

**INTERLOCAL AGREEMENT REGARDING
RELOCATION OF WATER SYSTEM IMPROVEMENTS
(CR 101 PROJECT)**

| | | |
|----------------------|---|-----------------------------|
| THE STATE OF TEXAS | § | |
| | § | KNOW ALL BY THESE PRESENTS: |
| COUNTY OF WILLIAMSON | § | |

THIS INTERLOCAL AGREEMENT REGARDING RELOCATION OF WATER SYSTEM IMPROVEMENTS ("Agreement") is entered into between Jonah Special Utility District (the "**District**") and Williamson County, a political subdivision of the State of Texas (the "**County**"). In this Agreement, the District and the County are sometimes individually referred to as "**a Party**" and collectively referred to as "**the Parties**".

WHEREAS, the County is and has been in the process of realigning and improving a portion of CR 101 between US Highway 79 and Chandler Road (the "County Project"); and

WHEREAS, some of the proposed CR 101 roadway improvements include the widening of the right-of-way into easements in which the District's water system improvements are or will be located; and

WHEREAS, the parties have determined that, because of the re-alignment of CR 101, the relocation of District water lines are necessary; and

WHEREAS, plans and specifications for the relocation of the District water lines affected by the County Project are attached hereto as Exhibit "A" (the "Plans"); and

WHEREAS, the District would like to make upgrades to the water lines which are being relocated; and

WHEREAS, this Agreement sets forth the terms and conditions pursuant to which the County shall relocate and make improvements to the District's water system improvements in certain segments of the County Project.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual promises and agreements of the Parties contained in this Agreement, the Parties agree as follows:

**I.
STATEMENT OF INTENT**

1.01 General. The purpose of this Agreement is to provide for the County's relocation and construction of District waterline improvements caused by the County's re-alignment of the CR 101.

1.02 County Relocation of Waterlines. The County will, at its own expense, relocate the District water lines in accordance with the Plans, with the exception of additional costs related to improvements to the water lines ("Betterment") detailed in the Betterment Calculations attached

hereto as Exhibit "B." The District agrees to relocate fire hydrants located at County Road 395 and County Road 369.

1.03 County Signage. The County will, at its own expense, provide two signs indicating the location of the District's existing water line easement between roadway stations 75+00 to 90+00. Both parties agree that this water line will remain in place.

1.04 County to Obtain Easements. The County agrees to acquire at its own expense all necessary easements required for the relocation of District water lines.

1.05 District Obligations. The District shall be responsible for 100% percent all costs related to the design and construction of the water line Betterment. The Betterment Calculations attached hereto as Exhibit "B" estimate the cost of the Betterment at \$362,368.00. Within thirty (30) days following the award of the contract for design and construction of the County Project, the District shall pay to the County the full bid price for the Betterment. The parties agree that on or before the thirtieth (30th) day following completion of the County Project they will true-up the actual costs related to the design and construction of the water line Betterment. Any funds being due to the District or the County, as the case may be, shall within thirty (30) days thereafter be remitted by the party owing such amount to the other party.

1.06 Continuation of Service. The County agrees that the County Project shall be undertaken so as to minimize any disruption of water service to existing customers of the District and will not result in the permanent loss of water service to any such customers.

1.07 Relocation of Waterlines and Provision of Easement Rights. The County will, at its own expense, relocate the Waterlines to construct the 16" Waterline as described in the construction plans (the "Project Plans") and the specifications associated with the Project Plans (the "Project") and convey a water line easement to Jonah in a form mutually agreeable to the parties that contains provisions regarding the following:

- (a) grants Jonah an exclusive right to at least a 15-foot wide designated portion of the right-of-way for its water line and an additional 15-wide construction easement to be used in the event repairs to the water line are required;
- (b) provides Jonah the right to make any repairs or improvements to its water line with no obligation to repair the overlying roadway improvements, including but not limited to sidewalks and driveways; and
- (c) requires the County (or the City, in the future) to relocate Jonah's facilities if necessary in the future and acquire and provide any future easements or the same right-of-way rights in favor of Jonah at the County's sole expense.

1.08 Future Relocations. Should the County or any other entity require the relocation of the District water system improvements previously relocated by this Agreement, other than those relocations identified as Betterment in Exhibit B, the County shall, at its own expense, be responsible for the relocation expenses, including the acquisition of new easements, if necessary.

II. CONSTRUCTION OF PROJECT

2.01 General. The Parties mutually acknowledge and agree that the County shall, at its own expense, construct all physical improvements that constitute the Project.

2.02 Construction Plans. The County shall submit the Plans related to relocation of the water lines, and any changes or modifications thereto, to the District for review and approval prior to commencing construction.

2.03 Inspection. The District may inspect the Project Plans and the physical improvements relocated Waterline during construction. If the District's inspectors determine that the construction by the County is not in accordance with the approved Project Plans and upon receipt of such notification from the District, the County shall cease construction until the deficiency can be identified and a corrective plan of construction implemented with the agreement of the District.

2.04 Permits. The District shall be responsible for obtaining permits required for the construction of the Project.

2.05 Insurance, Bonds and Warranties. The County shall require the contractor for the Project to name the District as an additional insured on any policies related to the Project. The County shall require the contractor to provide performance bonds, payment bonds and maintenance bonds in favor of the District for the Project in amounts satisfactory to the District. The County shall transfer any warranties for the Project to the District upon final completion and acceptance of the project.

III. DISPUTES

3.01 Material Breach; Notice and Opportunity to Cure.

(a) In the event that one Party believes that another Party has materially breached one of the provisions of this Agreement, the non-defaulting Party will make written demand to cure and give the defaulting Party up to 30 days to cure such material breach or, if the curative action cannot reasonably be completed within 30 days, the defaulting Party will commence the curative action within 30 days and thereafter diligently pursue the curative action to completion. Notwithstanding the foregoing, any matters specified in the default notice which may be cured solely by the payment of money must be cured within 10 days after receipt of the notice. This applicable time period must pass before the non-defaulting Party may initiate any remedies available to the non-defaulting party due to such breach.

(b) Any non-defaulting Party will mitigate direct or consequential damage arising from any breach or default to the extent reasonably possible under the circumstances.

(c) The Parties agree that they will negotiate in good faith to resolve any disputes and may engage in non-binding mediation, arbitration or other alternative dispute resolution methods as recommended by the laws of the State of Texas.

3.02 Equitable Relief. In recognition that failure in the performance of the Parties' respective obligations could not be adequately compensated in money damages alone, the Parties agrees that after providing notice and an opportunity to cure in accordance with Section 3.01 above, the Parties shall have the right to request any court, agency or other governmental authority of appropriate jurisdiction to grant any and all remedies which are appropriate to assure conformance to the provisions of this Agreement. The defaulting Party shall be liable to the other for all costs actually incurred in pursuing such remedies and for any penalties or fines as a result of the failure to comply with the terms including, without limitation, the right to obtain a writ of mandamus or an injunction requiring the governing body of the defaulting party to levy and collect rates and charges or other revenues sufficient to pay the amounts owed under this Agreement.

3.03 Agreement's Remedies Not Exclusive. The provisions of this Agreement providing remedies in the event of a Party's breach are not intended to be exclusive remedies. The Parties retain, except to the extent released or waived by the express terms of this Agreement, all rights at law and in equity to enforce the terms of this Agreement.

IV. GENERAL PROVISIONS

4.01 Authority. This Agreement is made in part under the authority conferred in Chapter 791, *Texas Government Code*.

4.02 Severability. The provisions of this Agreement are severable and, if any provision of this Agreement is held to be invalid for any reason by a court or agency of competent jurisdiction, the remainder of this Agreement will not be affected and this Agreement will be construed as if the invalid portion had never been contained herein.

4.03 Payments from Current Revenues. Any payments required to be made by a Party under this Agreement will be paid from current revenues available to the Party for such purpose.

4.04 Cooperation. The Parties agree to cooperate at all times in good faith to effectuate the purposes and intent of this Agreement.

4.05 Entire Agreement. This Agreement contains the entire agreement of the Parties regarding the subject matter hereof and supersedes all prior or contemporaneous understandings or representations, whether oral or written, regarding the subject matter and only relates to those portions of the County Project shown in the Project Plans.

4.06 Amendments. Any amendment of this Agreement must be in writing and will be effective if signed by the authorized representatives of the Parties.

4.07 Applicable Law; Venue. This Agreement will be construed in accordance with Texas law. Venue for any action arising hereunder will be in Williamson County, Texas.

4.08 Notices. Any notices given under this Agreement will be effective if (i) forwarded to a Party by hand-delivery; (ii) transmitted to a Party by confirmed fax machine; or (iii) deposited with the U.S. Postal Service, postage prepaid, certified, to the address of the Party indicated below:

DISTRICT:

Jonah Water Special Utility District
4050 FM 1660
Hutto, Texas 78634
Attn: General Manager
Telephone: (512) 759-1286

COUNTY:

Williamson County
710 Main Street, Suite 101
Georgetown, Texas 78626
Attn: Judge Dan Gattis
Telephone: (512) 943-1577

4.09 Counterparts; Effect of Partial Execution. This Agreement may be executed simultaneously in multiple counterparts, each of which will be deemed an original, but all of which will constitute the same instrument.

4.10 Authority. Each Party represents and warrants that it has the full right, power and authority to execute this Agreement.

**JONAH WATER SPECIAL UTILITY
DISTRICT:**

By: 

Printed Name: Bill Brown

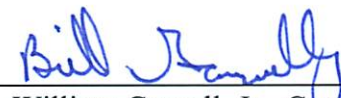
Title: General Manager

Date: 2.17.2020

ATTEST:


Nancy Rister, County Clerk

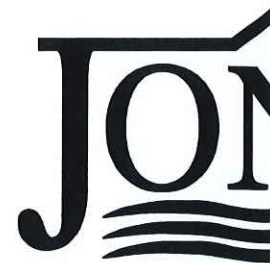
WILLIAMSON COUNTY:

By: 
William Gravell, Jr., County Judge

Date: February 25, 2020

EXHIBIT A

PLANS

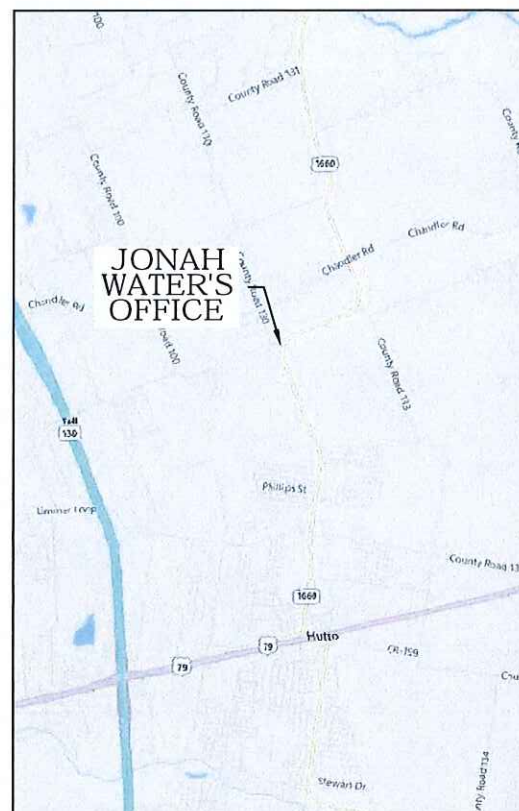


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2016 - C.R. 101; U

GENERAL CONSTRUCTION NOTES

1. THESE PLANS DO NOT INDICATE DETAILED TOPOGRAPHY, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PROJECT BEFORE SUBMITTING BIDS TO DETERMINE LOCATIONS OF VARIOUS TOPOGRAPHIC FEATURES THAT COULD EFFECT CONSTRUCTION METHODS
2. THE CONTRACTOR SHALL NOTIFY
 1. THE TxDOT HIGHWAY MAINTENANCE FOREMAN
 2. RAILWAY SUPERINTENDENT
 3. COUNTY COMMISSIONER
 4. APPLICABLE CITY
 5. APPLICABLE UTILITY COMPANIES48 HOURS PRIOR TO STARTING CONSTRUCTION ON ANY HIGHWAY OR RAILROAD AND IN THE VICINITY OF ANY EXISTING UTILITIES, AND SHALL BE SUBJECT TO INSPECTION AND COMPLIANCE WITH THE ABOVE AUTHORITIES.
3. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
4. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
5. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, OR AS SHOWN ON THE PLANS AND/OR BID SCHEDULE.
6. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF POTABLE WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY.
7. WATER TRANSMISSION AND DISTRIBUTION LINES MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
8. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
9. COORDINATE ANY PLANNED INTERRUPTIONS TO SERVICE WITH THE APPLICABLE UTILITY PURVEYOR A MINIMUM 72 HOURS IN ADVANCE
10. ANY AND ALL OBJECTS THAT BECOME DAMAGED AND/OR DESTROYED BY THE CONSTRUCTION PROCESS SHALL BE REPLACED OR RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED JUST PRIOR TO THE INCIDENT OR INCIDENTS.
11. PROPERTY OWNERS SHALL HAVE ACCESS TO THEIR RESPECTED PROPERTY DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE PROPERTY OWNER IF PROPERTY ACCESS IS TO BE DENIED FOR ANY PERIOD OF TIME. THE CONTRACTOR SHALL TAKE STEPS TO ASSURE THAT ACCESS IS ACHIEVED IN THE PERIODS OF THE CONTRACTOR'S ABSENCE.
12. TRAFFIC CONTROL PLANS SHALL BE IN ACCORDANCE WITH TCP(1-1)-12 THROUGH TCP(1-6)-12; SEE <https://www.dot.state.tx.us/insdtdot/orgchart/cmd/cserve/standard/toc.htm> FOR SHEETS.



