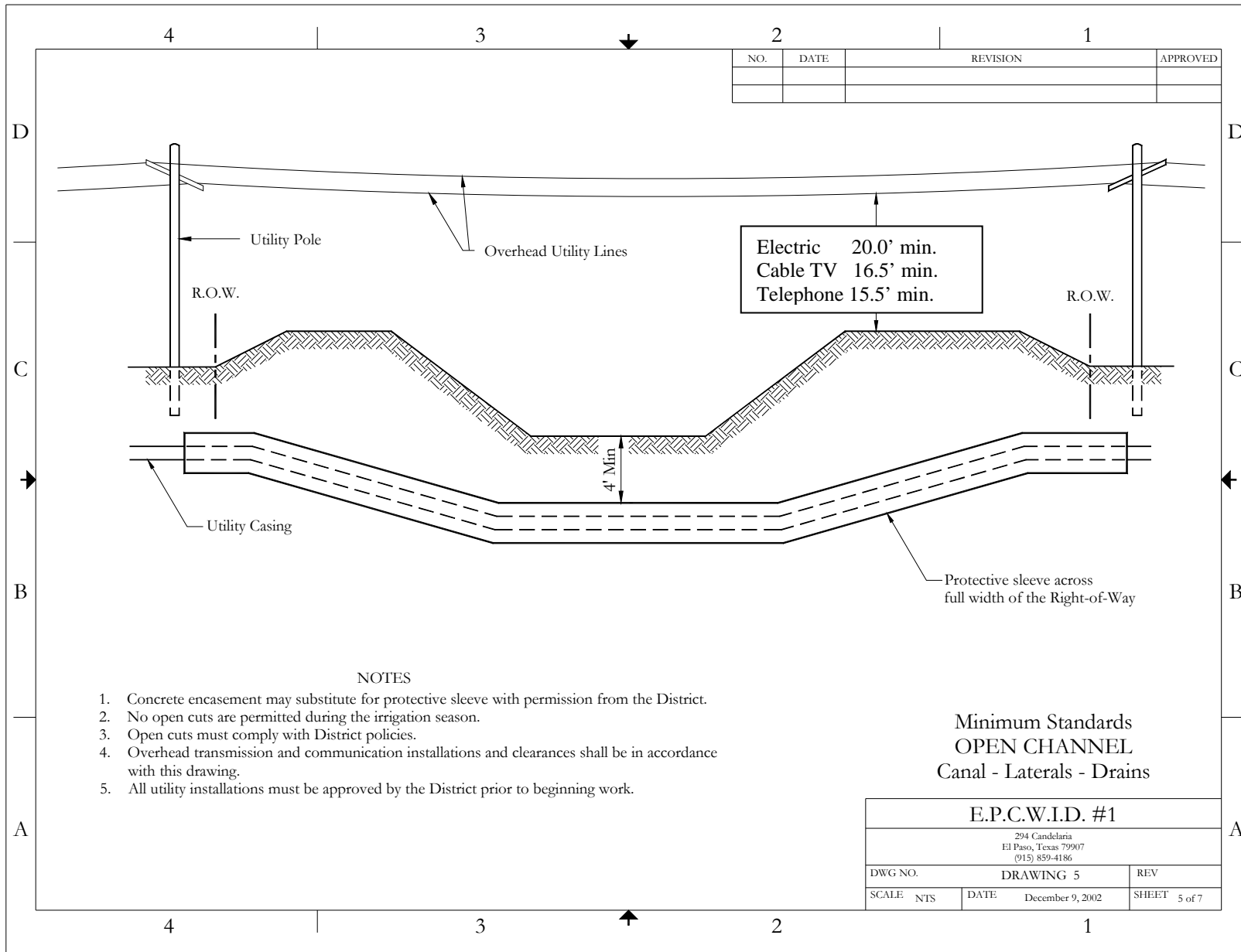
These drawings are provided for illustrative purposes only, and do not contain sufficient information or standards to constitute a design. These proposed structures represented in the above drawings must be designed by a professional engineer licensed in the State of Texas, and drawings representing such designs must be sealed and dated by such engineer and submitted to the District for review.

