# CONSTRUCTION DRAWINGS HCSO FIRING RANGE NUMBER 6 BERM REPAIR



# HCSO FIRING RANGE LITHIA, FLORIDA **JULY 2025** PROJECT NUMBER: 12649481

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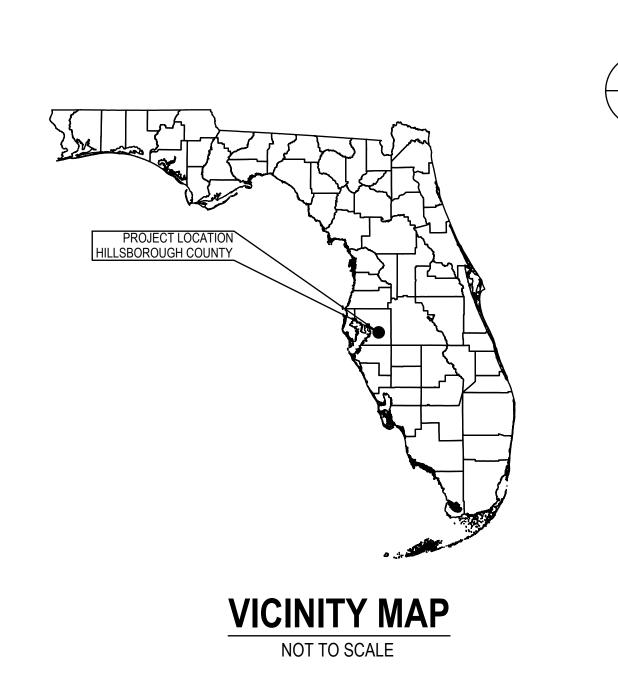
### SITE DATA:

 FOLIO #'s: 088548.5000 2. SEC/TWP/RGE: 13/31/21 TOTAL LAND AREA: 320 ACRES 4. PROJECT AREA: 1.5 ACRES

5. FLOOD ZONES: "X" PANEL NO. 12057C0545H

AR 6. EXISTING ZONING:

EXISTING USE: TRAINING FACILITY 8. PROPOSED USE: TRAINING FACILITY 9. PARKING REQUIRED: NO ADDITIONAL



Bar is one inch on

original size sheet

0 1"





It is the opinion of the engineer that the design contained within these plans and specifications was developed in accordance with the current edition of the Florida Building Code. The engineer's seal pertains only to the repair design portion of these drawings and is only valid for twelve months from the date that it is sealed.

2025-06-23 Author A. YU-SHAN Project Manager S. JANOSIK Drafting Check S. JANOSIK Designer A. ROGERS

GHD Services Inc. Hampton Oaks Business Park 5904 Hampton Oaks Parkway Suite F Tampa, Florida 33610 USA

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HILLSBOROUGH COUNTY BOCC

Title COVER SHEET

\* HCSO FIRING RANGE NUMBER 6 BERM **HCSO FIRING RANGE, LITHIA, FLORIDA** 

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### LIST OF DRAWINGS

### GENERAL

- 1 G 001 COVER SHEET
- 2 G 002 NOTES, DRAWING LIST, ABBREVIATIONS, AND SYMBOLS

### CIVIL

- 3 C 001 EXISTING SITE PLAN
- 4 C 002 PROPOSED SITE PLAN
- 5 C 003 ENLARGED PROPOSED RETAINING WALL PLAN
- 6 C 004 MISCELLANEOUS CIVIL DETAILS
- 7 C 005 EROSION AND SEDIMENT CONTROL PLAN

### STRUCTURAL

- 8 S 001 STRUCTURAL DESIGN CRITERIA AND GENERAL NOTES
- 9 S 002 STRUCTURAL REPAIR DETAILS

### SURVEY NOTES

- 1. PHYSICAL PAPER VERSIONS OF THIS SURVEY MAP OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND RAISED SEAL OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPER. ELECTRONIC VERSIONS OF THIS SURVEY MAP HAVE BEEN OFFICIALLY SIGNED AND SEALED BY NEWTON J. MENDONCA NETO ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
- 2. THE PURPOSE OF THIS SURVEY IS TO SHOW TOPOGRAPHY AND CROSS SECTIONS FOR A FAILED EMBANKMENT AREA.
- 3. ADDITIONS AND/OR DELETIONS TO THIS SURVEY MAP, BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
- 4. LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHTS-OF-WAY, EASEMENTS, RESTRICTIONS, COVENANTS, OWNERSHIP, OR OTHER INSTRUMENTS OF RECORD.
- 5. THE "LAND DESCRIPTION" SHOWN HEREON WAS PREPARED BY THE SURVEYOR.
- 6. UNDERGROUND FOUNDATIONS WERE NOT LOCATED OR SHOWN HEREON.
- 7. THERE IS NO EVIDENCE THAT UNDERGROUND ENCROACHMENTS EXIST: HOWEVER, NO SUBSURFACE INVESTIGATION WAS PERFORMED TO DETERMINE IF UNDERGROUND ENCROACHMENTS ARE PRESENT.
- 8. IMPROVEMENTS THAT WERE OBSCURED AT THE TIME OF SURVEY WERE NOT LOCATED OR SHOWN HEREON.
- THIS SURVEY DOES NOT IDENTIFY THE LIMITS OR EXTENT OF POTENTIAL JURISDICTIONAL BOUNDARIES
- THIS SKETCH IS NOT A BOUNDARY SURVEY.
- 11. DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET AND DECIMAL PORTIONS THEREOF, UNLESS SHOWN OTHERWISE.
- 12. BEARINGS SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE TRANSVERSE MERCATOR PROJECTIONS, NORTH AMERICAN DATUM OF 1983 WITH THE 2011 ADJUSTMENT (NAD 83/2011). ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) - REAL TIME KINEMATIC (RTK) METHODS USING THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), FLORIDA PERMANENT REFERENCE NETWORK (FPRN). HAVING A REFERENCE BEARING OF SOUTH 80°30'08" EAST, ALONG THE BASELINE ESTABLISHED BETWEEN TEMPORARY BENCHMARKS 1 & 2.
- 13. THE EXPECTED HORIZONTAL ACCURACY OF THE FEATURES SHOWN HEREON IS ±0.2' FOR THE LIMITS OF HARD SURFACES, SUCH AS ASPHALT, CONCRETE, CURBING, BUILDINGS, ETC. AND IS ±0.3' FOR GROUND SURFACE FEATURES, SUCH AS SURFACE FEATURES OF UTILITIES, ETC. AND IS ±0.4' FOR FEATURES PROTRUDING OUT OF THE GROUND, SUCH AS UTILITY POLES, FENCES, TREES, ETC.
- 14. THE SYMBOLS SHOWN IN THE LEGEND AND ON THIS MAP MAY HAVE BEEN ENLARGED OR REDUCED FOR CLARITY, AND MAY NOT DEPICT THE ACTUAL SIZE OR SHAPE OF THE FEATURES. THE EXPECTED HORIZONTAL ACCURACY OF THE SYMBOLS SHOWN ON THIS MAP IS ±0.3' FROM THE CENTER OF THE SYMBOL, UNLESS OTHERWISE NOTED.
- 15. ELEVATIONS SHOWN HEREON ARE RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). ELEVATIONS HAVE BEEN ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) - REAL TIME KINEMATIC (RTK) METHODS USING THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), FLORIDA PERMANENT REFERENCE NETWORK (FPRN), APPLYING
- 16. THE EXPECTED VERTICAL ACCURACY OF THE FEATURES SHOWN HEREON IS ±0.05' FOR HARD SURFACES, SUCH AS ASPHALT, CONCRETE, ETC. AND ±0.3' FOR SOFT SURFACES, SUCH AS GRASS, DIRT, MUD, ETC.

### **GEOTECHNICAL NOTES**

- 1. SHOULD ANY NOTICEABLE SOIL SLUMPING OR SINKHOLE FORMATION BECOME EVIDENT, THE APPLICANT/DEVELOPER SHALL IMMEDIATLY NOTIFY THE COUNTY, TAMPA BAY WATER (TBW), AND SWFWMD, AND ADOPT ONE OR MORE OF THE FOLLOWING PROCEDURES AS DETERMINED TO BE APPROPRIATE BY THE COUNTY AND SWFWMD:
- A. IF THE SLUMPING OR SINKHOLE FORMATION BECOMES EVIDENT BEFORE OR DURING CONSTRUCTION ACTIVITIES, STOP ALL WORK (EXCEPT FOR MITIGATION ACTIVITIES) IN THE AFFECTED AREA AND REMAIN STOPPED UNTIL THE COUNTY AND SWFWMD APPROVE RESUMING CONSTRUCTION ACTIVITIES.
- B. TAKE IMMEDIATE MEASURES TO ENSURE NO SURFACE WATER DRAINS INTO THE AFFECTED AREAS.
- C. VISUALLY INSPECT THE AFFECTED AREA.
- D. EXCAVATE AND BACKFILL OR GROUT AS REQUIRED TO FILL THE AFFECTED AREA AND PREVENT FURTHER SUBSIDENCE.
- E. USE SOIL REINFORCEMENT MATERIALS IN THE BACKFILLING OPERATION, WHEN APPROPRIATE.
- F. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA, MAINTAIN A MINIMUM DISTANCE OF TWO FEET FROM THE BOTTOM OF THE RETENTION POND TO THE SURFACE OF THE LIME-ROCK OR KARST CONNECTION.
- G. IF THE AFFECTED AREA IS IN THE VICINITY OF A WATER-RETENTION AREA AND THE ABOVE METHODS DO NOT STABILIZE THE COLLAPSE, RELOCATE THE RETENTION AREA.
- 2. DISCHARGE OF STORMWATER INTO DEPRESSIONS WITH DIRECT OR DEMONSTRATED HYDROLOGIC CONNECTION TO THE FLORIDAN AQUIFER SHALL BE PROHIBITED.
- 3. REFER TO THE GEOTECHNICAL REPORT DATED JANUARY 25, 2025 BY GHD FOR SUBGRADE PREPARATION RECOMMENDATIONS FOR THE AREA OF PROPOSED REPAIRS AND IMPROVEMENTS.

