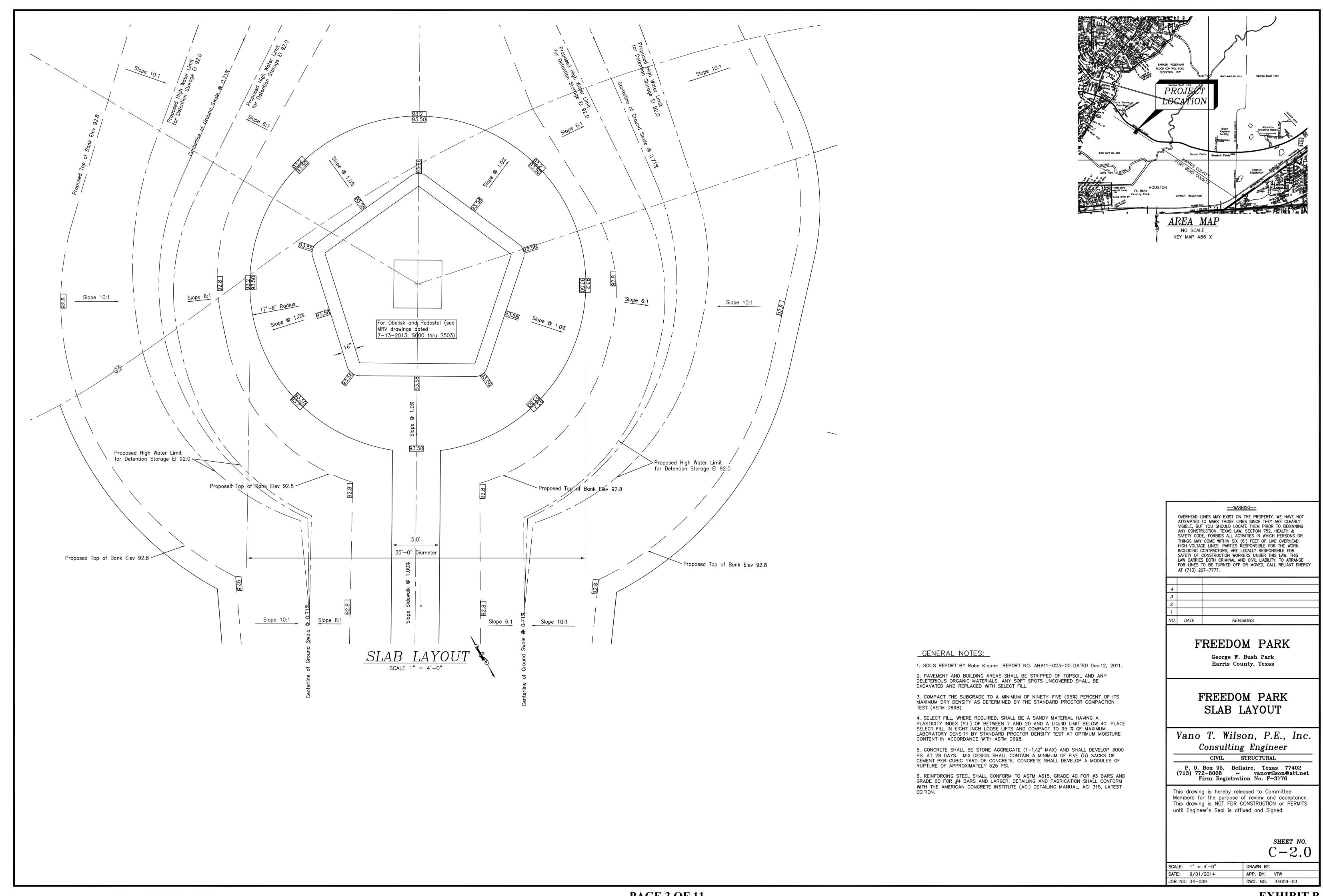