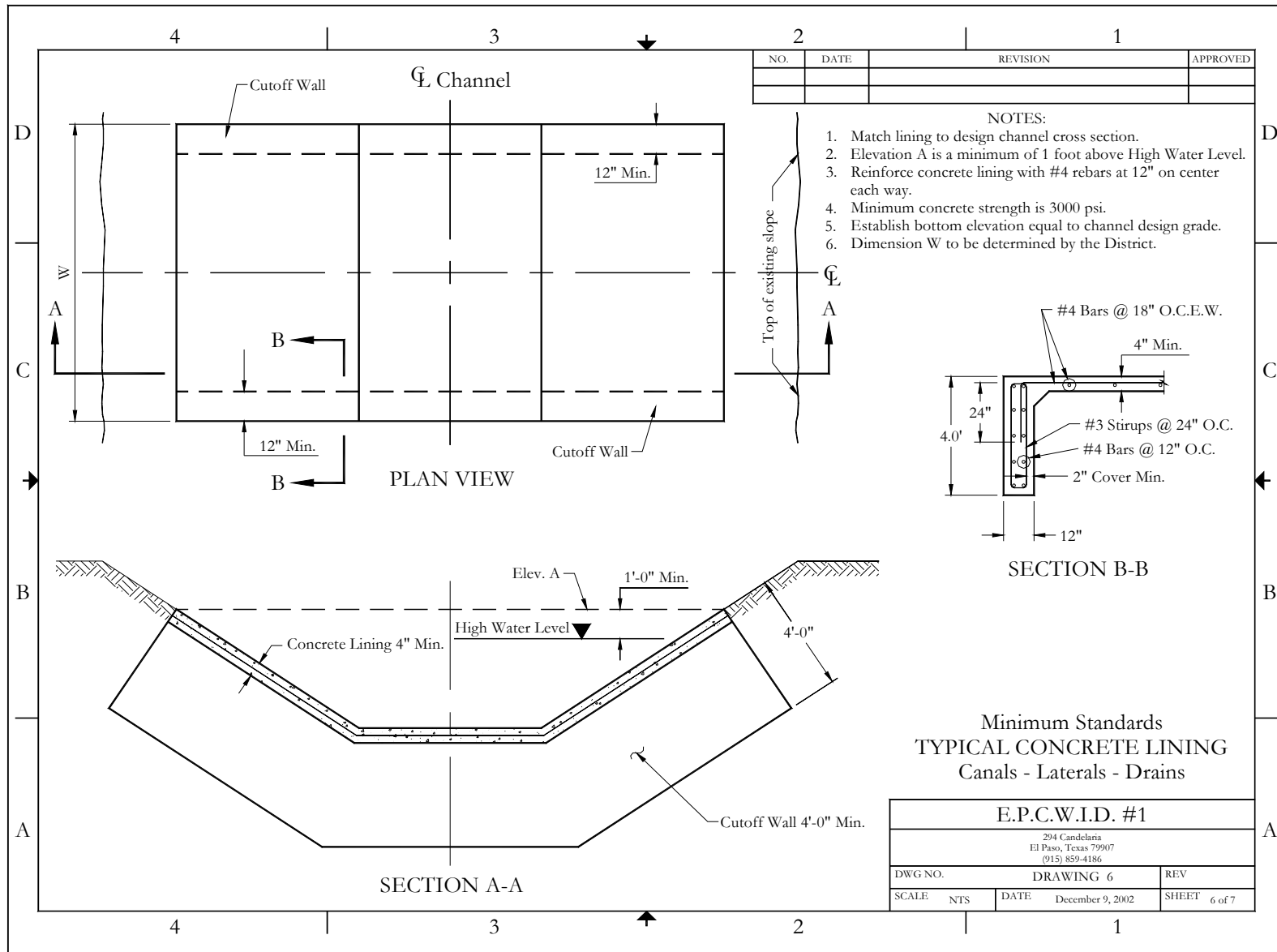


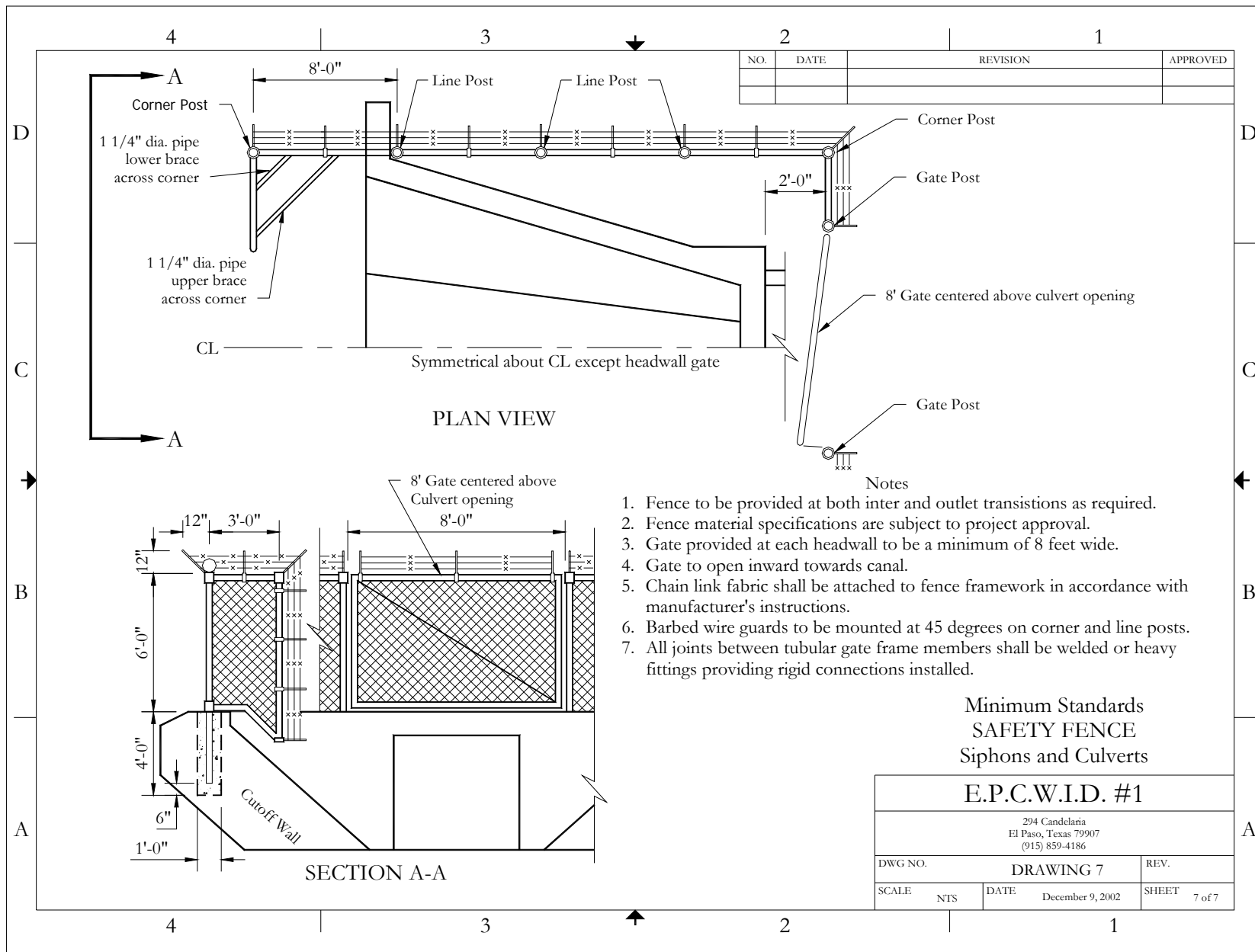












5. PLAT STANDARDS FOR SUBDIVISION OF LAND WITHIN DISTRICT

A plat of any land subdivided after November 9, 2004 and within the District’s boundary shall be submitted to the District for review. The landowner shall submit an application to the District for review of the subdivision plat and pay all administration fees required by the District, and all assessments, fees, or taxes due to the District. The plat of the subdivision shall meet the District’s Surveying Standards and the following requirements:

5.1. District Facilities, Land, Right-of-Ways, and Easements

The subdivision plat shall clearly show all District facilities, land, rights-of-ways, and easements within or adjacent to the subdivided land. The applicant should check with the District prior to preparing the plat to obtain information regarding any District facilities, land, rights-of-way, or easements that may be contained within or adjacent to the subdivided land.

