

# DUNBAR CREEK WWTP HEAD WORK MODIFICATIONS SAINT SIMONS ISLAND, GLYNN COUNTY, GEORGIA JWSC PROJECT #412

PREPARED FOR:
BRUNSWICK-GLYNN COUNTY JOINT WATER & SEWER COMMISSION

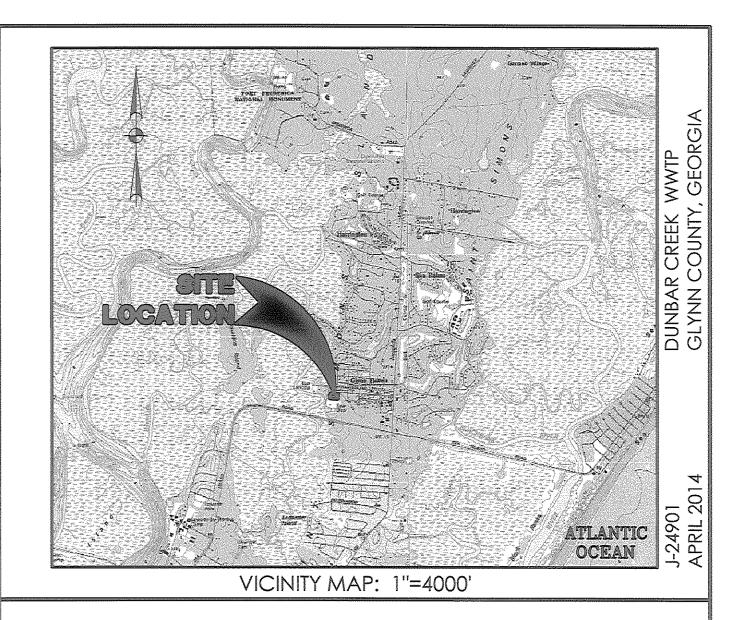
APRIL 2014 J-24901 PREPARED BY:



I certify that I have been in responsible charge of the design of the project in accordance with the rules of the Georgia State Board of Registration for Professional Engineers and Land Surveyors. I further certify to the best of my knowledge and belief, that these plans and specifications were prepared in accordance with current standard engineering practices and accurately reflect the Design Development Report (DDR) previously reviewed and concurred in by EPD. I further certify that the system as designed can reasonably be expected to consistently meet all currently applicable permit limits, conditions, and regulatory requirements, provided the facility is constructed as designed and properly operated and maintained.

Fred Sororian, P.E.

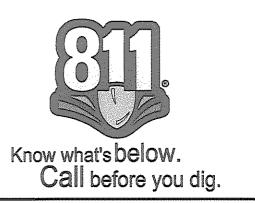




SHEET NO.	DESCRIPTION
C0	COVER SHEET
G1.1	PROJECT MAP
G1.2	GENERAL NOTES AND LEGEND
G1.3	PARTIAL PROJECT MAP
C1.1	PARTIAL SITE PLAN
C1.2	INFLUENT HYDRAULIC PROFILE
C1.3	INFLUENT JUNCTION BOX DETAIL
C1.4	MANUAL BARSCREEN SUMP DETAIL
C1.5	BAR SCREEN MECHANICAL PLAN & SECTION
	EROSION CONTROL
EC1.1	EROSION, SEDIMENTATION, AND POLLUTION CONTROL DETAILS
	ELECTRICAL DETAILS
E1.1	ELECTRICAL PLAN

	<b>REVISION HISTORY</b>		
	****		
REV. NO.	REVISION	BY	DATE

SUBMITTAL HISTORY	
SUBMITTED TO	DATE





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JOB NO: J-2490I
DATE: April 2014
DRAWN: MJS
DESIGNED: FS
REVIEWED: FS
APPROVED: ACS
SCALE: I"=30'

- 1. TOPOGRAPHIC INFORMATION TAKEN FROM A SURVEY BY THOMAS & HUTTON (1/18/01).
- 2. ALL ELEVATIONS REFER TO NGVD 29.
- 3. THE CONTRACTOR SHALL GRASS ALL AREAS DISTURBED BY CONSTRUCTION IMMEDIATELY AFTER THE DISTURBANCE.
- 4. THE CONTRACTOR SHALL PROTECT AND SAVE ALL SPECIMEN TREES AND/OR ANY TREE DESIGNATED ON THE PLANS OR BY THE OWNER. CONTRACTOR TO PROTECT AND SAVE TREES BY INSTALLING TREE SAVE FENCE PER THE DETAIL.
- 5. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.
- 6. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY BRACING, SHEETING AND DEWATERING TO COMPLETE THE PROJECT, PROTECT THE CONSTRUCTION WORKERS AND ALL ADJACENT STRUCTURES, TREES, LANDSCAPING, AND IS RESPONSIBLE FOR ALL REPAIR AND COST TO RETURN AREA TO ORIGINAL CONDITION.
- 7. CONTROL OF STORMWATER THROUGHOUT THE CONSTRUCTION PERIOD, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE EXISTING DRAINAGE CONVEYANCES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL PENALTIES, CLAIMS AND FEES IMPOSED ON THE OWNER AS A RESULT OF DAMAGE CAUSED BY ACTIONS OF THE CONTRACTOR, THEIR EMPLOYEES OR SUBCONTRACTORS SHALL BE BORNE IN FULL BY THE CONTRACTOR.
- 8. ALL SUITABLE MATERIAL EXCAVATED DURING UTILITY CONSTRUCTION SHALL BE USED ON SITE. ANY EXCESS MATERIAL SUITABLE OR UNSUITABLE SHALL BE DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE.
- 9. IT IS THE OBLIGATION OF THE CONTRACTOR TO MAKE THEIR OWN INTERPRETATION OF ALL SURFACE AND SUBSURFACE DATA AVAILABLE AS TO THE NATURE AND EXTENT OF THE MATERIALS TO BE EXCAVATED, WASTED, GRADED, AND COMPACTED. THE INFORMATION SHOWN ON THESE PLANS IN NO WAY GUARANTEES THE AMOUNT OR NATURE OF THE MATERIAL TO BE ENCOUNTERED.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DEVICES AND MEASURES AS NECESSARY TO MEET THE REQUIREMENTS OF THE GEORGIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (GAMUTCD). CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO OWNER FOR REVIEW AND ACCEPTANCE PRIOR TO STARTING CONSTRUCTION.
- 11. ALL WORK SHALL CONFORM TO APPLICABLE STATE, COUNTY AND MUNICIPAL REQUIREMENTS AND CODES.
- 12. THE CONTRACTOR SHALL COORDINATE DEMOLITION AND IMPROVEMENTS TO MINIMIZE TRAFFIC INTERFERENCE AND OPERATIONS OF FACILITIES.
- 13. ALL CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN ACCEPTABLE WASTE DISPOSAL AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL CONSTRUCTION DEBRIS.
- 14. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION UNTIL THE PROPER PERMITS HAVE BEEN ISSUED.
- 15. TREE PROTECTION BARRICADES, IF REQUIRED, SHALL BE INSTALLED PRIOR TO ANY CLEARING ACTIVITY AND MAINTAINED UNTIL INSTRUCTED BY THE OWNER OR ENGINEER TO REMOVE THEM.
- 16. ALL SIGNS, MAIL BOXES, SHRUBBERY, FENCES, LANDSCAPING OR EXISTING STRUCTURES INTERFERING WITH CONSTRUCTION SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 17. "AS-BUILT" DRAWINGS AND RECORD SURVEY SHALL BE PROVIDED BY THE CONTRACTOR AND MUST BE PERFORMED AND SIGNED BY A REGISTERED LAND SURVEYOR. THE CONTRACTOR SHALL PROVIDE A SET OF "MARKED UP" AS BUILT DRAWINGS AS WELL AS A CD CONTAINING THE AS BUILT INFORMATION IN ELECTRONIC FORM. AT A MINIMUM THE AS BUILT INFORMATION SHALL INCLUDE SURVEYED MANHOLE LOCATIONS, FRAME AND INVERT ELEVATIONS. THE FOLLOWING PUMP STATION AS BUILT INFORMATION SHALL ALSO BE REQUIRED; SURVEYED PUMP STATION WETWELL LOCATION, DIAMETER, FRAME, INVERT, CONTROL LEVELS, BOTTOM ELEVATIONS, VALVE PIT DIMENSIONS AND DEPTH, THE LOCATIONS OF SEWER PIPE, STEEL CASING, RIP-RAP, SLEEVES, PAVING AND GRAVEL REPLACEMENT, STORM SEWER REPLACEMENT AND ALL OTHER CONSTRUCTION INSTALLATIONS. ALL OF THIS SHALL BE FIELD LOCATED AND VERIFIED BY A LAND SURVEYOR REGISTERED IN THE STATE OF GEORGIA. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR RECORD SURVEY OR "AS-BUILT" DRAWINGS. THESE ITEMS SHALL BE CONSIDERED A SUBSIDIARY OBLIGATION OF THE CONTRACT.
- 18. THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANY WAY INDICATED THEREBY, WHETHER BY DRAWING OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THOMAS & HUTTON.
- 19. THE ENGINEER'S WORK AND RESPONSIBILITY TERMINATES FIVE (5) FEET FROM ANY PROPOSED BUILDING SHOWN ON THE PLANS. THE OWNER/ARCHITECT/CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH CODES, REGULATIONS, MANUFACTURER SPECIFICATIONS AND CONSTRUCTION METHODS RELATED TO THE BUILDING STRUCTURE.
- 20. VEHICLES LEAVING SITE MUST TRAVERSE CONSTRUCTION EXITS TO REMOVE MUD FROM TIRES.
- 21. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE LOCATIONS. CONTRACTOR IS RESPONSIBLE FOR WRITTEN NOTIFICATION TO ALL RESPECTIVE UTILITY OWNERS FOR FIELD VERIFICATION. CONTRACTOR MUST FIELD VERIFY THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES PRIOR TO ANY WORK ONSITE. ALL COSTS ASSOCIATED WITH DAMAGES OR REPAIRS TO AND FINES, PENALTIES OR FEES ASSOCIATE WITH EXISTING UTILITIES, SHALL BE BORNE SOLELY BY THE CONTRACTOR.