PROJECT SPECIFIC NOTES:

1. PROPERTY AND R.O.W. LINES ILLUSTRATED ARE
2. PROFILE ELEVATIONS WERE CREATED UTILIZING
3. EXISTING UTILITY LOCATIONS ILLUSTRATED ARE
4. WHEN PARALLELING EXISTING WATERLINE ON 1 EASEMENT IS CENTERED ON EXISTING WATERLINE TO DETERMINE ACTUAL EASEMENT LOCATION
5. SCHEDULE ALL PLANNED INTERRUPTIONS TO V HOURS IN ADVANCE.
6. THE COST FOR THE INSTALLATION OF TYPE 1, 2 THE COST OF THE INSTALLATION ITS APPLICABLE
7. CONTRACTOR MUST CONTACT WILLIAMSON COUNTY REQUIRED COUNTY ROAD BORES.

 **CAYOTE
CONSULTING, LLC**

T.B.P.E. F-16387
P.O. Box 24189
Waco, TX 76702 Ph. 254-744-3439
MILES@CAYOTECON.COM

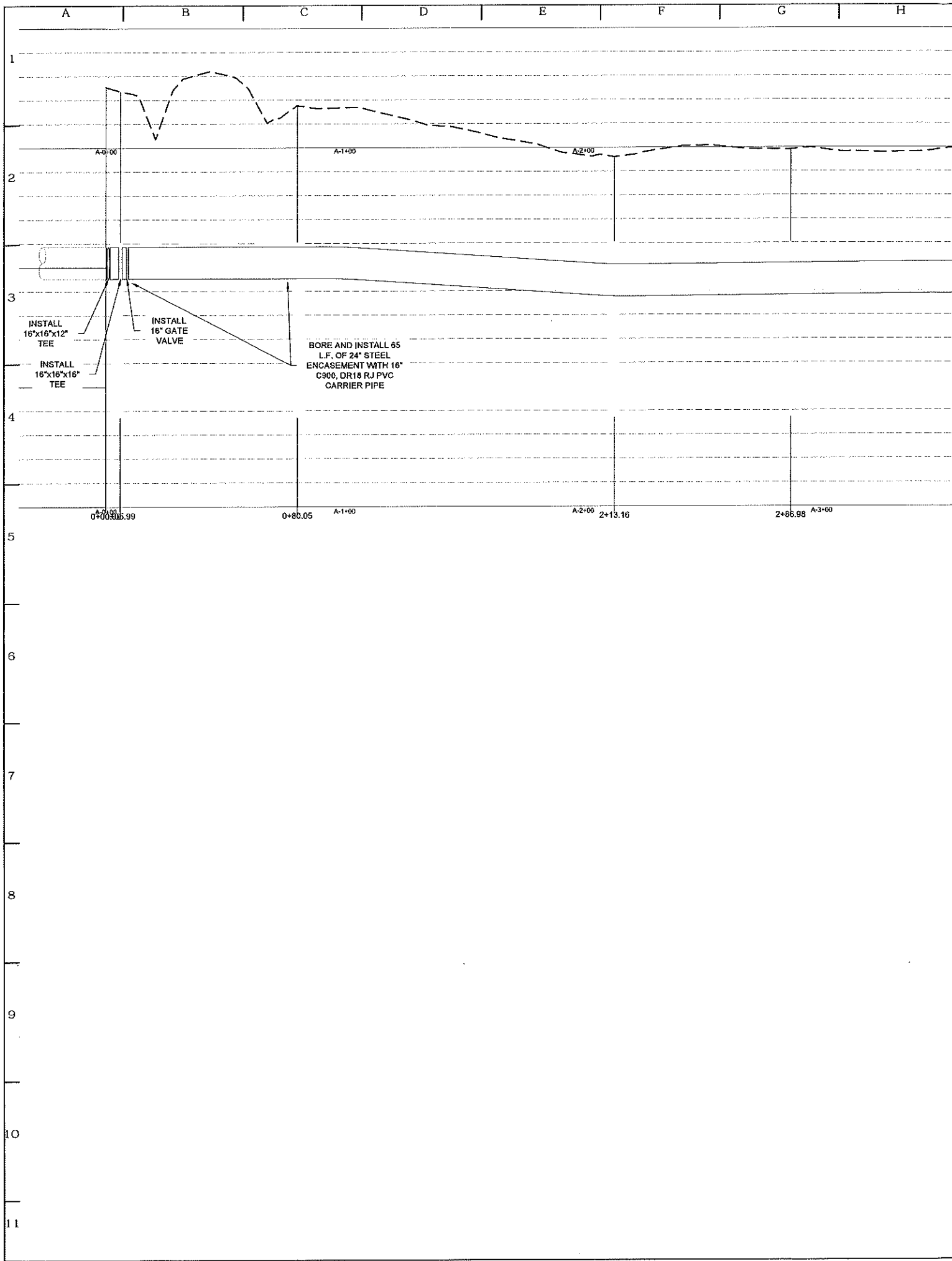


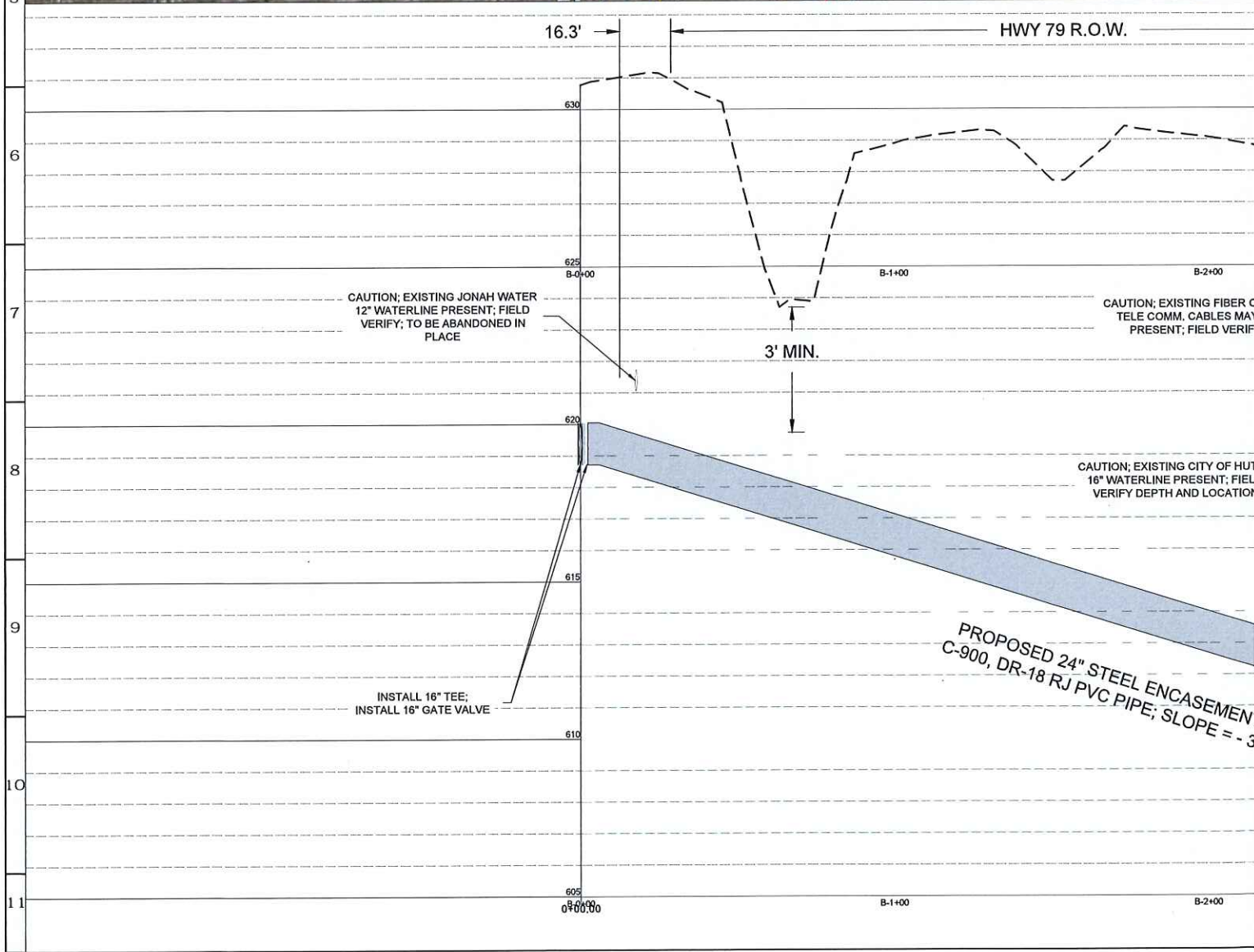
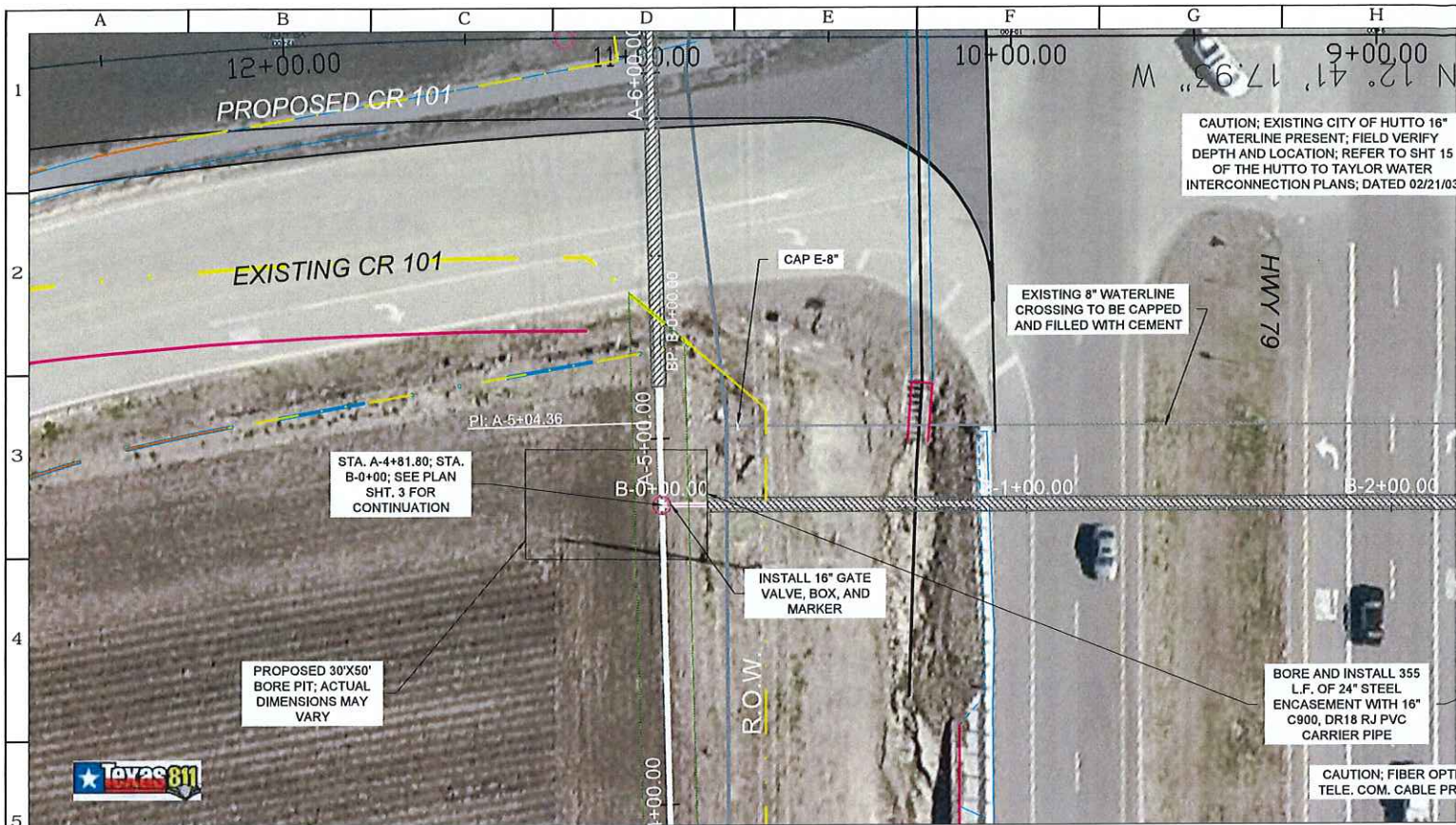
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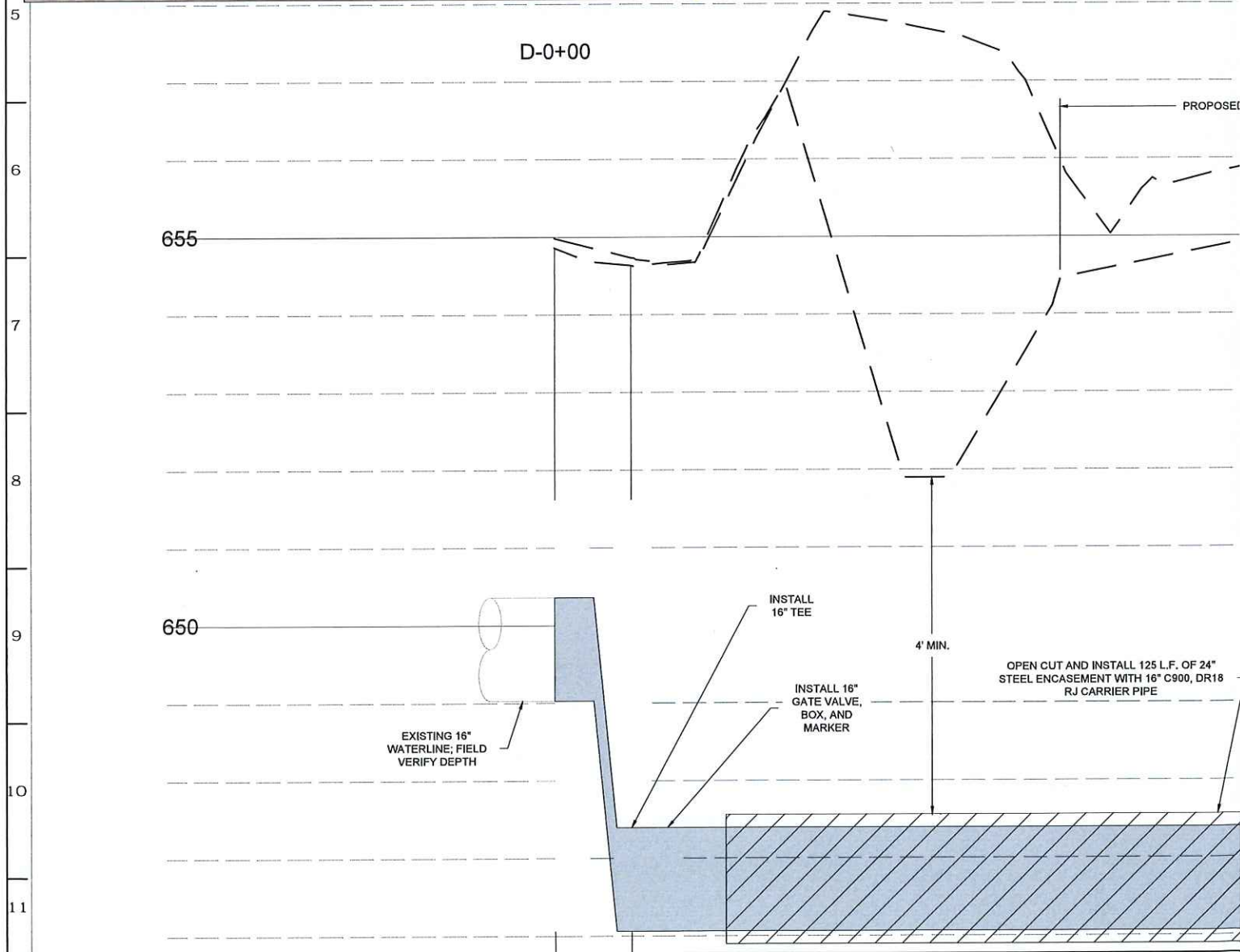
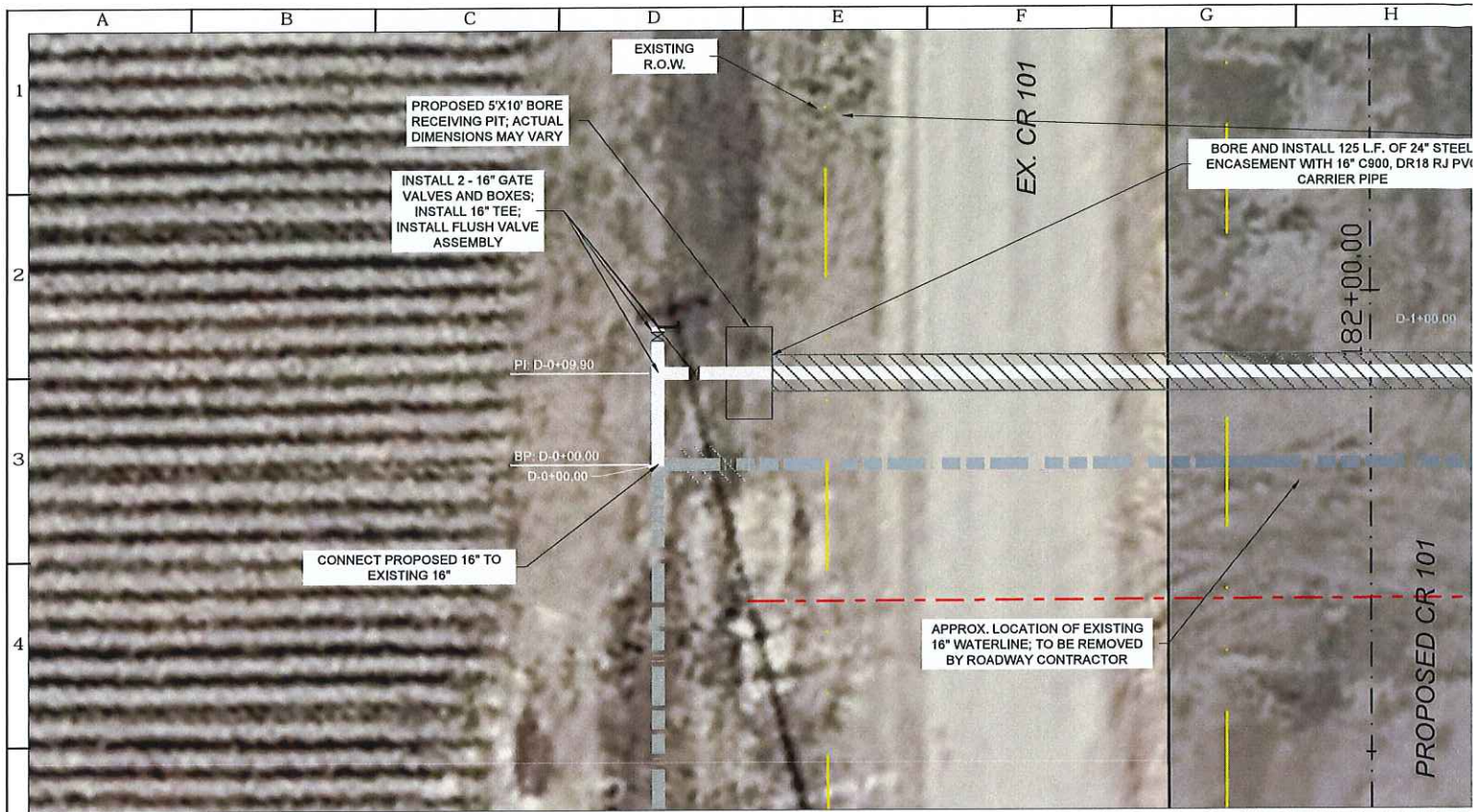
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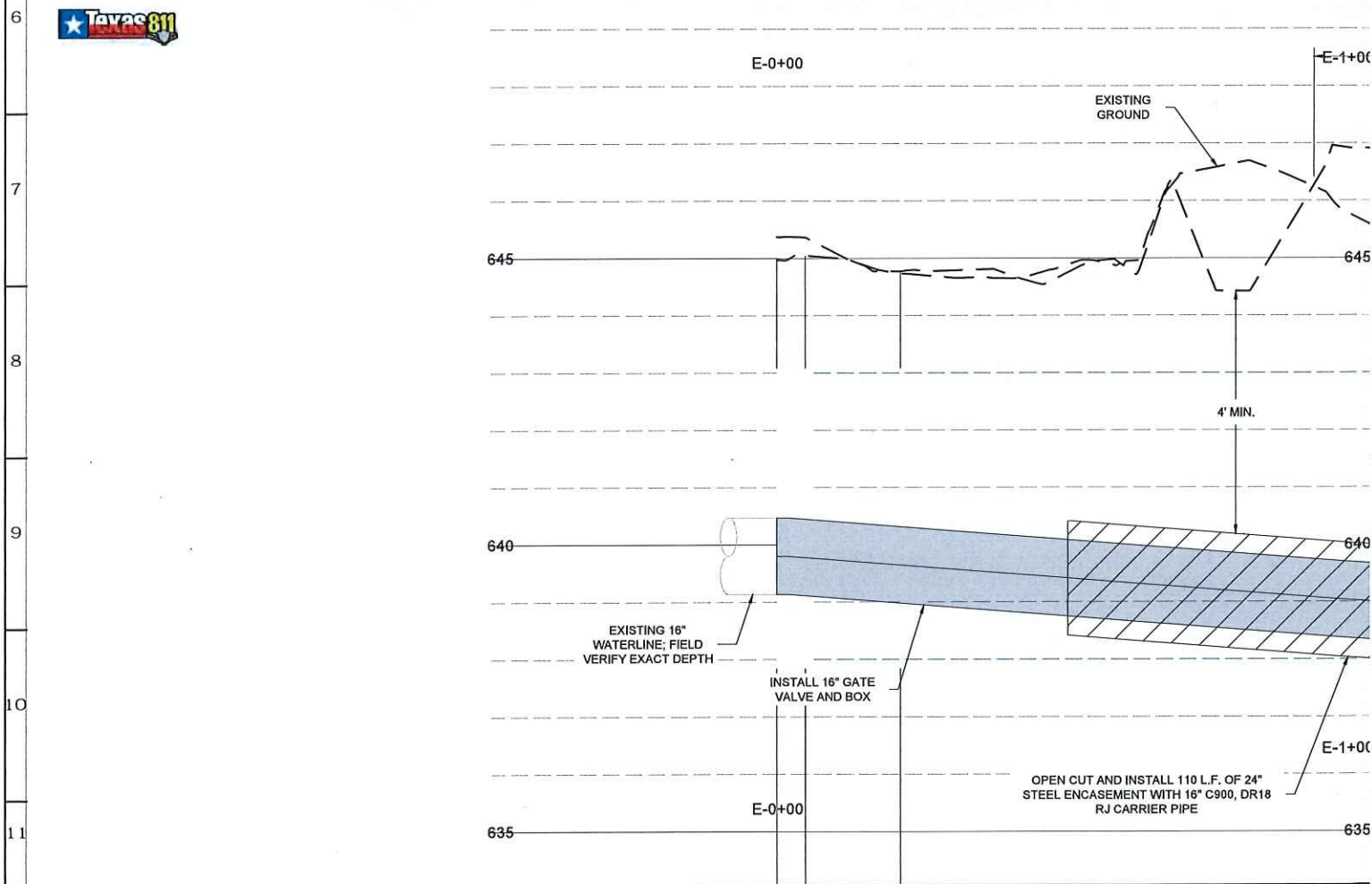
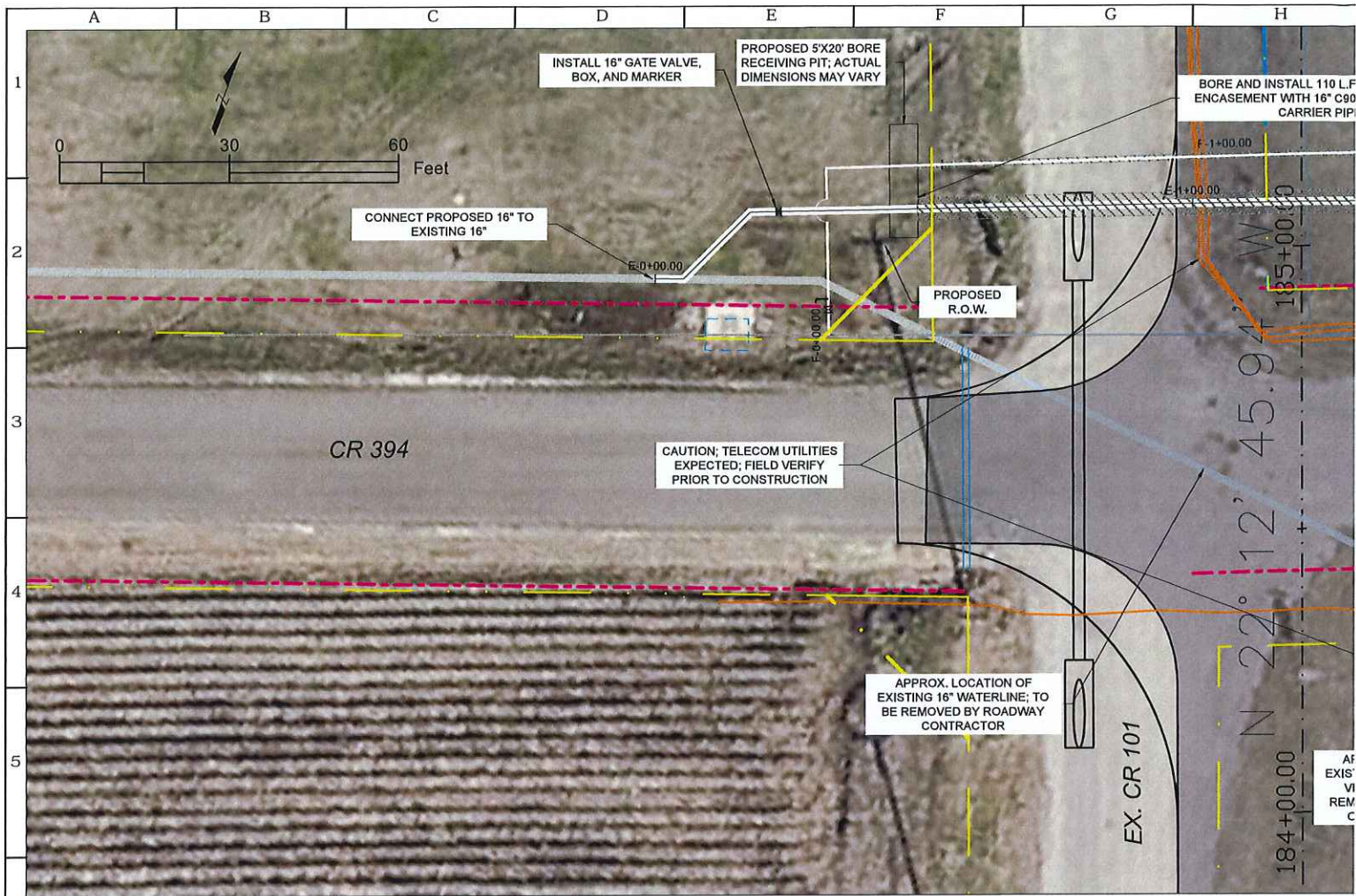
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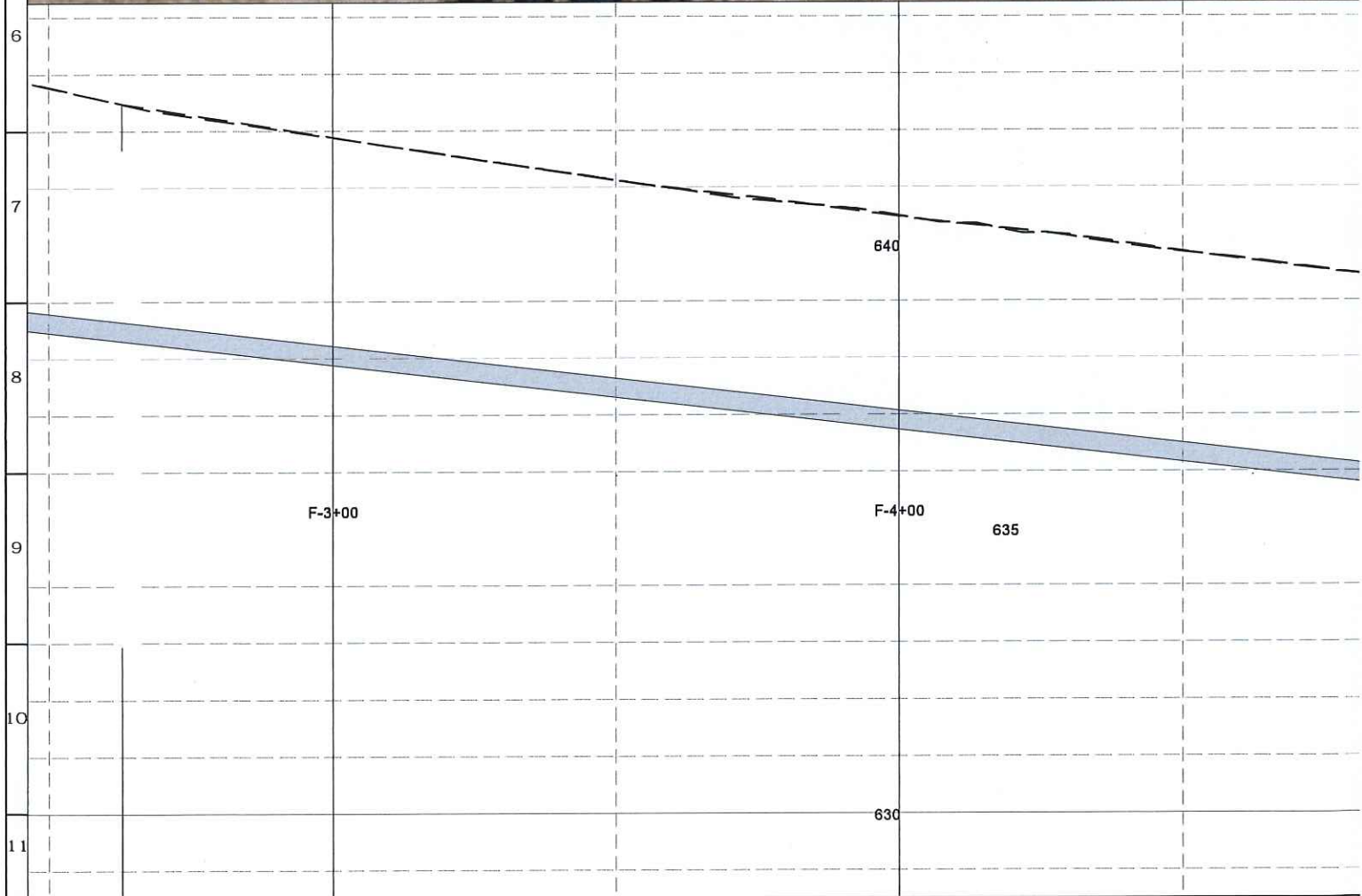
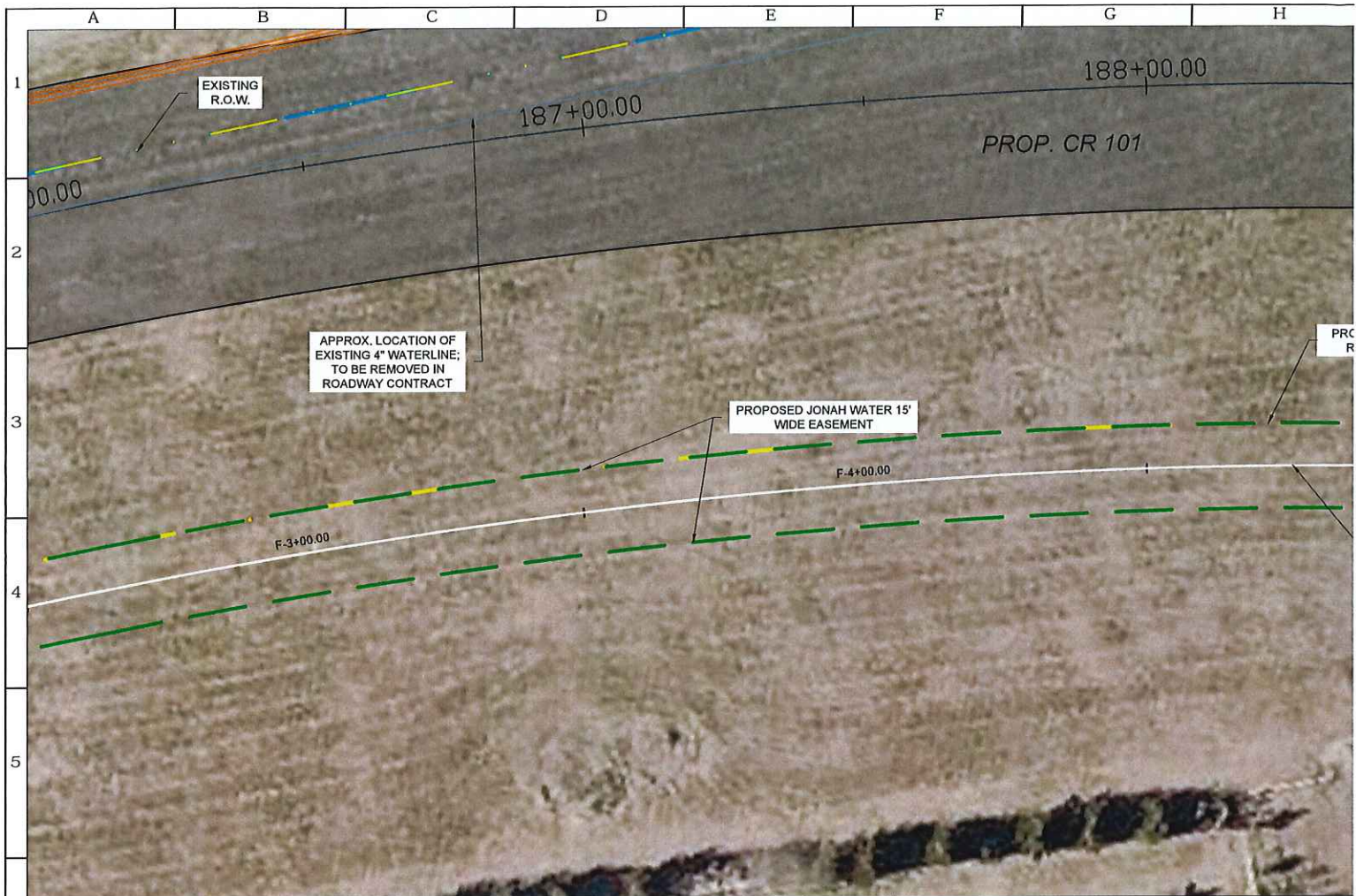
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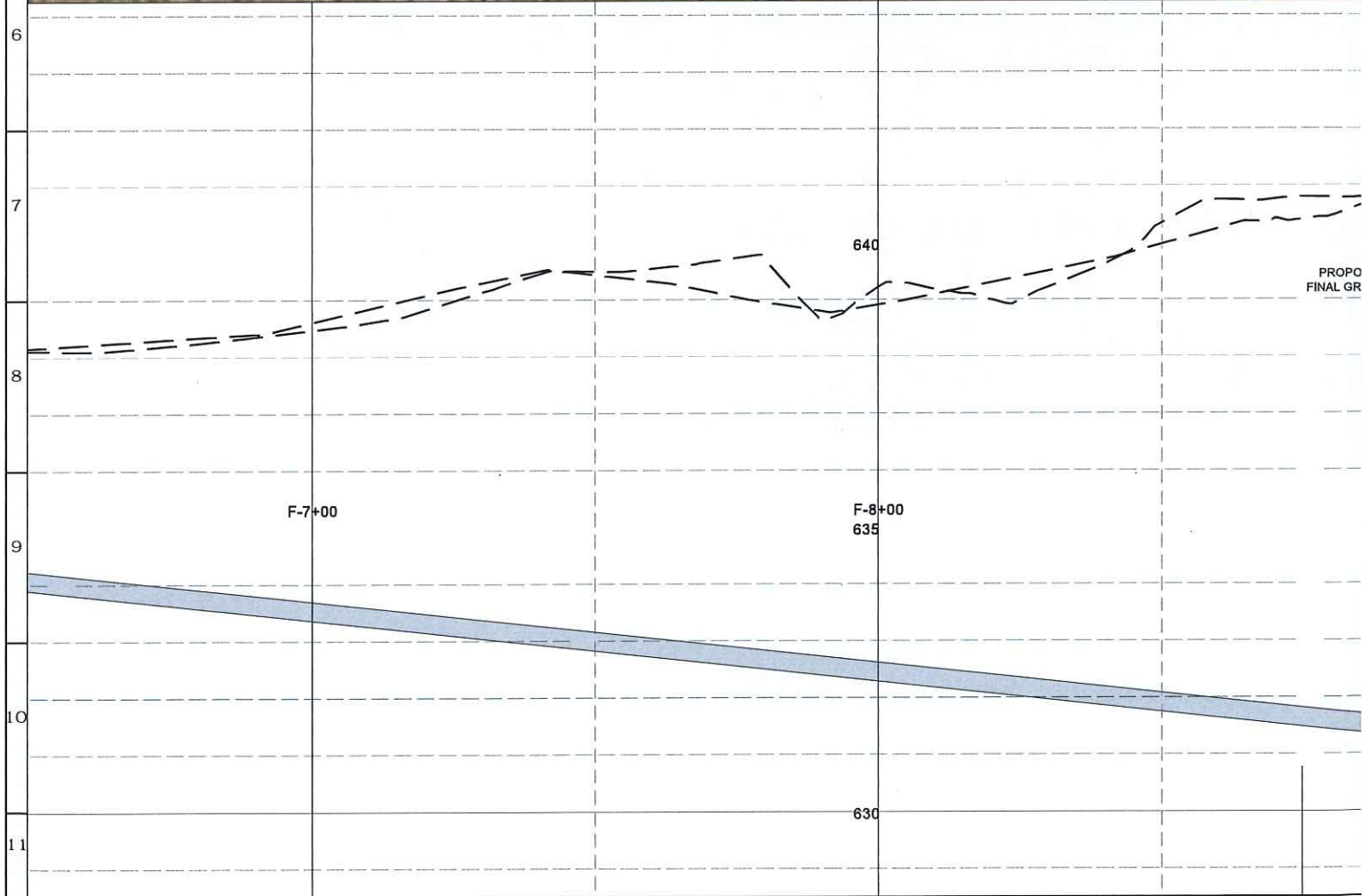
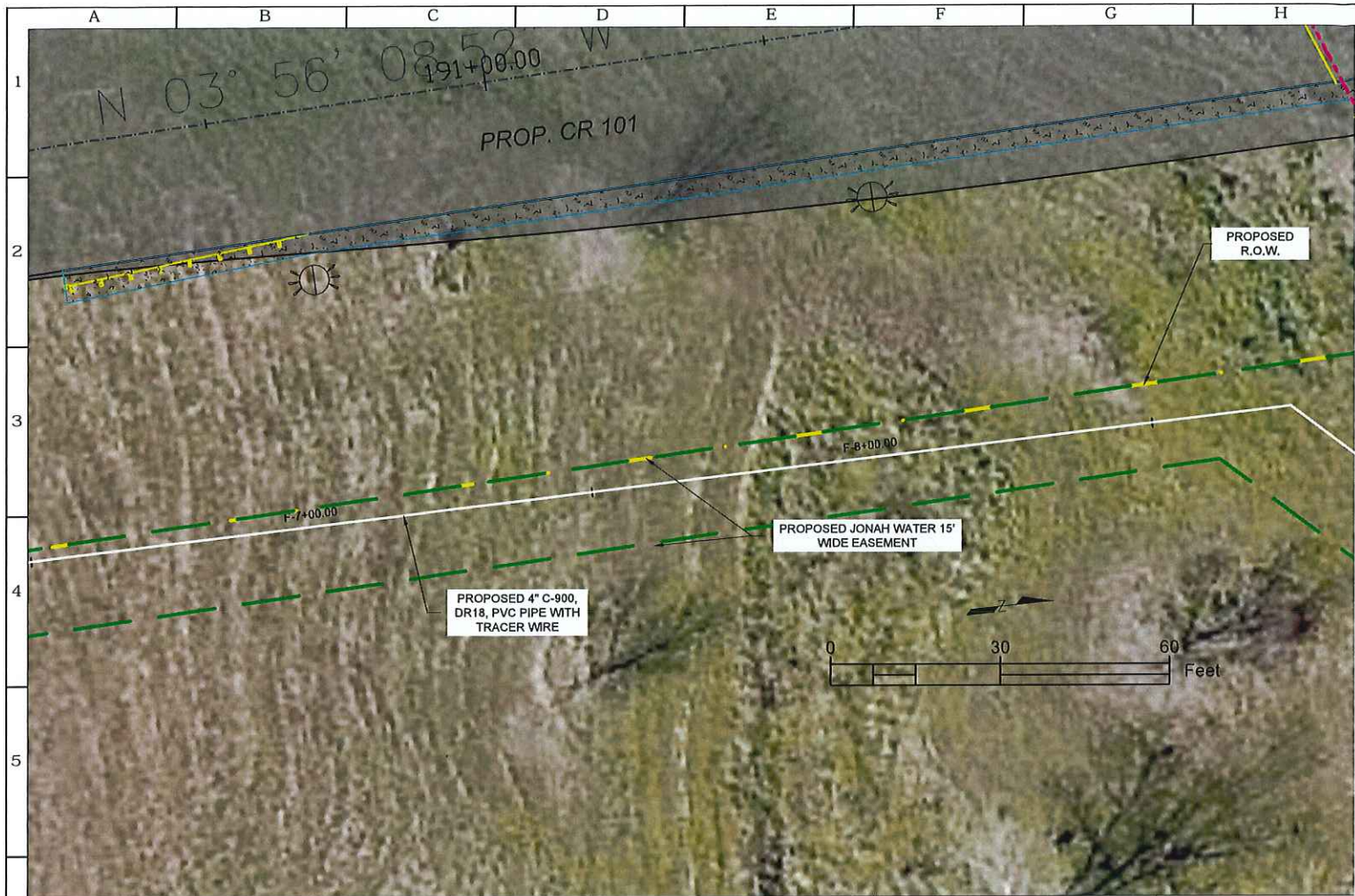


