

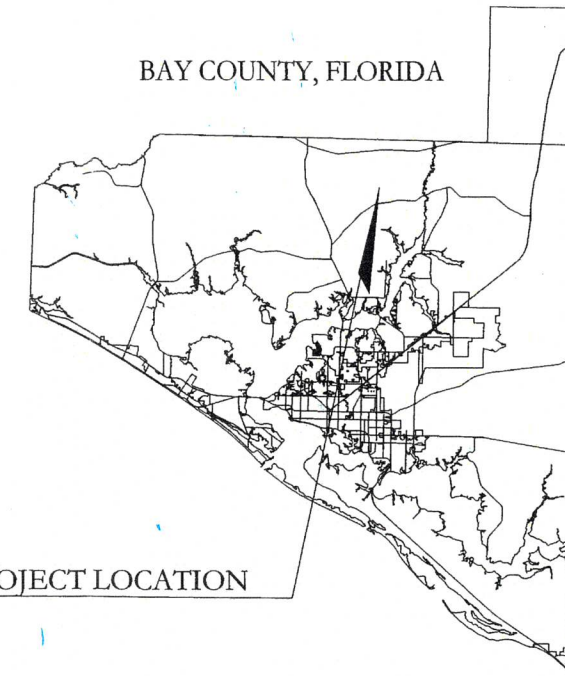
CONSTRUCTION DOCUMENTS

FOR

Daniels Sand Mine Bay County, Florida

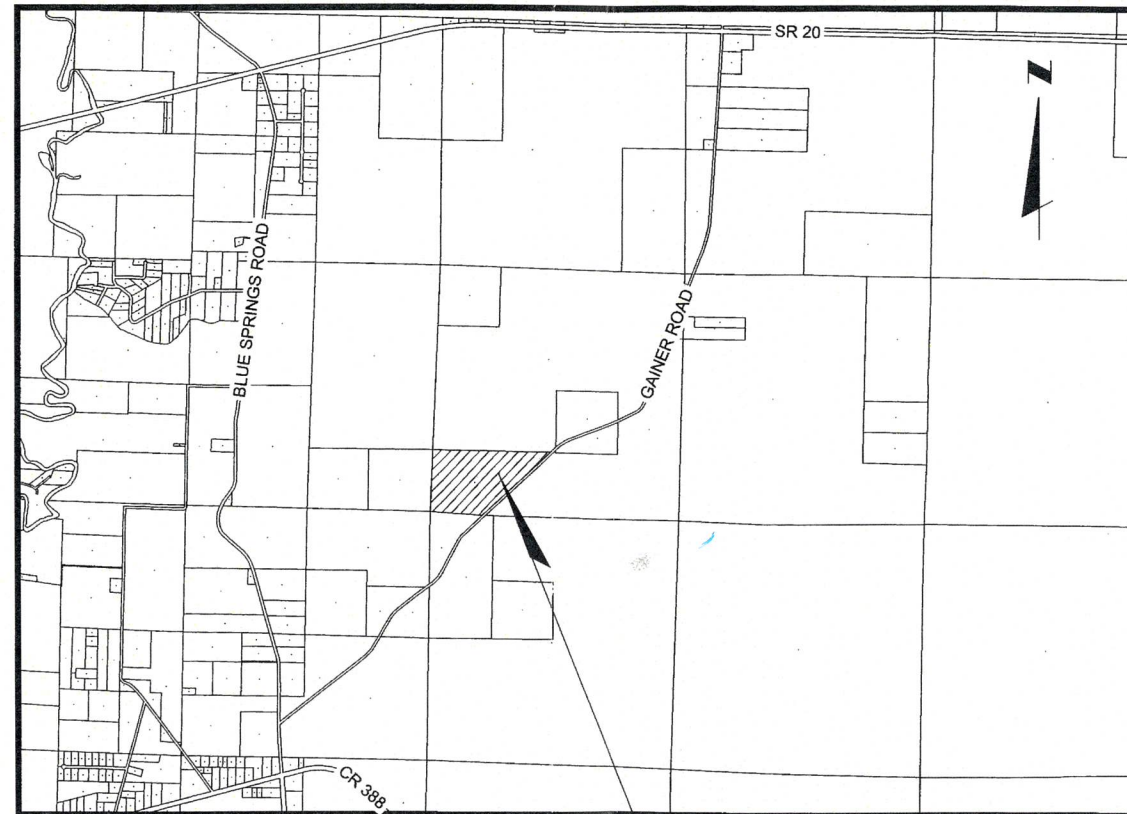


BAY COUNTY, FLORIDA



PROJECT LOCATION

PREPARED FOR:
Sean Daniels
2714 Pembroke Drive
Panama City, Florida 32405
(850) 718-7538



PROJECT
LOCATION
LOCATION MAP
1"= 4000'

SHEET INDEX

SHEET NO.	SHEET DESCRIPTION	DATE	REVISION
1	KEY SHEET	1/21/09	
2	AERIAL	1/21/09	
3	PHASE PLAN	1/21/09	
4	SITE PLAN	1/21/09	
5	GRADING PLAN	1/21/09	
6	CONSTRUCTION DETAILS	1/21/09	
7	SURVEY (SOUTHEASTERN SURVEYING, INC.)	12/30/08	