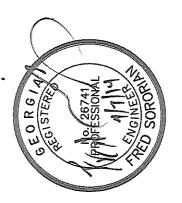
### UTILITY NOTES:

- CONTRACTOR SHALL VERIFY THE SIZE, MATERIAL, AND LOCATION, INCLUDING DEPTH, OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. CONTACT THE ONE LOCATE UTILITY PROTECTION NUMBER (811) A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO DIGGING FOR LOCATION OF CITY WATER AND SEWER LINES, AND OTHER UTILITIES. CONTACT ENGINEER IMMEDIATELY WITH ANY DISCREPANCIES.
- 2. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH LOCAL UTILITY COMPANIES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND ANY NECESSARY REPAIRS TO EXISTING UTILITY LINES.
- 3. ALL UTILITY POLES ADJACENT TO PROPOSED CONSTRUCTION MUST BE SECURED PRIOR TO ANY ADJACENT DISTURBANCE AND THE CONSTRUCTION PROCEDURE MUST BE ACCEPTED BY THE UTILITY COMPANY.
- 4. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES BEFORE WORK COMMENCES, VERIFY UTILITIES WITHIN THE PROJECT LIMITS AND NOTIFY THE ENGINEER OF CONFLICTS OR VARIANCES TO THE PLANS PRIOR TO BEGINNING WORK OR PURCHASE OF MATERIALS.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AT THE EXPENSE OF THE CONTRACTOR.
- 6. CONTRACTOR SHALL REPOUTE EXISTING UTILITIES AS NECESSARY TO ALLOW FOR THE PROPOSED WORK. CONTRACTOR SHALL COORDINATE THE RE-ROUTING WITH THE APPROPRIATE UTILITY COMPANY AS APPLICABLE.
- 7. UTILITY SERVICE TO EXISTING FACILITIES SHALL NOT BE INTERRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE ANY TEMPORARY RELOCATIONS WITH RESPECTIVE OWNERS AND UTILITY PROVIDER.
- 8. DURING INSTALLATION, WHEN PIPE LAYING IS NOT IN PROGRESS, A MECHANICAL JOINT PLUG OR CAP, OR ACCEPTED EQUIVALENT WILL BE USED TO FORM A WATERTIGHT SEAL AT BOTH ENDS OF THE LINE BEING LAID.
- 9. A #12 GAUGE INSULATED SINGLE STRAND COPPER WIRE SHALL BE STRAPPED TO ALL WATER, SEWER AND DRAINAGE PIPES.
- 10. ALL MANHOLE TOPS ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE AND SET MANHOLE TOPS RELATIVE TO FINISHED GRADES AS SHOWN ON THE DETAIL.
- 11. ANY DEFECTIVE, DAMAGED, OR UNSOUND PIPE SHALL BE REJECTED. ALL FOREIGN MATTER OR DIRT SHALL BE REMOVED FROM INSIDE OF PIPE BEFORE IT IS LOWERED INTO ITS POSITION IN THE TRENCH AND SHALL BE KEPT CLEAN BY ACCEPTABLE MEANS DURING AND AFTER LAYING. CARE SHALL BE TAKEN TO PREVENT DIRT FROM ENTERING THE JOINT SPACE. AT TIMES WHEN PIPE LAYING IS NOT IN PROGRESS THE ENDS OF THE PIPE SHALL BE CLOSED BY ACCEPTABLE MEANS AND NO TRENCH WATER SHALL BE PERMITTED IN THE PIPE.
- 12. ALL WATER MAIN & SEWER CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT <u>BGJWSC</u> & <u>THOMAS AND</u> HUTTON SPECIFICATIONS AND REQUIREMENTS.
- 13. MAINTAIN A 10' HORIZONTAL SEPARATION BETWEEN ALL SANITARY SEWERS AND ALL WATER MAINS. WHERE THIS SEPARATION CANNOT BE MAINTAINED, OR WHERE LINES CROSS, PROVIDE A 18" MINIMUM VERTICAL SEPARATION BETWEEN THE OUTSIDE OF THE PIPES. IF THESE REQUIREMENTS CANNOT BE MET, PROPOSED WATERLINE WILL BE CONSTRUCTED OF DUCTILE IRON PIPE UNTIL REQUIREMENTS ARE MET.
- 14. ALL STORM DRAIN JOINTS ARE TO BE WRAPPED IN FILTER FABRIC.
- 15. UPON COMPLETION OF CONSTRUCTION, IT SHALL BE THE OWNER'S RESPONSIBILITY TO MAINTAIN ALL WATER, SEWER AND DRAINAGE INFRASTRUCTURE WITHIN THE PROPERTY LIMITS.

### LEGEND:

EXISTING	PROPOSED	FUTURE	DESCRIPTION	EXISTING	PROPOSED	FUTURE	DESCRIPTION
			CONCRETE PAVEMENT/WALK				CENTER LINE OF RIGHT-OF-WAY/
							ROADWAY
			BITUMINOUS PAVEMENT				RIGHT-OF-WAY
			PROPOSED BUILDING				PROPERTY LINE
			FRESHWATER WETLAND				UNDERGROUND FIBER OPTIC
	afte afte afte		SALT MARSH				NATURAL GAS LINE
	3EC 3EC 3EC		CONCRETE CURB & GUTTER	OHP			OVERHEAD POWER  UNDERGROUND POWER
			EARTH ROAD OR DRIVEWAY				WOODS LINE
15*RCP			STORM DRAIN PIPE	<b>*</b>			LIGHT POLE
			FLARED END SECTION	Z 4			POWER POLE
			GRATE INLET	Se St			POWER POLE WITH GUY WIRE
		l, manner, j	GRATE INCET	† st.	⊭FG XX.XX		SPOT ELEVATION
—— w ——— w —			WATER LINE		FG XX.XX		FINISHED GRADE
					<sub>m</sub> TP XX.XX		TOP OF PAVEMENT
$\bowtie$	Š.		FIRE HYDRANT		<sub>x</sub> TW XX.XX		SIDE WALK  TOP OF WALL
	<b>!</b> !				# #BW XX.XX		BOTTOM OF WALL
$\otimes$	$\otimes$		WATER VALVE		<sub>#</sub> EP XX.XX		EXISTING PAVEMENT
	FMFM		FORCE MAIN		x		SILT FENCE

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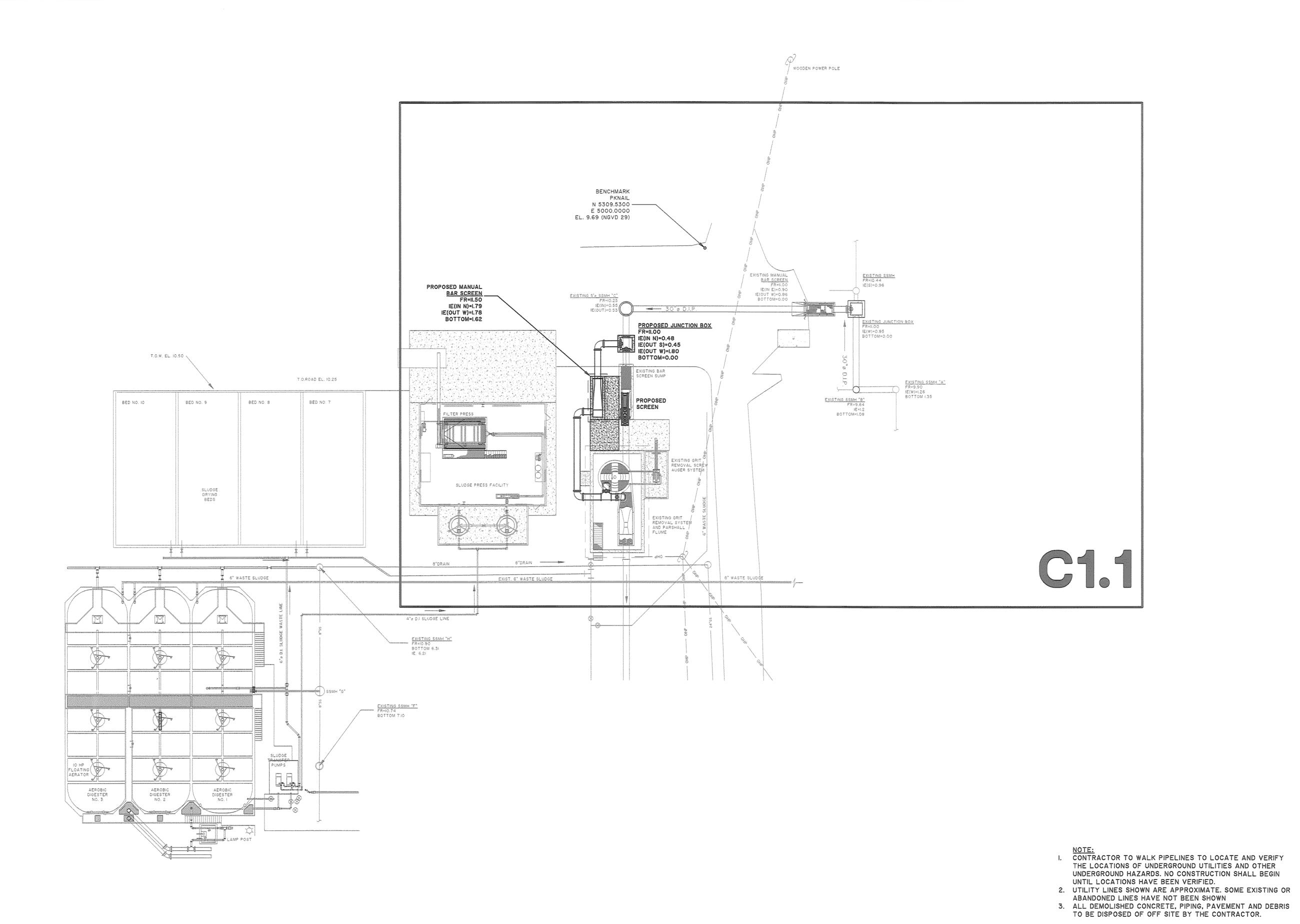
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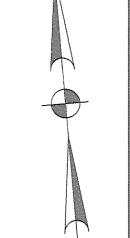
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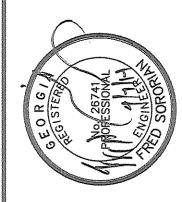
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INERAL NOTES AND LEGENI