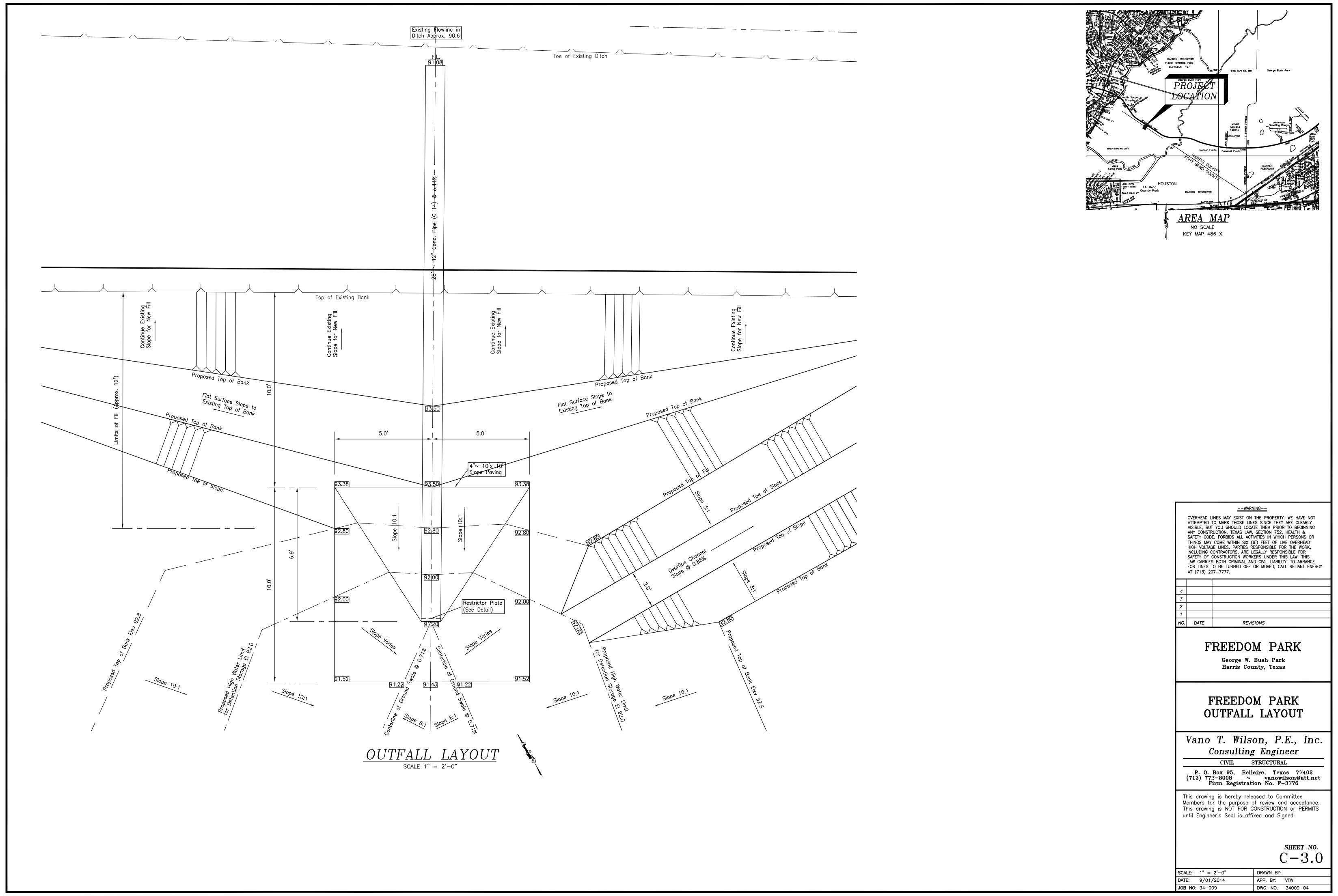
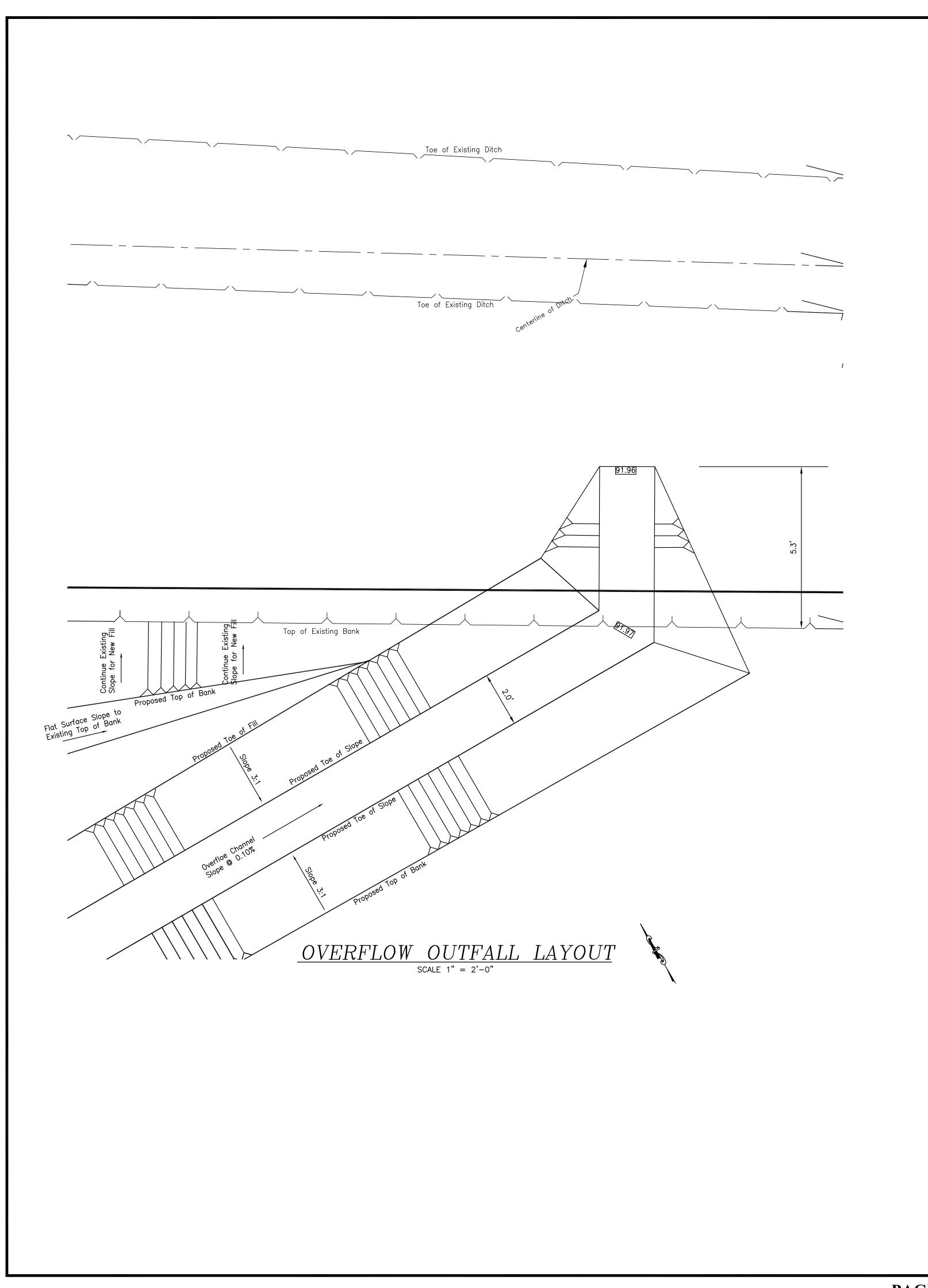