### CLEARING, DEMOLITION, AND GENERAL EARTHWORK NOTES

- 1. PRIOR TO ANY SITE CLEARING, ALL TREES ADJACENT TO THE WORK AREA SHALL BE PROTECTED IN ACCORDANCE WITH LOCAL TREE ORDINANCES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREE SPECIFIED TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM HILLSBOROUGH COUNTY AND/OR THE OWNER.
- 2. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, SODDED OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.
- FOLLOWING THE INITIAL CLEARING OF EXCESS SOIL FROM THE DISPLACED EARTHEN BERM, THE EXISTING CMU RETAINING WALL SHALL BE INSPECTED BY OWNER'S STRUCTURAL ENGINEER TO DETERMINE LIMITS OF PARTIAL OR FULL DEMOLITION. PROTECT EXISTING WALL FROM FURTHER DAMAGE DURING EARTHWORK PROCESS.
- 4. METAL FIRING RANGE BULLET BACKSTOP TO BE REMOVED AND REPLACED BY OTHERS. PROTECT EXISTING CONCRETE SLAB DURING EARTHWORK PROCESS.
- 5. PROTECT EXISTING CONCRETE TARGET STRIPS DURING EARTHWORK PROCESS. RESTORE ANY SAW-CUT SECTIONS AS DETAILED HEREIN.
- REMAINING EARTHWORK THAT RESULTS FROM CLEARING AND GRUBBING OR SITE EXCAVATION IS TO BE UTILIZED ON-SITE IF REQUIRED, PROVIDED THAT THE MATERIAL IS DEEMED SUITABLE FOR CONSTRUCTION BY THE OWNER'S GEOTECHNICAL ENGINEER. EXCESS MATERIAL IS TO BE STOCKPILED ON THE SITE AS DIRECTED BY THE OWNER OR OWNER'S ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING EXCESS EARTHWORK AND DEMOLITION MATERIALS FROM THE SITE.
- 7. IF DURING CONSTRUCTION ACTIVITIES ANY EVIDENCE OF HISTORIC RESOURCES, INCLUDING BUT NOT LIMITED TO ABORIGINAL OR HISTORIC POTTERY, PREHISTORIC STONE TOOLS, BONE OR SHELL TOOLS, HISTORIC TRASH PITS, OR HISTORIC BUILDING FOUNDATION, ARE DISCOVERED, WORK SHALL COME TO AN IMMEDIATE STOP AND THE FLORIDA DEPARTMENT OF HISTORIC RESOURCES (STATE HISTORIC PRESERVATION OFFICER) AND HILLSBOROUGH COUNTY SHALL BE NOTIFIED WITHIN TWO WORKING DAYS OF THE RESOURCES BEING FOUND ON
- 8. IF DURING CONSTRUCTION ACTIVITIES ANY EVIDENCE OF THE PRESENCE OF STATE OR FEDERALLY PROTECTED PLANT AND/OR ANIMAL SPECIES ARE DISCOVERED, HILLSBOROUGH COUNTY AND APPLICABLE AGENCIES SHALL BE NOTIFIED WITHIN TWO WORKING DAYS OF THE PLANT AND/ OR ANIMAL SPECIES FOUND ON THE SITE. ALL WORK IN THE AFFECTED AREA SHALL COME TO AN IMMEDIATE STOP UNTIL ALL PERTINENT PERMITS HAVE BEEN OBTAINED, AGENCY WRITTEN AUTHORIZATION TO COMMENCE ACTIVITIES HAS BEEN GIVEN, OR UNLESS COMPLIANCE WITH STATE AND FEDERAL GUIDELINES CAN BE DEMONSTRATED
- ALL SUBSURFACE CONSTRUCTION SHALL COMPLY WITH THE "TRENCH SAFETY ACT." THE CONTRACTOR SHALL ENSURE THAT THE METHOD OF TRENCH PROTECTION AND CONSTRUCTION IS IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS. ALL TEMPORARY SLOPES SHALL ALSO COMPLY WITH OSHA REGULATIONS.
- 10. ALL EROSION CONTROL INSTALLATION AND INSTALLATION COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONSTRUCTION APPROVAL AND MAINTENANCE OF THE EROSION CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE SITE CONTRACTOR.

### CONSTRUCTION SCHEDULE NOTES

GENERALIZED CONSTRUCTION TASK

DISPLACED SOIL REMOVAL AND RETAINING WALL PARTIAL DEMOLITION NORTH AND EAST EARTH BERM EARTHWORK OPERATIONS AND REPAIRS

MOBILIZATION AND EROSION CONTROL INSTALLATION

RETAINING WALL REPAIRS AND NEW CONSTRUCTION DRAIN BASIN INSTALLATION AND RELATED SITE WORK SUBSTANTIAL COMPLETION AND DEMOBILIZATION

- 1. ALL WORK IS TO BE COORDINATED WITH OWNER AND HCSO LITHIA FACILITY PERSONNEL.
- 2. CONTRACTOR'S SITE SAFETY OFFICER TO BE PRESENT DURING ONSITE ACTIVITIES TO ENSURE COORDINATION WITH FIRING RANGE OPERATIONS.
- 3. CONSTRUCTION ACTIVITIES TO BE EXPEDITED DUE TO REPAIR SCOPE AND TO MINIMIZE IMPACTS TO FIRING RANGE OPERATIONS.
- 4. CONTRACT DURATION FROM NOTICE TO PROCEED (NTP) TO SUBSTANTIAL COMPLETION IS 98 CALENDAR DAYS. WITHIN 7 DAYS OF NTP CONTRACTOR TO PROVIDE DETAILED CONSTRUCTION SCHEDULE.

PROPOSED CONSTRUCTION SCHEDULE

WEEK 1+2 | WEEK 3+4 | WEEK 5+6 | WEEK 7+8 | WEEK 9+10 | WEEK 11+12 | WEEK 13+14

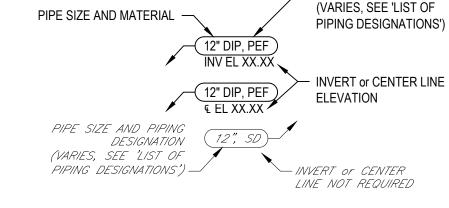
### GENERAL LEGEND NEW GRAPHICS: EQUIPMENT, STRUCTURES ETC., ARE SHOWN AS BOLD LINEWORK AND IN THIS TEXT FORMAT. EXISTING GRAPHICS; EQUIPMENT, CONDITIONS STRUCTURES, ETC. ARE SHOWN AS LIGHT LINEWORK AND IN THIS TEXT FORMAT. EXISTING PIPE CALLOUT (FOR PLANS) PIPE SIZE AND PIPING DESIGNATION (VARIES, SEE 'LIST OF PIPING DESIGNATIONS') — NEW PIPE CALLOUT (FOR PLANS)

PIPING DESIGNATION

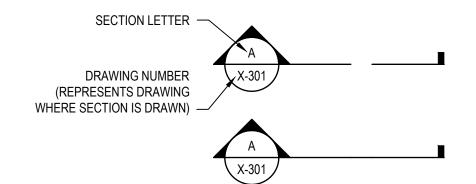
(VARIES, SEE 'LIST OF

### PIPING DESIGNATIONS') ( 12" DIP, PEF ) NEW/EXIST PIPE CALLOUT (FOR SECTIONS) - PIPING DESIGNATION

PIPE SIZE AND MATERIAL -



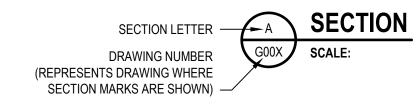
### TYPICAL SECTION MARKS (FOR PLANS)



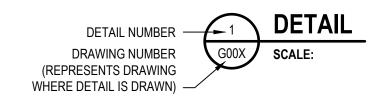
### TYPICAL SECTION SUB-TITLE (FOR PLANS)



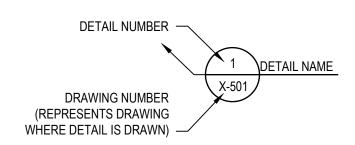
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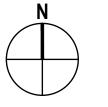
### TYPICAL DETAIL MARKS