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G1.2







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JD, GEORGIA (GLYNN COUNT HEAD WORK MODIFICA
PARTIAL PROJECT DUNBAR AINT SIMONS ISLAN

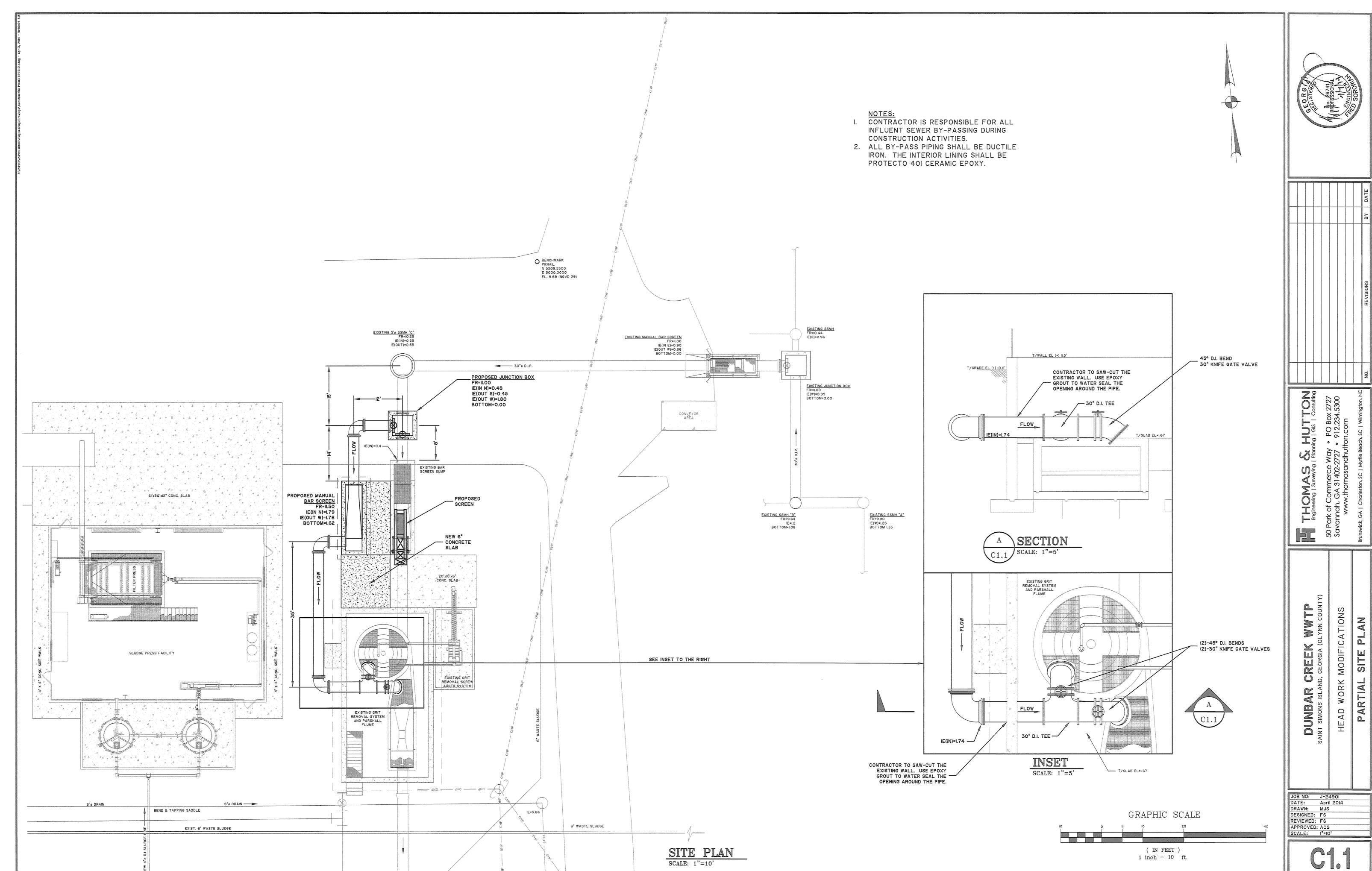
JOB NO: J-2490I
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DESIGNED: FS
REVIEWED: FS
APPROVED: ACS
SCALE: I"=20'

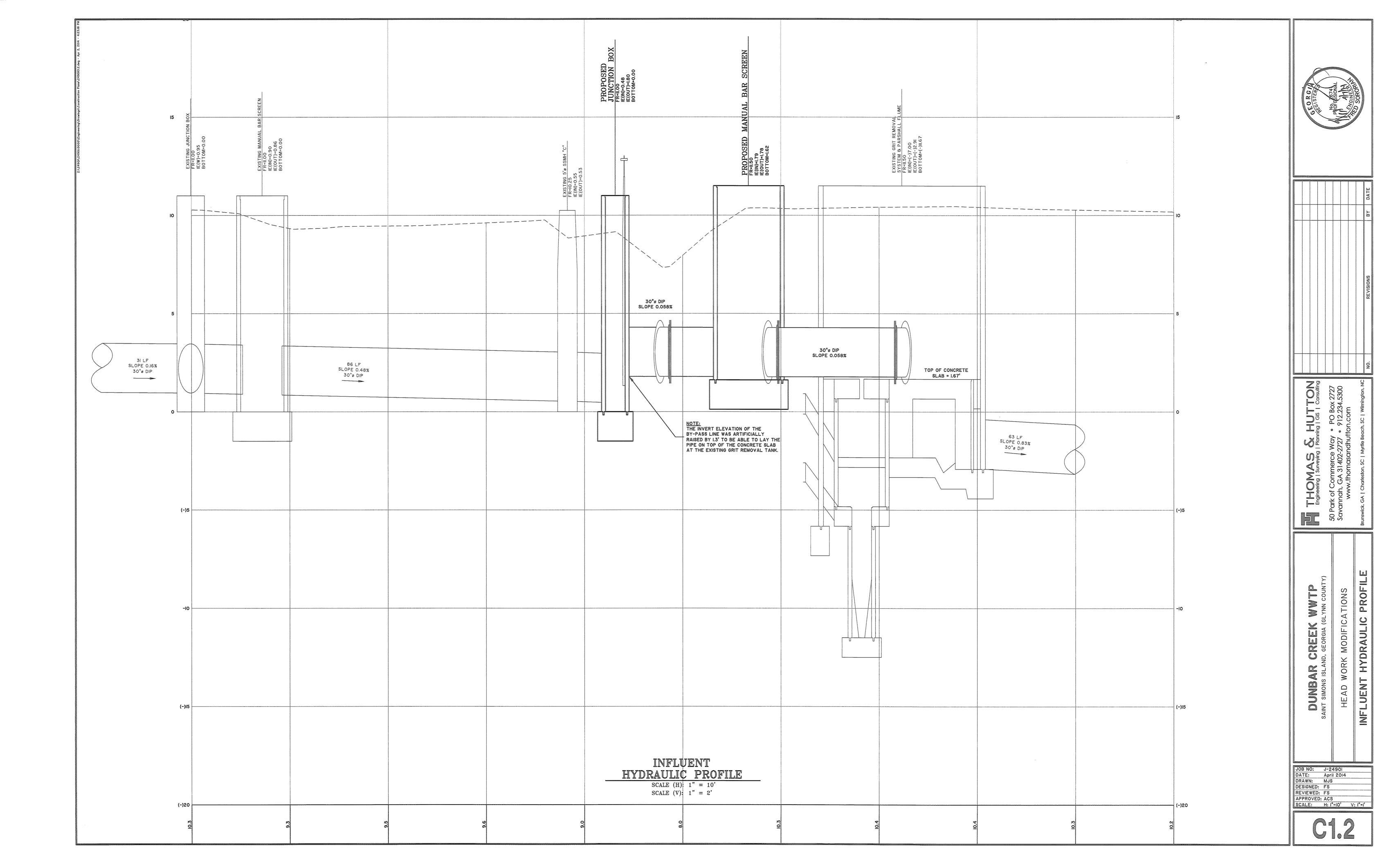
GRAPHIC SCALE

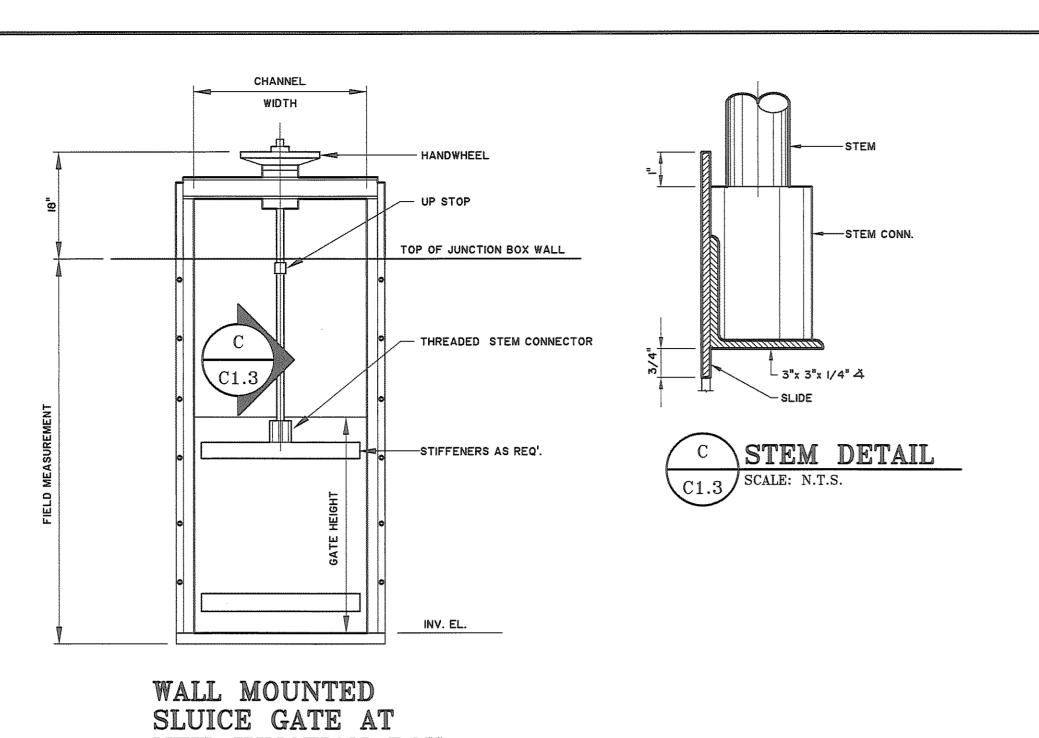
( IN FEET ) 1 inch = 20 ft.

