PART V

DRAWINGS

Plum Creek Watershed - REPAIRS
Floodwater Retarding Structure Site 12
Hays County, Texas

Drawing No. TX-EN-0714

Cover page + 8 sheets



PLUM CREEK WATERSHED

FLOODWATER RETARDING STRUCTURE SITE NO. 12 EWP
HAYS COUNTY, TEXAS

DRAINAGE AREA
TOTAL STORAGE
EFFECTIVE HEIGHT OF DAM
OVERALL HEIGHT OF DAM

2,317 ACRES 1,599 AC. FT. 23 FEET

27 FEET

	INDEX OF DRAWINGS
SHEET NO	. TITLE
1	GENERAL PLAN AND DETAILS
2	PLAN AND PROFILE
3	TYPICAL SECTIONS AND DETAILS
4	SECTIONS (1 OF 3)
5	SECTIONS (2 OF 3)
6	SECTIONS (3 OF 3)
7	FENCE DETAILS
8	STORMWATER POLLUTION PREVENTION PLAN

SPONSORED BY

PLUM CREEK CONSERVATION DISTRICT

COOPERATING WITH

NATURAL RESOURCES CONSERVATION SERVICE
OF THE
U.S. DEPARTMENT OF AGRICULTURE

2017

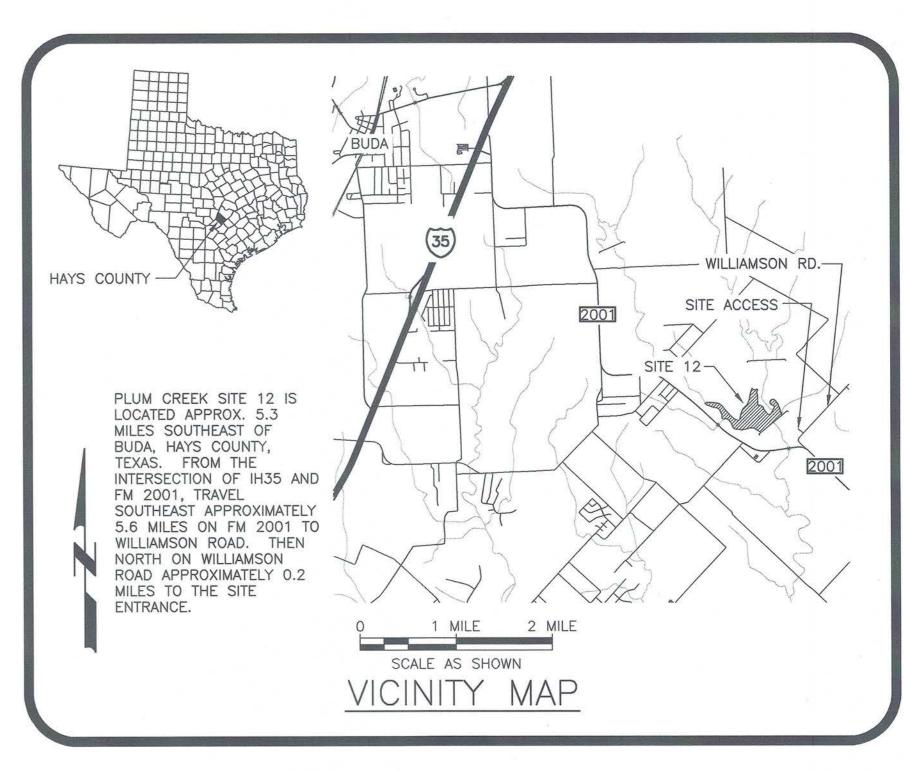
CONSTRUCTION DRAWINGS APPROVED

ENGINEERING JOB CLASS VII

STATE CONSERVATION ENGINEER, N.R.C.S.
TEMPLE, TEXAS



3/24/17 DATE



| 128° 37' 25" | 022° 50' 46" | 250.8 | 563.00 | N: 13927188.31 | N: 13927293.82 | N: 13926829.06 | 521.38

E: 2357545.10 | E: 2358055.69 | E: 2357819.41

LEGEND

ERODED AREA

X ---- EXISTING FENCES NOT TO BE REMOVED

- FENCE TO BE CONSTRUCTED — APPROX. LIMITS OF WORK AREA

— — OVERHEAD ELECTRIC (APPROX. LOCATION SHOWN)

- FENCE TO BE REMOVED

—— APPROX. LIMITS OF BORROW

CONTROL

13926256.64 | 2356846.92 |

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EASTING

ELEVATION

621.03

NORTHING

REVISIONS

DRAWING NO.

TX-EN-0714

1. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO IMPROVEMENTS AND UTILITIES ALONG THE ACCESS ROUTE AND AT OR NEAR THE WORKSITE.

2. THE CONTRACTOR SHALL NOTIFY THE OWNERS OF ALL UTILITIES A MINIMUM OF THREE (3) DAYS IN ADVANCE OF INTENT TO PERFORM WORK IN THE VICINITY OF THE AFFECTED UTILITY. THE NOTICE SHALL BE IN WRITING AND A COPY SHALL BE FURNISHED TO THE CONTRACTING OFFICER. UTILITIES MAY EXIST AND NOT BE SHOWN ON THE CONSTRUCTION DRAWINGS. THE SITE SHALL BE CAREFULLY SCRUTINIZED FOR EVIDENCE OF UTILITIES. AT A MINIMUM, PRIOR TO ANY GROUND DISTURBANCE, THE TELEPHONE NUMBER 811 SHALL BE CALLED TO ASCERTAIN IF UNDERGROUND UTILITIES EXIST IN THE GENERAL WORK AREA. CALLING THIS TELEPHONE NUMBER WILL ONLY ASCERTAIN THE EXISTENCE OF UNDERGROUND UTILITIES OWNED BY COMPANIES THAT SUBSCRIBE TO THIS ORGANIZATION. THERE MAY BE OTHER

