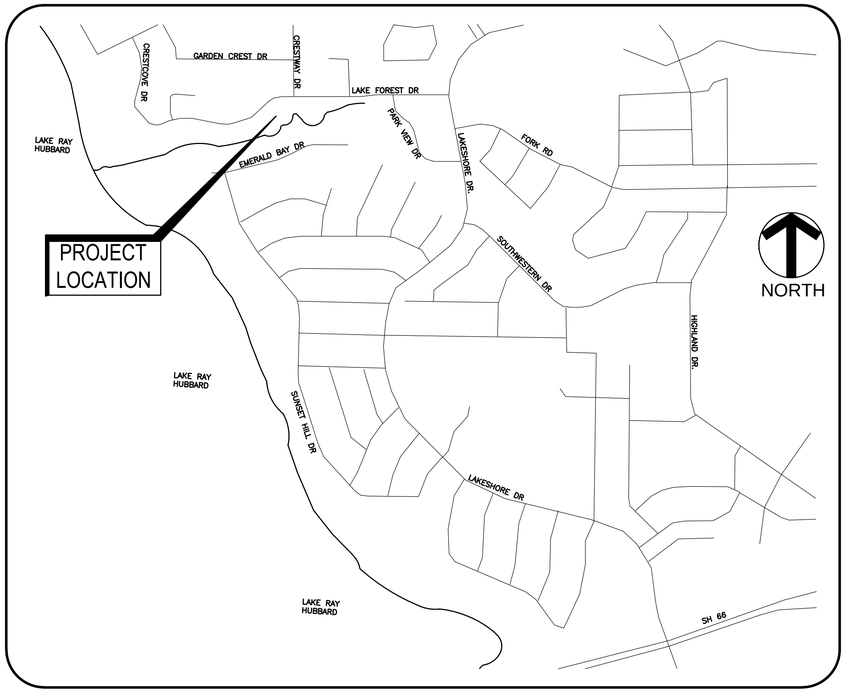
CITY OF ROCKWALL
LAKE FOREST EROSION CONTROL
CIP2014-006



SITE VICINITY MAP
N.T.S.

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ADDITIONAL SHEET ADDED DURING CONSTRUCTION

CITY COUNCIL

JIM PRUITT, MAYOR
DAVID WHITE
BENNIE DANIELS
DENNIS LEWIS
SCOTT MILDER
MIKE TOWNSEND
JOHN HOHENSHELT

CITY MANAGER

RICK CROWLEY

WALTER P MOORE
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TBPE FIRM REGISTRATION NO. 1856
PHONE: 214.740.6200 FAX:214.740.6300

STATE OF TEXAS
ERNEST L. FIELDS
83917
LICENSED
PROFESSIONAL ENGINEER
1/27/2017

PREPARED FOR
CITY OF ROCKWALL
385 S. GOLIAD ST.
ROCKWALL, TEXAS 75087

RECORD DRAWINGS:
The record drawing revisions contained herein are based upon information provided by the Contractor. No representation is made by Walter P. Moore & Associates, Inc. TBPE License No. 1856, regarding the accuracy of the information supplied. This document was released for record purposes under the authority of Ernest L. Fields, P.E. 83917 on January 27, 2017.

100% DESIGN SUBMITTAL

GENERAL NOTES:

1. BOUNDARY AND TOPOGRAPHIC INFORMATION WAS OBTAINED FROM A SURVEY BY VRX, INC. DATED OCTOBER 2014. ACTUAL SITE CONDITIONS MAY VARY FROM THE PLANS AS EROSION OR DEPOSITION IS A DYNAMIC NATURAL PROCESS ALONG THE STREAM CHANNELS.

2. VERIFICATION OF THE HORIZONTAL AND VERTICAL CONTROL, REFERENCE POINTS, AND CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE INCIDENTAL TO THE PROJECT.

3. THE CONTRACTOR SHALL FIELD VERIFY ALL BOUNDARY AND TOPOGRAPHIC INFORMATION PRIOR TO BEGINNING WORK. THE ENGINEER OR CITY OF ROCKWALL PROJECT MANAGER SHALL BE NOTIFIED IN THE EVENT OF DISCREPANCIES BETWEEN THESE PLANS AND EXISTING SITE CONDITIONS.

4. EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE AVAILABLE RECORD INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ANY EXISTING UTILITIES AND OTHER FACILITIES BEFORE COMMENCING WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH MAY OCCUR BY FAILING TO LOCATE AND PRESERVE ANY AND ALL EXISTING FACILITIES.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE OR PUBLIC UTILITIES AFFECTED BY CONSTRUCTION OPERATIONS PRIOR TO THE COMMENCEMENT OF WORK.

6. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PRESERVE WILDLIFE (FISH, TURTLES, ETC.) IN AREAS WITHIN THE WORK LIMITS OF THE PROJECT. WILDLIFE SHALL BE RELOCATED DOWN STREAM OF WORK LIMITS.

7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE FEATURE OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE CITY.

8. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS, AND TREES ALONG THE AREA OF EXCAVATION. NO TREES SHALL BE CUT OR REMOVED EXCEPT AS SHOWN ON THE PLANS WITHOUT SPECIAL PERMISSION OF THE CITY. TREES SHOWN TO BE REMOVED SHALL BE CLEARLY MARKED BY CONTRACTOR A MINIMUM OF ONE WEEK PRIOR TO REMOVAL. THE CONTRACTOR SHALL NOTIFY THE CITY OF ROCKWALL PROJECT MANAGER WHEN REMOVAL FLAGS ARE PLACED. CITY APPROVAL IS REQUIRED PRIOR TO ANY TREE REMOVALS BY CONTRACTOR. SEE TREE PROTECTION NOTES ON EROSION & SEDIMENT CONTROL PLAN.

9. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE CITY OF ROCKWALL AND NCTCOG 3RD EDITION SPECIFICATIONS, SPECIAL PROVISIONS, AND CONSTRUCTION DETAILS.

10. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL CONTACT THE CITY OF ROCKWALL AT (972)771-7730 AND TEXAS811.

11. CONTRACTOR SHALL ADJUST, REPLACE, AND RECONSTRUCT ALL EXISTING IRRIGATION FACILITIES ALONG THE PROJECT LIMITS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL ALSO PROVIDE TEMPORARY WATERING OF ALL EXISTING LANDSCAPE IMPROVEMENTS WITHIN OR ADJACENT TO THE PROJECT AREA THROUGH THE USE OF WATER TRUCK OR OTHER MEANS. TEMPORARY WATERING SHALL BE REQUIRED UNTIL ALL IRRIGATION SYSTEMS HAVE BEEN MADE FULLY OPERATIONAL AND UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY. ANY LANDSCAPING THAT IS DAMAGED DUE TO LACK OF WATERING SHALL BE REPLACED AT THE CONTRACTOR'S SOLE EXPENSE. NO SEPARATE PAYMENT SHALL BE MADE.

12. CONTRACTOR SHALL PREPARE PHOTOGRAPHS AND A VIDEO OF THE PROJECT SITE DOCUMENTING SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. VIDEO SHALL CLEARLY SHOW ALL PUBLIC AND PRIVATE IMPROVEMENTS WITHIN AND ADJACENT TO THE PROJECT LIMITS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, FENCES, STRUCTURES, LANDSCAPING, POOLS, VISIBLE UTILITIES, RETAINING WALLS, ETC. NO SEPARATE PAYMENT SHALL BE MADE FOR THE PREPARATION OF PHOTOGRAPHS AND VIDEO.

13. PRIOR TO PROCESSING EACH MONTHLY PAY REQUEST, ALL URGENT PROJECT RELATED ISSUES SHALL BE RESOLVED. THESE MAY INCLUDE, BUT ARE NOT LIMITED TO, SAFETY, EROSION AND SEDIMENT CONTROL, DUST, NOISE, TRAFFIC CONTROL, INGRESS AND EGRESS, CLEAN UP, CITIZEN COMPLAINTS, ETC.

14. SUPERVISION BY THE CONTRACTOR IS EXPECTED AT ALL TIMES. ALL WORK UNDER THIS CONTRACT SHALL BE UNDER THE DIRECT CHARGE AND SUPERVISION OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A COMPETENT SUPERINTENDENT ON THE SITE AT ALL TIMES DURING PROGRESS WITH FULL AUTHORITY TO ACT FOR THE CONTRACTOR. THE SUPERINTENDENT SHALL NOT BE CHANGED DURING THE CONTRACT EXCEPT WITH WRITTEN CONSENT OF THE OWNER. IF THE SUPERINTENDENT OR ANY STAFF SHALL BE DEEMED UNSATISFACTORY TO THE OWNER, SUCH STAFF SHALL BE REMOVED BY THE CONTRACTOR UPON WRITTEN DIRECTION OF THE OWNER AND THE CONTRACTOR SHALL NOT BE ENTITLED TO FILE A CLAIM FOR ANY ADDITIONAL WORKING TIME OR MONEY FROM THE OWNER. SPECIFIC JOB FOREMAN POSITIONS SUCH AS ANCHOR FOREMAN OR BIG BLOCK WALL FOREMAN DO NOT MEET THE REQUIREMENTS FOR THE SUPERINTENDENT. THE CONTRACTOR'S SUPERINTENDENT MAY, AFTER COORDINATION WITH AND CONSENT OF THE CITY, CONTACT PROPERTY OWNERS TO COORDINATE ACCESS ISSUES DURING CONSTRUCTION.

15. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DETAILED CONSTRUCTION SCHEDULE AT THE PRECONSTRUCTION CONFERENCE FOR EACH PHASE OF THE PROJECT. THE SCHEDULE SHALL BE UPDATED MONTHLY AND SUBMITTED WITH THE PAY REQUEST THROUGHOUT THE PROJECT. A MONTHLY PAY REQUEST WILL NOT BE PROCESSED WITHOUT AN UPDATED SCHEDULE.

16. NO MATERIALS WILL BE PERMITTED TO BE STORED IN THE CHANNEL OVERNIGHT. THE LOCATION OF MATERIAL STORAGE, STAGING, AND SITE ACCESS SHALL BE APPROVED BY THE CITY PRIOR TO CONTRACTOR MOBILIZATION TO WORK SITE. STAGING AREAS SHALL BE SECURED WITH TEMPORARY CHAIN LINK FENCING WITH A LOCKABLE GATE. GATE SHALL REMAIN LOCKED WHEN WORK IS NOT IN PROGRESS. NO SEPARATE PAYMENT SHALL BE MADE FOR SECURING THE SITE.

EARTHWORK

1. INSTALL EROSION CONTROL MEASURES AND TREE PROTECTION PRIOR TO BEGINNING CLEARING AND GRUBBING ACTIVITIES.

2. ESTABLISH THE BASE OF THE STRUCTURE AT THE ELEVATIONS SHOWN ON THE PLANS.

3. PRIOR TO THE PLACEMENT OF THE LEVELING PAD FOR THE STRUCTURE, THE CITY OF ROCKWALL PROJECT MANAGER SHALL BE NOTIFIED TO ENSURE THAT A SUITABLE SOIL STRATUM HAS BEEN REACHED. IF SHALE IS NOT PRESENT AT THE ELEVATION SHOWN IN THE SECTIONS, THE DESIGN ENGINEER & CITY OF ROCKWALL PROJECT MANAGER SHALL BE CONTACTED IMMEDIATELY.