G1.3

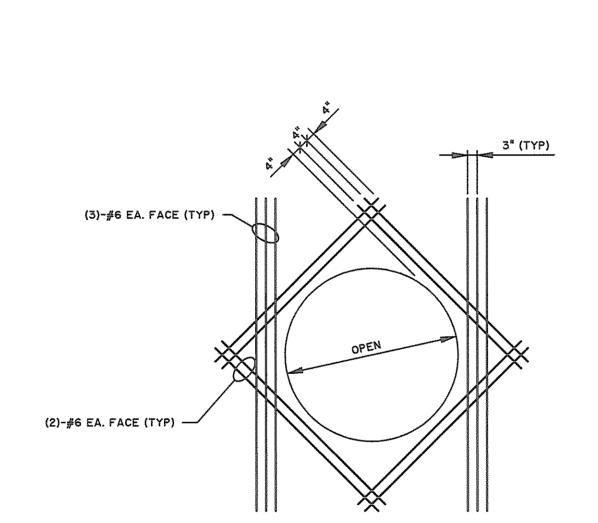
PARTIAL PROJECT MAP
SCALE: 1"=20'







SLIDE GATE NOTES: THE GATES SHALL BE MADE OF 316 S.S. 2. THE GATES SHALL BE MANUFACTURED BY GOLDEN HARVEST, RODNEY HUNT (FONTAINE) OR APPROVED EQUAL 30"ø D.I. PIPE IE(IN)=0.48 3. SLIDE GATE: WHERE SHOWN ON THE DRAWINGS, SLIDE GATE SHALL BE ATTACHED TO THE WALLS BY STAINLESS STEEL ANCHOR BOLTS IN APPROVED EXPANSION SHIELD OR CAST IN THE WALL. THE FRAME SHALL BE SECURED TO THE TOP OF THE WALL BY STAINLESS STEEL BRACKETS TO STABILIZE PROPOSED JUNCTION BOX FR=II.00 THE FRAME. THE GATES SHALL BE THE SIZES SHOWN, AND MEET THE FOLLOWING SPECIFICATIONS: IE(IN N)=0.48 A. FRAME (SLIDING GUIDES, SLIDE PLATE, SLIDE IE(OUT S)=0.45 REINFORCING AND RETAINER) - STAINLESS STEEL IE(OUT W)=1.80 B. FASTENERS - STAINLESS STEEL BOTTOM=0.00 C. SEAL - RUBBER D. STEM - STAINLESS STEEL
E. OPERATED BY - WHEEL, 12" DIAMETER OR HANDGRIP (AS SHOWN ON DRAWINGS) PROPOSED 30" D.I. PIPE IE(OUT)=1.80 EXISTING (2)-NEW 30" S.S. SLIDE GATES