GENERAL NOTES

- ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON A BOUNDARY & TOPOGRAPHIC SURVEY BY SOUTHEASTERN SURVEYING AND MAPPING CORP. DATED 12/30/08.
 - SURVEY DATUM - NGVD 88
 - EROSION/SEDIMENTATION CONTROLS SHALL BE PLACED PRIOR TO EXCAVATION AND DEMOLITION. THESE DEVICES SHALL BE MAINTAINED DURING THE ENTIRE DURATION OF CONSTRUCTION.
 - AT THE PRE CONSTRUCTION MEETING THE CONTRACTOR SHALL DESIGNATE A REPRESENTATIVE WHO SHALL BE CAPABLE OF BEING REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
 - EXISTING UTILITIES HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND PROVIDE FOR PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY SUNSHINE ONE, CALL (1-800-432-4770), 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - HORIZONTAL AND VERTICAL CONTROL SHALL BE PROVIDED FOR THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION.
 - ALL DISTURBED AREAS THAT ARE NOT STABILIZED OR PLANTED SHALL BE GRASSED, AS APPLICABLE, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS. PROBLEM AREAS SHALL BE SODDED AS NEEDED AND AS DIRECTED BY THE INSPECTOR.
 - UNLESS OTHERWISE INDICATED OR MODIFIED ON THE PLANS ALL ROADWAY AND DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007, SUPPLEMENTS AND SPECIAL PROVISIONS THERETO.
 - WHERE REFERENCE IS MADE TO STANDARD INDEX OR DETAIL, THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, JANUARY 2008, SHALL BE USED AS IF A PART OF THIS PLAN. FOR DESIGN STANDARDS MODIFICATIONS CLICK ON "DESIGN STANDARDS" AT THE FOLLOWING WEB SITE:
<http://www.dot.state.fl.us/rddesign/>
 - THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. SEDIMENT CONTROL DEVICES SHOWN ON THE PLANS ARE MINIMUM REQUIREMENTS. ADDITIONAL SEDIMENT CONTROLS MAY BE REQUIRED BY THE INSPECTOR TO PREVENT SEDIMENTS FROM LEAVING THE SITE. THESE ADDITIONAL SEDIMENT CONTROLS ARE THE CONTRACTORS RESPONSIBILITY. ADDITIONALLY, STORMWATER RUNOFF IS TO BE CONTROLLED DURING CONSTRUCTION AS TO NOT DETRIMENTALLY AFFECT ADJACENT PROPERTIES.
 - THE CONTRACTOR SHALL SUBMIT A POST-CONSTRUCTION CERTIFICATION AND REPRODUCIBLE RECORD DRAWINGS TO THE ENGINEER PRIOR TO INSPECTION AND ACCEPTANCE. THE RECORD DRAWINGS SHALL BE PREPARED AND CERTIFIED BY A PROFESSIONAL LAND SURVEYOR.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE DISCOVERY OF ANY ERRORS AND/OR OMISSIONS IN THE PLANS OR SPECIFICATIONS. THE ENGINEER WILL MAKE SUCH CORRECTIONS AND INTERPOLATIONS AS DEEMED NECESSARY REFLECTING THE ACTUAL SPIRIT AND INTENT OF THE PLANS AND SPECIFICATIONS.
 - THE FOLLOWING PERMITS/APPROVALS HAVE OR WILL BE OBTAINED FOR THIS PROJECT:
 - BAY COUNTY DEVELOPMENT ORDER
 - BAY COUNTY DRIVEWAY PERMIT
 - BAY COUNTY R/W PERMIT
 - BAY COUNTY DRAINAGE CONNECTION PERMIT
 - FDEP NOTICE OF INTENT TO MINE
 - NWFWMD ERP PERMIT
 - FDEP NPDES
- THE CONTRACTOR SHALL MAKE ALL REQUIRED NOTIFICATIONS.
- THE CONTRACTOR SHALL CONFINE ALL WORK WITHIN THE PROPERTY BOUNDARIES, EASEMENTS OR PUBLIC RIGHT OF WAY. NO TRESSPASSING IS ALLOWED.

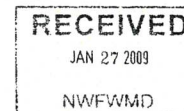
ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

CIVIL ENGINEERING BY:



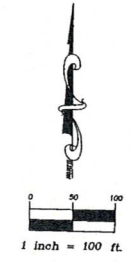
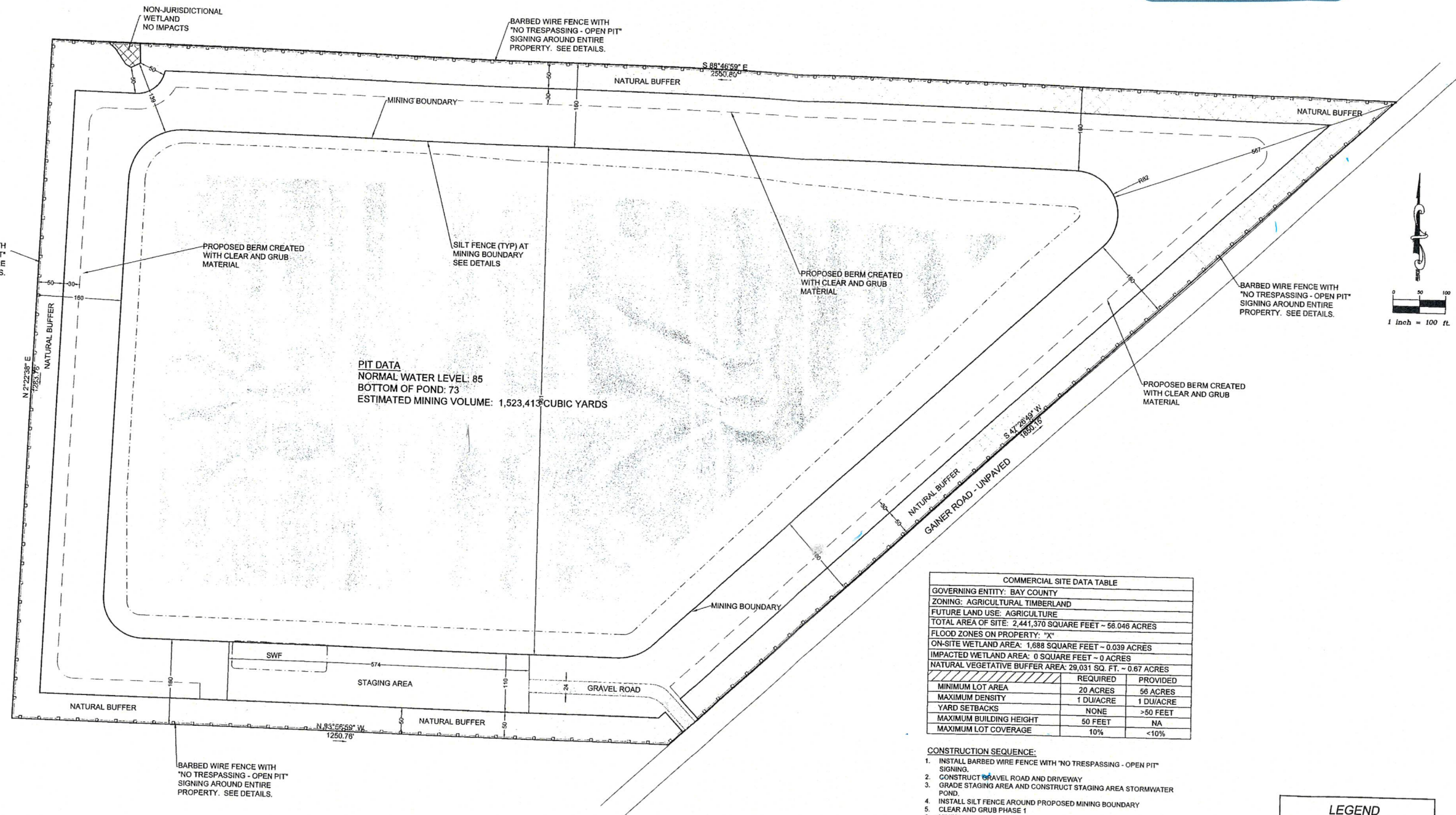
Gortemoller Engineering, Inc.
5 Miracle Strip Loop, Suite 16
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(850) 249-2425
CA-00009505