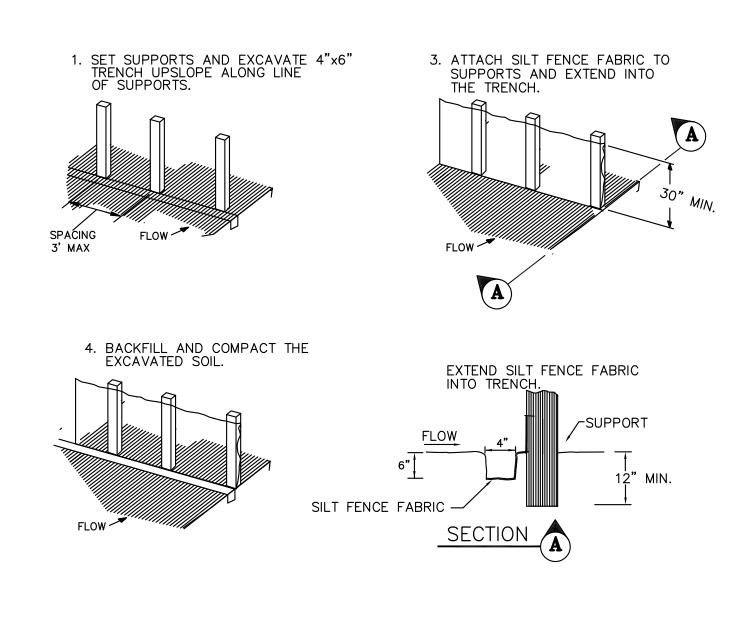