5.2. Community Ditches

The subdivision plat shall clearly show all existing or proposed community ditches within or adjacent to the subdivided land. The applicant should check with the District and landowners adjacent to the subdivided property prior to preparing the plat to obtain information regarding any community ditches that may be contained within or adjacent to the subdivided land.

5.3. Signature Blocks

The dedication page of the subdivision plat shall include a signature line for the El Paso County Water Improvement District No. 1 and the following statement:

The El Paso County Water Improvement District No. 1 (District) approves this drawing as meeting the District’s Subdivision Plat Standards in effect on the date below. The District has not reviewed this drawing for any purpose other than those set forth in the District’s Subdivision Plat Standards, and the District does not warrant to anyone that any of the information, designs, specifications, or any other information represented on this drawing is appropriate, suitable, or otherwise sufficient for safety or structural integrity or any other purpose.

By: El Paso County Water Improvement District No. 1

Date: _____

5.4. Irrigable Land Exhibit

The example Irrigable Land Exhibit shown on the following page lists the amount of land that is considered “irrigable” or having “1st Class Water Rights” by the District. The District assesses taxes on such land based on acreage rather than value. If any roads, stormwater ponding areas, or other “common” land is deeded to the City of El Paso or the County of El Paso, the Irrigable Land Exhibit should indicate such and show the acreage of such deed. Any dedicated land, such as roads adjacent to lots, should be proportioned to the adjacent lots in accordance with accepted surveying standards. Any roads or areas (such as storm water ponds) that are privately owned and not dedicated should not be proportioned to adjacent lots. The acres of irrigable land within the parcel of land being subdivided must equal the sum of the acres of irrigable land assigned to each lot plus the sum of the acres of all deeded land within the subdivision.

The Irrigable Land Exhibit included as part of the subdivision plat shall contain the following certification:

I hereby certify that this drawing and the irrigable area tables included on this drawing are a true and correct representation of the subdivision plat as or to be filed and recorded in the office of the County Clerk of El Paso County, Texas.

_____ Date: _____
Engineer/Survey’s Signature, License Number, and Seal

6. VERTICAL DATUM USED IN EL PASO COUNTY

The following are elevations for the USGS #3698 elevation benchmark located at the west end of the north entrance to the City of El Paso City Hall Building:

<u>Governmental Organization</u>	<u>Elevation (ft)</u>	<u>Offset (ft)</u>
U.S. Reclamation Service (Bureau of Reclamation)	3668.609	00.000
City of El Paso	3702.440	-33.831
International Boundary and Water Commission	3709.760	-40.998
U.S.G.S	3710.902	-42.293

7. APPLICATION FORM



EL PASO COUNTY WATER IMPROVEMENT DISTRICT No. 1

P.O. Box 749 | 13247 Alameda Ave. Clint, Texas 79836-0749

(915) 872-4000 | Fax (915) 851-0091 | www.epcwid1.org

APPLICATION FOR LIMITED RIGHT TO USE DISTRICT REAL PROPERTY, REVIEW SUBDIVISION PLAT, OR OTHER REQUESTS

(Subject to applicable law and approval by District Board of Directors)

Name of Applicant: _____

Mailing Address: _____

Contact Name: _____ Telephone: _____

Fax Number: _____ Email: _____

Are You a District Taxpayer: _____ Account _____

Do You Have Powers of Eminent Domain: _____ If Yes, Provide Authority: _____

Proposed Use of District Real Property or Other Request (Attach Plans) _____

Location of Property: (Survey Plat and Description Required) _____

Nearest Tract and Block No. _____

I agree to comply with all laws, rules, regulations, policies, guidelines, and procedures concerning this application and any license or right that may be granted. A nonrefundable administrative fee of \$1,000 is required for the processing of applications to use District real property; review subdivision plans, engineering evaluations, and other requests. Additional fees for legal review and other work may be required for applications to use of District real property. I further understand that no construction may begin without final approval, in writing, by the District.