3. THE APPROXIMATE LOCATIONS OF THE ACCESS ROAD, CONSTRUCTION CAMPSITE, STOCKPILE, BORROW AND WASTE AREAS ARE SHOWN. THE FINAL LOCATIONS OF THESE AREAS SHALL BE DESIGNATED AT THE TIME OF SHOWING OF THE WORKSITE TO PROSPECTIVE BIDDERS.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES, WARNING SIGNS, TRAFFIC CONTROL DEVICES, ETC. NECESSARY TO CONTROL TRAFFIC AND PROVIDE FOR PUBLIC SAFETY AT THE ENTRANCE TO THE SITE (SEE CONSTRUCTION SPECIFICATION 9).

5. SUITABLE MATERIAL FROM EXCAVATIONS SHALL BE PROCESSED AND USED FOR THE EARTHFILL MATERIALS. UNSUITABLE MATERIALS SHALL BE PLACED IN A WASTE AREA OR OTHER AREAS APPROVED BY THE ENGINEER. EARTH MATERIALS NEEDED IN EXCESS OF REQUIRED EXCAVATIONS SHALL BE OBTAINED FROM THE DESIGNATED

6. A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED ON ALL EARTHWORK REPAIR AREAS UNLESS OTHERWISE NOTED (SEE CONSTRUCTION SPECIFICATION 26).

7. CONSTRUCTION ACTIVITIES SHALL NOT OCCUR OUTSIDE THE DESIGNATED WORK LIMITS, UNLESS OTHERWISE AUTHORIZED.

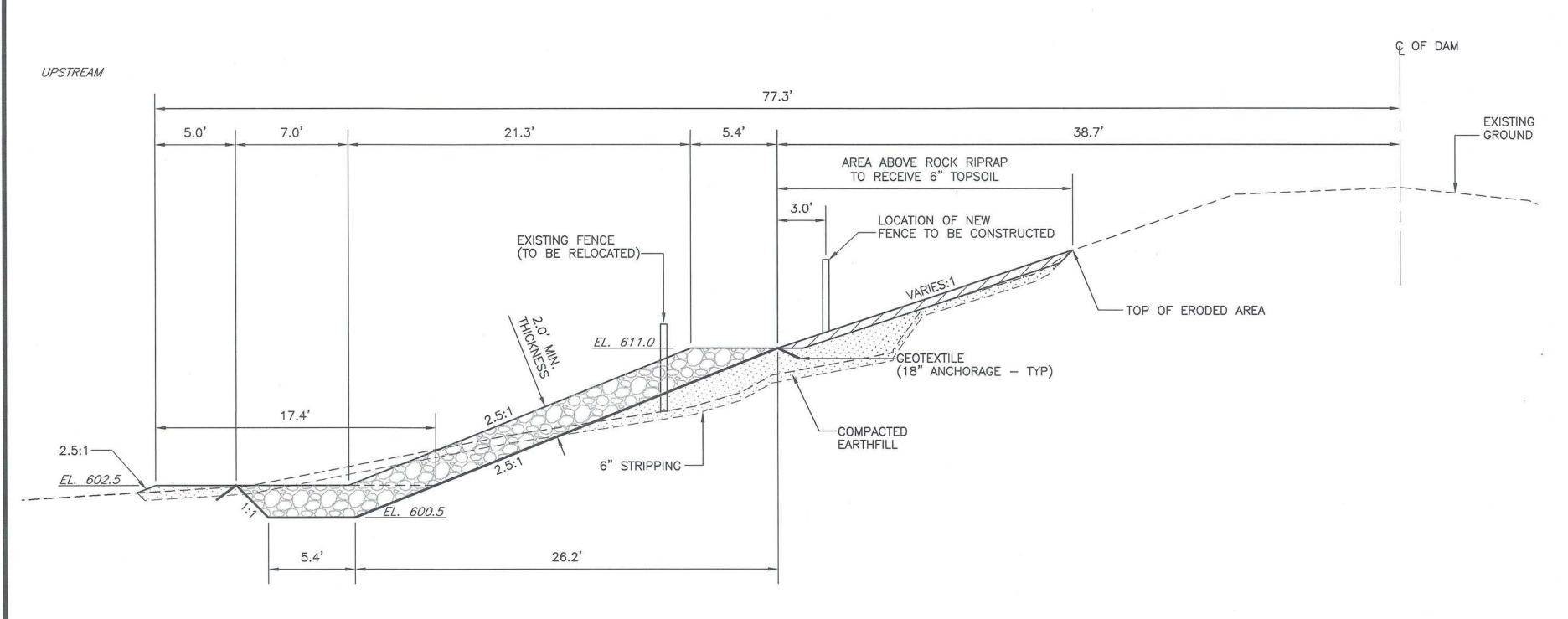
8. REMOVAL OR STRIPPING OF SOIL MATERIALS INCLUDING TOPSOIL AND LOW DENSITY OR DISPLACED MATERIALS WILL BE NECESSARY TO PROVIDE A SUITABLE WORKING AREA FOR THE CONSTRUCTION EQUIPMENT. THE APPROXIMATE LIMITS OF THE REMOVAL ARE SHOWN ON THE DRAWINGS. REMOVAL OF ADDITIONAL MATERIALS BEYOND THE LIMITS SHOWN MAY BE REQUIRED TO ENSURE A SUITABLE FOUNDATION EXISTS ON WHICH TO PLACE EARTHFILL AND/OR ROCK. (SEE CONSTRUCTION SPECIFICATION 420.)