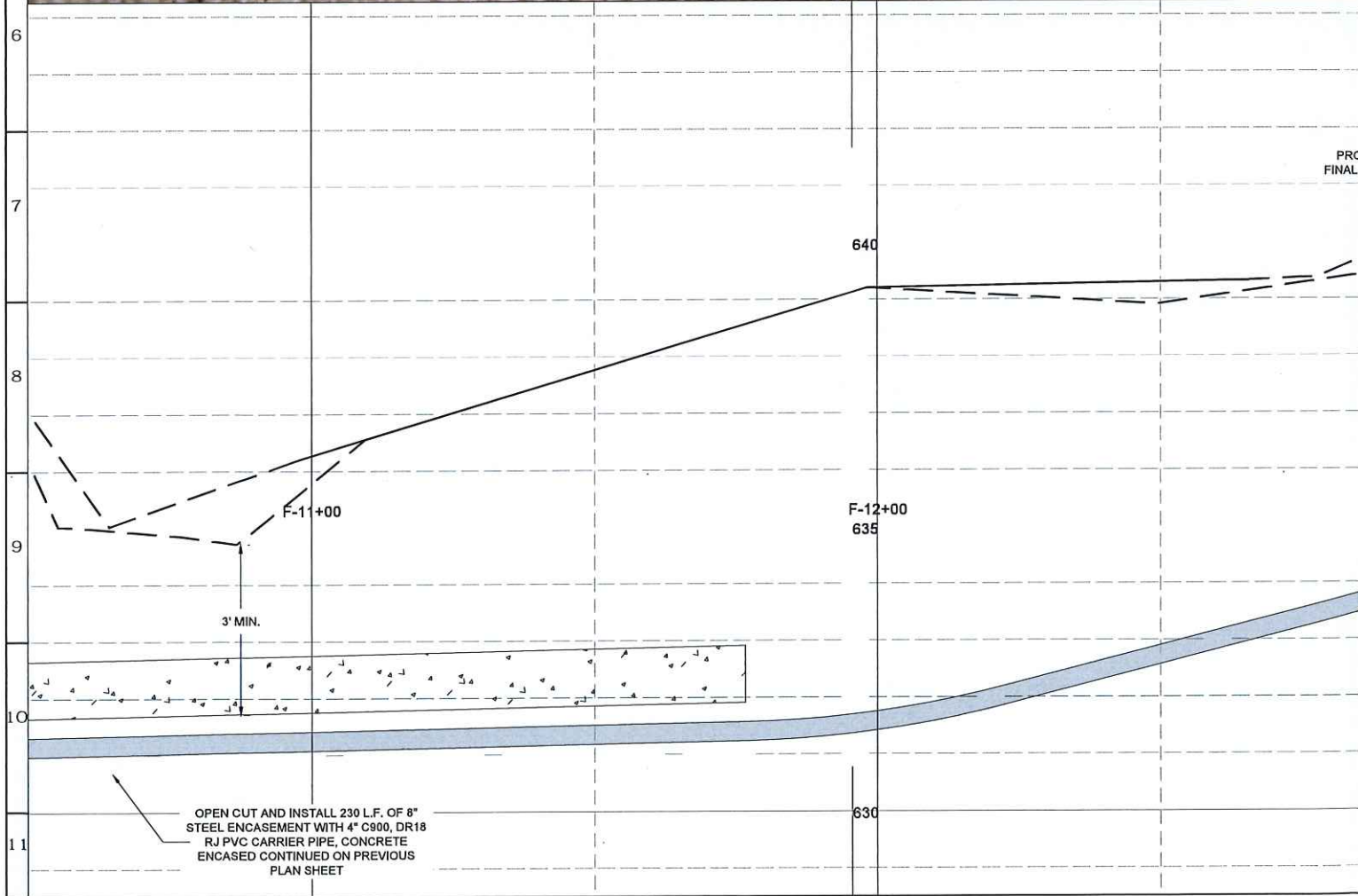
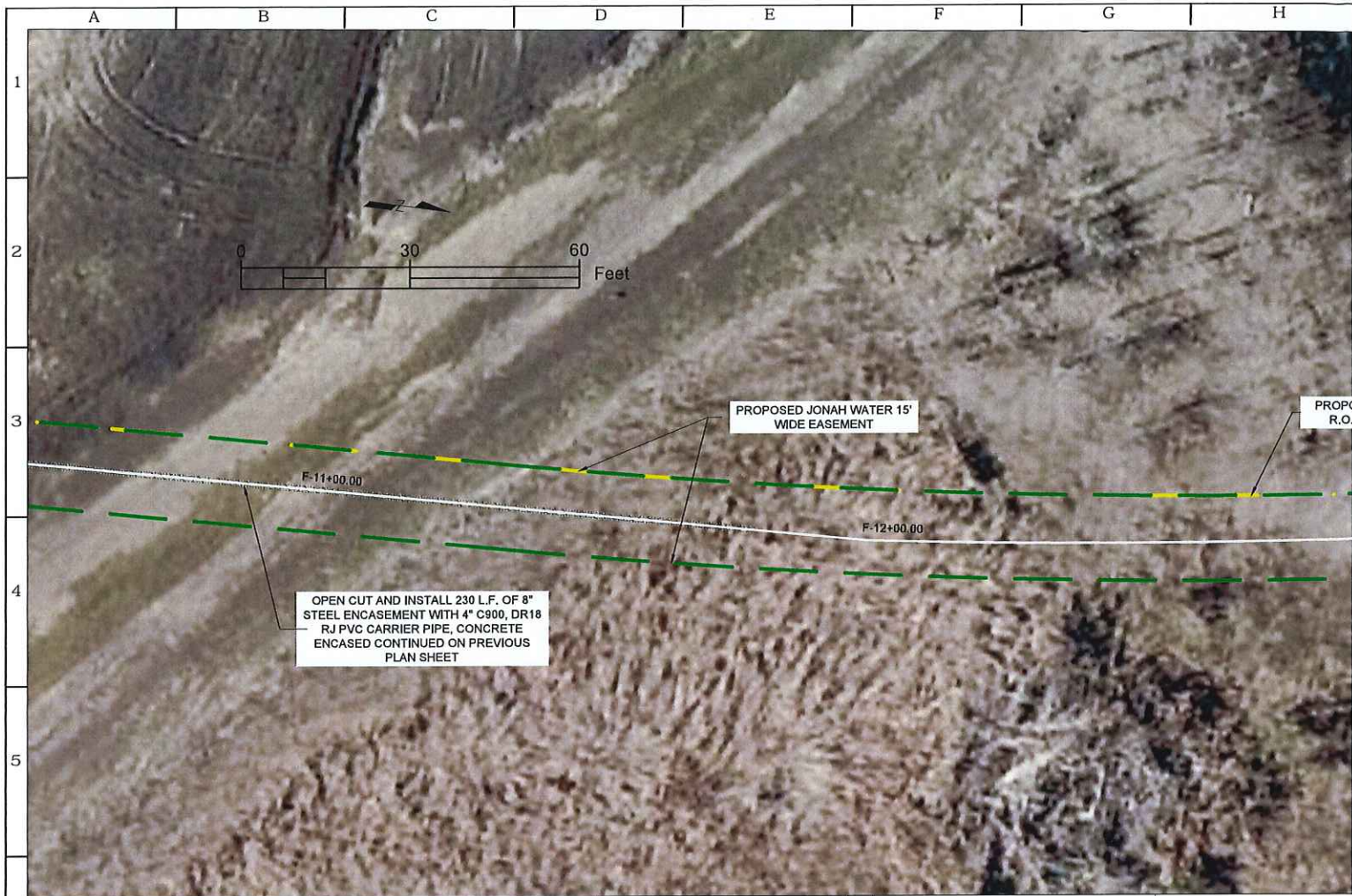