Signature of Applicant or Authorized Agent

Printed Name

Date _____

FOR DISTRICT USE ONLY:

Date Application Received: _____ Application No. _____

Date Application Fee Received: _____ Amount: _____ Check No. _____

Date Survey Received: _____ Date Plans Received: _____

8. TYPICAL SCHEDULE FOR APPLICATION FOR REQUEST TO USE DISTRICT REAL PROPERTY

The Review Process typically takes a minimum of 60 days after submission to the District of the following: 1) a fully completed application with original signatures, 2) a non-refundable administrative fee, 3) Legal Survey, and 4) Engineering Drawings.

Final Engineering Drawings with all corrections requested by the District must be submitted by the end of the business day Tuesday one week before the Scheduled Board meeting.

Final Signed License Contract (two sets with original signatures) must be submitted by the end of the business day on the Wednesday one week before the Scheduled Board meeting.

The full amount of the Consideration Fee (value and damages) must be submitted by the end of the business day on the Wednesday one week before the Scheduled Board meeting.

9. SCHEDULE AND SUBMITTAL REQUIREMENTS FOR CONSTRUCTION DEWATERING LICENSES

The Review Process takes a minimum of 30 days after submission to the District of all required information. In addition to any other provisions of this manual, for construction dewatering licenses the following items shall be submitted:

- 1) a fully completed application with original signatures,
- 2) a non-refundable administrative fee,
- 3) drawings showing the type, depth, size of the dewatering well, piping, discharge points, and any other equipment or items proposed to be placed within EPCWID's property or rights-of-ways ,
- 4) the type, model, size, units of measure, and location of the flow meter that will be installed and used,
- 5) a schedule of when the dewatering equipment will be installed, when it will be operated and when all equipment or items will be removed.
- 6) for any construction work within the channel of a drainage canal, a flow – bypass plan and drawings sealed by a engineer licensed in the State of Texas, the plan and drawings shall be of

sufficient detail and analysis to insure that all flow (including flood water) can be bypassed and that at no time shall the depth of water within the drainage canal be increased,

7) a detailed land survey sealed by a licensed surveyor, engineering survey sealed by a licensed engineer, map or aerial photograph, drawn to scale, that shows the location of all wells, pipelines, generators, pumps, and other equipment or items used for the dewater system or otherwise placed on or in EPCWID's property or rights-of-ways (such map maybe be a 7.5 minute USGS Topographic Map and such aerial photograph maybe a NAIP 2004 image), and

8) an estimate of the amount of groundwater (acre-feet) to be discharged.

Draft or initial drawings and plans must be submitted with the application. Final drawings, plans, and maps that have be modified to address all corrections or revisions requested by the District must be submitted by the end of the business day Tuesday one week before the Scheduled Board meeting.

Final Signed License Contract (two sets with original signatures) must be submitted by the end of the business day on the Wednesday one week before the Scheduled Board meeting.