9. THE EXISTING NATURAL GROUND SHOWN FOR THE SITE IS BASED ON SURVEYED CONDITIONS AS THEY EXISTED IN FEBRUARY 2016 AND SUPPLEMENTED IN NOVEMBER 2016. CHANGES IN SITE CONDITIONS PRIOR TO CONSTRUCTION MAY NECESSITATE ADJUSTMENTS TO THE GRADES AND ELEVATIONS SHOWN. THE FINAL GRADES AND ELEVATIONS FOR ALL WORKS OF IMPROVEMENTS SHOWN ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD BY THE ENGINEER TO BEST FIT THE TOPOGRAPHY OF THE SITE, IF NECESSARY.

10. THE CONTROL POINTS SHOWN ARE TO BE USED TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL.

REVISIONS

DRAWING NO. TX-EN-0714



TYPICAL WAVE BERM SECTION

SCALE AS SHOWN

2. TRANSITION TO MIN. 2.0' EMBEDMENT DEPTH FROM APPROX. STA. 16+30 TO STA. 19+05 AND FROM STA. 29+35 TO APPROXIMATE STA. 31+77. 3. THE ROCK RIPRAP THICKNESS IN THE TRANSITION AREAS SHALL REMAIN A

1. CONSTRUCT THE ROCK ARMORED WAVE BERM TO FULL SECTION BETWEEN STA.

MINIMUM 2.0' THICK NORMAL TO THE SLOPE. 4. PLACE GEOTEXTILE BETWEEN THE ROCK RIPRAP AND THE APPROVED SUBGRADE. GEOTEXTILE SHALL BE NON-WOVEN AND MEET THE REQUIREMENTS OF

CONSTRUCTION SPECIFICATION 95 AND MATERIAL SPECIFICATION 592. 5. ANCHOR THE GEOTEXTILE TO THE TOP AND BOTTOM OF THE SLOPE AS SHOWN.

6. INCORPORATE 6" OF TOPSOIL IN THE COMPLETED EARTHFILL SURFACE TO PROMOTE VEGETATION.

WAVE BERM CONSTRUCTION NOTES:

19+05 AND APPROXIMATE STA. 29+35.

% SMALLER BY WEIGHT
100
50-100
15-50
0-15

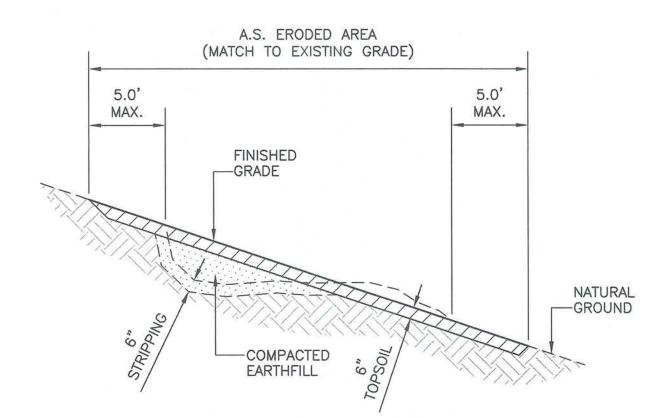
ROCK RIPRAP NOTES:

1. SPALLS AND ROCK DUST THAT PASS A 3" SIEVE

REFERENCE A.S.T.M. D 6092 (R-150)

- SHALL CONSIST OF LESS THAN 5 PERCENT BY WEIGHT. 2. ROCK PLACED AGAINST CONCRETE WORKS SHALL BE PLACED CAREFULLY TO AVOID DAMAGE.
- 3. ALL ROCK RIPRAP REQUIRED SHALL COMPLY WITH THE GRADATION ABOVE (SEE CONSTRUCTION SPECIFICATION
- 61, AND MATERIAL SPECIFICATION 523.) 4. APPROX. 5,557 TONS OF GRADED ROCK RIPRAP IS REQUIRED FOR THE WAVE BERM.

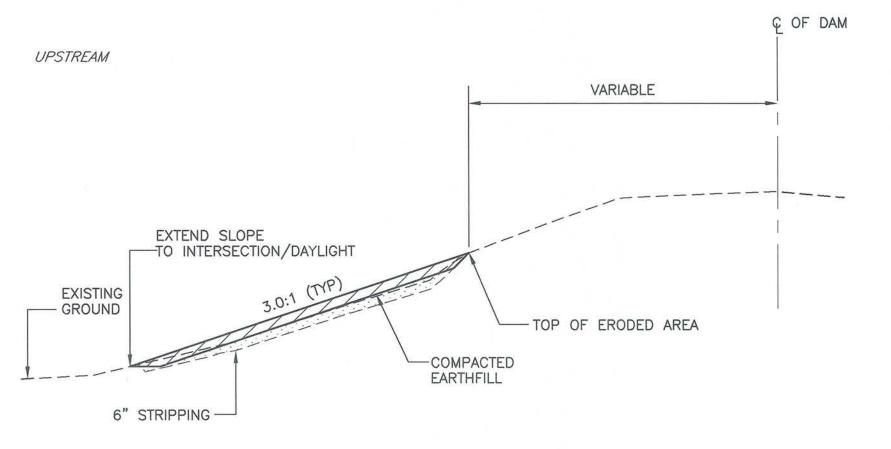
GRADATION OF ROCK RIPRAP



CONSTRUCTION NOTES:

- 1. THE APPROXIMATE LOCATIONS AND EXTENTS OF THE AUXILIARY SPILLWAY (A.S.) ERODED AREAS TO BE REPAIRED ARE SHOWN IN THE DRAWINGS. THE FINAL EXTENTS SHALL BE STAKED BY THE ENGINEER.
- 2. CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED TO MINIMIZE IMPACTS TO THE SURROUNDING VEGETATION. CARE SHALL BE TAKEN TO ENSURE THAT THE MINIMUM CONSTRUCTION FOOTPRINT REQUIRED TO ACCOMPLISH THE JOB IS USED AND DAMAGE TO THE SURROUNDING VEGETATION IS KEPT TO A MINIMUM.
- 3. THE A.S. ERODED AREAS SHALL BE REPAIRED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 420, BRINGING THE FINISHED SURFACE UP TO MATCH THE EXISTING GRADE AS SHOWN.