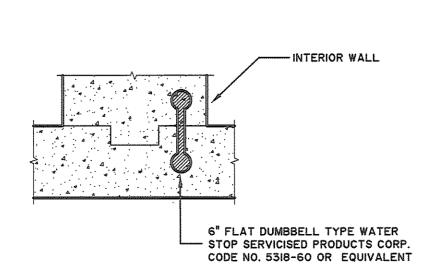


SCALE: NONE

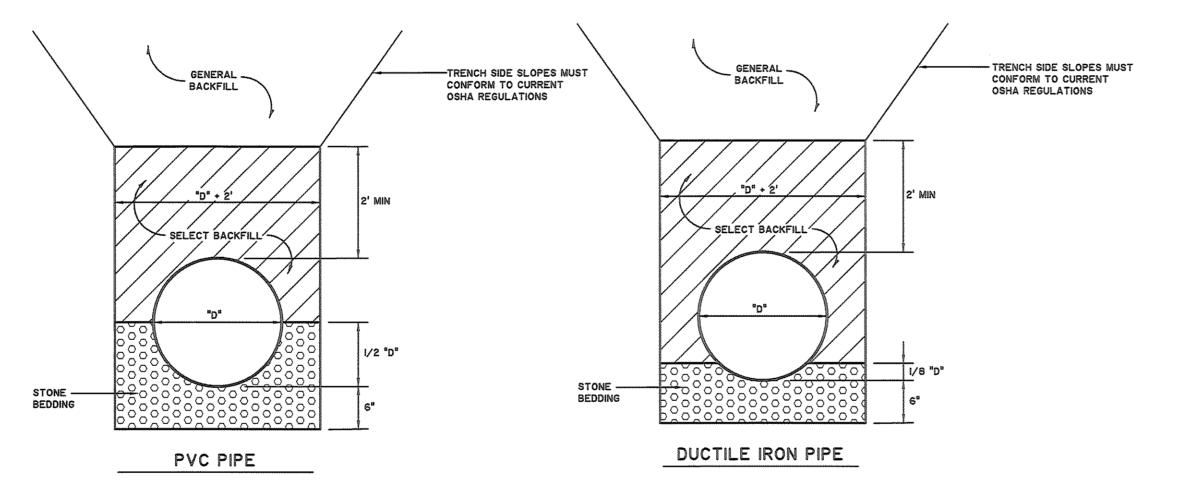
NEW JUNCTION BOX

NOTE: REINFORCEMENT SHOWN ABOVE IS IN ADDITION TO REGULAR WALL REINFORCEMENT

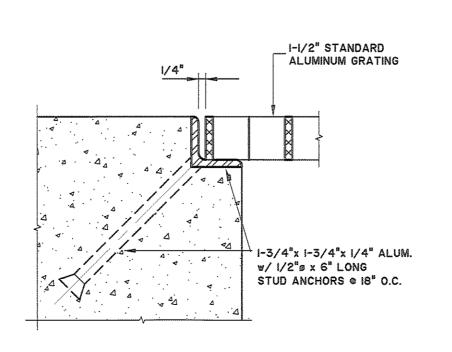
# TYPICAL REINFORCED WALL SLAB OPENING



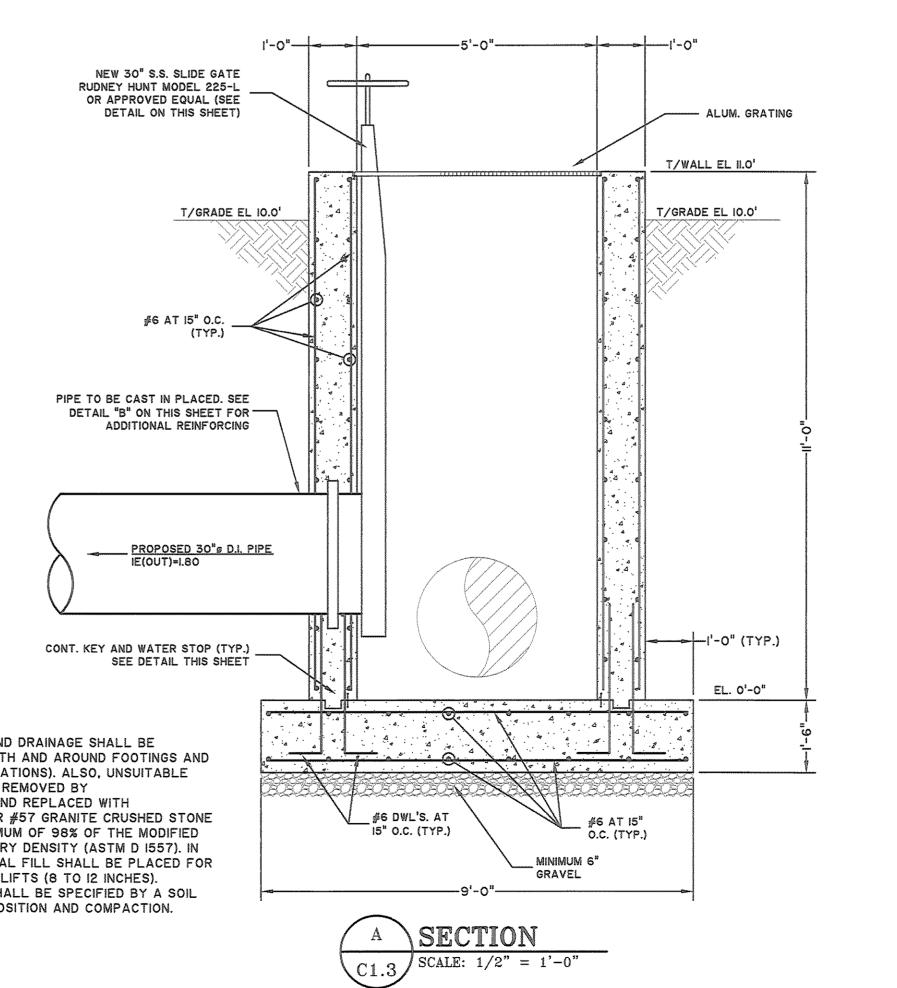
TYPICAL WATER STOP SCALE: NONE



PIPE BEDDING DETAILS SCALE: NOT TO SCALE

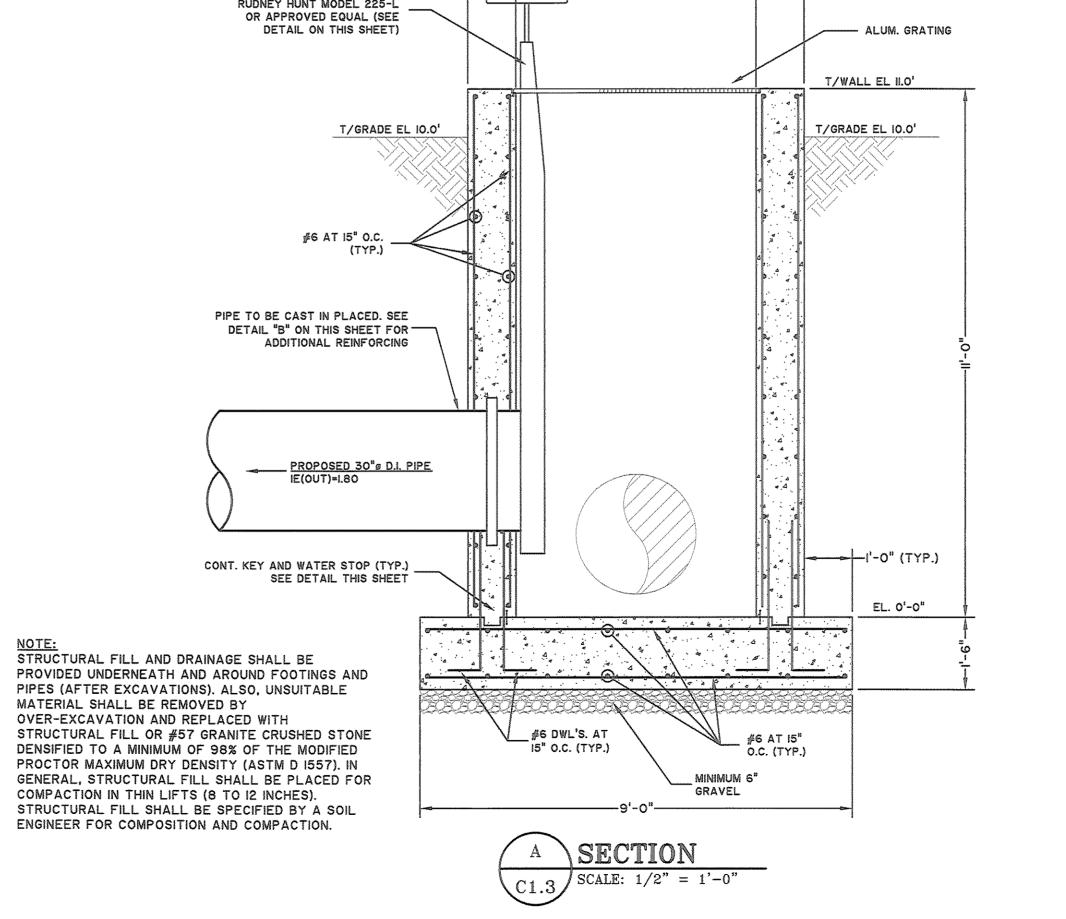


SECTION SCALE: NONE



JUNCTION BOX - PLAN

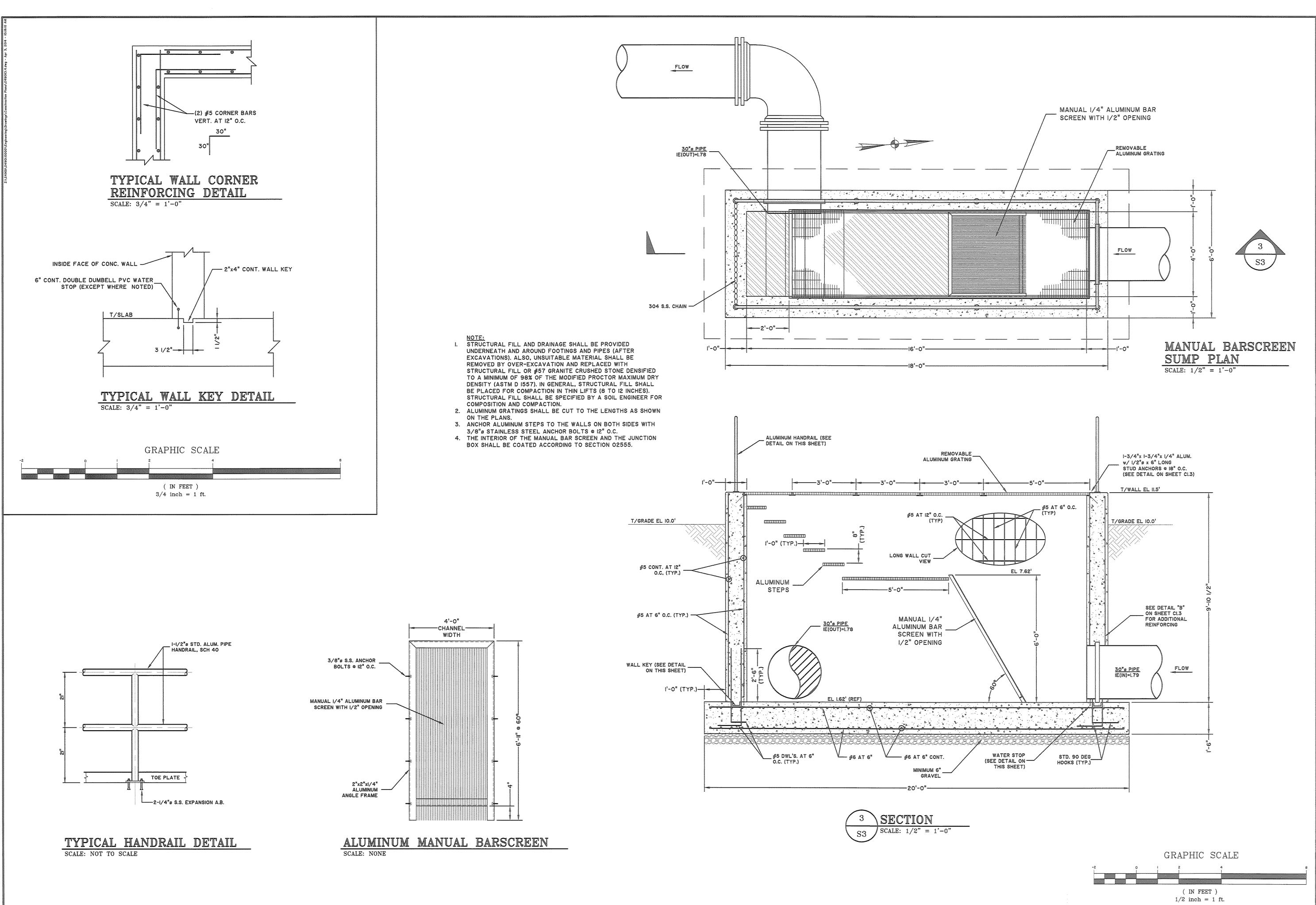
SCALE: 1/2" = 1'-0"



GRAPHIC SCALE ( IN FEET ) 1/2 inch = 1 ft.

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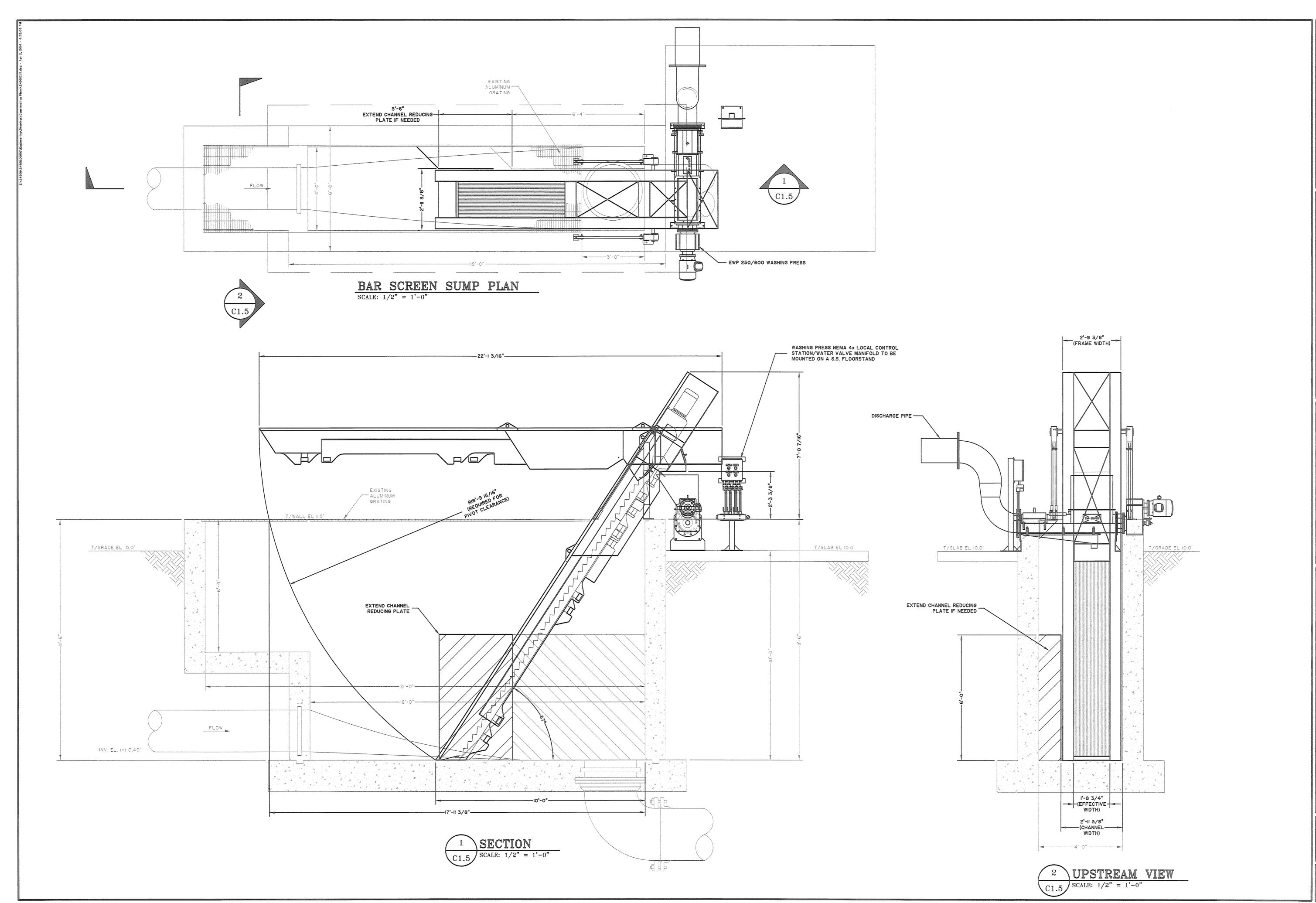
DUNBAR MAT SIMONS ISLAND