4. ALL VEGETATION SHALL BE REMOVED FROM THE PROJECT AREA ONLY IN AREAS TO BE GRADED OR DIRECTLY IMPACTED BY THE PROPOSED WALL. PROJECT AREA SHALL BE CLEARLY MARKED BY CONTRACTOR. THE CONTRACTOR IS TO NOTIFY THE PROJECT ENGINEER WHEN PROJECT AREA FLAGS ARE PLACED. ALL TREES LESS THAN 4" DIAMETER SHALL BE CONSIDERED CLEARING AND GRUBBING.

5. EMBANKMENT EXCAVATION SHALL BE BENCHED IN A MANNER CONSISTENT WITH THESE DRAWINGS.

6. A HIGHLY PERMEABLE FILTER FABRIC SUCH AS MIRAFI 140N OR APPROVED SUBSTITUTE SHALL BE PLACED BETWEEN THE CRUSHED ROCK FILTER ZONE AND THE EARTH FILL.

7. A ONE FOOT THICK CRUSHED ROCK FILTER ZONE SHALL BE PLACED BETWEEN THE FILTER FABRIC AND THE BIG BLOCK UNITS. CRUSHED ROCK SHALL HAVE A MAXIMUM SIZE OF 1-1/2 INCH AND SHALL CONFORM TO ASTM C-33, SIZE 67 OR COARSER. (NCTCOG COARSE AGGREGATE NO. 4.)

8. SITE EXCAVATED FILL SHALL BE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED TO A MINIMUM OF 95% AND A MAXIMUM OF 98% OF MAXIMUM STANDARD DENSITY AS DETERMINED BY ASTM D-698, "STANDARD PROCTOR". THE MOISTURE CONTENT SHALL RANGE FROM 0% TO +4% OF OPTIMUM.

9. THE CLAY CAP SHALL HAVE A LIQUID LIMIT BETWEEN 30 AND 50 AND A PLASTICITY INDEX BETWEEN 20 AND 30. CLAY CAP SHALL BE COMPACTED TO 95%-98% OF STANDARD PROCTOR DENSITY. THE MOISTURE CONTENT SHALL RANGE FROM OPTIMUM TO +4 PERCENTAGE POINTS ABOVE OPTIMUM. THE CLAY CAP SHALL BE SUBSIDIARY TO MODULAR BLOCK WALL.

10. ALL FILL ZONES SHALL BE TOPPED WITH 6" THICK DARK CLAYEY LOAM TOPSOIL. SANDY LOAM IS NOT ACCEPTABLE FOR USE AS TOPSOIL.

11. ALL DISTURBED AREAS SHALL BE HYDROMULCHED WITH ST. AUGUSTINE UPON COMPLETION OF CONSTRUCTION. DISTURBED AREAS SHOWN ON THE PLANS TO BE PROTECTED BY PERMANENT EROSION MAT SHALL BE PROTECTED WITH WESTERN EXCELSIOR XTREME ARMOR SYSTEM, CONSISTING OF WESTERN EXCELSIOR PP5-XTREME SECURED WITH PERCUSSION DRIVEN EARTH ANCHORS (PDEA), OR APPROVED SUBSTITUTE. CONTRACTOR SHALL PROVIDE IRRIGATION/WATERING OF COMPLETED HYDROMULCH FOR ONE MONTH AFTER INSTALLATION.

12. INGRESS & EGRESS LOCATION FOR THE CREEK BOTTOM SHALL BE COORDINATED WITH THE PROJECT MANAGER. INGRESS/EGRESS AREA SHALL BE RESTORED TO PRE-EXISTING CONDITION UPON COMPLETION OF WALL CONSTRUCTION. THIS SHALL BE INCIDENTAL TO THE PROJECT.

PRECAST CONCRETE "BIG BLOCK" WALL

1. BIG BLOCK WALL SHALL CONSIST OF REDI-ROCK 41" SERIES WALL SYSTEM RETAINING WALL OR APPROVED SUBSTITUTE.

2. BIG BLOCK WALL SHALL CONSIST OF 18"HX41"W WALL UNITS OR APPROVED SUBSTITUTE.

3. WALL UNITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C94. CONCRETE SHALL BE 4,000 PSI STRENGTH WITH ALLOWABLE AIR CONTENT OF 3% TO 6% AND SLUMP OF 5" ± 1.5".

4. MAXIMUM DEVIATION IN EXTERIOR BLOCK DIMENSIONS SHALL BE 1% EXCLUDING THE ARCHITECTURAL SURFACE. MAXIMUM WIDTH DEVIATION INCLUDING ARCHITECTURAL SURFACE SHALL BE 1.0 INCH.

5. BIG BLOCK WALL SHALL BE INSTALLED ON TOP OF A 16"X6.5' CONCRETE LEVELING PAD. LEVELING PAD SHALL BE 4,000 PSI CONCRETE REINFORCED WITH #4 @ 18" O.C.E.W. W/#4 STIRRUPS AT 18" O.C.

CONCRETE AND GROUT

1. CONCRETE FOR THE BEAMS SHALL BE CLASS "C" AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI PRIOR TO ANCHOR TESTING OR AT 28 DAYS FOR PASSIVE ANCHORS.

2. ALL CONCRETE SHALL BE DESIGNED, MIXED, TRANSPORTED, AND PLACED IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE AND THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.

3. GROUT SHALL BE TYPE I PORTLAND CEMENT GROUT CONSISTING OF 5 GALLONS OF WATER PER SACK OF CEMENT IN ACCORDANCE WITH SPECIFICATIONS. GROUT SHALL BE BURKE NON-SHRINK GROUT AS MANUFACTURED BY EDOCO CONSTRUCTION MATERIALS OR APPROVED SUBSTITUTE. GROUT SHALL PROVIDE A MINIMUM 7 DAY COMPRESSIVE STRENGTH OF 5,000 PSI. GROUT MAY BE HANDLED ON SITE OR TRANSIT-MIXED AT CONTRACTOR'S OPTION. ON-SITE BATCHING IS NOT ALLOWED.

ROCK ANCHORS

1. ROCK ANCHOR ASSEMBLIES SHALL UTILIZE THE DYWIDAG THREADBAR PLATE ANCHORAGE SYSTEM, OR APPROVED SUBSTITUTE. THERE WILL BE NO ADDITIONAL PAY FOR DEPTH IN EXCESS OF THAT INDICATED ON THE PLANS.

2. THE ROCK ANCHORS SHALL CONSIST OF A 10" MINIMUM DIAMETER DRILLED HOLE REINFORCED WITH A SINGLE, SOLID, CONTINUOUS COIL STEEL ROD. REFER TO SECTIONS FOR SIZES, DIAMETERS, AND STRENGTHS.

3. ALL TIEBACK ASSEMBLIES SHALL BE CAPABLE OF DEVELOPING 95% OF THE ULTIMATE TENSILE STRENGTH OF THE STEEL.

4. ALL TIEBACK ASSEMBLY COMPONENTS SHALL BE PROTECTED WITH AN EPOXY COATING IN ACCORDANCE WITH ASTM A775.

5. ANCHOR GROUT SHALL BE PLACED FROM THE LOWEST POINT OF THE DRILLED HOLE USING SLURRY TUBES OR CASINGS.

6. THE CASING, SHEATH OR BOND BREAKER SHALL BE ONE OF THE FOLLOWING: 3" STEEL, SCHEDULE 40 PVC, POLYETHYLENE, OR POLYPROPYLENE PIPE OR TUBE.

7. FOR "ACTIVE" TIEBACKS GREASE SHALL BE INJECTED INTO THE ANNULAR SPACE BETWEEN THE CASING AND THE TIEBACK ROD.

8. THE CONTRACTOR SHALL TEST TWO SACRIFICIAL ANCHORS PER ROW IN ACCORDANCE WITH THE FOLLOWING:

a. THE TIEBACK SHALL REMAIN UNDISTURBED FOR A MINIMUM OF 3 DAYS OR UNTIL THE GROUT HAS CURED. A MINIMUM OF 4 DAYS AFTER THE CONCRETE BEAM THROUGH WHICH THE ROD PENETRATES HAS BEEN PLACED AND REACHED 3,600 PSI, A HYDRAULIC TYPE JACK WITH PRESSURE GAUGE AND MINIMUM CAPACITY OF 30 TONS SHALL BE USED FOR TESTING.

b. IN EACH ROW, ONE OF THE ACTIVE ROCK TEST ANCHORS SHALL BE PERFORMANCE TESTED TO 1.5 TIMES THE SERVICE LOAD. THE REMAINING TEST ANCHOR SHALL BE PROOF TESTED TO 1.25 TIMES THE SERVICE LOAD. THE SERVICE LOADS FOR THE ROCK ANCHORS ARE INDICATED ON THE CONSTRUCTION DRAWINGS. IF NO SERVICE LOAD IS INDICATED FOR A PARTICULAR ROW, CONTRACTOR SHALL TEST TO THE HIGHEST SERVICE LOAD INDICATED IN THE ANCHOR TABLE ON THE PLAN SHEET.

c. PERFORMANCE TEST: TEST ANCHORS SHALL BE INCREMENTALLY LOADED TO 1.5 TIMES THE SERVICE LOAD. DURING THE LOAD HOLD, THE MOVEMENTS OF THE TIEBACK SHALL BE RECORDED AT 0, 1, 2, 3, 4, 5, 7, AND 10 MINUTES. IF THE CHANGE IN MOVEMENT BETWEEN 1 AND 10 MINUTES EXCEEDS 0.04 INCHES (1 MM), THEN THE MOVEMENT SHALL BE OBSERVED FOR A TOTAL OF 60 MINUTES IN ORDER TO DETERMINE THE CREEP RATE. IF THE OBSERVATION PERIOD IS EXTENDED TO 60 MINUTES, THEN THE MOVEMENTS SHALL ALSO BE RECORDED AT 15, 20, 25, 30, 45, AND 60 MINUTES. THE OBSERVATION PERIOD BEGINS WHEN THE JACK BEGINS TO APPLY LOAD TO THE TIEBACK. THE LOAD SHOULD BE RAISED FROM THE PREVIOUS INCREMENT IN LESS THAN 60 SECONDS, AND THE ONE MINUTE READING IS TAKEN ONE MINUTE AFTER THE JACKING FORCE BEGINS TO BE APPLIED.

d. PROOF TEST: THE REMAINING TEST ANCHOR SHALL BE INCREMENTALLY LOADED TO 1.25 TIMES THE SERVICE LOAD. THE TIEBACK ROD SHALL BE INCREMENTALLY LOADED AND THE ELASTIC MOVEMENT RECORDED AT 0.25, 0.50, 0.75, 1.00, AND 1.25 TIMES THE SERVICE LOAD. THE ELASTIC MOVEMENT SHALL BE RECORDED EVERY MINUTE FOR 5 MINUTES AT 1.25 TIMES THE SERVICE LOAD. MOVEMENT OF THE PROOF TEST LOAD BETWEEN 1 AND 5 MINUTES SHALL BE LESS THAN 0.03 INCHES. IF MOVEMENT IS GREATER THAN 0.03 INCHES (0.8 MM) DURING THE 5 MINUTE PERIOD, THE LOAD SHOULD BE MAINTAINED UNTIL THE CREEP RATE CAN BE DETERMINED.

e. ALLOWABLE ELASTIC MOVEMENTS: TO VERIFY THAT THE SPECIFIED UNBONDED LENGTH OF THE TIEBACK ROD HAS BEEN PROVIDED, THE MINIMUM ELASTIC MOVEMENT OF THE ROD MUST EXCEED 0.8 TIMES THE CALCULATED ELASTIC ELONGATION OF THE UNBONDED LENGTH. TO VERIFY THAT THE SPECIFIED BONDED LENGTH OF THE TIEBACK ROD HAS BEEN PROVIDED, THE MAXIMUM ELASTIC MOVEMENT OF THE ROD SHALL BE LESS THAN THE CALCULATED ELASTIC ELONGATION OF THE UNBONDED LENGTH PLUS HALF OF THE BONDED LENGTH.