A.S. ERODED AREAS - DETAIL NOT TO SCALE



TYPICAL EMBANKMENT REPAIR SECTION SCALE AS SHOWN

EMBANKMENT REPAIR CONSTRUCTION NOTES:

BETWEEN APPROX. STA. 31+77 AND STA. 31+92.

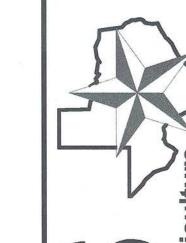
1. REPAIR THE EMBANKMENT BETWEEN APPROX. STA. 12+97 AND STA. 16+00 TO THE LINES AND GRADES SHOWN, AND IN ACCORANCE WITH CONSTRUCTION SPECIFICATION 420.

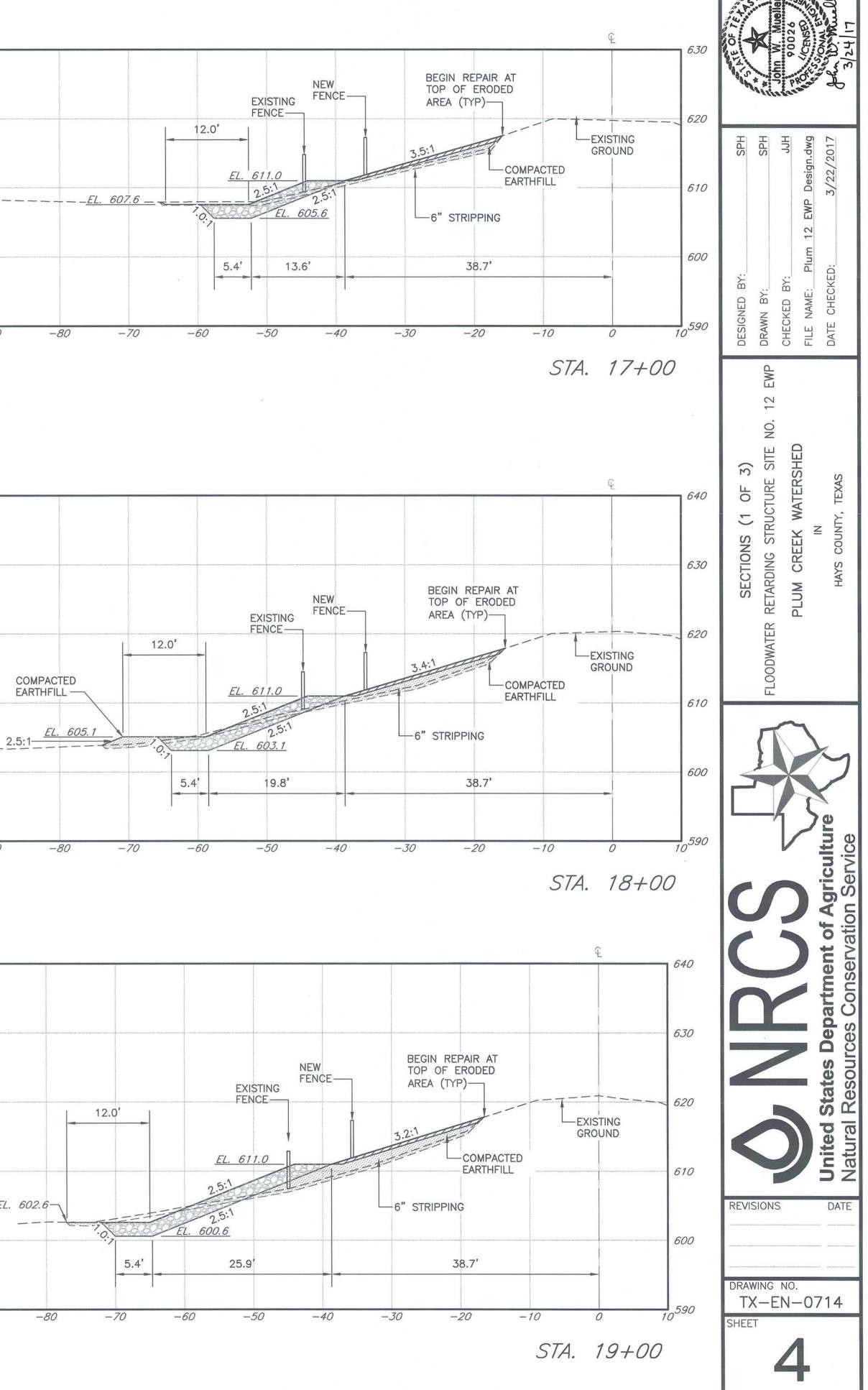
2. MAINTAIN THE 3.0:1 EMBANKMENT SLOPE BETWEEN STA. 12+97 AND STA. 16+00.