ENGINEER OF RECORD
Dexter M. Gortemoller, P.E.
FLORIDA NO. 56785
5 Miracle Strip Loop, Suite 16
Panama City Beach, Florida 32407
(850) 249-2425
(850) 249-2426-Fax
dexterg@gorteng.com



Permit Plans
Not For Construction

Daniels Sand Mine 08-038



COMMERCIAL SITE DATA TABLE

GOVERNING ENTITY:	BAY COUNTY	
ZONING:	AGRICULTURAL TIMBERLAND	
FUTURE LAND USE:	AGRICULTURE	
TOTAL AREA OF SITE:	2,441,370 SQUARE FEET - 56.046 ACRES	
FLOOD ZONES ON PROPERTY:	"X"	
ON-SITE WETLAND AREA:	1,688 SQUARE FEET - 0.039 ACRES	
IMPACTED WETLAND AREA:	0 SQUARE FEET - 0 ACRES	
NATURAL VEGETATIVE BUFFER AREA:	29,031 SQ. FT. - 0.67 ACRES	
	REQUIRED	PROVIDED
MINIMUM LOT AREA	20 ACRES	56 ACRES
MAXIMUM DENSITY	1 DU/ACRE	1 DU/ACRE
YARD SETBACKS	NONE	>50 FEET
MAXIMUM BUILDING HEIGHT	50 FEET	NA
MAXIMUM LOT COVERAGE	10%	<10%

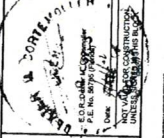
- CONSTRUCTION SEQUENCE:
1. INSTALL BARBED WIRE FENCE WITH "NO TRESPASSING - OPEN PIT" SIGNING.
 2. CONSTRUCT GRAVEL ROAD AND DRIVEWAY.
 3. GRADE STAGING AREA AND CONSTRUCT STAGING AREA STORMWATER POND.
 4. INSTALL SILT FENCE AROUND PROPOSED MINING BOUNDARY.
 5. CLEAR AND GRUB PHASE 1.
 6. MINING PHASE 1.
 7. CLEAR AND GRUB PHASE 2.
 8. MINING PHASE 2.
 9. CLEAR AND GRUB PHASE 3.
 10. MINING PHASE 3.

- NOTES:
1. ALL DISTURBED AREAS SHALL BE STABILIZED OR PLANTED WITH EITHER SEED AND MULCH, OR EROSION BLANKET IF REQUIRED. PROBLEM AREAS SHALL BE SOODED AS DIRECTED BY THE OWNER.
 2. CONTRACTOR SHALL USE HAYBALES AND SILTFENCING AS NEEDED FOR STABILIZATION.
 3. CLEAR AND GRUB MATERIAL SHALL BE USED TO CREATE BERM BETWEEN THE NATURAL VEGETATIVE BUFFER AND THE MINING BOUNDARY.
 4. ALL TRUCK TRAFFIC SHALL TRAVEL TO AND FROM THE NORTH (SR20).

LEGEND

	BUFFER
	BOUNDARY
	BARBED WIRE FENCE
	SILT FENCE
	POND TOP

JOB NO.	08-038
DRAWN	HRS
CHECKED	DMG
DATE	01/21/09
REVISION	
SHEET	4



IF THIS LINE DOES NOT MEASURE ONE INCH IN LENGTH, THE SCALES ON THIS DRAWING ARE NOT VALID.