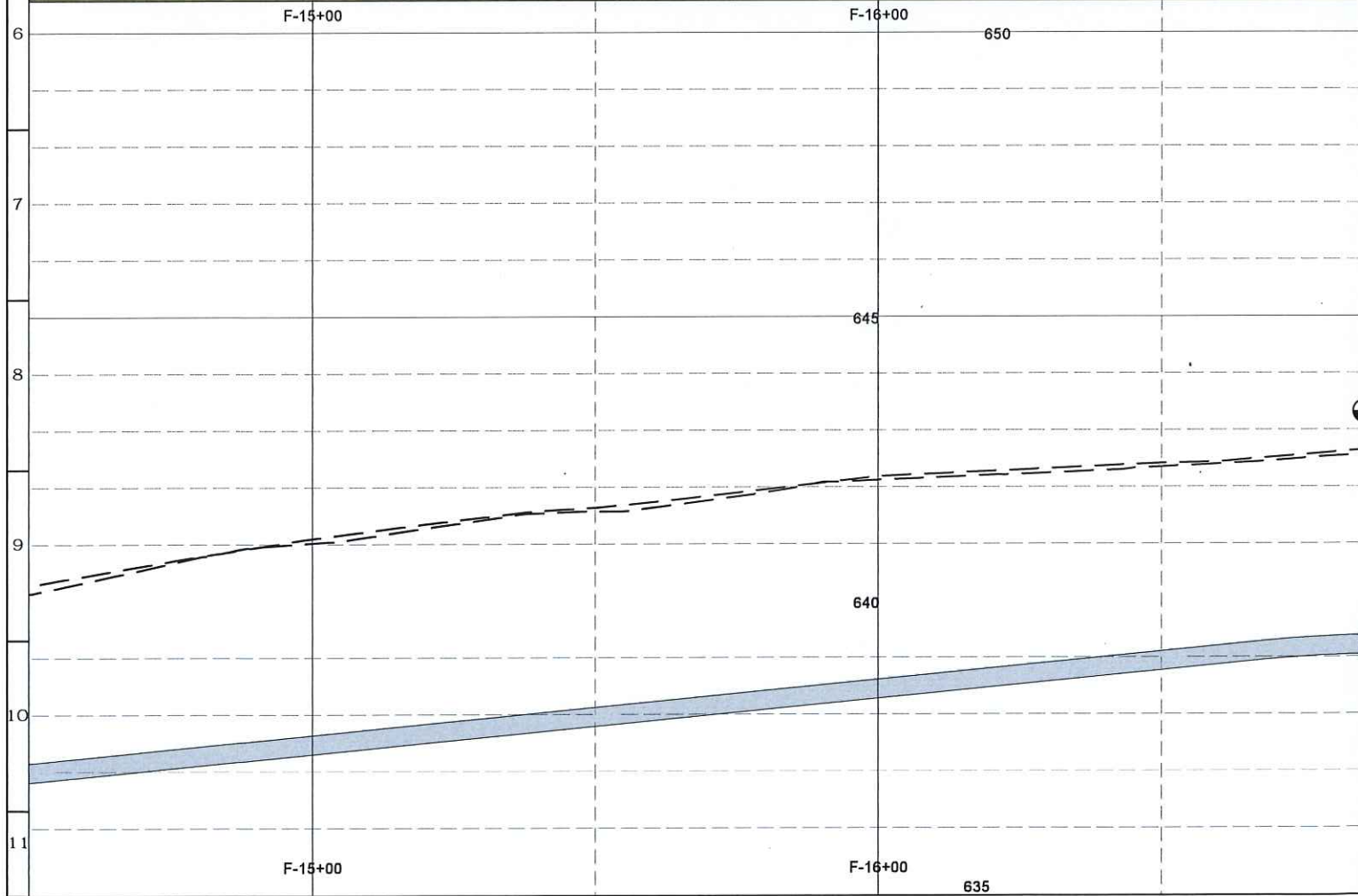
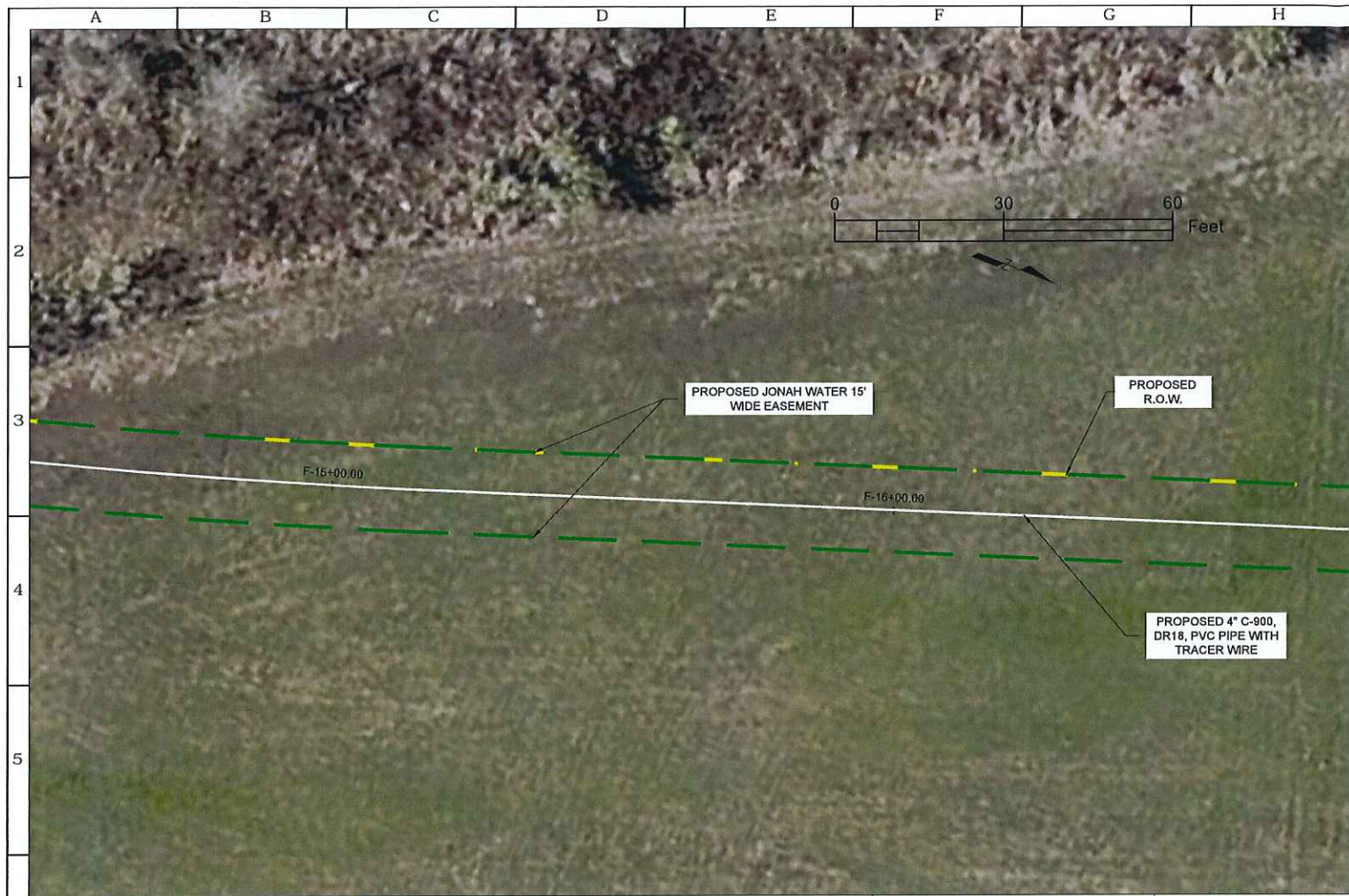