TESTING

1. THE OWNER WILL EMPLOY A TESTING LABORATORY TO PERFORM FIELD AND LAB TESTS OF THE CONCRETE, FILL AND MISCELLANEOUS MATERIALS USED FOR CONSTRUCTION.

2. THE CONTRACTOR SHALL PROVIDE TESTING EQUIPMENT AND PERFORM ANCHOR TESTS TO BE OBSERVED BY THE OWNER'S TESTING LABORATORY.

3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH TESTING LABORATORY AND PROJECT MANAGER AND SCHEDULING THEIR WORK.

4. THE TESTING LABORATORY IS RESPONSIBLE FOR NOTIFYING IN WRITING THE CONTRACTOR AND OWNER IMMEDIATELY UPON COMPLETION OF THE TEST.

ARTICULATED CONCRETE BLOCK

1. THE ARTICULATED CONCRETE BLOCK SHALL BE ARMORLOC 5011 (6" THICK) BLOCK OR ACCEPTABLE SUBSTITUTE.

2. TO PREPARE THE CHANNEL BOTTOM, CONTRACTOR SHALL COMPACT THE IN-SITU SOIL TO 98% PROCTOR DENSITY. CONTRACTOR SHALL RAKE, SCREED OR ROLL BY HAND OR MACHINE TO ACHIEVE A SMOOTH COMPACTED SURFACE THAT IS FREE OF LOOSE MATERIAL, PER MANUFACTURER DIRECTION. IF NEEDED, CONTRACTOR SHALL SMOOTH THE SURFACE WITH CRUSHED ROCK OR LEVELING SAND.

3. CONTRACTOR SHALL LAY HIGHLY PERMEABLE FILTER FABRIC FOR THE FULL WIDTH OF THE CHANNEL BOTTOM WITH 3 FEET MINIMUM OVERLAP AT EDGES BELOW THE ARTICULATED CONCRETE BLOCKS. CONTRACTOR SHALL INSTALL A 6" CRUSHED ROCK ON TOP OF THE FILTER FABRIC FOR THE FULL WIDTH OF THE ARTICULATED BLOCK.

4. CONTRACTOR SHALL INSTALL THE ARTICULATED CONCRETE BLOCK IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS, TAKING CARE TO ENSURE THE INDIVIDUAL BLOCKS LIE IN INTIMATE CONTACT WITH THE PREPARED SUBGRADE. REFER TO SPECIFICATIONS FOR BACKFILL REQUIREMENTS.

5. CONTRACTOR SHALL GROUT A ONE FOOT WIDE SECTION OF ARTICULATED CONCRETE BLOCK AT AREAS BORDERING RETAINING WALLS OR OTHER STRUCTURES. GROUT SHALL MEET THE SPECIFICATIONS OF THE PROJECT AS NOTED ON THE PLANS

CONTRACTOR PLAN SUBMITTALS

1. THE CONTRACTOR SHALL COMPLY WITH CITY STANDARDS, O.S.H.A. REGULATIONS, AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING, AND SHORING FOR ALL EXCAVATIONS DEEPER THAN FIVE FEET. THE CONTRACTOR SHALL SUBMIT PROPOSED TRENCH SAFETY PLANS FOR ACCEPTANCE BY THE CITY. IF TRENCH SAFETY PLANS ARE REQUIRED, THEY SHALL BE SUBSIDIARY TO MOBILIZATION.

2. CONTRACTOR SHALL PROVIDE A WORK ACCESS PLAN TO BE APPROVED BY THE PROJECT MANGER PRIOR TO MOBILIZATION. NO MATERIALS OR EQUIPMENT WILL BE PERMITTED TO BE STORED IN THE CHANNEL OVERNIGHT. THE LOCATION OF MATERIAL STORAGE, STAGING, AND SITE ACCESS SHALL BE APPROVED BY THE CITY PRIOR TO CONTRACTOR MOBILIZATION TO WORK SITE. IF NECESSARY, THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN AND TRAIL SAFETY PLAN FOR CONSTRUCTION ENTRANCES. THIS WORK SHALL BE SUBSIDIARY TO MOBILIZATION.

3. CONTRACTOR SHALL PROVIDE A DE-WATERING PLAN AT THE PRE-CONSTRUCTION MEETING WHICH MUST BE APPROVED BY THE PROJECT MANAGER PRIOR TO MOBILIZATION. THE PLAN SHALL PROVIDE FOR BASE FLOW DIVERSION AROUND THE WORK ZONE WITHOUT CAUSING EXCESSIVE EROSION OR INCREASING SEDIMENT LOAD IN THE BASE FLOW DOWNSTREAM OF WORK AREA.

DESIGN LOADS

1. RETAINING WALL DESIGN IS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT NO. 19925, OCTOBER 30, 2014 BY REED ENGINEERING GROUP, DALLAS TEXAS.

2. ALLOWABLE LOADS, DESIGN COEFFICIENTS, AND ASSUMPTIONS FOR THIS PROJECT ARE AS FOLLOWS:

ALLOWABLE BEARING PRESSURE (UWLS):	2,500 PSF
EFP (SITE EXCAVATED FILL):	60 PCF
UNIT WEIGHT OF SOIL:	125 PCF
ACTIVE EARTH COEFFICIENT (IN-SITU SOILS):	0.49
ALLOWABLE PULLOUT RESISTANCE:	2.0 KSF
COEFFICIENT OF SLIDING FRICTION:	0.4

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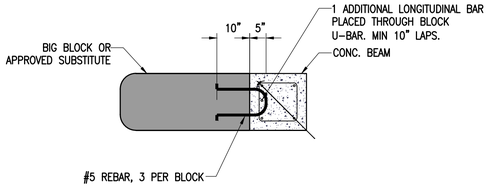
STATE OF TEXAS · ERNEST L. FIELDS · 83917 · LICENSED PROFESSIONAL ENGINEER · 6/18/2015

LAKE FOREST EROSION CONTROL
GENERAL NOTES
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

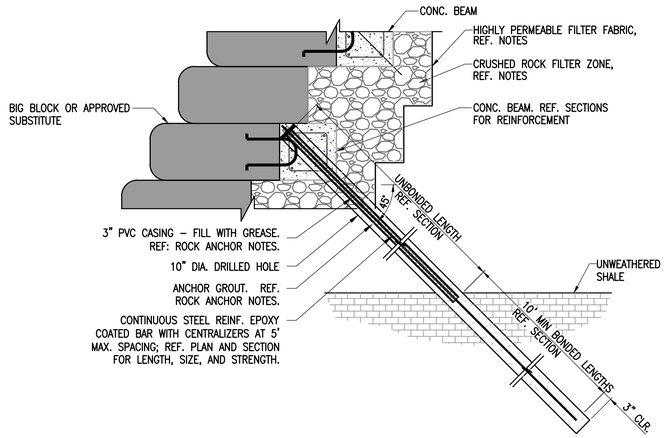
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
ELF	RDH	JUNE 2015				2

100% DESIGN SUBMITTAL



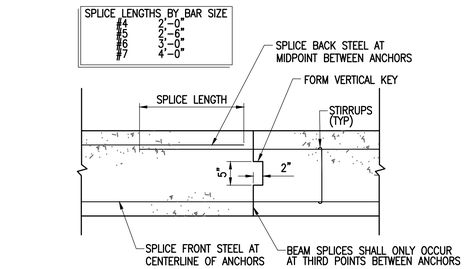
1 TYPICAL BIG BLOCK WITH CONCRETE BEAM

SCALE: NTS



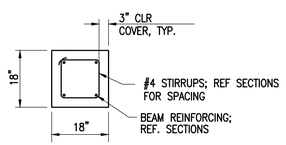
2 TYPICAL ACTIVE ROCK ANCHOR DETAIL

SCALE: NTS



3 CONCRETE BEAM SPLICE DETAIL

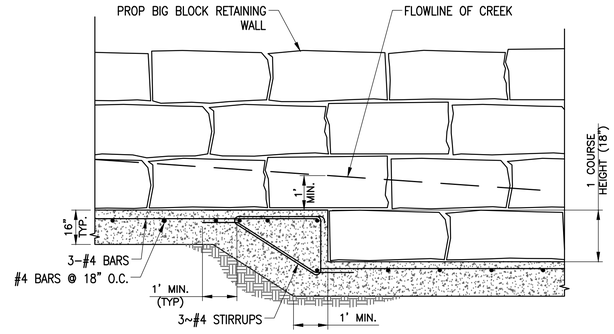
SCALE: NTS



NOTE:
CONCRETE FOR BEAMS SHALL BE CLASS "C" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI (6.5-SACK MINIMUM). IF BEAM ANCHORS ARE TO BE STRESSED, THE CONCRETE MUST REACH 3,600 PSI COMPRESSIVE STRENGTH PRIOR TO ANCHOR STRESSING.