SITE PLAN

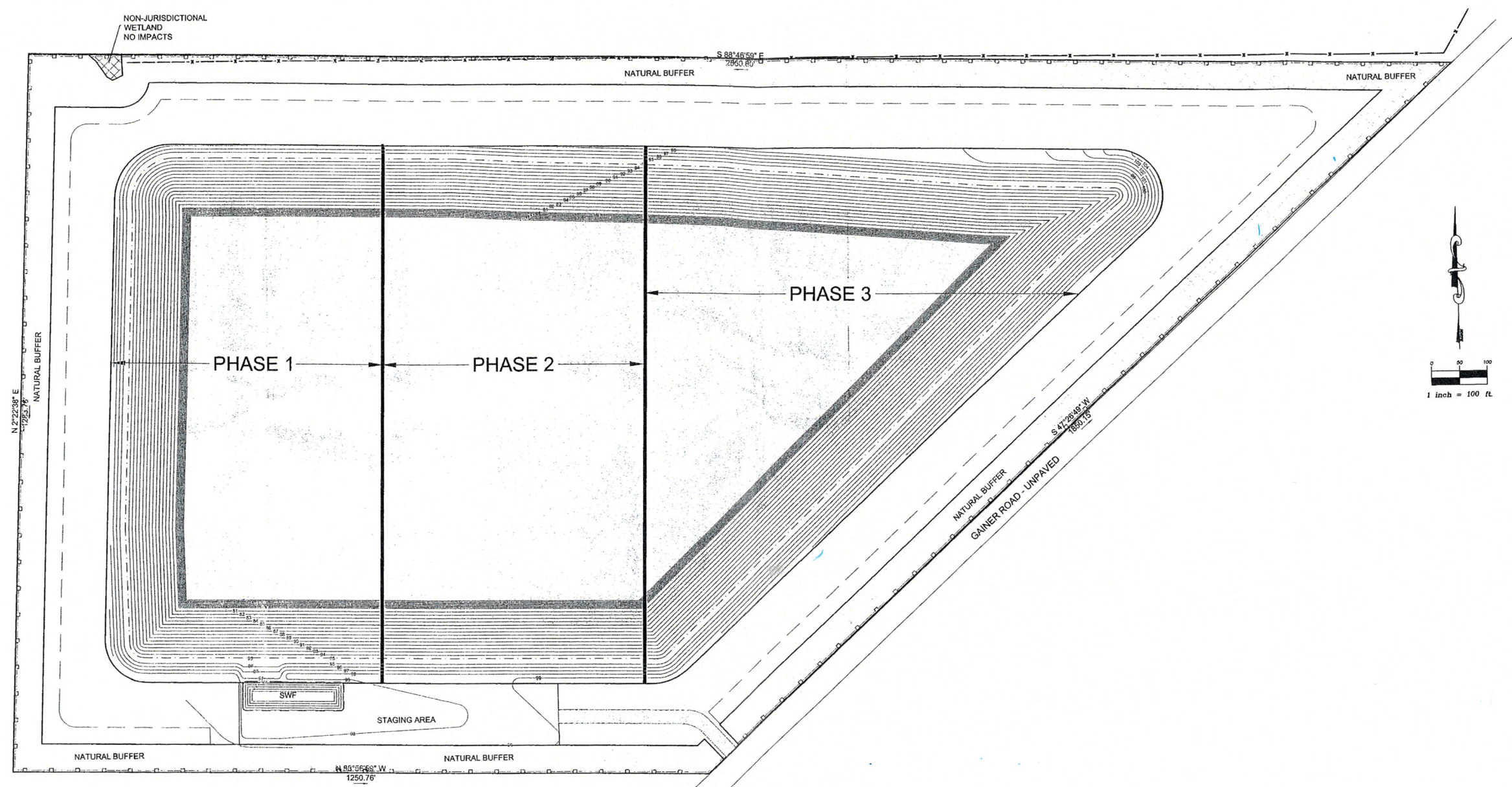
PROJECT:
Daniels Sand Mine

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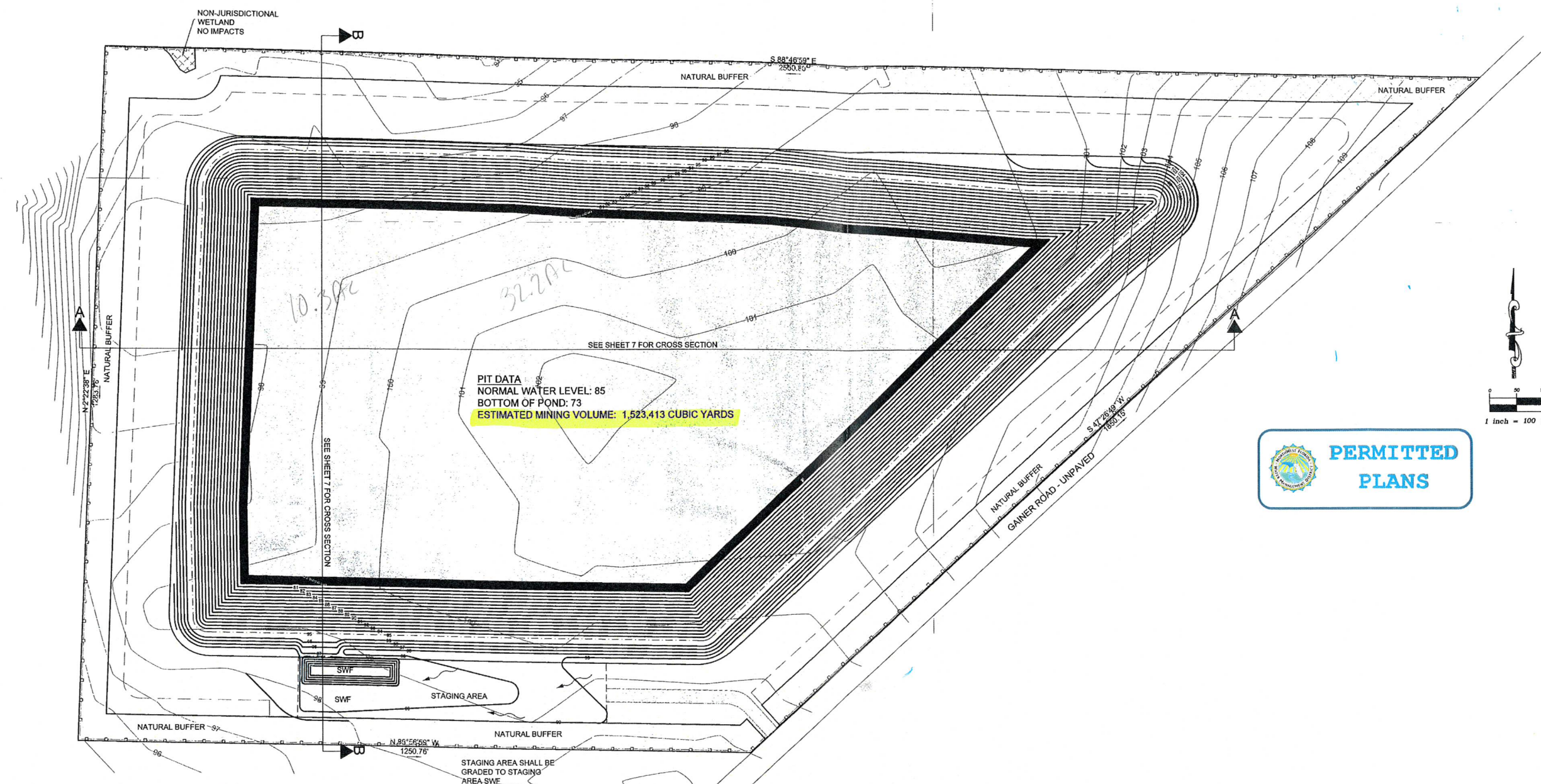