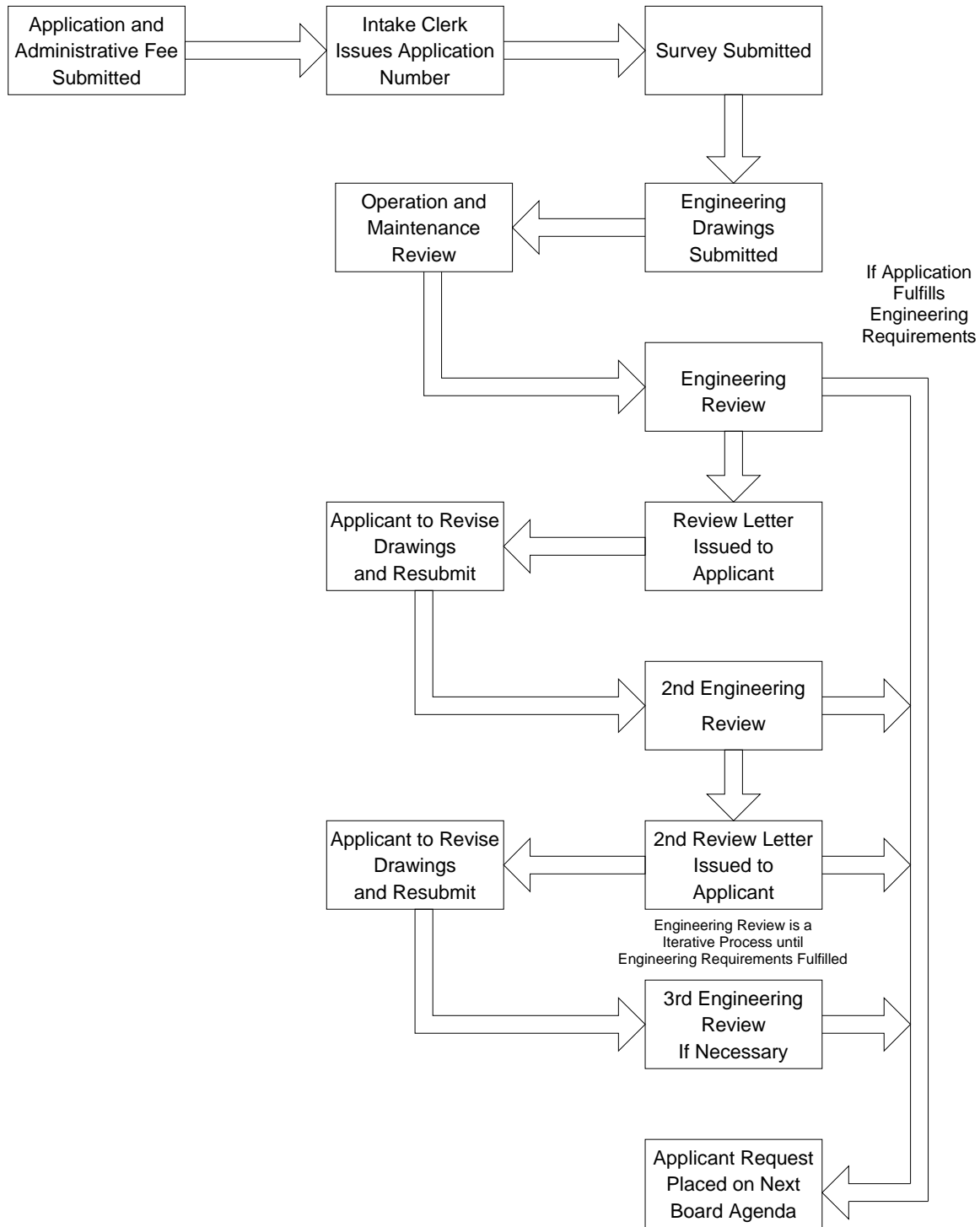
The full amount of the Consideration Fee must be submitted by the end of the business day on the Wednesday one week before the Scheduled Board meeting.