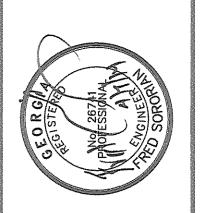


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SECTION

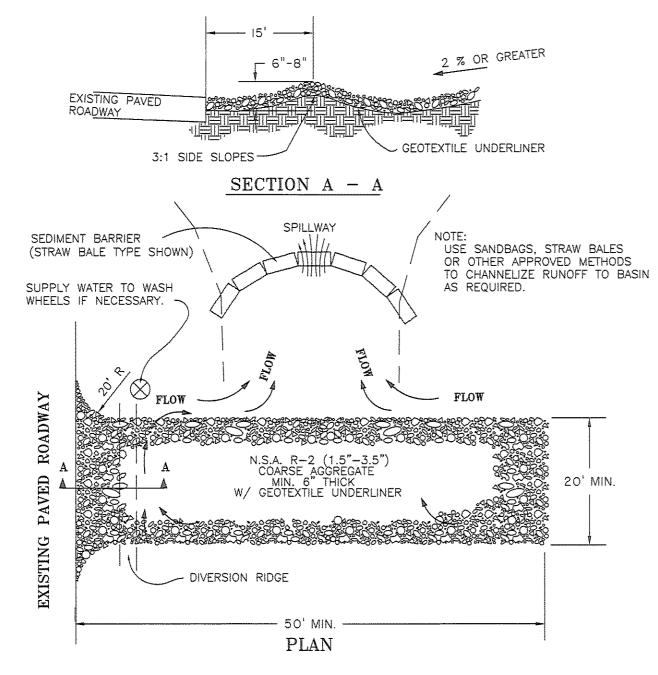
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No. REVISIONS

DUNBAR CREEK WWTP
SAINT SIMONS ISLAND, GEORGIA (GLYNN COUNT
HEAD WORK MODIFICATIONS
BAR SCREEN MECHANICAL PLAN &

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REVIEWED: FS
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SCALE: 1/2"=1'-0"

C1.5



I, IT IS RECOMMENDED THAT THE ENTRANCE AREA BE EXCAVATED TO A DEPTH OF 3 INCHES AND BE CLEARED OF ALL VEGETATION AND ROOTS.

2. ON SITES WHERE THE GRADE TOWARD THE PAVED AREA IS GREATER THAN 2%, A DIVERSION RIDGE 6 TO 8 INCHES HIGH WITH 3:1 SIDE SLOPES SHALL BE CONSTRUCTED ACROSS THE FOUNDATION APPROXIMATELY IS FEET ABOVE THE ROAD.

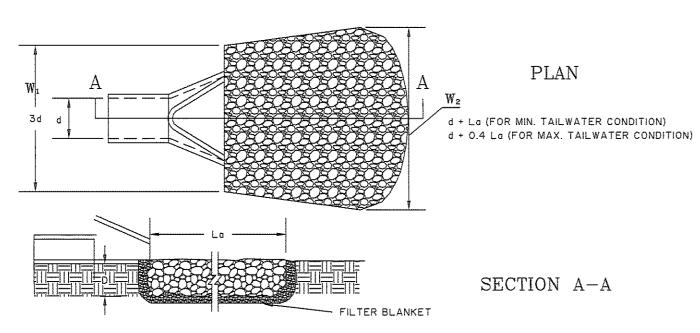
3. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD DOES NOT SUFFICIENTLY REMOVE THE MUD. THE TIRES SHOULD BE WASHED PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND PROVISIONS THAT INTERCEPT THE SEDIMENT-LADEN RUNOFF AND DIRECT IT INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1.5 TO 3.5 INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

### CONSTRUCTION EXIT

NOT TO SCALE Со

PIPE OUTLET TO FLAT AREA - NO WELL-DEFINED CHANNEL



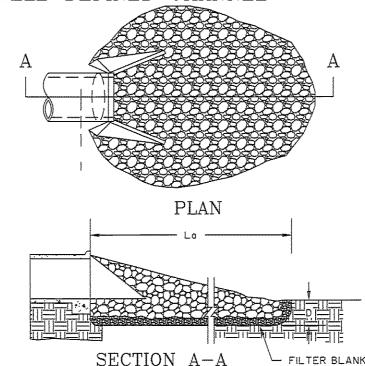
PIPE OUTLET TO WELL-DEFINED CHANNEL

I. La IS THE LENGTH THE RIP-RAP APRON. 2. d= OUTLET PIPE DIAMETER. 3. D= 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".

4. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.

5. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP-RAP AND SOIL FOUNDATION.

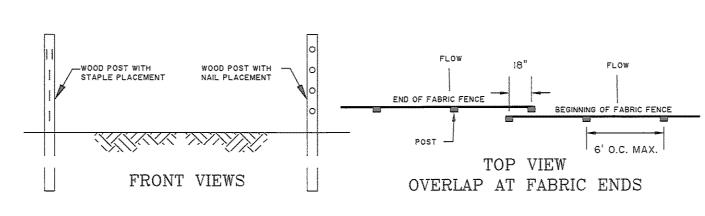
6. DESIGN CRITERIA OUTLET PIPE DIAMETER: FLOW RATE (CFS): VELOCITY (FPS): \_\_\_\_fps TAILWATER CONDITION: (MIN. or MAX.) d RIPRAP SIZE d RIPRAP SIZE MIN. RIPRAP THICKNESS(D):

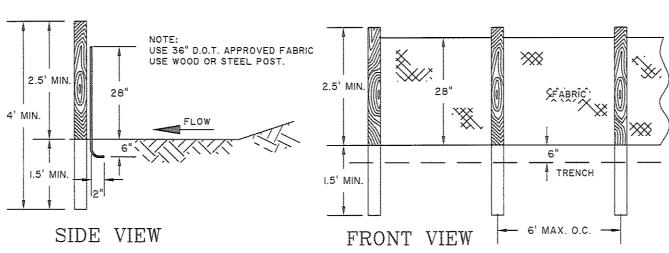


7. INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

### STORM DRAIN OUTLET PROTECTION







TYPE A SILT FENCE (36") I) ON DEVELOPMENTS WHERE THE LIFE OF THE PROJECT IS GREATER THAN OR EQUAL TO 6 MONTHS.

2) WHERE THE SLOPE GRADIENT IS STEEPER THAN 3:1.

					FAST	ENERS FOR WO	OD POST (WIRE ST	APLES)
	POST SIZE			GA	UGE	CROWN	LEGS	STAPLES/POST
MIN. LENGTH	TYPE OF POST	SIZE OF POS	3T	17	MIN.	3/4" WIDE	1/2" LONG	5 MIN.
4'	SOFT WOOD	3" DIA, OR 2:	X4		F	ASTENERS FOR	R WOOD POST (NAIL	∟S)
4.	OAK	1.5"X1.5"	1111	GA	UGE	LENGTH	BUTTON HEADS	NAIL/POST
4	STEEL	1.3 LB./FT. M	IIIV.	14	MIN.	111	3/4"	4 MIN.
	FENCE		NOTE: F	LTER FAB	RIC MAY ALS	O BE ATTACHED TO	THE POST BY WIRE, CO	RD, AND POCKETS.
TENSILE STRENGTH	ELONGATION	AOS (APPARENT	FLOW	RATE	ULTRAVIOL	ET STABILITY (2)	BURSTING STRENGT	H MIN. FABRIC WIDTI
(LBS. MIN.) (I)	(%MAX.)	OPENING SIZE)	(GAL/MIN.	/SQ. FT.)	(ASTM D	-4632 AFTER	(PSI MIN.)	(INCHES)

300 HOURS WEATHERING

IN ACCORDANCE WITH

ASTM D-43551

(ASTM D-3786 DIAPHRAGM

BURSTING STRENGTH TESTER)

(I) MIN. ROLL AVERAGE OF FIVE SPECIMENS. (2) PERCENT OF REQUIRED INITIAL MIN. TENSILE STRENGTH,

(ASTM D-4632) (MAX. SIEVE SIZE)

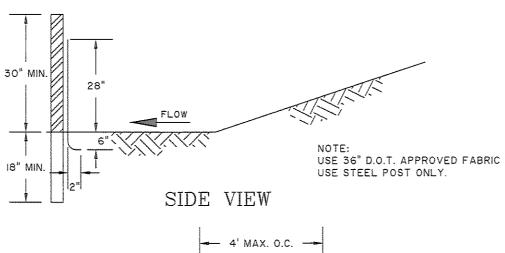
(ASTM D-475)

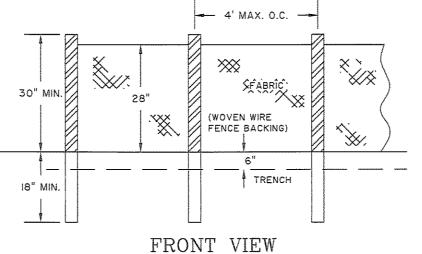
(ASTM D-4632)

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS

### SILT FENCE - TYPE A

NOT TO SCALE





TYPE C SILT FENCE (36")

USE: I. WHERE RUNOFF FLOWS OR VELOCITIES ARE PARTICULARLY HIGH OR WHERE SLOPES EXCEED A VERTICAL HEIGHT OF 10 FEET. 2. WHERE THE SLOPE GRADIENT IS STEEPER THAN 3:1.

	POST SIZE	
MIN. LENGTH	TYPE OF POST	SIZE OF POST

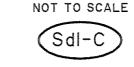
STEEL I.3 LB./FT. MIN. NOTE: FILTER FABRIC MAY ALSO BE ATTACHED TO THE POST BY WIRE, CORD, AND POCKETS.

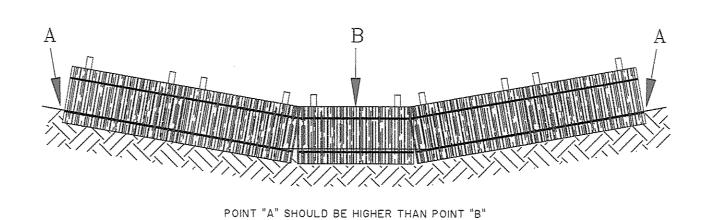
	FENCE					
FENSILE STRENGTH (LBS. MIN.) (I) (ASTM D-4632)	ELONGATION (%MAX.) (ASTM D-4632)	AOS (APPARENT OPENING SIZE) (MAX. SIEVE SIZE) (ASTM D-4751)	FLOW RATE (GAL/MIN./SQ. FT.) (GDT-87)	ULTRAVIOLET STABILITY (2) (ASTM D-4632 AFTER 300 HOURS WEATHERING IN ACCORDANCE WITH ASTM D-4355)	BURSTING STRENGTH (PSI MIN.) (ASTM D-3786 DIAPHRAGM BURSTING STRENGTH TESTER)	MIN. FABRIC WIDTH (INCHES)
WARP-260	40	#30	70	80	175	36

(I) MIN. ROLL AVERAGE OF FIVE SPECIMENS. (2) PERCENT OF REQUIRED INITIAL MIN. TENSILE STRENGTH.