4. TRANSITION FROM THE ROCK RIPRAP ARMORING TO MATCH THE EXISTING EMBANKMENT

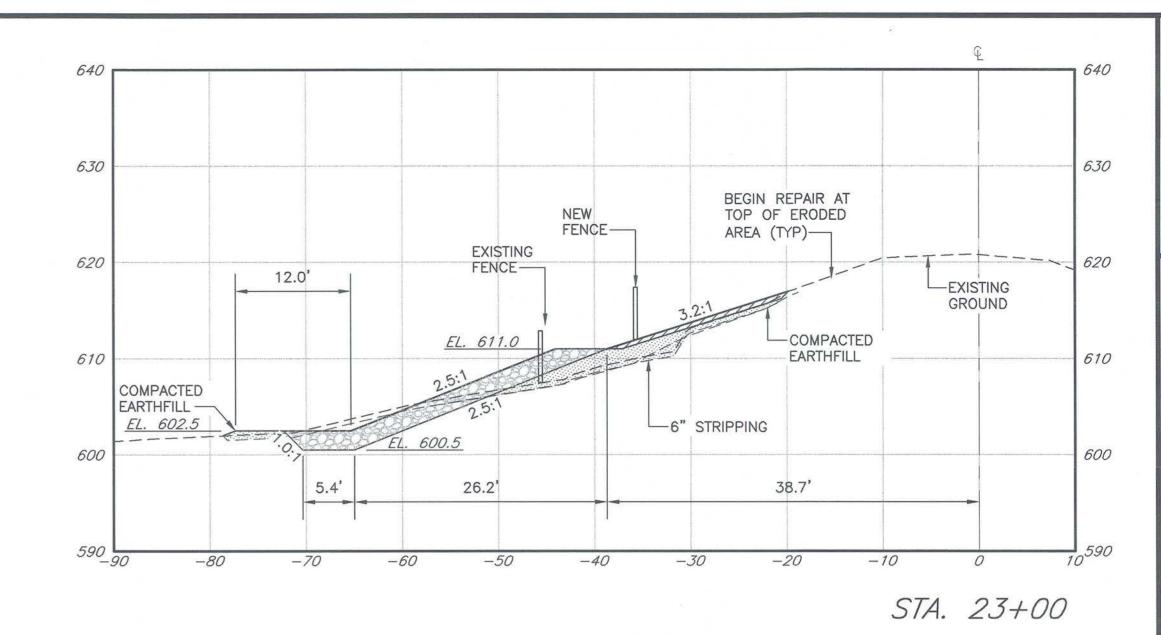
3. TRANSITION THE EMBANKMENT SLOPE TO BEST FIT THE ROCK RIPRAP ARMORING BETWEEN STA. 16+00 AND STA. 16+30.

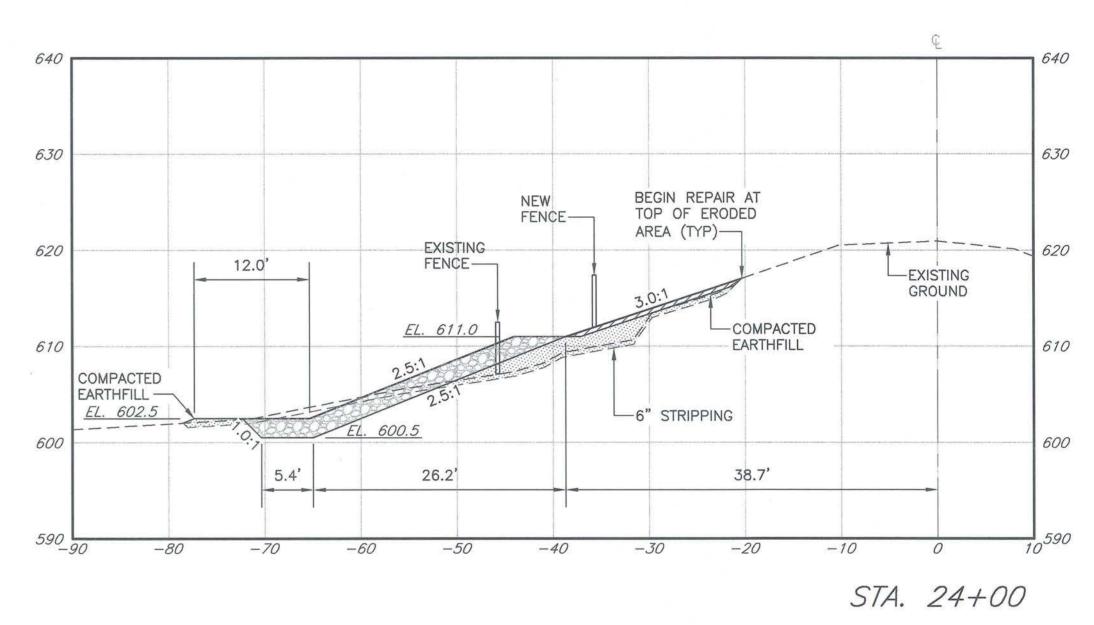
5. BLEND THE COMPLETED EARTHFILL TO THE EXISTING EMBANKMENT A MAXIMUM DISTANCE OF 5.0' FROM STA. 12+97 AND STA. 31+92. 6. INCORPORATE 6" OF TOPSOIL INTO THE FINISHED GRADE OF THE COMPACTED EARTHFILL TO PROMOTE VEGETATION.