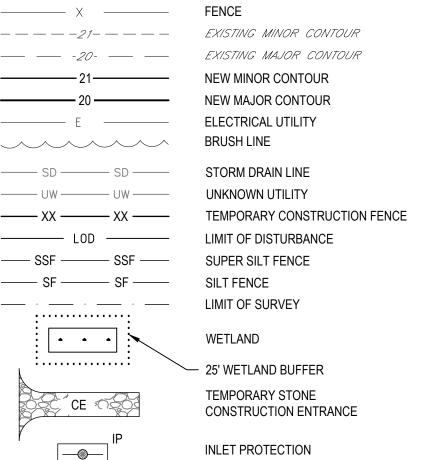
### TYPICAL DETAILING



### NORTH ARROW



### CIVIL LEGEND



### INLET PROTECTION EXISTING STRUCTURE

PAVEMENT

NEW CONC SIDEWALK

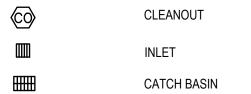
15%-25% SLOPES



### **NEW PAVEMENT** EXISTING CONC SIDEWALK



### CONSTRUCTION STAKEOUT POINT SURVEY CONTROL POINT/ MONUMENT (BENCHMARK)



ELECTRIC BOX ELECTRIC METER METAL LIGHT POLE (ROUND)

### LIST OF PIPING DESIGNATIONS

ELEC	ELECTRICAL
GAS	GAS
С	CABLE
SAN	SANITARY SEW
SD.	STODM DDVIN

WATER

### LIST OF ABBREVIATIONS

CIP	CAST IRON PIPE
CL	CENTER LINE
CONC	CONCRETE
CP	CONSTRUCTION POINT
DIP	DUCTILE IRON PIPE
EL	ELEVATION
MES	MITERED END SECTION
MH	MANHOLE
PW	POTABLE WATER
SAN	SANITARY SEWER
SD	STORM DRAIN
OTD	OTANDADD

## STANDARD STA STATION TELEPHONE CABLE TAX MAP

SAJ JP 2025-06-23 No. Issue Checked Approved Date Author A. YU-SHAN Drafting Check S. JANOSIK Project Manager S. JANOSIK Designer A. ROGERS Design Check S. JANOSIK Project Director J. PHILLIPS

Plot Date: 1 July 2025 - 4:45 PM

Bar is one inch on original size sheet 0 1"

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HILLSBOROUGH COUNTY BOCC

ect HCSO FIRING RANGE NUMBER 6 BERM HCSO FIRING RANGE, LITHIA, FLORIDA

7/2025

NOT TO SCALE

Title NOTES, DRAWING LIST, ABBREVIATIONS, AND SYMBOLS



Bar is one inch on

original size sheet

0 1"

### <u>LEGEND</u>

<del> </del>	SOIL BORING LOCATIONS
	CATCH BASIN
EB	ELECTRIC BOX
-ф-	METAL LIGHT POLE
	SURVEY CONTROL
——тов——	TOP OF BANK
——TOE——	TOE OF SLOPE

SURVEY CONTROL POINTS						
SURVEY	COORDINATES					
CONTROL	NORTHING (Y)	EASTING (X)	ELEVATION (Z)	DESCRIPTION		
TBM1	1,254,021.95	604,639.56	117.56	TP.RP.LB6901		
TBM2	1,254,035.03	604,139.53	119.17	TP.RP.LB6901		
TBM101	1,253,804.28	604,405.94	116.99	-		
TBM102	1,253,544.68	604,462.27	118.03	-		

### SITE PLAN AND GEOMETRY NOTES

- 1. TOPOGRAPHIC INFORMATION SHOWN IS BASED ON SURVEYS CONDUCTED BY KCI TECHNOLOGIES, INC. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 2. ALL POINTS AND MONUMENTS SHALL BE SURVEYED UPON MOBILIZATION TO VERIFY THEIR ACCURACY. ANY DISCREPANCIES DISCOVERED MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 3. MONUMENTS AND OTHER SURVEY CONTROL POINTS SHALL BE PROTECTED FROM DAMAGE AND DISTURBANCE. IF ANY CONTROL POINTS ARE DAMAGED OR DISTURBED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER AND REPLACE THE CONTROL POINTS TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL EXPENSE TO OWNER.
- 4. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
- 5. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH THE OWNER'S ENGINEER WITH COMPLETE "AS-BUILT" INFORMATION CERTIFIED BY A REGISTERED LAND SURVEYOR. THIS "AS-BUILT" INFORMATION SHALL INCLUDE INVERT ELEVATIONS, TOP OF INLET ELEVATIONS, FINISHED GRADE ELEVATIONS FOR SWALES, AND LOCATION OF STRUCTURES FOR ALL UTILITIES INSTALLED. NO ENGINEER'S CERTIFICATIONS, FOR FINALIZATION PURPOSES, WILL BE MADE UNTIL THIS INFORMATION IS RECEIVED AND APPROVED BY THE ENGINEER.



Client HILLSBOROUGH COUNTY BOCC

itle EXISTING SITE PLAN

ject HCSO FIRING RANGE NUMBER 6 BERM HCSO FIRING RANGE, LITHIA, FLORIDA

Author A. YU-SHAN

Designer A. ROGERS

No. Issue

Drafting Check S. JANOSIK

Design Check S. JANOSIK

SAJ JP 2025-06-23

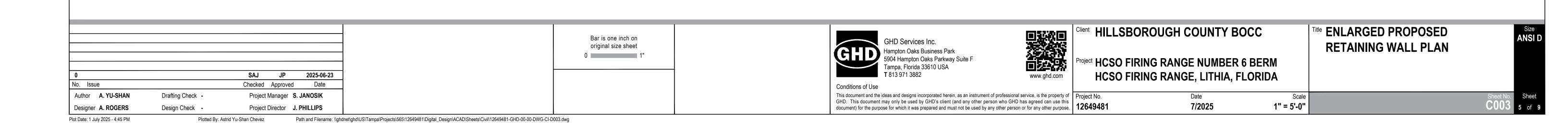
Project Manager S. JANOSIK

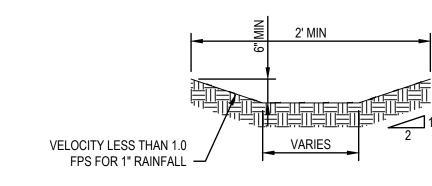
Project Director J. PHILLIPS

Checked Approved

NOTES: 1. RETAINING WALL TO BE REPAIRED AND RECONSTRUCTED IN THE SAME ALIGNMENTS AND ELEVATIONS. 2. WEST BERM SLOPE TO REMAIN AS-IS, NO CHANGES TO EXISTING CONDITIONS TO OCCUR. 3. SAW CUT AND REMOVE CONCRETE FOR TRENCH EXCAVATION REPLACEMENT —— LOD —— LIMIT OF DISTURBANCE PER DETAIL 1 CONCRETE FLATWORK REPLACEMENT ON SHEET C003 -----LOW------ LIMIT OF WORK REMOVE SOIL TO EXISTING SLAB BEHIND BULLET TRAP EXISTING RETAINING WALL CONTINUOUS CATCH DRAIN ABOVE STORM DRAIN (SEE SECTIONS 1, 2 AND 3) EM e e e → EXISTING RETAINING WALL NEW RETAINING WALL \_rom— 8" CONCRETE SLAB







### SWALE MAINTENANCE AND INSPECTION NOTES

- 1. FOR GRASSED SWALES, REGULAR MOWING (AT LEAST MONTHLY) IS CRITICAL IN ORDER TO REDUCE COMPETITION FROM WEEDS AND IRRIGATION MAY BE NEEDED DURING DRY WEATHER TO ESTABLISH VEGETATION. SPARSELY VEGETATED AREAS NEED TO BE RE-SEEDED TO MAINTAIN DENSE COVERAGE.
- 2. IF WATER DOES NOT DRAIN WITHIN 48 HOURS, THE BOTTOM SOIL SHOULD BE TILLED AND REVEGETATED.
- 3. INSPECTIONS SHOULD BE PERFORMED ONCE A YEAR TO ASSESS SLOPE INTEGRITY, VEGETATIVE HEALTH, SOIL STABILITY, COMPACTION, EROSION, PONDING, AND SEDIMENTATION. PERIODIC REMOVAL OF SEDIMENT, LITTER, OR OBSTRUCTIONS SHOULD BE DONE AS NEEDED. ERODED SIDE SLOPES AND THE SWALE BOTTOM SHOULD BE REPAIRED AND STABILIZED WHERE NEEDED.
- 4. FUTURE ARTIFICIAL TURF INSTALLATION TO BE COORDINATED WITH OWNER AND HCSO LITHIA FACILITY PERSONNEL.