4 CONCRETE BEAM REINFORCEMENT

SCALE: NTS



5 CONCRETE LEVELING PAD DETAIL

SCALE: NTS

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STATE OF TEXAS ERNEST L. FIELDS 83917 LICENSED PROFESSIONAL ENGINEER
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LAKE FOREST EROSION CONTROL
TYPICAL DETAILS
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

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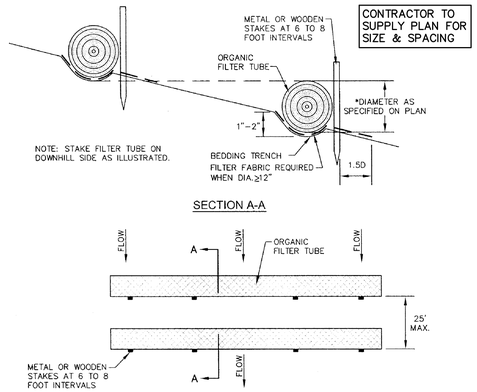
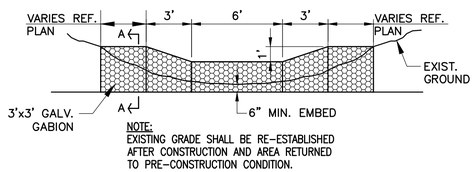


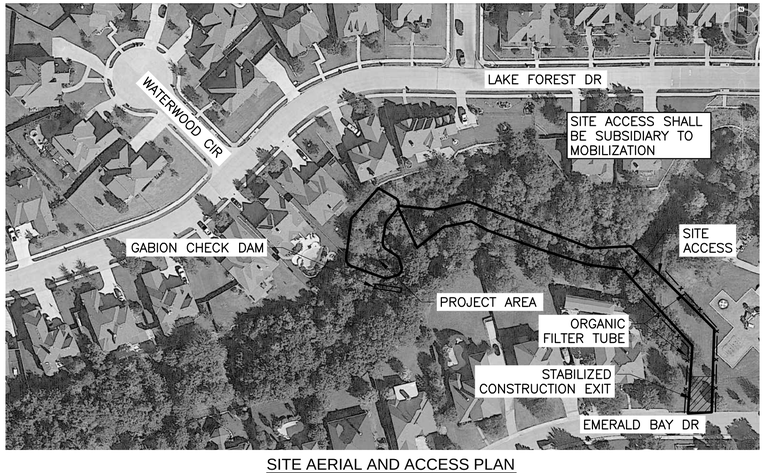
ORGANIC FILTER TUBE DETAIL

SCALE: NTS



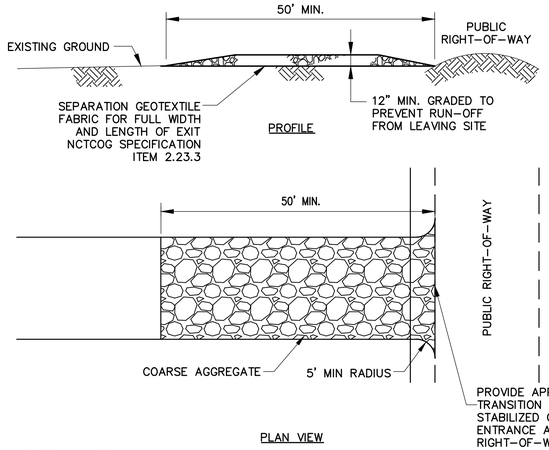
GABION CHECK DAM

SCALE: NTS



SITE AERIAL AND ACCESS PLAN

(NTS)

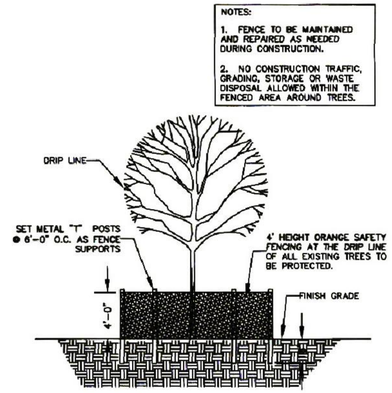


GENERAL NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 12 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A TRUCK WASHING AREA, WHEN SHOWN ON THE CONSTRUCTION DRAWING. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
6. AGGREGATE SHALL BE NATURAL STONE OR RECYCLED CONCRETE MEETING THE GRADATION REQUIREMENTS OF NCTCOG SPECIFICATION ITEM 2.1.8(d). [4"–6" DIAMETER]

STABILIZED CONSTRUCTION EXIT

SCALE: NTS



TREE PROTECTION NOTES

1. EXISTING TREES SHOWN TO REMAIN ARE TO BE PROTECTED DURING CONSTRUCTION. ORANGE SAFETY FENCING (MIN. 4'–0" HEIGHT) SHALL BE INSTALLED AT THE DRIP LINE OF ALL TREES OR TREE GROUPS TO REMAIN. PARKING OF VEHICLES OR PERFORMING WORK WITHIN THESE AREAS OTHER THAN SHOWN ON THE PLAN, WILL NOT BE ALLOWED. THE TREE PROTECTION SHALL REMAIN DURING CONSTRUCTION. OTHER TREE PROTECTION MEASURES SHALL BE IN ACCORDANCE WITH THE CITY OF PLANO STANDARDS AND ORDINANCES.
2. DISPOSAL OF ANY WASTE MATERIAL SUCH AS, BUT NOT LIMITED TO, PAINT, ASPHALT, OIL SOLVENTS, CONCRETE, MORTAR, ETC. WITHIN THE CANOPY AREA OF THE EXISTING TREES SHALL NOT BE ALLOWED.
3. NO ATTACHMENTS OR WIRES OF ANY KIND, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY TREE.
4. NO FILL OR EXCAVATION OF ANY NATURE SHALL OCCUR WITHIN THE DRIP LINE OF A TREE TO BE PRESERVED, UNLESS THERE IS A SPECIFIED WELL OR RETAINING WALL SHOWN ON THE GRADING PLAN.
5. NO MATERIALS SHALL BE STORED WITHIN THE DRIPLINE AREA OF A TREE TO BE PRESERVED.

TREE PROTECTION DETAIL

SCALE: NTS

EROSION CONTROL PROTECTION MEASURES MUST BE FIELD ADJUSTED TO ACCOMMODATE ON–SITE CONDITIONS DURING CONSTRUCTION

EROSION CONTROL NOTES:

1. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
2. IF THIS EROSION CONTROL PLAN, AS APPROVED, CANNOT CONTROL EROSION, THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE.
3. AT A MINIMUM, PERIMETER CONTROLS SUCH AS ORGANIC FILTER TUBE SHALL BE INSTALLED AT ALL DOWN SLOPE BOUNDARIES AND AS WARRANTED WHERE UTILITY CONSTRUCTION, GRADING, OR OTHER CONSTRUCTION ACTIVITIES ARE TO BE PERFORMED. THE CONTRACTOR SHALL AT ALL TIMES TAKE SUCH MEASURES AS NECESSARY TO MINIMIZE OFF SITE TRACKING OR TRANSPORT OF SEDIMENT AND DEBRIS.
4. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES AS NECESSARY TO PREVENT TRACKING OF MUD OR SOILS ONTO EXISTING OR PROPOSED PAVEMENT. ANY TRACKING THAT DOES OCCUR SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
5. AT THE COMPLETION OF THE FINAL GRADING, THE DISTURBED AREA(S) SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS.
6. ORGANIC FILTER TUBES SHALL REMAIN IN PLACE UNTIL REVEGETATION HAS BEEN COMPLETED. CONTRACTOR SHALL REMOVE ORGANIC FILTER TUBES PRIOR TO FINAL PAYMENT.
7. DISTURBED AREAS THAT ARE SEEDED OR SODDED SHALL BE CHECKED PERIODICALLY TO SEE THAT GRASS COVERAGE IS PROPERLY MAINTAINED. DISTURBED AREAS SHALL BE WATERED, FERTILIZED AND RESEEDED OR SODDED, IF NECESSARY.
8. ALL STOCKPILED SOILS WILL BE SURROUNDED BY ORGANIC FILTER TUBES, SEDIMENT CONTROL SWALE, OR SIMILAR MEASURE APPROVED BY THE ENGINEER, TO PROPERLY CONTROL SEDIMENT RUNOFF.
9. IF OFF–SITE SOIL BORROW OR SPOIL SITES ARE USED IN CONJUNCTION WITH THIS PROJECT, THIS INFORMATION SHALL BE DISCLOSED AND SHOWN ON THE EROSION CONTROL PLAN. OFF–SITE BORROW AND SPOIL AREAS ARE CONSIDERED A PART OF THE PROJECT SITE AND THEREFORE SHALL COMPLY WITH EROSION CONTROL REQUIREMENTS. THESE AREAS SHALL BE STABILIZED WITH PERMANENT GROUND COVER PRIOR TO FINAL APPROVAL OF THE PROJECT.
10. DAMAGES TO ADJACENT PROPERTY OR TO THE RECEIVING WATERS CAUSED BY IMPROPERLY INSTALLED OR POORLY MAINTAINED EROSION CONTROL MEASURES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ANY SILTATION CAUSED BY HIS OPERATIONS AND/OR FAILURE OF THE EROSION CONTROL MEASURES.
12. INSPECTIONS OF EROSION CONTROL DEVICES SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO INSURE THAT THE DEVICES ARE FUNCTIONING PROPERLY. WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN STONES OR MUD IS BEING TRACKED ONTO A PUBLIC ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASHDOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL OFF SITE SEDIMENTATION. PERIODIC REGRADING OR THE ADDITION OF NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFICIENCY OF THE INSTALLATION.
13. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ACCUMULATED SILT AND SEDIMENT FROM EROSION CONTROL MEASURES WHEN IT REACHES A DEPTH OF SIX (6) INCHES OR IMPAIRS THE EFFECTIVENESS OF THE MEASURES.
14. THE CONTRACTOR SHALL STABILIZE ANY AREA WHERE CONSTRUCTION ACTIVITY IS TO BE TEMPORARILY OR PERMANENTLY CEASED FOR MORE THAN 14 DAYS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTAL OF ANY INFORMATION REQUIRED BY THE E.P.A. AND TCEQ. CONTRACTOR SHALL COMPLY WITH ALL E.P.A. AND TCEQ STORMWATER POLLUTION PREVENTION REQUIREMENTS.
16. SEE THIS SHEET FOR EROSION CONTROL DETAILS.
17. TOTAL SITE AREA: 4,000 SF. TOTAL AREA TO BE DISTURBED DUE TO CONSTRUCTION ACTIVITIES: 10,000 SF.

RECORD DRAWINGS:
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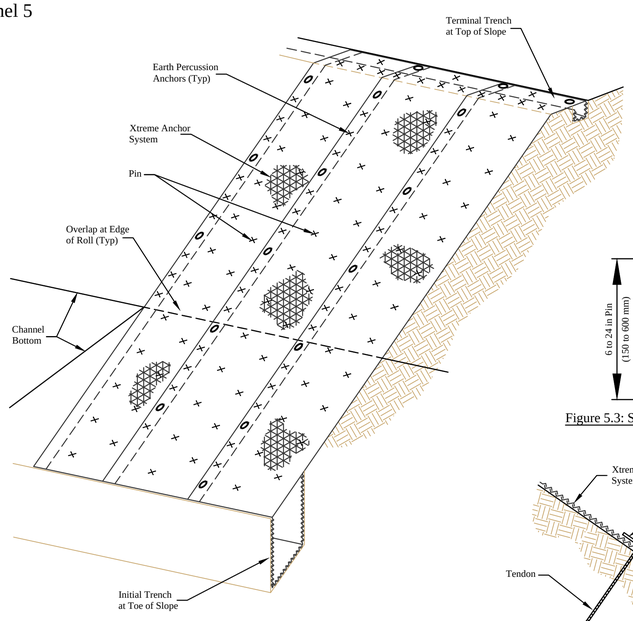
Panel 5



PERSPECTIVE

Figure 5.1: Overview of Xtreme Armor System On A Channel Bank

* Note: For Clarity, Perspective View Does Not Show All Pins And Anchors.

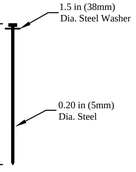


Figure 5.3: Steel Pin Fastener

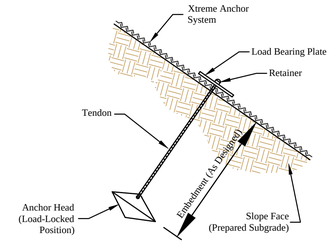


Figure 5.2: Earth Percussion Anchor Detail

Step 1 - Site Preparation

Prepare site to design profile and grade. Remove debris, rocks, clods, etc.. Ground surface should be smooth prior to installation to ensure HP-TRM remains in contact with slope.

Step 2 - Seeding

Seeding of site should be conducted to design requirements or to follow local or state seeding requirements as necessary. Seed prior to application of HP-TRM and include necessary soil amendments and fertilizer.