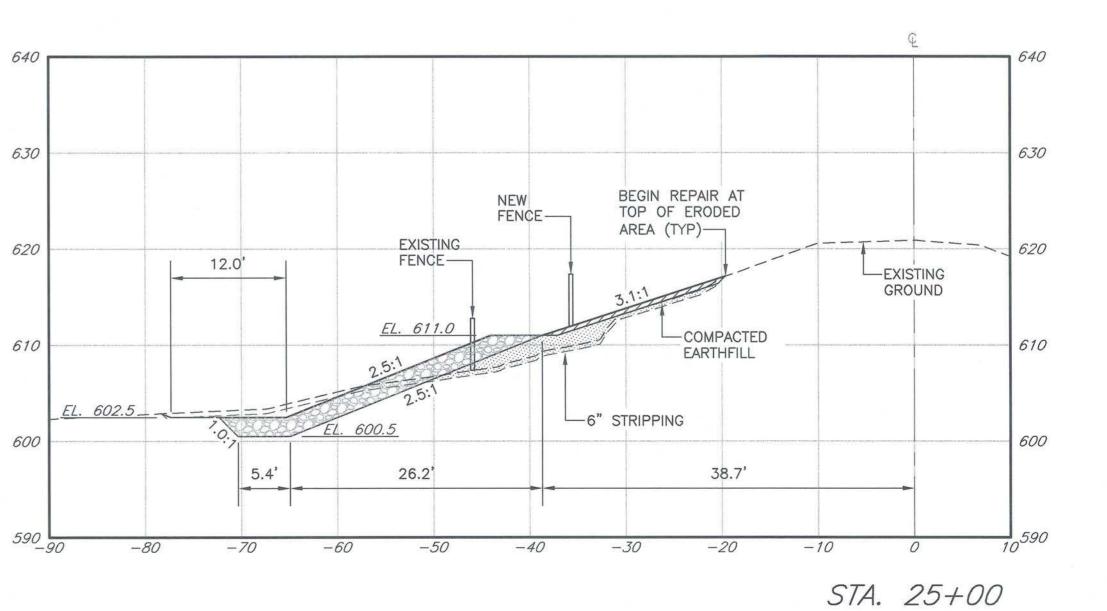




V:\Watershed Project Designs\EWP\2015 Fall Floods EWP\Plum Creek 12\Drawings\Plum 12 EWP Design.dwg









DRAWN BY:

CHECKED BY:

J.

FILE NAME: Plum 12 EWP Design.dv

DATE CHECKED:

3/22/201

SECTIONS (2 OF 3)