### SWALE SEED MIXES

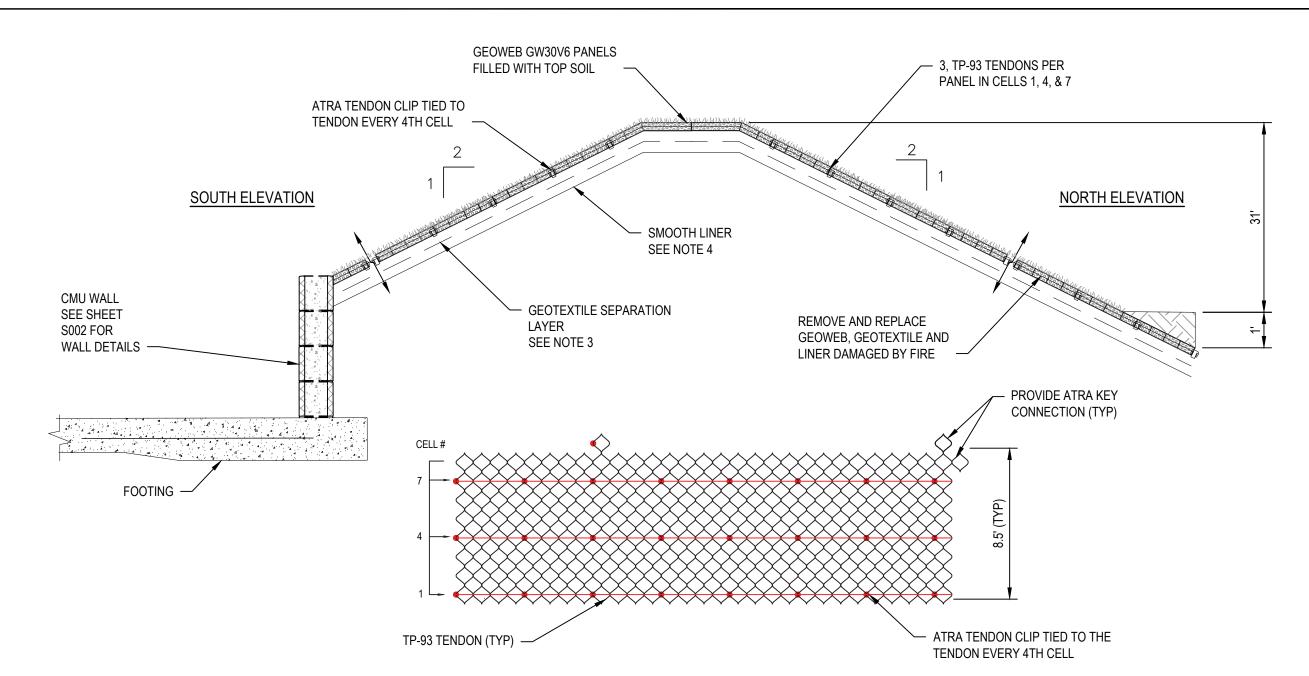
- 1. BASIN/ SWALE SEED MIXES BOTTOM SURFACES
- 1.1. SEED MIX OF WET ORIENTED SPECIES (BAHIA, FOX SEDGE, VIRGINIA WILD RYE, LURID SEDGE, SOFT RUSH, GREEN BULRUSH, WOOD GRASS, FOWL MANNAGRASS, BLUE VERVAIN, BLUE FLAG IRIS, SWAMP MILKWEED, AND GRASS LEAVED GOLDENROD). SEED AT A RATE OF 15 LBS/ACRE.
- SWALE SIDE SLOPE AND SURROUNDING FRINGE SURFACES (DRY)
- 2.1. SEED MIX FOR DRYER SURFACE GROWTH AREAS (BAHIA, LITTLE BLUESTEM, AUTUMN BENTGRASS, SHELTER SWITCH GRASS, VIRGINIA WILD RYE, DEER TONGUE, PARTRIDGE PEA, PURPLE TOP, INDIAN GRASS, BLACK EYED SUSAN, BUTTERFLY MILKWEED, SPOTTED BEEBALM, PURPLE NODE JOE-PYE WEED). SEED AT A RATE OF 15 LBS/ACRE.



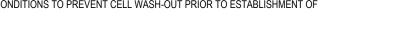
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original size sheet

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- THIS IS BASED ON THE USE OF PRODUCTS MANUFACTURED BY PRESTO PRODUCTS COMPANY REFER TO GEOTECHNICAL REPORT BY GHD DATED JANUARY 25, 2025, FOR SUBGRADE PREPARATION AND COMPACTION RECOMMENDATION
- PROVIDE A NON-WOVEN GEOTEXTILE SEPARATION LAYER AND INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS INCLUDING OVERLAPS PROVIDE 30MIL PVC SMOOTH LINER AND INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS INCLUDING WELDS
- THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAF AND END TO END CONNECTION INFILL MUST BE PLACED AT THE CREST FIRST THE SIDES MUST BE FILLED IN EQUAL INCREMENTS
- LIMIT THE DROP OF INFILL TO PREVENT DISTORTION OF THE CELL WALLS
- 8. PROVIDE SURFACE PROTECTION (HYDROSEED, ECB OR TRM) SIZED FOR HYDRAULIC CONDITIONS TO PREVENT CELL WASH-OUT PRIOR TO ESTABLISHMENT OF