PAGE 2 OF 11 EXHIBIT B



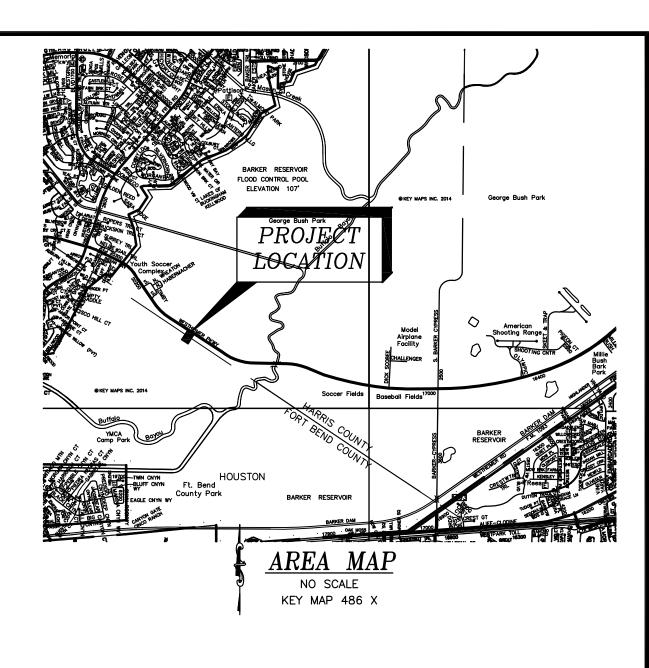






S.W.P.P. DETAILS

NO SCALE



OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6') FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL RELIANT ENERGY AT (713) 207-7777.