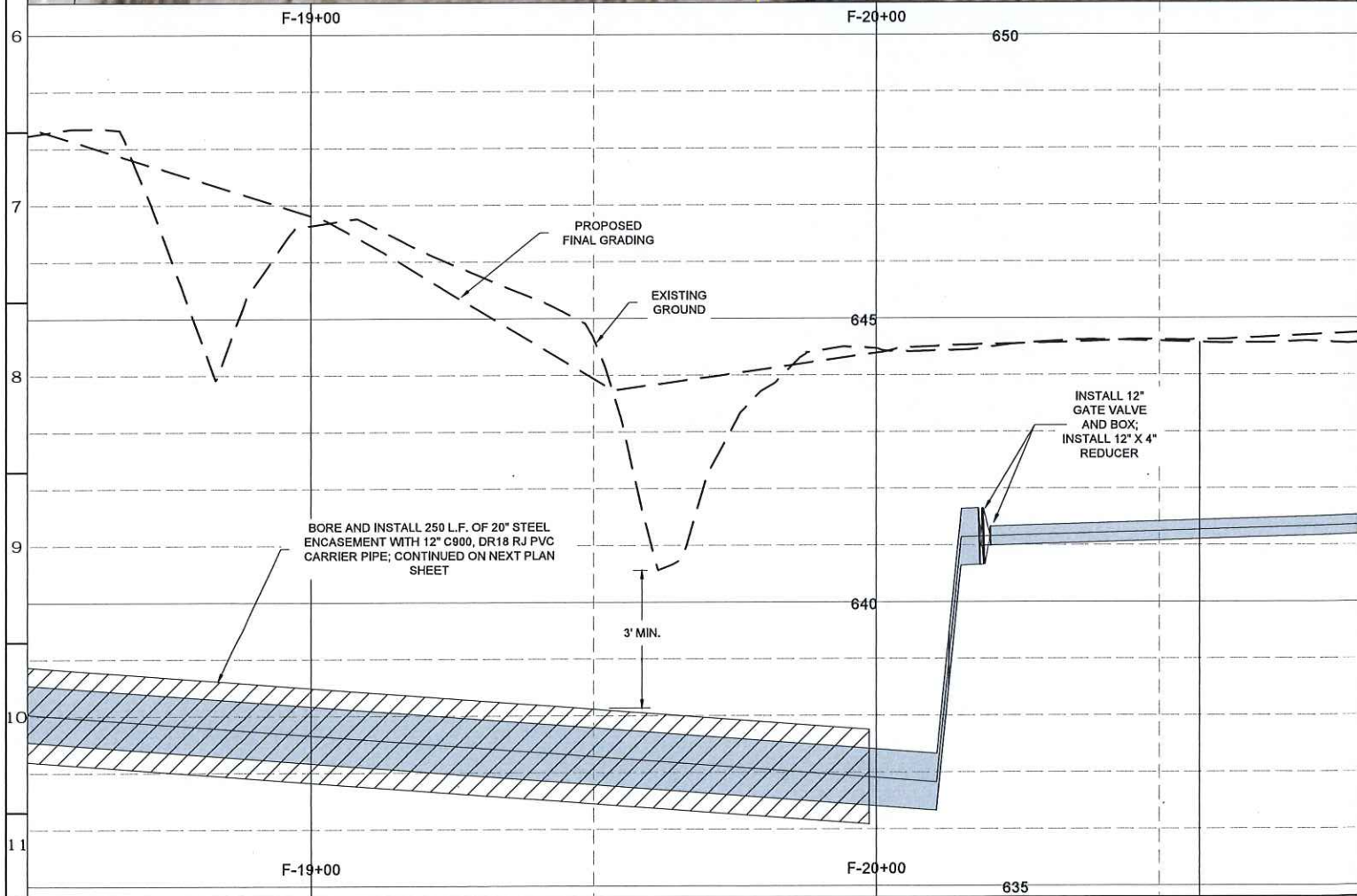
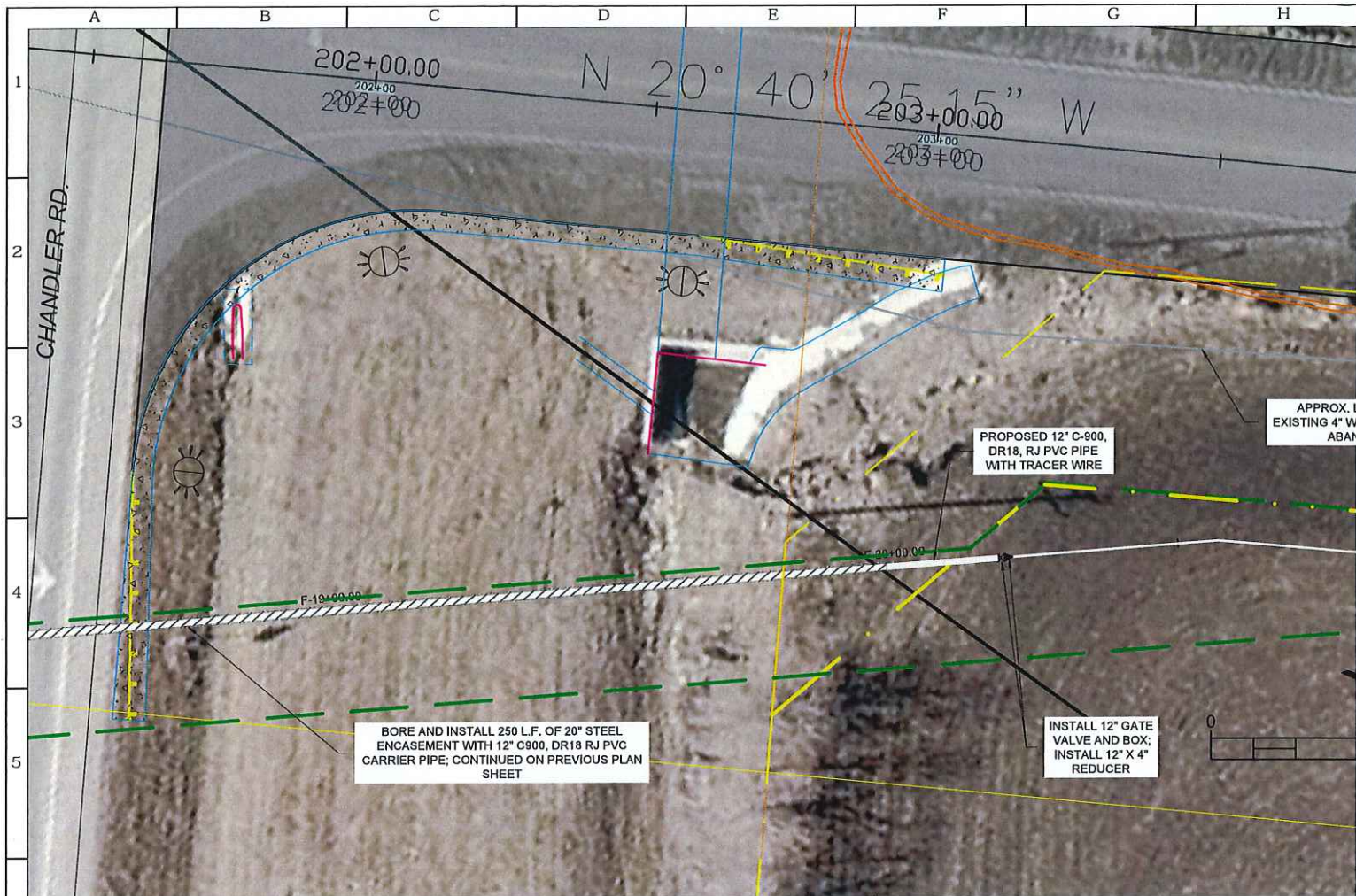