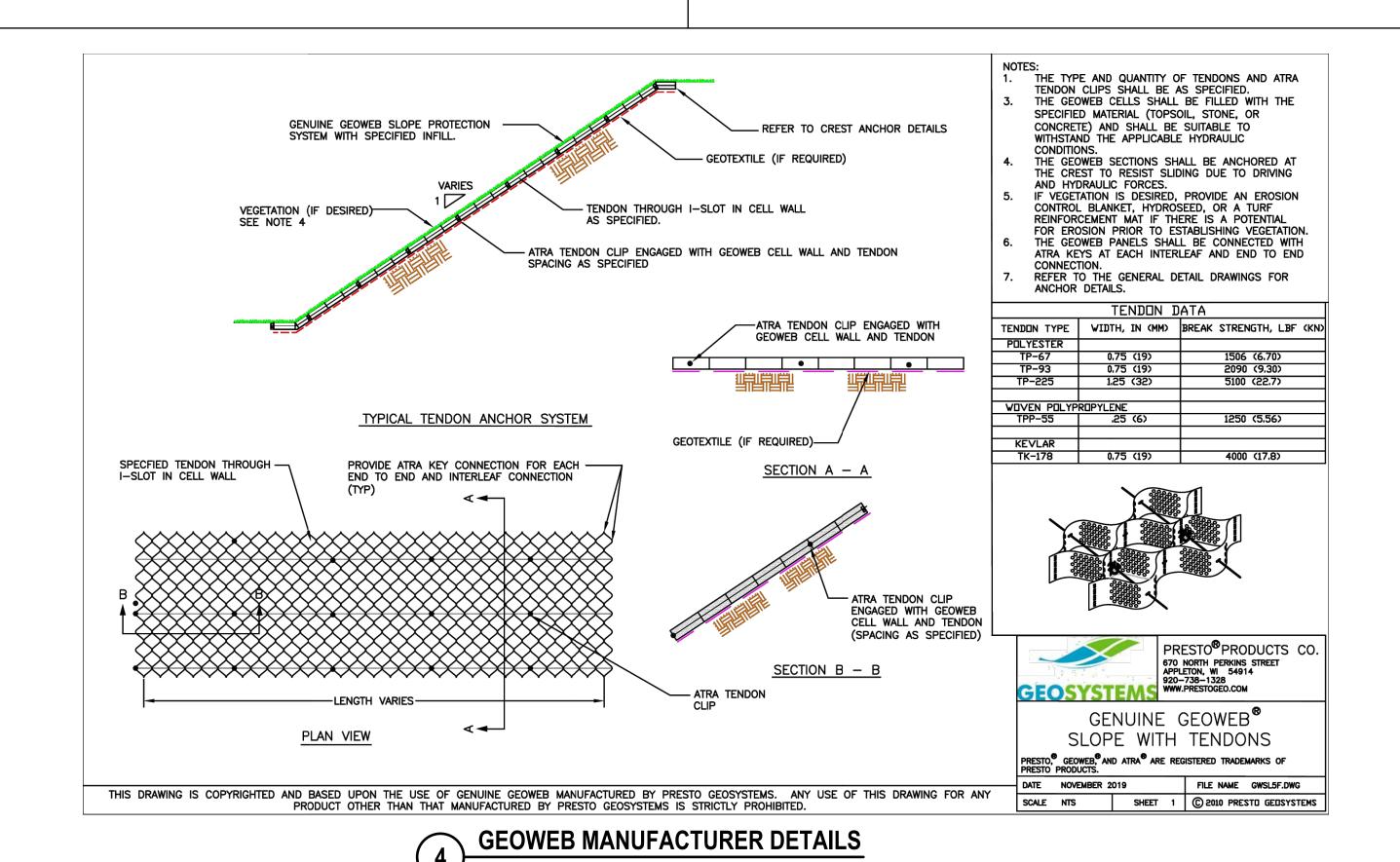


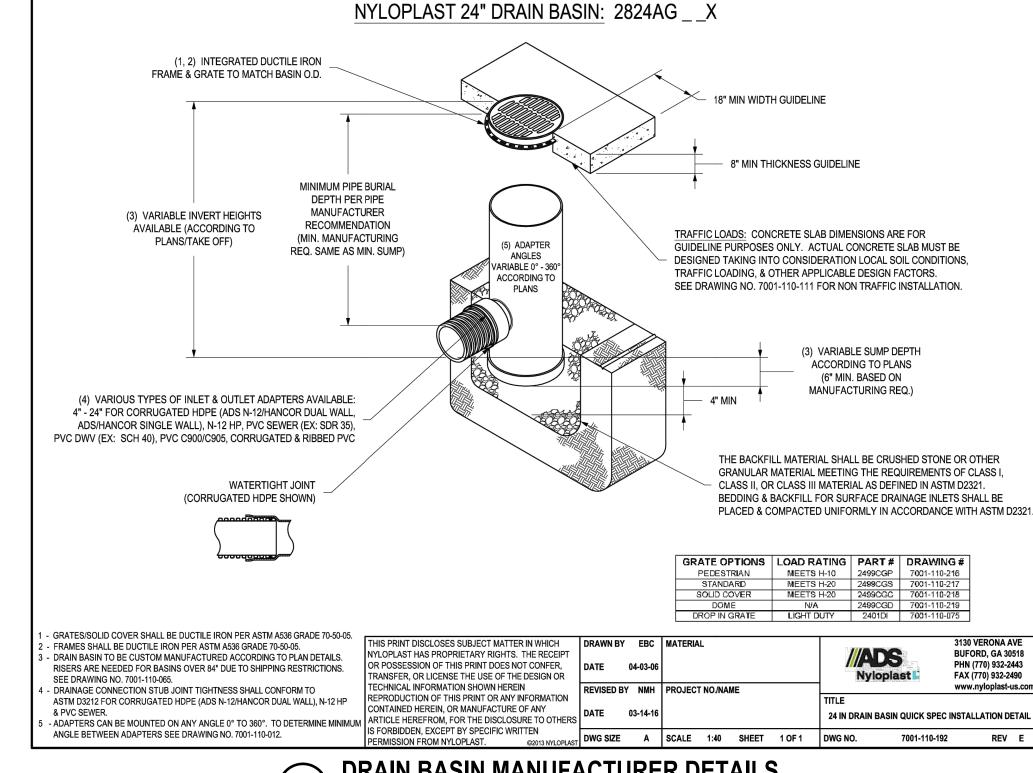




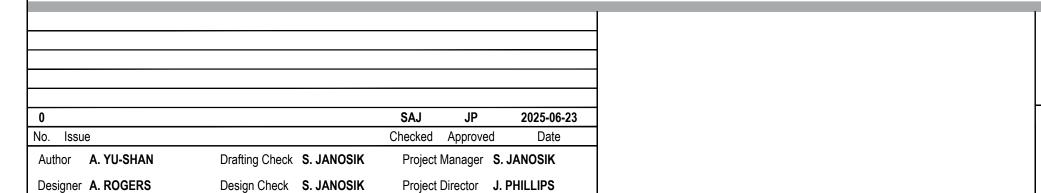


SHOOTING RANGE GEOWEB SLOPE PROTECTION





DRAIN BASIN MANUFACTURER DETAILS **SCALE: NOT TO SCALE** 



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Client HILLSBOROUGH COUNTY BOCC ject HCSO FIRING RANGE NUMBER 6 BERM Title MISCELLANEOUS CIVIL DETAILS

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MATCH EXISTING

3. CONTRACTION JOINTS, NOT LESS THAN 2" DEEP, TO BE PROVIDED AT 3'-0" TO 5'-0" SPACING (EVENLY

**CONCRETE FLATWORK** 

REPLACEMENT DETAIL

6"x6" - 6/6

1. MATCH EXISTING FINISH ON CONCRETE SURFACE.

2. USE 3/4 INCH EDGING TOOL ON ALL OUTSIDE EDGES AND JOINTS.

**GAGE WWF** 

NOTES

DIVIDED).