RECEIVED
JAN 27 2009
NWF/DMG



LEGEND	
	BUFFER
	BOUNDARY
	BARBED WIRE FENCE
	SILT FENCE
	POND TOP

Gortemoller Engineering, Inc. 5 Miracle Strip Loop, Suite 16 Panama City Beach, FL 32407 (850) 249-2425 CA-00009505	CLIENT: Sean Daniels 2714 Pembroke Drive Panama City, FL 32405 (850) 718-7538	PROJECT: Daniels Sand Mine	MINING PHASE PLAN	JOB NO. 08-038 DRAWN HRS CHECKED DMG DATE 07/21/09 REVISION SHEET 3
				RECEIVED JAN 27 2009 NWF/WMD



JOB NO.	08-038
DRAWN	JRS
CHECKED	DMG
DATE	01/21/09
REVISION	
SHEET	5

1" = 100'
 IF THIS LINE DOES NOT MEASURE ONE INCH IN LENGTH, THIS DRAWING IS NOT VALID.

GRADING PLAN

PROJECT:
 Daniels Sand Mine

CLIENT:
 Sean Daniels
 2714 Pembroke Drive
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 Panama City Beach, FL 32407
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RECEIVED
 JAN 27 2009
 NWF:WMD

32% und
 1,035,920 cy
 available



STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

1. SITE DESCRIPTION

- A. CONSTRUCTION ACTIVITY**
PROJECT LIMITS:
 Construction is to take place within the designated areas as shown on the plans.
PROJECT DESCRIPTION
 Construction of sand mine.
- B. MAJOR SOIL DISTURBING ACTIVITIES**
 Clearing, grubbing and earthwork activities associated with the excavation of sand.
- C. TOTAL PROJECT AREA:**
 ±56 acres
TOTAL AREA TO BE DISTURBED:
 ±38 acres
- D. (1) RUNOFF COEFFICIENTS BEFORE, DURING, AND AFTER CONSTRUCTION:**
 Before: 0.20 After: 0.62 During: 0.20 - 0.62
(2) SOIL DESCRIPTION OR DISCHARGE QUALITY
 Soils are fine sands to medium fine sands. See Soils Report for a detailed description.
(3) ESTIMATED DRAINAGE AREA SIZE FOR OUTFALLS
 All runoff is to be contained onsite. **NO OUTFALL**
- E. SITE MAPS**
 See Construction Plans for Site Map information.

2. CONTROLS

- CONSTRUCTION SEQUENCE AND CONTROLS IMPLEMENTATION**
- Contractor shall clear and grub site.
 - Contractor shall excavate and/or fill site in accordance Site Plans.
 - Contractor shall place sod, seed and/or mulch to stabilize slopes.
- A. EROSION AND SEDIMENT CONTROLS**
- (1) STABILIZATION PRACTICES:**
- Temporary sodding
 - Temporary grassing
 - Permanent planting, sodding, or seeding
 - Temporary mulching
 - Artificial covering
 - Buffer zones
 - Preservation of natural resources
- (2) STRUCTURAL PRACTICES:**
- Sand bagging
 - Hay bales
 - Berms
 - Diversion, interceptor, or perimeter ditches
 - Pipe slope drains
 - Rock bedding at construction exit
 - Timber bedding at construction exit
 - Ditch liner
 - Sediment traps
 - Sediment basins
 - Storm inlet sediment trap
 - Storm outlet structures
 - Cuts and gutters
 - Storm sewers
 - Velocity control devices
 - Turbidity barrier
 - Rip Rap

B. DESCRIPTION OF STORM WATER MANAGEMENT

- Silt fences and hay bales where needed.
- C. OTHER CONTROLS**
- (1) WASTE DISPOSAL**
NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE.
- (2) OFF SITE VEHICLE TRACKING:**
- HAUL ROADS DAMPENED FOR DUST CONTROL
 - LOADED HAUL TRUCKS TO BE COVERED WITH TARP/AULIN
 - EXCESS DIRT ON ROAD REMOVED DAILY (IF GAINER ROAD IS PAVED FUTURE)
 - STABILIZED CONSTRUCTION ENTRANCE
- (3) SANITARY WASTE:**
 All sanitary waste will be collected from the portable units as necessary or as required by local regulations by a licensed sanitary waste management contractor.
- (4) FERTILIZERS AND PESTICIDES:**
 Fertilizers and/or pesticides shall be applied according to manufacturers recommendations by a licensed or certified applicator as directed by the project engineer.
- (5) NON-STORM WATER DISCHARGE (INCLUDING SPILL REPORTING):**
 No non-stormwater discharges are anticipated.
 Remarks: If contaminated soil or groundwater is encountered a hazardous materials coordinator shall be contacted.
- D. APPROVED STATE AND LOCAL PLANS AND STORM WATER PERMITS**
 Bay County Development Order, Bay County Drainage Permit, Bay County Driveway Permit, ERP, FDEP Permit to Mine, NPDES

3. MAINTENANCE

Contractor shall maintain all erosion and sediment control measures throughout the construction process.

4. INSPECTION

The Contractor shall provide qualified personnel to inspect the following items at least once every 7 calendar days and within 24 hours of the end of a storm that is 0.25 inches or greater: points of discharge, disturbed site areas that have not been finally stabilized, material storage areas that are exposed to precipitation, structural controls, storm water management systems, and construction entrances. Where sites have been finally stabilized, sites shall be inspected at least once every month. Contractor shall be responsible for keeping and maintaining updated records of inspections and rainfall in their office and on the construction site.

5. NON STORM WATER DISCHARGES

The contractor shall be responsible for control, cleanup, and documentation of non storm water discharges. If contaminated soil or groundwater is encountered, contact FDEP.

6. EROSION AND SEDIMENT CONTROLS FOR SITE

A. The contractor is responsible for placement & maintenance of all erosion & sediment control structures (ESC).

B. ESC's are to be constructed in all areas where potential runoff during construction will discharge off-site.

ESC's include silt fence, hay bales, silt barriers, ect... and shall be placed as necessary in accordance with FDOT indexes 100-106.