ETARDING STRUCTURE SITE NO. 12 EW

LUM CREEK WATERSHED

IN

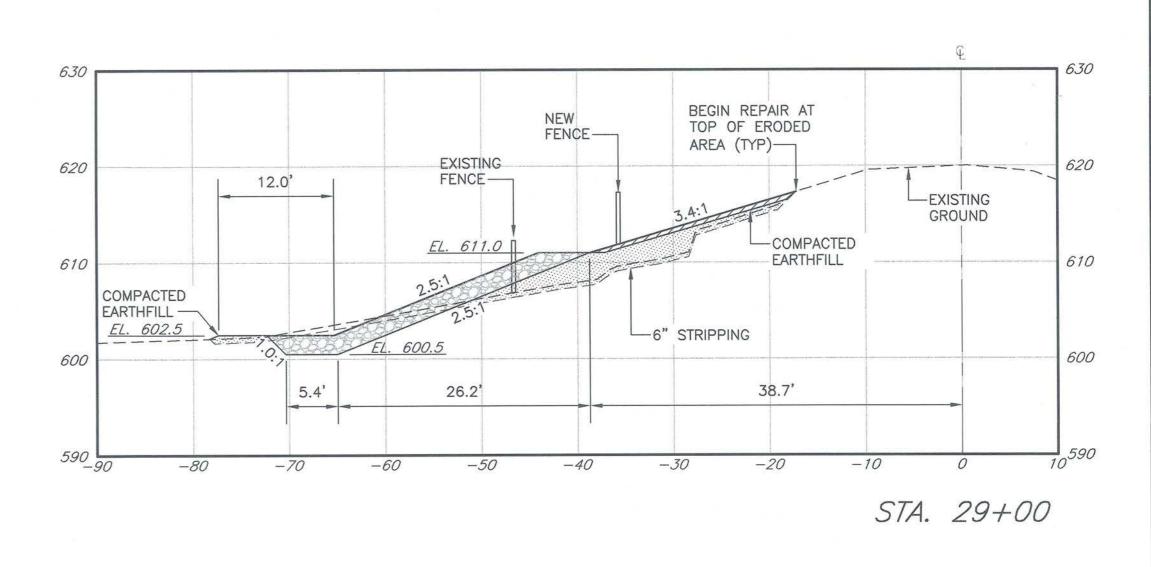
Sericulture Agriculture

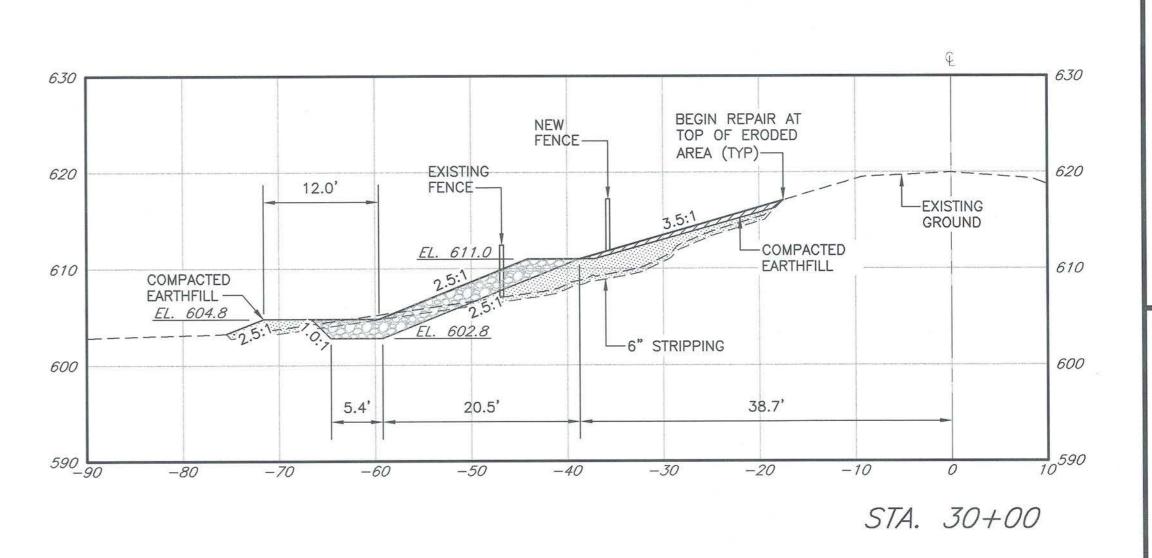
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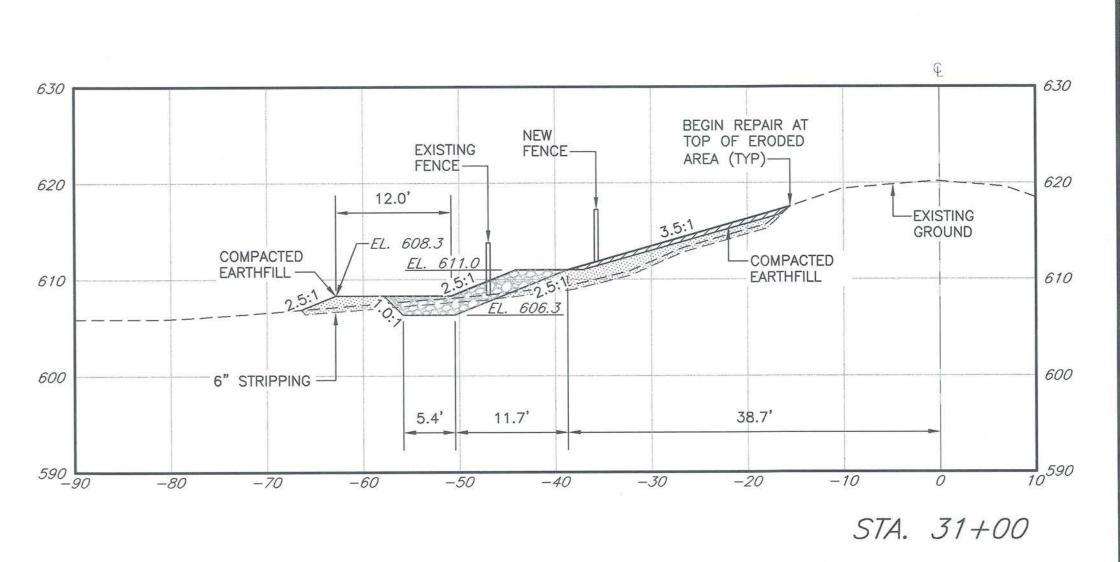
REVISIONS DATE

DRAWING NO.
TX-EN-0714

5









SECTIONS (3 OF 3 ETARDING STRUCTURE



REVISIONS DRAWING NO.

20'-0" (MIN.) 12' (MAX.) AT LOCATIONS WHERE A NEW GATE IS TWO - 10 FOOT WIDE x 50 INCHES HIGH TUBULAR INSTALLED WITH EXISTING FENCING THE STEEL GATES. MINIMUM 2" DIA., 16 GA. TUBING WITH 6 RAILS, FINISHED WITH BAKED—ON COATING FROM BRACE POST TO FIRST LINE POST (MAX.) CONTRACTOR SHALL MATCH THE EXISTING GATE WIDTH - BRACE POST GATE POST -BRACE POST - LINE POST - BRACE BRACE -- BRACE BRACE ANCHOR POST — APPROX. 12" CLEARANCE XXXXX

> 20' GATE OPENING NOT TO SCALE (2 OPENINGS REQUIRED)

> > CORNER POST

STEEL LINE POST SHALL MEET THE REQUIREMENTS OF ASTM A702 WITH TWO COATS OF PAINT. ALL LINE POST SHALL BE THE SAME COLOR. PIPE POSTS AND BRACES SHALL MEET THE REQUIREMENTS OF ASTM A500 OR ASTM A53, EXCEPT SECTION B, HYDROSTATIC TEST SHALL NOT APPLY. GATE AND CORNER POSTS SHALL BE 3" NPS. BRACE POSTS, ANCHOR POSTS, AND BRACES SHALL BE MIN. 2 1/2" NPS. ALL POSTS AND BRACES SHALL BE SCHEDULE 40 PIPE.

- ANCHOR ANCHOR POST 6'-6" O.C. 6'-6" O.C. PULL PANEL

CORNER PANEL NOT TO SCALE

6'-6" O.C.

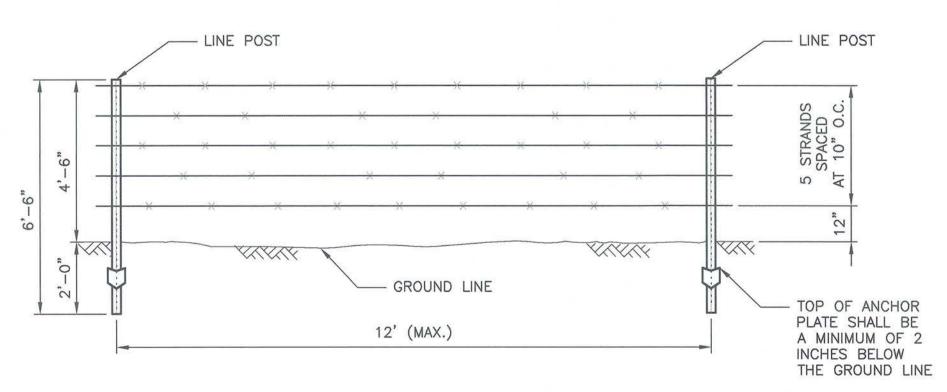
BRACE -

BRACE POST

6'-6" O.C.