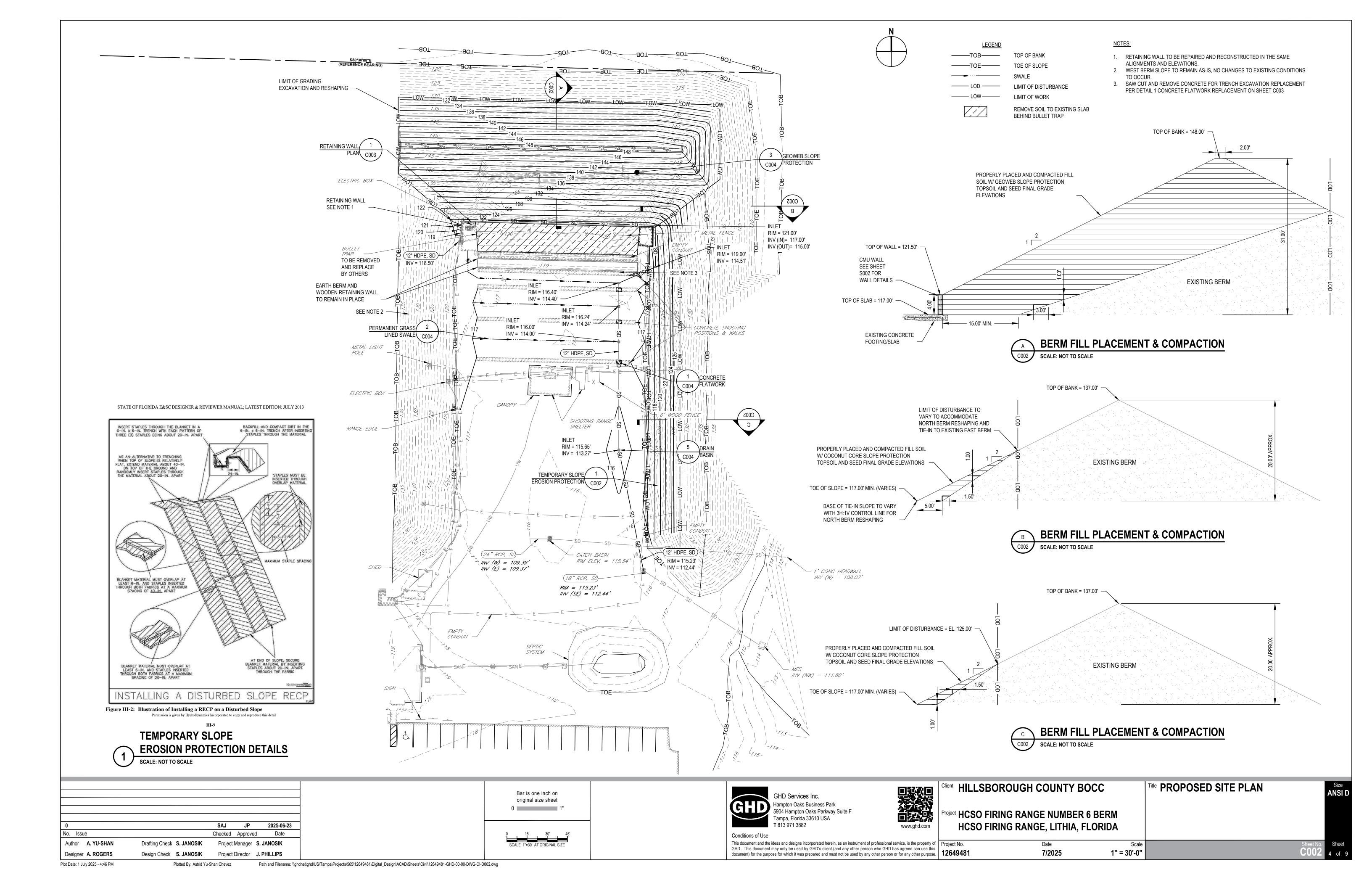
- MIN. 3000 PSI

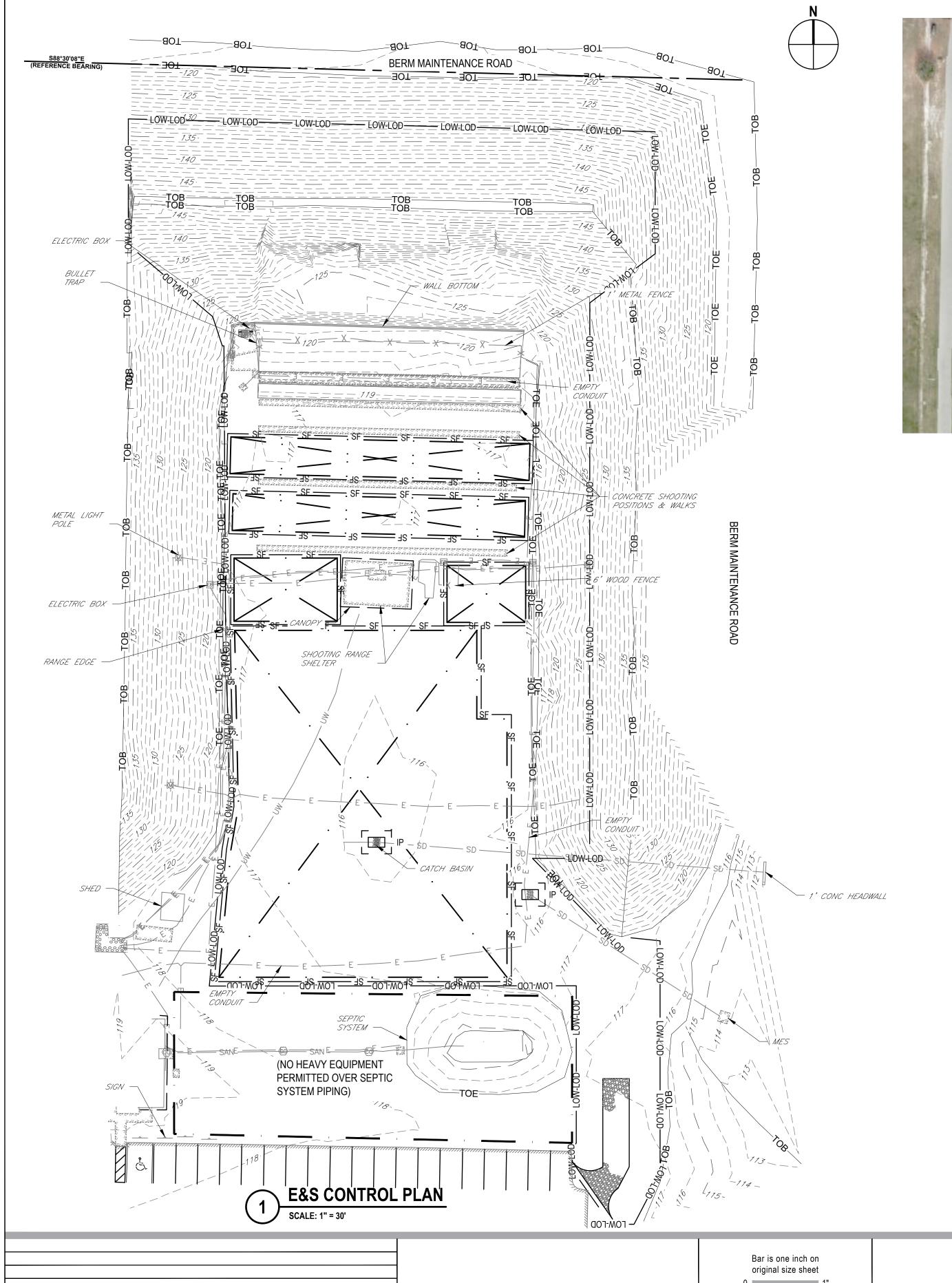
MIX CONCRETE

12" SUBGRADE COMPACTED TO

95% MOD. PROCTOR MDD

MINIMUM

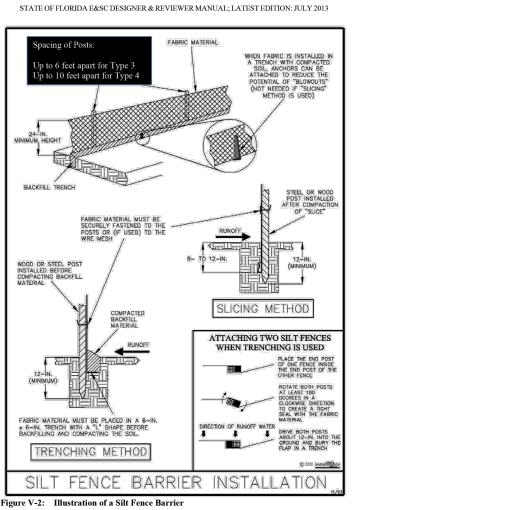






# ALTERNATE ACCESS ROAD PLAN

STATE OF FLORIDA E&SC DESIGNER & REVIEWER MANUAL; LATEST EDITION: JULY 2013

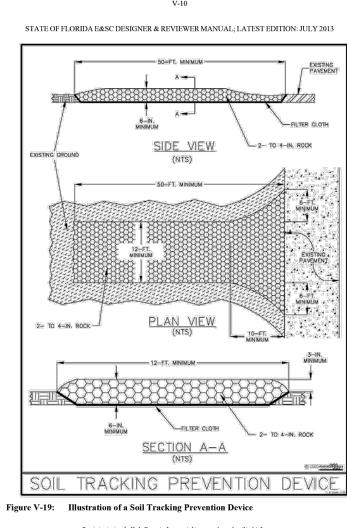


STATE OF FLORIDA E&SC DESIGNER & REVIEWER MANUAL; LATEST EDITION: JULY 2013

1-IN. DIAMETER ROCK PLACED AROUND WIRE SCREEN 1-IN. DIAMETER ROCK PLACED AROUND, AND TO THE TOP OF CONCRETE BLOCKS RE SCREEN HAVING 0.5-IN: OPENINGS THAT IS SECURED TO METAL STAKES PLAN WEW WIRE SCREEN HAVING 0.5-IN OPENINGS PLACED AROUND THE CONCRETE BLOCKS PLAN VIEW MIRE SCREEN TO PREVENT THE MOVEMENT OF ROCK SECTION A-A SECTION B-B

Figure V-13: Illustration of Rock Barriers around Area Drains

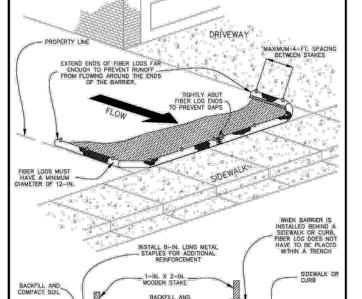
Approved Alternate
FDOT TYPE III Silt Fence System Silt Fence - Priority 2 - Black Band SILT FENCE BARRIER INSTALLATION Figure V-3: Illustration of Silt Fence Priority 2 – Black Band



<u>LEGEND</u> SOIL BORING LOCATIONS CATCH BASIN ELECTRIC BOX METAL LIGHT POLE SURVEY CONTROL TOP OF BANK TOE OF SLOPE SILT FENCE LIMIT OF WORK/ LIMIT OF DISTURBANCE CONSTRUCTION LAYDOWN AREA INLET PROTECTION

### CONSTRUCTION ACCESS NOTES

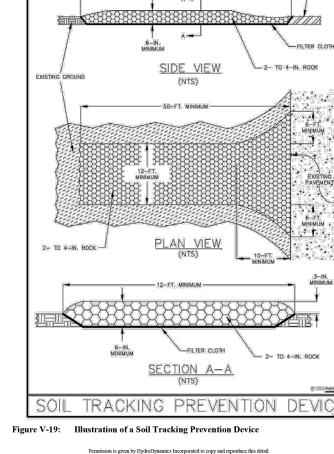
- CONSTRUCTION ACCESS TO BE COORDINATED WITH OWNER AND HCSO LITHIA FACILITY PERSONNEL.
- 2. EXISTING UNIMPROVED ROAD FOR BERM MAINTENANCE TO BE USED AS NEEDED.
- 3. EQUIPMENT AND MATERIALS LAYDOWN AREA AND TEMPORARY STOCKPILE AREAS TO BE CONFINED TO THE FIRING
- 4. CONSTRUCTION PERSONNEL PARKING AREA WITHIN EXISTING ASPHALT PARKING LOT TO BE COORDINATED WITH OWNER AND HCSO LITHIA FACILITY PERSONNEL.
- 5. EXISTING SEPTIC SYSTEM TO BE PROTECTED AND ACCESS TO BE MAINTAINED FOR LITHIA FACILITY PERSONNEL..



FIBER LOG BARRIER FOR INDIVIDUAL LOT

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Figure V-5. Illustration of Fiber Log Barriers for Individual Lots



SAJ JP 2025-06-23 No. Issue Checked Approved Author A. YU-SHAN Drafting Check S. JANOSIK Project Manager S. JANOSIK

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5904 Hampton Oaks Parkway Si 5904 Hampton Oaks Parkway Suite F Tampa, Florida 33610 USA **T** 813 971 3882

pject HCSO FIRING RANGE NUMBER 6 BERM **HCSO FIRING RANGE, LITHIA, FLORIDA** 

Client HILLSBOROUGH COUNTY BOCC

Title EROSION AND SEDIMENT **CONTROL PLAN** 

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12649481 7/2025

Design Check S. JANOSIK

Designer A. ROGERS

Project Director J. PHILLIPS

### **BUILDING CODE & DESIGN CRITERIA**

GENERAL
 CONCRETE
 MASONRY
 ASCE
 FBC-2023 8TH EDITION
 ACI 318-19
 TMS 402/602-16
 ASCE 7-22

FBC BUILDING CHAPTER 16&18
FBC EXISTING BUILDING CHAPTER 4 & 6

### FBC DESIGN LOADS

- SURCHARGE LOAD = 100 PSF
- SOIL FRICTION ANGLE (BACKFILL)= 34 DEG
   SOIL UNIT WEIGHT (BACKFILL) = 120 PCF
- WIND LOADS IN ACCORDANCE WITH SECTION 1609
- WIND SPEED: Vult = 140 MPH, 3-SEC GUST
- Vasd = 108 MPH
   INTERNAL PRESSURE COEFFICIENT ± 0.18
- EXPOSURE CATEGORY: "C"
- CATEGORY II

REINFORCEMENT SPLICE LENGTHS (FOR DEVELOPMENT AND LAP SPLICES)		
SIZE	HORIZONTAL BARS *	OTHER BARS
#5	32" (2'-8")	24" (2'-0")

\* HORIZONTAL BARS INCLUDE:

1. HORIZONTAL WALL REINFORCING BARS.

### STRUCTURAL SPECIFICATIONS

### CONCRETE:

- A. CEMENT TO COMPLY WITH ASTM C150.
- B. SAND AND AGGREGATE TO COMPLY WITH ASTM C33, C330, C332, AND ACI STANDARD No. 813-54.
- C. WATER TO MEET POTABLE WATER CHEMICAL STANDARDS.
- D. PLACING SHALL BE IN ACCORDANCE WITH ACI BUILDING CODE 318 AND 318.1.
- E. CURING SHALL BE IN ACCORDANCE WITH ACI 605.