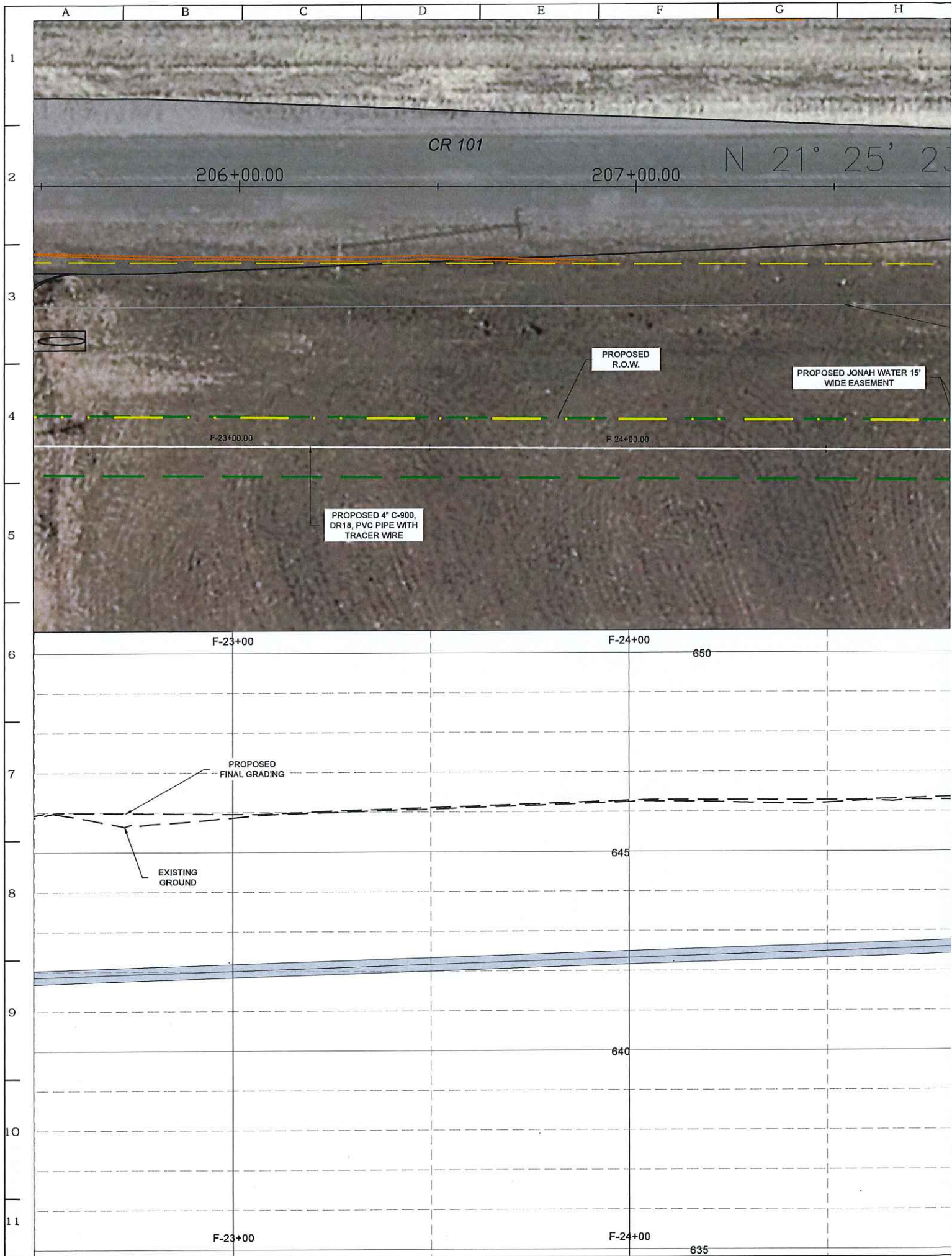


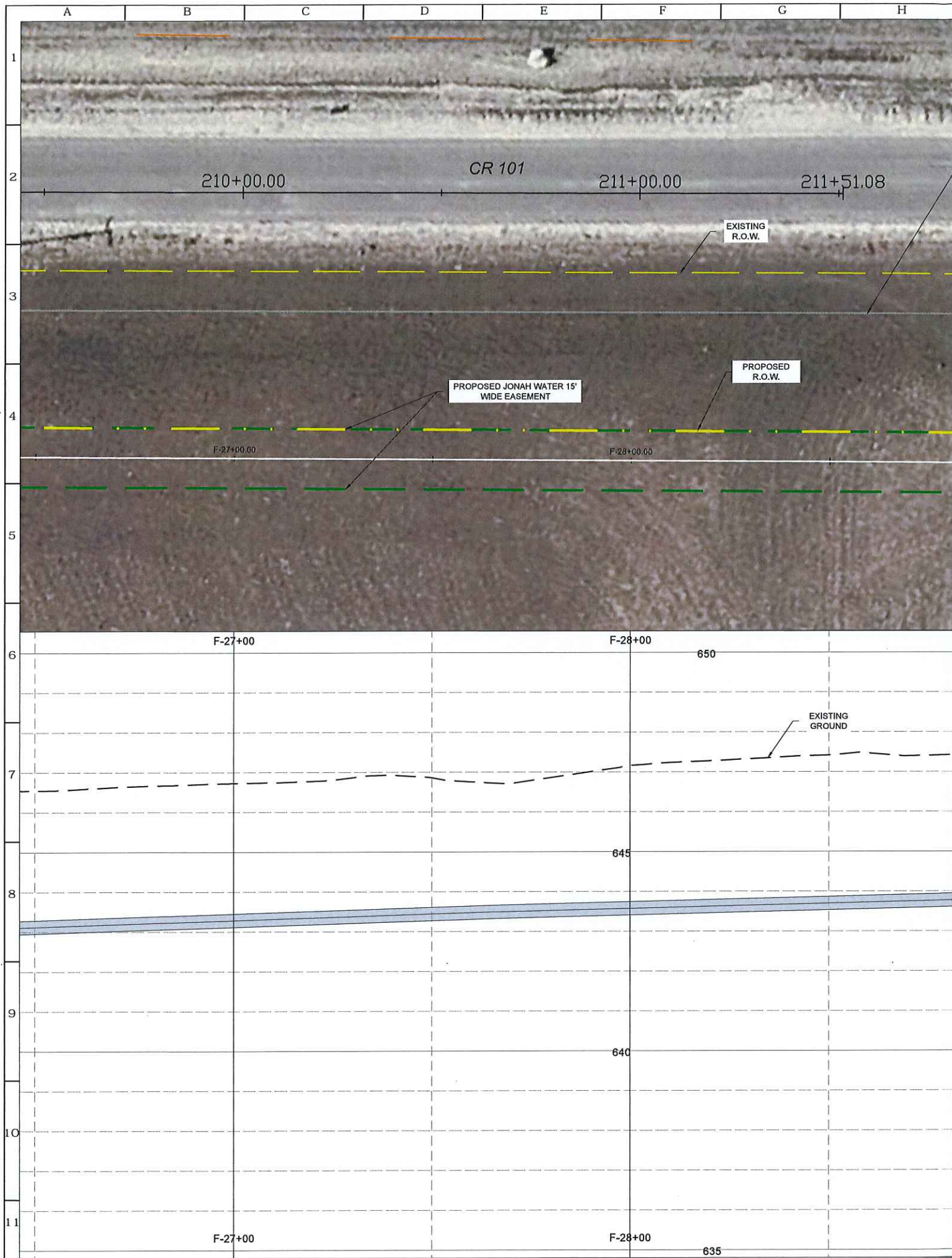


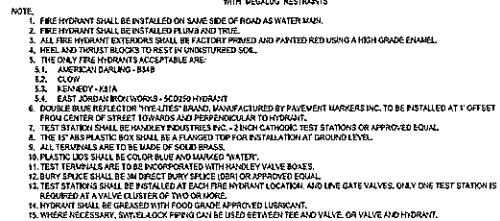
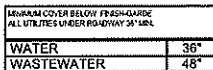




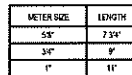




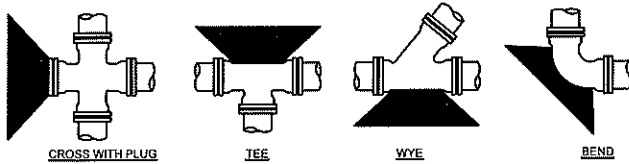




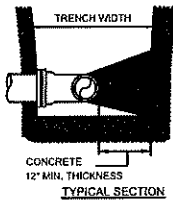
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|---|--|--|--|
| | | <div> <div>PROJECT NAME</div> <div>MARCH 18, 2017</div> </div> | |
| <div> <div>JOHANN WATER SUD</div> <div>WATER CONSTRUCTION STANDARD DETAILS</div> </div> | | <div> <div>W02</div> </div> | |
| <div> <div>TYPICAL PIPE HYDRANT, TRACER WIRE, AND TEST STATION DETAIL</div> </div> | | <div> <div>N.T.S.</div> <div>SCALE</div> </div> | <div> <div>7-13</div> <div>W.E.A.</div> </div> |

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| | | | |
|--|--|--------------------|------------|
| JONAH WATER SUD WATER CONSTRUCTION STANDARD DETAILS | | PROJECT NO. 470-17 | |
| | | PROJECT NAME 1708 | |
| STANDARD INSTALLATION DETAIL FOR TWO 8" OR 6" WEIERS | | DATE | REV |
| | | I.T.S. | T-2-13 |
| | | BY | CHECKED BY |
| | | M.W.W. | W.E.A. |



ALL THRUST BLOCKING SHALL BE FORMED, LAD FORMS SHALL BE INSPECTED BY JASUD PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY JASUD PRIOR TO CONCRETE. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS TWO INCHES (2") AND GREATER CONCRETE SHALL HAVE 200 P.S.I. MINIMUM STRENGTH AT TWENTY (20) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS. AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, JOINTS, ETC. BY COVERING WITH SANDWICH OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.



AS REQUIRED, MIN. 2 REQUIRED BENT TO FIT AND PART WITH 2 COATS OF EPOXYASTIC PAINT BEFORE ASSEMBLY

*DEADMAN

| PIPE SIZE | THRUST BLOCK AREA REQUIRED | PIPE SIZE | THRUST BLOCK AREA REQUIRED | REMARKS |
|-----------|----------------------------|-----------|----------------------------|---|
| 4" | 2.0 SQ. FT. | 18" | 30.0 SQ. FT. | VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.I. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION. |
| 6" | 4.0 SQ. FT. | 20" | 37.0 SQ. FT. | |
| 8" | 6.5 SQ. FT. | 24" | 53.0 SQ. FT. | |
| 10" | 10.0 SQ. FT. | 27" | 80.0 SQ. FT. | |
| 12" | 14.0 SQ. FT. | 30" | 98.0 SQ. FT. | |
| 14" | 18.0 SQ. FT. | 36" | 127.0 SQ. FT. | |
| 16" | 24.0 SQ. FT. | | | |

*THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

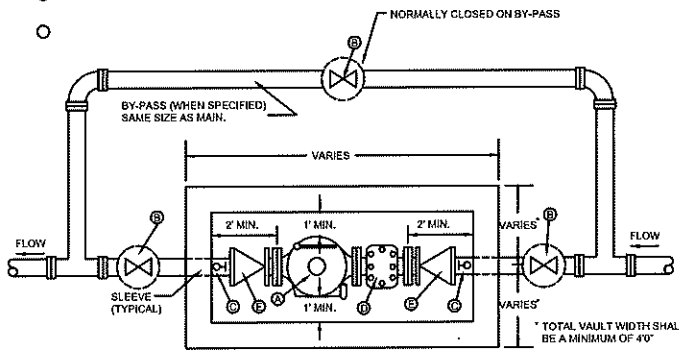
NOTE:

- ALL 3" AND LARGER ELLS, TEES AND BENDS SHALL BE MUDGATE IRON FITTINGS WITH "MUDGATE" OR APPROVED EQUAL JOINT RESTRAINTS - CONCRETE THRUST BLOCKING AS SHOWN IN THE ABOVE TABLE SHALL BE INSTALLED. JOINT RESTRAINTS SHALL ALSO BE USED FOR ANY PIPE LENGTH LESS THAN ONE FULL PIPE JOINT AWAY FROM EACH JOINT FITTING.
- ALL 2" AND SMALLER ELLS, TEES AND 45° BENDS SHALL BE MUDGATE IRON FITTINGS WITH INCH JOINT RESTRAINTS OR APPROVED EQUAL - CONCRETE THRUST BLOCKING AS SHOWN IN THE ABOVE TABLE SHALL BE INSTALLED.
- OTHER THRUST BLOCKING DIMENSIONS ACCEPTED IF DESIGNED BY LICENSED ENGINEER.

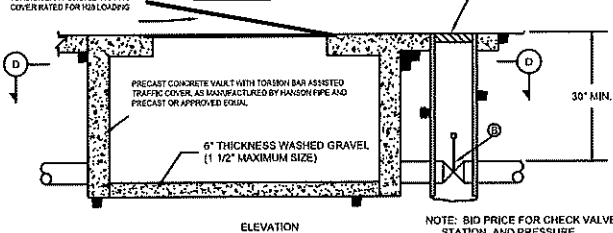
EQUIPMENT

- PRESSURE REDUCING VALVE STATION**
- CLAYVAL (TYPE 30-41 OR AS SPECIFIED) PRESSURE REDUCING VALVE OR EQUAL. SEE DISTRIBUTION SYSTEM PLANS FOR SIZE AND LOCATION.
 - GATE VALVE AND BOX SAME SIZE AS MAIN. (REFER TO NOTE).
 - PISTON TYPE HYD. PRESSURE GAUGE, OR EQUAL, WITH GUY OFF AND ELL (FACE GAUGE UP).
 - BUDGET PLATE STRAINER OR APPROVED EQUAL ON UP STREAM SIDE - SAME SIZE AS PRESSURE REDUCING VALVE.
 - REDUCER.

- CHECK VALVE STATION**
- CHECK VALVE AS SPECIFIED. SEE DISTRIBUTION SYSTEM PLANS FOR SIZE AND LOCATION.
 - GATE VALVE AND BOX. SAME SIZE AS MAIN. (REFER TO NOTE).



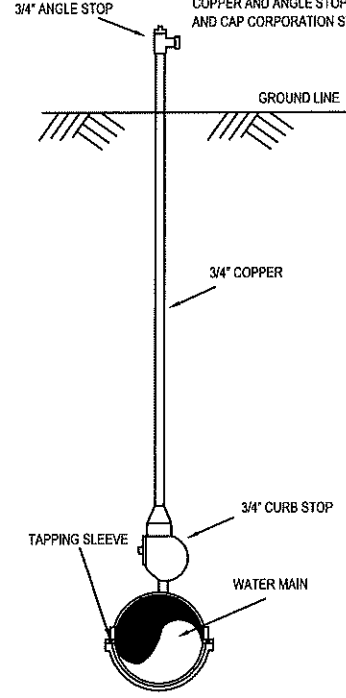
SECTION DD



NOTE: ALL PIPE, VALVES, FITTINGS AND EQUIPMENT SHALL CONFORM TO THE CURRENT APPLICABLE A.W.W.A. STANDARDS.