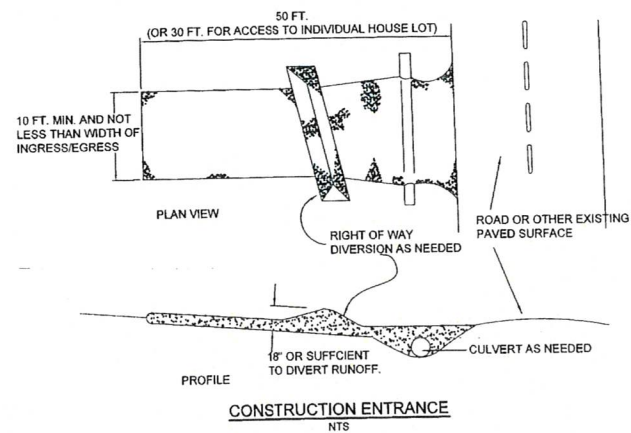
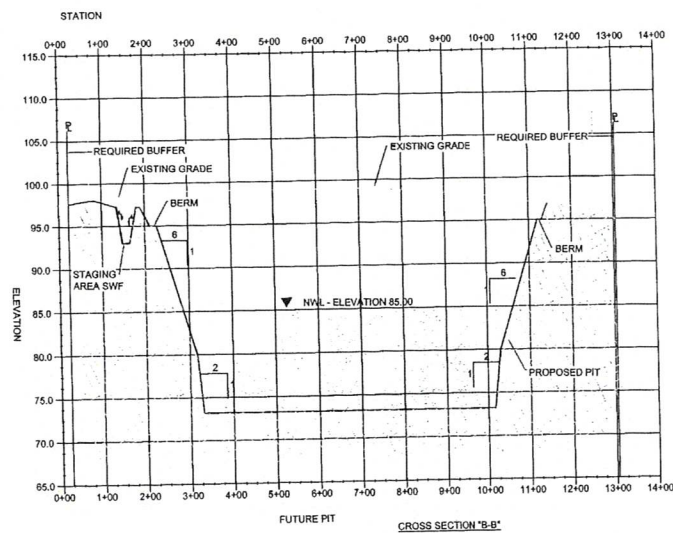
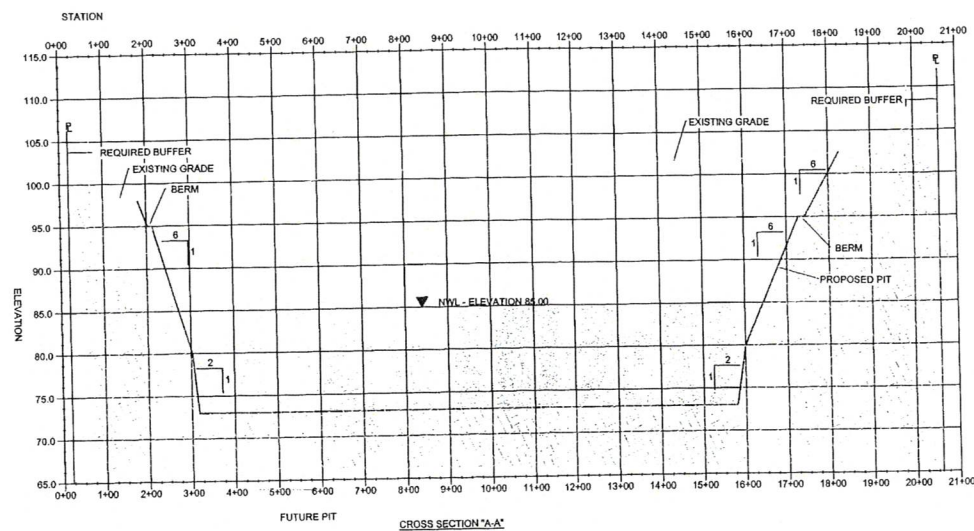
6. CONTRACTOR/SUBCONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER. I WILL MAINTAIN RECORDS AS REQUIRED AND KEEP THEM FOR AT LEAST 4 YEARS.

CONTRACTOR _____ TITLE _____
 SIGNATURE _____ DATE _____

LEGEND

	BUFFER
	BOUNDARY
	BARBED WIRE FENCE
	SILT FENCE
	EXISTING CONTOURS
	PROPOSED CONTOURS



52C-39.008 RECLAMATION STANDARDS:

THE DEPARTMENT IS AUTHORIZED TO INSPECT ALL MINES SUBJECT TO THIS RULE TO DETERMINE COMPLIANCE WITH RULE REQUIREMENTS AND TO DETERMINE IF RECLAMATION HAS BEEN PROPERLY COMPLETED THEREBY ALLOWING THE RELEASE OF THE OPERATOR FROM FURTHER OBLIGATIONS. THE FOLLOWING STANDARDS SHALL APPLY TO ALL AREAS DISTURBED BY MINING OPERATIONS IN NEW MINES AND ALL NEW SURFACE AREAS DISTURBED AFTER JANUARY 1, 1989, AT EXISTING MINES.

- (1) COMPLETION DATES FOR RECLAMATION ACTIVITIES. ALL RECLAMATION ACTIVITIES SHALL, TO THE EXTENT POSSIBLE, BE COORDINATED WITH RESOURCE EXTRACTION AND IN ANY EVENT SHALL BE INITIATED AT THE EARLIEST PRACTICABLE TIME.
- (A) CONTOURING SHALL BE INITIATED AND COMPLETED NO LATER THAN ONE YEAR AFTER THE CALENDAR YEAR IN WHICH MINING OPERATIONS CEASE FOR ANY GIVEN AREA. THE EXECUTIVE DIRECTOR SHALL WAIVE THIS REQUIREMENT FOR ANY REASONABLE LENGTH OF TIME WHEN A WAIVER IS NECESSARY TO PREVENT THE UNACCEPTABLE CONTAMINATION OF THE RESOURCE BEING EXTRACTED.
- (B) REVEGETATION ACTIVITIES SHALL BE INITIATED AS SOON AS PRACTICAL AND COMPLETED NO LATER THAN ONE YEAR AFTER THE CALENDAR YEAR IN WHICH THE FINAL CONTOURS ARE ESTABLISHED IN AN AREA UNLESS REVEGETATION ACTIVITIES WILL INTERFERE WITH MINING OPERATIONS.
- (C) RECLAMATION ACTIVITIES THROUGH REVEGETATION SHALL BE COMPLETED WITHIN THREE YEARS OF THE CESSATION OF MINING OPERATIONS AT THE MINE.
- (D) IF MINING OPERATIONS TEMPORARILY CEASE AT A MINE FOR MORE THAN 12 MONTHS, THE OPERATOR SHALL COMPLY WITH ONE OF THE FOLLOWING OPTIONS:

- 1. THE REQUIREMENTS OF SUBSECTIONS (4)-(7) BELOW SHALL BEGIN IMMEDIATELY AND BE COMPLETED AT A RATE OF AT LEAST 1000 FEET OF SHORELINE OR DRY PIT WALL PER THREE-MONTH PERIOD, OR
 - 2. THE OPERATOR SHALL POST A BOND OR OTHER SURETY IN AN AMOUNT REASONABLY RELATED TO THE COST OF COMPLETING RECLAMATION AND FOR THE PERIOD OF TIME THE INITIATION OF RECLAMATION WILL BE DELAYED, BOTH OF WHICH SHALL BE ACCEPTABLE TO THE EXECUTIVE DIRECTOR; OR
 - 3. THE OPERATOR SHALL BEGIN RECLAIMING AN EQUIVALENT AMOUNT OF NONMANDATORY LAND AT THE RATE SPECIFIED IN SUBPARAGRAPH 1, ABOVE. COMPLIANCE WITH THE ABOVE REQUIREMENTS SHALL BE TOLLED BY THE LENGTH OF TIME THAT A TEMPORARY CESSATION RESULTS FROM ATTEMPTS TO OBTAIN NECESSARY PERMITS FOR OPERATIONS. THE EXECUTIVE DIRECTOR SHALL WAIVE THE COMMENCEMENT OF THE ABOVE REQUIREMENTS FOR ANY LENGTH OF TIME NOT TO EXCEED A MAXIMUM OF ONE YEAR UPON A SHOWING OF GOOD CAUSE BY THE OPERATOR.
- (E) IF MINING OPERATIONS CEASE, FOR WHATEVER REASON, FOR MORE THAN TWO YEARS AT A MINE, THEN ALL OF THE REQUIREMENTS OF THIS SECTION SHALL BE MET. THIS PERIOD SHALL BE EXTENDED FOR A MAXIMUM OF FIVE YEARS WHEN THE CESSATION OF MINING IS CAUSED BY GOVERNMENTAL ACTION DURING THE REVIEW OF ENVIRONMENTAL PERMIT APPLICATIONS. HOWEVER, THE EXECUTIVE DIRECTOR SHALL DIRECT THE OPERATOR TO COMPLETE THOSE RECLAMATION ACTIVITIES NECESSARY TO PROTECT THE PUBLIC HEALTH AND SAFETY.
- (F) THE REQUIREMENTS OF PARAGRAPHS (D) AND (E) ABOVE SHALL BE SUSPENDED UPON THE RESUMPTION OF MINING.

- (2) CONSISTENCY WITH LOCAL ORDINANCES. RECLAMATION ACTIVITIES SHALL BE CONSISTENT WITH ALL APPLICABLE LOCAL GOVERNMENT ORDINANCES AT LEAST AS STRINGENT AS THE CRITERIA AND STANDARDS CONTAINED IN THIS SECTION.
- (3) SURFACE DRAINAGE AND GROUNDWATER REQUIREMENTS. RECLAMATION SHALL ACHIEVE THE STORMWATER DRAINAGE, WETLANDS, AND OTHER SURFACE AND GROUNDWATER MANAGEMENT REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE APPROPRIATE WATER MANAGEMENT DISTRICT.
- (4) SAFETY. PROVISIONS FOR SAFETY TO PERSONS, WILDLIFE, AND ADJOINING PROPERTY MUST BE PROVIDED.

- (A) SITE CLEANUP.
 - 1. ALL LANDS SHALL BE RECLAIMED TO A NEAT, CLEAN CONDITION BY REMOVING OR ADEQUATELY BURYING, WHERE ALLOWED BY LAW, ALL VISIBLE DEBRIS, LITTER, JUNK, WORN-OUT OR UNSEABLE EQUIPMENT OR MATERIALS, AS WELL AS ALL POLES, PILINGS, AND CABLES. - 1579
 - 2. LARGE ROCKS AND BOULDERS SHALL BE PLACED AT THE BASE OF PIT WALLS TO THE EXTENT PRACTICAL TO PROVIDE FILL FOR ESTABLISHING ACCEPTABLE SLOPES. OTHERWISE, THEY SHALL BE PLACED IN COMMON LOCATIONS AT THE SURFACE OR BURIED TO A MINIMUM DEPTH OF FOUR FEET.
- (B) STRUCTURES. ALL TEMPORARY BUILDINGS, PIPELINES, AND OTHER MAN-MADE STRUCTURES SHALL BE REMOVED WITH THE EXCEPTION OF THOSE THAT ARE OF SOUND CONSTRUCTION WITH POTENTIAL USES THAT ARE COMPATIBLE WITH THE RECLAMATION GOALS.

- (5) FINAL SLOPES. THE FINAL SLOPES SHALL BE SUCH AN ANGLE AS TO MINIMIZE THE POSSIBILITY OF SLIDES AND SHALL NOT EXCEED THE NATURAL ANGLE OF REPOSE OF THE MATERIAL BEING MINED.