### REINFORCING STEEL:

- A. BARS DEFORMED IN ACCORDANCE WITH ASTM A615-87 AND SHALL BE GRADE 60 STEEL UNLESS INDICATED OTHERWISE.
- B. WELDED WIRE FABRIC TO CONFORM WITH ASTM A185 OR A497.C. PLACING IN ACCORDANCE WITH ACI DETAILING MANUAL AND ACI 318 AND 318.1.

### METAL ACCESSORIES:

A. METAL ACCESSORIES SHALL CONFORM TO REQUIREMENTS IN *CRSI* "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION" AND *ASTM A82* AND *A185*.

### CONCRETE STRENGTH:

- A. CONCRETE STRENGTH.

  A. CONCRETE SHALL HAVE A MINIMUM 3000 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
- B. TEST CYLINDERS SHALL BE TAKEN AT A RATE OF THREE (3) FOR EACH 50 CUBIC YARDS AND TESTED IN ACCORDANCE WITH ASTM SPECIFICATIONS. FURTHER
- TESTS MAY ALSO BE REQUIRED IN ACCORDANCE WITH ASTM C42.

  C. SLUMP SHALL NOT EXCEED 6" UNLESS CONCRETE MIX HAS BEEN DESIGNED TO HAVE GREATER SLUMP AND APPROVED BY THE ENGINEER.

### GROUT STRENGTH

- A. GROUT SHALL HAVE A MINIMUM 1500 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
- B. GROUT MIX SHALL BE DESIGNED AND PROPORTIONED SO AS TO PRODUCE A PUMPABLE MIXTURE.

### PIPE/CASING STRENGTH:

A. PIPE/CASING SHALL MEET THE REQUIREMENTS OF FBC SECTION 1810.3

### PIPE/CASING INSTALLATION:

A. PIPE/CASING INSTALLATION SHALL MEET THE REQUIREMENTS OF FBC BUILDING SECTION 1810.4.

### COMPACTED FILL:

- A. FILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12" AND COMPACTED TO 95%
- MODIFIED PROCTOR MAXIMUM DRY DENSITY.

  B. SOIL TO HAVE A MINIMUM BEARING CAPACITY OF 2000 PSF.
- C. BEFORE PLACING FILL, ALL DELETERIOUS MATERIAL SHALL BE REMOVED.

### **CONSTRUCTION NOTES:**

1. PRELIMINARY ASSESSMENT: BEFORE STARTING ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR MUST THOROUGHLY UNDERSTAND THE EXISTING STRUCTURAL CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE NECESSARY BRACING, SHORING, AND SAFEGUARDS TO ENSURE ALL PARTS OF THE EXISTING STRUCTURE REMAIN STABLE AND UNDAMAGED DURING DEMOLITION AND CONSTRUCTION, PARTICULARLY FOR PORTIONS OF THE STRUCTURE THAT ARE TO REMAIN.

<u>2. FIELD VERIFICATION:</u> THE CONTRACTOR MUST VERIFY ALL DIMENSIONS, ELEVATIONS, AND ALIGNMENTS REQUIRED FOR INTEGRATING THE NEW WORK WITH THE EXISTING STRUCTURE.

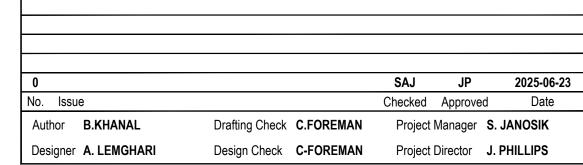
3. SHORING RESPONSIBILITY: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL SHORING REQUIRED TO PROTECT AND MAINTAIN THE STABILITY OF THE EXISTING STRUCTURE.

4. COORDINATION WITH OTHER TRADES: THE CONTRACTOR MUST CONFIRM REQUIREMENTS FROM OTHER TRADES FOR ITEMS SUCH AS SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, AND HOLES TO BE INTEGRATED INTO THE STRUCTURAL WORK.

5. SAFETY COMPLIANCE: THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL SAFETY REGULATIONS AND PRECAUTIONS THROUGHOUT THE PROJECT. THE ENGINEER WILL NOT PROVIDE GUIDANCE OR INSTRUCTIONS RELATED TO SAFETY.

6. TEMPORARY SUPPORTS: STRUCTURAL DRAWINGS REPRESENT THE COMPLETED STRUCTURE AND DO NOT SPECIFY CONSTRUCTION METHODS. THE CONTRACTOR MUST PROVIDE ALL TEMPORARY BRACING AND GUYING NECESSARY TO MAINTAIN PROPER ALIGNMENT UNTIL ALL STRUCTURAL COMPONENTS AND CONNECTIONS ARE FULLY SECURED. THE DESIGN, INSPECTION, AND ADEQUACY OF SUCH TEMPORARY SUPPORTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

6. METHODS AND SUPERVISION: THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, TECHNIQUES, OR SEQUENCING. SUPERVISION AND MANAGEMENT OF THE WORK ARE ENTIRELY THE CONTRACTOR'S RESPONSIBILITY.



Plot Date: 1 July 2025 - 4:46 PM



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Bar is one inch on original size sheet

0 1"





Client HILLSBOROUGH COUNTY BOCC

roject HCSO FIRING RANGE NUMBER 6 BERM HCSO FIRING RANGE, LITHIA, FLORIDA

7/2025

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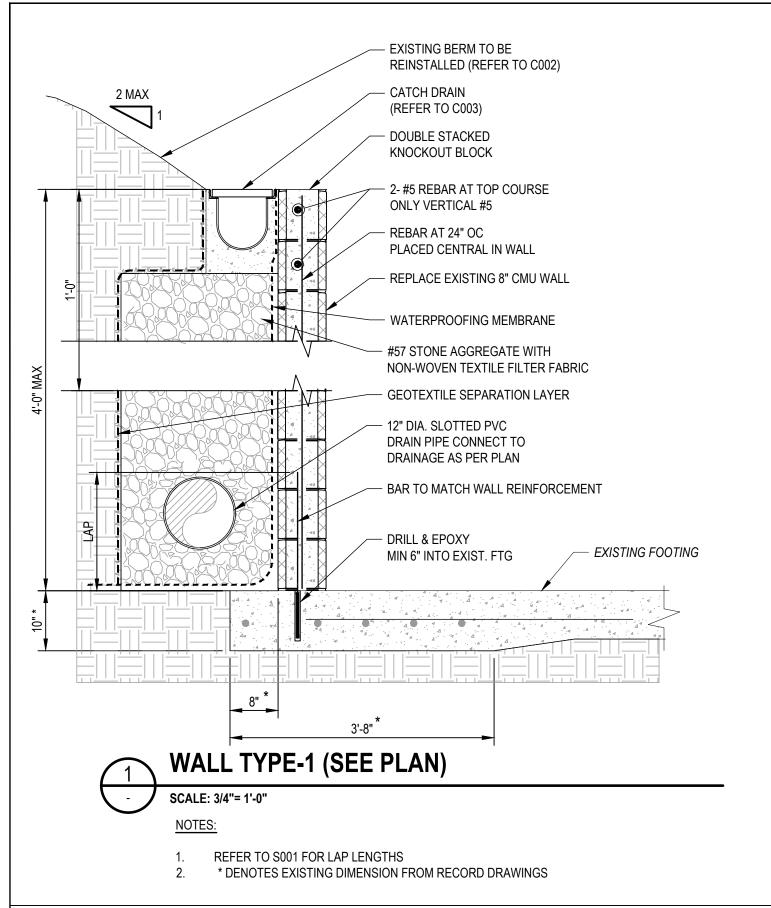
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AND GENERAL NOTES