BRACE -

ANCHOR POST



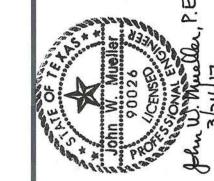
BARBED WIRE REQUIRED SHALL BE STEEL DOUBLE STRAND 12 2 GA., COATING TYPE Z (ZINC GALVANIZED) AND COATING CLASS 3 WIRE CONFORMING TO ASTM A121.

BARBS SHALL BE (2) POINT, 14 GA. OR LARGER, ROUND OR FLAT AND ON 4" SPACING.

ATTACH EACH BARBED WIRE STRAND TO THE CORNER, END POST, AND PULL PANEL BRACE POST WITH A DOUBLE WRAP OF GALVANIZED WIRE TIED BACK WITH A MIN. OF 4 WRAPS.

ANCHORAGE OF FENCE WIRE TO POSTS WHERE THERE IS A CHANGE IN VERTICAL ALIGNMENT THAT PRODUCES UPWARD OR DOWNWARD PULL SHALL BE ACCOMPLISHED WITH DOUBLE TIE WIRES TO EACH SUCCESSIVE FENCE WIRE. THE ENGINEER WILL DESIGNATE THE POSTS WHERE THIS SPECIAL FASTENING OF THE FENCE WIRES ARE REQUIRED.

> 5-STRAND BARBED WIRE NOT TO SCALE



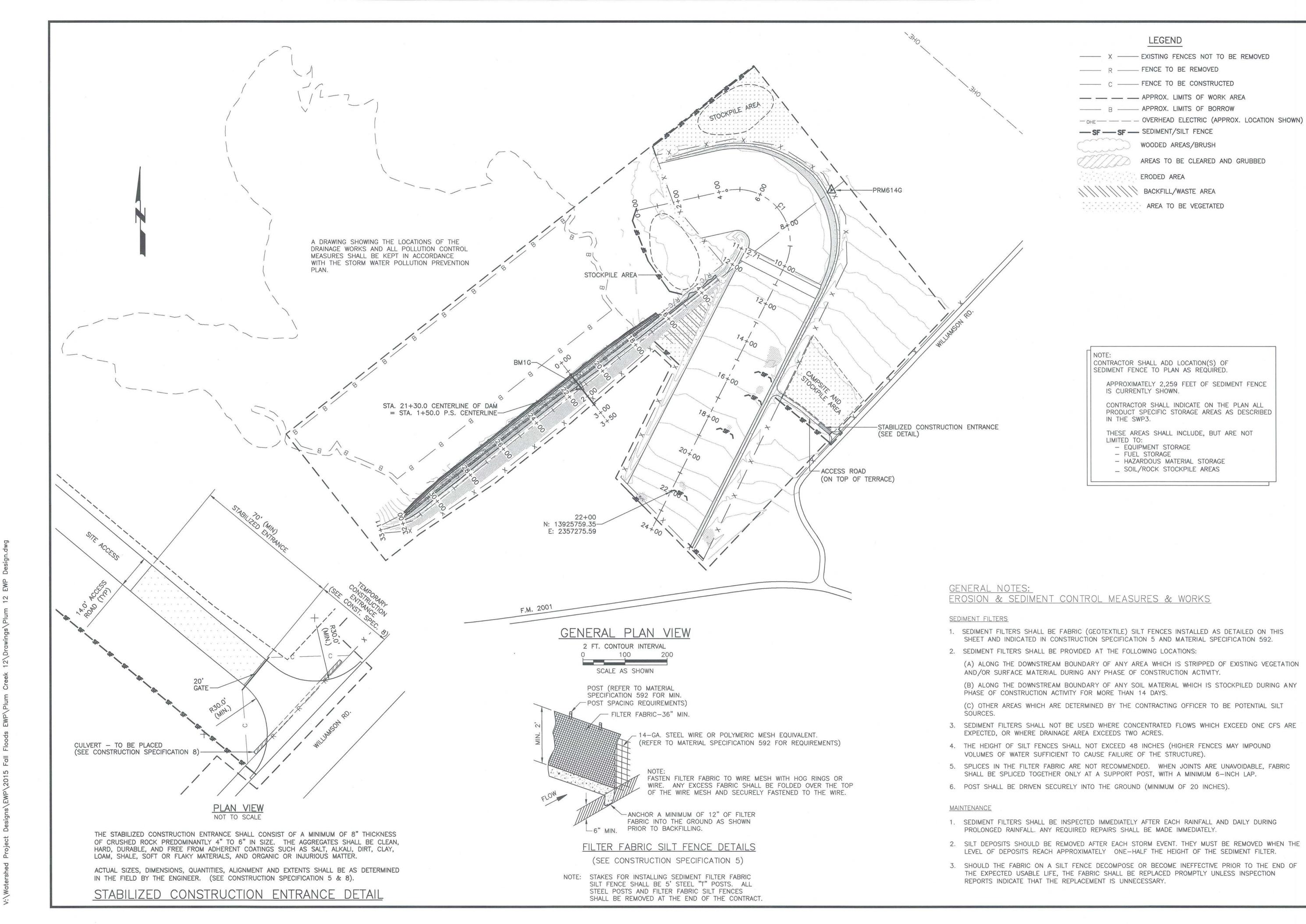
12

DETAILS FENCE



REVISIONS

DRAWING NO.



ST

REVISIONS