Step 3 - Pin Selection

At a minimum, 12 in. long steel, round pins with a1.5 in head washer are to be used to secure the HP-TRM to the ground surface. Installation in rocky, sandy or other loose soil may require alternate fasteners. Judgment should be applied by field personnel to ensure the pins provide sufficient pullout resistance and the HP-TRM is in intimate contact with the soil over the entirety of the installation.

Step 4 - Selection of Anchors

Anchor selection is determined by geotechnical conditions and consideration of exposure to the elements. Anchor type and size installed shall be in conformance with requirements supplied within the project specifications.

Step 5 - Excavate Anchor Trench and Secure HP-TRM

Excavate a trench along the top of the channel side slopes and the upstream terminal end of the channel to secure the edges of the HP-TRM. The trench should run along the length and width of the installation, be 2 ft. wide and 2 ft. deep. Anchor and pin HP-TRM along bottom of trench, fill with compacted soil, overlap HP-TRM towards toe of slope and secure with row of staples (shown in Figures 6.3 and 7.1).

Step 6 - Secure Body of HP-TRM

Roll HP-TRM down slope from anchor trench. Pin and anchor body of HP-TRM following the pattern shown in appropriate figures (specified by roll width and anchor density pattern). The appropriate anchor density pattern is determined by geotechnical conditions and is presented in the project specifications. Leave end of HP-TRM unsecured to allow for overlap shown in Figure 8.1 and 8.2. Place downstream HP-TRM underneath upstream HP-TRM to form shingle pattern. Secure seam as shown in Figure 8.1 and 8.2. Continue downstream by securing downstream HP-TRM identical to previous rolls.

Step 7 - Edge Treatments - Complete Installation

Secure downstream terminal edge as shown in Figure 6.1 and 7.1. Secure edges of installation with longitudinal anchor trench shown in Figure 6.2. Optionally, at the discretion of the engineer, the product may be seeded on top and soil filled by placing and smoothing top soil in the voids of the HP-TRM, in addition to seeding under the matting.

XTREME ARMOR SYSTEM

Non-Structural Channel Application
Standard Drawing, Perspective View
Provided by Western Excelsior

Project:

Drawing #
Page __ of __
Updated: 12/19/13

WESTERN EXCELSIOR

EROSION CONTROL MATTING

SCALE: NTS

WALTER P MOORE

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STATE OF TEXAS — ERNEST L. FIELDS — 83917 — LICENSED PROFESSIONAL ENGINEER — 1/27/2017

DATE	DESCRIPTION	REF. NO.

LAKE FOREST EROSION CONTROL

EROSION AND SEDIMENT CONTROL PLAN

2065 LAKE FOREST DRIVE

CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
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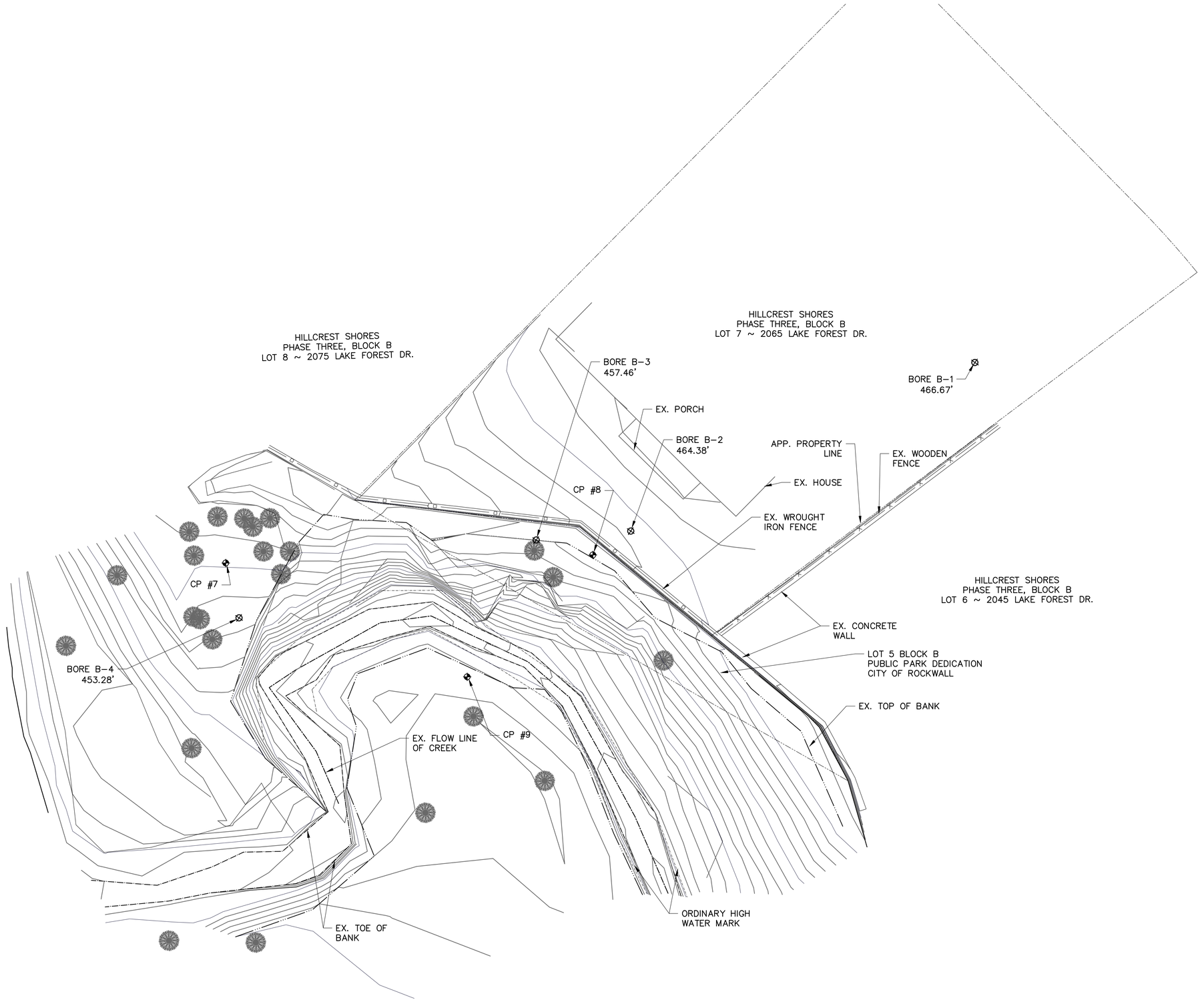

10 0 10 20

Scale: 1"=10'

BENCHMARK:

CP# 7
⅝ IN IRON ROD WITH RED CAP STAMPED "VRX"
+/- 12.4' SE TO A 12IN CEDAR
+/- 29.5' NW TO FENCE CORNER
+/- 23' WEST TO RETAINING WALL
SURFACE COORDINATES
N:7032871.02
E:2588283.98
ELEV:455.17

CP# 8
⅝ IN IRON ROD WITH RED CAP STAMPED "VRX"
+/- 47.5' SW TO FENCE CORNER
+/- 29.6' NE TO FENCE CORNER
+/- 7' SW TO PI IN RETAINING WALL
SURFACE COORDINATES
N:7032943.61
E:2588282.29
ELEV:458.47

CP# 9
⅝ IN IRON ROD WITH RED CAP STAMPED "VRX"
+/- 28' E TO A 10IN OAK
+/- 7.9' NE 6IN HACKBERRY
+/- 38' NW TO PI IN RETAINING WALL
SURFACE COORDINATES
N:7032918.79
E:2588306.43
ELEV:446.89

LEGEND

- EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- EXISTING FLOW LINE OF CREEK
- EXISTING ORDINARY HIGH WATER
- EXISTING TOP OF BANK
- EXISTING TOE OF BANK
- PROPERTY BOUNDARY
- EXISTING TREE
- GEOTECH BORE LOCATION
- SITE BENCH MARK

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STATE OF TEXAS
ERNEST L. FIELDS
83917
LICENSED
PROFESSIONAL ENGINEER
6/18/2015

LAKE FOREST EROSION CONTROL
TOPOGRAPHIC SURVEY
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
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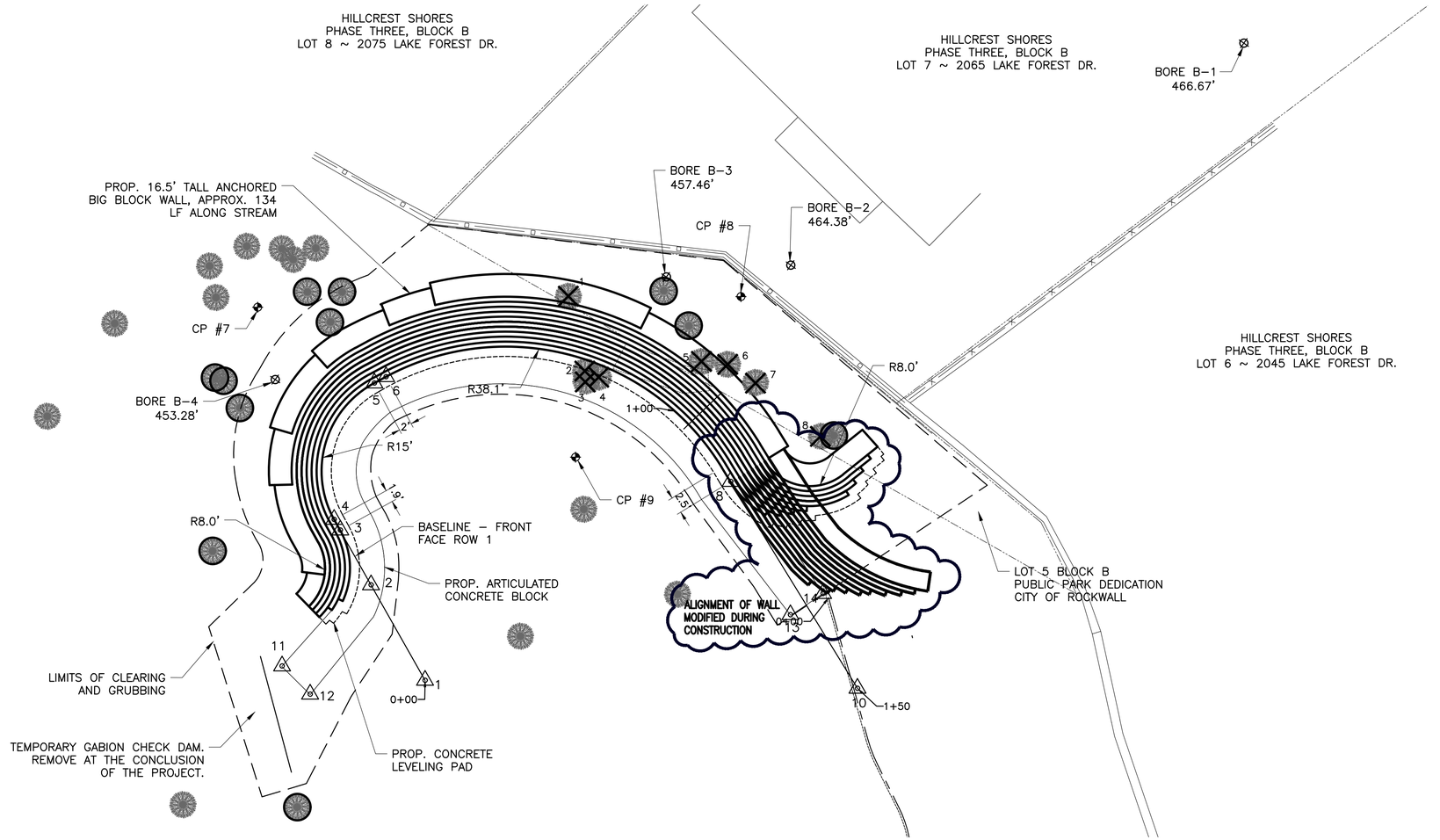
100% DESIGN SUBMITTAL