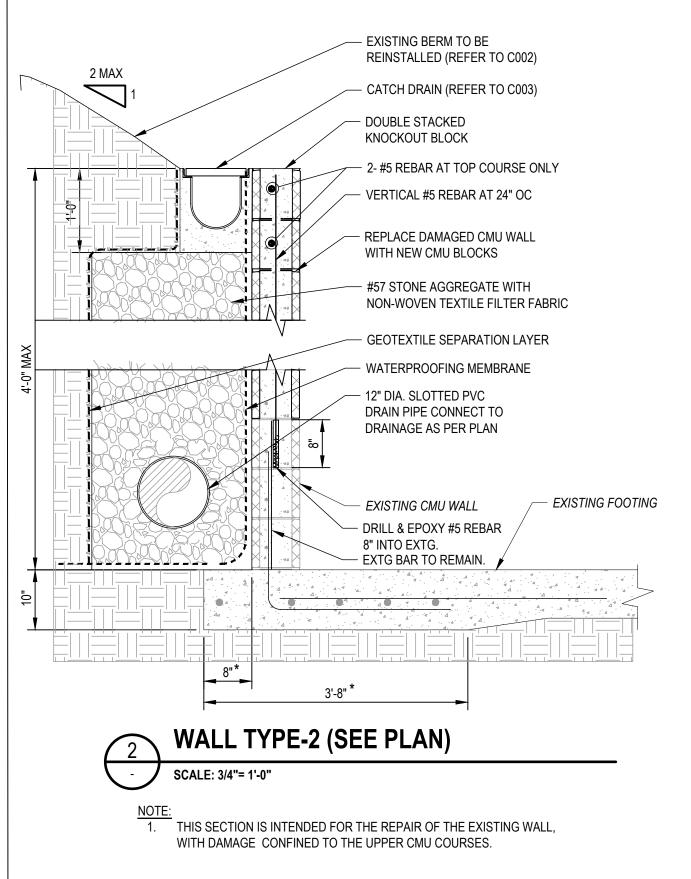
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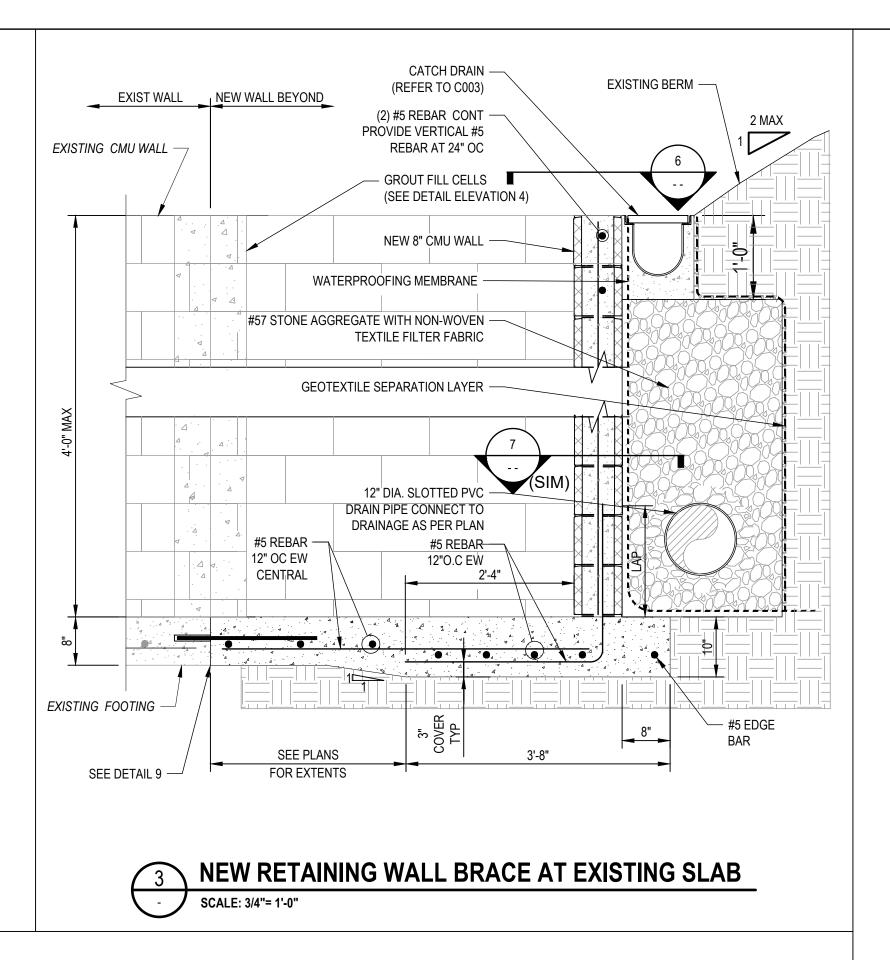
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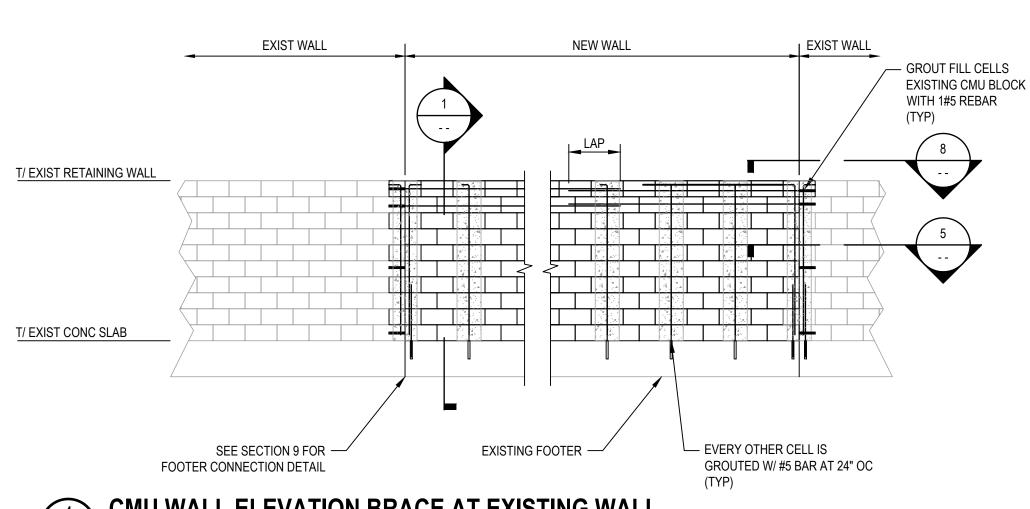
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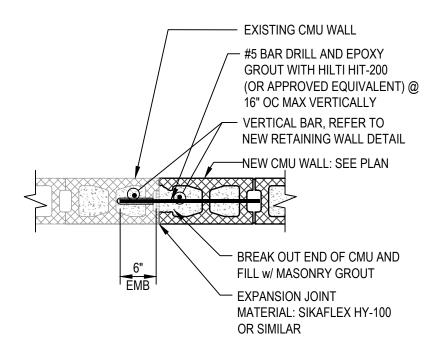




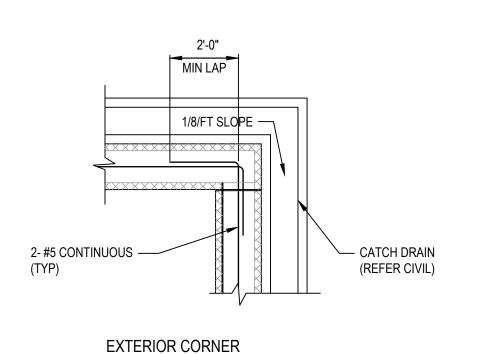
**CMU WALL ELEVATION BRACE AT EXISTING WALL** SCALE: 3/4"= 1'-0"

NOTES:

1. REFER TO S001 FOR LAP LENGTHS

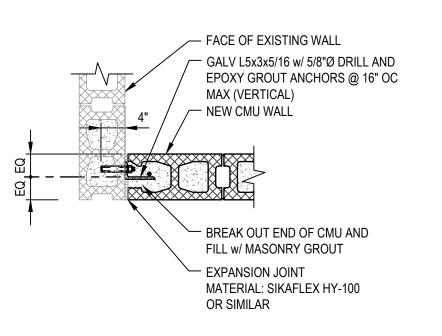


CMU WALL BRACE AT EXISTING WALL SCALE: 3/4"= 1'-0"

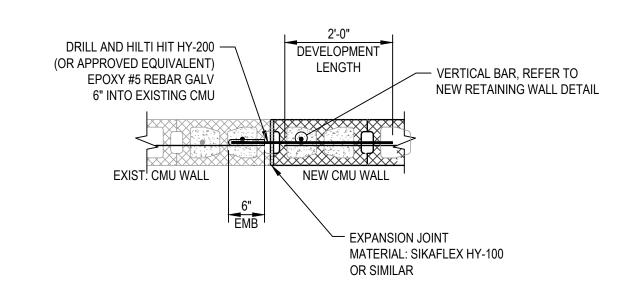




SCALE: 3/4"= 1'-0"

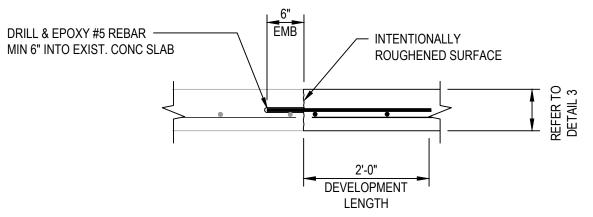


## CMU WALL BRACE AT EXISTING WALL

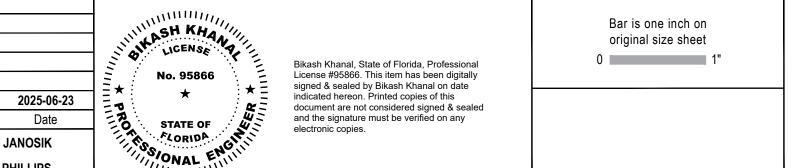


### EXIST. KNOCK OUT TO NEW KNOCK OUT **BLOCK CONNECTION**

SCALE: 3/4"= 1'-0"



FOOTING CONNECTION DETAIL SCALE: 3/4"= 1'-0"





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