- (A) THE RECLAIMED SLOPE SHALL BE NO STEEPER THAN TWO HORIZONTAL FEET TO ONE VERTICAL FOOT, UNLESS THE OPERATOR CHOOSES TO CALCULATE THE SLOPE BY ONE OF THE FOLLOWING ACCEPTABLE METHODS:
 - 1. IF THE MATERIAL BEING MINED IS SAND, THE MAXIMUM RECLAIMED SLOPE SHALL BE CALCULATED USING THE ANGLE OF REPOSE OF THE PRODUCT STOCKPILE. THE ANGLE OF REPOSE IS DEFINED AS THE SLOPE ANGLE OF THE PRODUCT STOCKPILE MEASURED ALONG AN UNDISTURBED PORTION OF THE PILE, GIVEN A VERTICAL COMPONENT OF ONE UNIT, THE CORRESPONDING MINIMUM HORIZONTAL COMPONENT OF THE RECLAIMED SLOPE SHALL BE CALCULATED BY DIVIDING 1.5, THE MINIMUM ACCEPTABLE FACTOR OF SAFETY, BY THE TANGENT OF THE ANGLE OF REPOSE OF THE SAND STOCKPILE.
 - 2. FOR ALL OTHER RESOURCES, THE STEEPEST RECLAIMED SLOPE SHALL BE CALCULATED BY DETERMINING THE ANGLE OF REPOSE OF THE ACTUAL MATERIAL BEING MINED AND APPLYING A MINIMUM FACTOR OF SAFETY OF 1.5. THE ANGLE OF REPOSE AND THE FACTOR OF SAFETY SHALL BE DETERMINED USING STANDARD GEOTECHNICAL ENGINEERING PRACTICES.

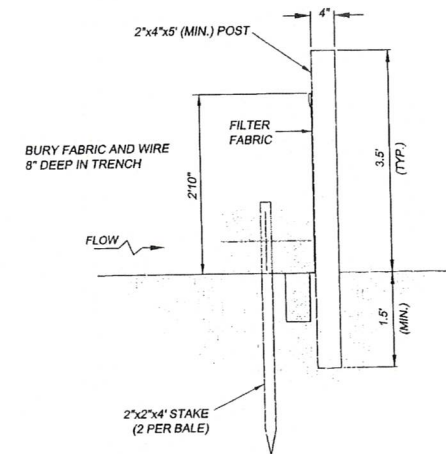
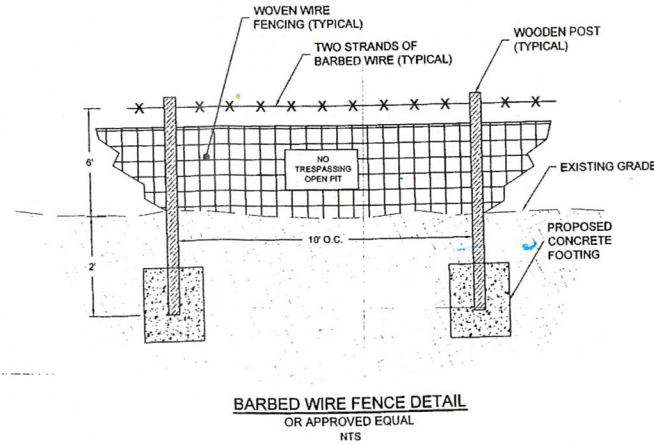
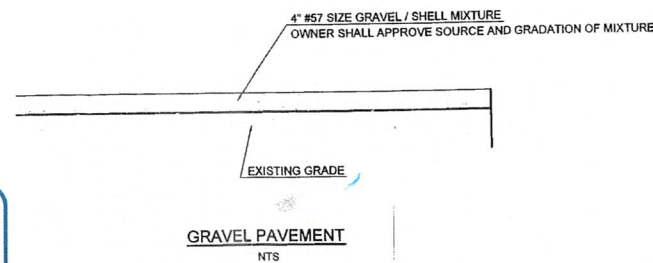
- (B) IN MINES RESULTING IN LAKES THE RECLAIMED SLOPE SHALL EXTEND FROM THE TOP OF THE MINE WALL TO A DEPTH OF FIVE FEET BELOW THE WATER SURFACE AND SHALL NOT EXCEED THE STEEPEST SLOPE ALLOWED BY (A) ABOVE.

- (6) CONTOURING AND EROSION PREVENTION. ANY OVERBURDEN AND SPOIL SHALL BE LEFT IN A CONFIGURATION WHICH IS IN ACCORDANCE WITH ACCEPTED SOIL CONSERVATION PRACTICES AND WHICH IS SUITABLE FOR THE PROPOSED FUTURE USE OF THE LAND.

- (A) ALL UPLAND AREAS DISTURBED BY MINING OPERATIONS MUST BE REVEGETATED IN QUANTITIES AND DENSITIES NECESSARY TO PREVENT AND CONTROL EROSION AND TO PROVIDE STABILITY TO THE SLOPE. EROSIONAL AREAS SHALL BE REPAIRED UNTIL A VEGETATIVE COVER IS FULLY ESTABLISHED AND THE LAND IS RELEASED.

- (B) THE ZONE OF FLUCTUATION OF RECLAIMED LAKES SHOULD BE VEGETATED WITH NATIVE WETLAND SPECIES. ACCEPTABLE METHODS RECOMMENDED TO ESTABLISH VEGETATION INCLUDE SPREADING MUCK OBTAINED FROM AREAS CONTAINING DESIRABLE, NATIVE, LITTORAL ZONE PLANT COMMUNITIES, PLANTING OF NATIVE WETLAND VEGETATION, OR NATURAL REGENERATION OF WETLAND PLANT SPECIES. AT LEAST 50 PERCENT OF THE ZONE SHOULD HAVE ESTABLISHED VEGETATION FOR A PERIOD OF NOT LESS THAN ONE YEAR AFTER THE INITIAL APPEARANCE OR PLANTING OF THE VEGETATION.

- (7) WATER QUALITY. RECLAMATION SHALL BE DESIGNED TO AVOID THE COLLECTION OF WATER IN POOLS WHICH ARE, OR ARE LIKELY TO BECOME, NOXIOUS, ODOUROUS, OR FOUL WHERE WATER BODIES RESULT FROM RECLAMATION, THE DEPARTMENT ENCOURAGES DESIGN THAT WILL ALLOW BOTH A VARIETY OF EMERGENT HABITATS AND NATURALLY FLUCTUATING WATER LEVELS.

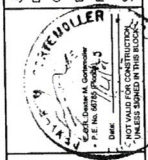


MAINTENANCE NOTES:

- 1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 2. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- 3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- 4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDDED.

CONSTRUCTION DETAILS

JOB NO.	08-038	SHEET	6
DRAWN		CHECKED	
DATE	01/27/09	REVISION	



RECEIVED
JAN 27 2009
NWF/WMD

PROJECT:
Daniels Sand Mine

CLIENT:
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