1 4/8/09 FOR PERMIT NO. DATE REVISIONS

FREEDOM PARK

George W. Bush Park Harris County, Texas

FREEDOM PARK OVERFLOW OUTLET

Vano T. Wilson, P.E., Inc. Consulting Engineer CIVIL STRUCTURAL

P. O. Box 95, Bellaire, Texas 77402 (713) 772-8008 ~ vanowilson@att.net Firm Registration No. F-3776

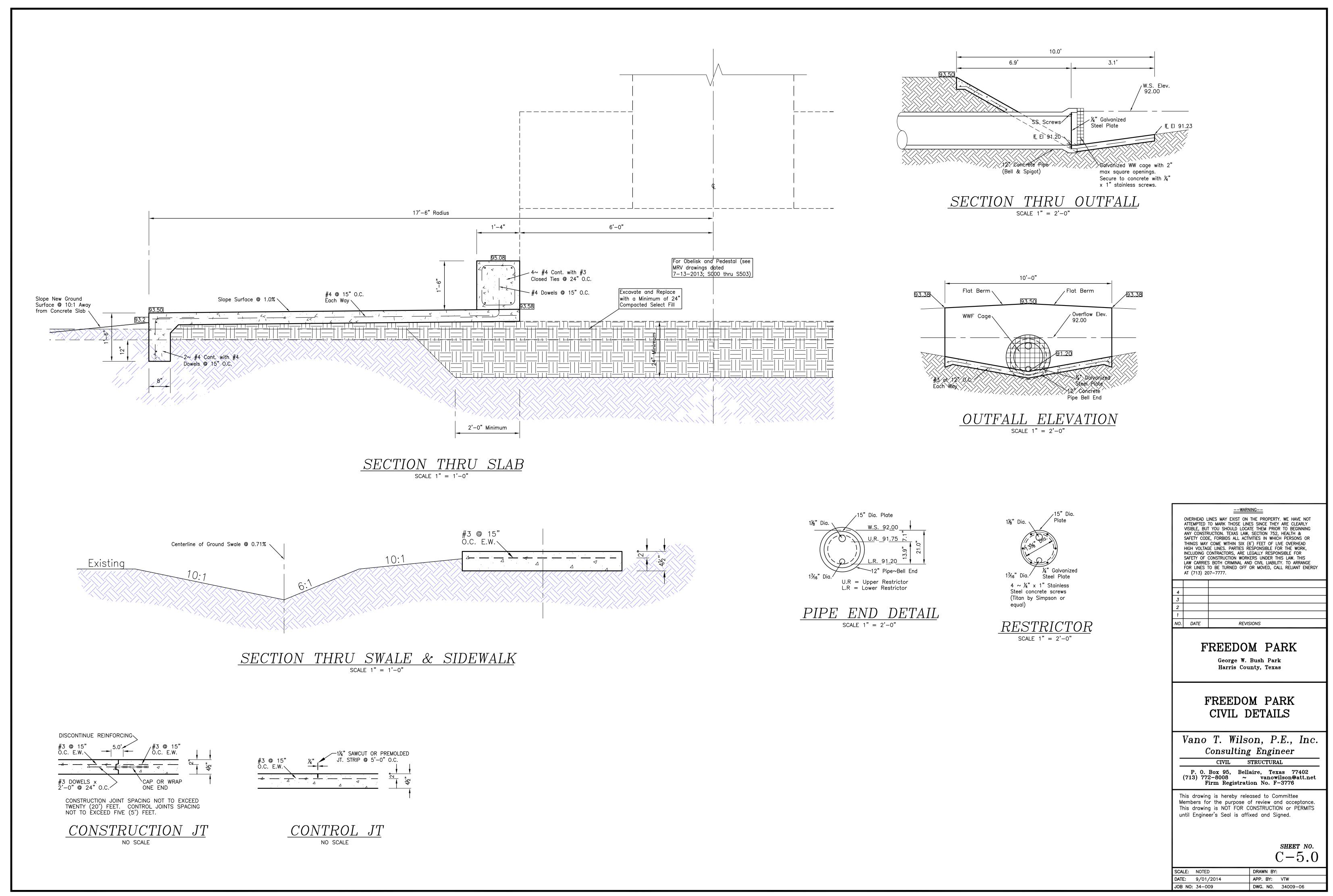
This drawing is hereby released to Committee Members for the purpose of review and acceptance.
This drawing is NOT FOR CONSTRUCTION or PERMITS until Engineer's Seal is affixed and Signed.

SHEET NO.

SCALE: 1" = 2'-0"DATE: 9/01/2014

DRAWN BY: APP. BY: VTW JOB NO: 34-009 DWG. NO. 34009-05

C - 4.0



PAGE 6 OF 11 EXHIBIT B

DESIGN PARAMETERS

1. BUILDING CODE: 2009 IBC

2. LIVE LOADS WALKWAY SLAB 100 PSF

115 MPH 1.0 C

4. EARTHQUAKE LOADS
A. MAPPED SPECTRAL RESPONSE ACCELERATION (SS) .087
B. MAPPED SPECTRAL RESPONSE ACCELERATION (S1) .035
C. SEISMIC MEPORTANCE FACTOR 1.0
D. SEISMIC DESIGN CATEOORY A
E. SITE CLASSIFICATION D

GENERAL NOTES

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE TEMPORARY SUPPORT AND STABILITY OF ALL STRUCTURES DURING ALL PHASES OF CONSTRUCTION.
 JOB SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 THE CONTRACTOR SHALL ADHERE TO OCCUPATIONAL SAFETY AND HEALTH (OSHA) REGULATIONS, AS A MINIMUM, TO PROTECT PERSONNEL AT EXCAVATION SITES.