10 0 10 20

Scale: 1"=10'

LEGEND

- EXISTING TREE
- EXISTING TREE TO BE PROTECTED
- EXISTING TREE TO BE REMOVED
- GEOTECH BORE LOCATION
- SITE BENCH MARK
- PROPOSED WALL
- CONTROL POINT

BENCHMARK:

CP# 7
⅝ IN IRON ROD WITH RED CAP STAMPED "VRX"
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+/- 29.5' NW TO FENCE CORNER
+/- 23' WEST TO RETAINING WALL
SURFACE COORDINATES
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E:2588283.98
ELEV:455.17

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SURFACE COORDINATES
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E:2588282.29
ELEV:458.47

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+/- 7.9' NE 6IN HACKBERRY
+/- 38' NW TO PI IN RETAINING WALL
SURFACE COORDINATES
N:7032918.79
E:2588306.43
ELEV:446.89

CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	DESCRIPTION
1	7032896.17	2588340.00	WALL STA. 0+00.0
2	7032888.05	2588325.67	BEGIN ROW 1
3	7032883.44	2588317.45	ROW 1 PT
4	7032882.51	2588315.85	PC
5	7032888.55	2588295.36	PT
6	7032890.31	2588294.42	PC
8	7032942.08	2588310.14	ROW 1 PC
10	7032961.12	2588341.21	WALL STA. 1+50.0
11	7032874.69	2588337.85	
12	7032878.90	2588342.09	
13	7032951.05	2588330.16	
14	7032955.96	2588326.97	

TREE REMOVAL SCHEDULE

1	8" CEDAR
2	6" CEDAR
3	4" HACKBERRY
4	4" HACKBERRY
5	4" CEDAR
6	4" CEDAR
7	6" HACKBERRY
8	8" HACKBERRY

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STATE OF TEXAS · ERNEST L. FIELDS · 83917 · LICENSED · PROFESSIONAL ENGINEER
1/27/2017

DATE	DESCRIPTION	REF. NO.

LAKE FOREST EROSION CONTROL
HORIZONTAL CONTROL
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
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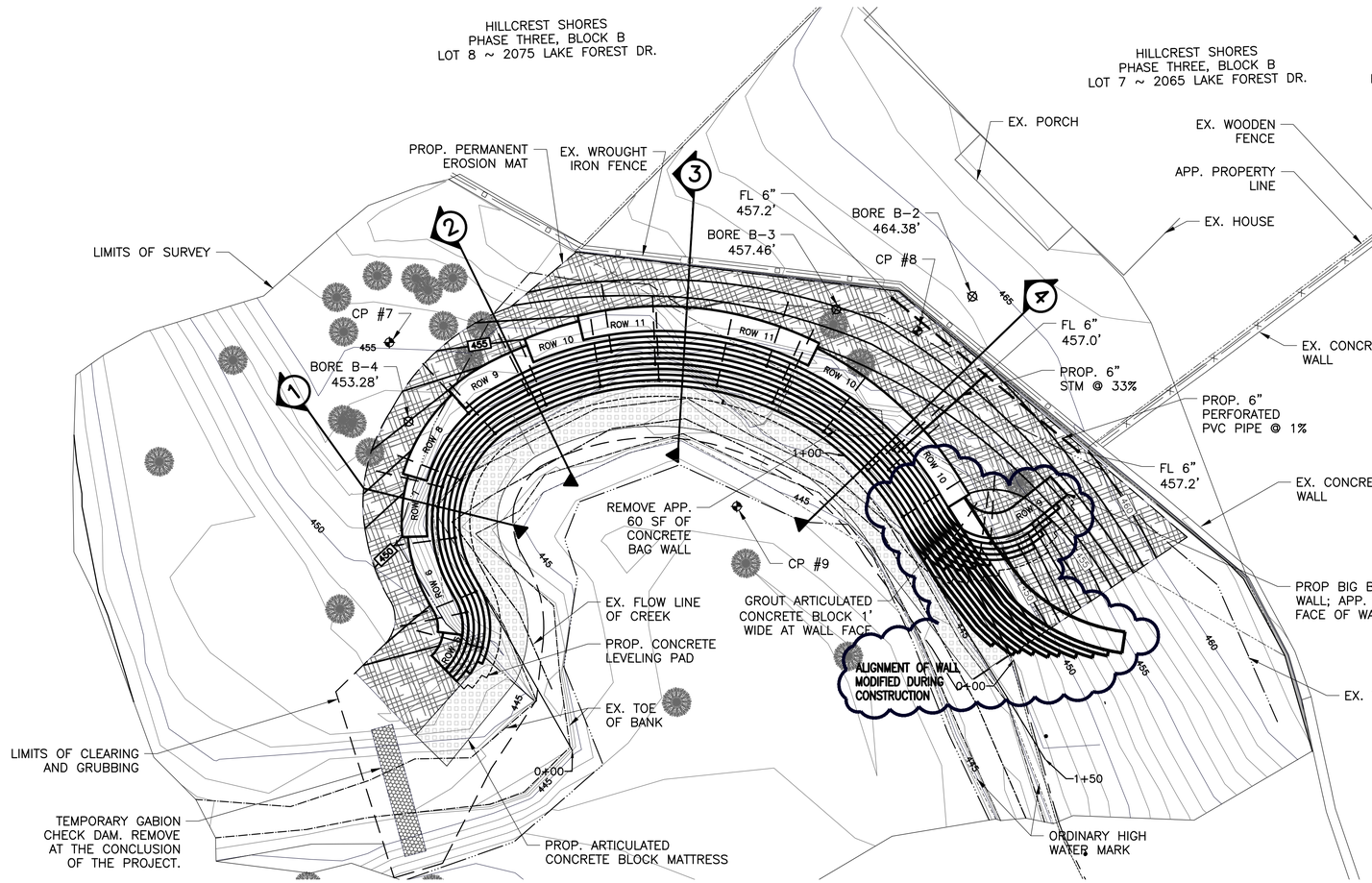

10 0 10 20

Scale: 1"=10'

BENCHMARK:

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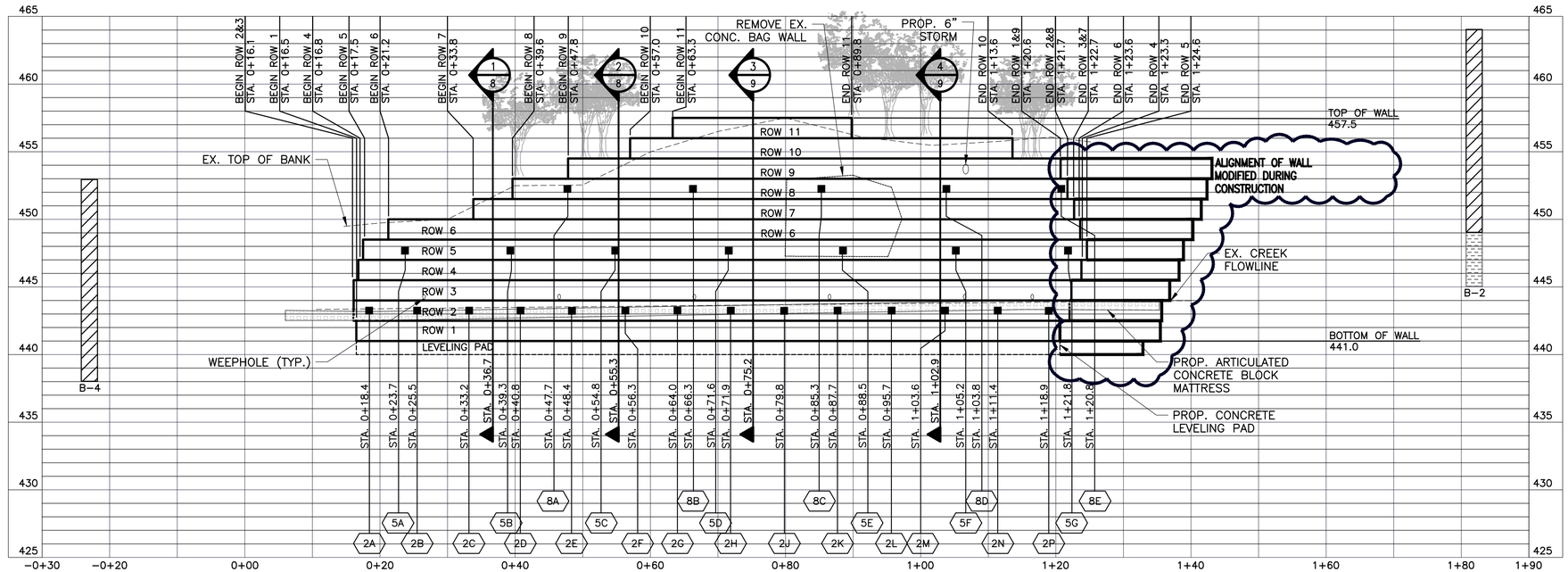
+/- 38' NW TO PI IN RETAINING WALL
SURFACE COORDINATES
N:7032918.79
E:2588306.43
ELEV:446.89

TIEBACK SCHEDULE

TIEBACK	MATERIAL	SERVICE LOAD
2A THRU 2P	1"-150ksi	25.6K
5A THRU 5G	1"-150ksi	21.6K
8A THRU 8E	1"-150ksi	25.1K

LEGEND

- EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- EXISTING FLOW LINE OF CREEK
- EXISTING ORDINARY HIGH WATER
- EXISTING TOP OF BANK
- EXISTING TOE OF BANK
- PROPERTY BOUNDARY
- EXISTING TREE
- GEOTECH BORE LOCATION
- SITE BENCH MARK
- REMOVE EXISTING CONCRETE BAG WALL
- PROPOSED WALL
- PROPOSED ARTICULATED CONCRETE BLOCK MATTRESS
- PROPOSED PERMANENT ERSOSION MAT
- PROPOSED ROCK ANCHOR (PLAN)
- PROPOSED ROCK ANCHOR (PROFILE)
- PROPOSED CONTOUR
- PROPOSED STORM
- PROPOSED PERFORATED DRAIN PIPE



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ERNEST L. FIELDS
83917
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PROFESSIONAL ENGINEER
1/27/2017

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DATE	DESCRIPTION	REF. NO.