NOTE: BID PRICE FOR CHECK VALVE STATION, AND PRESSURE REDUCING STATION SHALL INCLUDE VALVE, GATE VALVES WITH BOX, PIPING, AND VAULT. (INCLUDING BY-PASS WHERE REQUIRED)

NOTE: AFTER BACTERIOLOGICAL TESTING THE CONTRACTOR SHALL CLOSE CORPORATION STOP, REMOVE COPPER AND ANGLE STOP, AND CAP CORPORATION STOP.



| | | | |
|--|--------|--------|------------------|
| JONAH WATER SUD | | DATE | JANUARY 13, 2017 |
| WATER CONSTRUCTION STANDARD DETAILS | | NO. | W09 |
| TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAINS DETAIL | NTS. | 7-2-13 | |
| | W.W.A. | | |

| | | | |
|-------------------------------------|--------|--------|-----|
| JONAH WATER SUD | | DATE | |
| WATER CONSTRUCTION STANDARD DETAILS | | NO. | W10 |
| TEMPORARY SAMPLING TEST STATION | NTS. | 7-2-13 | |
| | W.W.A. | | |

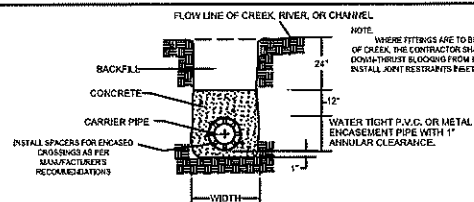
COUNTY ROAD, HIGHWAY AND RAILROAD CROSSINGS

STEEL ENCASUREMENT WALL THICKNESS CHART FOR SMOOTH STEEL CASING PIPE WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI:

| MINIMUM THICKNESS | DIAMETER OF CASING PIPE | OVER |
|-------------------|-------------------------|-----------------|
| 0-4.250" | 0-4 1/4" | 12" OR LESS |
| 0-6.3125" | 0-9 5/16" | OVER 12" TO 18" |
| 0-6.3125" | 0-9 5/16" | OVER 18" TO 24" |
| 0-6.4375" | 0-9 7/16" | OVER 24" TO 30" |
| 0-6.5000" | 0-10 1/2" | OVER 30" TO 36" |
| 0-6.5625" | 0-9 9/16" | OVER 36" TO 42" |
| 0-6.6250" | 0-10 5/8" | OVER 42" TO 48" |

NOTE:

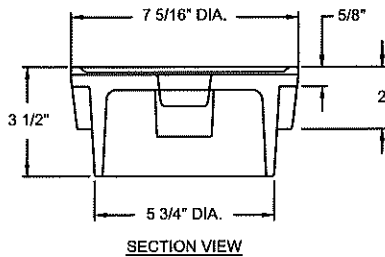
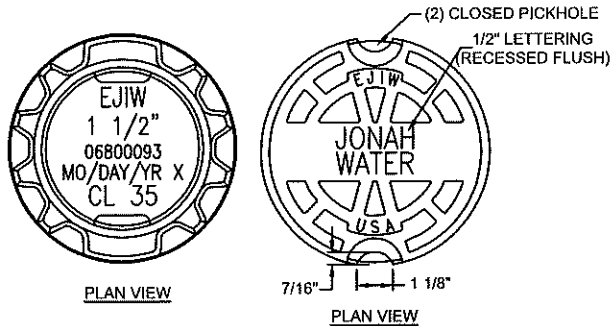
- ALL CARRIER PIPES SHALL BE RESTRAINED JOINT TYPE OR BUTT-FUSION TYPE OF THE SAME SIZE AND THE SAME PRESSURE CLASS AT MINIMUM OF THE APPLICABLE PIPELINE.
- OPEN CUT ENCASUREMENT PIPE SHALL HAVE THE SAME TRENCH AND EMBANKMENT DETAILS AS SHOWN FOR PIPELINES.
- DO NOT USE JOINTS BETWEEN TOP OF CARRIER PIPE AND RIDGE OF CASING TO KEEP THE CARRIER PIPE FROM MOVING.
- PRIOR TO INSERTING CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
- SPACERS SHALL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH ENDS OF THE ENCASUREMENT PIPE.
- ENCASUREMENT PIPE SHALL BE SMOOTH STEEL, 35,000 PSI YIELD STRENGTH WITH WALL THICKNESS ACCORDING TO THE WALL THICKNESS CHART.
- THE RESTRAINED JOINT CARRIER PIPE SHALL EXTEND A MINIMUM OF 10 L.F. PAST BOTH ENDS OF THE ENCASUREMENT PIPE BEFORE TRANSITIONING BACK TO NON-JOINT RESTRAINED PIPING.



CONCRETE ENCASED CREEK CROSSING

| | | | |
|--|--------|--------|-----|
| JONAH WATER SUD | | DATE | W13 |
| WATER CONSTRUCTION STANDARD DETAILS | | NO. | |
| PRESSURE REDUCING AND/OR CHECK VALVE STATION | NTS. | 7-2-13 | |
| | W.W.A. | | |

| | | | |
|---|--------|--------|-----|
| JONAH WATER SUD | | DATE | W14 |
| WATER CONSTRUCTION STANDARD DETAILS | | NO. | |
| INSTALLATION OF PIPE THROUGH CREEK/CROSSING | NTS. | 7-2-13 | |
| | W.W.A. | | |



Hydrostatic Testing

Hydrostatic testing described in this section:

General

The contractor shall provide measure apparatuses, unless otherwise specified. Pri prevent pipe movement. The contractor shal systems will provide adequate restraint prior

Test Duration

The duration of the hydrostatic test sl

Test Pressure

The hydrostatic test pressure shall no sustained working pressure at the highest p design pressure limit for any pipe, thrust rest section. In no case shall the test pressure ex valve, fittings, or other appurtenance of the t

Test Allowance

The testing allowance shall be define section being tested to maintain the pressur installation will not be accepted, by the owne determined by the formula below. All visible

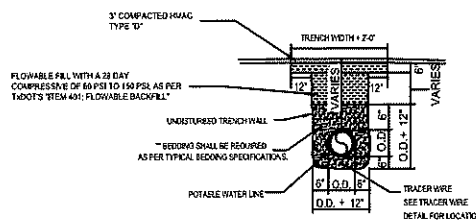
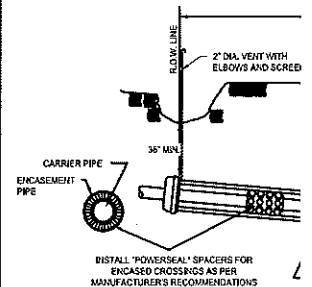
$$Q = \frac{L \times D \times P}{148000}$$

Q = quantity of makeup water in gallons per L = length of pipe being tested in feet (ft.) D = nominal diameter of pipe in inches (in.) P = average test pressure during the hydros

Disinfection (Does Not Apply To Sewer Forc

New mains shall be thoroughly disinfected ir and sampled before being placed in service. check the effectiveness of the disinfection pr persists. A minimum of one sample for each next available sampling point beyond 1,000

| JONAH WATER SUD WATER CONSTRUCTION STANDARD DETAILS | | W17 | |
|--|----------|------|----|
| VALVE BOX LID | NOTES | DATE | BY |
| | REVISION | DATE | BY |



- NOTES:
1. FLOWABLE FILL SHALL BE IN ACCORDANCE TO TADOT'S ITEM 401 "FLOWABLE BACKFILL" SPECIFICATIONS AS FOLLOWS: <http://dot.state.tx.us/contractors/specs/standard/specs.htm>
 2. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY DRAINED.
 3. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
 4. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH APPLICABLE STATE, COUNTY, OR CITY SPECIFICATIONS.

TYPICAL BEDDING SPECIFICATIONS:

| SIEVE SIZE | % RETAINED |
|------------|------------|
| 1/2" | 0 |
| 3/8" | 0-2 |
| 4m | 40-85 |
| 10m | 95-100 |
| 3/4" | - |

NOTE:
BURIED PIPING SHALL HAVE THE FOLLOWING LISTED MINIMUM COVER:
12" AND SMALLER - 36" MINIMUM COVER
14" THRU 24" - 54" MINIMUM COVER

| 1/2" D | WASHED GRAVEL |
|------------|---------------|
| % RETAINED | % RETAINED |
| 0 | 0 |
| 5-25 | - |
| 80-100 | - |
| 95-100 | - |
| - | 100 |

| STEEL ENCASMENT WALL THICKNESS CHART FOR SMOOTH STEEL CASING PIPE WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI | | |
|---|-------------------------|-----------------|
| MINIMUM THICKNESS | DIAMETER OF CASING PIPE | |
| 0'-0.2500' | 0'-0.14' | 12" OR LESS |
| 0'-0.2125' | 0'-0.940' | OVER 12" TO 18" |
| 0'-0.3750' | 0'-3.35' | OVER 18" TO 22" |
| 0'-0.4313' | 0'-0.716' | OVER 22" TO 24" |
| 0'-0.5000' | 0'-0.12' | OVER 24" TO 34" |
| 0'-0.5625' | 0'-0.916' | OVER 34" TO 42" |
| 0'-0.6250' | 0'-5.6' | OVER 42" TO 48" |

| JONAH WATER SUD WATER CONSTRUCTION STANDARD DETAILS | | W19 | |
|--|----------|------|----|
| TRENCH & EMBANKMENT DETAIL FLOWABLE FILL | NOTES | DATE | BY |
| | REVISION | DATE | BY |

| JONAH WATER SUD WATER CONSTRUCTION STANDARD DETAILS | | W19 | |
|--|----------|------|----|
| TRENCH & EMBANKMENT DETAIL FLOWABLE FILL | NOTES | DATE | BY |
| | REVISION | DATE | BY |

EXHIBIT B

BETTERMENT CALCULATIONS

BETTERMENT CALCULATIONS

2016 - C.R. 101; UTILITY RELOCATION

DESCRIPTION OF PROPOSED BETTERMENT;

- * STA. A-0+00 TO A-4+81.81; JWSUD REQUESTS THAT A 16" WATERLINE BE INSTALLED TO REPLACE THE JWSUD WILL BE PAYING FOR 100% OF THIS RELOCATION.
- * BE PAYING FOR THE UPSIZING FROM 12" TO 16" ONLY. THIS PORTION OF THE LINE WAS HAVING TO BE RELOCATED BY CR 101 PROJECT.
- * STA. B-0+00 TO B-3+95.94; JWSUD REQUESTS THAT A 16" WATERLINE BE INSTALLED TO REPLACE THE EXISTING 12" WATERLINE. UNDER HWY 79 AND THE RAILROAD TRACKS, JWSUD WILL BE PAYING FOR 100% OF THIS RELOCATION.
- * STA. F-17+36 TO F-20+21; JWSUD REQUESTS THAT A 20" ENCASEMENT WITH A 12" CARRIER PIPE BE INSTALLED TO REPLACE THE EXISTING 4" WATERLINE. JWSUD WILL BE PAYING FOR THE UPSIZING FROM 12" STEEL ENCASEMENT WITH 12" CARRIER PIPE TO 20" STEEL ENCASEMENT WITH 12" CARRIER PIPE.

NO BETTERMENT DESIGN

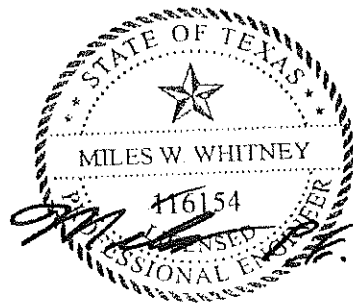
| ITEM CODE. | ITEM DESCRIPTION | QTY. | UNIT | | PRICE/UNIT |
|------------|--|------|------|---|--|
| NB3 | 12" C-900, DR-18 PVC PIPE; W/ TRACER WIRE; INSTALLED | 57 | L.F. | x | \$ 62.00 |
| NB5 | 4" C-900, DR-18 PVC PIPE; W/ TRACER WIRE; INSTALLED | 21 | L.F. | x | \$ 35.00 |
| NB7 | 12" STEEL ENC. PIPE, BORED WITH 4" C-905, DR-18 RJ CARRIER PIPE; INSTALLED | 250 | L.F. | x | \$ 380.00 |
| NB12 | 12" GATE VALVE, BOX, AND MARKER; INSTALLED | 1 | EA. | x | \$ 2,500.00 |
| NB13 | 8" GATE VALVE, BOX, AND MARKER; INSTALLED | 1 | EA. | x | \$ 2,000.00 |
| NB15 | 4" GATE VALVE, BOX, AND MARKER; INSTALLED | 2 | EA. | x | \$ 1,000.00 |
| NB20 | CONNECT NEW 8" TO EXISTING 8"; INSTALLED | 1 | EA. | x | \$ 5,500.00 |
| | | | | | NO BETTERMENT DESIGN WITHIN AREA OF QUESTION TOTAL |

BETTERMENT CALCULATIONS

2016 - C.R. 101; UTILITY RELOCATION

BETTERMENT DESIGN

| ITEM CODE. | ITEM DESCRIPTION | QTY. | UNIT | | PRICE/UNIT |
|------------|--|------|------|---|--------------|
| 2 | 16" C-905, DR-18 PVC PIPE; W/ TRACER WIRE; INSTALLED | 540 | L.F. | x | \$ 64.00 |
| 4 | 6" C-900, DR-18 PVC PIPE; W/ TRACER WIRE; INSTALLED | 5 | L.F. | x | \$ 47.00 |
| 6 | 24" STEEL ENG. PIPE, BORED WITH 16" C-905, DR-18 RJ CARRIER PIPE; INSTALLED | 575 | L.F. | x | \$ 530.00 |
| 9 | 20" STEEL ENG. PIPE, BORED WITH 12" C-900, DR-18 RJ CARRIER PIPE; INSTALLED | 95 | L.F. | x | \$ 415.00 |
| 11 | 16" GATE VALVE, BOX, AND MARKER; INSTALLED | 8 | EA. | x | \$ 6,500.00 |
| 13 | 6" GATE VALVE, BOX, AND MARKER; INSTALLED | 1 | EA. | x | \$ 1,500.00 |
| 17 | CONNECT NEW 16" TO EXISTING 16"; INSTALLED | 1 | EA. | x | \$ 10,000.00 |
| 18 | CONNECT NEW 12" TO EXISTING 12"; INSTALLED | 1 | EA. | x | \$ 7,000.00 |
| 19 | CONNECT EXISTING 4" TO NEW 4"; INSTALLED | 1 | EA. | x | \$ 4,000.00 |
| 21 | CAP EXISTING 12" WATERLINE; INSTALLED | 1 | EA. | x | \$ 700.00 |
| 23 | INSTALL NEW FIRE HYDRANTS ASSEMBLY; INSTALLED | 2 | EA. | x | \$ 4,500.00 |
| 24 | CAP AND GROUT FILL ABANDONED WATERLINES WITHIN TXDOT AND RAILROAD R.O.W.; COMPLETE | 1 | L.S. | x | \$ 10,000.00 |
| 25 | TRENCH SAFETY | 467 | L.F. | x | \$ 1.00 |



2/14/2019

**BETTERMENT DESIGN, WITHIN
AREA OF QUESTION, TOTAL**

**CALCULATED DIFFERENCES II
COS**