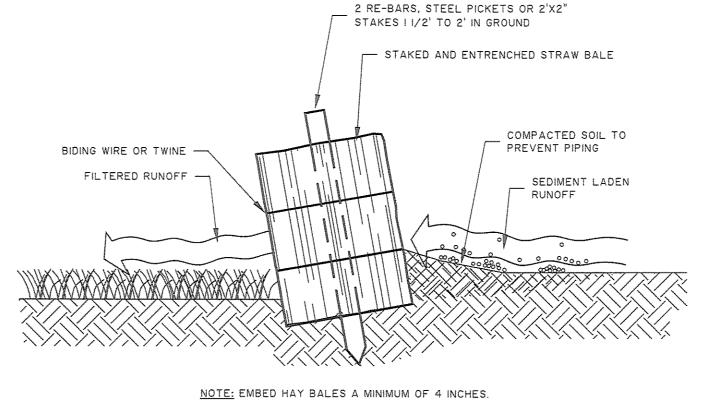
SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS

### SILT FENCE - TYPE C





PROPER PLACEMENT OF STRAW BALE BARRIER IN DRAINAGE WAY



CROSS-SECTION OF A PROPERLY INSTALLED STRAW BALE

## HAY BALE DETAIL SEDIMENT BARRIER

NOT TO SCALE

SEEL	DING RATES F	OR TE	MPOR.	<u>ARY &amp; PERMAN</u>	IENT C	OVER	
	TEMPORARY	RATEP	ER ACRE	PERMANENT	RATE PER ACRE		
MONTH	COVER	SEEDED ALONE	ADDED TO MIX	COVER	SEEDED ALONE	ADDED TO MIX	
JANUARY	*LESPEDEZA, ANNUAL *RYE *RYEGRASS, ANNUAL *WHEAT	40 lbs. 3 bu. 40 lbs. 3 bu.	10 lbs. .5 bu. .5 bu.	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD LESPEDEZA, SERICEA I	60 lbs. 10 lbs. 75 lbs.	30 lbs. 6 lbs. -	
FEBUARY	LESPEDEZA, ANNUAL *LOVEGRASS, WEEPING *RYE *RYEGRASS, ANNUAL	40 lbs. 4 lbs. 3 bu. 40 lbs.	10 lbs. 2 lbs. .5 bu.	* BAHIA, PENSACOLA CENTIPEDE, SOD LESPEDEZA, SEDICEA 1 * LESPEDEZA, SEDICEA 2 * LOVEGRASS, WEEPING	60 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. - - 2 lbs.	
MARCH	*LESPEDEZA, ANNUAL LOVEGRASS, WEEPING *RYEGRASS, ANNUAL *SUDANGRASS	40 lbs. 4 lbs. 40 lbs. 60 lbs.	10 lbs. 2 lbs. - -	BAHA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD * LESPEDEZA, SEDICEA 2 LESPEDEZA, SEDICEA 2 LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. - - 2 lbs.	
APRIL	LOVEGRASS, WEEPING MILLET, BROWNTOP * MILLET, PEARL SUDANGRASS	4 lbs. 40 lbs. 50 lbs. 60 lbs.	2 lbs. 10 lbs. - -	BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD * LESPEDEZA, SEDICEA I LESPEDEZA, SEDICEA 2 LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. - - 2 lbs.	
MAY	LOVEGRASS, WEEPING MILLET, BROWNTOP MILLET, PEARL SUDANGRASS	4 lbs. 40 lbs. 50 lbs. 60 lbs.	2 lbs. 10 lbs. - -	BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD * LESPEDEZA, SEDICEA I LESPEDEZA, SEDICEA 2 LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. - - 2 lbs.	
JUNE	*LOVEGRASS, WEEPING MILLET, BROWNTOP MILLET, PEARL SUDANGRASS	4 lbs. 40 lbs. 50 lbs. 60 lbs.	2 lbs. 10 lbs. -	*BAHIA, PENSACOLA  *BERMUDA, UNHULLED  *LESPEDEZA, SEDICEA 2  *LESPEDEZA, SEDICEA 2  *LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. - 2 lbs.	
JULY	* MILLET, BROWNTOP MILLET, PEARL SUDANGRASS	40 lbs. 50 lbs. 60 lbs.	10 lbs. - -	* BAHIA, PENSACOLA * LESPEDEZA, SEDICEA I	60 lbs. 75 lbs.	30 lbs.	
AUGUST	* MILLET, PEARL * RYEGRASS, ANNUAL	50 lbs. 40 lbs.	-	* BAHIA, PENSACOLA * LESPEDEZA, SEDICEA 1	60 lbs. 75 lbs.	30 lbs.	
SEPTEMBER	*BARLEY * OATS * RYE RYEGRASS, ANNUAL * WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. 1 bu. .5 bu. - .5 bu.	* BAHIA, PENSACOLA LESPEDEZA, SEDICEA 1	60 lbs. 75 lbs.	30 lbs.	
OCTOBER	BARLEY OATS RYE RYEGRASS, ANNUAL WHEAT	3 bu. 4 bu. 3 bu. 40 lbs, 3 bu.	.5 bu. l bu. .5 bu. - .5 bu.	* BAHIA, PENSACOLA LESPEDEZA, SEDICEA I	60 lbs. 75 lbs.	30 lbs. -	
NOVEMBER	BARLEY OATS RYE RYEGRASS, ANNUAL WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. 1 bu. .5 bu. .5 bu.	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD LESPEDEZA, SEDICEA I	60 lbs. 10 lbs. 75 lbs.	30 lbs. 6 lbs.	
DECEMBER	BARLEY OATS RYE RYEGRASS, ANNUAL WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. I bu. .5 bu. - .5 bu.	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD LESPEDEZA, SEDICEA I	60 lbs. 10 lbs. 75 lbs.	30 lbs. 6 lbs.	

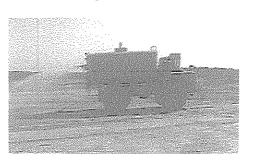
ALL PERMANENT GRASS PLANTINGS SHALL BE MULCHED \* INDICATES MARGINAL (BUT PERMISSIBLE) PLANTING DATE

2. SCARIFIED

3. CENTIPEDE SOD CAN BE USED AS PERMANENT COVER ANYTIME EXCEPT JUNE THRU OCTOBER

DUST CONTROL ON DISTURBED AREAS

Controlling surface and air movement of dust on land-disturbing activities.



Prevent the movement of dust from exposed

soil surfaces. Prevent the movement of airborne substances that may be harmful to health.

 Apply according to approved plan, if shown. Mulch disturbed areas and tackify with resins such as asphalt, Curasol or Terratack according to manufacturer's recommenda-

Stabilize disturbed areas with temporary or permanent vegetation. Irrigate disturbed areas until surface is wet.

· Cover surfaces with crushed stone or gravel.

Du

· Apply calcium chloride at a rate to keep Apply spray-on adhesives to mineral soils (not muck soils) as described in Table 1.

Table 1. Spray-On Adhesive Application

Requirements

Adhesive	Water Dilution	Nozzle Type	Applicatio (Gal./Acre
Anionic asphalt emulsion	7:1*	Coarse spray	1,200
Latex emulsion	12.5:1 *	Fine spray	235
Resin-in- water emulsion	4:1*	Fine spray	300

when available.

DUST CONTROL MEASURES

NOT TO SCALE

Du

### FERTILIZER REQUIREMENTS

YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50-100 lbs./oc. * 1 & 2 30
FIRST SECOND MAINTENANCE	6-12-12 0-10-10 0-10-10	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50-100 lbs./ac. * 1 -
FIRST SECOND MAINTENANCE	10-10-10 10-10-10 10-10-10	1300lbs./ac. * 3 1300lbs./ac. * 3 100 lbs./ac.	-
FIRST	20-10-5	ONE 21-GRAM PELLET PER SEEDLING PLACED IN THE CLOSING	-
FIRST MAINTENANCE	0-10-10 0-10-10	700lbs./gc. 700lbs./gc. * 4	1
FIRST	10-10-10	500lbs./ac.	30 lbs./ac. * 5
FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	500lbs./ac.  800lbs./ac.  400 lbs./ac.	50-100 lbs./ac. * 2 & 6 50-100 lbs./ac. 30 lbs./ac. * 2
FIRST SECOND MAINTENANCE	6-12-12 0-10-10 0-10-10	500 bs./ac.  000 bs./ac.  400 bs./ac.	50-100 lbs./ac. * 6
	FIRST SECOND MAINTENANCE FIRST SECOND MAINTENANCE FIRST SECOND MAINTENANCE FIRST SECOND MAINTENANCE FIRST FIRST MAINTENANCE FIRST SECOND MAINTENANCE FIRST SECOND MAINTENANCE	YEAR EQUIVALENT N-P-K  FIRST SECOND MAINTENANCE 6-12-12 10-10-10-10 10-10-10-10 10-10-10-10 10-10-10-10 10-10-10-10 10-10-10-10-10-10-10-10-10-10-10-10-10-1	YEAR         EQUIVALENT N-P-K         RATE           FIRST SECOND MAINTENANCE         6-12-12 1500lbs./ac. 1000lbs./ac. 400 lbs./ac. 400 lbs./ac. 400 lbs./ac. 1000lbs./ac. 400 lbs./ac. 1000lbs./ac. 400 lbs./ac. 1500lbs./ac. 1500

\* 1 APPLY IN SPRING FOLLOWING SEEDING. \* 2 APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.

\* 3 APPLY IN 3 SPLIT APPLICATIONS.

\* 4 APPLY WHEN PLANTS ARE PRUNED. \* 5APPLY TO GRASS SPECIES ONLY.