LAKE FOREST EROSION CONTROL
WALL PLAN AND PROFILE
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
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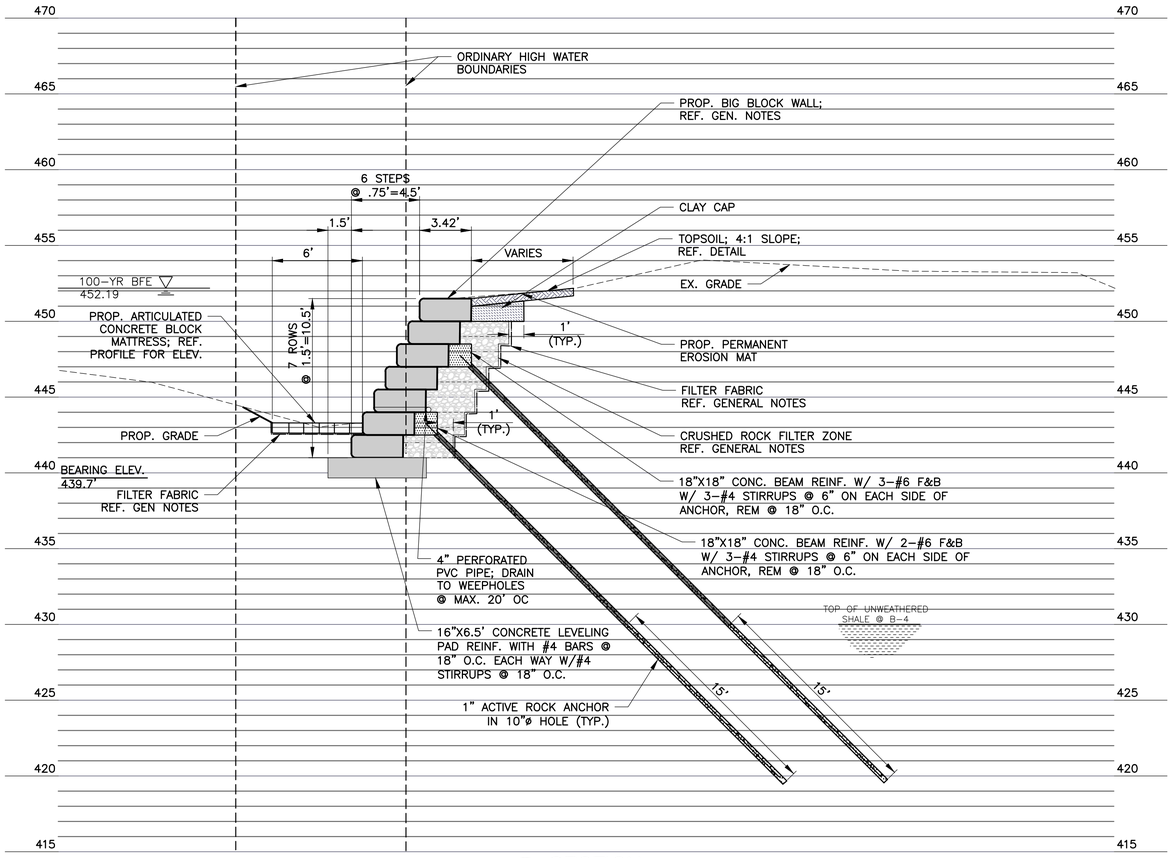

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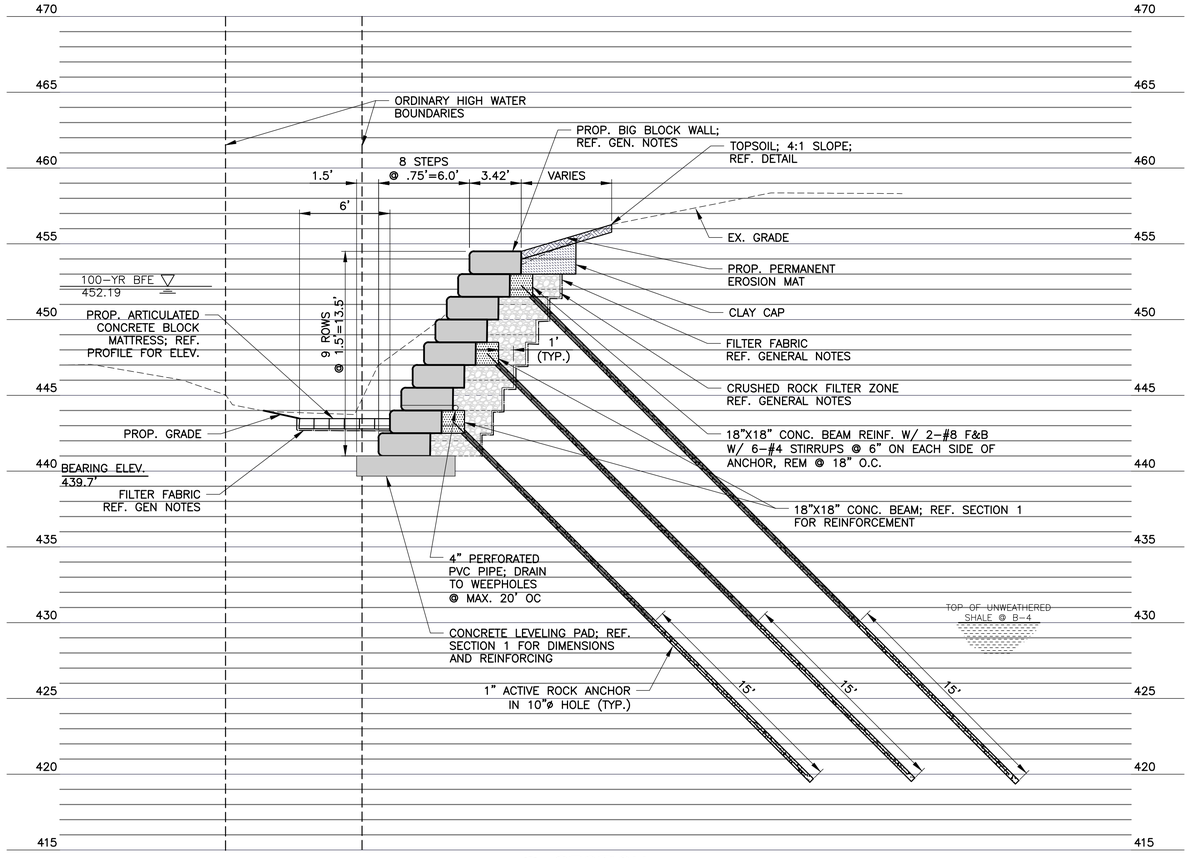

2 SECTION
SCALE: 1"=5'-0"

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6/18/2015

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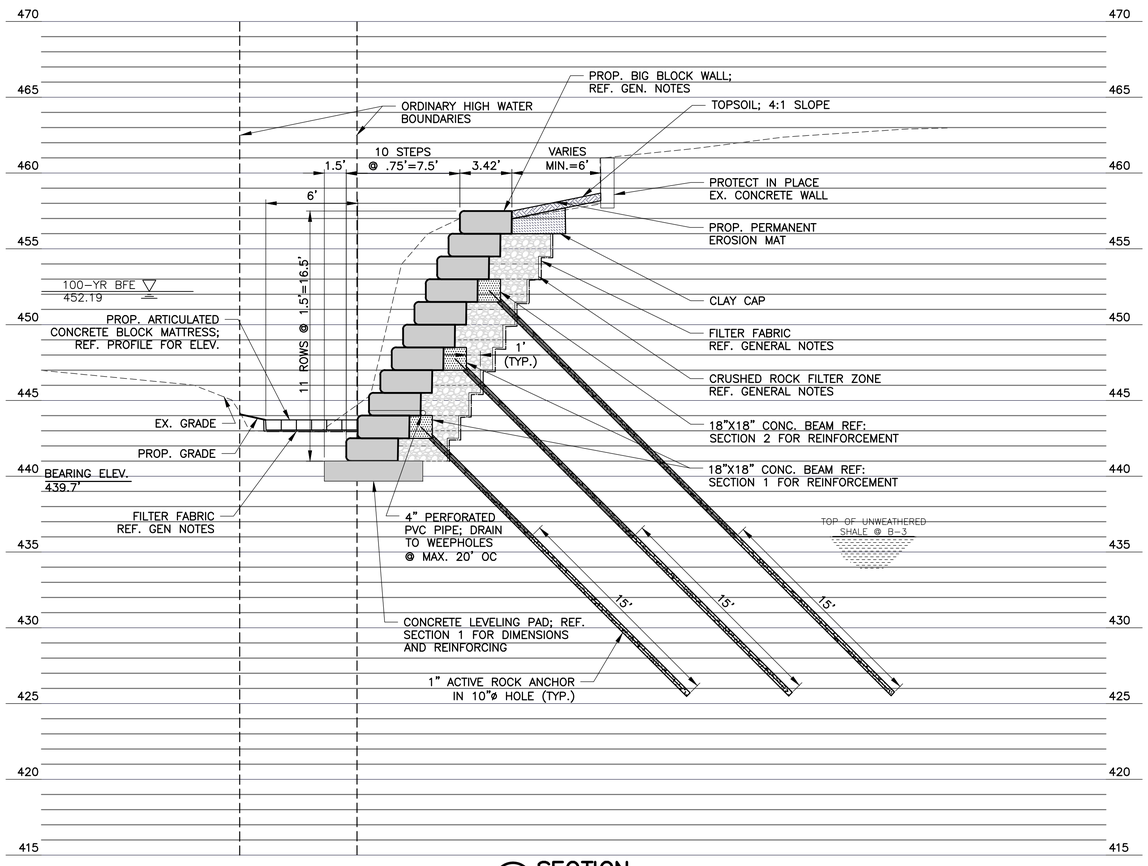
LAKE FOREST EROSION CONTROL
WALL SECTIONS
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
ELF	RDH	JUNE 2015	1" = 5'			8

100% DESIGN SUBMITTAL



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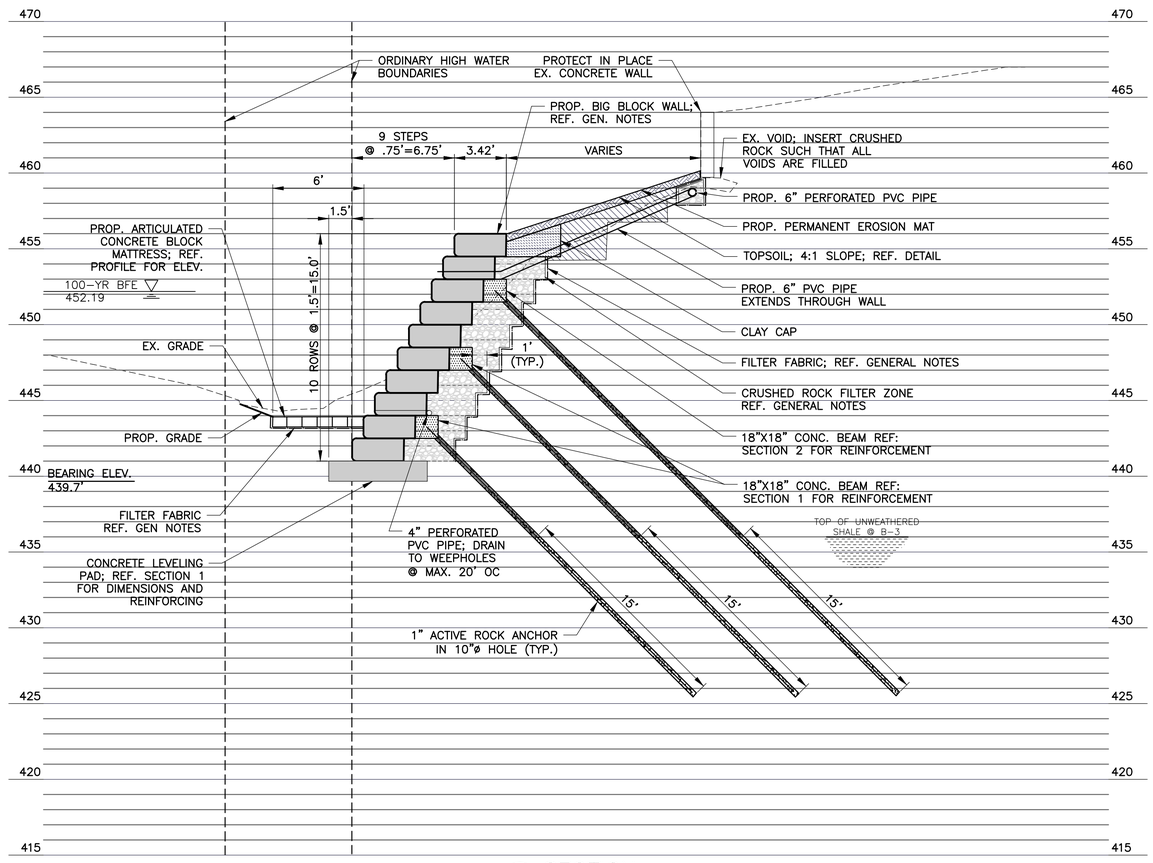