- THE SITE GEOTECHNICAL INVESTIGATION FOR THIS PROJECT WAS PREPARED BY RABA KISTNER CONSULTANTS INC., 3602 WESTCHASE, HOUSTON TX 77042, TEL. 713-996-8990, REPORT NO. AHA11-023-00. THE CONTRACTOR SHALL OBTAIN A COPY OF THIS REPORT AND REVIEW IT TO BECOME THOROUGHLY FAMILIAR WITH THE GEOTECHNICAL CONDITIONS THAT EXIST AT THIS SITE AND THE RECOMMENDATIONS PRESENTED THEREIN.
- BELLEO PIER DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 4500 PSF FOR DEAD LOADS, 6750 PSF FOR DEAD PLUS SUSTAINED LIVE LOADS, AND 9000 PSF FOR TOTAL LOADS, FOOTINGS SHALL BEAR IN UNDISTURBED STIFF OR MEDIUM-STIFF TO VERY STIFF SILT OR STRUCTURAL FILL UNDERLAIN BY FIRM MATERIALS.
- FILL UNDERLAIN BY FIRM MATERIALS.

 3. REMOVE SUBSURFACE VECETATION, TOPSOIL, ROOT SYSTEMS, ORGANIC MATERIAL, AND SOFT OR OTHERWISE UNSUITABLE MATERIAL, FROM THE PROJECT AREA TO 18" BELOW EXISTING GRADE IN THE AREA OF THE OBELISK PEDESTAL, 12" IN THE AREA OF THE WALWAYS. REMOVE AND REPLACE UNSUITABLE AREAS WITH COMPACTED ON SITE MATERIALS OR GRANULAR MATERIALS, AS SPECIFED BELOW. SCRAFFY THE EXPOSED SUBGRADE TO A DEFTH OF 8 INCHES AND RECOMPACT TO 95 PERCENT OF THE MATERIALS MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D1557. GRANULAR BLATERIALS USED AS UNDERLAYMENT SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D1557. MORNING REPARKED FOR ASTM D1557. MATERIALS USED AS UNDERLAYMENT SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D1557. MAPORTED GRANULAR BILL SHALL BE CONSIDED ROCK OR CRUSHED ROCK AND SAND THAT IS WELL GRADED BETWEEN COARSE AND FINE, CONTAINS NO ORGANIC MATTER OR OTHER DELETERIOUS MATERIALS, HAS A MAXIMUM PARTICLE SIZE OF 12 INCHES, AND HAS LESS THAN 5 PERCENT PASSING THE NO. 200 SIEVE. THE MAPORTED GRANULAR MATERIAL SHOULD BE PLACED IN THIN LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACTED TO THE STANDARD STATED ABOVE.
- 4. THE CONTRACTOR SHALL PROVIDE AND ENSURE PROPER DRAINAGE OF THE SITE PRIOR TO BEGINNING CONSTRUCTION OF THE FOUNDATIONS. DRAINAGE SHALL BE SUCH THAT SURFACE RUNOFF IS ROUTED AROUND OR AWAY FROM THE FOUNDATION SITES. MEASURES SHALL BE TAKEN TO PREVENT THE ACCUMULATION OF WATER WITHIN THE CONSTRUCTION AREA.

CONCRETE

CONCRETE

1. REINFORCED CONCRETE SHALL CONFORM TO ACI 318—11 AND ACI 117. ACI 223, ACI 301, ACI 302, ACI 305R, ACI 306R, ACI 308, ACI 5966 AND ACI 347R.