10. TYPICAL SCHEDULE FOR SUBDIVISION PLATS

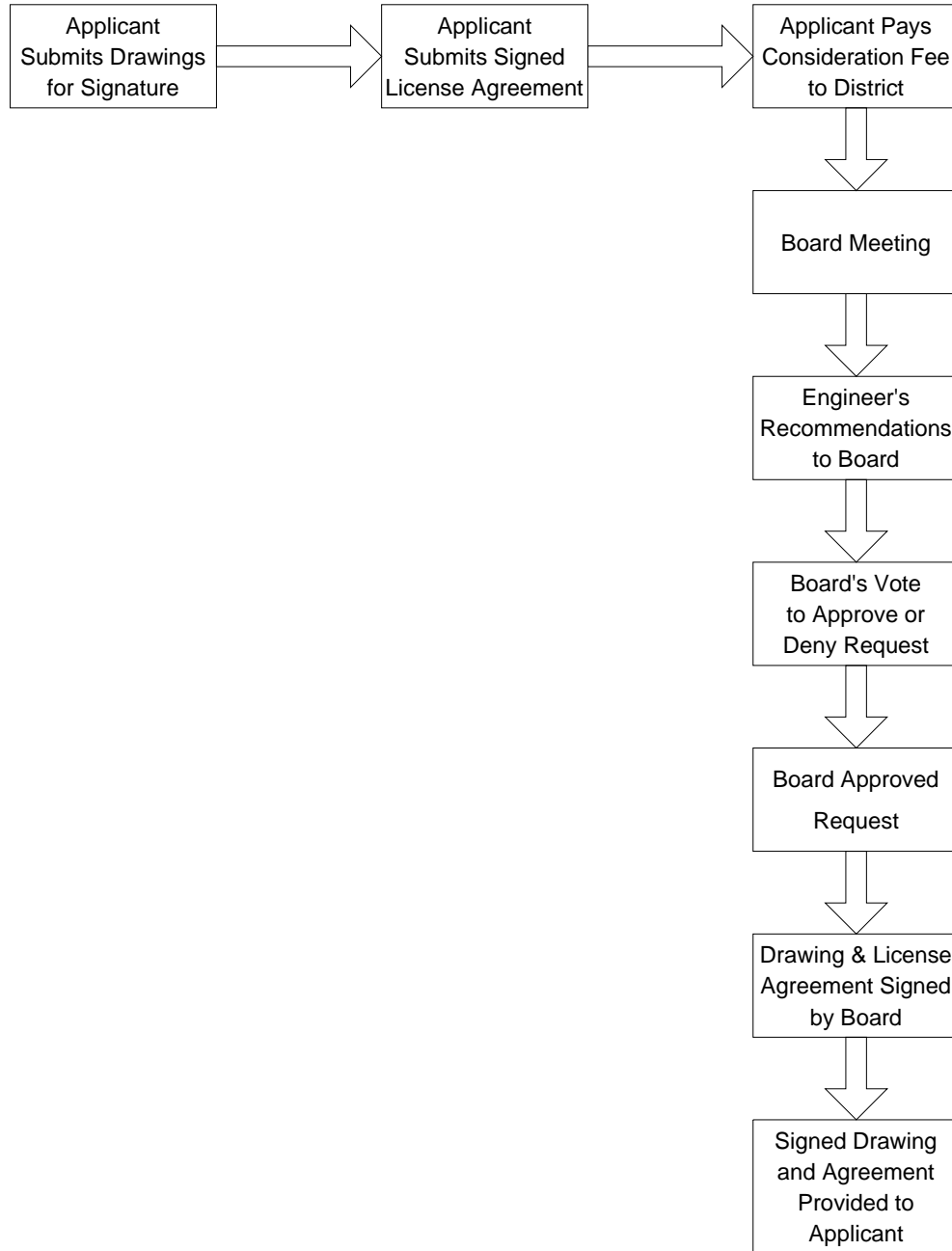
The Review Process typically takes a minimum of 30 days after submission to the District: 1) a fully completed application with original signatures, 2) a non-refundable administrative fee, 3) Subdivision Plat, and 4) Irrigable Land Exhibit.

Final Corrected Plat and the Final Corrected Irrigable Land Exhibit must be submitted by the end of the business day on the Tuesday one week before the Scheduled Board Meeting.

11. APPLICATION ENGINEERING REVIEW PROCESS



12. BOARD REVIEW PROCESS



13. REVISION DATES AND SECTION LIST

Revised May 12, 2004: All sections, in part or in whole.

Revised: June 8, 2004: Sections 2.2.5, 3.3.1c, 4.1.2, 4.4.1b, 4.4.1c

Revised: November 9, 2004: Added New Section 5, Renumbered Section 5 to 6, 6 to 7, modified Section 2.1.3, 3.1.1

Revised July 12, 2006: Minor editorial and typographical corrections throughout manual, correction of Section 2.1 regarding requirement for condemnation (approved November 9, 2004) and clarification of title, clarification to Section 3 regarding State Plane Coordinates and the “point-of-beginning” changes to Section 4.1.1 and Drawing No. 4, clarification to what time period Section 5 applies and to the Section title.

Revised March 14, 2007: Minor editorial and typographical corrections, and revisions to Section 5 to clarify what information must be submitted with application for review of proposed subdivision. Section 2.2.2 revised to reflect 2005 Board Resolution regarding explosive, flammable, hazardous, or toxic materials.

Revised June 11, 2008: Removed Section 2.1.4, added Sections 4.5, 8, 9, and 10, renumbered several sections, corrections and changes to language in various sections.

Revised April 8, 2009: Clarified submittal requirements for dewatering license applications under Section 9, added language regarding cost for review of construction work done under licenses. Clarified additional administrative fees for construction that may interfere with District operations or facilities under Section 2.2.2.

Updated March 3, 2010: Changed Administrative address in application form.