4 SECTION
SCALE: 1"=5'-0"

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1845 WOODALL RODGERS FREEWAY, SUITE 1650
DALLAS, TEXAS 75201.2290
TPBE FIRM REGISTRATION NO. 1856
PHONE: 214.740.6200 FAX:214.740.6300

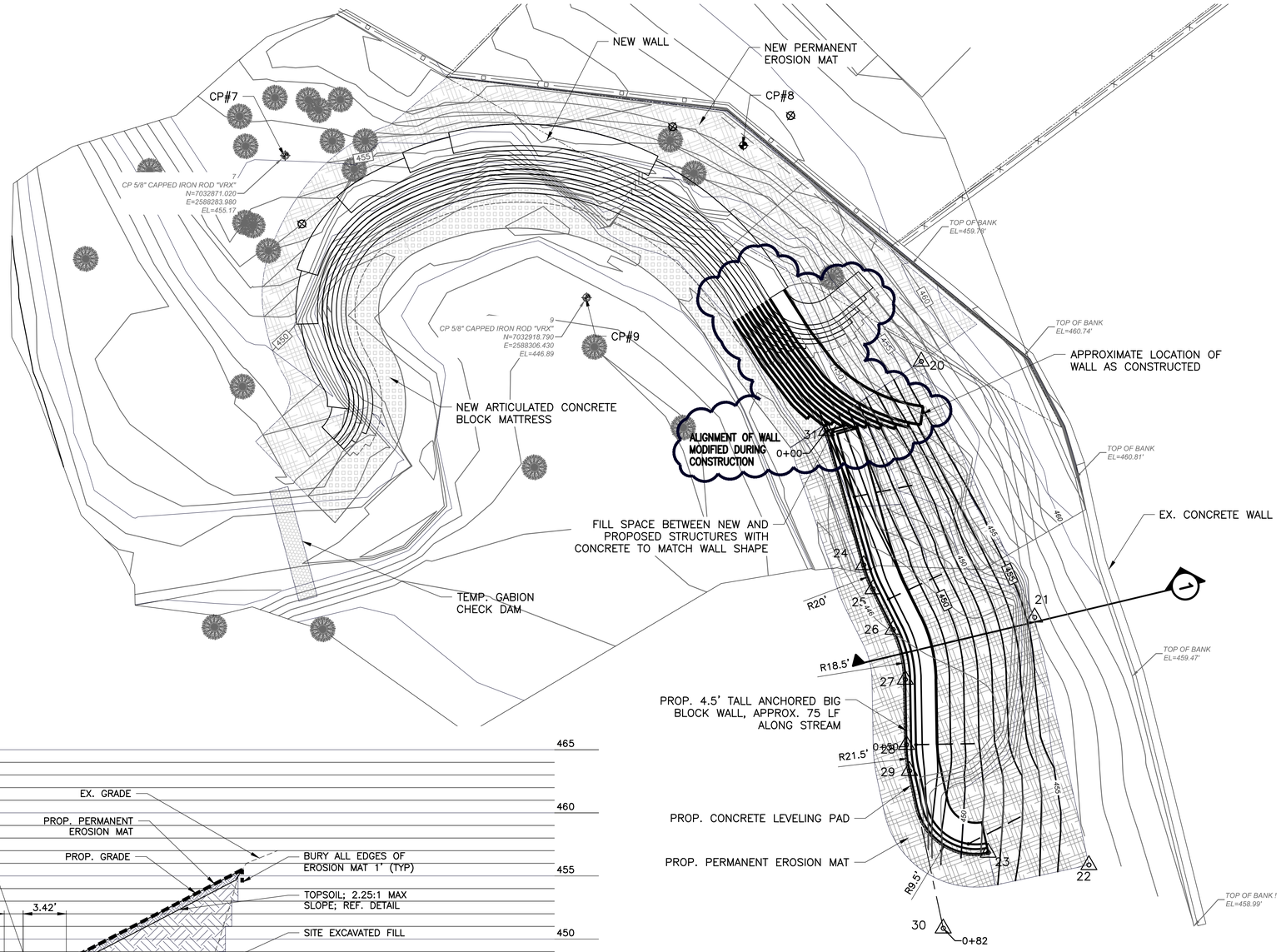
STATE OF TEXAS
ERNEST L. FIELDS
83917
LICENSED
PROFESSIONAL ENGINEER
6/18/2015

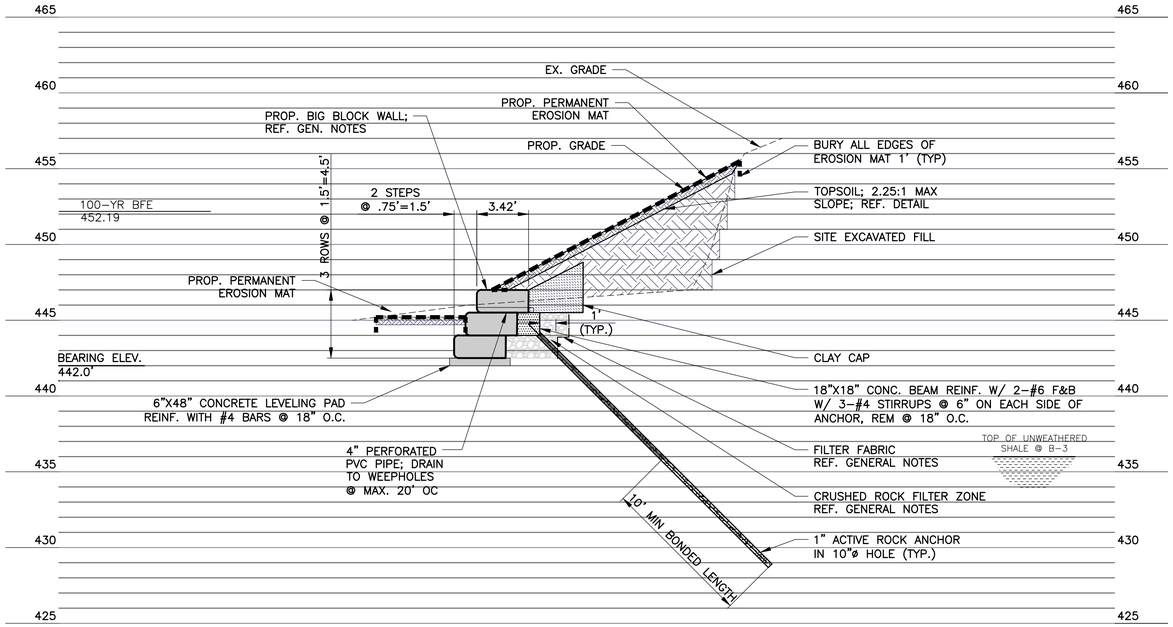
RECORD DRAWINGS:
The record drawing revisions contained herein are based upon information provided by the Contractor. No representation is made by Walter P. Moore & Associates, Inc. TBPE License No. 1856, regarding the accuracy of the information supplied. This document was released for record purposes under the authority of Ernest L. Fields, P.E. 83917 on January 27, 2017.

LAKE FOREST EROSION CONTROL
WALL SECTIONS
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
ELF	RDH	JUNE 2015	1" = 5'			9

100% DESIGN SUBMITTAL





1 **SECTION**
SCALE: 1"=5'-0"

10 0 10 20

Scale: 1"=10'

BENCHMARK:

CP# 7
5/8 IN IRON ROD WITH RED CAP STAMPED "VRX"
+/- 12.4' SE TO A 12IN CEDAR
+/- 29.5' NW TO FENCE CORNER
+/- 23' WEST TO RETAINING WALL
SURFACE COORDINATES
N:7032871.02
E:2588283.98
ELEV:455.17

CP# 8
5/8 IN IRON ROD WITH RED CAP STAMPED "VRX"
+/- 47.5' SW TO FENCE CORNER
+/- 29.6' NE TO FENCE CORNER
+/- 7' SW TO PI IN RETAINING WALL
SURFACE COORDINATES
N:7032943.61
E:2588282.29
ELEV:458.47

CP# 9
5/8 IN IRON ROD WITH RED CAP STAMPED "VRX"
+/- 28' E TO A 10IN OAK
+/- 7.9' NE 6IN HACKBERRY
+/- 38' NW TO PI IN RETAINING WALL
SURFACE COORDINATES
N:7032918.79
E:2588306.43
ELEV:446.89

LEGEND

- 460 — EX. CONTOUR
- PROPERTY BOUNDARY
- EXISTING TREE
- GEOTECH BORE LOCATION
- SITE BENCH MARK
- PROPOSED WALL
- EX. ARTICULATED CONCRETE BLOCK MATTRESS
- PROPOSED PERMANENT ERSOSION MAT
- PROPOSED ROCK ANCHOR (PLAN)
- 455 — PROPOSED CONTOUR
- 35 CONTROL POINT

CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	DESCRIPTION
20	7032971.81	2588316.61	
21	7032989.76	2588357.15	
22	7032998.37	2588396.39	
23	7032982.42	2588394.41	
24	7032962.68	2588348.85	PC
25	7032964.15	2588352.67	PT
26	7032967.34	2588359.10	PC
27	7032969.27	2588367.00	PT
28	7032969.45	2588377.35	PC
29	7032969.93	2588381.47	PT
30	7032975.28	2588406.42	END BASELINE
31	7032956.79	2588327.61	BEG. BASELINE

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STATE OF TEXAS · ERNEST L. FIELDS · 83917 · LICENSED · PROFESSIONAL ENGINEER
1/27/2017

DATE	DESCRIPTION	REF. NO.

LAKE FOREST EROSION CONTROL
WALL PLAN AND SECTION
2065 LAKE FOREST DRIVE
CITY OF ROCKWALL, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
ELF	KCF	FEB 2016	AS SHOWN			10