\* 6 APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

\* AGRICULTURAL LIME SHALL BE APPLIED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

MULCHING (MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

\* DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED DRY STRAW SHALL BE APPLIED AT THE RATE OF TWO TONS PER ACRE. DRY HAY SHALL BE APPLIED AT THE RATE OF 2 1/2 TONS PER ACRE.

\* WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED BELOW) AFTER HYDRAULIC SEEDING.

\* ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 4:1 OR STEEPER. \* SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF 3

\* PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED

WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE \* WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLACK SOD, MULCH IS NOT REQUIRED.

REVIEWED: FS APPROVED: ACS CALE: NONE

April 2014

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DUNB

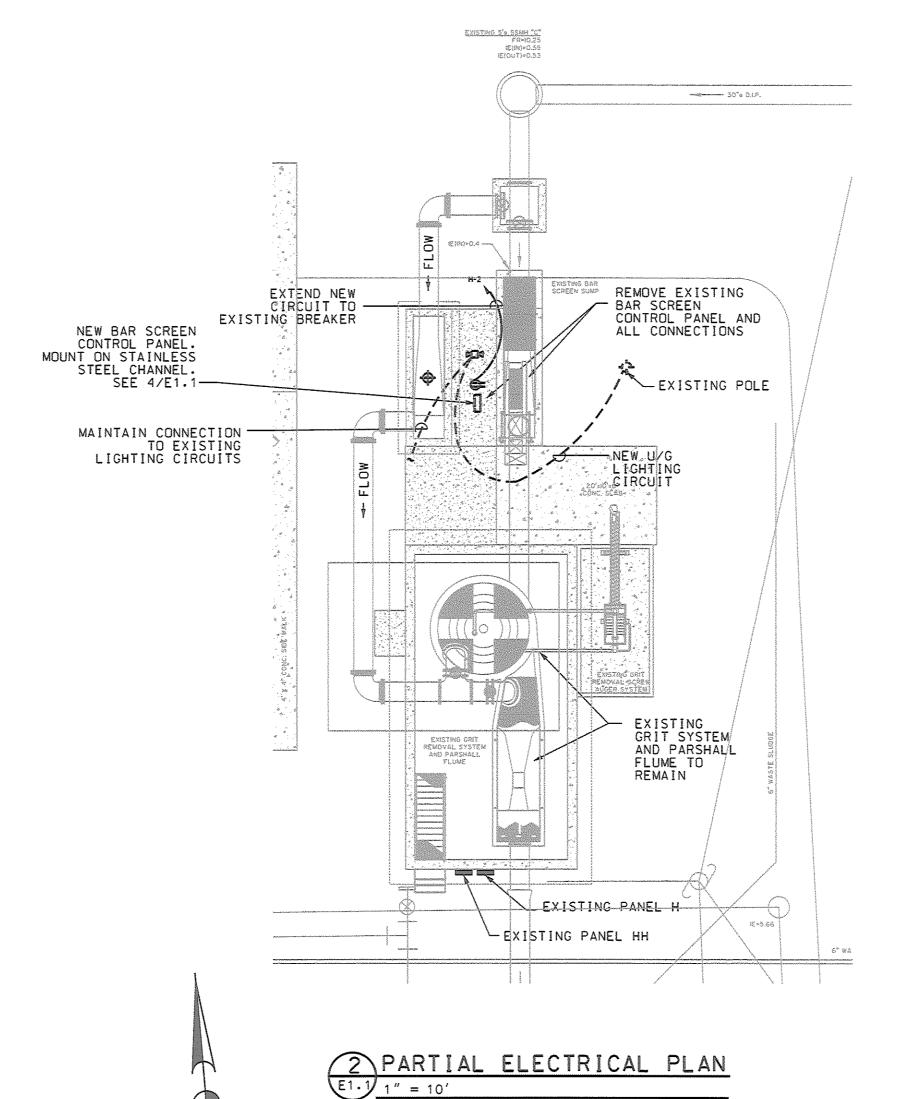
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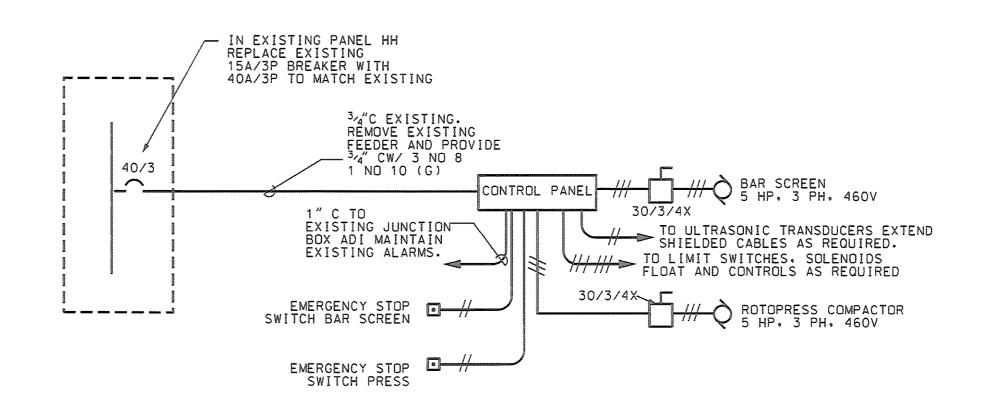
### LEGEND

- --- CONCEALED CIRCUIT
  - EXPOSED CIRCUIT
  - SWITCH-48" UP SPEC GRADE IN PVC WP BOX WITH COVER
  - GFI DUPLEX SPEC GRADE RECEPTACLE IN WP PVC BOX 36" AFF

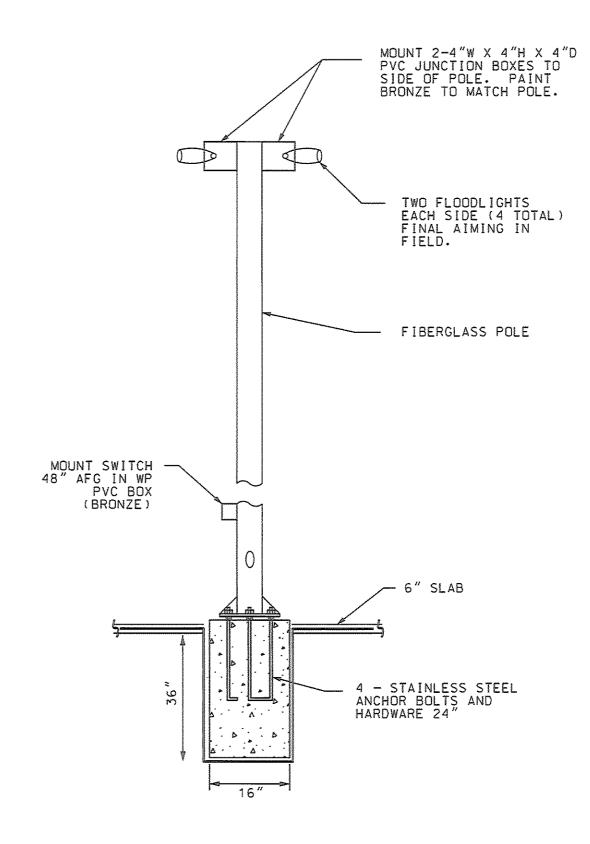


BRONZE FIBERGLASS POLE AND FLOODLIGHTS PROVIDE 10 FT SQUARE FIBERGLASS POLE WITH ANCHOR BASE. HANDHOLE. FOUR STAINLESS STEEL ANCHOR BOLTS AND NUTS. FLOODLIGHTS TO BE FOUR TOTAL EVERGREEN FGHL38 BRONZE WITH 50W HAOLGEN LAMPS. SEE DETAIL 3/E1.1

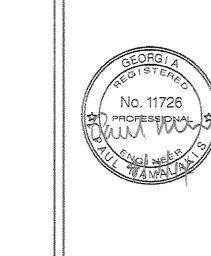




4 PARTIAL ONE LINE DIAGRAM E1.1 NOT TO SCALE



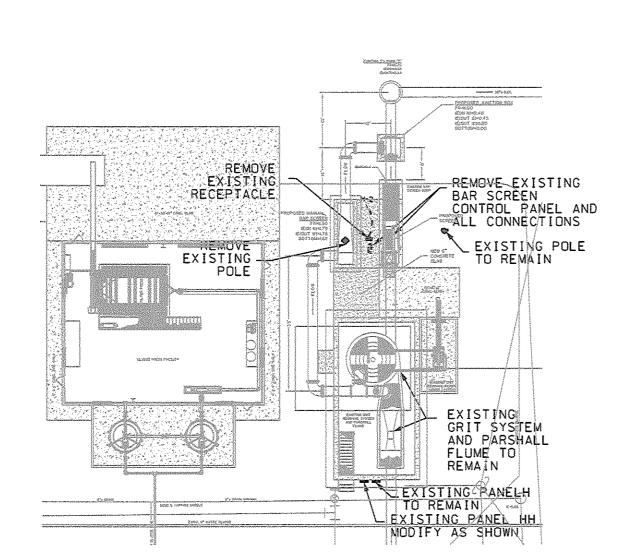
3 POLE DETAIL E1.1 NOT TO SCALE



HUTTON ning | GIS | Consulting R E MAS 19 I Surveying

UPGRADE WSC

E1.1



GENERAL NOTES:

G1. ALL WORK SHALL COMPLY WITH 2011 NEC AND ALL STATE & LOCAL ORDINANCES.

G2. COORDINATE WORK WITH OTHER TRADES AND OWNER TO MAINTAIN PLANT OPERATION. SEE SPEC 02731.

G3. ALL EXPOSED CONDUITS SHALL BE SCH 80 PVC. ALL FLEX SHALL BE NON-METALLIC SEALTITE.

G4. ALL WIRING TO BE STRANDED COPPER TYPE THWN, COLOR CODED TO MATCH EXISTING.

G5. ALL CONDUIT SUPPORTS SHALL BE FIBERGLASS WITH STAINLESS STEEL HARDWARE.

G6. INSTALL ALL EQUIPMENT TO ALLOW OPERATIONAL AND MAINTENANCE ACCESS.

G7. ALL CONDUITS SHALL HAVE GREEN EQUIPMENT GROUNDING CONDUCTOR.

1 ELECTRICAL DEMOLITION PLAN

1" = 20'

CADD PLOT 07-APR-2014 14:19 SHASTINGS