2. REINFORCED CONCRETE FOR WATER RETAINING STRUCTURES SHALL CONFORM TO ACI 350—06.

3. CLASS OF MIX MIN COMP. STRENGTH* MAX COARSE AGG, SIZE MAX SLUMP** MAX WATER/CEMENT RATIO CLASS A 4000 PSI 3/4"

1. MINIMUM COMPRESSIVE STRENGTH AT 28 0A/S

1. SLUMP BEFORE ADDING WATER REDUCING ADMIXTURE. NOT MORE THAN 8" AFTER.

4. MINIMUM CEMENT CONTENT: CEMENT CONTENT SHALL BE NO LESS THAN 470 POUNDS PER CUBIC YARD, UNLESS FLY ASH IS USED WITHIN THE MIXTURE. IF FLY ASH IS USED, CEMENT CONTENT SHALL BE NO LESS THAN 376 POUNDS.

5. FLY ASH MAY BE USED IN CEMENT MIXTURES WITH A MAXIMUM FLY ASH CONTENT OF 20 PERCENT OF CEMENT CONTENT BY WEEN.

6. REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH (Fy) OF 60 KSI.

7. REINFORCING STEEL SHALL HAVE A MINIMUM OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER.

8. CONCRETE SHALL BE PLACED BY PUMPING OR CHUTE. PLACE CONCRETE SUCH THAT TRUCKS OR BUGGIES DO NOT ROLL OVER REINFORCING STEEL. SET AND CHECK FORMS USING A SURVEY INSTRUMENT.

9. PROPERLY VIBRATE CONCRETE TO PREVENT HONEYCOMBING AND SECRECATION.

10. DETAILING, FABRICATION AND ERECTION OF REINFORCED BARS SHALL COMPLY WITH ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.

10. DEFORALD STEEL REINFORCING BARS SHALL COMPCAND TO ANSI/ASTM A 615 WITH SUPPLEMENTARY REQUIREMENTS S1, GRADE 50.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING STRENGTHS
A. CHANNEL, STEEL BARS, PLATES, AND ANGLES ASTM A36 36 KSI
B. ANCHOR RODS
ASTM F1554 36 KSI

CONCRETE FORMWORK

- 1 FORMMORN SHALL BE DESIGNED, ERECTED, SHORED, BRACED AND MAINTAINED HI ACCORDANCE WITH ACI 301 TO SUPPORT VERTICAL LATERAL STATIC AND DYNAMIC LOADS AND CONSTRUCTION LOADS WITH THE CONCRETE STRUCTURE CAN
- 2 FORNWORK SHALL BE SUCH THAT CONCRETE MEMBERS ARE OF THE
- 3 FORMWORK SHALL BE CONSTRUCTED WITH PLYMOOD; TEMPERED CONCRÉTE-FORM HARDBOARD; DRESSED LUMBER FACED WITH PLYMOOD OR FIBERBOARD LINING; METAL; PLASTIC; OR METAL FRANED PLYWOOD-FACED PANEL MATERIAL ACCEPTABLE TO THE ENGINEER TO PROVIDE CONTINUOUS, STRAIGHT, SMOOTH SURFACES. FORMING MATERIAL SHALL RE FREE OF RAISED GRAIN, TORN SURFACES, WORN EDGES, PATCHES, DENTS OR OTHER SURFACE DEFECTS. PURNISH MATERIAL, IN THE LARGEST PRACTICAL SIZES TO MINIMIZE THE NUMBER OF JOINTS.
- 4 CONSTRUCT FORMS TIGHT ENOUGH TO PREVENT LOSS OF CONCRETE MORTAR.
- 5 FABRICATE FORMS FOR EASY REMOVAL WITHOUT HAMMERING OR PRYING AGAINST CONCRETE SURFACES. PROVIDE CRUSH OR WRECKING PLATES WHERE STRIPPING MAY DAMAGE CAST
- 6 REMOVE ALL DIRT, TRASH, WOOD CHIPS, SCRAP TIE-WIRE AND REBAR AND ANY OTHER DEBRIS FROM FORMS PRIOR TO PLACEMENT OF CONCRETE.
- 7 COAT SURFACES OF FORWWORK WITH FORW RELEASE AGENT, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, PRIOR

FREEDOM PARK C
MONUMENT STRUCTURAL (
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OBELISK GENERAL

PAGE 7 OF 11

